AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 4701-076	1	34

PRE-CON

REVISIONS		
R-1 2/6/97	REVISED SHEETS 1, 9, 12, 13, 15, 16, 18, 19, 149, 150 & 169	GCH

COLORADO DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED

PROJECT NO. CC 4701-076
C-470/McLELLAN INTERCHANGE
STATE HIGHWAY NO. 470
DOUGLAS COUNTY

AWARD

MP 17.85 - 18.85

PE AND ROW UNDER PROJ. NO. CC 4701-076
SUB ACCOUNT NO. 10305
NHS SYSTEM ■ YES □ NO
FHWA OVERSIGHT ■ YES □ NO

SCALES OF ORIGINAL DRAWINGS
ON PLAN 1 : 500
ON PROFILE {1 : 500 HORIZONTAL, 1 : 50 VERTICAL}

TABULATION OF LENGTH & DESIGN DATA

STATION	METERS ROADWAY HIGHLANDS RANCH	ROADWAY C-470	ROADWAY COUNTY LINE	MAJOR STR.
STA. 3+720.440 BEGIN PROJECT CC 4701-076				
STA. 4+095.979 STR. NO. F-17-KQ	375.539			
STA. 4+168.259				72.280
STA. 4+769.744 END PROJECT CC 4701-076	601.485			
STA. 29+733.505 BEGIN CONSTRUCTION C-470				
STA. 31+341.947 END CONSTRUCTION C-470		1608.442		
STA. 501+681.891 BEGIN CONSTRUCTION COUNTY LINE ROAD				
STA. 502+474.187 END CONSTRUCTION COUNTY LINE ROAD			792.296	
TOTALS	977.024	1608.442	792.296	72.280

SUMMARY

Roadway	3377.762
Major Structure	72.280
GROSS AND NET LENGTH	3450.042

DESIGN DATA

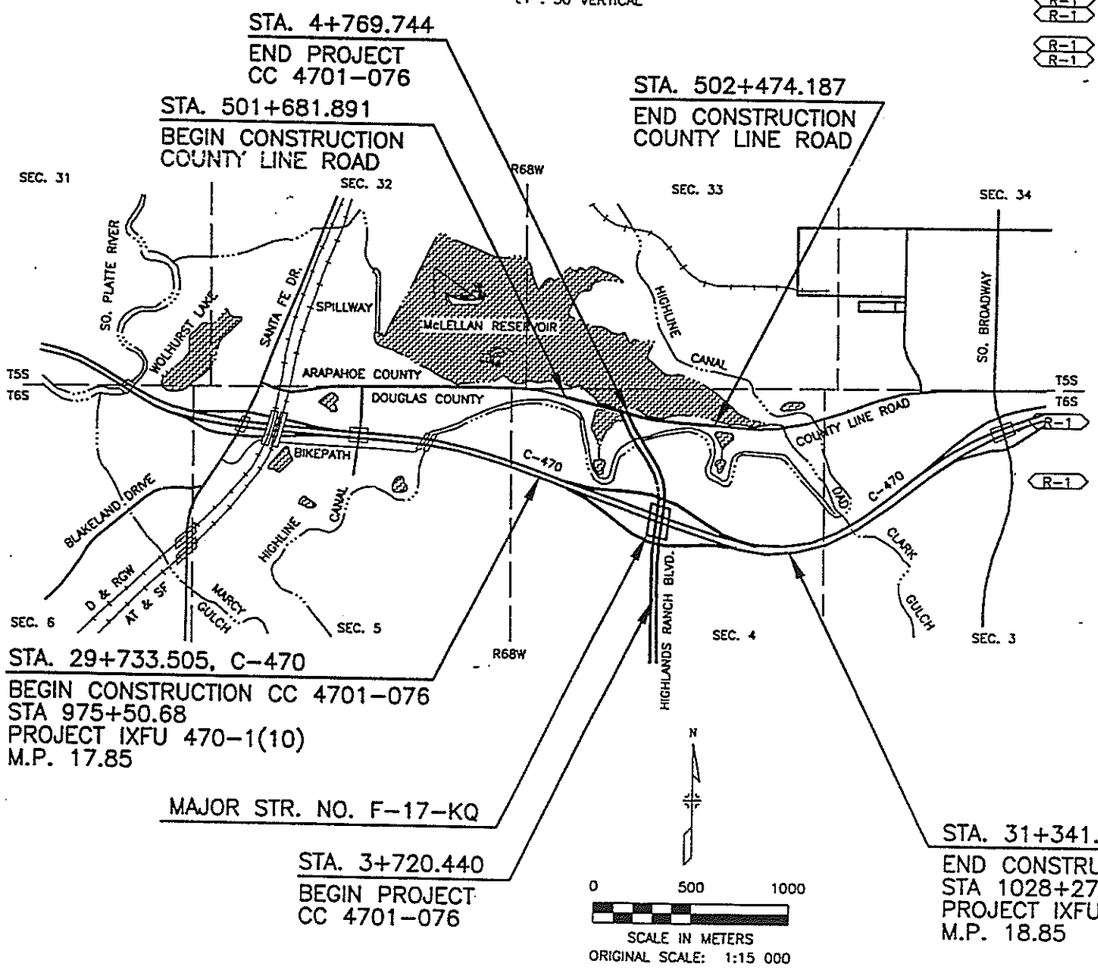
	HIGHLANDS RANCH	C-470 RAMPS
Minimum Radius of Curve (Meters)	120	230
Maximum Grade	6%	5.86%
Minimum S.S.D. Horizontal (Meters)	82	187
Minimum S.S.D. Vertical (Meters)	154 m	89 m
Maximum Design Speed (kph)	60	110
2015 Design Traffic Volume (20 Year Design)		
ADT -	33,200	10,000
DHV -	3,320	1,020
% TRUCKS -	2.5	2.5

NOTE: FOR DESIGN TRAFFIC DATA, SEE DRAWING GN-1.

BENCHMARK

JGR CONTROL POINT #374, CP BAMA, 1 1/2" ALUMINUM CAP (IN METERS)

NORTHING 192 003.951
EASTING 42 270.834
ELEVATION 1702.717



VICINITY MAP

INDEX OF SHEETS

SHEET NO.	DWG. NO.	DESCRIPTION
R-1 1		TITLE SHEET
2		STANDARD PLANS LIST
3-7	TY-1 TO TY-5	TYPICAL SECTIONS
8	GN-1	GENERAL NOTES, DESIGN TRAFFIC DATA
R-1 9-13	SQ-1 TO SQ-5	SUMMARY OF APPROXIMATE QUANTITIES
R-1 14-16	ST-1 TO ST-3	TABULATION OF STORM SEWER SYSTEM
17	ST-4	TABULATION OF REMOVALS, RESETS, ADJUSTS & MODIFY
R-1 18	ST-5	SUMMARY OF EARTHWORK
R-1 19	ST-6	TABULATION OF SURFACING QUANTITIES, PAVEMENT STABILIZATION DATA
20	ST-7	TABULATION OF CURB AND GUTTER, SIDEWALK, CURB RAMP, & MEDIAN COVER MATERIAL
21	ST-8	TABULATION OF GUARDRAIL, FENCING AND DELINEATORS
22	ST-9	TABULATION OF WETLAND MITIGATION, WATER LINE CONSTRUCTION AND SANITARY SEWER SYSTEM
23	ST-10	SURVEY TABULATION
24	CG-1	COORDINATE GEOMETRY PLAN
25	CG-2	COORDINATE GEOMETRY DATA
26		SURVEY CONTROL DIAGRAM
27-28		TABULATION OF CONTROL POINTS
29	TH-1	TEST HOLE LOCATIONS
30-31	TH-2 TO TH-3	LOGS OF TEST HOLES
32-36	ID-1 TO ID-5	INTERSECTION DETAILS
37-69	B-1 TO B-33	BRIDGE PLANS AND DETAILS
70-72	BC-1 TO BC-3	BOX CULVERT PLANS AND DETAILS
73-81	RW-1 TO RW-9	RETAINING WALL PLANS AND DETAILS
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160	I-1	TABULATION OF IRRIGATION SYSTEM
161-168	I-2 TO I-9	IRRIGATION SYSTEM PLANS AND DETAILS
169	TE-1	TABULATION OF TRAFFIC ENGINEERING ITEMS
170-172	SS-1 TO SS-3	TABULATION OF SIGNS
173	SS-4	TABULATION OF PAVEMENT MARKINGS
174	SS-5	TABULATION OF OVERHEAD SIGNS
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176	TC-1	TABULATION OF CONSTRUCTION TRAFFIC CONTROL DEVICES
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227		GUARDRAIL END ANCHORAGE (SRT) DETAIL
228		CONCRETE PAVEMENT JOINTS
229		CURBED CONCRETE PAVEMENT JOINTS

CONTRACTOR _____
_____ ENGINEER _____
(Project or Resident)
PROJECT STARTED _____
PROJECT COMPLETED 8/18/98
AS CONSTRUCTED PLANS APPROVED _____
TITLE DATE

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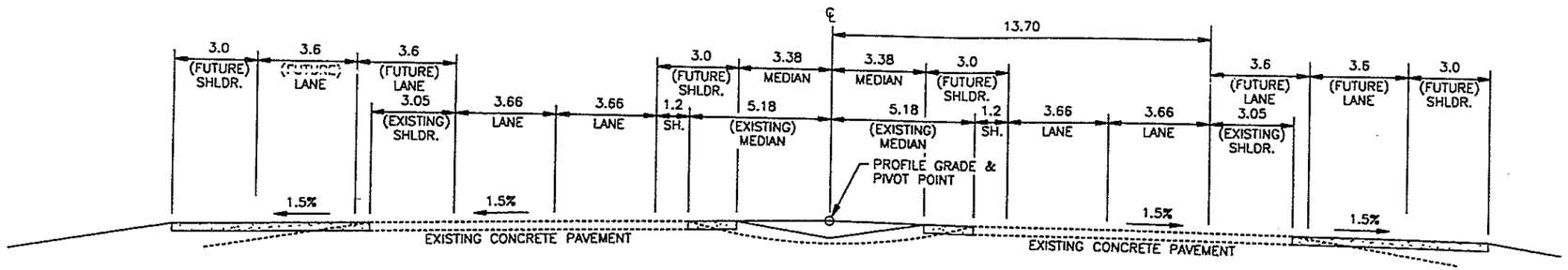
GCH/REGION 6

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 4701-076	3	

REVISIONS		

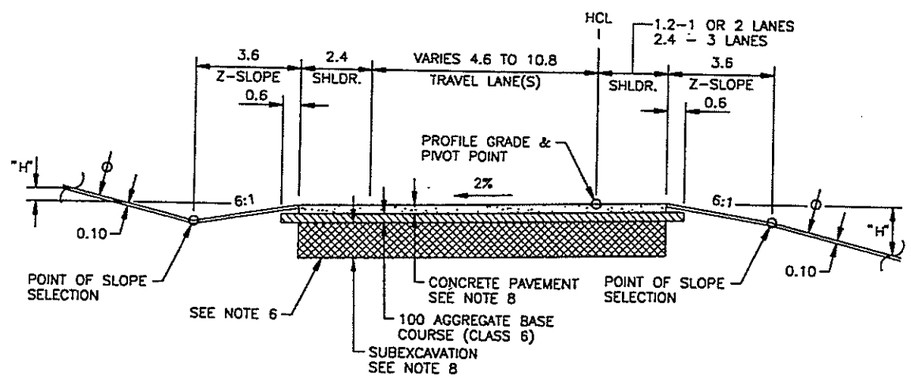
TYPICAL SECTIONS



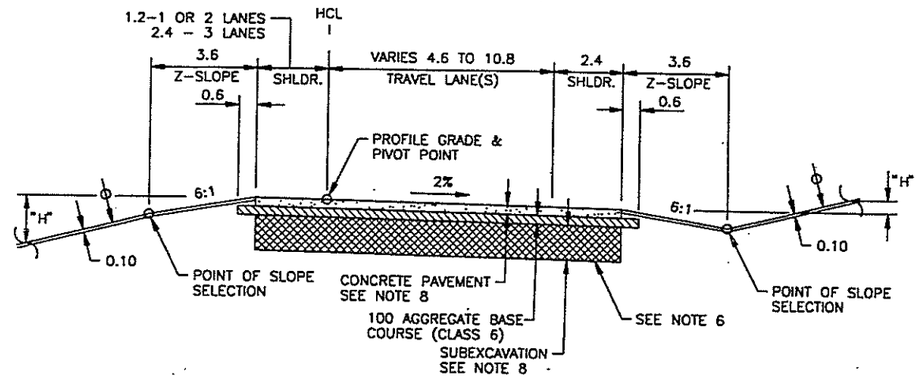
C-470

TYPICAL SECTION NOTES

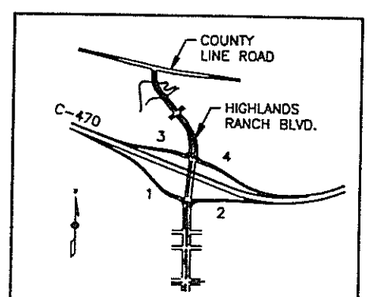
1. THE DEPTH AND WIDTH OF THE SIDE DITCH SHALL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE POSITIVE DRAINAGE.
2. ϕ THE CONTRACTOR WILL BE REQUIRED TO PLACE TOPSOIL TO THIS LINE AFTER COMPLETION OF THE PAVING OPERATION.
3. SIDE SLOPES:
   SLOPE 4:1 WHERE "H" IS 3 m OR LESS
   SLOPE 3:1 WHERE "H" IS OVER 3 m
4. BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.
5. THE PAVEMENT SMOOTHNESS FOR PAVEMENT SHOWN ON THIS SHEET WILL BE SMOOTHNESS CATEGORY 2.
6. MOISTURE-DENSITY TREATED MATERIAL BELOW PROPOSED PAVEMENT. CONTRACTOR SHALL SUBEXCAVATE AND RECOMPACT THIS AREA TO AT LEAST 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY (AASHTO T-99) AT OR ABOVE OPTIMUM MOISTURE CONTENT. SEE NOTE ON DRAWING NO. ST-5.
7. ALL CONCRETE PAVEMENT SHALL BE CLASS P CONCRETE.
8. RAMP 1 AND 3 - 250 mm CONCRETE PAVEMENT
   - 1150 mm SUBEXCAVATION
   RAMP 2 AND 4 - 230 mm CONCRETE PAVEMENT
   - 1170 mm SUBEXCAVATION



RAMPS 3 & 4



RAMPS 1 & 2



RAMP LOCATION KEY MAP

NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
TYPICAL SECTIONS				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECT DRAWN BY SED CHECKED BY DCB	SHEET NO. 1 OF 5 SHEETS	DRAWING NO. TY-1

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AS CONSTRUCTED		
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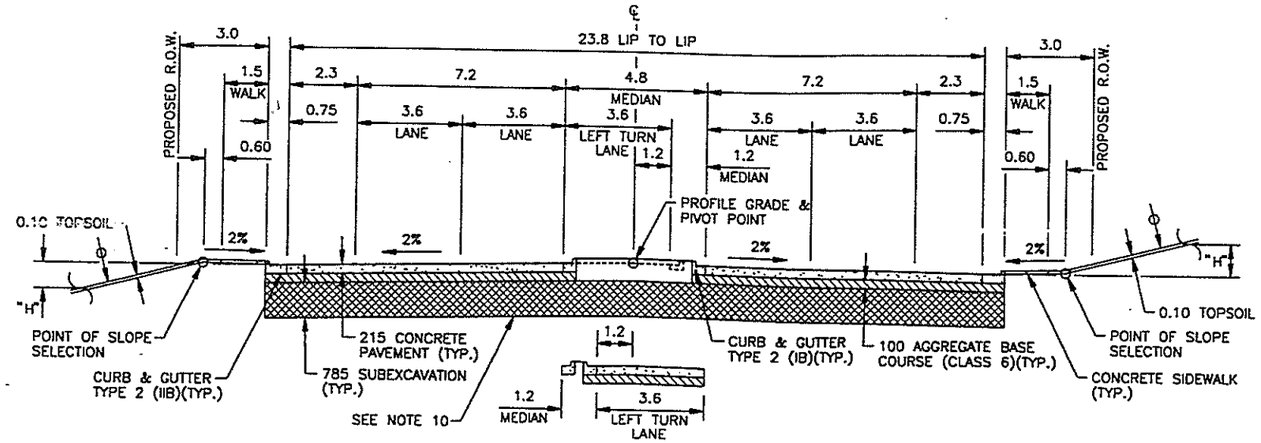
FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	4	

REVISIONS		

HIGHLANDS RANCH BOULEVARD
TYPICAL SECTIONS



STA. 4+392.4 TO STA. 4+765

TYPICAL SECTION NOTES

1. THE DEPTH AND WIDTH OF THE SIDE DITCH SHALL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE POSITIVE DRAINAGE.
2. ϕ THE CONTRACTOR WILL BE REQUIRED TO PLACE TOPSOIL TO THIS LINE AFTER COMPLETION OF THE PAVING OPERATION.
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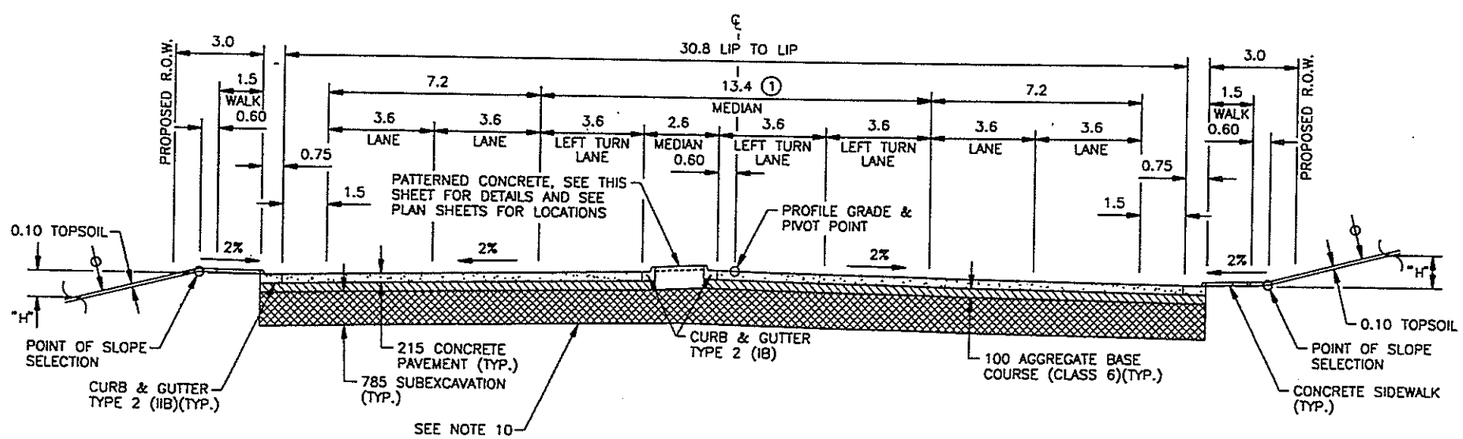
   SLOPE 3:1 WHERE "H" IS OVER 3 m
4. BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.
5. SEE INTERSECTION DETAILS FOR ADDITIONAL INFORMATION AT INTERSECTIONS OF RAMPS.
6. THE PAVEMENT SMOOTHNESS FOR PAVEMENT SHOWN ON THIS SHEET WILL BE SMOOTHNESS CATEGORY 5.
7. CURB AND GUTTER SHALL BE SAME THICKNESS AS CONCRETE PAVEMENT.
8. WHERE SIDEWALK IS ADJACENT TO CURB AND GUTTER, SIDEWALK SHALL BE POURED MONOLITHIC WITH CURB AND GUTTER.
9. ALL CONCRETE PAVEMENT SHALL BE CLASS P CONCRETE.
10. MOISTURE-DENSITY TREATED MATERIAL BELOW PROPOSED PAVEMENT. CONTRACTOR SHALL SUBEXCAVATE AND RECOMPACT THIS AREA TO AT LEAST 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY (AASHTO T-99) AT OR ABOVE OPTIMUM MOISTURE CONTENT. SEE NOTE ON DRAWING NO. ST-5.



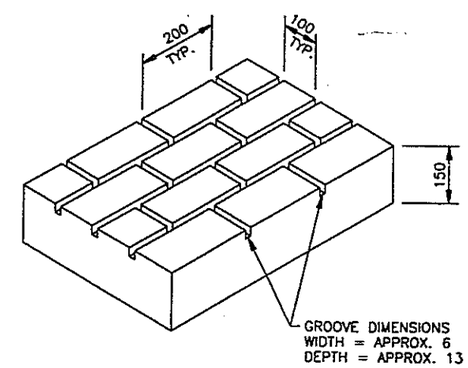
STA. 4+306 TO STA. 4+392.4

① MEDIAN TRANSITION 13.4 TO 4.8

STA. 4+000 TO STA. 4+306

(BRIDGE STRUCTURE FROM STA. 4+091.779 TO STA. 4+172.459
SEE STRUCTURE DETAIL DRAWINGS)

NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.



PATTERNED CONCRETE DETAIL

NOTE: PATTERNED CONCRETE COLOR SHALL BE: DESERT ROSE BY FRANK DAVIS CO. OR AN APPROVED EQUAL.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
TYPICAL SECTIONS				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY FCT DRAWN BY SED CHECKED BY DCB	SHEET NO. 2 OF 5 SHEETS	DRAWING NO. TY-2

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AS CONSTRUCTED		
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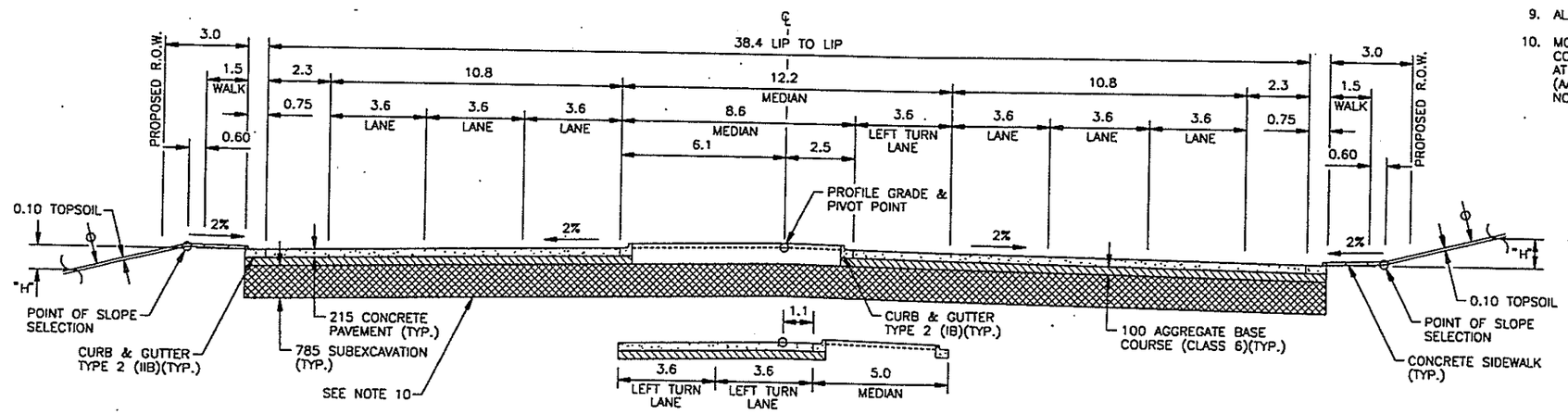
FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	5	

REVISIONS		

HIGHLANDS RANCH BOULEVARD
TYPICAL SECTIONS



STA. 3+720.440 TO STA. 4+000

TYPICAL SECTION NOTES

1. THE DEPTH AND WIDTH OF THE SIDE DITCH SHALL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE POSITIVE DRAINAGE.
2. ϕ THE CONTRACTOR WILL BE REQUIRED TO PLACE TOPSOIL TO THIS LINE AFTER COMPLETION OF THE PAVING OPERATION.
3. SIDE SLOPES:
   SLOPE 4:1 WHERE "H" IS 3 m OR LESS
   SLOPE 3:1 WHERE "H" IS OVER 3 m
4. BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.
5. SEE INTERSECTION DETAILS FOR ADDITIONAL INFORMATION AT INTERSECTIONS OF RAMPS.
6. THE PAVEMENT SMOOTHNESS FOR PAVEMENT SHOWN ON THIS SHEET WILL BE SMOOTHNESS CATEGORY 5.
7. CURB AND GUTTER SHALL BE SAME THICKNESS AS CONCRETE PAVEMENT.
8. WHERE SIDEWALK IS ADJACENT TO CURB AND GUTTER, SIDEWALK SHALL BE POURED MONOLITHIC WITH CURB AND GUTTER.
9. ALL CONCRETE PAVEMENT SHALL BE CLASS P CONCRETE.
10. MOISTURE-DENSITY TREATED MATERIAL BELOW PROPOSED PAVEMENT. CONTRACTOR SHALL SUBEXCAVATE AND RECOMPACT THIS AREA TO AT LEAST 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY (AASHTO T-99) AT OR ABOVE OPTIMUM MOISTURE CONTENT. SEE NOTE ON DRAWING NO. ST-5.

NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
TYPICAL SECTIONS				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECT DRAWN BY SED CHECKED BY DCB	SHEET NO. 3 OF 5 SHEETS	DRAWING NO. TY-3

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AS CONSTRUCTED		
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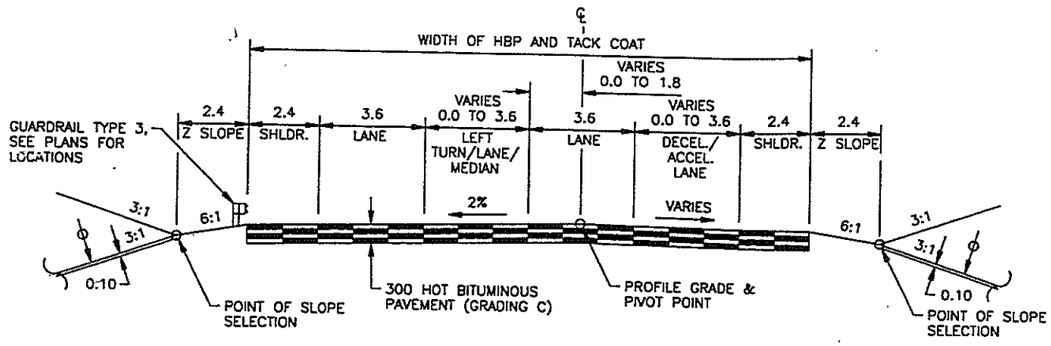
FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 4701-076	6	

REVISIONS		

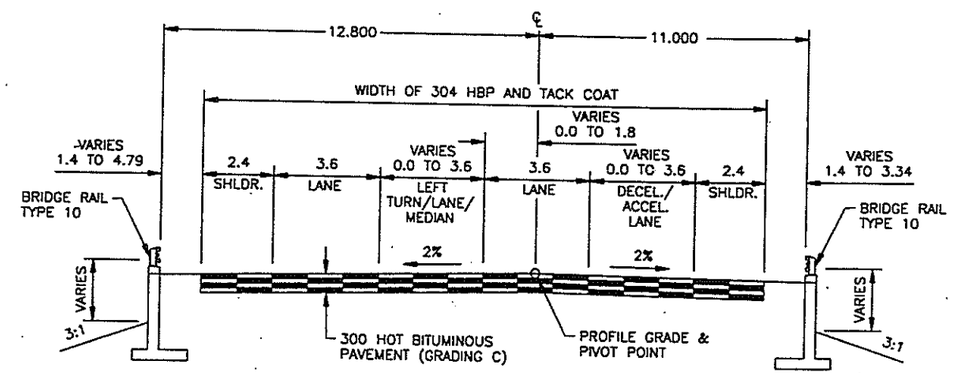
LEFT SIDE

501+681.891	
	3:1
501+810	
	WALL
501+995	
	3:1
502+060	
	TRANSITION
502+070	
	2:1 W/ RIPRAP
502+235	
	TRANSITION
502+245	
	3:1
502+474.187	

COUNTY LINE ROAD
TYPICAL SECTIONS



STA. 501+681.891 TO STA. 502+474.187



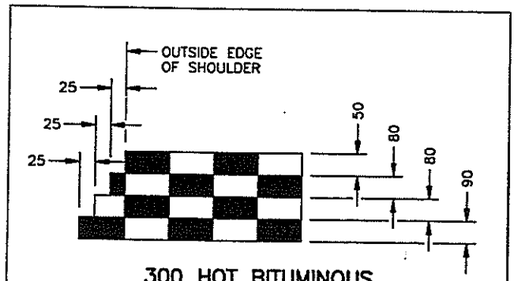
STA. 501+810 TO STA. 501+995, LT.
RETAINING WALL

STA. 501+819 TO STA. 501+981, RT.
RETAINING WALL

TYPICAL SECTION NOTES

1. THE DEPTH AND WIDTH OF THE SIDE DITCH SHALL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE POSITIVE DRAINAGE.
2. ϕ THE CONTRACTOR WILL BE REQUIRED TO PLACE TOPSOIL TO THIS LINE AFTER COMPLETION OF THE PAVING OPERATION.
3. SIDE SLOPES:
   ALL SLOPES WILL BE 3:1, EXCEPT INDICATED OTHERWISE ON THE PLANS.

   IN CERTAIN CASES, SLOPES MAY VARY IN ACCORDANCE WITH THE CROSS SECTIONS, OR AS DIRECTED BY THE ENGINEER.
4. BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.
5. SEE M-STANDARD M-606-1 FOR DETAILS ON PLACING TYPE 3 GUARDRAIL, PAVING AND SIDESLOPES.



300 HOT BITUMINOUS
PAVEMENT LAYER DETAILS
NOT TO SCALE

NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
TYPICAL SECTIONS				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECT DRAWN BY SED CHECKED BY DCR	SHEET NO. 4 OF 5 SHEETS	DRAWING NO. TY-4

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AS CONSTRUCTED		
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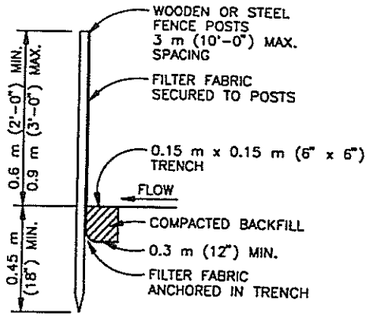
FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 4701-076	7	

REVISIONS		



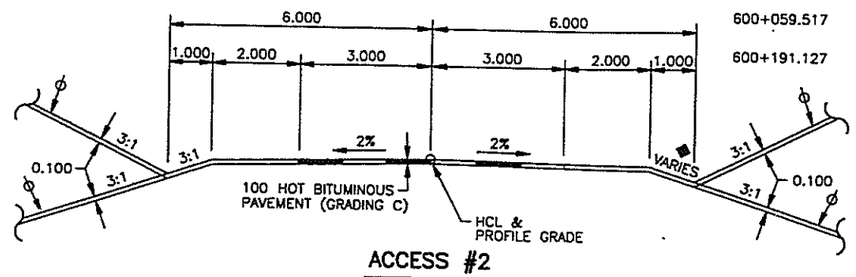
NOTES:

1. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
2. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 20 mm (3/4") LONG #9 HEAVY DUTY STAPLES. THE FILTER FABRIC SHALL NOT BE STAPLED TO EXISTING TREES.
3. WHEN USED, WIRE MESH SUPPORT FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 20 mm (3/4") LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 50 mm (2") AND SHALL NOT EXTEND MORE THAN 0.9 m (36") ABOVE THE ORIGINAL GROUND SURFACE.
4. SILT FENCE SHALL BE PERIODICALLY MAINTAINED TO PREVENT SEDIMENT FROM PASSING OVER OR UNDER THE FENCE. SEDIMENT SHALL BE REMOVED FROM BEHIND THE SILT FENCE WHEN IT ACCUMULATES TO ONE HALF THE EXPOSED FABRIC HEIGHT.
5. SILT FENCE DAMAGED BY WIND, OR OTHER FACTORS, SHOULD BE PROMPTLY REPAIRED.
6. SILT FENCES TO REMAIN AT FINAL COMPLETION OF THE WORK.

SILT FENCE

NTS

TYPICAL SECTIONS

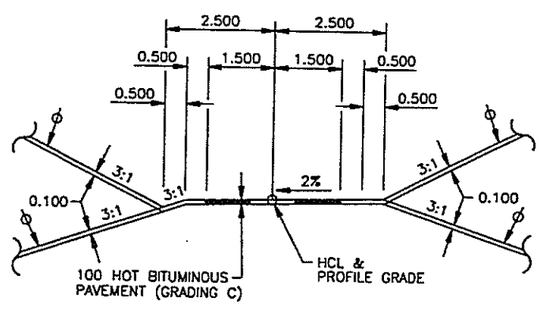


◆ RIGHT SIDE

600+022.500	90:1 TRANSITION
600+059.517	3:1
600+191.127	3:1

ACCESS #2

NTS



DRIVEWAY

NTS

TYPICAL SECTION NOTES

1. THE DEPTH AND WIDTH OF THE SIDE DITCH SHALL BE VARIED WHERE NECESSARY IN ORDER TO PROVIDE POSITIVE DRAINAGE.
2. ϕ THE CONTRACTOR WILL BE REQUIRED TO PLACE TOPSOIL TO THIS LINE AFTER COMPLETION OF THE PAVING OPERATION.
3. SIDE SLOPES:
   ALL SLOPES WILL BE 3:1, UNLESS NOTED OTHERWISE.

   IN CERTAIN CASES, SLOPES MAY VARY IN ACCORDANCE WITH THE CROSS SECTIONS, OR AS DIRECTED BY THE ENGINEER.
4. BREAK POINTS ON SLOPES AND IN BOTTOMS OF DITCHES SHALL BE ROUNDED DURING CONSTRUCTION FOR A PLEASING APPEARANCE.
5. SEE M-STANDARD M-606-1 FOR DETAILS ON PLACING TYPE 3 GUARDRAIL, PAVING AND SIDESLOPES.

NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
TYPICAL SECTIONS				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECT DRAWN BY SED CHECKED BY DCB	SHEET NO. 5 OF 5 SHEETS	DRAWING NO. TY-5

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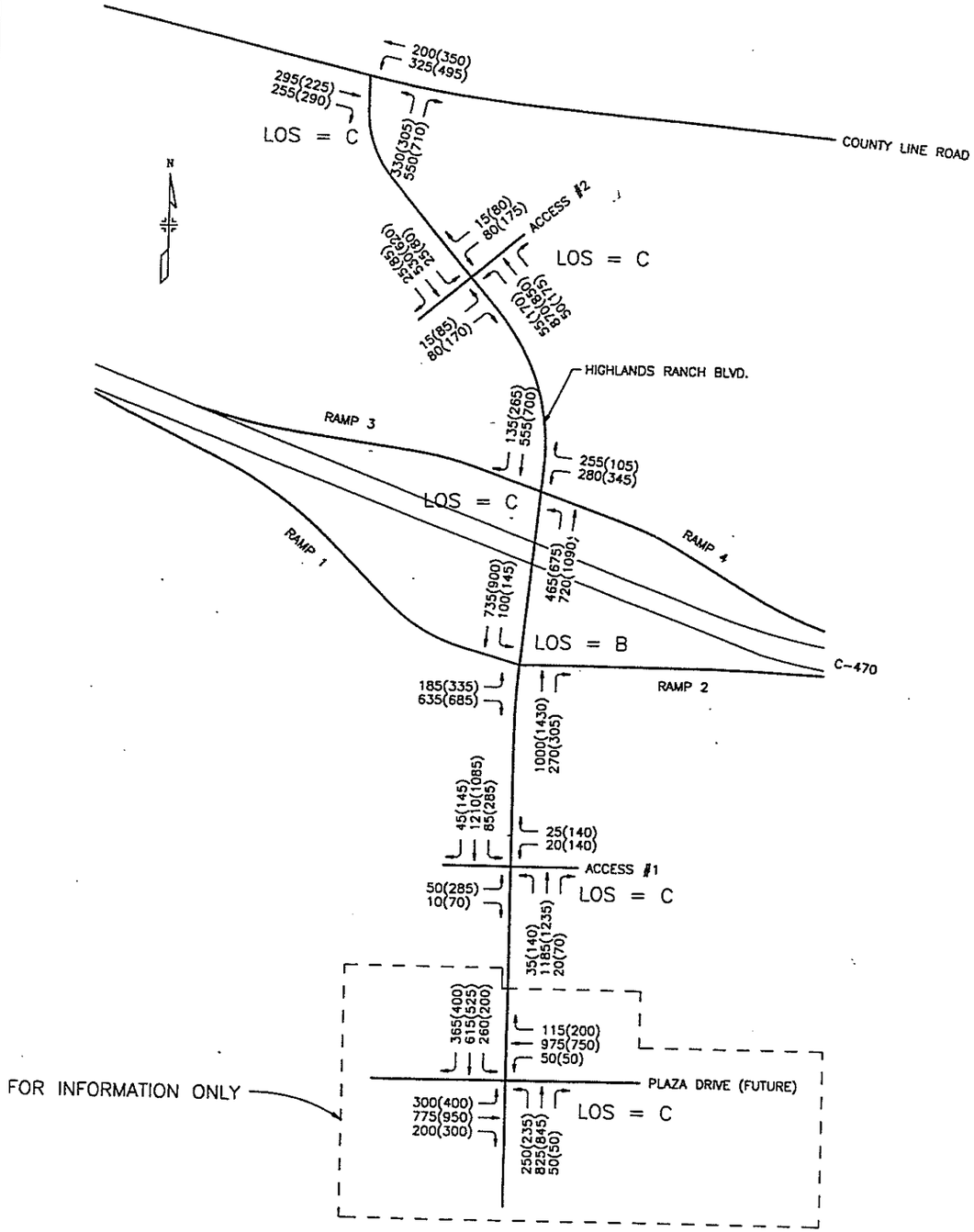
AS CONSTRUCTED		
NO REVISIONS ☐	REVISED ☐	VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	8	

REVISIONS		



DESIGN TRAFFIC DATA

PROJECTED YEAR 2015 TRAFFIC VOLUMES

LEGEND

XXX(XXX) = AM(PM) PEAK HOUR TRAFFIC VOLUMES

LOS = B LEVEL OF SERVICE (PM PEAK)

GENERAL NOTES

1. FOR PRELIMINARY PLAN QUANTITIES OF PAVEMENT STRUCTURE MATERIALS, THE FOLLOWING RATES OF APPLICATION WERE USED:

   TACK COAT DILUTED EMULSIFIED ASPHALT (SLOW SETTING) ● 0.453 L/m^2
   BITUMINOUS PAVEMENT ● 59.674 $kg/m^2/25.44$ mm
   AGGREGATE BASE COURSE ●2 130.45 kg/m^3

   DILUTED EMULSIFIED ASPHALT FOR TACK COAT SHALL CONSIST OF 1 PART EMULSIFIED ASPHALT AND 1 PART WATER.
   A TACK COAT WILL BE REQUIRED BETWEEN LAYERS OF BITUMINOUS PAVEMENT. RATES OF APPLICATION SHALL BE AS DETERMINED BY THE ENGINEER AT THE TIME OF APPLICATION.

2. ANY LAYER OF BITUMINOUS PAVEMENT THAT IS TO HAVE A SUCCEEDING LAYER PLACED THEREON SHALL BE COMPLETED FULL WIDTH BEFORE SUCCEEDING LAYER IS PLACED.

3. THE CONTRACTOR WILL NOT BE ALLOWED TO USE ANY TYPE OF DEVICE TO MATCH CURB AND GUTTER. HE WILL BE REQUIRED TO ALLOW THE PAVER TO FLOAT ALONG THE PAN LINE INSURING THAT THE TOP OF THE ASPHALT MAT NEVER GOES BELOW THE PAN LINE NOR MORE THAN 13 mm ABOVE.

4. DEPTH OF MOISTURE--DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS: FULL DEPTH OF ALL EMBANKMENTS.
   BASES OF FILLS – 150 mm
   BASES OF CUTS – 150 mm

   EXCAVATION REQUIRED FOR COMPACTION OF BASES OF CUTS AND FILLS WILL BE CONSIDERED AS SUBSIDIARY TO THAT OPERATION AND WILL NOT BE PAID FOR SEPARATELY.

5. ALL COMPACTION SHALL BE 95% AASHTO T 99.

6. WATER USED AS A DUST PALLIATIVE WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE WORK.

7. WHERE IT IS REQUIRED TO CUT EXISTING PAVEMENT, THE CUTTING SHALL BE DONE TO A NEAT WORK LINE WITH A CUTTING WHEEL ATTACHED TO A BLADE OR OTHER METHOD AS APPROVED BY THE ENGINEER. THIS WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED AS SUBSIDIARY TO REMOVAL OF ASPHALT MAT.

8. R.O.W. PERMANENT, TEMPORARY AND SLOPE EASEMENTS SHALL BE STAKED BY THE CONTRACTOR UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL LAND SURVEYOR FOR CONSTRUCTION PURPOSES ONLY. ALL WORK SHALL BE INCLUDED IN ITEM 625 – CONSTRUCTION SURVEYING

9. IT IS SUGGESTED THAT THE CONTRACTOR INITIATE A REQUEST TO THE PUBLIC SERVICE COMPANY FOR ANY CONSTRUCTION-RELATED TEMPORARY ELECTRICAL POWER SOURCES AS SOON AS POSSIBLE. IN SOME INSTANCES UP TO 30 DAYS MAY BE REQUIRED TO PROVIDE THE SOURCES. THE REQUEST IS TO BE PROCESSED THROUGH: PUBLIC SERVICE COMPANY OF COLORADO – STREET LIGHTING AT (303)570-2505.

10. UTILITY LINES AS SHOWN ON UTILITY AND PROFILE SHEETS ARE PLOTTED FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR'S ATTENTION IS DIRECTED TO PARAGRAPH 105.06 OF THE STANDARD SPECIFICATIONS CONCERNING UTILITIES. THE CONTRACTOR WILL CALL 534-6700 FOR UTILITY LOCATIONS AT LEAST 2 WORKING DAYS PRIOR TO ANY EXCAVATION NOT INCLUDING THE DAY OF ACTUAL NOTICE.

11. THE ITEM UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE) SHALL INCLUDE BENCHING OPERATIONS AS DESCRIBED IN SECTION 203.06 OF THE STANDARD SPECIFICATIONS. BENCHING SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCLUDED IN THE WORK.

12. THE CONTRACTOR SHALL PROTECT ALL EXISTING SURVEY MONUMENTATION, DESIGNATED TO REMAIN, FROM DAMAGE DURING CONSTRUCTION OPERATIONS. ANY MONUMENTS DISTURBED BY THE CONTRACTOR SHALL BE RESET AT HIS OWN EXPENSE. THE CONTRACTOR AND ENGINEER SHALL NOTE THOSE MONUMENTS IN THE FIELD PRIOR TO CONSTRUCTION.

13. IT IS ESTIMATED THAT 100 HOURS OF POTHOLING WILL BE REQUIRED.

14. THE CONTRACT SURVEYOR IS TO CONTACT REGION 6 RIGHT OF WAY 14 DAYS PRIOR TO PICKUP OF ALL REQUIRED MONUMENTS FOR THE PROJECT.

15. ALL CONCRETE FOR PORTLAND CEMENT CONCRETE PAVEMENT SHALL BE CLASS P.

16. IT IS ESTIMATED THAT 2,000 METERS OF FENCE (TEMPORARY) WILL BE REQUIRED AND SHALL BE PLACED AT THE DIRECTION OF THE ENGINEER.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
GENERAL NOTES, DESIGN TRAFFIC DATA				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECT DRAWN BY SED CHECKED BY DCB	SHEET NO. 1 OF 1 SHEETS	DRAWING NO. GN-1

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FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 4701-076	9	

REVISIONS			
R-1	2/6/97	REVISED QUANTITIES	GCH

SUMMARY OF APPROXIMATE QUANTITIES

INDEX BOOK	INDEX PAGE	INDEX SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY PLAN	ROADWAY AS CONST.	STRUCTURE NO. F-17-KQ PLAN	STRUCTURE NO. F-17-KQ AS CONST.	PROJECT TOTALS PLAN	PROJECT TOTALS AS CONST.
			201	CLEARING AND GRUBBING	LS	1				1	
			202	REMOVAL OF STRUCTURE	EACH	4				4	
			202	REMOVAL OF HEADWALL	EACH	1				1	
			202	REMOVAL OF PIPE	M	375				375	
			202	REMOVAL OF END SECTION	EACH	2				2	
			202	REMOVAL OF DELINEATOR	EACH	12				12	
			202	REMOVAL OF ASPHALT MAT	M2	8,726				8,726	
			202	REMOVAL OF PAVEMENT MARKING	M2	80				80	
			202	REMOVAL OF PORTIONS OF PRESENT STRUCTURE	EACH	2				2	
			202	REMOVAL OF GROUND SIGN	EACH	4				4	
			202	REMOVAL OF FENCE	M	3,077				3,077	
			202	PLUG STRUCTURE	EACH	2				2	
			202	CLEAN CULVERT	EACH	4				4	
			202	SANDBLASTING	M2	2,190				2,190	
			203	UNCLASSIFIED EXCAVATION (COMPLETE IN PLACE)	M3	274,220				274,220	
			203	MUCK EXCAVATION	M3	362.1				362	
			203	POTHOLING	HOUR	100				100	
			206	STRUCTURE EXCAVATION	M3	3,722		1,895		5,617	
			206	STRUCTURE BACKFILL (FLOW-FILL)	M3			791		791	
			206	STRUCTURE BACKFILL (CLASS 1)	M3	2,697		1,195		3,892	
			206	STRUCTURE BACKFILL (CLASS 2)	M3	60				60	
			206	FILTER MATERIAL (CLASS A)	M3	1,363	R-1			1,363	R-1
			207	TOPSOIL	M3	9,080	R-1			9,080	R-1
			207	WETLAND TOPSOIL	M3	100				100	
			208	EROSION BALES	EACH	36				36	
			208	SILT FENCE	M	2,231				2,231	
			208	SEDIMENT BASIN	EACH	1				1	
			208	SEDIMENT TRAP	EACH	14				14	
			208	SEDIMENT REMOVAL AND DISPOSAL	LS	1				1	
			208	EROSION CONTROL SUPERVISOR	LS	1				1	
			210	RESET OVERHEAD SIGN STRUCTURE	EACH	1				1	
			210	RESET GROUND SIGN	EACH	5				5	
			210	RESET FENCE	M	83				83	
			212	SEEDING (NATIVE)	HA	9.080				9.080	
			213	MULCHING	HA	9.080				9.080	
			213	MULCH TACKIFIER	KG	999				999	
			214	DECIDUOUS TREE (50 MM CALIPER)	EACH	56				56	
			214	DECIDUOUS TREE (50 MM CALIPER)(FURNISH ONLY)	EACH	50				50	
			214	DECIDUOUS SHRUB (NO. 5 CONTAINER)	EACH	40				40	
			214	EVERGREEN TREE (1.8 METER)(BALL AND BURLAP)	EACH	22				22	
			214	EVERGREEN TREE (1.8 METER)(BALL AND BURLAP) (FURNISH ONLY)	EACH	21				21	
			214	WILLOW CUTTINGS	EACH	700				700	
			216	SOIL RETENTION BLANKET (SPECIAL)	M2	3,275				3,275	
			304	AGGREGATE BASE COURSE (CLASS 6)	T	10,781				10,781	
			403	HOT BITUMINOUS PAVEMENT (GRADING C) (ASPHALT) (C520)	T	9,702				9,702	
			411	EMULSIFIED ASPHALT (SLOW-SETTING)	L	35,360				35,360	
			412	CONCRETE PAVEMENT (150 MM)	M2	38	R-1			38	R-1
			412	CONCRETE PAVEMENT (215 MM)	M2	25,300				25,300	
			412	CONCRETE PAVEMENT (230 MM)	M2	10,861				10,861	
			412	CONCRETE PAVEMENT (250 MM)	M2	12,492				12,492	
			420	GEOTEXTILE (DRAINAGE) (CLASS A)	M2	1,450				1,450	
			503	DRILLED CAISSON (750 MM)	M			357		357	

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE

SUMMARY OF APPROXIMATE QUANTITIES

DATE	PROJECT NO.	DESIGNED BY DCB / DRAWN BY SED / CHECKED BY DCB	SHEET NO. 1 OF 5 SHEETS	DRAWING NO.
SEPT 96	96-004			SQ-1

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FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	10	

REVISIONS		

SUMMARY OF APPROXIMATE QUANTITIES

INDEX BOOK	INDEX PAGE	INDEX SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY PLAN	ROADWAY AS CONST.	STRUCTURE NO. F-17-KQ PLAN	STRUCTURE NO. F-17-KQ AS CONST.	PROJECT TOTALS PLAN	PROJECT TOTALS AS CONST.
			503	DRILLED CAISSON (900 MM)	M	7.8				8	
			503	DRILLED CAISSON (1050 MM)	M	6.2				6	
			506	RIPRAP (150 MM)	M3	798.0				798	
			506	RIPRAP (300 MM)	M3	1,594				1,594	
			506	RIPRAP (450 MM)	M3	682				682	
			506	RIPRAP (600 MM)	M3	99				99	
			507	CONCRETE SLOPE AND DITCH PAVING (REINFORCED)	M3			123		123	
			507	BITUMINOUS SLOPE AND DITCH PAVING (ASPHALT)	T	13.3				13	
			509	STRUCTURAL STEEL	KG			474,083		474,083	
			512	BEARING DEVICE (TYPE I)	EACH			14		14	
			518	WATERSTOP (150 MM)	M	64				64	
			518	BRIDGE EXPANSION DEVICE (0-100 MM)	M			116		116	
			601	CONCRETE CLASS B (BRIDGE)	M3			678		678	
			601	CONCRETE CLASS B (WALL)	M3	715.7				716	
			601	CONCRETE CLASS D (BOX CULVERT)	M3	77.1				77	
			601	CONCRETE CLASS D (WALL)	M3	14.0				14	
			601	CONCRETE CLASS D (BRIDGE)	M3			855		855	
			601	STRUCTURAL CONCRETE COATING	M2	1,607		1,140		2,747	
			601	STRUCTURAL CONCRETE COATING (ANTI-GRAFFITI)	M2	97		1,140		1,237	
			602	REINFORCING STEEL	KG	68,397		17,109		85,506	
			602	REINFORCING STEEL (EPOXY COATED)	KG			186,264		186,264	
			603	375 MM REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	M	143.1				143	
			603	450 MM REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	M	528.1				528	
			603	600 MM REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	M	133.2				133	
			603	750 MM REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	M	144.2				144	
			603	1350 MM REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	M	206.1				206	
			603	2100 MM REINFORCED CONCRETE PIPE (COMPLETE IN PLACE)	M	17.5				18	
			603	450 MM REINFORCED CONCRETE END SECTION	EACH	10				10	
			603	600 MM REINFORCED CONCRETE END SECTION	EACH	4				4	
			603	750 MM REINFORCED CONCRETE END SECTION	EACH	1				1	
			603	1350 MM REINFORCED CONCRETE END SECTION	EACH	3				3	
			603	300 MM CORRUGATED STEEL PIPE	M	3				3	
			603	600 MM CORRUGATED STEEL PIPE	M	3				3	
			603	75 MM PLASTIC PIPE	M	1				1	
			603	100 MM PLASTIC PIPE	M	12				12	
			603	300 MM PLASTIC PIPE	M	110				110	
			603	900 MM PLASTIC PIPE	M	204				204	
			604	INLET TYPE C (2 M)	EACH	7				7	
			604	INLET TYPE 13 (2 M)	EACH	2				2	
			604	INLET TYPE R L1.5 (2 M)	EACH	2				2	
			604	INLET TYPE R L4.5 (2 M)	EACH	7				7	
			604	INLET TYPE R L4.5 (4 M)	EACH	1				1	
			604	INLET TYPE R L4.5 (6 M)	EACH	2				2	
			604	MANHOLE SLAB BASE (2 M)	EACH	1				1	
			604	MANHOLE SLAB BASE (4 M)	EACH	5				5	
			604	MANHOLE BOX BASE (4 M)	EACH	1				1	
			604	MANHOLE BOX BASE (6 M)	EACH	2				2	
			604	MANHOLE SPECIAL	EACH	1				1	
			605	GEOCOMPOSITE DRAIN WITHOUT PIPE	M2	922				922	
			606	GUARDRAIL TYPE 3 (1905 MM POST SPACING)	M	716				716	
			606	END ANCHORAGE TYPE 3D	EACH	2				2	
			606	END ANCHORAGE TYPE 3F	EACH	6				6	

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
SUMMARY OF APPROXIMATE QUANTITIES				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY DCB DRAWN BY SED CHECKED BY DCB	SHEET NO. 2 OF 5 SHEETS	DRAWING NO. SQ-2

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FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	11	

REVISIONS		

SUMMARY OF APPROXIMATE QUANTITIES

INDEX BOOK	PAGE	SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY PLAN	ROADWAY AS CONST.	STRUCTURE NO. F-17-KQ PLAN	STRUCTURE NO. F-17-KQ AS CONST.	PROJECT TOTALS PLAN	PROJECT TOTALS AS CONST.
			606	END ANCHORAGE TYPE 3G	EACH	5				5	
			606	END ANCHORAGE TYPE 3H	EACH	2				2	
			606	END ANCHORAGE (SLOTTED RAIL TERMINAL)	EACH	5				5	
			606	BRIDGE RAIL TYPE 4 (SPECIAL)	M			166		166	
			606	BRIDGE RAIL TYPE 10	M	352.0				352	
			607	END POST	EACH	4				4	
			607	CORNER AND LINE BRACE POST	EACH	36				36	
			607	FENCE COMBINATION WIRE WITH METAL POSTS	M	2,073				2,073	
			607	FENCE (TEMPORARY)	M	2,000				2,000	
			607	END POST (CHAIN LINK)	EACH	14				14	
			607	CORNER AND LINE BRACE POST (CHAIN LINK)	EACH	10				10	
			607	FENCE CHAIN LINK (SPECIAL)	M			165		165	
			607	FENCE CHAIN LINK (1050 MM)	M	255				255	
			607	FENCE CHAIN LINK (SPECIAL) (1050 MM)	M	29				29	
			608	CONCRETE SIDEWALK	M2	2,898				2,898	
			608	CONCRETE CURB RAMP	M2	204				204	
			609	CURB AND GUTTER TYPE 2 (SECTION I-B)	M	1,983				1,983	
			609	CURB AND GUTTER TYPE 2 (SECTION II-B)	M	2,050				2,050	
			609	CURB TYPE 6 (SECTION M)	M	36				36	
			610	MEDIAN COVER MATERIAL (PATTERNED CONCRETE)	M2	751		186		937	
			612	DELINEATOR (FLEXIBLE) (TYPE I)	EACH	77				77	
			612	DELINEATOR (FLEXIBLE) (TYPE II)	EACH	35				35	
			613	19 MM ELECTRICAL CONDUIT	M			166		166	
			613	50 MM ELECTRICAL CONDUIT	M			423		423	
			613	75 MM ELECTRICAL CONDUIT (JACKED)	M	50				50	
			613	50 MM ELECTRICAL CONDUIT (PLASTIC)	M	2,125				2,125	
			613	75 MM ELECTRICAL CONDUIT (PLASTIC)	M	1,360				1,360	
			613	WIRING	LS	1				1	
			614	SIGN PANEL (CLASS I)	M2	40				40	
			614	SIGN PANEL (CLASS II)	M2	23				23	
			614	SIGN PANEL (CLASS III)	M2	184				184	
			614	TIMBER SIGN POST 89X89 MM	M	68				68	
			614	TIMBER SIGN POST 140X140 MM	M	204				204	
			614	STEEL SIGN POST (W 200X27)	M	10.9				10.9	
			614	STEEL SIGN POST (W 200X31)	M	9.9				9.9	
			614	STEEL SIGN POST (W 250X33)	M	32.0				32.0	
			614	STEEL SIGN POST (W 250X39)	M	12.0				12.0	
			614	STEEL SIGN POST (W 310X39)	M	14.9				14.9	
			614	CONCRETE FOOTING (TYPE 3)	EACH	2				2	
			614	CONCRETE FOOTING (TYPE 4)	EACH	2				2	
			614	CONCRETE FOOTING (TYPE 5)	EACH	5				5	
			614	CONCRETE FOOTING (TYPE 6)	EACH	2				2	
			614	CONCRETE FOOTING (TYPE 7)	EACH	2				2	
			614	BALANCED BUTTERFLY STRUCTURE	EACH	1				1	
			614	PEDESTRIAN SIGNAL FACE (400)	EACH	14				14	
			614	TRAFFIC SIGNAL FACE (300-300-300)	EACH	23				23	
			614	TRAFFIC SIGNAL FACE (300-300-300-300-300)	EACH	9				9	
			614	TRAFFIC SIGNAL CONTROLLER CABINET	EACH	3				3	
			614	FIRE PREEMPTION UNIT AND TIMER	EACH	4				4	
			614	LOOP DETECTOR WIRE	M	945				945	
			614	TRAFFIC SIGNAL VEHICLE DETECTOR AMPLIFIER (LOOP TYPE) (2 CHANNEL)	EACH	6				6	

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
SUMMARY OF APPROXIMATE QUANTITIES				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY DCB DRAWN BY SED CHECKED BY DCB	SHEET NO. 3 OF 5 SHEETS	DRAWING NO. SQ-3

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FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	12	

REVISIONS			
R-1	2/6/97	REVISED QUANTITY 300 mm	
		CULVERT PIPE SPECIAL	GCH

SUMMARY OF APPROXIMATE QUANTITIES

INDEX BOOK	PAGE	SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY PLAN	ROADWAY AS CONST.			STRUCTURE NO. F-17-KQ PLAN	STRUCTURE NO. F-17-KQ AS CONST.											PROJECT TOTALS PLAN	PROJECT TOTALS AS CONST.
			614	TRAFFIC SIGNAL VEHICLE DETECTOR (MICRO TYPE)	EACH	43																43	
			614	BARRICADE (TYPE 3 F-A)	EACH	2																2	
			614	BARRICADE (TYPE 3 F-C)	EACH	8																8	
			614	TRAFFIC SIGNAL-LIGHT POLE STEEL (1 MAST ARM) (INSTALL ONLY)	EACH	6																6	
			614	TRAFFIC SIGNAL - LIGHT POLE (INSTALL ONLY)	EACH	1																1	
			614	TRAFFIC SIGNAL POLE STEEL (1 MAST ARM) (INSTALL ONLY)	EACH	2																2	
			614	TRAFFIC SIGNAL PEDESTAL POLE STEEL (INSTALL ONLY)	EACH	2																2	
			614	IMPACT ATTENUATOR	EACH	1																1	
			614	TRAFFIC SIGNAL CONTROLLER (MASTER)	EACH	1																1	
			614	TRAFFIC SIGNAL CONTROLLER (TYPE 170)	EACH	3																3	
			615	EMBANKMENT PROTECTOR TYPE 5	EACH	3																3	
			617	300 MM CULVERT PIPE SPECIAL	M	3.0	R-1														R-1	3	
			619	DN400 DUCTILE IRON PIPE	M	51.0																51	
			619	DN150 WELDED STEEL PIPE (JACKED)	M	85																85	
			619	DN750 WELDED STEEL PIPE	M	14.0																14	
			619	DN750 WELDED STEEL PIPE (JACKED)	M	94.2																94	
			619	DN25 COPPER PIPE	M	19																19	
			619	DN25 PLASTIC PIPE	M	960																960	
			619	DN80 PLASTIC PIPE	M	2297																2,297	
			619	DN150 PLASTIC PIPE	M	189																189	
			620	FIELD OFFICE (CLASS 2)	EACH	1																1	
			620	FIELD LABORATORY (CLASS 2)	EACH	1																1	
			620	SANITARY FACILITY	EACH	2																2	
			623	IRRIGATION BUBBLER	EACH	220																220	
			623	DN25 BACKFLOW PREVENTER	EACH	1																1	
			623	DN25 PRESSURE REDUCING VALVE	EACH	1																1	
			623	DN25 DRAIN VALVE	EACH	7																7	
			623	DN25 MANUAL CONTROL VALVE	EACH	2																2	
			623	DN25 AUTOMATIC CONTROL VALVE	EACH	7																7	
			623	CONTROL WIRE 24 VOLT	M	10,541																10,541	
			623	POWER SOURCE WIRE	M	100																100	
			623	DN25 QUICK-COUPLER VALVE	EACH	3																3	
			623	DN80 GATE VALVE	EACH	5																5	
			623	DN25 WATER METER	EACH	1																1	
			623	8 STATION AUTOMATIC CONTROLLER	EACH	2																2	
			625	CONSTRUCTION SURVEYING	LS	1																1	
			625	CONSTRUCTION SURVEYING (HOURLY)	HOUR	100																100	
			626	MOBILIZATION	LS	1																1	
			627	PAVEMENT MARKING PAINT	L	89																89	
			627	EPOXY PAVEMENT MARKING	L	698																698	
			627	PREFORMED PLASTIC PAVEMENT MARKING (TYPE A)	M2	674																674	
			627	PREFORMED THERMOPLASTIC PAVEMENT MARKING (WORD-SYMBOL)	M2	25																25	
			627	PREFORMED THERMOPLASTIC PAVEMENT MARKING (XWALK-STOP LINE)	M2	95																95	
			629	SURVEY MONUMENT (TYPE 1)	EACH	85																85	
			629	SURVEY MONUMENT (TYPE 2)	EACH	2																2	
			629	SURVEY MONUMENT (TYPE 5)	EACH	1																1	
			629	SURVEY MONUMENT (TYPE 1A)	EACH	1																1	
			629	SURVEY MONUMENT (TYPE 3A)	EACH	1																1	
			630	FLAGGING	HOUR	2,000																2,000	
			630	TRAFFIC CONTROL SUPERVISOR	DAY	210																210	

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
SUMMARY OF APPROXIMATE QUANTITIES				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY DCB DRAWN BY SED CHECKED BY DCB	SHEET NO. 4 OF 5 SHEETS	DRAWING NO. SQ-4

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AS CONSTRUCTED		
NO REVISIONS ☐	REVISED ☐	VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	13	

REVISIONS			
R-1	2/6/97	DELETED TRAFFIC CONTROL VEHICLE	GCH

SUMMARY OF APPROXIMATE QUANTITIES

INDEX BOOK	PAGE	SHEET	CONTRACT ITEM NO.	CONTRACT ITEM	UNIT	ROADWAY PLAN	ROADWAY AS CONST.	STRUCTURE NO. F-17-KQ PLAN	STRUCTURE NO. F-17-KQ AS CONST.	PROJECT TOTALS PLAN	PROJECT TOTALS AS CONST.
				R-1							
			630	TRAFFIC CONTROL INSPECTION	DAY	90				90	
			630	FLASHING BEACON (PORTABLE)	EACH	6				6	
			630	BARRICADE (TYPE 3 M-B) (TEMPORARY)	EACH	20				20	
			630	BARRICADE (TYPE 3 M-C) (TEMPORARY)	EACH	4				4	
			630	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EACH	2				2	
			630	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EACH	43				43	
			630	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE C)	EACH	20				20	
			630	CONSTRUCTION TRAFFIC SIGN (SPECIAL)	M2	34				34	
			630	ADVANCE WARNING FLASHING OR SEQUENCING ARROW PANEL (C TYPE)	EACH	2				2	
			630	DRUM CHANNELIZING DEVICE	EACH	36				36	
			630	DRUM CHANNELIZING DEVICE (WITH LIGHT) (FLASHING)	EACH	4				4	
			630	DRUM CHANNELIZING DEVICE (WITH LIGHT) (STEADYBURN)	EACH	30				30	
			630	CONCRETE BARRIER (TEMPORARY)	M	2,540				2,540	
			630	TRAFFIC CONE	EACH	100				100	
			630	MOBILE PAVEMENT MARKING ZONE	DAY	2				2	
			630	IMPACT ATTENUATOR (SAND FILLED PLASTIC BARREL) (TEMPORARY)	EACH	8				8	
				FORCE ACCOUNT ITEMS							
			700	F/A MINOR CONTRACT REVISIONS	FA	1				1	
			700	F/A OJT PILOT	FA	1				1	
			700	F/A QUALITY INCENTIVE PAYMENT	FA	1				1	
			700	F/A OBTAIN POWER FROM PUBLIC SERVICE CO	FA	1				1	
			700	F/A EROSION CONTROL	FA	1				1	

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
SUMMARY OF APPROXIMATE QUANTITIES				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY DCB DRAWN BY SED CHECKED BY DCB	SHEET NO. 5 OF 5 SHEETS	DRAWING NO. SQ-5

COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

REGION NO.	DIVISION	PROJ. NO.	NO.	SHEETS
VIII	COLORADO	CC 4701-076	18	

	REVISIONS		
R-1	2/6/97	ADDED NOTE, COMPACTION OF	
		WASTE AND STRIPPING	GCH

SUMMARY OF EARTHWORK
NORTH OF C-470

INDEX BOOK	PAGE	SHEET	ITEM	PROJECT TOTALS
			UNCLASSIFIED EXCAVATION (CIP)	CU. M
			ROADWAY (FROM CROSS SECTIONS)	
			HIGHLANDS RANCH BLVD.	94,899
			COUNTY LINE ROAD	1,650
			RAMP 3	5,582
			RAMP 4	32,714
			ACCESS #2	517
			DRIVEWAY	27
			SUBTOTAL	135,389
			SUBEXCAVATION	
			HIGHLANDS RANCH BLVD.	11,429
			RAMP 3	3,070
			RAMP 4	4,985
			SUBTOTAL	19,484
			WETLANDS	790
			TOTAL FOR PAY QUANTITY	155,663
			COMPACTION (AASHTO T99) (INFO. ONLY)	
			(MOISTURE & DENSITY CONTROL)	
			EMBANKMENT (NET)	77,685
			BASES OF CUTS & FILLS	10,000
			SUBEXCAVATION	19,484
			TOTAL	107,169
			EMBANKMENT MATERIAL (INFO ONLY)	CU. M
			ROADWAY (FROM CROSS-SECTIONS)	
			HIGHLANDS RANCH BLVD.	34,733
			COUNTY LINE ROAD	4,586
			RAMP 3	22,789
			RAMP 4	14,033
			GUARDRAIL AREAS	493
			ACCESS #2	1,039
			DRIVEWAY	12
			SUBTOTAL	77,685
			SUBEXCAVATION	19,484
			TOTAL	97,169
			WETTING QUANTITIES (INFO. ONLY)	L
			COMPACTION	
			(107,169 X 200 L/m³)	21 433 800
			TOTAL	21 433 800
			ROADWAY QUANTITIES BALANCE (INFO. ONLY)	CU. M
			EXCAVATION	
			UNCLASSIFIED	155,663
			LESS WASTE * + R-1	43,919
			BALANCE TOTAL	111,744
			EMBANKMENT NET	
			TOTAL	97,169
			EMBANKMENT X FACTOR (1.15)	
			BALANCE TOTAL	111,744

NOTE: MINIMUM "R-VALUE" OF EMBANKMENT SHALL BE 10.

* MATERIAL TO REMAIN THE PROPERTY OF THE OWNER AND TO BE DISPOSED OF AS SHOWN ON THE PLANS

R-1 + WASTE SHALL BE COMPACTED AT NO ADDITIONAL COST. WASTE DISPOSAL AREAS SHALL BE STRIPPED OF TOPSOIL AND MATERIAL REUSED AS TOPSOIL AFTER PLACEMENT OF WASTE.

SUMMARY OF EARTHWORK
SOUTH OF C-470

INDEX BOOK	PAGE	SHEET	ITEM	PROJECT TOTALS
			UNCLASSIFIED EXCAVATION (CIP)	CU. M
			ROADWAY (FROM CROSS SECTIONS)	
			HIGHLANDS RANCH BLVD.	10,042
			RAMP 1	70,259
			RAMP 2	27,764
			SUBTOTAL	108,065
			SUBEXCAVATION	
			HIGHLANDS RANCH BLVD.	4,736
			RAMP 1	2,775
			RAMP 2	2,981
			SUBTOTAL	10,492
			TOTAL FOR PAY QUANTITY	118,557
			COMPACTION (AASHTO T99) (INFO. ONLY)	
			(MOISTURE & DENSITY CONTROL)	
			EMBANKMENT (NET)	88,070
			BASES OF CUTS & FILLS	10,000
			SUBEXCAVATION	10,492
			TOTAL	108,562
			EMBANKMENT MATERIAL (INFO ONLY)	CU. M
			ROADWAY (FROM CROSS-SECTIONS)	
			HIGHLANDS RANCH BLVD.	17,848
			RAMP 1	61,743
			RAMP 2	7,986
			GUARDRAIL AREAS	493
			SUBTOTAL	88,070
			SUBEXCAVATION	10,492
			TOTAL	98,562
			WETTING QUANTITIES (INFO. ONLY)	L
			COMPACTION	
			(108,562 X 200 L/m³)	21 712 400
			TOTAL	21 712 400
			ROADWAY QUANTITIES BALANCE (INFO. ONLY)	CU. M
			EXCAVATION	
			UNCLASSIFIED	118,557
			LESS WASTE * + R-1	5,211
			BALANCE TOTAL	113,346
			EMBANKMENT NET	
			TOTAL	98,562
			EMBANKMENT X FACTOR (1.15)	
			BALANCE TOTAL	113,346

NOTE: MINIMUM "R-VALUE" OF EMBANKMENT SHALL BE 10.

* MATERIAL TO REMAIN THE PROPERTY OF THE OWNER AND TO BE DISPOSED OF AS SHOWN ON THE PLANS

R-1 + WASTE SHALL BE COMPACTED AT NO ADDITIONAL COST. WASTE DISPOSAL AREAS SHALL BE STRIPPED OF TOPSOIL AND MATERIAL REUSED AS TOPSOIL AFTER PLACEMENT OF WASTE.

EARTHWORK NOTES

1. SUBEXCAVATION REQUIREMENTS

CUT AREAS: SUBEXCAVATE CLAYS AND CLAYSTONE TO THE SPECIFIED DEPTH BELOW THE BOTTOM OF THE PAVEMENT SECTION AND BACKFILL WITH ON-SITE MATERIALS EXCLUSIVE OF CLAYSTONE. THE BACKFILL MATERIAL SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AT OR ABOVE OPTIMUM MOISTURE CONTENT, IN ACCORDANCE WITH AASHTO T-99. THE SPECIFIED DEPTH OF SUBEXCAVATION SHOULD CARRY THROUGH THE CUT AREA AND TRANSITION FROM CUT TO FILL UNTIL THE DEPTH OF FILL IS APPROXIMATELY EQUAL TO THE SPECIFIED TREATMENT DEPTH. THE CLAYSTONE ENCOUNTERED IN THE SUBEXCAVATION AREAS CAN BE USED IN THE EMBANKMENT AREAS AT DEPTHS GREATER THAN THE SPECIFIED DEPTHS OF SUBEXCAVATION BELOW THE BOTTOM OF THE PAVEMENT SECTION.

FILL AREAS: CLAYSTONE CANNOT BE PLACED IN THE ROADWAY EMBANKMENTS WITHIN THE SPECIFIED DEPTH OF SUBEXCAVATION BELOW THE BOTTOM OF THE PAVEMENT SECTION.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE

SUMMARY OF EARTHWORK

DATE	PROJECT NO.	DESIGNED BY DCB	DRAWN BY SED	CHECKED BY DCB	SHEET NO. 1 OF 1 SHEETS	DRAWING NO.
SEPT 96	96-004					ST-5

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AS CONSTRUCTED		
NO REVISIONS ☐	REVISED ☐	VOID ☐

FEDERAL AID REGION NO.	DIVISION	PROJ. NO.	NO.	SHEETS
VIII	COLORADO	CC 4701-076	19	

REVISIONS			
R-1	2/6/97	DELETED 45 M2 OF 150 mm PAVEMENT	GCH

TABULATION OF SURFACING QUANTITIES

STATION/LOCATION	HOT BITUMINOUS PAVEMENT (GRADING C) (**) (ASPHALT) (C 520) BOTTOM (90 MM) T		SECOND (80 MM) T		THIRD (80 MM) T		TOP (50 MM) T		(100MM) T		EMULSIFIED ASPHALT (SLOW SETTING) L		CONCRETE PAVEMENT (150 MM) M2		(215 MM) M2		(230 MM) M2		(250 MM) M2		AGGREGATE BASE COURSE (CLASS 6) T	
	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL
HIGHLANDS RANCH BOULEVARD																						
R-1													R-1									
3+722 TO 4+092															11,828						2,520	
4+173 TO 4+764													38		13,472						2,870	
RAMP 1 129+953 TO 130+620																			6,614		1,409	
RAMP 2 230+604 TO 231+070																	4,226				900	
RAMP 3 329+914 TO 330+550																			5,878		1,252	
RAMP 4 430+588 TO 431+253																	6,635				1,414	
COUNTY LINE ROAD 501+682 TO 502+474	2,755		2,442		2,433		1,520				35,360											
DETOUR – PHASE 1									79													
DETOUR – PHASE 2									197													
HIGHLINE CANAL SERVICE ROAD																					324	
ACCESS #2 600+022.500 TO 600+191.127									240													
DRIVEWAY 700+005.000 TO 700+048.500									36													
TOTALS	2,755		2,442		2,433		1,520		552		35,360		38		25,300		10,861		12,492		10,689	

R-1

(**) CONTRACTOR'S SOURCE

PAVEMENT STABILIZATION DATA

RIGID	C-470	HIGHLANDS RANCH BOULEVARD	COUNTY LINE ROAD	RAMP 1 & 3	RAMP 2 & 4
20 YEAR 18K ESAL			1,752,000	1,752,000	876,000
RELIABILITY FACTOR			95	95	95
OVERALL DEVIATION			.44	.44	.44
MODULUS OF RUPTURE (PCC)			650	650	650
MODULUS OF ELASTICITY (PCC)			3,400,000	3,400,000	3,400,000
LOAD TRANSFER			3.6	3.6	3.6
DRAINAGE COEFFICIENT			1	1	1
INITIAL SERVICEABILITY			4.5	4.5	4.5
TERMINAL SERVICEABILITY			2.5	2.5	2.5

DOUGLAS COUNTY DESIGN

FLEXIBLE	C-470	HIGHLANDS RANCH BOULEVARD	COUNTY LINE ROAD	RAMP 1 & 3	RAMP 2 & 4
20 YEAR 18K ESAL			1,460,000	1,460,000	730,000
RELIABILITY FACTOR			95	95	95
OVERALL DEVIATION			.44	.44	.44
RESILIENT MODULUS			3,025	3,025	3,025
INITIAL SERVICEABILITY			4.5	4.5	4.5
TERMINAL SERVICEABILITY			2.5	2.5	2.5
STRUCTURAL NUMBER (SN)			5.10	5.10	4.63

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
TABULATION OF SURFACING QUANTITIES PAVEMENT STABILIZATION DATA				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY BCB DRAWN BY SED CHECKED BY DCB	SHEET NO. 1 OF 1 SHEETS	DRAWING NO. ST-6

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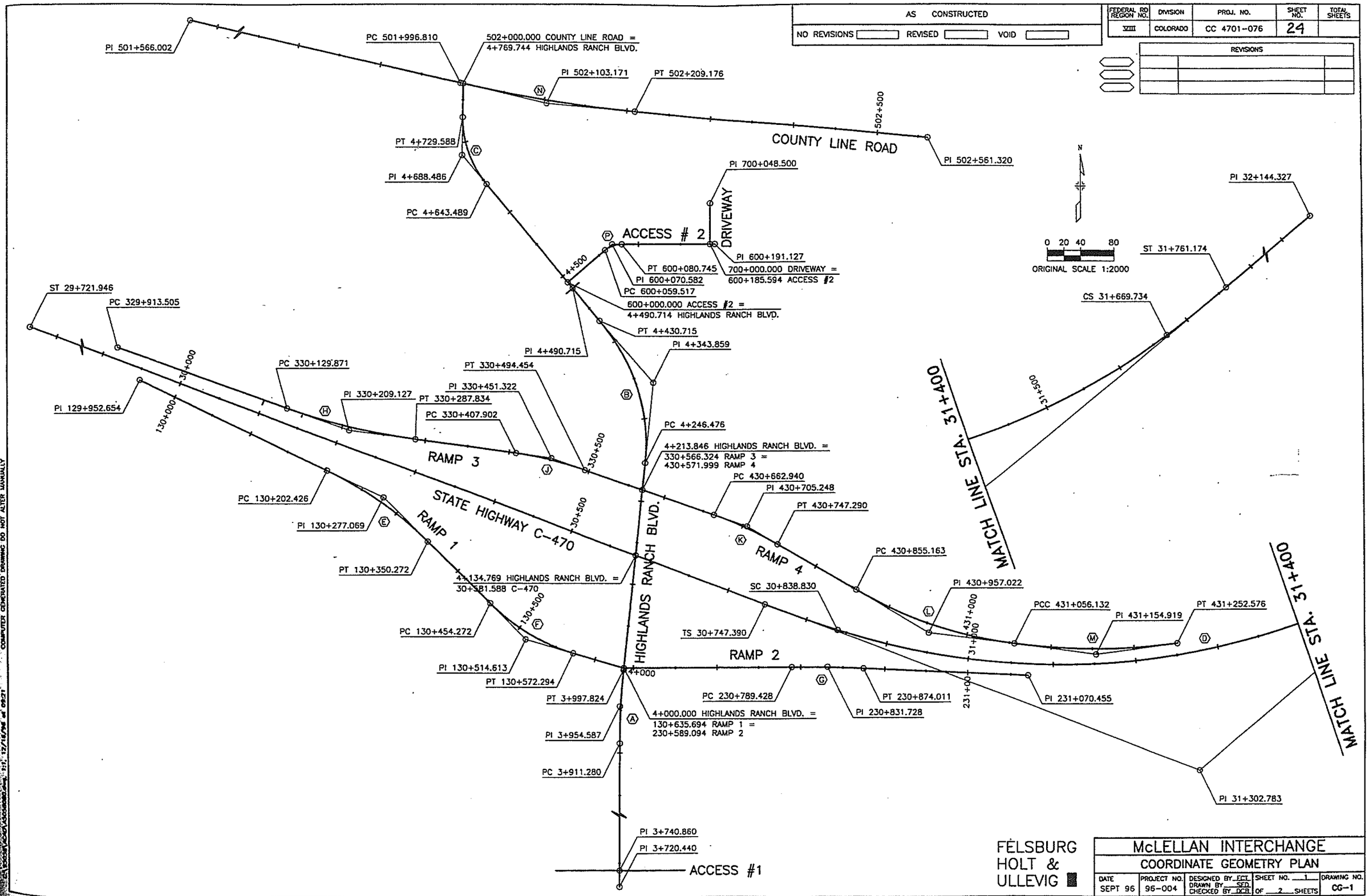
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	24	

REVISIONS		



FELSBURG HOLT & ULLEVIG

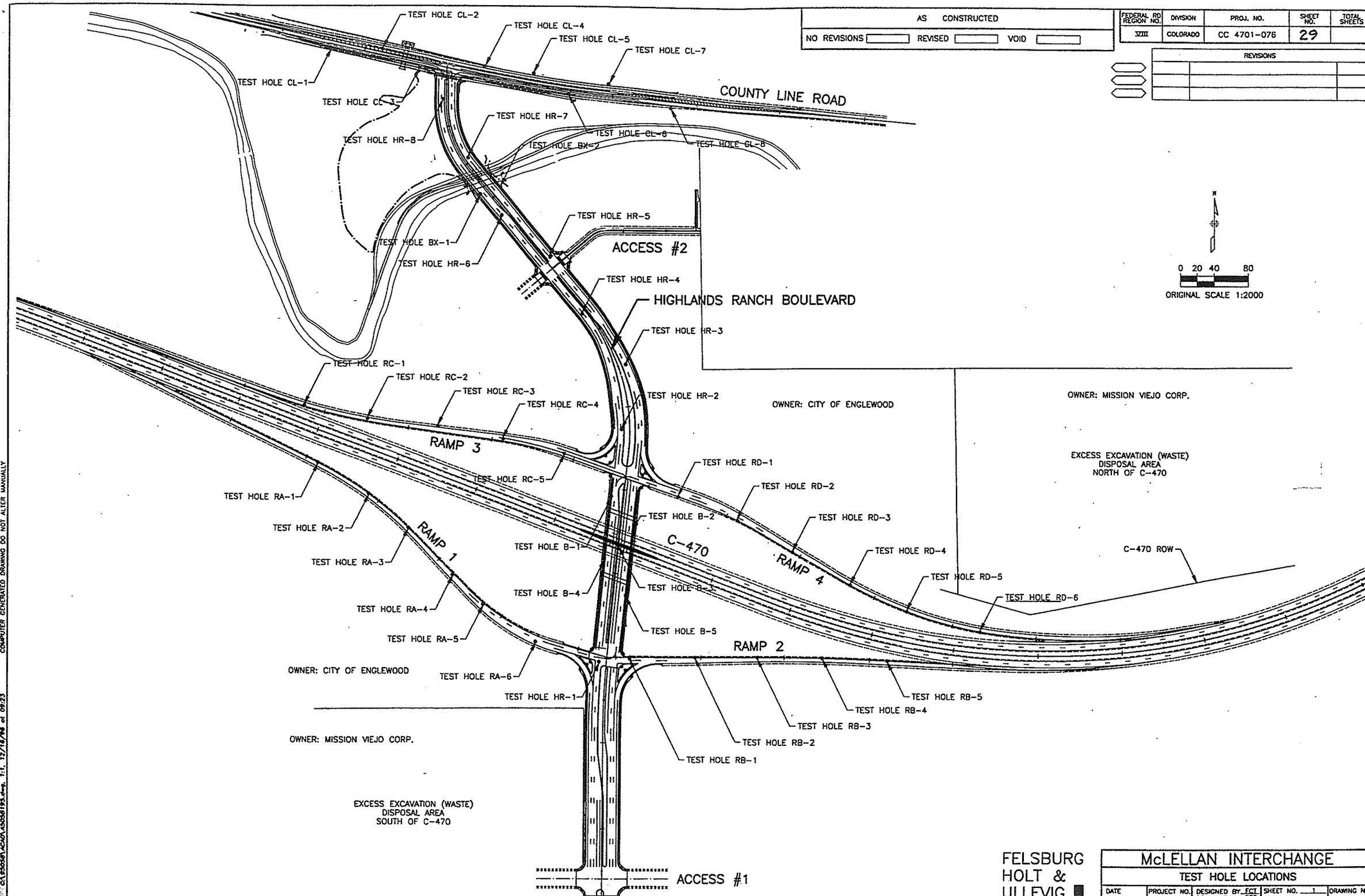
McLELLAN INTERCHANGE				
COORDINATE GEOMETRY PLAN				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY FCT DRAWN BY SED CHECKED BY DCB	SHEET NO. 1 OF 2 SHEETS	DRAWING NO. CG-1

COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	29	

REVISIONS		



FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
TEST HOLE LOCATIONS				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY FCT DRAWN BY SED CHECKED BY DCB	SHEET NO. 1 OF 3 SHEETS	DRAWING NO. TH-1

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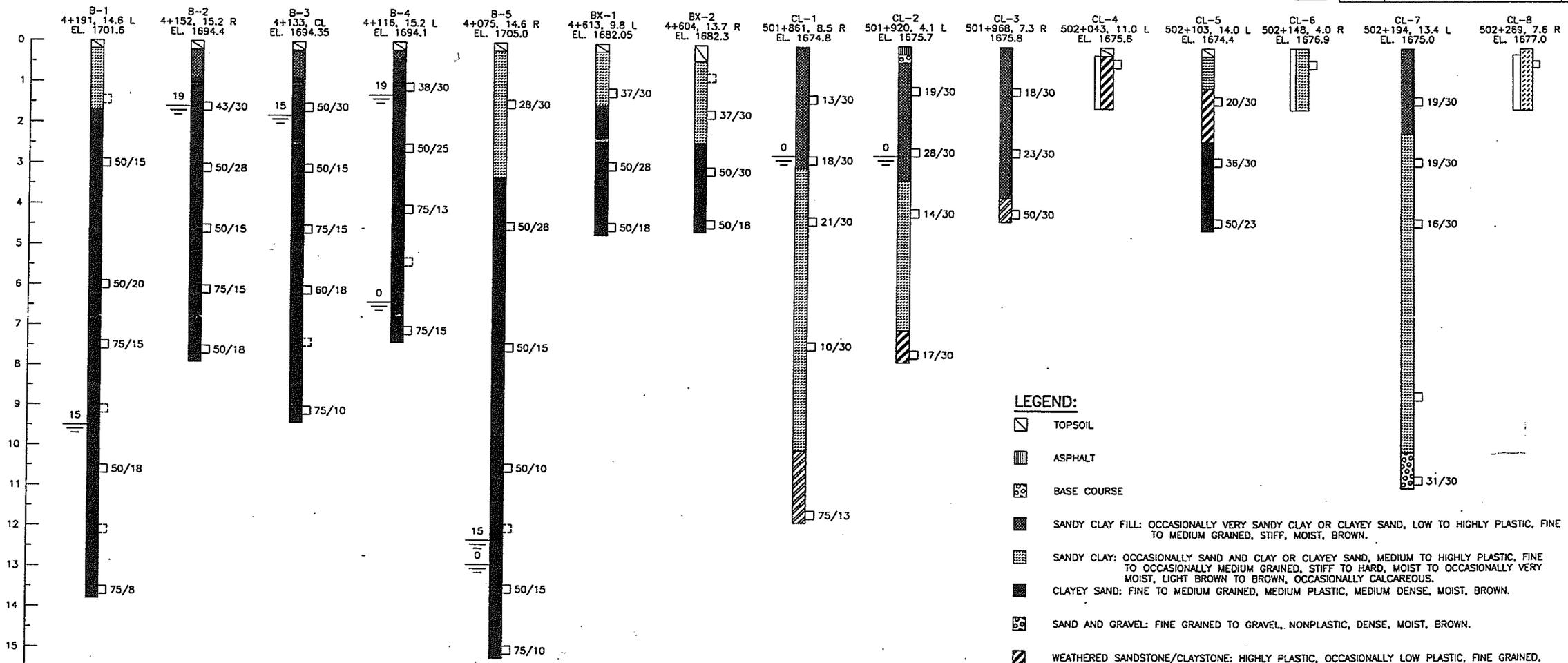
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 4701-076	30	

REVISIONS		



NOTES:

1. TEST HOLES WERE DRILLED ON 7/7,13,17/95 WITH 10-CM DIAMETER CONTINUOUS FLIGHT POWER AUGERS.
2. LOCATIONS OF THE TEST HOLES WERE MEASURED APPROXIMATELY BY PACING FROM FEATURES SHOWN ON THE SITE PLAN PROVIDED.
3. ELEVATIONS OF THE TEST HOLES WERE NOT MEASURED AND THE LOGS OF THE TEST HOLES ARE DRAWN TO DEPTH.
4. THE TEST HOLE LOCATIONS AND ELEVATIONS SHOULD BE CONSIDERED ACCURATE ONLY TO THE DEGREE IMPLIED BY THE METHOD USED.
5. THE LINES BETWEEN MATERIALS SHOWN ON THE TEST HOLE LOGS REPRESENT THE APPROXIMATE BOUNDARIES BETWEEN MATERIAL TYPES AND THE TRANSITIONS MAY BE GRADUAL.
6. WATER LEVEL READINGS SHOWN ON THE LOGS WERE MADE AT THE TIME AND UNDER THE CONDITIONS INDICATED. FLUCTUATIONS IN THE WATER LEVEL MAY OCCUR WITH TIME.

LEGEND:

- TOPSOIL
- ASPHALT
- BASE COURSE
- SANDY CLAY FILL: OCCASIONALLY VERY SANDY CLAY OR CLAYEY SAND, LOW TO HIGHLY PLASTIC, FINE TO MEDIUM GRAINED, STIFF, MOIST, BROWN.
- SANDY CLAY: OCCASIONALLY SAND AND CLAY OR CLAYEY SAND, MEDIUM TO HIGHLY PLASTIC, FINE TO OCCASIONALLY MEDIUM GRAINED, STIFF TO HARD, MOIST TO OCCASIONALLY VERY MOIST, LIGHT BROWN TO BROWN, OCCASIONALLY CALCAREOUS.
- CLAYEY SAND: FINE TO MEDIUM GRAINED, MEDIUM PLASTIC, MEDIUM DENSE, MOIST, BROWN.
- SAND AND GRAVEL: FINE GRAINED TO GRAVEL, NONPLASTIC, DENSE, MOIST, BROWN.
- WEATHERED SANDSTONE/CLAYSTONE: HIGHLY PLASTIC, OCCASIONALLY LOW PLASTIC, FINE GRAINED, WEATHERED, MOIST TO OCCASIONALLY VERY MOIST, BROWN TO OLIVE WITH OCCASIONALLY GRAY, WITH OCCASIONAL IRON STAINING.
- SANDSTONE BEDROCK: SILTY AND/OR CLAYEY, FINE TO MEDIUM GRAINED, NON TO LOW PLASTIC, HARD TO VERY HARD, MOIST TO WET, LIGHT BROWN TO BROWN, OCCASIONALLY GRAY.
- CLAYSTONE BEDROCK: OCCASIONALLY SANDY, WITH OCCASIONALLY SANDSTONE INTERBEDS, MEDIUM TO HIGHLY PLASTIC, FINE GRAINED, MEDIUM HARD TO VERY HARD, MOIST TO VERY MOIST, BROWN TO OLIVE OR GRAY, WITH OCCASIONALLY IRON STAINING.
- DRIVE SAMPLE, 5-cm I.D. CALIFORNIA LINER SAMPLE
- SMALL DISTURBED SAMPLE
- LARGE DISTURBED SAMPLE

23/30 DRIVE SAMPLE BLOW COUNT, INDICATES 23 BLOWS OF A 63.5-KG HAMMER FALLING 76 CM WERE REQUIRED TO DRIVE THE SAMPLER 30 CM.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE

LOGS OF TEST HOLES

DATE	PROJECT NO.	DESIGNED BY FCT DRAWN BY SEQ CHECKED BY DCB	SHEET NO. 2 OF 3 SHEETS	DRAWING NO.
SEPT 96	96-004			TH-2

COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY
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AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XVIII	COLORADO	CC 4701-076	31	

REVISIONS		

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
LOGS OF TEST HOLES				
DATE	PROJECT NO.	DESIGNED BY ECT	SHEET NO. 3	DRAWING NO.

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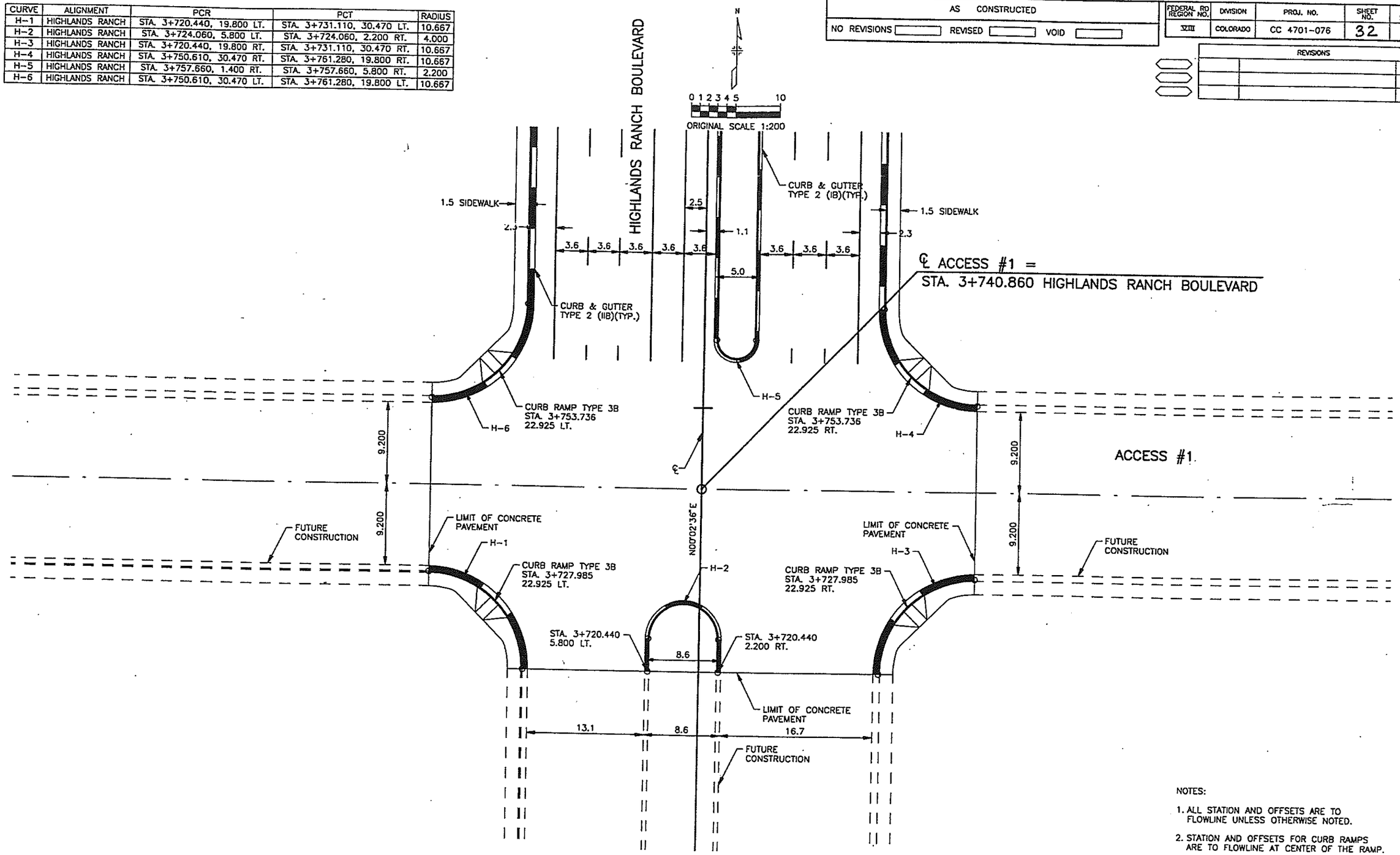
CURVE	ALIGNMENT	PCR	PCT	RADIUS
H-1	HIGHLANDS RANCH	STA. 3+720.440, 19.800 LT.	STA. 3+731.110, 30.470 LT.	10.667
H-2	HIGHLANDS RANCH	STA. 3+724.060, 5.800 LT.	STA. 3+724.060, 2.200 RT.	4.000
H-3	HIGHLANDS RANCH	STA. 3+720.440, 19.800 RT.	STA. 3+731.110, 30.470 RT.	10.667
H-4	HIGHLANDS RANCH	STA. 3+750.610, 30.470 RT.	STA. 3+761.280, 19.800 RT.	10.667
H-5	HIGHLANDS RANCH	STA. 3+757.660, 1.400 RT.	STA. 3+757.660, 5.800 RT.	2.200
H-6	HIGHLANDS RANCH	STA. 3+750.610, 30.470 LT.	STA. 3+761.280, 19.800 LT.	10.667

AS CONSTRUCTED

NO REVISIONS ☐ REVISED ☐ VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	32	

REVISIONS



NOTES:

1. ALL STATION AND OFFSETS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.
2. STATION AND OFFSETS FOR CURB RAMPS ARE TO FLOWLINE AT CENTER OF THE RAMP.
3. WHOLE NUMBERS INDICATE MILLIMETERS. DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE

INTERSECTION DETAIL
HIGHLANDS RANCH BOULEVARD/ACCESS #1

DATE	PROJECT NO.	DESIGNED BY DGB	SHEET NO. 1	DRAWING NO.
SEPT 96	96-004	DRAWN BY SED	OF 5 SHEETS	ID-1
		CHECKED BY DGB		

COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

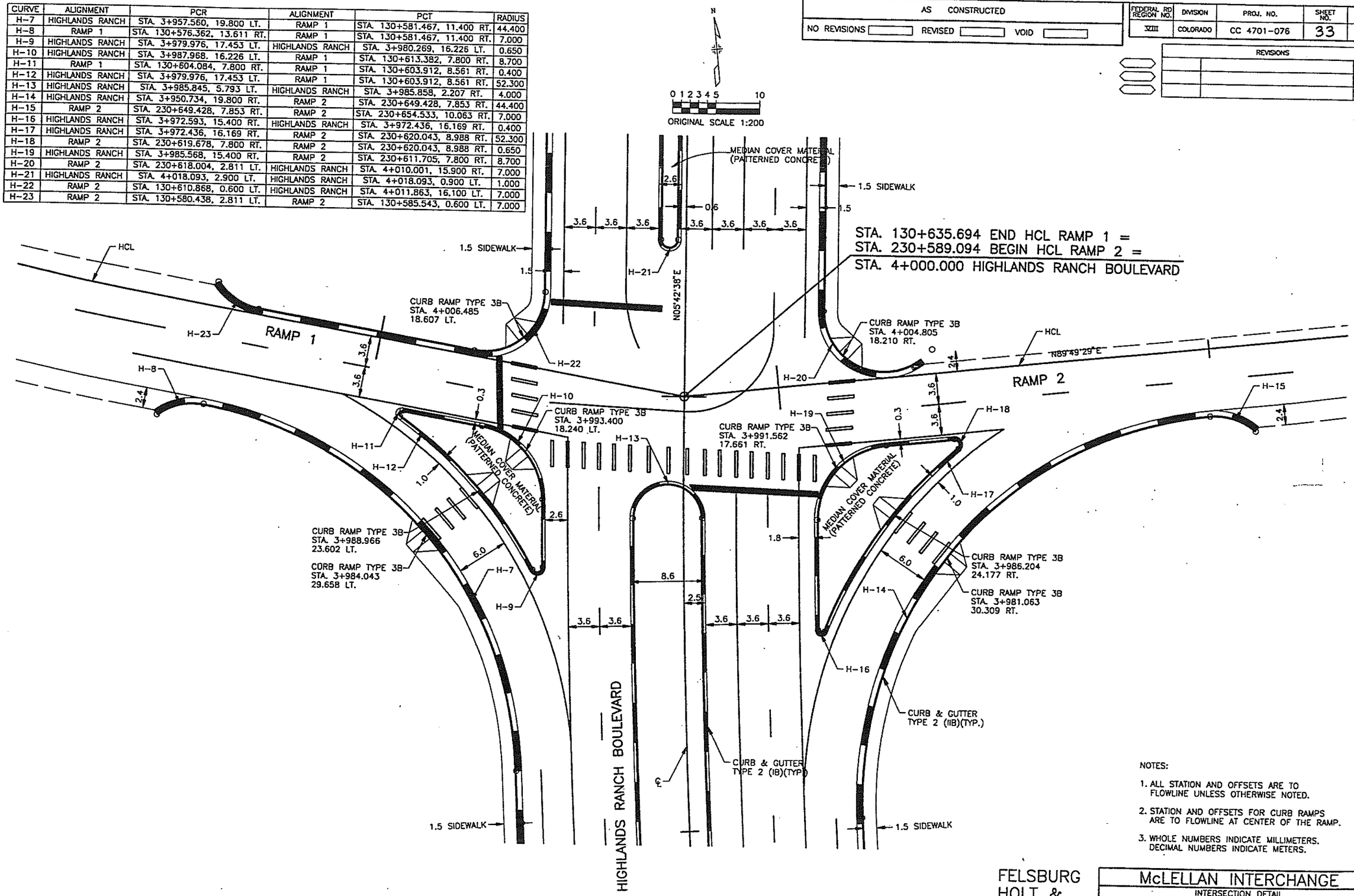
CURVE	ALIGNMENT	PCR	ALIGNMENT	PCT	RADIUS
H-7	HIGHLANDS RANCH	STA. 3+957.560, 19.800 LT.	RAMP 1	STA. 130+581.467, 11.400 RT.	44.400
H-8	RAMP 1	STA. 130+576.362, 13.611 RT.	RAMP 1	STA. 130+581.467, 11.400 RT.	7.000
H-9	HIGHLANDS RANCH	STA. 3+979.976, 17.453 LT.	HIGHLANDS RANCH	STA. 3+980.269, 16.226 LT.	0.650
H-10	HIGHLANDS RANCH	STA. 3+987.968, 16.226 LT.	RAMP 1	STA. 130+613.382, 7.800 RT.	8.700
H-11	RAMP 1	STA. 130+604.084, 7.800 RT.	RAMP 1	STA. 130+603.912, 8.561 RT.	0.400
H-12	HIGHLANDS RANCH	STA. 3+979.976, 17.453 LT.	RAMP 1	STA. 130+603.912, 8.561 RT.	52.300
H-13	HIGHLANDS RANCH	STA. 3+985.845, 5.793 LT.	HIGHLANDS RANCH	STA. 3+985.858, 2.207 RT.	4.000
H-14	HIGHLANDS RANCH	STA. 3+950.734, 19.800 RT.	RAMP 2	STA. 230+649.428, 7.853 RT.	44.400
H-15	RAMP 2	STA. 230+649.428, 7.853 RT.	RAMP 2	STA. 230+654.533, 10.063 RT.	7.000
H-16	HIGHLANDS RANCH	STA. 3+972.593, 15.400 RT.	HIGHLANDS RANCH	STA. 3+972.436, 16.169 RT.	0.400
H-17	HIGHLANDS RANCH	STA. 3+972.436, 16.169 RT.	RAMP 2	STA. 230+620.043, 8.988 RT.	52.300
H-18	RAMP 2	STA. 230+619.678, 7.800 RT.	RAMP 2	STA. 230+620.043, 8.988 RT.	0.650
H-19	HIGHLANDS RANCH	STA. 3+985.568, 15.400 RT.	RAMP 2	STA. 230+611.705, 7.800 RT.	8.700
H-20	RAMP 2	STA. 230+618.004, 2.811 LT.	HIGHLANDS RANCH	STA. 4+010.001, 15.900 RT.	7.000
H-21	HIGHLANDS RANCH	STA. 4+018.093, 2.900 LT.	HIGHLANDS RANCH	STA. 4+018.093, 0.900 LT.	1.000
H-22	RAMP 2	STA. 130+610.868, 0.600 LT.	HIGHLANDS RANCH	STA. 4+011.863, 16.100 LT.	7.000
H-23	RAMP 2	STA. 130+580.438, 2.811 LT.	RAMP 2	STA. 130+585.543, 0.600 LT.	7.000

AS CONSTRUCTED

NO REVISIONS ☐ REVISED ☐ VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 4701-076	33	

REVISIONS		



NOTES:

1. ALL STATION AND OFFSETS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.
2. STATION AND OFFSETS FOR CURB RAMPS ARE TO FLOWLINE AT CENTER OF THE RAMP.
3. WHOLE NUMBERS INDICATE MILLIMETERS. DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE

INTERSECTION DETAIL
HIGHLANDS RANCH BOULEVARD/ RAMP 1 AND RAMP 2

DATE	PROJECT NO.	DESIGNED BY DCB DRAWN BY SED CHECKED BY DCB	SHEET NO. 2 OF 5 SHEETS	DRAWING NO.
SEPT 96	96-004			ID-2

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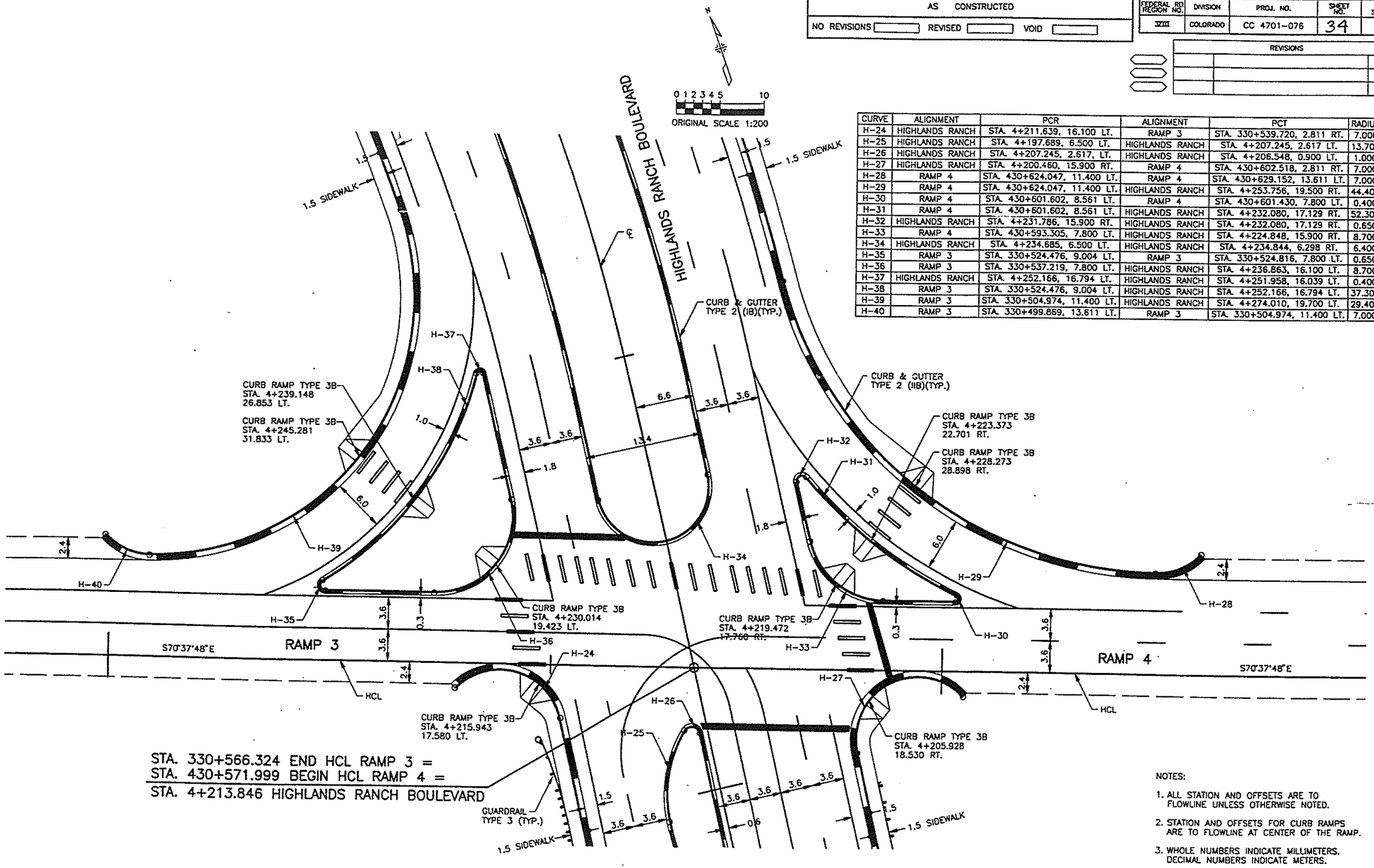
AS CONSTRUCTED		
NO REVISIONS ☐	REVISED ☐	VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	34	

REVISIONS		



CURVE	ALIGNMENT	PCR	ALIGNMENT	PCT	RADIUS
H-24	HIGHLANDS RANCH	STA. 4+211.639, 16.100 LT.	RAMP 3	STA. 330+539.720, 2.811 RT.	7.000
H-25	HIGHLANDS RANCH	STA. 4+197.689, 6.500 LT.	HIGHLANDS RANCH	STA. 4+207.245, 2.617 LT.	13.700
H-26	HIGHLANDS RANCH	STA. 4+207.245, 2.617, LT.	HIGHLANDS RANCH	STA. 4+206.548, 0.900 LT.	1.000
H-27	HIGHLANDS RANCH	STA. 4+200.460, 15.900 RT.	RAMP 4	STA. 430+602.518, 2.811 RT.	7.000
H-28	RAMP 4	STA. 430+624.047, 11.400 LT.	RAMP 4	STA. 430+629.152, 13.611 LT.	7.000
H-29	RAMP 4	STA. 430+624.047, 11.400 LT.	HIGHLANDS RANCH	STA. 4+253.756, 19.500 RT.	44.400
H-30	RAMP 4	STA. 430+601.602, 8.561 LT.	RAMP 4	STA. 430+601.430, 7.800 LT.	0.400
H-31	RAMP 4	STA. 430+601.602, 8.561 LT.	HIGHLANDS RANCH	STA. 4+232.080, 17.129 RT.	52.300
H-32	HIGHLANDS RANCH	STA. 4+231.786, 15.900 RT.	HIGHLANDS RANCH	STA. 4+232.080, 17.129 RT.	0.650
H-33	RAMP 4	STA. 430+593.305, 7.800 LT.	HIGHLANDS RANCH	STA. 4+224.848, 15.900 RT.	8.700
H-34	HIGHLANDS RANCH	STA. 4+234.685, 6.500 LT.	HIGHLANDS RANCH	STA. 4+234.844, 6.298 RT.	6.400
H-35	RAMP 3	STA. 330+524.476, 9.004 LT.	RAMP 3	STA. 330+524.816, 7.800 LT.	0.650
H-36	RAMP 3	STA. 330+537.219, 7.800 LT.	HIGHLANDS RANCH	STA. 4+236.863, 16.100 LT.	8.700
H-37	HIGHLANDS RANCH	STA. 4+252.166, 16.794 LT.	HIGHLANDS RANCH	STA. 4+251.958, 16.039 LT.	0.400
H-38	RAMP 3	STA. 330+524.476, 9.004 LT.	HIGHLANDS RANCH	STA. 4+252.166, 16.794 LT.	37.300
H-39	RAMP 3	STA. 330+504.974, 11.400 LT.	HIGHLANDS RANCH	STA. 4+274.010, 19.700 LT.	29.400
H-40	RAMP 3	STA. 330+499.869, 13.611 LT.	RAMP 3	STA. 330+504.974, 11.400 LT.	7.000

NOTES:

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2. STATION AND OFFSETS FOR CURB RAMPS ARE TO FLOWLINE AT CENTER OF THE RAMP.
3. WHOLE NUMBERS INDICATE MILLIMETERS. DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE

INTERSECTION DETAIL
HIGHLANDS RANCH BOULEVARD/RAMP 3 AND RAMP 4

DATE	PROJECT NO.	DESIGNED BY DCB DRAWN BY SED CHECKED BY DCB	SHEET NO. 3 OF 5 SHEETS	DRAWING NO.
SEPT 96	96-004			ID-3

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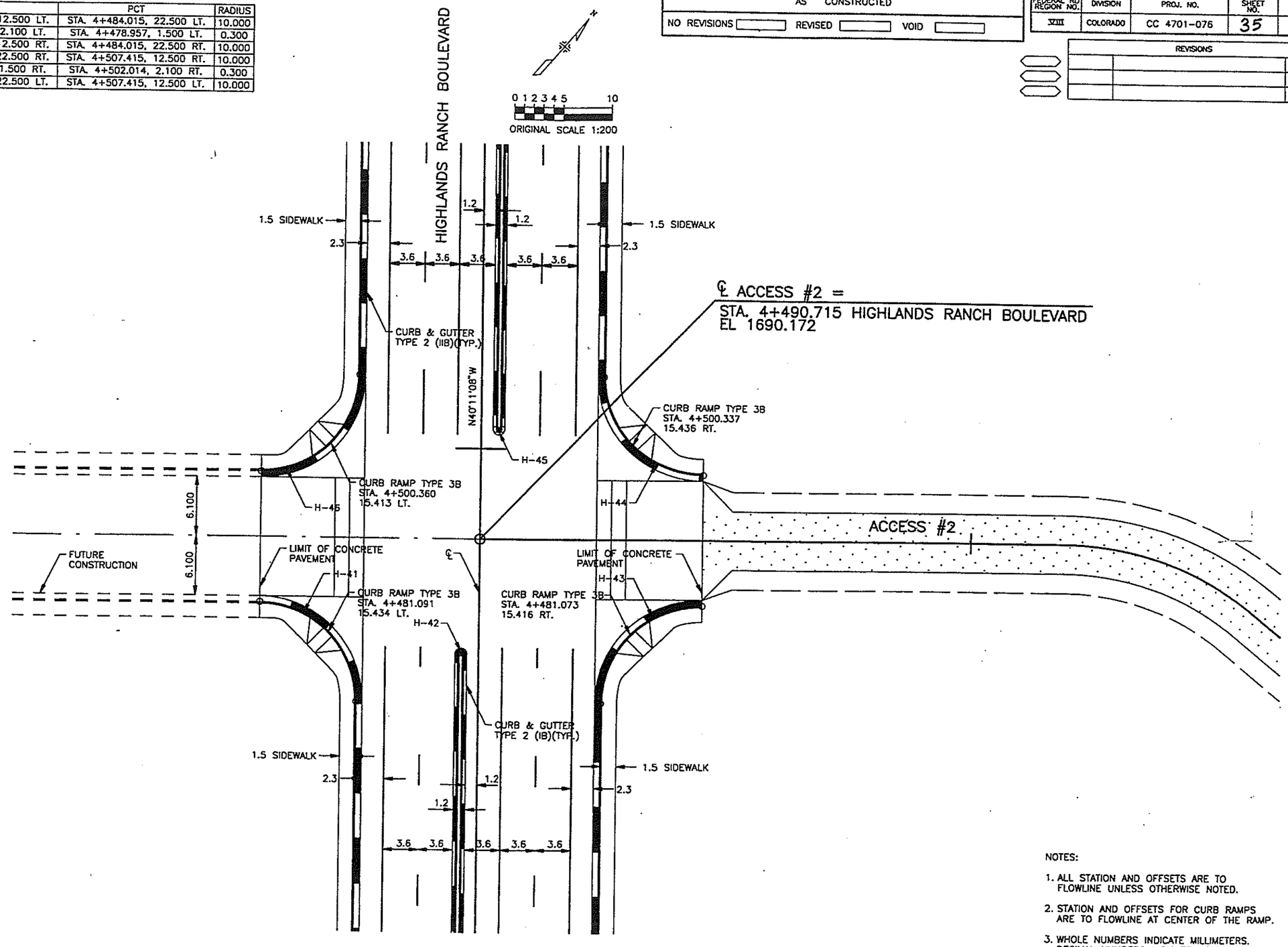
CURVE	ALIGNMENT	PCR	PCT	RADIUS
H-41	HIGHLANDS RANCH	STA. 4+474.015, 12.500 LT.	STA. 4+484.015, 22.500 LT.	10.000
H-42	HIGHLANDS RANCH	STA. 4+478.958, 2.100 LT.	STA. 4+478.957, 1.500 LT.	0.300
H-43	HIGHLANDS RANCH	STA. 4+474.015, 12.500 RT.	STA. 4+484.015, 22.500 RT.	10.000
H-44	HIGHLANDS RANCH	STA. 4+497.415, 22.500 RT.	STA. 4+507.415, 12.500 RT.	10.000
H-45	HIGHLANDS RANCH	STA. 4+502.014, 1.500 RT.	STA. 4+502.014, 2.100 RT.	0.300
H-46	HIGHLANDS RANCH	STA. 4+497.415, 22.500 LT.	STA. 4+507.415, 12.500 LT.	10.000

AS CONSTRUCTED

NO REVISIONS ☐ REVISED ☐ VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	35	

REVISIONS



NOTES:

1. ALL STATION AND OFFSETS ARE TO FLOWLINE UNLESS OTHERWISE NOTED.
2. STATION AND OFFSETS FOR CURB RAMPS ARE TO FLOWLINE AT CENTER OF THE RAMP.
3. WHOLE NUMBERS INDICATE MILLIMETERS. DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE

INTERSECTION DETAIL
HIGHLANDS RANCH BOULEVARD/ACCESS #2

DATE	PROJECT NO.	DESIGNED BY DCB DRAWN BY SED CHECKED BY DCB	SHEET NO. 4 OF 5 SHEETS	DRAWING NO.
SEPT 96	96-004			ID-4

COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

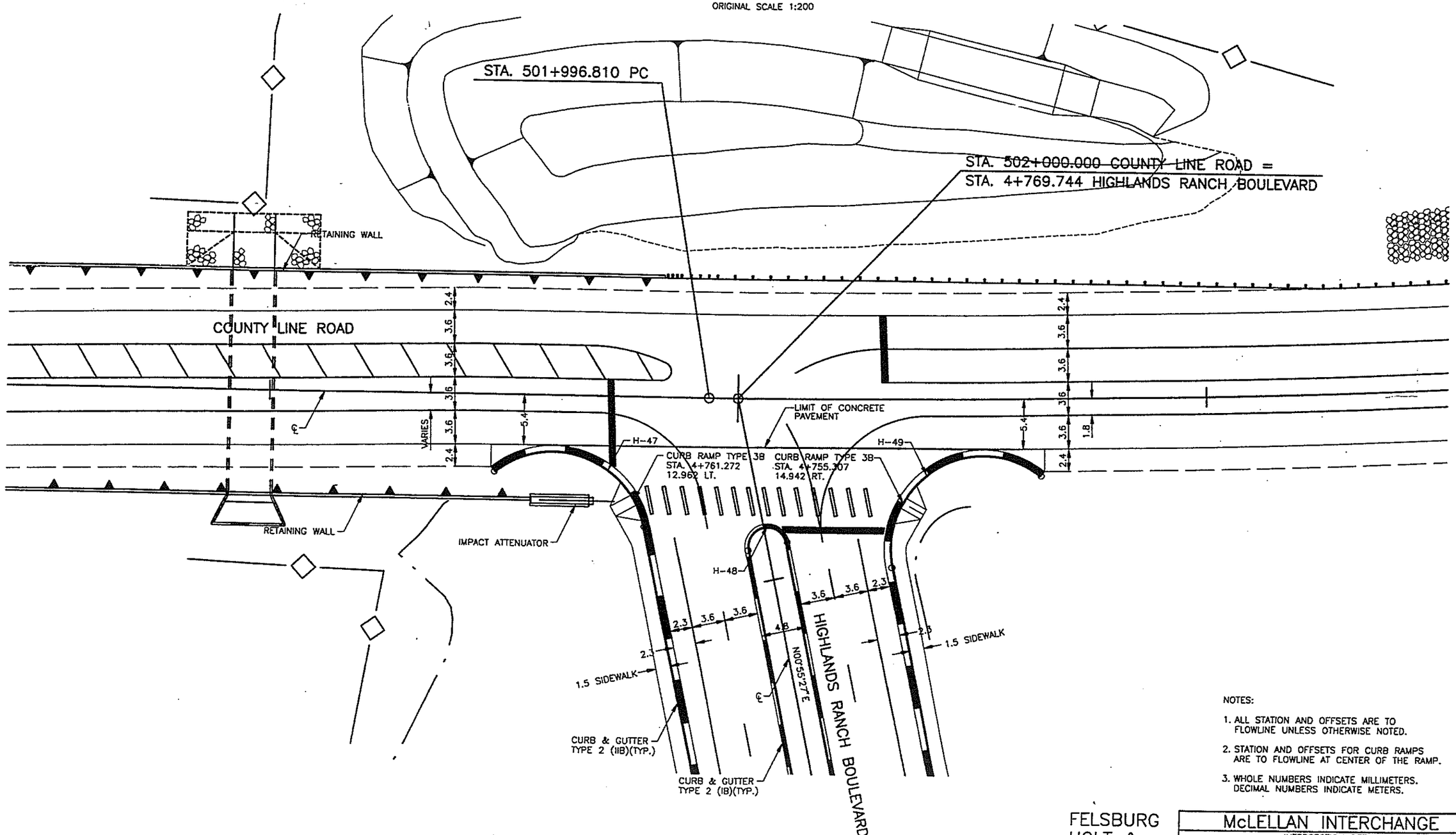
CURVE	ALIGNMENT	PCR	ALIGNMENT	PCT	RADIUS
H-47	HIGHLANDS RANCH	STA. 4+758.268, -12.500 LT.	COUNTY LINE	STA. 501+974.122, 8.264 RT.	10.000
H-48	HIGHLANDS RANCH	STA. 4+753.607, 2.100 LT.	HIGHLANDS RANCH	STA. 4+753.607, 2.100 RT.	2.100
H-49	HIGHLANDS RANCH	STA. 4+748.759, 12.500 RT.	COUNTY LINE	STA. 502+032.426, 8.263 RT.	10.000

AS CONSTRUCTED

NO REVISIONS ☐ REVISED ☐ VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	36	

REVISIONS



NOTES:

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2. STATION AND OFFSETS FOR CURB RAMPS ARE TO FLOWLINE AT CENTER OF THE RAMP.
3. WHOLE NUMBERS INDICATE MILLIMETERS. DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE

INTERSECTION DETAIL
HIGHLANDS RANCH BOULEVARD/COUNTY LINE ROAD

DATE	PROJECT NO.	DESIGNED BY DCB	SHEET NO. 5	DRAWING NO.
SEPT 96	96-004	DRAWN BY SED		ID-5
		CHECKED BY DCB	OF 5 SHEETS	

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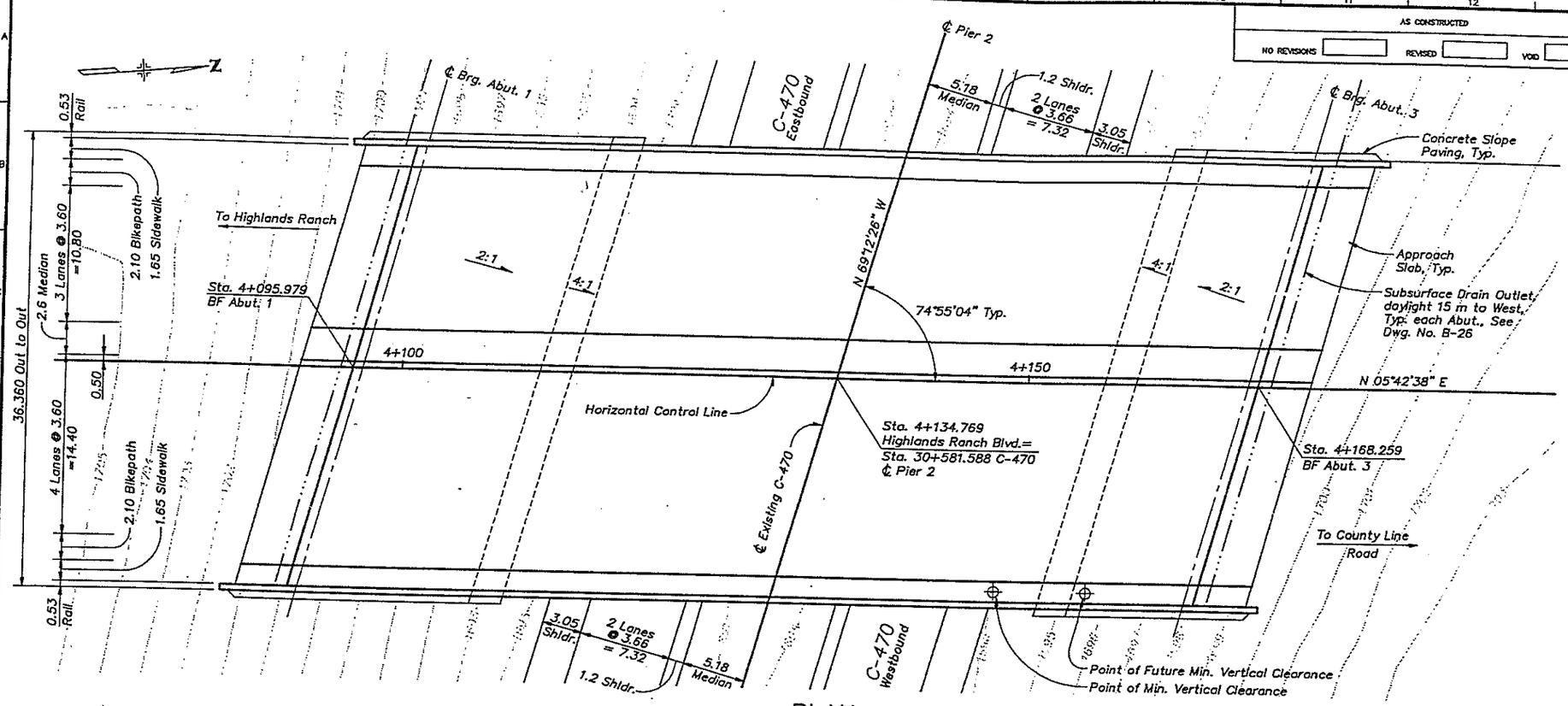
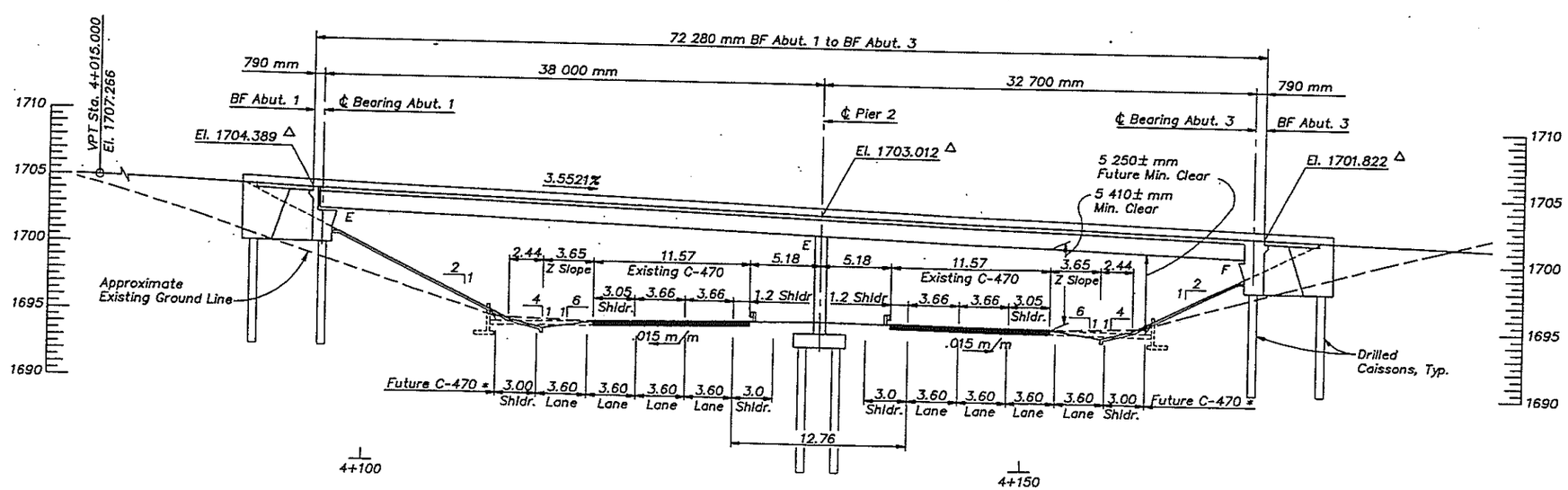
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FED. ROAD REGION	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLO.	CC 4701-176	38	

REVISIONS		



PLAN



LONGITUDINAL SECTION

Notes:

* Based on 2015 RTP to define future need basis per previous year 2010 RTP (Dimensions shown are perpendicular to ℄ Existing C-470)

△ Finished Roadway Elevation at Horizonta Central Line & Profile Grade Line.

Dimensions are in meters unless shown otherwise.

Live Loading = MS 22

	INITIAL	DATE		
Designed By	GG	4/98	Checked By	
Checked By	LRR	6/98	Quantities By	RAD 6/98
Detailed By	RAD	6/98	Checked By	XX 6/98

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CH2M HILL Denver, Colorado

COLORADO DEPARTMENT OF TRANSPORTATION

Highlands Ranch Boulevard

GENERAL LAYOUT

Designer G. Garcia		Structure Numbers	F-17-KQ
Detailer R. Dillon			
Drawing Number B -2	of 33	Drawings	

Revision Dates (Preliminary Stage Only)

NOTES:

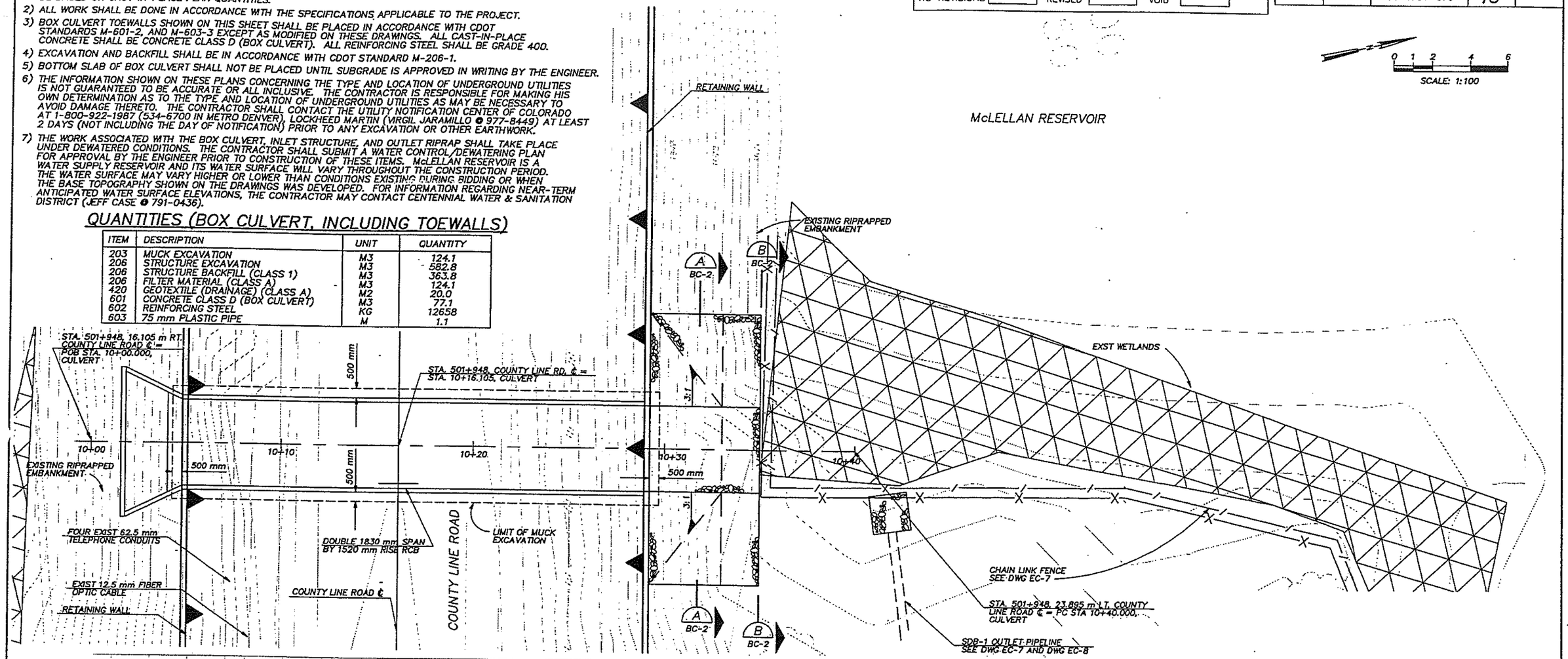
1) DOUBLE 1830 mm SPAN BY 1520 mm RISE CONCRETE BOX CULVERT SHALL BE CAST-IN-PLACE IN ACCORDANCE WITH CDOT STANDARD M-601-2, OR PRECAST IN ACCORDANCE WITH CDOT STANDARD M-603-3. IF CONTRACTOR ELECTS TO USE A PRECAST CONCRETE BOX CULVERT, PAYMENT SHALL BE BASED ON CAST-IN-PLACE PLAN QUANTITIES.
2) ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SPECIFICATIONS APPLICABLE TO THE PROJECT.
3) BOX CULVERT TOEWALLS SHOWN ON THIS SHEET SHALL BE PLACED IN ACCORDANCE WITH CDOT STANDARDS M-601-2, AND M-603-3 EXCEPT AS MODIFIED ON THESE DRAWINGS. ALL CAST-IN-PLACE CONCRETE SHALL BE CONCRETE CLASS D (BOX CULVERT). ALL REINFORCING STEEL SHALL BE GRADE 400.
4) EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH CDOT STANDARD M-206-1.
5) BOTTOM SLAB OF BOX CULVERT SHALL NOT BE PLACED UNTIL SUBGRADE IS APPROVED IN WRITING BY THE ENGINEER.
6) THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 (534-6700 IN METRO DENVER), LOCKHEED MARTIN (VIRGIL JARAMILLO ☎ 977-8449) AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.
7) THE WORK ASSOCIATED WITH THE BOX CULVERT, INLET STRUCTURE, AND OUTLET RIPRAP SHALL TAKE PLACE UNDER DEWATERED CONDITIONS. THE CONTRACTOR SHALL SUBMIT A WATER CONTROL/DEWATERING PLAN FOR APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION OF THESE ITEMS. McLELLAN RESERVOIR IS A WATER SUPPLY RESERVOIR AND ITS WATER SURFACE WILL VARY THROUGHOUT THE CONSTRUCTION PERIOD. THE WATER SURFACE MAY VARY HIGHER OR LOWER THAN CONDITIONS EXISTING DURING BIDDING OR WHEN THE BASE TOPOGRAPHY SHOWN ON THE DRAWINGS WAS DEVELOPED. FOR INFORMATION REGARDING NEAR-TERM ANTICIPATED WATER SURFACE ELEVATIONS, THE CONTRACTOR MAY CONTACT CENTENNIAL WATER & SANITATION DISTRICT (JEFF CASE ☎ 791-0436).

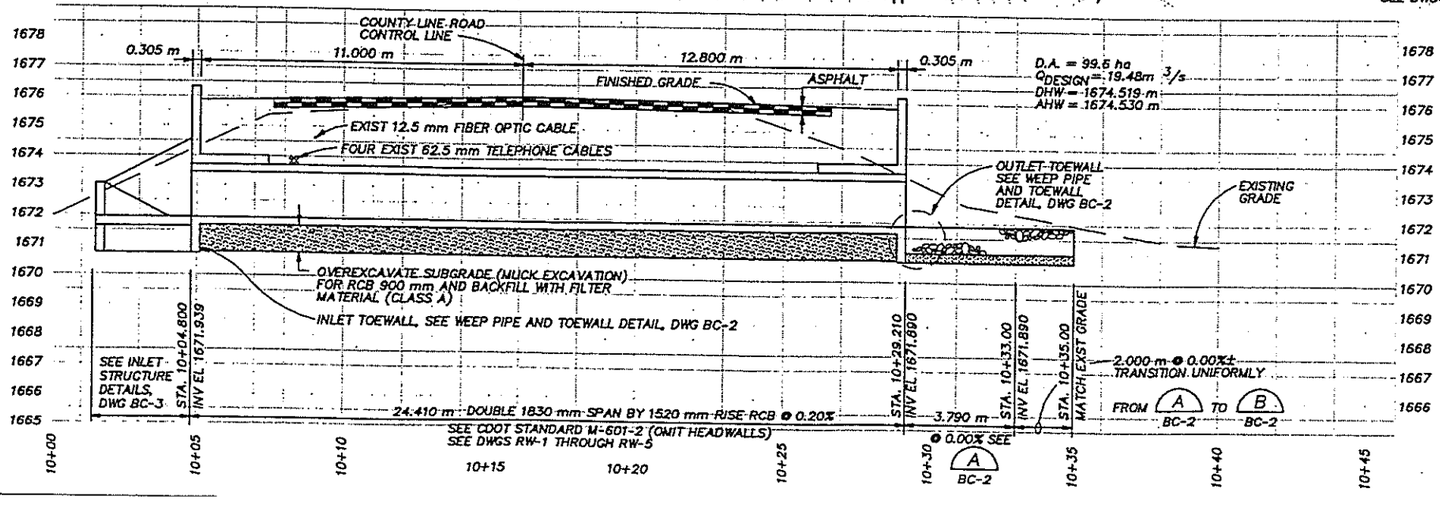
QUANTITIES (BOX CULVERT, INCLUDING TOEWALLS)

ITEM	DESCRIPTION	UNIT	QUANTITY
203	MUCK EXCAVATION	M3	124.1
206	STRUCTURE EXCAVATION	M3	582.8
206	STRUCTURE BACKFILL (CLASS 1)	M3	363.8
206	FILTER MATERIAL (CLASS A)	M3	124.1
420	GEOTEXTILE (DRAINAGE) (CLASS A)	M2	20.0
601	CONCRETE CLASS D (BOX CULVERT)	M3	77.1
602	REINFORCING STEEL	KG	12658
603	75 mm PLASTIC PIPE	M	1.1

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	70	





QUANTITIES (OUTLET RIPRAP)

ITEM	DESCRIPTION	UNIT	QUANTITY
206	STRUCTURE EXCAVATION *	M3	131.0
206	FILTER MATERIAL (CLASS A)	M3	25.0
506	RIPRAP (D_{50} = 450 mm)	M3	74.0

* STRUCTURE EXCAVATION QUANTITY IS SHOWN FOR INFORMATION ONLY. STRUCTURE EXCAVATION SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST FOR THE RIPRAP.

CH2M HILL

McLELLAN INTERCHANGE
COUNTY LINE ROAD CULVERT
PLAN AND PROFILE

DATE | PROJECT NO. | DESIGNED BY DDJ | DRAWN BY RWW | SHEET NO. 1 | DRAWING NO.

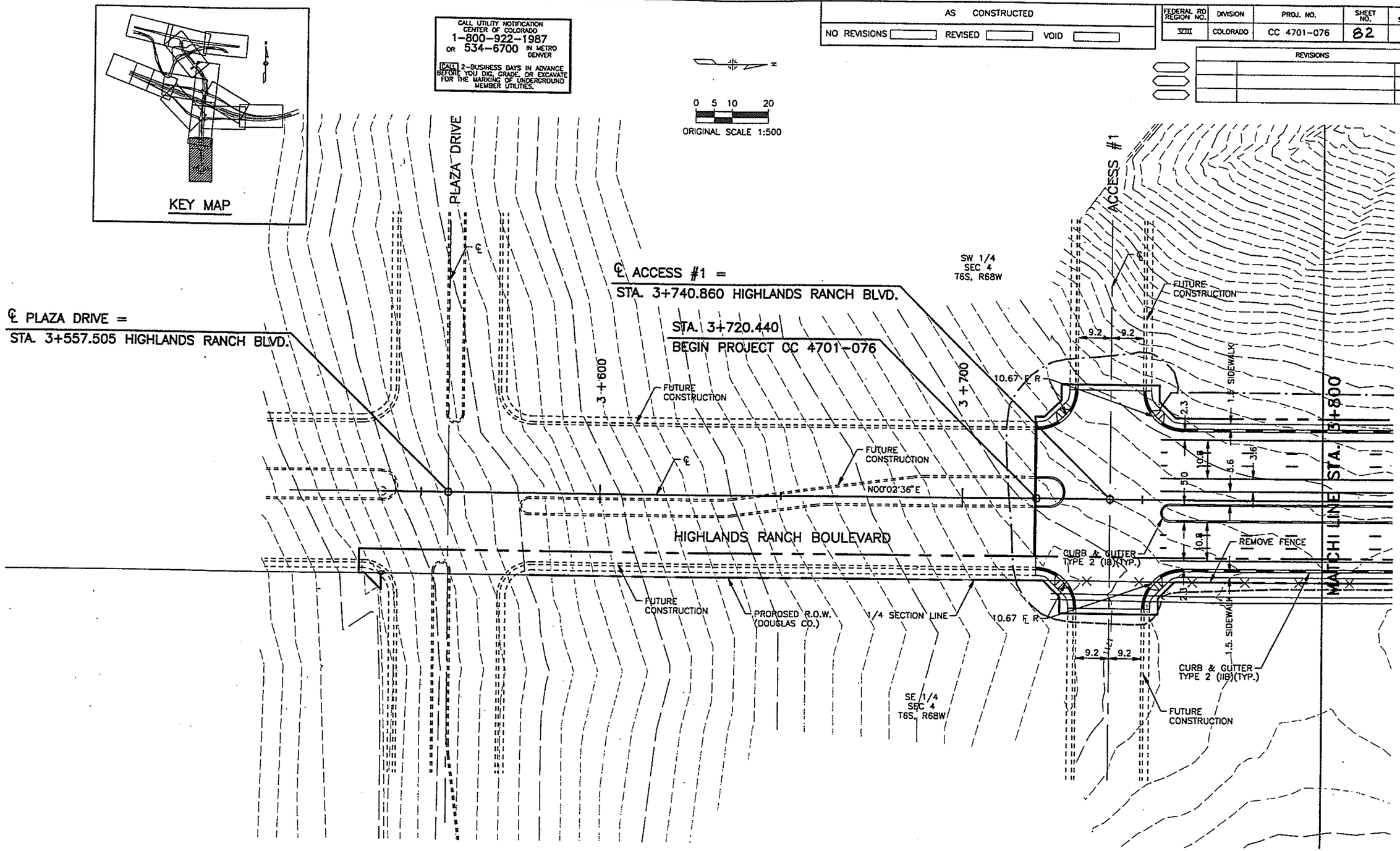
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	82	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

0 5 10 20
ORIGINAL SCALE 1:500



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
HIGHLANDS RANCH BOULEVARD PLAN STA. 3+720.440 TO STA. 3+800				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY FCT. DRAWN BY SEO CHECKED BY DCB	SHEET NO. 1 OF 15 SHEETS	DRAWING NO. P-1

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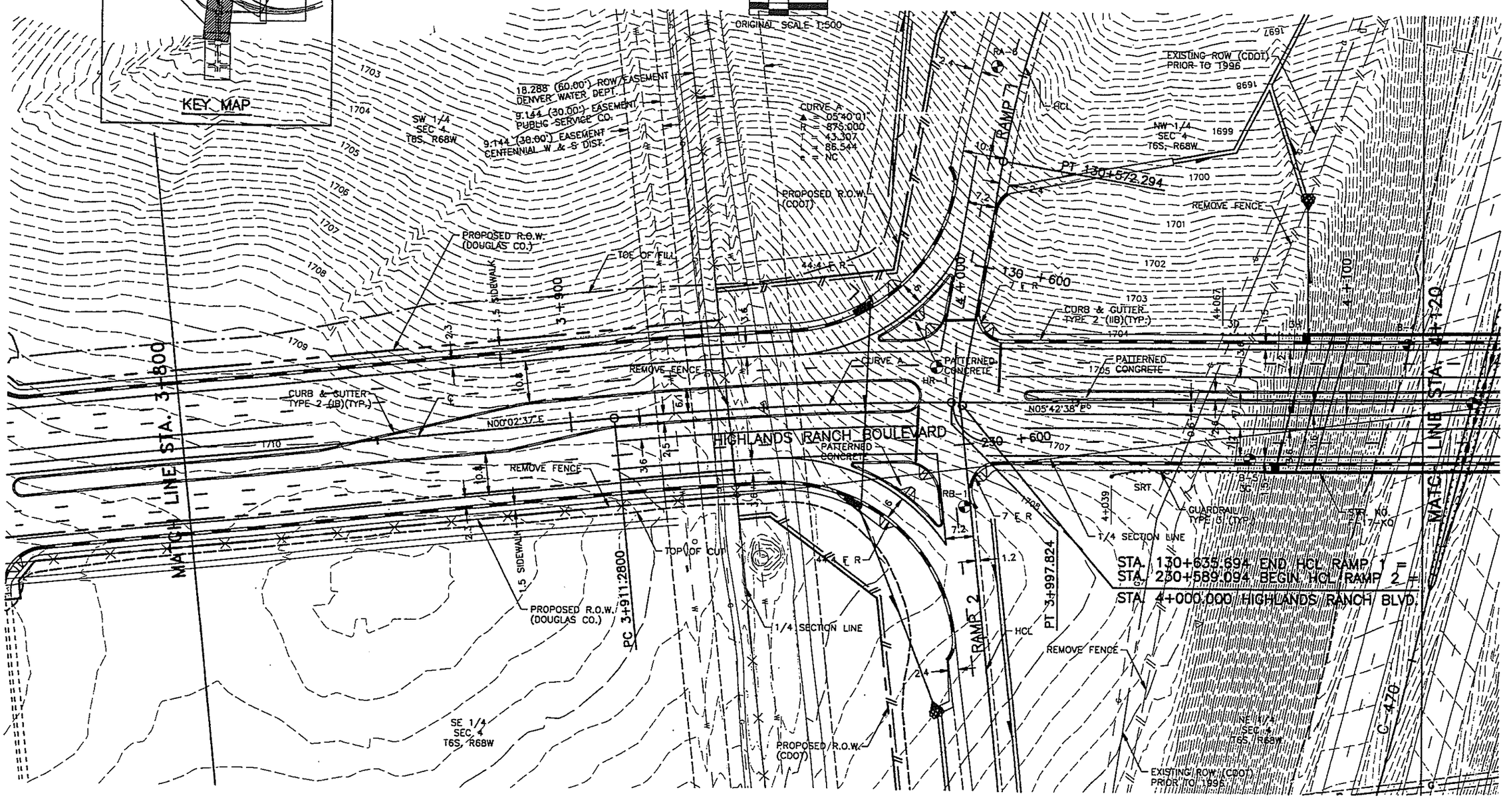
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	83	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
HIGHLANDS RANCH BOULEVARD PLAN STA. 3+800 TO STA. 4+120				
DATE	PROJECT NO.	DESIGNED BY FCT DRAWN BY SEQ CHECKED BY RCB	SHEET NO. 2 OF 15 SHEETS	DRAWING NO. P-2
SEPT 96	96-004			

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CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

AS CONSTRUCTED

NO REVISIONS ☐ REVISED ☐ VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	84	

REVISIONS		

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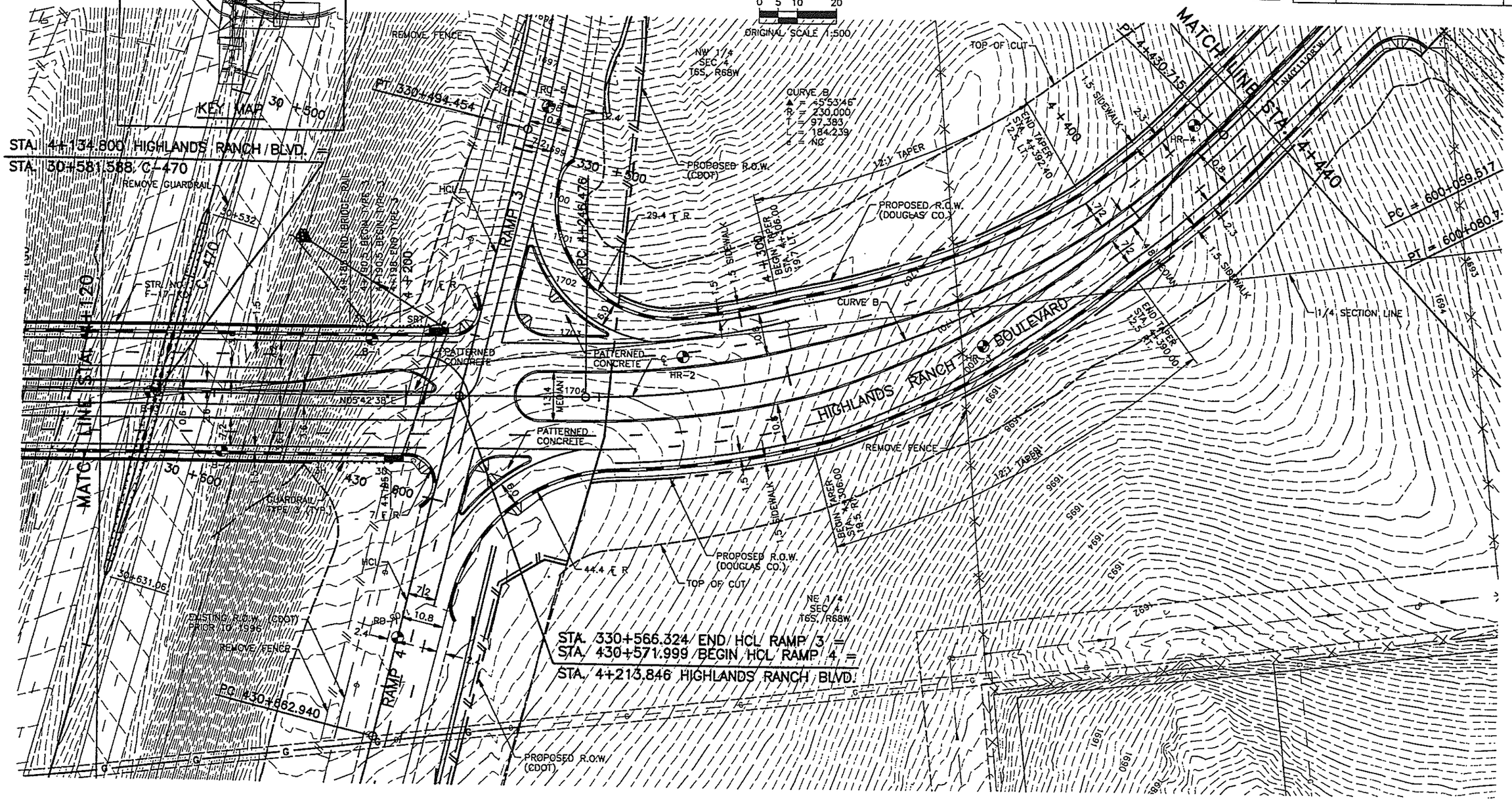
ORIGINAL SCALE 1:500



NOTE: OFFSET DISTANCES ARE GIVEN TO THE FLOWLINE OF THE CURB AND GUTTER.

NOTE: WHOLE NUMBERS INDICATE MILLIMETERS. DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & _

McLELLAN INTERCHANGE
HIGHLANDS RANCH BOULEVARD PLAN-
STA. 4+120 TO STA. 4+440

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AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	85	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

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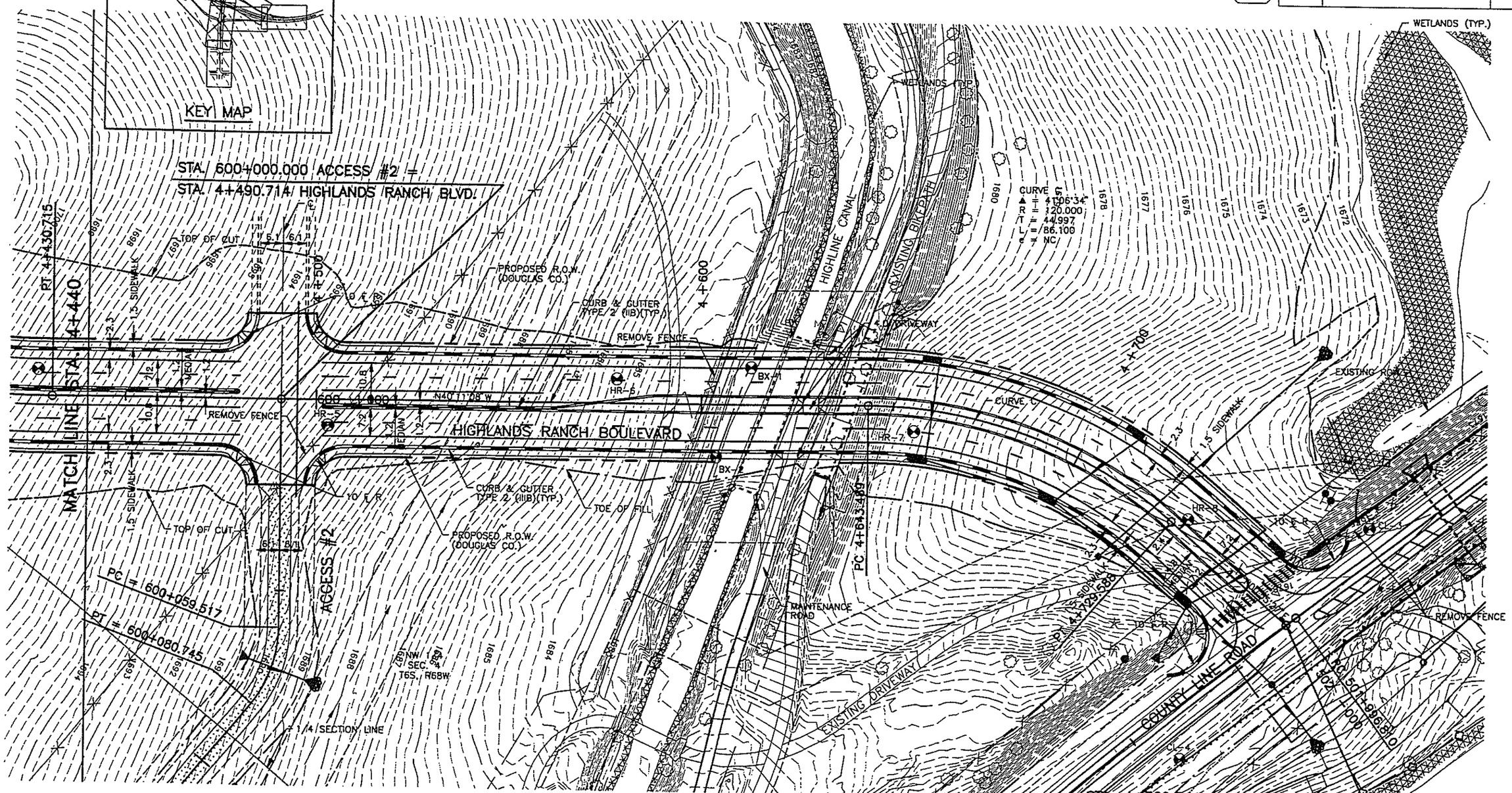
ORIGINAL SCALE 1:500



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
HIGHLANDS RANCH BOULEVARD PLAN STA. 4+440 TO STA. 4+769.744				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY FCT DRAWN BY SED	SHEET NO. 4	DRAWING NO.

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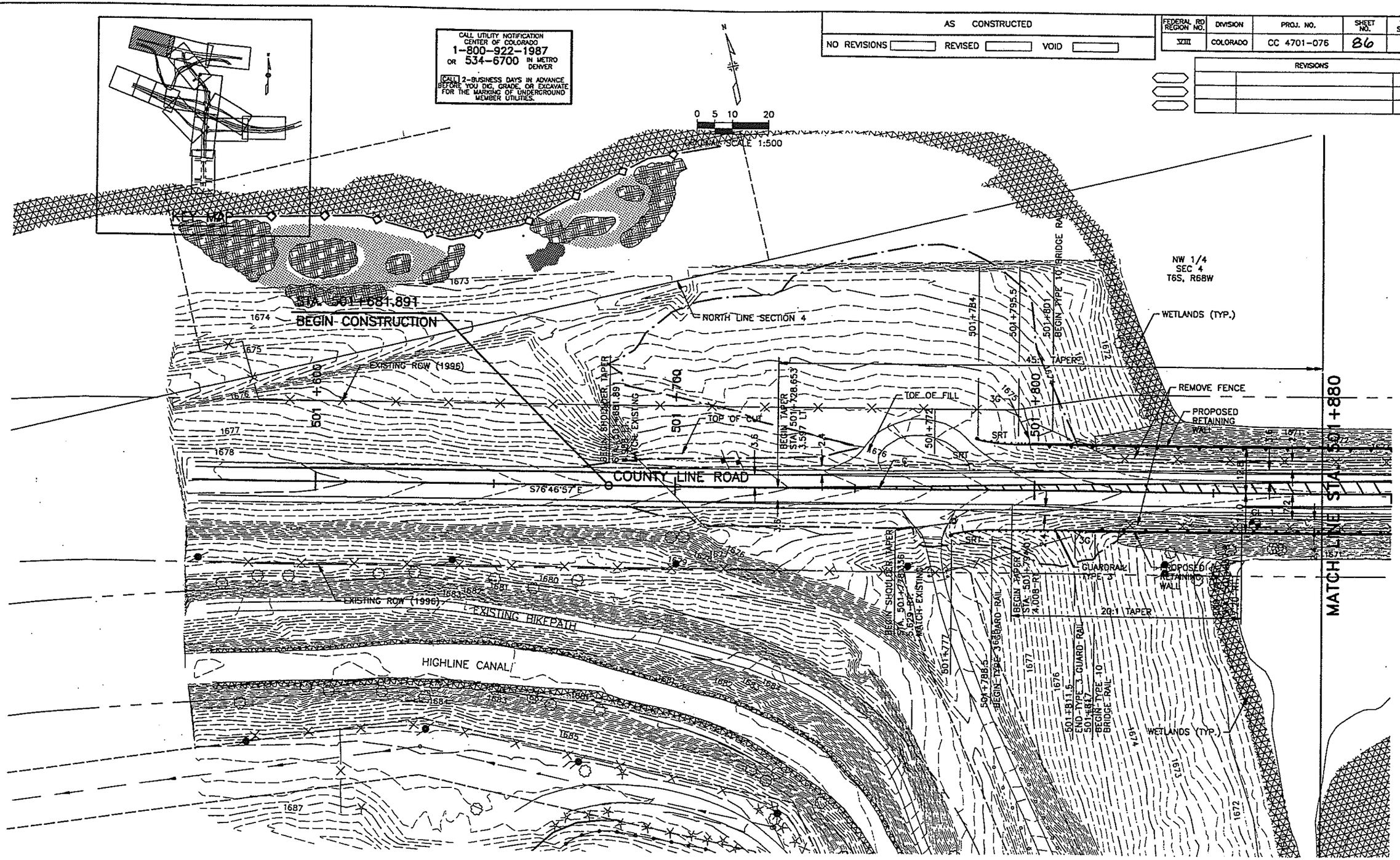
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	86	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE

COUNTY LINE ROAD PLAN
STA. 501+681.891 TO STA. 501+880

DATE	PROJECT NO.	DESIGNED BY ECT	SHEET NO. 5	DRAWING NO.

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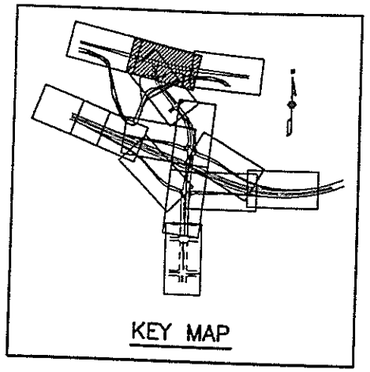
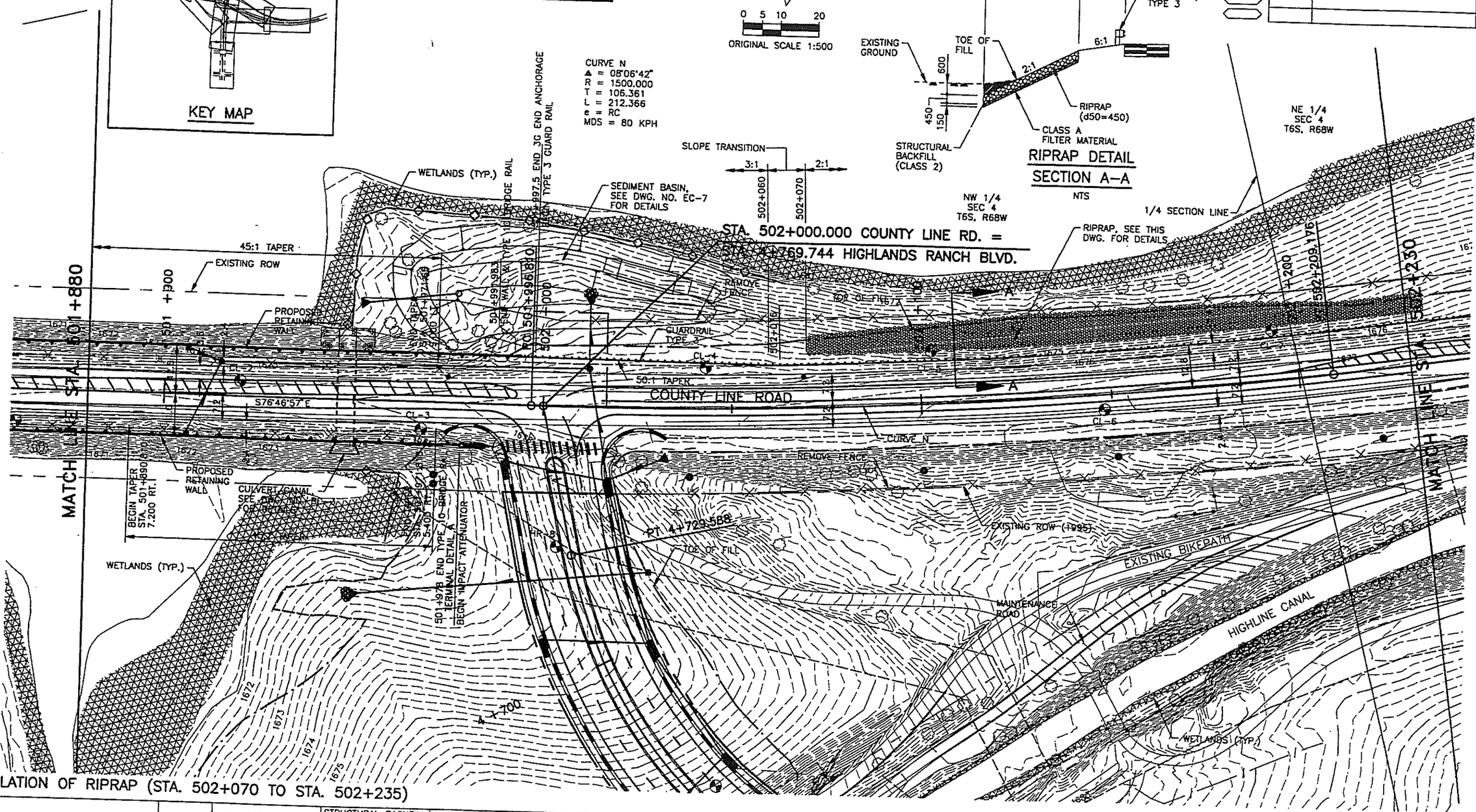
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	87	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.





TABULATION OF RIPRAP (STA. 502+070 TO STA. 502+235)

STATION/LOCATION	SIDE	MUCK EXCAVATION M3		STRUCTURAL BACKFILL (CLASS 2) M3		FILTER MATERIAL (CLASS A) M3		RIPRAP (450 MM) M3	
		PLAN	FINAL	PLAN	FINAL	PLAN	FINAL	PLAN	FINAL
COUNTY LINE ROAD									
502+070 TO 502+235	LT	238		60		180		541	
TOTALS		238		60		180		541	

NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

McLELLAN INTERCHANGE

COUNTY LINE ROAD PLAN
STA. 501+880 TO STA. 502+230

DATE | PROJECT NO | DESIGNED BY SCT | SHEET NO.

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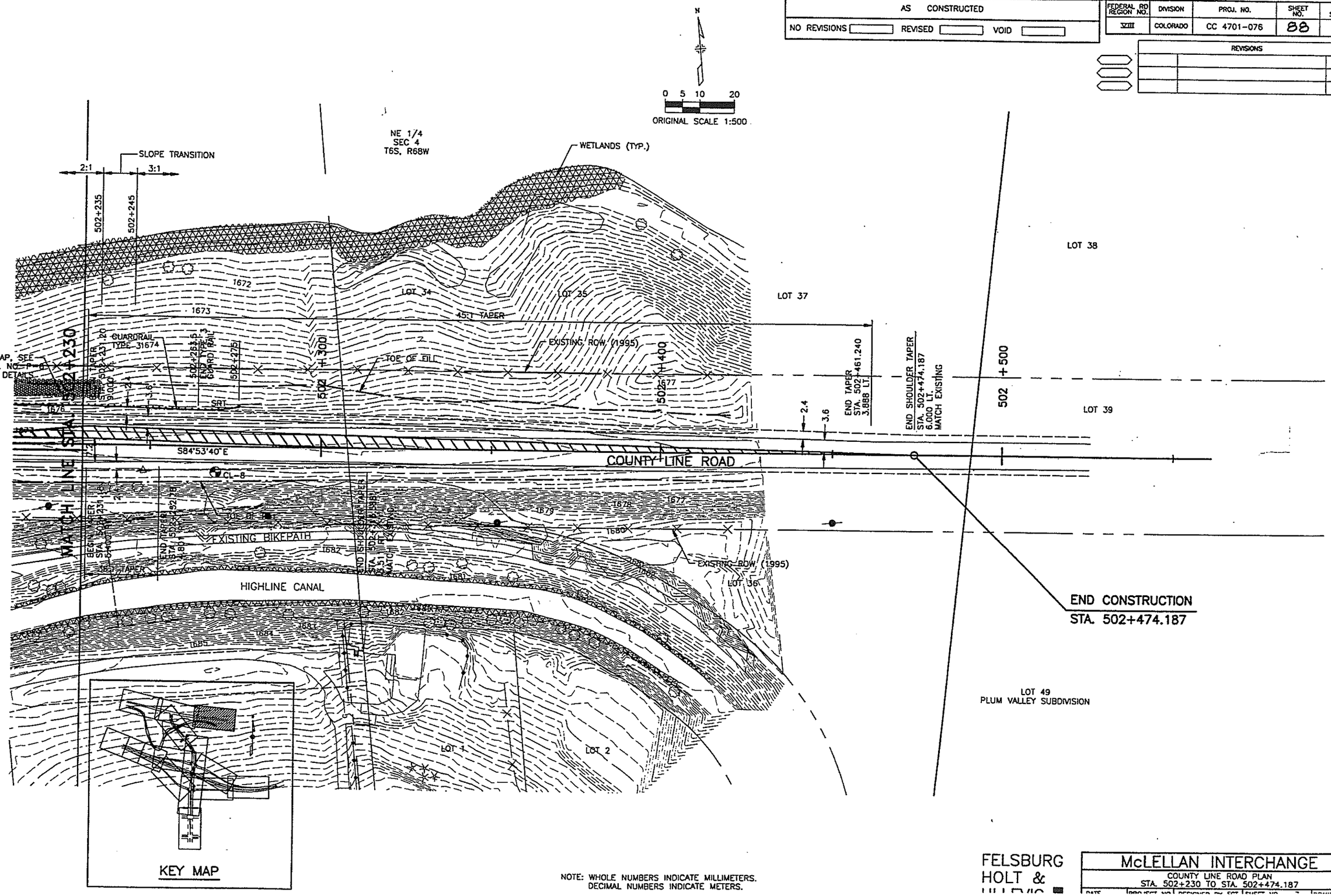
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	88	

REVISIONS		



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT &

McLELLAN INTERCHANGE
COUNTY LINE ROAD PLAN
STA. 502+230 TO STA. 502+474.187

C:\95058\ACAD\A5058312.dwg, 1:1, 12/16/96 at 10:11 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	89	

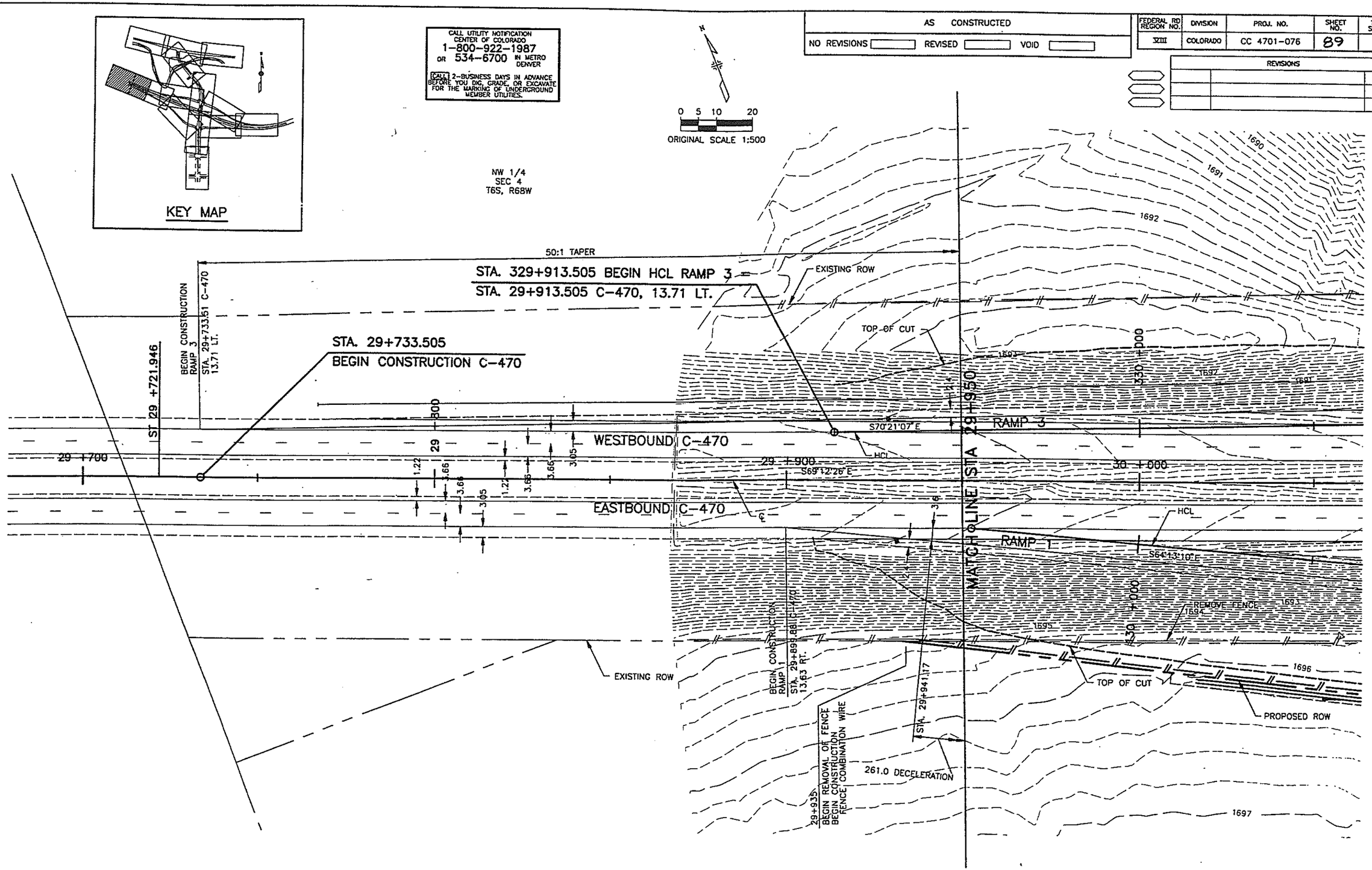
REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

N

0 5 10 20
ORIGINAL SCALE 1:500

NW 1/4
SEC 4
T6S, R68W



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT &

McLELLAN INTERCHANGE

C-470 PLAN STA. 29+733.51 TO STA. 29+950
RAMP 3 PLAN STA. 329+913.505 TO STA. 329+950

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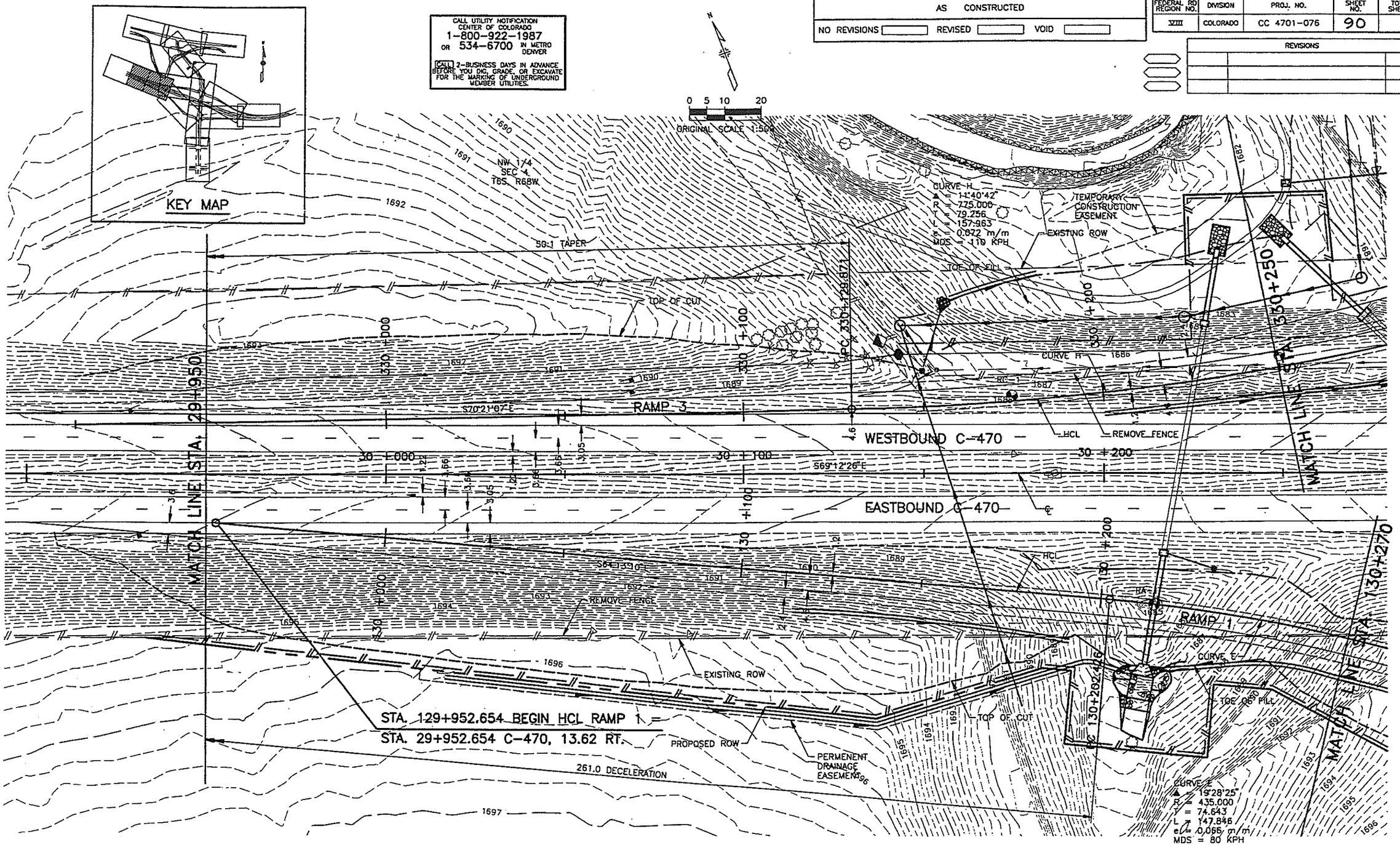
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	90	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
RAMP 1 PLAN STA. 129+952.654 TO STA. 130+270 RAMP 3 PLAN STA. 329+950 TO STA. 330+250				
DATE	PROJECT NO.	DESIGNED BY FCT DRAWN BY SED CHECKED BY DCB	SHEET NO. 9 OF 15 SHEETS	DRAWING NO.
SEPT 96	96-004			P-9

G:\95058\ACAD\A5058306.dwg, 1:1, 12/16/96 at 10:19 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

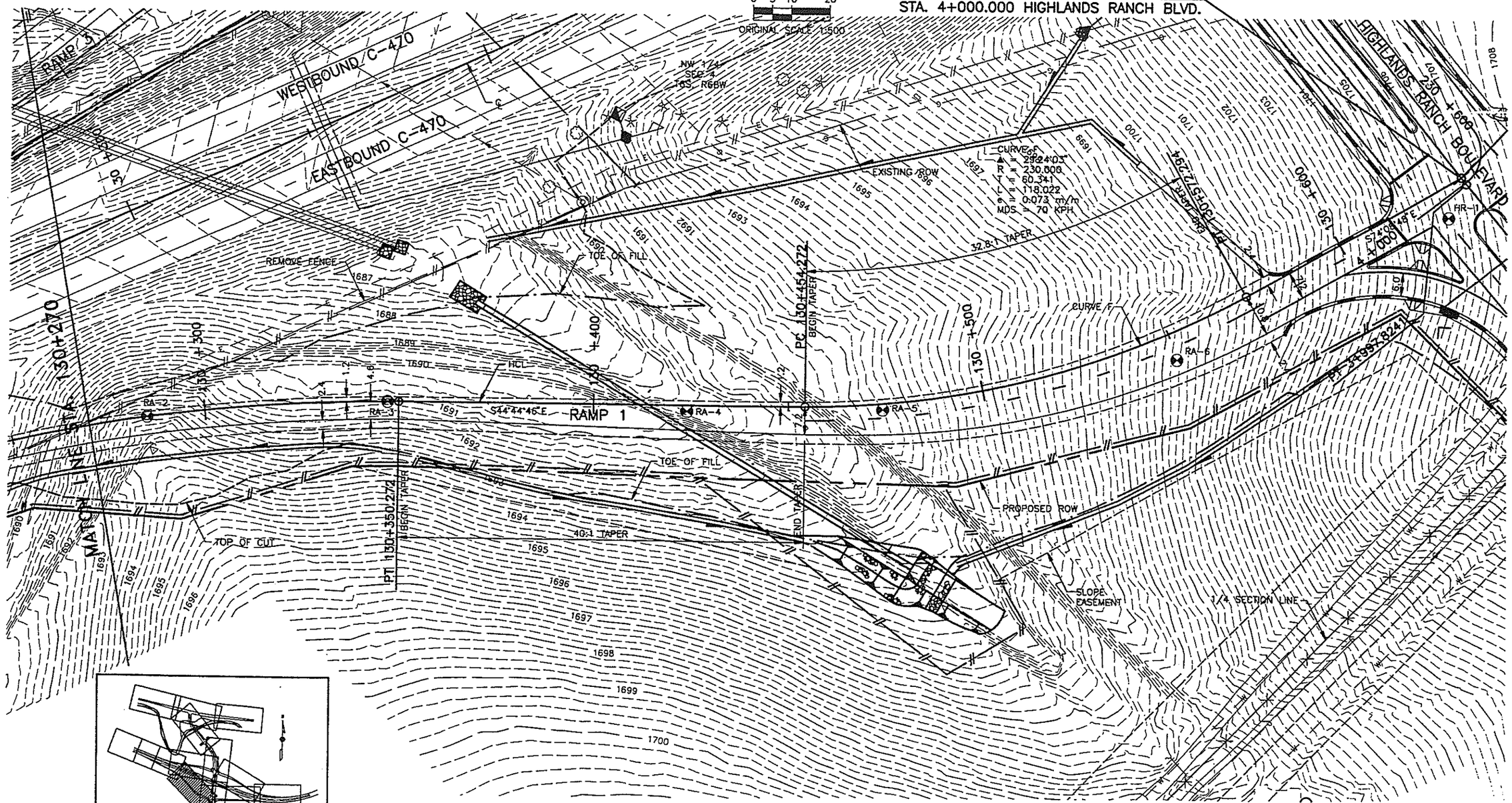
FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	91	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

STA. 130+635.694 END HCL RAMP 1 =
STA. 230+589.094 BEGIN HCL RAMP 2 =
STA. 4+000.000 HIGHLANDS RANCH BLVD.

0 5 10 20
ORIGINAL SCALE 1:500



KEY MAP

NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE
RAMP 1 PLAN STA. 130+270 TO STA. 130+635.694

DATE	PROJECT NO.	DESIGNED BY FCT SEP	SHEET NO. 10	DRAWING NO.

C:\95058\ACAD\A5058307.dwg, 1:1, 12/16/96 at 10:23 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	92	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

N

0 5 10 20
ORIGINAL SCALE 1:590

STA. 130+635.694 END HCL RAMP 1
STA. 230+589.094 BEGIN HCL RAMP 2
STA. 4+000.000 HIGHLANDS RANCH BLVD.

HIGHLANDS RANCH BOULEVARD

RE 1/4 SEC. 4 T6S, R68W

WESTBOUND C-470

EASTBOUND C-470

RAMP 2

RAMP 4

EXISTING ROW

REMOVE FENCE

TOP OF CUT

TOE OF FILL

HCL

RB-1 RB-2 RB-3 RB-4 RB-5

N89°49'29"E

S87°24'21"E

CURVE G

PROPOSED ROW

BEGIN TAPER STA. 230+659.43

END TAPER

PC 230+789.488

PT 230+874.01

50:1 TAPER

196.4 ACCELERATION

1/4 SECTION LINE

MATCH LINE STA. 230+950

CURVE G
Δ = 02°46'09"
R = 1750.000
T = 42.300
L = 84.583
e = 0.024 m/m
MDS = 80 KPH

KEY MAP

NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE
RAMP 2 PLAN STA. 230+589.094 TO STA. 230+950

DATE	PROJECT NO.	DESIGNED BY ECI	SHEET NO. 11	DRAWING NO.

C:\95058\ACAD\A5058308.dwg, 1:1, 12/16/96 at 10:28 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

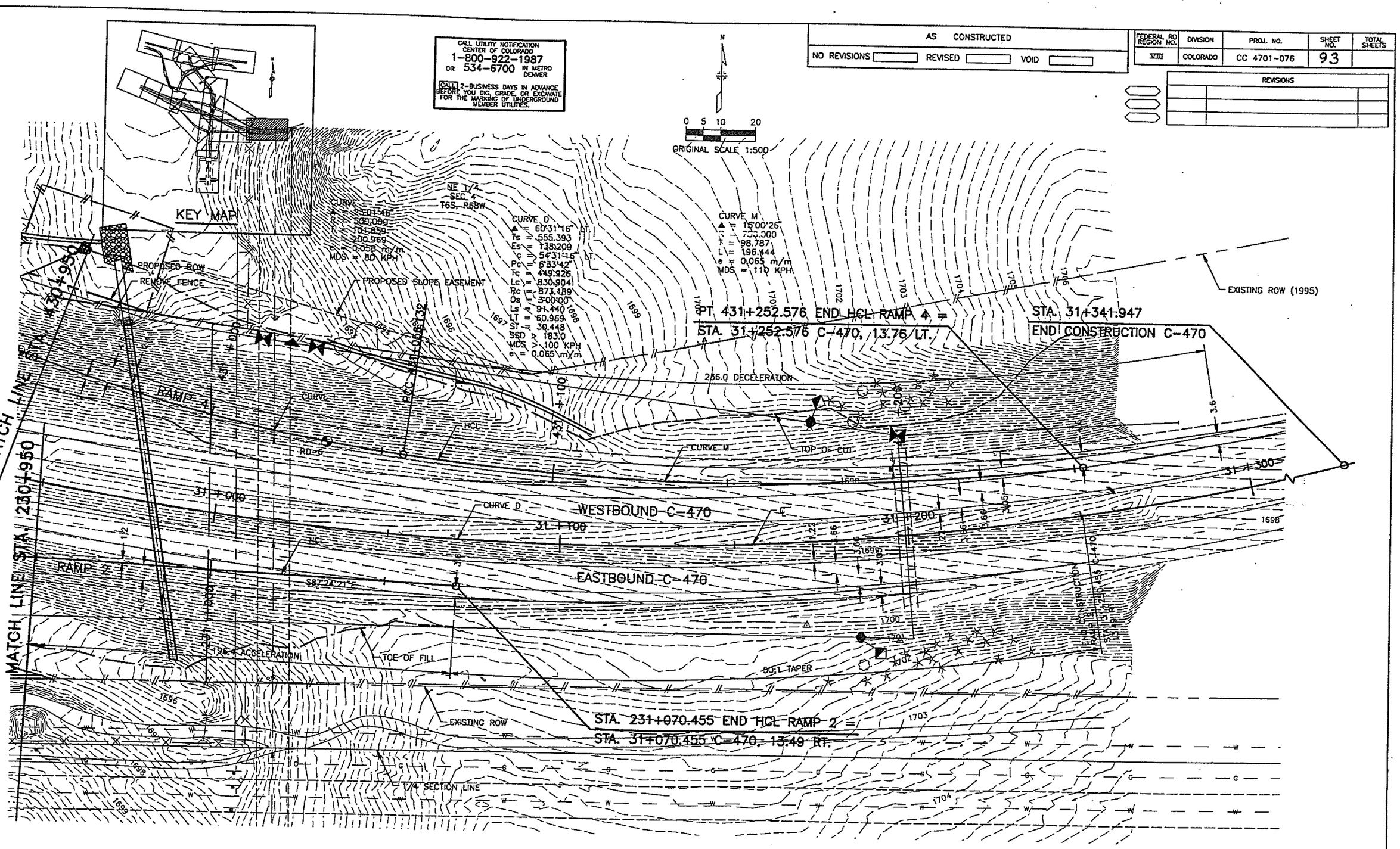
FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	93	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

N

0 5 10 20
ORIGINAL SCALE 1:500



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
RAMP 2 PLAN STA. 230+950 TO STA. 231+070.455 RAMP 4 PLAN STA. 430+950 TO STA. 431+252.576				
DATE	PROJECT NO.	DESIGNED BY FCT DRAWN BY SEO	SHEET NO. 12	DRAWING NO.
SEPT 96	96-004			P-12

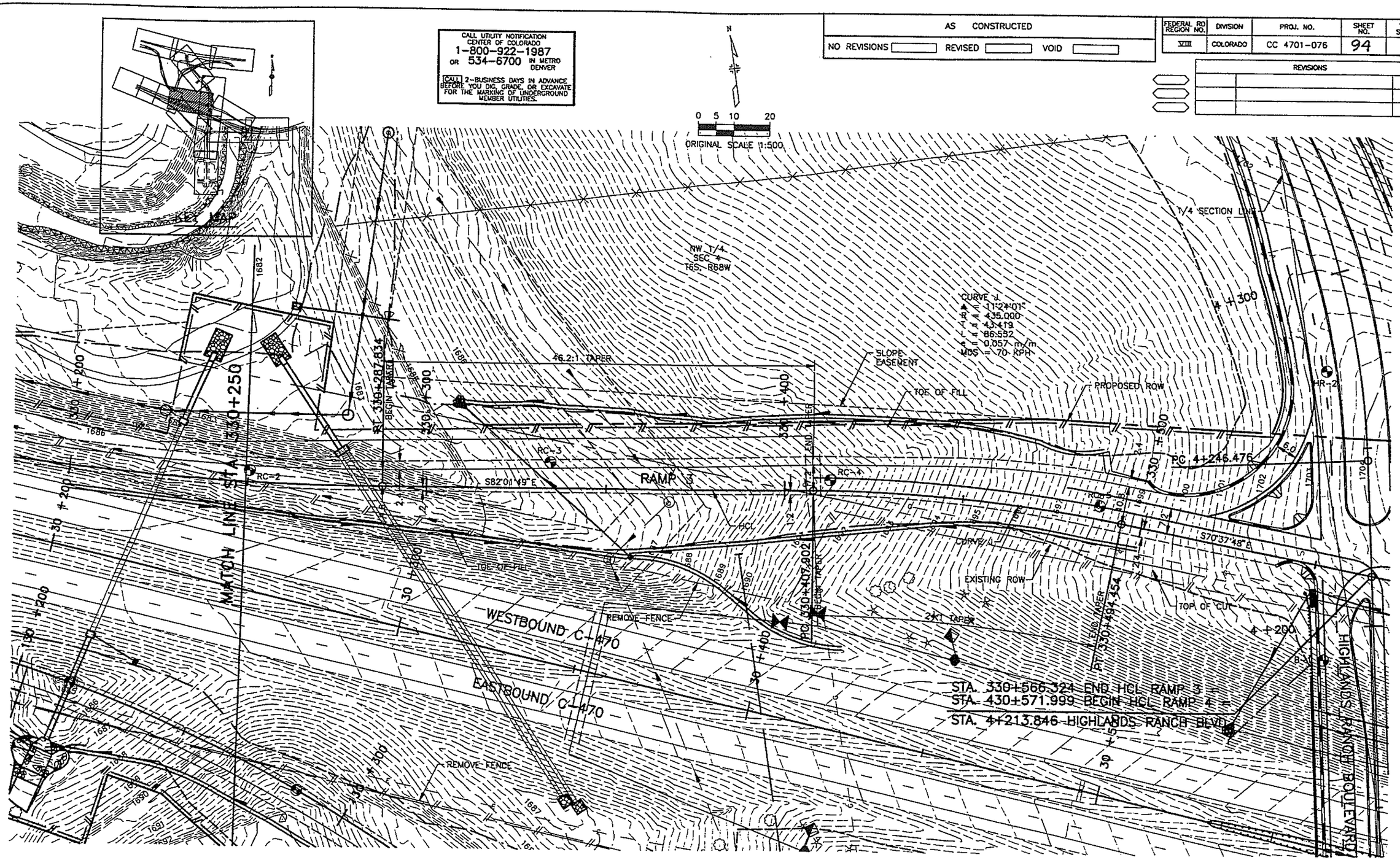
G:\95058\ACAD\A5058309.dwg, 1:1, 12/16/96 at 10:32 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	94	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE
RAMP 3 PLAN STA. 330+250 TO STA. 330+566.324

DATE	PROJECT NO.	DESIGNED BY ECT	SHEET NO. 13	DRAWING NO.

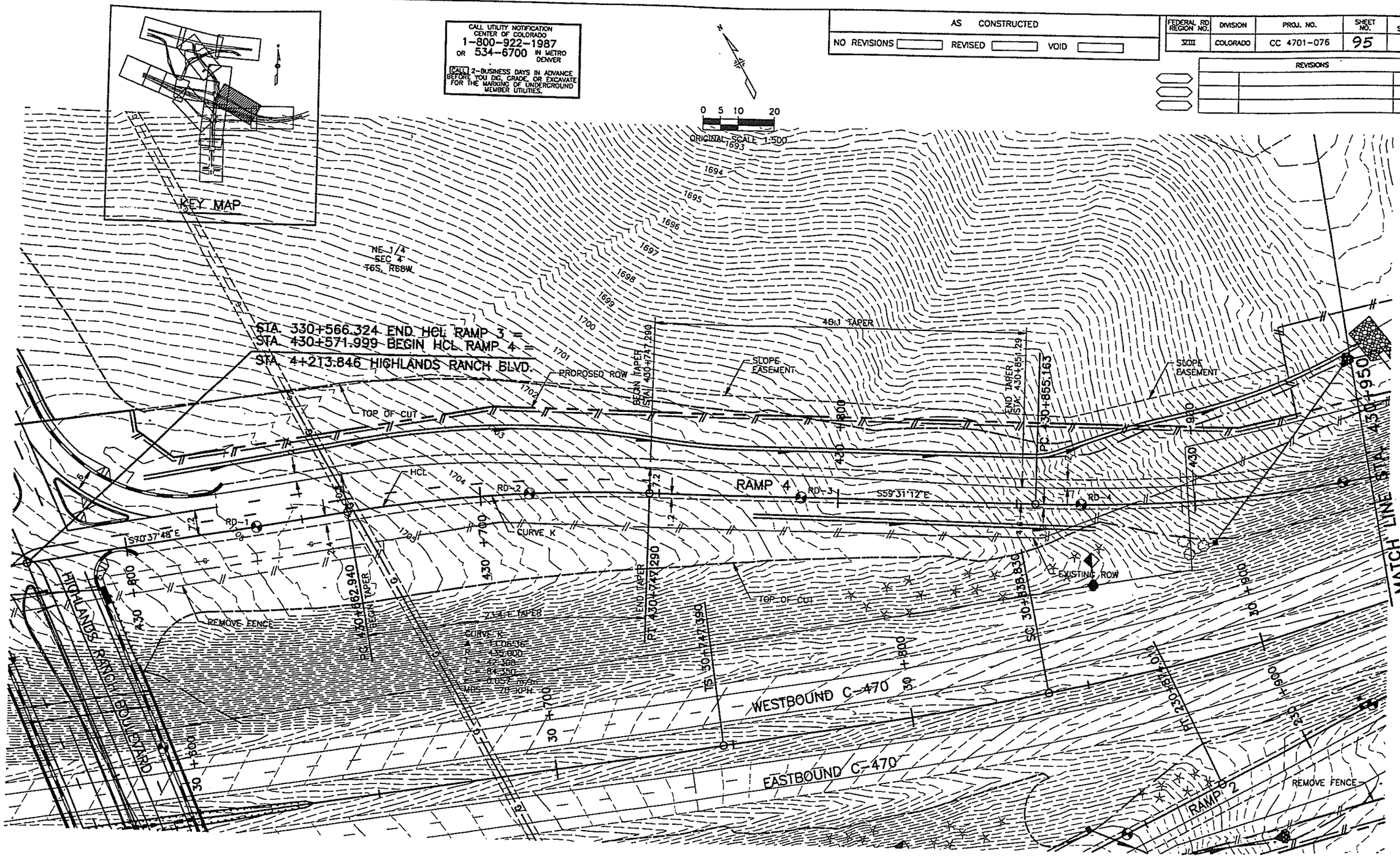
C:\35058\ACAD\A5058310.dwg, 1:1, 12/16/96 at 10:36 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	95	

REVISIONS		

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE
RAMP 4 PLAN STA. 430+571.999 TO STA. 430+950

DATE	PROJECT NO	DESIGNED BY FCT.	SHEET NO. 14	DRAWING NO.

COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

G:\95058\ACAD\A5058311.dwg, 1:1, 12/16/96 at 10:40

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
OR 534-6700 IN METRO DENVER

CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

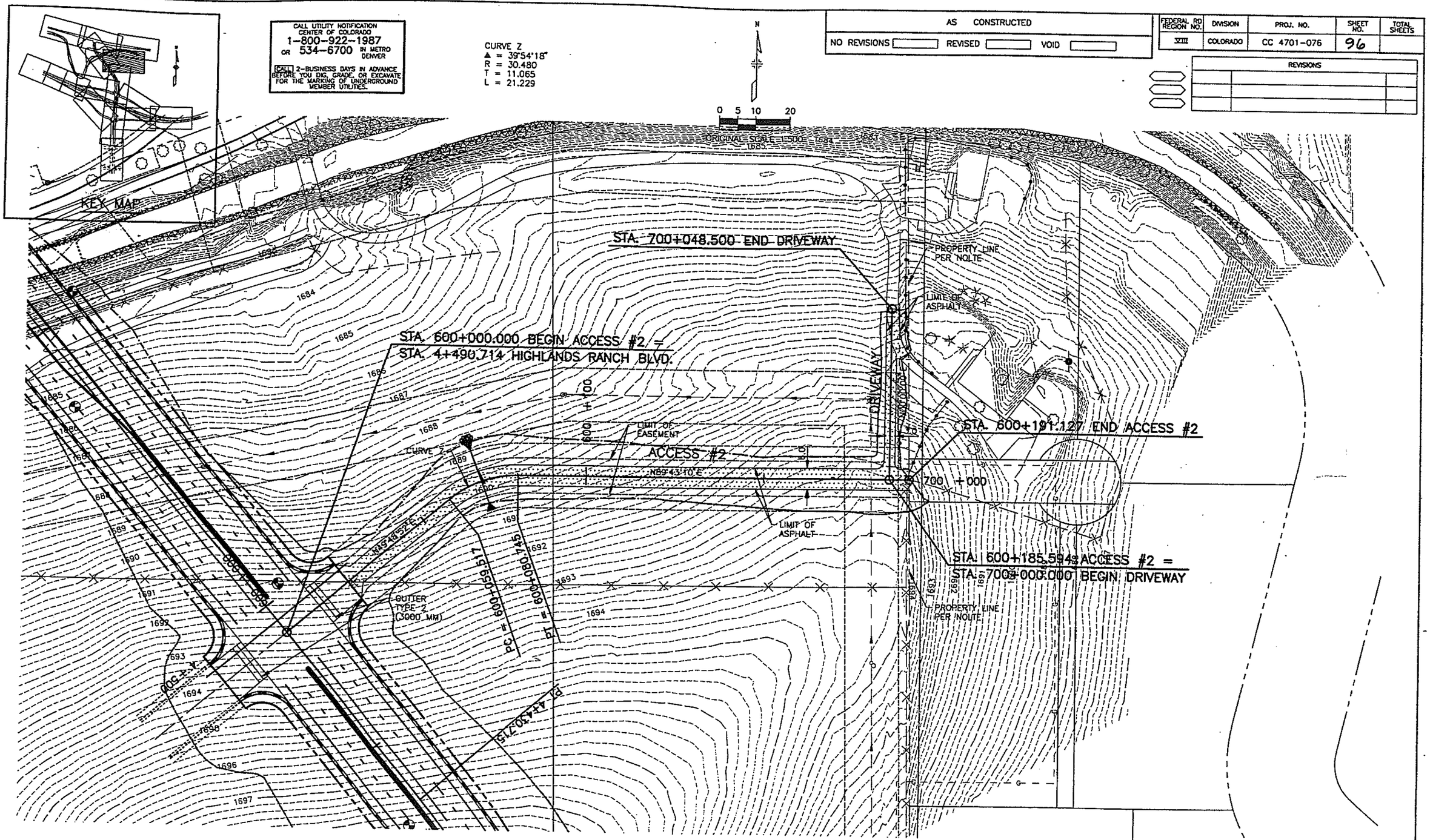
CURVE Z
Δ = 39°54'18"
R = 30.480
T = 11.065
L = 21.229

AS CONSTRUCTED

NO REVISIONS ☐ REVISED ☐ VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	96	

REVISIONS		



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT &

McLELLAN INTERCHANGE
ACCESS #2 PLAN STA. 600+000 TO STA. 600+191.127
DRIVEWAY PLAN STA. 700+000 TO STA. 700+048.500

COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

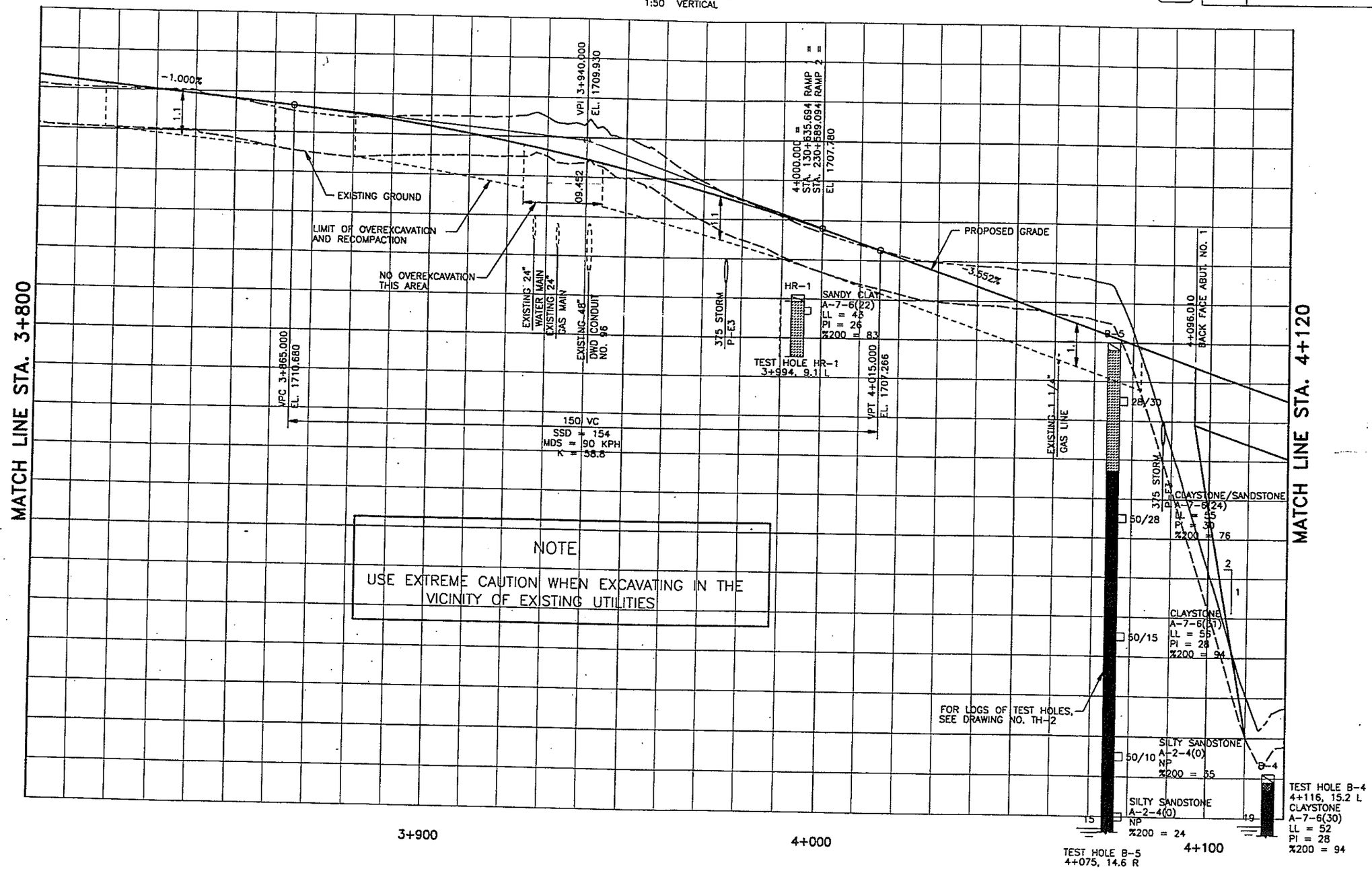
G:\95058\ACAD\A5058355.dwg, 1:1, 12/17/98 at 10:26

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
XIII	COLORADO	CC 4701-076	98	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
HIGHLANDS RANCH BOULEVARD PROFILE STA. 3+800 TO STA. 4+120				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECT DRAWN BY SED CHECKED BY DCB	SHEET NO. 2 OF 15 SHEETS	DRAWING NO. PP-2

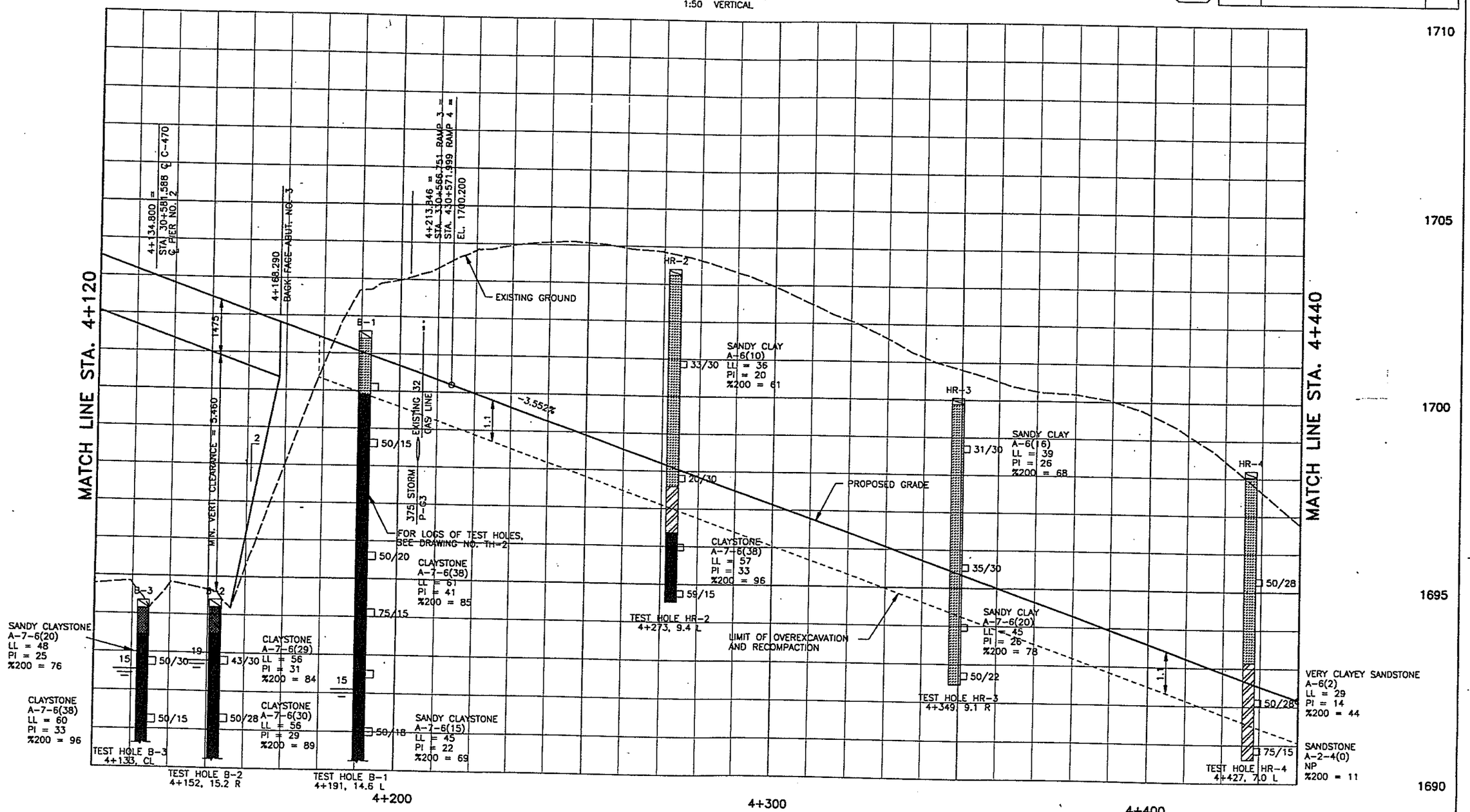
G:\95058\ACAD\A5058321.dwg, 1:1, 12/16/98 at 10:49 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED			
NO REVISIONS	REVISED	VOID	

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	99	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT &

McLELLAN INTERCHANGE
HIGHLANDS RANCH BOULEVARD PROFILE
STA. 4+120 TO STA. 4+440

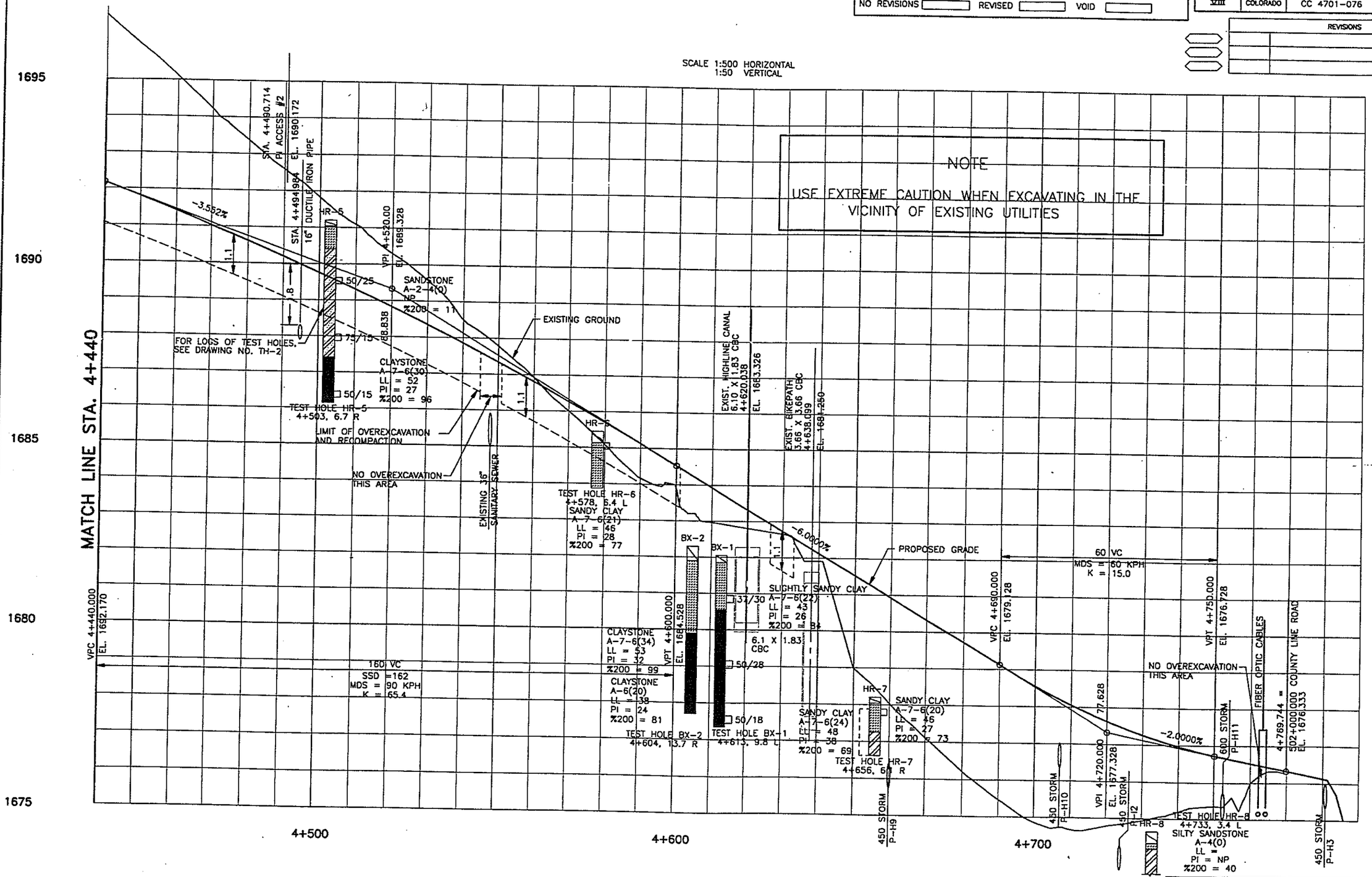
C:\95058\ACAD\A50583322.dwg, 1:1, 12/16/96 at 10:51 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	100	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

NOTE

USE EXTREME CAUTION WHEN EXCAVATING IN THE VICINITY OF EXISTING UTILITIES

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE

HIGHLANDS RANCH BOULEVARD PROFILE
STA. 4+440 TO STA. 4+769.744

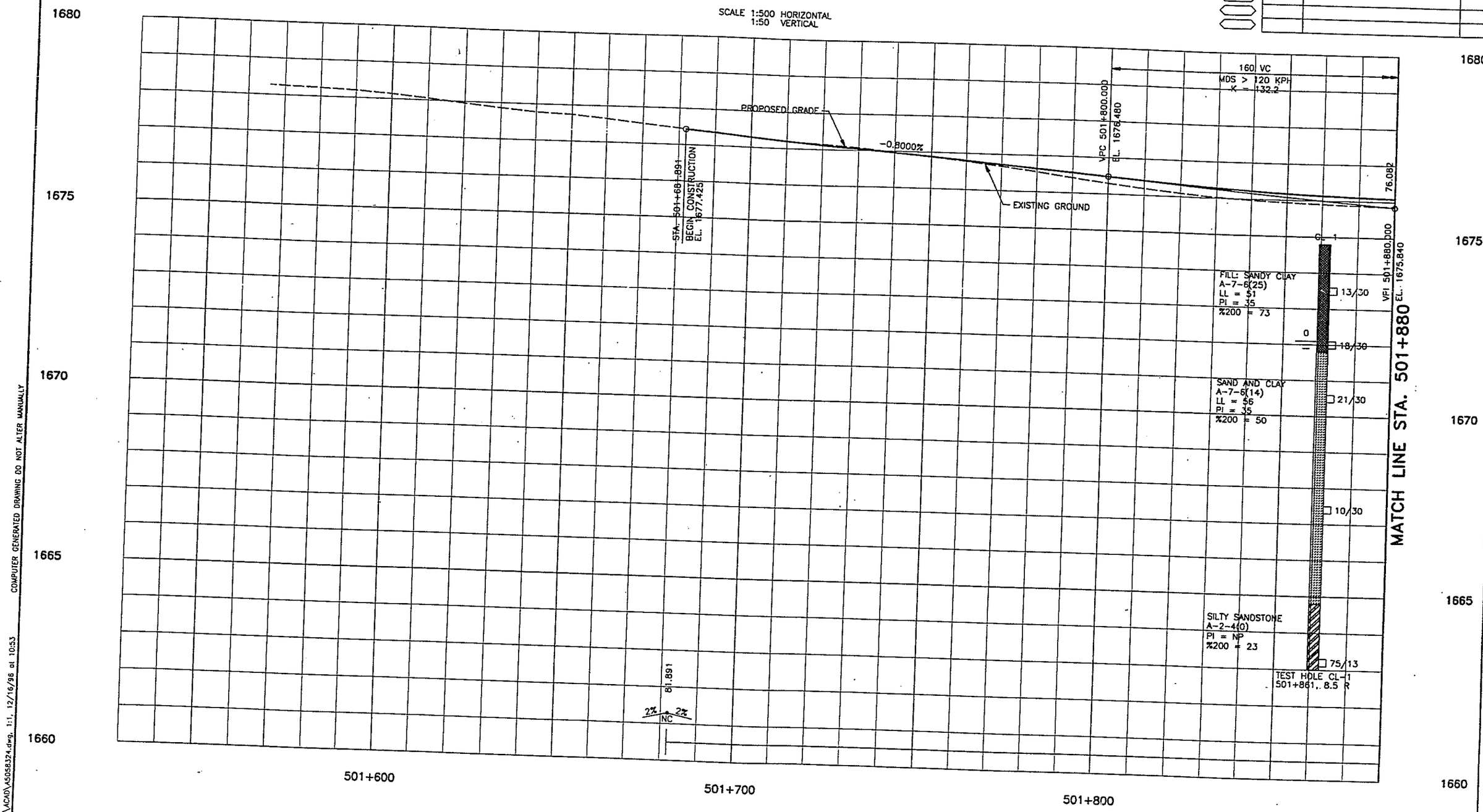
DATE	PROJECT NO.	DESIGNED BY ECT	SHEET NO. 4	DRAWING NO.
SEPT 96	96-004	DRAWN BY SED		

C:\95058\ACAD\A5058323.dwg, 1:1, 12/16/96 at 10:52
COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	101	

REVISIONS		



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE
COUNTY LINE ROAD PROFILE
STA. 501+681.891 TO STA. 501+880

DATE | PROJECT NO. | DESIGNED BY | FOR ISSUE

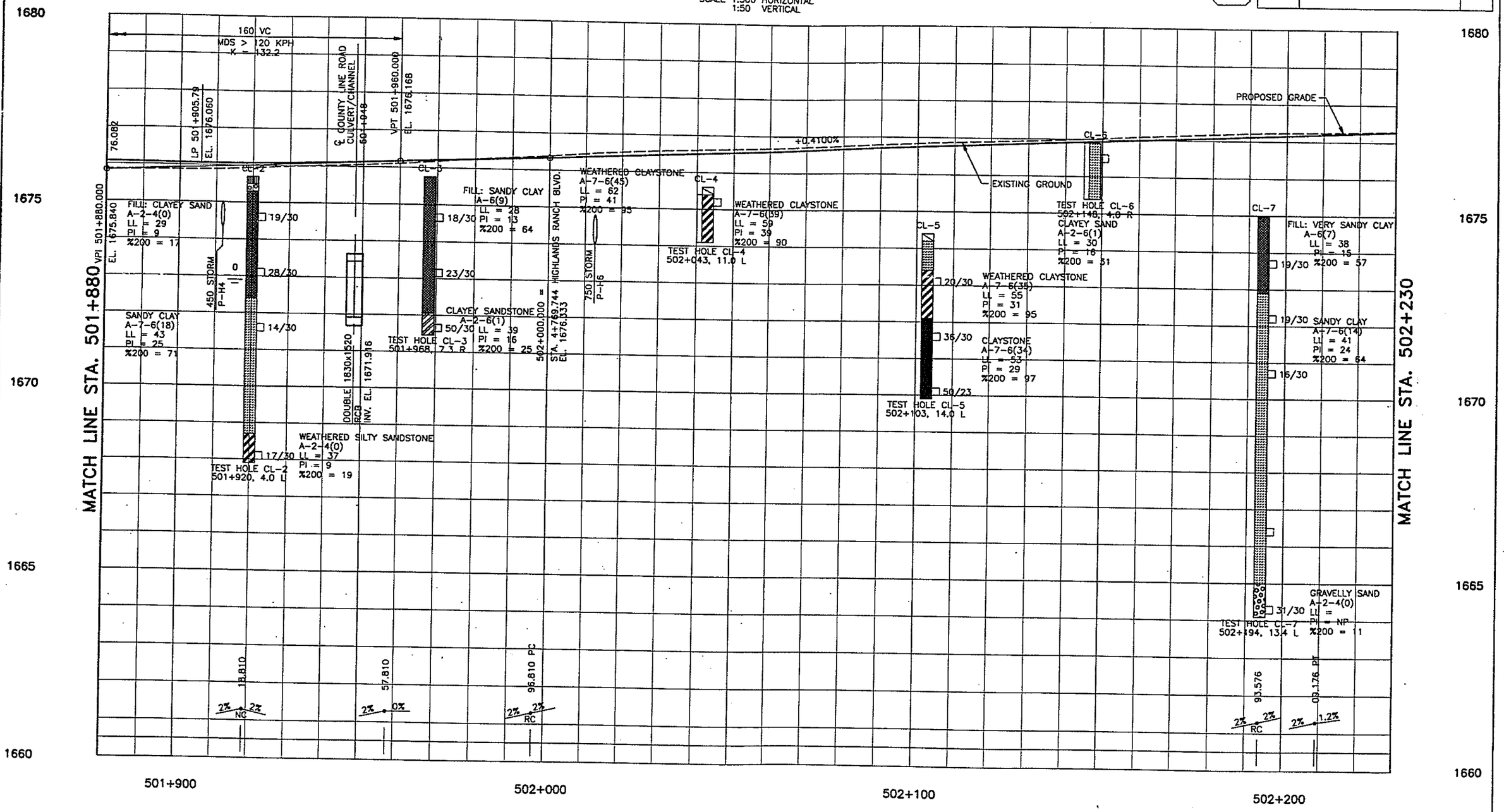
C:\95058\ACAD\A5058324.dwg, 1:1, 12/16/96 at 10:53 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	102	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE			
COUNTY LINE ROAD PROFILE STA. 501+880 TO STA. 502+230			
DATE	PROJECT NO.	DESIGNED BY ECT DRAWN BY SEO	SHEET NO. 6	DRAWING NO.

C:\95058\ACAD\A5058325.dwg, 1:1, 12/16/98 at 10:55

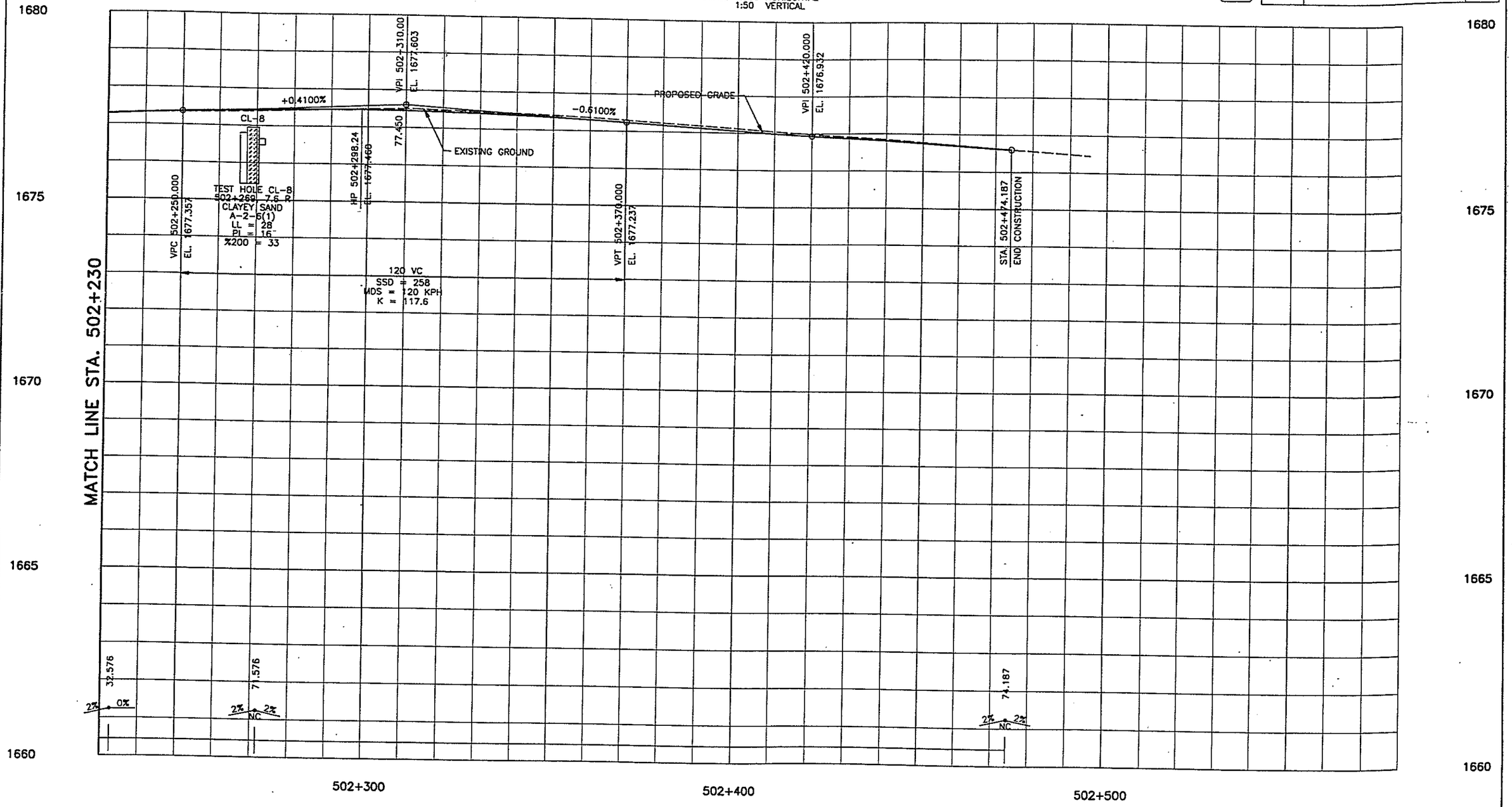
COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS ☐	REVISED ☐	VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	103	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
COUNTY LINE ROAD PROFILE STA. 502+230 TO STA. 502+474.187				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECT DRAWN BY SED CHECKED BY DCB	SHEET NO. 7 OF 18 SHEETS	DRAWING NO. PP-7

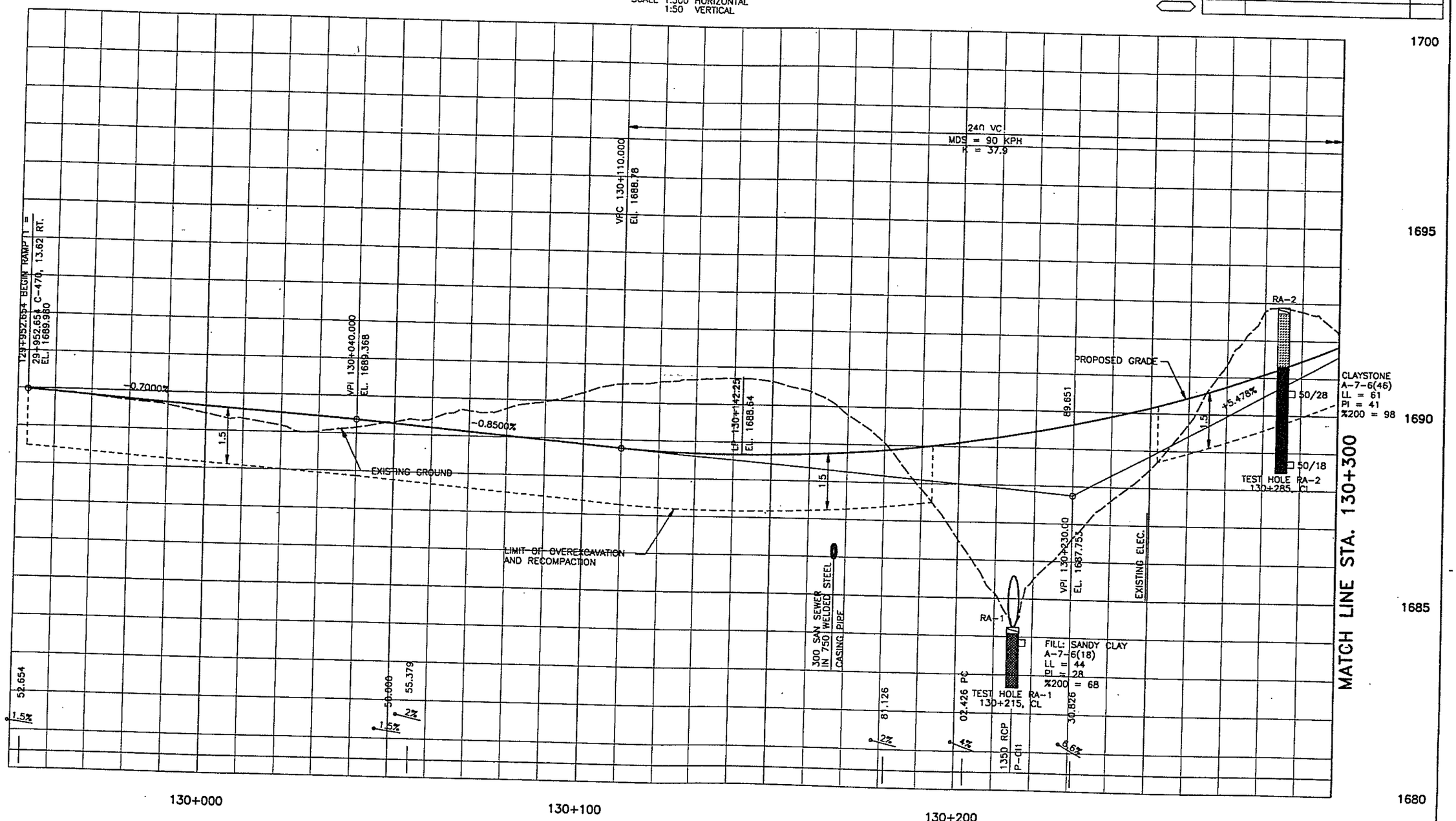
G:\95058\ACAD\A5058338.dwg, 1:1, 12/16/96 at 10:56 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS ☐	REVISED ☐	VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	104	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG
HOLT &
ULLEVIG

McLELLAN INTERCHANGE				
RAMP 1 PROFILE STA. 129+952.654 TO STA. 130+300				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECI DRAWN BY SED	SHEET NO. 8	DRAWING NO.

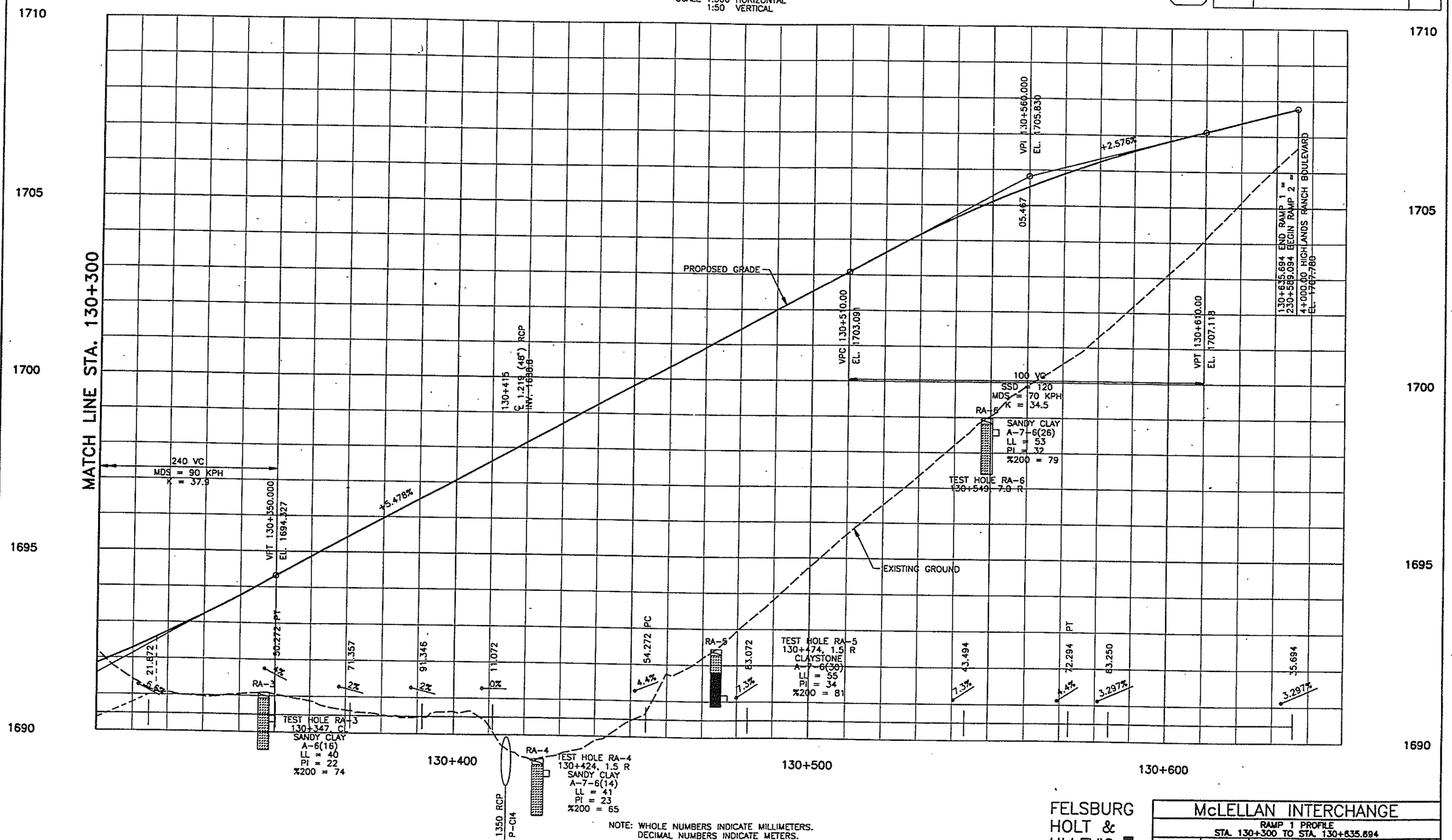
C:\95058\ACAD\A5058330.dwg, 1:1, 12/16/96 at 10:57 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	105	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
RAMP 1 PROFILE STA. 130+300 TO STA. 130+635.694				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECT DRAWN BY SED CHECKED BY DCB	SHEET NO. 9 OF 16 SHEETS	DRAWING NO. PP-9

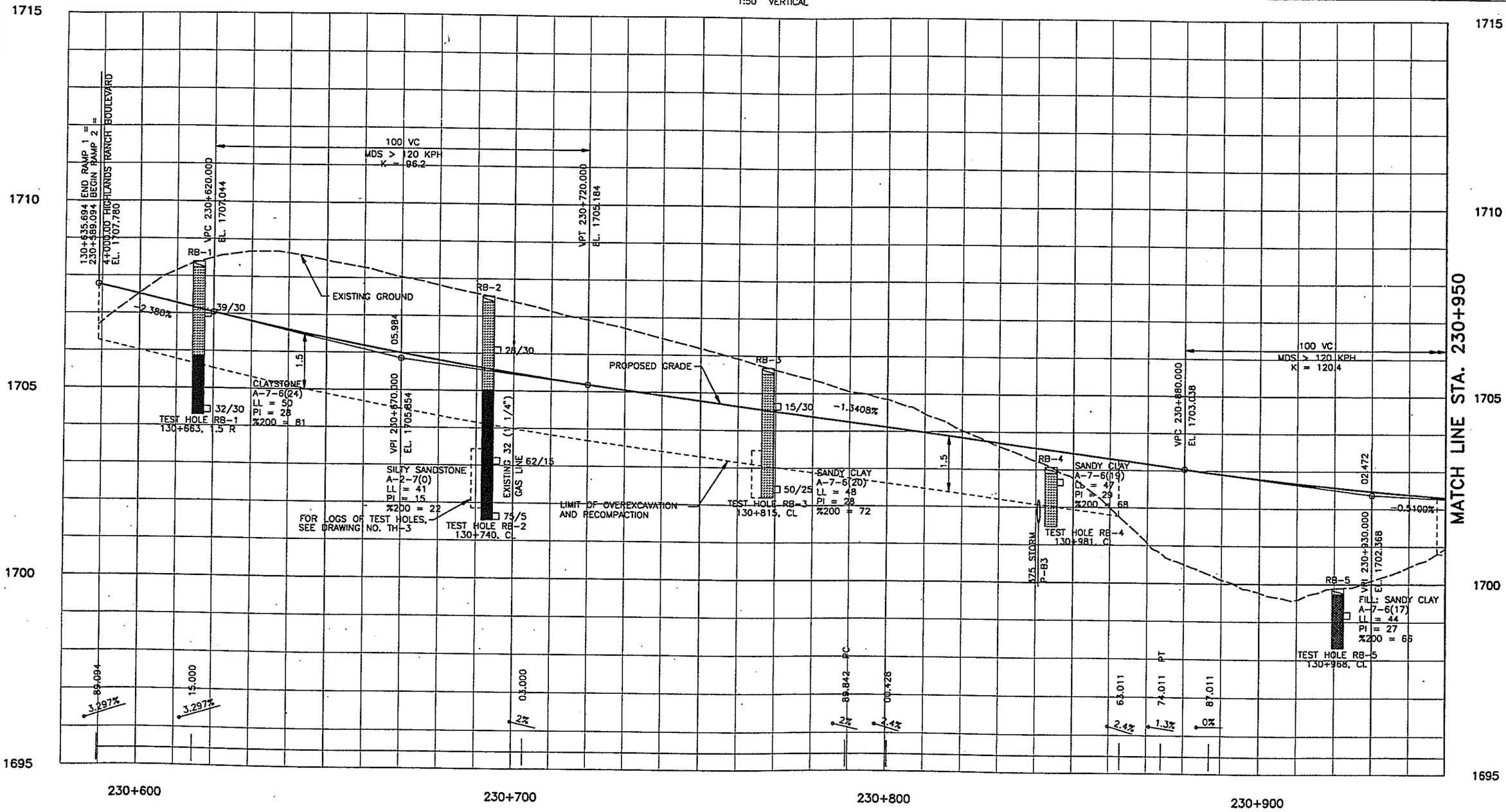
G:\95058\ACAD\A5058331.dwg, 1:1, 12/16/96 at 10:59
COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS ☐	REVISED ☐	VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	106	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
RAMP 2 PROFILE STA. 230+589.094 TO STA. 230+950				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY FCT. DRAWN BY SED. CHECKED BY DCB	SHEET NO. 10 OF 16 SHEETS	DRAWING NO. PP-10

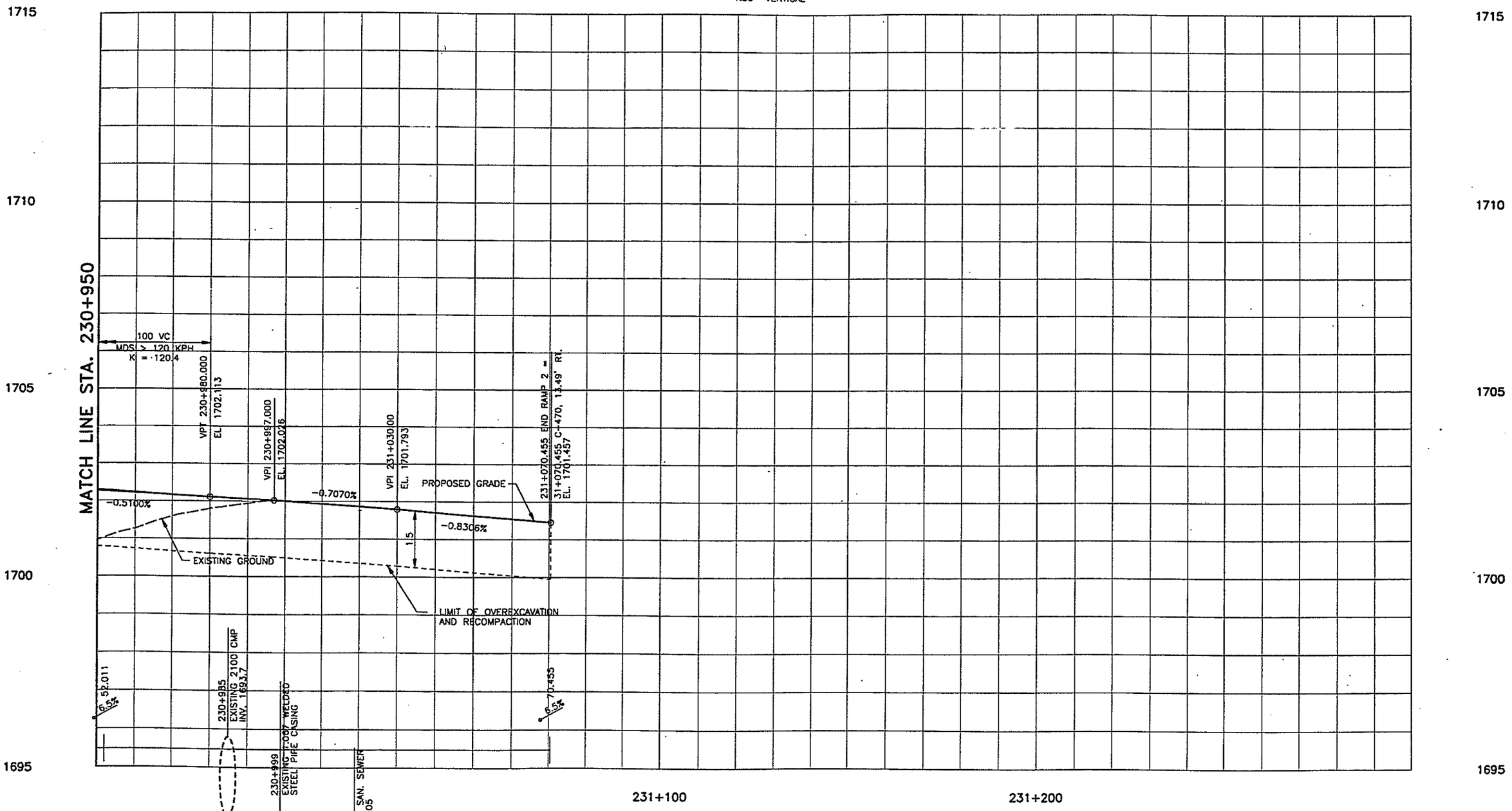
G:\95058\ACAD\A5058332.dwg, 1:1, 12/16/96 at 11:00 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS ☐	REVISED ☐	VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	107	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
RAMP 2 PROFILE STA. 230+950 TO STA. 231+070.455				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY FCT DRAWN BY SFD CHECKED BY DCB	SHEET NO. 11 OF 15 SHEETS	DRAWING NO. PP-11

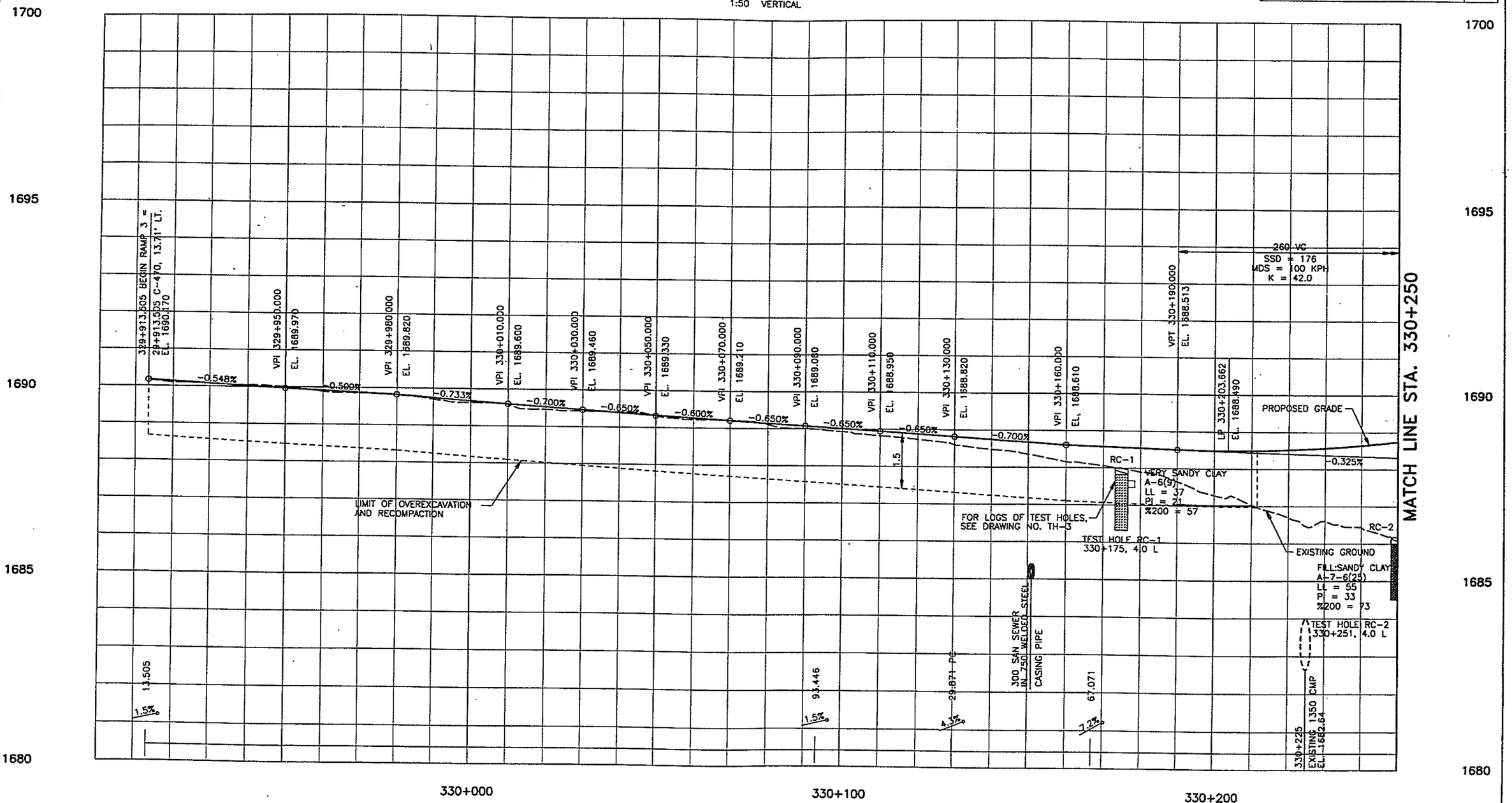
C:\9505B\ACAD\A5058333.dwg, 1:1, 12/16/96 at 11:02 COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

AS CONSTRUCTED		
NO REVISIONS ☐	REVISED ☐	VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	108	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG
HOLT &
ULLEVIG

McLELLAN INTERCHANGE				
RAMP 3 PROFILE STA. 329+913.505 TO STA. 330+250				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY FCI DRAWN BY SFD CHECKED BY DCB	SHEET NO. 12 OF 16 SHEETS	DRAWING NO. PP-12

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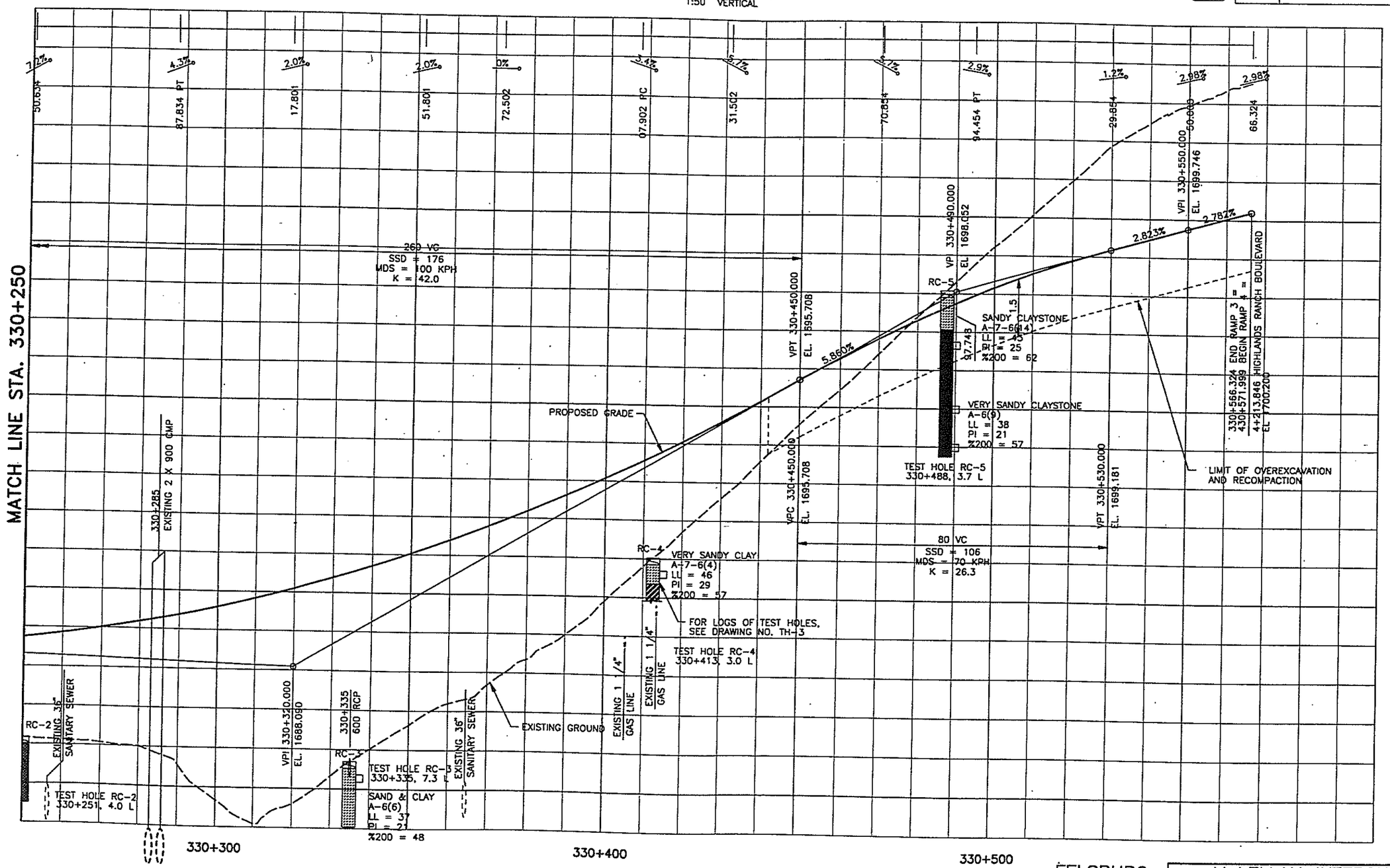
AS CONSTRUCTED		
NO REVISIONS	REVISED	VOID

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	109	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG
HOLT &
ULLEVIG

McLELLAN INTERCHANGE

RAMP 3 PROFILE
STA. 330+250 TO STA. 330+566.324

DATE	PROJECT NO.	DESIGNED BY ECT DRAWN BY SED CHECKED BY DCB	SHEET NO. 13 OF 16 SHEETS	DRAWING NO.
SEPT 96	96-004			PP-13

COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

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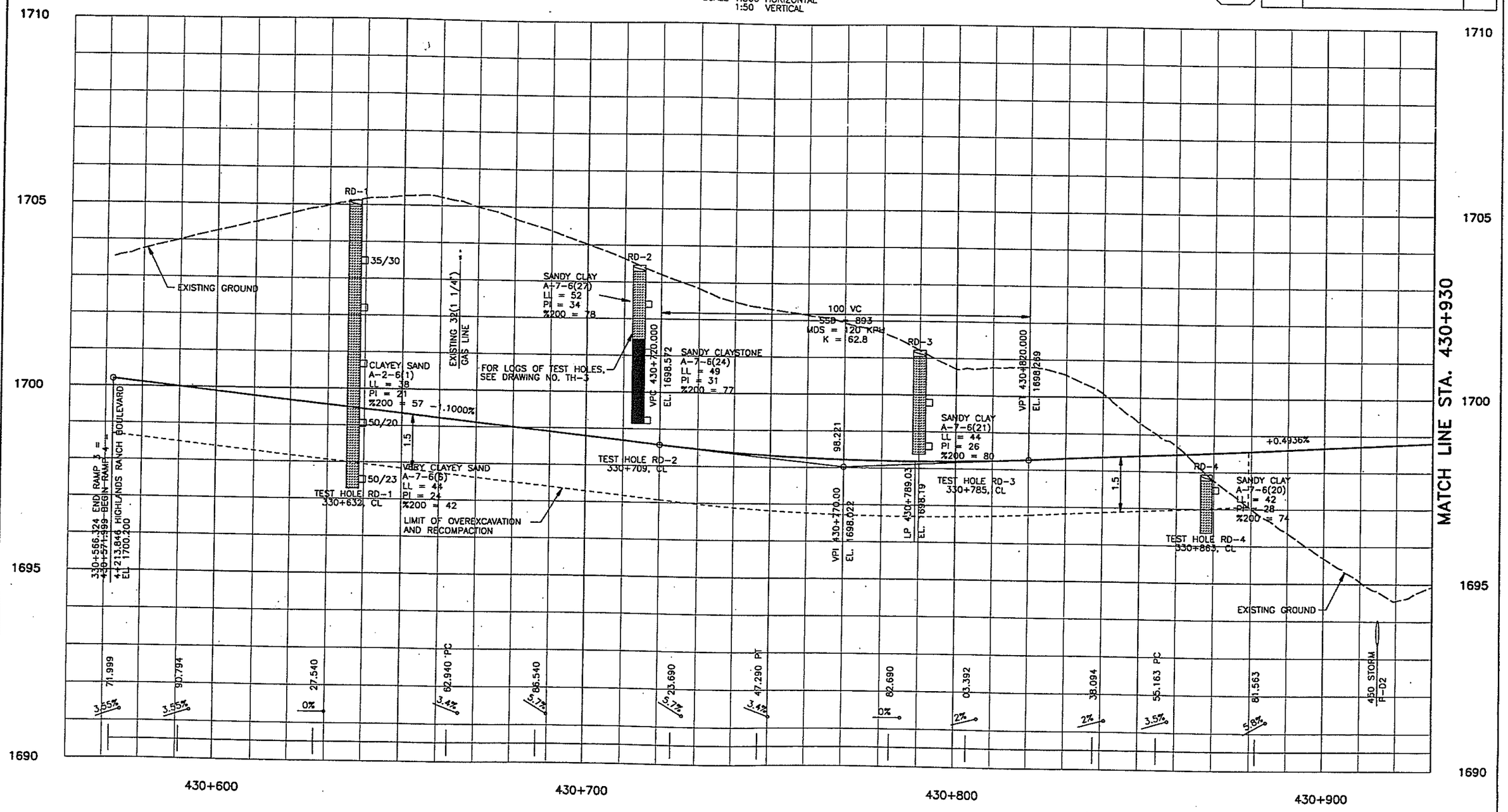
AS CONSTRUCTED			
NO REVISIONS ☐	REVISED ☐	VOID ☐	

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	110	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE				
RAMP 4 PROFILE STA. 430+571.999 TO STA. 430+930				
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECT DRAWN BY SED CHECKED BY DCB	SHEET NO. 14 OF 16 SHEETS	DRAWING NO. PP-14

COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

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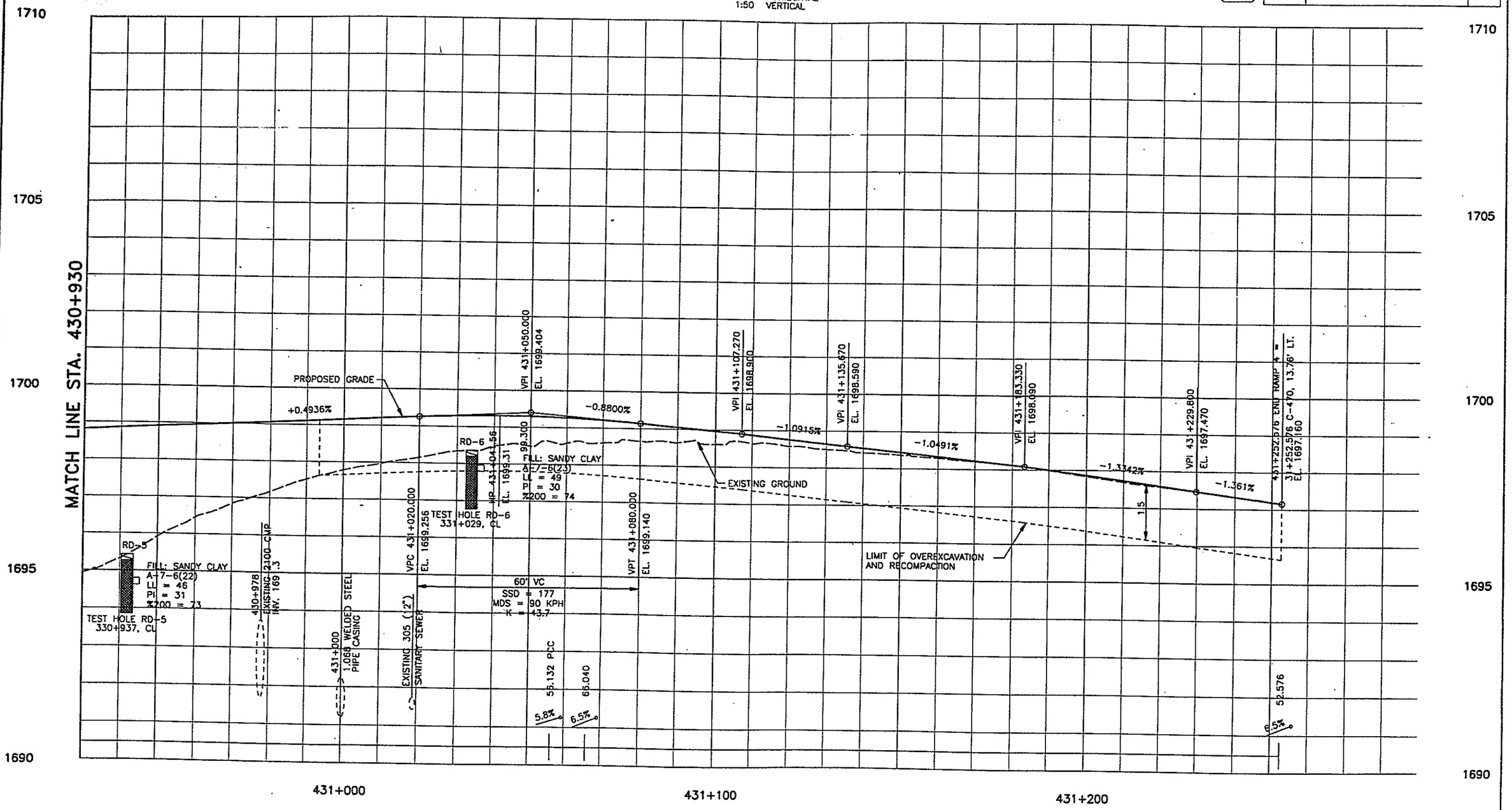
AS CONSTRUCTED		
NO REVISIONS ☐	REVISED ☐	VOID ☐

FEDERAL RD REGION NO.	DIVISION	PROJ. NO.	SHEET NO.	TOTAL SHEETS
VIII	COLORADO	CC 4701-076	111	

REVISIONS		

SCALE 1:500 HORIZONTAL
1:50 VERTICAL



NOTE: WHOLE NUMBERS INDICATE MILLIMETERS.
DECIMAL NUMBERS INDICATE METERS.

FELSBURG HOLT & ULLEVIG

McLELLAN INTERCHANGE			
RAMP 4 PROFILE STA. 430+930 TO STA. 431+252.576			
DATE SEPT 96	PROJECT NO. 96-004	DESIGNED BY ECL DRAWN BY SED CHECKED BY DCB	SHEET NO. 15 OF 15 SHEETS	DRAWING NO. PP-15

COMPUTER GENERATED DRAWING DO NOT ALTER MANUALLY

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