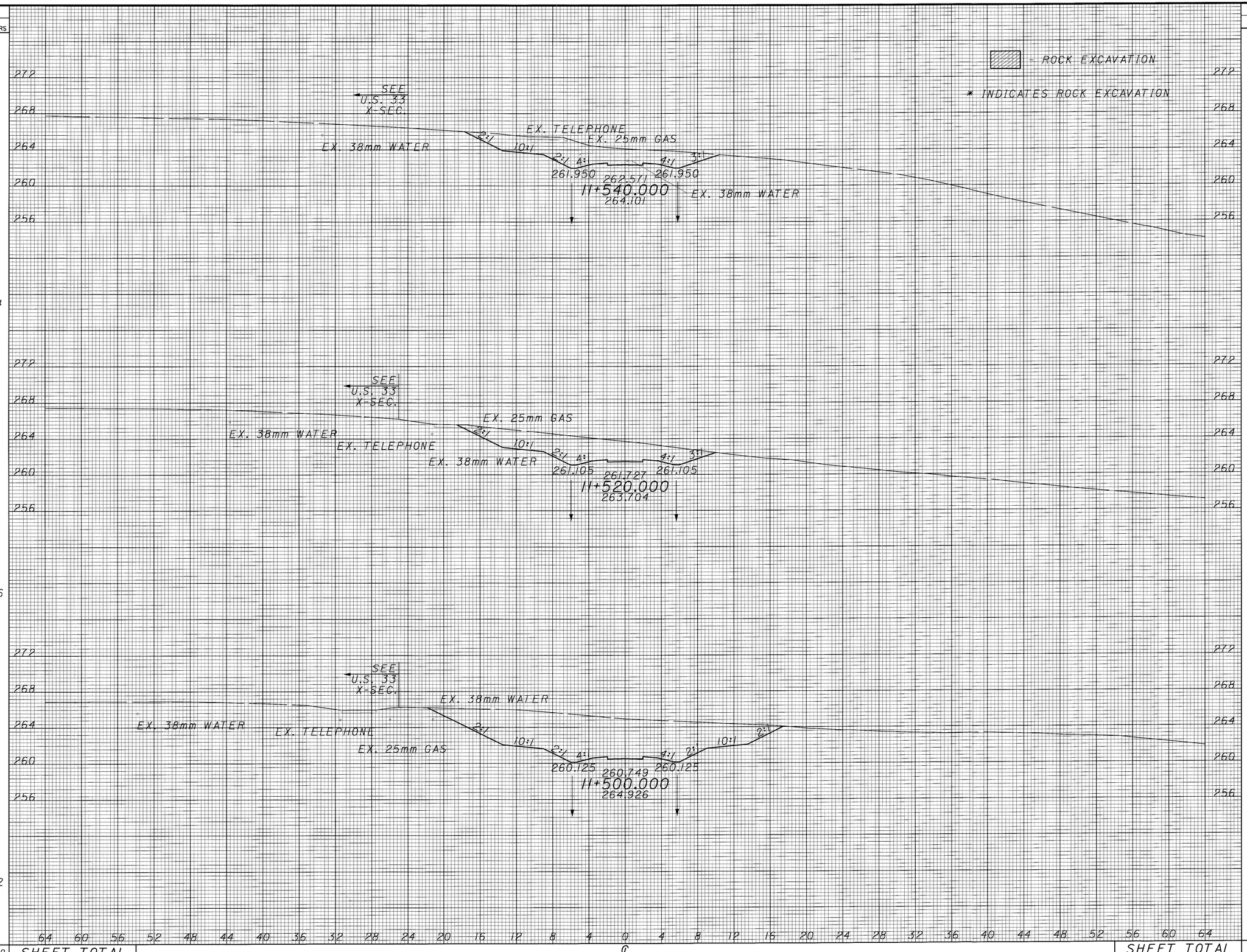
SEEDING			END AREA		VOLUME	
END WIDTH	SQ. METERS		CUT	FILL	CUT	FILL
25	514	11+540.000	47	0	1006	0
26	636	11+520.000	53	0	1830	0
38	792	11+500.000	130	0	3030	0
89	1942	SHEET TOTAL			5866	0



CALCULATED BBD

CHECKED TDW

TR 412 CROSS SECTIONS STA. 11+500 TO STA. 11+540

ATH-33-40.981

500
949

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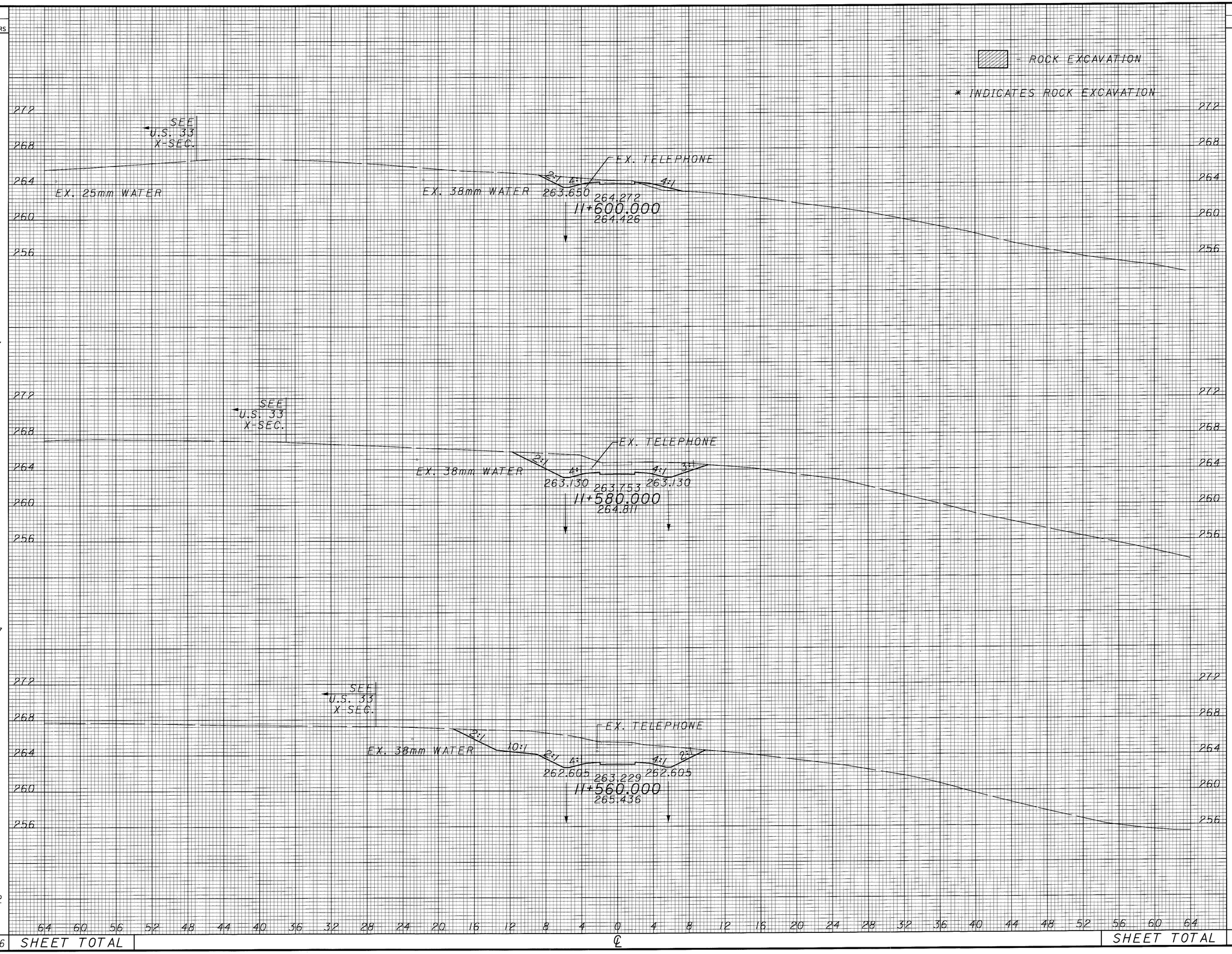
SEEDING	
END WIDTH	SQ. METERS
13	317
19	447
26	512
58	1276



END AREA		VOLUME	
CUT	FILL	CUT	FILL
6	1	359	14
30	0	900	0
60	0	1075	0
SHEET TOTAL		2334	14

CALCULATED BBD
CHECKED TDW

TR 412 CROSS SECTIONS
STA. 11+560 TO STA. 11+600

ATH-33-40.981

501
949

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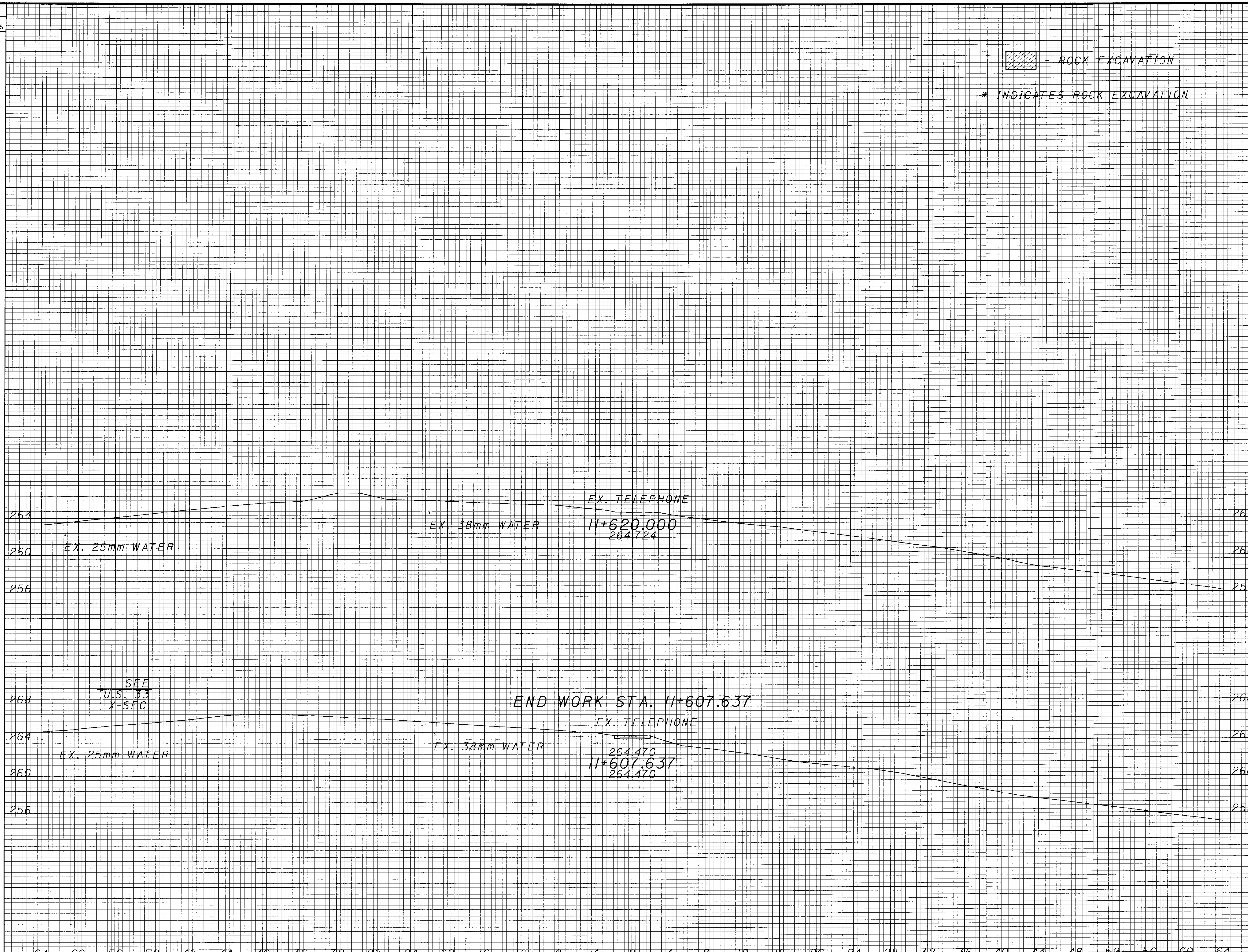

SEEDING	
END WIDTH	SQ. METERS
0	
	49
0	49

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
1	0		
		27	5
		27	5

SHEET TOTAL

CALCULATED BBD
CHECKED TDW

TR 412 CROSS SECTIONS
STA. 11+607.637 TO STA. 11+620

ATH-33-40.981

502
949

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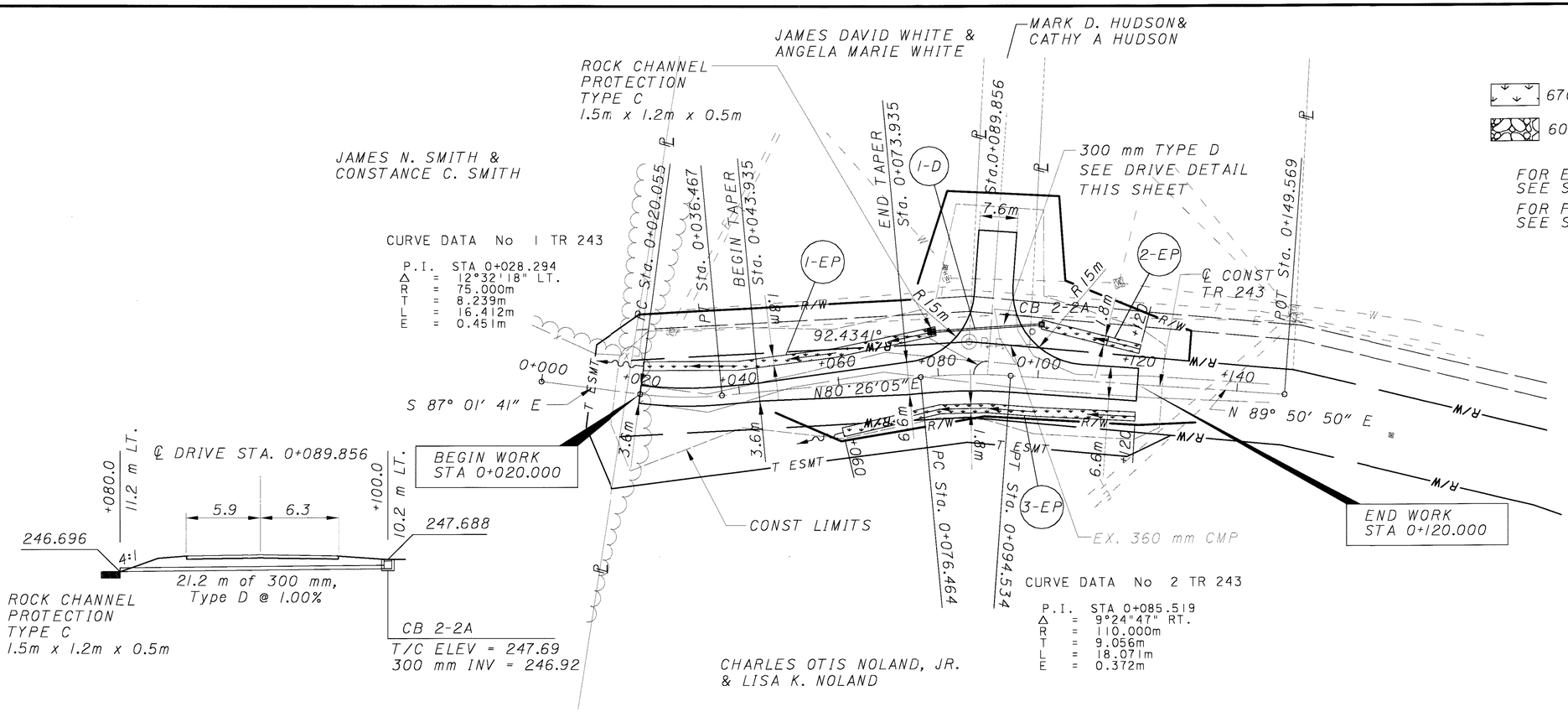

HORIZONTAL SCALE IN METERS
0 20
1:500

CALCULATED BBD
CHECKED TDW

TR 243 PLAN & PROFILE
STA 0+020.000 TO STA 0+120.000

ATH-33-40.981

503
949

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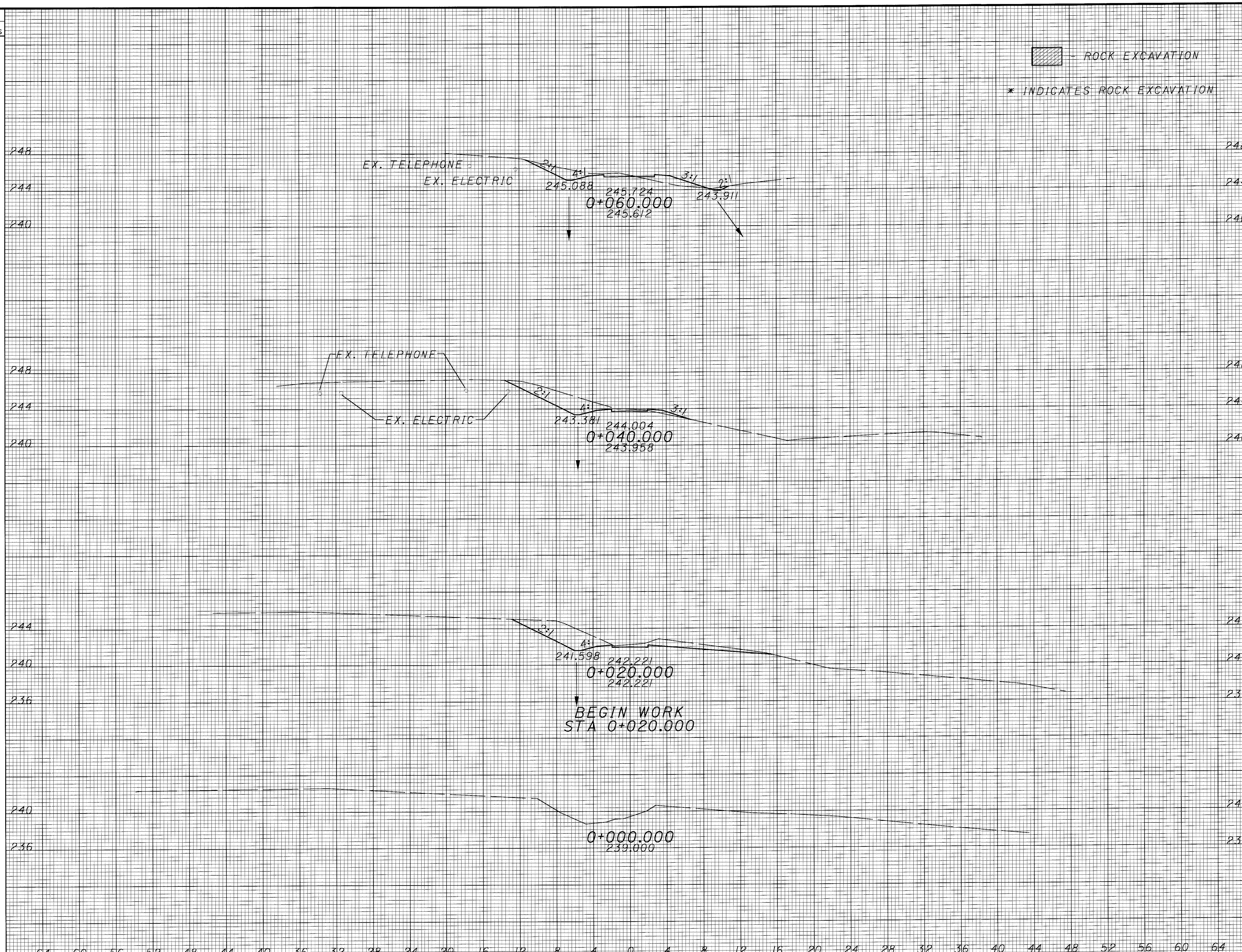
TR 243 CROSS SECTIONS
STA. 0+000 TO STA. 0+060



SEEDING	
END WIDTH	SQ. METERS
18	
	351
18	
	350
17	
53	701

SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
6	4		
		205	48
		-	
14	1		
		340	10
20	0		
		0	0
ROCK TOTAL			
40	5	545	58

SHEET TOTAL

CALCULATED BBD
CHECKED TDW

ATH-33-40.981

504
949

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SEEDING	
END WIDTH	SQ. METERS
16	338
18	249
31	226
14	320
79	1133

END WORK
STA 0+120.000

EX. WATER
EX. TELEPHONE
EX. ELECTRIC

3:1 4:1 3:1 3:1
249.167 250.414 249.767
0+120.000
250.414

CB 2-2A
T/C ELEV. 247.690
300 mm INV = 246.920

EX. WATER
EX. TELEPHONE
EX. ELECTRIC

3:1 3:1 3:1
248.929 248.282
0+100.000
248.980

249.306
29.0
3 m V.C.
249.243
23.0 8.00%
3 m V.C.
EX. WATER
EX. TELEPHONE
EX. ELECTRIC
300mm DRIVE PIPE
3:1
248.146 247.488
0+089.856
248.246
247.931
6.6

EX. WATER
EX. TELEPHONE
EX. ELECTRIC
300mm DRIVE PIPE
3:1 4:1 3:1
246.696 247.366 246.719
0+080.000
247.525

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

▨ - ROCK EXCAVATION

* INDICATES ROCK EXCAVATION

END AREA		VOLUME	
CUT	FILL	CUT	FILL
7	0		
		168	6
10	1		
		100	7
10	1		
		95	4
10	0		
		160	38
ROCK TOTAL			
37	2	523	55

SHEET TOTAL

CALCULATED BBD
CHECKED TDW

TR 243 CROSS SECTIONS
STA. 0+080.000 TO STA. 0+100.000

ATH-33-40.981

505
949

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SEEDING	
END WIDTH	SQ. METERS

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED BBD

CHECKED TDW

▨ - ROCK EXCAVATION

* INDICATES ROCK EXCAVATION

EX. TELEPHONE

EX. WATER

EX. ELECTRIC

0+140.000
251.205

256
252
248

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

ROCK TOTAL

TR 243 CROSS SECTIONS
STA. 0+120.000 TO STA. 0+140.000

ATH-33-40.981

506
949

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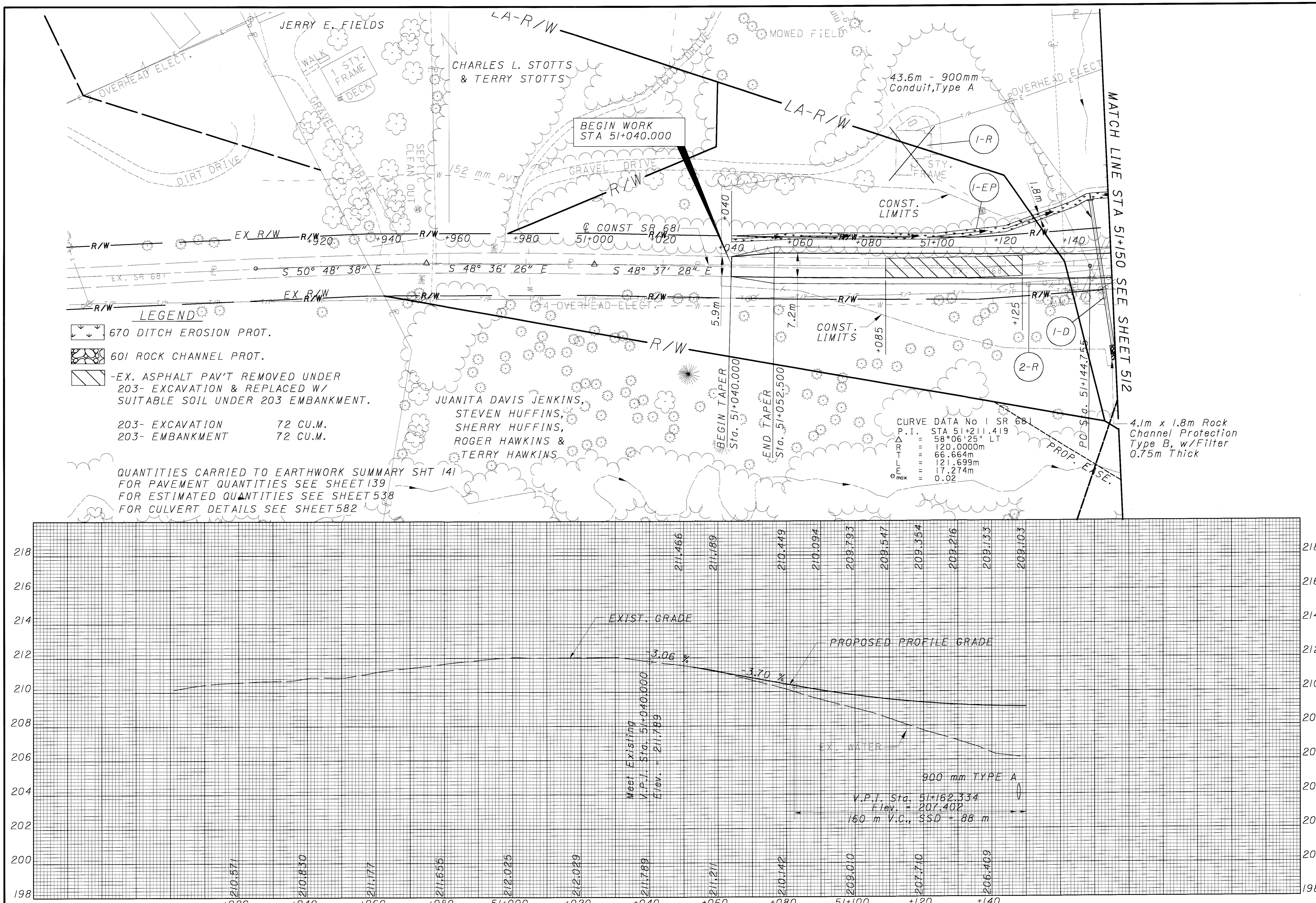

SR 681 PLAN & PROFILE (AT GRADE) STA 50+901.011 TO STA 51+150

ATH-33-40.981

511
949

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LEGEND

670 DITCH EROSION PROT.

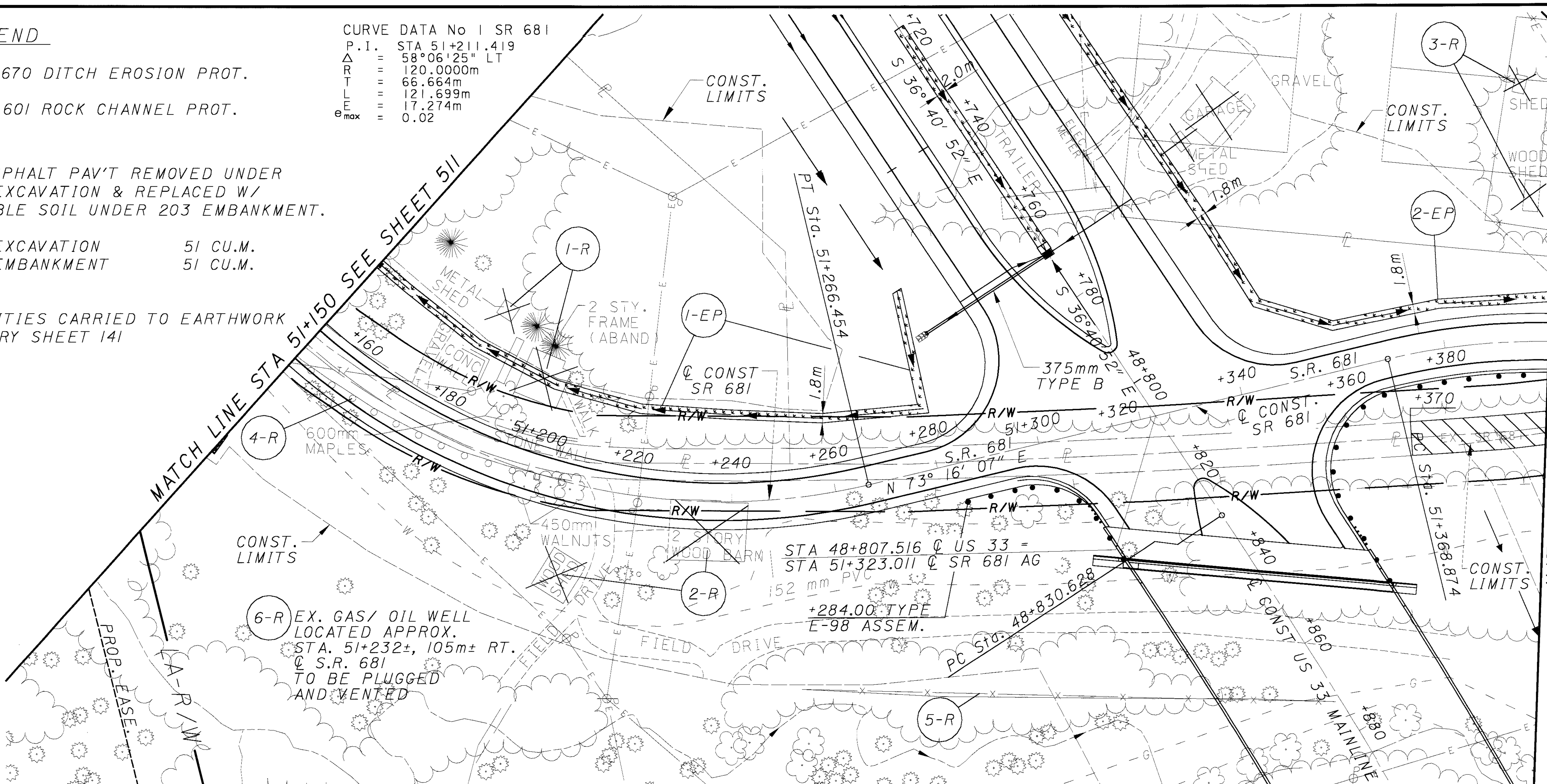
601 ROCK CHANNEL PROT.

EX. ASPHALT PAV'T REMOVED UNDER 203- EXCAVATION & REPLACED W/ SUITABLE SOIL UNDER 203 EMBANKMENT.

203- EXCAVATION 51 CU.M.
203- EMBANKMENT 51 CU.M.

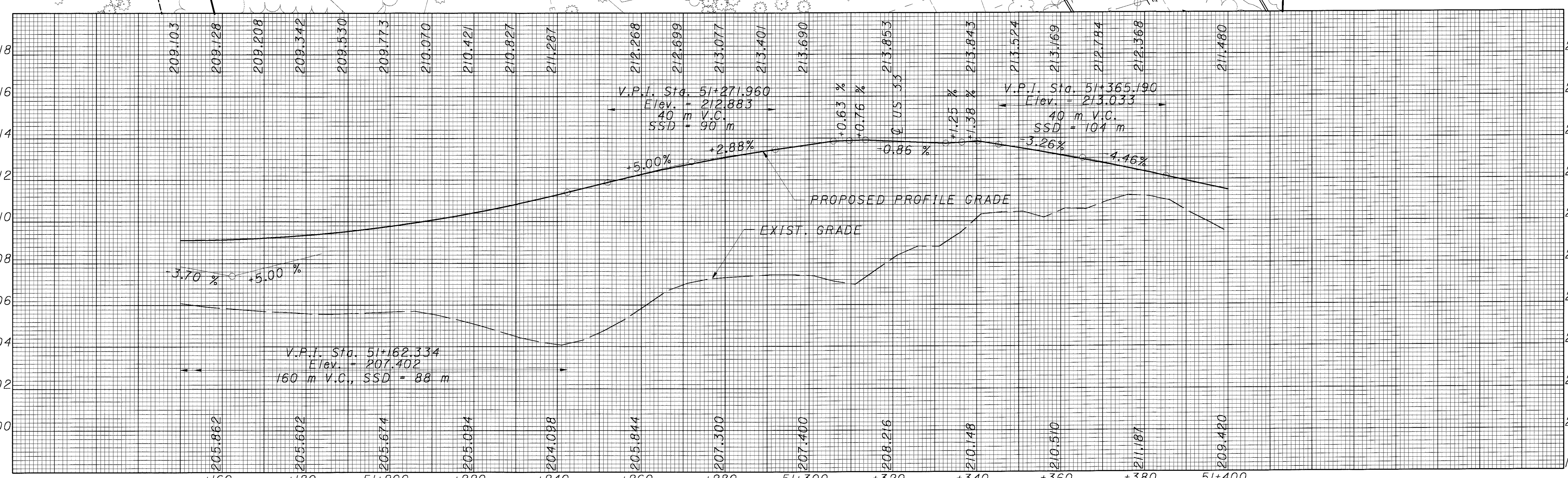
QUANTITIES CARRIED TO EARTHWORK SUMMARY SHEET 141

CURVE DATA No 1 SR 681
P.I. STA 51+211.419
Δ = 58°06'25" LT
R = 120.0000m
T = 66.664m
L = 121.699m
E = 17.274m
e_{max} = 0.02



CURVE DATA No 2 SR 681
P.I. STA 51+390.837
Δ = 20°44'39" RT.
R = 120.000m
T = 21.964m
L = 43.446m
E = 1.993m
e_{max} = 0.07

NOTES:
FOR INTERSECTION DETAILS SEE SHEET 557
FOR MAINLINE DETAILS SEE SHEET 214
FOR ESTIMATED QUANTITIES SEE SHEET 538
FOR STORM SEWER PROFILE SEE SHEET 391
FOR PAVEMENT QUANTITIES SEE SHEET 139
FOR JOINT LAYOUT DETAILS SEE SHEET 561
FOR LIGHTING PLANS SEE SHEET 594



HORIZONTAL SCALE IN METERS 1:500

CALCULATED BBD CHECKED TDW

SR 681 PLAN & PROFILE (AT GRADE) STA 51+150 TO STA 51+400

ATH-33-40.981

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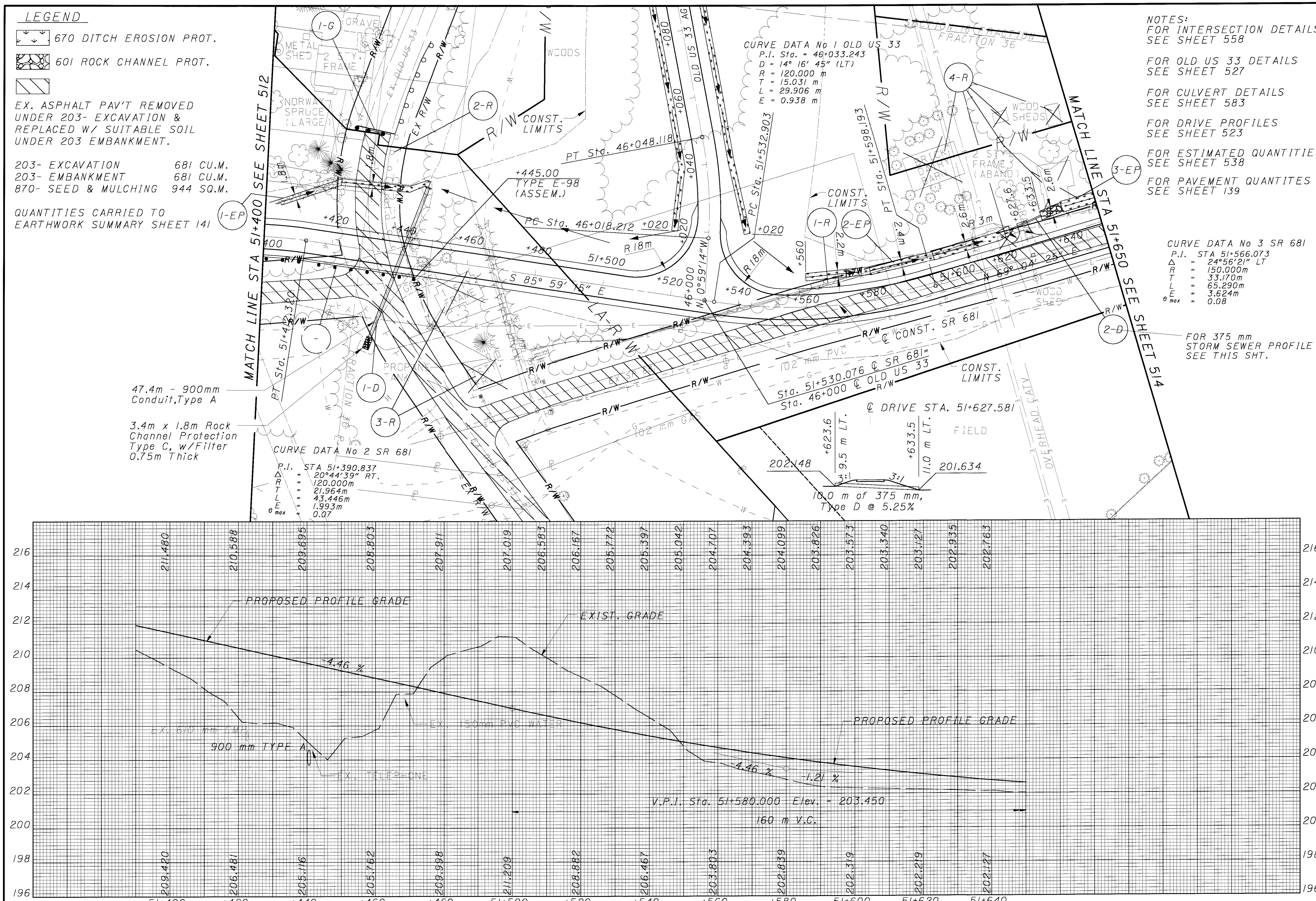

CALCULATED BBD CHECKED TDW

SR 681 PLAN & PROFILE (AT GRADE) STA 51+400 TO STA 51+650

ATH-33-40.981

513
949

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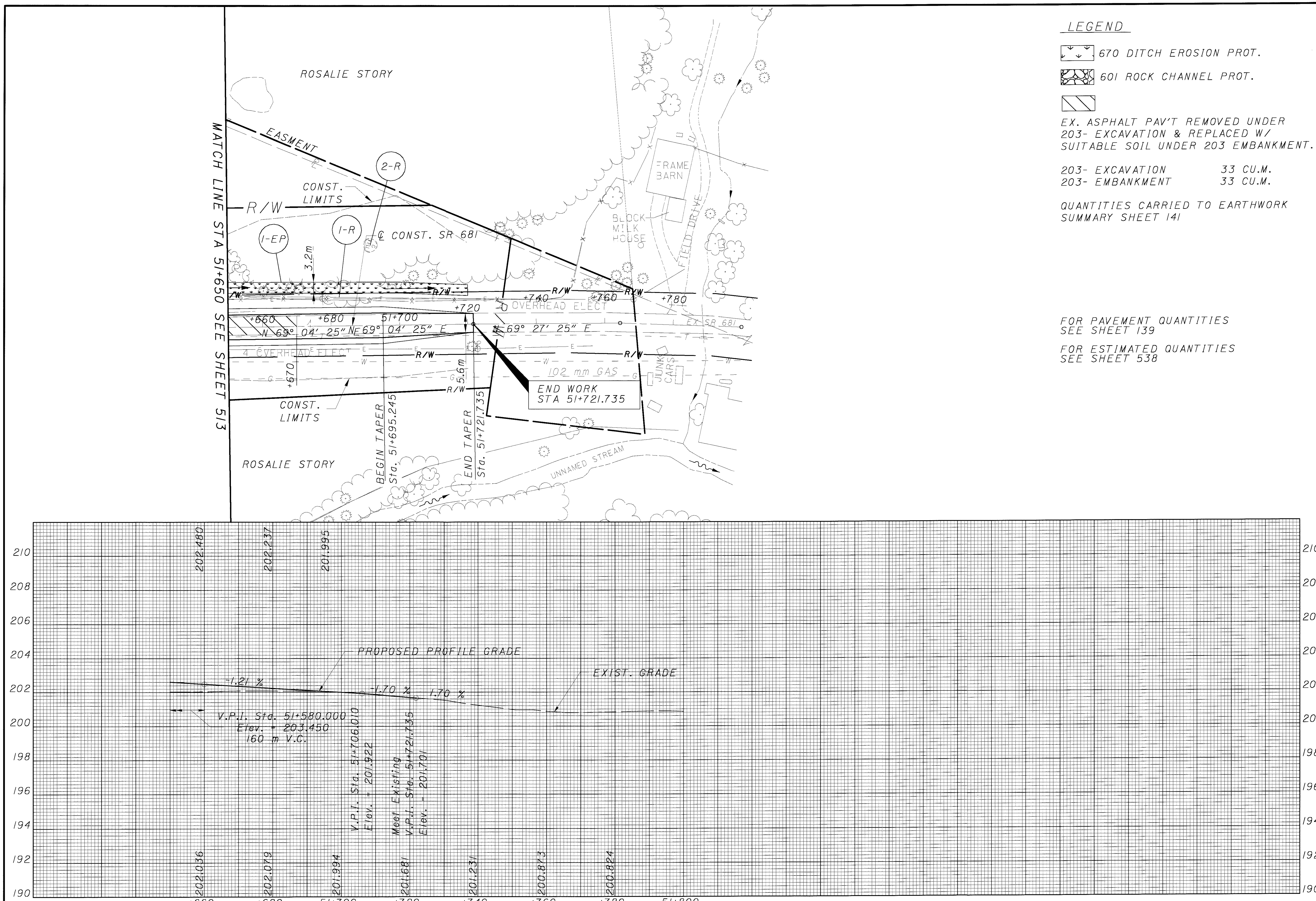

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

EX. ASPHALT PAV'T REMOVED UNDER 203- EXCAVATION & REPLACED W/ SUITABLE SOIL UNDER 203 EMBANKMENT.

203- EXCAVATION	33 CU.M.
203- EMBANKMENT	33 CU.M.

QUANTITIES CARRIED TO EARTHWORK SUMMARY SHEET 141

FOR PAVEMENT QUANTITIES SEE SHEET 139

FOR ESTIMATED QUANTITIES SEE SHEET 538

HORIZONTAL SCALE IN METERS 1:500

CALCULATED BBD CHECKED TDW

SR 681 PLAN & PROFILE (AT GRADE) STA 51+650 TO STA 51+799.983

ATH-33-40.981

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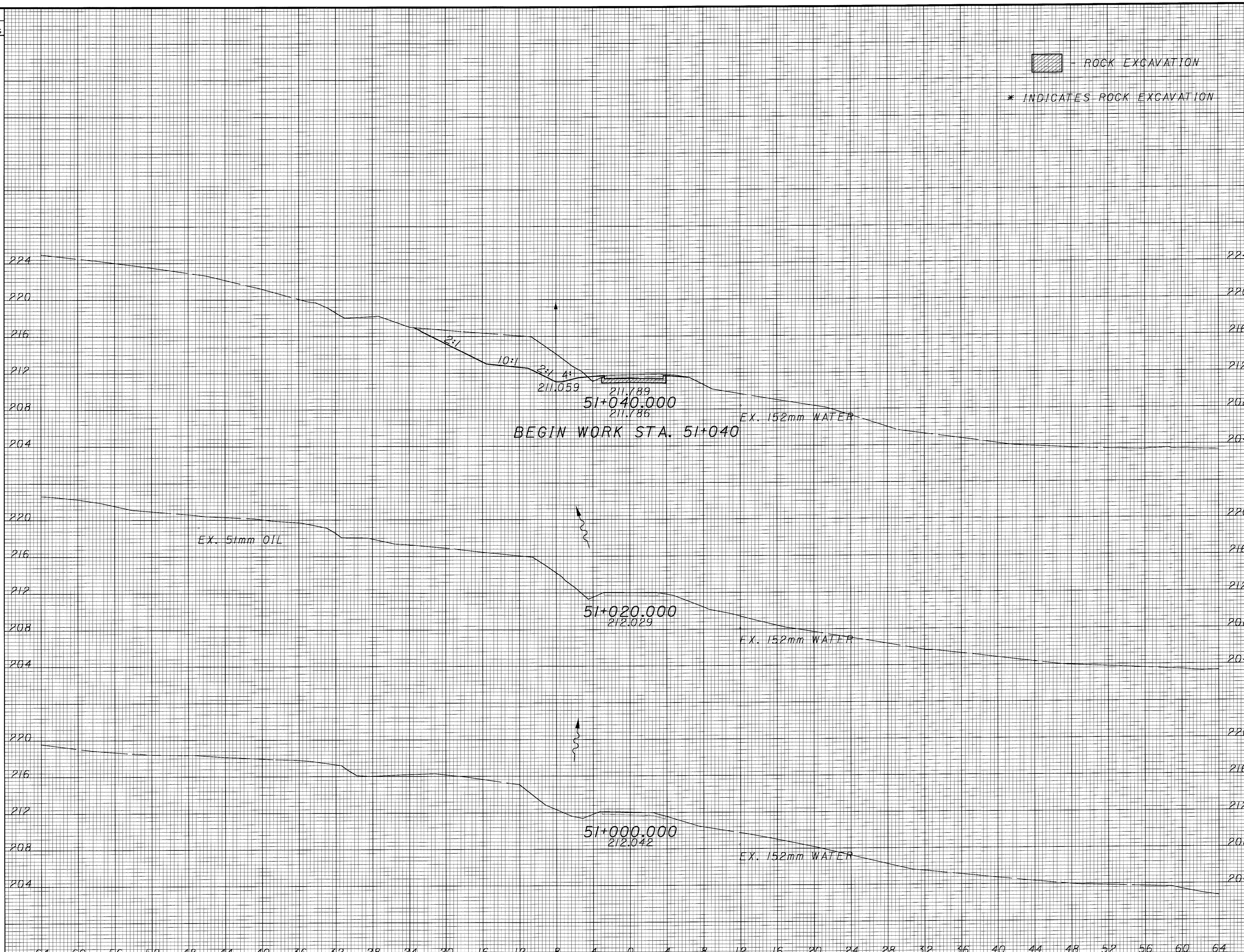
SR 681 CROSS SECTIONS
STA. 51+000 TO STA. 51+040

CALCULATED BBD | CHECKED TDW

SEEDING	
END WIDTH	SQ. METERS
26	
	0
26	0

SHEET TOTAL



END AREA		VOLUME	
CUT	FILL	CUT	FILL
47 *3	1		
		0 *30	0
ROCK TOTAL		*30	
SHEET TOTAL		0	0

ATH-33-40.981

515/949

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SEEDING	
END WIDTH	SQ. METERS
29	619
33	601
27	518
25	504
114	2242

END AREA		VOLUME	
CUT	FILL	CUT	FILL
4	45		
*0			
		359	642
		*10	
32	19		
*1			
		724	220
		*60	
40	3		
*5			
		954	31
		*101	
55	0		
*6			
		1019	8
		*89	
ROCK TOTAL		*260	
		3056	901

CALCULATED BBD

CHECKED TDW

SR 681 CROSS SECTIONS
STA. 51+060 TO STA. 51+120

ATH-33-40.981

516
949

- ROCK EXCAVATION

* INDICATES ROCK EXCAVATION

51+120.000
209.354
207.709
208.118
EX. 152mm WATER

51+100.000
209.793
209.010
209.113
EX. 152mm WATER

51+080.000
210.448
210.151
209.773
EX. 51mm GAS
EX. 152mm WATER

51+060.000
211.188
211.237
210.509
EX. 152mm WATER

SHEET TOTAL

SHEET TOTAL

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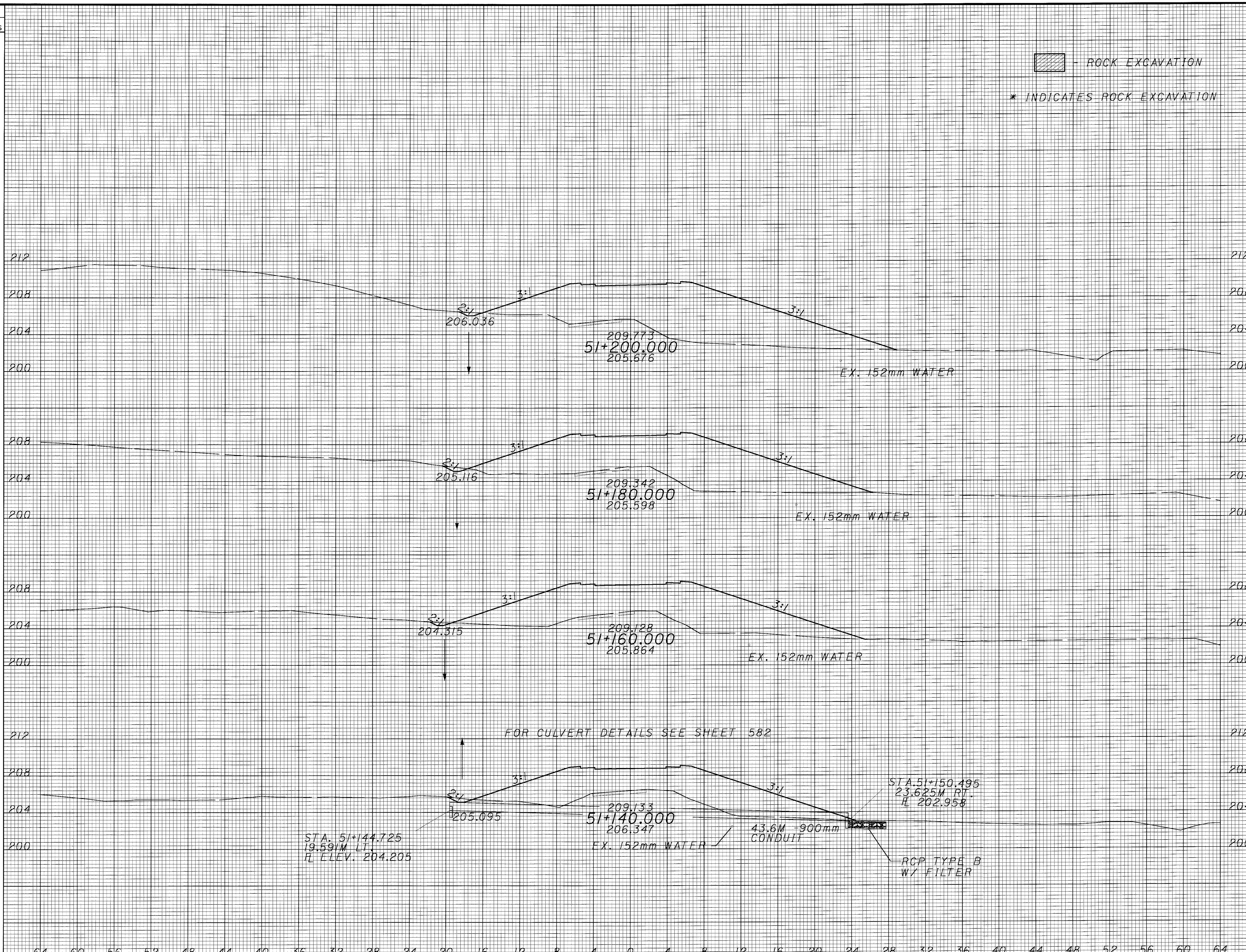
SR 681 CROSS SECTIONS
STA. 51+140 TO STA. 51+200

ATH-33-40.981

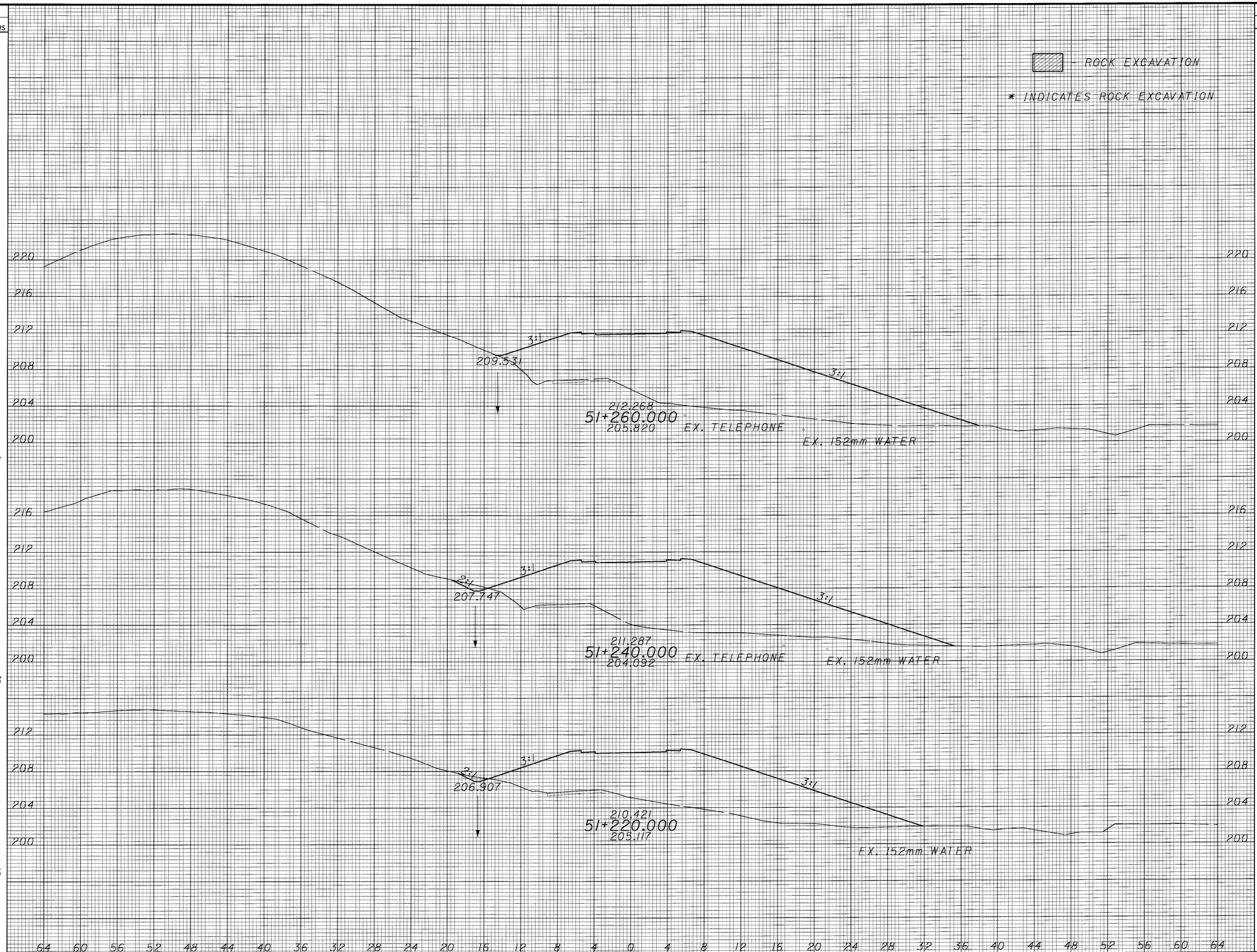
CALCULATED BBD CHECKED TDW

SEEDING END WIDTH	SEEDING SQ. METERS	STATION	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
38		51+200.000	1	153		
	762				13	2951
38		51+180.000	1	142		
	759				12	2669
38		51+160.000	0	125		
	734				12	2254
35		51+140.000	1	101		
	641				43	1456
		ROCK TOTAL				
149	2896	SHEET TOTAL			80	9330



SHEET TOTAL ℄ SHEET TOTAL

SEEDING	
END WIDTH	SQ. METERS
44	907
46	883
42	805
132	2269



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	248		
1	223		
1	180		
		14	4708
		23	4036
		15	3334
SHEET TOTAL			
ROCK TOTAL		52	12078

CALCULATED SBD
CHECKED TDW

SR 681 CROSS SECTIONS
STA. 51+220 TO STA. 51+260

ATH-33-40.981

518
949

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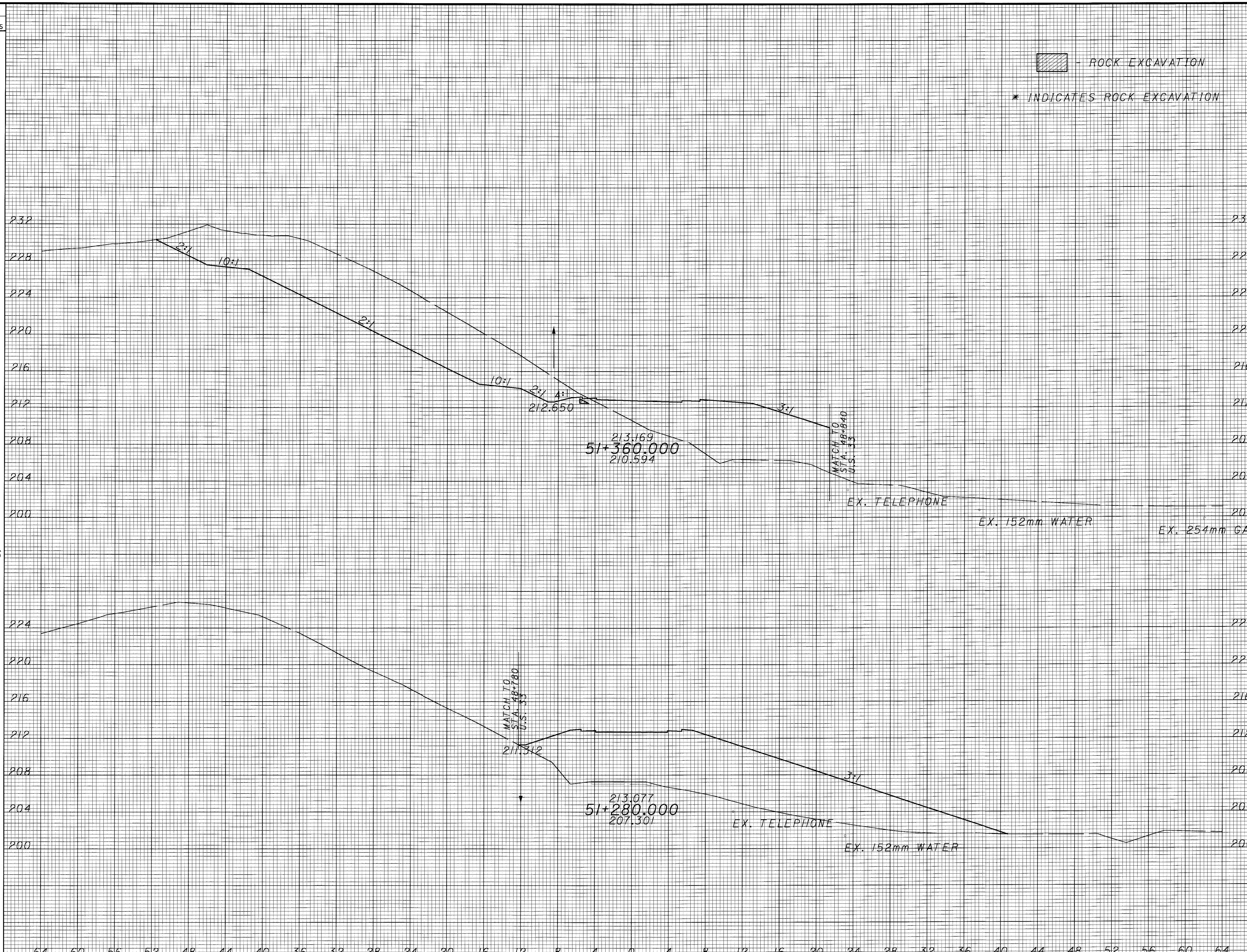
SEEDING		END AREA		VOLUME	
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL
70		218 *1	111		
	4556			0 *10	0
44		0 *0	232		
	885			0	4798
		ROCK TOTAL		*10	
114	5441	SHEET TOTAL		0	4798



CALCULATED BBD
CHECKED TDW

SR 681 CROSS SECTIONS STA. 51+280 TO STA. 51+360

ATH-33-40.981

SEEDING			END AREA		VOLUME		
END WIDTH	SQ. METERS		CUT	FILL	CUT	FILL	
		- ROCK EXCAVATION					CALCULATED BBD
		* INDICATES ROCK EXCAVATION					CHECKED TDW
30	516	51+420.000	1	98	14	1486	
21	724	51+400.000	1	50	1031	966	
			*0		*10		
51	1208	51+380.000	102	46	3200	1570	
			*1		*20		
					ROCK TOTAL		
102	2448	SHEET TOTAL			4245	4022	SHEET TOTAL

EX. ELECTRIC
EX. TELEPHONE
EX. 152mm WATER
EX. 254mm GAS
EX. 152mm WATER
EX. TELEPHONE
EX. 152mm WATER
EX. 254mm GAS
EX. TELEPHONE
EX. 152mm WATER

℄

SR 681 CROSS SECTIONS
STA. 51+380 TO STA. 51+420

ATH-33-40.981

520
949

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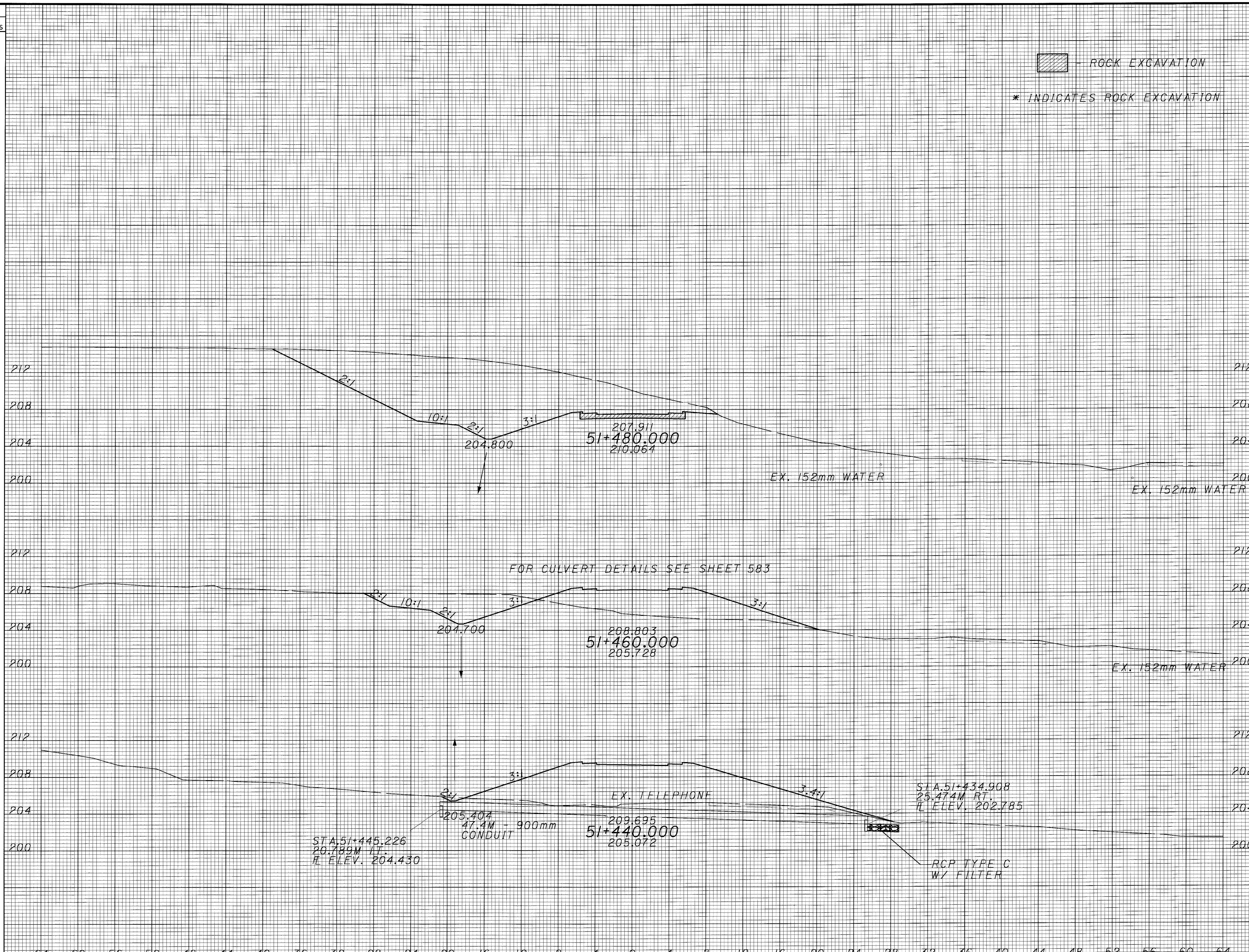
SEEDING	
END WIDTH	SQ. METERS
40	
	810
41	
	806
40	
	701
121	2317

SHEET TOTAL



SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
209 *6	0		
		2416 *61	570
33 *0	57		
		335	1773
1	120		
		12	2184
ROCK TOTAL		*61	
		2763	4527

CALCULATED BBD
CHECKED TDW

SR 681 CROSS SECTIONS
STA. 51+440 TO STA. 51+480

ATH-33-40.981

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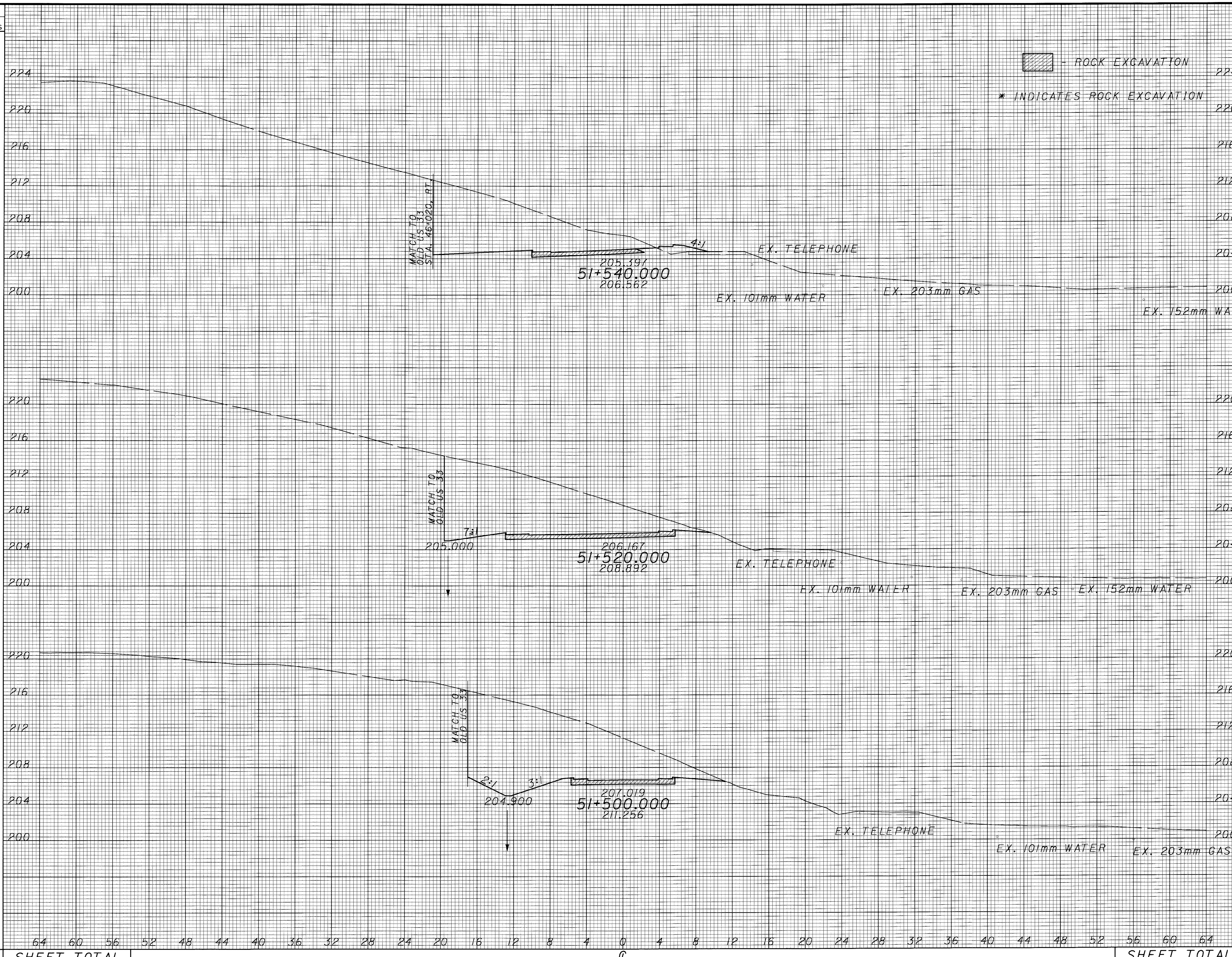
SR 681 CROSS SECTIONS
STA. 51+500 TO STA. 51+540

ATH-33-40.981

CALCULATED	CHECKED
BBD	TDW

SEEDING END WIDTH	SEEDING SQ. METERS
15	
	260
11	
	292
18	
	584
44	1136

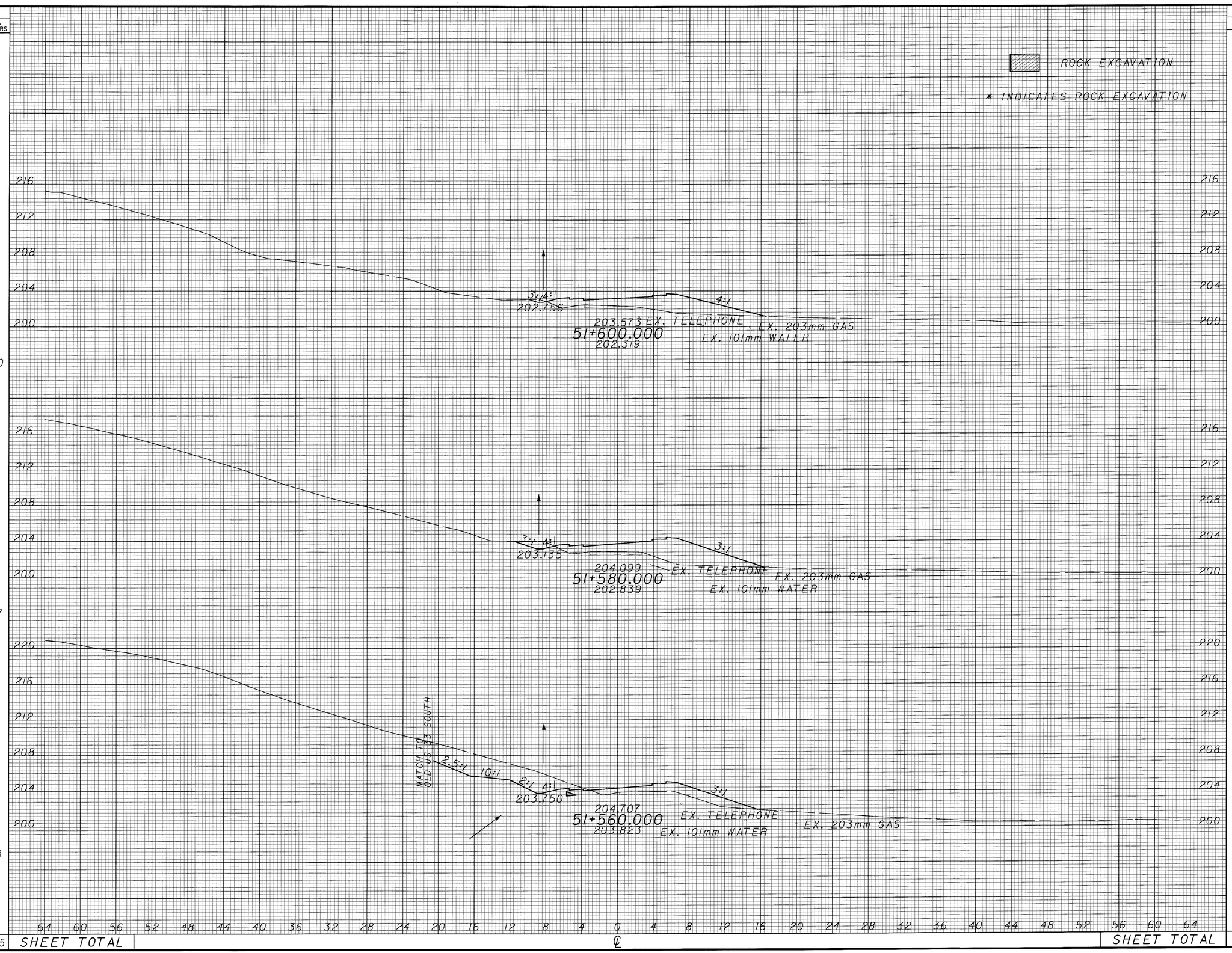
SHEET TOTAL



SHEET TOTAL

END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
102 *6	3		
		2378 *144	30
136 *9	0		
		2965 *146	0
161 *6	0		
		3694 *116	0
ROCK TOTAL		*406	
		9037	30

SEEDING	
END WIDTH	SQ. METERS
16	340
18	447
27	418
61	1205



END AREA		VOLUME	
CUT	FILL	CUT	FILL
0	26		
		24	567
2	31		
*0			
		342	446
		*10	
32	14		
*1			
		1341	169
		*70	
ROCK TOTAL		*80	
SHEET TOTAL		1707	1182

CALCULATED BBD

CHECKED TDW

SR 681 CROSS SECTIONS
STA. 51+560 TO STA. 51+600

ATH-33-40.981

523
949

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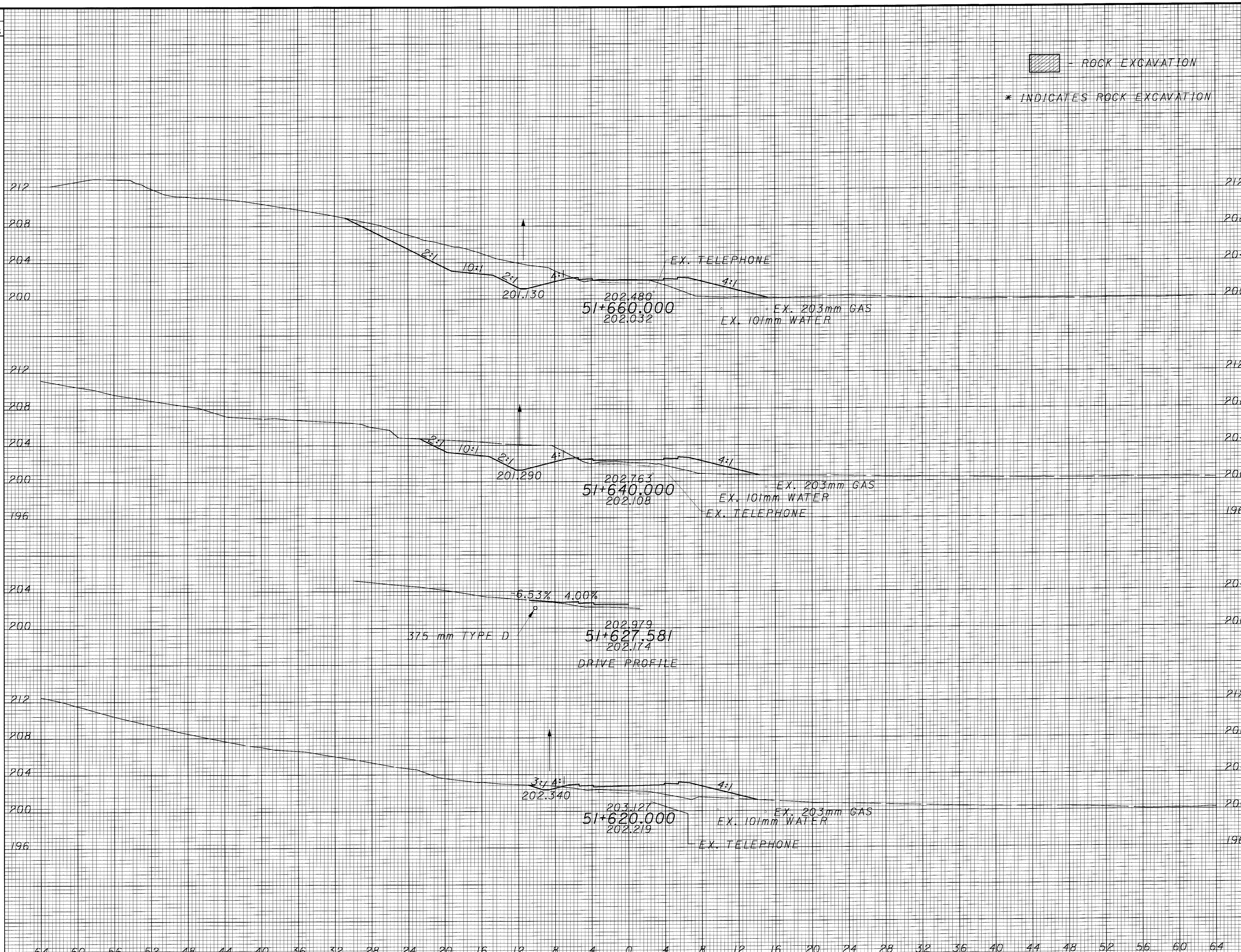
SR 681 CROSS SECTIONS STA. 51+620 TO STA. 51+660

ATH-33-40.981

CALCULATED BBD CHECKED TDW



Station	SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
51+660.000	37		43	13		
		646			695	253
51+640.000	27		26	13		
		418			274	280
51+620.000	15		1	15		
		306			13	414
SHEET TOTAL	79	1370			982	947

ROCK TOTAL

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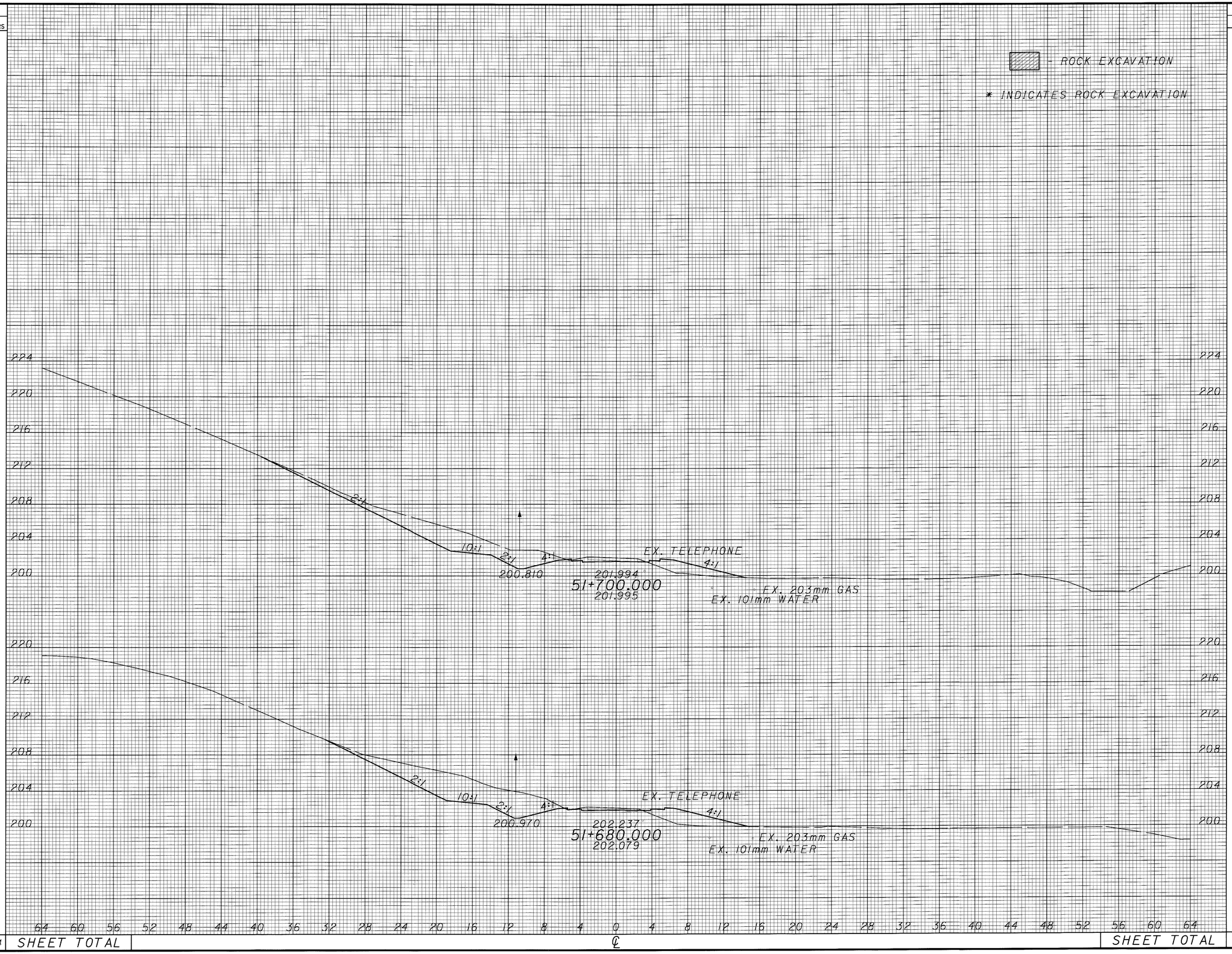
SEEDING	
END WIDTH	SQ. METERS
47	862
39	762
86	1624

SHEET TOTAL



SHEET TOTAL

END AREA		VOLUME	
CUT	FILL	CUT	FILL
42	9		
		905	195
48	11		
		915	238
ROCK TOTAL			
		1820	433

CALCULATED BBD

CHECKED TDW

SR 681 CROSS SECTIONS
STA. 51+680 TO STA. 51+700

ATH-33-40.981

525
949

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SEEDING	
END WIDTH	SQ. METERS
10	35
31	782
41	817

END AREA	
CUT	FILL
2	6
28	6

VOLUME	
CUT	FILL
26	10
700	145
726	155

CALCULATED BBD

CHECKED TDW

- ROCK EXCAVATION

* INDICATES ROCK EXCAVATION

220 216 212 208 204 200 224 220 216 212 208 204 200 224 220 216 212 208 204 200 224 220 216 212 208 204 200

EX. TELEPHONE

51+740.000
201.231

EX. 203mm GAS
EX. 101mm WATER

END WORK STA. 51+721.735

EX. TELEPHONE
4:1

201.701
51+721.735
201.654

EX. 203mm GAS
EX. 101mm WATER

2:1
10:1
2:1
4:1
200.650

EX. TELEPHONE
4:1

201.726
51+720.000
201.680

EX. 203mm GAS
EX. 101mm WATER

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

ROCK TOTAL

SR 681 CROSS SECTIONS
STA. 51+720 TO STA. 51+740

ATH-33-40.981

526
949

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OLD US 33 PLAN & PROFILE (AT GRADE)
STA 46+000 TO 46+250

ATH-33-40.981

527
949

CALCULATED BBD
CHECKED TDW

HORIZONTAL SCALE IN METERS
0 10 20
1:500

LEGEND

670 DITCH EROSION PROT.

601 ROCK CHANNEL PROT.

NOTES:
FOR INTERSECTION DETAILS SEE SHEET 558

FOR SR 681 DETAILS SEE SHEET 513

FOR ESTIMATED QUANTITIES SEE SHEET 538

FOR STORM SEWER PROFILE SEE SHEET 532

FOR PAVEMENT QUANTITIES SEE SHEET 140

STA 46+000.000 OLD US 33=
STA 51+530.076 SR 681 AG

BEGIN WORK
STA 46+000.000

46+000 N 0°59'14"W

CURVE DATA No 1 OLD US 33 AG
P.I. STA 46+033.243
Δ = 14°16'45" LT.
R = 120.000m
T = 15.031m
L = 29.906m
E = 0.938m
e_{max} = 0.016

PC Sta. 51+532.903

PT Sta. 51+598.193

PC Sta. 46+018.212

PT Sta. 46+048.118

PC Sta. 46+143.840

PT Sta. 46+194.844

CURVE DATA No 2 OLD US 33
P.I. STA 46+169.733
Δ = 24°21'11" LT.
R = 120.000m
T = 25.893m
L = 51.005m
E = 2.762m
e_{max} = 0.08

CONST. LIMITS

CONST. OLD US 33 N 15° 15' 59" W

2.1m x 1.2m Rock Channel Protection, Type C, w/Filter 0.5m Thick

18.1m - 600mm Conduit, Type B

+240 BEGIN EX. G.R. & PAVEMENT REMOVAL

MATCH LINE STA 46+250 SEE SHEET 528

EX. GUARDRAIL TO REMAIN

EX. SR 681

EX. OLD US 33

FIELD

WOODS

GARAGE

SHED

SAT DISH

2 STY FRAME

SHRUB

CB-5

1-EP 2-EP 3-EP 4-EP 1-D 1-R

ROSALIE STORY

JAMES N. SMITH & CONSTANCE C. SMITH

℄ SR 681

PROPOSED PROFILE GRADE

EXIST. GRADE

EX. ELECTRIC

EX. 50mm PVC WATER

V.P.I. Sta. 46+006.588
Elev. = 205.505
6 m V.C.

V.P.I. Sta. 46+076.578 Elev. = 206.668
100 m V.C., SSD = 76 m

-4.01 %
+1.66 %
+8.30 %

205.728 205.898 206.120 206.408 206.763 207.184 207.672 208.226 208.846 209.533 210.286 211.932 213.592 215.252 216.912 218.572

207.761 214.008 219.010 222.193 222.749 219.328 216.757 216.789 215.353 217.757 216.557 216.290 217.737

220 218 216 214 212 210 208 206 204 202 200

46+000 +020 +040 +060 +080 46+100 +120 +140 +160 +180 46+200 +220 +240

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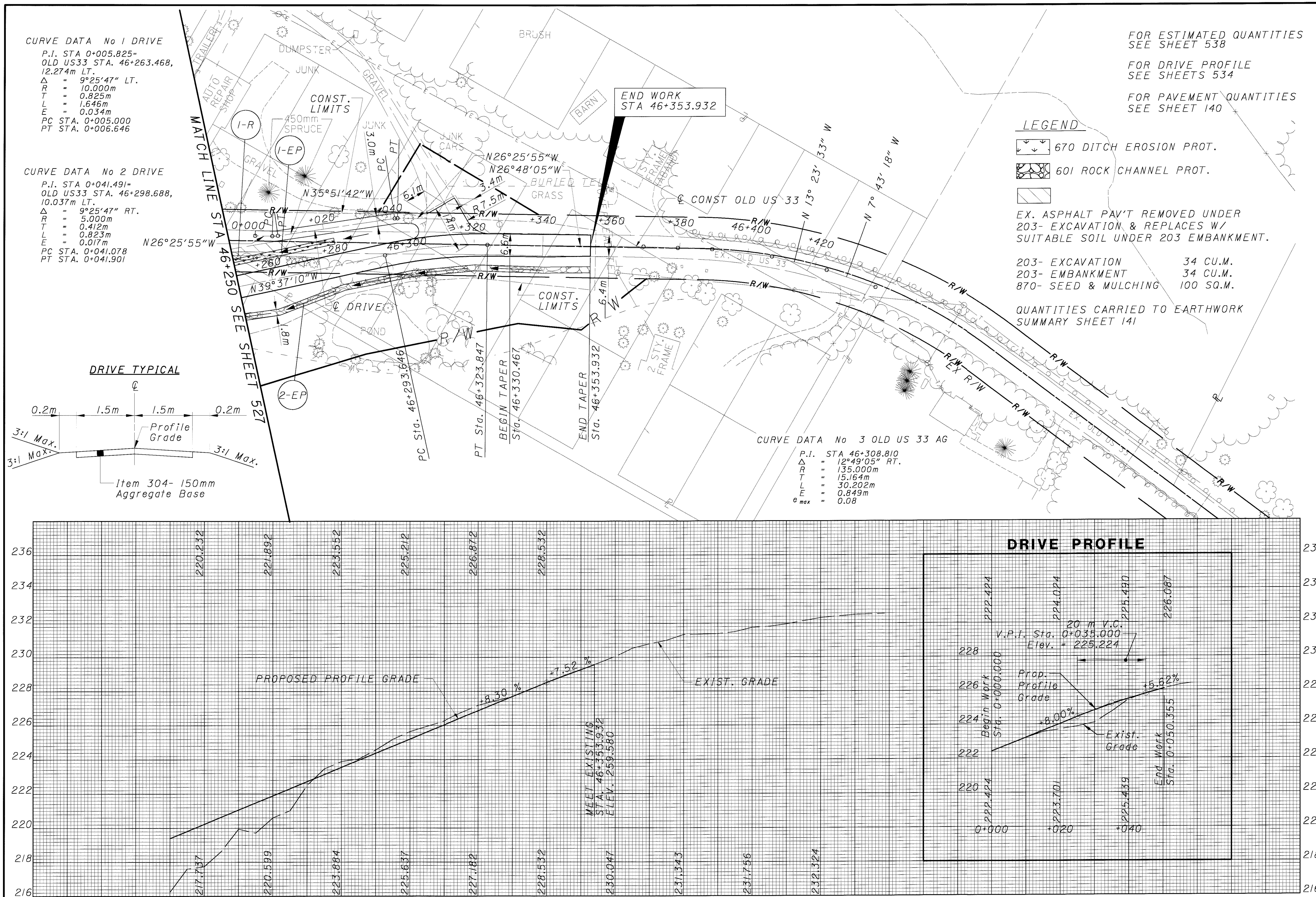

OLD US 33 PLAN & PROFILE (AT GRADE)
STA 46+250 TO 46+438

HORIZONTAL SCALE IN METERS 1:500

CALCULATED BBD
CHECKED TDW

ATH-33-40.981

528
949

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SEEDING		END AREA		VOLUME		CALCULATED BBD	CHECKED TDW
END WIDTH	SQ. METERS	CUT	FILL	CUT	FILL		
69	1256	761 *4	0	13519 *73	0		
56	1038	591 *4	0	10284 *94	0		
47	0	438 *6	0	0 *60	0		
		ROCK TOTAL		*227			
172	2294	SHEET TOTAL		23803	0		

▨ - ROCK EXCAVATION

* INDICATES ROCK EXCAVATION

EX. 152mm WATER

46+060.000
206.112 206.763 206.143
222.193

46+040.000
205.492 206.120 205.553
219.010

MATCH TO STA. 681

46+020.000
205.000 205.728 204.423
214.008

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

℄

OLD US 33 SOUTH CROSS SECTIONS
STA. 46+020 TO STA. 46+060

ATH-33-40.981

529
949

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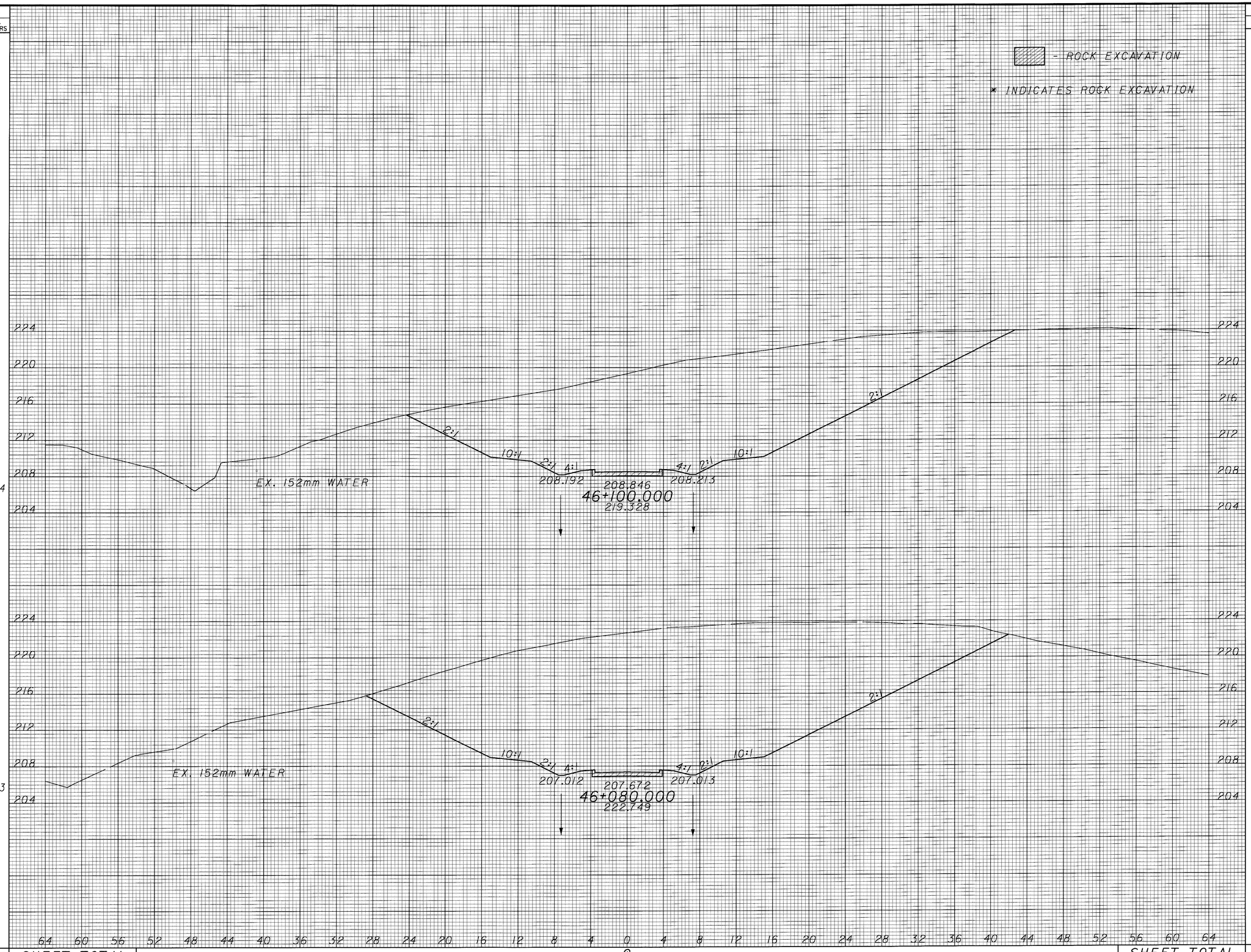
SEEDING	
END WIDTH	SQ. METERS
65	1344
69	1383
134	2727



END AREA		VOLUME	
CUT	FILL	CUT	FILL
509	0		
*4			
		12386	0
		*73	
729	0		
*4			
		14904	0
		*73	
ROCK TOTAL		*146	
		27290	0

SHEET TOTAL

SHEET TOTAL

CALCULATED BBD

CHECKED TDW

OLD US 33 SOUTH CROSS SECTIONS STA. 46+080 TO STA. 46+100

ATH-33-40.981

530
949

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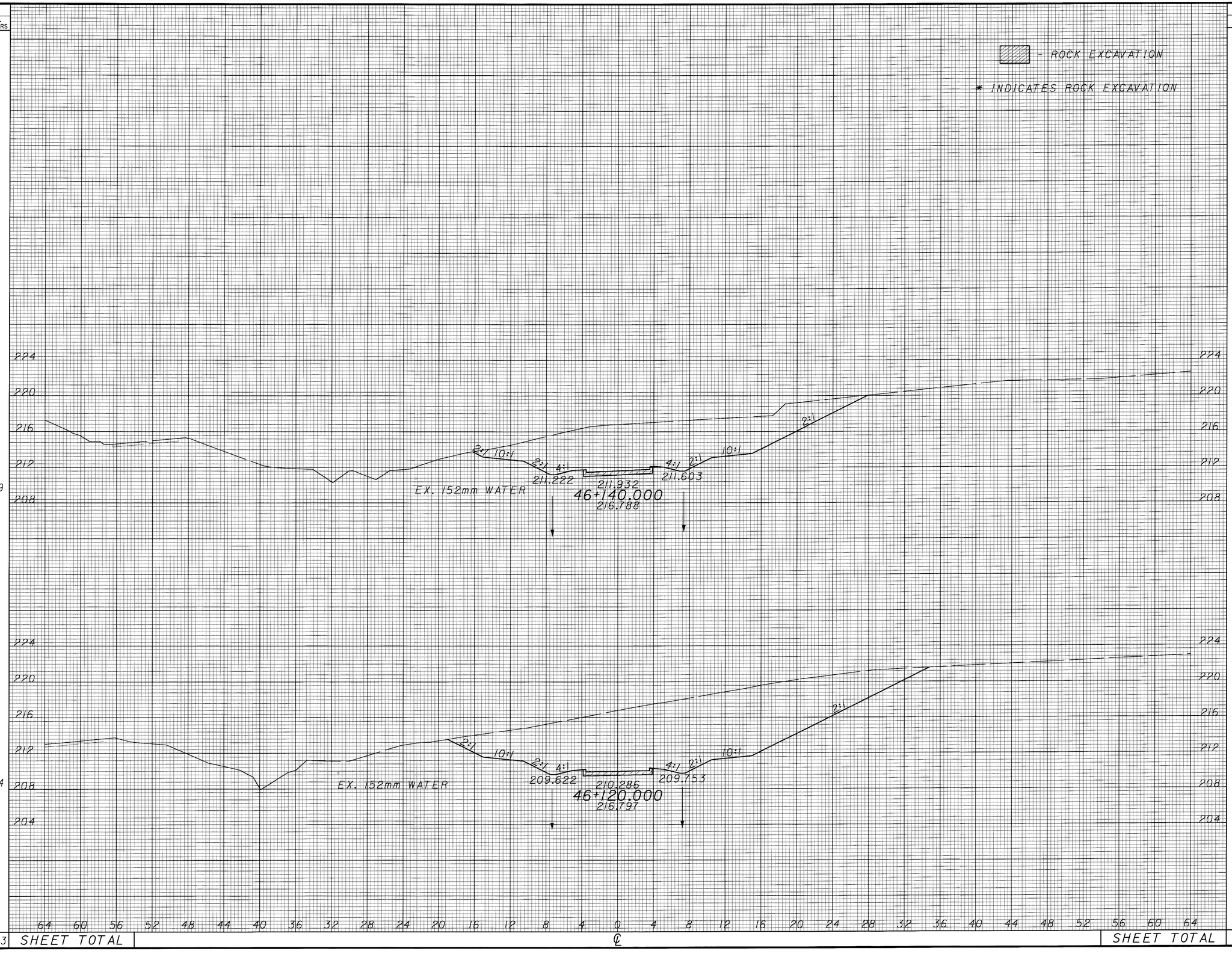
SEEDING	
END WIDTH	SQ. METERS
40	899
50	1154
90	2053

- ROCK EXCAVATION

* INDICATES ROCK EXCAVATION



END AREA		VOLUME	
CUT	FILL	CUT	FILL
155	0		
*4			
		4283	0
		*73	
273	0		
*4			
		7828	0
		*73	
ROCK TOTAL		*146	
		12111	0

SHEET TOTAL

SHEET TOTAL

CALCULATED BBD

CHECKED TDW

OLD US 33 SOUTH CROSS SECTIONS
STA. 46+120 TO STA. 46+140

ATH-33-40.981

531
949

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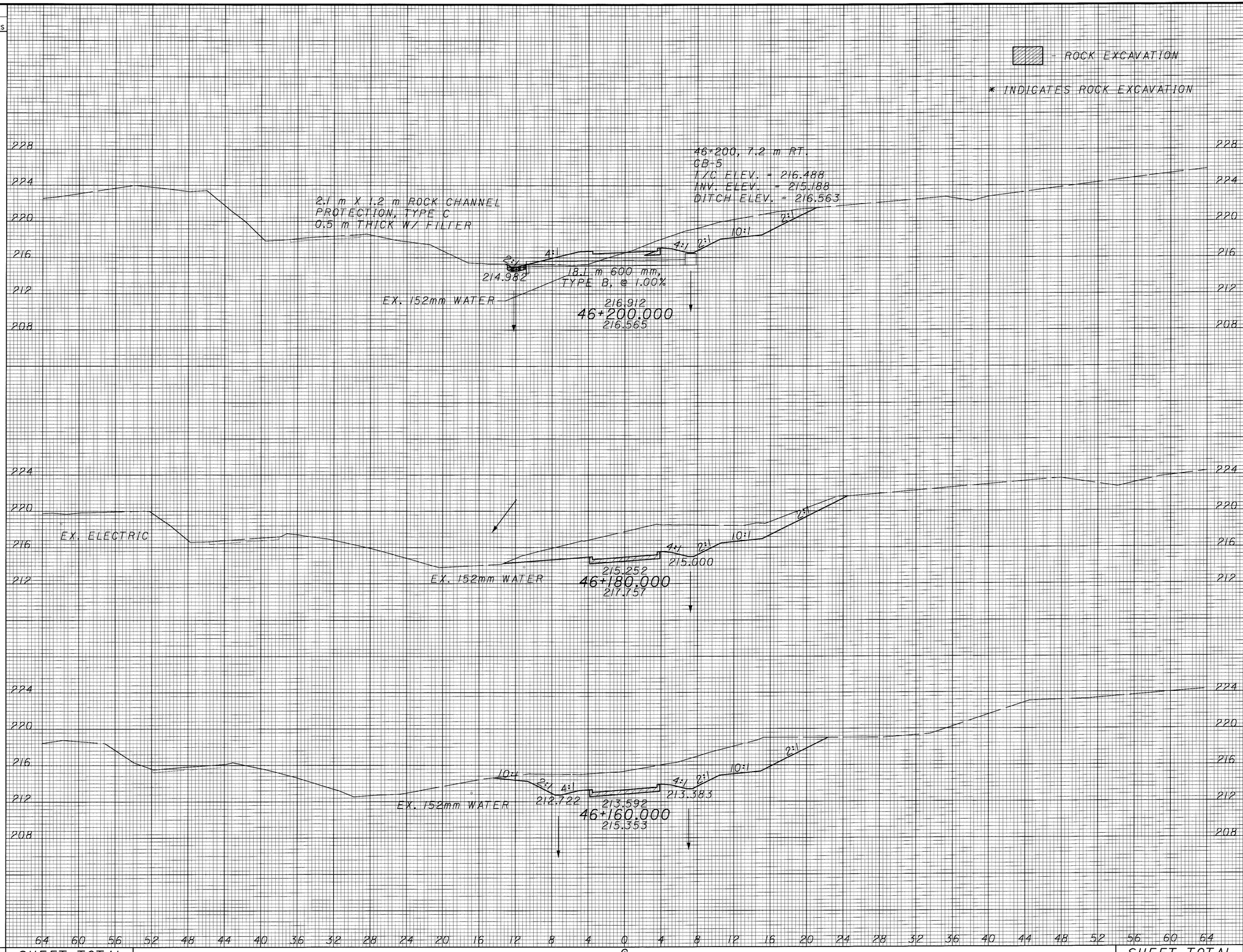
SEEDING	
END WIDTH	SQ. METERS
28	607
32	637
31	709
91	1953



END AREA		VOLUME	
CUT	FILL	CUT	FILL
32	8		
*1			
		1012	81
		*50	
69	0		
*4			
		1459	0
		*73	
77	0		
*4			
		2317	0
		*73	
ROCK TOTAL		*196	
		4788	81

CALCULATED BBD
CHECKED TDW

OLD US 33 SOUTH CROSS SECTIONS
STA. 46+160 TO STA. 46+200

ATH-33-40.981

532
949

SHEET TOTAL

SHEET TOTAL

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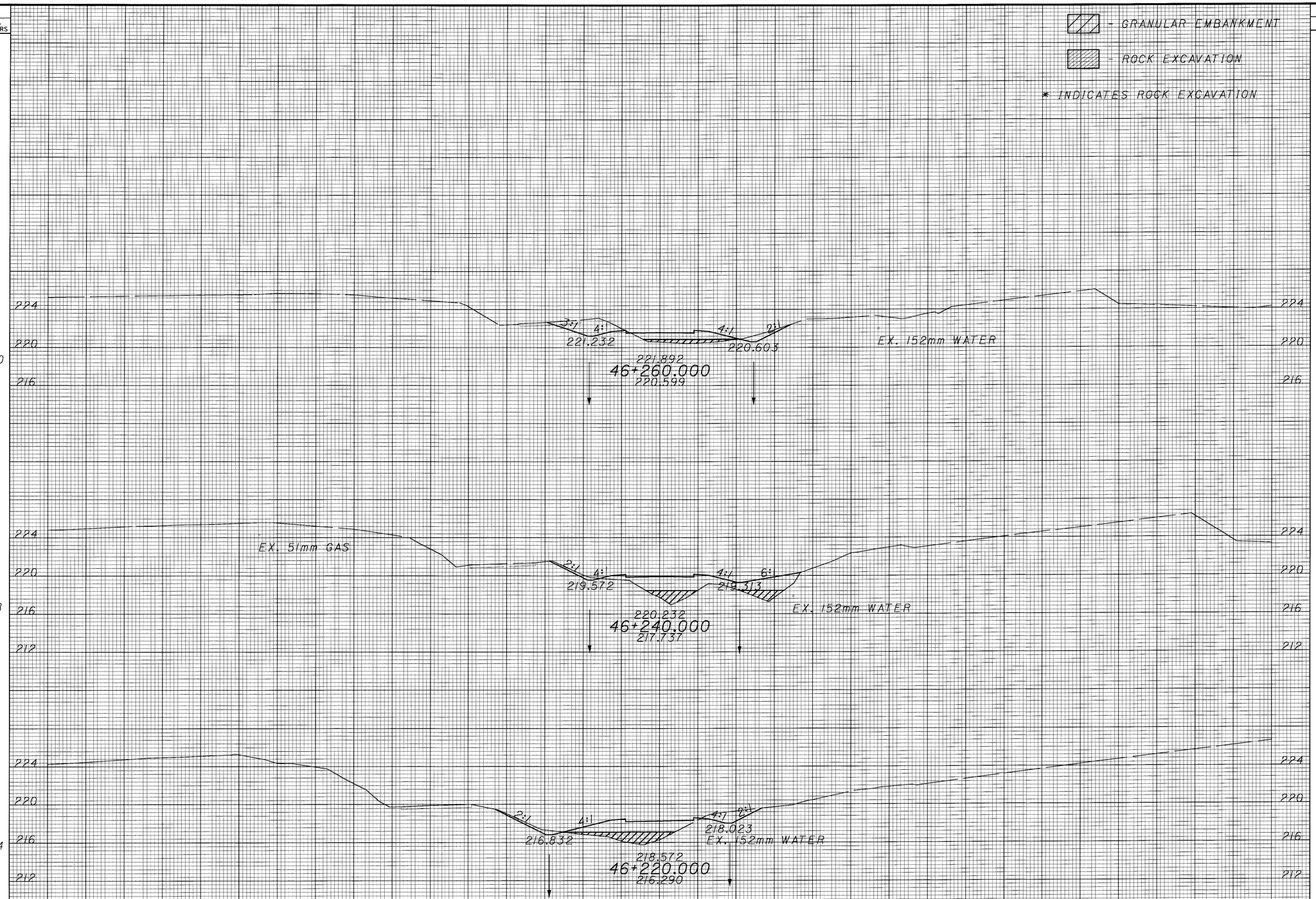
SEEDING	
END WIDTH	SQ. METERS
19	390
20	418
22	504
61	1312

▨ - GRANULAR EMBANKMENT

▨ - ROCK EXCAVATION

* INDICATES ROCK EXCAVATION



END AREA		VOLUME	
CUT	FILL	CUT	FILL
10	10		
*0			
		109	383
1	29		
		69	488
6	20		
*0			
		378	283
		*10	
ROCK TOTAL			
*10			
		556	1154

CALCULATED BBD

CHECKED TDW

OLD US 33 SOUTH CROSS SECTIONS STA. 46+220 TO STA. 46+260

ATH-33-40.981

533
949

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

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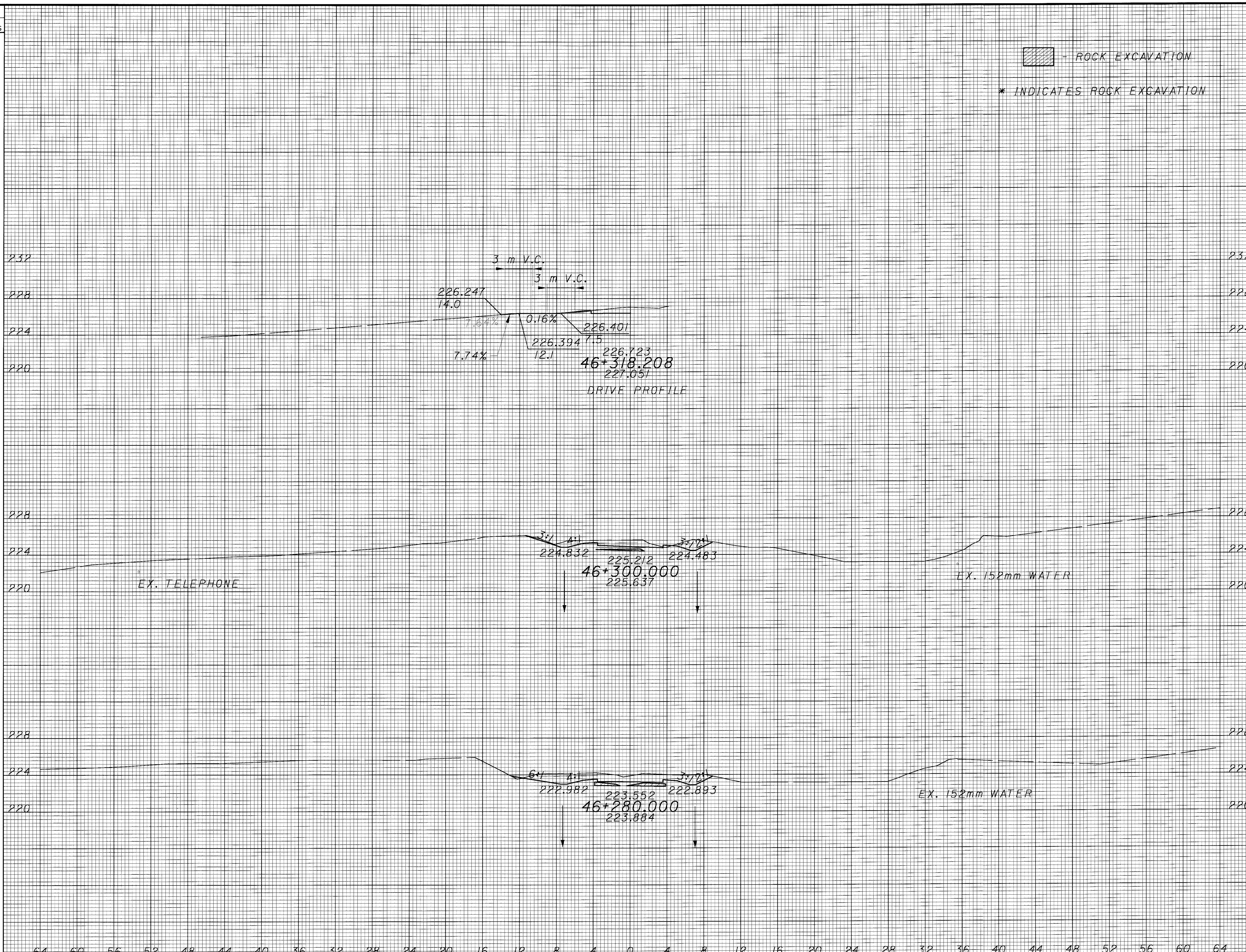
OLD US 33 SOUTH CROSS SECTIONS
STA. 46+280 TO STA. 46+318.208

ATH-33-40.981

CALCULATED BBD | CHECKED TDW

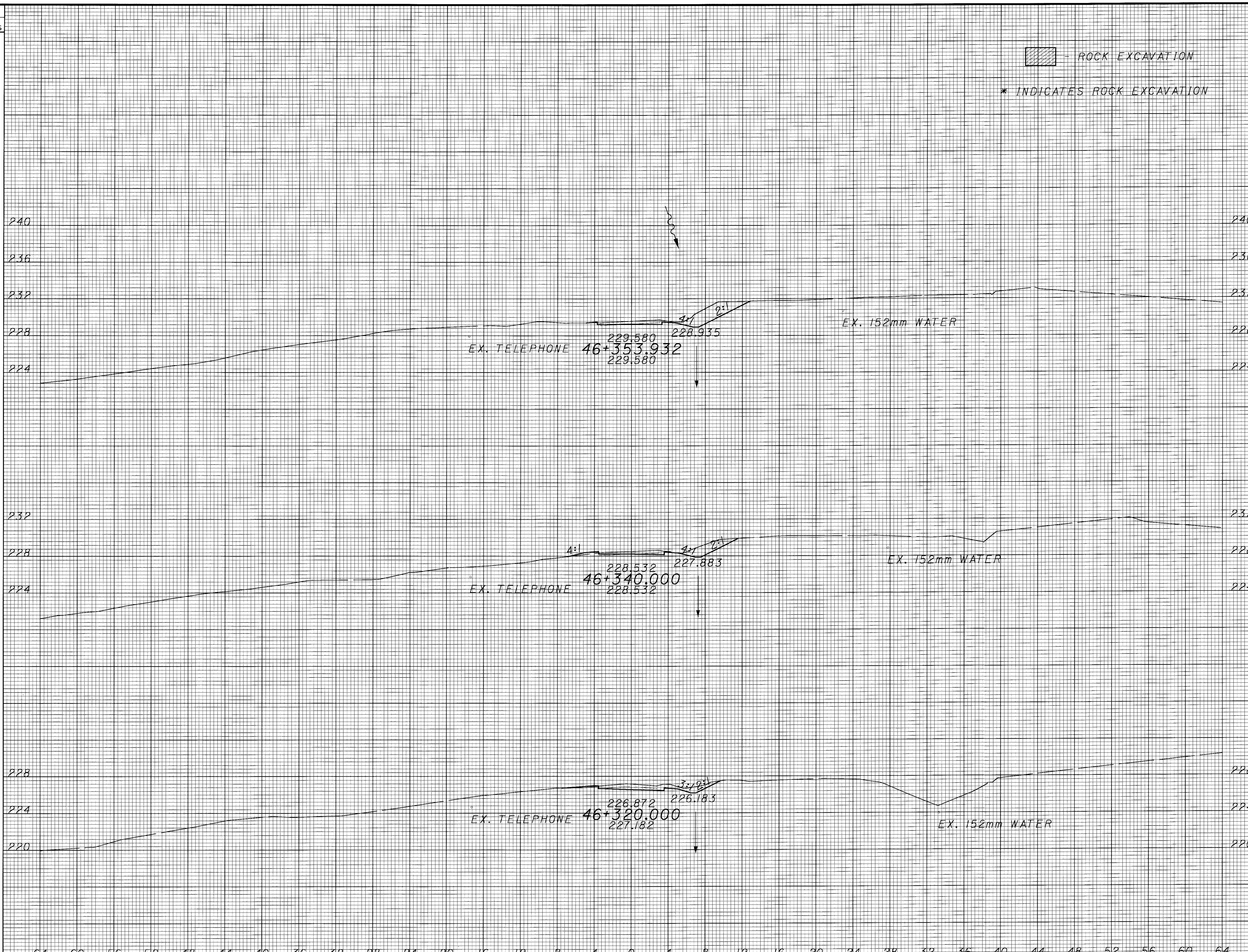


SEEDING END WIDTH	SEEDING SQ. METERS	Station	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
14		46+300.000	9 *1	0		
	290				247 *30	3
15		46+280.000	16 *2	0		
	344				255 *20	98
		ROCK TOTAL			*50	
29	634	SHEET TOTAL			502	101

OLD US 33 SOUTH CROSS SECTIONS
STA. 46+320 TO STA. 46+353.932

ATH-33-40.981

CALCULATED BBD | CHECKED TDW



SEEDING END WIDTH	SEEDING SQ. METERS	END AREA CUT	END AREA FILL	VOLUME CUT	VOLUME FILL
11	163	11	0	120	4
12	223	7	1	125	9
10	242	6 *0	0	150 *10	5
		ROCK TOTAL		*10	
33	628	SHEET TOTAL		395	18

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SEEDING	
END WIDTH	SQ. METERS

END AREA		VOLUME	
CUT	FILL	CUT	FILL

CALCULATED BBD

CHECKED TDW

▨ - ROCK EXCAVATION

* INDICATES ROCK EXCAVATION

236
232
228
224

46+380.000
231.343

EX. 152mm WATER

236
232
228
224

46+360.000
230.048

EX. 152mm WATER

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

℄

0	0	SHEET TOTAL	SHEET TOTAL	ROCK TOTAL	0 0

OLD US 33 SOUTH CROSS SECTIONS
STA. 46+360 TO STA. 46+380

ATH-33-40.981

536
949

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ESTIMATED QUANTITIES

CALCULATED BBD | CHECKED TDW

REF NO.	SHEET NO.	STATION TO STATION			202 SEPTIC TANK REMOVED	202 FENCE REMOVED	202 GUARDRAIL REMOVED	202 BUILDING DEMOLISHED		601 ROCK CHANNEL PROTECTION TYPE C, W/ FILTER	602 CONCRETE MASONARY	603 300mm CONDUIT TYPE B	603 300mm CONDUIT TYPE D	603 375mm CONDUIT TYPE C	603 450mm CONDUIT TYPE B	603 525mm CONDUIT TYPE B	604 CATCH BASIN NO. 2-2A	604 CATCH BASIN NO. 5	606 GUARDRAIL TYPE 5	606 ANCHOR ASSEMBLY TYPE A	606 ANCHOR ASSEMBLY TYPE T	670 DITCH EROSION PROTECTION
		FROM	TO	SIDE	EACH	METER	METER	EACH		CU. M	CU. M	METER	METER	METER	METER	METER	EACH	EACH	METER	EACH	EACH	SQ. M
1-EP	462	1+080	1+133.3	LT.																		97
2-EP	462	1+104.4	1+133.3	RT																		67
1-D	466	2+020.2	2+038.5	LT									18.4									
1-D	469	1+020		LT & RT						0.9	0.2	15.6					1					
1-EP	469	1+020.5	1+100	LT																		143
1-R	469	1+034	1+063	LT.		43																
2-R	469	1+035	1+132	RT		147																
1-D	473	2+060		LT & RT						1.1	0.3					24.2	1					
1-EP	473	2+020	2+059.5	LT.																		74
1-R	473	1+980	2+150	RT.		166																
1-G	473	1+960	2+081.92	RT.															114.30	2		
1-EP	474	2+300	2+410	LT.																		189
1-R	474	2+195,170m RT		RT.				1														
2-R	474	2+187	2+410	RT.		250																
3-R	474	2+327	2+410	LT & RT		153																
4-R	474	2+186,26.0m RT.			1																	
1-EP	475	2+410	2+420	RT																		18
1-R	475	2+499	2+549	LT.			50															
2-R	475	2+410	2+549	RT. & LT.		138																
1-G	475	2+450	2+549.06	LT.															91.44	2		
1-EP	487	11+180	11+230	LT.																		83
2-EP	487	11+080	11+230	RT.																		279
1-R	487	11+159	11+230	LT. & RT.		98																
1-D	488	43+380(US33)	11+320(TR412)	LT. & RT.						1.1	0.3			34	18.7			1				
2-D	488	11+420		LT. & RT.						0.9	0.2	16.6						1				
1-EP	488	11+230	11+240	LT.																		18
2-EP	488	11+230	11+319.5	RT.																		137
3-EP	488	11+421	11+500	LT.																		122
1-R	488	11+241	11+500	RT. LT.		168																
1-G	488	11+322.64	11.345.5	LT.															11.43		2	
2-G	488	11+322.64	11.345.5	RT.															11.43		2	
3-G	488	11+390.5	11+455.0	RT.															57.15		2	
4-G	488	11+390.5	11+420.98	LT.															19.05		2	
1-EP	489	11+500	11+540	LT.																		72
* SEE CULVERT DETAIL SHEETS FOR FULL CULVERT DESCRIPTIONS																						
TOTALS THIS SHEET					1	1163	50	1		4.02	0.93	32.2	18.4	34	18.7	24.2	2	2	304.8	4	8	1299
TOTALS CARRIED TO GENERAL SUMMARY					1	1163	50	1		4.0	0.9	32.5	18.5	34	19	24.5	2	2	304.80	4	8	1299

ATH-33-40.981

537
949

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REF NO.	SHEET NO.	STATION TO STATION			202 FENCE REMOVED	202 GUARDRAIL REMOVED	202 BUILDING DEMOLISHED	202 PLUGGING & VENTING GAS & OIL WELLS		601 ROCK CHANNEL PROTECTION TYPE B, W/ FILTER	601 ROCK CHANNEL PROTECTION TYPE C, W/ FILTER	602 CONCRETE MASONARY		603 300mm CONDUIT TYPE D	603 375mm CONDUIT TYPE D		603 600mm CONDUIT TYPE B	603 900mm CONDUIT TYPE A *		604 CATCH BASIN NO. 5	604 CATCH BASIN NO. 2-2A	606 GUARDRAIL TYPE 5	670 DITCH EROSION PROTECTION
		TO	FROM	SIDE	METER	METER	EACH	EACH		CU. M	CU. M	CU. M		METER	METER		METER	METER		EACH	EACH	METER	SQ. M
1-EP	503	0+020	0+080	LT.																			106.5
2-EP	503	0+100	0+120	LT.																			36.6
3-EP	503	0+060	0+120	RT.																			106.4
1-D	503	0+080	0+100	LT.							0.9			21.2							1		
1-D	511	51+147.857		LT. & RT.						5.6		1.4						43.6					
1-EP	511	51+040	51+510	LT.																			202
1-R	511	51+093		LT.			1																
2-R	511	51+118	51+150	RT.		33																	
1-EP	512	51+150(S.R.681)	48+760(US33)	LT. RT.																			243
2-EP	512	51+348	51+400	LT.																			103
1-R	512	51+196		LT.			2																
2-R	512	51+210 & 51+235		RT.			2																
3-R	512	51+396		LT.			2																
4-R	512	51+150	51+209	RT.		58																	
5-R	512	51+249	51+342	RT.	101																		
6-R	512	51+232 +, 105m RT.		RT.				1															
1-D	513	51+440.589		LT.&RT.							4.6	1.4							47.4				
2-D	513	51+623.6	51+633.5	LT.											10								
1-EP	513	51+400	51+445	LT.							21.0												45
2-EP	513	51+560	51+623.6	LT.																			150
3-EP	513	51+633.5	51+650	LT.							9.1												32
1-R	513	51+482	51+650	LT. RT.	170																		
2-R	513	51+437		LT.		36																	
3-R	513	51+460 & 51+470		RT			2																
4-R	513	51+600	51+645	LT.			4																
1-G	513	51+422 +	51+434	LT.																		11.43	
1-EP	514	51+650	51+720	LT.																			224
1-R	514	51+650	51+730	LT.	80																		
2-R	514	51+690, 23.0m LT.		LT.				1															
1-D	527	46+200		LT. & RT.						1.3		0.4					18.1			1			212
1-EP	527	46+020	46+140	LT.																			90
2-EP	527	46+200	46+250	LT.																			326
3-EP	527	46+020	46+195.4	RT.																			
4-EP	527	46+201.8	46+250	RT.							48.0												
1-R	527	46+238	46+250	LT.		10																	
1-EP	528	46+250	46+280	LT.																			54
2-EP	528	46+250	46+353.93	RT.							92.0												
1-R	528	46+250	46+273	LT.		24																	
*SEE CULVERT DETAIL SHTS FOR FULL CULVERT DESCRIPTIONS																							
TOTALS THIS SHEET					351	161	13	2		6.9	175.6	3.19		21.2	10		18.1	43.6	47.4	1	1	11.43	1930.5
TOTALS CARRIED TO GENERAL SUMMARY					351	161	13	2		7.0	176.0	3.2		21.5	10		18.5	44.0	47.5	1	1	11.43	1931

CALCULATED BBD
CHECKED JDY

ESTIMATED QUANTITIES

ATH-33-40.981

SUPERELEVATION TABLE FOR 4-LANE ROADWAY

PI STA 40+324.908 | R=900.000 m

CURVE 9

CALCULATED BBD | CHECKED TDW

REMARKS	OUTSIDE LANE					INSIDE LANE					PROFILE GRADE LINE		INSIDE LANE					OUTSIDE LANE					REMARKS
	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	HINGE POINT ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	HINGE POINT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
	252.067	NA	-0.058	-0.016	3.6	252.125	NA	0.058	0.016	3.6	39+970.000	252.067	3.6	0.016	0.058	NA	252.125	3.6	-0.016	-0.058	NA	252.067	
	251.967	NA	-0.058	-0.016	3.6	252.025	NA	0.058	0.016	3.6	39+980.000	251.967	3.6	0.016	0.058	NA	252.025	3.6	-0.016	-0.058	NA	251.967	
BEGIN SE TRANS	251.950	NA	-0.058	-0.016	3.6	252.008	494	0.058	0.016	3.6	39+981.693	251.950	3.6	0.016	0.058	NA	252.008	3.6	-0.016	-0.058	494	251.950	
	251.850	NA	-0.058	-0.016	3.6	251.908	494	0.041	0.011	3.6	39+990.000	251.867	3.6	0.016	0.058	NA	251.925	3.6	-0.011	-0.041	494	251.884	
	251.730	NA	-0.058	-0.016	3.6	251.788	494	0.021	0.006	3.6	40+000.000	251.767	3.6	0.016	0.058	NA	251.825	3.6	-0.006	-0.021	494	251.804	
	251.610	NA	-0.058	-0.016	3.6	251.667	494	0.000	0.000	3.6	40+010.000	251.667	3.6	0.016	0.058	NA	251.725	3.6	0.000	0.000	494	251.724	
HALF FLAT	251.608	NA	-0.058	-0.016	3.6	251.666	494	0.000	0.000	3.6	40+010.138	251.666	3.6	0.016	0.058	NA	251.723	3.6	0.000	0.000	494	251.723	
	251.489	NA	-0.058	-0.016	3.6	251.547	494	-0.020	-0.006	3.6	40+020.000	251.567	3.6	0.016	0.058	NA	251.625	3.6	0.006	0.020	494	251.645	
	251.369	NA	-0.058	-0.016	3.6	251.427	494	-0.040	-0.011	3.6	40+030.000	251.467	3.6	0.016	0.058	NA	251.525	3.6	0.011	0.040	494	251.565	
REVERSE CROWN	251.266	NA	-0.058	-0.016	3.6	251.324	494	-0.058	-0.016	3.6	40+038.582	251.381	3.6	0.016	0.058	NA	251.439	3.6	0.016	0.058	494	251.496	
	251.246	247	-0.060	-0.017	3.6	251.307	247	-0.060	-0.017	3.6	40+040.000	251.367	3.6	0.017	0.060	247	251.427	3.6	0.017	0.060	247	251.488	
	251.106	247	-0.081	-0.022	3.6	251.186	247	-0.081	-0.022	3.6	40+050.000	251.267	3.6	0.022	0.081	247	251.348	3.6	0.022	0.081	247	251.428	
	250.965	247	-0.101	-0.028	3.6	251.066	247	-0.101	-0.028	3.6	40+060.000	251.167	3.6	0.028	0.101	247	251.268	3.6	0.028	0.101	247	251.369	
	250.825	247	-0.121	-0.034	3.6	250.946	247	-0.121	-0.034	3.6	40+070.000	251.067	3.6	0.034	0.121	247	251.188	3.6	0.034	0.121	247	251.309	
	250.684	247	-0.141	-0.039	3.6	250.826	247	-0.141	-0.039	3.6	40+080.000	250.967	3.6	0.039	0.141	247	251.108	3.6	0.039	0.141	247	251.250	
	250.544	247	-0.162	-0.045	3.6	250.705	247	-0.162	-0.045	3.6	40+090.000	250.867	3.6	0.045	0.162	247	251.029	3.6	0.045	0.162	247	251.190	
	250.403	247	-0.182	-0.051	3.6	250.585	247	-0.182	-0.051	3.6	40+100.000	250.767	3.6	0.051	0.182	247	250.949	3.6	0.051	0.182	247	251.131	
	250.263	247	-0.202	-0.056	3.6	250.465	247	-0.202	-0.056	3.6	40+110.000	250.667	3.6	0.056	0.202	247	250.869	3.6	0.056	0.202	247	251.071	
BEGIN FULL SUPER	250.142	247	-0.220	-0.061	3.6	250.362	247	-0.220	-0.061	3.6	40+118.582	250.581	3.6	0.061	0.220	247	250.801	3.6	0.061	0.220	247	251.020	
	250.128	247	-0.220	-0.061	3.6	250.347	247	-0.220	-0.061	3.6	40+120.000	250.567	3.6	0.061	0.220	247	250.787	3.6	0.061	0.220	247	251.006	
	249.928	247	-0.220	-0.061	3.6	250.147	247	-0.220	-0.061	3.6	40+140.000	250.367	3.6	0.061	0.220	247	250.587	3.6	0.061	0.220	247	250.806	
	249.729	247	-0.220	-0.061	3.6	249.948	247	-0.220	-0.061	3.6	40+160.000	250.168	3.6	0.061	0.220	247	250.387	3.6	0.061	0.220	247	250.607	
	249.548	247	-0.220	-0.061	3.6	249.767	247	-0.220	-0.061	3.6	40+180.000	249.987	3.6	0.061	0.220	247	250.207	3.6	0.061	0.220	247	250.426	
	249.393	247	-0.220	-0.061	3.6	249.612	247	-0.220	-0.061	3.6	40+200.000	249.832	3.6	0.061	0.220	247	250.052	3.6	0.061	0.220	247	250.271	
	249.264	247	-0.220	-0.061	3.6	249.483	247	-0.220	-0.061	3.6	40+220.000	249.703	3.6	0.061	0.220	247	249.922	3.6	0.061	0.220	247	250.142	
	249.160	247	-0.220	-0.061	3.6	249.380	247	-0.220	-0.061	3.6	40+240.000	249.599	3.6	0.061	0.220	247	249.819	3.6	0.061	0.220	247	250.038	
	249.082	247	-0.220	-0.061	3.6	249.302	247	-0.220	-0.061	3.6	40+260.000	249.521	3.6	0.061	0.220	247	249.741	3.6	0.061	0.220	247	249.961	
	249.030	247	-0.220	-0.061	3.6	249.250	247	-0.220	-0.061	3.6	40+280.000	249.469	3.6	0.061	0.220	247	249.689	3.6	0.061	0.220	247	249.908	
	249.004	247	-0.220	-0.061	3.6	249.223	247	-0.220	-0.061	3.6	40+300.000	249.443	3.6	0.061	0.220	247	249.662	3.6	0.061	0.220	247	249.882	
	249.003	247	-0.220	-0.061	3.6	249.222	247	-0.220	-0.061	3.6	40+320.000	249.442	3.6	0.061	0.220	247	249.662	3.6	0.061	0.220	247	249.881	
	249.028	247	-0.220	-0.061	3.6	249.247	247	-0.220	-0.061	3.6	40+340.000	249.467	3.6	0.061	0.220	247	249.687	3.6	0.061	0.220	247	249.906	
	249.079	247	-0.220	-0.061	3.6	249.298	247	-0.220	-0.061	3.6	40+360.000	249.518	3.6	0.061	0.220	247	249.737	3.6	0.061	0.220	247	249.957	
	249.155	247	-0.220	-0.061	3.6	249.375	247	-0.220	-0.061	3.6	40+380.000	249.594	3.6	0.061	0.220	247	249.814	3.6	0.061	0.220	247	250.033	
	249.257	247	-0.220	-0.061	3.6	249.477	247	-0.220	-0.061	3.6	40+400.000	249.696	3.6	0.061	0.220	247	249.916	3.6	0.061	0.220	247	250.136	
	249.385	247	-0.220	-0.061	3.6	249.605	247	-0.220	-0.061	3.6	40+420.000	249.824	3.6	0.061	0.220	247	250.044	3.6	0.061	0.220	247	250.263	
	249.539	247	-0.220	-0.061	3.6	249.758	247	-0.220	-0.061	3.6	40+440.000	249.978	3.6	0.061	0.220	247	250.197	3.6	0.061	0.220	247	250.417	
	249.718	247	-0.220	-0.061	3.6	249.937	247	-0.220	-0.061	3.6	40+460.000	250.157	3.6	0.061	0.220	247	250.377	3.6	0.061	0.220	247	250.596	
	249.923	247	-0.220	-0.061	3.6	250.142	247	-0.220	-0.061	3.6	40+480.000	250.362	3.6	0.061	0.220	247	250.582	3.6	0.061	0.220	247	250.801	
	250.154	247	-0.220	-0.061	3.6	250.373	247	-0.220	-0.061	3.6	40+500.000	250.593	3.6	0.061	0.220	247	250.812	3.6	0.061	0.220	247	251.032	
	250.403	247	-0.220	-0.061	3.6	250.622	247	-0.220	-0.061	3.6	40+520.000	250.842	3.6	0.061	0.220	247	251.062	3.6	0.061	0.220	247	251.281	
END FULL SUPER	250.456	247	-0.220	-0.061	3.6	250.675	247	-0.220	-0.061	3.6	40+524.225	250.895	3.6	0.061	0.220	247	251.114	3.6	0.061	0.220	247	251.334	
	250.551	247	-0.208	-0.058	3.6	250.759	247	-0.208	-0.058	3.6	40+530.000	250.967	3.6	0.058	0.208	247	251.175	3.6	0.058	0.208	247	251.383	
	250.717	247	-0.188	-0.052	3.6	250.904	247	-0.188	-0.052	3.6	40+540.000	251.092	3.6	0.052	0.188	247	251.280	3.6	0.052	0.188	247	251.467	
	250.882	247	-0.167	-0.047	3.6	251.050	247	-0.167	-0.047	3.6	40+550.000	251.217	3.6	0.047	0.167	247	251.384	3.6	0.047	0.167	247	251.552	
	251.048	247	-0.147	-0.041	3.6	251.195	247	-0.147	-0.041	3.6	40+560.000	251.342	3.6	0.041	0.147	247	251.489	3.6	0.041	0.147	247	251.636	
	251.213	247	-0.127	-0.035	3.6	251.340	247	-0.127	-0.035	3.6	40+570.000	251.467	3.6	0.035	0.127	247	251.594	3.6	0.035	0.127	247	251.721	
	251.379	247	-0.107	-0.030	3.6	251.485	247	-0.107	-0.030	3.6	40+580.000	251.592	3.6	0.030	0.107	247	251.699	3.6	0.030	0.107	247	251.805	
	251.544	247	-0.086	-0.024	3.6	251.631	247	-0.086	-0.024	3.6	40+590.000	251.717	3.6	0.024	0.086	247	251.803	3.6	0.024	0.086	247	251.890	
	251.710	247	-0.066	-0.018	3.6	251.776	247	-0.066	-0.018	3.6	40+600.000	251.842	3.6	0.018	0.066	247	251.908	3.6	0.018	0.066	247	251.974	
REVERSE CROWN	251.780	247	-0.058	-0.016	3.6	251.837	247	-0.058	-0.016	3.6	40+604.225	251.895	3.6	0.016	0.058	247	251.952	3.6	0.016	0.058	247	252.010	
	251.863	NA	-0.058	-0.016	3.6	251.921	494	-0.046	-0.013	3.6	40+610.000	251.967	3.6	0.016	0.058	NA	252.025	3.6	0.013	0.046	494	252.071	
	252.009	NA	-0.058	-0.016	3.6	252.066	494	-0.026	-0.007	3.6	40+620.000	252.092	3.6	0.016	0.058	NA	252.150	3.6	0.007	0.026	494	252.175	
	252.154	NA	-0.058	-0.016	3.6	252.212	494	-0.005	-0.002	3.6	40+630.000	252.217	3.6	0.016	0.058	NA	252.275	3.6	0.002	0.005	494	252.280	

US 33 MAINLINE SUPERELEVATION TABLE

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SUPERELEVATION TABLE FOR 4-LANE ROADWAY

PI STA 40+324.908 | R=900.000 m

CURVE 9

CALCULATED BBD | CHECKED TDW

REMARKS	OUTSIDE LANE					INSIDE LANE					PROFILE GRADE LINE		INSIDE LANE					OUTSIDE LANE					REMARKS
	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	HINGE POINT ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	HINGE POINT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
HALF FLAT	252.193	NA	-0.058	-0.016	3.6	252.250	494	0.000	0.000	3.6	40+632.669	252.250	3.6	0.016	0.058	NA	252.308	3.6	0.000	0.000	494	252.308	
	252.299	NA	-0.058	-0.016	3.6	252.357	494	0.015	0.004	3.6	40+640.000	252.342	3.6	0.016	0.058	NA	252.400	3.6	-0.004	-0.015	494	252.385	
	252.444	NA	-0.058	-0.016	3.6	252.502	494	0.035	0.010	3.6	40+650.000	252.467	3.6	0.016	0.058	NA	252.525	3.6	-0.010	-0.035	494	252.490	
	252.590	NA	-0.058	-0.016	3.6	252.647	494	0.055	0.015	3.6	40+660.000	252.592	3.6	0.016	0.058	NA	252.650	3.6	-0.015	-0.055	494	252.594	
END SUPER TRANS	252.606	NA	-0.058	-0.016	3.6	252.664	494	0.058	0.016	3.6	40+661.114	252.606	3.6	0.016	0.058	NA	252.664	3.6	-0.016	-0.058	494	252.606	
	252.717	NA	-0.058	-0.016	3.6	252.775	NA	0.058	0.016	3.6	40+670.000	252.717	3.6	0.016	0.058	NA	252.775	3.6	-0.016	-0.058	NA	252.717	

US 33 MAINLINE SUPERELEVATION TABLE

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SUPERELEVATION TABLE FOR 4-LANE ROADWAY

PI STA 41+430.508 R=900.000 m

CURVE 10

CALCULATED BBD | CHECKED TDW

REMARKS	OUTSIDE LANE					INSIDE LANE					PROFILE GRADE LINE		INSIDE LANE					OUTSIDE LANE					REMARKS
	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	HINGE POINT ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	HINGE POINT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
	257.217	NA	-0.058	-0.016	3.6	257.275	NA	0.058	0.016	3.6	41+030.000	257.217	3.6	0.016	0.058	NA	257.275	3.6	-0.016	-0.058	NA	257.217	
	257.342	NA	-0.058	-0.016	3.6	257.400	NA	0.058	0.016	3.6	41+040.000	257.342	3.6	0.016	0.058	NA	257.400	3.6	-0.016	-0.058	NA	257.342	
BEGIN SE TRANS	257.373	494	-0.058	-0.016	3.6	257.430	NA	0.058	0.016	3.6	41+042.469	257.373	3.6	0.016	0.058	494	257.430	3.6	-0.016	-0.058	NA	257.373	
	257.482	494	-0.042	-0.012	3.6	257.525	NA	0.058	0.016	3.6	41+050.000	257.467	3.6	0.012	0.042	494	257.509	3.6	-0.016	-0.058	NA	257.452	
	257.628	494	-0.022	-0.006	3.6	257.650	NA	0.058	0.016	3.6	41+060.000	257.592	3.6	0.006	0.022	494	257.614	3.6	-0.016	-0.058	NA	257.556	
	257.773	494	-0.002	-0.001	3.6	257.775	NA	0.058	0.016	3.6	41+070.000	257.717	3.6	0.001	0.002	494	257.719	3.6	-0.016	-0.058	NA	257.661	
HALF FLAT	257.786	494	0.000	0.000	3.6	257.786	NA	0.058	0.016	3.6	41+070.914	257.728	3.6	0.000	0.000	494	257.728	3.6	-0.016	-0.058	NA	257.671	
	257.918	494	0.018	0.005	3.6	257.900	NA	0.058	0.016	3.6	41+080.000	257.842	3.6	-0.005	-0.018	494	257.824	3.6	-0.016	-0.058	NA	257.766	
	258.063	494	0.039	0.011	3.6	258.025	NA	0.058	0.016	3.6	41+090.000	257.967	3.6	-0.011	-0.039	494	257.928	3.6	-0.016	-0.058	NA	257.871	
REVERSE CROWN	258.199	494	0.058	0.016	3.6	258.142	NA	0.058	0.016	3.6	41+099.358	258.084	3.6	-0.016	-0.058	494	258.026	3.6	-0.016	-0.058	NA	257.969	
	258.210	247	0.059	0.016	3.6	258.151	247	0.059	0.016	3.6	41+100.000	258.092	3.6	-0.016	-0.059	247	258.033	3.6	-0.016	-0.059	247	257.974	
	258.375	247	0.079	0.022	3.6	258.296	247	0.079	0.022	3.6	41+110.000	258.217	3.6	-0.022	-0.079	247	258.138	3.6	-0.022	-0.079	247	258.059	
	258.541	247	0.099	0.028	3.6	258.441	247	0.099	0.028	3.6	41+120.000	258.342	3.6	-0.028	-0.099	247	258.243	3.6	-0.028	-0.099	247	258.143	
	258.706	247	0.120	0.033	3.6	258.587	247	0.120	0.033	3.6	41+130.000	258.467	3.6	-0.033	-0.120	247	258.347	3.6	-0.033	-0.120	247	258.228	
	258.872	247	0.140	0.039	3.6	258.732	247	0.140	0.039	3.6	41+140.000	258.592	3.6	-0.039	-0.140	247	258.452	3.6	-0.039	-0.140	247	258.312	
	259.037	247	0.160	0.044	3.6	258.877	247	0.160	0.044	3.6	41+150.000	258.717	3.6	-0.044	-0.160	247	258.557	3.6	-0.044	-0.160	247	258.397	
	259.203	247	0.180	0.050	3.6	259.022	247	0.180	0.050	3.6	41+160.000	258.842	3.6	-0.050	-0.180	247	258.662	3.6	-0.050	-0.180	247	258.481	
	259.368	247	0.201	0.056	3.6	259.168	247	0.201	0.056	3.6	41+170.000	258.967	3.6	-0.056	-0.201	247	258.766	3.6	-0.056	-0.201	247	258.566	
BEGIN FULL SUPER	259.523	247	0.220	0.061	3.6	259.304	247	0.220	0.061	3.6	41+179.358	259.084	3.6	-0.061	-0.220	247	258.864	3.6	-0.061	-0.220	247	258.645	
	259.531	247	0.220	0.061	3.6	259.312	247	0.220	0.061	3.6	41+180.000	259.092	3.6	-0.061	-0.220	247	258.872	3.6	-0.061	-0.220	247	258.653	
	259.781	247	0.220	0.061	3.6	259.562	247	0.220	0.061	3.6	41+200.000	259.342	3.6	-0.061	-0.220	247	259.122	3.6	-0.061	-0.220	247	258.903	
	260.031	247	0.220	0.061	3.6	259.812	247	0.220	0.061	3.6	41+220.000	259.592	3.6	-0.061	-0.220	247	259.372	3.6	-0.061	-0.220	247	259.153	
	260.281	247	0.220	0.061	3.6	260.062	247	0.220	0.061	3.6	41+240.000	259.842	3.6	-0.061	-0.220	247	259.622	3.6	-0.061	-0.220	247	259.403	
	260.531	247	0.220	0.061	3.6	260.312	247	0.220	0.061	3.6	41+260.000	260.092	3.6	-0.061	-0.220	247	259.872	3.6	-0.061	-0.220	247	259.653	
	260.781	247	0.220	0.061	3.6	260.562	247	0.220	0.061	3.6	41+280.000	260.342	3.6	-0.061	-0.220	247	260.122	3.6	-0.061	-0.220	247	259.903	
	261.031	247	0.220	0.061	3.6	260.812	247	0.220	0.061	3.6	41+300.000	260.592	3.6	-0.061	-0.220	247	260.372	3.6	-0.061	-0.220	247	260.153	
	261.281	247	0.220	0.061	3.6	261.062	247	0.220	0.061	3.6	41+320.000	260.842	3.6	-0.061	-0.220	247	260.622	3.6	-0.061	-0.220	247	260.403	
	261.531	247	0.220	0.061	3.6	261.312	247	0.220	0.061	3.6	41+340.000	261.092	3.6	-0.061	-0.220	247	260.872	3.6	-0.061	-0.220	247	260.653	
	261.781	247	0.220	0.061	3.6	261.562	247	0.220	0.061	3.6	41+360.000	261.342	3.6	-0.061	-0.220	247	261.122	3.6	-0.061	-0.220	247	260.903	
	262.031	247	0.220	0.061	3.6	261.812	247	0.220	0.061	3.6	41+380.000	261.592	3.6	-0.061	-0.220	247	261.372	3.6	-0.061	-0.220	247	261.153	
	262.281	247	0.220	0.061	3.6	262.062	247	0.220	0.061	3.6	41+400.000	261.842	3.6	-0.061	-0.220	247	261.622	3.6	-0.061	-0.220	247	261.403	
	262.531	247	0.220	0.061	3.6	262.312	247	0.220	0.061	3.6	41+420.000	262.092	3.6	-0.061	-0.220	247	261.872	3.6	-0.061	-0.220	247	261.653	
	262.781	247	0.220	0.061	3.6	262.562	247	0.220	0.061	3.6	41+440.000	262.342	3.6	-0.061	-0.220	247	262.122	3.6	-0.061	-0.220	247	261.903	
	263.031	247	0.220	0.061	3.6	262.812	247	0.220	0.061	3.6	41+460.000	262.592	3.6	-0.061	-0.220	247	262.372	3.6	-0.061	-0.220	247	262.153	
	263.281	247	0.220	0.061	3.6	263.062	247	0.220	0.061	3.6	41+480.000	262.842	3.6	-0.061	-0.220	247	262.622	3.6	-0.061	-0.220	247	262.403	
	263.531	247	0.220	0.061	3.6	263.312	247	0.220	0.061	3.6	41+500.000	263.092	3.6	-0.061	-0.220	247	262.872	3.6	-0.061	-0.220	247	262.653	
	263.781	247	0.220	0.061	3.6	263.562	247	0.220	0.061	3.6	41+520.000	263.342	3.6	-0.061	-0.220	247	263.122	3.6	-0.061	-0.220	247	262.903	
	264.031	247	0.220	0.061	3.6	263.812	247	0.220	0.061	3.6	41+540.000	263.592	3.6	-0.061	-0.220	247	263.372	3.6	-0.061	-0.220	247	263.153	
	264.281	247	0.220	0.061	3.6	264.062	247	0.220	0.061	3.6	41+560.000	263.842	3.6	-0.061	-0.220	247	263.622	3.6	-0.061	-0.220	247	263.403	
	264.531	247	0.220	0.061	3.6	264.312	247	0.220	0.061	3.6	41+580.000	264.092	3.6	-0.061	-0.220	247	263.872	3.6	-0.061	-0.220	247	263.653	
	264.781	247	0.220	0.061	3.6	264.562	247	0.220	0.061	3.6	41+600.000	264.342	3.6	-0.061	-0.220	247	264.122	3.6	-0.061	-0.220	247	263.903	
	265.031	247	0.220	0.061	3.6	264.812	247	0.220	0.061	3.6	41+620.000	264.592	3.6	-0.061	-0.220	247	264.372	3.6	-0.061	-0.220	247	264.153	
	265.281	247	0.220	0.061	3.6	265.062	247	0.220	0.061	3.6	41+640.000	264.842	3.6	-0.061	-0.220	247	264.622	3.6	-0.061	-0.220	247	264.403	
	265.531	247	0.220	0.061	3.6	265.312	247	0.220	0.061	3.6	41+660.000	265.092	3.6	-0.061	-0.220	247	264.872	3.6	-0.061	-0.220	247	264.653	
END FULL SUPER	265.646	247	0.220	0.061	3.6	265.427	247	0.220	0.061	3.6	41+669.196	265.207	3.6	-0.061	-0.220	247	264.987	3.6	-0.061	-0.220	247	264.768	
	265.653	247	0.218	0.061	3.6	265.435	247	0.218	0.061	3.6	41+670.000	265.217	3.6	-0.061	-0.218	247	264.999	3.6	-0.061	-0.218	247	264.781	
	265.737	247	0.198	0.055	3.6	265.540	247	0.198	0.055	3.6	41+680.000	265.342	3.6	-0.055	-0.198	247	265.144	3.6	-0.055	-0.198	247	264.947	
	265.822	247	0.177	0.049	3.6	265.644	247	0.177	0.049	3.6	41+690.000	265.467	3.6	-0.049	-0.177	247	265.290	3.6	-0.049	-0.177	247	265.112	
	265.906	247	0.157	0.044	3.6	265.749	247	0.157	0.044	3.6	41+700.000	265.592	3.6	-0.044	-0.157	247	265.435	3.6	-0.044	-0.157	247	265.278	
	265.991	247	0.137	0.038	3.6	265.854	247	0.137	0.038	3.6	41+710.000	265.717	3.6	-0.038	-0.137	247	265.580	3.6	-0.038	-0.137	247	265.443	
	266.075	247	0.117	0.032	3.6	265.959	247	0.117	0.032	3.6	41+720.000	265.842	3.6	-0.032	-0.117	247	265.725	3.6	-0.032	-0.117	247	265.609	
	266.160	247	0.096	0.027	3.6	266.063	247	0.096	0.027	3.6	41+730.000	265.967	3.6	-0.027	-0.096	247	265.871	3.6	-0.027	-0.096	247	265.774	
	266.244	247	0.076	0.021	3.6	266.168	247	0.076	0.021	3.6	41+740.000	266.092	3.6	-0.021	-0.076	247	266.016	3.6	-0.021	-0.076	247	265.940	

US 33 MAINLINE SUPERELEVATION TABLE

ATH-33-40.981

SUPERELEVATION TABLE FOR 4-LANE ROADWAY

PI STA 41+430.508 | R=900.000 m

CURVE 10

REMARKS	OUTSIDE LANE					INSIDE LANE					PROFILE GRADE LINE		INSIDE LANE					OUTSIDE LANE					REMARKS
	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	HINGE POINT ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	ELEVATION	WIDTH	CROSS SLOPE	CORRECTION	TRANSITION RATE	HINGE POINT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
REVERSE CROWN	266.322	247	0.058	0.016	3.6	266.265	247	0.058	0.016	3.6	41+749.196	266.207	3.6	-0.016	-0.058	247	266.149	3.6	-0.016	-0.058	247	266.092	
	266.331	494	0.056	0.016	3.6	266.275	NA	0.058	0.016	3.6	41+750.000	266.217	3.6	-0.016	-0.056	494	266.161	3.6	-0.016	-0.058	NA	266.103	
	266.435	494	0.036	0.010	3.6	266.400	NA	0.058	0.016	3.6	41+760.000	266.342	3.6	-0.010	-0.036	494	266.306	3.6	-0.016	-0.058	NA	266.249	
	266.540	494	0.015	0.004	3.6	266.525	NA	0.058	0.016	3.6	41+770.000	266.467	3.6	-0.004	-0.015	494	266.452	3.6	-0.016	-0.058	NA	266.394	
HALF FLAT	266.620	494	0.000	0.000	3.6	266.620	NA	0.058	0.016	3.6	41+777.640	266.563	3.6	0.000	0.000	494	266.563	3.6	-0.016	-0.058	NA	266.505	
	266.645	494	-0.005	-0.001	3.6	266.650	NA	0.058	0.016	3.6	41+780.000	266.592	3.6	0.001	0.005	494	266.597	3.6	-0.016	-0.058	NA	266.539	
	266.750	494	-0.025	-0.007	3.6	266.775	NA	0.058	0.016	3.6	41+790.000	266.717	3.6	0.007	0.025	494	266.742	3.6	-0.016	-0.058	NA	266.684	
	266.854	494	-0.045	-0.013	3.6	266.900	NA	0.058	0.016	3.6	41+800.000	266.842	3.6	0.013	0.045	494	266.887	3.6	-0.016	-0.058	NA	266.830	
END SUPER TRANS	266.918	494	-0.058	-0.016	3.6	266.976	NA	0.058	0.016	3.6	41+806.085	266.918	3.6	0.016	0.058	494	266.976	3.6	-0.016	-0.058	NA	266.918	
	266.967	NA	-0.058	-0.016	3.6	267.025	NA	0.058	0.016	3.6	41+810.000	266.967	3.6	0.016	0.058	NA	267.025	3.6	-0.016	-0.058	NA	266.967	

CALCULATED BBD CHECKED TDW

US 33 MAINLINE SUPERELEVATION TABLE

ATH-33-40.981

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SUPERELEVATION TABLE FOR 4-LANE ROADWAY

PI STA 42+815.547 | R=1500.000 m

CURVE 11

CALCULATED BBD | CHECKED TDW

REMARKS	OUTSIDE LANE					INSIDE LANE					PROFILE GRADE LINE		INSIDE LANE					OUTSIDE LANE					REMARKS
	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	HINGE POINT ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	HINGE POINT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
BEGIN SE TRANS	270.699	NA	-0.058	-0.016	3.6	270.756	NA	0.109	0.016	6.833	42+492.530	270.647	3.6	0.016	0.058	NA	270.705	3.6	-0.016	-0.058	490	270.647	
	270.613	NA	-0.058	-0.016	3.6	270.671	490	0.079	0.012	6.720	42+500.000	270.592	3.6	0.016	0.058	NA	270.650	3.6	-0.012	-0.042	490	270.607	
	270.499	NA	-0.058	-0.016	3.6	270.557	490	0.040	0.006	6.570	42+510.000	270.517	3.6	0.016	0.058	NA	270.575	3.6	-0.006	-0.022	490	270.553	
	270.387	NA	-0.058	-0.016	3.6	270.445	490	0.003	0.000	6.420	42+520.000	270.442	3.6	0.016	0.058	NA	270.500	3.6	0.000	-0.002	490	270.498	
HALF FLAT	270.379	NA	-0.058	-0.016	3.6	270.436	490	0.000	0.000	6.409	42+520.754	270.436	3.6	0.016	0.058	NA	270.494	3.6	0.000	0.000	490	270.494	
	270.277	NA	-0.058	-0.016	3.6	270.334	490	-0.033	-0.005	6.270	42+530.000	270.367	3.6	0.016	0.058	NA	270.425	3.6	0.005	0.019	490	270.443	
	270.168	NA	-0.058	-0.016	3.6	270.225	490	-0.067	-0.011	6.120	42+540.000	270.292	3.6	0.016	0.058	NA	270.350	3.6	0.011	0.039	490	270.389	
REVERSE CROWN	270.071	NA	-0.058	-0.016	3.6	270.129	490	-0.096	-0.016	5.985	42+548.978	270.225	3.6	0.016	0.058	NA	270.282	3.6	0.016	0.058	490	270.340	
	270.058	245	-0.060	-0.017	3.6	270.118	245	-0.099	-0.017	5.970	42+550.000	270.217	3.6	0.017	0.060	245	270.277	3.6	0.017	0.060	245	270.336	
	269.932	245	-0.080	-0.022	3.6	270.013	245	-0.129	-0.022	5.820	42+560.000	270.142	3.6	0.022	0.080	245	270.222	3.6	0.022	0.080	245	270.302	
PC STATION	269.833	245	-0.096	-0.027	3.6	269.929	245	-0.153	-0.027	5.699	42+568.029	270.082	3.6	0.027	0.096	245	270.178	3.6	0.027	0.096	245	270.275	
	269.808	245	-0.101	-0.028	3.6	269.909	245	-0.158	-0.028	5.670	42+570.000	270.067	3.6	0.028	0.101	245	270.168	3.6	0.028	0.101	245	270.268	
	269.686	245	-0.121	-0.034	3.6	269.807	245	-0.185	-0.034	5.519	42+580.000	269.992	3.6	0.034	0.121	245	270.113	3.6	0.034	0.121	245	270.234	
	269.565	245	-0.141	-0.039	3.6	269.706	245	-0.211	-0.039	5.369	42+590.000	269.917	3.6	0.039	0.141	245	270.058	3.6	0.039	0.141	245	270.200	
BEGIN FULL SUPER	269.549	245	-0.144	-0.040	3.6	269.693	245	-0.214	-0.040	5.350	42+591.314	269.907	3.6	0.040	0.144	245	270.051	3.6	0.040	0.144	245	270.195	
	269.489	245	-0.144	-0.040	3.6	269.633	245	-0.209	-0.040	5.219	42+600.000	269.842	3.6	0.040	0.144	245	269.986	3.6	0.040	0.144	245	270.130	
	269.351	245	-0.144	-0.040	3.6	269.495	245	-0.197	-0.040	4.919	42+620.000	269.692	3.6	0.040	0.144	245	269.836	3.6	0.040	0.144	245	269.980	
	269.213	245	-0.144	-0.040	3.6	269.357	245	-0.185	-0.040	4.619	42+640.000	269.542	3.6	0.040	0.144	245	269.686	3.6	0.040	0.144	245	269.830	
	269.075	245	-0.144	-0.040	3.6	269.219	245	-0.173	-0.040	4.318	42+660.000	269.392	3.6	0.040	0.144	245	269.536	3.6	0.040	0.144	245	269.680	
	268.937	245	-0.144	-0.040	3.6	269.081	245	-0.161	-0.040	4.018	42+680.000	269.242	3.6	0.040	0.144	245	269.386	3.6	0.040	0.144	245	269.530	
	268.799	245	-0.144	-0.040	3.6	268.943	245	-0.149	-0.040	3.718	42+700.000	269.092	3.6	0.040	0.144	245	269.236	3.6	0.040	0.144	245	269.380	
END LANE TRANS	268.745	245	-0.144	-0.040	3.6	268.889	245	-0.144	-0.040	3.6	42+707.855	269.033	3.6	0.040	0.144	245	269.177	3.6	0.040	0.144	245	269.321	
	268.729	245	-0.144	-0.040	3.6	268.873	245	-0.144	-0.040	3.6	42+710.000	269.017	3.6	0.040	0.144	245	269.161	3.6	0.040	0.144	245	269.305	
	268.579	245	-0.144	-0.040	3.6	268.723	245	-0.144	-0.040	3.6	42+730.000	268.867	3.6	0.040	0.144	245	269.011	3.6	0.040	0.144	245	269.155	
	268.429	245	-0.144	-0.040	3.6	268.573	245	-0.144	-0.040	3.6	42+750.000	268.717	3.6	0.040	0.144	245	268.861	3.6	0.040	0.144	245	269.005	
	268.279	245	-0.144	-0.040	3.6	268.423	245	-0.144	-0.040	3.6	42+770.000	268.567	3.6	0.040	0.144	245	268.711	3.6	0.040	0.144	245	268.855	
	268.129	245	-0.144	-0.040	3.6	268.273	245	-0.144	-0.040	3.6	42+790.000	268.417	3.6	0.040	0.144	245	268.561	3.6	0.040	0.144	245	268.705	
	267.979	245	-0.144	-0.040	3.6	268.123	245	-0.144	-0.040	3.6	42+810.000	268.267	3.6	0.040	0.144	245	268.411	3.6	0.040	0.144	245	268.555	
	267.829	245	-0.144	-0.040	3.6	267.973	245	-0.144	-0.040	3.6	42+830.000	268.117	3.6	0.040	0.144	245	268.261	3.6	0.040	0.144	245	268.405	
	267.679	245	-0.144	-0.040	3.6	267.823	245	-0.144	-0.040	3.6	42+850.000	267.967	3.6	0.040	0.144	245	268.111	3.6	0.040	0.144	245	268.255	
	267.529	245	-0.144	-0.040	3.6	267.673	245	-0.144	-0.040	3.6	42+870.000	267.817	3.6	0.040	0.144	245	267.961	3.6	0.040	0.144	245	268.105	
	267.379	245	-0.144	-0.040	3.6	267.523	245	-0.144	-0.040	3.6	42+890.000	267.667	3.6	0.040	0.144	245	267.811	3.6	0.040	0.144	245	267.955	
	267.229	245	-0.144	-0.040	3.6	267.373	245	-0.144	-0.040	3.6	42+910.000	267.517	3.6	0.040	0.144	245	267.661	3.6	0.040	0.144	245	267.805	
	267.079	245	-0.144	-0.040	3.6	267.223	245	-0.144	-0.040	3.6	42+930.000	267.367	3.6	0.040	0.144	245	267.511	3.6	0.040	0.144	245	267.655	
	266.929	245	-0.144	-0.040	3.6	267.073	245	-0.144	-0.040	3.6	42+950.000	267.217	3.6	0.040	0.144	245	267.361	3.6	0.040	0.144	245	267.505	
	266.779	245	-0.144	-0.040	3.6	266.923	245	-0.144	-0.040	3.6	42+970.000	267.067	3.6	0.040	0.144	245	267.211	3.6	0.040	0.144	245	267.355	
	266.629	245	-0.144	-0.040	3.6	266.773	245	-0.144	-0.040	3.6	42+990.000	266.917	3.6	0.040	0.144	245	267.061	3.6	0.040	0.144	245	267.205	
	266.479	245	-0.144	-0.040	3.6	266.623	245	-0.144	-0.040	3.6	43+010.000	266.767	3.6	0.040	0.144	245	266.911	3.6	0.040	0.144	245	267.055	
	266.329	245	-0.144	-0.040	3.6	266.473	245	-0.144	-0.040	3.6	43+030.000	266.617	3.6	0.040	0.144	245	266.761	3.6	0.040	0.144	245	266.905	
END FULL SUPER	266.289	245	-0.144	-0.040	3.6	266.433	245	-0.144	-0.040	3.6	43+035.358	266.577	3.6	0.040	0.144	245	266.721	3.6	0.040	0.144	245	266.865	
	266.273	245	-0.135	-0.037	3.6	266.407	245	-0.135	-0.037	3.6	43+040.000	266.542	3.6	0.037	0.135	245	266.677	3.6	0.037	0.135	245	266.811	
	266.239	245	-0.114	-0.032	3.6	266.353	245	-0.114	-0.032	3.6	43+050.000	266.467	3.6	0.032	0.114	245	266.581	3.6	0.032	0.114	245	266.695	
PT STATION	266.209	245	-0.096	-0.027	3.6	266.306	245	-0.096	-0.027	3.6	43+058.643	266.402	3.6	0.011	0.039	245	266.441	3.6	0.011	0.039	245	266.480	
	266.205	245	-0.094	-0.026	3.6	266.298	245	-0.094	-0.026	3.6	43+060.000	266.392	3.6	0.026	0.094	245	266.486	3.6	0.026	0.094	245	266.579	
	266.170	245	-0.073	-0.020	3.6	266.244	245	-0.073	-0.020	3.6	43+070.000	266.317	3.6	0.020	0.073	245	266.390	3.6	0.020	0.073	245	266.464	
REVERSE CROWN	266.144	245	-0.058	-0.016	3.6	266.202	245	-0.058	-0.016	3.6	43+077.694	266.259	3.6	0.016	0.058	245	266.317	3.6	0.016	0.058	245	266.374	
	266.132	NA	-0.058	-0.016	3.6	266.189	490	-0.053	-0.015	3.6	43+080.000	266.242	3.6	0.016	0.058	NA	266.300	3.6	0.015	0.053	490	266.352	
	266.077	NA	-0.058	-0.016	3.6	266.135	490	-0.032	-0.009	3.6	43+090.000	266.167	3.6	0.016	0.058	NA	266.225	3.6	0.009	0.032	490	266.257	
	266.022	NA	-0.058	-0.016	3.6	266.080	490	-0.012	-0.003	3.6	43+100.000	266.092	3.6	0.016	0.058	NA	266.150	3.6	0.003	0.012	490	266.162	
HALF FLAT	265.990	NA	-0.058	-0.016	3.6	266.048	490	0.000	0.000	3.6	43+105.918	266.048	3.6	0.016	0.058	NA	266.105	3.6	0.000	0.000	490	266.105	
	265.968	NA	-0.058	-0.016	3.6	266.025	490	0.008	0.002	3.6	43+110.000	266.017	3.6	0.016	0.058	NA	266.075	3.6	-0.002	-0.008	490	266.066	
	265.913	NA	-0.058	-0.016	3.6	265.971	490	0.029	0.008	3.6	43+120.000	265.942	3.6	0.016	0.058	NA	266.000	3.6	-0.008	-0.029	490	265.971	
	265.859	NA	-0.058	-0.016	3.6	265.916	490	0.049	0.014	3.6	43+130.000	265.867	3.6	0.016	0.058	NA	265.925	3.6	-0.014	-0.049	490	265.875	
END SUPER TRANS	265.836	NA	-0.058	-0.016	3.6	265.894	490	0.058	0.016	3.6	43+134.142	265.836	3.6	0.016	0.058	NA	265.894	3.6	-0.016	-0.058	490	265.836	
	265.792	NA	-0.058	-0.016	3.6	265.850	NA	0.058	0.016	3.6	43+140.000	265.792	3.6	0.016	0.058	NA	265.850	3.6	-0.016	-0.058	NA	265.792	

US 33 MAINLINE SUPERELEVATION TABLE

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SUPERELEVATION TABLE FOR 4-LANE ROADWAY

PI STA 47+568.971 | R=2250.000 m

CURVE 12

CALCULATED BBD | CHECKED TOW

REMARKS	OUTSIDE LANE					INSIDE LANE					PROFILE GRADE LINE		INSIDE LANE					OUTSIDE LANE					REMARKS
	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	HINGE POINT ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	HINGE POINT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
	238.085	NA	-0.058	-0.016	3.6	238.143	NA	0.058	0.016	3.6	47+230.000	238.085	3.6	0.016	0.058	NA	238.143	3.6	-0.016	-0.058	NA	238.085	
BEGIN SE TRANS	237.976	NA	-0.058	-0.016	3.6	238.034	NA	0.058	0.016	3.6	47+238.374	237.976	3.6	0.016	0.058	NA	238.034	3.6	-0.016	-0.058	490	237.976	
	237.952	NA	-0.058	-0.016	3.6	238.009	490	0.054	0.015	3.6	47+240.000	237.955	3.6	0.016	0.058	NA	238.013	3.6	-0.015	-0.054	490	237.958	
	237.801	NA	-0.058	-0.016	3.6	237.859	490	0.034	0.009	3.6	47+250.000	237.825	3.6	0.016	0.058	NA	237.883	3.6	-0.009	-0.034	490	237.849	
	237.651	NA	-0.058	-0.016	3.6	237.708	490	0.013	0.004	3.6	47+260.000	237.695	3.6	0.016	0.058	NA	237.753	3.6	-0.004	-0.013	490	237.739	
HALF FLAT	237.552	NA	-0.058	-0.016	3.6	237.609	490	0.000	0.000	3.6	47+266.598	237.609	3.6	0.016	0.058	NA	237.667	3.6	0.000	0.000	490	237.667	
	237.500	NA	-0.058	-0.016	3.6	237.558	490	-0.007	-0.002	3.6	47+270.000	237.565	3.6	0.016	0.058	NA	237.623	3.6	0.002	0.007	490	237.630	
	237.350	NA	-0.058	-0.016	3.6	237.408	490	-0.027	-0.008	3.6	47+280.000	237.435	3.6	0.016	0.058	NA	237.493	3.6	0.008	0.027	490	237.520	
	237.200	NA	-0.058	-0.016	3.6	237.257	490	-0.048	-0.013	3.6	47+290.000	237.305	3.6	0.016	0.058	NA	237.363	3.6	0.013	0.048	490	237.410	
REVERSE CROWN	237.127	NA	-0.058	-0.016	3.6	237.185	490	-0.058	-0.016	3.6	47+294.822	237.242	3.6	0.016	0.058	NA	237.300	3.6	0.016	0.058	490	237.358	
PC STATION	237.044	245	-0.068	-0.019	3.6	237.111	245	-0.068	-0.019	3.6	47+299.691	237.179	3.6	0.019	0.068	NA	237.247	3.6	0.019	0.068	490	237.314	
	237.039	245	-0.068	-0.019	3.6	237.107	245	-0.068	-0.019	3.6	47+300.000	237.175	3.6	0.019	0.068	245	237.243	3.6	0.019	0.068	245	237.311	
	236.868	245	-0.089	-0.025	3.6	236.956	245	-0.089	-0.025	3.6	47+310.000	237.045	3.6	0.025	0.089	245	237.134	3.6	0.025	0.089	245	237.222	
BEGIN FULL SUPER	236.766	245	-0.101	-0.028	3.6	236.866	245	-0.101	-0.028	3.6	47+315.990	236.967	3.6	0.028	0.101	245	237.068	3.6	0.028	0.101	245	237.169	
	236.713	245	-0.101	-0.028	3.6	236.814	245	-0.101	-0.028	3.6	47+320.000	236.915	3.6	0.028	0.101	245	237.016	3.6	0.028	0.101	245	237.117	
	236.453	245	-0.101	-0.028	3.6	236.554	245	-0.101	-0.028	3.6	47+340.000	236.655	3.6	0.028	0.101	245	236.756	3.6	0.028	0.101	245	236.857	
	236.193	245	-0.101	-0.028	3.6	236.294	245	-0.101	-0.028	3.6	47+360.000	236.395	3.6	0.028	0.101	245	236.496	3.6	0.028	0.101	245	236.597	
	235.933	245	-0.101	-0.028	3.6	236.034	245	-0.101	-0.028	3.6	47+380.000	236.135	3.6	0.028	0.101	245	236.236	3.6	0.028	0.101	245	236.337	
	235.673	245	-0.101	-0.028	3.6	235.774	245	-0.101	-0.028	3.6	47+400.000	235.875	3.6	0.028	0.101	245	235.976	3.6	0.028	0.101	245	236.077	
	235.413	245	-0.101	-0.028	3.6	235.514	245	-0.101	-0.028	3.6	47+420.000	235.615	3.6	0.028	0.101	245	235.716	3.6	0.028	0.101	245	235.817	
	235.153	245	-0.101	-0.028	3.6	235.254	245	-0.101	-0.028	3.6	47+440.000	235.355	3.6	0.028	0.101	245	235.456	3.6	0.028	0.101	245	235.557	
	234.893	245	-0.101	-0.028	3.6	234.994	245	-0.101	-0.028	3.6	47+460.000	235.095	3.6	0.028	0.101	245	235.196	3.6	0.028	0.101	245	235.297	
	234.633	245	-0.101	-0.028	3.6	234.734	245	-0.101	-0.028	3.6	47+480.000	234.835	3.6	0.028	0.101	245	234.936	3.6	0.028	0.101	245	235.037	
	234.373	245	-0.101	-0.028	3.6	234.474	245	-0.101	-0.028	3.6	47+500.000	234.575	3.6	0.028	0.101	245	234.676	3.6	0.028	0.101	245	234.777	
	234.113	245	-0.101	-0.028	3.6	234.214	245	-0.101	-0.028	3.6	47+520.000	234.315	3.6	0.028	0.101	245	234.416	3.6	0.028	0.101	245	234.517	
	233.853	245	-0.101	-0.028	3.6	233.954	245	-0.101	-0.028	3.6	47+540.000	234.055	3.6	0.028	0.101	245	234.156	3.6	0.028	0.101	245	234.257	
	233.593	245	-0.101	-0.028	3.6	233.694	245	-0.101	-0.028	3.6	47+560.000	233.795	3.6	0.028	0.101	245	233.896	3.6	0.028	0.101	245	233.997	
	233.333	245	-0.101	-0.028	3.6	233.434	245	-0.101	-0.028	3.6	47+580.000	233.535	3.6	0.028	0.101	245	233.636	3.6	0.028	0.101	245	233.737	
	233.073	245	-0.101	-0.028	3.6	233.174	245	-0.101	-0.028	3.6	47+600.000	233.275	3.6	0.028	0.101	245	233.376	3.6	0.028	0.101	245	233.477	
	232.813	245	-0.101	-0.028	3.6	232.914	245	-0.101	-0.028	3.6	47+620.000	233.015	3.6	0.028	0.101	245	233.116	3.6	0.028	0.101	245	233.217	
	232.553	245	-0.101	-0.028	3.6	232.654	245	-0.101	-0.028	3.6	47+640.000	232.755	3.6	0.028	0.101	245	232.856	3.6	0.028	0.101	245	232.957	
	232.293	245	-0.101	-0.028	3.6	232.394	245	-0.101	-0.028	3.6	47+660.000	232.495	3.6	0.028	0.101	245	232.596	3.6	0.028	0.101	245	232.697	
	232.033	245	-0.101	-0.028	3.6	232.134	245	-0.101	-0.028	3.6	47+680.000	232.235	3.6	0.028	0.101	245	232.336	3.6	0.028	0.101	245	232.437	
	231.773	245	-0.101	-0.028	3.6	231.874	245	-0.101	-0.028	3.6	47+700.000	231.975	3.6	0.028	0.101	245	232.076	3.6	0.028	0.101	245	232.177	
	231.513	245	-0.101	-0.028	3.6	231.614	245	-0.101	-0.028	3.6	47+720.000	231.715	3.6	0.028	0.101	245	231.816	3.6	0.028	0.101	245	231.917	
	231.253	245	-0.101	-0.028	3.6	231.354	245	-0.101	-0.028	3.6	47+740.000	231.455	3.6	0.028	0.101	245	231.556	3.6	0.028	0.101	245	231.657	
	230.993	245	-0.101	-0.028	3.6	231.094	245	-0.101	-0.028	3.6	47+760.000	231.195	3.6	0.028	0.101	245	231.296	3.6	0.028	0.101	245	231.397	
BEGIN TAPER	230.668	245	-0.101	-0.028	3.6	230.769	245	-0.101	-0.028	3.6	47+785.000	230.870	3.6	0.028	0.101	245	230.971	3.6	0.028	0.101	245	231.072	
	230.601	245	-0.101	-0.028	3.6	230.702	245	-0.103	-0.028	3.675	47+790.000	230.805	3.6	0.028	0.101	245	230.906	3.6	0.028	0.101	245	231.007	
	230.467	245	-0.101	-0.028	3.6	230.568	245	-0.107	-0.028	3.825	47+800.000	230.675	3.6	0.028	0.101	245	230.776	3.6	0.028	0.101	245	230.877	
END FULL SUPER	230.207	245	-0.101	-0.028	3.6	230.308	245	-0.115	-0.028	4.116	47+819.402	230.423	3.6	0.028	0.101	245	230.524	3.6	0.028	0.101	245	230.624	
	230.201	245	-0.100	-0.028	3.6	230.301	245	-0.114	-0.028	4.125	47+820.000	230.415	3.6	0.028	0.100	245	230.515	3.6	0.028	0.100	245	230.614	
	230.112	245	-0.079	-0.022	3.6	230.191	245	-0.094	-0.022	4.275	47+830.000	230.285	3.6	0.022	0.079	245	230.364	3.6	0.022	0.079	245	230.443	
PT STATION	230.062	245	-0.068	-0.019	3.6	230.129	245	-0.082	-0.019	4.361	47+835.701	230.211	3.6	0.019	0.068	245	230.278	3.6	0.019	0.068	245	230.346	
	230.024	245	-0.059	-0.016	3.6	230.083	245	-0.072	-0.016	4.425	47+840.000	230.155	3.6	0.016	0.059	245	230.214	3.6	0.016	0.059	245	230.273	
REVERSE CROWN	230.019	245	-0.058	-0.016	3.6	230.077	245	-0.071	-0.016	4.434	47+840.570	230.148	3.6	0.016	0.058	245	230.205	3.6	0.016	0.058	245	230.263	
	229.919	NA	-0.058	-0.016	3.6	229.976	413	-0.049	-0.011	4.575	47+850.000	230.025	3.6	0.016	0.058	NA	230.083	3.6	0.011	0.038	490	230.121	
	229.814	NA	-0.058	-0.016	3.6	229.871	404	-0.024	-0.005	4.725	47+860.000	229.895	3.6	0.016	0.058	NA	229.953	3.6	0.005	0.018	490	229.971	
END TAPER	229.762	NA	-0.058	-0.016	3.6	229.820	399	-0.010	-0.002	4.800	47+865.000	229.830	3.6	0.016	0.058	NA	229.888	3.6	0.002	0.008	490	229.895	
HALF FLAT	229.723	NA	-0.058	-0.016	3.6	229.781	395	0.000	0.000	4.800	47+868.794	229.781	3.6	0.016	0.058	NA	229.838	3.6	0.000	0.000	490	229.838	
	229.711	NA	-0.058	-0.016	3.6	229.768	394	0.003	0.001	4.800	47+870.000	229.765	3.6	0.016	0.058	NA	229.823	3.6	-0.001	-0.002	490	229.820	
	229.608	NA	-0.058	-0.016	3.6	229.665	384	0.030	0.006	4.800	47+880.000	229.635	3.6	0.016	0.058	NA	229.693	3.6	-0.006	-0.023	490	229.670	
	229.505	NA	-0.058	-0.016	3.6	229.563	374	0.058	0.012	4.800	47+890.000	229.505	3.6	0.016	0.058	NA	229.563	3.6	-0.012	-0.043	490	229.519	
END SUPER TRANS	229.433	NA	-0.058	-0.016	3.6	229.491	368	0.077	0.016	4.800	47+897.018	229.414	3.6	0.016	0.058	NA	229.471	3.6	-0.016	-0.058	490	229.414	

US 33 MAINLINE SUPERELEVATION TABLE

ATH-33-40.981

SUPERELEVATION TABLE FOR 4-LANE ROADWAY

PI STA 49+148.317 | R=1200.000 m

CURVE 13

CALCULATED BBD | CHECKED TDW

REMARKS	OUTSIDE LANE					INSIDE LANE					PROFILE GRADE LINE		INSIDE LANE					OUTSIDE LANE					REMARKS
	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	HINGE POINT ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	HINGE POINT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
	215.765	NA	-0.058	-0.016	3.6	215.823	NA	0.058	0.016	3.6	48+730.000	215.765	3.6	0.016	0.058	NA	215.823	3.6	-0.016	-0.058	NA	215.765	
	215.515	NA	-0.058	-0.016	3.6	215.573	NA	0.058	0.016	3.6	48+740.000	215.515	3.6	0.016	0.058	NA	215.573	3.6	-0.016	-0.058	NA	215.515	
BEGIN SE TRANS	215.403	490	-0.058	-0.016	3.6	215.460	NA	0.058	0.016	3.6	48+744.492	215.403	3.6	0.016	0.058	490	215.460	3.6	-0.016	-0.058	NA	215.403	
	215.276	490	-0.046	-0.013	3.6	215.323	NA	0.058	0.016	3.6	48+750.000	215.265	3.6	0.013	0.046	490	215.311	3.6	-0.016	-0.058	NA	215.254	
	215.047	490	-0.026	-0.007	3.6	215.073	NA	0.058	0.016	3.6	48+760.000	215.015	3.6	0.007	0.026	490	215.041	3.6	-0.016	-0.058	NA	214.983	
	214.817	490	-0.006	-0.002	3.6	214.823	NA	0.058	0.016	3.6	48+770.000	214.765	3.6	0.002	0.006	490	214.771	3.6	-0.016	-0.058	NA	214.713	
HALF FLAT	214.755	490	0.000	0.000	3.6	214.755	NA	0.058	0.016	3.6	48+772.716	214.697	3.6	0.000	0.000	490	214.697	3.6	-0.016	-0.058	NA	214.640	
	214.587	490	0.015	0.004	3.6	214.573	NA	0.058	0.016	3.6	48+780.000	214.515	3.6	-0.004	-0.015	490	214.500	3.6	-0.016	-0.058	NA	214.443	
	214.358	490	0.035	0.010	3.6	214.323	NA	0.058	0.016	3.6	48+790.000	214.265	3.6	-0.010	-0.035	490	214.230	3.6	-0.016	-0.058	NA	214.172	
	214.128	490	0.056	0.015	3.6	214.073	NA	0.058	0.016	3.6	48+800.000	214.015	3.6	-0.015	-0.056	490	213.959	3.6	-0.016	-0.058	NA	213.902	
REVERSE CROWN	214.107	490	0.058	0.016	3.6	214.049	NA	0.058	0.016	3.6	48+800.940	213.992	3.6	-0.016	-0.058	490	213.934	3.6	-0.016	-0.058	NA	213.876	
	213.917	245	0.076	0.021	3.6	213.841	245	0.076	0.021	3.6	48+810.000	213.765	3.6	-0.021	-0.076	245	213.689	3.6	-0.021	-0.076	245	213.613	
	213.708	245	0.096	0.027	3.6	213.611	245	0.096	0.027	3.6	48+820.000	213.515	3.6	-0.027	-0.096	245	213.419	3.6	-0.027	-0.096	245	213.322	
PC STATION	213.486	245	0.118	0.033	3.6	213.367	245	0.118	0.033	3.6	48+830.628	213.249	3.6	-0.033	-0.118	245	213.131	3.6	-0.033	-0.118	245	213.013	
	213.290	245	0.137	0.038	3.6	213.152	245	0.137	0.038	3.6	48+840.000	213.015	3.6	-0.038	-0.137	245	212.878	3.6	-0.038	-0.137	245	212.740	
	213.080	245	0.158	0.044	3.6	212.923	245	0.158	0.044	3.6	48+850.000	212.765	3.6	-0.044	-0.158	245	212.607	3.6	-0.044	-0.158	245	212.450	
BEGIN FULL SUPER	212.889	245	0.176	0.049	3.6	212.713	245	0.176	0.049	3.6	48+859.152	212.536	3.6	-0.049	-0.176	245	212.360	3.6	-0.049	-0.176	245	212.183	
	212.868	245	0.176	0.049	3.6	212.691	245	0.176	0.049	3.6	48+860.000	212.515	3.6	-0.049	-0.176	245	212.339	3.6	-0.049	-0.176	245	212.162	
	212.368	245	0.176	0.049	3.6	212.191	245	0.176	0.049	3.6	48+880.000	212.015	3.6	-0.049	-0.176	245	211.839	3.6	-0.049	-0.176	245	211.662	
	211.868	245	0.176	0.049	3.6	211.691	245	0.176	0.049	3.6	48+900.000	211.515	3.6	-0.049	-0.176	245	211.339	3.6	-0.049	-0.176	245	211.162	
	211.368	245	0.176	0.049	3.6	211.191	245	0.176	0.049	3.6	48+920.000	211.015	3.6	-0.049	-0.176	245	210.839	3.6	-0.049	-0.176	245	210.662	
	210.868	245	0.176	0.049	3.6	210.691	245	0.176	0.049	3.6	48+940.000	210.515	3.6	-0.049	-0.176	245	210.339	3.6	-0.049	-0.176	245	210.162	
	210.368	245	0.176	0.049	3.6	210.191	245	0.176	0.049	3.6	48+960.000	210.015	3.6	-0.049	-0.176	245	209.839	3.6	-0.049	-0.176	245	209.662	
	209.868	245	0.176	0.049	3.6	209.691	245	0.176	0.049	3.6	48+980.000	209.515	3.6	-0.049	-0.176	245	209.339	3.6	-0.049	-0.176	245	209.162	
	209.368	245	0.176	0.049	3.6	209.191	245	0.176	0.049	3.6	49+000.000	209.015	3.6	-0.049	-0.176	245	208.839	3.6	-0.049	-0.176	245	208.662	
	208.868	245	0.176	0.049	3.6	208.691	245	0.176	0.049	3.6	49+020.000	208.515	3.6	-0.049	-0.176	245	208.339	3.6	-0.049	-0.176	245	208.162	
	208.368	245	0.176	0.049	3.6	208.191	245	0.176	0.049	3.6	49+040.000	208.015	3.6	-0.049	-0.176	245	207.839	3.6	-0.049	-0.176	245	207.662	
	207.868	245	0.176	0.049	3.6	207.691	245	0.176	0.049	3.6	49+060.000	207.515	3.6	-0.049	-0.176	245	207.339	3.6	-0.049	-0.176	245	207.162	
	207.368	245	0.176	0.049	3.6	207.191	245	0.176	0.049	3.6	49+080.000	207.015	3.6	-0.049	-0.176	245	206.839	3.6	-0.049	-0.176	245	206.662	
	206.868	245	0.176	0.049	3.6	206.691	245	0.176	0.049	3.6	49+100.000	206.515	3.6	-0.049	-0.176	245	206.339	3.6	-0.049	-0.176	245	206.162	
	206.376	245	0.176	0.049	3.6	206.200	245	0.176	0.049	3.6	49+120.000	206.023	3.6	-0.049	-0.176	245	205.847	3.6	-0.049	-0.176	245	205.670	
	205.941	245	0.176	0.049	3.6	205.764	245	0.176	0.049	3.6	49+140.000	205.588	3.6	-0.049	-0.176	245	205.412	3.6	-0.049	-0.176	245	205.235	
	205.571	245	0.176	0.049	3.6	205.394	245	0.176	0.049	3.6	49+160.000	205.218	3.6	-0.049	-0.176	245	205.041	3.6	-0.049	-0.176	245	204.865	
	205.265	245	0.176	0.049	3.6	205.089	245	0.176	0.049	3.6	49+180.000	204.913	3.6	-0.049	-0.176	245	204.736	3.6	-0.049	-0.176	245	204.560	
	205.025	245	0.176	0.049	3.6	204.849	245	0.176	0.049	3.6	49+200.000	204.672	3.6	-0.049	-0.176	245	204.496	3.6	-0.049	-0.176	245	204.319	
	204.849	245	0.176	0.049	3.6	204.673	245	0.176	0.049	3.6	49+220.000	204.497	3.6	-0.049	-0.176	245	204.320	3.6	-0.049	-0.176	245	204.144	
	204.739	245	0.176	0.049	3.6	204.562	245	0.176	0.049	3.6	49+240.000	204.386	3.6	-0.049	-0.176	245	204.210	3.6	-0.049	-0.176	245	204.033	
	204.693	245	0.176	0.049	3.6	204.517	245	0.176	0.049	3.6	49+260.000	204.340	3.6	-0.049	-0.176	245	204.164	3.6	-0.049	-0.176	245	203.988	
	204.712	245	0.176	0.049	3.6	204.536	245	0.176	0.049	3.6	49+280.000	204.360	3.6	-0.049	-0.176	245	204.183	3.6	-0.049	-0.176	245	204.007	
	204.796	245	0.176	0.049	3.6	204.620	245	0.176	0.049	3.6	49+300.000	204.444	3.6	-0.049	-0.176	245	204.267	3.6	-0.049	-0.176	245	204.091	
	204.945	245	0.176	0.049	3.6	204.769	245	0.176	0.049	3.6	49+320.000	204.593	3.6	-0.049	-0.176	245	204.416	3.6	-0.049	-0.176	245	204.240	
	205.159	245	0.176	0.049	3.6	204.983	245	0.176	0.049	3.6	49+340.000	204.807	3.6	-0.049	-0.176	245	204.630	3.6	-0.049	-0.176	245	204.454	
	205.438	245	0.176	0.049	3.6	205.262	245	0.176	0.049	3.6	49+360.000	205.085	3.6	-0.049	-0.176	245	204.909	3.6	-0.049	-0.176	245	204.733	
	205.782	245	0.176	0.049	3.6	205.605	245	0.176	0.049	3.6	49+380.000	205.429	3.6	-0.049	-0.176	245	205.253	3.6	-0.049	-0.176	245	205.076	
	206.190	245	0.176	0.049	3.6	206.014	245	0.176	0.049	3.6	49+400.000	205.838	3.6	-0.049	-0.176	245	205.661	3.6	-0.049	-0.176	245	205.485	
	206.664	245	0.176	0.049	3.6	206.488	245	0.176	0.049	3.6	49+420.000	206.311	3.6	-0.049	-0.176	245	206.135	3.6	-0.049	-0.176	245	205.958	
END FULL SUPER	206.747	245	0.176	0.049	3.6	206.570	245	0.176	0.049	3.6	49+423.233	206.394	3.6	-0.049	-0.176	245	206.217	3.6	-0.049	-0.176	245	206.041	
	206.897	245	0.163	0.045	3.6	206.735	245	0.163	0.045	3.6	49+430.000	206.572	3.6	-0.045	-0.163	245	206.410	3.6	-0.045	-0.163	245	206.247	
	207.134	245	0.142	0.039	3.6	206.992	245	0.142	0.039	3.6	49+440.000	206.850	3.6	-0.039	-0.142	245	206.707	3.6	-0.039	-0.142	245	206.565	
PT STATION	207.433	245	0.118	0.033	3.6	207.314	245	0.118	0.033	3.6	49+451.757	207.196	3.6	-0.033	-0.118	245	207.078	3.6	-0.033	-0.118	245	206.960	
	207.656	245	0.101	0.028	3.6	207.554	245	0.101	0.028	3.6	49+460.000	207.453	3.6	-0.028	-0.101	245	207.351	3.6	-0.028	-0.101	245	207.250	
	207.941	245	0.081	0.022	3.6	207.860	245	0.081	0.022	3.6	49+470.000	207.779	3.6	-0.022	-0.081	245	207.698	3.6	-0.022	-0.081	245	207.617	
	208.242	245	0.061	0.017	3.6	208.182	245	0.061	0.017	3.6	49+480.000	208.121	3.6	-0.017	-0.061	245	208.060	3.6	-0.017	-0.061	245	208.000	

US 33 MAINLINE SUPERELEVATION TABLE

ATH-33-40.981

SUPERELEVATION TABLE FOR 4-LANE ROADWAY

PI STA 49+148.317 | R=1200.000 m

CURVE 13

CALCULATED BBD | CHECKED TDW

REMARKS	OUTSIDE LANE					INSIDE LANE					PROFILE GRADE LINE		INSIDE LANE					OUTSIDE LANE					REMARKS
	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	HINGE POINT ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	HINGE POINT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
REVERSE CROWN	208.287	245	0.058	0.016	3.6	208.229	245	0.058	0.016	3.6	49+481.445	208.172	3.6	-0.016	-0.058	245	208.114	3.6	-0.016	-0.058	245	208.057	
	208.577	490	0.040	0.011	3.6	208.537	NA	0.058	0.016	3.6	49+490.000	208.479	3.6	-0.011	-0.040	490	208.439	3.6	-0.016	-0.058	NA	208.382	
	208.931	490	0.020	0.005	3.6	208.912	NA	0.058	0.016	3.6	49+500.000	208.854	3.6	-0.005	-0.020	490	208.834	3.6	-0.016	-0.058	NA	208.777	
HALF FLAT	209.289	490	0.000	0.000	3.6	209.289	NA	0.058	0.016	3.6	49+509.669	209.232	3.6	0.000	0.000	490	209.232	3.6	-0.016	-0.058	NA	209.174	
	209.301	490	-0.001	0.000	3.6	209.302	NA	0.058	0.016	3.6	49+510.000	209.244	3.6	0.000	0.001	490	209.245	3.6	-0.016	-0.058	NA	209.187	
	209.680	490	-0.021	-0.006	3.6	209.701	NA	0.058	0.016	3.6	49+520.000	209.643	3.6	0.006	0.021	490	209.664	3.6	-0.016	-0.058	NA	209.606	
	210.058	490	-0.041	-0.012	3.6	210.100	NA	0.058	0.016	3.6	49+530.000	210.042	3.6	0.012	0.041	490	210.083	3.6	-0.016	-0.058	NA	210.026	
END SUPER TRANS	210.357	490	-0.058	-0.016	3.6	210.415	NA	0.058	0.016	3.6	49+537.893	210.357	3.6	0.016	0.058	490	210.415	3.6	-0.016	-0.058	NA	210.357	
	210.441	NA	-0.058	-0.016	3.6	210.499	NA	0.058	0.016	3.6	49+540.000	210.441	3.6	0.016	0.058	NA	210.499	3.6	-0.016	-0.058	NA	210.441	

MAINLINE SUPERELEVATION TABLE

US 33

ATH-33-40.981

SUPERELEVATION TABLE FOR 4-LANE ROADWAY

PI STA 491+763.070 | R=1746.397 m

CURVE 14

CALCULATED BBD | CHECKED TDW

REMARKS	OUTSIDE LANE					INSIDE LANE					PROFILE GRADE LINE		INSIDE LANE					OUTSIDE LANE					REMARKS
	EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	HINGE POINT ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	HINGE POINT ELEVATION	WIDTH	CROSS SLOPE	ELEVATION CORRECTION	TRANSITION RATE	EDGE ELEVATION	
	213.234	NA	-0.058	-0.016	3.6	213.292	NA	0.058	0.016	3.6	49+610.000	213.234	3.6	0.016	0.058	NA	213.292	3.6	-0.016	-0.058	NA	213.234	
	213.633	NA	-0.058	-0.016	3.6	213.691	NA	0.058	0.016	3.6	49+620.000	213.633	3.6	0.016	0.058	NA	213.691	3.6	-0.016	-0.058	NA	213.633	
BEGIN SE TRANS	213.818	NA	-0.058	-0.016	3.6	213.875	490	0.058	0.016	3.6	49+624.624	213.818	3.6	0.016	0.058	NA	213.875	3.6	-0.016	-0.058	490	213.818	
	214.021	NA	-0.058	-0.016	3.6	214.079	490	0.047	0.013	3.6	49+630.000	214.032	3.6	0.016	0.058	NA	214.090	3.6	-0.013	-0.047	490	214.043	
	214.400	NA	-0.058	-0.016	3.6	214.457	490	0.026	0.007	3.6	49+640.000	214.431	3.6	0.016	0.058	NA	214.489	3.6	-0.007	-0.026	490	214.462	
	214.778	NA	-0.058	-0.016	3.6	214.836	490	0.006	0.002	3.6	49+650.000	214.830	3.6	0.016	0.058	NA	214.888	3.6	-0.002	-0.006	490	214.882	
HALF FLAT	214.886	NA	-0.058	-0.016	3.6	214.944	490	0.000	0.000	3.6	49+652.848	214.944	3.6	0.016	0.058	NA	215.001	3.6	0.000	0.000	490	215.001	
	215.157	NA	-0.058	-0.016	3.6	215.215	490	-0.014	-0.004	3.6	49+660.000	215.229	3.6	0.016	0.058	NA	215.287	3.6	0.004	0.014	490	215.301	
	215.535	NA	-0.058	-0.016	3.6	215.594	490	-0.034	-0.010	3.6	49+670.000	215.628	3.6	0.016	0.058	NA	215.686	3.6	0.010	0.034	490	215.721	
	215.914	NA	-0.058	-0.016	3.6	215.972	490	-0.055	-0.015	3.6	49+680.000	216.027	3.6	0.016	0.058	NA	216.085	3.6	0.015	0.055	490	216.140	
REVERSE CROWN	215.955	NA	-0.058	-0.016	3.6	216.013	490	-0.057	-0.016	3.6	49+681.072	216.070	3.6	0.016	0.058	NA	216.127	3.6	0.016	0.057	490	216.185	
	216.274	245	-0.076	-0.021	3.6	216.351	245	-0.075	-0.021	3.6	49+690.000	216.426	3.6	0.021	0.076	245	216.502	3.6	0.021	0.075	245	216.578	
PC STATION	216.425	245	-0.084	-0.023	3.6	216.510	245	-0.084	-0.023	3.6	49+694.214	216.594	3.6	0.023	0.084	245	216.679	3.6	0.023	0.084	245	216.763	
	216.633	245	-0.096	-0.027	3.6	216.729	245	-0.096	-0.027	3.6	49+700.000	216.825	3.6	0.027	0.096	245	216.921	3.6	0.027	0.096	245	217.017	
	216.991	245	-0.117	-0.032	3.6	217.107	245	-0.117	-0.032	3.6	49+710.000	217.224	3.6	0.032	0.117	245	217.341	3.6	0.032	0.117	245	217.457	
BEGIN FULL SUPER	217.155	245	-0.126	-0.035	3.6	217.281	245	-0.126	-0.035	3.6	49+714.588	217.407	3.6	0.035	0.126	245	217.533	3.6	0.035	0.126	245	217.659	
	217.371	245	-0.126	-0.035	3.6	217.497	245	-0.126	-0.035	3.6	49+720.000	217.623	3.6	0.035	0.126	245	217.749	3.6	0.035	0.126	245	217.875	
	217.770	245	-0.126	-0.035	3.6	217.896	245	-0.126	-0.035	3.6	49+730.000	218.022	3.6	0.035	0.126	245	218.148	3.6	0.035	0.126	245	218.274	
	218.169	245	-0.126	-0.035	3.6	218.295	245	-0.126	-0.035	3.6	49+740.000	218.421	3.6	0.035	0.126	245	218.547	3.6	0.035	0.126	245	218.673	
	218.568	245	-0.126	-0.035	3.6	218.694	245	-0.126	-0.035	3.6	49+750.000	218.820	3.6	0.035	0.126	245	218.946	3.6	0.035	0.126	245	219.072	
	218.967	245	-0.126	-0.035	3.6	219.093	245	-0.126	-0.035	3.6	49+760.000	219.219	3.6	0.035	0.126	245	219.345	3.6	0.035	0.126	245	219.471	
	219.366	245	-0.126	-0.035	3.6	219.492	245	-0.126	-0.035	3.6	49+770.000	219.618	3.6	0.035	0.126	245	219.744	3.6	0.035	0.126	245	219.870	
	219.765	245	-0.126	-0.035	3.6	219.891	245	-0.126	-0.035	3.6	49+780.000	220.017	3.6	0.035	0.126	245	220.143	3.6	0.035	0.126	245	220.269	
	220.164	245	-0.126	-0.035	3.6	220.290	245	-0.126	-0.035	3.6	49+790.000	220.416	3.6	0.035	0.126	245	220.542	3.6	0.035	0.126	245	220.668	
	220.563	245	-0.126	-0.035	3.6	220.689	245	-0.126	-0.035	3.6	49+800.000	220.815	3.6	0.035	0.126	245	220.941	3.6	0.035	0.126	245	221.067	
END FULL SUPER	220.602	245	-0.126	-0.035	3.6	220.728	245	-0.126	-0.035	3.6	49+800.986	220.854	3.6	0.035	0.126	245	220.980	3.6	0.035	0.126	245	221.106	
	220.999	245	-0.108	-0.030	3.6	221.106	245	-0.108	-0.030	3.6	49+810.000	221.214	3.6	0.030	0.108	245	221.322	3.6	0.030	0.108	245	221.429	
	221.439	245	-0.087	-0.024	3.6	221.526	245	-0.087	-0.024	3.6	49+820.000	221.613	3.6	0.024	0.087	245	221.700	3.6	0.024	0.087	245	221.787	
PT STATION	221.960	245	-0.063	-0.018	3.6	222.023	245	-0.063	-0.018	3.6	49+831.856	222.086	3.6	0.018	0.063	245	222.149	3.6	0.018	0.063	245	222.212	
REVERSE CROWN	222.075	245	-0.058	-0.016	3.6	222.133	245	-0.058	-0.016	3.6	49+834.502	222.191	3.6	0.016	0.058	245	222.248	3.6	0.016	0.058	245	222.306	
	222.303	NA	-0.058	-0.016	3.6	222.361	490	-0.046	-0.013	3.6	49+840.000	222.407	3.6	0.016	0.058	NA	222.465	3.6	0.013	0.046	490	222.511	
	222.718	NA	-0.058	-0.016	3.6	222.775	490	-0.026	-0.007	3.6	49+850.000	222.801	3.6	0.016	0.058	NA	222.859	3.6	0.007	0.026	490	222.885	
	223.132	NA	-0.058	-0.016	3.6	223.189	490	-0.006	-0.002	3.6	49+860.000	223.195	3.6	0.016	0.058	NA	223.253	3.6	0.002	0.006	490	223.258	
HALF FLAT	223.245	NA	-0.058	-0.016	3.6	223.302	490	0.000	0.000	3.6	49+862.726	223.303	3.6	0.016	0.058	NA	223.360	3.6	0.000	0.000	490	223.360	
	223.546	NA	-0.058	-0.016	3.6	223.603	490	0.014	0.004	3.6	49+870.000	223.589	3.6	0.016	0.058	NA	223.647	3.6	-0.004	-0.014	490	223.632	
	223.961	NA	-0.058	-0.016	3.6	224.018	490	0.035	0.010	3.6	49+880.000	223.983	3.6	0.016	0.058	NA	224.041	3.6	-0.010	-0.035	490	224.006	
	224.297	NA	-0.058	-0.016	3.6	224.353	490	0.051	0.014	3.6	49+888.103	224.302	3.6	0.016	0.058	NA	224.360	3.6	-0.014	-0.051	490	224.308	
	224.375	NA	-0.058	-0.016	3.6	224.432	490	0.055	0.015	3.6	49+890.000	224.377	3.6	0.016	0.058	NA	224.435	3.6	-0.015	-0.055	490	224.379	
END SUPER TRANS	224.415	NA	-0.058	-0.016	3.6	224.471	490	0.057	0.016	3.6	49+890.950	224.415	3.6	0.016	0.058	NA	224.472	3.6	-0.016	-0.057	490	224.415	

US 33 MAINLINE SUPERELEVATION TABLE

ATH-33-40.981

SUPERELEVATION TABLE — CUR STRANS1

PI STA 47+940.814 | R=900 m

OUTSIDE LANE					PROFILE GRADE LINE		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	REMARKS
229.414	245	0.077	0.016	4.8	47+897.018	229.337						BEGIN SE
229.375	245	0.089	0.019	4.8	47+900.000	229.286						
229.245	245	0.130	0.027	4.8	47+910.000	229.115						
229.115	245	0.171	0.036	4.8	47+920.000	228.945						
228.985	245	0.211	0.044	4.8	47+930.000	228.774						
228.855	245	0.252	0.053	4.8	47+940.000	228.603						
228.726	245	0.293	0.061	4.8	47+949.938	228.433						FSE
228.725	245	0.293	0.061	4.8	47+950.000	228.432						
228.595	245	0.293	0.061	4.8	47+960.000	228.302						
228.542	245	0.293	0.061	4.8	47+964.109	228.249						FSE
228.465	245	0.269	0.056	4.8	47+970.000	228.196						
228.335	245	0.228	0.047	4.8	47+980.000	228.107						
228.179	245	0.187	0.039	4.8	47+990.000	227.992						
228.021	245	0.146	0.030	4.8	48+000.000	227.875						
227.863	245	0.105	0.022	4.8	48+010.000	227.758						
227.752	245	0.077	0.016	4.8	48+017.029	227.675						BEGIN SE

SUPERELEVATION TABLE — CUR STRANS2

PI STA 48+166.142 | R=900 m

OUTSIDE LANE					PROFILE GRADE LINE		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	REMARKS
227.268	245	0.077	0.016	4.8	48+058.479	227.191						BEGIN SE
227.244	245	0.071	0.015	4.8	48+060.000	227.173						
227.086	245	0.030	0.006	4.8	48+070.000	227.056						
226.971	245	0.000	0.000	4.8	48+077.295	226.971						HALF FLAT
226.928	245	-0.011	-0.002	4.8	48+080.000	226.939						
226.770	245	-0.052	-0.011	4.8	48+090.000	226.822						
226.674	245	-0.077	-0.016	4.8	48+096.111	226.751						REVERSE
226.612	245	-0.093	-0.019	4.8	48+100.000	226.705						
226.455	245	-0.133	-0.028	4.8	48+110.000	226.588						
226.297	245	-0.174	-0.036	4.8	48+120.000	226.471						
226.139	245	-0.215	-0.045	4.8	48+130.000	226.354						
225.981	245	-0.256	-0.053	4.8	48+140.000	226.237						
225.839	245	-0.293	-0.061	4.8	48+149.031	226.131						FSE
225.827	245	-0.293	-0.061	4.8	48+150.000	226.120						
225.710	245	-0.293	-0.061	4.8	48+160.000	226.003						
225.593	245	-0.293	-0.061	4.8	48+170.000	225.886						
225.476	245	-0.293	-0.061	4.8	48+180.000	225.769						
225.370	245	-0.293	-0.061	4.8	48+189.080	225.663						FSE
225.363	245	-0.289	-0.060	4.8	48+190.000	225.652						
225.287	245	-0.248	-0.052	4.8	48+200.000	225.535						
225.206	245	-0.207	-0.043	4.8	48+210.000	225.414						
225.117	245	-0.167	-0.035	4.8	48+220.000	225.284						
225.028	245	-0.126	-0.026	4.8	48+230.000	225.154						
224.939	245	-0.085	-0.018	4.8	48+240.000	225.024						
224.921	245	-0.077	-0.016	4.8	48+242.000	224.998						REVERSE

CALCULATED BBD | CHECKED TDW

SUPERELEVATION TABLE

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SUPERELEVATION TABLE

PI STA 2+061.575 | R=400 m

CURVE 89_1

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	REMARKS
271.626	213	0.071	0.021	3.3	1+980.000	271.555	213	-0.344	-0.115	3	271.212	MEET EXIST
271.005	213	0.118	0.036	3.3	1+990.000	270.888	213	-0.314	-0.100	3.15	270.574	
270.385	213	0.165	0.050	3.3	2+000.000	270.220	213	-0.284	-0.086	3.3	269.936	
270.019	213	0.201	0.061	3.3	2+007.765	269.818	213	-0.247	-0.075	3.3	269.571	
269.914	213	0.212	0.064	3.3	2+010.000	269.703	213	-0.248	-0.075	3.3	269.455	
269.556	213	0.248	0.075	3.3	2+017.605	269.309	213	-0.248	-0.075	3.3	269.061	FSE
269.433	213	0.248	0.075	3.3	2+020.000	269.185	213	-0.248	-0.075	3.3	268.938	
268.974	213	0.248	0.075	3.3	2+030.000	268.726	213	-0.248	-0.075	3.3	268.479	
268.682	213	0.248	0.075	3.3	2+040.000	268.435	213	-0.248	-0.075	3.3	268.187	
268.458	213	0.248	0.075	3.3	2+050.000	268.211	213	-0.248	-0.075	3.3	267.963	
268.280	213	0.248	0.075	3.3	2+060.000	268.033	213	-0.248	-0.075	3.3	267.785	
268.149	213	0.248	0.075	3.3	2+070.000	267.901	213	-0.248	-0.075	3.3	267.654	
268.063	213	0.248	0.075	3.3	2+080.000	267.815	213	-0.248	-0.075	3.3	267.568	
268.024	213	0.248	0.075	3.3	2+098.865	267.776	213	-0.248	-0.075	3.3	267.529	FSE
268.024	213	0.242	0.073	3.3	2+100.000	267.782	213	-0.242	-0.073	3.3	267.540	
268.030	213	0.195	0.059	3.3	2+110.000	267.835	213	-0.195	-0.059	3.3	267.640	
268.082	213	0.148	0.045	3.3	2+120.000	267.933	213	-0.148	-0.045	3.3	267.785	
268.179	213	0.101	0.031	3.3	2+130.000	268.078	213	-0.101	-0.031	3.3	267.977	
268.329	213	0.053	0.016	3.3	2+140.337	268.276	213	-0.053	-0.016	3.3	268.223	REVERSE
268.513	213	0.007	0.002	3.3	2+150.000	268.505	213	-0.007	-0.002	3.3	268.498	
268.547	213	0.000	0.000	3.3	2+151.583	268.547	213	0.000	0.000	3.3	268.547	HALF FLAT

SUPERELEVATION TABLE

PI STA 2+187.381 | R=120 m

CURVE 89_2

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	REMARKS
268.547	213	0.000	0.000	3.3	2+151.583	268.547	213	0.000	0.000	3.3	268.547	HALF FLAT
268.749	213	-0.040	-0.012	3.3	2+160.000	268.788	213	0.040	0.012	3.3	268.828	
268.824	213	-0.053	-0.016	3.3	2+162.829	268.877	213	0.053	0.016	3.3	268.930	REVERSE
269.031	213	-0.086	-0.026	3.3	2+170.000	269.117	213	0.086	0.026	3.3	269.204	
269.343	213	-0.132	-0.040	3.3	2+179.699	269.475	213	0.132	0.040	3.3	269.607	FSE
269.353	213	-0.133	-0.040	3.3	2+180.000	269.486	213	0.133	0.040	3.3	269.619	
269.684	213	-0.132	-0.040	3.3	2+188.796	269.816	213	0.132	0.040	3.3	269.948	FSE
269.735	213	-0.126	-0.038	3.3	2+190.000	269.861	213	0.126	0.038	3.3	269.987	
270.157	213	-0.079	-0.024	3.3	2+200.000	270.236	213	0.079	0.024	3.3	270.315	
270.396	213	-0.053	-0.016	3.3	2+205.665	270.448	213	0.053	0.016	3.3	270.501	REVERSE
270.579	213	-0.032	-0.010	3.3	2+210.000	270.611	213	0.032	0.010	3.3	270.643	
270.870	213	0.000	0.000	3.3	2+216.912	270.870	213	0.000	0.000	3.3	270.870	HALF FLAT
271.000	213	0.014	0.004	3.3	2+220.000	270.986	213	-0.014	-0.004	3.3	270.972	
271.291	213	0.047	0.014	3.3	2+226.893	271.244	213	-0.047	-0.014	3.3	271.198	MEET US33 ML

CALCULATED BBD | CHECKED TDW

CR 89 SUPERELEVATION TABLE

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SUPERELEVATION TABLE

PI STA 2+313.147 | R=120 m | **CURVE 89_3**

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	
271.276	213	0.013	0.004	3.3	2+263.774	271.264	213	-0.013	-0.004	3.3	271.251	MEET US33 ML
271.202	213	0.042	0.013	3.3	2+270.000	271.160	213	-0.042	-0.013	3.3	271.118	
271.184	213	0.053	0.016	3.3	2+272.349	271.131	213	-0.053	-0.016	3.3	271.078	REVERSE
271.246	213	0.089	0.027	3.3	2+280.000	271.158	213	-0.089	-0.027	3.3	271.069	
271.606	213	0.136	0.041	3.3	2+290.000	271.470	213	-0.136	-0.041	3.3	271.334	
272.123	213	0.183	0.055	3.3	2+300.000	271.940	213	-0.183	-0.055	3.3	271.757	
272.640	213	0.230	0.070	3.3	2+310.000	272.410	213	-0.230	-0.070	3.3	272.180	
273.019	213	0.264	0.080	3.3	2+317.335	272.755	213	-0.264	-0.080	3.3	272.491	FSE
273.186	213	0.264	0.080	3.3	2+320.902	272.922	213	-0.264	-0.080	3.3	272.658	FSE
273.571	213	0.221	0.067	3.3	2+330.000	273.350	213	-0.221	-0.067	3.3	273.129	
273.994	213	0.174	0.053	3.3	2+340.000	273.820	213	-0.174	-0.053	3.3	273.646	
274.417	213	0.127	0.039	3.3	2+350.000	274.290	213	-0.127	-0.039	3.3	274.163	
274.840	213	0.080	0.024	3.3	2+360.000	274.760	213	-0.080	-0.024	3.3	274.680	
275.090	213	0.053	0.016	3.3	2+365.888	275.037	213	-0.053	-0.016	3.3	274.984	REVERSE
275.263	213	0.033	0.010	3.3	2+370.000	275.230	213	-0.033	-0.010	3.3	275.197	
275.565	213	0.000	0.000	3.3	2+377.134	275.565	213	0.000	0.000	3.3	275.565	HALF FLAT

SUPERELEVATION TABLE

PI STA 2+425.502 | R=120 m | **CURVE 89_4**

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	
275.565	200	0.000	0.000	3.3	2+377.134	275.565	200	0.000	0.000	3.3	275.565	HALF FLAT
275.686	200	-0.014	-0.004	3.3	2+380.000	275.700	200	0.014	0.004	3.3	275.714	
276.008	200	-0.053	-0.016	3.3	2+387.694	276.061	200	0.053	0.016	3.3	276.113	REVERSE
276.102	200	-0.064	-0.019	3.3	2+390.000	276.167	200	0.064	0.019	3.3	276.231	
276.494	200	-0.114	-0.035	3.3	2+400.000	276.609	200	0.114	0.035	3.3	276.723	
276.859	200	-0.164	-0.050	3.3	2+410.000	277.023	200	0.164	0.050	3.3	277.188	
277.196	200	-0.214	-0.065	3.3	2+420.000	277.410	200	0.214	0.065	3.3	277.625	
277.503	200	-0.264	-0.080	3.3	2+429.934	277.767	200	0.264	0.080	3.3	278.031	FSE
277.503	200	-0.264	-0.080	3.3	2+429.934	277.767	200	0.264	0.080	3.3	278.031	FSE
277.506	200	-0.264	-0.080	3.3	2+430.000	277.770	200	0.264	0.080	3.3	278.034	
277.887	200	-0.214	-0.065	3.3	2+440.000	278.101	200	0.214	0.065	3.3	278.314	
278.241	200	-0.164	-0.050	3.3	2+450.000	278.405	200	0.164	0.050	3.3	278.569	
278.926	200	-0.053	-0.016	3.3	2+472.174	278.979	200	0.053	0.016	3.3	279.031	REVERSE
279.098	200	-0.053	-0.016	3.3	2+480.000	279.151	200	0.014	0.004	3.3	279.165	
279.151	200	-0.053	-0.016	3.3	2+482.734	279.204	200	0.000	0.000	3.3	279.204	HALF FLAT
279.291	200	-0.053	-0.016	3.3	2+490.000	279.344	200	-0.036	-0.011	3.3	279.308	
279.346	200	-0.053	-0.016	3.3	2+493.294	279.399	200	-0.053	-0.016	3.3	279.346	END SE

CALCULATED BBD | CHECKED TDW

CR 89 SUPERELEVATION TABLE

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SUPERELEVATION TABLE

PI STA 2+532.427 | R=400 m | CURVE 89_5

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	
279.500	200	-0.053	-0.016	3.3	2+504.360	279.553	200	-0.053	-0.016	3.3	279.500	BEGIN SE
279.523	200	-0.081	-0.025	3.3	2+510.000	279.604	200	-0.053	-0.016	3.3	279.551	
279.563	200	-0.131	-0.040	3.3	2+520.000	279.694	200	-0.053	-0.016	3.3	279.641	
279.700	200	-0.154	-0.055	2.8	2+530.000	279.854	200	-0.047	-0.016	2.95	279.806	
279.720	200	-0.155	-0.057	2.732	2+531.354	279.875	200	-0.046	-0.016	2.903	279.829	
279.852	200	-0.161	-0.070	2.3	2+540.000	280.013	200	-0.076	-0.029	2.6	279.937	MEET EXIST

SUPERELEVATION TABLE

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	

CALCULATED BBD | CHECKED TDW

CR 89 SUPERELEVATION TABLE

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SUPERELEVATION TABLE — CURVE SR681AG_1

PI STA 51+211.419 | R=120 m

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	REMARKS
209.296	213	-0.058	-0.016	3.6	51+120.000	209.354	213	-0.058	-0.016	3.6	209.296	
209.261	213	-0.058	-0.016	3.6	51+122.211	209.319	213	-0.058	-0.016	3.6	209.261	BEGIN SE
209.158	213	-0.058	-0.016	3.6	51+130.000	209.216	213	-0.021	-0.006	3.6	209.195	
209.114	213	-0.058	-0.016	3.6	51+134.480	209.172	213	0.000	0.000	3.6	209.172	HALF FLAT
209.075	213	-0.058	-0.016	3.6	51+140.000	209.132	213	0.026	0.007	3.6	209.158	
209.049	213	-0.058	-0.016	3.6	51+146.749	209.107	213	0.058	0.016	3.6	209.164	REVERSE
209.031	213	-0.072	-0.020	3.6	51+149.816	209.103	213	0.072	0.020	3.6	209.175	FSE
209.031	213	-0.072	-0.020	3.6	51+150.000	209.103	213	0.072	0.020	3.6	209.175	
209.136	213	-0.072	-0.020	3.6	51+170.000	209.208	213	0.072	0.020	3.6	209.280	
209.458	213	-0.072	-0.020	3.6	51+190.000	209.530	213	0.072	0.020	3.6	209.602	
209.998	213	-0.072	-0.020	3.6	51+210.000	210.070	213	0.072	0.020	3.6	210.142	
210.755	213	-0.072	-0.020	3.6	51+230.000	210.827	213	0.072	0.020	3.6	210.899	
211.713	213	-0.072	-0.020	3.6	51+250.000	211.785	213	0.072	0.020	3.6	211.857	
212.256	213	-0.072	-0.020	3.6	51+261.299	212.328	213	0.072	0.020	3.6	212.400	FSE
212.407	213	-0.058	-0.016	3.6	51+264.366	212.465	213	0.058	0.016	3.6	212.522	REVERSE
212.672	213	-0.031	-0.009	3.6	51+270.000	212.704	213	0.031	0.009	3.6	212.735	
212.965	213	0.000	0.000	3.6	51+276.635	212.965	213	0.000	0.000	3.6	212.965	HALF FLAT
213.105	213	0.016	0.004	3.6	51+280.000	213.089	213	-0.016	-0.004	3.6	213.074	
213.447	213	0.058	0.016	3.6	51+288.904	213.389	213	-0.058	-0.016	3.6	213.331	REVERSE
213.487	213	0.063	0.017	3.6	51+290.000	213.424	213	-0.063	-0.017	3.6	213.361	
213.835	213	0.110	0.030	3.6	51+300.000	213.725	213	-0.110	-0.030	3.6	213.616	
213.989	213	0.131	0.036	3.6	51+304.470	213.858	213	-0.131	-0.036	3.6	213.728	MEET US33 ML

SUPERELEVATION TABLE — CURVE SR681AG_2

PI STA 51+390.837 | R=120 m

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	REMARKS
213.764	213	0.029	0.008	3.6	51+341.552	213.734	213	-0.029	-0.008	3.6	213.705	MEET US33 ML
213.610	213	0.058	0.016	3.6	51+347.610	213.553	213	-0.058	-0.016	3.6	213.495	REVERSE
213.553	213	0.069	0.019	3.6	51+350.000	213.484	213	-0.069	-0.019	3.6	213.416	
213.263	213	0.116	0.032	3.6	51+360.000	213.148	213	-0.116	-0.032	3.6	213.032	
212.939	213	0.163	0.045	3.6	51+370.000	212.776	213	-0.163	-0.045	3.6	212.614	
212.576	213	0.210	0.058	3.6	51+380.000	212.367	213	-0.210	-0.058	3.6	212.157	
212.222	213	0.252	0.070	3.6	51+389.017	211.970	213	-0.252	-0.070	3.6	211.718	FSE
212.178	213	0.252	0.070	3.6	51+390.000	211.926	213	-0.252	-0.070	3.6	211.674	
211.973	213	0.252	0.070	3.6	51+394.607	211.721	213	-0.252	-0.070	3.6	211.469	FSE
211.707	213	0.227	0.063	3.6	51+400.000	211.480	213	-0.227	-0.063	3.6	211.254	
211.214	213	0.180	0.050	3.6	51+410.000	211.034	213	-0.180	-0.050	3.6	210.855	
210.721	213	0.133	0.037	3.6	51+420.000	210.588	213	-0.133	-0.037	3.6	210.456	
210.228	213	0.086	0.024	3.6	51+430.000	210.142	213	-0.086	-0.024	3.6	210.057	
209.932	213	0.058	0.016	3.6	51+436.014	209.874	213	-0.058	-0.016	3.6	209.817	REVERSE
209.735	213	0.039	0.011	3.6	51+440.000	209.696	213	-0.058	-0.016	3.6	209.639	
209.328	213	0.000	0.000	3.6	51+448.283	209.327	213	-0.058	-0.016	3.6	209.270	HALF FLAT
209.242	213	-0.008	-0.002	3.6	51+450.000	209.250	213	-0.058	-0.016	3.6	209.193	
208.750	213	-0.055	-0.015	3.6	51+460.000	208.804	213	-0.058	-0.016	3.6	208.747	
208.722	213	-0.058	-0.016	3.6	51+460.552	208.780	213	-0.058	-0.016	3.6	208.722	NORMAL
208.301	213	-0.058	-0.016	3.6	51+470.000	208.358	213	-0.058	-0.016	3.6	208.301	

CALCULATED BBD CHECKED TDW

SR 681 (AT-GRADE) SUPERELEVATION TABLE

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SUPERELEVATION TABLE

PI STA 51+566.073 | R=150 m

CURVE SR681AG_3

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	
207.855	213	-0.058	-0.016	3.6	51+480.000	207.912	213	-0.058	-0.016	3.6	207.855	
207.411	213	-0.058	-0.016	3.6	51+489.962	207.468	213	-0.058	-0.016	3.6	207.411	BEGIN SE
207.409	213	-0.058	-0.016	3.6	51+490.000	207.466	213	-0.057	-0.016	3.6	207.409	
206.862	213	-0.058	-0.016	3.6	51+502.231	206.920	213	0.000	0.000	3.6	206.920	HALF FLAT
206.525	213	-0.058	-0.016	3.6	51+510.000	206.583	213	0.036	0.010	3.6	206.620	
206.336	213	-0.058	-0.016	3.6	51+514.500	206.394	213	0.058	0.016	3.6	206.451	REVERSE
206.084	213	-0.083	-0.023	3.6	51+520.000	206.167	213	0.083	0.023	3.6	206.251	
205.642	213	-0.130	-0.036	3.6	51+530.000	205.772	213	0.130	0.036	3.6	205.902	
205.220	213	-0.177	-0.049	3.6	51+540.000	205.397	213	0.177	0.049	3.6	205.574	
204.818	213	-0.224	-0.062	3.6	51+550.000	205.042	213	0.224	0.062	3.6	205.267	
204.437	213	-0.271	-0.075	3.6	51+560.000	204.708	213	0.271	0.075	3.6	204.979	
204.305	213	-0.288	-0.080	3.6	51+563.575	204.593	213	0.288	0.080	3.6	204.881	FSE
204.106	213	-0.288	-0.080	3.6	51+570.000	204.394	213	0.288	0.080	3.6	204.682	
203.812	213	-0.288	-0.080	3.6	51+580.000	204.100	213	0.288	0.080	3.6	204.388	
203.870	213	-0.288	-0.080	3.6	51+577.949	204.158	213	0.288	0.080	3.6	204.446	FSE
203.821	213	-0.278	-0.077	3.6	51+580.000	204.100	213	0.278	0.077	3.6	204.378	
203.595	213	-0.231	-0.064	3.6	51+590.000	203.826	213	0.231	0.064	3.6	204.058	
203.389	213	-0.184	-0.051	3.6	51+600.000	203.573	213	0.184	0.051	3.6	203.757	
203.203	213	-0.138	-0.038	3.6	51+610.000	203.340	213	0.138	0.038	3.6	203.478	
203.037	213	-0.091	-0.025	3.6	51+620.000	203.127	213	0.091	0.025	3.6	203.218	
202.933	213	-0.058	-0.016	3.6	51+627.025	202.990	213	0.058	0.016	3.6	203.048	REVERSE
202.877	213	-0.058	-0.016	3.6	51+630.000	202.935	213	0.044	0.012	3.6	202.979	
202.717	213	-0.058	-0.016	3.6	51+639.293	202.774	213	0.000	0.000	3.6	202.774	HALF FLAT
202.705	213	-0.058	-0.016	3.6	51+640.000	202.763	213	-0.003	-0.001	3.6	202.760	
202.532	213	-0.058	-0.016	3.6	51+651.562	202.589	213	-0.058	-0.016	3.6	202.532	END SE
202.422	213	-0.058	-0.016	3.6	51+660.000	202.480	213	-0.058	-0.016	3.6	202.422	

SUPERELEVATION TABLE

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	

CALCULATED BBD CHECKED TDW

SR 681 (AT-GRADE) SUPERELEVATION TABLE

ATH-33-40.981

SUPERELEVATION TABLE

PI STA 46+033.243 | R=120 m

CURVE 33_681AG1

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	
205.752	213	0.139	0.042	3.3	46+003.903	205.613	213	-0.139	-0.042	3.3	205.475	MEET SR681
205.671	213	0.110	0.033	3.3	46+010.000	205.561	213	-0.110	-0.033	3.3	205.451	
205.791	213	0.063	0.019	3.3	46+020.000	205.728	213	-0.063	-0.019	3.3	205.665	
205.914	213	0.016	0.005	3.3	46+030.000	205.898	213	-0.016	-0.005	3.3	205.882	
206.089	213	-0.031	-0.009	3.3	46+040.000	206.120	213	0.031	0.009	3.3	206.150	
206.193	213	-0.053	-0.016	3.3	46+044.671	206.246	213	0.053	0.016	3.3	206.299	REVERSE
206.355	213	-0.053	-0.016	3.3	46+050.000	206.408	213	0.028	0.008	3.3	206.436	
206.557	213	-0.053	-0.016	3.3	46+055.917	206.610	213	0.000	0.000	3.3	206.610	HALF FLAT
206.710	213	-0.053	-0.016	3.3	46+060.000	206.763	213	-0.019	-0.006	3.3	206.743	
207.005	213	-0.053	-0.016	3.3	46+067.164	207.058	213	-0.053	-0.016	3.3	207.005	END SE
207.131	213	-0.052	-0.016	3.3	46+070.000	207.184	213	-0.052	-0.016	3.3	207.131	

SUPERELEVATION TABLE

PI STA 46+169.733 | R=120 m

CURVE 33_681AG2

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	
208.173	213	-0.053	-0.016	3.3	46+090.000	208.226	213	-0.053	-0.016	3.3	208.173	
208.470	213	-0.053	-0.016	3.3	46+094.918	208.523	213	-0.053	-0.016	3.3	208.470	BEGIN SE
208.794	213	-0.053	-0.016	3.3	46+100.000	208.847	213	-0.029	-0.009	3.3	208.818	
209.209	213	-0.053	-0.016	3.3	46+106.165	209.262	213	0.000	0.000	3.3	209.262	HALF FLAT
209.480	213	-0.053	-0.016	3.3	46+110.000	209.533	213	0.018	0.005	3.3	209.551	
210.032	213	-0.053	-0.016	3.3	46+117.411	210.085	213	0.053	0.016	3.3	210.138	REVERSE
210.221	213	-0.065	-0.020	3.3	46+120.000	210.286	213	0.065	0.020	3.3	210.351	
210.990	213	-0.112	-0.034	3.3	46+130.000	211.102	213	0.112	0.034	3.3	211.214	
211.773	213	-0.159	-0.048	3.3	46+140.000	211.932	213	0.159	0.048	3.3	212.091	
212.556	213	-0.206	-0.062	3.3	46+150.000	212.762	213	0.206	0.062	3.3	212.968	
213.339	213	-0.253	-0.077	3.3	46+160.000	213.592	213	0.253	0.077	3.3	213.845	
213.527	213	-0.264	-0.080	3.3	46+162.397	213.791	213	0.264	0.080	3.3	214.055	FSE
214.158	213	-0.264	-0.080	3.3	46+170.000	214.422	213	0.264	0.080	3.3	214.686	
214.680	213	-0.264	-0.080	3.3	46+176.288	214.944	213	0.264	0.080	3.3	215.208	FSE
215.005	213	-0.247	-0.075	3.3	46+180.000	215.252	213	0.247	0.075	3.3	215.499	
215.882	213	-0.200	-0.060	3.3	46+190.000	216.082	213	0.200	0.060	3.3	216.282	
216.759	213	-0.153	-0.046	3.3	46+200.000	216.912	213	0.153	0.046	3.3	217.065	
217.636	213	-0.106	-0.032	3.3	46+210.000	217.742	213	0.106	0.032	3.3	217.848	
218.513	213	-0.059	-0.018	3.3	46+220.000	218.572	213	0.059	0.018	3.3	218.631	
218.625	213	-0.053	-0.016	3.3	46+221.274	218.678	213	0.053	0.016	3.3	218.731	REVERSE
219.349	213	-0.053	-0.016	3.3	46+230.000	219.402	213	0.012	0.004	3.3	219.414	
219.558	213	-0.053	-0.016	3.3	46+232.520	219.611	213	0.000	0.000	3.3	219.611	HALF FLAT
220.179	213	-0.053	-0.016	3.3	46+240.000	220.232	213	-0.035	-0.011	3.3	220.197	
220.492	213	-0.053	-0.016	3.3	46+243.767	220.545	213	-0.053	-0.016	3.3	220.492	END SE

CALCULATED BBD | CHECKED TDW

"OLD" US 33 AT SR 681 SUPERELEVATION TABLE

ATH-33-40.981

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SUPERELEVATION TABLE

PI STA 46+308.810 | R=135 m

CURVE 33_681AG3

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	
221.839	213	-0.053	-0.016	3.3	46+260.000	221.892	213	-0.053	-0.016	3.3	221.839	
222.135	213	-0.053	-0.016	3.3	46+263.562	222.188	213	-0.053	-0.016	3.3	222.135	BEGIN SE
222.699	213	-0.023	-0.007	3.3	46+270.000	222.722	213	-0.053	-0.016	3.3	222.669	
223.121	213	0.000	0.000	3.3	46+274.808	223.121	213	-0.053	-0.016	3.3	223.068	HALF FLAT
223.576	213	0.024	0.007	3.3	46+280.000	223.552	213	-0.053	-0.016	3.3	223.499	
224.107	213	0.053	0.016	3.3	46+286.055	224.055	213	-0.053	-0.016	3.3	224.002	REVERSE
224.453	213	0.071	0.022	3.3	46+290.000	224.382	213	-0.071	-0.022	3.3	224.311	
225.330	213	0.118	0.036	3.3	46+300.000	225.212	213	-0.118	-0.036	3.3	225.094	
225.587	213	0.132	0.040	3.3	46+302.924	225.455	213	-0.132	-0.040	3.3	225.323	FSE
226.174	213	0.132	0.040	3.3	46+310.000	226.042	213	-0.132	-0.040	3.3	225.910	
226.553	213	0.132	0.040	3.3	46+314.570	226.421	213	-0.132	-0.040	3.3	226.289	FSE
226.979	213	0.107	0.032	3.3	46+320.000	226.872	213	-0.107	-0.032	3.3	226.765	
227.762	213	0.060	0.018	3.3	46+330.000	227.702	213	-0.060	-0.018	3.3	227.642	
227.874	213	0.053	0.016	3.3	46+331.439	227.821	213	-0.053	-0.016	3.3	227.769	REVERSE
228.545	213	0.013	0.004	3.3	46+340.000	228.532	213	-0.053	-0.016	3.3	228.479	
228.741	213	0.000	0.000	3.3	46+342.686	228.741	213	-0.053	-0.016	3.3	228.688	HALF FLAT
229.276	213	-0.034	-0.010	3.3	46+350.000	229.310	213	-0.053	-0.016	3.3	229.257	
229.563	213	-0.053	-0.016	3.3	46+353.932	229.616	213	-0.053	-0.016	3.3	229.563	END SE

SUPERELEVATION TABLE

LEFT SIDE					CENTERLINE CONTROL		RIGHT SIDE					REMARKS
EDGE ELEVATION	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	STATION	PROFILE GRADE	TRANSITION RATE	ELEVATION CORRECTION	CROSS SLOPE	WIDTH	EDGE ELEVATION	

CALCULATED BBD | CHECKED TDW

"OLD" US 33 AT SR 681 SUPERELEVATION TABLE

ATH-33-40.981

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INTERSECTION DETAIL
US 33 MAINLINE & CR 89

ATH-33-40.981

CALCULATED EJT
CHECKED TDW

SCALE 1:200
HORIZONTAL
SCALE IN METERS

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STA. 42+306.404, 16.2m RT., U.S. 33 =
STA. 2+220.341, 21.3m LT., C.R. 89
R = 18m
△ = 109° 59′ 54″
L = 34.557m

PC Sta. 2+171.264

PT Sta. 2+203.306

℄ CR 89

℄ US 33 MAINLINE

S 4° 17′ 30″ E

70°

S 74° 17′ 30″ E

STA 42+334.967 ℄ US 33 = +280
STA 2+245.333 ℄ CR 89

42+306.404
1.800 (LT)

2+220.341
3.300 (LT)

2+239.677
3.300 (RT)

42+324.748
16.200 (LT)

2+273.976
3.300 (LT)

2+295.017
3.300 (RT)

42+353.048
5.400 (LT)

42+371.687
19.800 (LT)

42+388.249
19.800 (LT)

STA. 42+324.748, 34.2m LT., U.S. 33 =
STA. 2+273.976, 21.3m LT., C.R. 89
R = 18m
△ = 70° 00′ 00″
L = 21.991m

STA. 42+353.048, 12.6m RT., U.S. 33 =
STA. 2+239.677, 21.3m RT., C.R. 89
R = 18m
△ = 70° 00′ 00″
L = 21.991m

STA. 42+371.687, 37.8m LT., U.S. 33 =
STA. 2+295.017, 21.3m RT., C.R. 89
R = 18m
△ = 114° 17′ 44″
L = 35.907m

CONC. PAV'T & SHLD. (SAME AS MAINLINE)

ASPH.

FUTURE ℄ US 33 MAINLINE

3.6m 7.2m 3.6m

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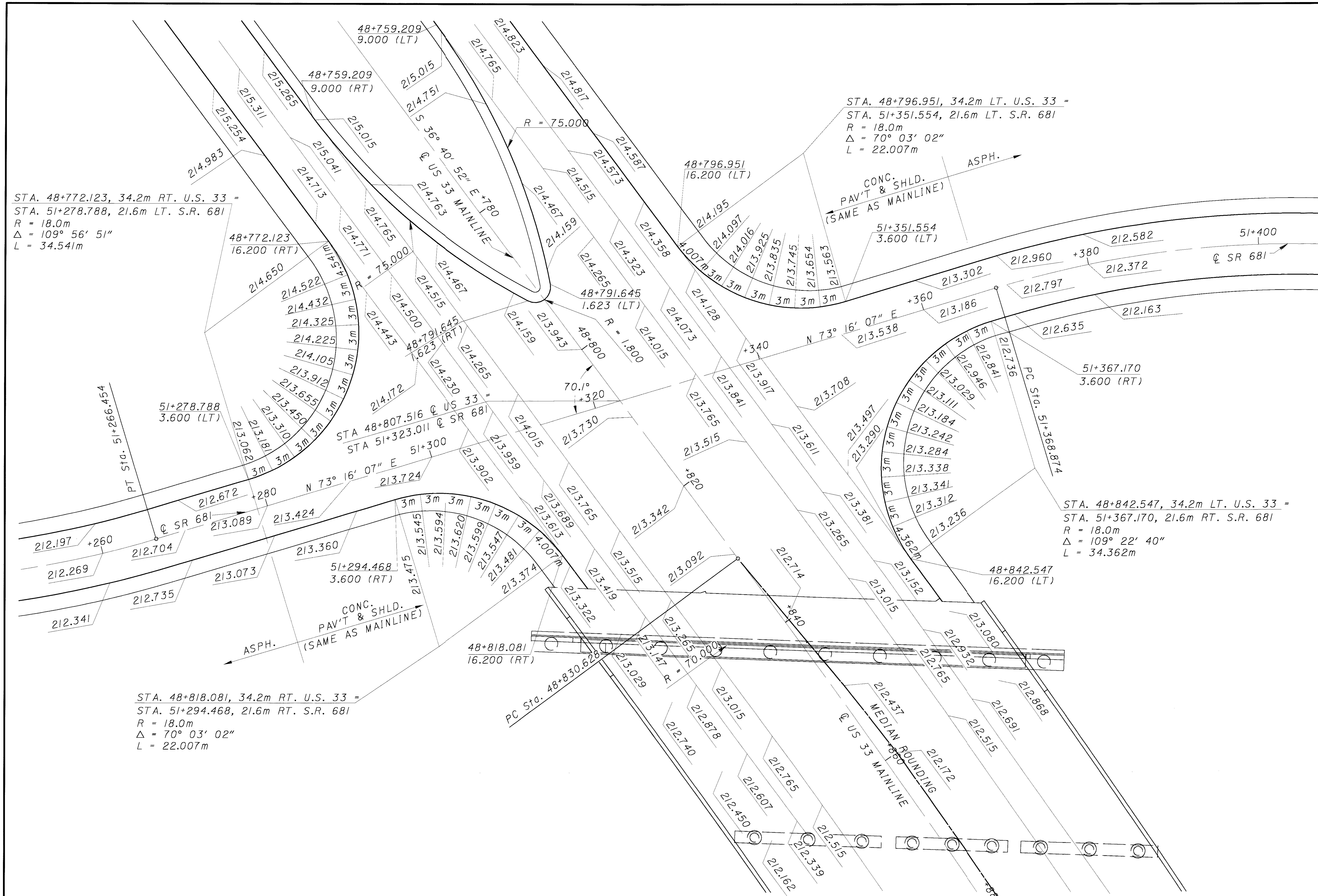

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SCALE 1:200
HORIZONTAL
SCALE IN METERS
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CALCULATED EJT
CHECKED TDW

INTERSECTION DETAIL
US 33 MAINLINE & SR 681 (AT-GRADE)

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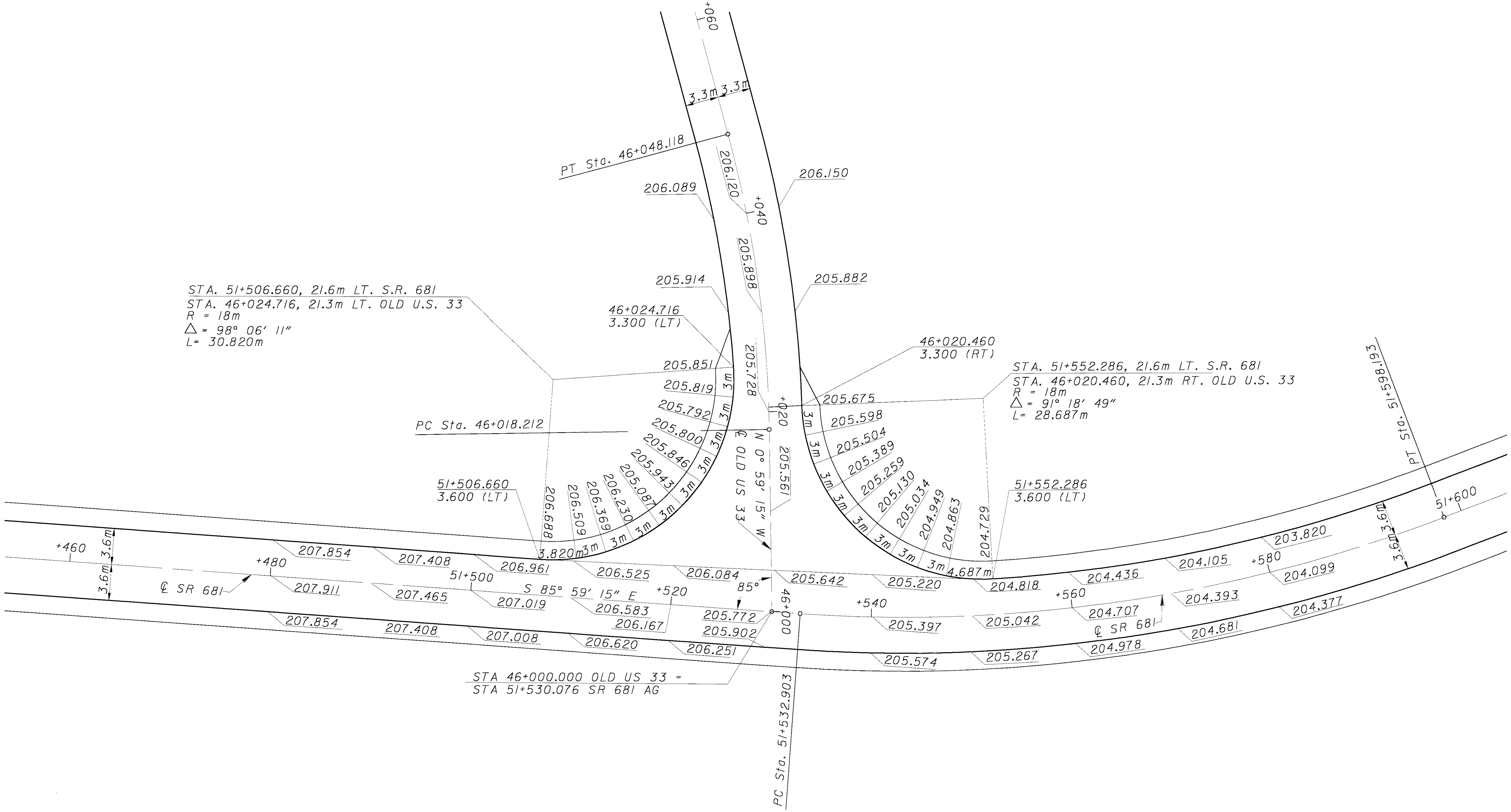

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HORIZONTAL
SCALE IN METERS

CALCULATED EJT
CHECKED TDW

INTERSECTION DETAIL
SR 681 (AT-GRADE) & OLD US 33

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49+653.087
6.768 (RT)
49+653.633
6.594 (LT)

49+693.271, U.S.33=
0+000, T.R. 17

49+678.960, 25.691m RT., U.S.33=
0+024.721, 15.928m RT., T.R. 17
R= 12.0m
Δ= 86°56'25"
L= 18.209m

49+679.964, 25.484m LT., U.S.33=
0+025.376, 15.053m LT., C.R. 20
R= 12.0m
Δ= 90°03'45"
L= 18.863m

49+677.898
0.000 (RT)

90°24'42.66"
93°40'31.6"

PC Sta. 49+694.214

49+700

49+712.106
0.012 (LT)

49+710.306, 25.425m LT., U.S.33=
0+025.607, 15.053m RT., C.R. 20
R= 12.0m
Δ= 90°56'23"
L= 19.046m

49+694.834, U.S.33=
0+000, C.R. 20

49+710.622, 25.427m RT., U.S.33=
0+026.423, 15.928m LT., T.R. 17
R= 12.0m
Δ= 90°03'35"
L= 19.490m

49+735.811
6.225 (LT)

49+736.758
6.225 (RT)

R = 70.000
R = 1.800

Const. U.S. 33
+660 S 7°01'27" E
215.596

T.R. 17
C.R. 20

CALCULATED
CHECKED

SCALE 1:200
HORIZONTAL
SCALE IN METERS

INTERSECTION DETAIL
US 33 MAINLINE & CR 20

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PC Sta. 2+171.264

+180

2+200

PT Sta. 2+203.306

+220

+240

+260

+280

2+300

+320

+340

+360

+380

42+300

TRANSVERSE JOINT SPACING @ 4.5m C/C

TRANSVERSE JOINT SPACING @ 3.7m C/C

0.6Im MIN. RADIAL

0.5m TYP FROM EDGE OF SHOULDER

TRANSVERSE JOINT TYPE C SPACED AS DIMENSIONED

PC Sta. 2+286.018

TRANSVERSE JOINT SPACING @ 3.7m C/C

TRANSVERSE JOINT SPACING @ 4.1m C/C

TRANSVERSE JOINT SPACING @ 4.5m C/C

3m 3.4m 2.9m 3.3m 3.6m 3.5m 2.1m 2.6m 3.9m 3.2m

LEGEND

(E) EXPANSION JOINT AS PER BP-2.2

(W) EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS

(L) STANDARD LONGITUDINAL JOINT AS PER BP-2.1

(S) STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS

(C) CONTRACTION JOINT AS PER BP-2.2

(Y) BUTT JOINT AS PER BP-2.1

N

SCALE 1:200
HORIZONTAL
SCALE IN METERS
0 4 8

CALCULATED EDS
CHECKED BBD

CONCRETE JOINT DETAIL
US 33 MAINLINE & CR 89

ATH-33-40.981

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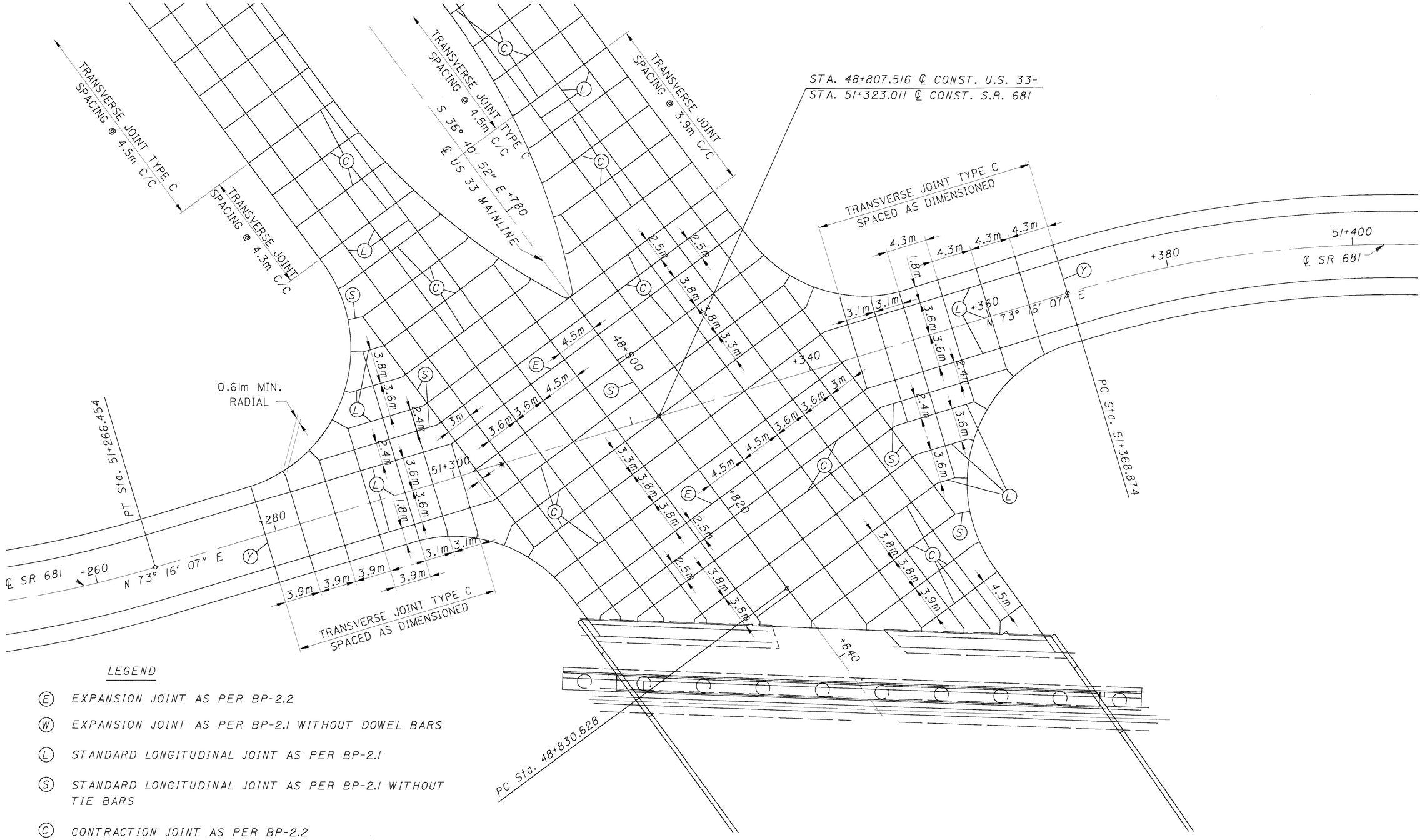

LEGEND

- (E) *EXPANSION JOINT AS PER BP-2.2*
- (W) *EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS*
- (L) *STANDARD LONGITUDINAL JOINT AS PER BP-2.1*
- (S) *STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS*
- (C) *CONTRACTION JOINT AS PER BP-2.2*
- (Y) *BUTT JOINT AS PER BP-2.1*

*- 0.5m TYP FROM EDGE OF SHOULDER

SCALE 1:200
HORIZONTAL
SCALE IN METERS

CALCULATED EDS
CHECKED BBD

PAVEMENT JOINT DETAIL
US 33 MAINLINE
& SR 681 (AT-GRADE)

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*- 0.5m TYP FROM
EDGE OF SHOULDER

LEGEND

- (E) EXPANSION JOINT AS PER BP-2.2
- (W) EXPANSION JOINT AS PER BP-2.1 WITHOUT DOWEL BARS
- (L) STANDARD LONGITUDINAL JOINT AS PER BP-2.1
- (S) STANDARD LONGITUDINAL JOINT AS PER BP-2.1 WITHOUT TIE BARS
- (C) CONTRACTION JOINT AS PER BP-2.2
- (Y) BUTT JOINT AS PER BP-2.1

SCALE 1:200
HORIZONTAL
SCALE IN METERS
0 4 8

CALCULATED EDS
CHECKED BBD

PAVEMENT JOINT DETAIL
US 33 MAINLINE & CR 20

ATH-33-40.981

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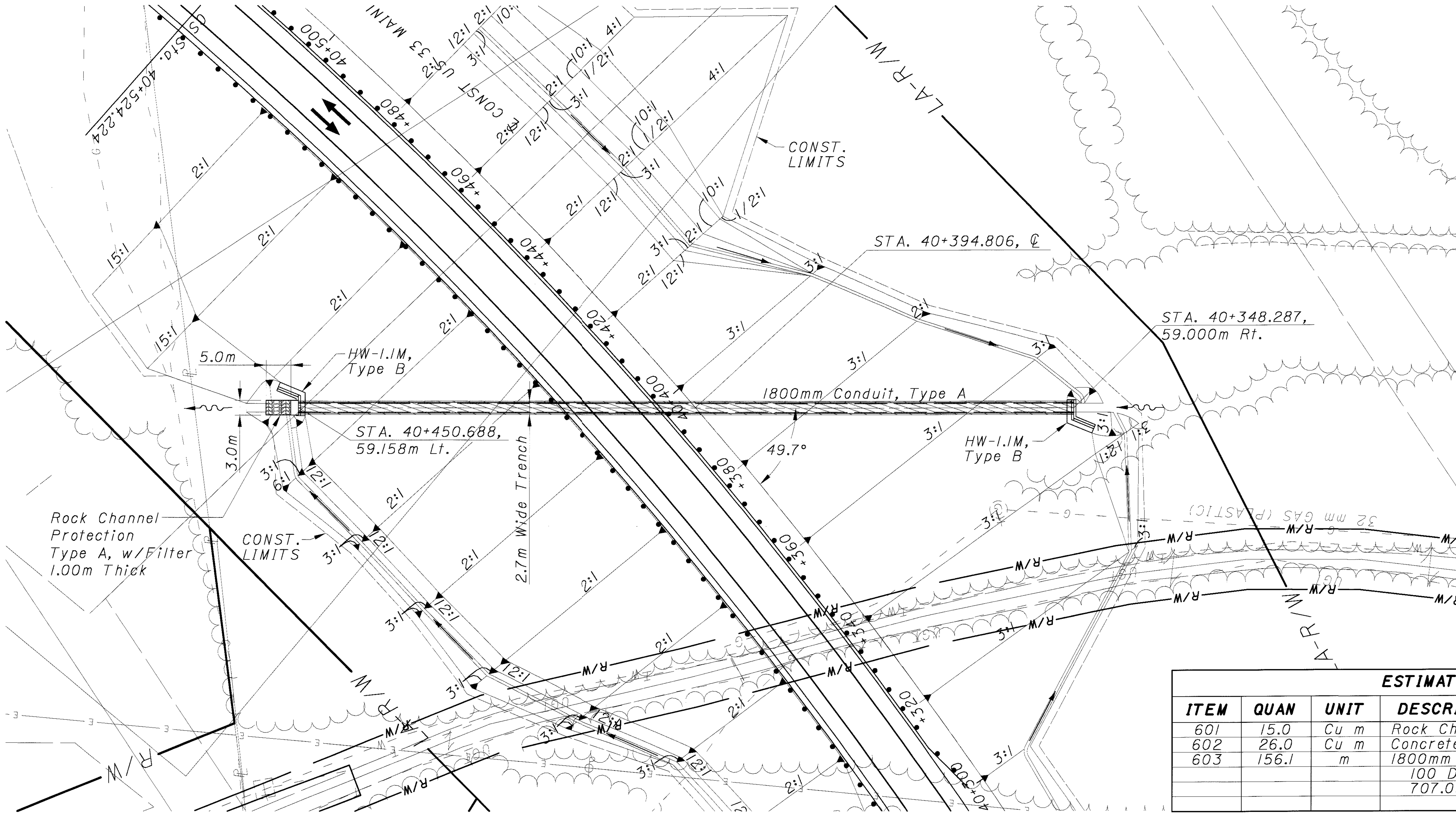
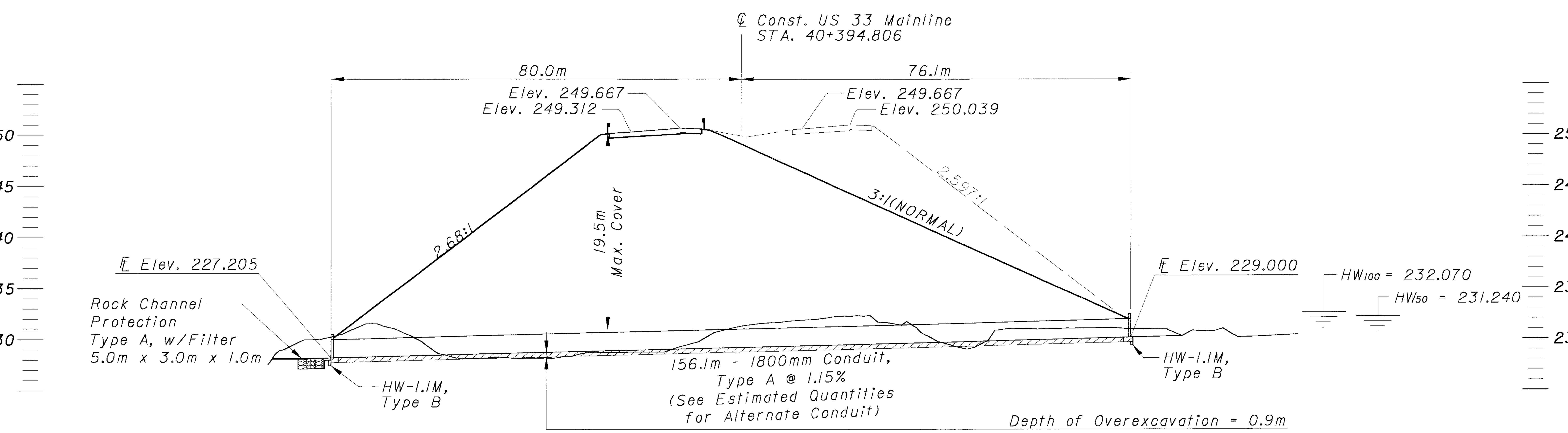
HYDRAULIC DESIGN DATA	
Drainage Area	= 1.07 sq km
Q_{50}	= 7.37 cms
Q_{100}	= 8.68 cms
HW_{50}	= 231.240
HW_{100}	= 232.070
V_{50}	= 3.16 mps
V_{100}	= 3.85 mps
pH	= 8.0



Excavation of Unsuitable Material
See General Notes for Quantities

ESTIMATED QUANTITIES			
ITEM	QUAN	UNIT	DESCRIPTION
601	15.0	Cu m	Rock Channel Protection, Type A, w/Filter
602	26.0	Cu m	Concrete Masonry
603	156.1	m	1800mm Conduit, Type A, 706.02
			100 D-Load (Induced Trench), or
			707.03 (4.27) with Field Paving



0 10 20 HORIZONTAL SCALE IN METERS

CALCULATED BBD CHECKED TDW

CULVERT No. 24
US 33 - STA. 40+394.806

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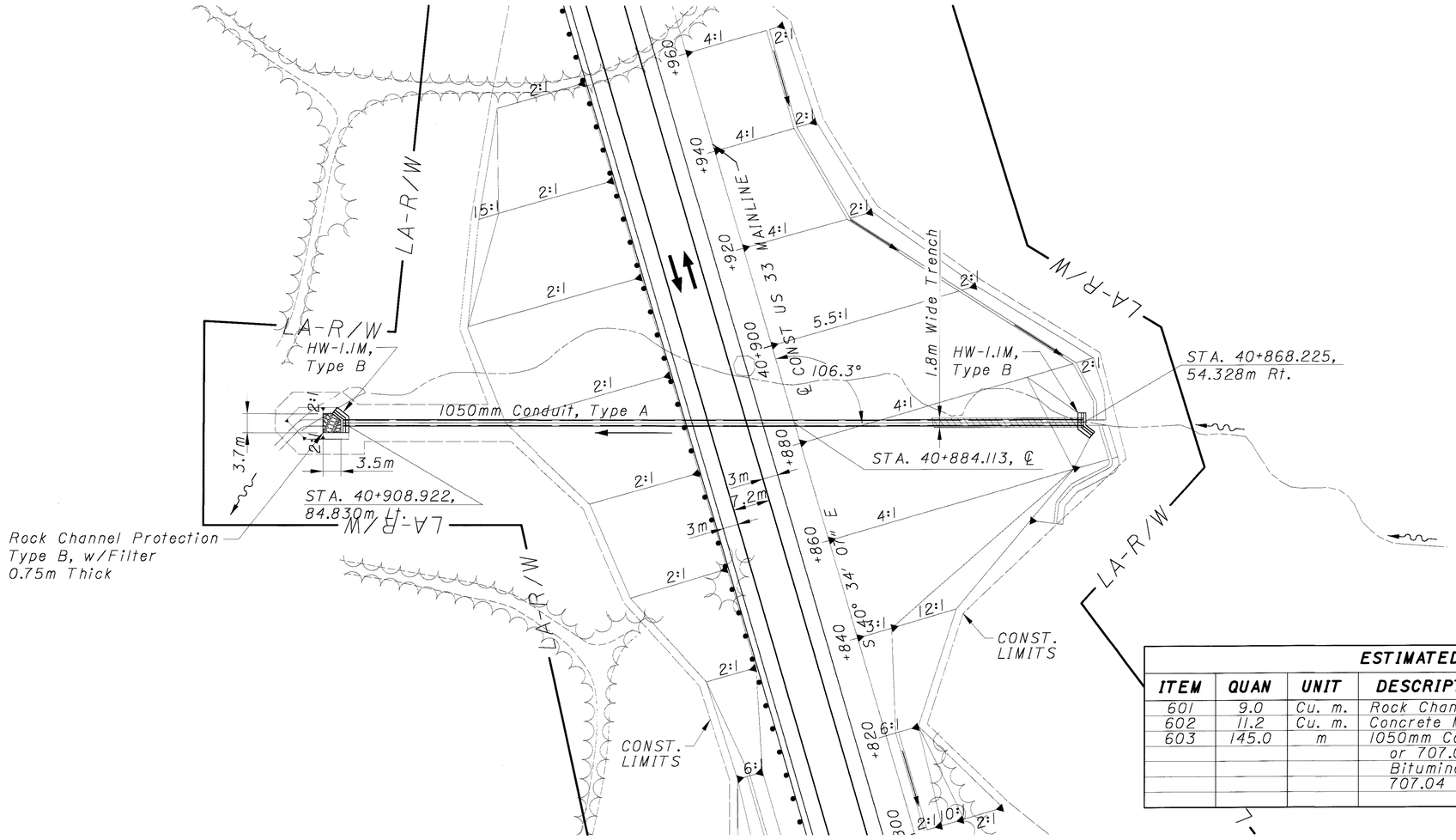
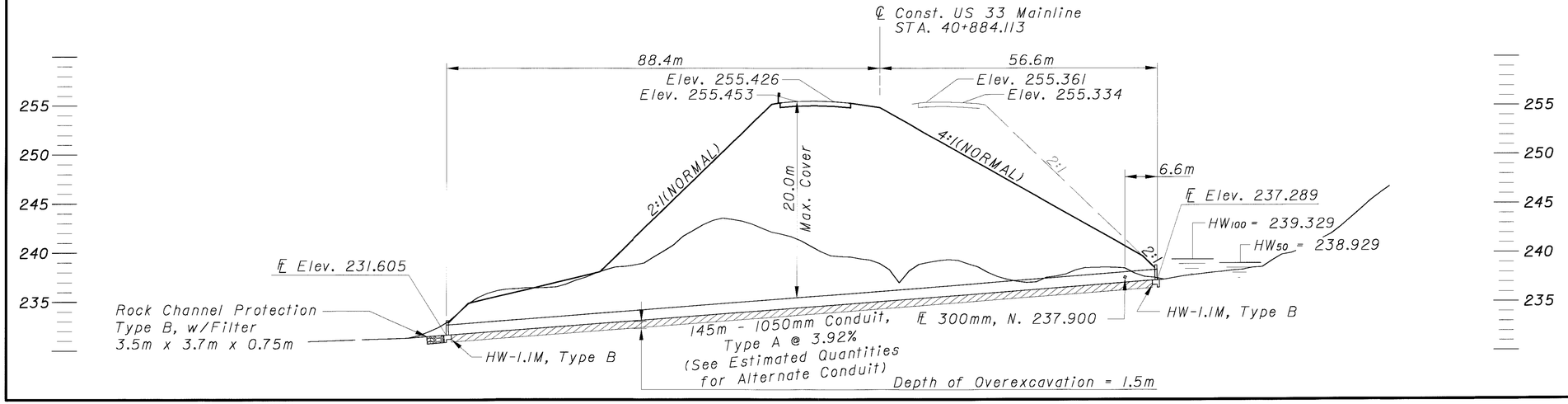


HYDRAULIC DESIGN DATA

Drainage Area	= 0.117 sq km
Q_{50}	= 2.41 cms
Q_{100}	= 2.89 cms
HW_{50}	= 238.929
HW_{100}	= 239.329
V_{50}	= 3.30 mps
V_{100}	= 3.44 mps
pH	= 8.4

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	9.0	Cu. m.	Rock Channel Protection, Type B, w/Filter
602	11.2	Cu. m.	Concrete Masonry
603	145.0	m	1050mm Conduit, Type A, 706.02 140 D-Load, or 707.02 (2.77) Aluminum Coated Pipe with Bituminous Paved Invert, 707.07 (3.51) or 707.04 (3.51) (25mm Corr.)



HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED IBD
CHECKED TDW

CULVERT No. 25
US 33 - STA. 40+884.113

ATH-33-40.981

564
949

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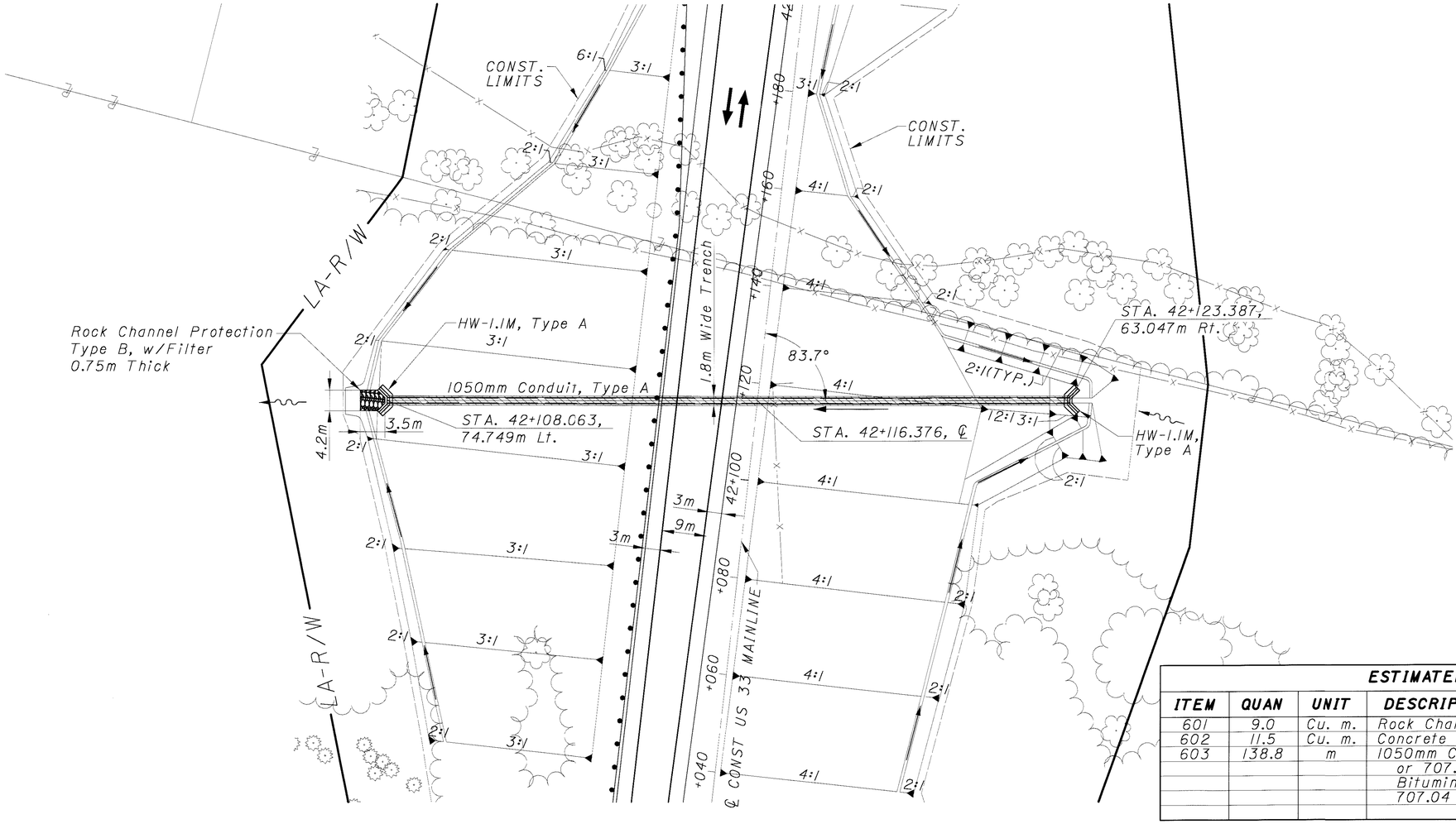
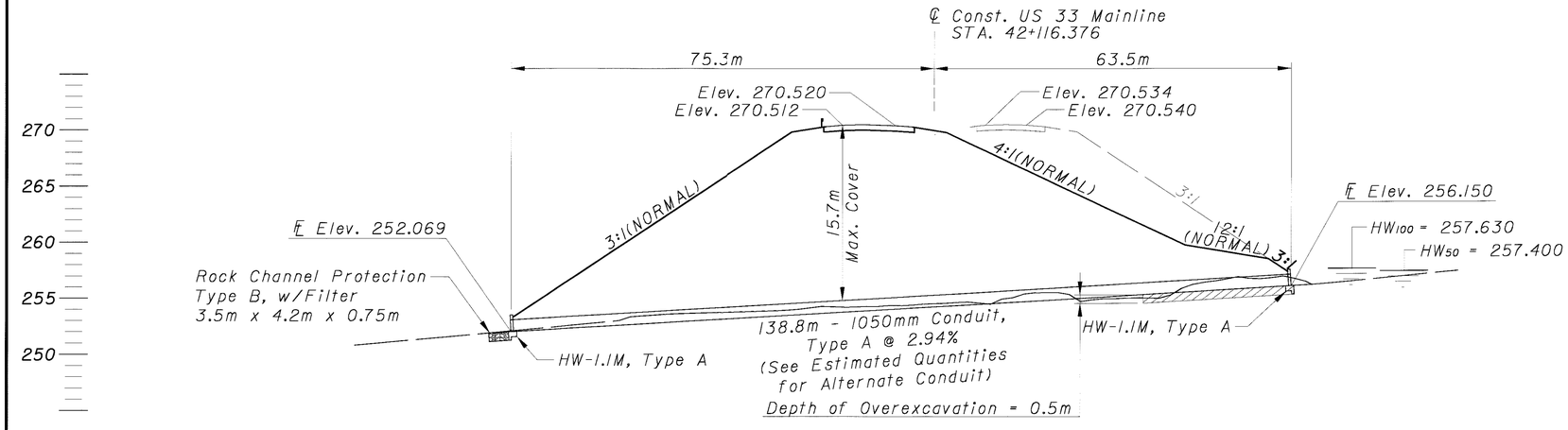


HYDRAULIC DESIGN DATA

Drainage Area	= 0.083 sq km
Q_{50}	= 1.82 cms
Q_{100}	= 2.18 cms
HW_{50}	= 257.400
HW_{100}	= 257.630
V_{50}	= 5.01 mps
V_{100}	= 5.31 mps
pH	= 8.0

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	9.0	Cu. m.	Rock Channel Protection, Type B, w/Filter
602	11.5	Cu. m.	Concrete Masonry
603	138.8	m	1050mm Conduit, Type A, 706.02 130 D-Load, or 707.02 (2.77) Aluminum Coated Pipe with Bituminous Paved Invert, 707.07 (3.51) or 707.04 (3.51) (25mm CORR.)



HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD | CHECKED TDW

CULVERT No. 28
US 33 - STA. 42+116.376

ATH-33-40.981

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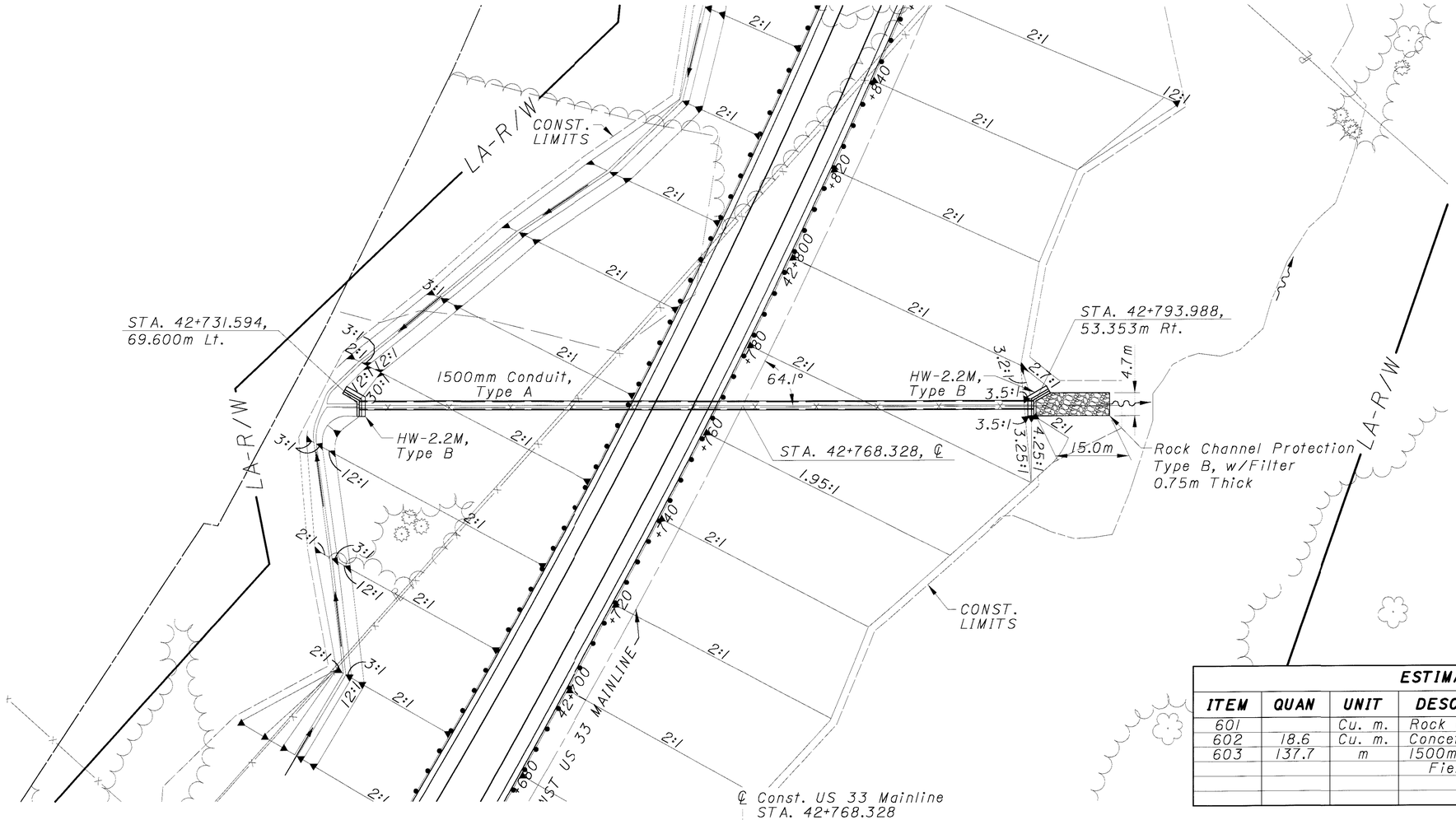

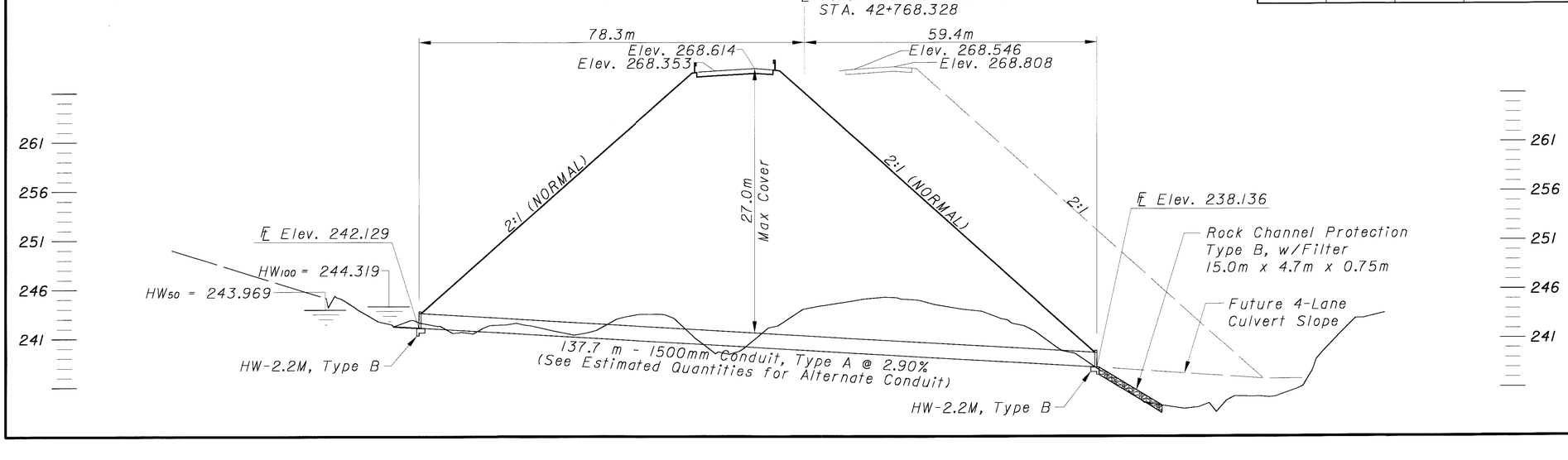

HYDRAULIC DESIGN DATA	
Drainage Area	= 0.238 sq km
Q_{50}	= 4.59 cms
Q_{100}	= 5.51 cms
HW_{50}	= 243.969
HW_{100}	= 244.319
V_{50}	= 3.04 mps
V_{100}	= 3.52 mps
pH	= 8.0

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601		Cu. m.	Rock Channel Protection, Type B, w/Filter
602	18.6	Cu. m.	Concete Masonry
603	137.7	m	1500mm Conduit, Type A, 707.03 (4.27) With Field Paving

HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDM

CULVERT No. 29A
US 33 - STA. 42+768.328

ATH-33-40.981

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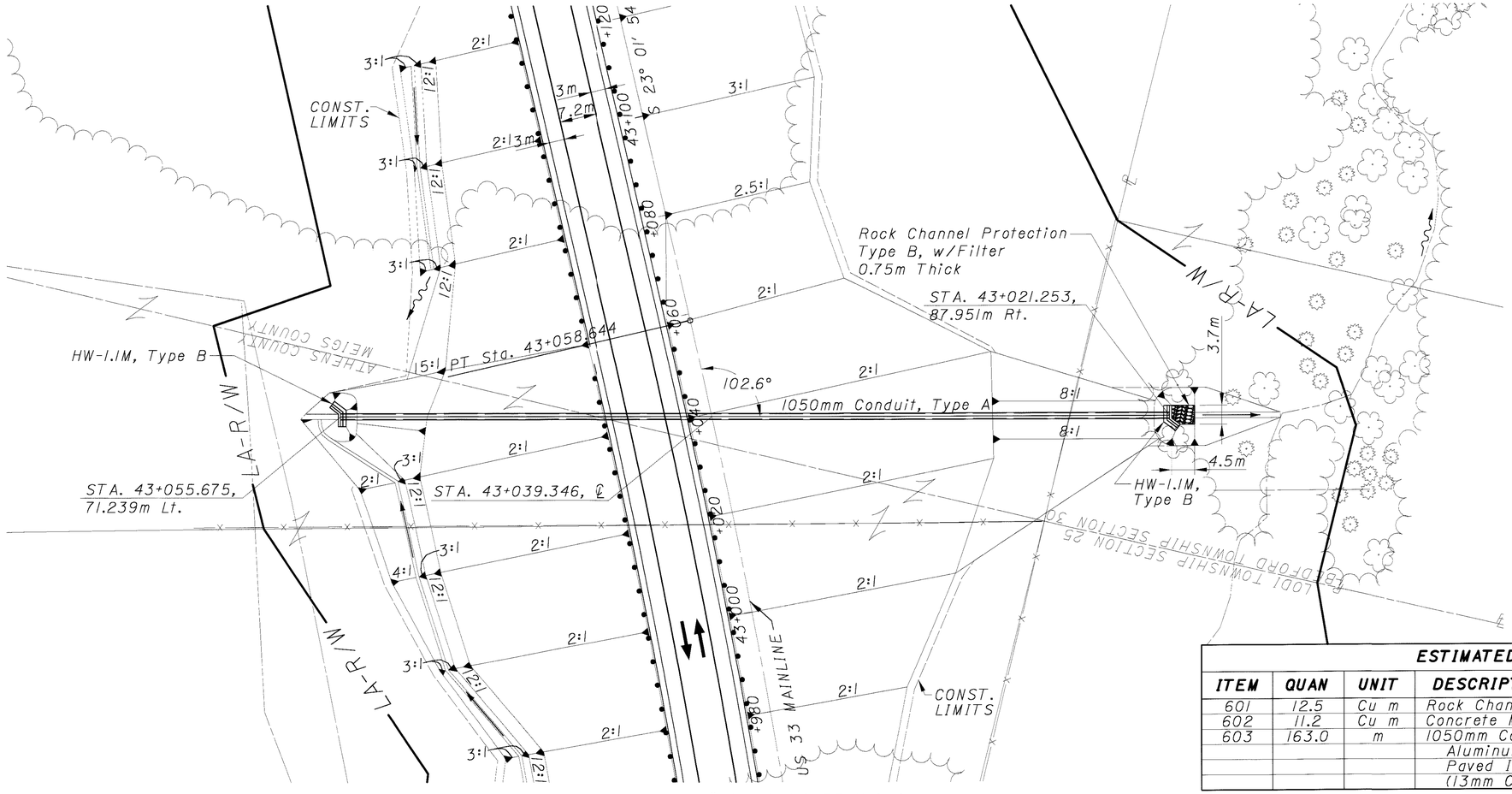

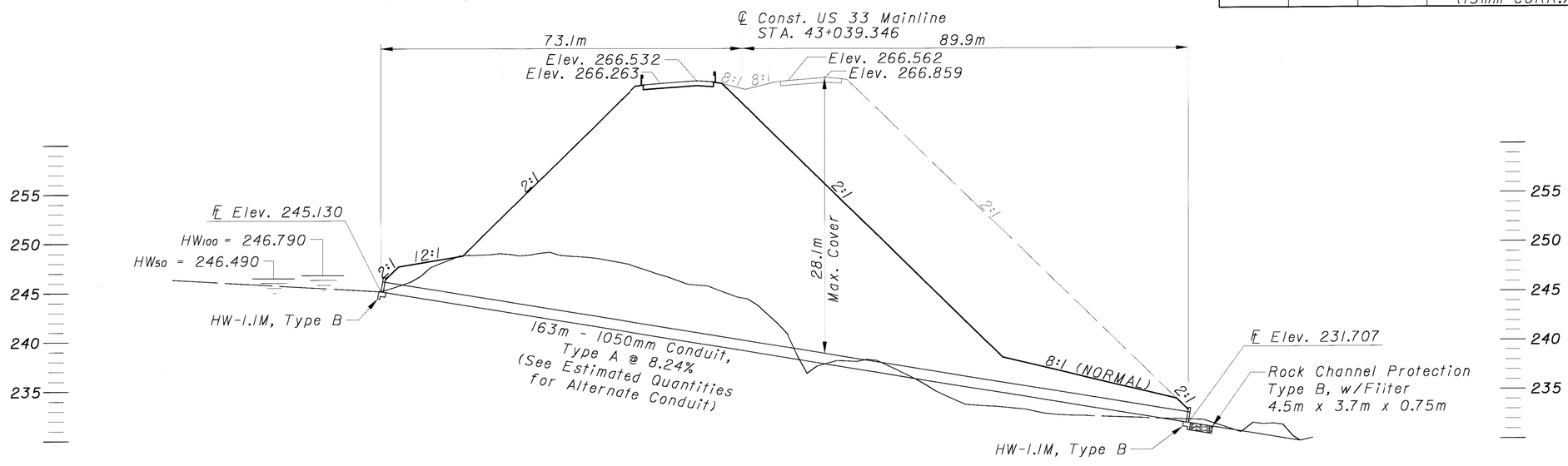

HYDRAULIC DESIGN DATA	
Drainage Area	= 0.106 sq km
Q_{50}	= 2.22 cms
Q_{100}	= 2.66 cms
HW_{50}	= 246.490
HW_{100}	= 246.760
V_{50}	= 4.85 mps
V_{100}	= 5.17 mps
pH	= 8.0

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	12.5	Cu m	Rock Channel Protection, Type B, w/Filter
602	11.2	Cu m	Concrete Masonry
603	163.0	m	1050mm Conduit, Type A, 707.01 (2.77)
			Aluminum Coated Pipe With Bituminous
			Paved Invert, 707.05 (3.51) or 707.04 (3.51)
			(13mm CORR.), As Per Plan

N

0 10 20
HORIZONTAL
SCALE IN METERS

CALCULATED BBD
CHECKED TDW

CULVERT No. 30
US 33 - STA. 43+039.346

ATH-33-40.981

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949

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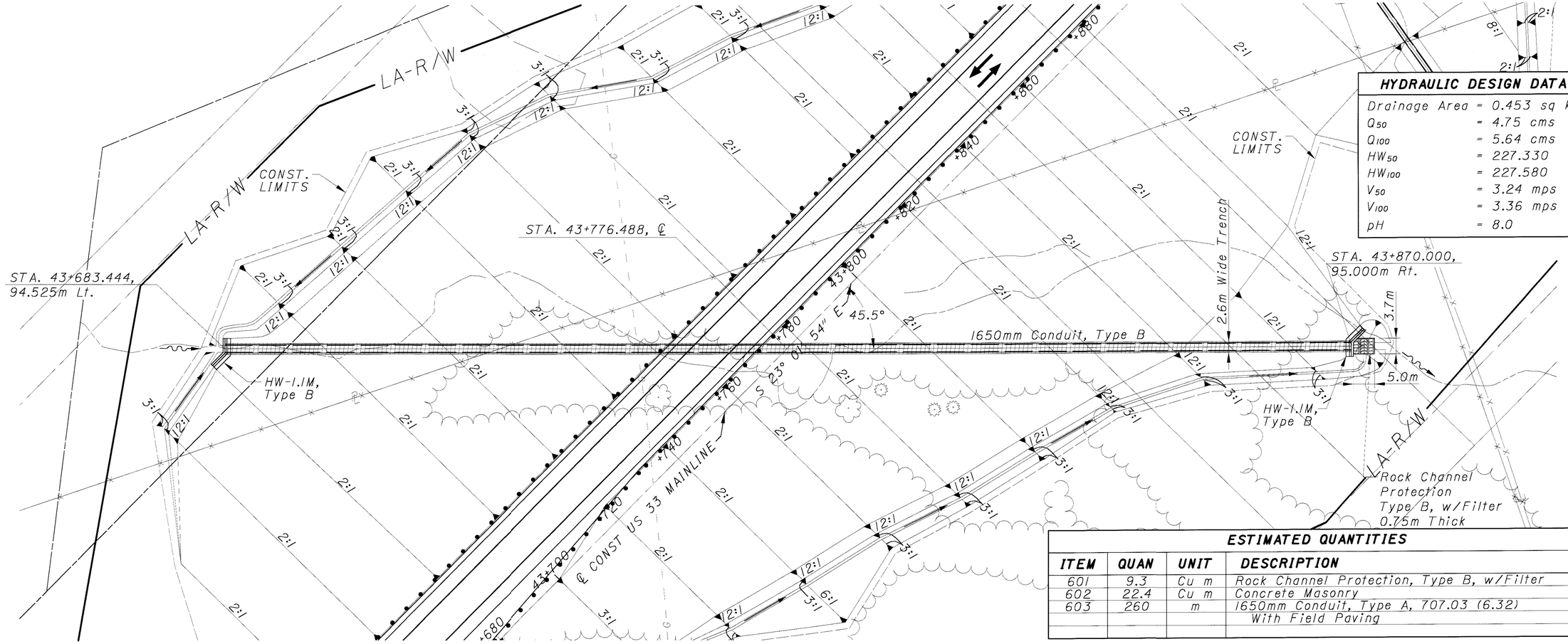
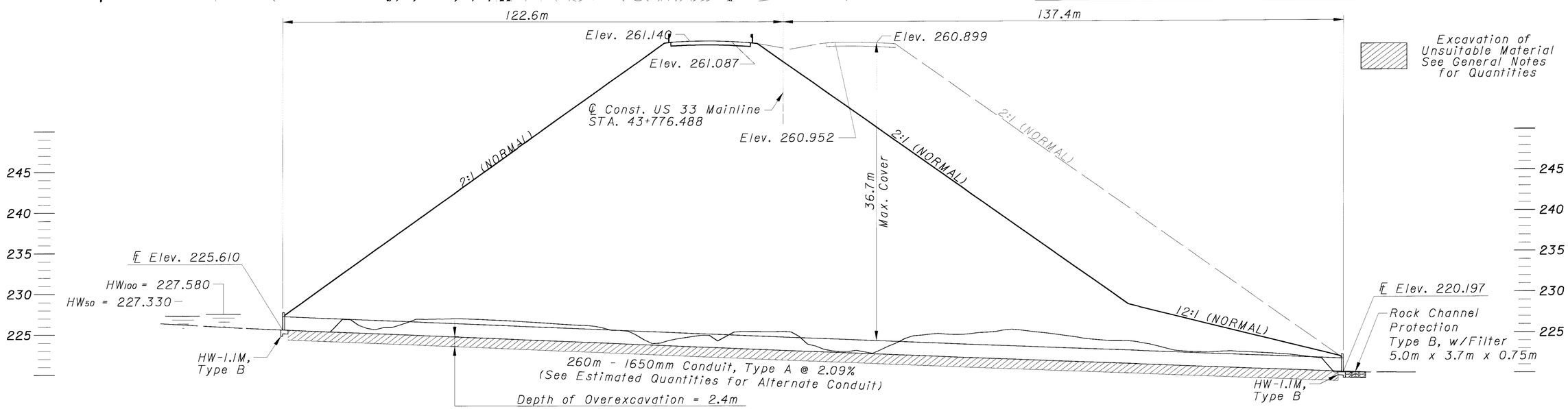


HYDRAULIC DESIGN DATA

Drainage Area	= 0.453 sq km
Q_{50}	= 4.75 cms
Q_{100}	= 5.64 cms
HW_{50}	= 227.330
HW_{100}	= 227.580
V_{50}	= 3.24 mps
V_{100}	= 3.36 mps
pH	= 8.0

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	9.3	Cu m	Rock Channel Protection, Type B, w/Filter
602	22.4	Cu m	Concrete Masonry
603	260	m	1650mm Conduit, Type A, 707.03 (6.32) With Field Paving



HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD | CHECKED TDW

CULVERT No. 31
US 33 - STA. 43+776.386

ATH-33-40.981

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949

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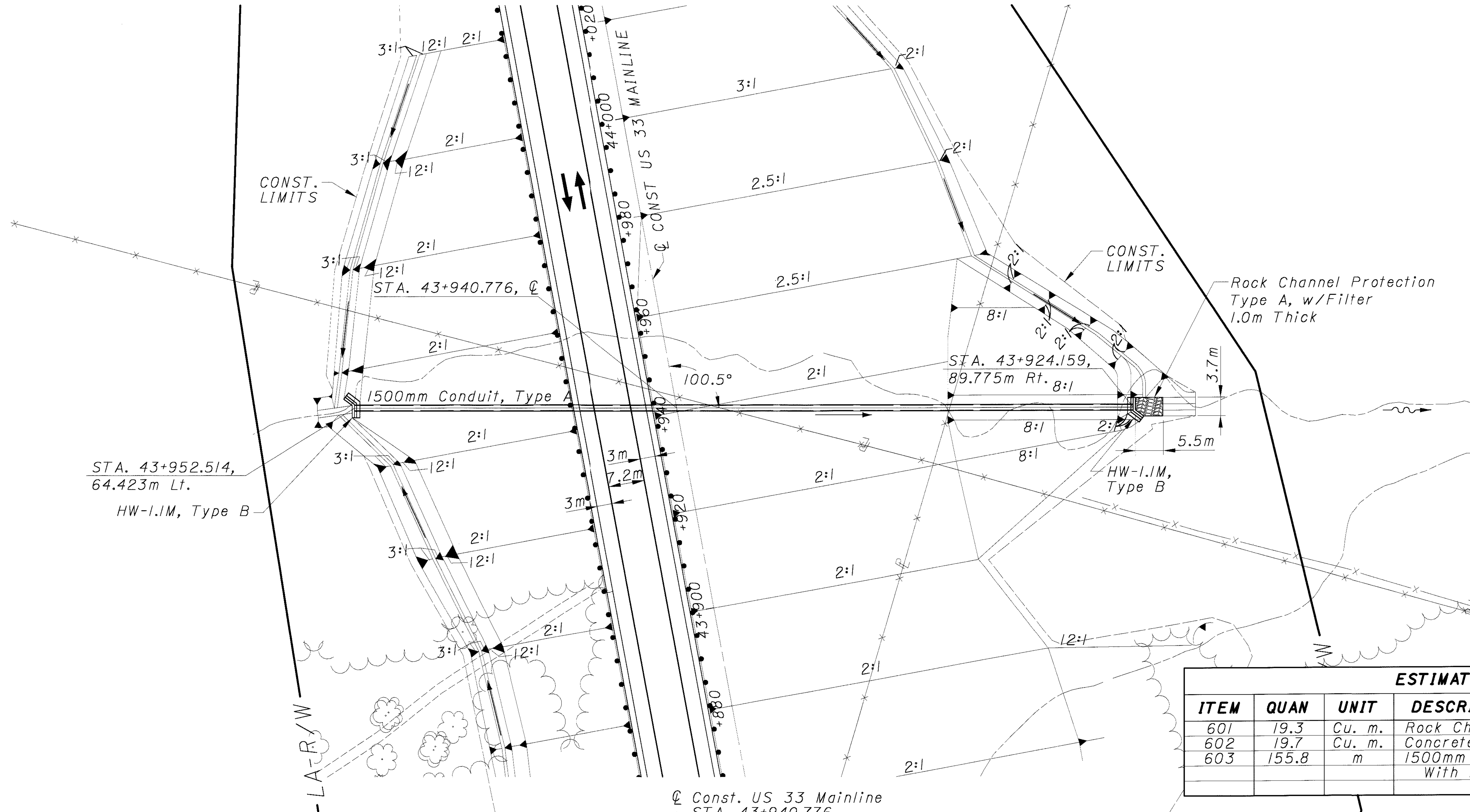
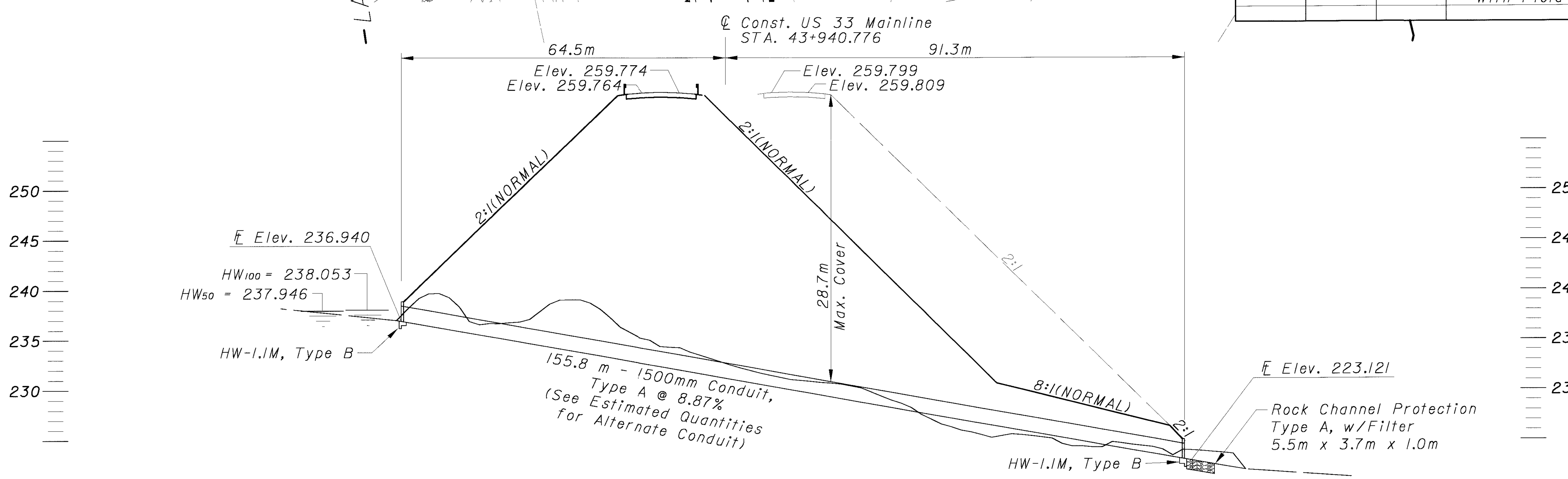


HYDRAULIC DESIGN DATA

Drainage Area	= 0.082 sq km
Q_{50}	= 1.84 cms
Q_{100}	= 2.21 cms
HW_{50}	= 237.946
HW_{100}	= 238.053
V_{50}	= 3.6 mps
V_{100}	= 3.8 mps
pH	= 8.0

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	19.3	Cu. m.	Rock Channel Protection, Type A, w/Filter
602	19.7	Cu. m.	Concrete Masonry
603	155.8	m	1500mm Conduit, Type A, 707.03(4.78) With Field Paving



HORIZONTAL SCALE IN METERS

CALCULATED BBD

CHECKED TDW

CULVERT No. 48
US 33 - STA. 43+940.776

ATH-33-40.981

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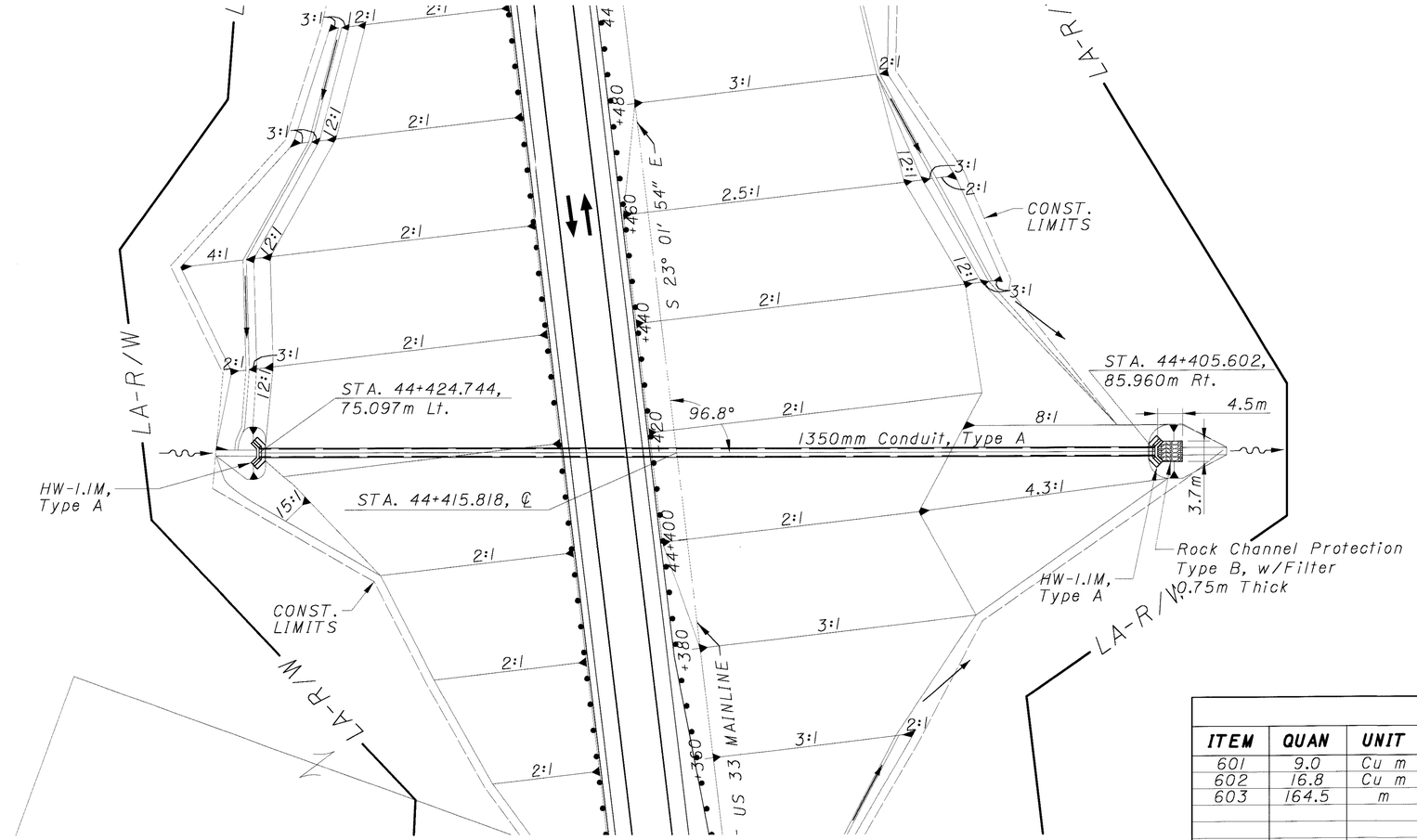
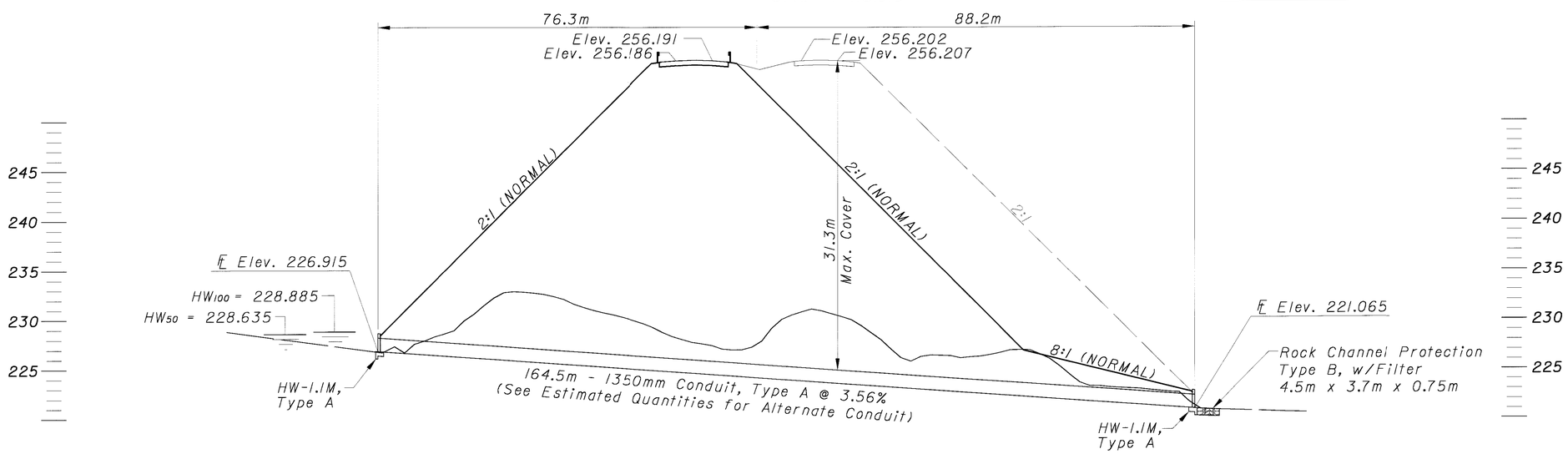


℄ Const. US 33 Mainline
STA. 44+415.818



HYDRAULIC DESIGN DATA	
Drainage Area	= 0.210 sq km
Q_{50}	= 3.61 cms
Q_{100}	= 4.33 cms
HW_{50}	= 228.635
HW_{100}	= 228.885
V_{50}	= 3.24 mps
V_{100}	= 3.36 mps
pH	= 8.0

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	9.0	Cu m	Rock Channel Protection, Type A, w/Filter
602	16.8	Cu m	Concrete Masonry
603	164.5	m	1350mm Conduit, Type A, 707.02 (4.27) Aluminum Coated Pipe With Bituminous Paved Invert, As Per Plan

0 10 20
HORIZONTAL SCALE IN METERS

CALCULATED BBD
CHECKED TDW

CULVERT No. 32
US 33 - STA. 44+415.818

ATH-33-40.981

570
949

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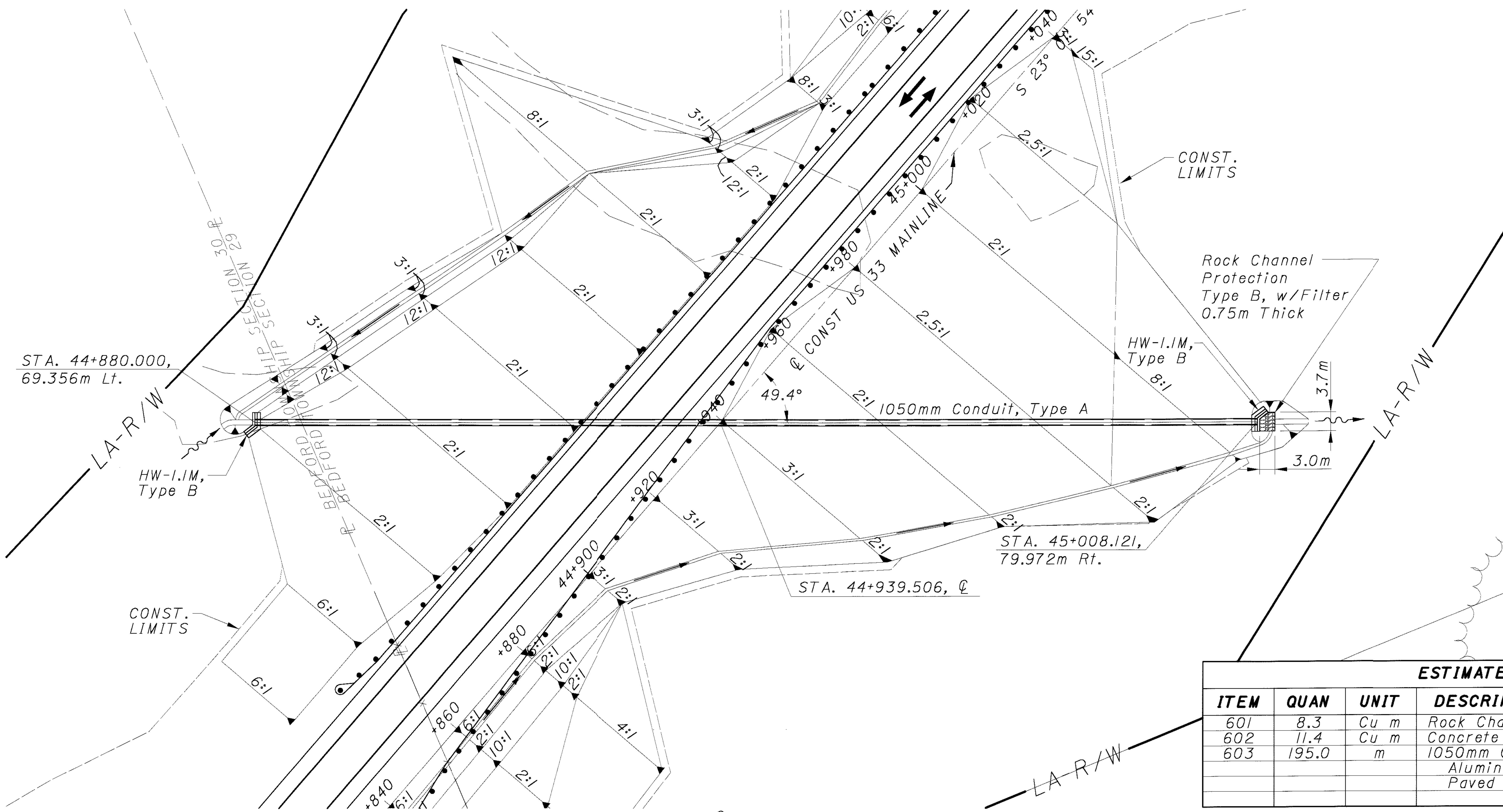

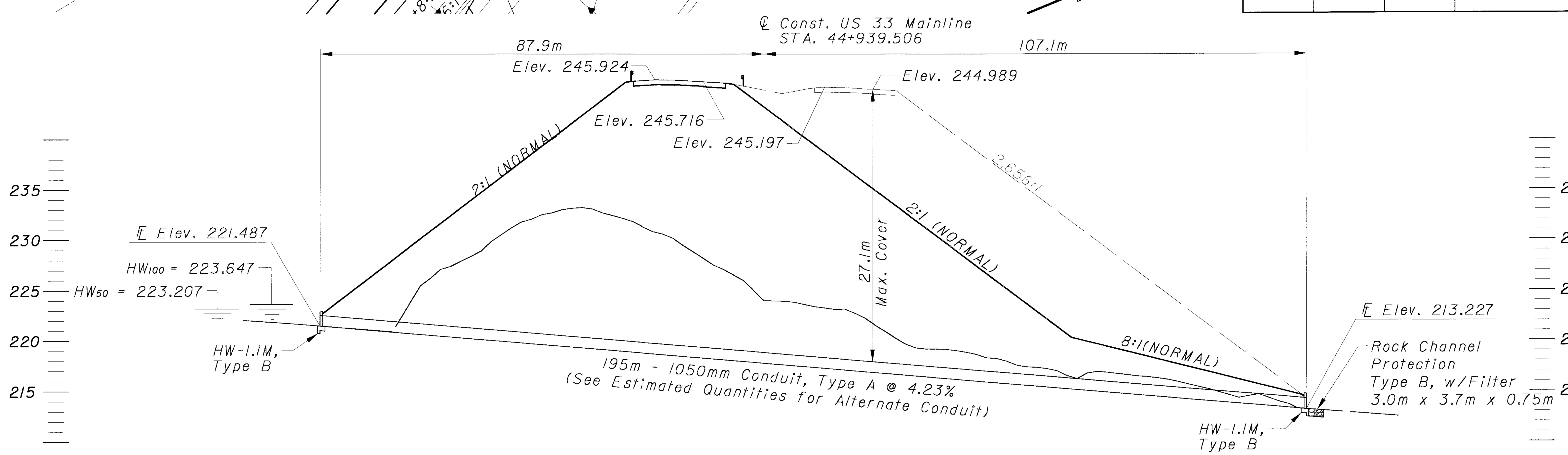

HYDRAULIC DESIGN DATA

Drainage Area	= 0.114 sq km
Q_{50}	= 2.51 cms
Q_{100}	= 3.02 cms
HW_{50}	= 223.207
HW_{100}	= 223.647
V_{50}	= 3.94 mps
V_{100}	= 4.08 mps
pH	= 7.7

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	8.3	Cu m	Rock Channel Protection, Type B, w/Filter
602	11.4	Cu m	Concrete Masonry
603	195.0	m	1050mm Conduit, Type A, 707.01 (4.27) Aluminum Coated Pipe With Bituminous Paved Invert, As Per Plan

HORIZONTAL SCALE IN METERS 0 10 20

CALCULATED BBD CHECKED TDW

CULVERT No. 33
US 33 - STA. 44+939.506

ATH-33-40.981

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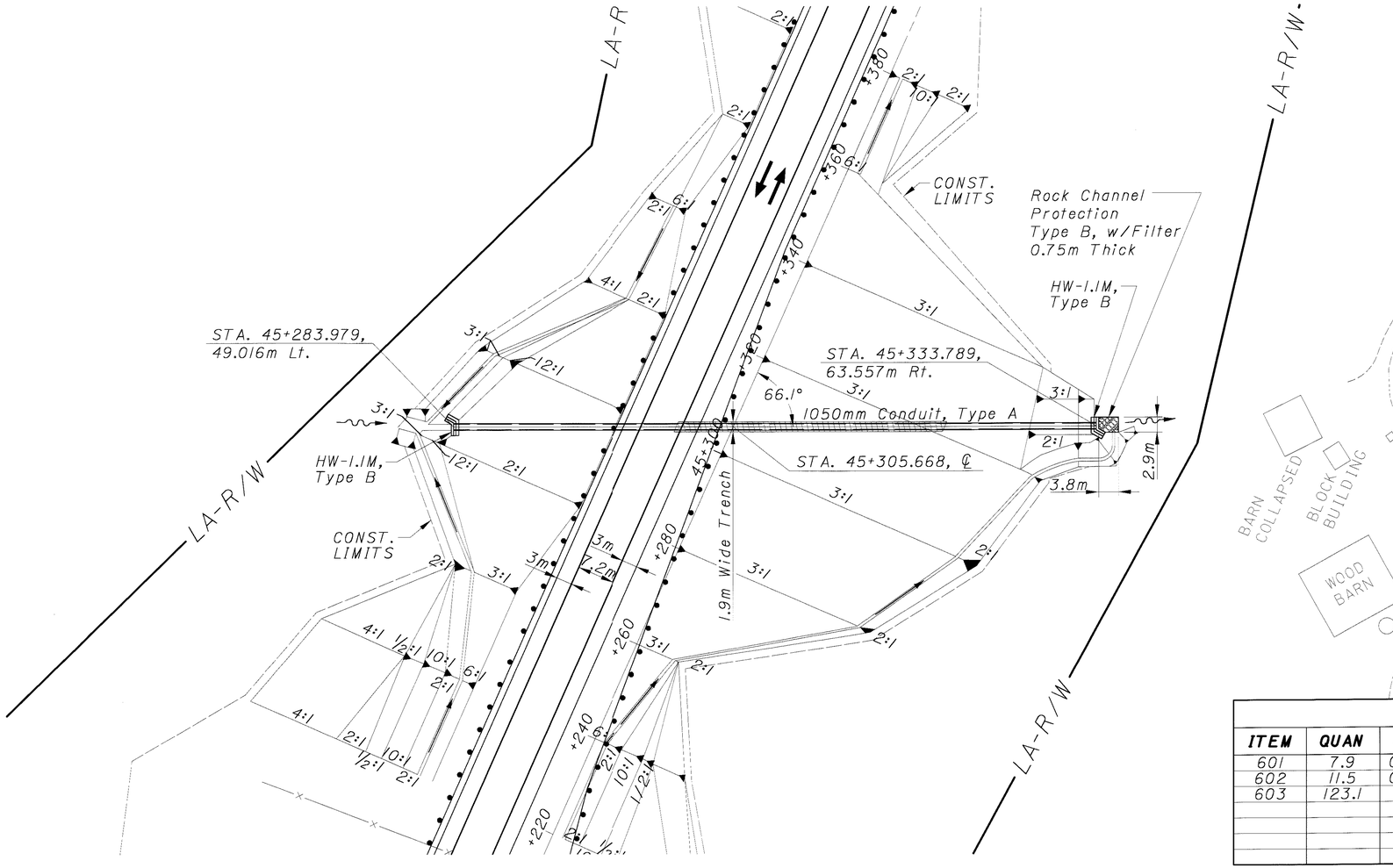
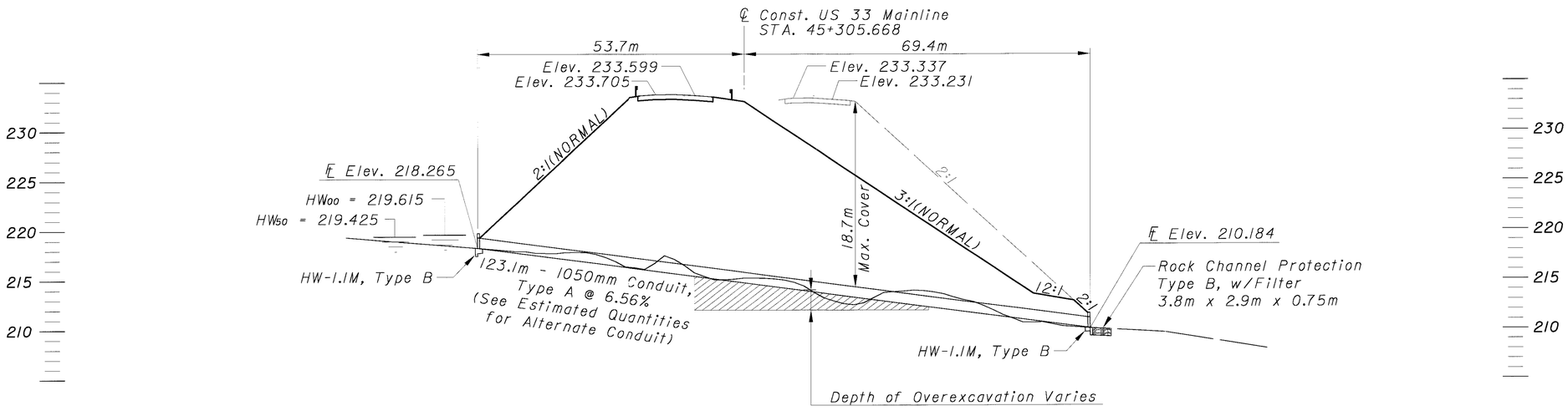


HYDRAULIC DESIGN DATA	
Drainage Area	= 0.063 sq km
Q_{50}	= 1.65 cms
Q_{100}	= 1.98 cms
HW_{50}	= 219.425
HW_{100}	= 219.615
V_{50}	= 3.70 mps
V_{100}	= 3.85 mps
pH	= 7.9

Excavation of Unsuitable Material
See General Notes for Quantities

ESTIMATED QUANTITIES			
ITEM	QUAN	UNIT	DESCRIPTION
601	7.9	Cu. m.	Rock Channel Protection, Type B, w/Filter
602	11.5	Cu. m.	Concrete Masonry
603	123.1	m	1050mm Conduit,Type A, 707.02 (4.27) Aluminum Coated Pipe With Bituminous Paved Invert



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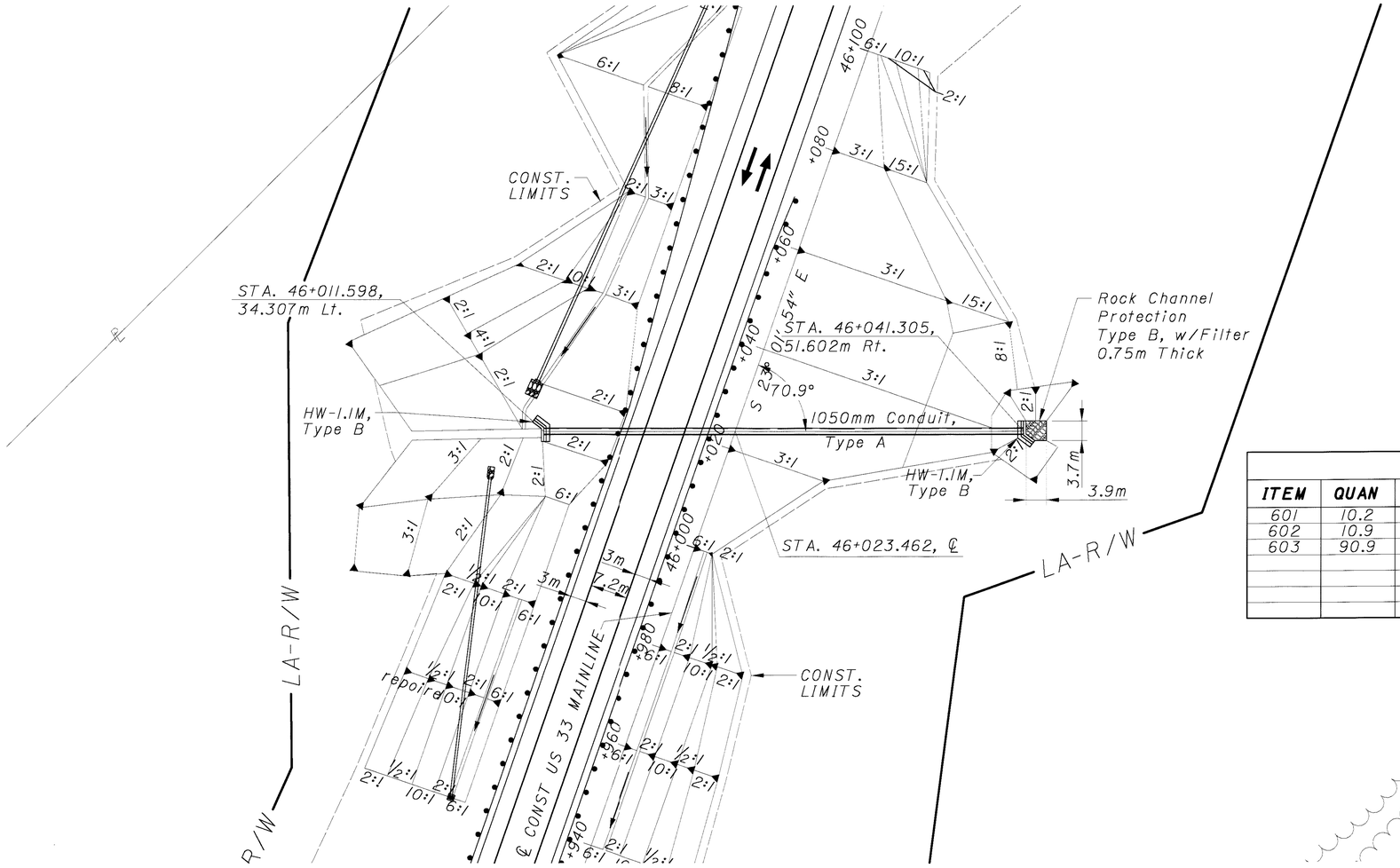
HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

CULVERT No. 34
US 33 - STA. 45+305.668

ATH-33-40.981

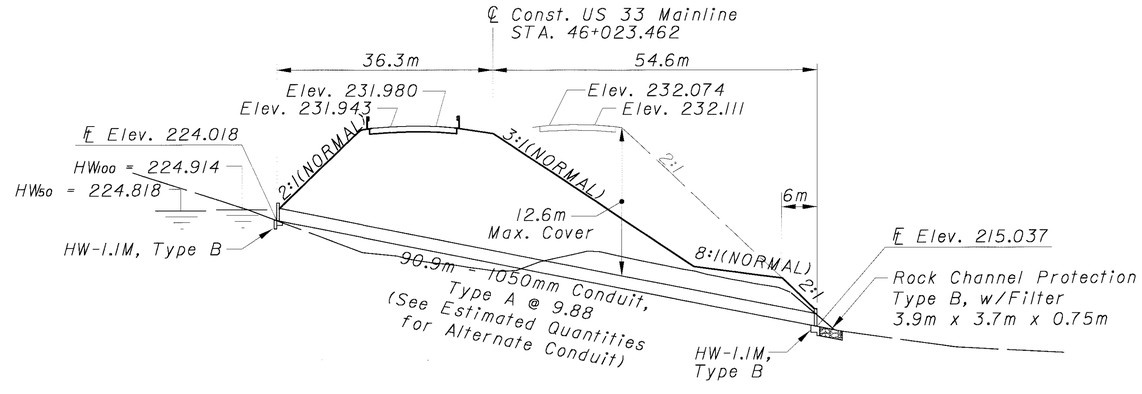
572
949



HYDRAULIC DESIGN DATA	
Drainage Area	= 0.037 sq km
Q_{50}	= 0.94 cms
Q_{100}	= 1.12 cms
HW_{50}	= 224.818
HW_{100}	= 224.914
V_{50}	= 4.24 mps
V_{100}	= 4.46 mps
pH	= 8.0

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	10.2	Cu. m.	Rock Channel Protection, Type B, w/Filter
602	10.9	Cu. m.	Concrete Masonry
603	90.9	m	1050mm Conduit, Type A, 707.02 (2.77) Aluminum Coated Pipe With Bituminous Paved Invert, 707.07 (3.51) or 707.04 (3.51) (25mm CORR.)



CALCULATED BBD | CHECKED TDW

CULVERT No. 35
US 33 - STA. 46+023.462

ATH-33-40.981

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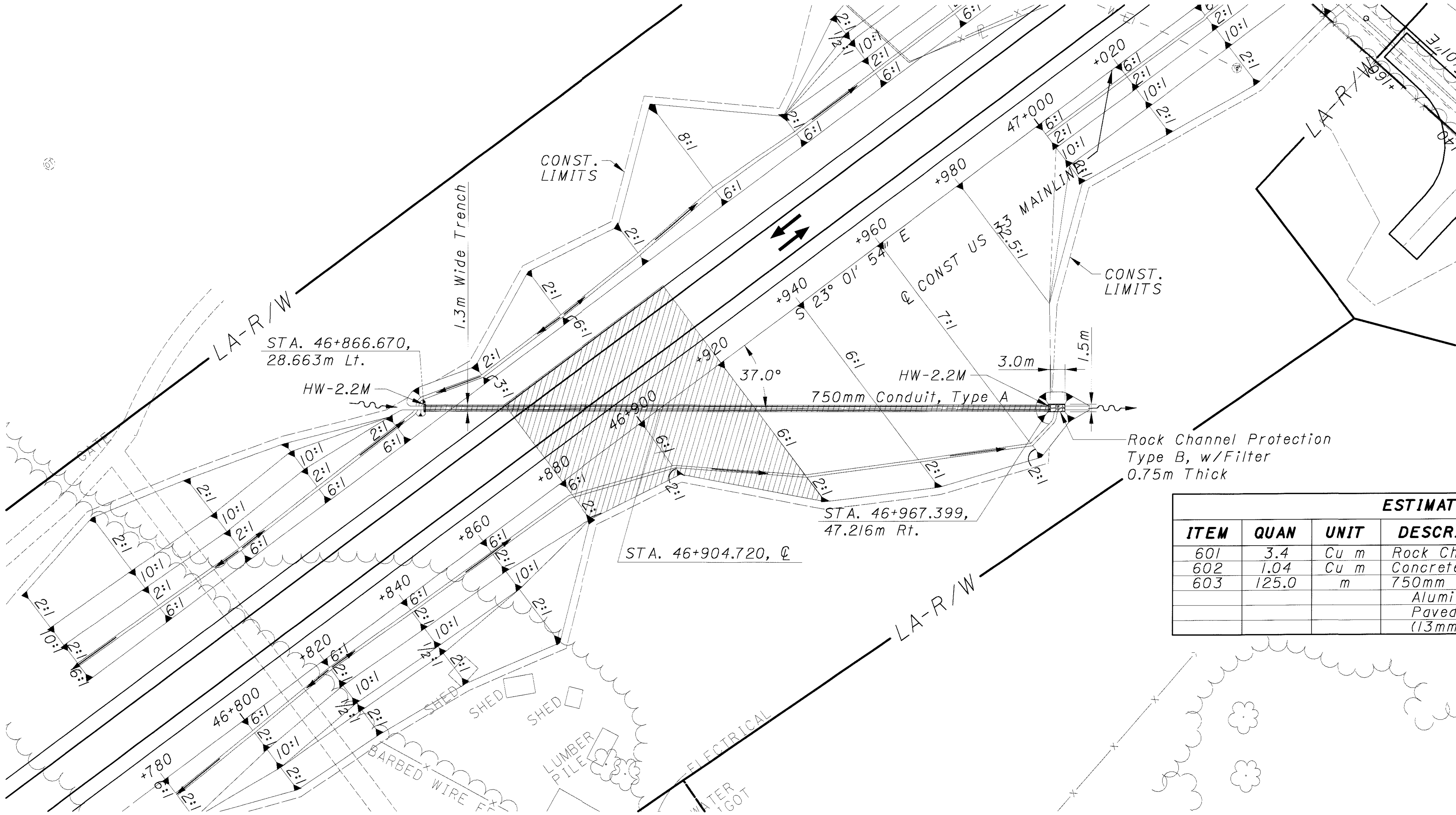
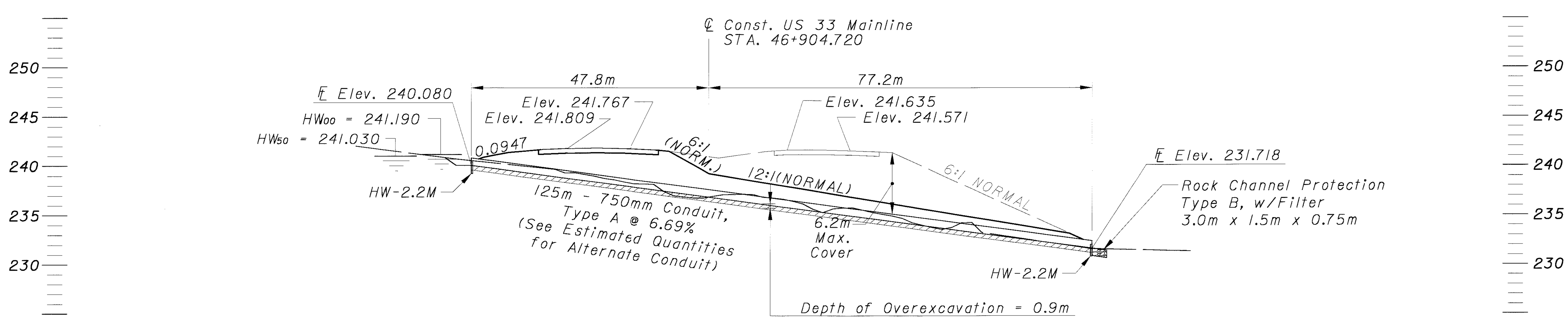


HYDRAULIC DESIGN DATA	
Drainage Area	= 0.049 sq km
Q_{50}	= 0.85 cms
Q_{100}	= 0.96 cms
HW_{50}	= 241.030
HW_{100}	= 241.190
V_{50}	= 3.47 mps
V_{100}	= 3.50 mps
pH	= 8.0

Excavation of Unsuitable Material
See General Notes for Quantities

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	3.4	Cu m	Rock Channel Protection, Type B, w/Filter
602	1.04	Cu m	Concrete Masonry
603	125.0	m	750mm Conduit, Type A, 707.01 (2.77)
			Aluminum Coated Pipe With Bituminous
			Paved Invert, 707.05 (3.51) or 707.04 (3.51)
			(13mm CORR.)



HORIZONTAL SCALE IN METERS 0 10 20

CALCULATED BBD CHECKED TDW

CULVERT No. 36
US 33 - STA. 46+904.720

ATH-33-40.981

574/949

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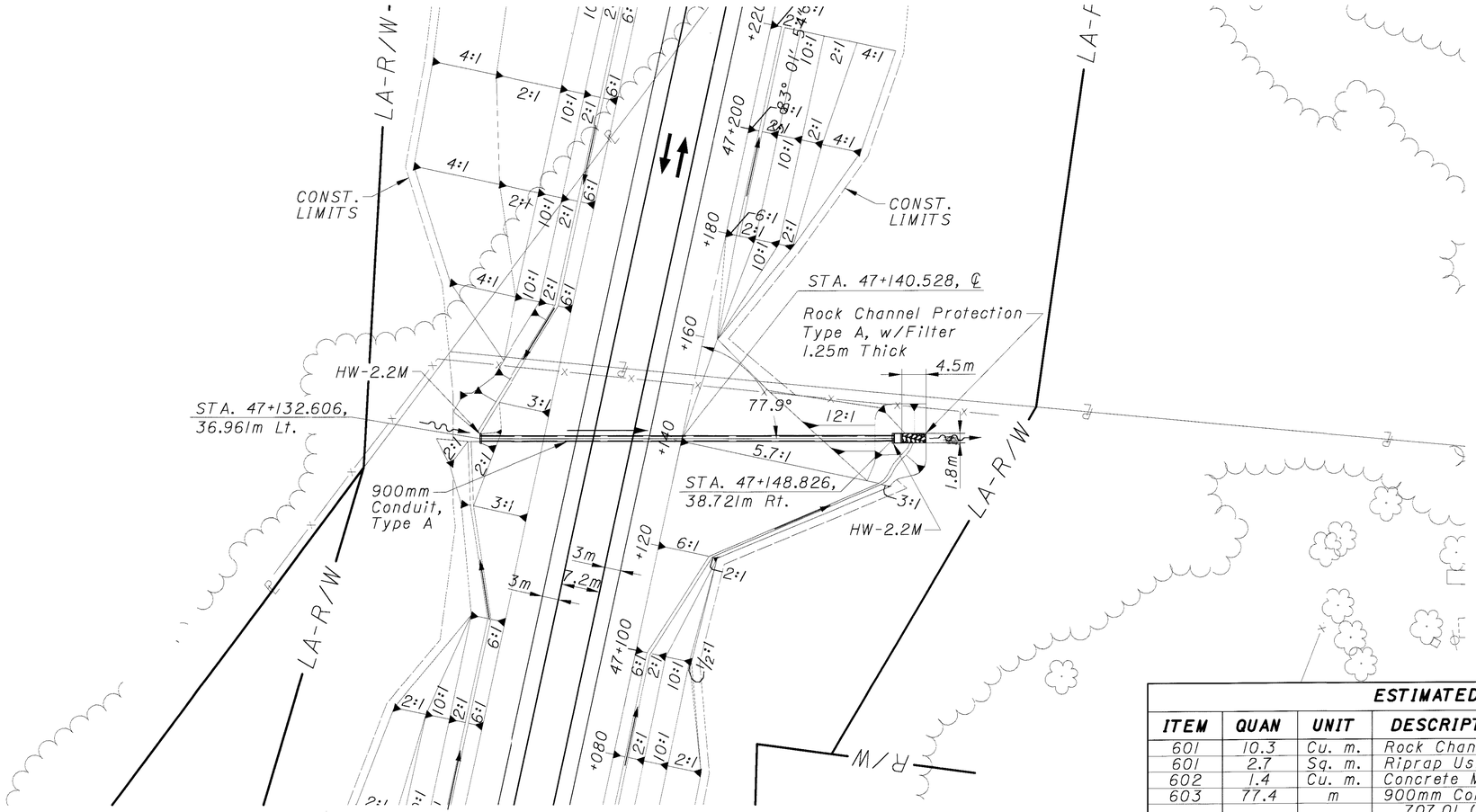
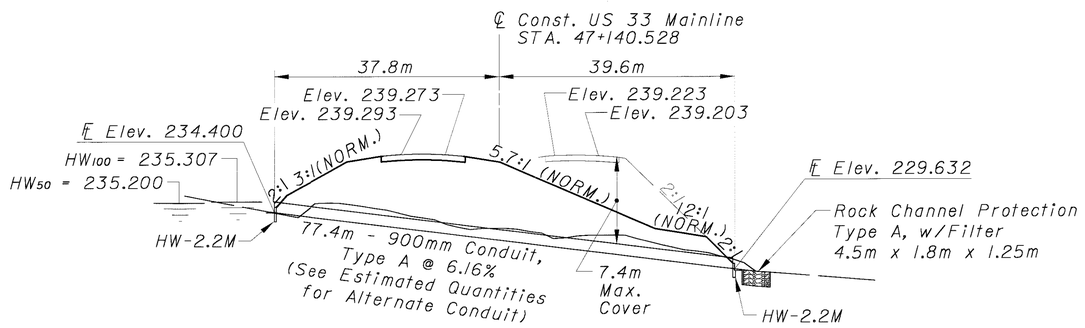


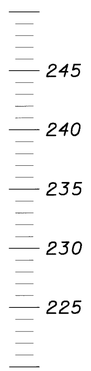
HYDRAULIC DESIGN DATA

Drainage Area	= 0.037 sq km
Q_{50}	= 0.94 cms
Q_{100}	= 1.12 cms
HW_{50}	= 235.200
HW_{100}	= 235.307
V_{50}	= 5.83 mps
V_{100}	= 6.13 mps
pH	= 7.8

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	10.3	Cu. m.	Rock Channel Protection, Type A, w/Filter
601	2.7	Sq. m.	Riprap Using 150mm Reinforced Concrete Slab
602	1.4	Cu. m.	Concrete Masonry
603	77.4	m	900mm Conduit, Type A, 706.02 100 D-Load, or 707.01 (4.27) Aluminum Coated Pipe With Bituminous Paved Invert





HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

CULVERT No. 37
US 33 - STA. 47+140.528

ATH-33-40.981

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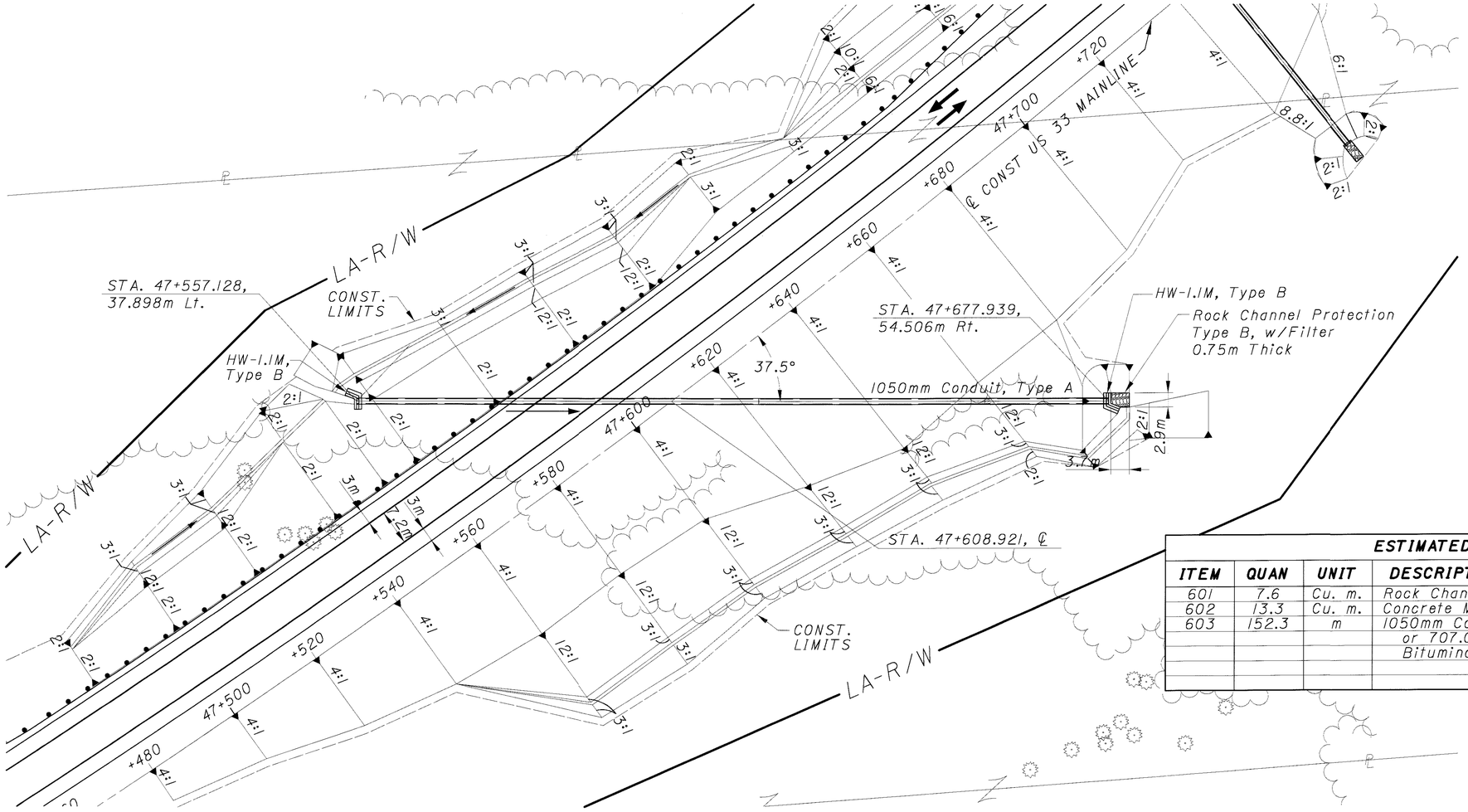
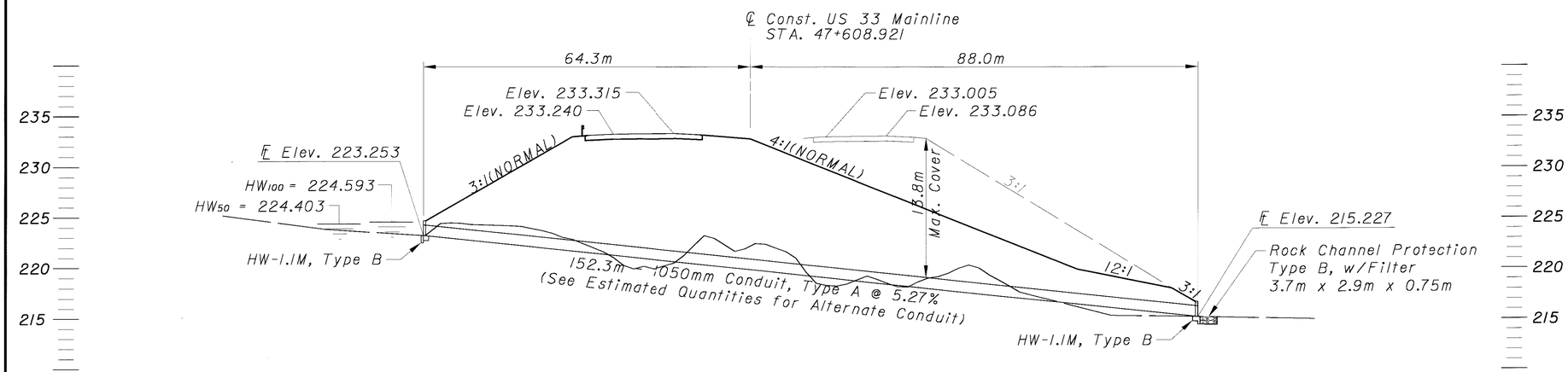


HYDRAULIC DESIGN DATA	
Drainage Area	= 0.072 sq km
Q_{50}	= 1.64 cms
Q_{100}	= 1.97 cms
HW_{50}	= 224.403
HW_{100}	= 224.593
V_{50}	= 3.41 mps
V_{100}	= 3.59 mps
pH	= 7.5

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	7.6	Cu. m.	Rock Channel Protection, Type B, w/Filter
602	13.3	Cu. m.	Concrete Masonry
603	152.3	m	1050mm Conduit,Type A, 706.02 130 D-Load, or 707.02 (4.27) Aluminum Coated Pipe With Bituminous Paved Invert



HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

CULVERT No. 38
US 33 - STA. 47+608.921

ATH-33-40.981

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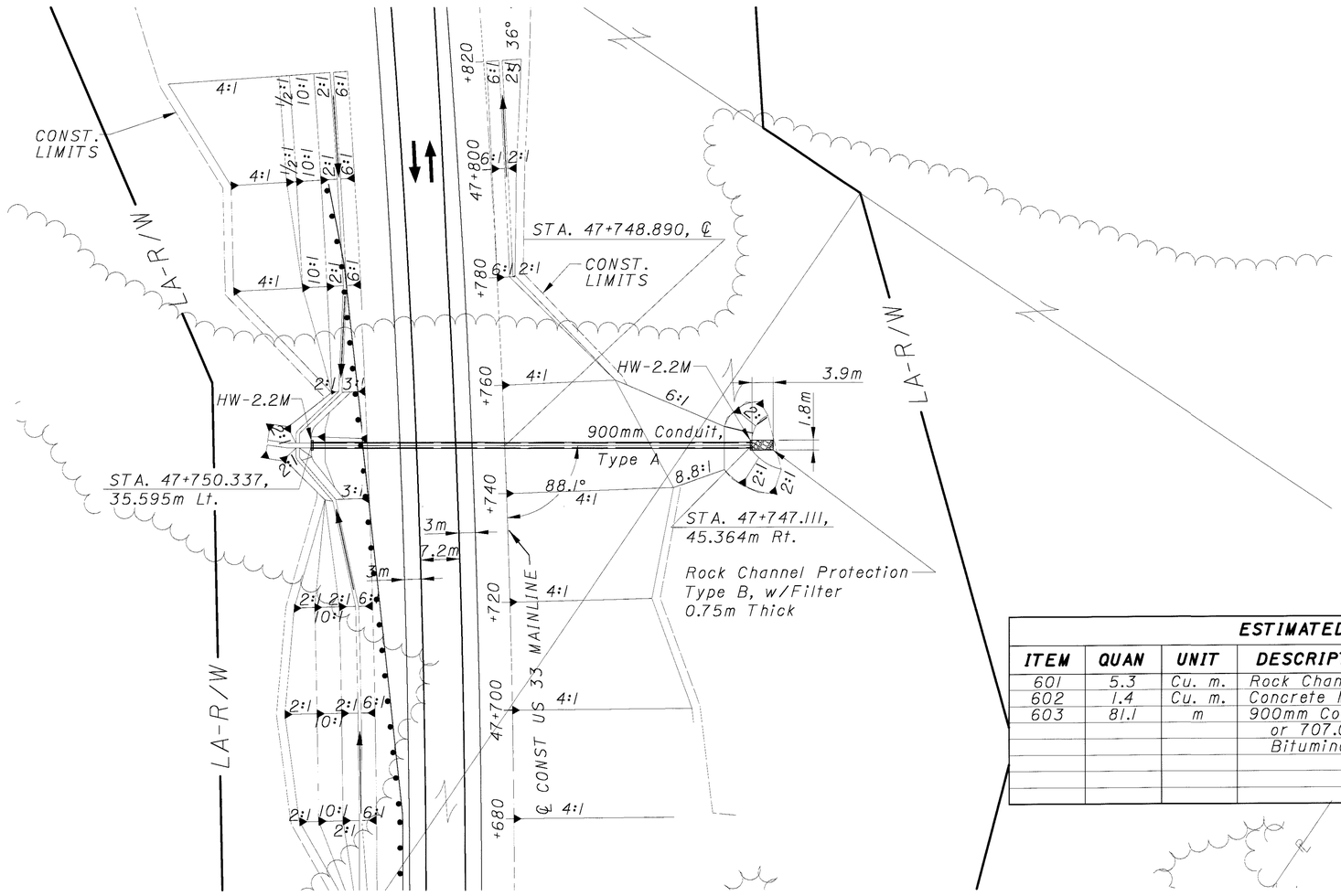
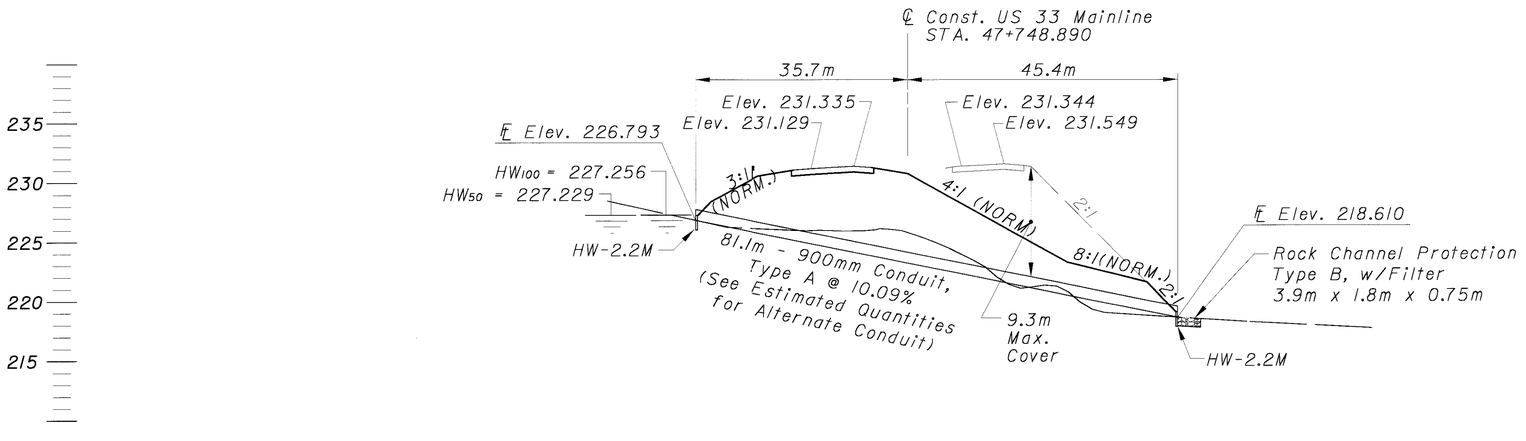


HYDRAULIC DESIGN DATA	
Drainage Area	= 0.017 sq km
Q_{50}	= 0.29 cms
Q_{100}	= 0.33 cms
HW_{50}	= 227.229
HW_{100}	= 227.256
V_{50}	= 5.0 mps
V_{100}	= 5.2 mps
pH	= 7.5

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	5.3	Cu. m.	Rock Channel Protection, Type B, w/Filter
602	1.4	Cu. m.	Concrete Masonry
603	81.1	m	900mm Conduit, Type A, 706.02 120 D-Load, or 707.02 (4.27) Aluminum Coated Pipe With Bituminous Paved Invert



235
230
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0 10 20 HORIZONTAL SCALE IN METERS

CALCULATED BBD | CHECKED TDW

CULVERT No. 47
US 33 - STA. 47+748.890

ATH-33-40.981

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949

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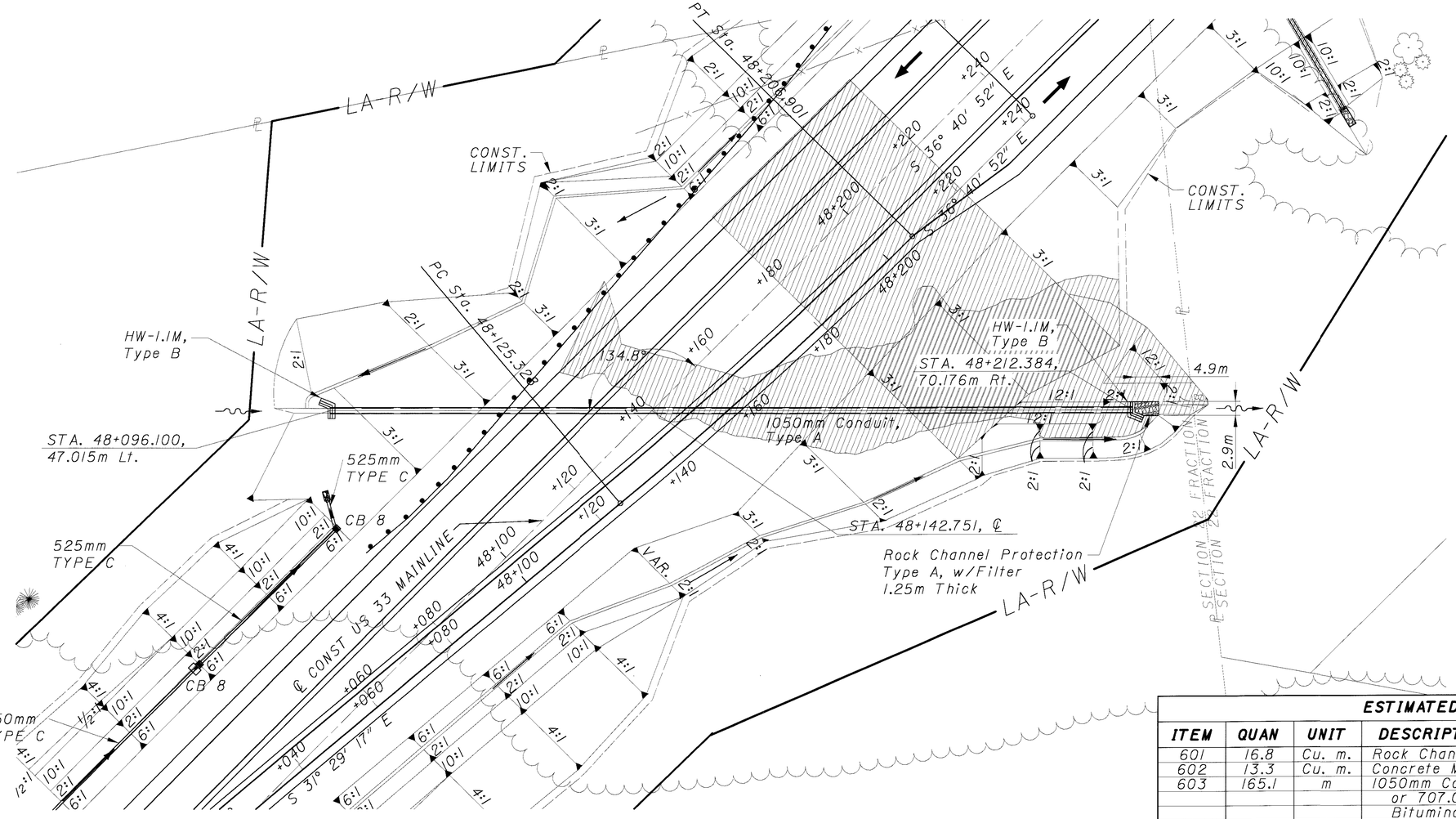


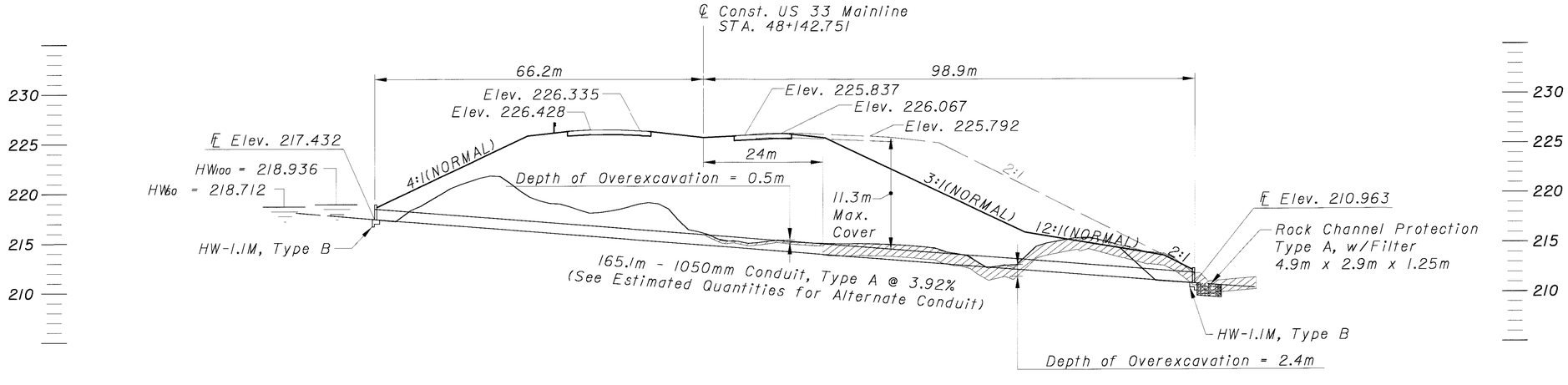
HYDRAULIC DESIGN DATA

Drainage Area	= 0.085 sq km
Q_{50}	= 1.74 cms
Q_{100}	= 2.09 cms
HW_{50}	= 218.712
HW_{100}	= 218.936
V_{50}	= 5.9 mps
V_{100}	= 6.2 mps
pH	= 7.8

Excavation of Unsuitable Material
See General Notes for Quantities

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	16.8	Cu. m.	Rock Channel Protection, Type A, w/Filter
602	13.3	Cu. m.	Concrete Masonry
603	165.1	m	1050mm Conduit, Type A, 706.02 120 D-Load, or 707.02 (4.27) Aluminum Coated Pipe With Bituminous Paved Invert



HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

CULVERT No. 40
US 33 - STA. 48+142.751

ATH-33-40.981

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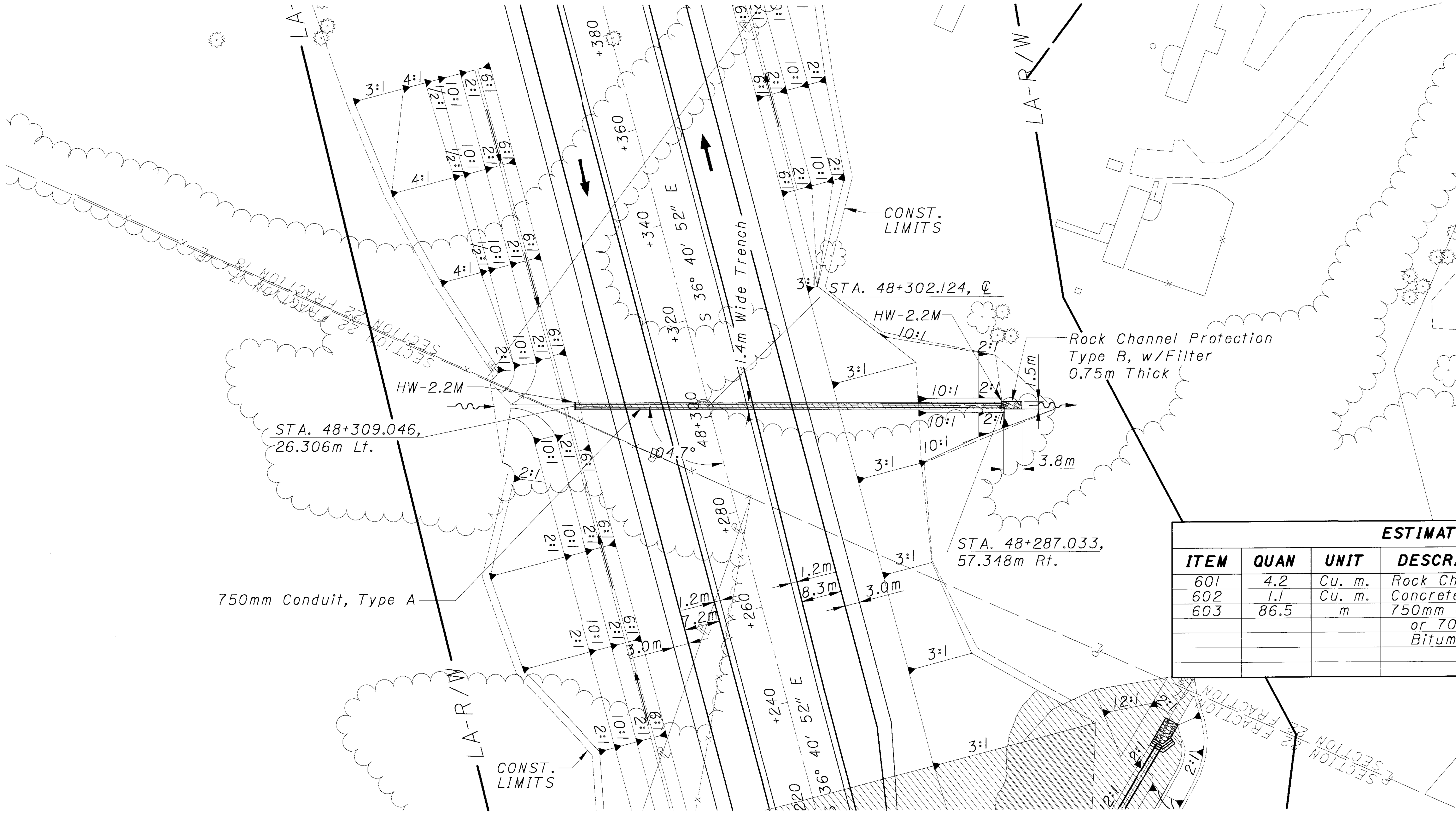


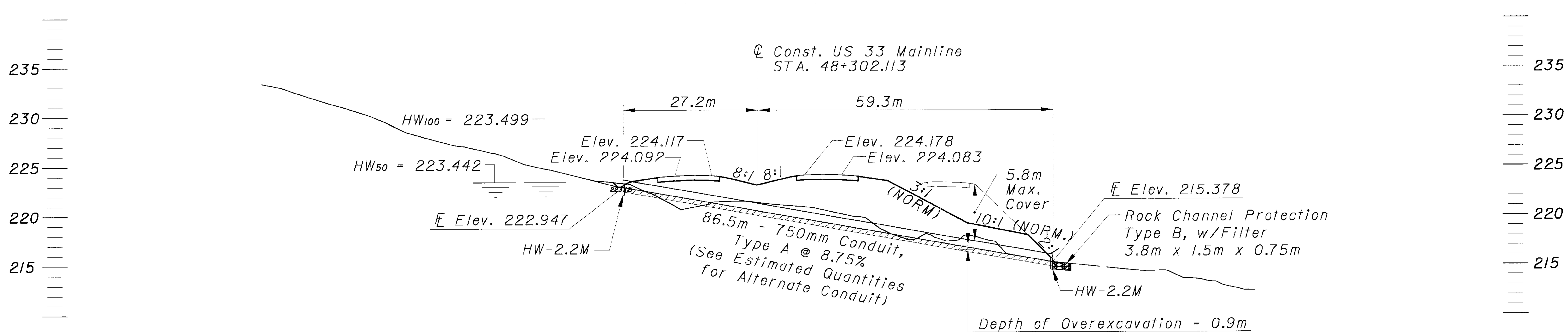
HYDRAULIC DESIGN DATA

Drainage Area	= 0.018 sq km
Q_{50}	= 0.33 cms
Q_{100}	= 0.37 cms
HW_{50}	= 223.442
HW_{100}	= 223.499
V_{50}	= 5.1 mps
V_{100}	= 5.2 mps
pH	= 7.5

Excavation of Unsuitable Material
See General Notes for Quantities

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	4.2	Cu. m.	Rock Channel Protection, Type B, w/Filter
602	1.1	Cu. m.	Concrete Masonry
603	86.5	m	750mm Conduit,Type A, 706.02 75 D-Load, or 707.01 (4.27) Aluminum Coated Pipe With Bituminous Paved Invert



HORIZONTAL SCALE IN METERS

CALCULATED BBD CHECKED TDW

CULVERT No. 41
US 33 - STA. 48+302.113

ATH-33-40.981

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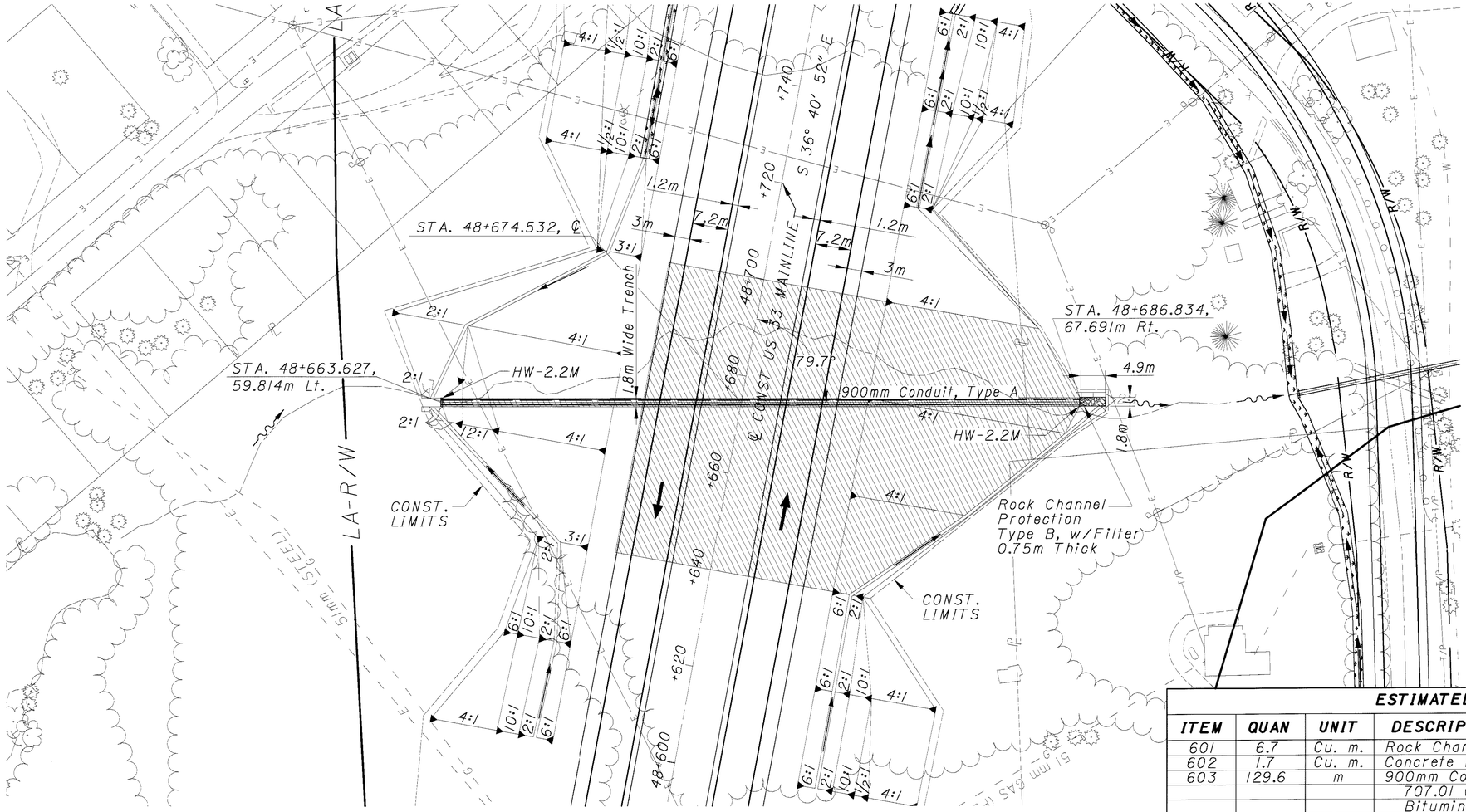


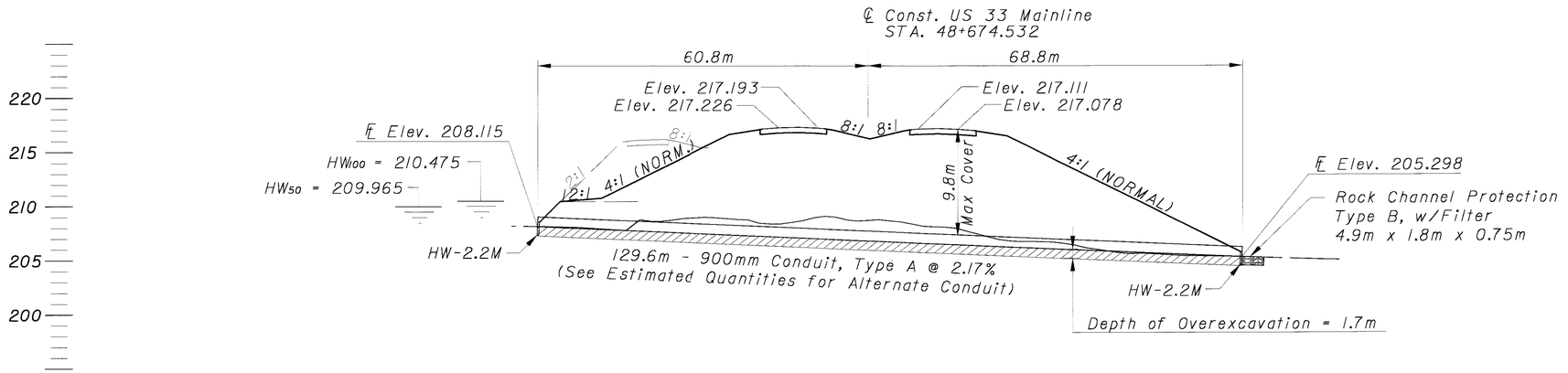
HYDRAULIC DESIGN DATA

Drainage Area	= 0.133 sq km
Q_{50}	= 2.27 cms
Q_{100}	= 2.71 cms
HW_{50}	= 209.965
HW_{100}	= 210.475
V_{50}	= 5.1 mps
V_{100}	= 5.3 mps
pH	= 7.6

Excavation of Unsuitable Material
See General Notes for Quantities

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	6.7	Cu. m.	Rock Channel Protection, Type B, w/Filter
602	1.7	Cu. m.	Concrete Masonry
603	129.6	m	900mm Conduit, Type A, 706.02 140 D-Load, or 707.01 (4.27) Aluminum Coated Pipe With Bituminous Paved Invert



HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

CULVERT No. 43
US 33 - STA. 48+674.532

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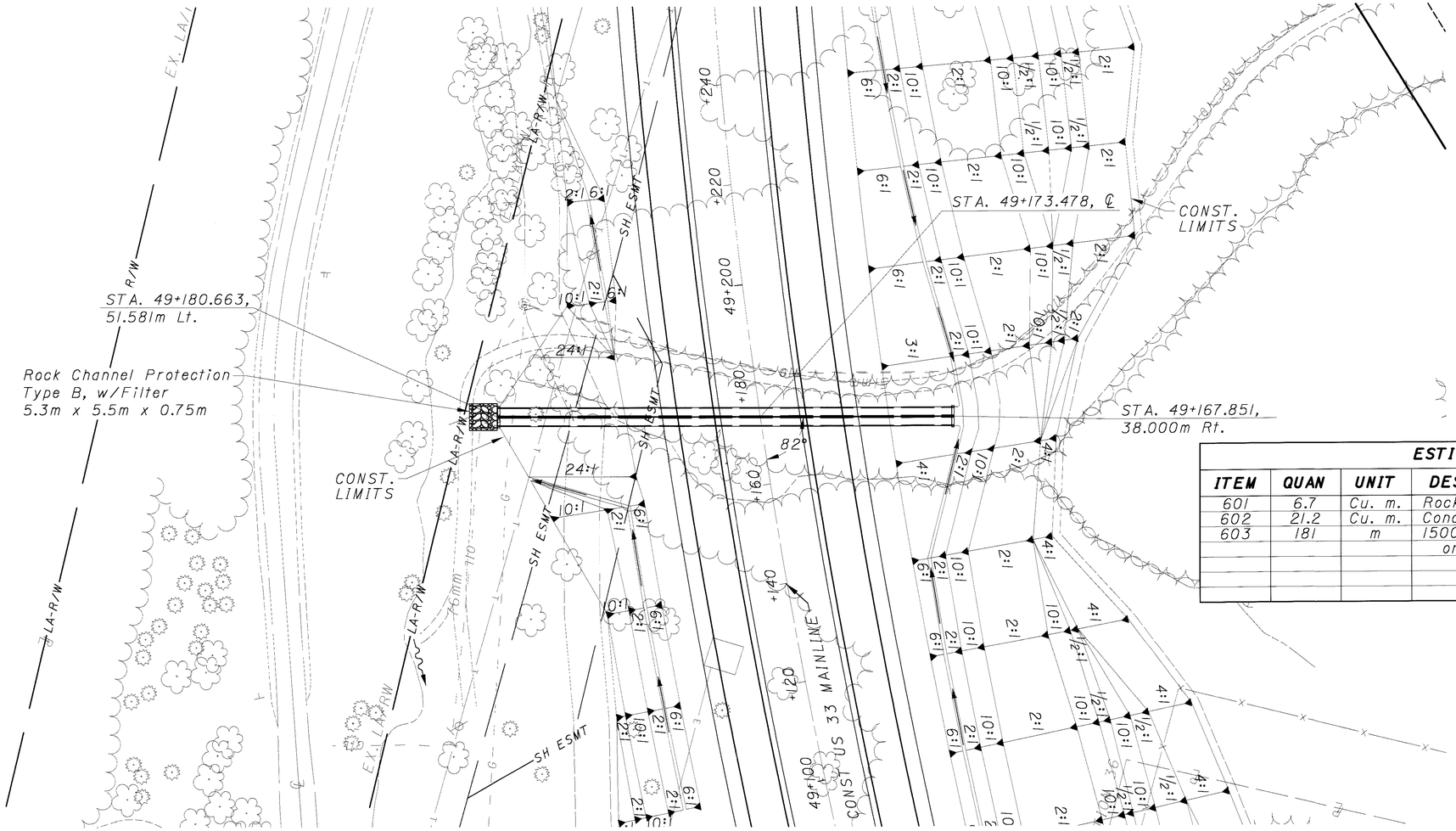
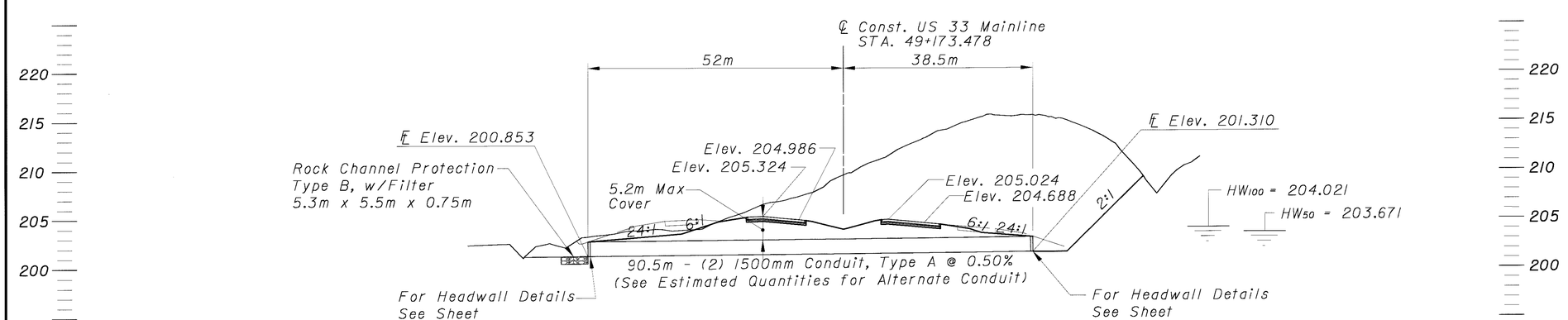


HYDRAULIC DESIGN DATA

Drainage Area	= 1.049 sq km
Q_{50}	= 9.08 cms
Q_{100}	= 10.7 cms
HW_{50}	= 203.671
HW_{100}	= 204.021
V_{50}	= 4.27 mps
V_{100}	= 4.45 mps
pH	= 7.2

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	6.7	Cu. m.	Rock Channel Protection, Type B, w/Filter
602	21.2	Cu. m.	Concrete Masonry
603	181	m	1500mm Conduit, Type A, 706.02 87.5 D-Load, or 707.01 With Field Paving



HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

CULVERT No. 44
US 33 - STA. 49+173.478

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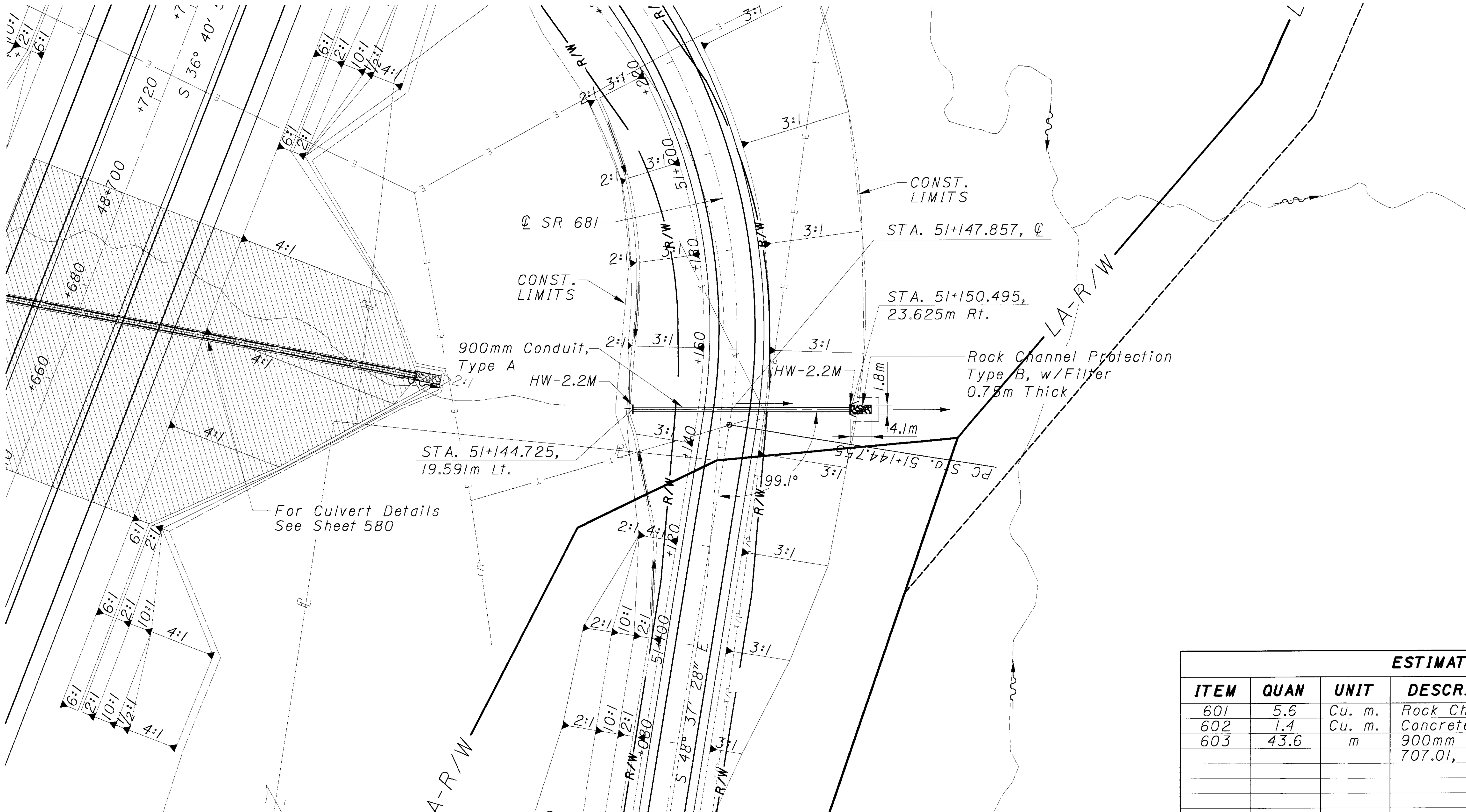
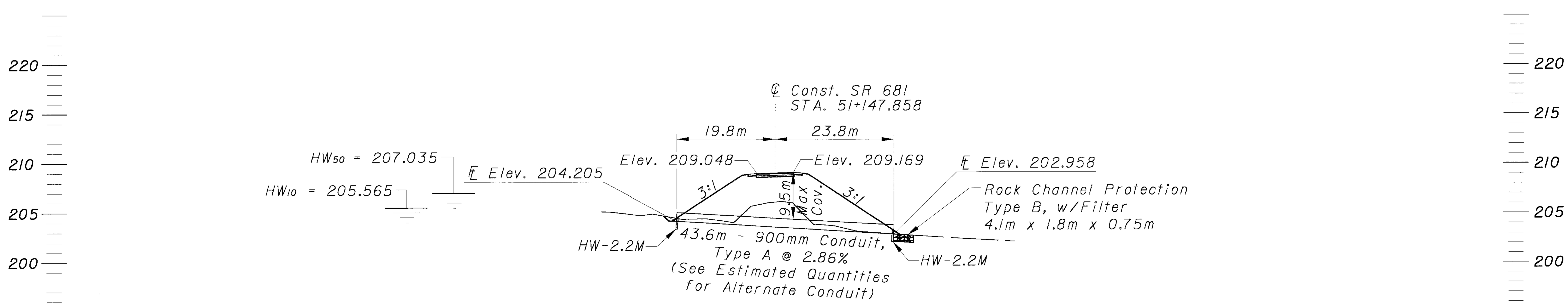


HYDRAULIC DESIGN DATA	
Drainage Area	= 0.165 sq km
Q_{10}	= 1.75 cms
Q_{50}	= 3.07 cms
HW_{10}	= 205.565
HW_{50}	= 207.035
V_{10}	= 5.2 mps
V_{50}	= 6.0 mps
pH	> 7.0

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	5.6	Cu. m.	Rock Channel Protection, Type B, w/Filter
602	1.4	Cu. m.	Concrete Masonry
603	43.6	m	900mm Conduit, Type A, 706.02 75 D-Load, or 707.01, 707.05, 707.04 (13mm Corr.)

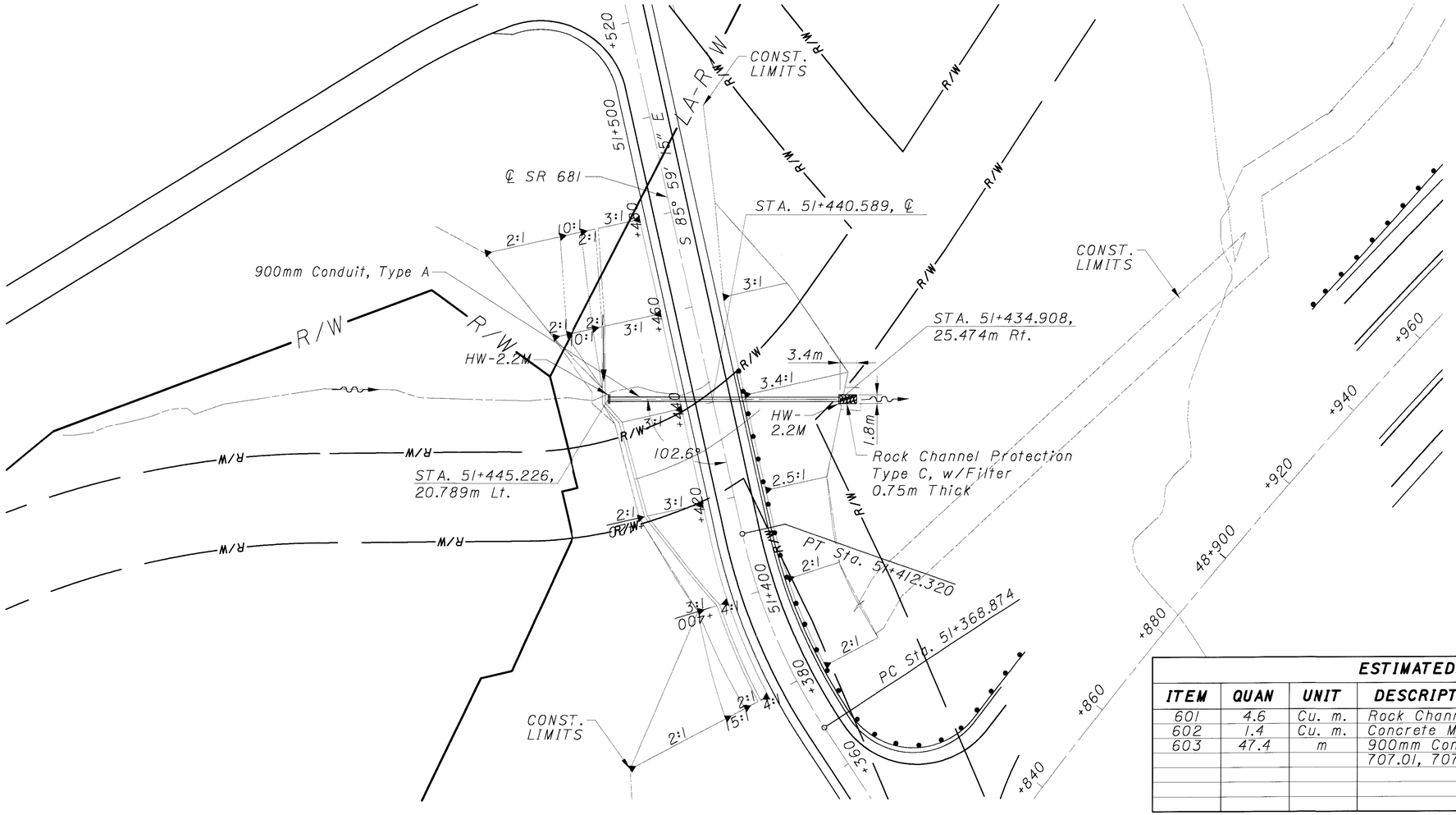


HORIZONTAL SCALE IN METERS (0, 10, 20)

CALCULATED | CHECKED

CULVERT DETAIL
SR 681 - STA. 51+147.858

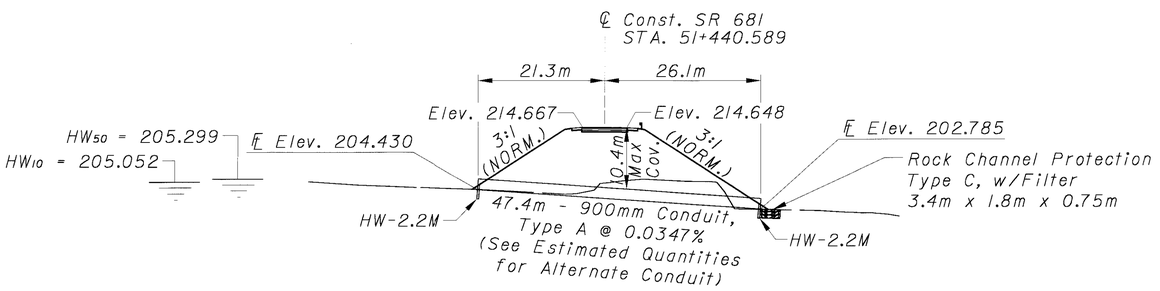
ATH-33-40.981

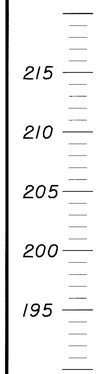


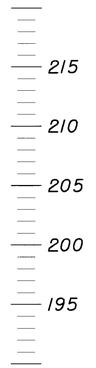
HYDRAULIC DESIGN DATA	
Drainage Area	= 0.040 sq km
Q_{10}	= 0.52 cms
Q_{50}	= 0.93 cms
HW_{10}	= 205.052
HW_{50}	= 205.299
V_{10}	= 4.1 mps
V_{50}	= 4.8 mps
pH	> 7.0

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
601	4.6	Cu. m.	Rock Channel Protection, Type C, w/Filter
602	1.4	Cu. m.	Concrete Masonry
603	47.4	m	900mm Conduit, Type A, 706.02 87.5 D-Load, or 707.01, 707.05, 707.04 (13mm Corr.)







HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED | CHECKED

CULVERT DETAIL
SR 681 - STA. 51+440.589

ATH-33-40.981

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CHANNEL RELOCATION AT SHADE RIVER

ATH-33-40.981

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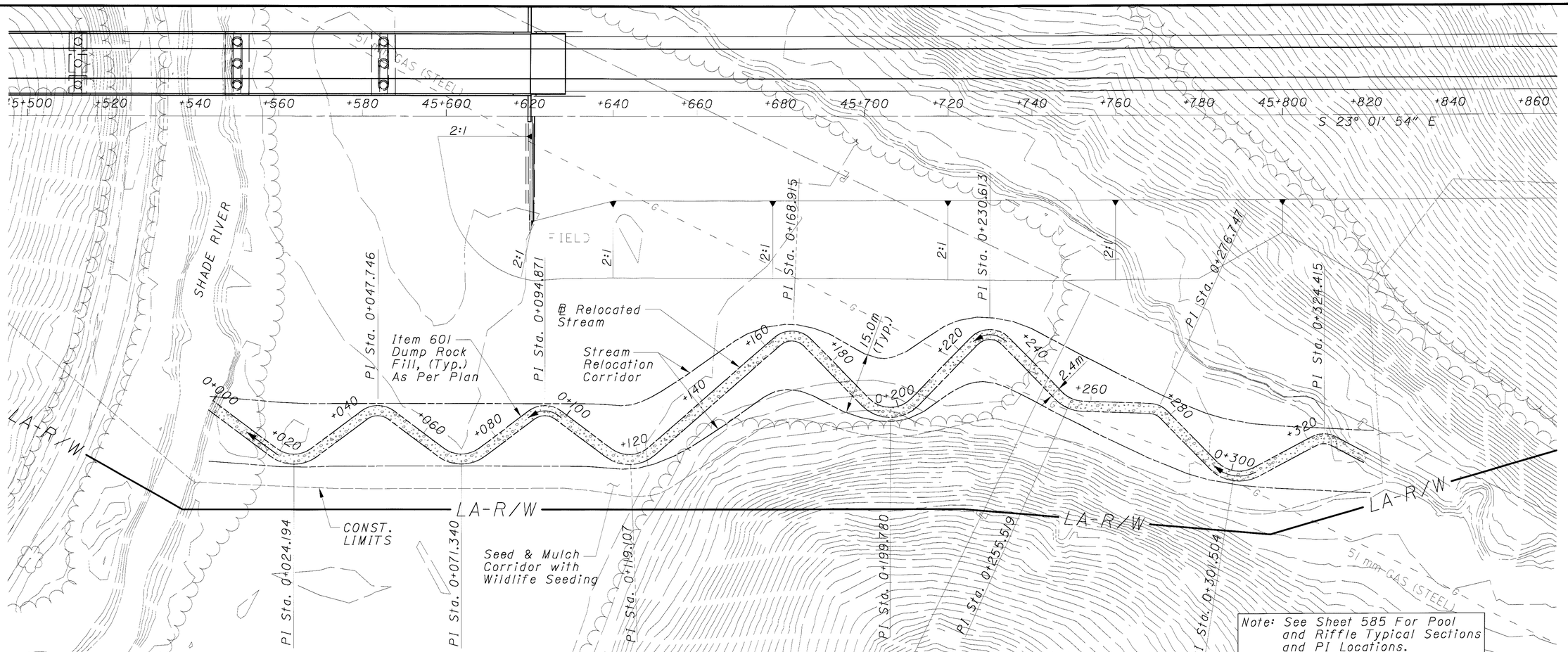
CALCULATED BBD | CHECKED TDW

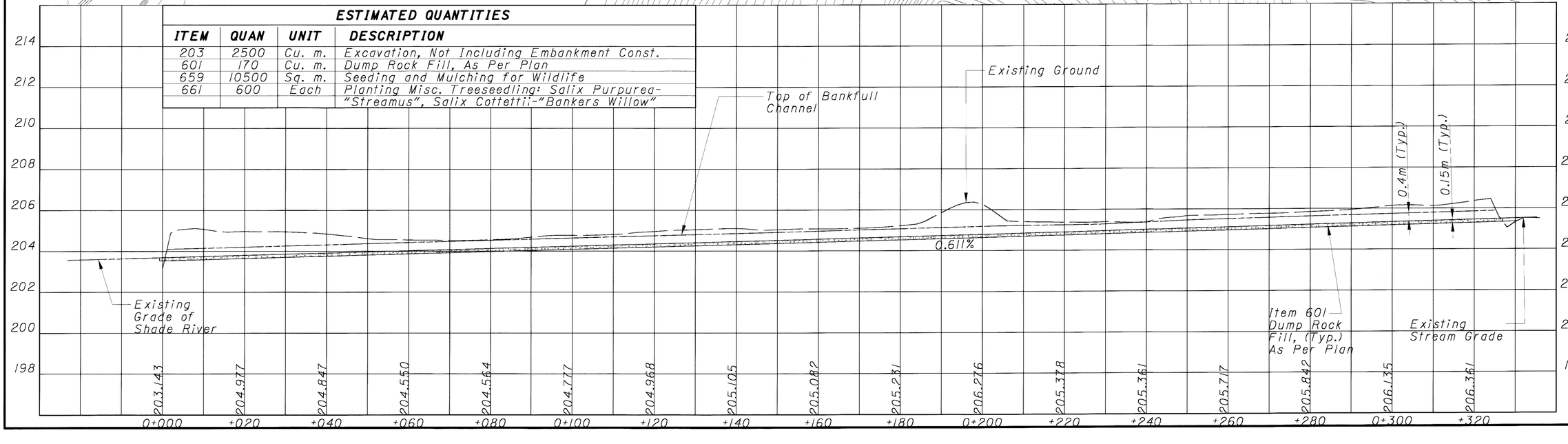
HORIZONTAL SCALE IN METERS
0 20
1:500



Note: See Sheet 585 For Pool and Riffle Typical Sections and PI Locations.

ESTIMATED QUANTITIES

ITEM	QUAN	UNIT	DESCRIPTION
203	2500	Cu. m.	Excavation, Not Including Embankment Const.
601	170	Cu. m.	Dump Rock Fill, As Per Plan
659	10500	Sq. m.	Seeding and Mulching for Wildlife
661	600	Each	Planting Misc. Treeseedling: Salix Purpurea- "Streamus", Salix Cottetii-"Bankers Willow"



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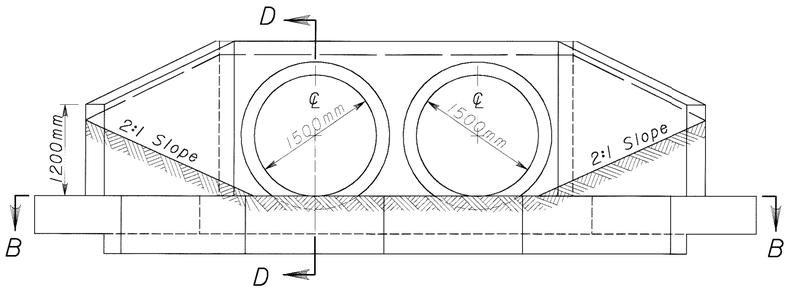

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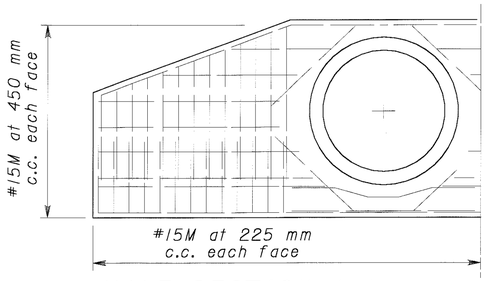
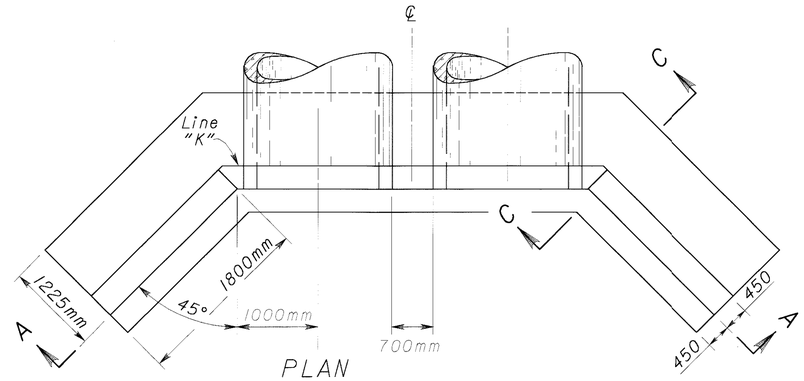
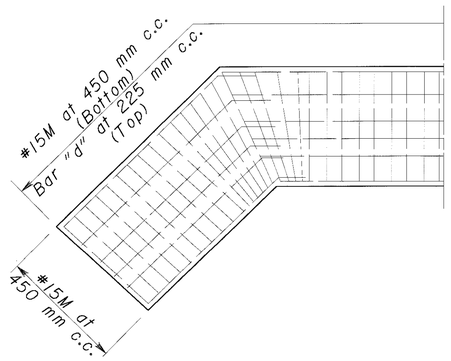


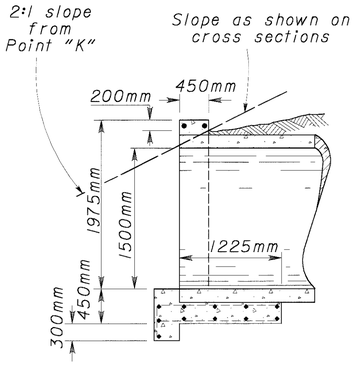
HALF-SECTION A-A



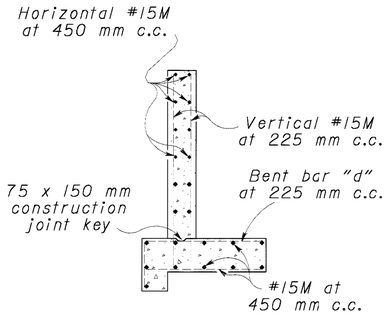
PLAN



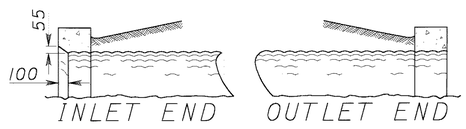
HALF-SECTION B-B



SECTION D-D



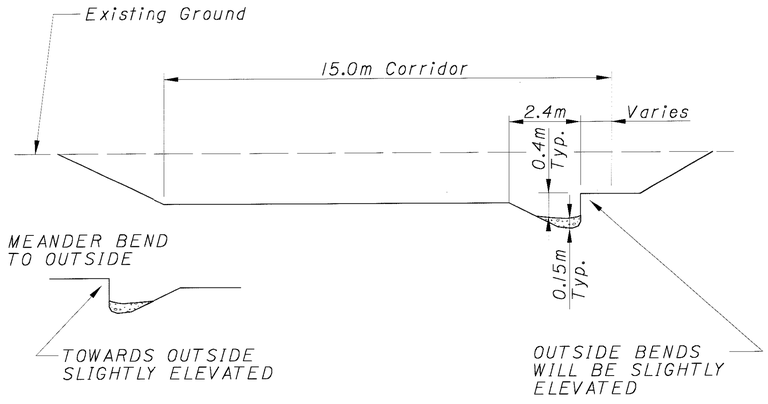
SECTION C-C



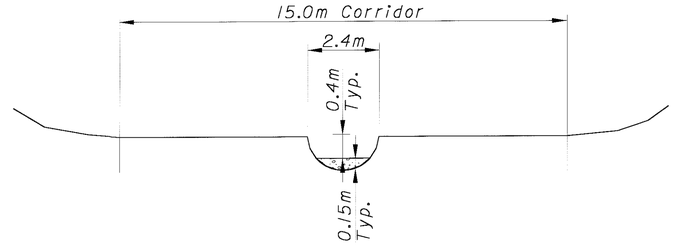
CORRUGATED PIPE
END TREATMENT OF HEADWALL

HEADWALL DETAILS FOR CULVERT #44
STA 49+173.478

RELOCATED STREAM PI LOCATIONS			
PI Station	ML Station	ML Offset	Radius
0+024.194	45+563.798	83.000m(Rt)	6.800m
0+047.746	45+583.798	68.000m(Rt)	6.600m
0+071.340	45+603.798	83.000m(Rt)	6.900m
0+094.871	45+623.798	68.000m(Rt)	6.500m
0+119.107	45+644.294	83.373m(Rt)	7.000m
0+168.915	45+683.087	49.305m(Rt)	6.400m
0+199.780	45+706.283	73.210m(Rt)	7.100m
0+230.613	45+730.030	48.737m(Rt)	6.300m
0+255.519	45+749.393	68.692m(Rt)	7.200m
0+276.747	45+770.889	69.500m(Rt)	6.200m
0+301.504	45+788.299	87.442m(Rt)	7.300m
0+324.415	45+809.925	76.002m(Rt)	6.100m



POOL TYPICAL SECTION



RIFFLE TYPICAL SECTION

CALCULATED BBD
CHECKED TDW

MISCELLANEOUS DRAINAGE DETAILS

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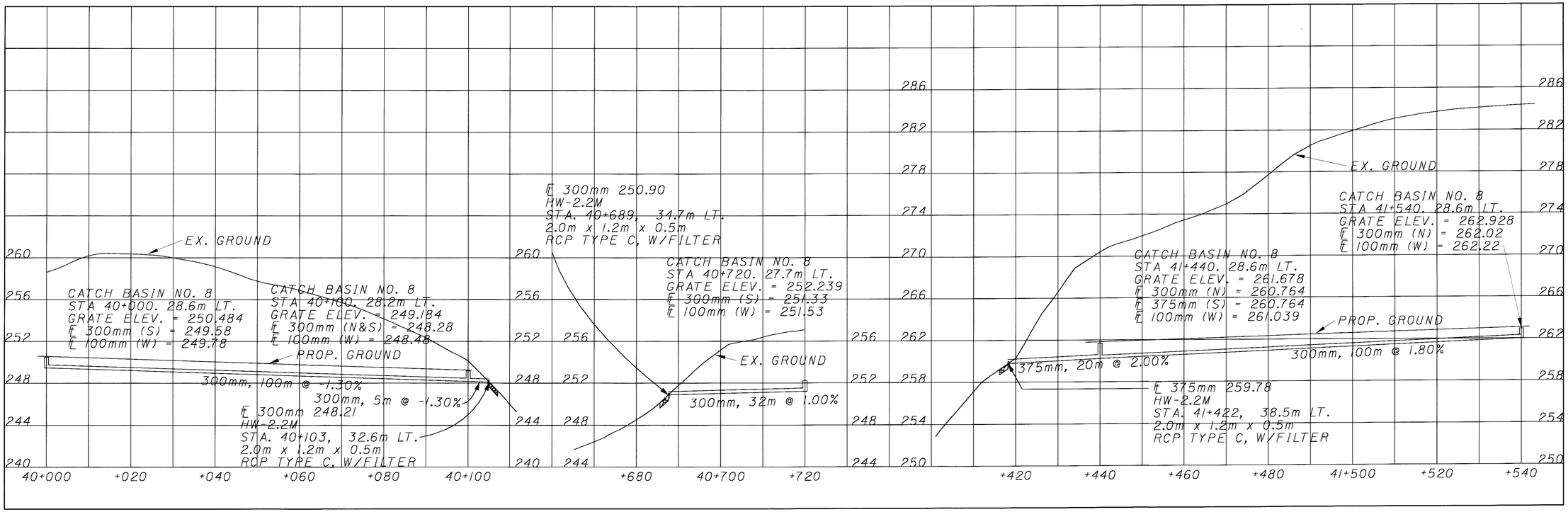
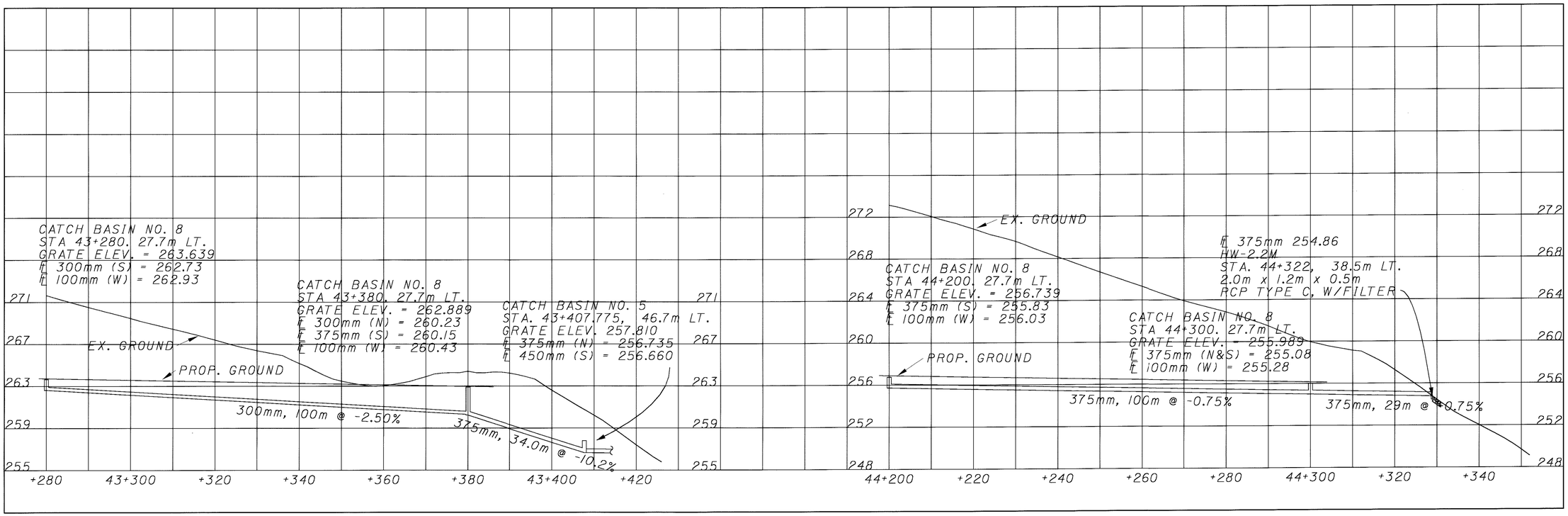
CALCULATED | CHECKED

LONGITUDINAL SEWER PROFILES





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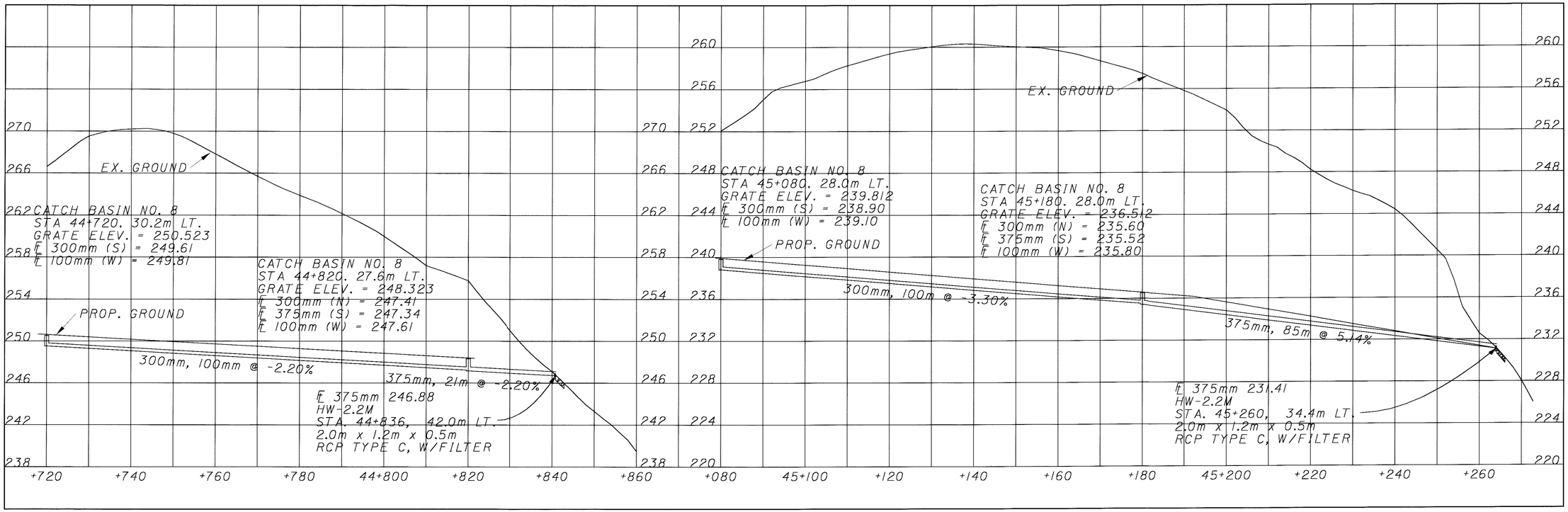
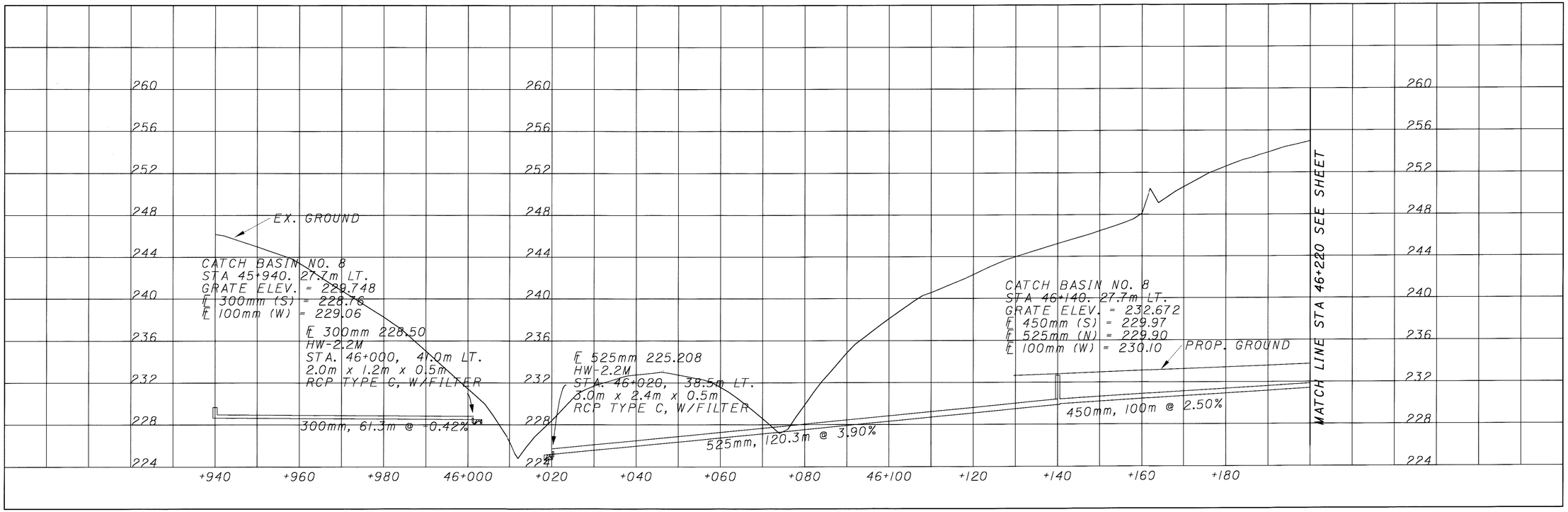
CALCULATED | CHECKED

LONGITUDINAL SEWER PROFILES





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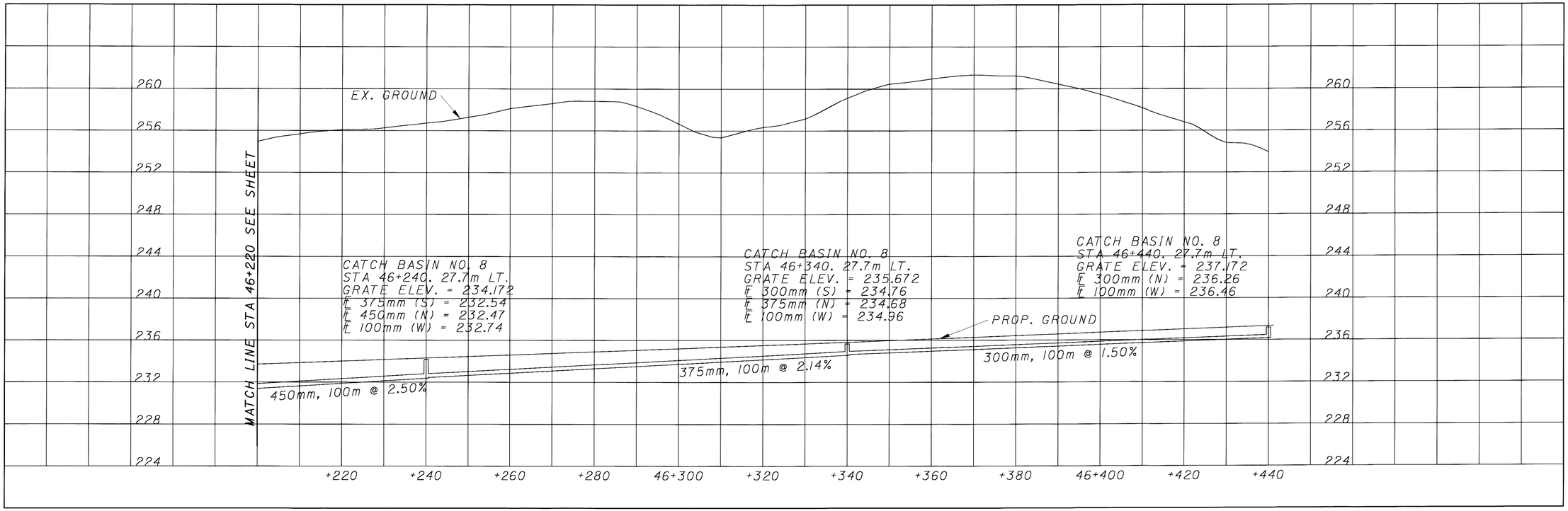

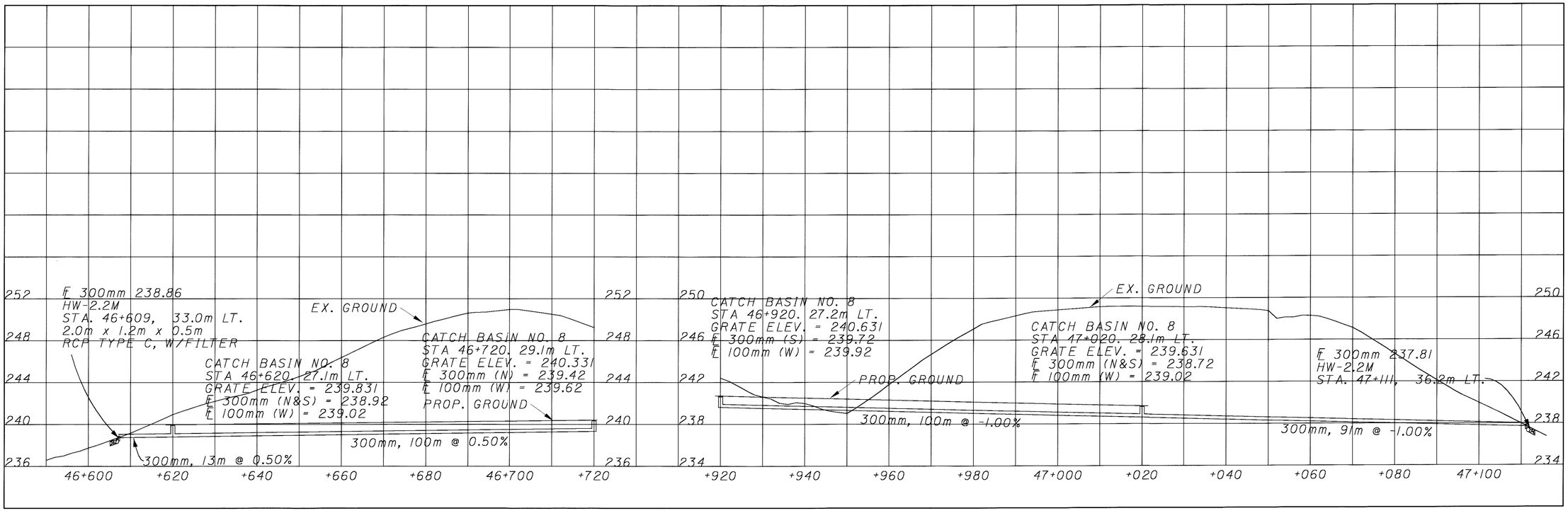

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CALCULATED | CHECKED

LONGITUDINAL SEWER PROFILES

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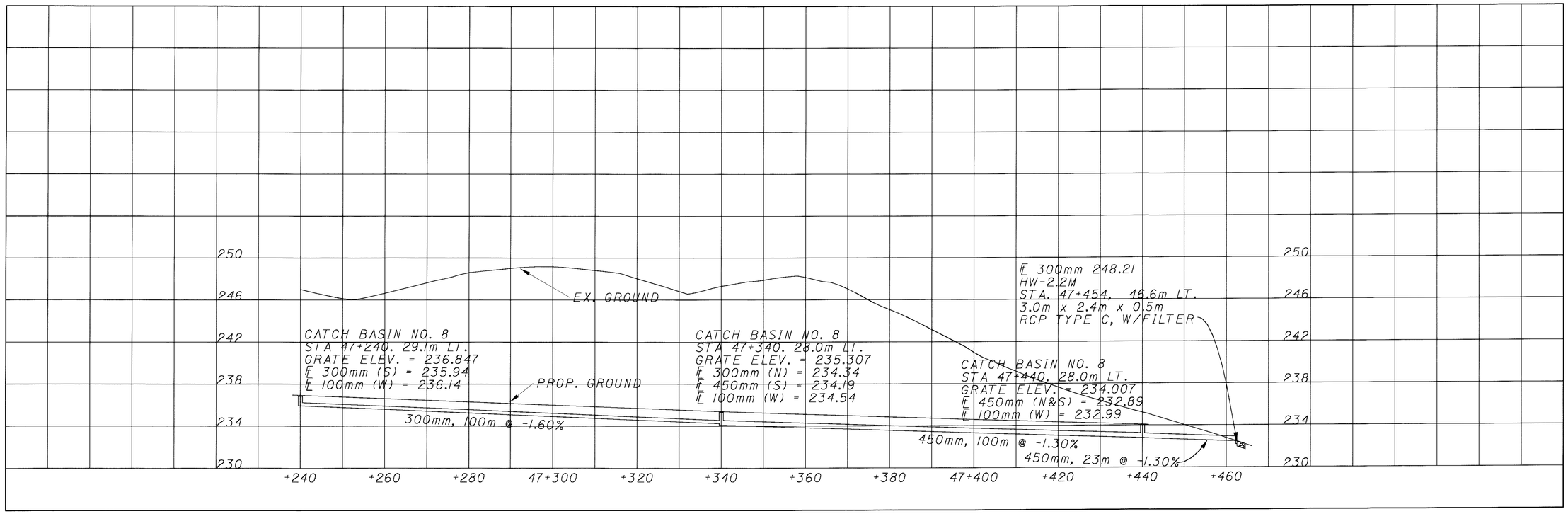
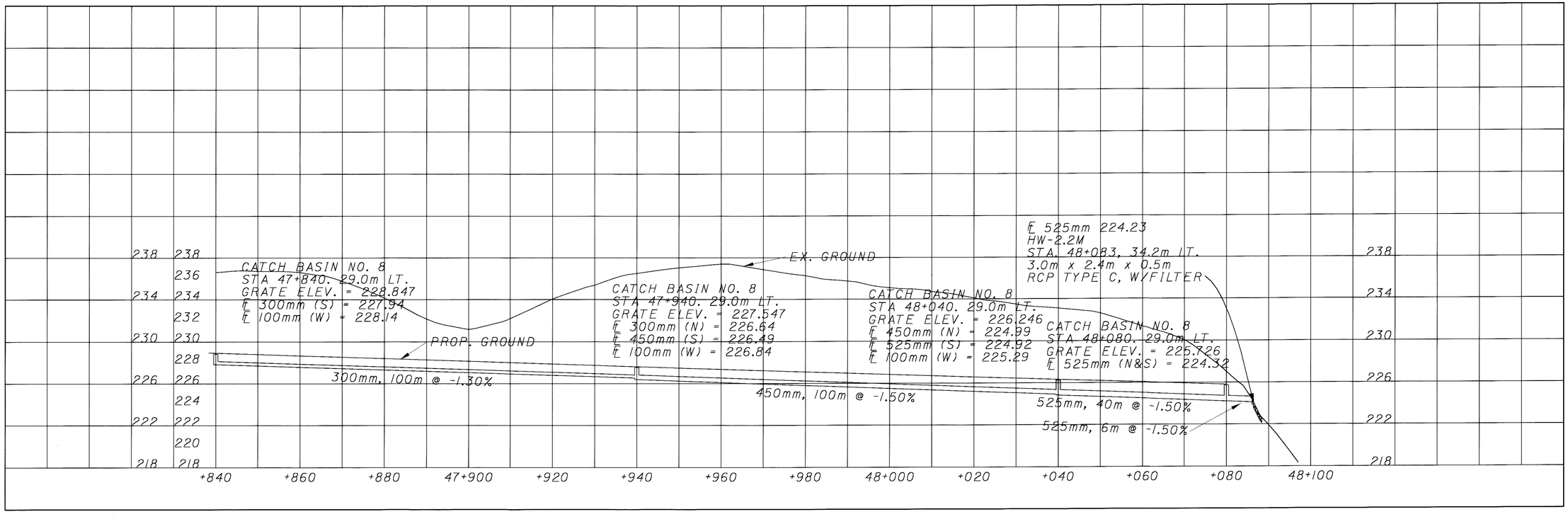
CALCULATED | CHECKED

LONGITUDINAL SEWER PROFILES





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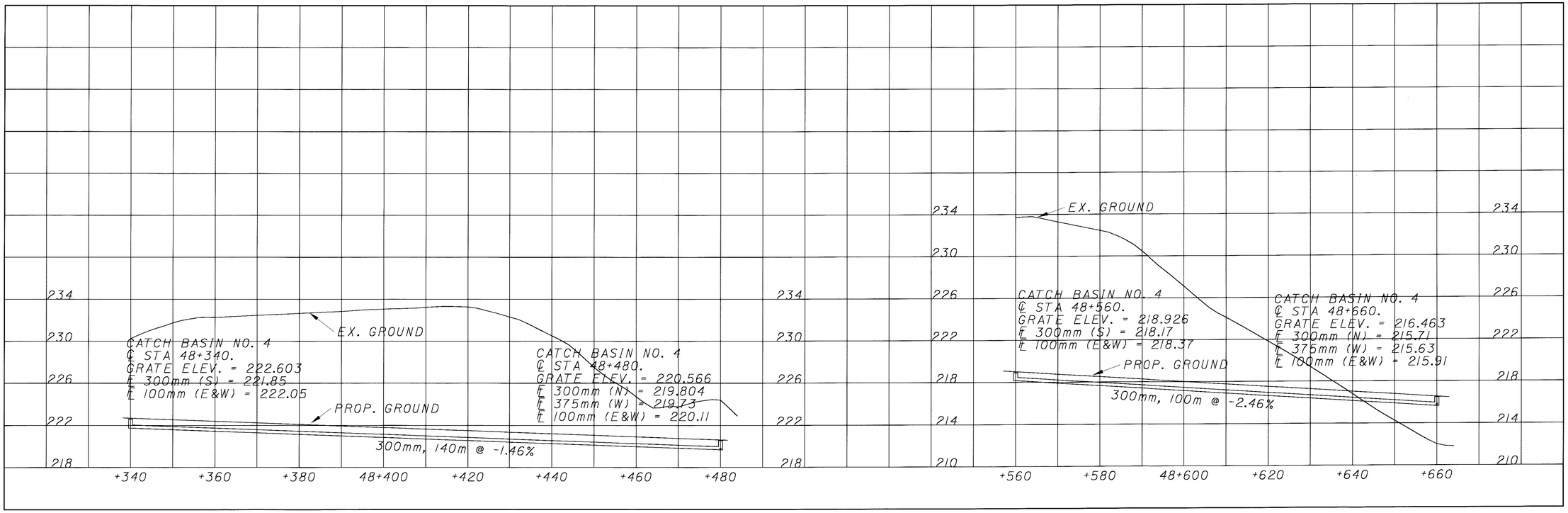
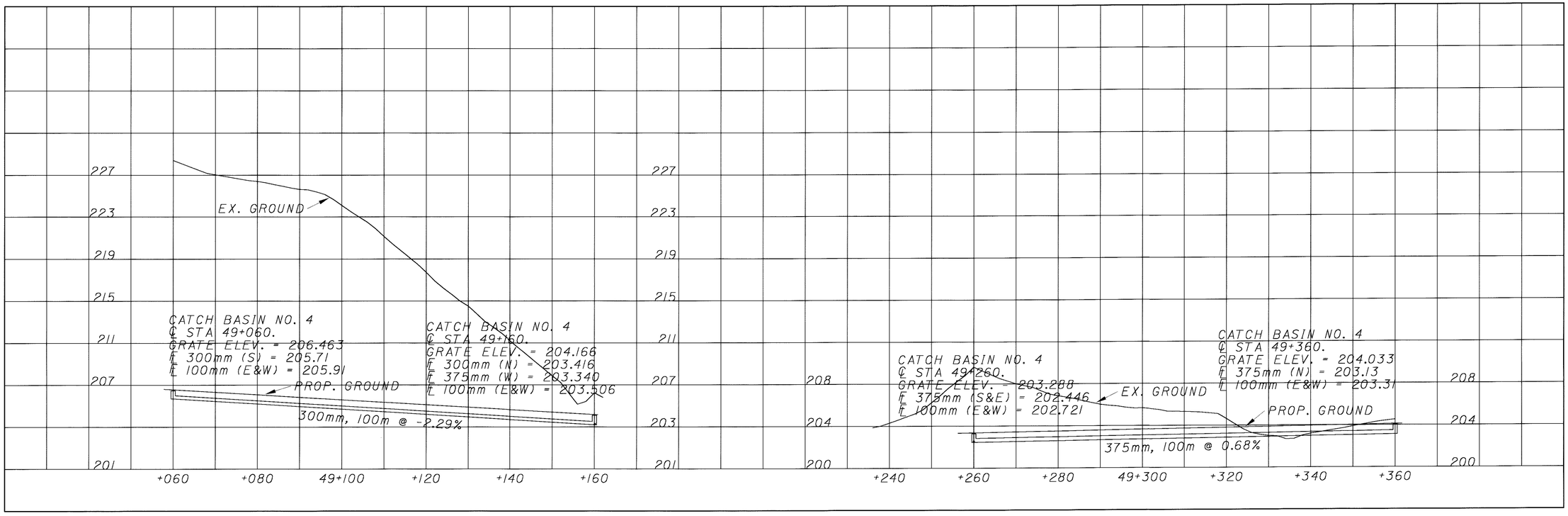
CALCULATED | CHECKED

LONGITUDINAL SEWER PROFILES





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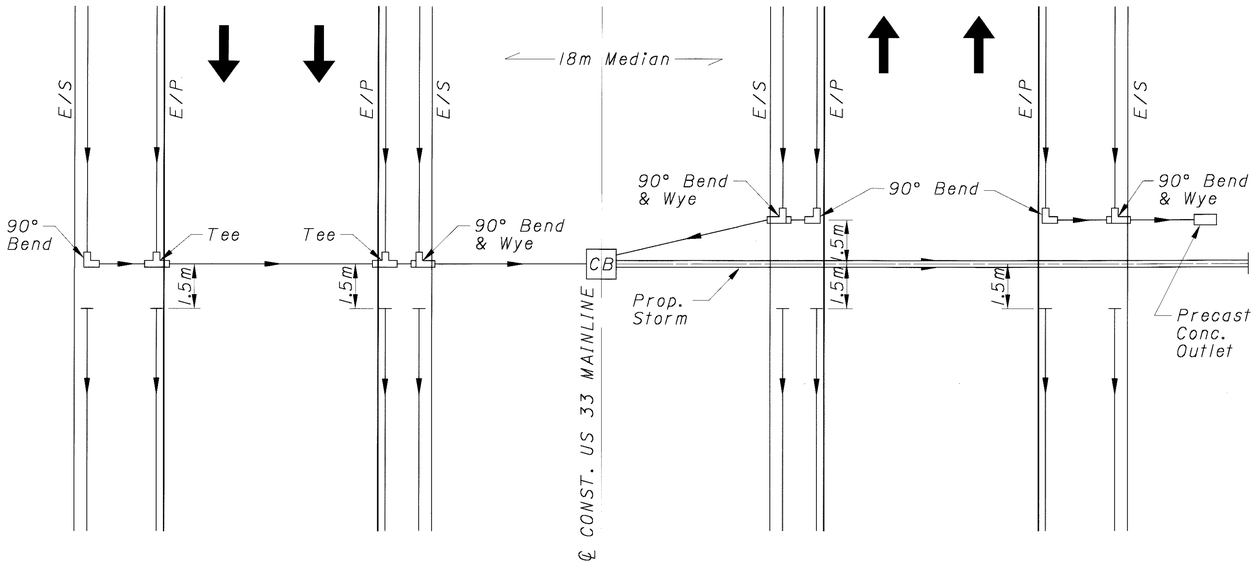
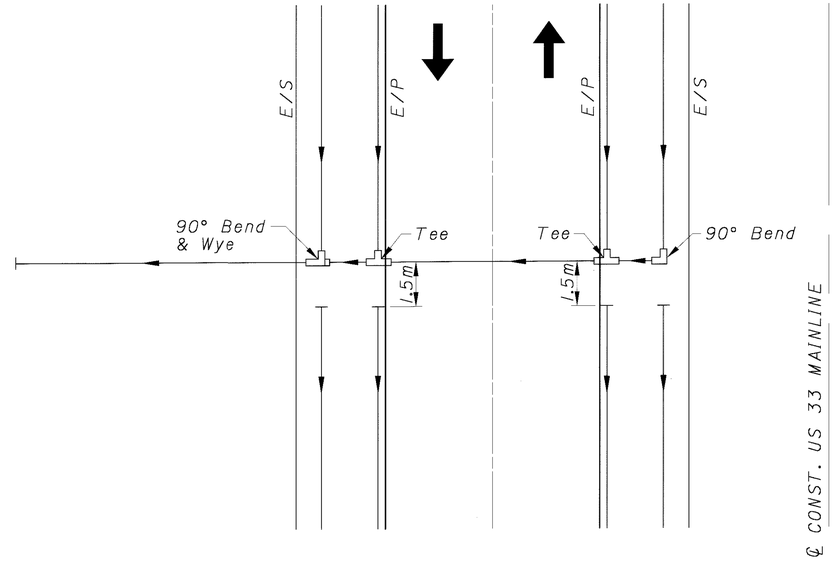
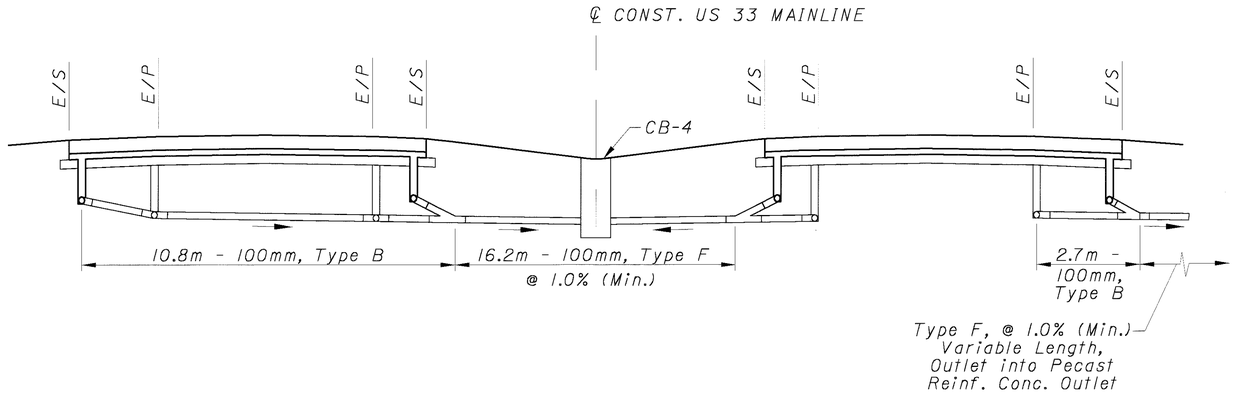


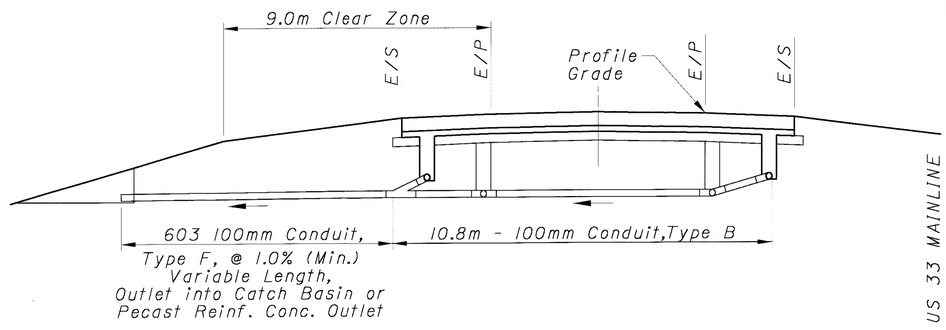
PLAN
N.T.S.



PLAN
N.T.S.



TYPICAL UNDERDRAIN OUTLET
(4 LANE SECTION)
N.T.S.



TYPICAL UNDERDRAIN OUTLET
(2 LANE SECTION)
N.T.S.

ALL NON-TYPICAL UNDERDRAIN CONFIGURATIONS NOT SHOWN ABOVE WILL BE CALLED OUT ON THE US 33 MAINLINE PLAN AND PROFILE SHEETS.

CALCULATED BBD | CHECKED TDW

US 33 MAINLINE UNDERDRAIN DETAILS

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LIGHTING GENERAL NOTES

LUMINAIRE, CONVENTIONAL, AS PER PLAN

THE CONVENTIONAL STYLE B TYPE II LUMINAIRES SHALL BE AMERICAN ELECTRIC SERIES 125/126 WITH PHOTOMETRIC DISTRIBUTION AE38491, COOPER LIGHTING OVD WITH PHOTO DISTRIBUTION OVD2S2F, GENERAL ELECTRIC M-400 WITH PHOTOMETRIC DISTRIBUTION 1014 OR EQUAL AS APPROVED BY THE ENGINEER.

LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX", PHILPS "CERAMALUX", OSRAM SYLVANIA "LUMALUX" OR EQUAL AS APPROVED BY THE ENGINEER.

UNDER DRAINS FOR PULL BOXES

EACH PULL BOX SHALL HAVE AN UNDER DRAIN DETAILED ON THE STANDARD DRAWINGS. A QUANTITY OF ITEM 603, "100mm CONDUIT, TYPE E" HAS BEEN PROVIDED AT EACH PULL BOX LOCATION FOR THIS PURPOSE.

PADLOCKS AND KEYS

PADLOCKS OF CORROSION RESISTANT BRASS, BRONZ, AND STAINLESS STEEL CONSTRUCTION EQUAL TO WILSON BOHANNAN 660A OR MASTER 4BKA KEYED IN ACCORDANCE WITH 631.08 PARAGRAPH 3 SHALL BE INCLUDED WITH ALL LOCKABLE ENCLOSURES.

HIGH VOLTAGE TEST, AS PER PLAN

THE HIGH VOLTAGE DIRECT CURRENT SHALL BE PERFORMED ONLY ON THE NEW WORK BEING CONSTRUCTED AS PART OF THIS PROJECT. NO EXISTING WIRING SHALL BE SUBJECTED TO THE HIGH VOLTAGE OF THIS TEST. WHERE A COMPLETED CIRCUIT IS COMPRISED OF BOTH NEW AND EXISTING WIRING, THE NEW PORTION SHALL BE TESTED BEFORE THE EXISTING WIRING IS CONNECTED TO THE NEW WORK.

POWER SERVICE, AS PER PLAN

THE POWER SERVICE SHALL BE 120/240 VOLT, 3 WIRE, SINGLE PHASE, GROUNDED NEUTRAL FOR THE NEW SERVICES TO BE ESTABLISHED AT THE COUNTY ROAD 89 AND U.S. ROUTE 33 INTERSECTION AND AT STATE ROUTE 681 AND U.S. ROUTE 33 INTERSECTION.

THE POWER TO THESE LOCATIONS WILL BE PROVIDED BY BUCKEYE RURAL ELECTRIC.

ODOT WILL CONTINUE TO PAY FOR THE ENERGY CONSUMED UNDER THE EXISTING SERVICE ACCOUNT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY POWER COMPANY CHARGES MADE FOR REARRANGEMENT OF THE EXISTING SERVICE OR THE ESTABLISHMENT OF THE NEW SERVICES AND FOR ANY ENERGY USED BY THE NEW SERVICES UNTIL EACH NEW SERVICE IS ACCEPTED BY ODOT.

LIGHTING SUBSUMMARY

REFERENCE NUMBER	STATION FROM	STATION TO	OFFSET/ SIDE	BRACKET ARM LENGTH	603 100 mm CONDUIT, TYPE E		625 CABLE SPLICING KIT		625 CONNECTOR KIT, TYPE II	625 LIGHT POLE, DESIGN A T5.5B12.7	625 LIGHT POLE FOUNDATION, 610 mm X 2.4 m DEEP	625 NO. 10 AWG, POLE & BRACKET CABLE	625 38 mm DUCT CABLE WITH THREE NO. 4 AWG, 5000 VOLT CABLE	625 NO. 4 AWG, 5000 VOLT DISTRIBUTION CABLE	625 CONDUIT, 76 mm, 713.04		625 LUMINAIRE, CONVENTIONAL, AS PER PLAN	625 TRENCH	625 PULL BOX, 713.08, 450 mm	625 GROUND ROD	625 POWER SERVICE, AS PER PLAN	625 HIGH VOLTAGE TEST, AS PER PLAN
					METER		EACH		EACH	EACH	EACH	METER	METER	METER	METER		EACH	METER	EACH	EACH	EACH	LUMP
	CIRCUIT "A"																					
PS-1	51+422 (S.R. 681)		19 m RT.																		1	
PB-1	51+421.5 (S.R. 681)		17 m RT.		9		3												1			
PB-2	51+420 (S.R. 681)		7 m RT.		9		3												1			
PB-3	51+420 (S.R. 681)		7 m LT.		9		3												1			
HL-1	48+797 (U.S. 33)		21 m LT.	5.5 m					2	1	1	34					1			1		
HL-2	48+818 (U.S. 33)		21 m RT.	5.5 m					2	1	1	34					1			1		
	PS-1	PB-1											3					3				
	PB-1	PB-2											10					9				
	PB-2	PB-3												42	14			14				
	PB-3	HL-1											85					88				
	HL-1	HL-2												141	47			43				
	CIRCUIT "B"																					
PS-2	2+224 (C.R. 89)		19.7 m RT.																		1	
PB-4	2+220 (C.R. 89)		12.6 m LT.		9		3												1			
PB-5	2+220 (C.R. 89)		4.9 m LT.		9		3												1			
HL-3	42+353 (U.S. 33)		0.8 m LT.	5.5 m					2	1	1	34					1			1		
HL-4	42+325 (U.S. 33)		20.8 m LT.	5.5 m					2	1	1	34					1			1		
	PS-2	PB-4											8					8				
	PB-4	PB-5											8					8				
	PB-5	HL-3											37					36				
	HL-3	HL-4												105	35			35				
TOTALS CARRIED TO GENERAL SUMMARY					**45**		**15**		**8**	**4**	**4**	**136**	**151**	**288**	**96**		**4**	**244**	**5**	**4**	**2**	**LUMP**

CALCULATED CAW | CHECKED TDW

LIGHTING GENERAL NOTES & SUBSUMMARY

ATH-33-40.981

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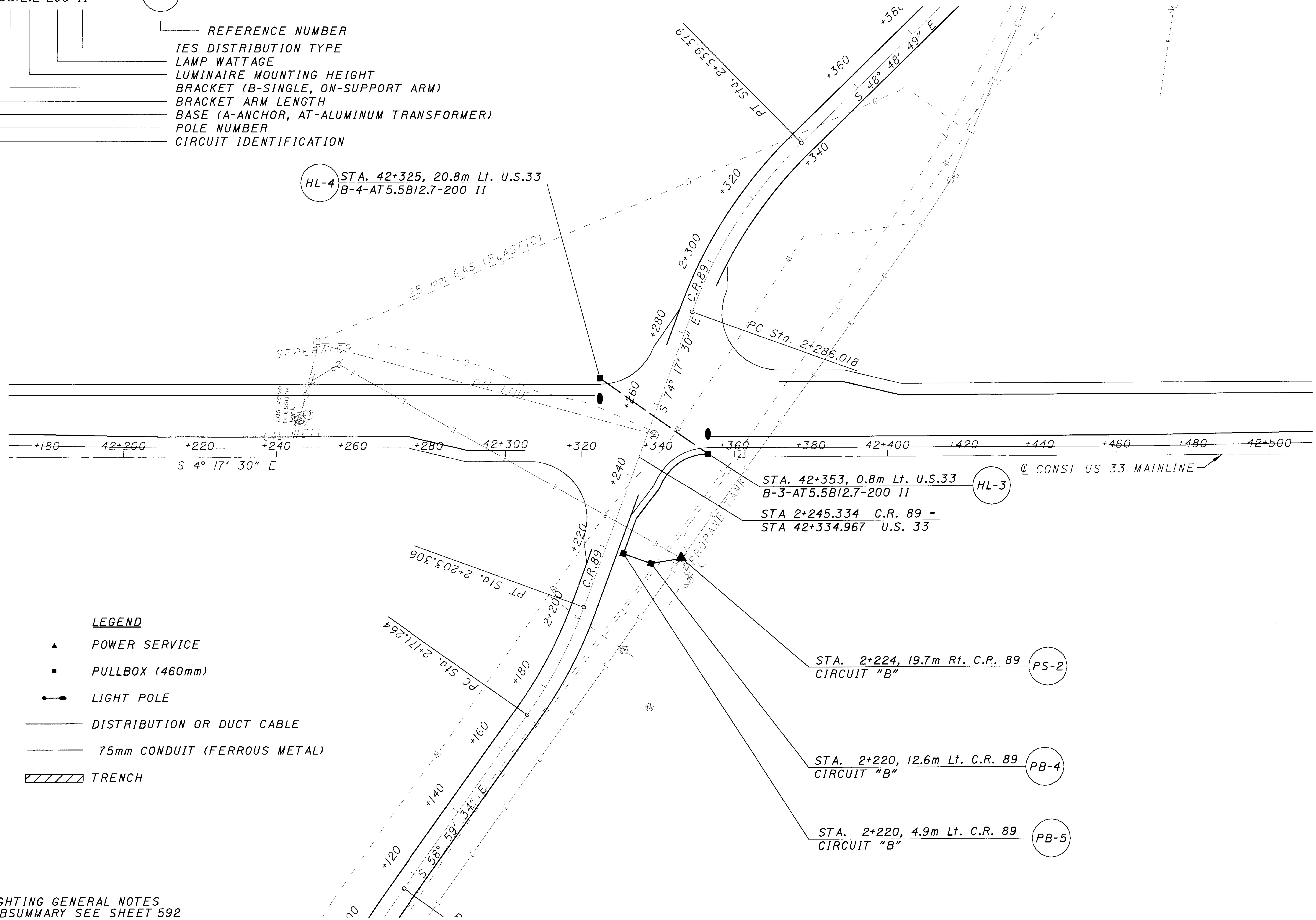
STA. 48+797, 21m Lt. U.S.33
A-1-AT5.5B12.2-200 II (HL-1)

- REFERENCE NUMBER
- IES DISTRIBUTION TYPE
- LAMP WATTAGE
- LUMINAIRE MOUNTING HEIGHT
- BRACKET (B-SINGLE, ON-SUPPORT ARM)
- BRACKET ARM LENGTH
- BASE (A-ANCHOR, AT-ALUMINUM TRANSFORMER)
- POLE NUMBER
- CIRCUIT IDENTIFICATION



LEGEND

- ▲ POWER SERVICE
- ▪ PULLBOX (460mm)
- LIGHT POLE
- DISTRIBUTION OR DUCT CABLE
- 75mm CONDUIT (FERROUS METAL)
- TRENCH

FOR LIGHTING GENERAL NOTES AND SUBSUMMARY SEE SHEET 592

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HORIZONTAL SCALE IN METERS 0 10 20

CALCULATED CAW CHECKED TDW

LIGHTING PLAN
STA. 42+180 TO STA. 42+500

ATH-33-40.981

PB-3 STA. 51+420, 7m Lt. S.R.681
CIRCUIT "A"

STA. 51+421.5, 17m Rt. S.R.681 PB-1
CIRCUIT "A"

STA. 51+422, 19m Rt. S.R.681 PS-1
CIRCUIT "A"

℄ CONST SR 681
AT GRADE

PT Sta. 51+412.320

PC Sta. 51+368.874

HL-1 STA. 48+797, 21m Lt. U.S.33
A-1-AT5.5B12.7-200 II

STA. 51+420, 7m Rt. S.R.681 PB-2
CIRCUIT "A"

+620 +640 +660 +680 48+700 +720 +740 +760 +780 48+800 +820 +840 +860 +880 48+900 +920 +940 +960 +980 49+0

℄ CONST US 33 MAINLINE S 36° 40' 52" E

N 53° 16' 07" E

S.R. 681 +440 +420 51+400 +380 +360 +340 +320 51+300 +280 +260 +240 +220 51+200 +180

PT Sta. 51+266.454

PC Sta. 48+830.628

STA. 48+818, 21m Rt. U.S.33 HL-2
A-2-AT5.5B12.7-200 II

LEGEND

- POWER SERVICE
- PULLBOX (460mm)
- LIGHT POLE
- DISTRIBUTION OR DUCT CABLE
- 75mm CONDUIT (FERROUS METAL)
- TRENCH

FOR LIGHTING GENERAL NOTES
AND SUBSUMMARY SEE SHEET 592

STA. 48+797, 21m Lt. U.S.33 HL-1
A-1-AT5.5B12.2-200 II

- REFERENCE NUMBER
- IES DISTRIBUTION TYPE
- LAMP WATTAGE
- LUMINAIRE MOUNTING HEIGHT
- BRACKET (B-SINGLE, ON-SUPPORT ARM)
- BRACKET ARM LENGTH
- BASE (A-ANCHOR, AT-ALUMINUM TRANSFORMER)
- POLE NUMBER
- CIRCUIT IDENTIFICATION

HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED CAW
CHECKED TDW

LIGHTING PLAN
STA. 48+610 TO STA. 48+950

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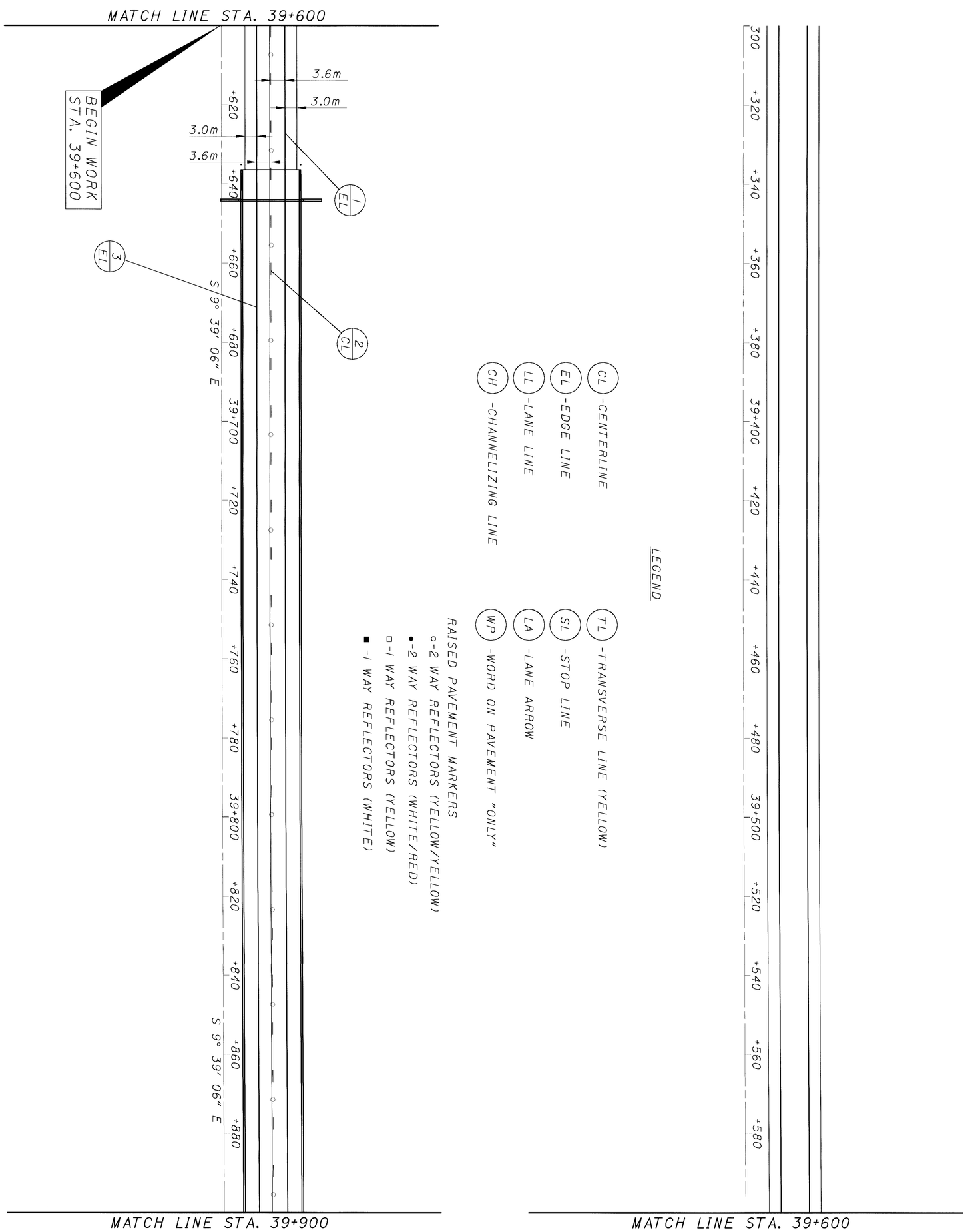

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SIGNING AND PAVEMENT MARKING PLAN

CALCULATED BBD
CHECKED TDW

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HORIZONTAL SCALE IN METERS

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LEGEND

- (CL) -CENTERLINE
- (EL) -EDGE LINE
- (LL) -LANE LINE
- (CH) -CHANNELIZING LINE
- (TL) -TRANSVERSE LINE (YELLOW)
- (SL) -STOP LINE
- (LA) -LANE ARROW
- (WP) -WORD ON PAVEMENT "ONLY"

RAISED PAVEMENT MARKERS

- ○ -2 WAY REFLECTORS (YELLOW/YELLOW)
- ● -2 WAY REFLECTORS (WHITE/RED)
- □ -1 WAY REFLECTORS (YELLOW)
- ■ -1 WAY REFLECTORS (WHITE)

HORIZONTAL SCALE IN METERS
0 10 20

CALCULATED BBD
CHECKED TDW

SIGNING AND PAVEMENT MARKING PLAN

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LEGEND

- (CL) -CENTERLINE
- (EL) -EDGE LINE
- (LL) -LANE LINE
- (CH) -CHANNELIZING LINE
- (TL) -TRANSVERSE LINE (YELLOW)
- (SL) -STOP LINE
- (LA) -LANE ARROW
- (WP) -WORD ON PAVEMENT "ONLY"

RAISED PAVEMENT MARKERS

- o -2 WAY REFLECTORS (YELLOW/YELLOW)
- • -2 WAY REFLECTORS (WHITE/RED)
- □ -1 WAY REFLECTORS (YELLOW)
- ■ -1 WAY REFLECTORS (WHITE)

0 10 20 HORIZONTAL SCALE IN METERS

CALCULATED BBD | CHECKED TDW

SIGNING AND PAVEMENT MARKING PLAN

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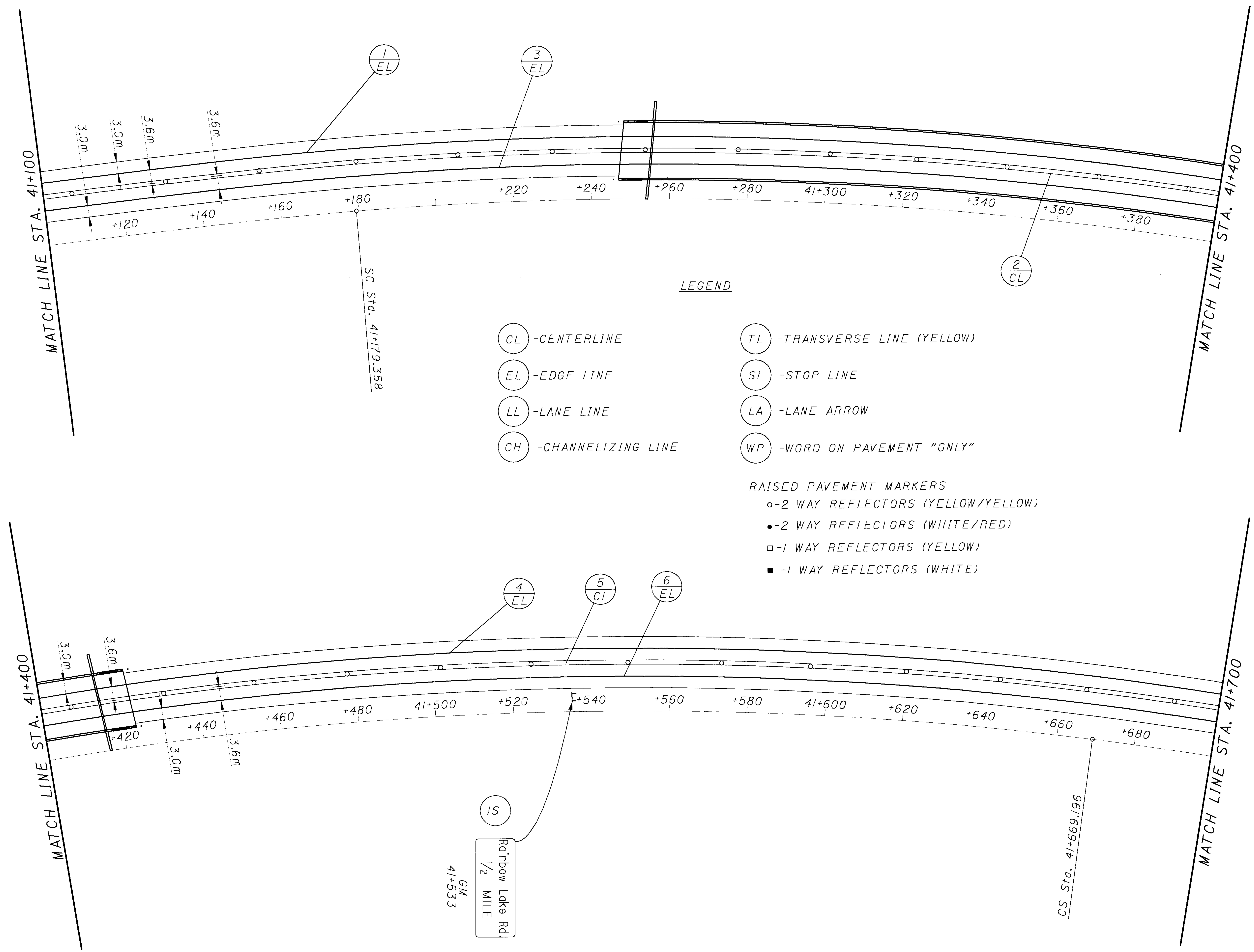

0 10 20
HORIZONTAL
SCALE IN METERS

CALCULATED BBD
CHECKED TDW

SIGNING AND PAVEMENT MARKING PLAN

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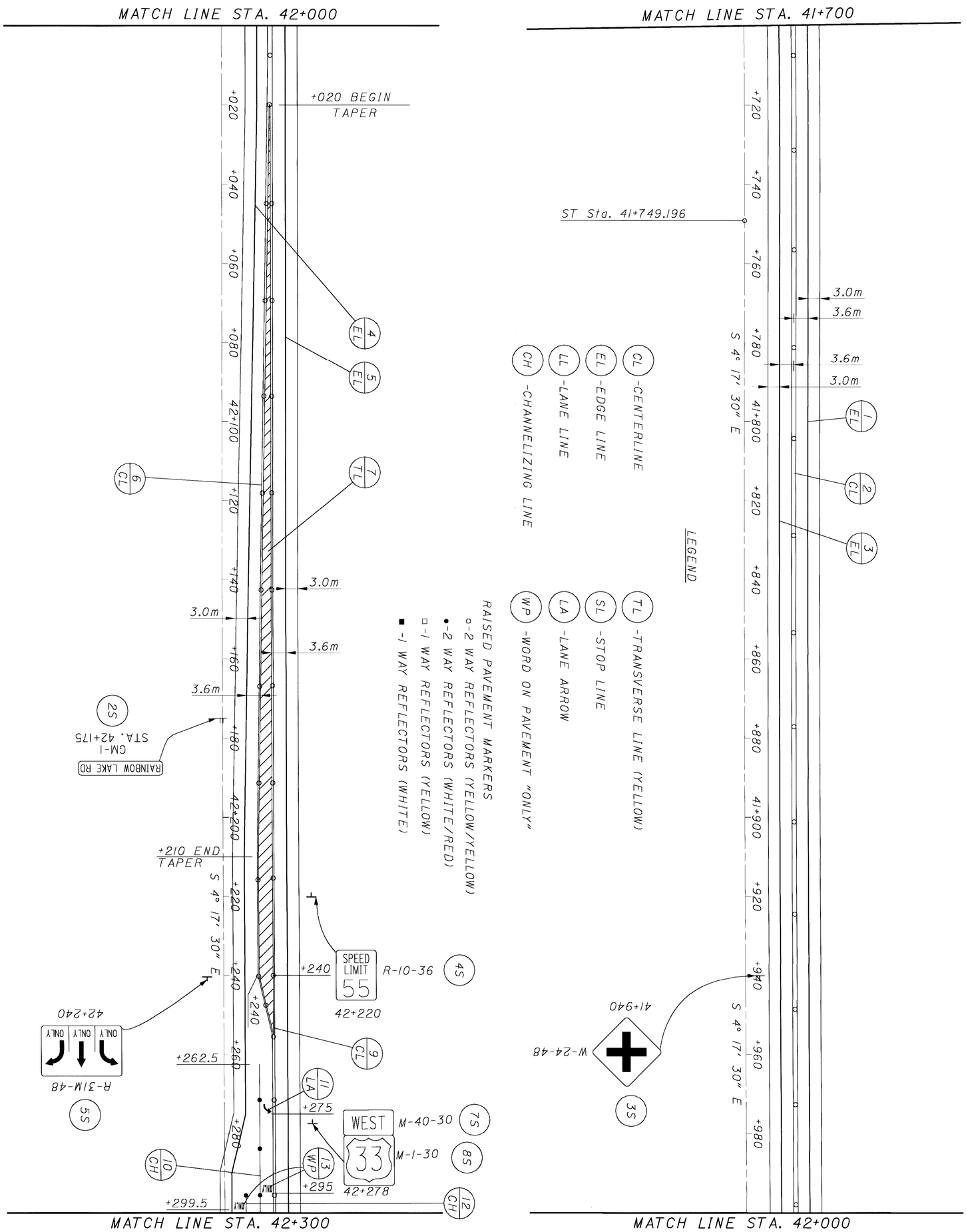

5969	ATH-33-40.981	SIGNING AND PAVEMENT MARKING PLAN	CALCULATED BBD / CHECKED TDW	0 20 10 HORIZONTAL SCALE IN METERS