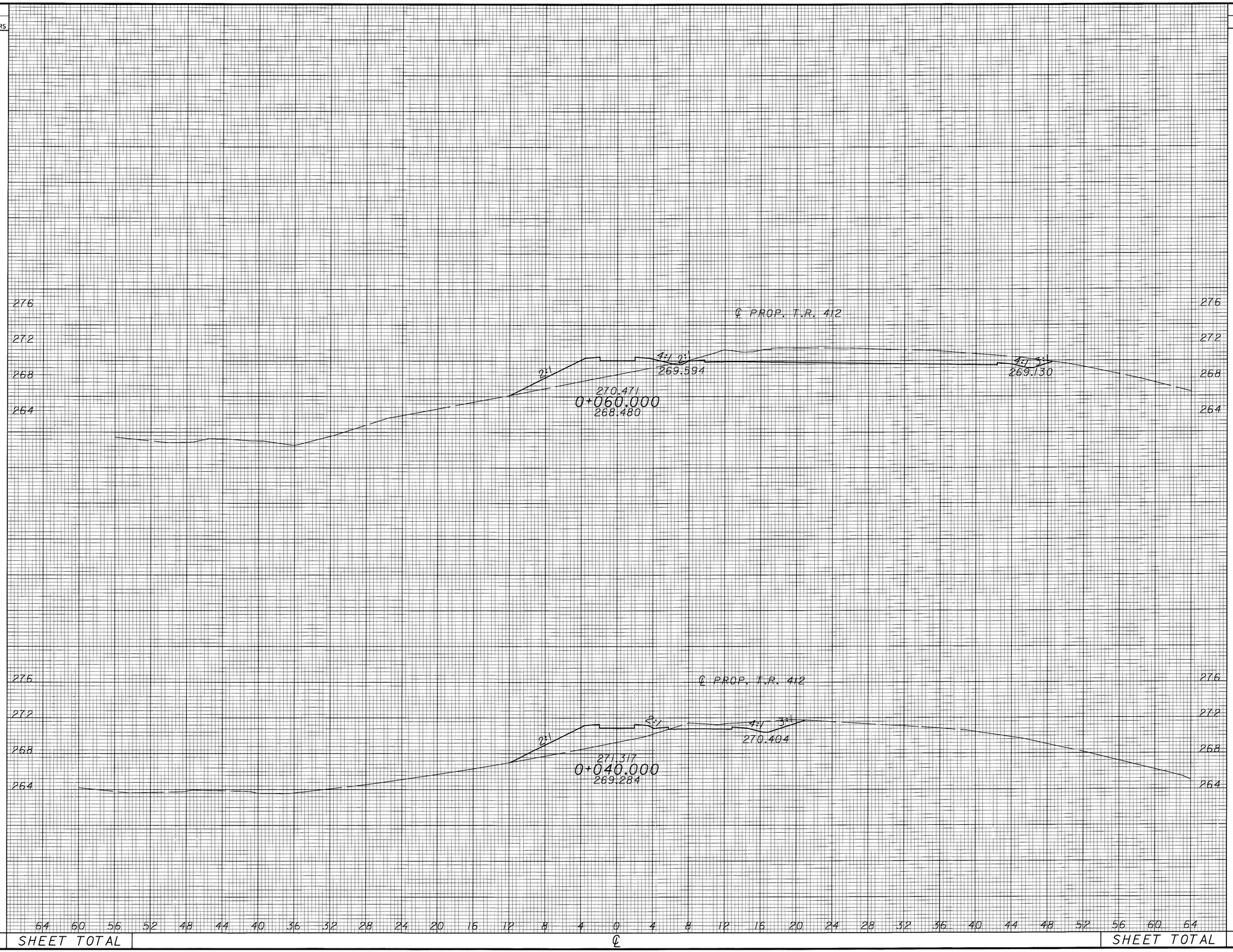
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL
		0	25		
				0	487
		0	24		
				0	352
SHEET TOTAL				0	0
				SHEET TOTAL	



CALCULATED BBD
CHECKED TDW

TEMPORARY ROAD AT TR 412
CROSS SECTIONS

ATH-33-40.981

100
949

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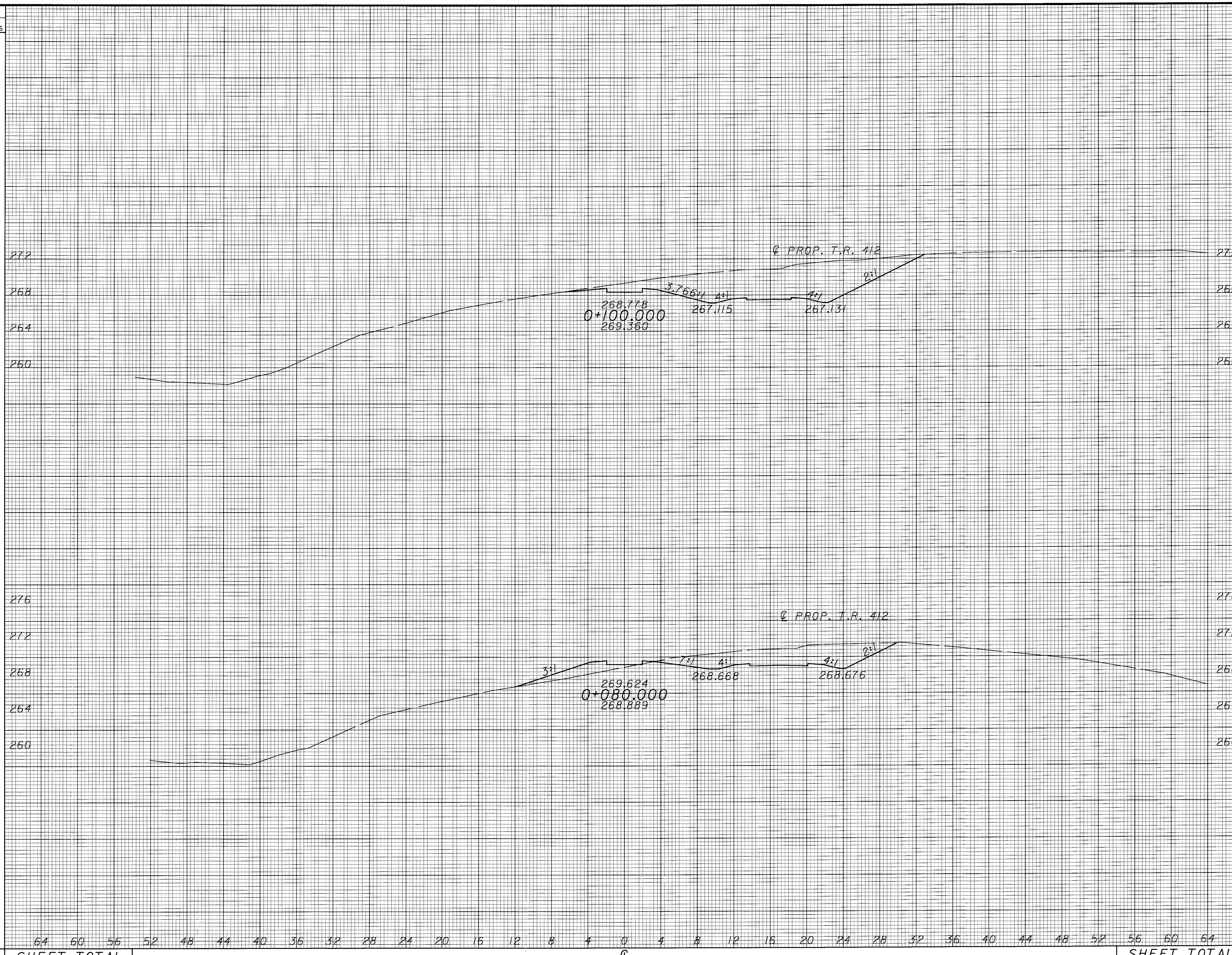
TEMPORARY ROAD AT TR 412
CROSS SECTIONS



SEEDING		END AREA		VOLUME	
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL
		20	0		
				196	91
		0	9		
				0	337
SHEET TOTAL				196	428

CALCULATED BBD CHECKED TDW

ATH-33-40.981

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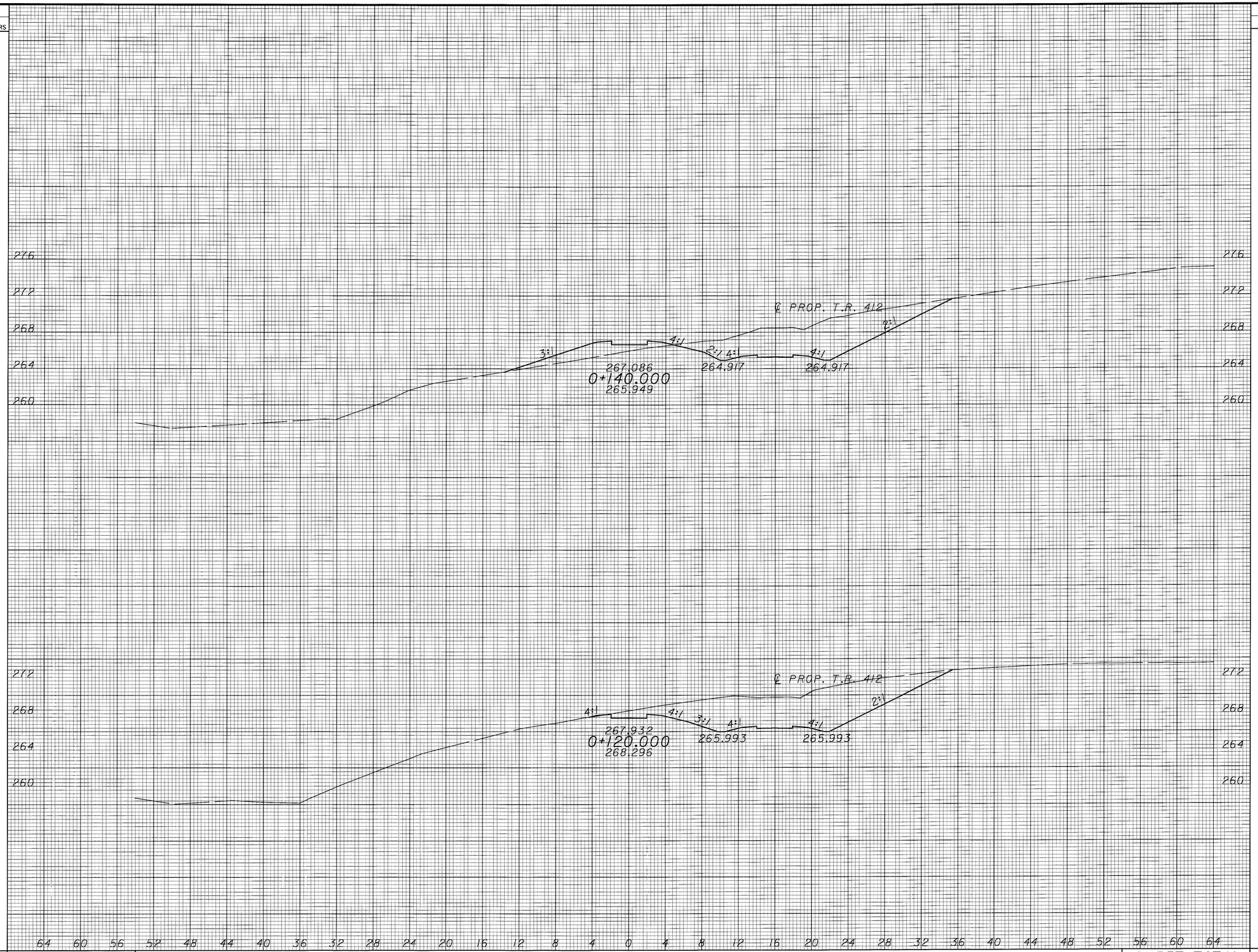
SEEDING	
END WIDTH	SQ. METERS



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	15		
		95	151
9	0		
		290	1
		385	152

SHEET TOTAL

SHEET TOTAL

CALCULATED BBD

CHECKED TDW

TEMPORARY ROAD AT TR 412
CROSS SECTIONS

ATH-33-40.981

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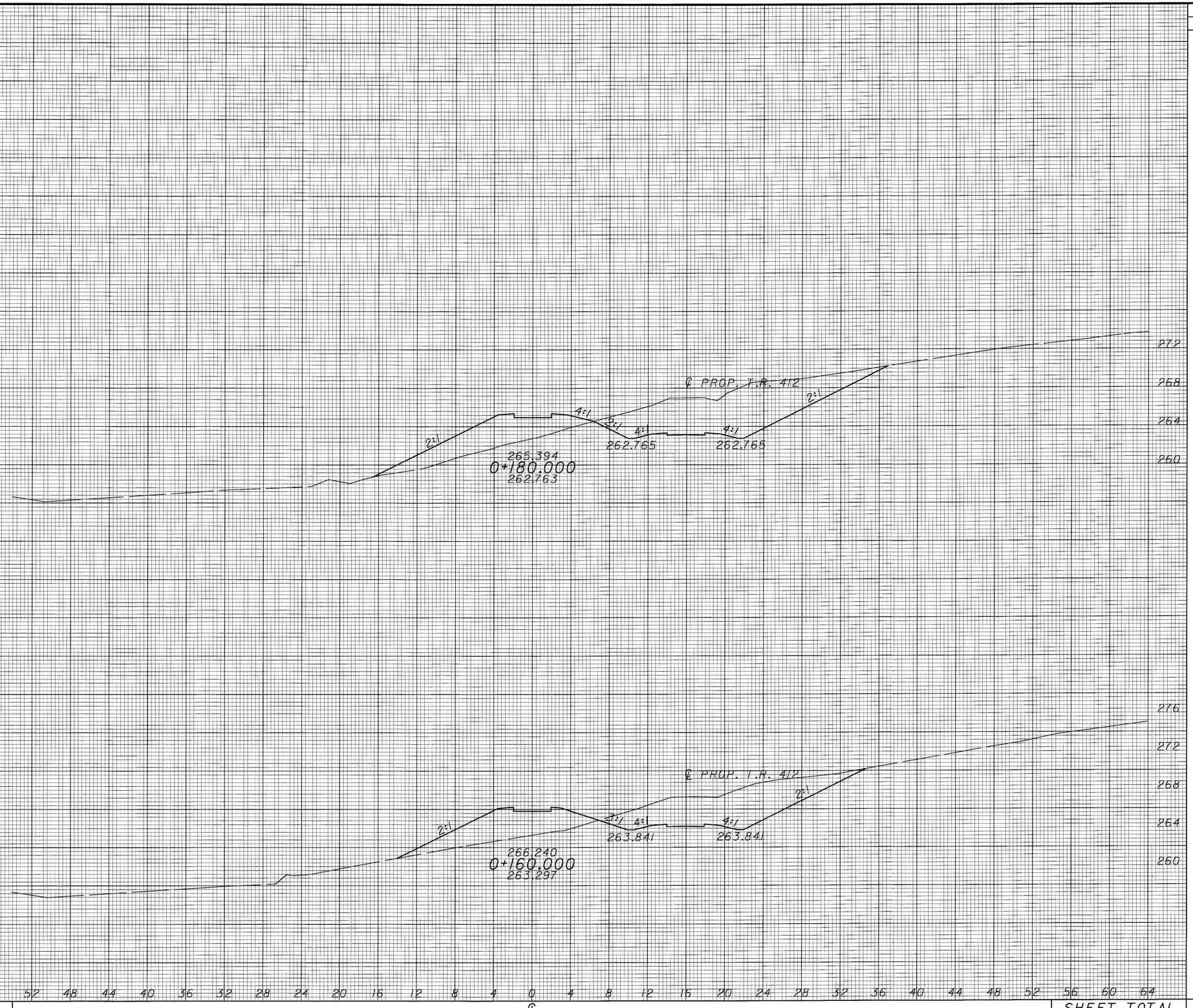
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL
		0	43	0	829
		0	40	0	553
				0	1382



CALCULATED BBD
CHECKED TDW

TEMPORARY ROAD AT TR 412
CROSS SECTIONS

ATH-33-40.981

103
949

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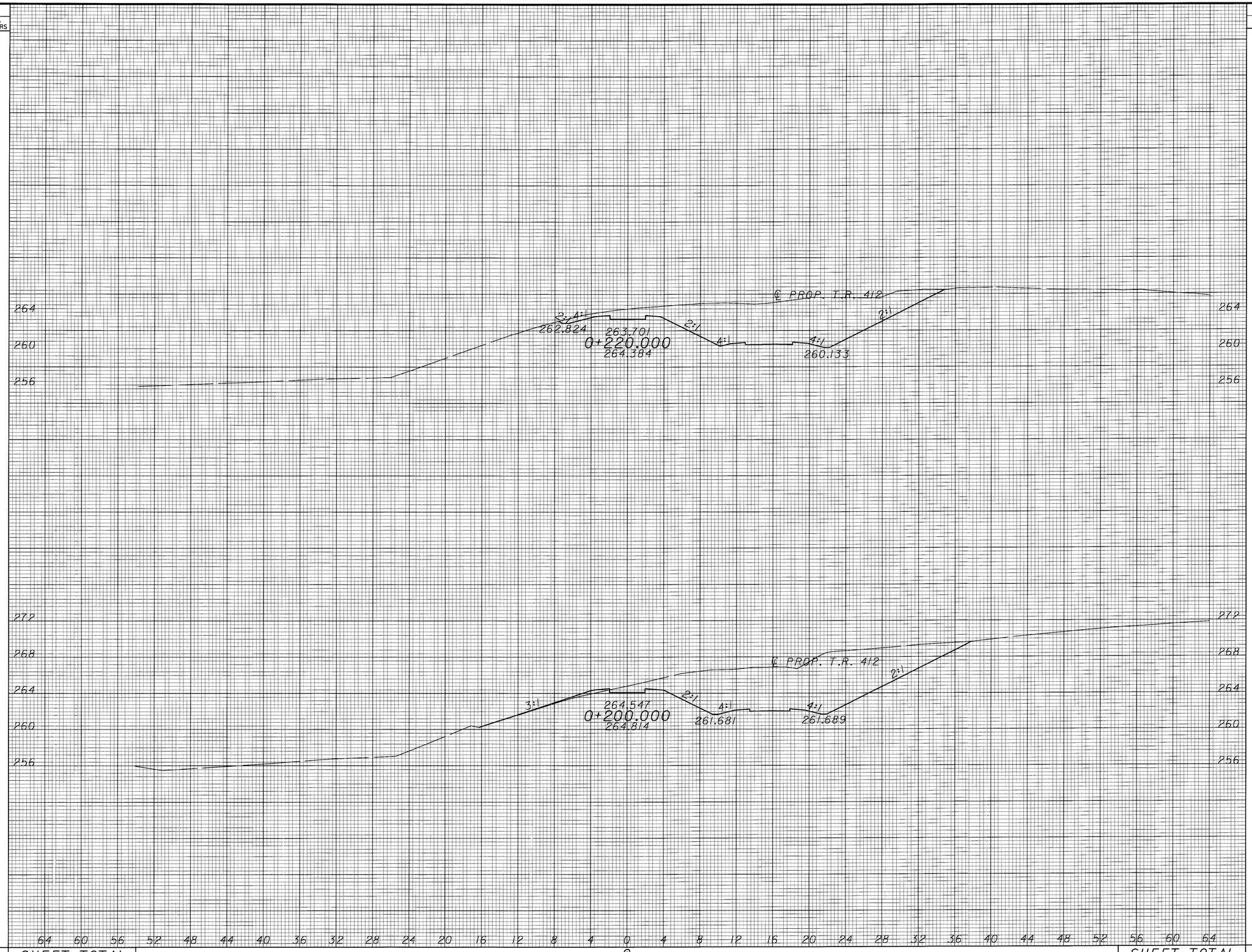
SEEDING	
END WIDTH	SQ. METERS



END AREA		VOLUME	
CUT	FILL	CUT	FILL
28	0		
		497	18
22	2		
		221	444
		718	462

CALCULATED BBD

CHECKED TDW

TEMPORARY ROAD AT TR 412
CROSS SECTIONS

ATH-33-40.981

104
949

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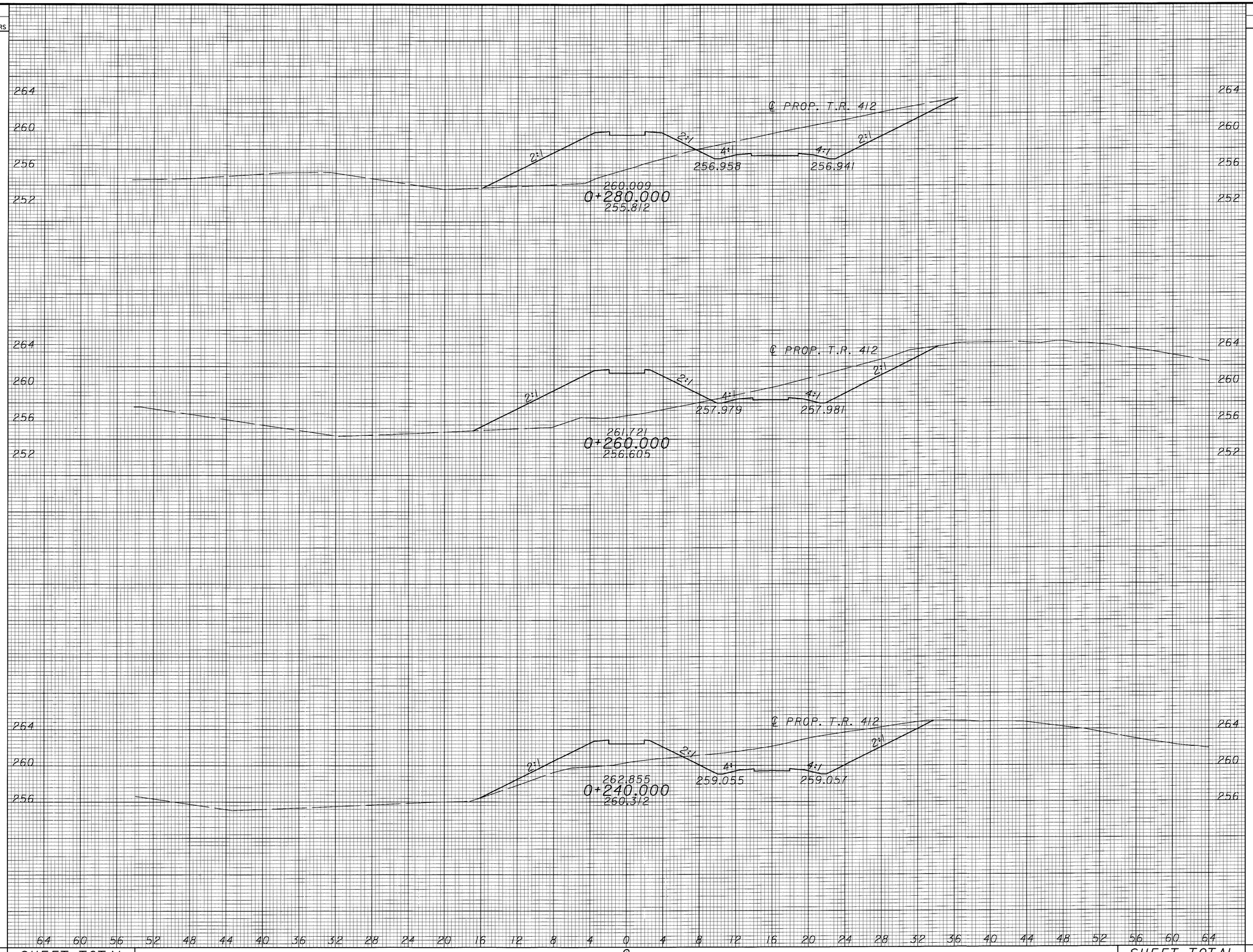
SEEDING	
END WIDTH	SQ. METERS



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	68		
		0	1513
0	83		
		0	1151
0	32		
		276	320
SHEET TOTAL		276	2984

CALCULATED BBD
CHECKED TDW

TEMPORARY ROAD AT TR 412
CROSS SECTIONS

ATH-33-40.981

105
949

02/07/2001
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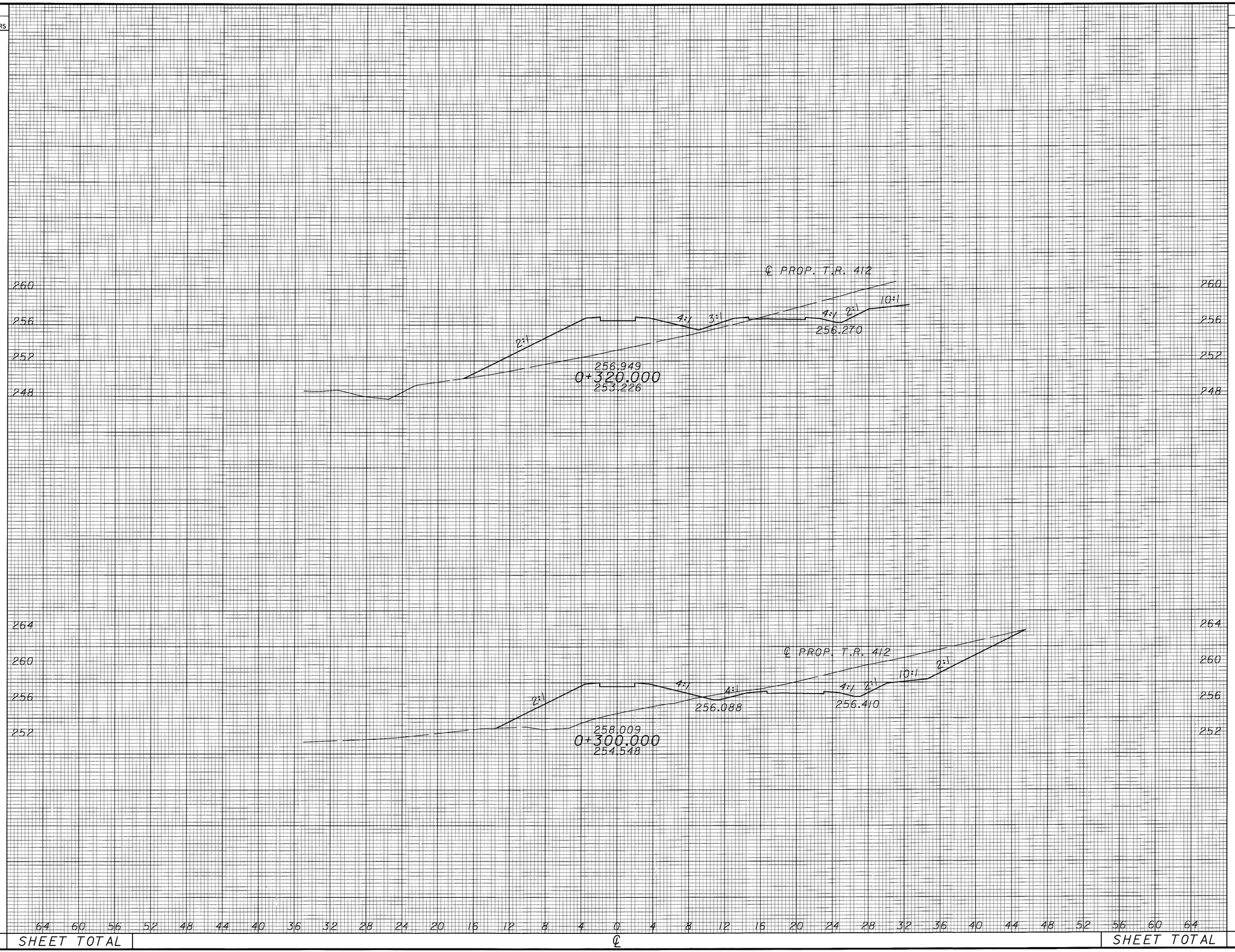
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL
		0	63		
				0	1184
		0	55		
				0	1232
SHEET TOTAL				0	2416



CALCULATED BBD

CHECKED TDW

TEMPORARY ROAD AT TR 412
CROSS SECTIONS

ATH-33-40.981

106
949

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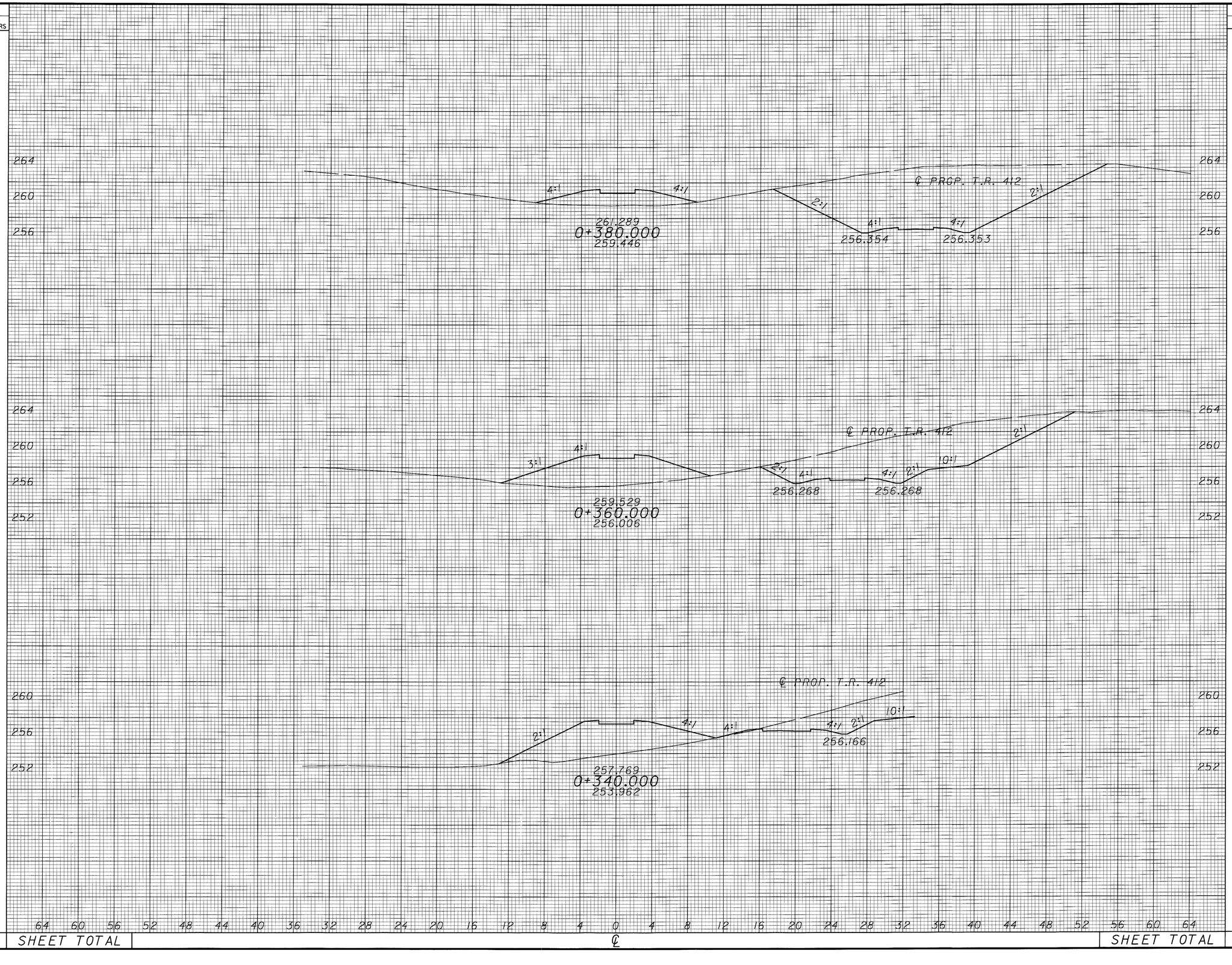
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL
		0	21		
				0	719
		0	51		
				0	1084
		0	57		
				0	1208
SHEET TOTAL				0	3011



CALCULATED 9BD

CHECKED TDW

TEMPORARY ROAD AT TR 412
CROSS SECTIONS

ATH-33-40.981

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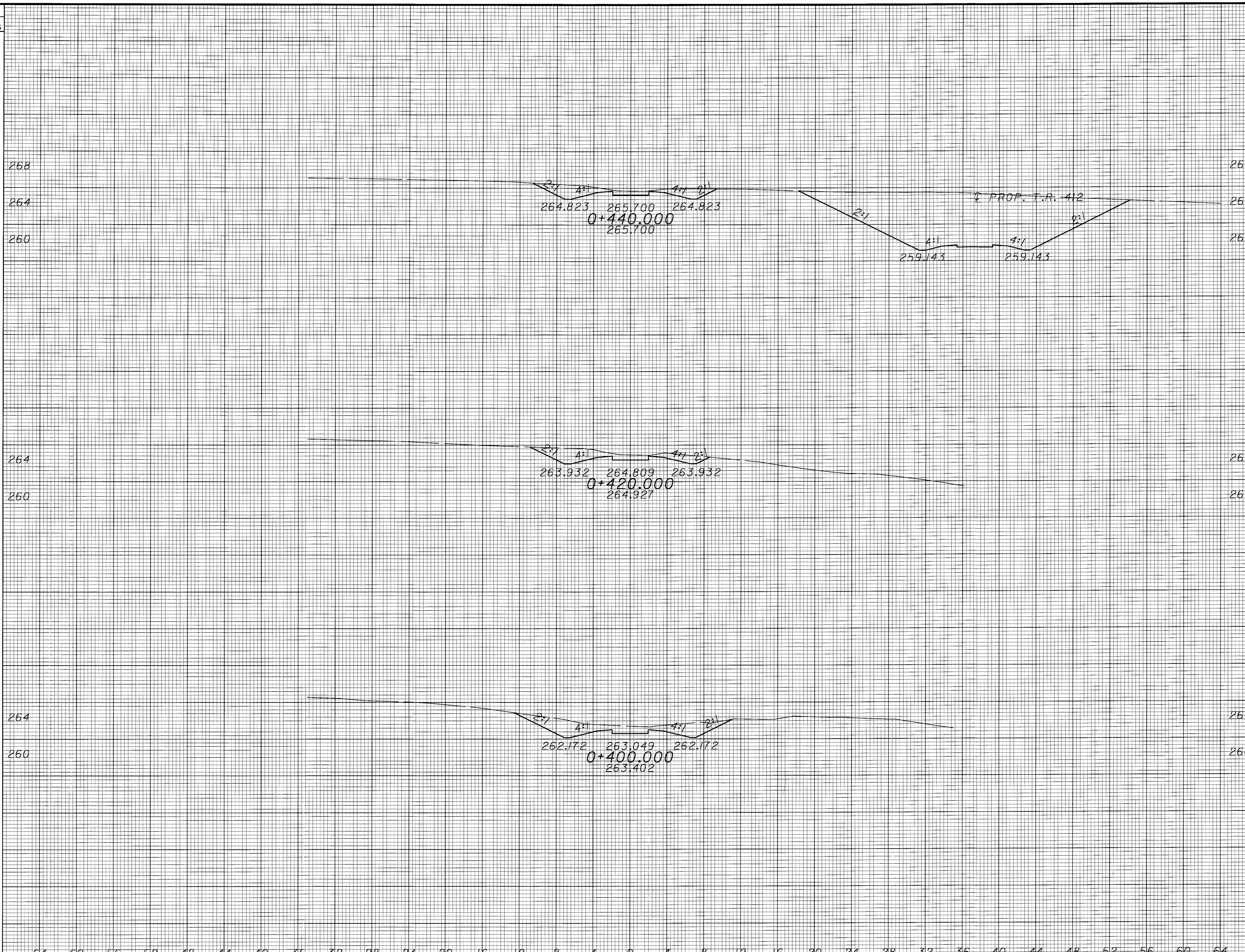
SEEDING	
END WIDTH	SQ. METERS



END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
13	0		
		280	0
15	0		
		365	0
22	0		
		217	209

SHEET TOTAL ℄ SHEET TOTAL | 862 | 209

CALCULATED BBD CHECKED TDW

TEMPORARY ROAD AT TR 412
CROSS SECTIONS

ATH-33-40.981

108/949

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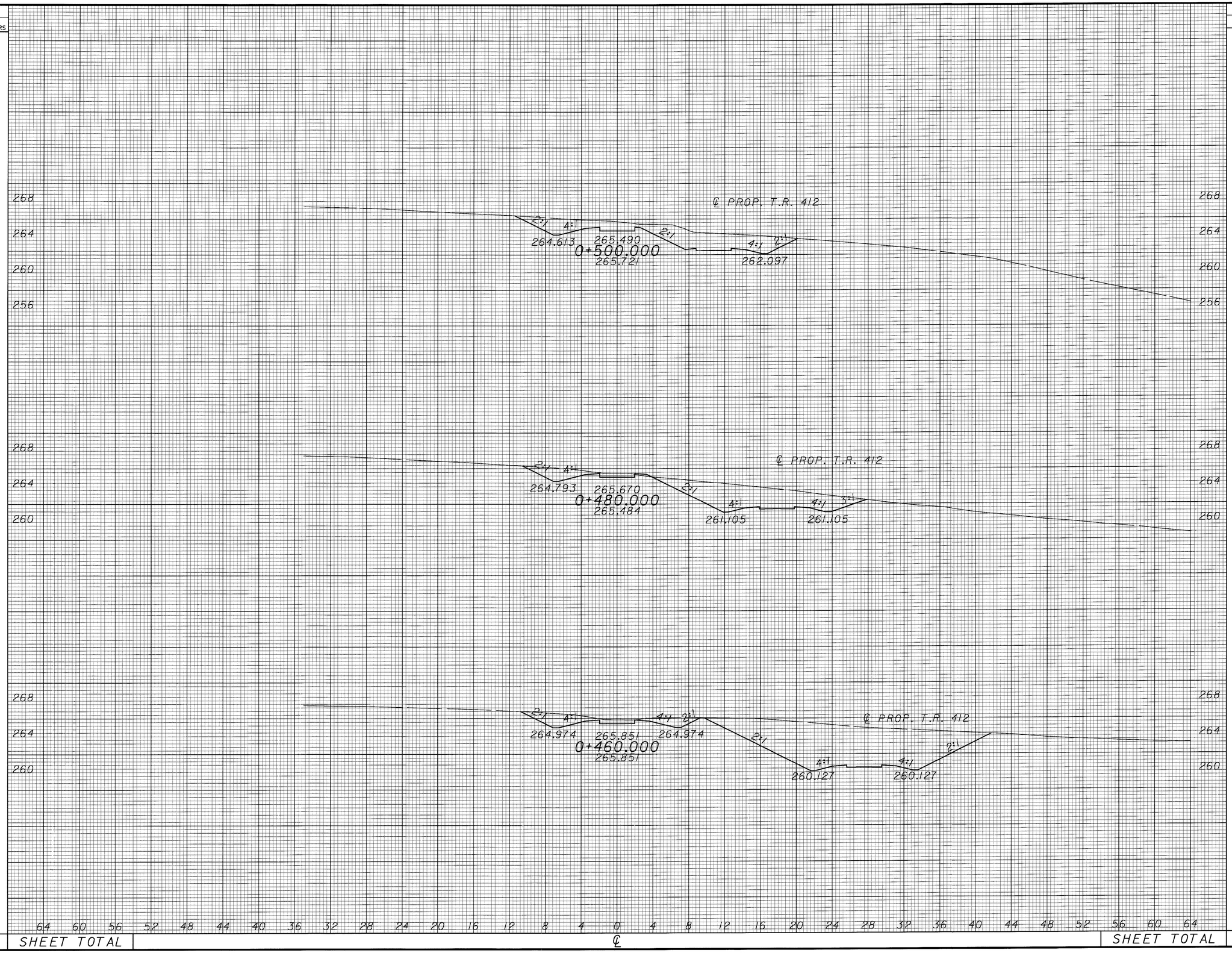
SEEDING	
END WIDTH	SQ. METERS



END AREA		VOLUME	
CUT	FILL	CUT	FILL
22	0		
		305	3
8	0		
		219	3
14	0		
		267	0
SHEET TOTAL		791	6

CALCULATED BBD

CHECKED TDW

TEMPORARY ROAD AT TR 412 CROSS SECTIONS

ATH-33-40.981

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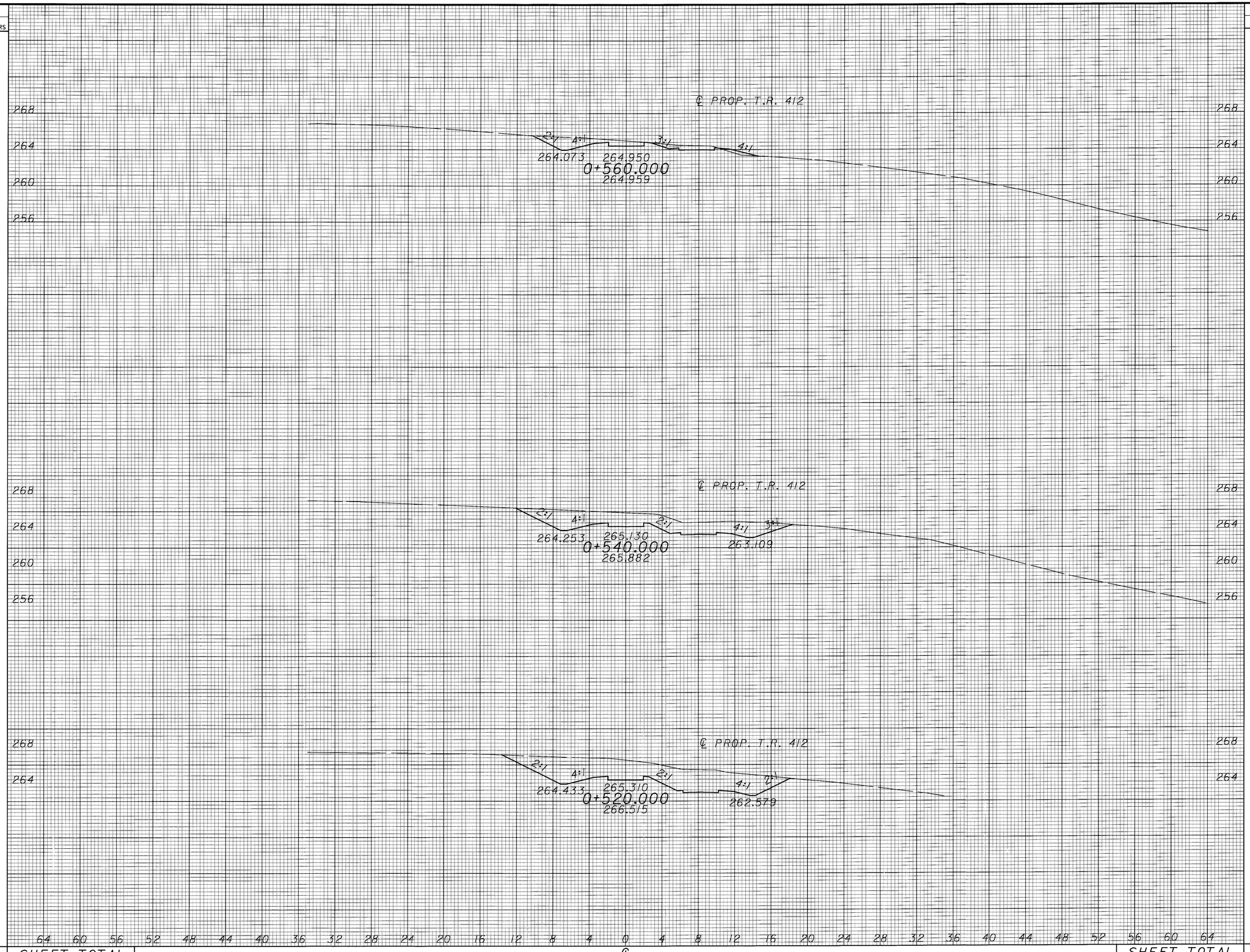
SEEDING	
END WIDTH	SQ. METERS



END AREA		VOLUME	
CUT	FILL	CUT	FILL
9	0		
		330	0
24	0		
		623	0
38	0		
		602	0
		1555	0

64 60 56 52 48 44 40 36 32 28 24 20 16 12 8 4 0 4 8 12 16 20 24 28 32 36 40 44 48 52 56 60 64

SHEET TOTAL ℄ SHEET TOTAL

CALCULATED BBD | CHECKED TDW

TEMPORARY ROAD AT TR 412
CROSS SECTIONS

ATH-33-40.981

110
949

02/07/2001
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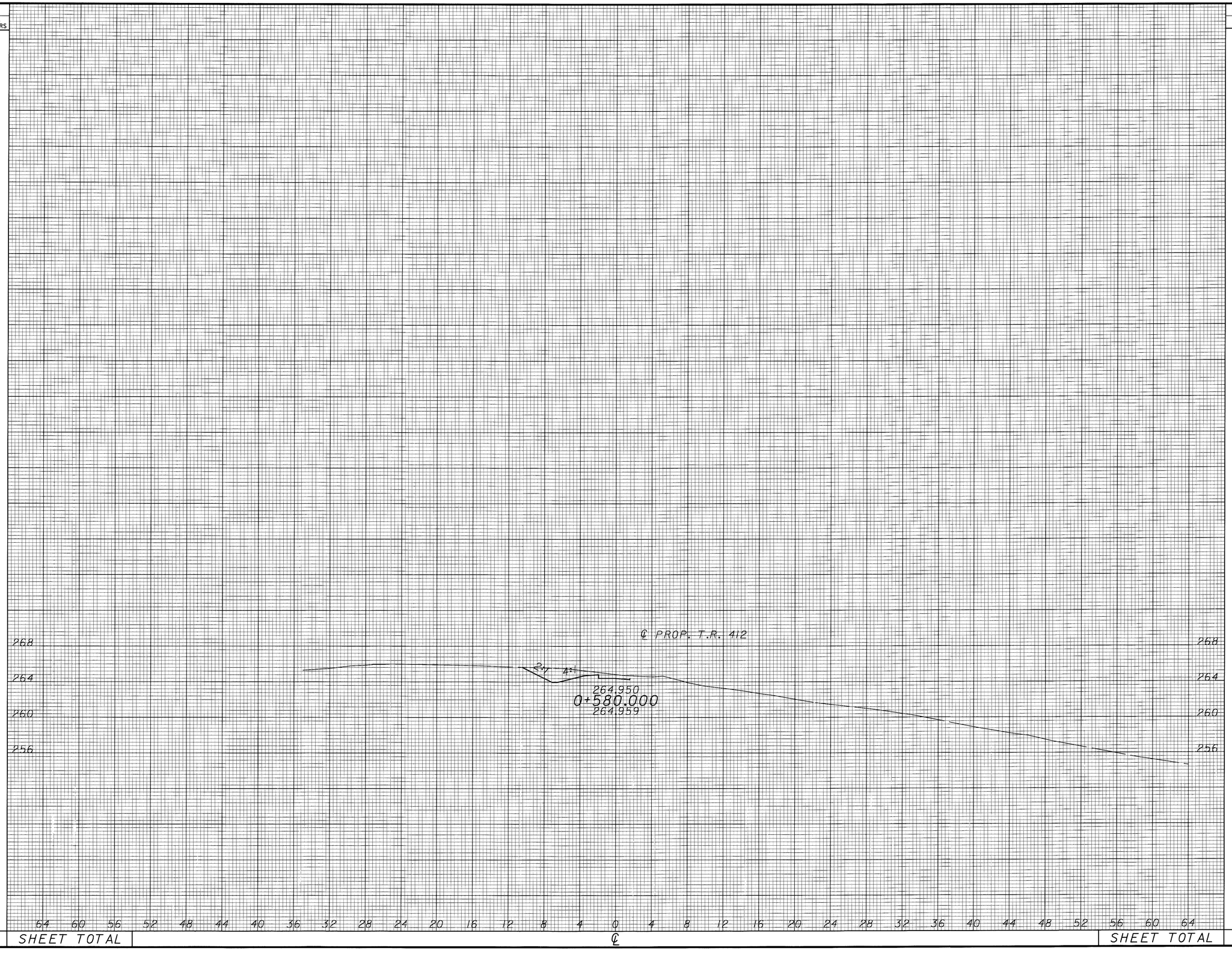
SEEDING	
END WIDTH	SQ. METERS

END AREA		VOLUME	
CUT	FILL	CUT	FILL
9	0		
		179	0
SHEET TOTAL		179	0



CALCULATED BBD

CHECKED TDW

TEMPORARY ROAD AT TR 412
CROSS SECTIONS

ATH-33-40.981

III
949

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NOTES

THE CONDITIONS OF THE NPDES CONSTRUCTION STORM WATER GENERAL PERMIT (SEE PROPOSAL) SHALL BE MET DURING ALL STAGES OF CONSTRUCTION. THE LOCATION AND TIMING OF ALL EROSION AND SEDIMENT CONTROL ITEMS SHALL BE FIELD ADJUSTED TO PREVENT SIGNIFICANT IMPACTS ON RECEIVING WATERS. IMPLEMENTATION OF THIS STORM WATER POLLUTION PREVENTION PLAN SHALL CONTINUE THROUGHOUT THE DURATION OF THE PROJECT OR UNTIL SUCH TIME THAT THE UP SLOPE DISTURBED AREAS ARE STABILIZED.

INSTALLATIONS OF SEDIMENT BASINS/DAMS, PERIMETER FILTER FABRIC FENCE, AND DITCH CHECKS SHALL BE CONCURRENT WITH CLEARING AND GRUBBING AND/OR GRADING OPERATIONS.

ALL REASONABLE ATTEMPTS SHOULD BE MADE TO MINIMIZE THE TOTAL AREA OF DISTURBED LAND.

AREAS T REMAIN DORMANT FOR MORE THAN 45 DAYS SHOULD BE IMMEDIATELY STABILIZED WITH TEMPORARY SEEDING AND MULCHING, EROSION CONTROL MATTING OR OTHER APPROPRIATE EROSION CONTROL MEASURES.

ADDITIONAL QUANTITIES OF TEMPORARY SOIL EROSION AND SEDIMENT CONTROL ITEMS ARE GIVEN IN THE GENERAL NOTES.

CONSTRUCTION OPERATIONS SHALL FOLLOW 877.

THE CONTRACTOR SHALL COMPLY WITH CMS 105.152. DEPENDING ON THE SIZE OF THE CONTRACTOR'S WORK OUTSIDE THE PROJECT LIMITS (I.E. WASTE AREA), THE CONTRACTOR MAY NEED TO OBTAIN A STORM WATER PERMIT FOR THE AREA NOT COVERED BY ODOT'S PERMIT.

INSTEAD OF ONE LARGE SEDIMENT BASIN, SEVERAL SMALLER BASINS MAY BE USED IN A SERIES. SMALLER BASINS CAN BE USED IN A STAIR STEP FASHION ON GRADES.

USE THE SEDIMENT BASIN FENCE QUANTITY IN AREAS NEAR RESIDENCES.

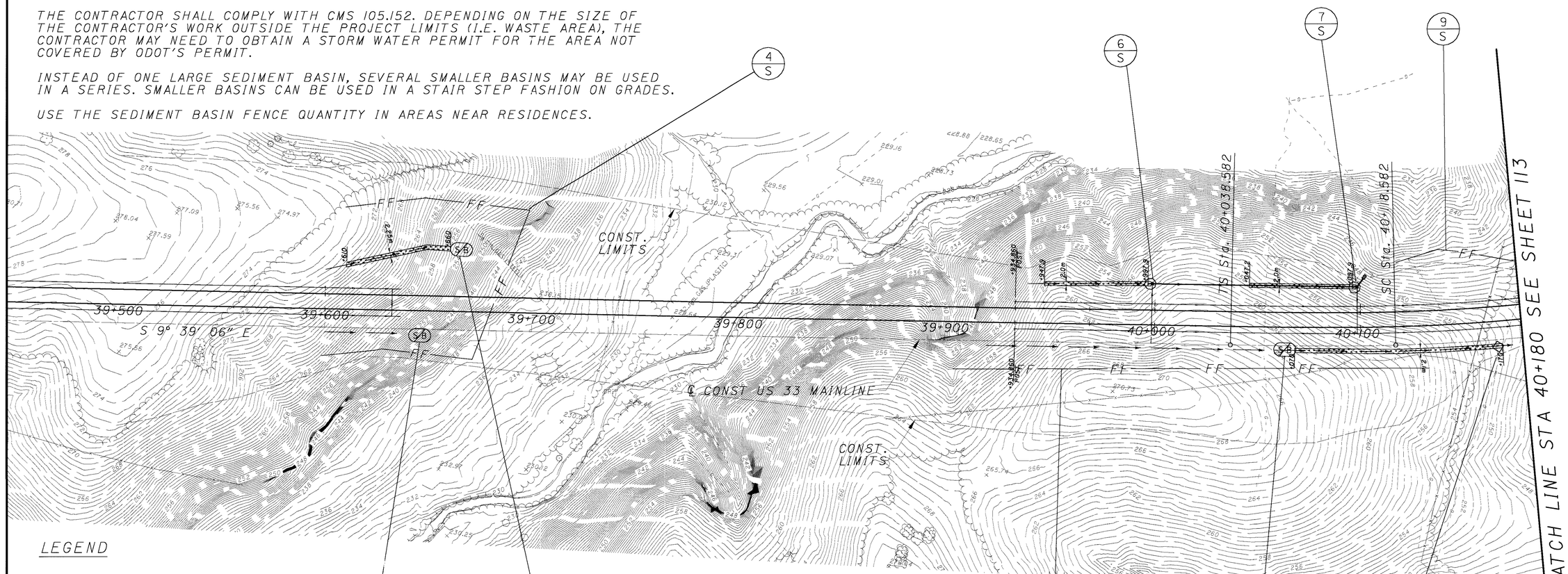
PROJECT DATA
Total Area (Right-Of-Way) --------99.7 HA
Area to Undergo Excavation, ------172.0 HA Filling or Grading
Runoff Coefficient for ----------0.3 - 0.6 Pre-Construction Site
Runoff Coefficient for ----------0.7 Post Construction Site
Soil Data ---------- SEE SOIL PROFILE SHEETS
Immediate Receiving Waters --- WEST BRANCH SHADE RIVER
Subsequent Receiving Water --------- SHADE RIVER

USGS DATA

USGS QUADRANT NO. 39082-BI-TF-024
SHADE, OHIO
LONGITUDE: 82°02'47" *
LATITUDE: 39°10'42" *
* LONGITUDE AND LATITUDE TO APPROXIMATE CENTER OF PROJECT.

PROJECT DESCRIPTION

CONSTRUCTION OF 10.291 KILOMETERS OF ROADWAY FOR THE RELOCATION OF US 33 TO AN EXISTING 4-LANE DIVIDED PORTION OF US 33, TO INCLUDE TWO AT-GRADE INTERSECTIONS, AND FOUR BRIDGES.



LEGEND

- —FF— FILTER FABRIC FENCE
- ◇ DITCH CHECK
- ⬡ CATCH BASIN (INLET FILTER)
- (S/B) SEDIMENT BASIN
- ITEM 601, ROCK CHANNEL PROTECTION
- ITEM 670, DITCH EROSION PROTECTION

ITEMS 601, 670, AND 839 ARE PERMANENT EROSION CONTROL DEVICES AND ARE PAID FOR ON THE PLAN AND PROFILE SHEETS.

OUTLET ROCK CHANNEL PROTECTION SHALL BE INSTALLED CONCURRENTLY WITH THE CULVERTS.

ITEMS 670 AND 839 SHALL BE INSTALLED AS SOON AS THE DITCHES ARE GRADED TO THEIR FINAL ELEVATION.

HORIZONTAL SCALE IN METERS
0 20 40

CALCULATED BBD
CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN STA. 39+500 TO STA. 40+180

ATH-33-40.981

112
949

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LEGEND

—FF— FILTER FABRIC FENCE

◇ DITCH CHECK

⬡ CATCH BASIN (INLET FILTER)

S/B SEDIMENT BASIN

ITEM 601, ROCK CHANNEL PROTECTION

ITEM 670, DITCH EROSION PROTECTION

18/S 17/S 22/S 13/S 1.79 HA 19/S 25/S

MATCH LINE STA 40+180 SEE SHEET 112

MATCH LINE STA 40+840 SEE SHEET 114

CONST. LIMITS

CONST. LIMITS

℄ CONST US 33 MAINLINE

S 40° 34' 07" E

40+200 40+300 40+400 40+500 40+600 40+700 40+800

12/S 16/S 21/S 14/S 1.69 HA 23/S 15/S 1.55 HA 20/S 24/S 10/S 11/S

HORIZONTAL SCALE IN METERS 0 20 40

CALCULATED BBD CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN STA. 40+180 TO STA. 40+840

ATH-33-40.981

113/949

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LEGEND

- —FF— FILTER FABRIC FENCE
- ◇ DITCH CHECK
- ○ CATCH BASIN (INLET FILTER)
- (S/B) SEDIMENT BASIN
- ITEM 601, ROCK CHANNEL PROTECTION
- ITEM 670, DITCH EROSION PROTECTION

HORIZONTAL SCALE IN METERS (0 20 40)

CALCULATED BBD

CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN STA. 40+840 TO STA. 41+540

ATH-33-40.981

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02/07/01
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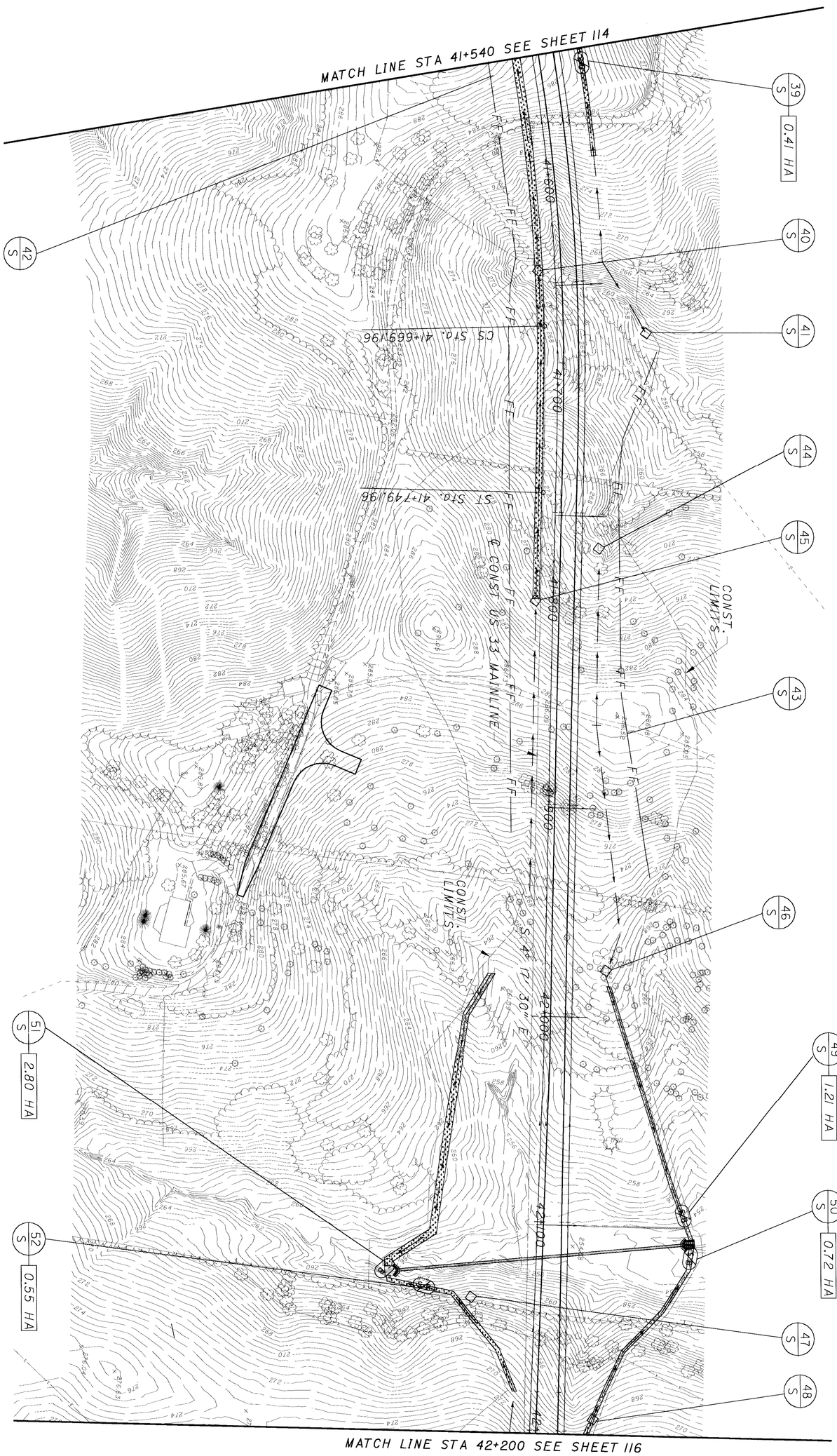

LEGEND

—FF— FILTER FABRIC FENCE

◇ DITCH CHECK

○ CATCH BASIN (INLET FILTER)

S/B SEDIMENT BASIN

ITEM 601, ROCK CHANNEL PROTECTION

ITEM 670, DITCH EROSION PROTECTION

115 / 949	ATH-33-40.981	STORM WATER POLLUTION PREVENTION PLAN STA. 41+540 TO STA. 42+200	CALCULATED BBD CHECKED TDW	0 20 40 HORIZONTAL SCALE IN METERS

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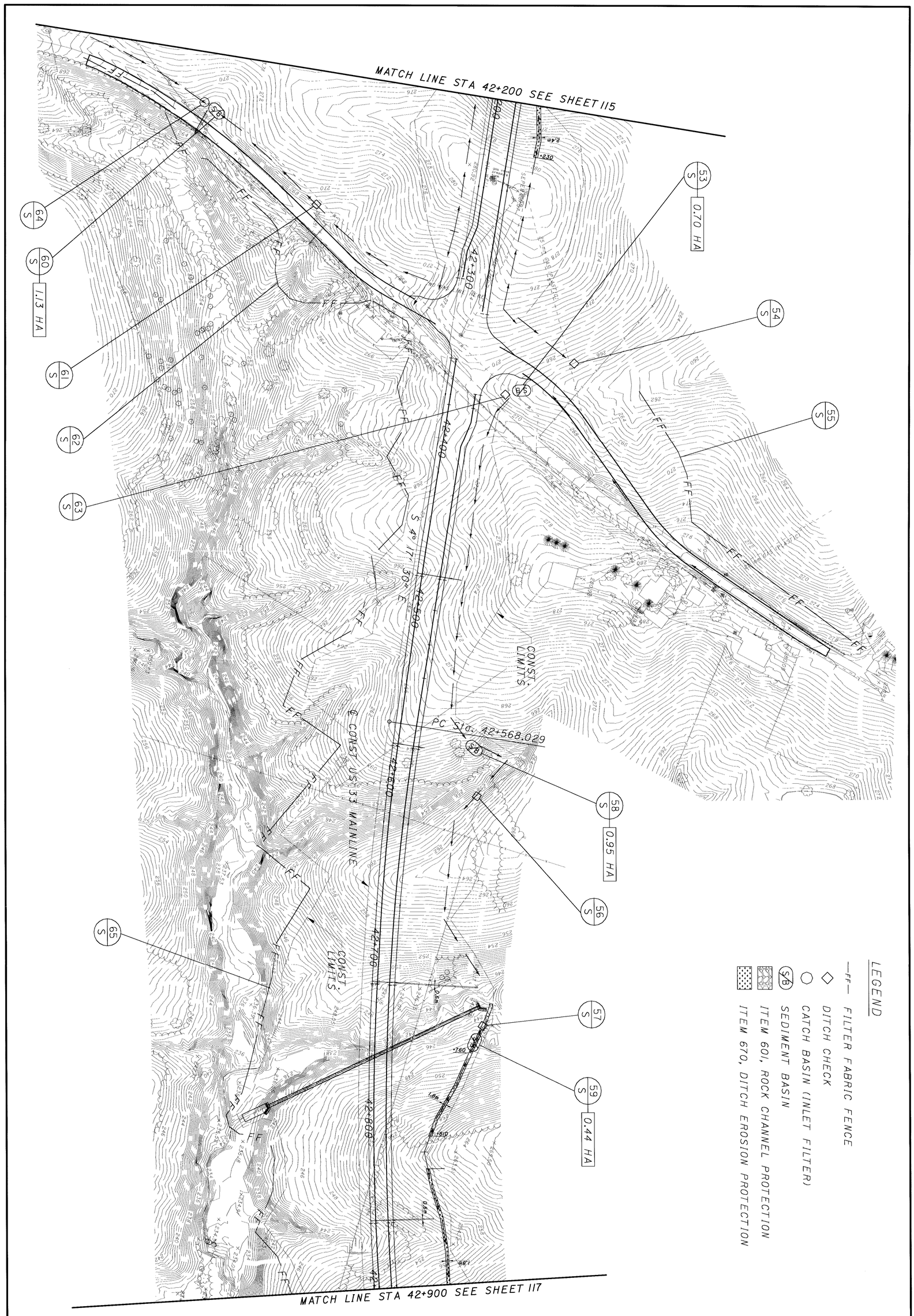

116 / 949	ATH-33-40.981	STORM WATER POLLUTION PREVENTION PLAN STA. 42+200 TO STA. 42+900	CALCULATED BBD CHECKED TDW	0 20 40 HORIZONTAL SCALE IN METERS	N

LEGEND

—FF— FILTER FABRIC FENCE

◇ DITCH CHECK

○ CATCH BASIN (INLET FILTER)

S/B SEDIMENT BASIN

ITEM 601, ROCK CHANNEL PROTECTION

ITEM 670, DITCH EROSION PROTECTION

HORIZONTAL SCALE IN METERS

0 20 40

CALCULATED BBD

CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN STA. 42+900 TO STA. 43+580

ATH-33-40.981

117
949

MATCH LINE STA 42+900 SEE SHEET 116

MATCH LINE STA 43+580 SEE SHEET 118

PT Sta. 43+058.644

℄ CONST US 33 MAINLINE

S 23° 01' 54" E

CONST. LIMITS

POND

66 S — 1.70 HA

69 S

70 S

72 S

81 S

73 S

82 S

80 S — 0.78 HA

68 S

71 S

74 S — 0.48 HA

75 S

67 S

83 S

78 S

79 S — 0.62 HA

76 S

77 S

42+900 43+000 43+100 43+200 43+300 43+400 43+500

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LEGEND

- —FF— FILTER FABRIC FENCE
- ◇ DITCH CHECK
- ⬡ CATCH BASIN (INLET FILTER)
- (S/B) SEDIMENT BASIN
- ITEM 601, ROCK CHANNEL PROTECTION
- ITEM 670, DITCH EROSION PROTECTION

93/S — 1.94 HA

95/S — 1.40 HA

96/S — 1.52 HA

94/S — 2.04 HA

84/S, 85/S, 86/S, 87/S, 88/S, 89/S, 90/S, 91/S, 92/S

CONST. LIMITS

℄ CONST US 33 MAINLINE

43+600 43+700 43+800 43+900 44+000 44+100 44+200

MATCH LINE STA 43+580 SEE SHEET 117

MATCH LINE STA 44+260 SEE SHEET 119

STORM WATER POLLUTION PREVENTION PLAN
STA. 43+580 TO STA. 44+260

HORIZONTAL SCALE IN METERS 0 20 40

CALCULATED BBD

CHECKED TDW

ATH-33-40.981

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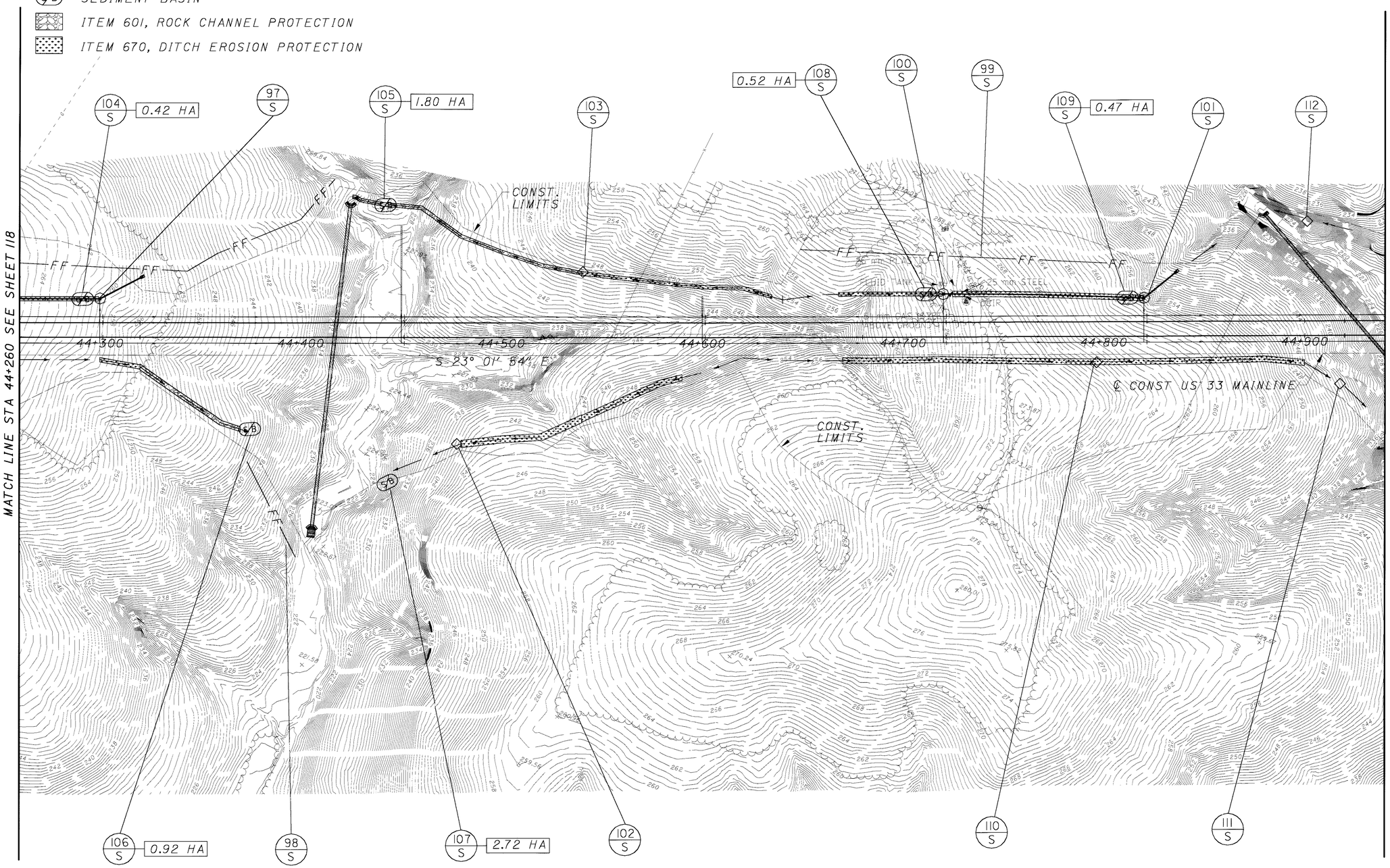
LEGEND

- —FF— FILTER FABRIC FENCE
- ◇ DITCH CHECK
- ⬡ CATCH BASIN (INLET FILTER)
- (S/B) SEDIMENT BASIN
- ITEM 601, ROCK CHANNEL PROTECTION
- ITEM 670, DITCH EROSION PROTECTION



HORIZONTAL SCALE IN METERS
0 20 40

CALCULATED BBD
CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN
STA. 44+260 TO STA. 44+940

ATH-33-40.981

119
949

02/07/01
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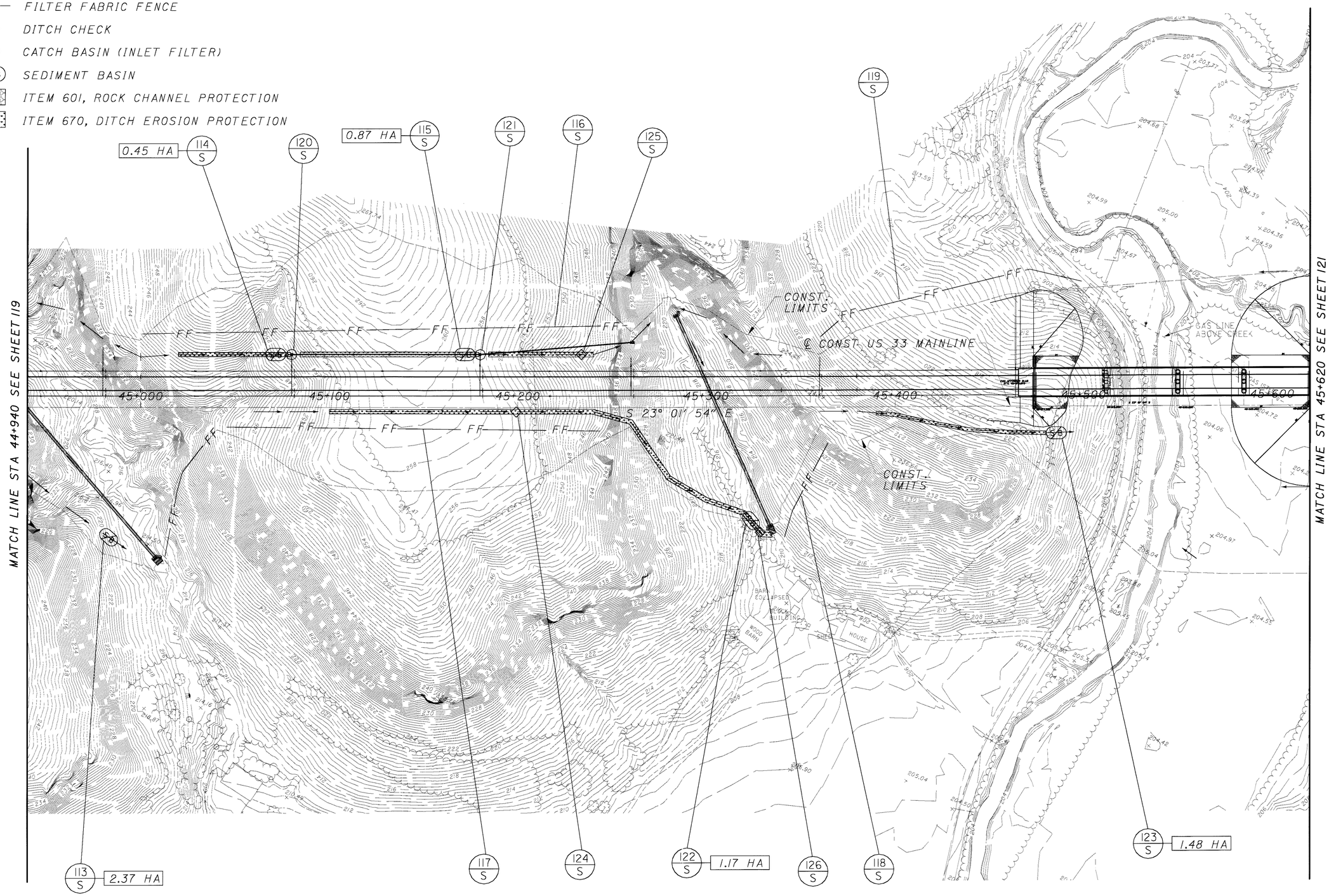
LEGEND

- —FF— FILTER FABRIC FENCE
- ◇ DITCH CHECK
- ⬡ CATCH BASIN (INLET FILTER)
- (S/B) SEDIMENT BASIN
- ITEM 601, ROCK CHANNEL PROTECTION
- ITEM 670, DITCH EROSION PROTECTION



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HORIZONTAL SCALE IN METERS
0 20 40

CALCULATED BBD
CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN
STA. 44+940 TO STA. 45+620

ATH-33-40.981

120
949

LEGEND

—FF— FILTER FABRIC FENCE

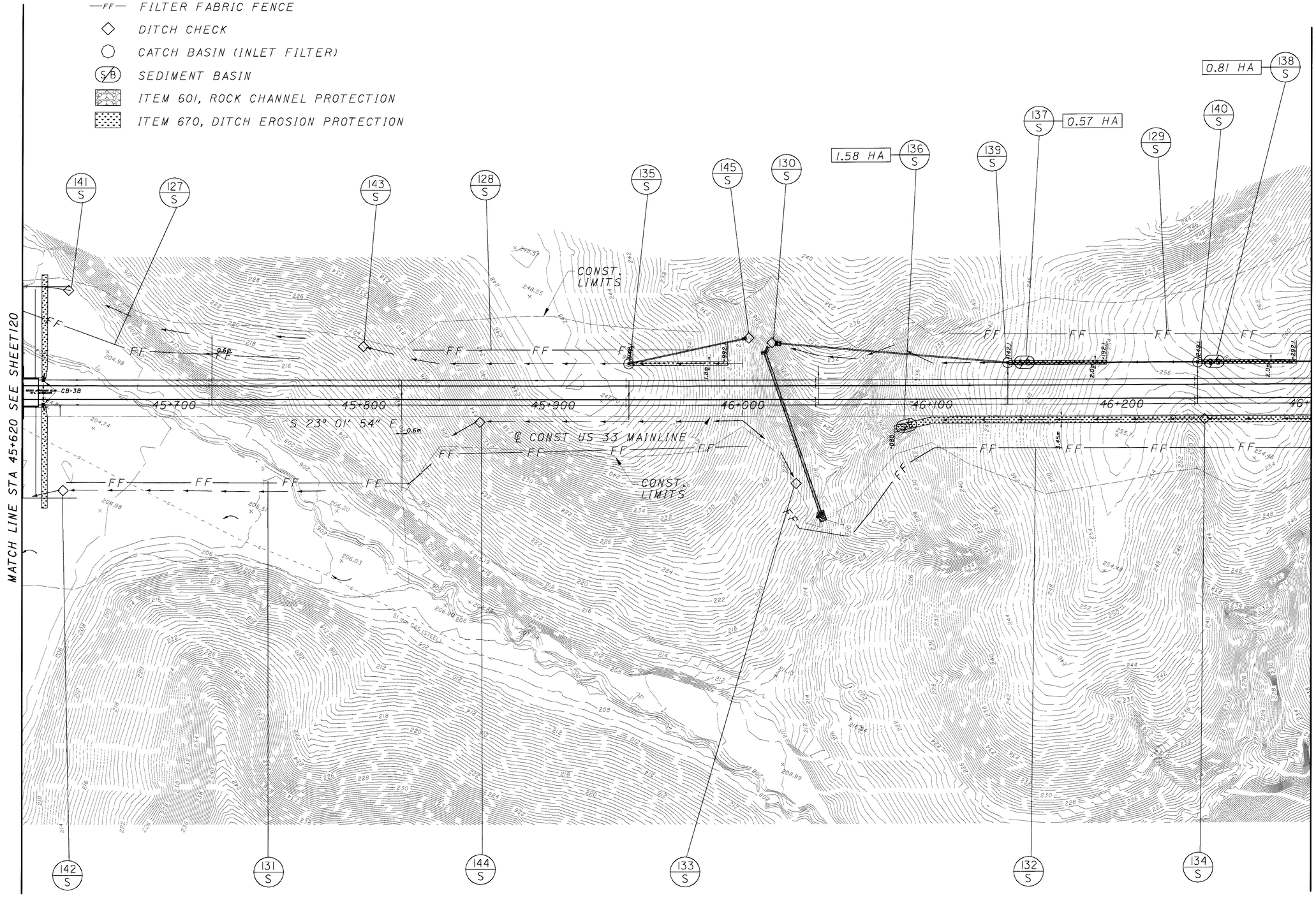
◇ DITCH CHECK

⬡ CATCH BASIN (INLET FILTER)

S/B SEDIMENT BASIN

ITEM 601, ROCK CHANNEL PROTECTION

ITEM 670, DITCH EROSION PROTECTION



HORIZONTAL SCALE IN METERS

0 20 20

CALCULATED RBD

CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN
STA. 43+620 TO STA. 46+300

ATH-33-40.981

121
949

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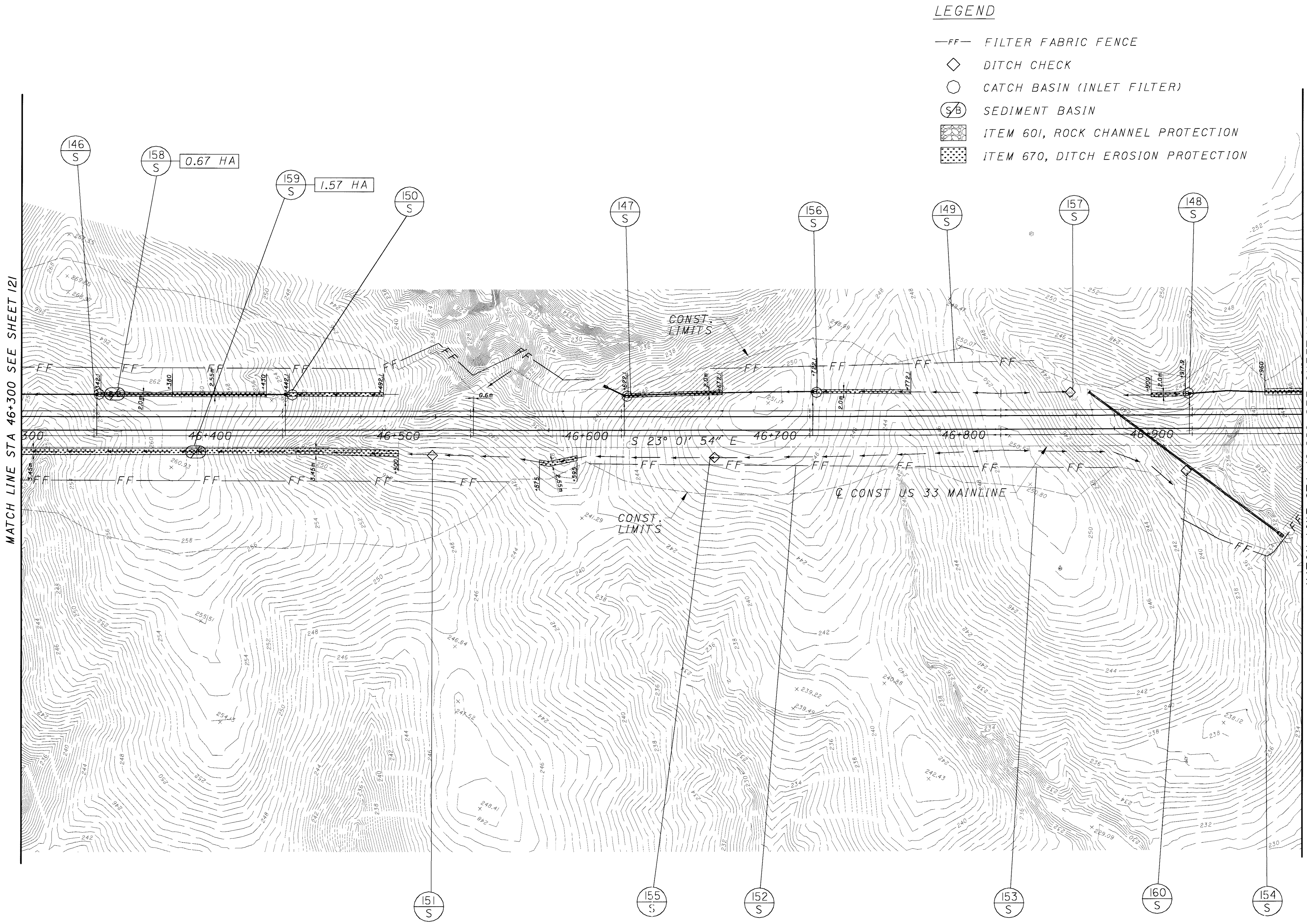
LEGEND
FF FILTER FABRIC FENCE
DITCH CHECK
CATCH BASIN (INLET FILTER)
SB SEDIMENT BASIN
ITEM 601, ROCK CHANNEL PROTECTION
ITEM 670, DITCH EROSION PROTECTION
MATCH LINE STA 46+300 SEE SHEET 121
MATCH LINE STA 46+980 SEE SHEET 123
0.67 HA
1.57 HA
CONST. LIMITS
S 23° 01' 54" E
46+400
46+500
46+600
46+700
46+800
46+900
℄ CONST US 33 MAINLINE
146 S
158 S
159 S
150 S
147 S
156 S
149 S
157 S
148 S
151 S
155 S
152 S
153 S
160 S
154 S

HORIZONTAL SCALE IN METERS

0 20 40

CALCULATED BBD

CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN

STA. 46+300 TO STA. 46+980

ATH-33-40.981

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LEGEND

—FF— FILTER FABRIC FENCE

◇ DITCH CHECK

⬡ CATCH BASIN (INLET FILTER)

S/B SEDIMENT BASIN

ITEM 601, ROCK CHANNEL PROTECTION

ITEM 670, DITCH EROSION PROTECTION

169 S — 1.91 HA

166 S

173 S

167 S

163 S

170 S — 0.71 HA

168 S

172 S

176 S

165 S

161 S

174 S

162 S

175 S

171 S — 0.93 HA

164 S

MATCH LINE STA 46+980 SEE SHEET 122

MATCH LINE STA 46+660 SEE SHEET 124

℄ CONST US 33 MAINLINE

℄ STA. 47+299.691

S 23° 01' 54" E

CONST. LIMITS

CONST. LIMITS

47+000 47+100 47+200 47+300 47+400 47+500 47+600

FF

S/B

0 20 40

HORIZONTAL SCALE IN METERS

CALCULATED BBD

CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN STA. 46+980 TO STA. 46+660

ATH-33-40.981

123
949

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LEGEND

—FF— FILTER FABRIC FENCE

◇ DITCH CHECK

⬡ CATCH BASIN (INLET FILTER)

(S/B) SEDIMENT BASIN

ITEM 601, ROCK CHANNEL PROTECTION

ITEM 670, DITCH EROSION PROTECTION

MATCH LINE STA 46+660 SEE SHEET123

MATCH LINE STA 48+360 SEE SHEET125

177 S

188 S 0.57 HA

180 S

182 S

189 S 1.20 HA

181 S

185 S

186 S

183 S

1.05 HA 191 S

FF STA. 47+835.701

47+700

47+800

47+900

48+000

48+100

48+200

48+300

S. 36° 40' 52" E

℄ CONST US 33 MAINLINE

CONST. LIMITS

CONST. LIMITS

178 S

179 S

187 S

1.05 HA 190 S

184 S

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HORIZONTAL SCALE IN METERS
0 20 40

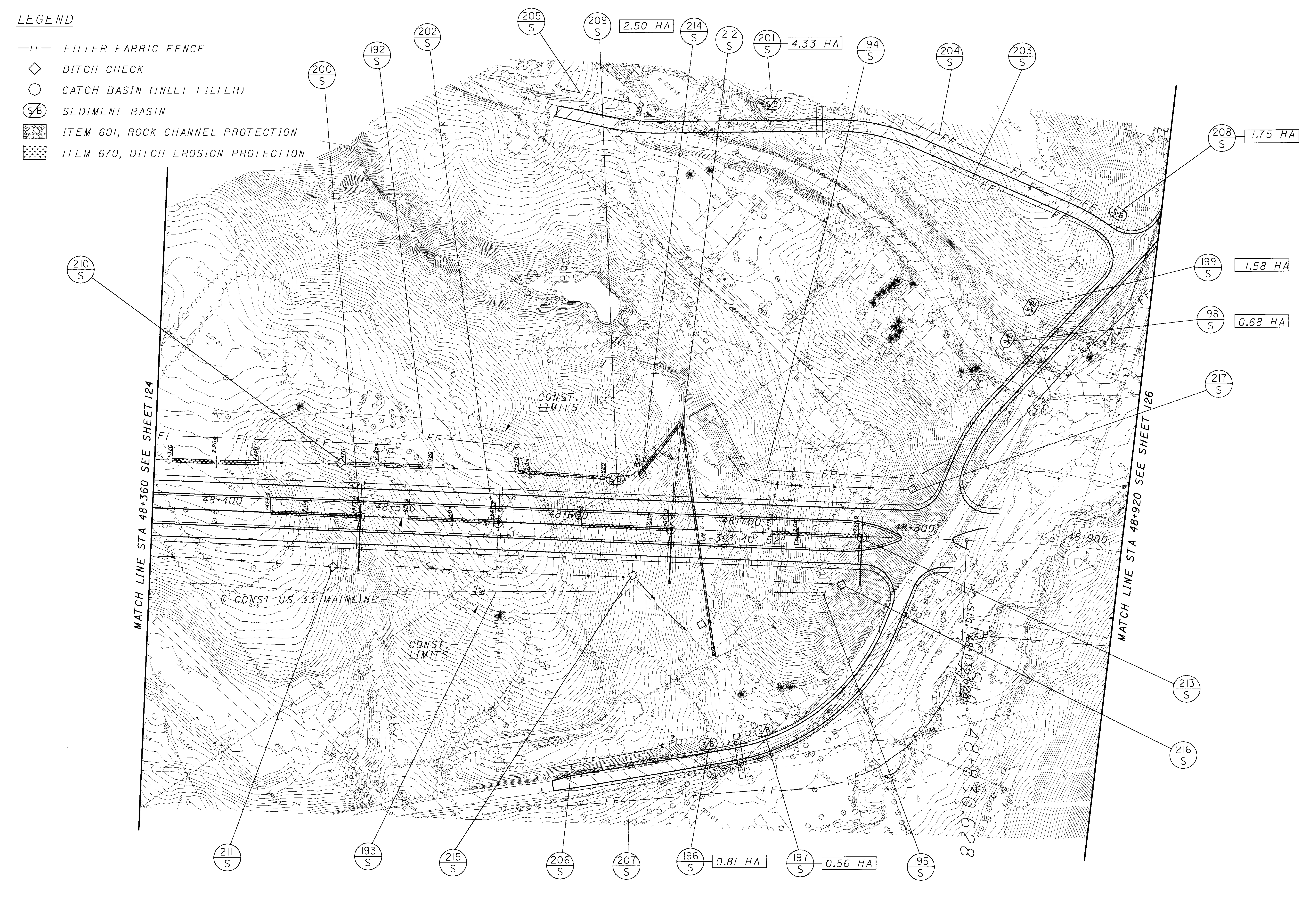
CALCULATED BBD
CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN
STA. 46+660 TO STA. 48+360

ATH-33-40.981

124
949

STORM WATER POLLUTION PREVENTION PLAN
STA. 48+360 TO STA. 48+920



LEGEND
FF FILTER FABRIC FENCE
DITCH CHECK
CATCH BASIN (INLET FILTER)
S/B SEDIMENT BASIN
ITEM 601, ROCK CHANNEL PROTECTION
ITEM 670, DITCH EROSION PROTECTION
MATCH LINE STA 48+360 SEE SHEET 124
MATCH LINE STA 48+920 SEE SHEET 126
℄ CONST US 33 MAINLINE
CONST. LIMITS
CONST. LIMITS
48+400
48+500
48+600
48+700
48+800
48+900
S 36° 40' 52" E
P.C. Sta. 48+830.628
205/S
209/S 2.50 HA
214/S
212/S
201/S 4.33 HA
194/S
204/S
203/S
202/S
192/S
200/S
208/S 1.75 HA
199/S 1.58 HA
198/S 0.68 HA
217/S
210/S
213/S
216/S
211/S
193/S
215/S
206/S
207/S
196/S 0.81 HA
197/S 0.56 HA
195/S

HORIZONTAL SCALE IN METERS 0 20 40

CALCULATED BBD CHECKED TDW

ATH-33-40.981

LEGEND

- —FF— FILTER FABRIC FENCE
- ◇ DITCH CHECK
- ⬡ CATCH BASIN (INLET FILTER)
- (SB) SEDIMENT BASIN
- ITEM 601, ROCK CHANNEL PROTECTION
- ITEM 670, DITCH EROSION PROTECTION

233 S — 2.30 HA

234 S

223 S

218 S

228 S

219 S

220 S

229 S

232 S

221 S

231 S

MATCH LINE STA 48+920 SEE SHEET125

MATCH LINE STA 49+420 SEE SHEET 127

CONST. LIMITS

℄ CONST US 33 MAINLINE

49+000

49+100

49+200

49+300

49+400

222 S

227 S

224 S — 1.67 HA

225 S — 3.87 HA

230 S

226 S — 0.504 HA

N

0 20 40 HORIZONTAL SCALE IN METERS

CALCULATED BBD

CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN STA. 48+920 TO STA. 49+420

ATH-33-40.981

126
949

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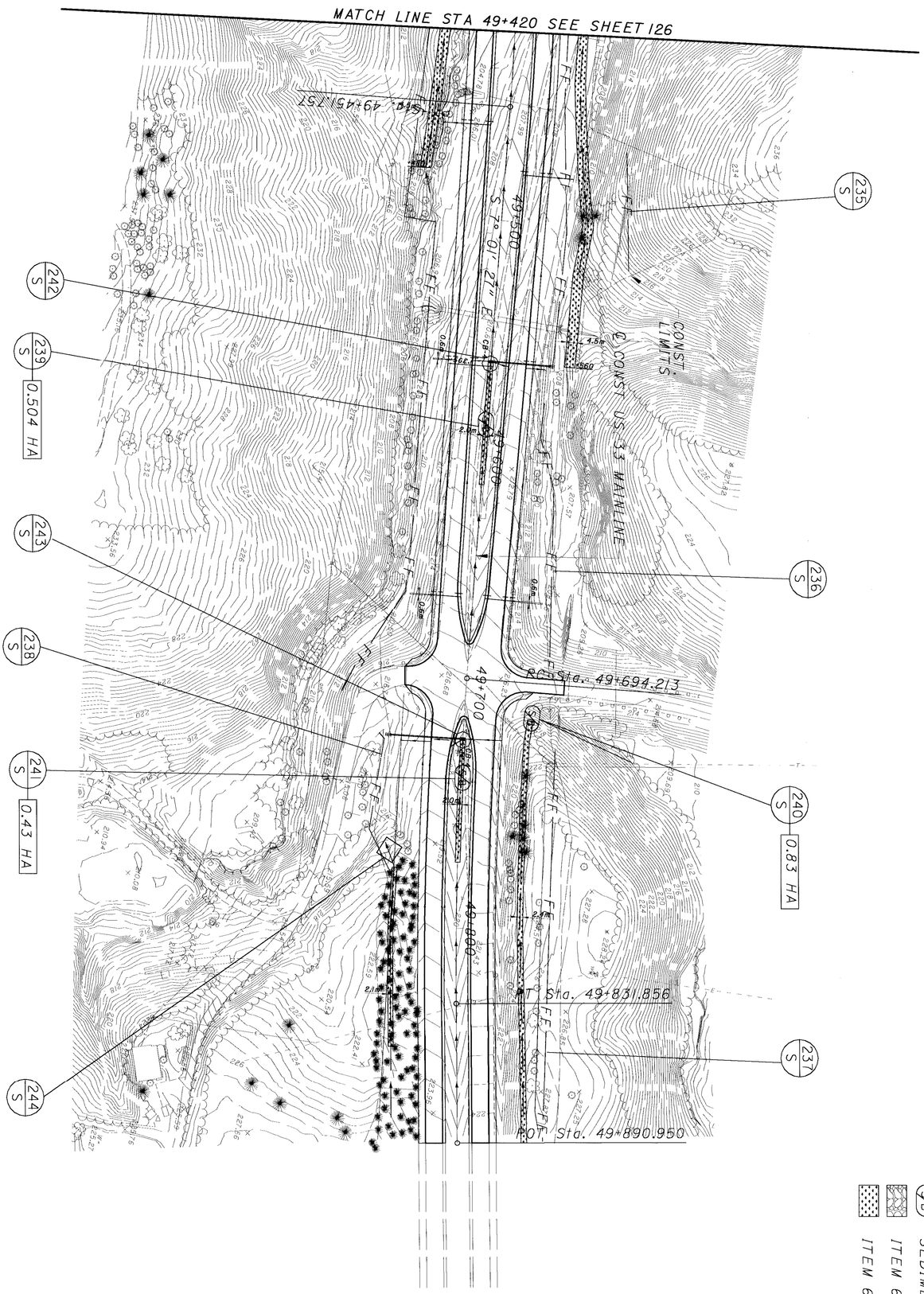

LEGEND

—FF— FILTER FABRIC FENCE

◇ DITCH CHECK

○ CATCH BASIN (INLET FILTER)

S/B SEDIMENT BASIN

ITEM 601, ROCK CHANNEL PROTECTION

ITEM 670, DITCH EROSION PROTECTION

I27 949	ATH-33-40.981	STORM WATER POLLUTION PREVENTION PLAN STA. 49+420 TO STA. 50+000	CALCULATED BBD / CHECKED TDW	0 20 40 HORIZONTAL SCALE IN METERS	N

SHT. NO.	REF. NO.	STATION TO STATION	SIDE	601 ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	877 TEMPORARY PERIMETER FILTER FABRIC FENCE	877 TEMPORARY DITCH CHECK FILTER FABRIC FENCE	877 TEMPORARY INLET PROTECTION FILTER FABRIC FENCE	877 TEMPORARY SEDIMENT BASINS AND DAMS	877 SEDIMENT REMOVAL
				Cu m	Cu m	m	m	m	Cu m	Cu m
112	1-S	39+640	RT.		11.8				59	29.5
	2-S	39+660	LT.		31.2				156	78
	3-S	40+060	RT		32				160	80
	4-S	39+600 TO 39+700	L/R	24		240				
	5-S	40+165	RT.	0.5			5			
	6-S	40+000	LT.					9		
	7-S	40+100	LT.					9		
	8-S	39+920 TO 40+140	RT.	22		220				
112	9-S	40+020 TO 40+080	LT.	6		60				
113	10-S	40+225	RT.	0.5			5			
	11-S	40+240	RT.	0.5			5			
	12-S	40+315	RT.	0.5			5			
	13-S	40+440	LT.		44.8				224	112
	14-S	40+500	RT.		42.2				211	105.5
	15-S	40+600	RT.		38.8				194	97
	16-S	40+370	RT.	0.5			5			
	17-S	40+375	LT.	0.5			5			
	18-S	40+405	LT.	0.5			5			
	19-S	40+470 TO 40+670	LT.	20		200				
	20-S	40+600 TO 40+860	RT.	29		290				
	21-S	40+490	RT.	0.5			5			
	22-S	2+000 TO 2+075	RT.	7.5		75				
	23-S	40+585	RT.	0.5			5			
	24-S	40+750	RT.	0.5			5			
113	25-S	40+720	LT.					9		
114	26-S	41+000 TO 41+060	LT.	6		60				
	27-S	41+080 TO 41+180	RT.	13		130				
	28-S	41+140 TO 41+200	LT.	6		60				
	29-S	40+875	RT.	0.5			5			
	30-S	40+840 TO 41+000	LT.	22		220				
	31-S	41+190	RT.	0.5			5			
	32-S	40+890	RT.		27.6				138	69
	33-S	41+420	RT.		93				465	232.5
	34-S	41+440	LT.		10.6				53	26.5
	35-S	41+265	LT.	0.5			5			
	36-S	41+500	RT.	0.5			5			
	37-S	41+440	LT.					9		
114	38-S	41+540	LT.					9		
115	39-S	41+545	LT.		10.2				51	25.5
	40-S	41+650	RT.	0.5			5			
	41-S	41+675	LT.	0.5			5			
	42-S	41+425 TO 41+930	RT.	50.5		505				
	43-S	41+680 TO 41+960	LT.	28		280				
	44-S	41+785	LT.	0.5			5			
	45-S	41+800	RT.	0.5			5			
	46-S	41+980	LT.	0.5			5			
	47-S	42+140	RT.	0.5			5			
	48-S	42+200	LT.	0.5			5			
	49-S	42+100	LT.		30.2				151	75.5
115	50-S	42+120	LT.		18				90	45
TOTALS CARRIED TO SHT. 130				244.5	390.4	2340	105	45	1952	976

SHT. NO.	REF. NO.	STATION TO STATION	SIDE	601 ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	877 TEMPORARY PERIMETER FILTER FABRIC FENCE	877 TEMPORARY DITCH CHECK FILTER FABRIC FENCE	877 TEMPORARY INLET PROTECTION FILTER FABRIC FENCE	877 TEMPORARY SEDIMENT BASINS AND DAMS	877 SEDIMENT REMOVAL
				Cu m	Cu m	m	m	m	Cu m	Cu m
115	51-S	42+110	RT.		70				350	175
115	52-S	42+130	RT.		13.8				69	34.5
116	53-S	42+370	LT.		17.6				88	44
	54-S	42+355	LT.	0.5			5			
	55-S	2+320 TO 2+540	LT.	22		220				
	56-S	42+600	LT.	0.5			5			
	57-S	42+725	LT.	0.5			5			
	58-S	42+575	LT.		23.8				119	59.5
	59-S	42+740	LT.		11				55	27.5
	60-S	2+070	LT.		28.2				141	70.5
	61-S	42+280	RT.	0.5			5			
	62-S	1+980 TO 42+500	RT.	43		430				
	63-S	42+385	LT.	0.5			5			
	64-S	2+060	LT.					9		
116	65-S	42+500 TO 43+160	RT.	92		920				
117	66-S	43+020	LT.		42.6				213	106.5
	67-S	43+340 TO 43+400	RT.	8		80				
	68-S	43+430 TO 43+480	LT.	6		60				
	69-S	43+050	LT.	0.5			5			
	70-S	43+070	LT.	0.5			5			
	71-S	43+160	RT.	0.5			5			
	72-S	43+260	LT.	0.5			5			
	73-S	43+350	LT.	0.5			5			
	74-S	43+270	LT.		12				60	30
	75-S	43+340	RT.	0.5			5			
	76-S	43+450	RT.	0.5			5			
	77-S	43+570	RT.	0.5			5			
	78-S	11+421	LT.					9		
	79-S	11+310	RT.		15.6				78	39
	80-S	11+430	LT.		19.6				98	49
	81-S	43+280	LT.					9		
	82-S	43+380	LT.					9		
117	83-S	11+320	RT.					9		
118	84-S	43+600	LT.	0.5			5			
	85-S	43+705	RT.	0.5			5			
	86-S	43+855	RT.	0.5			5			
	87-S	43+600 TO 43+660	LT.	10		100				
	88-S	43+880 TO 43+920	RT.	6		60				
	89-S	43+940	LT.	0.5			5			
	90-S	44+120 TO 44+420	LT.	32		320				
	91-S	44+200	LT.					9		
	92-S	44+240	RT.	0.5			5			
	93-S	43+710	LT.		48.6				243	121.5
	94-S	43+770	RT.		51				255	127.5
	95-S	43+960	LT.		35				175	87.5
118	96-S	43+940	RT.		38				190	95
119	97-S	44+300	LT.					9		
	98-S	44+380 TO 44+400	RT.	4		40				
	99-S	44+645 TO 44+820	LT.	17.5		175				
119	100-S	44+720	LT.					9		
TOTALS CARRIED TO SHT. 130				249.5	426.8	2405	90	72	2134	1067

CALCULATED BBD
CHECKED TDW

STORM WATER POLLUTION PREVENTION PLAN
ESTIMATED QUANTITIES

ATH-33-40.981

SHT. NO.	REF. NO.	STATION TO STATION	SIDE	601 ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER Cu m	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER Cu m	877 TEMPORARY PERIMETER FILTER FABRIC FENCE m	877 TEMPORARY DITCH CHECK FILTER FABRIC FENCE m	877 TEMPORARY INLET PROTECTION FILTER FABRIC FENCE m	877 TEMPORARY SEDIMENT BASINS AND DAMS Cu m	877 SEDIMENT REMOVAL Cu m
119	101-S	44+820	LT.					9		
	102-S	44+475	RT.	0.5			5			
	103-S	44+540	LT.	0.5			5			
	104-S	44+290	LT.		10.6				53	26.5
	105-S	44+450	LT.		45				225	112.5
	106-S	44+370	RT.		23				115	57.5
	107-S	44+450	RT.		68				340	170
	108-S	44+710	LT.		13				65	32.5
	109-S	44+810	LT.		11.8				59	29.5
	110-S	44+790	RT.	0.5			5			
	111-S	44+915	RT.	0.5			5			
119	112-S	44+900	LT.	0.5			5			
120	113-S	44+980	RT.		59.2				296	148
	114-S	45+070	LT.		11.2				56	28
	115-S	45+170	LT.		21.8				109	54.5
	116-S	45+010 TO 45+240	LT.	23		230				
	117-S	45+010 TO 45+240	RT.	28		280				
	118-S	45+340 TO 45+360	RT.	6		60				
	119-S	45+360 TO 45+500	LT.	14		140				
	120-S	45+080	LT.					9		
	121-S	45+180	LT.					9		
	122-S	45+320	RT.		29.2				146	73
	123-S	45+490	RT.		37				185	92.5
	124-S	45+200	RT.	0.5			5			
	125-S	45+235	LT.	0.5			5			
120	126-S	45+330	RT.	0.5			5			
121	127-S	45+620 TO 45+800	LT.	18		180				
	128-S	45+820 TO 45+980	LT.	16		160				
	129-S	46+100 TO 46+600	LT.	50		500				
	130-S	46+020	LT.	0.5			5			
	131-S	45+620 TO 45+980	RT.	38		380				
	132-S	46+010 TO 46+560	RT.	57		570				
	133-S	46+030	RT.	0.5			5			
	134-S	46+250	RT.	0.5			5			
	135-S	45+940	LT.					9		
	136-S	46+080	RT.		39.6				198	99
	137-S	46+150	LT.		14.2				71	35.5
	138-S	46+250	LT.		20.2				101	50.5
	139-S	46+140	LT.					9		
	140-S	46+240	LT.					9		
	141-S	45+640	LT.	0.5			5			
	142-S	45+640	RT.	0.5			5			
	143-S	45+800	LT.	0.5			5			
	144-S	45+860	RT.	0.5			5			
121	145-S	46+000	LT.	0.5			5			
122	146-S	46+340	LT.					9		
	147-S	46+620	LT.					9		
	148-S	46+920	LT.					9		
	149-S	46+680 TO 46+840	LT.	16		160				
122	150-S	46+440	LT.					9		
TOTALS CARRIED TO SHT. 130				274	403.8	2660	80	90	2019	1009.5

SHT. NO.	REF. NO.	STATION TO STATION	SIDE	601 ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER Cu m	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER Cu m	877 TEMPORARY PERIMETER FILTER FABRIC FENCE m	877 TEMPORARY DITCH CHECK FILTER FABRIC FENCE m	877 TEMPORARY INLET PROTECTION FILTER FABRIC FENCE m	877 TEMPORARY SEDIMENT BASINS AND DAMS Cu m	877 SEDIMENT REMOVAL Cu m
122	151-S	46+520	RT.	0.5			5			
	152-S	46+610 TO 46+760	RT.	15		150				
	153-S	46+780 TO 46+880	RT.	10		100				
	154-S	46+910 TO 46+990	RT.	9		90				
	155-S	46+670	RT.	0.5			5			
	156-S	46+720	LT.					9		
	157-S	46+860	LT.	0.5			5			
	158-S	46+350	LT.		16.8				84	42
	159-S	46+380	RT.		39.2				196	98
122	160-S	46+940	RT.	0.5			5			
123	161-S	47+000 TO 47+100	RT.	10		100				
	162-S	47+160 TO 47+400	RT.	24		240				
	163-S	47+150 TO 47+410	LT.	26		260				
	164-S	47+480 TO 47+780	RT.	34		340				
	165-S	47+490 TO 47+650	LT.	16		160				
	166-S	47+020	LT.					9		
	167-S	47+240	LT.					9		
	168-S	47+340	LT.					9		
	169-S	47+010	LT.		47.8				239	119.5
	170-S	47+330	LT.		17.8				89	44.5
	171-S	47+480	LT.		23.2				116	58
	172-S	47+440	LT.					9		
	173-S	47+125	LT.	0.5			5			
	174-S	47+135	RT.	0.5			5			
	175-S	47+335	RT.	0.5			5			
123	176-S	47+550	LT.	0.5			5			
124	177-S	47+725	LT.	0.5			5			
	178-S	47+930	RT.	0.5			5			
	179-S	48+080	RT.	0.5			5			
	180-S	47+840	LT.					9		
	181-S	47+940	LT.					9		
	182-S	47+770 TO 48+020	LT.	25		250				
	183-S	48+180 TO 48+500	LT.	32		320				
	184-S	48+200 TO 48+320	RT.	17		170				
	185-S	48+040	LT.					9		
	186-S	48+080	LT.					9		
	187-S	48+240	CLT.					9		
	188-S	47+570	LT.		14.2				71	35.5
	189-S	47+930	RT.		30				150	75
	190-S	48+200	RT.		26.2				131	65.5
124	191-S	48+300	LT.		26.2				131	65.5
125	192-S	48+500 TO 48+580	LT.	8		80				
	193-S	48+500 TO 48+600	RT.	10		100				
	194-S	48+670 TO 51+380	LT.	18		180				
	195-S	48+720 TO 48+780	RT.	6		60				
	196-S	51+130	LT.		20.2				101	50.5
	197-S	51+150	LT		14				70	35
	198-S	51+430	LT.		17				85	42.5
	199-S	51+450	LT.		39.6				198	99
125	200-S	48+480	CLT.					9		
TOTALS CARRIED TO SHT. 130				265.5	332.2	2600	55	99	1661	830.5

STORM WATER POLLUTION PREVENTION PLAN
ESTIMATED QUANTITIES

CALCULATED BBD
CHECKED TDW

ATH-33-40.981

SHT. NO.	REF. NO.	STATION TO STATION	SIDE	601 ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER Cu m	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER Cu m	877 TEMPORARY PERIMETER FILTER FABRIC FENCE m	877 TEMPORARY DITCH CHECK FILTER FABRIC FENCE m	877 TEMPORARY INLET PROTECTION FILTER FABRIC FENCE m	877 TEMPORARY SEDIMENT BASINS AND DAMS Cu m	877 SEDIMENT REMOVAL Cu m
125	201-S	46+210	RT.		108.2				541	270.5
	202-S	48+560	CL					9		
	203-S	46+020 TO 46+140	LT.	12		120				
	204-S	46+020 TO 46+160	RT.	14		140				
	205-S	46+320 TO 46+355	LT.	3.5		35				
	206-S	51+040 TO 51+100	LT.	6		60				
	207-S	51+040 TO 51+290	RT.	27		270				
	208-S	46+020	RT.		43.8				219	109.5
	209-S	48+640	LT.		62.6				313	156.5
	210-S	48+465	LT.	0.5			5			
	211-S	48+465	RT.	0.5			5			
	212-S	48+660	CL					9		
	213-S	48+768	CL					9		
	214-S	48+640	LT.	0.5			5			
	215-S	48+645	RT.	0.5			5			
	216-S	48+760	RT.	0.5			5			
125	217-S	48+800	LT.	0.5			5			
126	218-S	49+060	CL					9		
	219-S	49+160	CL					9		
	220-S	49+260	CL					9		
	221-S	49+360	CL					9		
	222-S	48+930 TO 49+700	RT.	77.5		775				
	223-S	48+960 TO 49+120	LT.	16		160				
	224-S	49+150	RT.		41.8				209	104.5
	225-S	49+180	RT.		96.8				484	242
	226-S	49+370	CL		12.6				63	31.5
	227-S	49+090	RT.	0.5			5			
	228-S	49+160	LT.	0.5			5			
	229-S	49+265	LT.	0.5			5			
	230-S	49+330	RT.	0.5			5			
	231-S	49+410	LT.	0.5			5			
	232-S	49+260 TO 49+560	LT.	30		300				
	233-S	51+720	LT.		57.6				288	144
126	234-S	51+380 TO 51+680	RT.	30		300				
127	235-S	49+460 TO 49+530	LT.	7		70				
	236-S	49+560 TO 49+690	LT.	13		130				
	237-S	49+730 TO 49+890	LT.	16		160				
	238-S	49+710 TO 49+780	RT.	7		70				
	239-S	49+570	CL		12.6				63	31.5
	240-S	49+710	LT.		20.8				104	52
	241-S	49+735	CL		10.8				54	27
	242-S	49+560	CL					9		
	243-S	49+720	CL					9		
127	244-S	49+765	RT.	0.5			5			
TOTALS FROM SHEET 128				244.5	390.4	2340	105	45	1952	976
TOTALS FROM SHEET 128				249.5	426.8	2405	90	72	2134	1067
TOTALS FROM SHEET 129				274	403.8	2660	80	90	2019	1009.5
TOTALS FROM SHEET 129				265.5	332.2	2600	55	99	1661	830.5
TOTALS FROM THIS SHEET				265	467.6	2590	60	81	2338	1169
SUBTOTAL				1298.5	2020.8	12595	390	387	10104	5052
TOTALS TO GENERAL SUMMARY				1299	2021	12595	390	387	10104	5052

SHT. NO.	REF. NO.	STATION TO STATION	SIDE	601 ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER Cu m	601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER Cu m	877 TEMPORARY PERIMETER FILTER FABRIC FENCE m	877 TEMPORARY DITCH CHECK FILTER FABRIC FENCE m	877 TEMPORARY INLET PROTECTION FILTER FABRIC FENCE m	877 TEMPORARY SEDIMENT BASINS AND DAMS Cu m	877 SEDIMENT REMOVAL Cu m
TOTALS TO GENERAL SUMMARY										

STORM WATER POLLUTION PREVENTION PLAN
ESTIMATED QUANTITIES

CALCULATED BBD
CHECKED TDW

ATH-33-40.981

SHEET NUMBER																			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT. NO.
34	35	37, 39	130	140	141	163	172	181	188	197	206	213	218	223	537	538	584	641, 642	698						
																							ROADWAY	
																				201	11001	LUMP	LUMP	CLEARING AND GRUBBING, AS PER PLAN	
												LUMP								202	11200	LUMP	LUMP	PORTION OF STRUCTURE REMOVED	
														18						202	35100	18	METER	PIPE REMOVED, 600mm AND UNDER	
														52						202	35200	52	METER	PIPE REMOVED, OVER 600mm	
														299	50	161				202	38000	510	METER	GUARDRAIL REMOVED	
		270																		202	54100	270	EACH	RAISED PAVEMENT MARKER REMOVED FOR STORAGE	
											5		1		1	13				202	56100	20	EACH	BUILDING DEMOLISHED	
		4				1	1	1	1		1	1	5	1	1	2				202	62700	7	EACH	SEPTIC TANK REMOVED	
						1	1	1	1		1	1		1		2				202	64000	13	EACH	SPECIAL - PLUGGING AND VENTING GAS AND/OR OIL WELL	
						592	710	1457	989	195	400	201	430		1163	351				202	75000	6,488	METER	FENCE REMOVED	
100,000	20,000				3,365,985												2,500			203	12000	3,488,485	CU METER	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION	
					38,807															203	13100	38,807	CU METER	EXCAVATION OF UNSUITABLE MATERIAL	
100,000	10,000				2,633,146															203	20000	2,743,146	CU METER	EMBANKMENT	
	20,000																			203	21000	20,000	CU METER	EMBANKMENT USING GRANULAR MATERIAL	
	67																			203	45000	67	HOUR	PROOF ROLLING	
				165,320																203	50000	165,320	SQ METER	SUBGRADE COMPACTION	
																		113		604	40500	113	EACH	REFERENCE MONUMENT	
						1196.34	337.19	1977.39	842.01	1684.02	194.31	110.49	154.31	434.34	304.80	11.43				606	13000	7,246.63	METER	GUARDRAIL, TYPE 5	
						259.08	299.09	243.84	409.58	339.09	121.92	240.03	121.92	125.73						606	14000	2,160.28	METER	GUARDRAIL, TYPE 8	
						2	3	1	4	2	1	2	1	1						606	17500	17	EACH	POST END ANCHOR (OR CONCRETE BLOCK END ANCHOR	
						5	3	2	4	2	2	1		2						606	22000	21	EACH	ANCHOR ASSEMBLY, TYPE B-98	
													2							606	22010	2	EACH	ANCHOR ASSEMBLY, TYPE E-98	
															4					606	25000	4	EACH	ANCHOR ASSEMBLY, TYPE A	
															8					606	26500	8	EACH	ANCHOR ASSEMBLY, TYPE T	
						4	4			4			3							606	35000	15	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
								2												606	35140	2	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 4	
																			19,845	607	15000	19,845	METER	FENCE, TYPE 47	
	35																			626	00100	35	EACH	BARRIER REFLECTOR TYPE A	
	6																			626	00200	6	EACH	BARRIER REFLECTOR TYPE B	
	283																			626	00300	283	EACH	BARRIER REFLECTOR TYPE A-2	
	38																			626	00400	38	EACH	BARRIER REFLECTOR TYPE B-2	
		5																		690	50000	5	EACH	SPECIAL - MAILBOX SUPPORT	
					LUMP															878	10000	LUMP	LUMP	PRE-BLAST CONDITION SURVEY	
					LUMP															878	12000	LUMP	LUMP	BLASTING CONSULTANT	
					LUMP															878	13000	LUMP	LUMP	AIRBLAST AND NOISE CONTROL	
					LUMP															878	14000	LUMP	LUMP	VIBRATION CONTROL AND MONITORING	
					1,700															878	15000	1,700	SQ METER	PRE-SPLITTING	
					LUMP															878	16000	LUMP	LUMP	HYDROLOGIST	
																								EROSION CONTROL	
						38	20			327			53.8							660	20000	439	SQ METER	SODDING REINFORCED	
																	600			661	99900	600	EACH	PLANTING MISC. TREESEEDLING: SALIX PURPUREA-"STREAMUS",	
																								SALIX COTTETTII-"BANKERS WILLOW"	
						1261	2299	682	1999	2127	2467	1597	957	2763	1299	1931				670	40000	19,382	SQ METER	DITCH EROSION PROTECTION	
		55,764			772,517															870	10000	828,281	SQ METER	SEEDING AND MULCHING	
																	10,500			870	10100	10,500	SQ METER	SEEDING AND MULCHING FOR WILDLIFE	
41,510																				870	14000	41,510	SQ METER	REPAIR SEEDING AND MULCHING	
41,510																				870	15000	41,510	SQ METER	INTERSEEDING	
39,020																				870	20000	39,020	KG	COMMERCIAL FERTILIZER	
21,885																				870	35000	21,885	CU METER	WATER	
207,535																				870	40000	207,535	SQ METER	MOWING	
166,030																				877	10000	166,030	SQ METER	TEMPORARY SEEDING AND MULCHING	
6,300			12,595																	877	30100	18,895	METER	TEMPORARY PERIMETER FILTER FABRIC FENCE	
195			390																	877	30200	585	METER	TEMPORARY DITCH CHECK FILTER FABRIC FENCE	
194			387																	877	30300	581	METER	TEMPORARTY INLET PROTECTION FILTER FABRIC FENCE	
975																				877	40000	975	METER	TEMPORARY SLOPE DRAINS	
			10,104																	877	50000	10,104	CU METER	TEMPORARY SEDIMENT BASINS AND DAMS	
4,685																				877	55000	4,685	CU METER	TEMPORARY DIKES	
5,055			5,052																	877	60000	10,107	CU METER	SEDIMENT REMOVAL	

CALCULATED BBD
CHECKED JDY

GENERAL SUMMARY

ATH-33-40.981

SHEET NUMBER																				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT. NO.
		37, 39	130		152	163	172	181	188	197	206	213	218	223	537	538	584	592							
																								DRAINAGE	
											3									601	11000	3	SQ METER	RIPRAP USING 150mm REINFORCED CONCRETE SLAB	
					109.0															601	20000	109	SQ METER	CRUSHED AGGREGATE SLOPE PROTECTION	
																	170			601	28101	170	CU METER	DUMPED ROCK FILL, AS PER PLAN	36
						15			29		11	17								601	32000	72	CU METER	ROCK CHANNEL PROTECTION, TYPE A WITH FILTER	
						9	9	75		27		18	28.6			7.0				601	32100	173	CU METER	ROCK CHANNEL PROTECTION, TYPE B WITH FILTER	
		5	2,021			298	224	193	281	6	49	6	4.8	3	4.0	176				601	32200	3,271	CU METER	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER	
			1,299																	601	34200	1,299	CU METER	ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER	
						38	11.7	52.2	36.9	34.5	9.8	23.2	23.7	0.4	0.9	3.2				602	20000	234.5	CU METER	CONCRETE MASONRY	
					1,066.0															603	00100	1,066.0	METER	100mm CONDUIT, TYPE B, 707.31	
																		45		603	00400	45	METER	100mm CONDUIT, TYPE E	
					846.5															603	00406	846.5	METER	100mm CONDUIT, TYPE F, 707.31	
		100																		603	00900	100	METER	150mm CONDUIT, TYPE B	
		100																		603	01400	100	METER	150mm CONDUIT, TYPE E	
		100																		603	01500	100	METER	150mm CONDUIT, TYPE F	
															32.5					603	04400	32.5	METER	300mm CONDUIT, TYPE B	
		65				137	100	100	100	166.5	504	290	150	70						603	04600	1,682.5	METER	300mm CONDUIT, TYPE C	
															18.5	21.5				603	04900	40.0	METER	300mm CONDUIT, TYPE D	
												53.5	123.7	56						603	05900	233.2	METER	375mm CONDUIT, TYPE B	
							20		150	85	100		30		34					603	06100	419	METER	375mm CONDUIT, TYPE C	
																10				603	06400	10	METER	375mm CONDUIT, TYPE D	
												100			19					603	07400	19	METER	450mm CONDUIT, TYPE B	
										90	133									603	07600	323	METER	450mm CONDUIT, TYPE C	
															24.5					603	08900	24.5	METER	525mm CONDUIT, TYPE B	
										120.5		46								603	09100	166.5	METER	525mm CONDUIT, TYPE C	
																18.5				603	10400	18.5	METER	600mm CONDUIT, TYPE B	
											125									603	13200	125	METER	750mm CONDUIT, TYPE A, 707.01 (2.77) ALUMINUM COATED	574
																								PIPE WITH BITUMINOUS PAVED INVERT, 707.05 (3.51) OR	
																								707.04 (3.51) (13mm CORR.)	
												86.5								603	13200	86.5	METER	750mm CONDUIT, TYPE A, 706.02 75 D-LOAD, OR 707.01 (4.27)	579
																								ALUMINUM COATED PIPE WITH BITUMINOUS PAVED INVERT	
																44				603	16200	44	METER	900mm CONDUIT, TYPE A, 706.02 75 D-LOAD, OR 707.01,	582
																								707.05,707.04 (13mm CORR.)	
																47.5				603	16200	47.5	METER	900mm CONDUIT, TYPE A, 706.02 87.5 D-LOAD, OR 707.01,	583
																								707.05,707.04 (13mm CORR.)	
											77.5									603	16200	77.5	METER	900mm CONDUIT, TYPE A, 706.02 100 D-LOAD, OR 707.01 (4.27)	575
																								ALUMINUM COATED PIPE WITH BITUMINOUS PAVED INVERT	
												81.5								603	16200	81.5	METER	900mm CONDUIT, TYPE A, 706.02 120 D-LOAD, OR 707.02 (4.27)	577
																								ALUMINUM COATED PIPE WITH BITUMINOUS PAVED INVERT	
													129.6							603	16200	130	METER	900mm CONDUIT, TYPE A, 706.02 140 D-LOAD, OR 707.01 (4.27)	580
																								ALUMINUM COATED PIPE WITH BITUMINOUS PAVED INVERT	
						145														603	19200	145	METER	1050mm CONDUIT, TYPE A, 706.02 140 D-LOAD, OR 707.02 (2.77)	564
																								ALUMINUM COATED PIPE WITH BITUMINOUS PAVED INVERT,	
																								707.07 (3.51) OR 707.04 (3.51) (25mm CORR.)	
							140													603	19200	140	METER	1050mm CONDUIT, TYPE A, 706.02 130 D-LOAD, OR 707.02 (2.77)	565
																								ALUMINUM COATED PIPE WITH BITUMINOUS PAVED INVERT,	
																								707.07 (3.51) OR 707.04 (3.51) (25mm CORR.)	

CALCULATED BBD
CHECKED JDY

GENERAL SUMMARY

ATH-33-40.981

132
949

SHEET NUMBER																			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT. NO.
38	37	40		140	152	163	172	181	188	197	206	213	218	223	537	538								
																							DRAINAGE CONT.	
								163											603	19201	163	METER	1050mm CONDUIT, TYPE A, 707.01 (2.77) ALUMINUM COATED	567
																							PIPE WITH BITUMINOUS PAVED INVERT, 707.05 (3.51) OR	
																							707.04 (3.51)(13mm CORR.), AS PER PLAN	
										195									603	19201	195	METER	1050mm CONDUIT, TYPE A, 707.01 (4.27) ALUMINUM COATED	571
																							PIPE WITH BITUMINOUS PAVED INVERT, AS PER PLAN	
										123.5									603	19200	123.5	METER	1050mm CONDUIT, TYPE A, 707.02 (4.27) ALUMINUM COATED	572
																							PIPE WITH BITUMINOUS PAVED INVERT	
										91									603	19200	91	METER	1050mm CONDUIT, TYPE A, 707.02 (2.77) ALUMINUM COATED	573
																							PIPE WITH BITUMINOUS PAVED INVERT, 707.07 (3.51) OR	
																							707.04 (3.51) (25mm CORR.)	
											40	112.5							603	19200	152.5	METER	1050mm CONDUIT, TYPE A, 706.02 130 D-LOAD, OR 707.02 (4.27)	576
																							ALUMINUM COATED PIPE WITH BITUMINOUS PAVED INVERT	
												165.5							603	19200	165.5	METER	1050mm CONDUIT, TYPE A, 706.02 120 D-LOAD, OR 707.02 (4.27)	578
																							ALUMINUM COATED PIPE WITH BITUMINOUS PAVED INVERT	
									164.5										603	22201	164.5	METER	1350mm CONDUIT, TYPE A, 707.02 (4.27) ALUMINUM COATED	570
																							PIPE WITH BITUMINOUS PAVED INVERT, AS PER PLAN	
								138											603	23600	138	METER	1500mm CONDUIT, TYPE A, 707.03 (4.27) WITH FIELD PAVING	566
									156										603	23600	156	METER	1500mm CONDUIT, TYPE A, 707.03 (4.78) WITH FIELD PAVING	569
													181						603	23600	181	METER	1500mm CONDUIT, TYPE A, 706.02 87.5 D-LOAD OR 707.01	581
																							WITH FIELD PAVING	
								260											603	25000	260	METER	1650mm CONDUIT, TYPE A, 707.03 (6.32) WITH FIELD PAVING	568
						156.5													603	26000	156.5	METER	1800mm CONDUIT, TYPE A, 706.02 100D-LOAD(INDUCED	563
																							TRENCH), OR 707.03 (4.27) WITH FIELD PAVING	
										2									604	00800	2	EACH	CATCH BASIN, NO. 3A	
												4	5	3					604	01200	12	EACH	CATCH BASIN, NO. 4	
															2	1			604	01600	3	EACH	CATCH BASIN, NO. 5	
						3	2	2	4	4	10	4							604	02800	29	EACH	CATCH BASIN, NO. 8	
															2	1			604	04100	3	EACH	CATCH BASIN, NO. 2-2A	
					53.0														604	36600	53	EACH	PRECAST REINFORCED CONCRETE OUTLET	
	4																		604	37000	4	EACH	INSPECTION WELL	
					30,985.5														605	05100	30,985.5	METER	100mm SHALLOW PIPE UNDERDRAIN, 707.31	
					2,949.0														605	05200	2,949	METER	100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	
					9,601.5														605	05220	9,601.5	METER	100mm ROCK CUT UNDERDRAIN, 707.31	
150																			605	13402	150	METER	150mm UNCLASSIFIED PIPE UNDERDRAIN FOR SPRINGS	
		1,593																	605	31100	1,593	METER	AGGREGATE DRAIN	
300.0																			605	32200	300	METER	AGGREGATE DRAIN FOR SPRINGS	
																							PAVEMENT	
				1,052															301	46000	1,052	CU METER	BITUMINOUS AGGREGATE BASE, PG64-22	
				40,803															304	20000	40,803	CU METER	AGGREGATE BASE	
				621															407	10000	621	LITER	TACK COAT	
				294															407	14000	294	LITER	TACK COAT FOR INTERMEDIATE COURSE	
				22,330															408	10000	22,330	LITER	BITUMINOUS PRIME COAT	
				614															448	46050	614	CU METER	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22	
				546															448	46060	546	CU METER	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1,	
																							PG64-22 (UNDER GUARDRAIL)	
				397															448	47020	397	CU METER	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22	
				143															451	30000	143	METER	SPECIAL - PRESSURE RELIEF JOINT, TYPE A	
				1,122															611	25001	1,122	SQ METER	REINFORCED CONCRETE APPROACH SLAB(T=380mm), AS PER PLAN	
				414															617	10100	414	CU METER	COMPACTED AGGREGATE, TYPE A	
				22,531															618	40800	22,531	METER	RUMBLES STRIPS, TYPE 3	
				5															830	26000	5	METER	CURB, TYPE 6	
				148,237															884	10050	148,237	SQ METER	225mm PORTLAND CEMENT CONCRETE PAVEMENT(7 YEAR WARRANTY)	

CALCULATED BBD
CHECKED JDY

GENERAL SUMMARY

ATH-33-40.981

SHEET NUMBER																			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHT. NO.
		592	629														634							
																							LIGHTING	
		8																	625	00500	8	EACH	CONNECTOR KIT, TYPE II	
		15																	625	01500	15	EACH	CABLE SPLICING KIT	
		4																	625	06500	4	EACH	LIGHT POLE, DESIGN AT5.5BI2.7	
		4																	625	14100	4	EACH	LIGHT POLE FOUNDATION, 610mm X 2.4m DEEP	
		288																	625	23200	288	METER	NO. 4 AWG, 5000 VOLT DISTRIBUTION CABLE	
		136																	625	23400	136	METER	NO. 10 AWG, POLE & BRACKET CABLE	
		151																	625	24320	151	METER	38mm DUCT CABLE WITH THREE NO. 4 AWG, 5000 VOLT CABLE	
		96																	625	25500	96	METER	CONDUIT, 76mm, 713.04	
		4																	625	26251	4	EACH	LUMINAIRE, CONVENTIONAL, AS PER PLAN	592
		244																	625	29000	244	METER	TRENCH	
		5																	625	30700	5	EACH	PULL BOX, 713.08, 450mm	
		4																	625	32000	4	EACH	GROUND ROD	
		2																	625	34001	2	EACH	POWER SERVICE, AS PER PLAN	592
		LUMP																	625	38001	1	LUMP	HIGH VOLTAGE TEST, AS PER PLAN	
																							TRAFFIC CONTROL	
			8																620	10300	8	EACH	DELINEATOR, TYPE C, POST MOUNTED	
			578																621	00100	578	EACH	RAISED PAVEMENT MARKER	
																	101.2		630	02100	101.2	METER	GROUND MOUNTED SUPPORT, NO. 2 POST	
																	671.4		630	03100	671.4	METER	GROUND MOUNTED SUPPORT, NO. 3 POST	
																	7.7		630	06500	7.7	METER	GROUND MOUNTED SUPPORT, W150X13.5 BEAM	
																	19.5		630	07000	19.5	METER	GROUND MOUNTED SUPPORT, W200X26.6 BEAM	
																	28.2		630	07500	28.2	METER	GROUND MOUNTED SUPPORT, W250X32.7 BEAM	
																	71.5		630	07600	71.5	METER	GROUND MOUNTED SUPPORT, W250X17.9 BEAM	
																	35.2		630	08004	35.2	METER	ONE WAY SUPPORT, NO. 3 POST	
																	24		630	09000	24	EACH	BREAKAWAY BEAM CONNECTION	
																	123.4		630	80102	123.4	SQ METER	SIGN, FLAT SHEET, TYPE G	
																	83.6		630	80204	83.6	SQ METER	SIGN, EXTRUSHEET, TYPE G	
																	24		630	84500	24	EACH	GROUND MOUNTED BEAM SUPPORT FOUNDATION	
																	8		630	84900	8	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
																	1		630	85100	1	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
																	8		630	86002	8	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
			2.55																642	00090	2.55	KM	EDGE LINE	
			1.26																642	00290	1.26	KM	CENTER LINE	
			6																642	00490	6	METER	STOP LINE	
			24.26																828	10000	24.26	KM	EDGE LINE	
			3.04																828	10100	3.04	KM	LANE LINE	
			9.77																828	10200	9.77	KM	CENTER LINE	
			177																828	10300	177	METER	CHANNELIZING LINE	
			30																828	10400	30	METER	STOP LINE	
			997																828	10600	997	METER	TRANSVERSE LINE	
			6																828	20300	6	EACH	LANE ARROW	
			4																828	20410	4	EACH	WORD "ONLY" ON PAVEMENT, 2500mm	
																							CAST IN PLACE STRUCTURES	
																							TR 412 THREE SIDED FLAT TOPPED BOX CULVERT	638
																							FOR STRUCTURE ATH-33-41030 GENERAL SUMMARY	867
																							FOR STRUCTURE ATH-33-42635 GENERAL SUMMARY	889
																							FOR STRUCTURE MEG-33-02439 GENERAL SUMMARY	908
																							FOR STRUCTURE MEG-33-05810 GENERAL SUMMARY	928
																			614	11001		LUMP	MAINTAINING TRAFFIC, AS PER PLAN	
																			623	10001		LUMP	CONSTRUCTION LAYOUT STAKES, AS PER PLAN	33
																			624	10000		LUMP	MOBILIZATION	
																			806	16020	27	MONTH	FIELD OFFICE, TYPE C	

CALCULATED BBD
CHECKED JDY

GENERAL SUMMARY

ATH-33-40.981

STATION TO STATION		SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A (A = D x W)	203 SUBGRADE COMPACTION	301 BITUMINOUS AGGREGATE BASE, PG64-22 (75mm)	301 BITUMINOUS AGGREGATE BASE, PG64-22 (150mm)	304 AGGREGATE BASE (250mm)	304 AGGREGATE BASE (200mm)	304 AGGREGATE BASE (150mm)	448 ASPH. CONC. SURFACE COURSE, TYPE 1, PG64-22 (32mm)	448 ASPH. CONC. INT. COURSE, TYPE 2, PG64-22 (44mm)	448 ASPH. CONC. INT. COURSE, TYPE 2, PG64-22 (70mm)	884 225mm PORTLAND CEMENT CONCRETE PAVEMENT	611 REINFORCED CONCRETE APPROACH SLAB	SPECIAL PRESSURE RELIEF JOINT, TYPE A	609 CURB, TYPE 6	618 RUMBLE STRIPS, TYPE 3		
BEGINNING	ENDING		METER	METER	SQ. M.	SQ. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	SQ. M.	SQ. M.	METER	METER	METER	
39+600.000	39+636.470	LT.	36.470	13.20	481.40	481.4									481.4				72.9	
		LT.	36.470	13.51	492.71				123.2											
39+636.470	39+643.920	LT.	7.450	14.40	107.28	107.3										107.3	13.2		14.9	
		LT.	7.450	14.71	109.59						16.4									
39+926.080	39+933.530	LT.	7.450	14.40	107.28	107.3										107.3	13.2		14.9	
			7.450	14.71	109.59						16.4									
39+933.350	41+247.661	LT.	1314.311	13.20	17348.91	17348.9									17348.9				2628.6	
		LT.	1314.311	13.51	17756.34				4439.1											
41+247.661	41+255.188	LT.	7.527	14.40	108.39	108.4										108.4	13.2		15.1	
		LT.	7.527	14.71	110.72						16.6									
41+415.023	41+422.551	LT.	7.528	14.40	108.40	108.4										108.4	13.2		15.1	
			7.528	14.71	110.74						16.6									
41+422.551	41+969.734	LT.	547.183	13.20	7222.82	7222.8									7222.8				1094.4	
		LT.	547.183	13.51	7392.44				1848.1											
41+969.734	42+209.721	LT.	239.987	15.00	3599.81	3599.8									3599.8				480.0	
		LT.	239.987	15.31	3674.20				918.6											
42+209.721	42+274.976	LT.	65.255	16.80	1096.28	1096.3									1096.3				130.5	
		LT.	65.255	17.10	1115.86				279.0											
42+274.976	42+289.976	LT.	15.000	18.60	279.00	279.0									279.0				30.0	
		LT.	15.000	18.91	283.65				70.9											
42+289.976	42+388.249	LT.	98.273	20.40	2004.77	2004.8									2004.8				196.5	
		LT.	98.273	20.71	2035.23				508.8											
42+388.249	42+403.249	LT.	15.000	18.60	279.00	279.0									279.0				30.0	
		LT.	15.000	18.91	283.65				70.9											
42+403.249	42+468.010	LT.	64.761	16.80	1087.98	1088.0									1088.0				129.5	
		LT.	64.761	17.10	1107.41				276.9											
42+468.010	42+707.997	LT.	239.987	15.00	3599.81	3599.8									3599.8				480.0	
		LT.	239.987	15.31	3674.20				918.6											
42+707.997	45+465.470	LT.	2757.473	13.20	36398.64	36398.6									36398.6				5514.9	
		LT.	2757.473	13.51	37253.46				9313.4											
45+465.470	45+472.770	LT.	7.300	14.40	105.12	105.1										105.1	13.5		14.6	
			7.300	14.71	107.38						16.1									
45+621.230	45+628.530	LT.	7.300	14.40	105.12	105.1										105.1	13.5	5.0	14.6	
			7.300	14.71	107.38						16.1									
45+628.530	47+784.792	LT.	2156.262	13.20	28462.66	28462.7									28462.7				4312.5	
		LT.	2156.262	13.51	29131.10				7282.8											
47+784.792	47+865.000	LT.	80.208	13.20	1058.75	1058.7									1058.7				160.4	
		LT.	80.208	13.51	1083.61				270.9											
47+865.000	47+900.000	LT.	35.000	13.20	462.00	462.0									462.0				70.0	
		LT.	35.000	13.51	472.85				118.2											
47+900.000	47+980.339	LT.	80.339	15.00	1205.09	1205.1									1205.1				160.7	
		LT.	80.339	15.31	1229.99				307.5											
47+980.339	48+242.000	LT.	261.661	11.40	2982.94	2982.9									2982.9				523.3	
		LT.	261.661	11.71	3064.05				766.0											
47+980.339	48+206.901	RT.	226.562	7.80	1767.18	1767.2									1767.2				453.1	
		RT.	226.562	8.11	1837.42				459.4											
48+206.901	48+231.901	RT.	25.000	9.60	240.00	240.0									240.0				50.0	
		RT.	25.000	9.91	247.75				61.9											
48+231.901	48+759.209	RT.	527.308	11.40	6011.31	6011.3									6011.3				1054.6	
		RT.	527.308	11.71	6174.78				1543.7											
48+242.000	48+759.209	LT.	517.209	11.40	5896.18	5896.2									5896.2				1034.4	
		LT.	517.209	11.71	6056.52				1514.1											
TOTALS CARRIED TO SHEET 140						122126.1	0.0		31190.1			0.0	0.0		121484.5	641.6	79.8	5.0	18695.6	

CALCULATED 9BD
CHECKED TDW

PAVEMENT CALCULATIONS

ATH-33-40.981

STATION TO STATION		SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A (A = D x W) # CADD GENERATED AREA	203 SUBGRADE COMPACTION	301 BITUMINOUS AGGREGATE BASE, PG64-22 (75mm)	301 BITUMINOUS AGGREGATE BASE, PG64-22 (150mm)	304 AGGREGATE BASE (250mm)	304 AGGREGATE BASE (200mm)	304 AGGREGATE BASE (150mm)	448 ASPH. CONC. SURFACE COURSE, TYPE 1, PG64-22 (32mm)	448 ASPH. CONC. INT. COURSE, TYPE 2, PG64-22 (44mm)	448 ASPH. CONC. INT. COURSE, TYPE 2, PG64-22 (70mm)	452 225mm PORTLAND CEMENT CONCRETE PAVEMENT	611 REINFORCED CONCRETE APPROACH SLAB	SPECIAL PRESSURE RELIEF JOINT, TYPE A	609 CURB, TYPE 6	618 RUMBLE STRIPS, TYPE 3	448 ASPH. CONC. INT. COURSE, TYPE 1, PG64-22 UNDER GUARDRAIL (50mm) .050A	
BEGINNING	ENDING		METER	METER	SQ. M.	SQ. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	SQ. M.	SQ. M.	METER	METER	METER	CU. M.	
48+759.209	48+836.500	LT.& RT.	77.291	#	2344.10	2344.1									2344.1				154.6		
		LT.& RT.	77.291	#	2368.26				592.1												
48+846.002	48+853.275	LT.	7.273	16.80	122.19	122.2										122.2	16.5		14.5		
		LT.	7.273	17.11	124.44						18.7										
48+944.818	48+952.098	LT.	7.280	14.40	104.83	104.8										104.8	13.5		14.6		
		LT.	7.280	14.71	107.09						16.1										
48+952.098	49+653.633	LT.	701.535	11.40	7997.50	7997.5									7997.5				1403.1		
		LT.	701.535	11.71	8214.97				2053.7												
49+735.811	49+890.950	LT.	155.139	11.40	1768.58	1768.6									1768.6				310.3		
		LT.	155.139	11.71	1816.68				454.2												
48+826.341	48+833.940	RT.	7.599	19.14	145.44	145.4										145.4	19.0		15.2		
		RT.	7.599	19.45	147.80						22.2										
48+928.589	48+936.091	RT.	7.502	14.40	108.03	108.0										108.0	13.5		15.0		
		RT.	7.502	14.71	110.35						16.6										
48+936.091	49+653.087	RT.	716.996	11.40	8173.75	8173.8									8173.8				1434.0		
		RT.	716.996	11.71	8396.02				2099.0												
49+736.758	49+890.950	RT.	154.192	11.40	1757.79	1757.8									1757.8				308.4		
		RT.	154.192	11.71	1805.59				451.4												
49+653.360	49+736.196	LT.& RT.	82.836	#	1969.29	1969.3									1969.3				165.7		
		LT.& RT.	82.836	#	2000.94				500.2												
39+591.325	39+637.045	LT.	45.720	1.50	68.58															3.4	
39+631.330	39+637.045	RT.	5.715	1.50	8.57															0.4	
39+932.955	39+938.670	LT.	5.715	1.50	8.57															0.4	
39+932.955	39+978.675	RT.	45.720	1.50	68.58															3.4	
40+262.195	41+248.985	LT.	986.790	1.50	1480.19															74.0	
40+300.000	40+551.460	RT.	251.460	1.50	377.19															18.9	
41+201.865	41+247.585	RT.	45.720	1.50	68.58															3.4	
41+421.225	41+426.940	LT.	5.715	1.50	8.57															0.4	
41+422.635	41+468.355	RT.	45.720	1.50	68.58															3.4	
42+012.840	42+150.000	LT.	137.160	1.50	205.74															10.3	
42+618.210	44+031.130	LT.	1412.920	1.50	2119.38															106.0	
42+550.000	43+197.700	RT.	647.700	1.50	971.55															48.6	
43+731.810	44+063.280	RT.	331.470	1.50	497.21															24.9	
44+311.380	44+570.460	LT.	259.080	1.50	388.62															19.4	
44+379.060	44+561.940	RT.	182.880	1.50	274.32															13.7	
44+849.500	45+474.340	LT.	624.840	1.50	937.26															46.9	
44+960.000	45+062.870	RT.	102.870	1.50	154.31															7.7	
45+340.990	45+474.340	RT.	133.350	1.50	200.03															10.0	
45+619.660	46+021.615	LT.	401.955	1.50	602.93															30.1	
45+619.660	46+069.240	RT.	449.580	1.50	674.37															33.7	
46+499.760	46+564.530	LT.	64.770	1.50	97.16															4.9	
47+452.380	47+680.980	LT.	228.600	1.50	342.90															17.1	
48+080.460	48+103.320	LT.	22.860	1.50	34.29															1.7	
48+948.343	48+961.678	LT.	13.335	1.50	20.00															1.0	
49+520.000	0+036.5,CR20	LT.	185.000	1.50	277.50															13.9	
49+430.490	0+023.0,TR19	RT.	256.510	1.50	384.77															19.2	
1+960,CR89	2+081.920,CR89	RT.	121.920	1.50	182.88															9.1	
2+450,CR89	2+549.060,CR89	LT.	99.060	1.50	148.59															7.4	
51+284,SR681	48+829.247,US33	RT.	34.290	1.50	51.44															2.6	
48+860.396,US33	51+445,SR681	RT.	125.730	1.50	188.60															9.4	
TOTALS CARRIED TO SHEET 140						24491.5	0.0		6224.2			0.0	0.0		24011.1	480.4	62.5	0.0	3835.3	545.3	

CALCULATED BBD
CHECKED TDW

PAVEMENT CALCULATIONS

ATH-33-40.981

STATION TO STATION		SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A (A = D x W) # CADD GENERATED AREA	203 SUBGRADE COMPACTION	301 BITUMINOUS AGGREGATE BASE, PG64-22 (75mm)	301 BITUMINOUS AGGREGATE BASE, PG64-22 (150mm)	304 AGGREGATE BASE (250mm)	304 AGGREGATE BASE (200mm)	304 AGGREGATE BASE (150mm)	448 ASPH. CONC. SURFACE COURSE, TYPE I, PG64-22 (32mm)	448 ASPH. CONC. INT. COURSE, TYPE I, PG64-22 (44mm)	448 ASPH. CONC. INT. COURSE, TYPE I, PG64-22 (70mm)	452 225mm PORTLAND CEMENT CONCRETE PAVEMENT	611 REINFORCED CONCRETE APPROACH SLAB	SPECIAL PRESSURE RELIEF JOINT, TYPE A	609 CURB, TYPE 6	407 TACK COAT 0.05L/SQ. M	407 TACK COAT FOR INTERMEDIATE COURSE 0.03L/SQ. M	408 BITUMINOUS PRIME COAT 1.8L/SQ. M
BEGINNING	ENDING		METER	METER	SQ. M.	SQ. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	SQ. M.	SQ. M.	METER	METER	LITER	LITER	LITER
T.R. 68 (WEST)																					
1+050.000	1+085.500	LT.& RT.	35.500	5.45	193.48	193.5				38.7											
1+085.500	1+133.300	LT.& RT.	47.800	6.60	315.48	315.5				63.1											
		LT.& RT.	47.800	6.91	330.30																
TURNAROUND		RT.	25.700	7.60	195.32	195.3				39.1											
SPANDEL'S (15 x 15 x .2146)2		RT.	-	-	96.57	96.6				19.3											
T.R. 68 (EAST)																					
2+000.000	2+060.282	LT.& RT.	60.282	6.60	397.86	397.9				79.6											
2+060.282	2+073.425	LT.& RT.	13.143	5.50	72.29	72.3				14.5											
TURNAROUND		LT.	25.700	7.60	195.32	195.3				39.1											
SPANDEL's (15 x 15 x .2146)2		LT.	-	-	96.57	96.6				19.3											
T.R. 67																					
1+010.000	1+026.280	LT.& RT.	16.280	4.85	78.96	79.0				16.0											
1+026.280	1+117.963	LT.& RT.	91.683	6.60	605.11	605.1				121.0											
TURNAROUND		RT.	25.700	7.60	195.32	195.3				39.1											
SPANDEL's (15 x 15 x .2146)2		RT.	-	-	96.57	96.6				19.3											
RES. DRIVE		LT.	-	#	46.52	46.5				9.3											
FIELD DRIVE		RT.	-	#	4.39	4.4				0.9											
C.R. 89																					
1+980.000	2+000.000	LT.& RT.	20.000	6.30	126.00	126.0	9.5					4.0	5.5						6.3	3.8	226.8
		LT.& RT.	20.000	6.61	132.20						19.8										
2+000.000	2+214.000	LT.& RT.	214.000	6.60	1412.40	1412.4	105.9					45.2	62.1						70.6	42.4	2542.3
		LT.& RT.	214.000	6.91	1478.74						221.8										
2+214.000	2+244.000	LT.& RT.	30.000	#	415.22	415.2									415.2						
		LT.& RT.	30.000	#	425.36				106.3												
2+269.500	2+302.000	LT.& RT.	32.500	#	444.75	444.8									444.8						
		LT.& RT.	32.500	#	455.72				113.9												
2+302.000	2+520.000	LT.& RT.	218.000	6.60	1438.80	1438.8	107.9					46.0	63.3						71.9	43.2	2589.8
		LT.& RT.	218.000	6.91	1506.38						226.0										
TOTALS CARRIED TO SHEET 140						6426.1	223.3		1206.1			95.2	130.9		860.0	0.0	0.0	0.0	148.8	89.4	5358.9

CALCULATED BBD
CHECKED TDW

PAVEMENT CALCULATIONS

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STATION TO STATION		SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A (A = D x W) # CADD GENERATED AREA	203 SUBGRADE COMPACTION	301 BITUMINOUS AGGREGATE BASE, PG64-22 (75mm)	301 BITUMINOUS AGGREGATE BASE, PG64-22 (150mm)	304 AGGREGATE BASE (250mm)	304 AGGREGATE BASE (200mm)	304 AGGREGATE BASE (150mm)	448 ASPH. CONC. SURFACE COURSE, TYPE I, PG64-22 (32mm)	448 ASPH. CONC. INT. COURSE, TYPE I, PG64-22 (44mm)	448 ASPH. CONC. INT. COURSE, TYPE I, PG64-22 (70mm)	452 225mm PORTLAND CEMENT CONCRETE PAVEMENT	611 REINFORCED CONCRETE APPROACH SLAB	SPECIAL PRESSURE RELIEF JOINT, TYPE A	609 CURB, TYPE 6	407 TACK COAT 0.05L/SQ. M	407 TACK COAT FOR INTERMEDIATE COURSE 0.03L/SQ. M	408 BITUMINOUS PRIME COAT 1.8L/SQ. M
BEGINNING	ENDING		METER	METER	SQ. M.	SQ. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	SQ. M.	SQ. M.	METER	METER	LITER	LITER	LITER
2+520.000	2+540.000	LT.& RT.	20.000	5.75	115.00	115.0	8.6					3.7	5.1						5.8	3.5	207.0
		LT.& RT.	20.000	6.06	121.20						18.2										
RES. DRIVE @ 2+420.00		RT.	-	#	17.03	17.0				3.4											
T.R. 412																					
11+000.000	11+020.000	LT.& RT.	20.000	5.25	105.00	105.0						3.4		7.4					5.3		189.0
		LT.& RT.	20.000	5.56	111.20						16.7										
11+020.000	11+056.000	LT.& RT.	36.000	6.60	237.60	237.6						7.6		16.6					11.9		427.7
		LT.& RT.	36.000	6.91	248.76						37.3										
11+056.000	11+080.000	LT.& RT.	24.000	6.30	151.20	151.2						4.8		10.6					7.6		272.2
		LT.& RT.	24.000	6.61	158.64						23.8										
11+080.000	11+104.000	LT.& RT.	24.000	4.80	115.20	115.2						3.7		8.1					5.8		207.4
		LT.& RT.	24.000	5.11	122.64						18.4										
11+104.000	11+191.000	LT.& RT.	87.000	3.60	313.20	313.2						10.0		21.9					15.7		563.8
		LT.& RT.	87.000	3.91	340.17						51.0										
11+191.000	11+237.000	LT.& RT.	46.000	4.70	216.20	216.2						6.9		15.1					10.8		389.2
		LT.& RT.	46.000	5.01	230.46						34.6										
11+237.000	11+273.000	LT.& RT.	36.000	3.60	129.60	129.6						4.1		9.1					6.5		233.3
		LT.& RT.	36.000	3.91	140.76						21.1										
11+273.000	11+335.000	LT.& RT.	62.000	4.80	297.60	297.6						9.5		20.8					14.9		535.7
		LT.& RT.	62.000	5.11	316.82						47.5										
11+335.000	11+399.000	LT.& RT.	64.000	3.60	230.40	230.4						7.4		16.1					11.5		414.7
		LT.& RT.	64.000	3.91	250.24						37.5										
11+399.000	11+461.000	LT.& RT.	62.000	4.80	297.60	297.6						9.5		20.8					14.9		535.7
		LT.& RT.	62.000	5.11	316.82						47.5										
11+461.000	11+607.637	LT.& RT.	146.637	3.60	527.89	527.9						16.9		37.0					26.4		950.2
		LT.& RT.	146.637	3.91	573.35						86.0										
TOTALS CARRIED TO SHEET 100						2753.5	8.6			443.0		87.5		188.6	0.0	0.0	0.0	0.0	137.1	3.5	4925.9

CALCULATED BBD
CHECKED TDW

PAVEMENT CALCULATIONS

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STATION TO STATION		SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A (A = D x W) # CADD GENERATED AREA	203 SUBGRADE COMPACTION	301 BITUMINOUS AGGREGATE BASE, PG64-22 (75mm)	301 BITUMINOUS AGGREGATE BASE, PG64-22 (150mm)	304 AGGREGATE BASE (250mm)	304 AGGREGATE BASE (200mm)	304 AGGREGATE BASE (150mm)	448 ASPH. CONC. SURFACE COURSE, TYPE I, PG64-22 (32mm)	448 ASPH. CONC. INT. COURSE, TYPE 2, PG64-22 (44mm)	448 ASPH. CONC. INT. COURSE, TYPE 2, PG64-22 (70mm)	884 225mm PORTLAND CEMENT CONCRETE PAVEMENT	611 REINFORCED CONCRETE APPROACH SLAB	SPECIAL PRESSURE RELIEF JOINT, TYPE A	609 CURB, TYPE 6	448 ASPH. CONC. INT. COURSE, TYPE I, PG64-22 UNDER GUARDRAIL	407 TACK COAT 0.05L/SQ. M	407 TACK COAT FOR INTERMEDIATE COURSE 0.03L/SQ. M	408 BITUMINOUS PRIME COAT 1.8L/SQ. M	617 COMPACTED AGGREGATE, A.P.P. (200mm)
BEGINNING	ENDING		METER	METER	SQ. M.	SQ. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	SQ. M.	SQ. M.	METER	METER	CU. M.	LITER	LITER	LITER	CU M.
T.R 243 (EAST)																							
0+020.000	0+043.935	LT.& RT.	23.935	3.60	86.17	86.2				17.2													
0+043.935	0+073.935	LT.& RT.	30.000	5.10	153.00	153.0				30.6													
0+073.935	0+120.000	LT.& RT.	46.065	6.60	304.03	304.0				60.8													
TURNAROUND		LT.	25.700	7.60	195.32	195.3				39.1													
SPANDEL's (15	x 15 x .2146)2	LT.	-	-	96.57	96.6				19.3													
S.R. 681																							
51+040.000	51+052.500	LT.& RT.	12.500	6.55	81.88	81.9		12.3				2.6	3.6							4.1	2.5	147.4	
		LT.& RT.	12.500	6.86	85.75						12.9												
		LT.& RT.	12.500	1.80	22.50																		4.5
51+052.500	51+278.788	LT.& RT.	226.288	7.20	1629.27	1629.3		244.4				52.1	71.7							81.5	48.9	2932.7	
		LT.& RT.	226.288	7.51	1699.42						254.9												
		LT.& RT.	226.288	3.60	814.64																		162.9
51+278.788	51+305.750	LT.& RT.	26.962	#	529.50	529.5									529.5								
		LT.& RT.	26.962	#	539.35				134.8														
51+340.200	51+367.170	LT.& RT.	26.970	#	528.07	528.1									528.1								
		LT.& RT.	26.970	#	537.82				134.5														
51+367.170	51+695.245	LT.& RT.	328.075	7.20	2362.14	2362.1		354.3				75.6	103.9							118.1	70.9	4251.8	
		LT.& RT.	328.075	7.51	2463.84						369.6												
		LT.& RT.	328.075	3.60	1181.07																		236.2
51+695.245	51+721.735	LT.& RT.	26.490	6.40	169.54	169.5		25.4				5.4	7.5							8.5	5.1	305.2	
		LT.& RT.	26.490	6.71	177.75						26.7												
		LT.& RT.	26.490	1.80	47.68																		9.5
TOTALS CARRIED TO SHEET 140						6135.5	636.4		1100.3			135.7	186.7		1057.6	0.0	0.0	0.0	0.0	212.2	127.4	7637.1	413.1

CALCULATED BBD
CHECKED JDY

PAVEMENT CALCULATIONS

ATH-33-40.981

PAVEMENT CALCULATIONS

CALCULATED BBD
CHECKED JDY

STATION TO STATION		SIDE	DISTANCE D	AVERAGE WIDTH W	SURFACE AREA A (A = D x W) # CADD GENERATED AREA	203 SUBGRADE COMPACTION	301 BITUMINOUS AGGREGATE BASE, PG64-22 (75mm)	301 BITUMINOUS AGGREGATE BASE, PG64-22 (150mm)	304 AGGREGATE BASE (250mm)	304 AGGREGATE BASE (200mm)	304 AGGREGATE BASE (150mm)	448 ASPH. CONC. SURFACE COURSE, TYPE 1, PG64-22 (32mm)	448 ASPH. CONC. INT. COURSE, TYPE 2, PG64-22 (44mm)	448 ASPH. CONC. INT. COURSE, TYPE 2, PG64-22 (70mm)	884 225mm PORTLAND CEMENT CONCRETE PAVEMENT	611 REINFORCED CONCRETE APPROACH SLAB	SPECIAL PRESSURE RELIEF JOINT, TYPE A	609 CURB, TYPE 6	448 ASPH. CONC. INT. COURSE, TYPE 1, PG64-22 UNDER GUARDRAIL (50mm)	407 TACK COAT 0.05L/SQ. M	407 TACK COAT FOR INTERMEDIATE COURSE 0.03L/SQ. M	408 BITUMINOUS PRIME COAT 1.8L/SQ. M	617 COMPACTED AGGREGATE, A.P.P. (200mm)	618 RUMBLE STRIPS, TYPE 3
BEGINNING	ENDING		METER	METER	SQ. M.	SQ. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	CU. M.	SQ. M.	SQ. M.	METER	METER	CU. M.	LITER	LITER	LITER	CU M.	METER
OLD U.S. 33 RELOCATION																								
46+003.600	46+330.467																							
		LT.& RT.	326.867	6.91	2258.65						338.8													
46+330.467	46+353.932	LT.& RT.	23.465	6.50	152.52	152.5	11.4					4.9	6.7							7.6	4.6	274.5		
		LT.& RT.	23.465	6.81	159.80						24.0													
DRIVE@46+258 TO 46+307		LT.	50.355	3.00	151.07						22.7													
SPANDEL'S (18x18x.2146)2		LT.& RT.	-	-	139.06	139.1	10.4				20.9	4.4	6.1							6.9	4.2	250.3		
DRIVE @ 46+318		LT.	-	#	114.57	114.6				22.9														
C.R. 20																								
0+013.500	0+041.250	LT.& RT.	27.75	#	450.16	450.2									450.2									
		LT.& RT.	27.75	#	459.51				114.9															
T.R. 17																								
0+013.500	0+026.250	LT.& RT.	12.75	#	373.64	373.6									373.6									
		LT.& RT.	12.75	#	378.66				94.7															
TOTALS FROM SHEET 135						122126.1	0.0		31190.1			0.0	0.0		121484.5	641.6	79.8	5.0	0.0	0.0	0.0	0.0	0.0	18695.6
TOTALS FROM SHEET 136						24491.5	0.0		6224.2			0.0	0.0		24011.1	480.4	62.5	0.0	545.3	0.0	0.0	0.0	0.0	3835.3
TOTALS FROM SHEET 137						6426.1	223.3		1206.1			95.2	130.9		860.0	0.0	0.0	0.0	0.0	148.8	89.4	5358.9	0.0	0.0
TOTALS FROM SHEET 138						2753.5	8.6		443.0			87.5	188.6		0.0	0.0	0.0	0.0	0.0	137.1	3.5	4925.9	0.0	0.0
TOTALS FROM SHEET 139						6135.5	636.4		1100.3			135.7	186.7		1057.6	0.0	0.0	0.0	0.0	212.2	127.4	7637.1	413.1	0.0
TOTALS THIS SHEET						3387.3	183.6		638.9			78.3	107.7		823.8	0.0	0.0	0.0	0.0	122.4	73.5	4408.0	0.0	0.0
TOTALS						116178.7	1051.9		40974.4			396.7	613.7		148237.0	1122.0	142.3	5.0	545.3	620.5	293.8	22329.9	413.1	22530.9
TOTALS CARRIED TO GENERAL SUMMARY						165320	1052		40803			397	614		148237	1122	143	5	546	621	294	22330	414	22531

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		STATION TO STATION			203	203	203	870	878	878	878	878	878	878								
					EXCAVATION NOI INCLUDING EMBANKMENT	EXCAVATION OF UNSUITABLE MATERIAL (ROCK)	EMBANKMENT	SEEDING AND MULCHING	PRE-BLAST CONDITION SURVEY	BLASTING CONSULTANT	AIRBLAST AND NOISE CONTROL	VIBRATION CONTROL AND MONITORING	PRE-SPLITTING	HYDROLOGIST								
		BEGINNING	ENDING	LOCATION	CU. M.	CU. M.	CU. M.	CU. M.	LUMP	LUMP	LUMP	LUMP	SQ. M.	LUMP								
		39+600.000	39+643.920	US33	30996	189	88	4513														
		39+926.080	40+120.000	US33	112165	1239	97	13455														
		40+120.000	40+460.000	US33	15343	339	173243	24195														
		40+460.000	40+800.000	US33	58322	1088	70074	22281														
		40+800.000	41+140.000	US33	9898	567	109718	19137														
		41+140.000	41+255.188	US33	5505	395	12596	4398														
		41+415.023	41+480.000	US33	36464	528	128	4936														
		41+480.000	41+820.000	US33	277258	2055	4685	31583														
		41+820.000	42+160.000	US33	123290	954	120232	30251														
		42+160.000	42+500.000	US33	57331	1836	14711	16114														
		42+500.000	42+840.000	US33	5345	31	241360	27150														
		42+840.000	43+180.000	US33	8066	123	226038	26910														
		43+180.000	43+520.000	US33	57686	1538	10225	15570														
		43+520.000	43+860.000	US33	21880	697	423037	33164														
		43+860.000	44+200.000	US33	55732	576	246721	31073														
		44+200.000	44+540.000	US33	54523	725	245536	29211														
		44+540.000	44+880.000	US33	200853	1371	37733	29079														
		44+880.000	45+220.000	US33	212635	1353	122780	32752														
		45+220.000	45+472.770	US33	20262	370	88975	15469														
		45+621.230	45+900.000	US33	33320	399	186215	20490														
		45+900.000	46+240.000	US33	214183	1671	22841	21524														
		46+240.000	46+580.000	US33	392554	1898	3759	36073														
		46+580.000	46+920.000	US33	82862	1686	3634	16028														
		46+920.000	47+260.000	US33	91737	1725	11077	19777														
		47+260.000	47+600.000	US33	96211	1187	32805	20840														
		47+600.000	47+940.000	US33	37481	1327	38161	18711														
		47+940.000	48+280.000	US33	89677	1913	42436	22575														
		48+280.000	48+620.000	US33	212849	3614	3371	23638														
		48+620.000	48+853.275	US33	65371	1088	45590	13875														
		48+928.589	48+960.000	US33	7667 *	143	811 *	2128 *														
		48+960.000	49+300.000	US33	472148*	3564	1837 *	34107*														
		49+300.000	49+640.000	US33	44275*	593	6167 *	21894*														
		49+640.000	49+890.950	US33	16438	40	2418	12070														
		1+050.000	1+147.032	TR68	391	0	8678	2999														
		2+000.000	2+075.000	TR68	294	0	53	800														
		1+010.000	1+117.963	TR67	843 *	323	3358*	3080														
		1+980.000	2+160.000	CR89	2066*	0	4421*	4381														
		2+160.000	2+440.000	CR89	1154*	0	25889*	10610*														
		2+440.000	2+540.000	CR89	539 *	0	595 *	797														
		11+000.000	11+200.000	TR412	16135	0	77	6095														
		11+200.000	11+480.000	TR412	20157	0	216	7274														
		11+480.000	11+607.637	TR412	8227	0	19	3267														
		0+020.000	0+120.000	TR243	1068	0	113	1833														
		51+040.000	51+120.000	SR681	3128*	290	973 *	2242														
		51+120.000	51+420.000	SR681	4428*	40	30279*	13054														
		51+420.000	51+660.000	SR681	15170*	547	7367 *	6972 *														
		51+660.000	51+721.735	SR681	2579*	0	621 *	2441														
		46+000.000	46+260.000	US33(OLD)	68548	725	1235	10339														
		46+260.000	46+353.932	US33(OLD)	931*	60	153*	1362*														
TOTALS CARRIED TO GENERAL SUMMARY					3365985	38807	2633146	772517	LUMP	LUMP	LUMP	LUMP	1,700	LUMP								

* INCLUDES QUANTITY FOR THE REMOVAL OF EX. ASPHALT PAVEMENT

CALCULATED: BBD
CHECKED: JDY

EARTHWORK SUBSUMMARY

ATH-33-40.981

UNDERDRAIN SUBSUMMARY

CALCULATED BBD
CHECKED TDW

REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION		LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601	603	603	605	605	605	605	604	FOR INFORMATION ONLY							OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄	NOTES
		BEGINNING STATION	ENDING STATION					CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE	100mm CONDUIT, TYPE B, 707.31	100mm CONDUIT, TYPE F, 707.31	100mm SHALLOW PIPE UNDERDRAIN, 707.31 (450mm DEPTH)	100mm SHALLOW PIPE UNDERDRAIN, 707.31 (750mm DEPTH)	100mm SHALLOW PIPE UNDERDRAIN, 707.31 (300mm DEPTH, ROCK CUT)	100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	PRECAST REINFORCED CONCRETE OUTLET	OUTLETS INTO ANOTHER UNDERDRAIN	OUTLETS INTO CATCH BASIN	END CAP	TEE CONNECTION	WYE CONNECTION	90° ELL CONNECTION	CROSS CONNECTION				
								SQ. M.	METER	METER	METER	METER	METER	METER	EA	EA	EA	EA	EA	EA	EA	EA			METER	
1-U	153	39+600.0	39+635.0	OS	255.039	254.689			13.2	11.6	35				1			1		1	1		39+635.0	253.96	27.3 LT.	
2-U		39+600.0	39+635.0	OL	254.987	254.637							35			1		1	1							OUTLETS INTO 1-U
3-U		39+600.0	39+635.0	IL	254.987	254.637							35			1		1	1							OUTLETS INTO 2-U
4-U		39+600.0	39+635.0	IS	255.039	254.689					35					1		1			1					OUTLETS INTO 3-U
5-U	155	39+934.0	40+000.0	OS	251.699	251.002			10.8	10.7	66						1	1		1	1		40+000.0	250.898	28.9 LT.	
6-U		39+934.0	40+000.0	OL	251.327	250.992							30	36		1		1	1							OUTLETS INTO 4-U
7-U		39+934.0	40+000.0	IL	251.327	250.992							30	36		1		1	1							OUTLETS INTO 6-U
8-U		39+934.0	40+000.0	IS	251.699	251.039					66					1		1			1					OUTLETS INTO 7-U
9-U	155	40+001.5	40+100.0	OS	250.987	249.675			10.8	10.4	98.5						1	1		1	1		40+100.0	249.573	28.6 LT.	
10-U		40+001.5	40+100.0	OL	250.935	249.623							98.5			1		1	1							OUTLETS INTO 9-U
11-U		40+001.5	40+100.0	IL	250.972	249.987							98.5			1		1	1							OUTLETS INTO 10-U
12-U		40+001.5	40+100.0	IS	251.024	250.039					98.5					1		1			1					OUTLETS INTO 11-U
13-U	157	40+101.5	40+200.0	OS	249.660	248.665			10.8	10.1	98.5				1			1		1	1		40+200.0	247.650	28.3 LT.	
14-U		40+101.5	40+200.0	OL	249.608	248.168							78.5	20		1		1	1							OUTLETS INTO 13-U
15-U		40+101.5	40+200.0	IL	249.972	248.607							78.5	20		1		1	1							OUTLETS INTO 14-U
16-U		40+101.5	40+200.0	IS	250.024	249.104					98.5					1		1			1					OUTLETS INTO 15-U
17-U	157	40+201.5	40+310.0	OS	248.650	248.276		4	13.2	7.4	108.5				1			1		1			40+310.0	247.430	25.5 LT.	
18-U		40+201.5	40+310.0	OL	248.148	247.774						108.5				1		1								OUTLETS INTO 17-U
19-U		40+201.5	40+310.0	IL	249.089	248.213						108.5				1		1								OUTLETS INTO 18-U
20-U		40+201.5	40+310.0	IS	248.587	248.715					108.5					1		1	1							OUTLETS INTO 19-U
21-U	157	40+310.0	40+458.5	OS	248.276	248.975					148.5					1		1								OUTLETS INTO 17-U
22-U		40+310.0	40+458.5	OL	247.774	248.473						148.5				1		1								OUTLETS INTO 18-U
23-U		40+310.0	40+458.5	IL	248.213	248.912						148.5				1		1								OUTLETS INTO 19-U
24-U		40+310.0	40+458.5	IS	248.715	249.414					148.5					1		1								OUTLETS INTO 20-U
25-U	159	40+460.0	40+598.5	OS	248.990	250.967		6.7	10.8	4.6	138.5				1			1		1	1		40+460.0	248.320	22.3 LT.	
26-U		40+460.0	40+598.5	OL	248.488	250.465						138.5				1		1	1							OUTLETS INTO 25-U
27-U		40+460.0	40+598.5	IL	248.927	250.597						138.5				1		1	1							OUTLETS INTO 26-U
28-U		40+460.0	40+598.5	IS	249.429	251.099					138.5					1		1			1					OUTLETS INTO 27-U
29-U	159	40+600.0	40+718.5	OS	250.982	252.595		2	10.8	4.1	118.5				1			1		1	1		40+600.0	250.620	21.8 LT.	
30-U		40+600.0	40+718.5	OL	250.480	252.543						60	38.5	20		1		1	1							OUTLETS INTO 29-U
31-U		40+600.0	40+718.5	IL	250.612	252.543						60	38.5	20		1		1	1							OUTLETS INTO 30-U
32-U		40+600.0	40+718.5	IS	251.114	252.595					118.5					1		1			1					OUTLETS INTO 31-U
33-U	159	40+720.0	40+838.5	OS	252.614	254.114			10.8	9.9	118.5						1	1		1	1		40+720.0	252.315	28.1 LT.	
34-U		40+720.0	40+838.5	OL	252.562	253.598							70	48.5		1		1	1							OUTLETS INTO 33-U
35-U		40+720.0	40+838.5	IL	252.562	253.598							70	48.5		1		1	1							OUTLETS INTO 34-U
36-U		40+720.0	40+838.5	IS	252.614	254.114					118.5					1		1			1					OUTLETS INTO 35-U
37-U	161	40+840.0	40+978.5	OS	254.114	255.845		1.7	10.8	4.1	138.5				1			1		1	1		40+840.0	253.330	22.2 LT.	
38-U		40+840.0	40+978.5	OL	253.598	255.343						138.5				1		1	1							OUTLETS INTO 37-U
39-U		40+840.0	40+978.5	IL	253.598	255.343						138.5				1		1	1							OUTLETS INTO 38-U
40-U		40+840.0	40+978.5	IS	254.114	255.845					138.5					1		1			1					OUTLETS INTO 39-U
TOTALS CARRIED TO SHEET 152								14.4	102.0	72.9	2138.0	1188.0	701.0	275.4	6.0											

℄ CONSTR.

LOCATION CODES
IS=INSIDE SHOULDER
IL=INSIDE LANE
OL=OUTSIDE LANE
OS=OUTSIDE SHOULDER

ATH-33-40.981

REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION BEGINNING STATION	UNDERDRAIN LOCATION ENDING STATION	LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601 CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE	603 100mm CONDUIT, TYPE B, 707.31	603 100mm CONDUIT, TYPE F, 707.31	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (450mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (750mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (300mm DEPTH, ROCK CUT)	605 100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	604 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	FOR INFORMATION ONLY: OUTLETS INTO CATCH BASIN	FOR INFORMATION ONLY: END CAP	FOR INFORMATION ONLY: TEE CONNECTION	FOR INFORMATION ONLY: WYE CONNECTION	FOR INFORMATION ONLY: 90° ELL CONNECTION	FOR INFORMATION ONLY: CROSS CONNECTION	OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄	NOTES
								SQ. M.	METER	METER	METER	METER	METER	METER	EA	EA	EA	EA	EA	EA	EA	EA			METER	
41-U	161	40+980.0	41+118.5	OS	255.864	257.794		1.3	10.8	4.1	138.5				1			1		1	1		40+980.0	255.003	22.3 LT.	
42-U		40+980.0	41+118.5	OL	255.291	257.292						58.5	20	60		1		1	1							OUTLETS INTO 41-U
43-U		40+980.0	41+118.5	IL	255.367	257.093						58.5	20	60		1		1	1							OUTLETS INTO 42-U
44-U		40+980.0	41+118.5	IS	255.864	257.595					138.5					1		1			1					OUTLETS INTO 43-U
45-U	164	41+120.0	41+245.5	OS	257.813	259.622		3.2	10.8	4.5	125.5				1			1		1	1		41+120.0	256.968	22.7 LT.	
46-U		41+120.0	41+245.5	OL	257.311	259.120						125.5				1		1	1							OUTLETS INTO 45-U
47-U		41+120.0	41+245.5	IL	257.112	258.681						125.5				1		1	1							OUTLETS INTO 46-U
48-U		41+120.0	41+245.5	IS	257.614	259.183					125.5					1		1			1					OUTLETS INTO 47-U
49-U	164	41+423.7	41+440.0	OS	261.849	261.815			13.2	10.7				16.3			1	1		1		1	41+440.0	261.062	28.9 LT.	
50-U		41+423.7	41+440.0	OL	261.797	261.339								16.3				1				1				OUTLETS INTO 49-U
51-U		41+424.9	41+440.0	IL	261.358	261.200								15.1				1				1				OUTLETS INTO 50-U
52-U		41+424.9	41+440.0	IS	261.410	261.185								15.1				1	1							OUTLETS INTO 51-U
53-U	166	41+440.0	41+538.5	OS	261.815	263.284					78.5			20		1		1								OUTLETS INTO 49-U
54-U		41+440.0	41+538.5	OL	261.339	263.232							78.5	20		1		1								OUTLETS INTO 50-U
55-U		41+440.0	41+538.5	IL	261.200	262.793							78.5	20		1		1								OUTLETS INTO 51-U
56-U		41+440.0	41+538.5	IS	261.185	262.845					78.5			20		1		1								OUTLETS INTO 52-U
57-U	166	41+540.0	41+648.5	OS	263.303	264.659			10.8	10.7	108.5						1	1		1	1		41+540.0	262.458	28.8 LT.	
58-U		41+540.0	41+648.5	OL	263.251	264.607							108.5			1		1	1							OUTLETS INTO 57-U
59-U		41+540.0	41+648.5	IL	262.812	264.168							108.5			1		1	1							OUTLETS INTO 58-U
60-U		41+540.0	41+648.5	IS	262.864	264.220					108.5					1		1			1					OUTLETS INTO 59-U
61-U	166	41+650.0	41+758.5	OS	264.678	265.688			10.8	10.4	108.5				1			1		1	1		41+650.0	263.845	28.5 LT.	
62-U		41+650.0	41+758.5	OL	264.626	265.636						50	38.5	20		1		1	1							OUTLETS INTO 61-U
63-U		41+650.0	41+758.5	IL	264.187	265.543							108.5			1		1	1							OUTLETS INTO 62-U
64-U		41+650.0	41+758.5	IS	264.239	265.595					108.5					1		1			1					OUTLETS INTO 63-U
65-U	168	41+760.0	41+888.5	OS	265.707	267.345			10.8	12.4	128.5				1			1		1	1		41+760.0	265.2	30.6 LT.	
66-U		41+760.0	41+888.5	OL	265.655	267.293							128.5			1		1	1							OUTLETS INTO 65-U
67-U		41+760.0	41+888.5	IL	265.562	267.293							128.5			1		1	1							OUTLETS INTO 66-U
68-U		41+760.0	41+888.5	IS	265.614	267.345					128.5					1		1			1					OUTLETS INTO 67-U
69-U	168	41+900.0	41+998.5	OS	267.364	268.595				10.1	98.5				1			1		1	1		41+900.0	266.98	28.3 LT.	
70-U		41+900.0	41+998.5	OL	267.312	268.093						18.5	30	50		1		1	1							OUTLETS INTO 69-U
71-U		41+900.0	41+998.5	IL	267.312	268.093						18.5	30	50		1		1	1							OUTLETS INTO 70-U
72-U		41+900.0	41+998.5	IS	267.364	268.595					98.5					1		1			1					OUTLETS INTO 71-U
73-U	168	42+000.0	42+098.5	OS	268.614	269.645			13.7	8.5	98.5				1			1		1	1		42+000.0	267.914	26.7 LT.	
74-U		42+000.0	42+098.5	OL	268.112	269.143						98.5				1		1	1							OUTLETS INTO 73-U
75-U		42+000.0	42+098.5	IL	268.112	269.143						98.5				1		1	1							OUTLETS INTO 74-U
76-U		42+000.0	42+098.5	IS	268.614	269.645					98.5					1		1			1					OUTLETS INTO 75-U
77-U	168	42+100.0	42+198.5	OS	269.664	270.307		9.2	15.2	8.6	98.5				1			1		1	1		42+100.0	268.923	26.9 LT.	
78-U		42+100.0	42+198.5	OL	269.162	270.156						80		18.5		1		1	1							OUTLETS INTO 77-U
79-U		42+100.0	42+198.5	IL	269.162	270.156						80		18.5		1		1	1							OUTLETS INTO 78-U
80-U		42+100.0	42+198.5	IS	269.664	270.307					98.5					1		1			1					OUTLETS INTO 79-U
TOTALS CARRIED TO SHEET 152								13.7	96.1	80.0	1967.0	812.0	878.0	446.2	7.0											

℄ CONSTR.

LOCATION CODES
IS-INSIDE SHOULDER
IL-INSIDE LANE
OL-OUTSIDE LANE
OS-OUTSIDE SHOULDER

CALCULATED BBD
CHECKED TDW

UNDERDRAIN SUBSUMMARY

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UNDERDRAIN SUBSUMMARY

CALCULATED BBD | CHECKED TJW

REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION BEGINNING STATION	UNDERDRAIN LOCATION ENDING STATION	LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601 CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE	603 100mm CONDUIT,TYPE B, 707.31	603 100mm CONDUIT,TYPE F, 707.31	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (450mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (750mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (300mm DEPTH, ROCK CUT)	605 100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	604 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	FOR INFORMATION ONLY: OUTLETS INTO CATCH BASIN	FOR INFORMATION ONLY: END CAP	FOR INFORMATION ONLY: TEE CONNECTION	FOR INFORMATION ONLY: WYE CONNECTION	FOR INFORMATION ONLY: 90° ELL CONNECTION	FOR INFORMATION ONLY: CROSS CONNECTION	OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄	NOTES
								SQ. M.	METER	METER	METER	METER	METER	METER	EA	EA	EA	EA	EA	EA	EA	EA			METER	
81-U	170	42+200.0	42+325.0	OS	270.314	270.564			16.8	8.8	125				1			1		1	1		42+200.0	269.850	27.0 LT.	
82-U		42+200.0	42+325.0	OL	270.262	270.512							125			1		1	1							OUTLETS INTO 81-U
83-U		42+200.0	42+306.5	IL	270.262	270.512					106.5					1		1	1							OUTLETS INTO 82-U
84-U		42+200.0	42+306.5	IS	270.314	270.564					106.5					1		1			1					OUTLETS INTO 83-U
85-U	170	42+371.5	42+480.0	OS	270.501	270.006			16.8	10.7	108.5				1			1		1	1		42+480.0	269.520	28.9 LT.	
86-U		42+371.5	42+480.0	OL	269.999	269.954						8.5		100		1		1	1							OUTLETS INTO 85-U
87-U		42+353.0	42+480.0	IL	269.999	269.951						27		100		1		1	1							OUTLETS INTO 86-U
88-U		42+353.0	42+480.0	IS	270.501	270.006					127					1		1			1					OUTLETS INTO 87-U
89-U	173	42+481.5	42+580.0	OS	269.987	268.958			14.7	4.3	98.5				1			1		1	1		42+580.0	267.972	22.7 LT.	
90-U		42+481.5	42+580.0	OL	269.935	268.456						40	38.5	20		1		1	1							OUTLETS INTO 89-U
91-U		42+481.5	42+580.0	IL	269.935	268.762						98.5				1		1	1							OUTLETS INTO 90-U
92-U		42+481.5	42+580.0	IS	269.987	269.264					98.5					1		1			1					OUTLETS INTO 91-U
93-U	173	42+581.5	42+720.0	OS	268.947	267.926		9.1	10.8	4.4	138.5				1			1		1	1		42+720.0	267.142	22.9 LT.	
94-U		42+581.5	42+720.0	OL	268.445	267.424						138.5				1		1	1							OUTLETS INTO 93-U
95-U		42+581.5	42+720.0	IL	268.751	267.712						138.5				1		1	1							OUTLETS INTO 94-U
96-U		42+581.5	42+720.0	IS	269.253	268.214					138.5					1		1			1					OUTLETS INTO 95-U
97-U	173	42+721.5	42+860.0	OS	267.915	266.876		4.1	10.8	4.4	138.5				1			1		1	1		42+860.0	266.092	22.6 LT.	
98-U		42+721.5	42+860.0	OL	267.413	266.374						138.5				1		1	1							OUTLETS INTO 97-U
99-U		42+721.5	42+860.0	IL	267.701	266.662						138.5				1		1	1							OUTLETS INTO 98-U
100-U		42+721.5	42+860.0	IS	268.203	267.164					138.5					1		1			1					OUTLETS INTO 99-U
101-U	175	42+861.5	43+000.0	OS	266.865	265.826		6.8	10.8	4.4	138.5				1			1		1	1		43+000.0	265.042	22.6 LT.	
102-U		42+861.5	43+000.0	OL	266.363	265.324						138.5				1		1	1							OUTLETS INTO 101-U
103-U		42+861.5	43+000.0	IL	266.651	265.612						138.5				1		1	1							OUTLETS INTO 102-U
104-U		42+861.5	43+000.0	IS	267.153	266.114					138.5					1		1			1					OUTLETS INTO 103-U
105-U	175	43+001.5	43+140.0	OS	265.815	265.064			10.8	8.5	138.5				1			1		1	1		43+140.0	264.376	26.7 LT.	
106-U		43+001.5	43+140.0	OL	265.313	264.562						138.5				1		1	1							OUTLETS INTO 105-U
107-U		43+001.5	43+140.0	IL	265.601	264.562						138.5				1		1	1							OUTLETS INTO 106-U
108-U		43+001.5	43+140.0	IS	266.103	265.064					138.5					1		1			1					OUTLETS INTO 107-U
109-U	177	43+141.5	43+280.0	OS	265.053	264.014			10.8	9.9	138.5						1	1		1	1		43+280.0	263.275	28.0 LT.	
110-U		43+141.5	43+280.0	OL	264.551	263.962							70	68.5		1		1	1							OUTLETS INTO 109-U
111-U		43+141.5	43+280.0	IL	264.551	263.962							70	68.5		1		1	1							OUTLETS INTO 110-U
112-U		43+141.5	43+280.0	IS	265.053	264.014					138.5					1		1			1					OUTLETS INTO 111-U
113-U	177	43+281.5	43+380.0	OS	264.003	263.264			10.8	9.9	98.5						1	1		1	1		43+380.0	262.578	28.1 LT.	
114-U		43+281.5	43+380.0	OL	263.951	262.762						20	58.5	20		1		1	1							OUTLETS INTO 113-U
115-U		43+281.5	43+380.0	IL	263.951	262.762						20	58.5	20		1		1	1							OUTLETS INTO 114-U
116-U		43+281.5	43+380.0	IS	264.003	263.264					98.5					1		1			1					OUTLETS INTO 115-U
117-U	177	43+381.5	43+460.0	OS	263.253	262.664		1.4	10.8	4.1	78.5				1			1		1	1		43+460.0	262.023	22.3 LT.	
118-U		43+381.5	43+460.0	OL	262.751	262.162						78.5				1		1	1							OUTLETS INTO 117-U
119-U		43+381.5	43+460.0	IL	262.751	262.162						78.5				1		1	1							OUTLETS INTO 118-U
120-U		43+381.5	43+460.0	IS	263.253	262.664					78.5					1		1			1					OUTLETS INTO 119-U
TOTALS CARRIED TO SHEET 152								21.4	123.9	69.4	2509.5	1479.0	420.5	397.0	8.0											

℄ CONSTR.

LOCATION CODES
IS=INSIDE SHOULDER
IL=INSIDE LANE
OL=OUTSIDE LANE
OS=OUTSIDE SHOULDER

ATH-33-40.981

REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION BEGINNING STATION	UNDERDRAIN LOCATION ENDING STATION	LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601 CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE SQ. M.	603 100mm CONDUIT,TYPE B, 707.31 METER	603 100mm CONDUIT,TYPE F, 707.31 METER	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (450mm DEPTH) METER	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (750mm DEPTH) METER	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (300mm DEPTH, ROCK CUT) METER	605 100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31 METER	604 PRECAST REINFORCED CONCRETE OUTLET EA	FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN EA	OUTLETS INTO CATCH BASIN EA	END CAP EA	TEE CONNECTION EA	WYE CONNECTION EA	90° ELL CONNECTION EA	CROSS CONNECTION EA	OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄ METER	NOTES
121-U	179	43+461.5	43+600.0	OS	262.653	261.614			10.8	9.8	138.5				1			1		1	1		43+600.0	261.230	28.0 LT.	
122-U		43+461.5	43+600.0	OL	262.156	261.562							70	68.5		1		1	1							OUTLETS INTO 121-U
123-U		43+461.5	43+600.0	IL	262.156	261.562							70	68.5		1		1	1							OUTLETS INTO 122-U
124-U		43+461.5	43+600.0	IS	262.653	261.614					138.5					1		1			1					OUTLETS INTO 123-U
125-U	179	43+601.5	43+740.0	OS	261.603	260.564		12.8	10.8	4.1	138.5				1			1		1	1		43+740.0	259.923	22.3 LT.	
126-U		43+601.5	43+740.0	OL	261.551	260.062						100	18.5	20		1		1	1							OUTLETS INTO 125-U
127-U		43+601.5	43+740.0	IL	261.551	260.062						100	18.5	20		1		1	1							OUTLETS INTO 126-U
128-U		43+601.5	43+740.0	IS	261.603	260.564					138.5					1		1			1					OUTLETS INTO 127-U
129-U	179	43+741.5	43+880.0	OS	260.553	259.514		4	10.8	4.1	138.5				1			1		1	1		43+880.0	258.873	22.3 LT.	
130-U		43+741.5	43+880.0	OL	260.051	259.012						138.5				1		1	1							OUTLETS INTO 129-U
131-U		43+741.5	43+880.0	IL	260.051	259.012						138.5				1		1	1							OUTLETS INTO 130-U
132-U		43+741.5	43+880.0	IS	260.553	259.514					138.5					1		1			1					OUTLETS INTO 131-U
133-U	182	43+881.5	44+020.0	OS	259.503	258.464		2.3	10.8	4.1	138.5				1			1	1	1	1		44+020.0	257.823	22.3 LT.	
134-U		43+881.5	44+020.0	OL	259.001	257.962						138.5				1		1	1							OUTLETS INTO 133-U
135-U		43+881.5	44+020.0	IL	259.001	257.962						138.5				1		1	1							OUTLETS INTO 134-U
136-U		43+881.5	44+020.0	IS	259.503	258.464					138.5					1		1			1					OUTLETS INTO 135-U
137-U	182	44+021.5	44+100.0	OS	258.453	257.864			10.8	8.5	78.5				1			1		1	1		44+100.0	257.176	26.7 LT.	
138-U		44+021.5	44+100.0	OL	257.951	257.362						78.5				1		1	1							OUTLETS INTO 137-U
139-U		44+021.5	44+100.0	IL	257.951	257.362						78.5				1		1	1							OUTLETS INTO 138-U
140-U		44+021.5	44+100.0	IS	258.453	257.864					78.5					1		1			1					OUTLETS INTO 139-U
141-U	182	44+101.5	44+200.0	OS	257.853	257.114			10.8	9.9	98.5						1	1		1	1		44+200.0	256.378	28.1 LT.	
142-U		44+101.5	44+200.0	OL	257.351	257.062							30	68.5		1		1	1							OUTLETS INTO 141-U
143-U		44+101.5	44+200.0	IL	257.351	257.062							30	68.5		1		1	1							OUTLETS INTO 142-U
144-U		44+101.5	44+200.0	IS	257.853	257.114					98.5					1		1			1					OUTLETS INTO 143-U
145-U	184	44+201.5	44+300.0	OS	257.103	256.364			10.8	9.9	98.5						1	1		1	1		44+300.0	255.626	28.1 LT.	
146-U		44+201.5	44+300.0	OL	257.051	256.312							98.5			1		1	1							OUTLETS INTO 145-U
147-U		44+201.5	44+300.0	IL	257.051	256.312							98.5			1		1	1							OUTLETS INTO 146-U
148-U		44+201.5	44+300.0	IS	257.103	256.365					98.5					1		1			1					OUTLETS INTO 147-U
149-U	184	44+301.5	44+450.0	OS	256.353	255.239		9.7	10.8	4.1	148.5				1			1		1	1		44+450.0	254.523	22.3 LT.	
150-U		44+301.5	44+450.0	OL	256.301	254.737						130		18.5		1		1	1							OUTLETS INTO 149-U
151-U		44+301.5	44+450.0	IL	256.301	254.737						130		18.5		1		1	1							OUTLETS INTO 150-U
152-U		44+301.5	44+450.0	IS	256.353	255.239					148.5					1		1			1					OUTLETS INTO 151-U
153-U	184	44+451.5	44+600.0	OS	255.228	253.616		1.4	10.8	4.1	148.5				1			1		1	1		44+600.0	252.975	20.3 LT.	
154-U		44+451.5	44+600.0	OL	254.726	253.114						148.5				1		1	1							OUTLETS INTO 153-U
155-U		44+451.5	44+600.0	IL	254.726	253.114						148.5				1		1	1							OUTLETS INTO 154-U
156-U		44+451.5	44+600.0	IS	255.228	253.616					148.5					1		1			1					OUTLETS INTO 155-U
157-U	186	44+601.5	44+720.0	OS	253.592	251.301			10.8	12.1	118.5						1	1		1	1		44+720.0	250.466	30.3 LT.	
158-U		44+601.5	44+720.0	OL	253.090	251.177						78.5		40		1		1	1							OUTLETS INTO 157-U
159-U		44+601.5	44+720.0	IL	253.090	251.249						78.5		40		1		1	1							OUTLETS INTO 158-U
160-U		44+601.5	44+720.0	IS	253.592	251.301					118.5					1		1			1					OUTLETS INTO 159-U
TOTALS CARRIED TO SHEET 152								30.2	108.0	70.7	2490.0	1625.0	434.0	431.0	7.0											

℄ CONSTR.

LOCATION CODES
IS-INSIDE SHOULDER
IL-INSIDE LANE
OL-OUTSIDE LANE
OS-OUTSIDE SHOULDER

CALCULATED DBD
CHECKED TDW

UNDERDRAIN SUBSUMMARY

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UNDERDRAIN SUBSUMMARY

ATH-33-40.981

CALCULATED BBD | CHECKED TDW

REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION BEGINNING STATION	UNDERDRAIN LOCATION ENDING STATION	LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601 CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE	603 100mm CONDUIT, TYPE B, 707.31	603 100mm CONDUIT, TYPE F, 707.31	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (450mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (750mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (300mm DEPTH, ROCK CUT)	605 100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	604 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	FOR INFORMATION ONLY: OUTLETS INTO CATCH BASIN	FOR INFORMATION ONLY: END CAP	FOR INFORMATION ONLY: TEE CONNECTION	FOR INFORMATION ONLY: WYE CONNECTION	FOR INFORMATION ONLY: 90° ELL CONNECTION	FOR INFORMATION ONLY: CROSS CONNECTION	OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄	NOTES
								SQ. M.	METER	METER	METER	METER	METER	METER	EA	EA	EA	EA	EA	EA	EA	EA				
161-U	186	44+721.5	44+820.0	OS	251.266	248.671			10.8	9.7	98.5						1	1					44+820.0	247.939	27.9 LT.	
162-U		44+721.5	44+820.0	OL	251.214	248.619							98.5			1		1	1								OUTLETS INTO 161-U
163-U		44+721.5	44+820.0	IL	251.214	248.619							98.5			1		1	1								OUTLETS INTO 162-U
164-U		44+721.5	44+820.0	IS	251.266	248.671					98.5					1		1			1						OUTLETS INTO 163-U
165-U	189	44+821.5	44+980.0	OS	248.622	243.487		2	10.8	4.1	158.5				1			1		1	1		44+980.0	242.846	22.3 LT.	
166-U		44+821.5	44+980.0	OL	248.570	242.985						60	78.5	20		1		1	1								OUTLETS INTO 165-U
167-U		44+821.5	44+980.0	IL	248.570	242.985						60	78.5	20		1		1	1								OUTLETS INTO 166-U
168-U		44+821.5	44+980.0	IS	248.622	243.487					158.5					1		1			1						OUTLETS INTO 167-U
169-U	189	44+981.5	45+080.0	OS	243.438	240.187			10.8	9.9	98.5						1	1		1	1		45+080.0	239.449	28.1 LT.	
170-U		44+981.5	45+080.0	OL	242.936	240.135							80	18.5		1		1	1								OUTLETS INTO 169-U
171-U		44+981.5	45+080.0	IL	242.936	240.135							80	18.5		1		1	1								OUTLETS INTO 170-U
172-U		44+981.5	45+080.0	IS	243.438	240.187					98.5					1		1			1						OUTLETS INTO 171-U
173-U	189	45+081.5	45+180.0	OS	240.138	236.887			10.8	9.9	98.5						1	1		1	1		45+180.0	236.15	28.1 LT.	
174-U		45+081.5	45+180.0	OL	240.086	236.835							98.5			1		1	1								OUTLETS INTO 173-U
175-U		45+081.5	45+180.0	IL	240.086	236.835							98.5			1		1	1								OUTLETS INTO 174-U
176-U		45+081.5	45+180.0	IS	240.138	236.887					98.5					1		1			1						OUTLETS INTO 175-U
177-U	191	45+181.5	45+260.0	OS	236.838	234.247			10.8	8.5	78.5				1			1		1	1		45+260.0	233.87	26.7 LT.	
178-U		45+181.5	45+260.0	OL	236.786	234.195							78.5			1		1	1								OUTLETS INTO 177-U
179-U		45+181.5	45+260.0	IL	236.786	234.195							78.5			1		1	1								OUTLETS INTO 178-U
180-U		45+181.5	45+260.0	IS	236.838	234.247					78.5					1		1			1						OUTLETS INTO 179-U
181-U	191	45+261.5	45+360.0	OS	234.198	230.947		0.9	13.2	3.8	98.5				1			1		1	1		45+360.0	230.818	22.0 LT.	
182-U		45+261.5	45+360.0	OL	233.696	230.895						78.5		20		1		1	1								OUTLETS INTO 181-U
183-U		45+261.5	45+360.0	IL	233.696	230.895						78.5		20		1		1	1								OUTLETS INTO 182-U
184-U		45+261.5	45+360.0	IS	234.198	230.947					98.5					1		1			1						OUTLETS INTO 183-U
185-U	191	45+361.5	45+464.0	OS	230.898	227.901		7.9	13.2	4.1	102.5				1			1		1	1		45+464.0	227.269	22.3 LT.	
186-U		45+361.5	45+464.0	OL	230.846	227.399						84		18.5		1		1	1								OUTLETS INTO 185-U
187-U		45+361.5	45+464.0	IL	230.846	227.399						84		18.5		1		1	1								OUTLETS INTO 186-U
188-U		45+361.5	45+464.0	IS	230.898	227.901					102.5					1		1			1						OUTLETS INTO 187-U
189-U	193	45+630.0	45+718.5	OS	226.153	226.740			13.2	4.4	88.5				1			1		1	1		45+630.0	225.511	22.9 LT.	
190-U		45+630.0	45+718.5	OL	225.651	226.238						88.5				1		1	1								OUTLETS INTO 189-U
191-U		45+630.0	45+718.5	IL	225.651	226.238						88.5				1		1	1								OUTLETS INTO 190-U
192-U		45+630.0	45+718.5	IS	226.153	226.740					88.5					1		1			1						OUTLETS INTO 191-U
193-U	193	45+720.0	45+818.5	OS	226.762	228.225		3.3	10.8	8.3	98.5				1			1		1	1		45+720.0	226.121	26.5 LT.	
194-U		45+720.0	45+818.5	OL	226.260	227.723						98.5				1		1	1								OUTLETS INTO 193-U
195-U		45+720.0	45+818.5	IL	226.260	227.723						98.5				1		1	1								OUTLETS INTO 194-U
196-U		45+720.0	45+818.5	IS	226.762	228.225					98.5					1		1			1						OUTLETS INTO 195-U
197-U	193	45+820.0	45+938.5	OS	228.247	230.025		7.2	10.8	10	118.5				1			1		1	1		45+820.0	227.559	1.9 RT.	
198-U		45+820.0	45+938.5	OL	227.673	229.973							98.5	20		1		1	1								OUTLETS INTO 197-U
199-U		45+820.0	45+938.5	IL	227.745	229.973							98.5	20		1		1	1								OUTLETS INTO 198-U
200-U		45+820.0	45+938.5	IS	228.247	230.025					118.5					1		1			1						OUTLETS INTO 199-U
TOTALS CARRIED TO SHEET 152								21.3	115.2	72.7	2078.0	819.0	1065.0	220.4	7.0											

℄ CONSTR.

LOCATION CODES
IS=INSIDE SHOULDER
IL=INSIDE LANE
OL=OUTSIDE LANE
OS=OUTSIDE SHOULDER

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REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION BEGINNING STATION	UNDERDRAIN LOCATION ENDING STATION	LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601 CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE	603 100mm CONDUIT, TYPE B, 707.31	603 100mm CONDUIT, TYPE F, 707.31	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (450mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (750mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (300mm DEPTH, ROCK CUT)	605 100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	604 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	FOR INFORMATION ONLY: OUTLETS INTO CATCH BASIN	FOR INFORMATION ONLY: END CAP	FOR INFORMATION ONLY: TEE CONNECTION	FOR INFORMATION ONLY: WYE CONNECTION	FOR INFORMATION ONLY: 90° ELL CONNECTION	FOR INFORMATION ONLY: CROSS CONNECTION	OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄	NOTES
								SQ. M.	METER	METER	METER	METER	METER	METER	EA	EA	EA	EA	EA	EA	EA	EA			METER	
201-U	195	45+940.0	46+038.5	OS	230.047	231.525			10.8	8.8	98.5				1			1		1	1		45+940.0	229.312	1.8 RT.	
202-U		45+940.0	46+038.5	OL	229.995	231.023							60	38.5		1		1	1							OUTLETS INTO 201-U
203-U		45+940.0	46+038.5	IL	229.995	231.023							60	38.5		1		1	1							OUTLETS INTO 202-U
204-U		45+940.0	46+038.5	IS	230.047	231.525					98.5					1		1			1					OUTLETS INTO 203-U
205-U	195	46+040.0	46+138.5	OS	231.547	233.025			10.8	8.5	98.5				1			1		1	1		46+040.0	230.859	26.7 LT.	
206-U		46+040.0	46+138.5	OL	231.045	232.973						80		18.5		1		1	1							OUTLETS INTO 205-U
207-U		46+040.0	46+138.5	IL	231.045	232.973						80		18.5		1		1	1							OUTLETS INTO 206-U
208-U		46+040.0	46+138.5	IS	231.547	233.025					98.5					1		1			1					OUTLETS INTO 207-U
209-U	195	46+140.0	46+238.5	OS	233.047	234.525			10.8	9.9	98.5						1	1		1	1		46+140.0	232.309	28.1 LT.	
210-U		46+140.0	46+238.5	OL	232.995	234.473							98.5			1		1	1							OUTLETS INTO 209-U
211-U		46+140.0	46+238.5	IL	232.995	234.473							98.5			1		1	1							OUTLETS INTO 210-U
212-U		46+140.0	46+238.5	IS	233.047	234.525					98.5					1		1			1					OUTLETS INTO 211-U
213-U	198	46+240.0	46+338.5	OS	234.547	236.025			10.8	9.9	98.5						1	1		1	1		46+240.0	233.809	28.1 LT.	
214-U		46+240.0	46+338.5	OL	234.495	235.973							98.5			1		1	1							OUTLETS INTO 213-U
215-U		46+240.0	46+338.5	IL	234.495	235.973							98.5			1		1	1							OUTLETS INTO 214-U
216-U		46+240.0	46+338.5	IS	234.547	236.025					98.5					1		1			1					OUTLETS INTO 215-U
217-U	198	46+340.0	46+438.5	OS	236.047	237.525			10.8	9.9	98.5						1	1		1	1		46+340.0	235.309	28.1 LT.	
218-U		46+340.0	46+438.5	OL	235.995	237.473							98.5			1		1	1							OUTLETS INTO 217-U
219-U		46+340.0	46+438.5	IL	235.995	237.473							98.5			1		1	1							OUTLETS INTO 218-U
220-U		46+340.0	46+438.5	IS	236.047	237.525					98.5					1		1			1					OUTLETS INTO 219-U
221-U	198	46+440.0	46+538.5	OS	237.547	239.025			10.8	9.9	98.5						1	1		1	1		46+440.0	236.808	28.1 LT.	
222-U		46+440.0	46+538.5	OL	237.495	238.523						18.5	40	40		1		1	1							OUTLETS INTO 221-U
223-U		46+440.0	46+538.5	IL	237.495	238.973							98.5			1		1	1							OUTLETS INTO 222-U
224-U		46+440.0	46+538.5	IS	237.547	239.025					98.5					1		1			1					OUTLETS INTO 223-U
225-U	200	46+540.0	46+618.5	OS	239.047	240.096		1.1	10.8	4.1	78.5				1			1		1	1		46+540.0	238.72	22.3 LT.	
226-U		46+540.0	46+618.5	OL	238.923	239.594						48.5		30		1		1	1							OUTLETS INTO 225-U
227-U		46+540.0	46+618.5	IL	239.995	239.594						38.5		40		1		1	1							OUTLETS INTO 226-U
228-U		46+540.0	46+618.5	IS	239.047	240.096					78.5					1		1			1					OUTLETS INTO 227-U
229-U	200	46+620.0	46+718.5	OS	240.110	240.929			10.8	9.3	98.5						1	1		1	1		46+620.0	239.395	27.5 LT.	
230-U		46+620.0	46+718.5	OL	240.058	240.877							98.5			1		1	1							OUTLETS INTO 229-U
231-U		46+620.0	46+718.5	IL	240.058	240.877							98.5			1		1	1							OUTLETS INTO 230-U
232-U		46+620.0	46+718.5	IS	240.110	240.929					98.5					1		1			1					OUTLETS INTO 231-U
233-U	200	46+720.0	46+920.0	OS	240.938	240.914			10.8	11.3	200						1	1		2	2		46+720.0	240.144	29.5 LT.	
									10.8	9.3							1	1					46+920.0*	240.198	27.5 LT.	
234-U	200	46+720.0	46+920.0	OL	240.886	240.412						40	140	20		1			2							OUTLETS INTO 233-U
235-U		46+720.0	46+920.0	IL	240.886	240.412						40	140	20		1			2							OUTLETS INTO 234-U
236-U		46+720.0	46+920.0	IS	240.938	240.914					200					1					2					OUTLETS INTO 235-U
237-U	202	46+921.5	47+020.0	OS	240.895	240.062			10.8	10.2	98.5						1	1		1	1		47+020.0	239.311	28.4 LT.	
238-U		46+921.5	47+020.0	OL	240.393	240.010							30	68.5		1		1	1							OUTLETS INTO 237-U
239-U		46+921.5	47+020.0	IL	240.393	240.010							30	68.5		1		1	1							OUTLETS INTO 238-U
240-U		46+921.5	47+020.0	IS	240.895	240.062					98.5					1		1								OUTLETS INTO 239-U
TOTALS CARRIED TO SHEET 152								1.1	118.8	101.1	2133.0	345.5	1386.5	401.0	3.0											

℄ CONSTR.

LOCATION CODES
IS-INSIDE SHOULDER
IL-INSIDE LANE
OL-OUTSIDE LANE
OS-OUTSIDE SHOULDER

CALCULATED BBD
CHECKED TDW

UNDERDRAIN SUBSUMMARY

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CALCULATED BBD | CHECKED TDW

UNDERDRAIN SUBSUMMARY

REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION BEGINNING STATION	UNDERDRAIN LOCATION ENDING STATION	LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601 CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE	603 100mm CONDUIT, TYPE B, 707.31	603 100mm CONDUIT, TYPE F, 707.31	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (450mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (750mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (300mm DEPTH, ROCK CUT)	605 100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	604 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	FOR INFORMATION ONLY: OUTLETS INTO CATCH BASIN	FOR INFORMATION ONLY: END CAP	FOR INFORMATION ONLY: TEE CONNECTION	FOR INFORMATION ONLY: WYE CONNECTION	FOR INFORMATION ONLY: 90° ELL CONNECTION	FOR INFORMATION ONLY: CROSS CONNECTION	OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄	NOTES
								SQ. M.	METER	METER	METER	METER	METER	METER	EA	EA	EA	EA	EA	EA	EA	EA			METER	
241-U	202	47+021.5	47+120.0	OS	240.043	238.787			10.8	8.5	98.5				1			1		1	1		47+120.0	238.140	26.7 LT.	
242-U		47+021.5	47+120.0	OL	239.991	238.735							98.5			1		1	1							OUTLETS INTO 241-U
243-U		47+021.5	47+120.0	IL	239.991	238.735							98.5			1		1	1							OUTLETS INTO 242-U
244-U		47+021.5	47+120.0	IS	240.043	238.787					98.5					1		1			1					OUTLETS INTO 243-U
245-U	202	47+121.5	47+240.0	OS	238.768	237.224			10.8	9.9	118.5						1	1		1	1		47+240.0	236.489	28.1 LT.	
246-U		47+121.5	47+240.0	OL	238.266	237.172							80	38.5		1		1	1							OUTLETS INTO 245-U
247-U		47+121.5	47+240.0	IL	238.266	237.175							80	38.5		1		1	1							OUTLETS INTO 246-U
248-U		47+121.5	47+240.0	IS	238.768	237.227					118.5					1		1			1					OUTLETS INTO 247-U
249-U	204	47+241.5	47+340.0	OS	237.205	235.725			10.8	10.1	98.5						1	1		1	1		47+340.0	235.264	28.3 LT.	
250-U		47+241.5	47+340.0	OL	237.153	235.673							98.5			1		1	1							OUTLETS INTO 249-U
251-U		47+241.5	47+340.0	IL	237.156	235.875							98.5			1		1	1							OUTLETS INTO 250-U
252-U		47+241.5	47+340.0	IS	237.208	235.927					98.5					1		1			1					OUTLETS INTO 251-U
253-U	204	47+341.5	47+440.0	OS	235.706	234.425			10.8	10.1	98.5						1	1		1	1		47+440.0	233.966	28.3 LT.	
254-U		47+341.5	47+440.0	OL	235.654	234.373							98.5			1		1	1							OUTLETS INTO 253-U
255-U		47+341.5	47+440.0	IL	235.856	234.575							98.5			1		1	1							OUTLETS INTO 254-U
256-U		47+341.5	47+440.0	IS	235.908	234.627					98.5					1		1			1					OUTLETS INTO 255-U
257-U	204	47+441.5	47+580.0	OS	234.406	232.605		2.5	10.8	4.4	138.5				1			1		1	1		47+580.0	232.038	22.6 LT.	
258-U		47+441.5	47+580.0	OL	234.354	232.103						138.5				1		1	1							OUTLETS INTO 257-U
259-U		47+441.5	47+580.0	IL	234.556	232.305						138.5				1		1	1							OUTLETS INTO 258-U
260-U		47+441.5	47+580.0	IS	234.608	232.807					138.5					1		1			1					OUTLETS INTO 259-U
261-U	207	47+581.5	47+740.0	OS	232.586	230.525			10.8	9.6	158.5				1			1		1	1		47+740.0	229.780	27.8 LT.	
262-U		47+581.5	47+740.0	OL	232.084	230.473						78.5	40	40		1		1	1							OUTLETS INTO 261-U
263-U		47+581.5	47+740.0	IL	232.286	230.225						158.5				1		1	1							OUTLETS INTO 262-U
264-U		47+581.5	47+740.0	IS	232.788	230.727					158.5					1		1			1					OUTLETS INTO 263-U
265-U	207	47+741.5	47+840.0	OS	230.506	229.296			14	11.1	98.5						1	1		1	1		47+840.0	228.641	29.3 LT.	
266-U		47+741.5	47+840.0	OL	230.454	229.244							98.5			1		1	1							OUTLETS INTO 265-U
267-U		47+741.5	47+840.0	IL	230.206	229.375						18.5	40	40		1		1	1							OUTLETS INTO 266-U
268-U		47+741.5	47+840.0	IS	230.708	229.427					98.5					1		1			1					OUTLETS INTO 267-U
269-U	207	47+841.5	47+940.0	OS	229.277	228.127			14	11.1	98.5						1	1		1	1		47+940.0	227.340	29.3 LT.	
270-U		47+841.5	47+940.0	OL	229.225	228.075							98.5			1		1	1							OUTLETS INTO 269-U
271-U		47+841.5	47+940.0	IL	229.356	227.823							98.5			1		1	1							OUTLETS INTO 270-U
272-U		47+841.5	47+940.0	IS	229.408	227.875					98.5					1		1			1					OUTLETS INTO 271-U
273-U	209	47+941.5	48+040.0	OS	228.108	226.827			10.8	11.1	98.5						1	1		1	1		48+040.0	226.040	29.3 LT.	
274-U		47+941.5	48+040.0	OL	228.056	226.775							98.5			1		1	1							OUTLETS INTO 273-U
275-U		47+980.0	48+040.0	IL	227.555	226.775							60			1		1	1							OUTLETS INTO 274-U
276-U		48+007.0	48+040.0	IS	227.256	226.827					33					1		1			1					OUTLETS INTO 275-U
277-U	209	47+941.5	48+140.0	OS	227.849	225.509			10.8	8.5	198.5				1			1		1	1		48+140.0	224.250	16.6 RT.	
278-U		47+941.5	48+140.0	OL	227.797	225.007						20	158.5	20		1		1	1							OUTLETS INTO 277-U
279-U		47+980.0	48+140.0	IL	227.555	224.751						20	120	20		1		1	1							OUTLETS INTO 278-U
280-U		48+007.0	48+140.0	IS	227.256	225.253					133					1		1			1					OUTLETS INTO 279-U
TOTALS CARRIED TO SHEET 152								2.5	114.4	94.4	2279.0	572.5	1563.5	197.0	4.0											

℄ CONSTR.

LOCATION CODES
IS-INSIDE SHOULDER
IL-INSIDE LANE
OL-OUTSIDE LANE
OS-OUTSIDE SHOULDER

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UNDERDRAIN SUBSUMMARY

CALCULATED BBD | CHECKED TDW

REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION BEGINNING STATION	UNDERDRAIN LOCATION ENDING STATION	LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601 CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE	603 100mm CONDUIT, TYPE B, 707.31	603 100mm CONDUIT, TYPE F, 707.31	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (450mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (750mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (300mm DEPTH, ROCK CUT)	605 100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	604 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	FOR INFORMATION ONLY: OUTLETS INTO CATCH BASIN	FOR INFORMATION ONLY: END CAP	FOR INFORMATION ONLY: TEE CONNECTION	FOR INFORMATION ONLY: WYE CONNECTION	FOR INFORMATION ONLY: 90° ELL CONNECTION	FOR INFORMATION ONLY: CROSS CONNECTION	OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄	NOTES
								SQ. M.	METER	METER	METER	METER	METER	METER	EA	EA	EA	EA	EA	EA	EA	EA			METER	
281-U	209	48+041.5	48+140.0	OS	226.808	225.527			7.2	8.5	98.5				1			1			1	1		48+140.0	225.150	26.7 LT.	
282-U		48+041.5	48+140.0	OL	226.756	225.025						20	58.5	20		1		1	1								OUTLETS INTO 281-U
283-U		48+041.5	48+140.0	IL	226.756	225.025						20	58.5	20		1		1	1								OUTLETS INTO 282-U
284-U		48+041.5	48+140.0	IS	226.808	225.527					98.5					1		1				1					OUTLETS INTO 283-U
285-U	209	48+141.5	48+240.0	IS	225.508	224.227			10.8	8.1	98.5						1	1		1	1		48+240.0	223.645	0	
286-U		48+141.5	48+240.0	IL	225.006	224.099						58.5		40		1		1	1								OUTLETS INTO 285-U
287-U		48+141.5	48+240.0	OL	225.006	224.175						58.5		40		1		1	1								OUTLETS INTO 286-U
288-U		48+141.5	48+240.0	OS	225.508	224.227					98.5					1		1				1					OUTLETS INTO 287-U
289-U		48+141.5	48+238.5	IS	225.230	224.223				8.1	98.5						1	1		1	1		48+240.0	223.645	0	
290-U		48+141.5	48+238.5	IL	224.728	223.721						98.5				1		1			1						OUTLETS INTO 289-U
291-U		48+141.5	48+205.0	OS	225.491	224.741			1.8	9.2	63.5				1			1		1	1		48+205.0	224.150	22.3 RT.	
292-U		48+141.5	48+205.0	OL	224.989	224.245						63.5				1		1			1						OUTLETS INTO 291-U
293-U	209	48+206.9	48+238.5	OS	224.724	224.315				4.1	31.6				1			1		1	1		48+238.5	223.970	22.2 RT.	
294-U		48+206.9	48+238.5	OL	224.222	223.813						31.6				1		1			1						OUTLETS INTO 293-U
295-U	211	48+242.0	48+340.0	IS	224.201	222.937			10.8	8.1	98						1	1		1	1		48+340.0	222.318	0	
296-U		48+242.0	48+340.0	IL	224.149	222.435							98			1		1	1								OUTLETS INTO 295-U
297-U		48+242.0	48+340.0	OL	224.149	222.435							98			1		1	1								OUTLETS INTO 296-U
298-U		48+242.0	48+340.0	OS	224.201	222.937					98					1		1				1					OUTLETS INTO 297-U
299-U		48+242.0	48+340.0	IS	224.193	222.937			10.8	8.1	98						1	1		1	1		48+340.0	222.318	0	
300-U		48+242.0	48+340.0	IL	223.691	222.885						58		40		1		1	1								OUTLETS INTO 299-U
301-U		48+242.0	48+340.0	OL	223.768	222.885						58		40		1		1	1								OUTLETS INTO 300-U
302-U		48+242.0	48+340.0	OS	224.270	222.937					98					1		1				1					OUTLETS INTO 301-U
303-U	211	48+341.5	48+480.0	IS	222.918	220.890			10.8	8.1	138.5						1	1		1	1		48+480.0	220.283	0	
304-U		48+341.5	48+480.0	IL	222.866	220.838							138.5			1		1	1								OUTLETS INTO 303-U
305-U		48+341.5	48+480.0	OL	222.866	220.838							138.5			1		1	1								OUTLETS INTO 304-U
306-U		48+341.5	48+480.0	OS	222.918	220.890					138.5					1		1				1					OUTLETS INTO 305-U
307-U		48+341.5	48+478.5	IS	222.918	220.909			10.8	8.1	137						1	1		1	1		48+480.0	220.283	0	
308-U		48+341.5	48+478.5	IL	222.866	220.857							137			1		1	1								OUTLETS INTO 307-U
309-U		48+341.5	48+478.5	OL	222.866	220.857							137			1		1	1								OUTLETS INTO 308-U
310-U		48+341.5	48+478.5	OS	222.918	220.909					137					1		1				1					OUTLETS INTO 309-U
311-U	211	48+481.5	48+560.0	IS	220.871	219.250			10.8	8.1	78.5						1	1		1	1		48+560.0	218.642	0	
312-U		48+481.5	48+560.0	IL	220.819	219.198							78.5			1		1	1								OUTLETS INTO 311-U
313-U		48+481.5	48+560.0	OL	220.819	219.198							78.5			1		1	1								OUTLETS INTO 312-U
314-U		48+481.5	48+560.0	OS	220.871	219.250					78.5					1		1				1					OUTLETS INTO 313-U
315-U		48+481.5	48+560.0	IS	220.871	219.250			10.8	8.1	78.5						1	1		1	1		48+560.0	218.642	0	
316-U		48+481.5	48+560.0	IL	220.819	219.198							78.5			1		1	1								OUTLETS INTO 315-U
317-U		48+481.5	48+560.0	OL	220.819	219.198							78.5			1		1	1								OUTLETS INTO 316-U
318-U		48+481.5	48+560.0	OS	220.871	219.250					78.5					1		1				1					OUTLETS INTO 317-U
319-U	211	48+561.5	48+660.0	OS	219.213	216.787			3	9.4	98.5				1			1		1	1		48+660.00	216.130	27.6 LT.	
320-U		48+561.5	48+660.0	OL	219.161	216.285						20	58.5	20		1		1			1						OUTLETS INTO 319-U
TOTALS CARRIED TO SHEET 152								0.0	87.6	96.0	1943.1	486.6	1236.5	220.0	4.0												

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LOCATION CODES
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UNDERDRAIN SUBSUMMARY

ATH-33-40.981

CALCULATED BBD
CHECKED TDW

REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION BEGINNING STATION	UNDERDRAIN LOCATION ENDING STATION	LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601 CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE	603 100mm CONDUIT, TYPE B, 707.31	603 100mm CONDUIT, TYPE F, 707.31	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (450mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (750mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN, 707.31 (300mm DEPTH, ROCK CUT)	605 100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	604 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	FOR INFORMATION ONLY: OUTLETS INTO CATCH BASIN	FOR INFORMATION ONLY: END CAP	FOR INFORMATION ONLY: TEE CONNECTION	FOR INFORMATION ONLY: WYE CONNECTION	FOR INFORMATION ONLY: 90° ELL CONNECTION	FOR INFORMATION ONLY: CROSS CONNECTION	OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄	NOTES
								SQ. M.	METER	METER	METER	METER	METER	METER	EA	EA	EA	EA	EA	EA	EA	EA			METER	
321-U	211	48+561.5	48+660.0	IS	219.213	216.787			1.8	8.1	98.5						1	1		1	1		48+660.00	216.134	0	
322-U		48+561.5	48+660.0	IL	219.161	216.285						20	58.5	20		1		1			1					OUTLETS INTO 321-U
323-U		48+561.5	48+658.5	IS	219.213	216.825			10.8	8.1	97						1	1		1	1		48+660.00	216.134	0	
324-U		48+561.5	48+658.5	IL	219.161	216.323						18.5	58.5	20		1		1	1							OUTLETS INTO 323-U
325-U		48+561.5	48+658.5	OL	219.161	216.323						18.5	58.5	20		1		1	1							OUTLETS INTO 324-U
326-U		48+561.5	48+658.5	OS	219.213	216.825					97					1		1			1					OUTLETS INTO 325-U
327-U	214	48+661.5	48+770.0	IS	216.750	214.037			9.2	8	108.5						1	1		1	1		48+770.0	213.653	0	
328-U		48+661.5	48+770.0	IL	216.248	213.985						38.5	50	20		1		1	1							OUTLETS INTO 327-U
329-U		48+661.5	48+770.0	OL	216.248	213.985						38.5	50	20		1		1	1							OUTLETS INTO 328-U
330-U		48+661.5	48+770.0	OS	216.750	214.037					108.5					1		1			1					OUTLETS INTO 329-U
331-U		48+661.5	48+768.5	IS	216.750	214.075			9	8.4	107						1	1		1	1		48+770.0	213.653	0	
332-U		48+661.5	48+768.5	IL	216.248	214.023						38.5	28.5	40		1		1	1							OUTLETS INTO 331-U
333-U		48+661.5	48+768.5	OL	216.248	214.023						38.5	28.5	40		1		1	1							OUTLETS INTO 332-U
334-U		48+661.5	48+768.5	OS	216.750	214.075					107					1		1			1					OUTLETS INTO 333-U
335-U	216	48+933.5	49+060.0	OS	209.596	206.434					126.5					1		1			1					OUTLETS INTO 336-U
336-U		48+935.1	49+060.0	OL	209.504	206.382							124.9			1		1	1							OUTLETS INTO 337-U
337-U		8+939.9	49+060.0	IL	209.561	206.735							120.1			1		1	1							OUTLETS INTO 338-U
338-U		48+940.6	49+060.0	IS	209.599	206.787			10.8	8.1	119.4						1	1		1	1		49+060.0	206.113	0	
339-U		48+951.5	49+060.0	IS	209.675	206.787			10.8	8.1	108.5						1	1		1	1		49+060.0	206.113	0	
340-U		48+951.5	49+060.0	IL	209.173	206.735							80	28.5		1		1	1							OUTLETS INTO 339-U
341-U		48+957.7	49+060.0	OL	209.195	207.088							80	28.3		1		1	1							OUTLETS INTO 340-U
342-U		48+957.7	49+060.0	OS	209.697	207.140					102.3					1		1			1					OUTLETS INTO 341-U
343-U	216	49+061.5	49+160.0	IS	206.749	204.490			10.8	8.1	98.5						1	1		1	1		49+160.0	203.815	0	
344-U		49+061.5	49+160.0	IL	206.697	204.438							98.5			1		1	1							OUTLETS INTO 343-U
345-U		49+061.5	49+160.0	OL	207.050	204.791							98.5			1		1	1							OUTLETS INTO 344-U
346-U		49+061.5	49+160.0	OS	207.102	204.843					98.5					1		1			1					OUTLETS INTO 345-U
347-U		49+061.5	49+158.5	IS	206.749	204.528			10.8	8.1	98.5						1	1		1	1		49+160.0	203.185	0	
348-U		49+061.5	49+158.5	IL	206.697	204.476							98.5			1		1	1							OUTLETS INTO 348-U
349-U		49+061.5	49+158.5	OL	206.344	204.123							98.5			1		1	1							OUTLETS INTO 349-U
350-U		49+061.5	49+158.5	OS	206.396	204.175					98.5					1		1			1					OUTLETS INTO 350-U
351-U	216	49+161.5	49+258.5	IS	204.452	203.650			10.8	8.1	97						1	1		1	1		49+260.0	202.938	0	
352-U		49+161.5	49+258.5	IL	204.400	203.598							97			1		1	1							OUTLETS INTO 351-U
353-U		49+161.5	49+258.5	OL	204.753	203.951							97			1		1	1							OUTLETS INTO 352-U
354-U		49+161.5	49+258.5	OS	204.805	204.003					97					1		1			1					OUTLETS INTO 353-U
355-U		49+161.5	49+260.0	IS	204.452	203.612			10.8	8.1	98.5						1	1		1		1	49+260.0	202.938	0	
356-U		49+161.5	49+260.0	IL	204.400	203.560							98.5			1		1				1				OUTLETS INTO 355-U
357-U		49+161.5	49+260.0	OL	204.753	203.218							98.5			1		1				1				OUTLETS INTO 356-U
358-U		49+161.5	49+260.0	OS	204.805	203.270					98.5					1		1	1							OUTLETS INTO 357-U
359-U	219	49+261.5	49+358.5	IS	203.574	204.378			10.8	8.1	97						1	1		1	1		49+260.0	202.938	0	
360-U		49+261.5	49+358.5	IL	203.522	203.876						48.5				1		1								OUTLETS INTO 359-U
TOTALS CARRIED TO SHEET 152								0.0	106.4	89.3	2062.2	259.5	1522.5	263.6	0.0											

LOCATION CODES
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CALCULATED BBD | CHECKED TDW

UNDERDRAIN SUBSUMMARY

REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION BEGINNING STATION	UNDERDRAIN LOCATION ENDING STATION	LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601 CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE	603 100mm CONDUIT,TYPE B, 707.31	603 100mm CONDUIT,TYPE F, 707.31	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (450mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (750mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (300mm DEPTH, ROCK CUT)	605 100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	604 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	OUTLETS INTO CATCH BASIN	END CAP	TEE CONNECTION	WYE CONNECTION	90° ELL CONNECTION	CROSS CONNECTION	OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄	NOTES
								SQ. M.	METER	METER	METER	METER	METER	METER	EA	EA	EA	EA	EA	EA	EA	EA			METER	
361-U	219	49+261.5	49+358.5	OL	203.875	204.187						48.5				1		1								OUTLETS INTO 360-U
362-U		49+261.5	49+358.5	OS	203.927	204.689					97					1		1								OUTLETS INTO 361-U
363-U		49+260.0	49+358.5	IS	203.612	204.378			*	*	98.5						1	1				*	49+260.0	202.938	0	SEE 355-U TO 358-U FOR CONN.
364-U		49+260.0	49+358.5	IL	203.560	204.326							98.5			1		1				*				OUTLETS INTO 363-U
365-U		49+260.0	49+358.5	OL	203.218	203.974							98.5			1		1				*				OUTLETS INTO 364-U
366-U		49+260.0	49+358.5	OS	203.270	204.026					98.5					1		1	*							OUTLETS INTO 365-U
367-U	219	49+360.0	49+458.5	IS	204.357	206.680			10.8	8.1	98.5						1	1		1	1		49+360.0	203.402	0	
368-U		49+360.0	49+458.5	IL	204.305	206.178						50		48.5		1		1	1							OUTLETS INTO 367-U
369-U		49+360.0	49+458.5	OL	204.658	205.975						50		48.5		1		1	1							OUTLETS INTO 368-U
370-U		49+360.0	49+458.5	OS	204.710	206.477					98.5					1		1			1					OUTLETS INTO 369-U
371-U		49+360.0	49+478.5	IS	204.357	207.342			10.8	8.1	98.5						1	1		1	1		49+360.0	203.402	0	
372-U		49+360.0	49+478.5	IL	204.305	207.290							98.5			1		1	1							OUTLETS INTO 371-U
373-U		49+360.0	49+478.5	OL	203.953	207.411							98.5			1		1	1							OUTLETS INTO 372-U
374-U		49+360.0	49+478.5	OS	204.005	207.463					98.5					1		1			1					OUTLETS INTO 373-U
375-U	219	49+460.0	49+558.5	OS	206.522	210.451			10.8	9.8	98.5				1			1		1	1		49+460.0	206.042	27.8 RT.	
376-U		49+460.0	49+558.5	OL	206.020	209.949						98.5				1		1	1							OUTLETS INTO 375-U
377-U		49+460.0	49+558.5	IL	206.223	209.949						98.5				1		1	1							OUTLETS INTO 376-U
378-U		49+460.0	49+558.5	IS	206.725	210.451					98.5					1		1			1					OUTLETS INTO 377-U
379-U		49+480.0	49+558.5	OS	207.514	210.451			10.8	11.1	78.5				1			1		1	1		49+480.0	206.667	29.1 LT.	
380-U		49+480.0	49+558.5	OL	207.012	209.949						78.5				1		1	1							OUTLETS INTO 379-U
381-U		49+480.0	49+558.5	IL	206.891	209.949						78.5				1		1	1							OUTLETS INTO 380-U
382-U		49+480.0	49+558.5	IS	207.393	210.451					78.5					1		1			1					OUTLETS INTO 381-U
383-U	219	49+561.5	49+658.5	OS	210.571	214.369			3	6.3	97				1			1		1	1		49+561.5	209.857	23.2 LT.	
384-U		49+561.5	49+658.5	OL	210.069	213.867						97				1		1			1					OUTLETS INTO 383-U
385-U		49+561.5	49+658.5	IS	210.571	214.441			3	7.7	97						1	1		1	1		49+560.0	209.857	0	
386-U		49+561.5	49+658.5	IL	210.069	213.939						97				1		1			1					OUTLETS INTO 385-U
387-U		49+560.0	49+658.5	IS	210.511	214.441			3	7.6	98.5						1	1		1	1		49+560.0	209.587	0	
388-U		49+560.0	49+658.5	IL	210.009	213.939						98.5				1		1			1					OUTLETS INTO 387-U
389-U		49+560.0	49+658.5	OS	210.511	214.513		0.6	3	6.8	98.5				1			1		1	1		49+560.0	209.587	21.0 RT.	
390-U		49+560.0	49+658.5	OL	210.009	214.011						98.5				1		1			1					OUTLETS INTO 389-U
391-U	221	49+660.0	49+678.5	OS	214.429	217.780		2	10.8	6.3	18.5				1			1		1	1		49+660.0	213.87	19.9 LT.	
392-U		49+660.0	49+678.5	OL	213.927	217.278						18.5				1		1	1							OUTLETS INTO 391-U
393-U		49+660.0	49+678.5	IL	213.999	217.530						18.5				1		1	1							OUTLETS INTO 392-U
394-U		49+660.0	49+678.5	IS	214.501	218.032					18.5					1		1			1					OUTLETS INTO 393-U
395-U		49+660.0	49+678.5	OS	214.501	218.032		1.4	10.8	4.5	18.5				1			1		1	1		49+660.0	213.87	20.4 RT.	
396-U		49+660.0	49+678.5	OL	213.999	217.530						18.5				1		1	1							OUTLETS INTO 395-U
397-U		49+660.0	49+678.5	IL	214.071	217.782						18.5				1		1	1							OUTLETS INTO 396-U
398-U		49+660.0	49+678.5	IS	214.573	218.284					18.5					1		1			1					OUTLETS INTO 397-U
399-U	221	49+720.0	49+890.950	OS	217.840	223.687			10.8	6	131						1	1		1	1		49+760.0	217.585	0	
400-U		49+720.0	49+890.950	OL	217.338	223.185						171				1		1	1							OUTLETS INTO 399-U
TOTALS CARRIED TO SHEET 152								4.0	87.6	82.3	1638.0	1138.5	394.0	97.0	6.0											

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LOCATION CODES
IS=INSIDE SHOULDER
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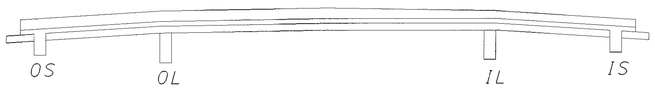
UNDERDRAIN SUBSUMMARY

CALCULATED BBD | CHECKED TDW

REFERENCE NO.	SEE SHEET NO.	UNDERDRAIN LOCATION BEGINNING STATION	UNDERDRAIN LOCATION ENDING STATION	LOCATION CODE	BEGINNING ELEVATION	ENDING ELEVATION		601 CRUSHED AGGREGATE SLOPE PROTECTION, NO. 1 STONE	603 100mm CONDUIT,TYPE B, 707.31	603 100mm CONDUIT,TYPE F, 707.31	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (450mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (750mm DEPTH)	605 100mm SHALLOW PIPE UNDERDRAIN,707.31 (300mm DEPTH, ROCK CUT)	605 100mm UNCLASSIFIED PIPE UNDERDRAIN, 707.31	604 PRECAST REINFORCED CONCRETE OUTLET	FOR INFORMATION ONLY: OUTLETS INTO ANOTHER UNDERDRAIN	OUTLETS INTO CATCH BASIN	END CAP	TEE CONNECTION	WYE CONNECTION	90° ELL CONNECTION	CROSS CONNECTION	OUTLET STATION	OUTLET FLOW LINE ELEVATION	OUTLET OFFSET FROM ℄	NOTES
								SQ. M.	METER	METER	METER	METER	METER	METER	EA	EA	EA	EA	EA	EA	EA	EA			METER	
401-U	221	49+720.0	49+890.950	IL	217.590	223.185						171				1		1	1							OUTLETS INTO 400-U
402-U		49+720.0	49+890.950	IS	218.092	223.687					171					1		1			1					OUTLETS INTO 401-U
403-U		49+720.0	49+890.950	IS	218.092	223.687			3	6.2	171						1	1		1	1		49+720.0	217.585	0	
404-U		49+720.0	49+890.950	IL	217.590	223.185						171				1		1			1					OUTLETS INTO 403-U
405-U		49+721.5	49+890.950	OS	218.344	223.687			3	11.1		169			1			1		1	1		49+720.0	218.128	26.5 RT.	
406-U		49+721.5	49+890.950	OL	217.842	223.185					169					1		1			1					OUTLETS INTO 405-U
TOTALS FROM SHEET 142								14.4	102.0	72.9	2138.0	1188.0	701.0	275.4	6.0											
TOTALS FROM SHEET 143								13.7	96.1	80.0	1967.0	812.0	878.0	446.2	7.0											
TOTALS FROM SHEET 144								21.4	123.9	69.4	2509.5	1479.0	420.5	397.0	8.0											
TOTALS FROM SHEET 145								30.2	108.0	70.7	2490.0	1625.0	434.0	431.0	7.0											
TOTALS FROM SHEET 146								21.3	115.2	72.7	2078.0	819.0	1065.0	220.4	7.0											
TOTALS FROM SHEET 147								1.1	118.8	101.1	2133.0	345.5	1386.5	401.0	3.0											
TOTALS FROM SHEET 148								2.5	114.4	94.4	2279.0	572.5	1563.5	197.0	4.0											
TOTALS FROM SHEET 149								0.0	87.6	96.0	1943.1	486.6	1236.5	220.0	4.0											
TOTALS FROM SHEET 150								0.0	106.4	89.3	2062.2	259.5	1522.5	263.6	0.0											
TOTALS FROM SHEET 151								4.0	87.6	82.3	1638.0	1138.5	394.0	97.0	6.0											
TOTALS THIS SHEET								0.0	6.0	17.3	511.0	511.0	0.0	0.0	1.0											
SUBTOTAL								103.6	1066.0	846.1	21748.8	9236.6	9601.5	2948.6	53.0											
TOTALS CARRIED TO GENERAL SUMMARY								109.0	1066.0	846.5	30985.5		9601.5	2949.0	53.0											



℄ CONSTR.

LOCATION CODES
IS=INSIDE SHOULDER
IL=INSIDE LANE
OL=OUTSIDE LANE
OS=OUTSIDE SHOULDER

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LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

FOR ESTIMATED QUANTITIES SEE SHEET 163
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STRUCTURE DETAILS SEE SHEET 863 THRU 884
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

LA-R/W

ROBERT DEAN KYLE &
KIMBERLY ALAN KYLE.

CONST. LIMITS

CORN FIELD/PASTURE

+591.325 Type B-98 (Assem.)

I-G

I-EP

+610

2.25m

+660

I-U

+635.40 POST

STRUCTURE No. ATH - 33 - 41030

I-R

+440 +460 +480 39+500 +520 +540 +560 +580 39+600 +620 +640 +660 +680 39+700 +720 +740 +760

℄ CONST US 33 MAINLINE

S 9° 39' 06" E

+509.41 POST END ANCHOR

+524.65

2-U

2-G

3-U

4-U

+635.140 POST

P.R. JOINT TYPE-A, AS PER STD. DWG. (BP-2.3M)

CONST. LIMITS

BRUSH

BARBED WIRE

MATCH LINE STA 39+770 SEE SHEET 155

STP	STP
SLD 30.981 STA. 39+600.000 END PROJECT	SLD 40.981 STA. 39+600.000 BEGIN PROJECT

PRAIRIE FORK

WILLIAM F. HEDRICK &
BONNIE K. HEDRICK A.K.A.
BONNIE HEDRICK

PROPOSED STRUCTURE DATA

TYPE: EIGHT-SPAN PRESTRESSED CONCRETE I-BEAM WITH STUB ABUTMENTS AND CAP AND COLUMN TYPE PIERS
SPANS: 8 X 35,000 C/C BEARING ALONG CENTERLINE U.S.33 MAINLINE
ROADWAY: 14,4000 T/T BARRIER
SKEW: 0°
DESIGN LOADING: MS-22.5 AND THE ALTERNATE MILITARY LOADING
WEARING SURFACE: MONOLITHIC CONCRETE
ALIGNMENT: TANGENT
CROWN: 0.016
APPROACH SLABS: AS-1-81M (7600 mm LONG)

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HORIZONTAL SCALE IN METERS
0 5 10

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 39+430 TO STA. 39+770

ATH-33-40.981

153
949

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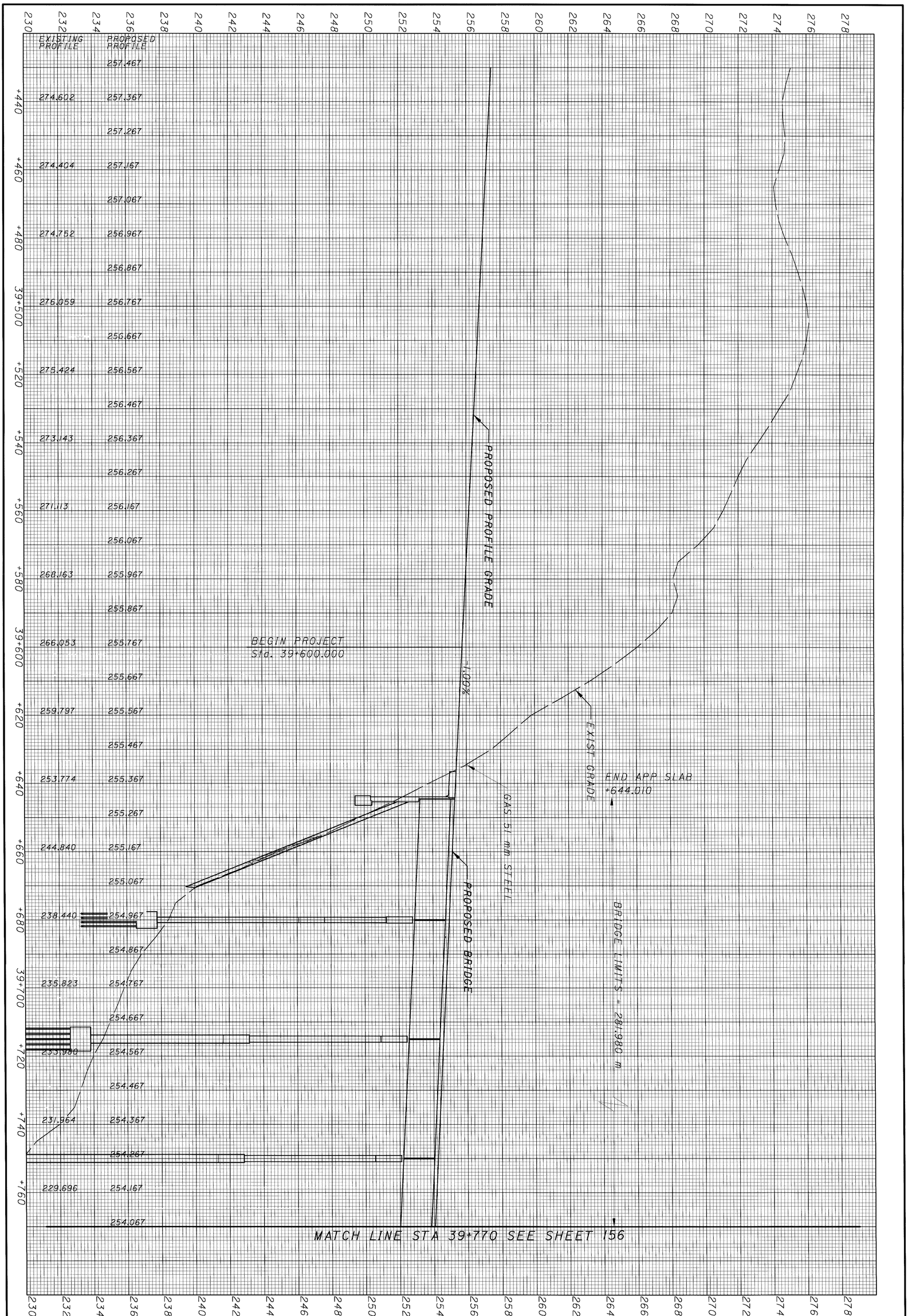

154 / 949	**ATH-33-40.981**	**PROFILE - US 33** **STA. 39+430 TO STA. 39+770**

CALCULATED BBD
CHECKED TDW

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

FOR ESTIMATED QUANTITIES SEE SHEET 163
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STORM SEWER PROFILES SEE SHEET 586
FOR STRUCTURE DETAILS SEE SHEET 863 THRU 884
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

MATCH LINE STA 39+770 SEE SHEET 155

MATCH LINE STA 40+110 SEE SHEET 157

WILLIAM F. HEDRICK & BONNIE K. HEDRICK A.K.A. BONNIE HEDRICK

CURVE DATA NO. 9 US 33 MAINLINE
P.I. Sta. = 40+327.551
Δ = 30° 55' 01" (LT)
R = 900.000 m
Ls = 80.000 m

2.0m x 1.2m ROCK CHANNEL PROTECTION TYPE C, W/FILTER 0.5m THICK

300 mm TYPE C

LA-R/W

CONST. LIMITS

P.R. JOINT TYPE-A (AS PER BP-2.3M)

32 mm ASPHALTIC PLASTIC

PRATT'S FORK

WOODS

+934.860 POST

+947.9

+978.68(Lt & Rt) Type-B(Assem.)

+997.9

+038.582 TS Sta.

+047.2

+097.9

2.0m

CB-8

4-EP, 1-G, 1-EP, 2-EP, 9-U, 5-U, 6-U, 1-D, 10-U

+780 39+800 +820 +840 +860 +880 39+900 +920 +940 +960 +980 40+000 +020 +040 +060 +080 40+100

S 9° 39' 06" E

℄ CONST US 33 MAINLINE

5-EP, 2-G, 7-U, 1-R, 8-U, 11-U, 12-U, 3-EP

+070

STRUCTURE No. ATH - 33 - 41030

BARBED WIRE 1.2m

GRASS

WILLIAM F. HEDRICK & BONNIE K. HEDRICK A.K.A. BONNIE HEDRICK

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HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 39+770 TO STA. 40+110

ATH-33-40.981

155
949

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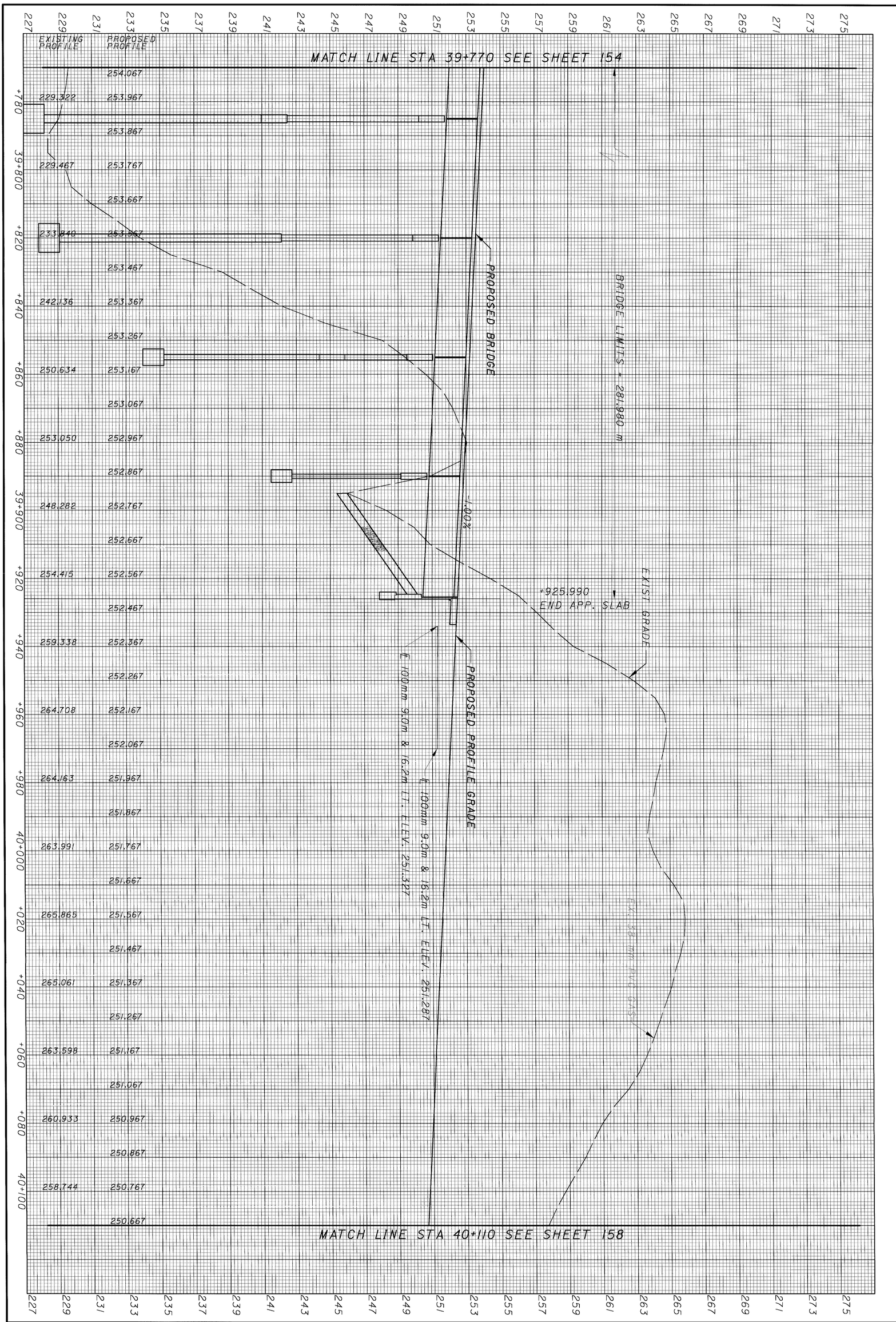
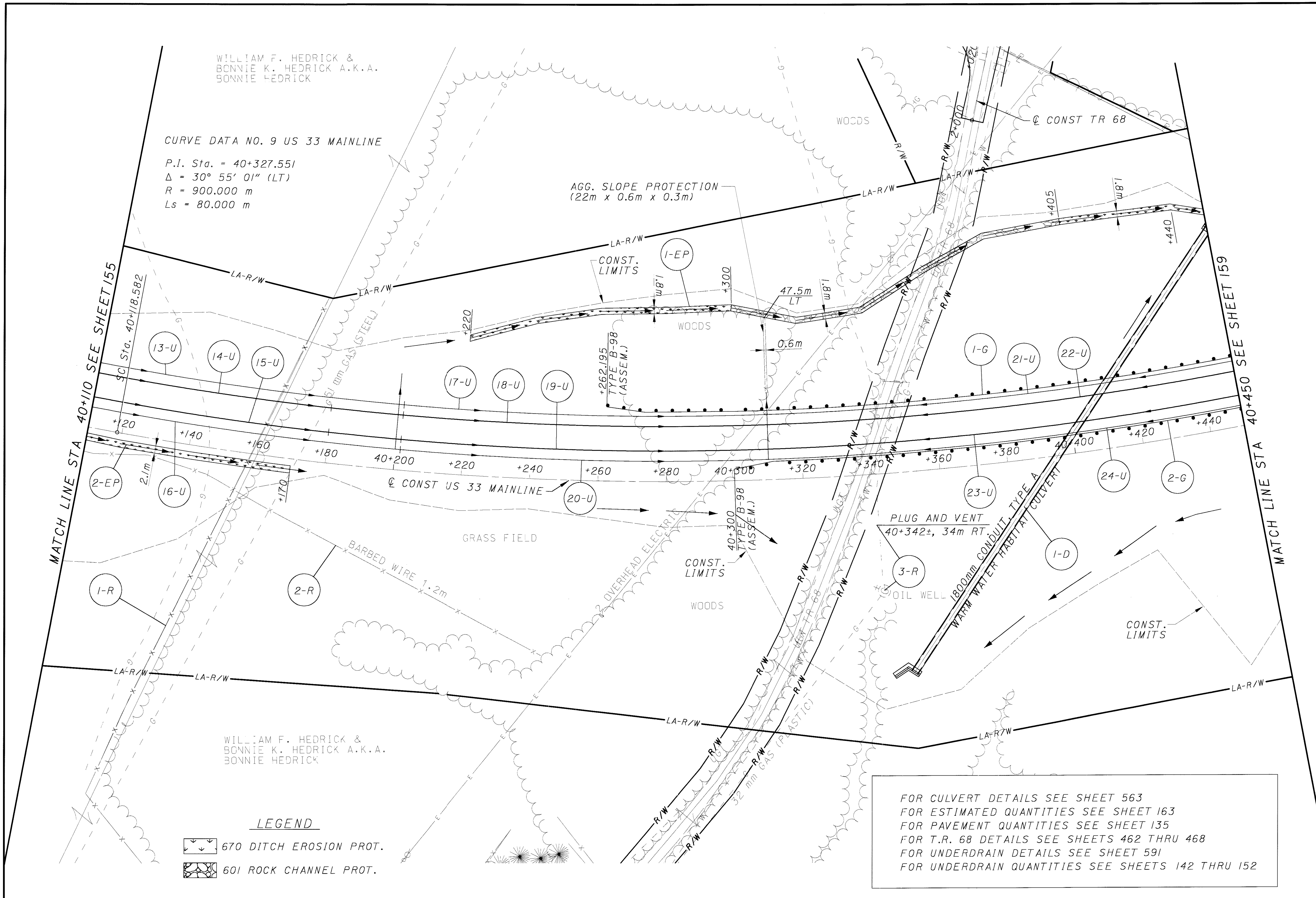


156 / 949	ATH-33-40.981	PROFILE - US 33 STA. 39+770 TO STA. 40+110	CALCULATED BBD CHECKED TDW


WILLIAM F. HEDRICK &
BONNIE K. HEDRICK A.K.A.
BONNIE HEDRICK
CURVE DATA NO. 9 US 33 MAINLINE
P.I. Sta. = 40+327.551
Δ = 30° 55' 01" (LT)
R = 900.000 m
Ls = 80.000 m
AGG. SLOPE PROTECTION
(22m x 0.6m x 0.3m)
CONST. LIMITS
WOODS
© CONST TR 68
MATCH LINE STA 40+110 SEE SHEET 155
MATCH LINE STA 40+450 SEE SHEET 159
SC Sta. 40+118.582
+262.195 TYPE B-98 (ASSEM.)
47.5m LT
0.6m
1.8m
© CONST US 33 MAINLINE
40+300 TYPE B-98 (ASSEM.)
PLUG AND VENT
40+342±, 34m RT.
1800mm CONDUIT, TYPE A
WARM WATER HABITAT CULVERT
OIL WELL
GRASS FIELD
BARBED WIRE 1.2m
OVERHEAD ELECTRIC
51 mm GAS (STEEL)
32 mm GAS (PLASTIC)
2.1m
LA-R/W
R/W
WILLIAM F. HEDRICK &
BONNIE K. HEDRICK A.K.A.
BONNIE HEDRICK
LEGEND
670 DITCH EROSION PROT.
601 ROCK CHANNEL PROT.
FOR CULVERT DETAILS SEE SHEET 563
FOR ESTIMATED QUANTITIES SEE SHEET 163
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR T.R. 68 DETAILS SEE SHEETS 462 THRU 468
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

HORIZONTAL SCALE IN METERS

CALCULATED BBD

CHECKED TDW

US 33 MAINLINE PLAN STA. 40+110 TO STA. 40+450

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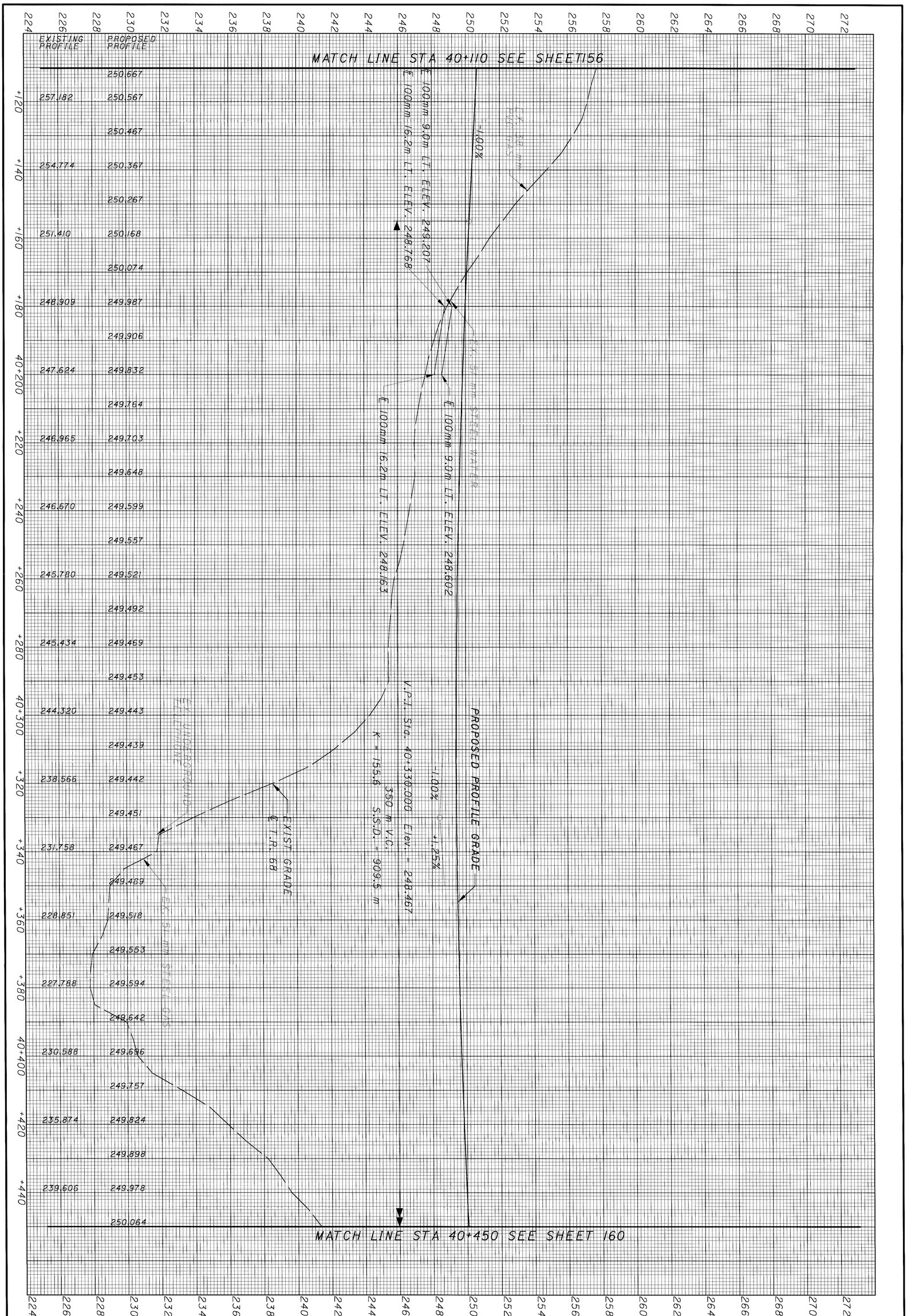

EXISTING PROFILE	PROPOSED PROFILE
	250.667
257.182	250.567
	250.467
254.774	250.367
	250.267
251.410	250.168
	250.074
248.909	249.987
	249.906
247.624	249.832
	249.764
246.965	249.703
	249.648
246.670	249.599
	249.557
245.780	249.521
	249.492
245.434	249.469
	249.453
244.320	249.443
	249.439
238.566	249.442
	249.451
231.758	249.467
	249.489
228.851	249.518
	249.553
227.788	249.594
	249.642
230.588	249.696
	249.757
235.874	249.824
	249.898
239.606	249.978
	250.064

158/949	ATH-33-40.981	PROFILE - US 33 STA. 40+110 TO STA. 40+450	CALCULATED BBD CHECKED TDW

KARL MEEKS, KENNETH MEEKS,
KRIS MEEKS, & KELLY MEEKS &
BIEULA MEEKS ALLEN A.K.A.
BIEULA P. MEEKS, L.E.

LA-R/W

AGG. SLOPE PROTECTION
(37m x 0.6m x 0.3m)

WARM WATER HABITAT CULVERT

CONST. LIMITS

56m LT

0.6m

FOREST

32.5m LT

2.0m X 1.2m ROCK CHANNEL PROTECTION TYPE C W/ FILTER, 0.5m THICK

AGG. SLOPE PROTECTION
(11m x 0.6m x 0.3m)

0.6m

300 mm TYPE C

CB-8

2.0m

+722.1

+772.1

1-EP

1-D

33-U

34-U

25-U

26-U

1-G

27-U

29-U

30-U

31-U

32-U

CS Sta. 40+524.224

ST Sta. 40+604.224

MATCH LINE STA 40+450 SEE SHEET 157

MATCH LINE STA 40+790 SEE SHEET 161

+460 +480 40+500 +520 +540 +560 +580 40+600 +620 +640 +660 +680 40+700 +720 +740 +760 +780

℄ CONST US 33 MAINLINE

S 40° 34' 07" E

35-U

36-U

2-G

28-U

+551.460
TYPE B-98
(ASSEM.)

FOREST

3.0m

+590

+665

2-EP

+500

CONST. LIMITS

DIRT ROAD

CONST. LIMITS

CURVE DATA NO. 9 US 33 MAINLINE
P.I. Sta. = 40+327.551
Δ = 30° 55' 01" (LT)
R = 900.000 m
Ls = 80.000 m

FOR ESTIMATED QUANTITIES SEE SHEET 163
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STORM SEWER PROFILE SEE SHEET 586
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

LA-R/W

LA-R/W

WILLIAM F. HEDRICK &
BONNIE K. HEDRICK A.K.A.
BONNIE HEDRICK

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

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HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 40+450 TO STA. 40+790

ATH-33-40.981

159
949

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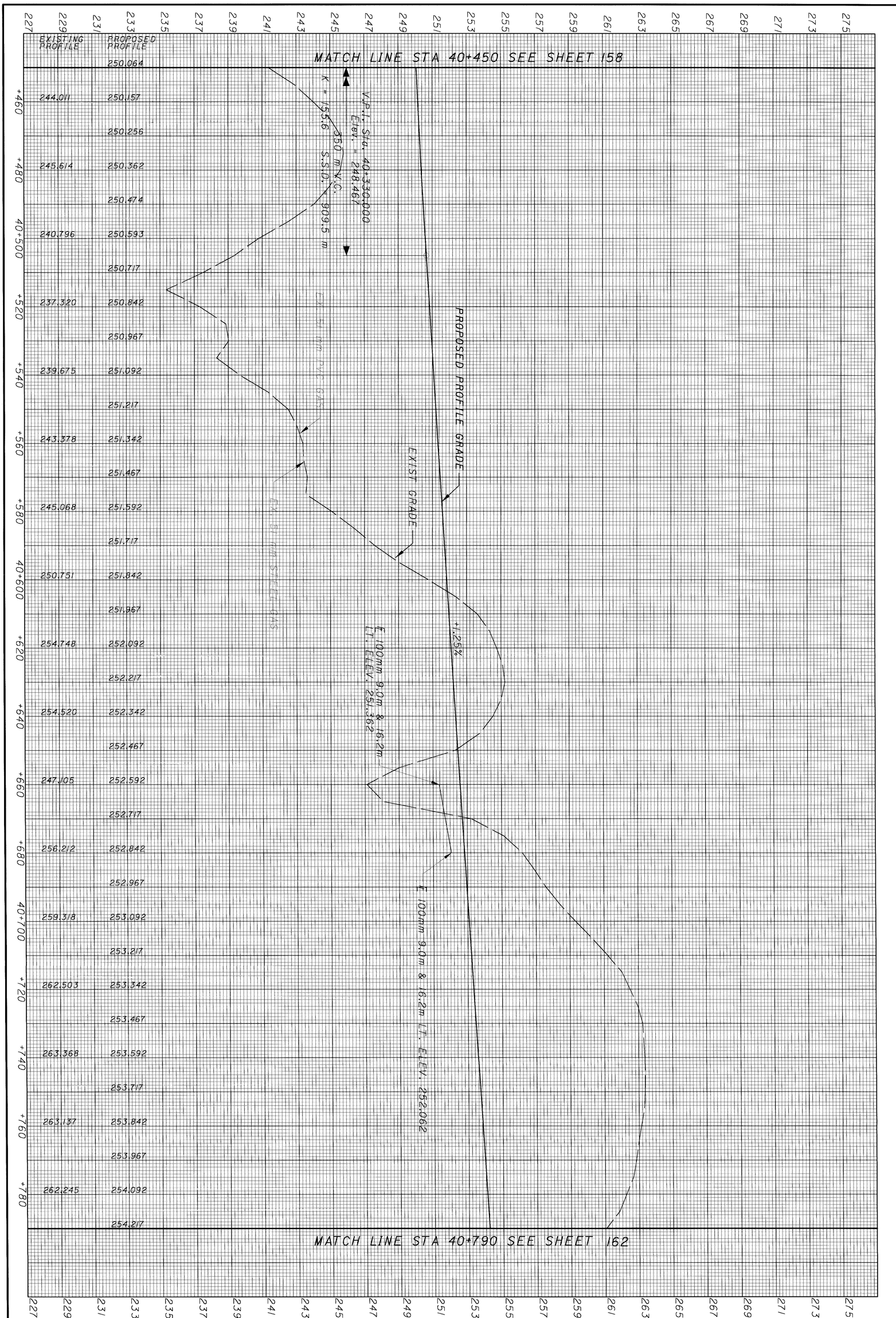

160
949

ATH-33-40.981

PROFILE - US 33
STA. 40+450 TO STA. 40+790

CALCULATED BBD
CHECKED TDW

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

KARL MEEKS, KENNETH MEEKS, KRIS MEEKS, & KELLY MEEKS & BIEULA MEEKS ALLEN A.K.A. BIEULA P. MEEKS, L.E.

CURVE DATA NO. 10 US 33 MAINLINE
P.I. Sta. = 41+434.287
Δ = 36° 16' 37" (RT)
R = 900.000 m
Ls = 80.000 m

JACK. G. CANTRELL

MATCH LINE STA 40+790 SEE SHEET 159

MATCH LINE STA 41+130 SEE SHEET 164

LA-R/W

I-D

1050 mm CONDUIT, TYPE A

AGG. SLOPE PROTECTION (7.0m x 0.6m x 0.3m)

CONST. LIMITS

30.5m LT

AGG. SLOPE PROTECTION (9.5m x 0.6m x 0.3m)

0.6m

37-U

38-U

39-U

I-G

28.5m LT

AGG. SLOPE PROTECTION (17.5m x 0.6m x 0.3m)

38.5m LT

41-U

42-U

BRUSH

WOODS

BOULDER

40+800 +820 +840 +860 +880 40+900 +920 +940 +960 +980 41+000 +020 +040 +060 +080 41+100 +120

S 40° 34' 07" E

℄ CONST US 33 MAINLINE

40-U

+000

43-U

44-U

TS Sta. 41+099.358

2.4m

+920

2.25m

I-EP

DIRT ROAD

CONST. LIMITS

WOODS

FOR CULVERT DETAILS SEE SHEET 564
FOR ESTIMATED QUANTITIES SEE SHEET 163
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

KARL MEEKS, KENNETH MEEKS, KRIS MEEKS, & KELLY MEEKS & BIEULA MEEKS ALLEN A.K.A. BIEULA P. MEEKS, L.E.

HORIZONTAL SCALE IN METERS 0 10 20

CALCULATED BBD

CHECKED TDW

US 33 MAINLINE PLAN STA. 40+790 TO STA. 41+130

ATH-33-40.981

161
949

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CALCULATED BBD
CHECKED TDW

PROFILE - US 33
STA. 40+790 TO STA. 41+130

MATCH LINE STA 40+790 SEE SHEET 160

MATCH LINE STA 41+130 SEE SHEET 165

PROPOSED PROFILE GRADE

+1.25%

℄ 100mm 9.0m & 16.2m LT. ELEV. 256.362

℄ 100mm 9.0m LT. ELEV. 255.362

℄ 100mm 9.0m & 16.2m LT. ELEV. 256.312

℄ 100mm 9.0m & 16.2m LT. ELEV. 253.593

EXIST GRADE

℄ 100mm 9.0m & 16.2m LT. ELEV. 256.062

℄ 100mm 16.2m LT. ELEV. 255.286

℄ 100mm 9.0m & 16.2m LT. ELEV. 253.437

1050mm CONDUIT, TYPE A

	40+800	+820	+840	+860	+880	40+900	+920	+940	+960	+980	41+000	+020	+040	+060	+080	41+100	+120
PROPOSED PROFILE	254.217	254.342	254.467	254.592	254.717	254.842	254.967	255.092	255.217	255.342	255.467	255.592	255.717	255.842	255.967	256.092	256.217	256.342	256.467	256.592	256.717	256.842	256.967	257.092	257.217	257.342	257.467	257.592	257.717	257.842	257.967	258.092	258.217	258.342	258.467
EXISTING PROFILE	259.301	255.902	251.323	246.505	240.111	238.494	247.313	246.442	246.156	255.431	259.812	261.793	259.645	254.473	250.919	248.420	246.617																		

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ESTIMATED QUANTITIES - STA. 39+430 TO STA. 41+130

CALCULATED BBD | CHECKED TDW

REF NO.	SHEET NO.	STATION TO STATION		SIDE	202		SPEC	601	601	601	602	603	603	603	604	606	606	606	606	606	660	670
		TO	FROM		FENCE REMOVED		PLUGGING & VENTING GAS & OIL WELLS	ROCK CHANNEL PROTECTION TYPE A, W/ FILTER	ROCK CHANNEL PROTECTION TYPE B, W/ FILTER	ROCK CHANNEL PROTECTION TYPE C, W/ FILTER	CONCRETE MASONARY	300mm CONDUIT TYPE C	1050mm CONDUIT TYPE A *	1800mm CONDUIT TYPE A *	CATCH BASIN NO. 8	GUARDRAIL TYPE 5	GUARDRAIL TYPE 8	ANCHOR ASSEMBLY TYPE B-98	BRIDGE TERMINAL ASSEMBLY TYPE I	POST END ANCHOR	SODDING REINFORCED	DITCH EROSION PROTECTION
					METER		EACH	CU. M	CU. M	CU. M	CU. M	METER	METER	METER	EACH	METER	METER	EACH	EACH	EACH	SQ. M	SQ. M
1-EP	153	39+610	39+660	LT																		115
1-R	153	39+738		LT&RT	80																	
1-G	153	39+591.325	39+637.045	LT												41.91		1	1			
2-G	153	39+509.41	39+637.045	RT													127.635		1	1		
1-D	155	40+000	40+103	LT						1.2	0.2	105			2							
1-EP	155	39+947.9	39+997.9	LT																		100
2-EP	155	40+047.2	40+097.2	LT																		100
3-EP	155	40+070	40+110	RT																		84
4-EP	155	39+936		LT																	18.8	
5-EP	155	39+936		RT																	18.8	
1-R	155	39+872	40+100	RT	240																	
1-G	155	39+932.955	40+064.40	LT													131.445		1	1		
2-G	155	39+932.955	39+978.675	RT												41.91		1	1			
1-D	157	40+350	40+450	RT&LT				15			26.0			156.1								
1-EP	157	40+220	40+450	LT						92.7												218
2-EP	157	40+110	40+170	RT																		126
1-R	157	40+158		LT&RT	124																	
2-R	157	40+110	40+246	RT	148																	
3-R	157	40+342		RT			1															
1-G	157	40+262.195	40+450	LT												184.785		1				
2-G	157	40+300	40+450	RT												146.685		1				
1-D	159	40+689	40+720	LT						1.2	0.2	32			1							
1-EP	159	40+722.1	40+772.1	LT																		100
2-EP	159	40+500	40+665	RT						142.5												231
1-G	159	40+450	40+790	LT												340.995						
2-G	159	40+450	40+551.46	RT												99.060		1				
1-D	161	40+884		LT&RT					9		11.2		145									
1-EP	161	40+868	41+000	RT						60.0												187
1-G	161	40+790	41+130	LT												340.995						
* SEE CULVERT DETAIL SHEETS FOR FULL CULVERT DESCRIPTIONS																						
TOTALS THIS SHEET					592		1	15	9	297.6	37.6	137	145	156.1	3	1196.340	259.080	5	4	2	37.6	1261
TOTALS CARRIED TO GENERAL SUMMARY					592		1	15	9	298	38	137	145	156.5	3	1196.34	259.08	5	4	2	38	1261

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FOR ESTIMATED QUANTITIES SEE SHEET 172
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STORM SEWER PROFILE SEE SHEET 586
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152
FOR STRUCTURE DETAILS SEE SHEET 885 THRU 904

LEGEND
670 DITCH EROSION PROT.
601 ROCK CHANNEL PROT.

CURVE DATA NO. 10 US 33 MAINLINE
P.I. Sta. = 41+434.287
Δ = 36° 16' 37" (RT)
R = 900.000 m
Ls = 80.000 m

JACK. G. CANTRELL
JAMES L. BLASCHAK & PATRICIA R. BLASCHAK
LODI TOWNSHIP SECTION 32
LODI TOWNSHIP SECTION 31
SECTION 26
SECTION 31
LA-R/W
CONST. LIMITS
WOODS
BARBED WIRE IN TREES
MATCH LINE STA 41+130 SEE SHEET 161
MATCH LINE STA 41+470 SEE SHEET 166
2.0m X 1.2m ROCK CHANNEL PROTECTION TYPE C, W/ FILTER 0.5m THICK
300 mm TYPE C
375 mm TYPE C
P.R. JOINT TYPE-A (AS PER BP-2.3M)
+247.080 POST
+245.680 POST
+423.130 POST
+424.540 POST
+442.130
+468.355 TYPE B-98 (ASSEM.)
+201.865 TYPE-B-98 ASSEM.
SC Sta. 41+179.358
℄ CONST US 33 MAINLINE
STRUCTURE No. ATH - 33 - 42635
1-G, 45-U, 46-U, 47-U, 48-U, 1-R, 2-G, 3-EP, 1-D, 1-EP, 2.0m, CB-8, 49-U, 3-G, 50-U, 51-U, 52-U, 4-G, 2-EP
+140, +160, +180, +220, +240, +260, +280, 41+300, +320, +340, +360, +380, 41+400, +420, +440, +460
U ESMT

PROPOSED STRUCTURE DATA

TYPE: FIVE-SPAN PRESTRESSED CONCRETE I-BEAM WITH STUB TYPE ABUTMENTS AND WALL TYPE PIERS
SPAN: 5 X 32 000 C/C BEARINGS ALONG REFERENCE CHORD
ROADWAY: 14 400 T/T BARRIER
SKEW: 0° TO REFERENCE CHORD
DESIGN LOADING: MS 22.5 AND THE ALTERNATE MILITARY LOADING
WEARING SURFACE: MONOLITHIC CONCRETE
ALIGNMENT: 900m RADIUS CURVE RIGHT
SUPERELEVATION: 0.016
APPROACH SLABS: AS-1-81M (7500 LONG)

HORIZONTAL SCALE IN METERS
0, 10, 20
CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 41+130 TO STA. 41+470

ATH-33-40.981

164
949

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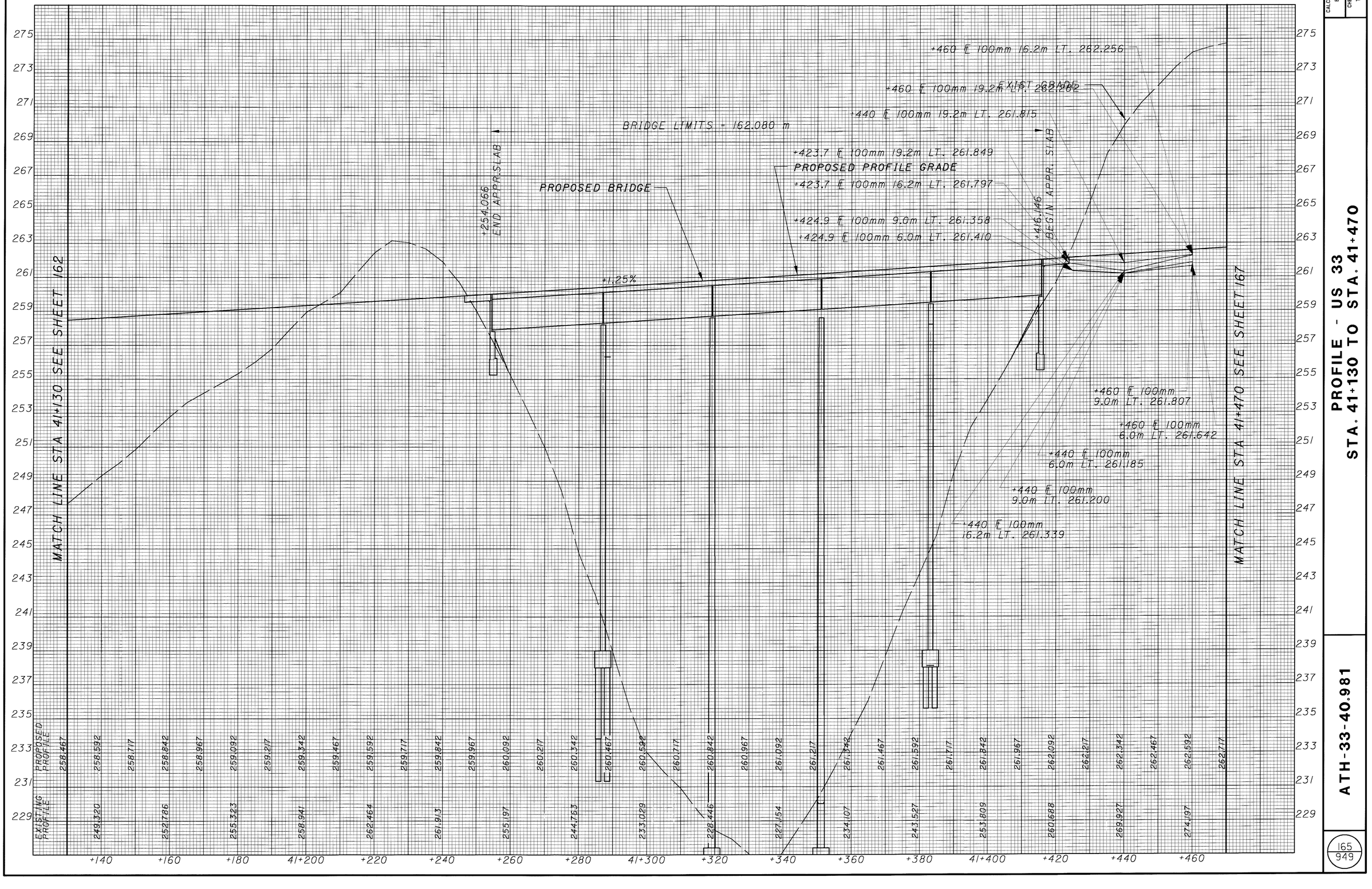
CALCULATED BBD
CHECKED TDW

PROFILE - US 33
STA. 41+130 TO STA. 41+470



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FOR ESTIMATED QUANTITIES SEE SHEET 135
FOR PAVEMENT QUANTITIES SEE SHEET 172
FOR STORM SEWER PROFILE SEE SHEET 586
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

CURVE DATA NO. 10 US 33 MAINLINE
P.I. Sta. = 41+434.287
Δ = 36° 16' 37" (RT)
R = 900.000 m
Ls = 80.000 m

LEGEND
670 DITCH EROSION PROT.
601 ROCK CHANNEL PROT.

LEVI H. FETTY &
CLARENCE R. FETTY.

MATCH LINE STA 41+470 SEE SHEET 164

MATCH LINE STA 41+810 SEE SHEET 168

JAMES L. BLASCHAK &
PATRICIA R. BLASCHAK

DONALD L. SAVAGE &
JUDITH L. SAVAGE

MOWED FIELD

DIRT DRIVE

GATE

BARBED WIRE IN TREES

1.2m BARBED WIRE

457 mm GAS

GRAVEL ROAD

CONST. LIMITS

R/W

LA-R/W

EX R/W

U ESMT

300 mm TYPE C

1-EP 1-D 1-G 53-U 54-U 55-U 56-U 3-EP 59-U 60-U 57-U 58-U 61-U 62-U 63-U 64-U 1-R 2-EP

+546.955 POST END ANCHOR

CB 8 +542.1 +492.1 +592.1

CS Sta. 41+669.196

ST Sta. 41+749.196

℄ CONST US 33 MAINLINE

S 4° 17' 30" E

41+470 41+500 +520 +540 +560 +580 41+600 +620 +640 +660 +680 41+700 +720 +740 +760 +780 41+800

2.0m 3.6m 3.15m

0 10 20 HORIZONTAL SCALE IN METERS

CALCULATED BBD CHECKED TDW

US 33 MAINLINE PLAN
STA. 41+470 TO STA. 41+810

ATH-33-40.981

166
949

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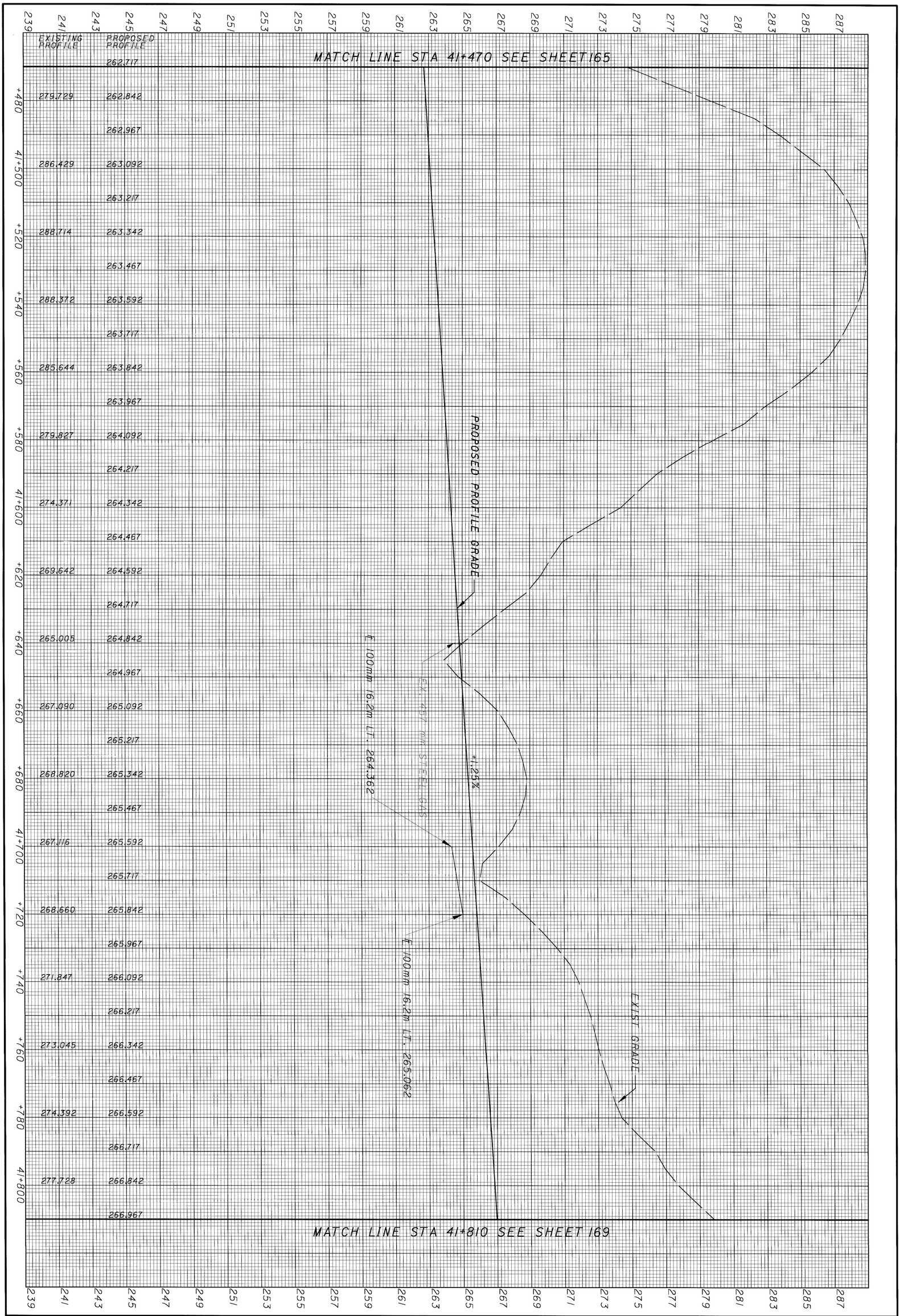


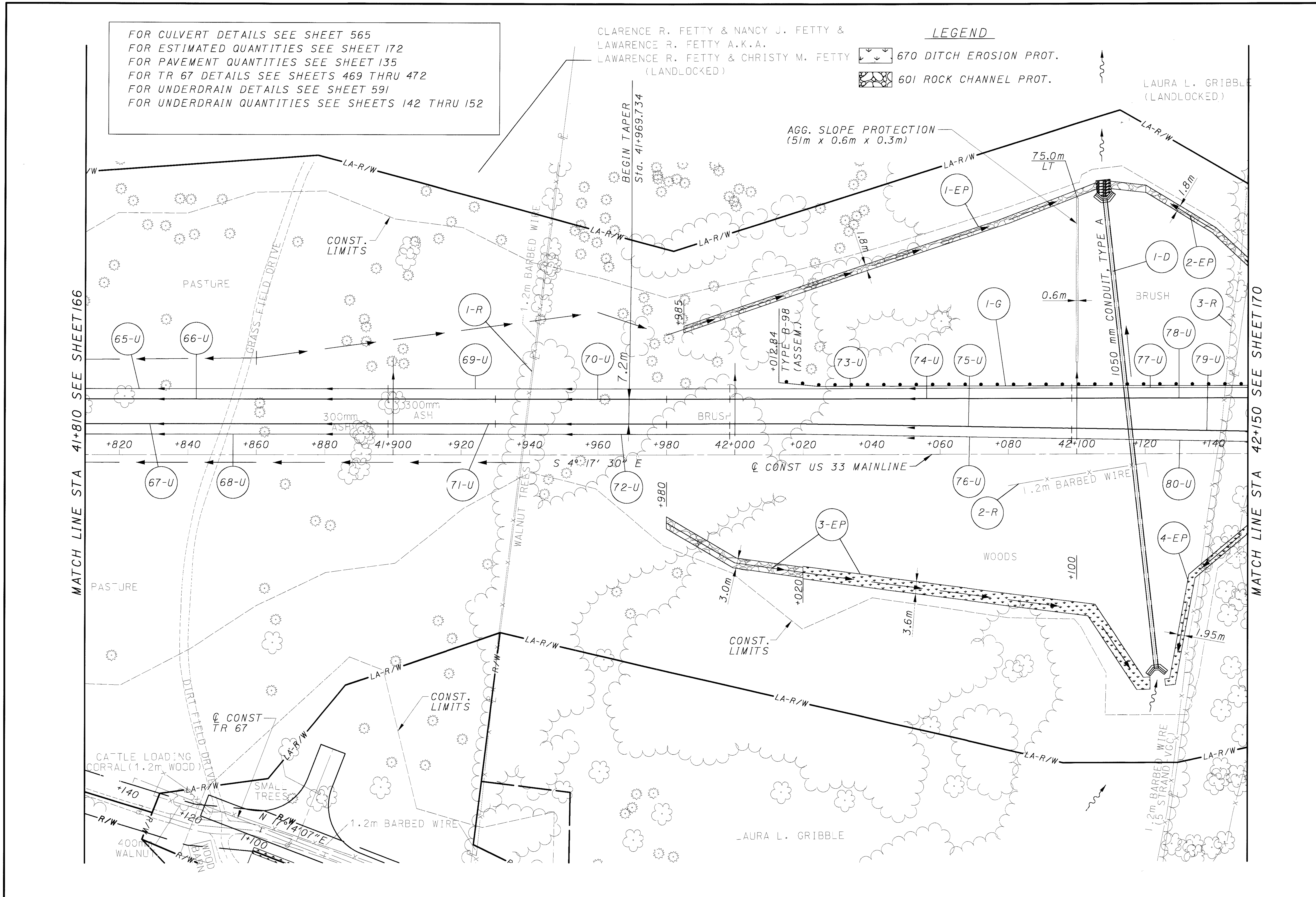
167 949	**ATH-33-40.981**	**PROFILE - US 33** **STA. 41+470 TO STA. 41+810**

CALCULATED BBD
CHECKED TDW

FOR CULVERT DETAILS SEE SHEET 565
FOR ESTIMATED QUANTITIES SEE SHEET 172
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR TR 67 DETAILS SEE SHEETS 469 THRU 472
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

LEGEND

670 DITCH EROSION PROT.
601 ROCK CHANNEL PROT.



CLARENCE R. FETTY & NANCY J. FETTY &
LAWARENCE R. FETTY A.K.A.
LAWARENCE R. FETTY & CHRISTY M. FETTY
(LANDLOCKED)
LAURA L. GRIBBLE
(LANDLOCKED)
AGG. SLOPE PROTECTION
(51m x 0.6m x 0.3m)
BEGIN TAPER
Sta. 41+969.734
MATCH LINE STA 41+810 SEE SHEET 166
MATCH LINE STA 42+150 SEE SHEET 170
CONST. LIMITS
PASTURE
GRASS FIELD DRIVE
1.2m BARBED WIRE
WALNUT TREES
300mm ASH
BRUSH
WOODS
1050 mm CONDUIT, TYPE A
TYPE B-98 (ASSEM.)
75.0m LT
0.6m
1.8m
3.0m
3.6m
1.95m
7.2m
S 4° 17' 30" E
℄ CONST US 33 MAINLINE
℄ CONST TR 67
CATTLE LOADING CORRAL (1.2m WOOD)
SMALL TREES
DIRT FIELD DRIVE
N 17° 4'07" E
400mm WALNUT
1.2m BARBED WIRE (5 STRAND VGC)
LAURA L. GRIBBLE
LA-R/W
R/W
+820 +840 +860 +880 41+900 +920 +940 +960 +980 42+000 +020 +040 +060 +080 42+100 +120 +140
1-R 2-R 3-R 1-EP 2-EP 3-EP 4-EP 1-D 1-G
65-U 66-U 67-U 68-U 69-U 70-U 71-U 72-U 73-U 74-U 75-U 76-U 77-U 78-U 79-U 80-U

HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 41+810 TO STA. 42+150

ATH-33-40.981

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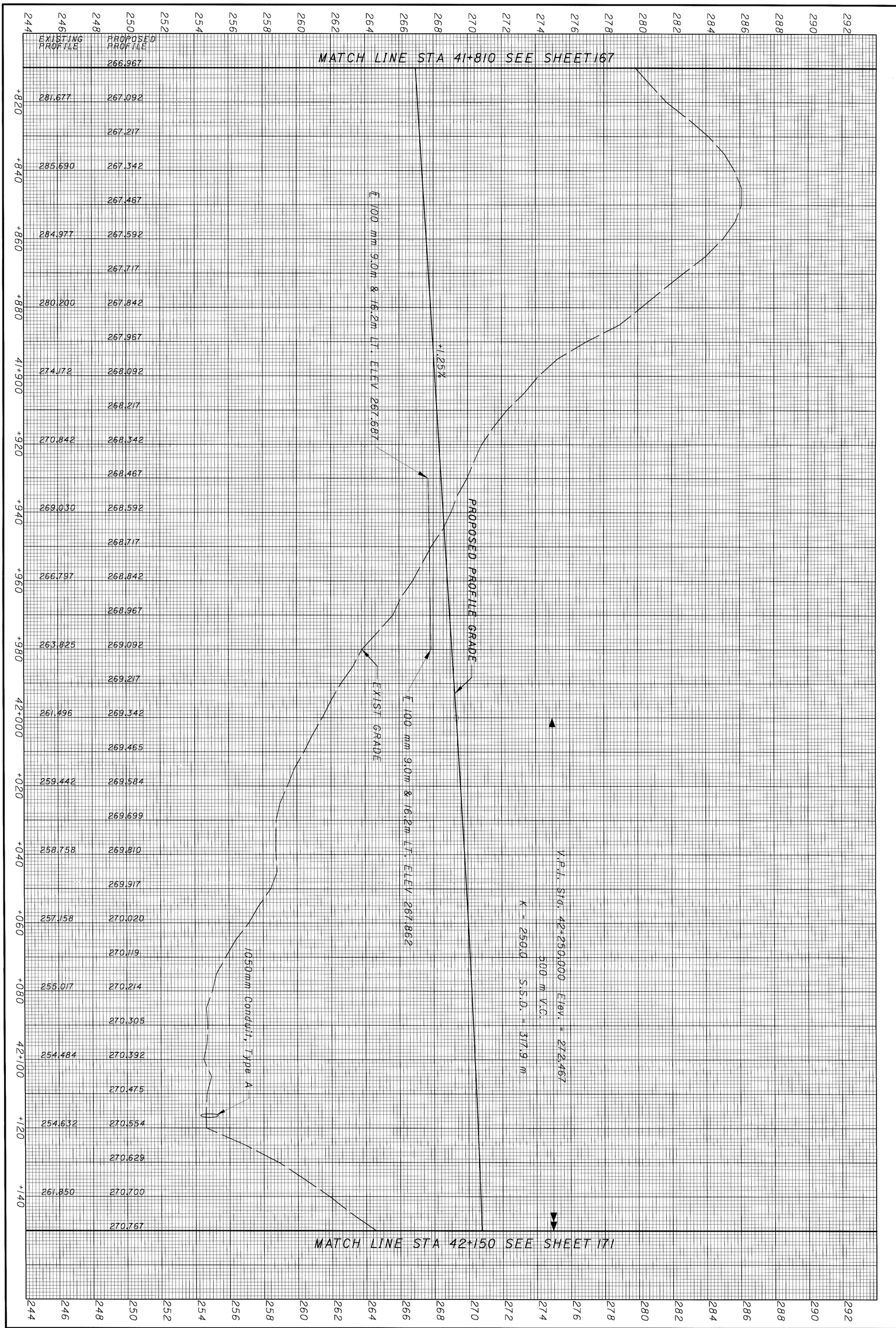

169 / 949	ATH-33-40.981	PROFILE - US 33 STA. 41+810 TO STA. 42+150

CALCULATED BBD
CHECKED TDW

FOR CR 89 DETAILS SEE SHEETS 473 THRU 486
FOR ESTIMATED QUANTITIES SEE SHEET 172
FOR INTERSECTION DETAIL SEE SHEET 556
FOR INTERSECTION LIGHTING DETAILS SEE SHEET 593
FOR JOINT LAYOUT DETAIL SEE SHEET 560
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

CURVE DATA NO. 3 CR 89
P.I. Sta. = 2+313.147
Δ = 25° 28' 41" (RT)
R = 120.000 m
T = 27.129 m
L = 53.361 m
E = 3.028 m

℄ CONST CR 89
PASTURE
℄ CONST CR 89
PT Sta. 2+339.379
S 48° 48' 49" E
ELECTRIC BARB WIRED FENCE
GRASS
BARN
PINES
2-STRAND BARBED WIRED FENCE
1.2m BARBED WIRE FENCE
LA-R/W
R/W
MANUEL C. GRUESER & ROSE M. GRUESER
STA 2+245.334 CR 89 = STA 42+334.967 US 33
CONC. WATER TROUGH
(5 1.2m BARBED WIRE STRAND GOOD COND.)
1.8m
I-R
I-EP
I-G
2-R
PLUG & VENT EX. OIL WELL
BEGIN TAPER Sta. 42+274.976
END TAPER Sta. 42+289.976
+294.78 POST END ANCHOR
+279.54
CONST. LIMITS
+462.01 POST END ANCHOR
+477.25
2-G
EX. CR 89
2+300
+300
R18m
PC Sta. 2+286.018
S 74° 17' 30" E
C.R.89
85-U
86-U
87-U
88-U
+380
+360
+340
+320
+280
+260
+240
+220
+200
+180
+160
+150
+195
+230
2.4m
+180
1.95m
2-EP
81-U
82-U
83-U
84-U
10.8m
14.4m
OIL LINE
OIL WELL
SEPARATOR
42+200
42+300
42+400
+420
+440
+460
+480
+160
+180
+220
+240
+260
+280
+320
+340
+360
+380
S 4° 17' 30" E
℄ CONST US 33 MAINLINE
MATCH LINE STA 42+150 SEE SHEET168
MATCH LINE STA 42+490 SEE SHEET173

CURVE DATA NO. 2 CR 89
P.I. Sta. = 2+187.381
Δ = 15° 17' 56" (LT)
R = 120.000 m
T = 16.117 m
L = 32.042 m
E = 1.077 m

CONST. LIMITS
PASTURE
END TAPER Sta. 42+209.721
PT Sta. 2+203.306
C.R.89
R18m
TRAILER
GRAVEL DRIVE
PROPANE TANK
ELECTRICAL BARBED WIRE FENCE
BEGIN TAPER Sta. 42+388.249
END TAPER Sta. 42+403.249
BEGIN TAPER Sta. 42+468.01
CONST. LIMITS

CURVE DATA NO. 1 CR 89
P.I. Sta. = 2+061.575
Δ = 15° 30' 17" (RT)
R = 400.000 m
T = 54.455 m
L = 108.244 m
E = 3.690 m

PC Sta. 2+171.264
MANUEL C. GRUESER & ROSE M. GRUESER
CONST LIMITS
R/W 40
S 58° 59' 34" E
BRUSH & SMALL TREES
CONST LIMITS
CHASE DR.
ELECTRICAL BARBED WIRE FENCE
LA-R/W
MARK A. GRUESER & NANCY S. GRUESER. (TRUSTEES MARK A. GRUESER TRUST AGREEMENT)
MATTHEW PAUL GRUESER & FLORENCE MARIE GRUESER .

LEGEND
670 DITCH EROSION PROT.
601 ROCK CHANNEL PROT.

HORIZONTAL SCALE IN METERS
0 10 20
CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 42+150 TO STA. 42+490

ATH-33-40.981

170
949

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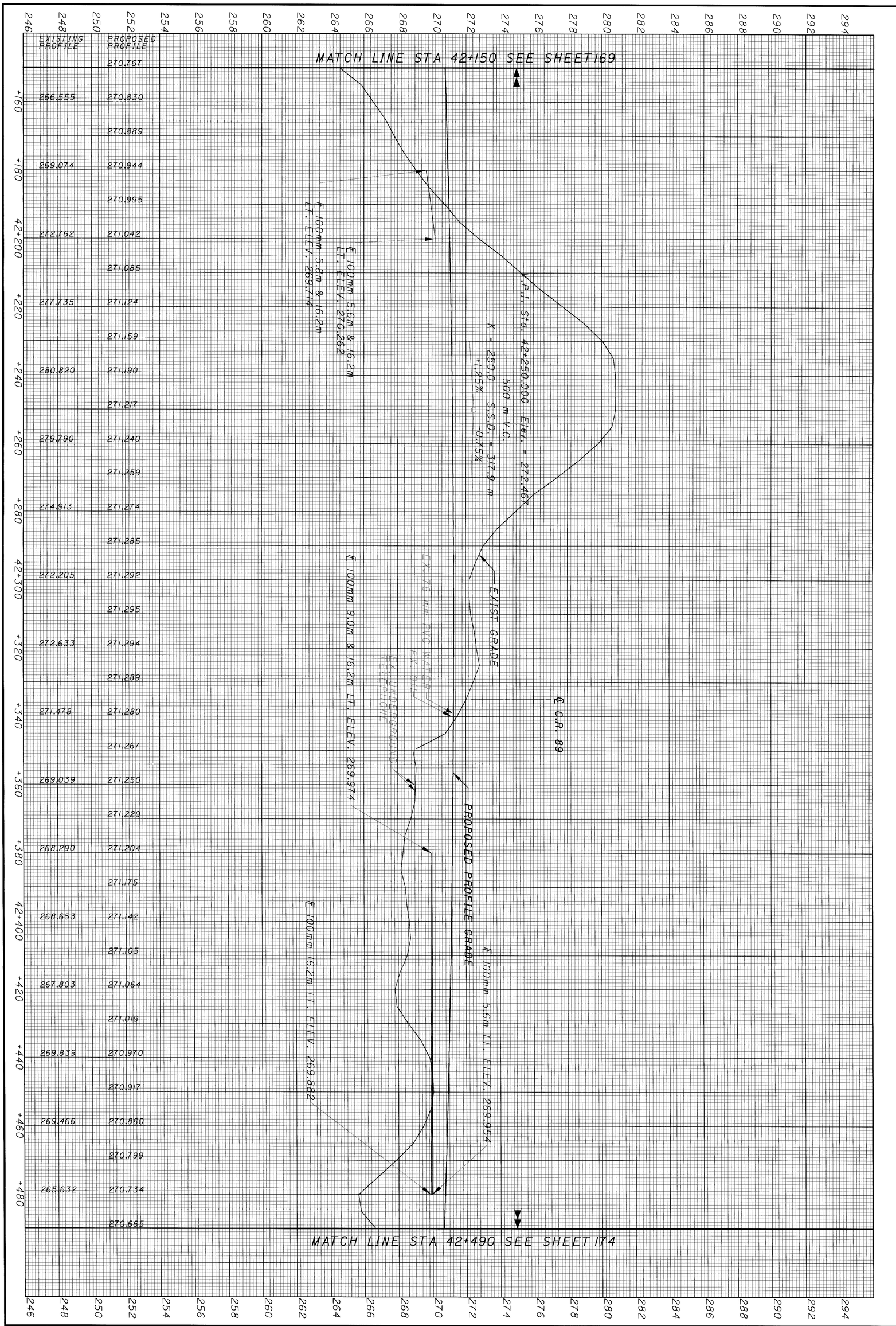

171
949

ATH-33-40.981

PROFILE - US 33
STA. 42+150 TO STA. 42+490

CALCULATED BBD
CHECKED TDW

REF NO.	SHEET NO.	STATION TO STATION			202		SPEC	601	601	602	603	603	603		604	606	606	606	606	606	660	670
		TO	FROM	SIDE	FENCE REMOVED		PLUGGING & VENTING GAS & OIL WELLS	ROCK CHANNEL PROTECTION TYPE B, W/ FILTER	ROCK CHANNEL PROTECTION TYPE C, W/ FILTER	CONCRETE MASONARY	300mm CONDUIT TYPE C	375mm CONDUIT TYPE C	1050mm CONDUIT TYPE A *		CATCH BASIN NO. 8	GUARDRAIL TYPE 5	GUARDRAIL TYPE 8	ANCHOR ASSEMBLY TYPE B-98	BRIDGE TERMINAL ASSEMBLY TYPE I	POST END ANCHOR	SODDING REINFORCED	DITCH EROSION PROTECTION
					METER		EACH	CU. M	CU. M	CU. M	METER	METER	METER		EACH	METER	METER	EACH	EACH	EACH	SQ. M	SQ. M
1-D	164	41+422	41+470	LT					1.2	0.2	30	20			1							
1-EP	164	41+442.1	41+470	LT																		56
2-EP	164	41+420	41+470	RT																		195
3-EP	164	41+245		RT																	19.2	
1-R	164	41+222		LT&RT	135																	
1-G	164	41+130	41+248.985	LT												120.015			1			
2-G	164	41+201.865	41+247.585	RT												41.91		1	1			
3-G	164	41+421.225	41+470	LT													49.53		1			
4-G	164	41+422.635	41+546.955	RT												41.91		1	1			
1-D	166	41+470	41+540	LT							70				1							
1-EP	166	41+470	41+492.1	LT																		42
2-EP	166	41+542.1	41+592.1	LT																		100
3-EP	166	41+470	41+800	RT																		1171
1-R	166	41+738		LT&RT	146																	
1-G	166	41+470	41+546.955	LT													76.20			1		
1-D	168	42+116.376		LT&RT				9.0		11.5			138.8									
1-EP	168	41+985	42+108	LT					114.3													
2-EP	168	42+108	42+150	LT					42.3													
3-EP	168	41+980	42+120	RT					66.0													396
4-EP	168	42+126	42+150	RT																		115
1-R	168	41+938		LT&RT	124																	
2-R	168	42+080	42+120	RT	40																	
3-R	168	42+141		LT&RT	170																	
1-G	168	42+012.84	42+150	LT												133.35		1				
1-EP	170	42+150	42+230	LT.																		165
2-EP	170	42+150	42+180	RT.																		59
1-R	170	42+154		LT&RT	95																	
2-R	170	42+245		LT			1															
1-G	170	42+150	42+294.78	LT													144.78			1		
2-G	170	42+462.01	42+490	LT													28.575			1		
* SEE CULVERT DETAIL SHEETS FOR FULL CULVET DESCRIPTIONS																						
TOTALS THIS SHEET					710		1	9.0	223.8	11.72	100	20	138.8		2	337.185	299.085	3	4	3	19.2	2299
TOTALS CARRIED TO GENERAL SUMMARY					710		1	9	224	11.7	100	20	140		2	337.19	299.09	3	4	3	20	2299

CALCULATED BBD
CHECKED TDW

ESTIMATED QUANTITIES - STA. 41+130 TO STA. 42+490

ATH-33-40.981

172
949

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LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

MARK A. GRUESER &
NANCY S. GRUESER.
(TRUSTEES MARK A. GRUESER
TRUST AGREEMENT)

CURVE DATA NO. 11 US 33 MAINLINE
P.I. Sta. = 42+815.547
Δ = 18° 44' 24" (LT)
R = 1,500.000 m
T = 247.518 m
L = 490.614 m
E = 20.285 m
Emax = 0.040

AGG. SLOPE PROTECTION
(50.5m x 0.6m x 0.3m)

68.0m LT

END TAPER Sta. 42+707.997

1500mm CONDUIT TYPE-A

+760

+810

1.8m

OBSCURE TREES

0.6m

7.2m

LA-R/W

CONST. LIMITS

BARBED WIRE FENCE

GATE

1-R

2-R

1-G

1-EP

1-D

2-G

3-R

4-R

5-R

89-U

90-U

91-U

92-U

93-U

94-U

95-U

96-U

97-U

98-U

99-U

100-U

PC Sta. 42+568.029

+618.22

42+500 +520 +540 +560 +580 42+600 +620 +640 +660 +680 42+700 +720 +740 +760 +780 42+800 +820

S 4° 17' 30" E

℄ CONST US 33 MAINLINE

+550 TYPE-B-98 ASSEM.

FIELD

WARM WATER HABITAT CULVERT

℄ CREEK

MATCH LINE STA 42+490 SEE SHEET 170

MATCH LINE STA 42+830 SEE SHEET 175

FOR CULVERT DETAILS SEE SHEET 566
FOR ESTIMATED QUANTITIES SEE SHEET 181
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

MARK A. GRUESER &
NANCY S. GRUESER.
(TRUSTEES MARK A. GRUESER
TRUST AGREEMENT)

OHIO VALLEY TEXTBOCKS, INC.

HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 42+490 TO STA. 42+830

ATH-33-40.981

173
949

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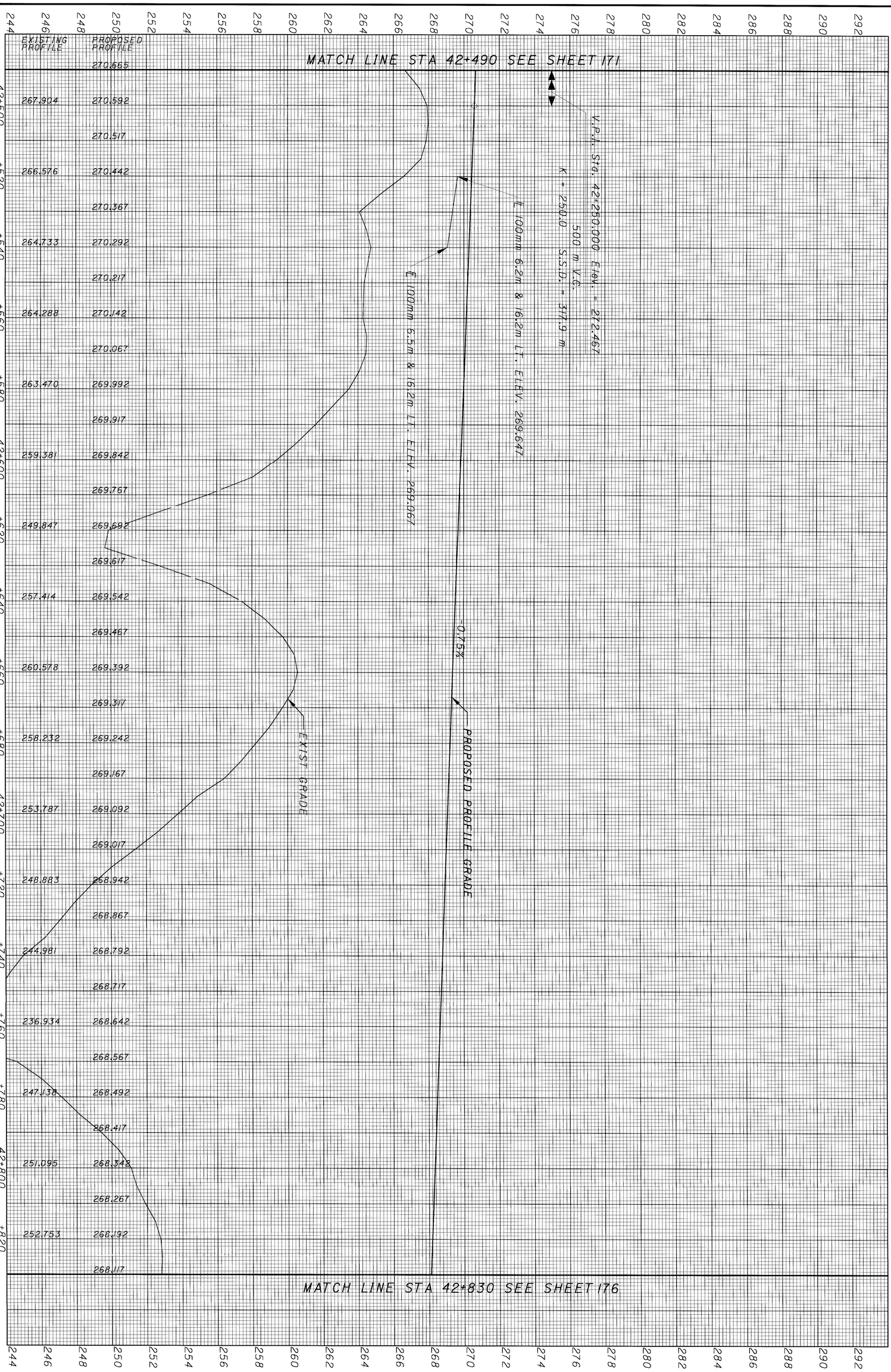

174 / 949	ATH-33-40.981	PROFILE - US 33 STA. 42+490 TO STA. 42+830

CALCULATED BBD
CHECKED TDW

FOR CULVERT DETAILS SEE SHEET 567
FOR ESTIMATED QUANTITIES SEE SHEET 181
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

LEGEND
670 DITCH EROSION PROT.
601 ROCK CHANNEL PROT.

CURVE DATA NO. 11 US 33 MAINLINE
P.I. Sta. = 42+815.547
Δ = 18° 44' 24" (LT)
R = 1,500.000 m
T = 247.518 m
L = 490.614 m
E = 20.285 m
Emax = 0.040

AGGREGATE SLOPE PROTECTION
(23 m x 0.6 m x 0.3 m)

AGGREGATE SLOPE PROTECTION
(38 m x 0.6 m x 0.3 m)

MARK A. GRUESER &
NANCY S. GRUESER.
(TRUSTEES NANCY S. GRUESER
TRUST AGREEMENT)

MATCH LINE STA 42+830 SEE SHEET 173

MATCH LINE STA 43+170 SEE SHEET 177

LA-R/W

CONST. LIMITS

43 m LT.

1.8m

0.6m

56.5 m LT.

+985

1-EP

1-D

1-R

1-G

2-G

2-R

101-U

102-U

103-U

104-U

105-U

106-U

107-U

108-U

BARBED WIRE FENCE

ATHENS COUNTY
MEIGS COUNTY

RT. Sta. 43+058.644

+840 +860 +880 42+900 +920 +940 +960 +980 43+000 +020 +040 +060 +080 43+100 +120 +140 +160

℄ CONST US 33 MAINLINE

S 23° 01' 54" E

1050 mm CONDUIT, TYPE A

WARM WATER HABITAT

℄ EX. DITCH

LODI TOWNSHIP SECTION 25
MEDFORD TOWNSHIP SECTION 30

OHIO VALLEY
TEXTBOOK, INC

WENDY HALL A.K.A.
WENDY FRANCIS HALL

ROBERT J. SETLOCK, JR.
& JOELENE M. SETLOCK

MARK A. GRUESER &
NANCY S. GRUESER.
(TRUSTEES NANCY S. GRUESER
TRUST AGREEMENT)

HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 42+830 TO STA. 43+170

ATH-33-40.981

175
949

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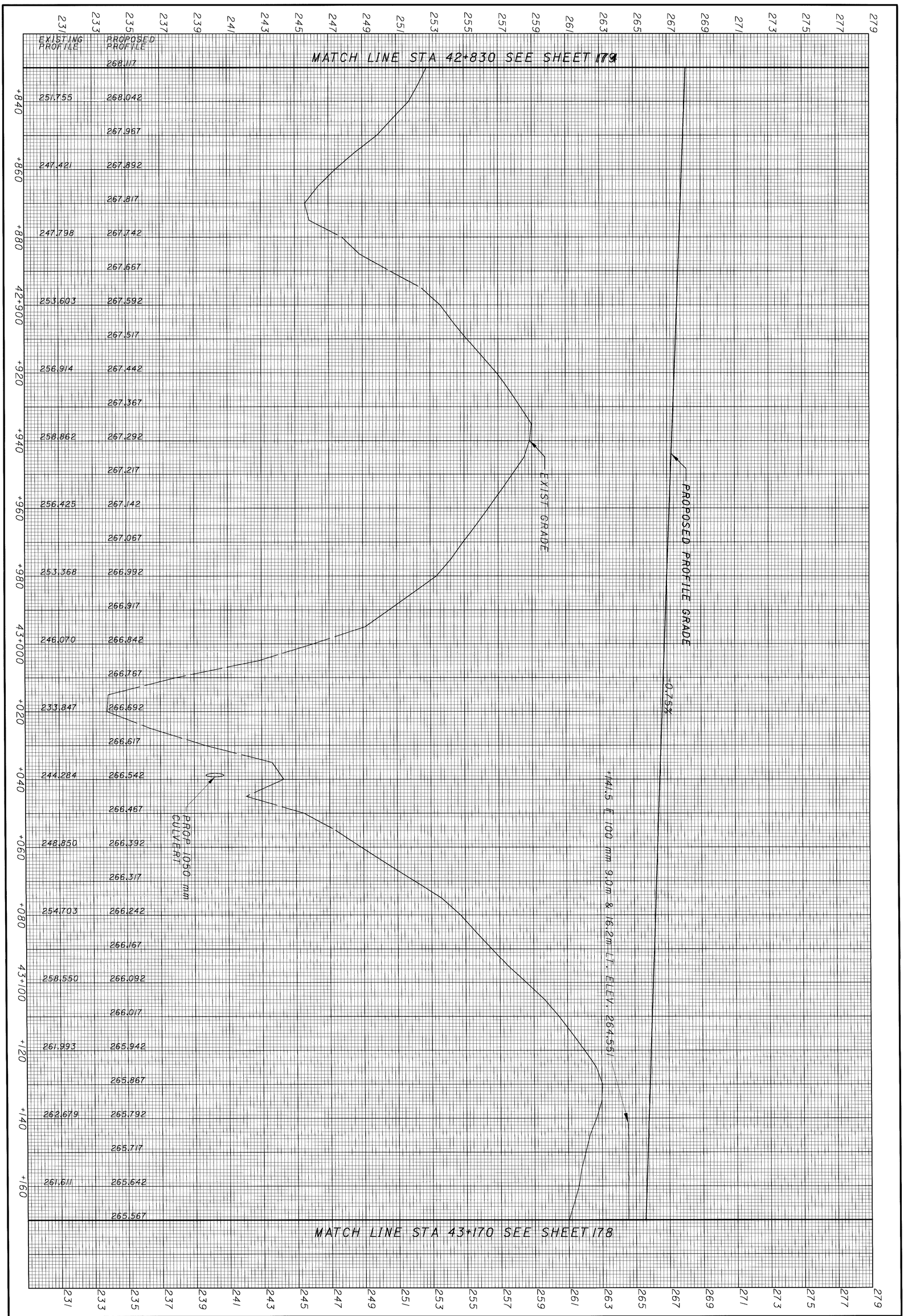
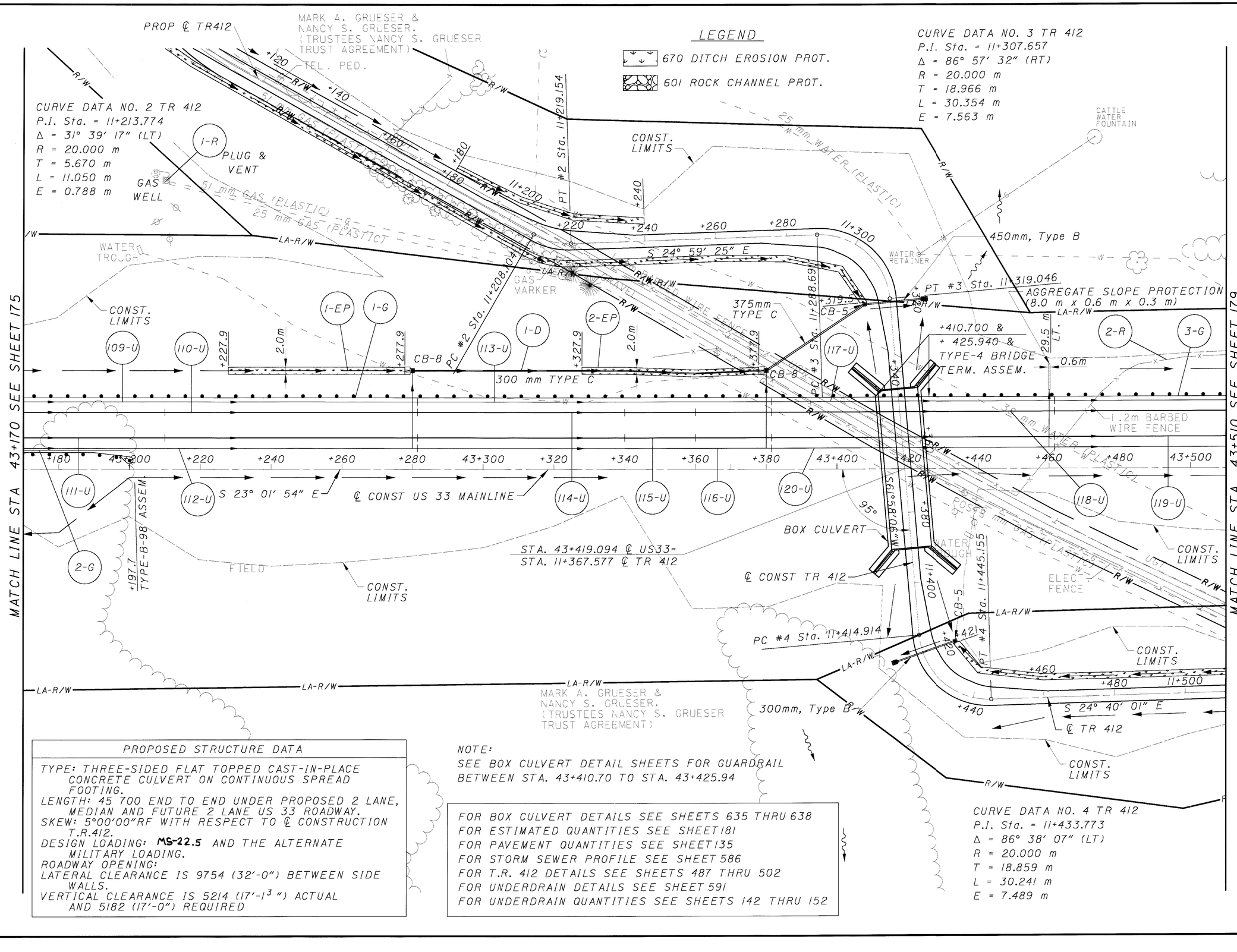


176 / 949	**ATH-33-40.981**	**PROFILE - US 33** **STA. 42+830 TO STA. 43+170**

CALCULATED BBD
CHECKED TDW



PROPOSED STRUCTURE DATA
TYPE: THREE-SIDED FLAT TOPPED CAST-IN-PLACE CONCRETE CULVERT ON CONTINUOUS SPREAD FOOTING.
LENGTH: 45 700 END TO END UNDER PROPOSED 2 LANE, MEDIAN AND FUTURE 2 LANE US 33 ROADWAY.
SKEW: 5°00′00″RF WITH RESPECT TO ℄ CONSTRUCTION T.R.412.
DESIGN LOADING: **MS-22.5** AND THE ALTERNATE MILITARY LOADING.
ROADWAY OPENING:
LATERAL CLEARANCE IS 9754 (32′-0″) BETWEEN SIDE WALLS.
VERTICAL CLEARANCE IS 5214 (17′-1 3/4″) ACTUAL AND 5182 (17′-0″) REQUIRED

NOTE:
SEE BOX CULVERT DETAIL SHEETS FOR GUARDRAIL BETWEEN STA. 43+410.70 TO STA. 43+425.94

FOR BOX CULVERT DETAILS SEE SHEETS 635 THRU 638
FOR ESTIMATED QUANTITIES SEE SHEET 181
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STORM SEWER PROFILE SEE SHEET 586
FOR T.R. 412 DETAILS SEE SHEETS 487 THRU 502
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

CURVE DATA NO. 4 TR 412
P.I. Sta. = 11+433.773
Δ = 86° 38′ 07″ (LT)
R = 20.000 m
T = 18.859 m
L = 30.241 m
E = 7.489 m

HORIZONTAL SCALE IN METERS
0 10 20
CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN STA. 43+170 TO STA. 43+510

ATH-33-40.981

177
949

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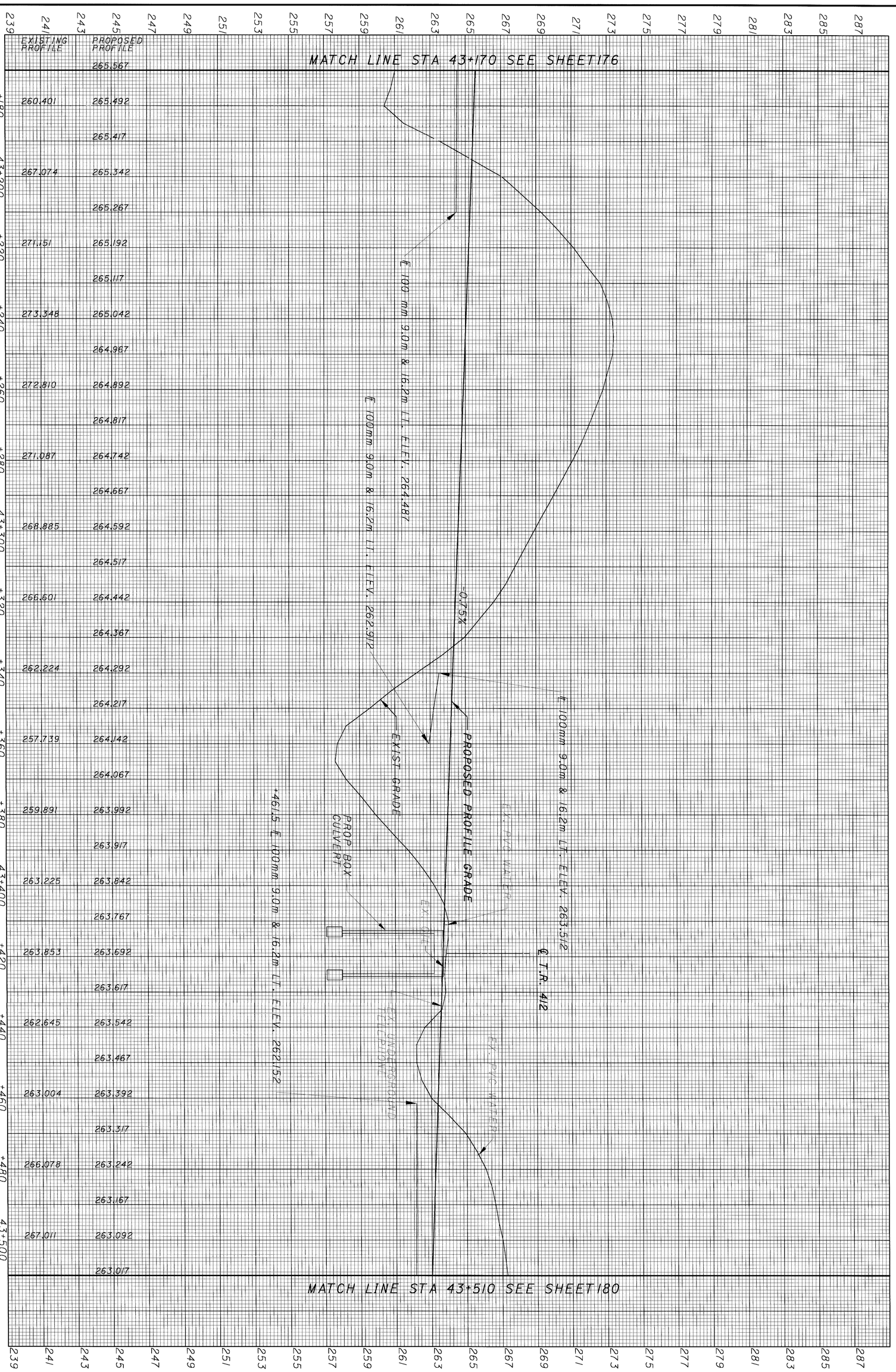
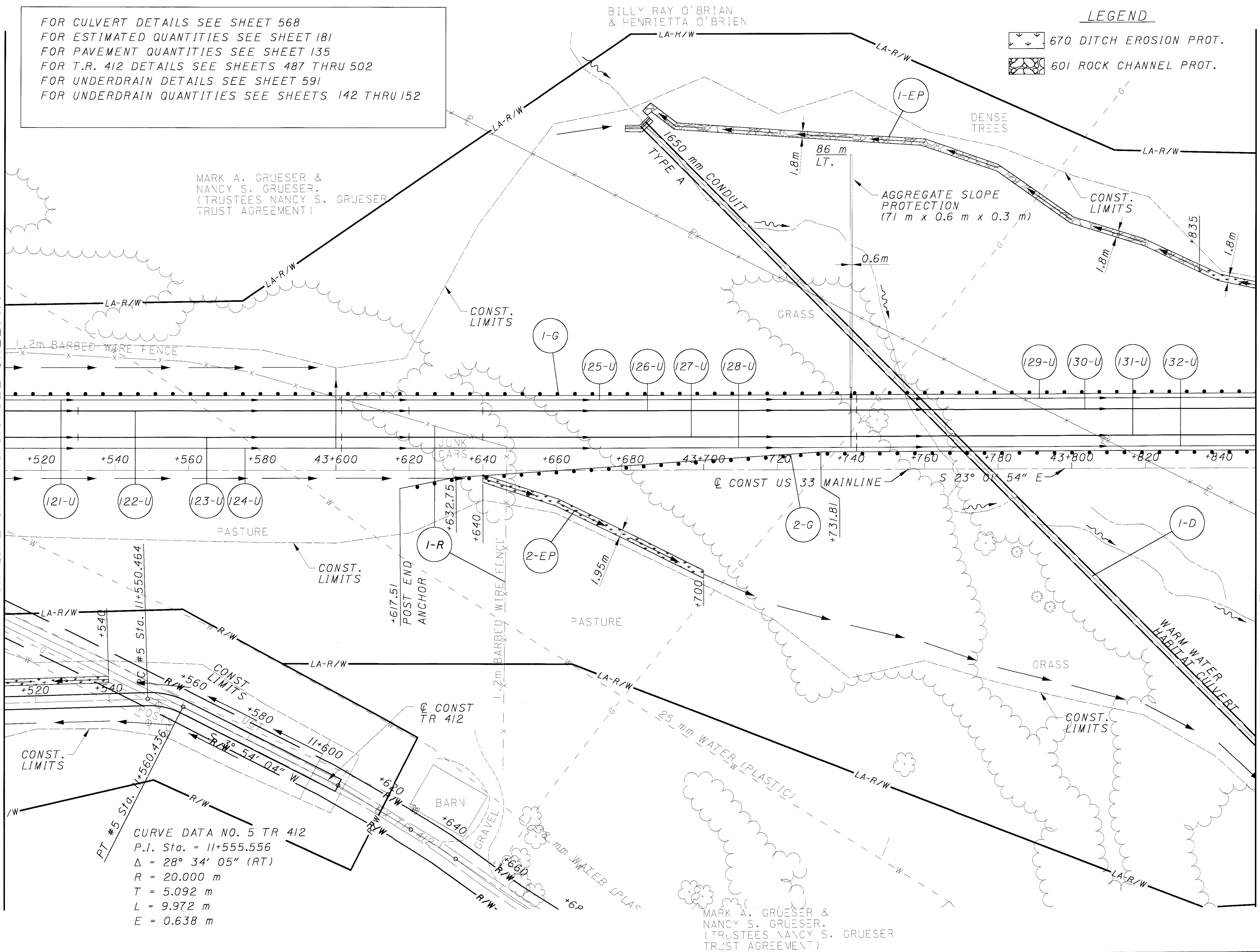


178 / 949	**ATH-33-40.981**	**PROFILE - US 33** **STA. 43+170 TO STA. 43+510**

CALCULATED BBD
CHECKED TDW



FOR CULVERT DETAILS SEE SHEET 568
FOR ESTIMATED QUANTITIES SEE SHEET 181
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR T.R. 412 DETAILS SEE SHEETS 487 THRU 502
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152
LEGEND
670 DITCH EROSION PROT.
601 ROCK CHANNEL PROT.
BILLY RAY O'BRIAN
& HENRIETTA O'BRIEN
MARK A. GRUESER &
NANCY S. GRUESER
(TRUSTEES NANCY S. GRUESER
TRUST AGREEMENT)
MATCH LINE STA 43+510 SEE SHEET 177
MATCH LINE STA 43+850 SEE SHEET 182
LA-R/W
1.2m BARBED WIRE FENCE
CONST. LIMITS
1650 mm CONDUIT
TYPE A
86 m
LT.
1.8m
AGGREGATE SLOPE
PROTECTION
(71 m x 0.6 m x 0.3 m)
0.6m
DENSE
TREES
GRASS
PASTURE
JUNK
CARS
1-EP
1-G
125-U
126-U
127-U
128-U
129-U
130-U
131-U
132-U
121-U
122-U
123-U
124-U
1-R
2-EP
2-G
1-D
+520
+540
+560
+580
43+600
+620
+640
+660
+680
43+700
+720
+740
+760
+780
43+800
+820
+840
+835
℄ CONST US 33 MAINLINE
S 23° 01' 54" E
+617.51
POST END
ANCHOR
+632.75
+640
1.95m
+700
+731.81
WARM WATER
HABITAT CULVERT
1.2m BARBED WIRE FENCE
25 mm WATER (PLASTIC)
PC #5 Sta. 11+550.464
PT #5 Sta. 11+560.436
℄ CONST
TR 412
11+600
S 23° 54' 04" W
R/W
BARN
GRAVEL
CURVE DATA NO. 5 TR 412
P.I. Sta. = 11+555.556
Δ = 28° 34' 05" (RT)
R = 20.000 m
T = 5.092 m
L = 9.972 m
E = 0.638 m
HORIZONTAL
SCALE IN METERS
0
10
20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 43+510 TO STA. 43+850

ATH-33-40.981

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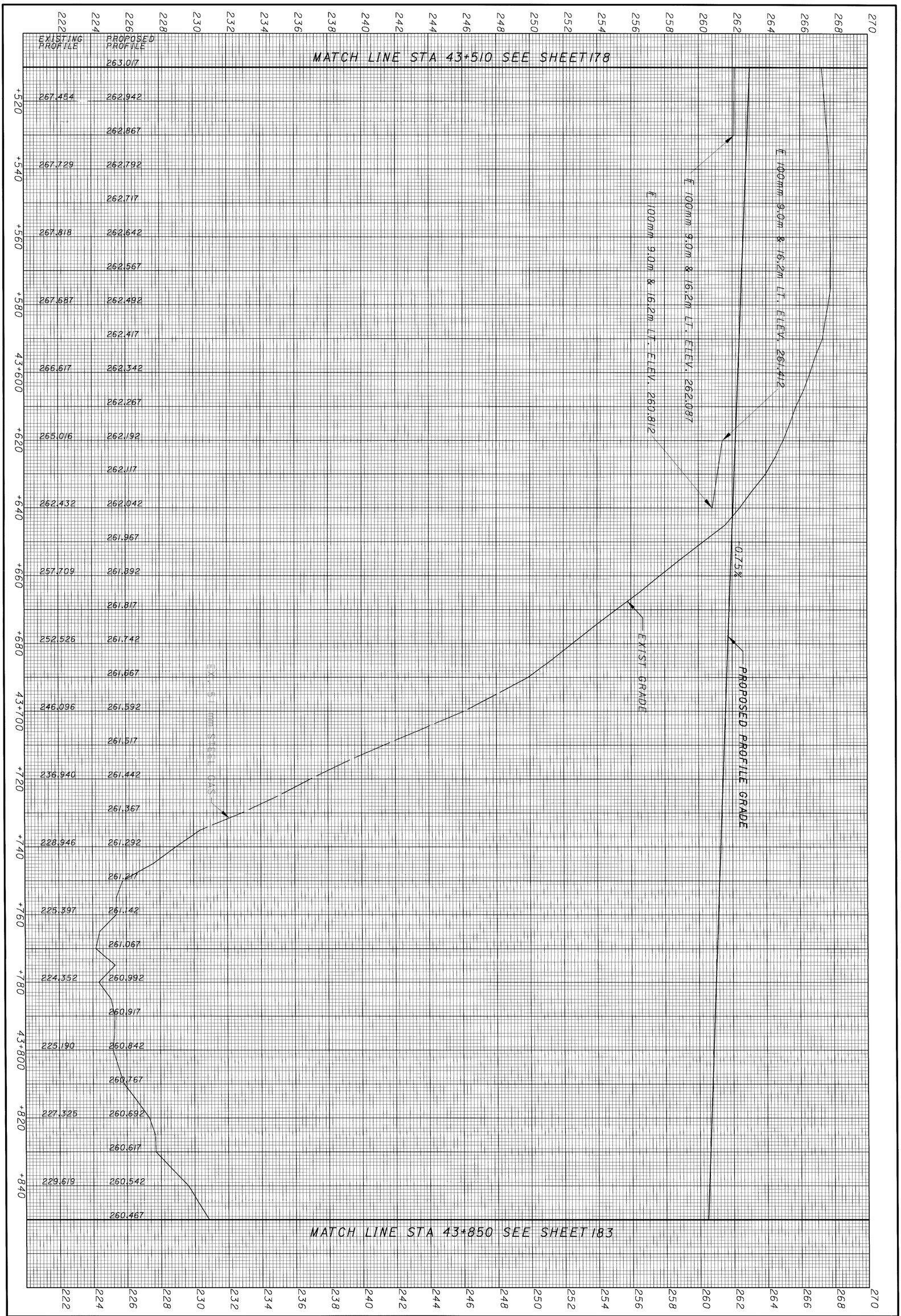

180 949	**ATH-33-40.981**	**PROFILE - US 33** **STA. 43+510 TO STA. 43+850**

CALCULATED BBD
CHECKED TDW

REF NO.	SHEET NO.	STATION TO STATION			202	SPEC	601	601	602	603	603	603	603	604		606	606	606	606	606		670
					FENCE REMOVED	PLUGGING & VENTING GAS & OIL WELLS	ROCK CHANNEL PROTECTION TYPE B, W/ FILTER	ROCK CHANNEL PROTECTION TYPE C, W/ FILTER	CONCRETE MASONARY	300mm CONDUIT TYPE C	1050mm CONDUIT TYPE A *	1500mm CONDUIT TYPE A *	1650mm CONDUIT TYPE A *	CATCH BASIN NO. 8		GUARDRAIL TYPE 5	GUARDRAIL TYPE 8	ANCHOR ASSEMBLY TYPE B-98	BRIDGE TERMINAL ASSEMBLY TYPE 4	POST END ANCHOR		DITCH EROSION PROTECTION
		TO	FROM	SIDE	METER	EACH	CU. M	CU. M	CU. M	METER	METER	METER	METER	EACH		METER	METER	EACH	EACH	EACH		SQ. M
1-D	173	42+768.328		LT&RT			52.8		18.6			137.7										
1-EP	173	42+730	42+810	LT				48.6														56
1-R	173	42+587		LT&RT	122																	
2-R	173	42+632	42+830	LT	200																	
3-R	173	42+490		RT	108																	
4-R	173	42+620		LT&RT	191																	
5-R	173	42+768		LT&RT	157																	
1-G	173	42+490	42+830	LT												211.455	129.54					
2-G	173	42+550	42+830	RT												276.225		1				
1-D	175	43+039.346		LT&RT			12.5		11.2		163											
1-EP	175	42+830	42+985	LT																		270
1-R	175	43+018		LT&RT	154																	
2-R	175	42+830	43+060	LT&RT	252																	
1-G	175	42+830	43+170	LT												340.995						
2-G	175	42+830	43+170	RT												340.995						
1-D	177	43+280	43+380	LT						100				2								
1-EP	177	43+227.9	43+277.9	LT																		100
2-EP	177	43+327.9	43+379.9	LT																		100
1-R	177	43+211, 82m LT.		LT		1																
2-R	177	43+450	43+510	RT&LT	75																	
1-G	177	43+170	43+410.70	LT												240.03			1			
2-G	177	43+170	43+197.7	RT												24.765		1				
3-G	177	43+425.94	43+510	LT												83.82			1			
1-D	179	43+776.488		LT&RT			9.3		22.4				260									
1-EP	179	43+685	43+850	LT				144.0														29
2-EP	179	43+640	43+700	RT																		127
1-G	179	43+510	43+850	LT												340.995						
2-G	179	43+617.51	43+850	RT												118.11	114.30			1		
1-R	179	43+510	43+646.5	LT&RT	198																	
* SEE CULVERT DETAIL SHEETS FOR FULL CULVET DESCRIPTIONS																						
TOTALS THIS SHEET					1457	1	74.6	192.6	52.2	100	163	137.7	260	2		1977.390	243.84	2	2	1		682
TOTALS CARRIED TO GENERAL SUMMARY					1457	1	75	193	52.2	100	163	138	260	2		1977.39	243.84	2	2	1		682

CALCULATED BBD
CHECKED TDW

ESTIMATED QUANTITIES - STA. 42+490 TO STA. 43+850

ATH-33-40.981

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

FOR CULVERT DETAILS SEE SHEET 569
FOR ESTIMATED QUANTITIES SEE SHEET 188
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

BILLY RAY O'BRIAN & HENRIETTA O'BRIAN

ROBERT E. LEE & DONNA L. LEE.

1.2m BARBED WIRE FENCE

LA-R/W

AGGREGATE SLOPE PROTECTION (22 m x 0.6 m x 0.3 m)

1-EP

+870

42.0 m LT.

0.6m

1-G

133-U

134-U

1500 mm CONDUIT, TYPE A

1.8m

2-EP

33.5 m LT.

+040

+031.73

AGGREGATE SLOPE PROTECTION (12.5 m x 0.6 m x 0.3 m)

0.6m

137-U

138-U

1.8m

CONST. LIMITS

+110

+134.65

+147.9

+149.84 POST END ANCHOR

3-EP

2.0m

GRASS

MATCH LINE STA 43+850 SEE SHEET 179

+860 +880 43+900 +920 +940 +960 +980 44+000 +020 +040 +060 +080 44+100 +120 +140 +160 +180

℄ CONST US 33 MAINLINE

S 23° 01' 54" E

135-U 136-U 139-U 140-U 141-U 142-U 143-U 144-U

2-G

STA. 43+940.776, ℄

1-D

4-EP

1.8m

+063.28 Type-B-98 (Assem.)

+080

PASTURE

1-R

2-R

CONST. LIMITS

+020

WARM WATER HABITAT CULVERT

1.2m BARBED WIRE FENCE

HOLLIE V. HAYES & LINDA S. HAYES.

ROBERT E. LEE & DONNA L. LEE. (LAND LOCKED)

MATCH LINE STA 44+190 SEE SHEET 184

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HORIZONTAL SCALE IN METERS

0 10 20

CALCULATED BBD

CHECKED TDW

US 33 MAINLINE PLAN
STA. 43+850 TO STA. 44+190

ATH-33-40.981

182
949

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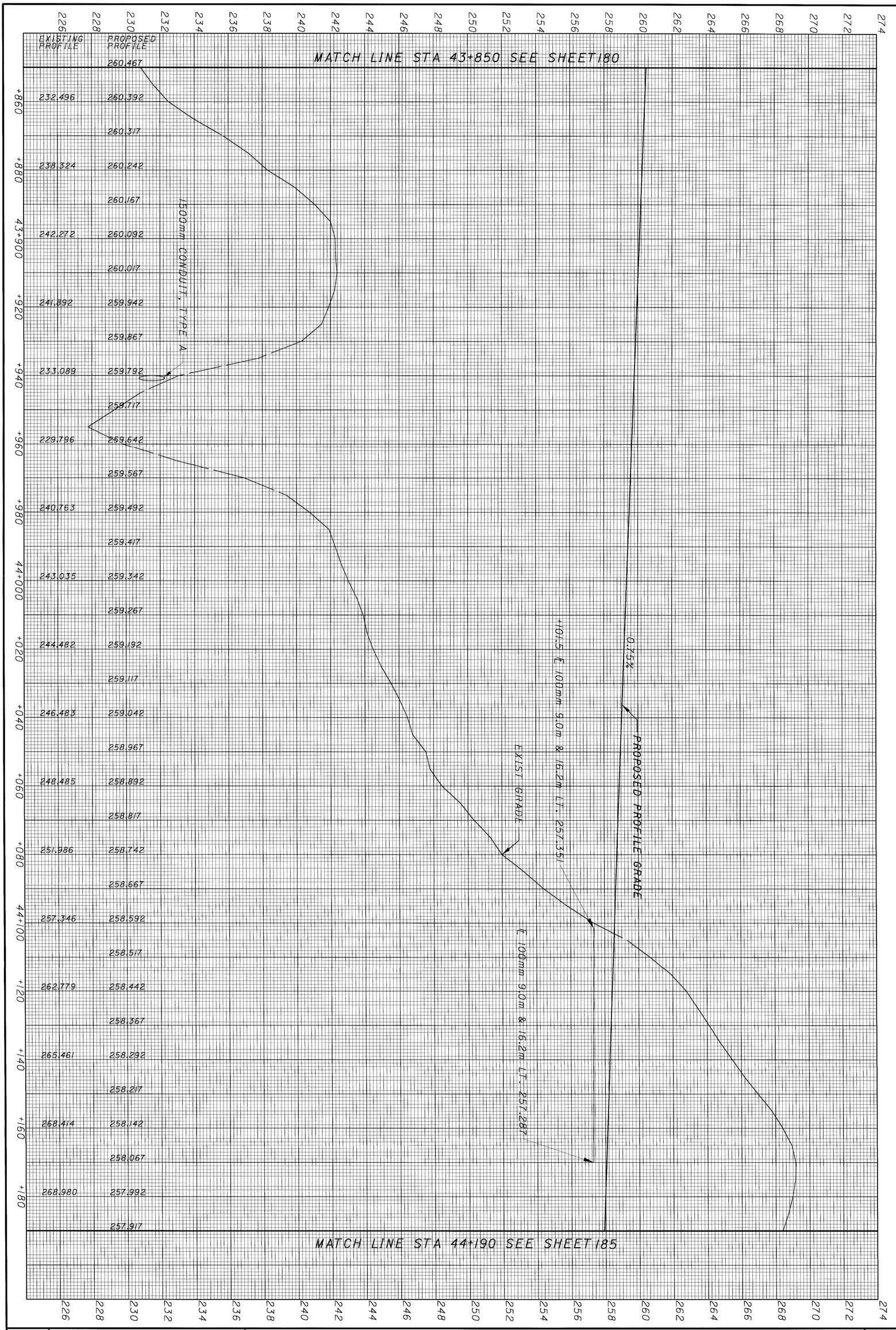

J83 949	ATH-33-40.981	PROFILE - US 33 STA. 43+850 TO STA. 44+190	CALCULATED BBD CHECKED TDW

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

MATCH LINE STA 44+190 SEE SHEET 182

MATCH LINE STA 44+530 SEE SHEET 186

ROBERT E. LEE & DONNA L. LEE.

ROBERT E. LEE & DONNA L. LEE. (LANDLOCKED)

1.2m BARBED WIRE FENCE

ELECTRIC FENCE

CONST. LIMITS

AGGREGATE SLOPE PROTECTION (54 m x 0.6 m x 0.3 m)

1350 mm CONDUIT TYPE A

WARM WATER HABITAT CULVERT

℄ CONST US 33 MAINLINE

S 23° 01' 54" E

70.0 m LT.

0.6m

1.8m

3.6m

2.0m

2.1m

375 mm TYPE C

CB-8

+197.9

+247.9

+297.9

+311.38 Type-B (Assem.)

+264.76 POST END ANCHOR

+280

+300

+320

+370

+379.06

+480

1-EP, 1-D, 145-U, 2-EP, 1-G, 2-D, 3-EP, 149-U, 150-U, 151-U, 153-U, 154-U, 155-U, 156-U, 146-U, 147-U, 148-U, 1-R, 4-EP, 152-U, 2-G, 5-EP

LA-R/W

44+200 +220 +240 +260 +280 44+300 +320 +340 +360 +380 44+400 +420 +440 +460 +480 44+500 +520

FOR CULVERT DETAILS SEE SHEET 570
FOR ESTIMATED QUANTITIES SEE SHEET 188
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STORM SEWER PROFILE SEE SHEET 586
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

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HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN STA. 44+190 TO STA. 44+530

ATH-33-40.981

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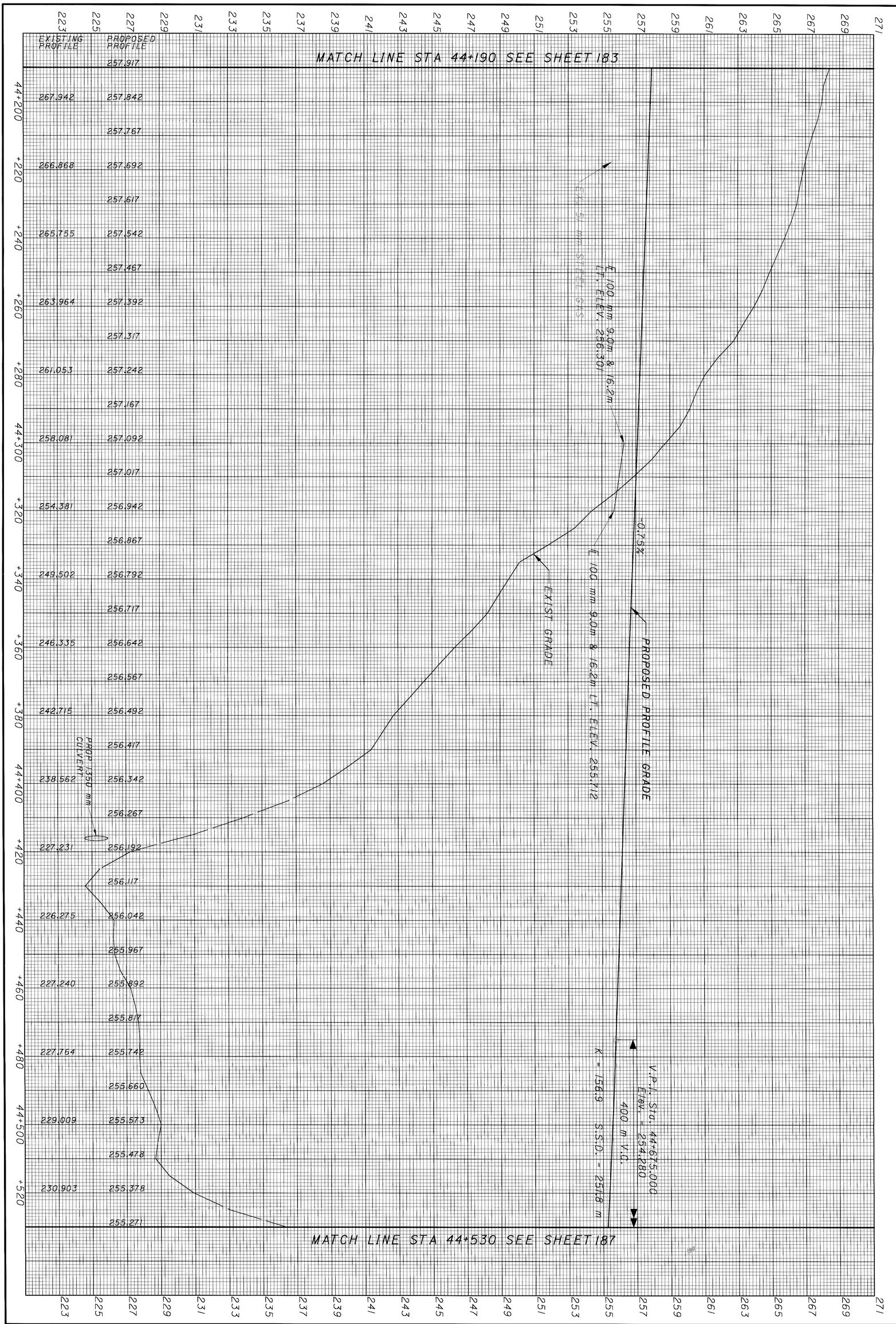
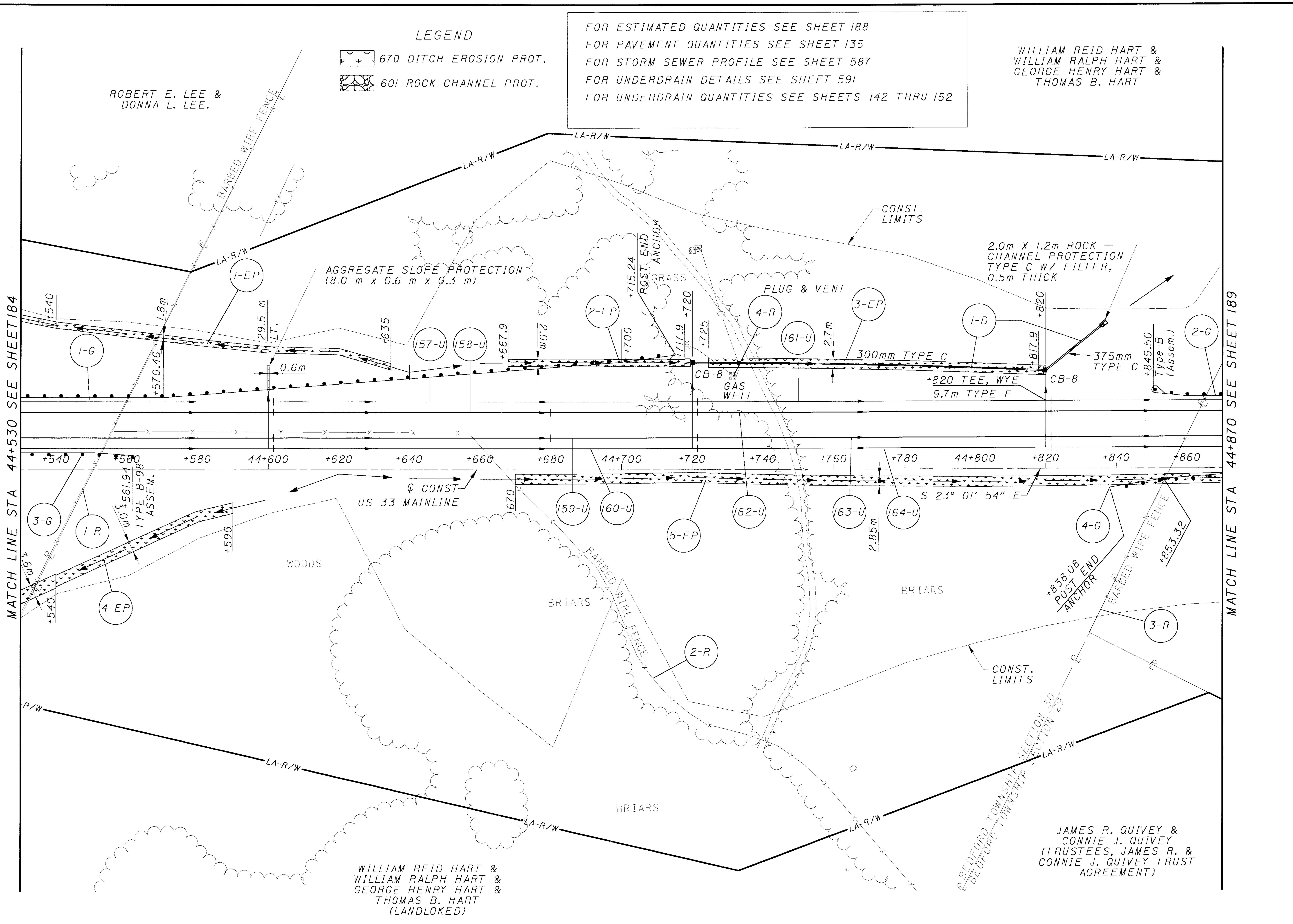


185 / 949	ATH-33-40.981	PROFILE - US 33 STA. 44+190 TO STA. 44+530

CALCULATED BBD
CHECKED TDW



LEGEND
670 DITCH EROSION PROT.
601 ROCK CHANNEL PROT.
FOR ESTIMATED QUANTITIES SEE SHEET 188
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STORM SEWER PROFILE SEE SHEET 587
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152
ROBERT E. LEE & DONNA L. LEE.
WILLIAM REID HART & WILLIAM RALPH HART & GEORGE HENRY HART & THOMAS B. HART
BARBED WIRE FENCE
LA-R/W
CONST. LIMITS
AGGREGATE SLOPE PROTECTION (8.0 m x 0.6 m x 0.3 m)
2.0m X 1.2m ROCK CHANNEL PROTECTION TYPE C W/ FILTER, 0.5m THICK
+715.24 POST END ANCHOR
GRASS
PLUG & VENT
300mm TYPE C
375mm TYPE C
+849.50 Type-B (Assem.)
+820 TEE, WYE
9.7m TYPE F
CB-8
GAS WELL
MATCH LINE STA 44+530 SEE SHEET 184
MATCH LINE STA 44+870 SEE SHEET 189
+540 +560 +580 44+600 +620 +640 +660 +680 44+700 +720 +740 +760 +780 44+800 +820 +840 +860
℄ CONST US 33 MAINLINE
S 23° 01' 54" E
+561.94 4.0m TYPE B-98 ASSEM.
WOODS
BRIARS
+838.08 POST END ANCHOR
+853.32
BEDFORD TOWNSHIP SECTION 30
BEDFORD TOWNSHIP SECTION 29
JAMES R. QUIVEY & CONNIE J. QUIVEY (TRUSTEES, JAMES R. & CONNIE J. QUIVEY TRUST AGREEMENT)
WILLIAM REID HART & WILLIAM RALPH HART & GEORGE HENRY HART & THOMAS B. HART (LANDLOKED)
1-EP 2-EP 3-EP 4-EP 5-EP 1-G 2-G 3-G 4-G 1-R 2-R 3-R 4-R 1-D
157-U 158-U 159-U 160-U 161-U 162-U 163-U 164-U

HORIZONTAL SCALE IN METERS
CALCULATED BBD CHECKED TDW

US 33 MAINLINE PLAN
STA. 44+530 TO STA. 44+870

ATH-33-40.981

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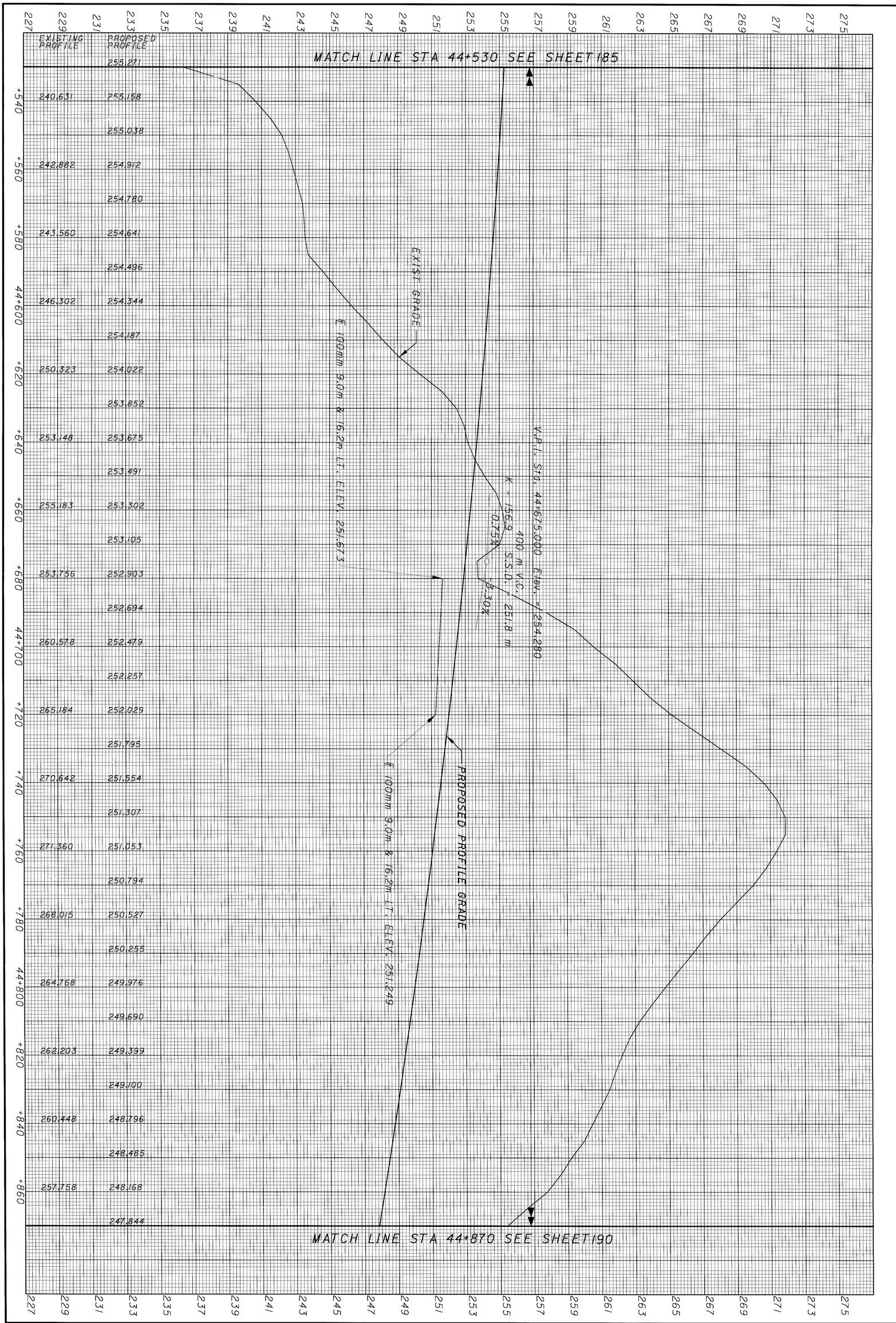

187 / 949	**ATH-33-40.981**	**PROFILE - US 33** **STA. 44+530 TO STA. 44+870**

CALCULATED BBD
CHECKED TDW

REF NO.	SHEET NO.	STATION TO STATION			202	SPEC	601		601	602		603	603		603	603	604	606	606	606	606	670
					FENCE REMOVED	PLUGGING & VENTING GAS & OIL WELLS	ROCK CHANNEL PROTECTION TYPE A, W/ FILTER		ROCK CHANNEL PROTECTION TYPE C, W/ FILTER	CONCRETE MASONARY		300mm CONDUIT TYPE C	375mm CONDUIT TYPE C		1350mm CONDUIT TYPE A *	1500mm CONDUIT TYPE A *	CATCH BASIN NO. 8	GUARDRAIL TYPE 5	GUARDRAIL TYPE 8	ANCHOR ASSEMBLY TYPE B-98	POST END ANCHOR	DITCH EROSION PROTECTION
		TO	FROM	SIDE	METER	EACH	CU. M		CU. M	CU. M		METER	METER		METER	METER	EACH	METER	METER	EACH	EACH	SQ. M
1-D	182	43+940.776		LT&RT			19.3			19.7						155.8						
1-EP	182	43+850	43+870	LT																		36
2-EP	182	43+952	44+110	LT					84.6													126
3-EP	182	44+147.9	44+190	LT																		84
4-EP	182	44+020	44+080	RT																		121
1-R	182	43+850	43+994	RT	162																	
2-R	182	43+943		LT&RT	221																	
1-G	182	43+850	44+149.84	LT														180.975	118.11		1	
2-G	182	43+850	44+063.28	RT														209.55		1		
1-D	184	44+200	44+322	LT					1.2	0.2			129				2					
2-D	184	44+415.818		LT&RT			9.0			16.8					164.5							
1-EP	184	44+190	44+197.8	LT																		16
2-EP	184	44+247.9	44+297.9	LT																		100
3-EP	184	44+426	44+530	LT					113.4													
4-EP	184	44+300	44+370	RT					70.8													42
5-EP	184	44+480	44+530	RT																		184
1-R	184	44+230	44+310	RT	110																	
1-G	184	44+311.38	44+530	LT														215.265		1		
2-G	184	44+264.76	44+530	RT														150.495	114.30		1	
1-D	186	44+720	44+836	LT					1.2	0.2		100	21				2					
1-EP	186	44+530	44+635	LT					9.0													171
2-EP	186	44+667.9	44+717.9	LT																		100
3-EP	186	44+725	44+817.9	LT																		251
4-EP	186	44+530	44+590	RT																		198
5-EP	186	44+670	44+870	RT																		570
1-R	186	44+550		LT&RT	110																	
2-R	186	44+557	44+767	LT&RT	260																	
3-R	186	44+855		LT&RT	126																	
4-R	186	44+731, 26m LT		LT		1																
1-G	186	44-530	44+715.24	LT														40.005	144.78		1	
2-G	186	44+849.50	44+870	LT														17.145		1		
3-G	186	44+530	44+561.94	RT														28.575		1		
4-G	186	44+838.08	44+870	RT															32.385		1	
* SEE CULVERT DETAIL SHEETS FOR FULL CULVET DESCRIPTIONS																						
TOTALS THIS SHEET					989	1	28.3		280.2	36.94		100	150		164.5	155.8	4	842.010	409.575	4	4	1999
TOTALS CARRIED TO GENERAL SUMMARY					989	1	29		281	36.9		100	150		164.5	156	4	842.01	409.58	4	4	1999

CALCULATED BBD
CHECKED TDW

ESTIMATED QUANTITIES - STA. 43+850 TO STA. 44+870

ATH-33-40.981

188
949

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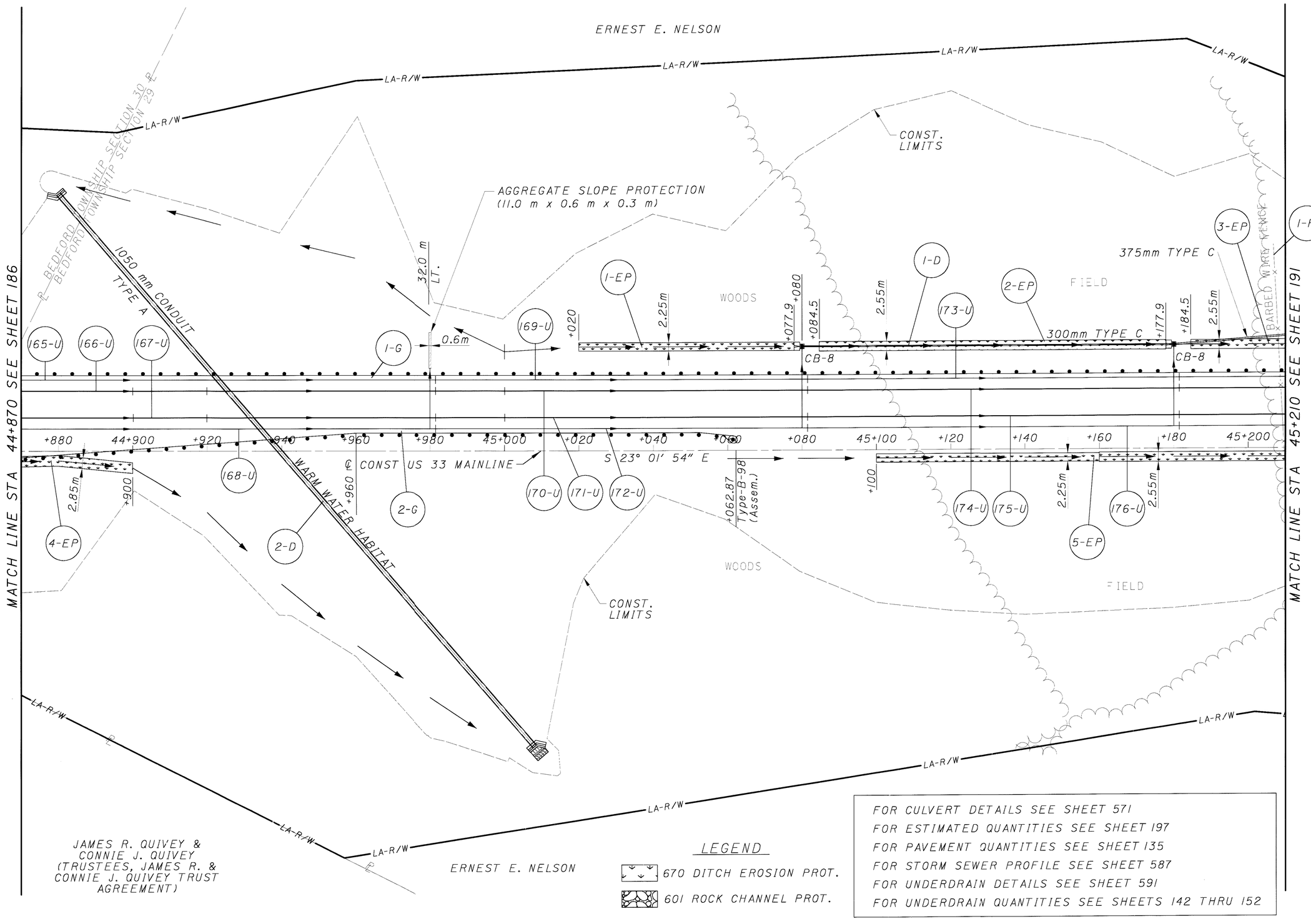

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

FOR CULVERT DETAILS SEE SHEET 571
FOR ESTIMATED QUANTITIES SEE SHEET 197
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STORM SEWER PROFILE SEE SHEET 587
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 44+870 TO STA. 45+210

ATH-33-40.981

189
949

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V.P.I. Sta. 44+675.000 Elev. = 254.280
400 m V.C.
K = 156.9 S.S.D. = 251.8 m

℄ 100mm 9.0m & 16.2m LT. ELEV. 246.075

℄ 100mm 9.0m & 16.2m LT. ELEV. 244.965

℄ 100mm 9.0m & 16.2m LT. ELEV. 242.775

+981.5 ℄ 100mm 9.0m & 16.2m LT. ELEV. 242.936

3.30%

EXIST GRADE

PROPOSED PROFILE GRADE

PROP 1050 mm CULVERT

MATCH LINE STA 44+870 SEE SHEET 187

MATCH LINE STA 45+210 SEE SHEET 192

	+880	44+900	+920	+940	+960	+980	45+000	+020	+040	+060	+080	45+100	+120	+140	+160	+180	45+200
PROPOSED PROFILE	247.844	247.185	246.855	246.525	246.195	245.865	245.535	245.205	244.875	244.545	244.215	243.885	243.555	243.225	242.895	242.565	242.235	241.905	241.575	241.245	240.915	240.585	240.255	239.925	239.595	239.265	238.935	238.605	238.275	237.945	237.615	237.285	236.955	236.625
EXISTING PROFILE	252.528	247.515	245.012	237.543	225.497	220.393	219.748	229.135	237.133	239.935	249.308	243.997	255.825	258.372	259.342	259.030	258.178	256.538																

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CALCULATED BBD
CHECKED TDW

PROFILE - US 33
STA. 44+870 TO STA. 45+210

ATH-33-40.981

190
949

FOR CULVERT DETAILS SEE SHEET 572
FOR ESTIMATED QUANTITIES SEE SHEET 197
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STORM SEWER PROFILE SEE SHEET 587
FOR STRUCTURE DETAILS SEE SHEET 905 THRU 924
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

MATCH LINE STA 45+210 SEE SHEET 189

MATCH LINE STA 45+550 SEE SHEET 193

ERNEST E. NELSON

LARRY ERVIN & MELISSA ERVIN

2.0m X 1.2m ROCK CHANNEL PROTECTION TYPE C W/ FILTER, 0.5m THICK

AGGREGATE SLOPE PROTECTION (5.0m x 0.6m x 0.3m)

AGGREGATE SLOPE PROTECTION (44.0 m x 0.6 m x 0.3 m)

LA-R/W

CONST. LIMITS

61.5 m LT.

26.5 m LT.

0.6m

I-EP

I-D

I-G

I-R

375mm TYPE C +240

2.55m

177-U

178-U

179-U

180-U

181-U

182-U

183-U

184-U

185-U

186-U

187-U

188-U

P.R. JOINT TYPE A (AS PER BP-2.3M)

472.435 POST

+220 +240 +260 +280 45+300 +320 +340 +360 +380 45+400 +420 +440 +460 +480 45+500 +520 +540

℄ CONST US 33 MAINLINE

S 23° 01' 54" E

+340.99 G.R.

+390

+480

1.95m

+230.50 G.R.

+215.26 POST END ANCHOR

1050mm TYPE A

2-D

2-EP

3-EP

2-G

FIELD

BRUSH

STRUCTURE No. MEG - 33 - 02439

BARBED WIRE FENCE

WEST BRANCH SHADE RIVER

BARN COLLAPSED

BLOCK BUILDING

PROPOSED STRUCTURE DATA

TYPE: FOUR-SPAN PRESTRESSED CONCRETE I-BEAM AND COMPOSITE DECK WITH SEMI-INTEGRAL ABUTMENTS AND CAP AND COLUMN TYPE PIERS
SPANS: 38,000 , 38,000 , 35,000 , 35,000 C/C BEARINGS ALONG CENTERLINE U.S. 33 MAINLINE
ROADWAY: 14,4000 T/T BARRIER
SKEW: 0°
DESIGN LOADING: MS-22.5 AND THE ALTERNATE MILITARY LOADING
WEARING SURFACE: MONOLITHIC CONCRETE
ALIGNMENT: TANGENT
CROWN: 0.016
APPROACH SLABS: AS-1-81M (7600 mm LONG)

HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN STA. 45+210 TO STA. 45+550

ATH-33-40.981

191
949

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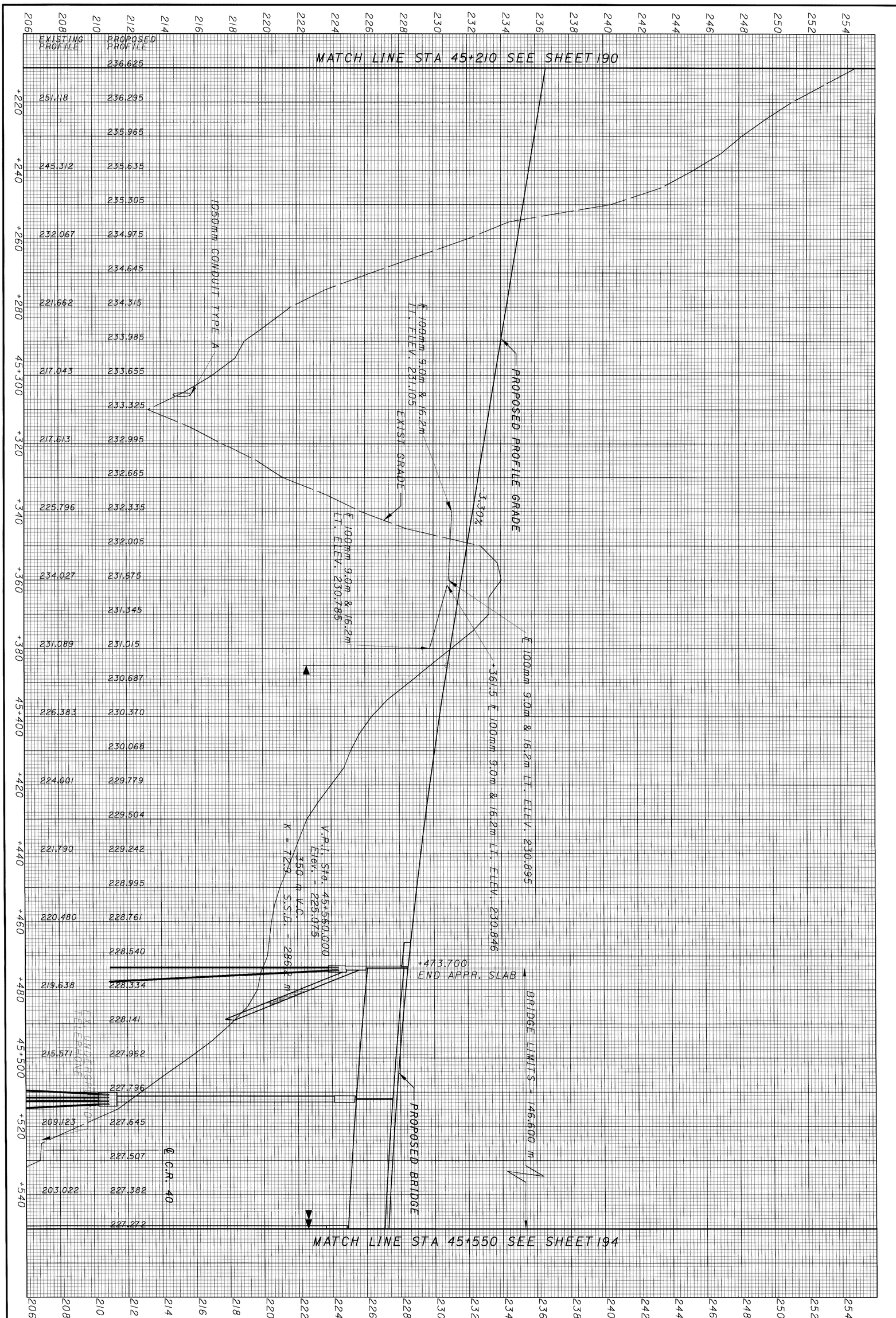

192 / 949	ATH-33-40.981	**PROFILE - US 33** **STA. 45+210 TO STA. 45+550**

CALCULATED BBD
CHECKED TDW

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

FOR ESTIMATED QUANTITIES SEE SHEET 197
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STRUCTURE DETAILS SEE SHEET 905 THRU 924
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152
FOR STREAM RELOCATION PLAN & PROFILE SEE SHEET 584

LARRY ERVIN & MELISSA ERVIN

45+630, LT.
NO. 3A C.B.
GRATE EL. 226.649
INV. 300 mm EL. 225.811

1-EP REINF. SODDING

LA-R/W

1-D

CONST. LIMITS

STRUCTURE No.
MEG - 33 - 02439

CREEK

OUTLET CONDUIT
2.43 m - 300 mm @ 1.5%
TYPE-F, 707.05, TYPE-C

39.0 m LT.

AGGREGATE SLOPE PROTECTION
(18.5 m x 0.6 m x 0.3 m)

P.R. JOINT TYPE A
(AS PER BP-2.3M)

189-U 190-U 191-U 192-U 193-U 194-U 197-U 198-U 199-U

1-G

0.6m

STEEL GAS

+621.565 POST

CB-3A

+560 +580 45+600 +620 +640 +660 +680 45+700 +720 +740 +760 +780 45+800 +820 +840 +860 +880

℄ CONST US 33 MAINLINE

S 23° 01' 54" E

195-U 196-U 200-U

2-G

0.6m

OUTLET CONDUIT
2.43 m - 300 mm @ 1.5%
TYPE-F, 707.05, TYPE-C

45+630, RT.
NO. 3A C.B.
GRATE EL. 226.649
INV. 300 mm EL. 225.811

2-D

REINF. SODDING 2-EP

PI Sta. 0+168.915

PI Sta. 0+230.613

PI Sta. 0+276.747

PI Sta. 0+324.415

39.5 m RT.

AGGREGATE SLOPE PROTECTION
(40.0 m x 0.6 m x 0.3 m)

PI Sta. 0+047.746

PI Sta. 0+094.871

℄ Relocated Stream

Stream Relocation Corridor

+020 +040 +060 +080 0+100 +120 +140 +160 +180 0+200 +220 +240 +260 +280 +320 0+300

CONST. LIMITS

LARRY ERVIN & MELISSA ERVIN (LANDLOCKED)

BEDFORD TOWNSHIP SECTION 23
BEDFORD TOWNSHIP SECTION 29

51 mm GAS (STEEL)

LARRY M. WELL & JUDY A. WELL

PI Sta. 0+024.194

PI Sta. 0+071.340

PI Sta. 0+119.107

PI Sta. 0+199.780

PI Sta. 0+255.519

PI Sta. 0+301.504

ERNEST E. NELSON

MATCH LINE STA 45+550 SEE SHEET 191

MATCH LINE STA 45+890 SEE SHEET 195

HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 45+550 TO STA. 45+890

ATH-33-40.981

193
949

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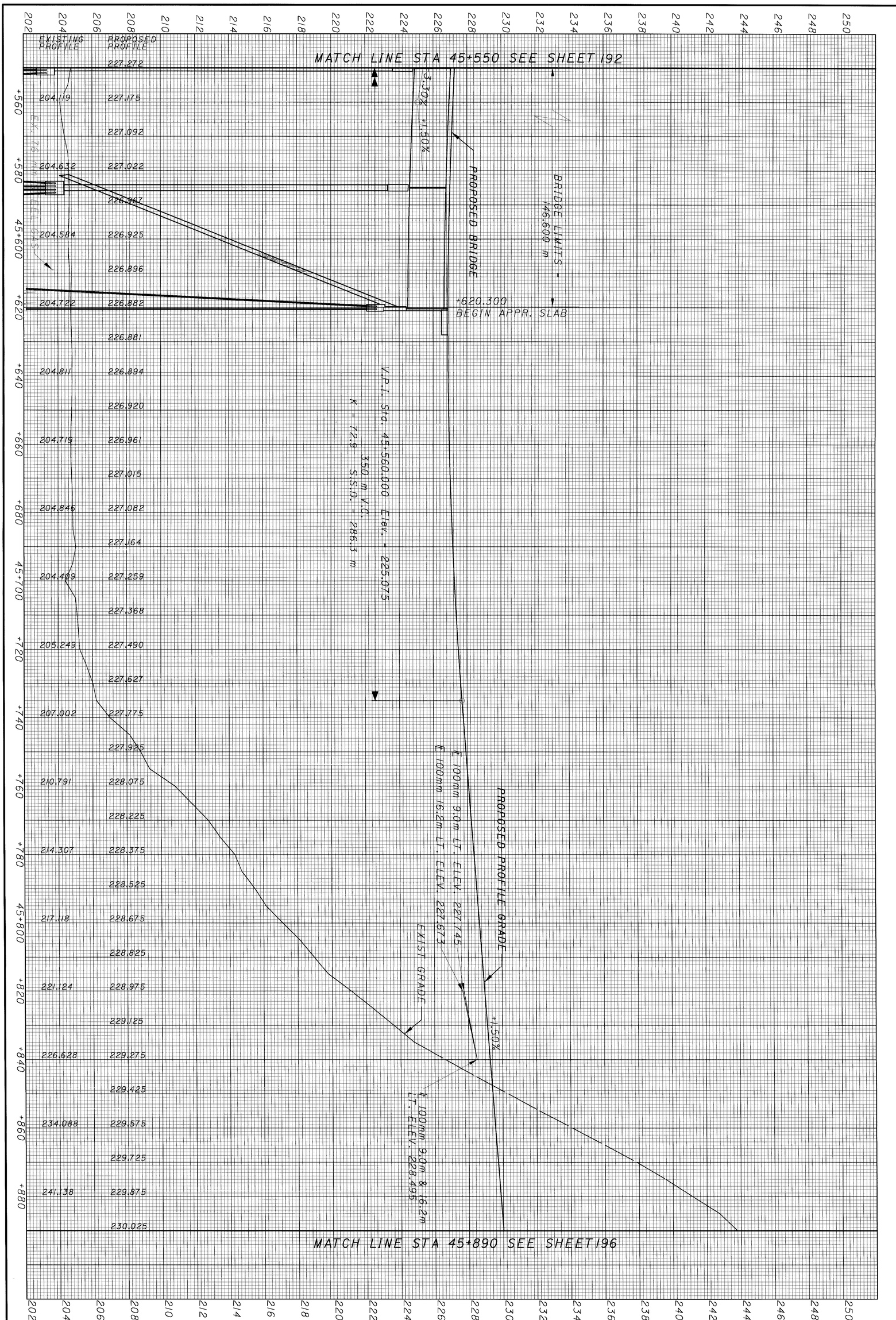

194 / 949	ATH-33-40.981	PROFILE - US 33 STA. 45+550 TO STA. 45+890

CALCULATED BBD
CHECKED TDW

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

FOR CULVERT DETAILS SEE SHEET 573
FOR ESTIMATED QUANTITIES SEE SHEET 197
FOR PAVEMENT QUANTITIES SEE SHEET 135
FOR STORM SEWER PROFILES SEE SHEET 587
FOR UNDERDRAIN DETAILS SEE SHEET 591
FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

LARRY ERVIN
MALISSA ERVIN

3.0m X 2.4m ROCK CHANNEL PROTECTION TYPE C W/ FILTER, 0.5m THICK

2.0 m x 1.2 m x 0.5 m ROCK CHANNEL PROTECTION TYPE-C W/FILTER

ROBERT F. MOORE

LA-R/W

WOODS

MATCH LINE STA 45+890 SEE SHEET 193

MATCH LINE STA 46+230 SEE SHEET 198

1-D

1-EP

+942.1

300 mm TYPE C

+992.1

CB 8

1.8m

201-U

+021.615

1-G

525mm TYPE C

205-U

+128.59

+143.535 END POST ANCHOR

2-D

CONST. LIMITS

2-EP

+142.1

450mm TYPE C

+192.1

CB 8

2.0m

45+900 +920 +940 +960 +980 46+000 +020 +040 +060 +080 46+100 +120 +140 +160 +180 46+200 +220

℄ CONST US 33 MAINLINE

S 23° 01' 54" E

202-U 203-U 204-U

2-G

3-D

1050 mm TYPE A

+069.24 TYPE B-98 ASSEM.

+080

206-U 207-U 208-U 209-U 210-U 211-U 212-U

3-EP

3.45m

CONST. LIMITS

WOODS

LA-R/W

LARRY ERVIN
MALISSA ERVIN
(LANDLOCKED)

HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

US 33 MAINLINE PLAN
STA. 45+890 TO STA. 46+230

ATH-33-40.981

195
949

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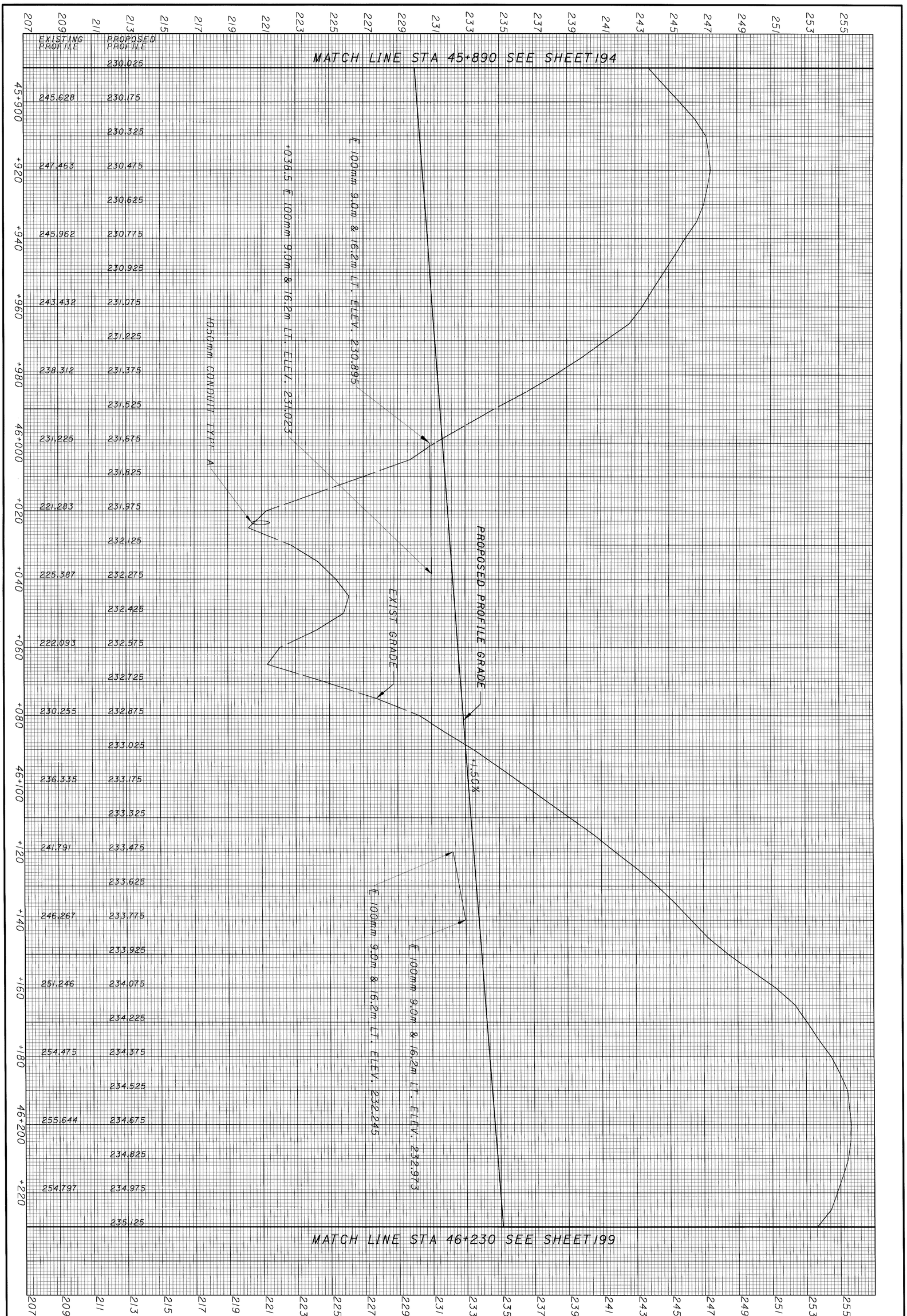

196 / 949	ATH-33-40.981	PROFILE - US 33 STA. 45+890 TO STA. 46+230

CALCULATED BBD
CHECKED TDW

REF NO.	SHEET NO.	STATION TO STATION			202	601	601	602	603	603	603	603	603	604		606	606	606	606	606	660	670
					FENCE REMOVED	ROCK CHANNEL PROTECTION TYPE B, W/ FILTER	ROCK CHANNEL PROTECTION TYPE C, W/ FILTER	CONCRETE MASONARY	300mm CONDUIT TYPE C	375mm CONDUIT TYPE C	450mm CONDUIT TYPE C	525mm CONDUIT TYPE C	1050mm CONDUIT TYPE A *	CATCH BASIN NO. 8	CATCH BASIN NO. 3A	GUARDRAIL TYPE 5	GUARDRAIL TYPE 8	ANCHOR ASSEMBLY TYPE B-98	BRIDGE TERMINAL ASSEMBLY TYPE 1	POST END ANCHOR	SODDING REINFORCED	DITCH EROSION PROTECTION
		TO	FROM	SIDE	METER	CU. M	CU. M	CU. M	METER	METER	METER	METER	METER	EACH		METER	METER	EACH	EACH	EACH	SQ. M	SQ. M
1-D	189	45+080	45+210	LT					100	30				2								
2-D	189	44+939.506		LT&RT		8.3		11.4					195									
1-EP	189	45+020	45+077.9	LT																		130
2-EP	189	45+084.5	45+177.9	LT																		238
3-EP	189	45+184.5	45+210	LT																		65
4-EP	189	44+870	44+900	RT																		86
5-EP	189	45+100	45+210	RT																		263
1-R	189	45+210		LT	55																	
1-G	189	44+870	45+210	LT												340.995						
2-G	189	44+870	45+062.87	RT												99.06	91.44	1				
1-D	191	45+210	45+260	LT			1.2	0.2		55												
2-D	191	45+305.668		LT&RT		7.9		11.5						123.1								
1-EP	191	45+210	45+240	LT																		77
2-EP	191	45+210	45+334	RT																		383
3-EP	191	45+390	45+480	RT																		177
1-R	191	45+517		LT&RT	140																	
1-G	191	45+210	45+474.34	LT												262.89			1			
2-G	191	45+215.26	45+474.34	RT												133.35	125.73		1	1		
1-D	193	45+630		LT					2.4						1							
2-D	193	45+630		RT					2.4						1							
1-EP	193	45+630		LT																	165	
2-EP	193	45+630		RT																	162	
1-G	193	45+619.66	45+890	LT												270.51			1			
2-G	193	45+619.66	45+890	RT												270.51			1			
1-D	195	45+940	46+000	LT.			1.2	0.2	61.3					1								
2-D	195	46+020	46+230	LT.			3.6	0.3			90	120.3		1								
3-D	195	46+023.462		LT. RT.		10.2		10.9							90.9							
1-EP	195	45+942.1	45+992.1	LT.																		90
2-EP	195	46+142.1	46+192.1	LT.																		100
3-EP	195	46+080	46+230	RT.																		518
1-G	195	45+890	46+143.535	LT.												131.445	121.92			1		
2-G	195	45+890	46+069.24	RT.												175.26		1				
* SEE CULVERT DETAIL SHEETS FOR FULL CULVET DESCRIPTIONS																						
TOTALS THIS SHEET					195	26.4	6.0	34.51	166.1	85	90	120.3	195	123.1	90.9	4	2	1684.020	339.09	2	4	2	327	2127
TOTALS CARRIED TO GENERAL SUMMARY					195	27	6	34.5	166.5	85	90	120.5	195	123.5	91.0	4	2	1684.02	339.09	2	4	2	327	2127

CALCULATED BBD
CHECKED TDW

ESTIMATED QUANTITIES - STA. 44+870 TO STA. 46+230

ATH-33-40.981

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

ROBERT F. MOORE

LA-R/W

CONST. LIMITS

WOODS

AGGREGATE SLOPE PROTECTION (6.0 m x 0.6 m x 0.3 m)

MATCH LINE STA 46+230 SEE SHEET195

MATCH LINE STA 46+570 SEE SHEET200

450mm TYPE C

CB 8

375mm TYPE C

300mm TYPE C

Type-B-98 (Assem.)

27.0 m LT.

0.6m

2.0m

2.55m

3.45m

1-EP, 1-D, 2-EP, 3-EP, 1-G, 4-EP

213-U, 214-U, 215-U, 216-U, 217-U, 218-U, 219-U, 220-U, 221-U, 222-U, 223-U, 224-U

+242.1, +292.1, +342.1, +380, +430, +442.1, +492.1, +499.76, +500, +564.53

+240, +260, +280, 46+300, +320, +340, +360, +380, 46+400, +420, +440, +460, +480, 46+500, +520, +540, +560

℄ CONST US 33 MAINLINE

S 23° 01' 54" E

LARRY ERVIN & MELISSA ERVIN (LANDLOCKED)

ROBERT F. MOORE (LANDLOCKED)

FOR ESTIMATED QUANTITIES SEE SHEET 206

FOR PAVEMENT QUANTITIES SEE SHEET 135

FOR STORM SEWER PROFILE SEE SHEETS 587 AND 588

FOR UNDERDRAIN DETAILS SEE SHEET 591

FOR UNDERDRAIN QUANTITIES SEE SHEETS 142 THRU 152

HORIZONTAL SCALE IN METERS

0 10 20

CALCULATED BBD

CHECKED TDW

US 33 MAINLINE PLAN
STA. 46+230 TO STA. 46+570

ATH-33-40.981

198
949

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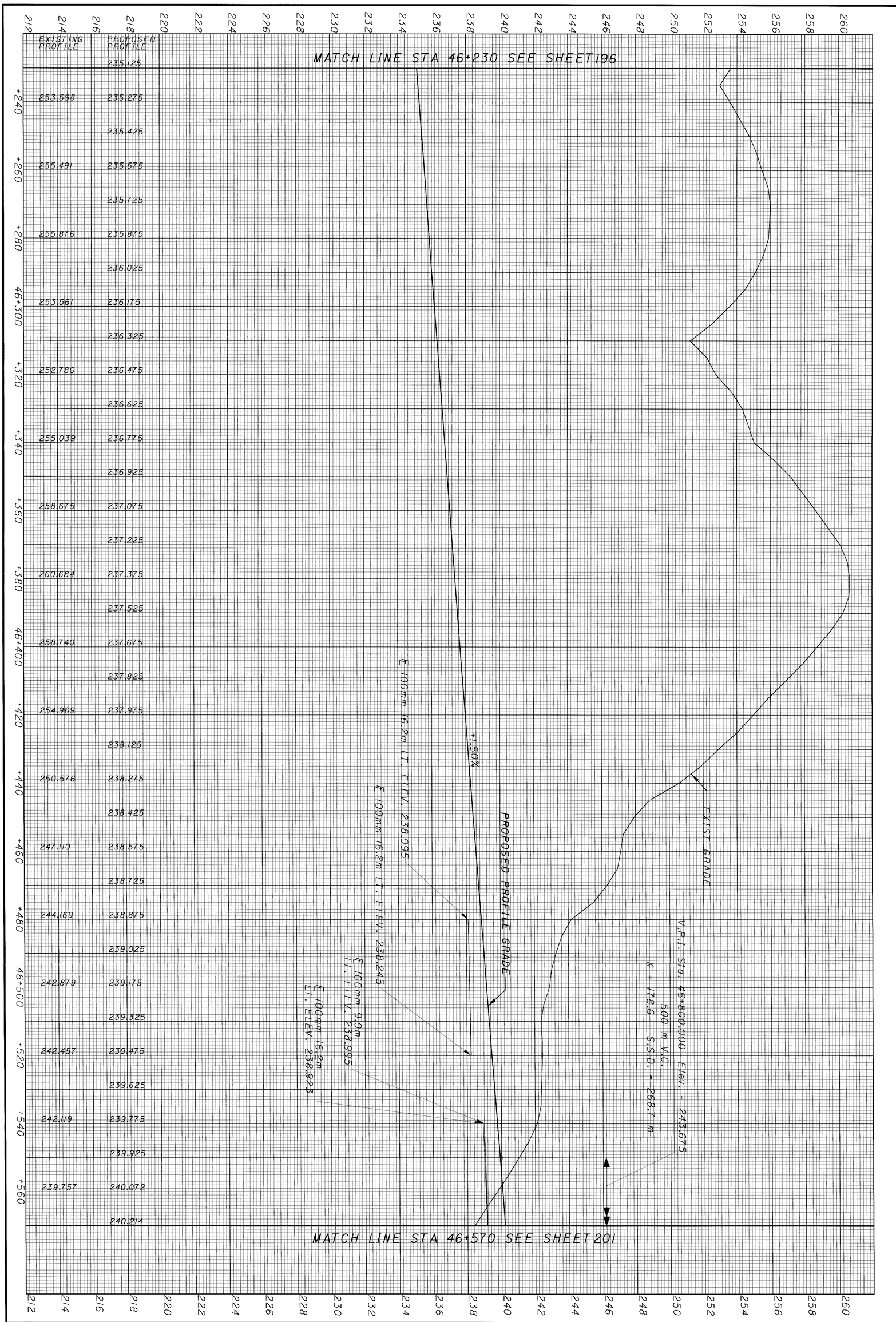

199 / 949	ATH-33-40.981	PROFILE - US 33 STA. 46+230 TO STA. 46+570	CALCULATED BBD CHECKED TDW