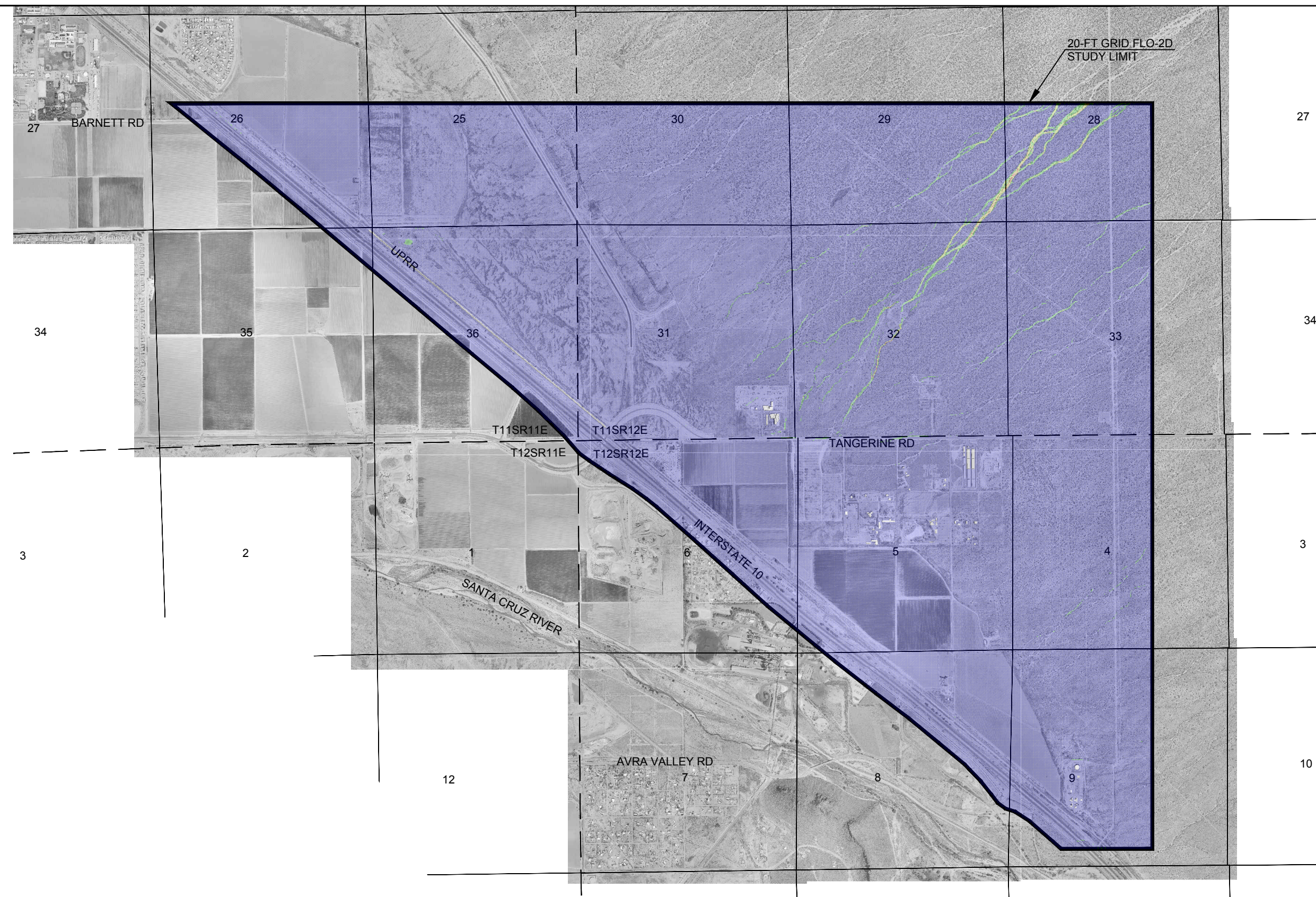


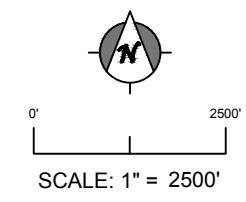
Z:\PROJECTS\2010\10-027 Psomas-Tangerine Rd I-10 to La Canada\10-027.1 West End Analysis\dwg\FLO2D Vel & Increases_M3D 2013.dwg, C7 EXT 10-YR VEL, 12/27/20



LEGEND
10-YR EXT VELOCITY

- VELOCITIES 0 to 3 (fps)
- VELOCITIES 3 to 5 (fps)
- VELOCITIES 5 to 7 (fps)
- VELOCITIES 7 to MAX (fps)

- NOTES:**
- VERTICAL DATUM = NAVD88
HORIZONTAL PROJECTION = ARIZONA STATE PLANE CENTRAL, NAD83 HARN
 - AERIAL PHOTO PROVIDED BY PAG, DATED 2008.



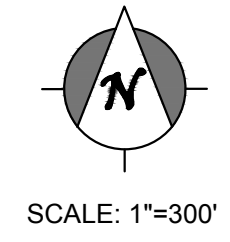
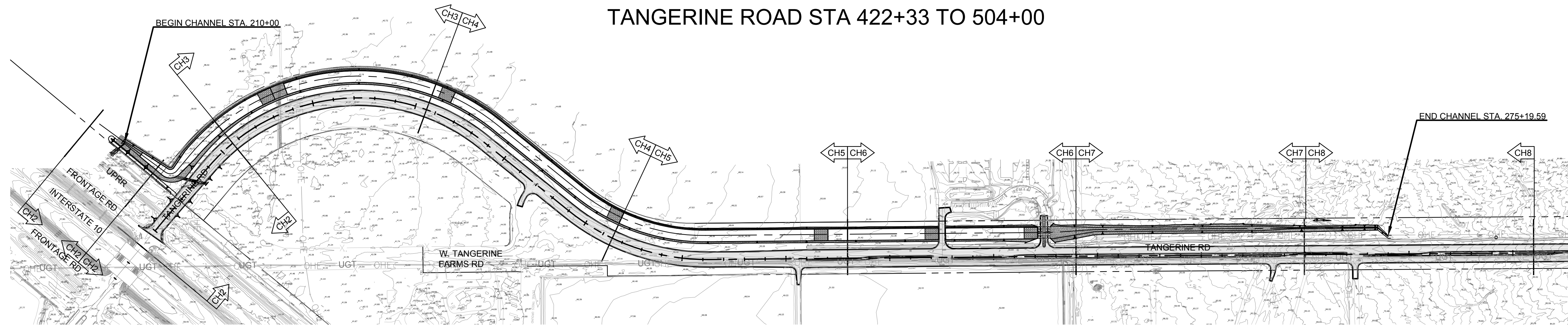
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PROJECT NO.:	10-027.1
DESIGN:	JKW
CHECKED:	JKW
DRAWN:	CRB
DATE:	12/20/2012
REV. DATE:	
REV. DATE:	
REV. DATE:	

FIGURE C-7
EXISTING 10-YR MAXIMUM FLOW VELOCITIES
TANGERINE WEST END FLO-2D
SHEET 1 OF 1

TANGERINE ROAD WEST END REGIONAL INTERCEPTOR CHANNEL

CHANNEL STA 210+00 TO STA 275+19.59
TANGERINE ROAD STA 422+33 TO 504+00



PLAN SHEET INDEX MAP

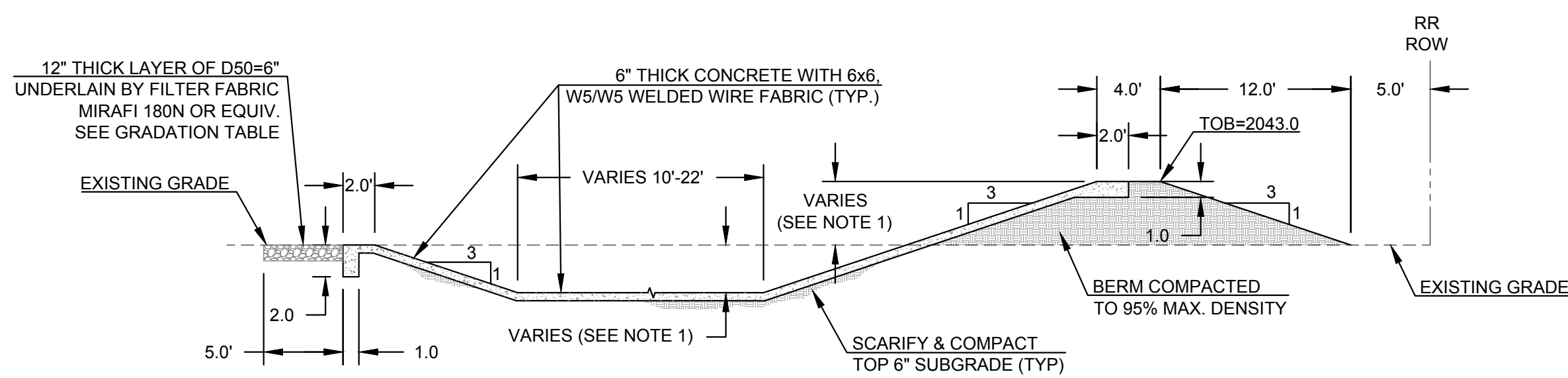
SHEET INDEX		
PG NO.	SHEET NO.	DESCRIPTION
112	CH1	COVER SHEET & TYP CHANNEL CROSS-SECTIONS
113 - 119	CH2 - CH8	CHANNEL PLAN & PROFILE

LEGEND	
WSE	WATER SURFACE ELEVATION
WWF	WELDED WIRE FABRIC
TOB	TOP OF BERM
---	RIGHT OF WAY

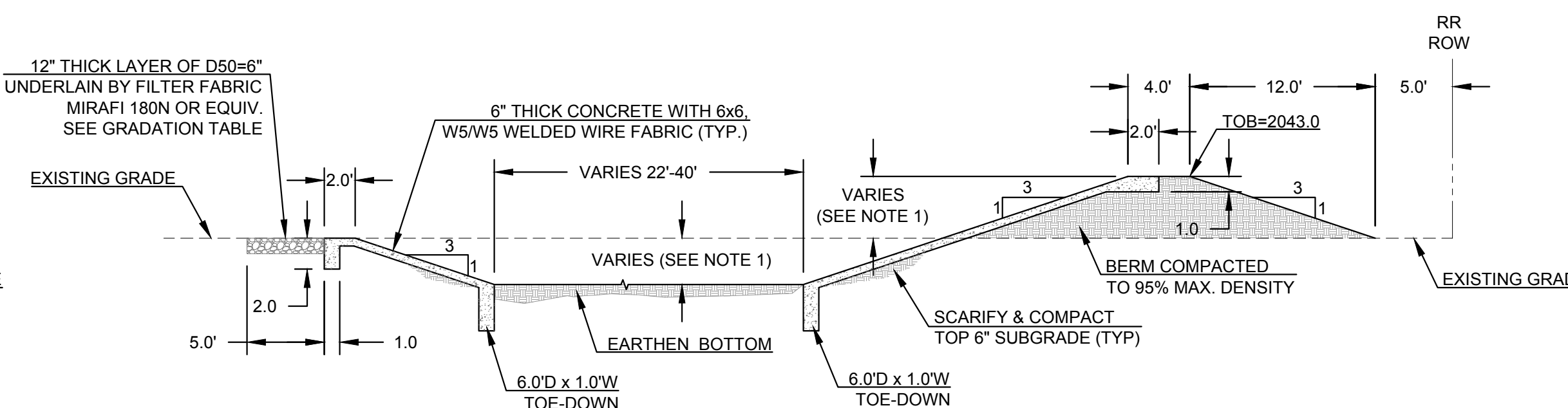
CHANNEL STATIONS	DISCHARGE RANGE (CFS)	
	10-YR	100-YR
210+00 TO 213+00	250 - 550	470 - 1200
213+00 TO 232+00	550 - 850	1200 - 2200
232+00 TO 256+00	850 - 900	1700 - 1900
256+00 TO 265+00	370 - 900	1100 - 1900
265+00 TO 274+53	30 - 370	430-1100

RIPRAP GRADATION	
SIZE	% PASSING
2.00 D50	100-90
1.50 D50	85-70
1.00 D50	50-30
0.67 D50	15-5
0.33 D50	5-0

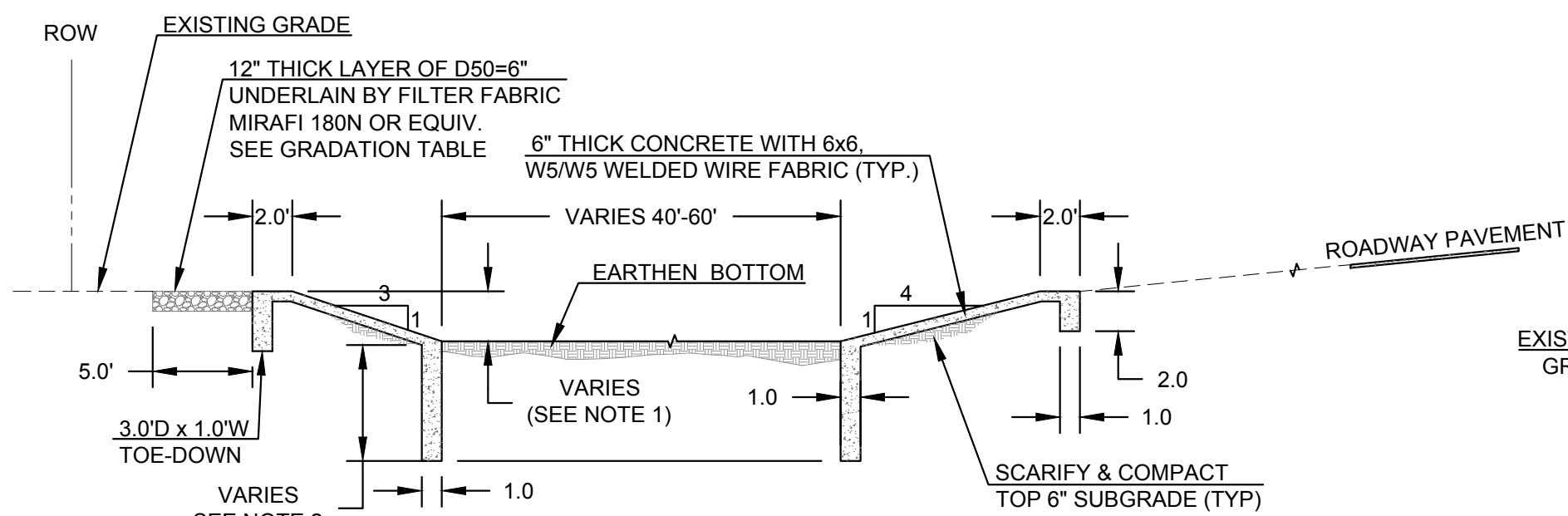
- NOTES:**
- BERM HEIGHT & CHANNEL DEPTHS VARY. SEE CHANNEL PROFILE SHEETS CH2-CH8 FOR STA & ELEVATION.
 - TOE-DOWN DEPTHS VARY. SEE CHANNEL PROFILE SHEETS CH2-CH8 FOR STA & ELEVATION.



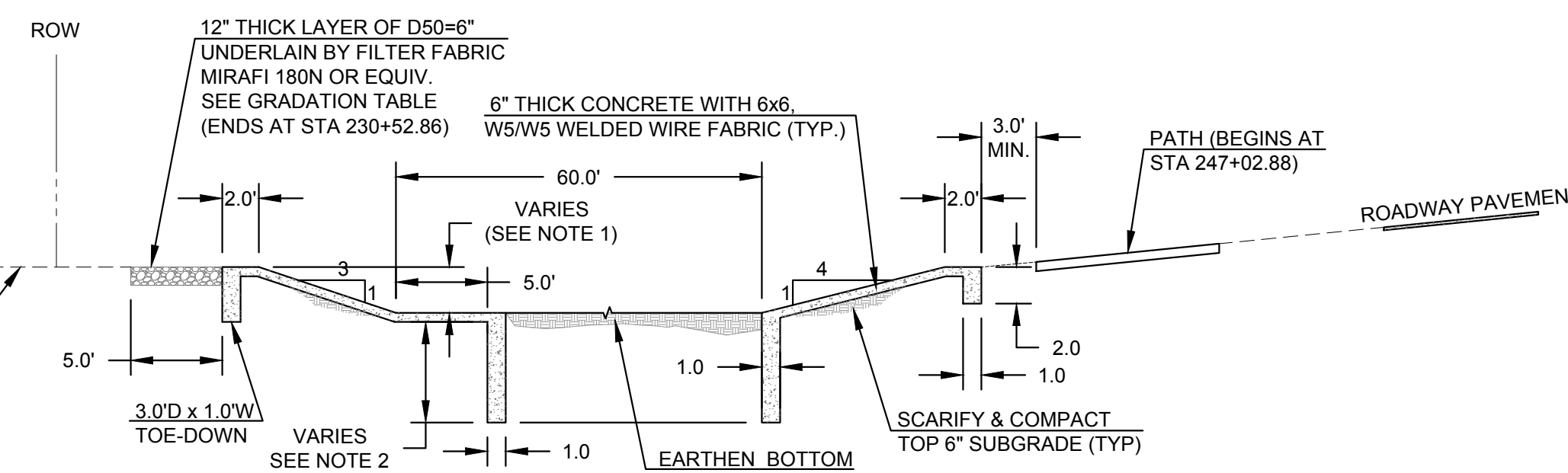
TYP CHANNEL CROSS-SECTION A-A
STA. 210+00.00 TO 211+00.00
N.T.S.



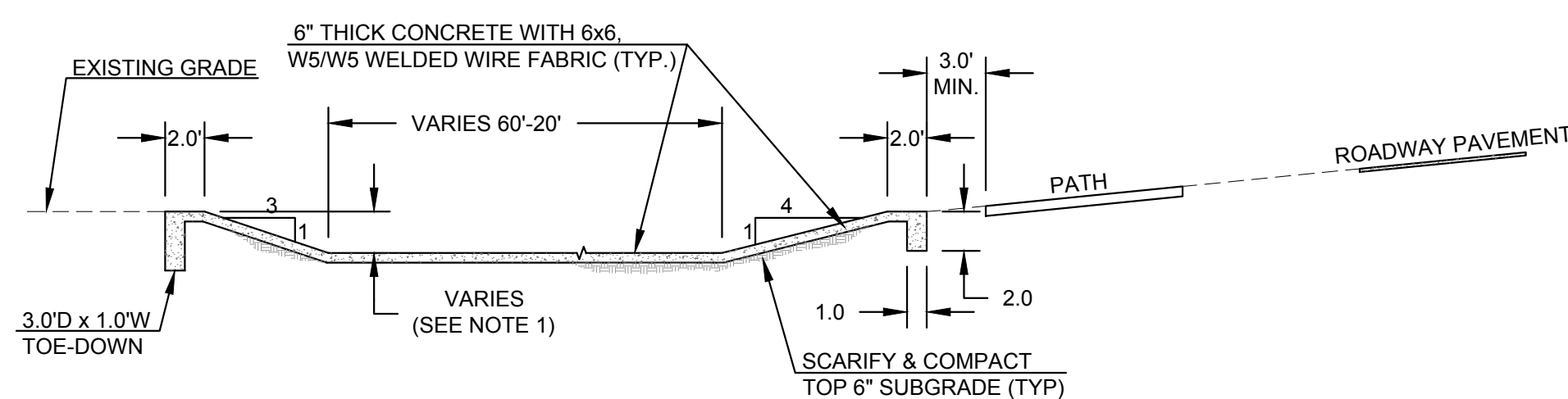
TYP CHANNEL CROSS-SECTION B-B
STA. 211+00.00 TO 212+73.97
N.T.S.



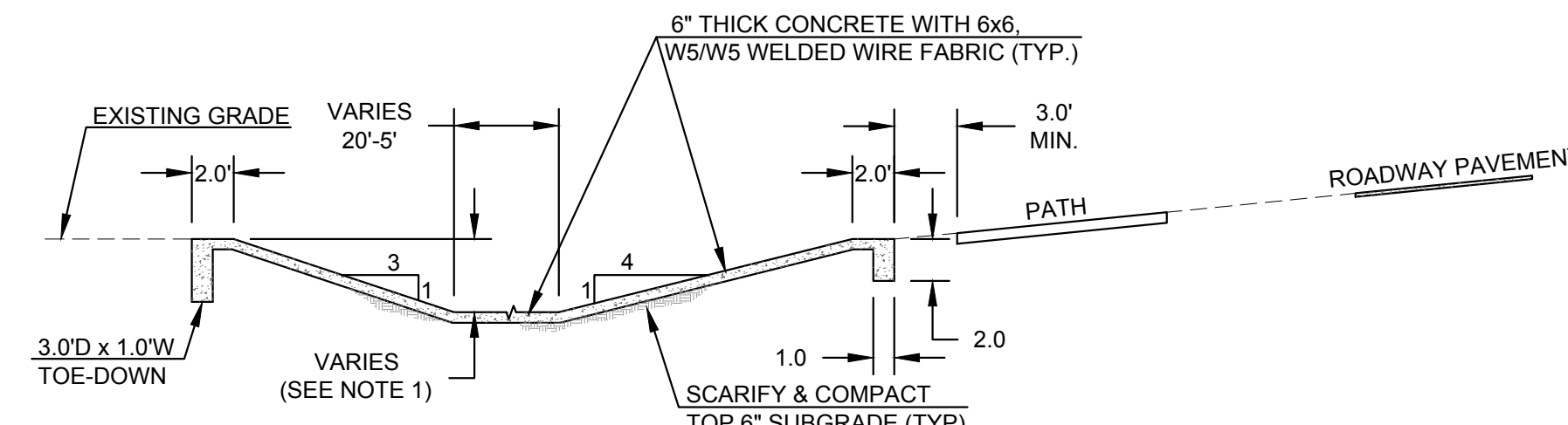
TYP CHANNEL CROSS-SECTION C-C
STA 212+73.97 TO STA 219+70.00
N.T.S.



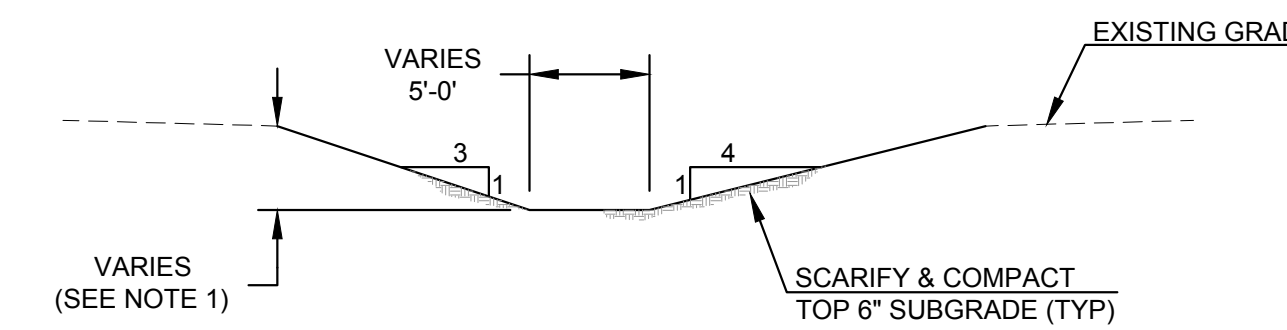
TYP CHANNEL CROSS-SECTION D-D
STA 219+70.00 TO STA 258+16.00
N.T.S.



TYP CHANNEL CROSS-SECTION E-E
STA 258+16.00 TO STA 269+02.98
N.T.S.



TYP CHANNEL CROSS-SECTION F-F
STA 269+02.98 TO STA 274+52.98
N.T.S.



TYP CHANNEL CROSS-SECTION G-G
STA 274+52.98 TO STA 275+19.59
N.T.S.

DESIGNED: JKW
DRAWN: CRB
CHECKED: JCC
PROJ. ENG.: JKW

DATE: 01/13
01/13
01/13
01/13

NO. REVISION DESCRIPTION DIV. ENGINEER DATE

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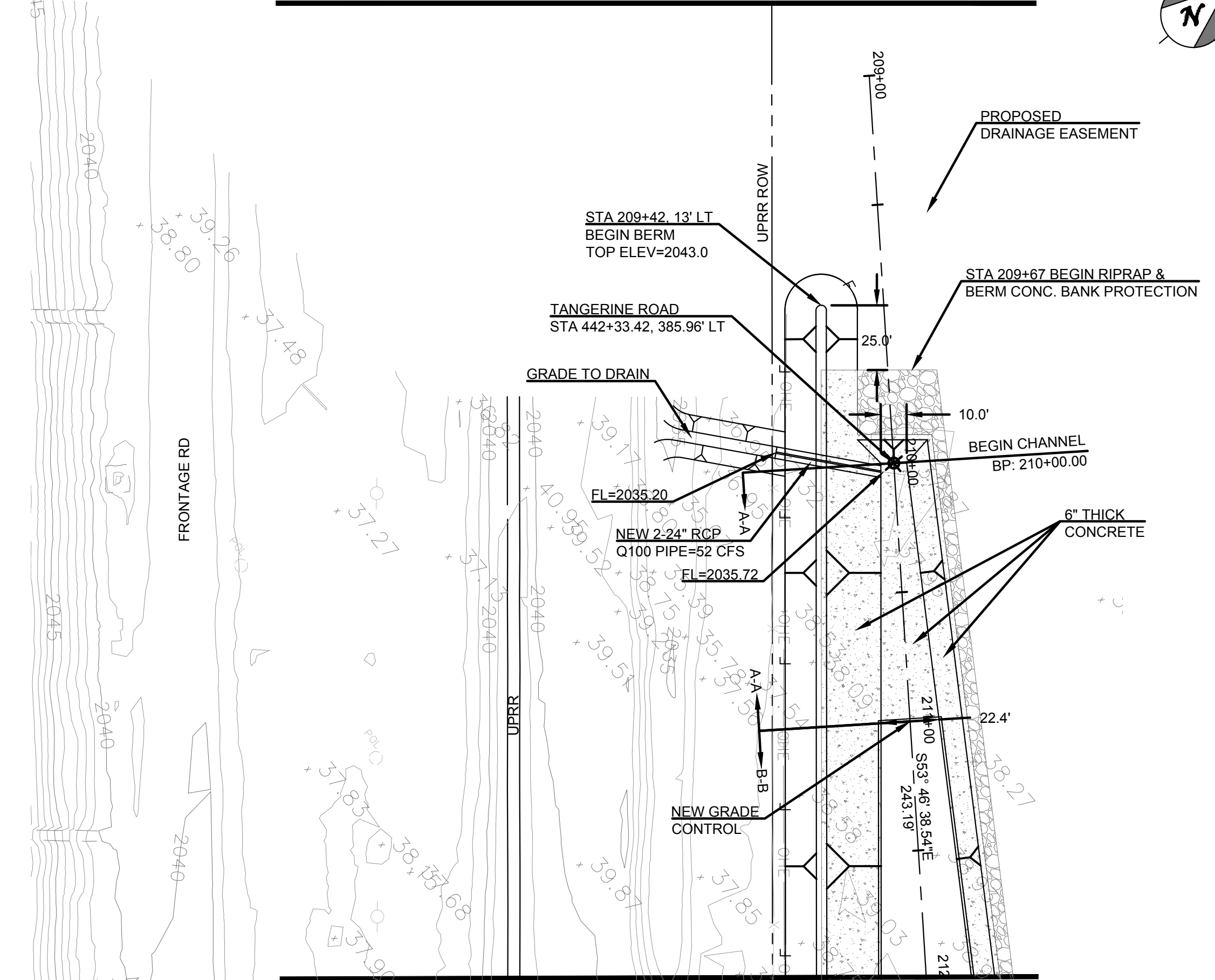
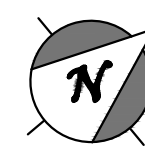
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TOWN OF MARANA - PROJECT NO. 2005-061
CHANNEL LOCATION & TYPICAL DETAILS
FOR
TANGERINE ROAD WEST END REGIONAL CHANNEL
STA 210+00 TO STA 275+19.6

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Blue Stake Center
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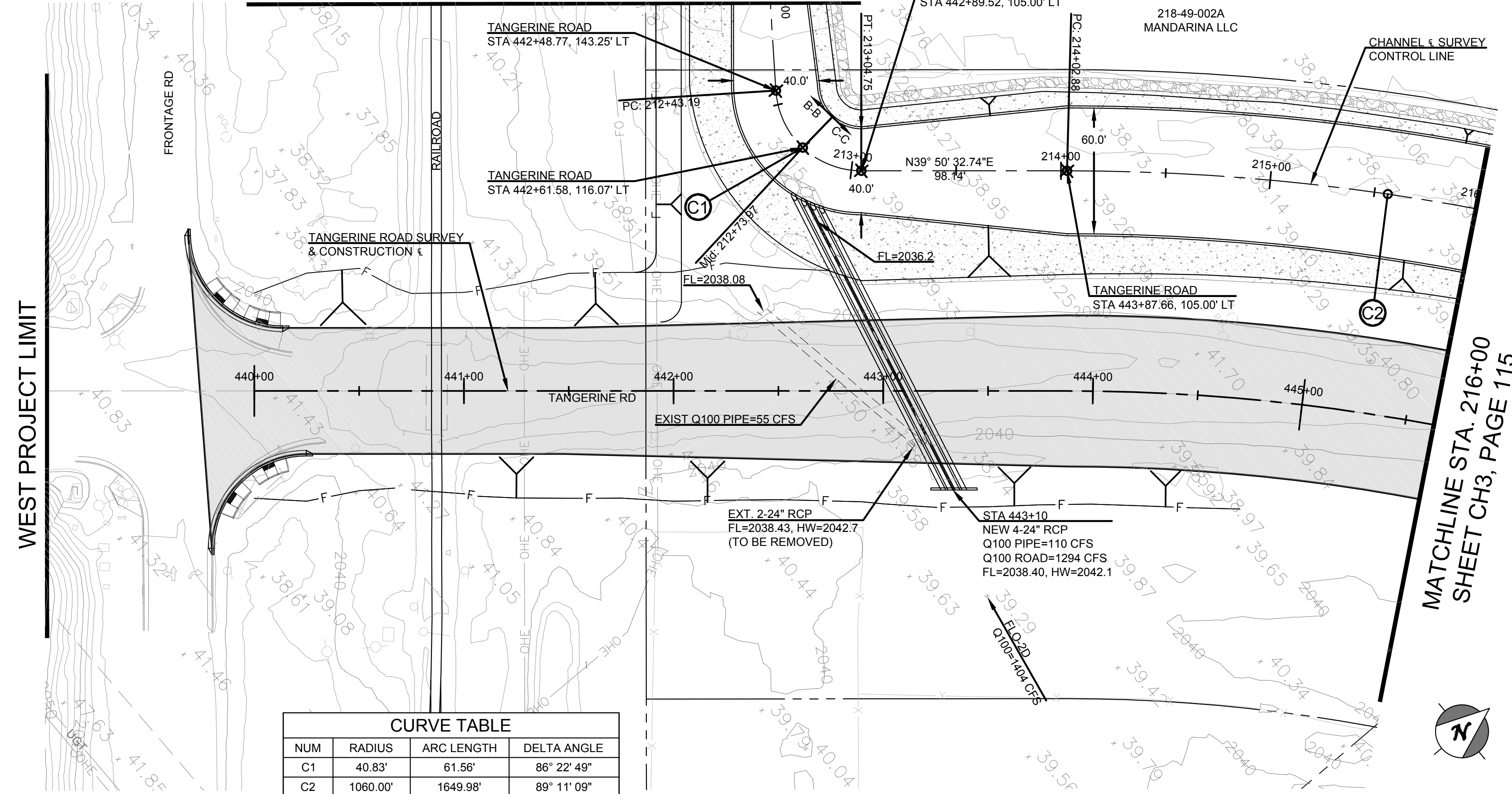
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NORTH PROJECT LIMIT



MATCHLINE STA. 212+00 THIS SHEET RIGHT

MATCHLINE STA. 212+00 THIS SHEET LEFT



MATCHLINE STA. 216+00
SHEET CH3, PAGE 115

CURVE TABLE

NUM	RADIUS	ARC LENGTH	DELTA ANGLE
C1	40.83'	61.56'	86° 22' 49"
C2	1060.00'	1649.98'	89° 11' 09"

209+00 210+00 211+00 212+00 213+00 214+00 215+00 216+00

2050

2050

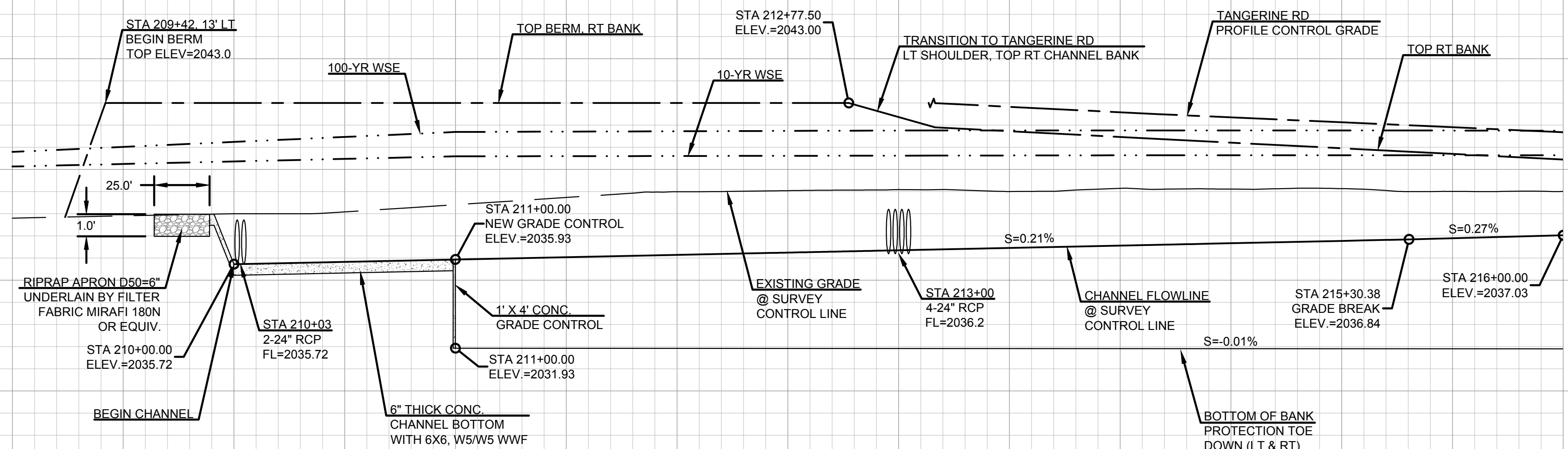
2040

2040

2030

2030

2020



DESIGNED:	JKW
DRAWN:	CRB
CHECKED:	JJC
PROJ. ENG.:	JKW

NO.	REVISION DESCRIPTION	DIV. ENGINEER	DATE

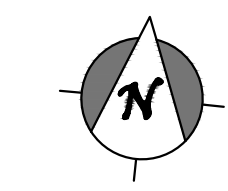
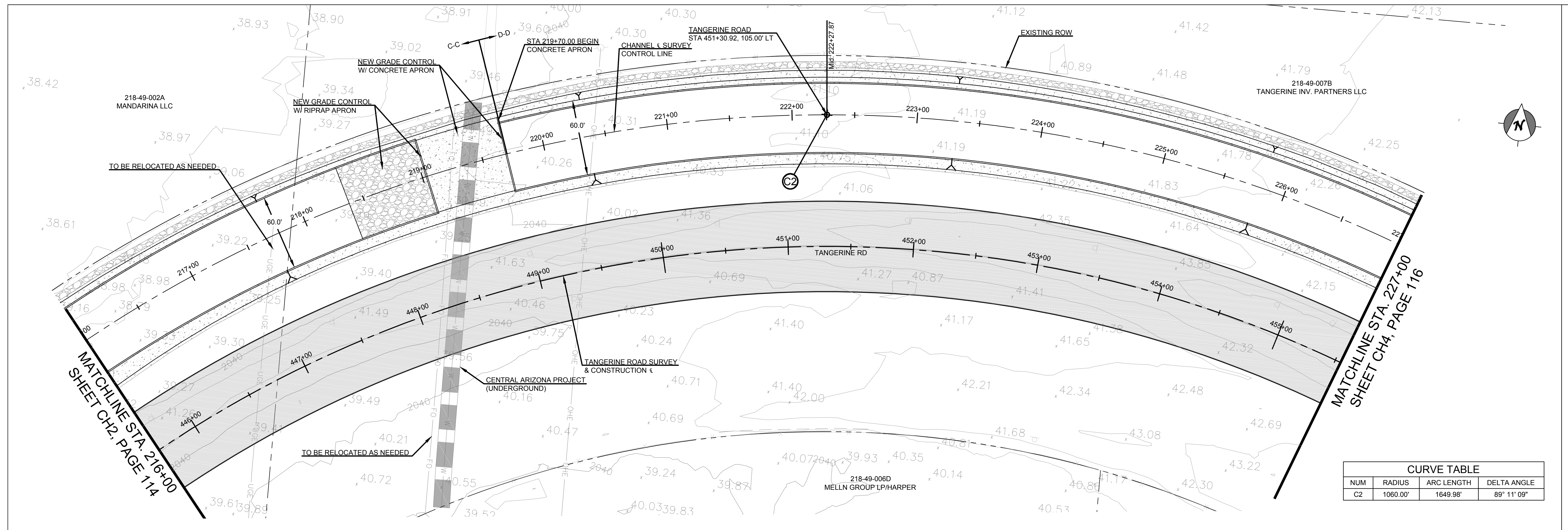
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TOWN OF MARANA - PROJECT NO. 2005-061
CHANNEL PLAN AND PROFILE
FOR
TANGERINE ROAD WEST END
REGIONAL CHANNEL
STA 210+00 TO STA 216+00

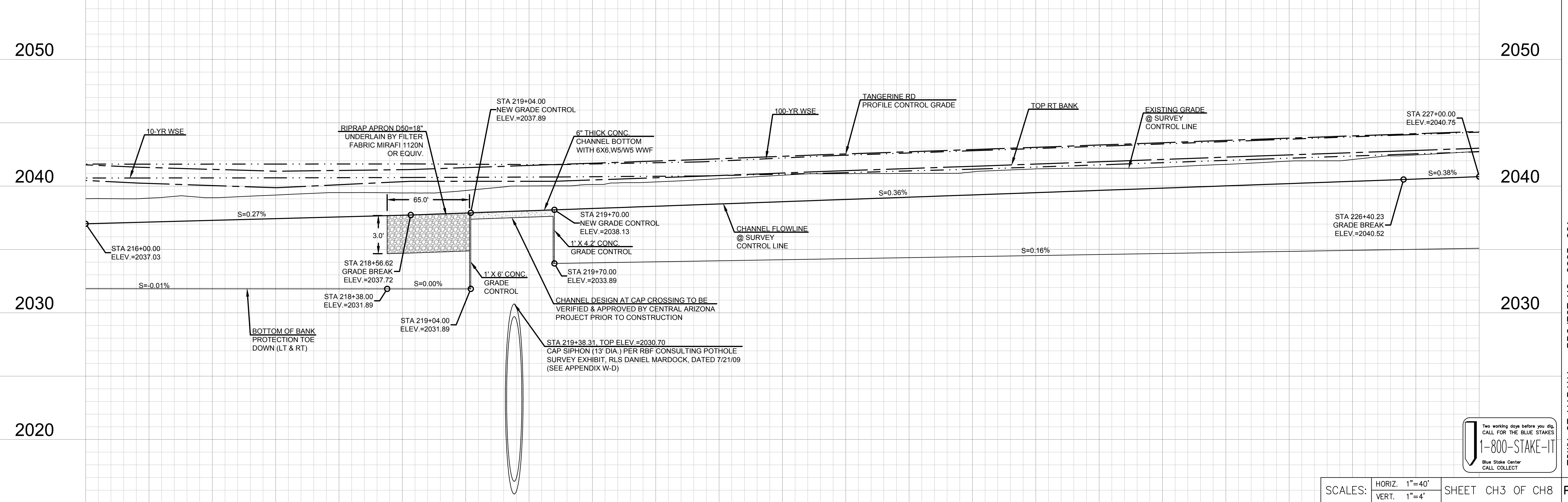


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CURVE TABLE			
NUM	RADIUS	ARC LENGTH	DELTA ANGLE
C2	1060.00'	1649.98'	89° 11' 09"

216+00 217+00 218+00 219+00 220+00 221+00 222+00 223+00 224+00 225+00 226+00 227+00



SCALES: HORIZ. 1"=40'
VERT. 1"=4'



DESIGNED:	DATE
JKW	01/13
CRB	01/13
JCC	01/13
JKW	01/13

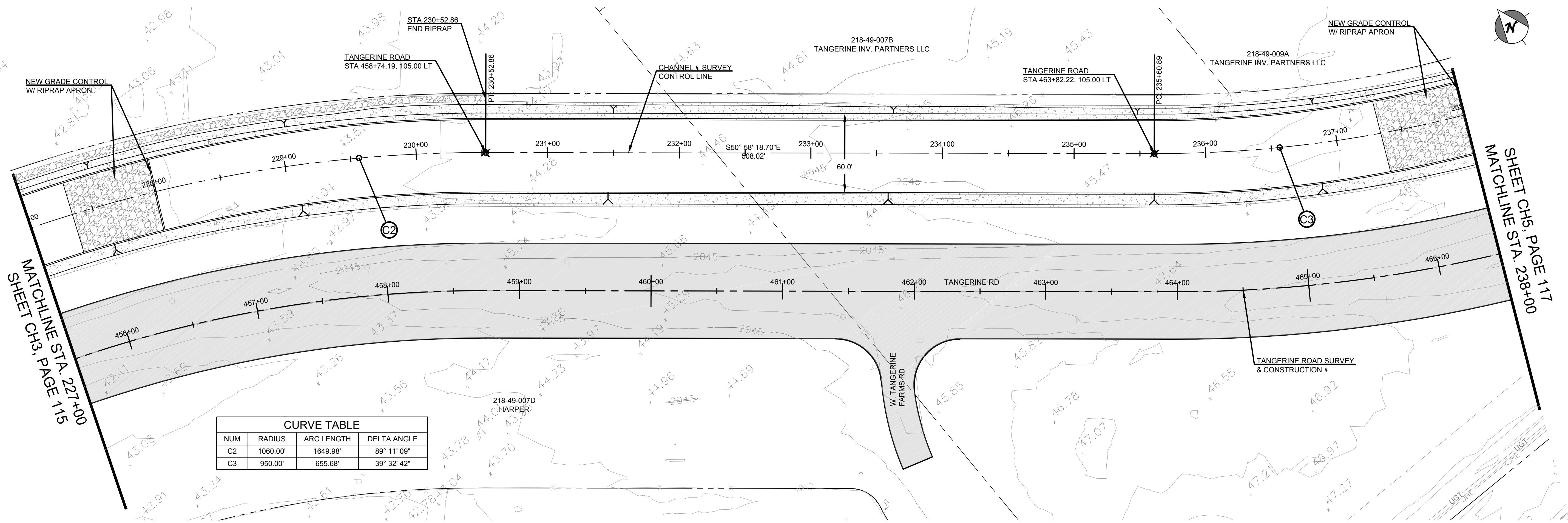
NO.	REVISION DESCRIPTION	DIV. ENGINEER	DATE

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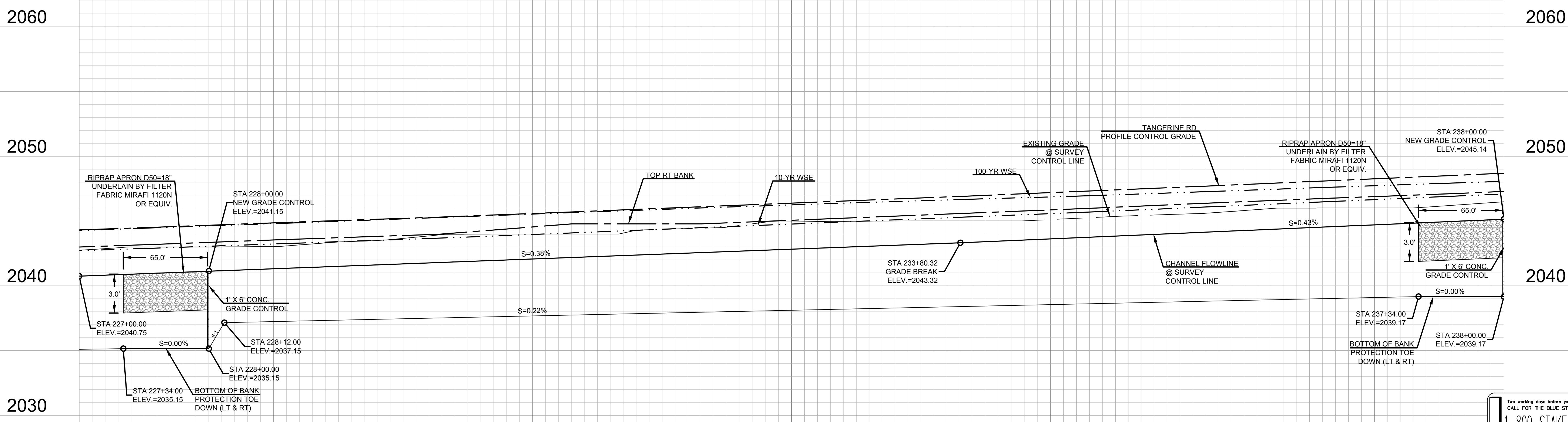
TOWN OF MARANA - PROJECT NO. 2005-061
CHANNEL PLAN AND PROFILE
FOR
TANGERINE ROAD WEST END REGIONAL CHANNEL
STA 216+00 TO STA 227+00

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CURVE TABLE			
NUM	RADIUS	ARC LENGTH	DELTA ANGLE
C2	1060.00'	1649.98'	89° 11' 09"
C3	950.00'	655.68'	39° 32' 42"

227+00 228+00 229+00 230+00 231+00 232+00 233+00 234+00 235+00 236+00 237+00 238+00



SCALES: HORIZ. 1"=40'
VERT. 1"=4'



DESIGNED:	DATE
JKW	01/13
CRB	01/13
JJC	01/13
JKW	01/13

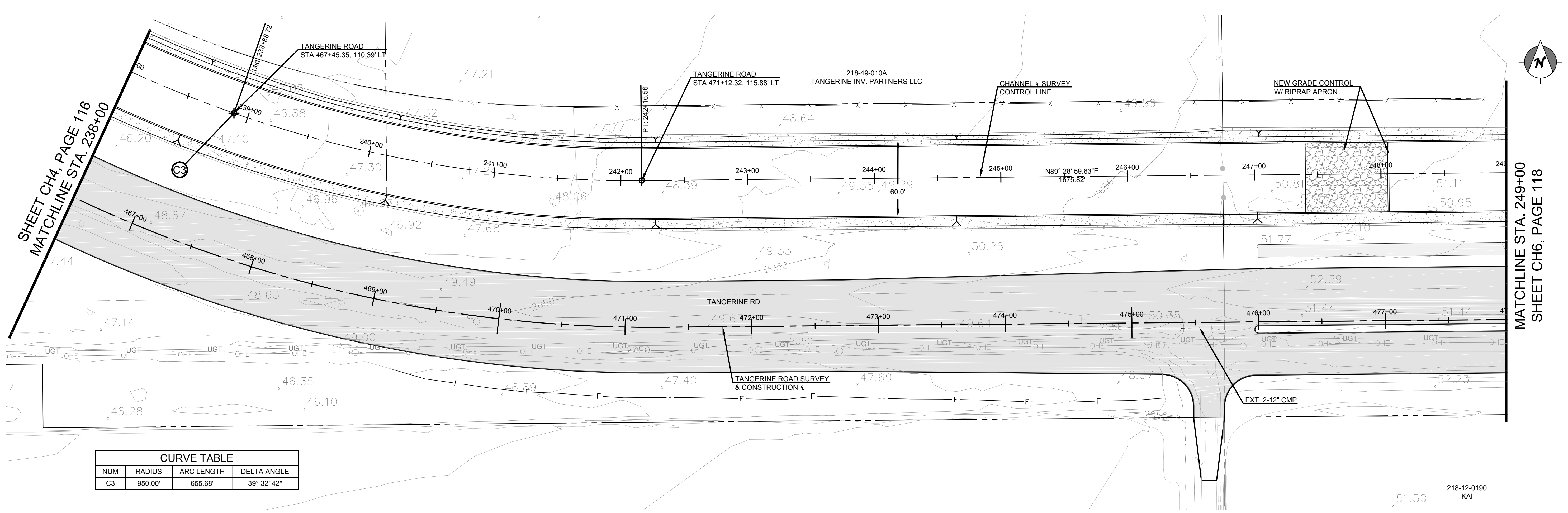
NO.	REVISION DESCRIPTION	DIV. ENGINEER	DATE

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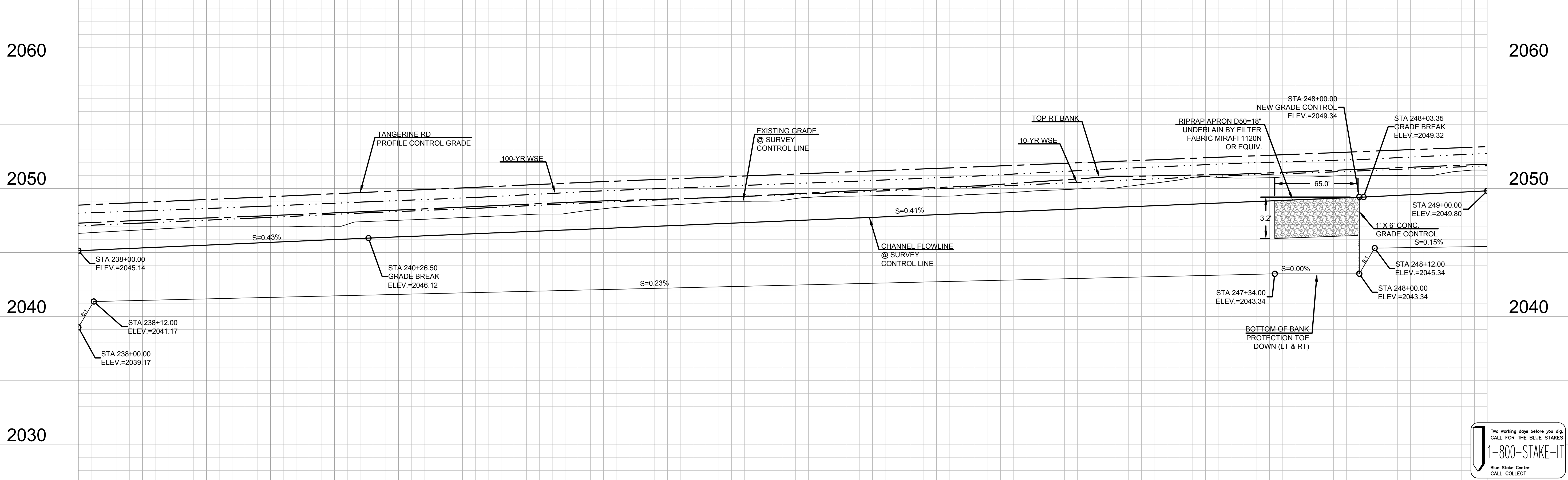
TOWN OF MARANA - PROJECT NO. 2005-061
FOR
CHANNEL PLAN AND PROFILE
TANGERINE ROAD WEST END
REGIONAL CHANNEL
STA 227+00 TO STA 238+00

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CURVE TABLE			
NUM	RADIUS	ARC LENGTH	DELTA ANGLE
C3	950.00'	655.68'	39° 32' 42"

238+00 239+00 240+00 241+00 242+00 243+00 244+00 245+00 246+00 247+00 248+00 249+00



Two working days before you dig,
CALL FOR THE BLUE STAKES
1-800-STAKE-IT
Blue Stake Center
CALL COLLECT

SCALES: HORIZ. 1"=40'
VERT. 1"=4'
SHEET CH5 OF CH8
PAGE 116 OF 143

DATE	DESIGNED:	DRAWN:	CHECKED:	PROJ. ENG.:
01/13	JKW	CRB	JJC	JKW
01/13				
01/13				

NO.	REVISION DESCRIPTION	DIV. ENGINEER	DATE

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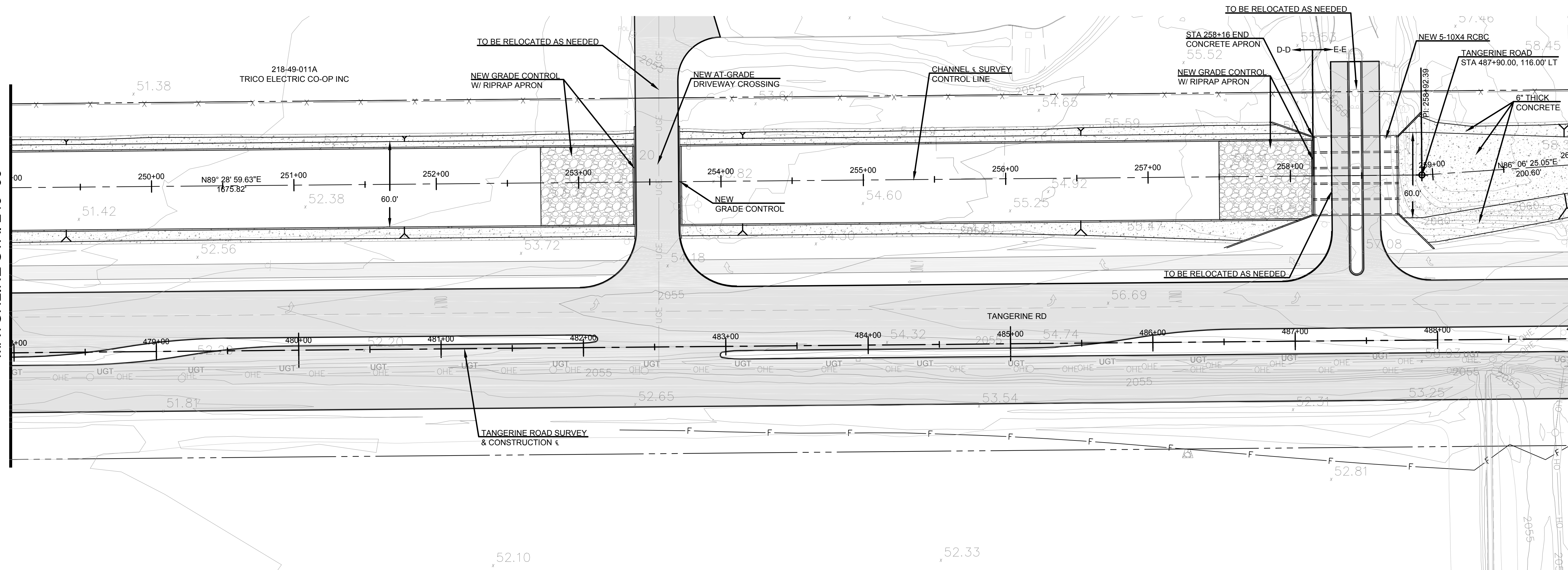
TOWN OF MARANA - PROJECT NO. 2005-061
FOR
CHANNEL PLAN AND PROFILE
TANGERINE ROAD WEST END REGIONAL CHANNEL
STA 238+00 TO STA 249+00

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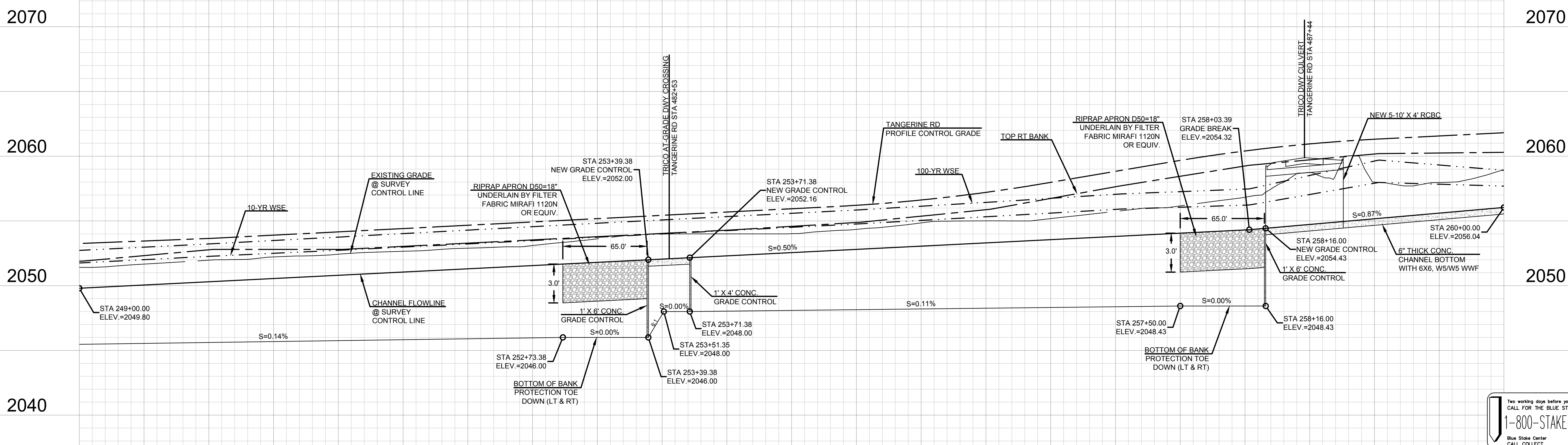
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SHEET CH5, PAGE 117
MATCHLINE STA. 249+00

MATCHLINE STA. 260+00
SHEET CH7, PAGE 119



249+00 250+00 251+00 252+00 253+00 254+00 255+00 256+00 257+00 258+00 259+00 260+00



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1-800-STAKE-IT
Blue Stake Center
CALL COLLECT

SCALES: HORIZ. 1"=40'
VERT. 1"=4'

DESIGNED:	JKW	DATE:	01/13
DRAWN:	CRB	CHECKED:	JCC
PROJ. ENG.:	JKW		01/13

NO.	REVISION DESCRIPTION	DIV. ENGINEER	DATE

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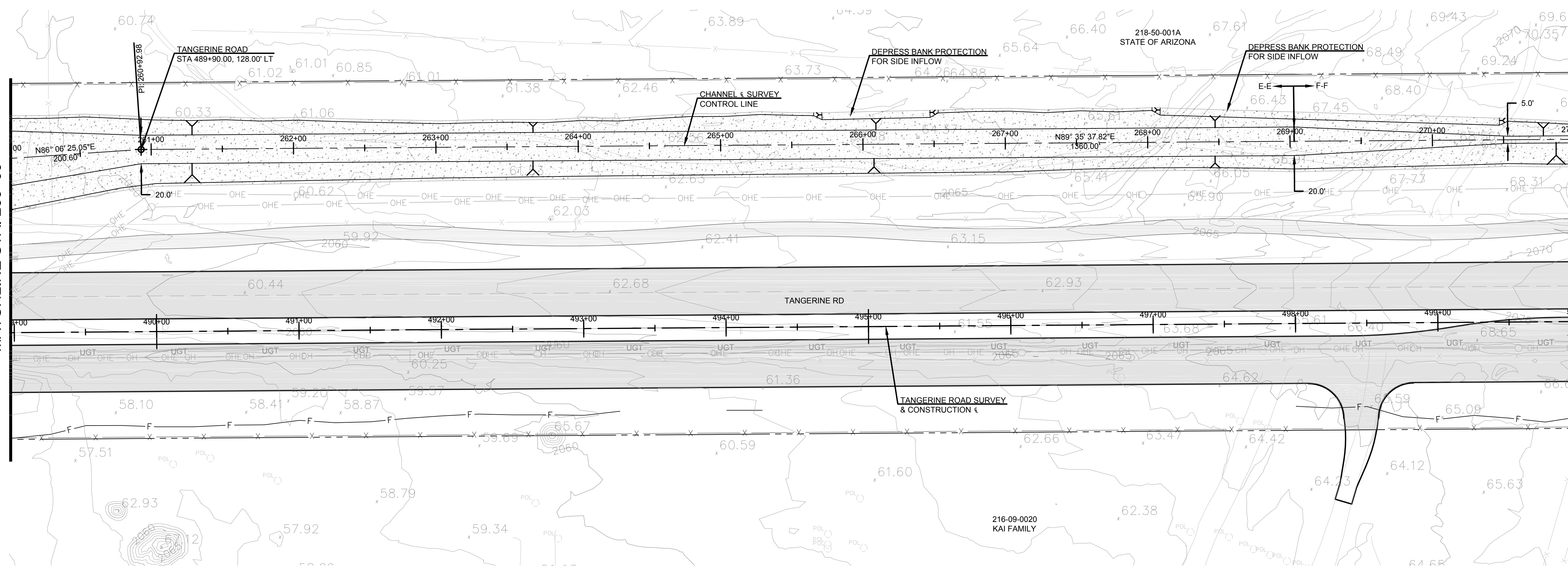
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TOWN OF MARANA - PROJECT NO. 2005-061
CHANNEL PLAN AND PROFILE
FOR
**TANGERINE ROAD WEST END
REGIONAL CHANNEL**
STA 249+00 TO STA 260+00

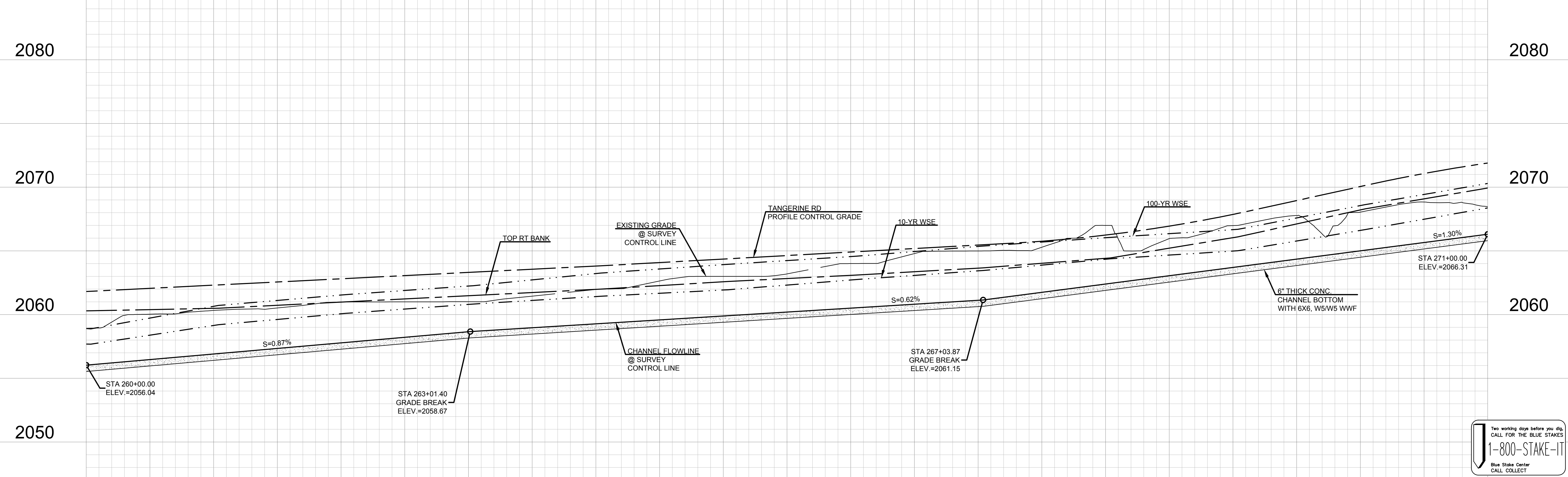
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SHEET CH6, PAGE 118
MATCHLINE STA. 260+00

MATCHLINE STA. 271+00
SHEET CH8, PAGE 120



260+00 261+00 262+00 263+00 264+00 265+00 266+00 267+00 268+00 269+00 270+00 271+00



SCALES: HORIZ. 1"=40'
VERT. 1"=4'
SHEET CH7 OF CH8 PAGE 118 OF 143

DESIGNED:	JKW	DATE	01/13
DRAWN:	JKW	CHECKED:	JCC
PROJ. ENG.:	JKW		01/13

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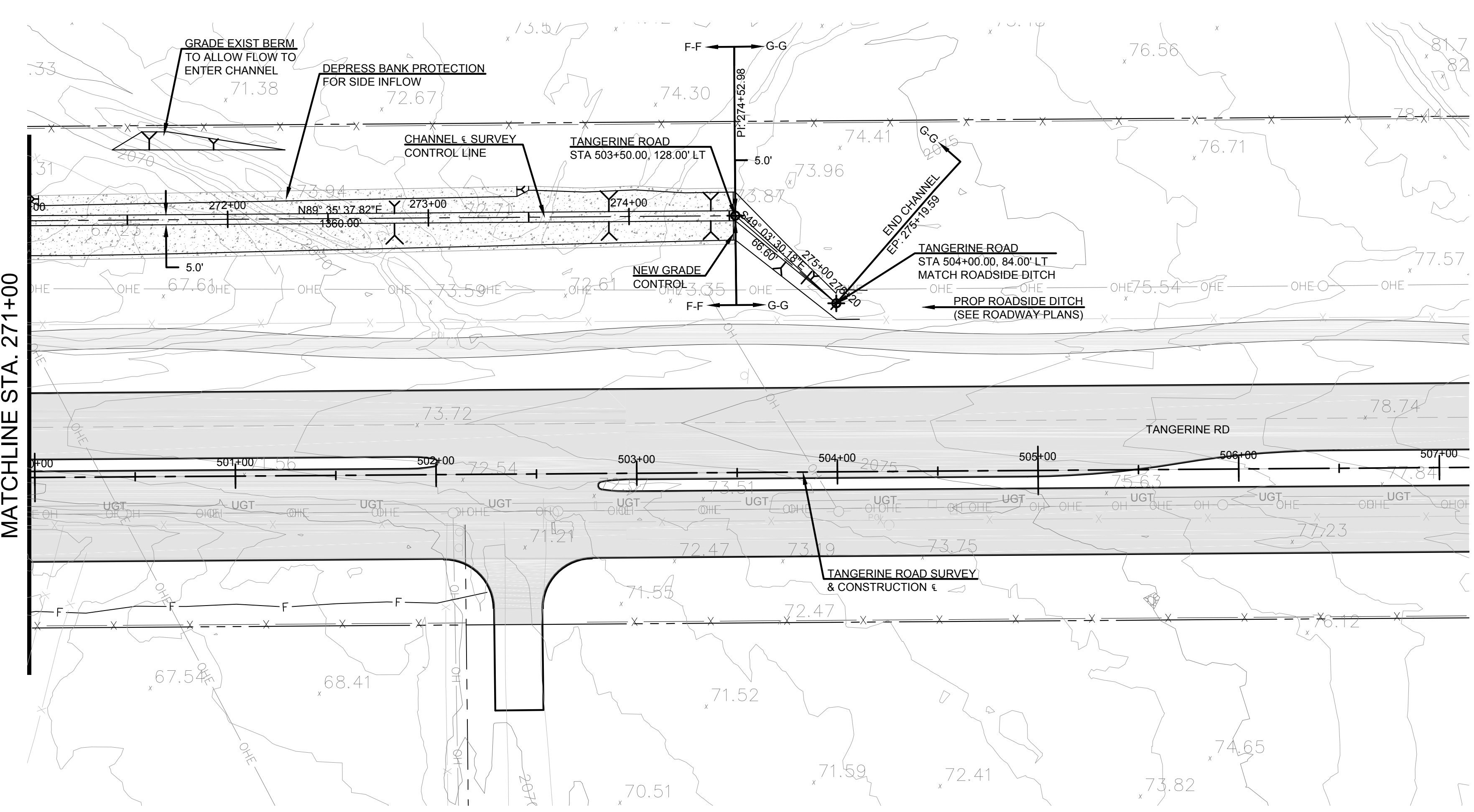
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TOWN OF MARANA - PROJECT NO. 2005-061

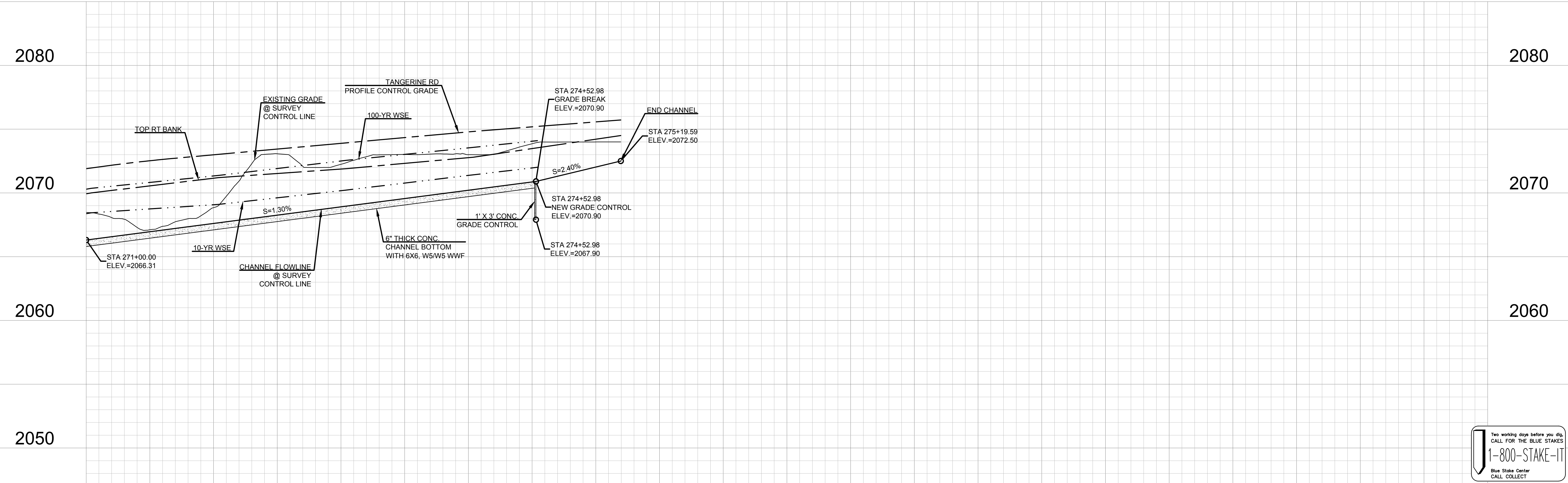
CHANNEL PLAN AND PROFILE
FOR
**TANGERINE ROAD WEST END
REGIONAL CHANNEL**
STA 260+00 TO STA 271+00

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SHEET CH7, PAGE 119
MATCHLINE STA. 271+00



271+00 272+00 273+00 274+00 275+00 276+00



DESIGNED:	JKW	DATE	01/13
DRAWN:	CRB	CHECKED:	JCC
PROJ. ENG.:	JKW		01/13

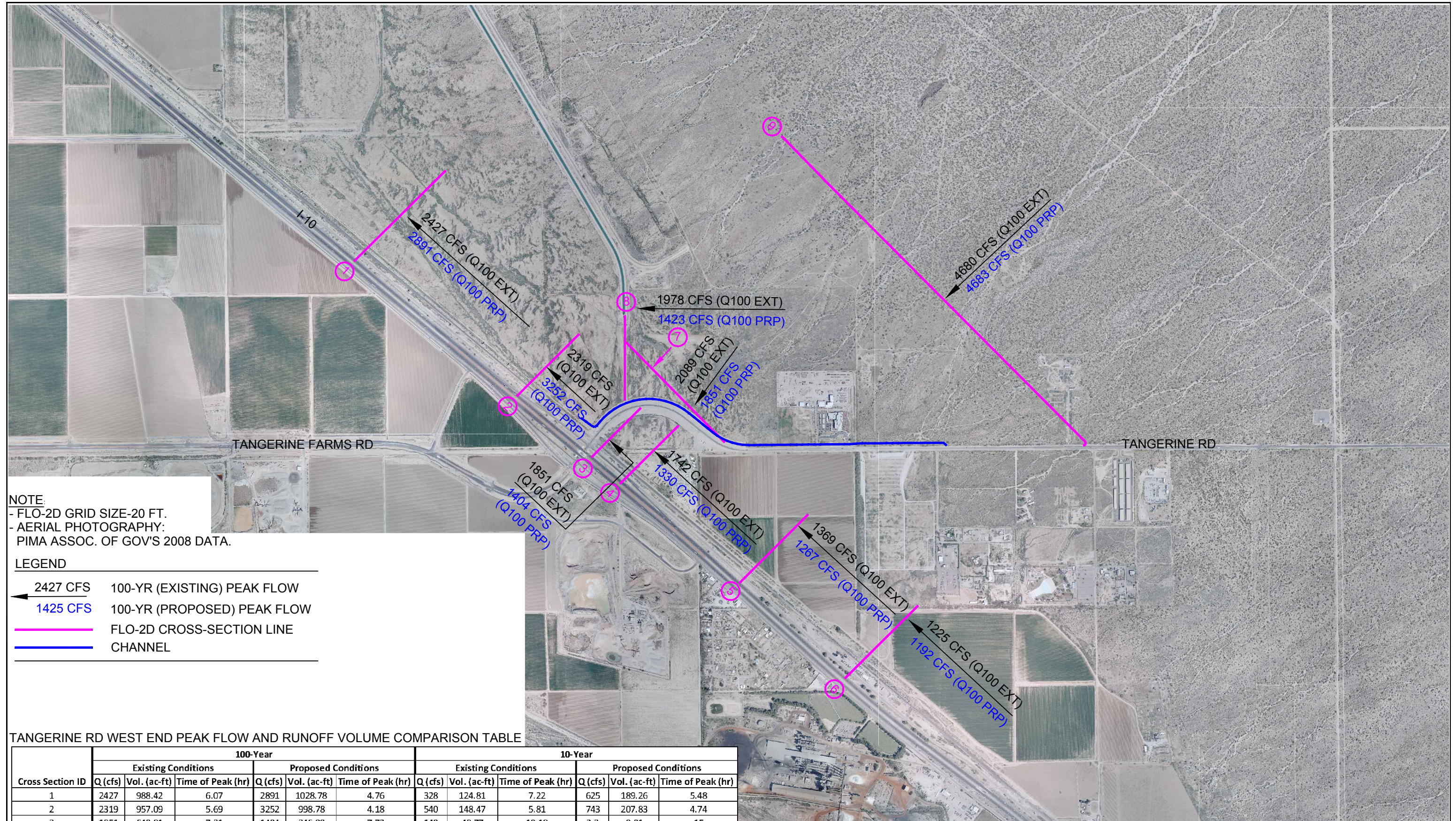
NO.	REVISION DESCRIPTION	DIV. ENGINEER	DATE

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TOWN OF MARANA - PROJECT NO. 2005-061
CHANNEL PLAN AND PROFILE
FOR
TANGERINE ROAD WEST END REGIONAL CHANNEL
STA 271+00 TO STA 275+13

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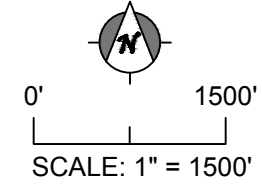
NOTE:
 - FLO-2D GRID SIZE-20 FT.
 - AERIAL PHOTOGRAPHY:
 PIMA ASSOC. OF GOV'S 2008 DATA.

LEGEND

	2427 CFS	100-YR (EXISTING) PEAK FLOW
	1425 CFS	100-YR (PROPOSED) PEAK FLOW
		FLO-2D CROSS-SECTION LINE
		CHANNEL

TANGERINE RD WEST END PEAK FLOW AND RUNOFF VOLUME COMPARISON TABLE

Cross Section ID	100-Year						10-Year					
	Existing Conditions			Proposed Conditions			Existing Conditions			Proposed Conditions		
	Q (cfs)	Vol. (ac-ft)	Time of Peak (hr)	Q (cfs)	Vol. (ac-ft)	Time of Peak (hr)	Q (cfs)	Vol. (ac-ft)	Time of Peak (hr)	Q (cfs)	Vol. (ac-ft)	Time of Peak (hr)
1	2427	988.42	6.07	2891	1028.78	4.76	328	124.81	7.22	625	189.26	5.48
2	2319	957.09	5.69	3252	998.78	4.18	540	148.47	5.81	743	207.83	4.74
3	1851	640.81	7.31	1404	346.99	7.72	140	48.77	10.18	2.3	0.01	15
4	1742	651.94	7.17	1330	360.59	7.4	169	60.44	6.7	4.3	0.32	14.97
5	1369	432.87	6.87	1267	348.91	6.85	53	25.45	8.63	18	4.85	15
6	1225	299.75	6.4	1192	300.63	6.37	31	9.3	12.59	33	9.73	12.38
7	2089	354.34	3.97	1851	291.29	3.95	552	120.36	5.27	292	61.95	5.56
8	1978	388.53	4.11	1423	234.65	4.06	515	103.17	5.56	173	32.79	5.87
9	4680	871.16	3.14	4683	872.45	3.21	1460	289.87	3.5	1460	289.58	3.5



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CHECKED:	JKW
DRAWN:	BJK
DATE:	12/13/2012

FIGURE: F-1
 EXISTING AND PROPOSED 10-YR AND 100-YR PEAK DISCHARGE RATES AND RUNOFF VOLUME IN 20-FT GRID FLO-2D MODEL