

아. RAMP-F

BP

| | | | | |
|-------|---|--------------|-----|------------------|
| BP 좌표 | X | 197677.86302 | 방위각 | 319 ° 59' 28.14" |
| | Y | 220935.60035 | | |

IP (좌향)

| 구분 | 원 곡 선 | | 교각(IA) | 0 ° 0' 0.00" | |
|------|-------|--------------|--------|--------------|------------------|
| IP좌표 | X | 197700.84137 | 방위각 | 1 | 319 ° 59' 28.14" |
| | Y | 220916.31317 | | 2 | 319 ° 59' 28.14" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|-----------|
| 원 중심 좌표 | X | 197862.60204 | R | 287.35000 | C L | 100.67848 |
| | Y | 221155.69469 | T L | 50.86060 | S L | 4.46642 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | -60.00000 | 197677.86302 | 220935.60035 |
| E C | 0.00000 | 197723.81973 | 220897.02599 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|------------------|
| BP | -60.00000 | 0- 60.00000 | 197677.86302 | 220935.60035 | 319 ° 59' 28.14" |
| | -40.00000 | 0- 40.00000 | 197693.18192 | 220922.74223 | 319 ° 59' 28.14" |
| | -20.00000 | 0- 20.00000 | 197708.50083 | 220909.88411 | 319 ° 59' 28.14" |
| EC | 0.00000 | 0+ 0.00000 | 197723.81973 | 220897.02599 | 319 ° 59' 28.14" |

IP1 (우향)

| 구분 | 원 곡 선 | | 교각(IA) | 20 ° 4' 28.76" | |
|------|-------|--------------|--------|----------------|------------------|
| IP좌표 | X | 197762.77616 | 방위각 | 1 | 319 ° 59' 28.14" |
| | Y | 220864.32741 | | 2 | 340 ° 3' 56.90" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|-----------|
| 원 중심 좌표 | X | 197908.55875 | R | 287.35000 | C L | 100.67848 |
| | Y | 221117.12033 | T L | 50.86060 | S L | 4.46642 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 0.00000 | 197723.81973 | 220897.02599 |
| E C | 100.67848 | 197810.58944 | 220846.98696 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|----------|-------------|--------------|--------------|------------------|
| EC | 0.00000 | 0+ 0.00000 | 197723.81973 | 220897.02599 | 319 ° 59' 28.14" |
| | 20.00000 | 0+ 20.00000 | 197739.57356 | 220884.71115 | 323 ° 58' 44.49" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|----|-----------|-------------|--------------|--------------|------------------|
| | 40.00000 | 0+ 40.00000 | 197756.14568 | 220873.52173 | 327 ° 58' 0.83" |
| | 60.00000 | 0+ 60.00000 | 197773.45586 | 220863.51191 | 331 ° 57' 17.18" |
| | 80.00000 | 0+ 80.00000 | 197791.42026 | 220854.73017 | 335 ° 56' 33.53" |
| | 94.80000 | 0+ 94.80000 | 197805.08406 | 220849.04756 | 338 ° 53' 37.22" |
| | 95.80000 | 0+ 95.80000 | 197806.01760 | 220848.68908 | 339 ° 5' 35.04" |
| | 96.80000 | 0+ 96.80000 | 197806.95238 | 220848.33386 | 339 ° 17' 32.86" |
| | 100.00000 | 0+100.00000 | 197809.95189 | 220847.21904 | 339 ° 55' 49.87" |
| EC | 100.67848 | 0+100.67848 | 197810.58944 | 220846.98696 | 340 ° 3' 56.90" |

IP2 (우향)

| 구 분 | 크 로 소 이 드 | | 교각(IA) | 3 ° 49' 30.55" | |
|------|-----------|--------------|--------|----------------|------------------|
| IP좌표 | X | 197822.61756 | 방위각 | 1 | 340 ° 3' 56.90" |
| | Y | 220842.62472 | | 2 | 343 ° 53' 27.45" |

| | | | | | |
|-----|-----------|----------|--------------|-----|---------|
| R 1 | 287.35000 | A | 105.00000 | R 2 | 0.00000 |
| L 1 | 38.36784 | 원중심 좌표 1 | | L 2 | 0.00000 |
| X 1 | 38.35075 | X | 197908.55875 | X 2 | 0.00000 |
| Y 1 | 0.85356 | Y 2 | 221117.12033 | Y 2 | 0.00000 |
| T 1 | 0.06676 | 원중심 좌표 2 | | T 2 | 0.00000 |
| TL1 | 25.58454 | X | 0.00000 | TL2 | 0.00000 |
| TK1 | 12.79471 | Y 2 | 0.00000 | TK2 | 0.00000 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| K E | 100.67848 | 197810.58944 | 220846.98696 |
| K A | 139.04632 | 197847.19753 | 220835.52588 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|------------------|
| KE | 100.67848 | 0+100.67848 | 197810.58944 | 220846.98696 | 340 ° 3' 56.90" |
| | 111.30000 | 0+111.30000 | 197820.63349 | 220843.53382 | 341 ° 53' 25.87" |
| | 111.30000 | 0+111.30000 | 197820.63349 | 220843.53382 | 341 ° 53' 25.87" |
| | 111.80000 | 0+111.80000 | 197821.10882 | 220843.37870 | 341 ° 57' 43.09" |
| | 111.80000 | 0+111.80000 | 197821.10882 | 220843.37870 | 341 ° 57' 43.09" |
| | 120.00000 | 0+120.00000 | 197828.92853 | 220840.91079 | 342 ° 56' 54.02" |
| KA | 139.04632 | 0+139.04632 | 197847.19753 | 220835.52588 | 343 ° 53' 27.45" |

IP3 (좌향)

| 구 분 | 크 로 소 이 드 | | 교각(IA) | 2 ° 9' 34.16" | |
|------|-----------|--------------|--------|---------------|------------------|
| IP좌표 | X | 197871.33954 | 방위각 | 1 | 343 ° 53' 27.45" |
| | Y | 220828.55352 | | 2 | 341 ° 43' 53.28" |

| | | | | | |
|-----|---------|----------|--------------|-----|-----------|
| R 1 | 0.00000 | A | 137.27747 | R 2 | 500.00000 |
| L 1 | 0.00000 | 원중심 좌표 1 | | L 2 | 37.69021 |
| X 1 | 0.00000 | X | 0.00000 | X 2 | 37.68485 |
| Y 1 | 0.00000 | Y 2 | 0.00000 | Y 2 | 0.47347 |
| T 1 | 0.00000 | 원중심 좌표 2 | | T 2 | 0.03769 |
| TL1 | 0.00000 | X | 197726.53585 | TL2 | 25.12867 |
| TK1 | 0.00000 | Y 2 | 220349.81583 | TK2 | 12.56510 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| K A | 139.04632 | 197847.19753 | 220835.52588 |
| K E | 176.73653 | 197883.27133 | 220824.61472 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|------------------|
| KA | 139.04632 | 0+139.04632 | 197847.19753 | 220835.52588 | 343 ° 53' 27.45" |
| | 140.00000 | 0+140.00000 | 197848.11376 | 220835.26126 | 343 ° 53' 22.47" |
| | 160.00000 | 0+160.00000 | 197867.30562 | 220829.63385 | 343 ° 13' 24.65" |
| KE | 176.73653 | 0+176.73653 | 197883.27133 | 220824.61472 | 341 ° 43' 53.28" |

IP4 (좌향)

| 구 분 | 원 곡 선 | | 교각(IA) | 8 ° 12' 53.28" | |
|------|-------|--------------|--------|----------------|------------------|
| IP좌표 | X | 197917.36698 | 방위각 | 1 | 341 ° 43' 53.28" |
| | Y | 220813.35944 | | 2 | 333 ° 31' 0.00" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|----------|
| 원 중심 좌표 | X | 197726.53585 | R | 500.00000 | C L | 71.68766 |
| | Y | 220349.81583 | T L | 35.90536 | S L | 1.28754 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 176.73653 | 197883.27133 | 220824.61472 |
| E C | 248.42419 | 197949.50458 | 220797.34789 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|------------------|
| BC | 176.73653 | 0+176.73653 | 197883.27133 | 220824.61472 | 341 ° 43' 53.28" |
| | 180.00000 | 0+180.00000 | 197886.36695 | 220823.58161 | 341 ° 21' 27.01" |
| | 195.80000 | 0+195.80000 | 197901.25566 | 220818.29527 | 339 ° 32' 49.04" |
| | 195.80000 | 0+195.80000 | 197901.25566 | 220818.29527 | 339 ° 32' 49.04" |
| | 196.30000 | 0+196.30000 | 197901.72406 | 220818.12032 | 339 ° 29' 22.77" |
| | 196.30000 | 0+196.30000 | 197901.72406 | 220818.12032 | 339 ° 29' 22.77" |
| | 200.00000 | 0+200.00000 | 197905.18468 | 220816.81111 | 339 ° 3' 56.41" |
| | 220.00000 | 0+220.00000 | 197923.71661 | 220809.29352 | 336 ° 46' 25.82" |
| | 240.00000 | 0+240.00000 | 197941.93310 | 220801.04086 | 334 ° 28' 55.23" |
| EC | 248.42419 | 0+248.42419 | 197949.50458 | 220797.34789 | 333 ° 31' 0.00" |

IP5 (좌향)

| 구 분 | 원 곡 선 | | 교각(IA) | 0° 0' 0.00" | |
|------|-------|--------------|--------|-------------|----------------|
| IP좌표 | X | 197991.38686 | 방위각 | 1 | 333° 31' 0.00" |
| | Y | 220776.48137 | | 2 | 333° 31' 0.00" |

| | | | | | | |
|---------|---|---------|-----|---------|-----|---------|
| 원 중심 좌표 | X | 0.00000 | R | 0.00000 | C L | 0.00000 |
| | Y | 0.00000 | T L | 0.00000 | S L | 0.00000 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 248.42419 | 197949.50458 | 220797.34789 |
| E C | 342.00917 | 198033.26913 | 220755.61484 |

| 구 분 | 누가거리 | 측정(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|----------------|
| EC | 248.42419 | 0+248.42419 | 197949.50458 | 220797.34789 | 333° 31' 0.00" |
| | 255.90000 | 0+255.90000 | 197956.19590 | 220794.01415 | 333° 31' 0.00" |
| | 255.90000 | 0+255.90000 | 197956.19590 | 220794.01415 | 333° 31' 0.00" |
| | 256.40000 | 0+256.40000 | 197956.64344 | 220793.79118 | 333° 31' 0.00" |
| | 256.40000 | 0+256.40000 | 197956.64344 | 220793.79118 | 333° 31' 0.00" |
| | 260.00000 | 0+260.00000 | 197959.86567 | 220792.18580 | 333° 31' 0.00" |
| | 280.00000 | 0+280.00000 | 197977.76695 | 220783.26705 | 333° 31' 0.00" |
| | 292.40000 | 0+292.40000 | 197988.86574 | 220777.73743 | 333° 31' 0.00" |
| | 292.40000 | 0+292.40000 | 197988.86574 | 220777.73743 | 333° 31' 0.00" |
| | 292.90000 | 0+292.90000 | 197989.31328 | 220777.51446 | 333° 31' 0.00" |
| | 292.90000 | 0+292.90000 | 197989.31328 | 220777.51446 | 333° 31' 0.00" |
| | 300.00000 | 0+300.00000 | 197995.66823 | 220774.34831 | 333° 31' 0.00" |
| | 315.90000 | 0+315.90000 | 198009.89975 | 220767.25790 | 333° 31' 0.00" |
| | 315.90000 | 0+315.90000 | 198009.89975 | 220767.25790 | 333° 31' 0.00" |
| | 316.40000 | 0+316.40000 | 198010.34728 | 220767.03493 | 333° 31' 0.00" |
| | 316.40000 | 0+316.40000 | 198010.34728 | 220767.03493 | 333° 31' 0.00" |
| | 320.00000 | 0+320.00000 | 198013.56951 | 220765.42956 | 333° 31' 0.00" |
| | 340.00000 | 0+340.00000 | 198031.47080 | 220756.51081 | 333° 31' 0.00" |
| EC | 342.00917 | 0+342.00917 | 198033.26913 | 220755.61484 | 333° 31' 0.00" |

IP6 (우향)

| 구 분 | 크 로 소 이 드 | | 교각(IA) | 5° 27' 53.35" | |
|------|-----------|--------------|--------|---------------|-----------------|
| IP좌표 | X | 198056.04544 | 방위각 | 1 | 333° 31' 0.00" |
| | Y | 220744.26727 | | 2 | 338° 58' 53.35" |

| | | | | | |
|-----|---------|----------|----------|-----|-----------|
| R 1 | 0.00000 | A | 87.35175 | R 2 | 200.00000 |
| L 1 | 0.00000 | 원중심 좌표 1 | | L 2 | 38.15164 |
| X 1 | 0.00000 | X | 0.00000 | X 2 | 38.11695 |

| | | | | | |
|-----|---------|-----------|--------------|-----|----------|
| Y 1 | 0.00000 | Y 2 | 0.00000 | Y 2 | 1.21217 |
| T 1 | 0.00000 | 원 중심 좌표 2 | | T 2 | 0.09538 |
| TL1 | 0.00000 | X | 198139.66071 | TL2 | 25.44656 |
| TK1 | 0.00000 | Y 2 | 220926.39495 | TK2 | 12.72824 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| K A | 342.00917 | 198033.26913 | 220755.61484 |
| K E | 380.16081 | 198067.92680 | 220739.70204 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|------------------|
| KA | 342.00917 | 0+342.00917 | 198033.26913 | 220755.61484 | 333 ° 31' 0.00" |
| | 360.00000 | 0+360.00000 | 198049.42807 | 220747.70626 | 334 ° 43' 54.76" |
| | 375.50000 | 0+375.50000 | 198063.59514 | 220741.42222 | 337 ° 43' 40.16" |
| | 375.50000 | 0+375.50000 | 198063.59514 | 220741.42222 | 337 ° 43' 40.16" |
| | 376.00000 | 0+376.00000 | 198064.05804 | 220741.23322 | 337 ° 51' 16.20" |
| | 376.00000 | 0+376.00000 | 198064.05804 | 220741.23322 | 337 ° 51' 16.20" |
| | 380.00000 | 0+380.00000 | 198067.77671 | 220739.75977 | 338 ° 56' 7.85" |
| KE | 380.16081 | 0+380.16081 | 198067.92680 | 220739.70204 | 338 ° 58' 53.35" |

IP7 (우향)

| 구 분 | 원 곡 선 | | 교각(IA) | 12 ° 48' 9.32" | |
|------|-------|--------------|--------|----------------|------------------|
| IP좌표 | X | 198088.87204 | 방위각 | 1 | 338 ° 58' 53.35" |
| | Y | 220731.65415 | | 2 | 351 ° 47' 2.68" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|----------|
| 원 중심 좌표 | X | 198139.66071 | R | 200.00000 | C L | 44.68947 |
| | Y | 220926.39495 | T L | 22.43817 | S L | 1.25474 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 380.16081 | 198067.92680 | 220739.70204 |
| E C | 424.85028 | 198111.07992 | 220728.44764 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|------------------|
| BC | 380.16081 | 0+380.16081 | 198067.92680 | 220739.70204 | 338 ° 58' 53.35" |
| | 383.00000 | 0+383.00000 | 198070.58422 | 220738.70255 | 339 ° 47' 41.48" |
| | 387.10000 | 0+387.10000 | 198074.44616 | 220737.32602 | 340 ° 58' 9.90" |
| | 393.90000 | 0+393.90000 | 198080.91095 | 220735.21842 | 342 ° 55' 2.91" |
| | 394.10000 | 0+394.10000 | 198081.10216 | 220735.15977 | 342 ° 58' 29.17" |
| | 394.20000 | 0+394.20000 | 198081.19778 | 220735.13051 | 343 ° 0' 12.31" |
| | 398.70000 | 0+398.70000 | 198085.51567 | 220733.86362 | 344 ° 17' 33.26" |
| | 398.80000 | 0+398.80000 | 198085.61194 | 220733.83657 | 344 ° 19' 16.40" |
| | 399.00000 | 0+399.00000 | 198085.80453 | 220733.78262 | 344 ° 22' 42.66" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|----|-----------|-------------|--------------|--------------|------------------|
| | 400.00000 | 0+400.00000 | 198086.76826 | 220733.51575 | 344 ° 39' 53.98" |
| | 407.20000 | 0+407.20000 | 198093.74468 | 220731.73700 | 346 ° 43' 39.52" |
| | 420.00000 | 0+420.00000 | 198106.28829 | 220729.19891 | 350 ° 23' 40.47" |
| EC | 424.85028 | 0+424.85028 | 198111.07992 | 220728.44764 | 351 ° 47' 2.68" |

IP8 (우향)

| 구분 | 크로소이드 | | 교각(IA) | 4 ° 52' 48.22" | |
|------|-------|--------------|--------|----------------|------------------|
| IP좌표 | X | 198122.32755 | 방위각 | 1 | 351 ° 47' 2.68" |
| | Y | 220726.82364 | | 2 | 356 ° 39' 50.90" |

| | | | | | |
|-----|-----------|----------|--------------|-----|---------|
| R 1 | 200.00000 | A | 82.54606 | R 2 | 0.00000 |
| L 1 | 34.06926 | 원중심 좌표 1 | | L 2 | 0.00000 |
| X 1 | 34.04455 | X | 198139.66071 | X 2 | 0.00000 |
| Y 1 | 0.96676 | Y 2 | 220926.39495 | Y 2 | 0.00000 |
| T 1 | 0.08517 | 원중심 좌표 2 | | T 2 | 0.00000 |
| TL1 | 22.72148 | X | 0.00000 | TL2 | 0.00000 |
| TK1 | 11.36427 | Y 2 | 0.00000 | TK2 | 0.00000 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| K E | 424.85028 | 198111.07992 | 220728.44764 |
| K A | 458.91954 | 198145.01053 | 220725.50151 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|------------------|
| KE | 424.85028 | 0+424.85028 | 198111.07992 | 220728.44764 | 351 ° 47' 2.68" |
| | 440.00000 | 0+440.00000 | 198126.13399 | 220726.76770 | 355 ° 9' 33.09" |
| | 452.50000 | 0+452.50000 | 198138.60225 | 220725.88151 | 356 ° 29' 27.15" |
| KA | 458.91954 | 0+458.91954 | 198145.01053 | 220725.50151 | 356 ° 39' 50.90" |

IP9 (좌향)

| 구분 | 크로소이드 | | 교각(IA) | 4 ° 52' 48.22" | |
|------|-------|--------------|--------|----------------|------------------|
| IP좌표 | X | 198167.69351 | 방위각 | 1 | 356 ° 39' 50.90" |
| | Y | 220724.17937 | | 2 | 351 ° 47' 2.68" |

| | | | | | |
|-----|---------|----------|--------------|-----|-----------|
| R 1 | 0.00000 | A | 82.54606 | R 2 | 200.00000 |
| L 1 | 0.00000 | 원중심 좌표 1 | | L 2 | 34.06926 |
| X 1 | 0.00000 | X | 0.00000 | X 2 | 34.04455 |
| Y 1 | 0.00000 | Y 2 | 0.00000 | Y 2 | 0.96676 |
| T 1 | 0.00000 | 원중심 좌표 2 | | T 2 | 0.08517 |
| TL1 | 0.00000 | X | 198150.36034 | TL2 | 22.72148 |
| TK1 | 0.00000 | Y 2 | 220524.60806 | TK2 | 11.36427 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| K A | 458.91954 | 198145.01053 | 220725.50151 |
| K E | 492.98880 | 198178.94114 | 220722.55537 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|-----------------|
| KA | 458.91954 | 0+458.91954 | 198145.01053 | 220725.50151 | 356° 39' 50.90" |
| | 460.00000 | 0+460.00000 | 198146.08915 | 220725.43860 | 356° 39' 33.23" |
| | 480.00000 | 0+480.00000 | 198166.03970 | 220724.04626 | 354° 47' 44.81" |
| | 480.30000 | 0+480.30000 | 198166.33845 | 220724.01890 | 354° 44' 32.01" |
| | 480.50000 | 0+480.50000 | 198166.53760 | 220724.00051 | 354° 42' 21.96" |
| | 481.20000 | 0+481.20000 | 198167.23454 | 220723.93515 | 354° 34' 37.26" |
| | 481.50000 | 0+481.50000 | 198167.53319 | 220723.90665 | 354° 31' 13.56" |
| | 482.20000 | 0+482.20000 | 198168.22991 | 220723.83899 | 354° 23' 7.66" |
| | 482.20000 | 0+482.20000 | 198168.22991 | 220723.83899 | 354° 23' 7.66" |
| | 483.00000 | 0+483.00000 | 198169.02596 | 220723.75962 | 354° 13' 34.19" |
| | 483.00000 | 0+483.00000 | 198169.02596 | 220723.75962 | 354° 13' 34.19" |
| | 484.30000 | 0+484.30000 | 198170.31905 | 220723.62581 | 353° 57' 20.98" |
| | 485.50000 | 0+485.50000 | 198171.51209 | 220723.49675 | 353° 41' 37.22" |
| KE | 492.98880 | 0+492.98880 | 198178.94114 | 220722.55537 | 351° 47' 2.68" |

IP10 (좌향)

| 구분 | 원 곡 선 | | 교각(IA) | 55° 32' 48.28" | |
|------|-------|--------------|--------|----------------|-----------------|
| IP좌표 | X | 198283.18938 | 방위각 | 1 | 351° 47' 2.68" |
| | Y | 220707.50339 | | 2 | 296° 14' 14.39" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|-----------|
| 원 중심 좌표 | X | 198150.36034 | R | 200.00000 | C L | 193.89472 |
| | Y | 220524.60806 | T L | 105.32928 | S L | 26.04039 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 492.98880 | 198178.94114 | 220722.55537 |
| E C | 686.88352 | 198329.75445 | 220613.02613 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|-----------------|
| BC | 492.98880 | 0+492.98880 | 198178.94114 | 220722.55537 | 351° 47' 2.68" |
| | 493.50000 | 0+493.50000 | 198179.44700 | 220722.48167 | 351° 38' 15.47" |
| | 495.10000 | 0+495.10000 | 198181.02904 | 220722.24265 | 351° 10' 45.35" |
| | 497.70000 | 0+497.70000 | 198183.59563 | 220721.82727 | 350° 26' 3.91" |
| | 498.70000 | 0+498.70000 | 198184.58130 | 220721.65862 | 350° 8' 52.58" |
| | 500.00000 | 0+500.00000 | 198185.86140 | 220721.43203 | 349° 46' 31.86" |
| | 520.00000 | 0+520.00000 | 198205.33365 | 220716.90454 | 344° 2' 45.38" |
| | 540.00000 | 0+540.00000 | 198224.25663 | 220710.45568 | 338° 18' 58.90" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 552.50000 | 0+552.50000 | 198235.72026 | 220705.47730 | 334° 44' 7.35" |
| | 553.30000 | 0+553.30000 | 198236.44305 | 220705.13442 | 334° 30' 22.29" |
| | 554.52810 | 0+554.52810 | 198237.54995 | 220704.60243 | 334° 9' 15.72" |
| | 560.00000 | 0+560.00000 | 198242.44126 | 220702.14990 | 332° 35' 12.42" |
| | 564.00000 | 0+564.00000 | 198245.97344 | 220700.27290 | 331° 26' 27.12" |
| | 567.40000 | 0+567.40000 | 198248.94578 | 220698.62217 | 330° 28' 0.62" |
| | 569.90000 | 0+569.90000 | 198251.11320 | 220697.37629 | 329° 45' 2.31" |
| | 574.30000 | 0+574.30000 | 198254.88942 | 220695.11810 | 328° 29' 24.49" |
| | 580.00000 | 0+580.00000 | 198259.70584 | 220692.07018 | 326° 51' 25.94" |
| | 581.60000 | 0+581.60000 | 198261.04203 | 220691.19006 | 326° 23' 55.82" |
| | 582.40000 | 0+582.40000 | 198261.70747 | 220690.74600 | 326° 10' 10.76" |
| | 582.90000 | 0+582.90000 | 198262.12247 | 220690.46712 | 326° 1' 35.10" |
| | 583.50000 | 0+583.50000 | 198262.61954 | 220690.13109 | 325° 51' 16.31" |
| | 583.71530 | 0+583.71530 | 198262.79766 | 220690.01014 | 325° 47' 34.26" |
| | 600.00000 | 0+600.00000 | 198275.87789 | 220680.31723 | 321° 7' 39.46" |
| | 609.86290 | 0+609.86290 | 198283.40090 | 220673.94060 | 318° 18' 7.61" |
| | 620.00000 | 0+620.00000 | 198290.79580 | 220667.00849 | 315° 23' 52.98" |
| | 633.66590 | 0+633.66590 | 198300.19067 | 220657.08777 | 311° 28' 59.01" |
| | 640.00000 | 0+640.00000 | 198304.31053 | 220652.27693 | 309° 40' 6.50" |
| | 650.30000 | 0+650.30000 | 198310.67846 | 220644.18273 | 306° 43' 3.86" |
| | 651.70000 | 0+651.70000 | 198311.51155 | 220643.05758 | 306° 19' 0.01" |
| | 652.90000 | 0+652.90000 | 198312.21934 | 220642.08855 | 305° 58' 22.42" |
| | 652.90000 | 0+652.90000 | 198312.21934 | 220642.08855 | 305° 58' 22.42" |
| | 654.10000 | 0+654.10000 | 198312.92131 | 220641.11528 | 305° 37' 44.83" |
| | 654.10000 | 0+654.10000 | 198312.92131 | 220641.11528 | 305° 37' 44.83" |
| | 655.80850 | 0+655.80850 | 198313.91062 | 220639.72237 | 305° 8' 22.81" |
| | 656.40000 | 0+656.40000 | 198314.25036 | 220639.23817 | 304° 58' 12.78" |
| | 656.60000 | 0+656.60000 | 198314.36491 | 220639.07422 | 304° 54' 46.52" |
| | 658.10000 | 0+658.10000 | 198315.21878 | 220637.84098 | 304° 28' 59.53" |
| | 658.30000 | 0+658.30000 | 198315.33193 | 220637.67607 | 304° 25' 33.27" |
| | 660.00000 | 0+660.00000 | 198316.28704 | 220636.26974 | 303° 56' 20.02" |
| | 676.89330 | 0+676.89330 | 198325.11594 | 220621.87306 | 299° 5' 57.55" |
| | 680.00000 | 0+680.00000 | 198326.60567 | 220619.14687 | 298° 12' 33.54" |
| | 685.50000 | 0+685.50000 | 198329.13852 | 220614.26499 | 296° 38' 1.25" |
| | 686.00000 | 0+686.00000 | 198329.36210 | 220613.81776 | 296° 29' 25.59" |
| EC | 686.88352 | 0+686.88352 | 198329.75445 | 220613.02613 | 296° 14' 14.39" |

IP11 (좌향)

| 구 분 | 크 로 소 이 드 | | 교각(IA) | 9° 9' 35.37" | |
|------|-----------|--------------|--------|--------------|-----------------|
| IP좌표 | X | 198338.43167 | 방위각 | 1 | 296° 14' 14.39" |
| | Y | 220595.42065 | | 2 | 287° 4' 39.03" |

| | | | | | |
|-----|-----------|-----------|--------------|-----|-----------|
| R 1 | 200.00000 | A | 123.33367 | R 2 | 501.25000 |
| L 1 | 76.05597 | 원 중심 좌표 1 | | L 2 | 30.34652 |
| X 1 | 75.78146 | X | 198150.36034 | X 2 | 30.34374 |
| Y 1 | 4.80799 | Y 2 | 220524.60806 | Y 2 | 0.30618 |
| T 1 | 0.19014 | 원 중심 좌표 2 | | T 2 | 0.03027 |
| TL1 | 50.80033 | X | 197866.96950 | TL2 | 20.23199 |
| TK1 | 25.43961 | Y 2 | 220423.19942 | TK2 | 10.11639 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-------|-----------|--------------|--------------|
| K E | 686.88352 | 198329.75445 | 220613.02613 |
| K A E | 732.59297 | 198346.11857 | 220570.39905 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|------------------|
| KE | 686.88352 | 0+686.88352 | 198329.75445 | 220613.02613 | 296 ° 14' 14.39" |
| | 687.60000 | 0+687.60000 | 198330.07005 | 220612.38291 | 296 ° 1' 58.95" |
| | 688.00000 | 0+688.00000 | 198330.24525 | 220612.02332 | 295 ° 55' 11.40" |
| | 690.50000 | 0+690.50000 | 198331.32431 | 220609.76820 | 295 ° 13' 33.31" |
| | 690.50000 | 0+690.50000 | 198331.32431 | 220609.76820 | 295 ° 13' 33.31" |
| | 691.80000 | 0+691.80000 | 198331.87473 | 220608.59048 | 294 ° 52' 27.80" |
| | 691.80000 | 0+691.80000 | 198331.87473 | 220608.59048 | 294 ° 52' 27.80" |
| | 693.20000 | 0+693.20000 | 198332.45948 | 220607.31845 | 294 ° 30' 10.57" |
| | 697.40020 | 0+697.40020 | 198334.16531 | 220603.48031 | 293 ° 25' 58.17" |
| | 700.00000 | 0+700.00000 | 198335.18598 | 220601.08926 | 292 ° 48' 13.51" |
| | 717.66420 | 0+717.66420 | 198341.48809 | 220584.59064 | 289 ° 12' 13.29" |
| | 720.00000 | 0+720.00000 | 198342.24886 | 220582.38221 | 288 ° 48' 56.25" |
| | 732.59280 | 0+732.59280 | 198346.11852 | 220570.39921 | 287 ° 4' 39.10" |
| KAE | 732.59297 | 0+732.59297 | 198346.11857 | 220570.39905 | 287 ° 4' 39.03" |
| KAE | 732.59297 | 0+732.59297 | 198346.11857 | 220570.39905 | 287 ° 4' 39.03" |

EP

| | | | | |
|-------|---|--------------|-----|-----------------|
| EP 좌표 | X | 198346.11857 | 방위각 | 287 ° 4' 39.03" |
| | Y | 220570.39905 | | |

자. RAMP-G

BP

| | | | | |
|-------|---|--------------|-----|-----------------|
| BP 좌표 | X | 198387.37230 | 방위각 | 288 ° 0' 18.09" |
| | Y | 220017.64681 | | |

IP1 (우향)

| 구분 | 원 곡 선 | | 교각(IA) | 5° 17' 41.50" | |
|------|-------|--------------|--------|---------------|-----------------|
| IP좌표 | X | 198397.35924 | 방위각 | 1 | 288° 0' 18.09" |
| | Y | 219986.91933 | | 2 | 293° 17' 59.59" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|----------|
| 원 중심 좌표 | X | 199051.90410 | R | 698.75000 | C L | 64.57341 |
| | Y | 220233.63071 | T L | 32.30970 | S L | 0.74659 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|----------|--------------|--------------|
| B C | 0.00000 | 198387.37230 | 220017.64681 |
| E C | 64.57341 | 198410.13914 | 219957.24458 |

| 구분 | 누가거리 | 측정(STA.) | X좌표 | Y좌표 | 방위각 |
|----|----------|-------------|--------------|--------------|-----------------|
| BC | 0.00000 | 0+ 0.00000 | 198387.37230 | 220017.64681 | 288° 0' 18.09" |
| | 1.77420 | 0+ 1.77420 | 198387.92285 | 220015.96019 | 288° 9' 1.82" |
| | 2.70000 | 0+ 2.70000 | 198388.21183 | 220015.08065 | 288° 13' 35.10" |
| | 4.17480 | 0+ 4.17480 | 198388.67459 | 220013.68033 | 288° 20' 50.45" |
| | 4.90780 | 0+ 4.90780 | 198388.90568 | 220012.98471 | 288° 24' 26.83" |
| | 6.60000 | 0+ 6.60000 | 198389.44198 | 220011.37974 | 288° 32' 46.35" |
| | 20.00000 | 0+ 20.00000 | 198393.82566 | 219998.71728 | 289° 38' 41.91" |
| | 24.47530 | 0+ 24.47530 | 198395.34370 | 219994.50732 | 290° 0' 42.98" |
| | 26.04790 | 0+ 26.04790 | 198395.88353 | 219993.03028 | 290° 8' 27.20" |
| | 26.05800 | 0+ 26.05800 | 198395.88701 | 219993.02080 | 290° 8' 30.18" |
| | 26.80170 | 0+ 26.80170 | 198396.14347 | 219992.32271 | 290° 12' 9.71" |
| | 27.27310 | 0+ 27.27310 | 198396.30641 | 219991.88037 | 290° 14' 28.87" |
| | 40.00000 | 0+ 40.00000 | 198400.81810 | 219979.98020 | 291° 17' 5.73" |
| | 47.10580 | 0+ 47.10580 | 198403.43117 | 219973.37234 | 291° 52' 3.30" |
| | 48.36010 | 0+ 48.36010 | 198403.89940 | 219972.20871 | 291° 58' 13.56" |
| | 48.95900 | 0+ 48.95900 | 198404.12370 | 219971.65340 | 292° 1' 10.35" |
| | 48.95910 | 0+ 48.95910 | 198404.12374 | 219971.65330 | 292° 1' 10.38" |
| | 49.29960 | 0+ 49.29960 | 198404.25148 | 219971.33767 | 292° 2' 50.89" |
| | 60.00000 | 0+ 60.00000 | 198408.34392 | 219961.45090 | 292° 55' 29.56" |
| EC | 64.57341 | 0+ 64.57341 | 198410.13914 | 219957.24458 | 293° 17' 59.59" |

IP2 (좌향)

| 구분 | 원 곡 선 | | 교각(IA) | 15° 9' 2.58" | |
|------|-------|--------------|--------|--------------|-----------------|
| IP좌표 | X | 198441.70133 | 방위각 | 1 | 293° 17' 59.59" |
| | Y | 219883.95758 | | 2 | 278° 8' 57.01" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|-----------|
| 원 중심 좌표 | X | 197859.07084 | R | 600.00000 | C L | 158.65792 |
| | Y | 219719.91838 | T L | 79.79446 | S L | 5.28271 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 64.57341 | 198410.13914 | 219957.24458 |
| E C | 223.23133 | 198453.01226 | 219804.96885 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|-----------------|
| EC | 64.57341 | 0+ 64.57341 | 198410.13914 | 219957.24458 | 293° 17' 59.59" |
| | 69.53800 | 0+ 69.53800 | 198412.08397 | 219952.67679 | 292° 49' 32.89" |
| | 70.51280 | 0+ 70.51280 | 198412.46139 | 219951.77802 | 292° 43' 57.77" |
| | 70.91310 | 0+ 70.91310 | 198412.61596 | 219951.40877 | 292° 41' 40.16" |
| | 70.91320 | 0+ 70.91320 | 198412.61600 | 219951.40867 | 292° 41' 40.13" |
| | 71.15410 | 0+ 71.15410 | 198412.70889 | 219951.18641 | 292° 40' 17.31" |
| | 80.00000 | 0+ 80.00000 | 198416.05823 | 219942.99919 | 291° 49' 36.32" |
| | 81.58380 | 0+ 81.58380 | 198416.64514 | 219941.52815 | 291° 40' 31.85" |
| | 91.80550 | 0+ 91.80550 | 198420.33943 | 219931.99753 | 290° 41' 57.88" |
| | 92.54680 | 0+ 92.54680 | 198420.60103 | 219931.30392 | 290° 37' 43.04" |
| | 92.80290 | 0+ 92.80290 | 198420.69120 | 219931.06422 | 290° 36' 15.00" |
| | 92.80300 | 0+ 92.80300 | 198420.69124 | 219931.06412 | 290° 36' 14.97" |
| | 92.96830 | 0+ 92.96830 | 198420.74939 | 219930.90939 | 290° 35' 18.14" |
| | 100.00000 | 0+100.00000 | 198423.18347 | 219924.31246 | 289° 55' 0.82" |
| | 102.80000 | 0+102.80000 | 198424.13116 | 219921.67772 | 289° 38' 58.25" |
| | 103.70000 | 0+103.70000 | 198424.43316 | 219920.82990 | 289° 33' 48.86" |
| | 109.00000 | 0+109.00000 | 198426.18580 | 219915.82809 | 289° 3' 26.85" |
| | 114.65300 | 0+114.65300 | 198428.00640 | 219910.47631 | 288° 31' 3.49" |
| | 114.76130 | 0+114.76130 | 198428.04079 | 219910.37361 | 288° 30' 26.26" |
| | 120.00000 | 0+120.00000 | 198429.68197 | 219905.39864 | 288° 0' 25.33" |
| | 124.99730 | 0+124.99730 | 198431.20700 | 219900.63974 | 287° 31' 47.38" |
| | 125.43050 | 0+125.43050 | 198431.33733 | 219900.22661 | 287° 29' 18.46" |
| | 136.01720 | 0+136.01720 | 198434.42954 | 219890.10171 | 286° 28' 39.02" |
| | 136.38290 | 0+136.38290 | 198434.53316 | 219889.75100 | 286° 26' 33.30" |
| | 136.46830 | 0+136.46830 | 198434.55732 | 219889.66909 | 286° 26' 3.94" |
| | 136.53360 | 0+136.53360 | 198434.57579 | 219889.60646 | 286° 25' 41.50" |
| | 140.00000 | 0+140.00000 | 198435.54653 | 219886.27876 | 286° 5' 49.84" |
| | 147.23670 | 0+147.23670 | 198437.51105 | 219879.31386 | 285° 24' 22.04" |
| | 158.00870 | 0+158.00870 | 198440.27936 | 219868.90380 | 284° 22' 38.90" |
| | 158.21540 | 0+158.21540 | 198440.33065 | 219868.70356 | 284° 21' 27.84" |
| | 158.25390 | 0+158.25390 | 198440.34019 | 219868.66627 | 284° 21' 14.61" |
| | 158.28580 | 0+158.28580 | 198440.34810 | 219868.63536 | 284° 21' 3.64" |
| | 160.00000 | 0+160.00000 | 198440.77061 | 219866.97405 | 284° 11' 14.34" |
| | 168.96580 | 0+168.96580 | 198442.90304 | 219858.26561 | 283° 19' 52.13" |
| | 168.96590 | 0+168.96590 | 198442.90306 | 219858.26552 | 283° 19' 52.09" |
| | 179.72800 | 0+179.72800 | 198445.29052 | 219847.77172 | 282° 18' 12.35" |
| | 179.80060 | 0+179.80060 | 198445.30599 | 219847.70079 | 282° 17' 47.40" |
| | 179.80080 | 0+179.80080 | 198445.30603 | 219847.70059 | 282° 17' 47.33" |
| | 179.80950 | 0+179.80950 | 198445.30789 | 219847.69209 | 282° 17' 44.34" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 179.81720 | 0+179.81720 | 198445.30953 | 219847.68457 | 282° 17' 41.69" |
| | 180.00000 | 0+180.00000 | 198445.34842 | 219847.50596 | 282° 16' 38.85" |
| | 190.16760 | 0+190.16760 | 198447.42624 | 219837.55305 | 281° 18' 23.48" |
| | 190.17000 | 0+190.17000 | 198447.42671 | 219837.55070 | 281° 18' 22.66" |
| | 190.17410 | 0+190.17410 | 198447.42752 | 219837.54668 | 281° 18' 21.25" |
| | 200.00000 | 0+200.00000 | 198449.27488 | 219827.89611 | 280° 22' 3.35" |
| | 200.69830 | 0+200.69830 | 198449.40014 | 219827.20914 | 280° 18' 3.30" |
| | 220.00000 | 0+220.00000 | 198452.54561 | 219808.16631 | 278° 27' 27.86" |
| | 220.70790 | 0+220.70790 | 198452.64931 | 219807.46604 | 278° 23' 24.50" |
| EC | 223.23133 | 0+223.23133 | 198453.01226 | 219804.96885 | 278° 8' 57.01" |

IP3 (좌향)

| 구 분 | 원 곡 선 | | 교각(IA) | 14° 44' 44.05" | |
|------|-------|--------------|--------|----------------|-----------------|
| IP좌표 | X | 198489.69577 | 방위각 | 1 | 278° 8' 57.01" |
| | Y | 219548.79331 | | 2 | 263° 24' 12.96" |

| | | | | | | |
|---------|---|--------------|-----|------------|-----|-----------|
| 원 중심 좌표 | X | 196473.20751 | R | 2000.00000 | C L | 514.71749 |
| | Y | 219521.46727 | T L | 258.78870 | S L | 16.67340 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 223.23133 | 198453.01226 | 219804.96885 |
| E C | 737.94882 | 198459.96748 | 219291.71779 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|-----------------|
| EC | 223.23133 | 0+223.23133 | 198453.01226 | 219804.96885 | 278° 8' 57.01" |
| | 235.00000 | 0+235.00000 | 198454.64619 | 219793.31418 | 277° 48' 43.28" |
| | 237.00000 | 0+237.00000 | 198454.91705 | 219791.33260 | 277° 45' 17.02" |
| | 240.00000 | 0+240.00000 | 198455.31962 | 219788.35974 | 277° 40' 7.62" |
| | 241.25230 | 0+241.25230 | 198455.48635 | 219787.11859 | 277° 37' 58.47" |
| | 256.64890 | 0+256.64890 | 198457.47265 | 219771.85069 | 277° 11' 30.58" |
| | 260.00000 | 0+260.00000 | 198457.88940 | 219768.52560 | 277° 5' 44.97" |
| | 261.77900 | 0+261.77900 | 198458.10837 | 219766.76013 | 277° 2' 41.50" |
| | 280.00000 | 0+280.00000 | 198460.26070 | 219748.66676 | 276° 31' 22.32" |
| | 282.00000 | 0+282.00000 | 198460.48691 | 219746.67960 | 276° 27' 56.06" |
| | 282.28800 | 0+282.28800 | 198460.51932 | 219746.39342 | 276° 27' 26.36" |
| | 300.00000 | 0+300.00000 | 198462.43331 | 219728.78520 | 275° 56' 59.67" |
| | 302.77990 | 0+302.77990 | 198462.71955 | 219726.02008 | 275° 52' 12.98" |
| | 320.00000 | 0+320.00000 | 198464.40699 | 219708.88291 | 275° 22' 37.03" |
| | 323.25490 | 0+323.25490 | 198464.70937 | 219705.64208 | 275° 17' 1.34" |
| | 327.00000 | 0+327.00000 | 198465.05075 | 219701.91258 | 275° 10' 35.10" |
| | 333.50000 | 0+333.50000 | 198465.62668 | 219695.43814 | 274° 59' 24.74" |
| | 337.70000 | 0+337.70000 | 198465.98762 | 219691.25368 | 274° 52' 11.58" |

| | | | | | |
|--|-----------|-------------|--------------|--------------|-----------------|
| | 338.70000 | 0+338.70000 | 198466.07227 | 219690.25727 | 274° 50' 28.45" |
| | 340.00000 | 0+340.00000 | 198466.18156 | 219688.96188 | 274° 48' 14.38" |
| | 343.50000 | 0+343.50000 | 198466.47162 | 219685.47392 | 274° 42' 13.41" |
| | 343.71370 | 0+343.71370 | 198466.48914 | 219685.26093 | 274° 41' 51.38" |
| | 345.50000 | 0+345.50000 | 198466.63463 | 219683.48057 | 274° 38' 47.15" |
| | 349.00000 | 0+349.00000 | 198466.91510 | 219679.99183 | 274° 32' 46.19" |
| | 350.00000 | 0+350.00000 | 198466.99412 | 219678.99495 | 274° 31' 3.05" |
| | 350.70000 | 0+350.70000 | 198467.04913 | 219678.29712 | 274° 29' 50.86" |
| | 360.00000 | 0+360.00000 | 198467.75683 | 219669.02409 | 274° 13' 51.73" |
| | 364.15650 | 0+364.15650 | 198468.05918 | 219664.87860 | 274° 6' 43.06" |
| | 369.50000 | 0+369.50000 | 198468.43522 | 219659.54835 | 273° 57' 31.97" |
| | 372.00000 | 0+372.00000 | 198468.60626 | 219657.05421 | 273° 53' 14.14" |
| | 374.90000 | 0+374.90000 | 198468.80077 | 219654.16074 | 273° 48' 15.06" |
| | 379.10000 | 0+379.10000 | 198469.07502 | 219649.96971 | 273° 41' 1.90" |
| | 380.00000 | 0+380.00000 | 198469.13265 | 219649.07155 | 273° 39' 29.08" |
| | 384.58380 | 0+384.58380 | 198469.41986 | 219644.49676 | 273° 31' 36.34" |
| | 394.79180 | 0+394.79180 | 198470.02180 | 219634.30654 | 273° 14' 3.57" |
| | 400.00000 | 0+400.00000 | 198470.30887 | 219629.10625 | 273° 5' 6.43" |
| | 404.99610 | 0+404.99610 | 198470.57153 | 219624.11707 | 272° 56' 31.17" |
| | 417.00000 | 0+417.00000 | 198471.15165 | 219612.12721 | 272° 35' 53.18" |
| | 420.00000 | 0+420.00000 | 198471.28539 | 219609.13019 | 272° 30' 43.79" |
| | 425.39360 | 0+425.39360 | 198471.51453 | 219603.74146 | 272° 21' 27.53" |
| | 440.00000 | 0+440.00000 | 198472.06210 | 219589.14536 | 271° 56' 21.14" |
| | 445.77700 | 0+445.77700 | 198472.24925 | 219583.37140 | 271° 46' 25.34" |
| | 460.00000 | 0+460.00000 | 198472.63893 | 219569.15377 | 271° 21' 58.49" |
| | 462.00000 | 0+462.00000 | 198472.68562 | 219567.15431 | 271° 18' 32.22" |
| | 466.14660 | 0+466.14660 | 198472.77604 | 219563.00870 | 271° 11' 24.58" |
| | 480.00000 | 0+480.00000 | 198473.01582 | 219549.15740 | 270° 47' 35.84" |
| | 486.50280 | 0+486.50280 | 198473.09528 | 219542.65509 | 270° 36' 25.19" |
| | 500.00000 | 0+500.00000 | 198473.19272 | 219529.15827 | 270° 13' 13.19" |
| | 506.84610 | 0+506.84610 | 198473.20733 | 219522.31219 | 270° 1' 27.14" |
| | 507.00000 | 0+507.00000 | 198473.20739 | 219522.15829 | 270° 1' 11.27" |
| | 507.29000 | 0+507.29000 | 198473.20747 | 219521.86829 | 270° 0' 41.36" |
| | 520.00000 | 0+520.00000 | 198473.16963 | 219509.15836 | 269° 38' 50.55" |
| | 527.17700 | 0+527.17700 | 198473.11259 | 219501.98159 | 269° 26' 30.36" |
| | 540.00000 | 0+540.00000 | 198472.94655 | 219489.15969 | 269° 4' 27.90" |
| | 547.49570 | 0+547.49570 | 198472.81142 | 219481.66521 | 268° 51' 34.85" |
| | 560.00000 | 0+560.00000 | 198472.52349 | 219469.16425 | 268° 30' 5.25" |
| | 567.80290 | 0+567.80290 | 198472.30422 | 219461.36444 | 268° 16' 40.52" |
| | 580.00000 | 0+580.00000 | 198471.90051 | 219449.17404 | 267° 55' 42.60" |
| | 588.09890 | 0+588.09890 | 198471.59137 | 219441.08105 | 267° 41' 47.34" |
| | 600.00000 | 0+600.00000 | 198471.07765 | 219429.19106 | 267° 21' 19.95" |
| | 608.38420 | 0+608.38420 | 198470.67327 | 219420.81662 | 267° 6' 55.27" |
| | 620.00000 | 0+620.00000 | 198470.05501 | 219409.21730 | 266° 46' 57.31" |
| | 623.59140 | 0+623.59140 | 198469.85023 | 219405.63175 | 266° 40' 46.92" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 628.65920 | 0+628.65920 | 198469.55030 | 219400.57283 | 266° 32' 4.26" |
| | 640.00000 | 0+640.00000 | 198468.83269 | 219389.25477 | 266° 12' 34.66" |
| | 648.92430 | 0+648.92430 | 198468.22287 | 219380.35134 | 265° 57' 14.27" |
| | 660.00000 | 0+660.00000 | 198467.41081 | 219369.30546 | 265° 38' 12.01" |
| | 669.18010 | 0+669.18010 | 198466.69137 | 219360.15361 | 265° 22' 25.24" |
| | 680.00000 | 0+680.00000 | 198465.78951 | 219349.37137 | 265° 3' 49.36" |
| | 689.42690 | 0+689.42690 | 198464.95621 | 219339.98138 | 264° 47' 37.14" |
| | 700.00000 | 0+700.00000 | 198463.96895 | 219329.45449 | 264° 29' 26.71" |
| | 709.66510 | 0+709.66510 | 198463.01779 | 219319.83631 | 264° 12' 49.93" |
| | 720.00000 | 0+720.00000 | 198461.94931 | 219309.55681 | 263° 55' 4.06" |
| | 729.89540 | 0+729.89540 | 198460.87651 | 219299.71974 | 263° 38' 3.53" |
| EC | 737.94882 | 0+737.94882 | 198459.96748 | 219291.71779 | 263° 24' 12.96" |

IP4 (좌향)

| 구 분 | 원 곡 선 | | 교각(IA) | 1° 42' 8.21" | |
|------|-------|--------------|--------|--------------|-----------------|
| IP좌표 | X | 198454.33566 | 방위각 | 1 | 263° 24' 12.96" |
| | Y | 219243.01661 | | 2 | 261° 42' 4.75" |

| | | | | | | |
|---------|---|--------------|-----|------------|-----|----------|
| 원 중심 좌표 | X | 195181.81353 | R | 3300.00000 | C L | 98.04425 |
| | Y | 219670.80442 | T L | 49.02573 | S L | 0.36415 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 737.94882 | 198459.96748 | 219291.71779 |
| E C | 835.99307 | 198447.25961 | 219194.50423 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|-----------------|
| EC | 737.94882 | 0+737.94882 | 198459.96748 | 219291.71779 | 263° 24' 12.96" |
| | 740.00000 | 0+740.00000 | 198459.73122 | 219289.68027 | 263° 22' 4.75" |
| | 750.11770 | 0+750.11770 | 198458.54730 | 219279.63208 | 263° 11' 32.35" |
| | 760.00000 | 0+760.00000 | 198457.36119 | 219269.82122 | 263° 1' 14.66" |
| | 770.33170 | 0+770.33170 | 198456.08973 | 219259.56806 | 262° 50' 28.88" |
| | 780.00000 | 0+780.00000 | 198454.87085 | 219249.97690 | 262° 40' 24.57" |
| | 790.53930 | 0+790.53930 | 198453.51015 | 219239.52581 | 262° 29' 25.82" |
| | 800.00000 | 0+800.00000 | 198452.26028 | 219230.14804 | 262° 19' 34.48" |
| | 810.74240 | 0+810.74240 | 198450.80850 | 219219.50420 | 262° 8' 23.03" |
| | 820.00000 | 0+820.00000 | 198449.52959 | 219210.33537 | 261° 58' 44.39" |
| | 830.94310 | 0+830.94310 | 198447.98467 | 219199.50187 | 261° 47' 20.40" |
| EC | 835.99307 | 0+835.99307 | 198447.25961 | 219194.50423 | 261° 42' 4.75" |

IP5 (좌향)

| 구 분 | 원 국 선 | | 교각(IA) | 0 ° 30' 25.70" | |
|------|-------|--------------|--------|----------------|------------------|
| IP좌표 | X | 198446.16285 | 방위각 | 1 | 261 ° 42' 4.75" |
| | Y | 219186.98496 | | 2 | 261 ° 11' 39.06" |

| | | | | | | |
|---------|---|--------------|-----|------------|-----|----------|
| 원 중심 좌표 | X | 196748.23812 | R | 1717.00000 | C L | 15.19757 |
| | Y | 219442.32466 | T L | 7.59883 | S L | 0.01681 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 835.99307 | 198447.25961 | 219194.50423 |
| E C | 851.19064 | 198444.99957 | 219179.47569 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|------------------|
| EC | 835.99307 | 0+835.99307 | 198447.25961 | 219194.50423 | 261 ° 42' 4.75" |
| | 840.00000 | 0+840.00000 | 198446.67665 | 219190.53993 | 261 ° 34' 3.40" |
| | 851.14310 | 0+851.14310 | 198445.00685 | 219179.52267 | 261 ° 11' 44.77" |
| EC | 851.19064 | 0+851.19064 | 198444.99957 | 219179.47569 | 261 ° 11' 39.06" |

EP

| | | | | |
|-------|---|--------------|-----|------------------|
| EP 좌표 | X | 198444.99957 | 방위각 | 261 ° 11' 39.06" |
| | Y | 219179.47569 | | |

차. 기장 · 일광나들목 RAMP-C

BP

| | | | | |
|-------|---|--------------|-----|------------------|
| BP 좌표 | X | 198157.38446 | 방위각 | 157 ° 22' 39.42" |
| | Y | 220357.99186 | | |

IP1 (우향)

| 구 분 | 크 로 소 이 드 | | 교각(IA) | 4 ° 21' 26.44" | |
|------|-----------|--------------|--------|----------------|------------------|
| IP좌표 | X | 198138.65913 | 방위각 | 1 | 157 ° 22' 39.42" |
| | Y | 220365.79505 | | 2 | 161 ° 44' 5.86" |

| | | | | | |
|-----|---------|----------|----------|-----|-----------|
| R 1 | 0.00000 | A | 78.00000 | R 2 | 200.00000 |
| L 1 | 0.00000 | 원중심 좌표 1 | | L 2 | 30.42000 |
| X 1 | 0.00000 | X | 0.00000 | X 2 | 30.40241 |
| Y 1 | 0.00000 | Y 2 | 0.00000 | Y 2 | 0.77083 |
| T 1 | 0.00000 | 원중심 좌표 2 | | T 2 | 0.07605 |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|-----|---------|-----|--------------|-----|----------|
| TL1 | 0.00000 | X | 198066.34209 | TL2 | 20.28615 |
| TK1 | 0.00000 | Y 2 | 220179.05143 | TK2 | 10.14559 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|----------|--------------|--------------|
| K A | 0.00000 | 198157.38446 | 220357.99186 |
| K E | 30.42000 | 198129.02470 | 220368.97481 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|----------|-------------|--------------|--------------|-----------------|
| KA | 0.00000 | 0+ 0.00000 | 198157.38446 | 220357.99186 | 157° 22' 39.42" |
| | 2.48400 | 0+ 2.48400 | 198155.09141 | 220358.94696 | 157° 24' 24.01" |
| | 5.83330 | 0+ 5.83330 | 198151.99788 | 220360.23065 | 157° 32' 16.23" |
| | 6.77380 | 0+ 6.77380 | 198151.12857 | 220360.58958 | 157° 35' 37.22" |
| | 8.45340 | 0+ 8.45340 | 198149.57512 | 220361.22822 | 157° 42' 50.77" |
| | 9.41770 | 0+ 9.41770 | 198148.68260 | 220361.59329 | 157° 47' 42.89" |
| | 10.18820 | 0+ 10.18820 | 198147.96906 | 220361.88404 | 157° 51' 58.97" |
| | 10.41970 | 0+ 10.41970 | 198147.75461 | 220361.97122 | 157° 53' 19.84" |
| | 10.87110 | 0+ 10.87110 | 198147.33634 | 220362.14097 | 157° 56' 2.75" |
| | 11.61270 | 0+ 11.61270 | 198146.64887 | 220362.41910 | 158° 0' 45.40" |
| | 12.57570 | 0+ 12.57570 | 198145.75557 | 220362.77881 | 158° 7' 20.25" |
| | 13.94380 | 0+ 13.94380 | 198144.48525 | 220363.28674 | 158° 17' 35.27" |
| | 14.92250 | 0+ 14.92250 | 198143.57554 | 220363.64767 | 158° 25' 34.18" |
| | 15.89850 | 0+ 15.89850 | 198142.66748 | 220364.00544 | 158° 34' 4.10" |
| | 16.39130 | 0+ 16.39130 | 198142.20864 | 220364.18521 | 158° 38' 33.83" |
| | 16.74020 | 0+ 16.74020 | 198141.88364 | 220364.31212 | 158° 41' 49.79" |
| | 17.84860 | 0+ 17.84860 | 198140.85034 | 220364.71319 | 158° 52' 39.67" |
| | 19.84880 | 0+ 19.84880 | 198138.98235 | 220365.42829 | 159° 13' 57.85" |
| | 20.00000 | 0+ 20.00000 | 198138.84096 | 220365.48187 | 159° 15' 39.98" |
| | 20.19640 | 0+ 20.19640 | 198138.65726 | 220365.55136 | 159° 17' 53.81" |
| | 20.74750 | 0+ 20.74750 | 198138.14157 | 220365.74570 | 159° 24' 16.30" |
| | 22.09550 | 0+ 22.09550 | 198136.87861 | 220366.21692 | 159° 40' 35.29" |
| | 22.80680 | 0+ 22.80680 | 198136.21127 | 220366.46309 | 159° 49' 36.70" |
| | 24.97700 | 0+ 24.97700 | 198134.17109 | 220367.20295 | 160° 18' 54.57" |
| | 26.01380 | 0+ 26.01380 | 198133.19413 | 220367.55008 | 160° 33' 50.74" |
| | 27.13560 | 0+ 27.13560 | 198132.13535 | 220367.92079 | 160° 50' 41.44" |
| | 27.87980 | 0+ 27.87980 | 198131.43194 | 220368.16380 | 161° 2' 15.47" |
| KE | 30.42000 | 0+ 30.42000 | 198129.02470 | 220368.97481 | 161° 44' 5.86" |

IP2 (우향)

| 구 분 | 원 곡 선 | | 교각(IA) | 36° 17' 25.28" | |
|------|-------|--------------|--------|----------------|----------------|
| IP좌표 | X | 198066.78238 | 방위각 | 1 | 161° 44' 5.86" |
| | Y | 220389.51736 | | 2 | 198° 1' 31.14" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|-----------|
| 원 중심 좌표 | X | 198066.34209 | R | 200.00000 | C L | 126.67724 |
| | Y | 220179.05143 | T L | 65.54467 | S L | 10.46640 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 30.42000 | 198129.02470 | 220368.97481 |
| E C | 157.09724 | 198004.45465 | 220369.23541 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|----------|-------------|--------------|--------------|-----------------|
| BC | 30.42000 | 0+ 30.42000 | 198129.02470 | 220368.97481 | 161° 44' 5.86" |
| | 37.06530 | 0+ 37.06530 | 198122.68078 | 220370.95232 | 163° 38' 19.31" |
| | 37.49550 | 0+ 37.49550 | 198122.26787 | 220371.07306 | 163° 45' 42.99" |
| | 37.85350 | 0+ 37.85350 | 198121.92406 | 220371.17286 | 163° 51' 52.20" |
| | 40.00000 | 0+ 40.00000 | 198119.85896 | 220371.75832 | 164° 28' 45.94" |
| | 40.05080 | 0+ 40.05080 | 198119.81001 | 220371.77190 | 164° 29' 38.33" |
| | 40.55350 | 0+ 40.55350 | 198119.32544 | 220371.90569 | 164° 38' 16.78" |
| | 40.90890 | 0+ 40.90890 | 198118.98265 | 220371.99953 | 164° 44' 23.31" |
| | 41.43290 | 0+ 41.43290 | 198118.47695 | 220372.13679 | 164° 53' 23.73" |
| | 42.03450 | 0+ 42.03450 | 198117.89591 | 220372.29274 | 165° 3' 44.17" |
| | 44.05280 | 0+ 44.05280 | 198115.94322 | 220372.80314 | 165° 38' 25.69" |
| | 44.08110 | 0+ 44.08110 | 198115.91581 | 220372.81016 | 165° 38' 54.88" |
| | 44.08120 | 0+ 44.08120 | 198115.91571 | 220372.81019 | 165° 38' 54.98" |
| | 44.40190 | 0+ 44.40190 | 198115.60495 | 220372.88943 | 165° 44' 25.73" |
| | 46.29980 | 0+ 46.29980 | 198113.76334 | 220373.34817 | 166° 17' 3.08" |
| | 47.00660 | 0+ 47.00660 | 198113.07640 | 220373.51455 | 166° 29' 12.02" |
| | 49.53190 | 0+ 49.53190 | 198110.61735 | 220374.08912 | 167° 12' 36.42" |
| | 51.26000 | 0+ 51.26000 | 198108.93050 | 220374.46440 | 167° 42' 18.65" |
| | 52.01330 | 0+ 52.01330 | 198108.19417 | 220374.62342 | 167° 55' 15.55" |
| | 52.17820 | 0+ 52.17820 | 198108.03291 | 220374.65786 | 167° 58' 5.61" |
| | 57.28020 | 0+ 57.28020 | 198103.02997 | 220375.65763 | 169° 25' 47.43" |
| | 59.91670 | 0+ 59.91670 | 198100.43509 | 220376.12417 | 170° 11' 6.51" |
| | 60.00000 | 0+ 60.00000 | 198100.35301 | 220376.13836 | 170° 12' 32.42" |
| | 60.64280 | 0+ 60.64280 | 198099.71940 | 220376.24665 | 170° 23' 35.36" |
| | 61.08960 | 0+ 61.08960 | 198099.27878 | 220376.32072 | 170° 31' 16.15" |
| | 64.22650 | 0+ 64.22650 | 198096.18078 | 220376.81303 | 171° 25' 11.31" |
| | 64.69710 | 0+ 64.69710 | 198095.71537 | 220376.88270 | 171° 33' 16.65" |
| | 71.92310 | 0+ 71.92310 | 198088.55011 | 220377.81461 | 173° 37' 29.00" |
| | 74.11640 | 0+ 74.11640 | 198086.36908 | 220378.04620 | 174° 15' 11.00" |
| | 74.26210 | 0+ 74.26210 | 198086.22411 | 220378.06074 | 174° 17' 41.27" |
| | 76.42900 | 0+ 76.42900 | 198084.06682 | 220378.26447 | 174° 54' 56.04" |
| | 80.00000 | 0+ 80.00000 | 198080.50723 | 220378.54917 | 175° 56' 18.90" |
| | 81.08340 | 0+ 81.08340 | 198079.42635 | 220378.62298 | 176° 14' 56.24" |
| | 81.72190 | 0+ 81.72190 | 198078.78915 | 220378.66373 | 176° 25' 54.74" |
| | 83.50610 | 0+ 83.50610 | 198077.00794 | 220378.76683 | 176° 56' 34.83" |
| | 84.32560 | 0+ 84.32560 | 198076.18952 | 220378.80885 | 177° 10' 40.00" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|--|-----------|-------------|--------------|--------------|-----------------|
| | 85.48350 | 0+ 85.48350 | 198075.03287 | 220378.86252 | 177° 30' 34.17" |
| | 86.22490 | 0+ 86.22490 | 198074.29211 | 220378.89336 | 177° 43' 18.79" |
| | 92.58990 | 0+ 92.58990 | 198067.92919 | 220379.04513 | 179° 32' 43.17" |
| | 95.55660 | 0+ 95.55660 | 198064.96251 | 220379.04667 | 180° 23' 42.80" |
| | 97.27070 | 0+ 97.27070 | 198063.24853 | 220379.02750 | 180° 53' 10.59" |
| | 97.28330 | 0+ 97.28330 | 198063.23593 | 220379.02731 | 180° 53' 23.58" |
| | 97.73690 | 0+ 97.73690 | 198062.78239 | 220379.01975 | 181° 1' 11.39" |
| | 99.24970 | 0+ 99.24970 | 198061.26995 | 220378.98710 | 181° 27' 11.58" |
| | 100.00000 | 0+100.00000 | 198060.51993 | 220378.96667 | 181° 40' 5.38" |
| | 100.06280 | 0+100.06280 | 198060.45715 | 220378.96483 | 181° 41' 10.15" |
| | 101.73090 | 0+101.73090 | 198058.79000 | 220378.90879 | 182° 9' 50.50" |
| | 102.44490 | 0+102.44490 | 198058.07656 | 220378.88056 | 182° 22' 6.87" |
| | 107.88870 | 0+107.88870 | 198052.64114 | 220378.58159 | 183° 55' 41.19" |
| | 108.14540 | 0+108.14540 | 198052.38506 | 220378.56384 | 184° 0' 5.93" |
| | 109.63490 | 0+109.63490 | 198050.89959 | 220378.45436 | 184° 25' 42.09" |
| | 113.70000 | 0+113.70000 | 198046.85009 | 220378.09932 | 185° 35' 34.52" |
| | 113.71100 | 0+113.71100 | 198046.83915 | 220378.09825 | 185° 35' 45.87" |
| | 114.10460 | 0+114.10460 | 198046.44746 | 220378.05948 | 185° 42' 31.80" |
| | 114.62160 | 0+114.62160 | 198045.93309 | 220378.00739 | 185° 51' 24.99" |
| | 115.41770 | 0+115.41770 | 198045.14131 | 220377.92457 | 186° 5' 6.03" |
| | 115.48860 | 0+115.48860 | 198045.07081 | 220377.91704 | 186° 6' 19.15" |
| | 116.12310 | 0+116.12310 | 198044.44002 | 220377.84856 | 186° 17' 13.52" |
| | 119.81580 | 0+119.81580 | 198040.77347 | 220377.41031 | 187° 20' 41.89" |
| | 120.00000 | 0+120.00000 | 198040.59079 | 220377.38668 | 187° 23' 51.86" |
| | 120.04020 | 0+120.04020 | 198040.55093 | 220377.38150 | 187° 24' 33.32" |
| | 120.37670 | 0+120.37670 | 198040.21727 | 220377.33782 | 187° 30' 20.36" |
| | 122.83750 | 0+122.83750 | 198037.77960 | 220377.00138 | 188° 12' 38.25" |
| | 123.12990 | 0+123.12990 | 198037.49022 | 220376.95941 | 188° 17' 39.80" |
| | 127.28300 | 0+127.28300 | 198033.38708 | 220376.31766 | 189° 29' 3.00" |
| | 129.48950 | 0+129.48950 | 198031.21279 | 220375.94209 | 190° 6' 58.61" |
| | 131.45850 | 0+131.45850 | 198029.27614 | 220375.58671 | 190° 40' 49.29" |
| | 133.11500 | 0+133.11500 | 198027.64962 | 220375.27297 | 191° 9' 17.68" |
| | 133.23550 | 0+133.23550 | 198027.53141 | 220375.24962 | 191° 11' 21.95" |
| | 133.42980 | 0+133.42980 | 198027.34082 | 220375.21183 | 191° 14' 42.34" |
| | 133.69800 | 0+133.69800 | 198027.07780 | 220375.15935 | 191° 19' 18.94" |
| | 133.72100 | 0+133.72100 | 198027.05525 | 220375.15483 | 191° 19' 42.66" |
| | 135.85120 | 0+135.85120 | 198024.96882 | 220374.72527 | 191° 56' 19.59" |
| | 137.25490 | 0+137.25490 | 198023.59651 | 220374.43008 | 192° 20' 27.26" |
| | 137.25500 | 0+137.25500 | 198023.59642 | 220374.43006 | 192° 20' 27.36" |
| | 137.94140 | 0+137.94140 | 198022.92613 | 220374.28220 | 192° 32' 15.26" |
| | 139.69980 | 0+139.69980 | 198021.21136 | 220373.89295 | 193° 2' 28.74" |
| | 139.85160 | 0+139.85160 | 198021.06349 | 220373.85864 | 193° 5' 5.30" |
| | 140.00000 | 0+140.00000 | 198020.91895 | 220373.82499 | 193° 7' 38.34" |
| | 142.37410 | 0+142.37410 | 198018.61015 | 220373.27208 | 193° 48' 26.81" |
| | 144.68230 | 0+144.68230 | 198016.37188 | 220372.70829 | 194° 28' 7.31" |

| | | | | | |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 144.75030 | 0+144.75030 | 198016.30604 | 220372.69128 | 194° 29' 17.44" |
| | 145.25550 | 0+145.25550 | 198015.81706 | 220372.56428 | 194° 37' 58.47" |
| | 145.36810 | 0+145.36810 | 198015.70812 | 220372.53580 | 194° 39' 54.59" |
| | 148.33760 | 0+148.33760 | 198012.84105 | 220371.76271 | 195° 30' 57.11" |
| | 148.93290 | 0+148.93290 | 198012.26768 | 220371.60261 | 195° 41' 11.06" |
| | 150.58930 | 0+150.58930 | 198010.67485 | 220371.14817 | 196° 9' 39.34" |
| | 154.78080 | 0+154.78080 | 198006.66150 | 220369.93943 | 197° 21' 42.14" |
| | 155.37630 | 0+155.37630 | 198006.09340 | 220369.76088 | 197° 31' 56.29" |
| EC | 157.09724 | 0+157.09724 | 198004.45465 | 220369.23541 | 198° 1' 31.14" |

IP3 (우향)

| 구 분 | 크 로 스 이 드 | | 교각(IA) | 9° 29' 15.48" | |
|------|-----------|--------------|--------|---------------|-----------------|
| IP좌표 | X | 197983.40457 | 방위각 | 1 | 198° 1' 31.14" |
| | Y | 220362.38554 | | 2 | 207° 30' 46.62" |

| | | | | | |
|-----|-----------|-----------|--------------|-----|---------|
| R 1 | 200.00000 | A | 115.09663 | R 2 | 0.00000 |
| L 1 | 66.23617 | 원 중심 좌표 1 | | L 2 | 0.00000 |
| X 1 | 66.05478 | X | 198066.34209 | X 2 | 0.00000 |
| Y 1 | 3.64887 | Y 2 | 220179.05143 | Y 2 | 0.00000 |
| T 1 | 0.16559 | 원 중심 좌표 2 | | T 2 | 0.00000 |
| TL1 | 44.22104 | X | 0.00000 | TL2 | 0.00000 |
| TK1 | 22.13654 | Y 2 | 0.00000 | TK2 | 0.00000 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| K E | 157.09724 | 198004.45465 | 220369.23541 |
| K A | 223.33341 | 197944.18464 | 220341.95767 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|-----------------|
| KE | 157.09724 | 0+157.09724 | 198004.45465 | 220369.23541 | 198° 1' 31.14" |
| | 157.30650 | 0+157.30650 | 198004.25569 | 220369.17055 | 198° 5' 6.61" |
| | 160.00000 | 0+160.00000 | 198001.70087 | 220368.31748 | 198° 50' 19.23" |
| | 161.13210 | 0+161.13210 | 198000.63041 | 220367.94904 | 199° 8' 45.64" |
| | 165.53150 | 0+165.53150 | 197996.48919 | 220366.46432 | 200° 17' 15.78" |
| | 167.49260 | 0+167.49260 | 197994.65265 | 220365.77657 | 200° 46' 10.83" |
| | 169.09270 | 0+169.09270 | 197993.15844 | 220365.20416 | 201° 9' 2.12" |
| | 169.37320 | 0+169.37320 | 197992.89689 | 220365.10280 | 201° 12' 58.41" |
| | 172.93060 | 0+172.93060 | 197989.58984 | 220363.79196 | 202° 1' 8.75" |
| | 173.65760 | 0+173.65760 | 197988.91624 | 220363.51847 | 202° 10' 35.18" |
| | 174.64380 | 0+174.64380 | 197988.00368 | 220363.14454 | 202° 23' 10.41" |
| | 180.00000 | 0+180.00000 | 197983.07077 | 220361.05780 | 203° 27' 7.68" |
| | 180.04260 | 0+180.04260 | 197983.03169 | 220361.04085 | 203° 27' 36.41" |
| | 184.62780 | 0+184.62780 | 197978.83886 | 220359.18509 | 204° 16' 23.41" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|--|-----------|-------------|--------------|--------------|-----------------|
| | 185.18450 | 0+185.18450 | 197978.33156 | 220358.95583 | 204° 21' 56.50" |
| | 188.38540 | 0+188.38540 | 197975.42171 | 220357.62222 | 204° 52' 18.05" |
| | 188.47890 | 0+188.47890 | 197975.33689 | 220357.58289 | 204° 53' 8.86" |
| | 188.66580 | 0+188.66580 | 197975.16736 | 220357.50420 | 204° 54' 50.02" |
| | 189.14980 | 0+189.14980 | 197974.72853 | 220357.30003 | 204° 59' 9.46" |
| | 189.96990 | 0+189.96990 | 197973.98555 | 220356.95285 | 205° 6' 20.72" |
| | 190.20800 | 0+190.20800 | 197973.76997 | 220356.85176 | 205° 8' 23.97" |
| | 191.09920 | 0+191.09920 | 197972.96361 | 220356.47226 | 205° 15' 57.45" |
| | 193.05230 | 0+193.05230 | 197971.19930 | 220355.63453 | 205° 31' 48.01" |
| | 193.13550 | 0+193.13550 | 197971.12423 | 220355.59866 | 205° 32' 27.18" |
| | 193.30190 | 0+193.30190 | 197970.97410 | 220355.52689 | 205° 33' 45.21" |
| | 193.73310 | 0+193.73310 | 197970.58520 | 220355.34064 | 205° 37' 5.39" |
| | 194.46410 | 0+194.46410 | 197969.92632 | 220355.02404 | 205° 42' 38.14" |
| | 195.24230 | 0+195.24230 | 197969.22545 | 220354.68585 | 205° 48' 23.23" |
| | 195.38550 | 0+195.38550 | 197969.09654 | 220354.62349 | 205° 49' 25.71" |
| | 195.47200 | 0+195.47200 | 197969.01868 | 220354.58580 | 205° 50' 3.29" |
| | 198.98330 | 0+198.98330 | 197965.86374 | 220353.04452 | 206° 13' 50.55" |
| | 199.31060 | 0+199.31060 | 197965.57019 | 220352.89977 | 206° 15' 53.81" |
| | 199.68670 | 0+199.68670 | 197965.23298 | 220352.73322 | 206° 18' 13.39" |
| | 200.00000 | 0+200.00000 | 197964.95215 | 220352.59431 | 206° 20' 7.98" |
| | 202.54970 | 0+202.54970 | 197962.66954 | 220351.45825 | 206° 34' 43.70" |
| | 203.18490 | 0+203.18490 | 197962.10161 | 220351.17377 | 206° 38' 6.12" |
| | 203.39700 | 0+203.39700 | 197961.91203 | 220351.07865 | 206° 39' 12.31" |
| | 203.48440 | 0+203.48440 | 197961.83392 | 220351.03944 | 206° 39' 39.38" |
| | 203.92050 | 0+203.92050 | 197961.44425 | 220350.84363 | 206° 41' 52.68" |
| | 204.70330 | 0+204.70330 | 197960.74511 | 220350.49153 | 206° 45' 44.52" |
| | 205.05020 | 0+205.05020 | 197960.43540 | 220350.33525 | 206° 47' 24.21" |
| | 206.54590 | 0+206.54590 | 197959.10092 | 220349.65977 | 206° 54' 12.59" |
| | 206.62530 | 0+206.62530 | 197959.03012 | 220349.62383 | 206° 54' 33.29" |
| | 207.02160 | 0+207.02160 | 197958.67677 | 220349.44439 | 206° 56' 15.17" |
| | 207.73360 | 0+207.73360 | 197958.04216 | 220349.12157 | 206° 59' 12.06" |
| | 208.04940 | 0+208.04940 | 197957.76078 | 220348.97821 | 207° 0' 27.99" |
| | 208.99840 | 0+208.99840 | 197956.91550 | 220348.54680 | 207° 4' 6.82" |
| | 209.08340 | 0+209.08340 | 197956.83981 | 220348.50812 | 207° 4' 25.73" |
| | 210.48780 | 0+210.48780 | 197955.58978 | 220347.86801 | 207° 9' 21.98" |
| | 211.24480 | 0+211.24480 | 197954.91635 | 220347.52226 | 207° 11' 48.93" |
| | 211.24490 | 0+211.24490 | 197954.91626 | 220347.52222 | 207° 11' 48.95" |
| | 211.65530 | 0+211.65530 | 197954.55127 | 220347.33458 | 207° 13' 4.88" |
| | 211.73320 | 0+211.73320 | 197954.48199 | 220347.29894 | 207° 13' 19.00" |
| | 213.02110 | 0+213.02110 | 197953.33706 | 220346.70919 | 207° 16' 58.71" |
| | 215.20320 | 0+215.20320 | 197951.39850 | 220345.70741 | 207° 22' 12.01" |
| | 217.36630 | 0+217.36630 | 197949.47815 | 220344.71180 | 207° 26' 9.41" |
| | 219.52640 | 0+219.52640 | 197947.56143 | 220343.71570 | 207° 28' 53.78" |
| | 220.00000 | 0+220.00000 | 197947.14128 | 220343.49712 | 207° 29' 20.11" |
| | 220.16180 | 0+220.16180 | 197946.99775 | 220343.42244 | 207° 29' 28.30" |

| | | | | | |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 221.60490 | 0+221.60490 | 197945.71770 | 220342.75610 | 207° 30' 23.36" |
| | 221.68470 | 0+221.68470 | 197945.64692 | 220342.71924 | 207° 30' 25.45" |
| | 221.92420 | 0+221.92420 | 197945.43450 | 220342.60862 | 207° 30' 31.16" |
| | 221.96710 | 0+221.96710 | 197945.39645 | 220342.58881 | 207° 30' 32.08" |
| | 223.07350 | 0+223.07350 | 197944.41516 | 220342.07773 | 207° 30' 46.09" |
| | 223.31080 | 0+223.31080 | 197944.20470 | 220341.96811 | 207° 30' 46.61" |
| KA | 223.33341 | 0+223.33341 | 197944.18464 | 220341.95767 | 207° 30' 46.62" |

IP4 (좌향)

| 구분 | 원 곡 선 | | 교각(IA) | 0° 0' 0.00" | |
|------|-------|--------------|--------|-------------|-----------------|
| IP좌표 | X | 197837.22033 | 방위각 | 1 | 207° 30' 46.62" |
| | Y | 220286.24484 | | 2 | 207° 30' 46.62" |

| | | | | | | |
|---------|---|---------|-----|---------|-----|---------|
| 원 중심 좌표 | X | 0.00000 | R | 0.00000 | C L | 0.00000 |
| | Y | 0.00000 | T L | 0.00000 | S L | 0.00000 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 223.33341 | 197944.18464 | 220341.95767 |
| E C | 464.54106 | 197730.25602 | 220230.53202 |

| 구분 | 누가거리 | 측정(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|-----------------|
| BC | 223.33341 | 0+223.33341 | 197944.18464 | 220341.95767 | 207° 30' 46.62" |
| | 223.35490 | 0+223.35490 | 197944.16559 | 220341.94774 | 207° 30' 46.62" |
| | 223.38510 | 0+223.38510 | 197944.13880 | 220341.93379 | 207° 30' 46.62" |
| | 223.60830 | 0+223.60830 | 197943.94084 | 220341.83068 | 207° 30' 46.62" |
| | 224.68040 | 0+224.68040 | 197942.98999 | 220341.33543 | 207° 30' 46.62" |
| | 224.94310 | 0+224.94310 | 197942.75700 | 220341.21407 | 207° 30' 46.62" |
| | 227.05500 | 0+227.05500 | 197940.88394 | 220340.23848 | 207° 30' 46.62" |
| | 228.40510 | 0+228.40510 | 197939.68653 | 220339.61481 | 207° 30' 46.62" |
| | 235.67130 | 0+235.67130 | 197933.24209 | 220336.25819 | 207° 30' 46.62" |
| | 236.52400 | 0+236.52400 | 197932.48583 | 220335.86429 | 207° 30' 46.62" |
| | 237.99260 | 0+237.99260 | 197931.18332 | 220335.18587 | 207° 30' 46.62" |
| | 238.72440 | 0+238.72440 | 197930.53428 | 220334.84782 | 207° 30' 46.62" |
| | 240.00000 | 0+240.00000 | 197929.40294 | 220334.25855 | 207° 30' 46.62" |
| | 241.13860 | 0+241.13860 | 197928.39311 | 220333.73258 | 207° 30' 46.62" |
| | 241.59600 | 0+241.59600 | 197927.98744 | 220333.52128 | 207° 30' 46.62" |
| | 241.61370 | 0+241.61370 | 197927.97174 | 220333.51311 | 207° 30' 46.62" |
| | 241.71580 | 0+241.71580 | 197927.88119 | 220333.46594 | 207° 30' 46.62" |
| | 242.12630 | 0+242.12630 | 197927.51711 | 220333.27631 | 207° 30' 46.62" |
| | 242.15160 | 0+242.15160 | 197927.49467 | 220333.26462 | 207° 30' 46.62" |
| | 242.16840 | 0+242.16840 | 197927.47977 | 220333.25686 | 207° 30' 46.62" |
| | 242.76500 | 0+242.76500 | 197926.95064 | 220332.98126 | 207° 30' 46.62" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|--|-----------|-------------|--------------|--------------|-----------------|
| | 243.26620 | 0+243.26620 | 197926.50613 | 220332.74974 | 207° 30' 46.62" |
| | 243.78370 | 0+243.78370 | 197926.04715 | 220332.51068 | 207° 30' 46.62" |
| | 244.23860 | 0+244.23860 | 197925.64370 | 220332.30054 | 207° 30' 46.62" |
| | 250.24960 | 0+250.24960 | 197920.31250 | 220329.52376 | 207° 30' 46.62" |
| | 250.43440 | 0+250.43440 | 197920.14860 | 220329.43839 | 207° 30' 46.62" |
| | 254.69860 | 0+254.69860 | 197916.36666 | 220327.46855 | 207° 30' 46.62" |
| | 254.72030 | 0+254.72030 | 197916.34741 | 220327.45852 | 207° 30' 46.62" |
| | 257.51400 | 0+257.51400 | 197913.86966 | 220326.16798 | 207° 30' 46.62" |
| | 257.58880 | 0+257.58880 | 197913.80332 | 220326.13342 | 207° 30' 46.62" |
| | 257.96580 | 0+257.96580 | 197913.46896 | 220325.95927 | 207° 30' 46.62" |
| | 260.00000 | 0+260.00000 | 197911.66481 | 220325.01957 | 207° 30' 46.62" |
| | 262.08980 | 0+262.08980 | 197909.81135 | 220324.05419 | 207° 30' 46.62" |
| | 262.30710 | 0+262.30710 | 197909.61863 | 220323.95381 | 207° 30' 46.62" |
| | 262.32690 | 0+262.32690 | 197909.60107 | 220323.94466 | 207° 30' 46.62" |
| | 262.55110 | 0+262.55110 | 197909.40222 | 220323.84109 | 207° 30' 46.62" |
| | 263.33000 | 0+263.33000 | 197908.71141 | 220323.48128 | 207° 30' 46.62" |
| | 263.52840 | 0+263.52840 | 197908.53545 | 220323.38963 | 207° 30' 46.62" |
| | 263.58290 | 0+263.58290 | 197908.48711 | 220323.36445 | 207° 30' 46.62" |
| | 263.93130 | 0+263.93130 | 197908.17811 | 220323.20351 | 207° 30' 46.62" |
| | 264.20100 | 0+264.20100 | 197907.93892 | 220323.07892 | 207° 30' 46.62" |
| | 265.50420 | 0+265.50420 | 197906.78310 | 220322.47691 | 207° 30' 46.62" |
| | 265.81640 | 0+265.81640 | 197906.50621 | 220322.33269 | 207° 30' 46.62" |
| | 266.77340 | 0+266.77340 | 197905.65744 | 220321.89061 | 207° 30' 46.62" |
| | 266.86990 | 0+266.86990 | 197905.57185 | 220321.84603 | 207° 30' 46.62" |
| | 267.11830 | 0+267.11830 | 197905.35154 | 220321.73128 | 207° 30' 46.62" |
| | 267.21730 | 0+267.21730 | 197905.26374 | 220321.68555 | 207° 30' 46.62" |
| | 267.71460 | 0+267.71460 | 197904.82268 | 220321.45582 | 207° 30' 46.62" |
| | 268.28850 | 0+268.28850 | 197904.31369 | 220321.19071 | 207° 30' 46.62" |
| | 268.67100 | 0+268.67100 | 197903.97444 | 220321.01401 | 207° 30' 46.62" |
| | 268.95920 | 0+268.95920 | 197903.71884 | 220320.88088 | 207° 30' 46.62" |
| | 269.27820 | 0+269.27820 | 197903.43591 | 220320.73352 | 207° 30' 46.62" |
| | 269.35780 | 0+269.35780 | 197903.36532 | 220320.69675 | 207° 30' 46.62" |
| | 269.37750 | 0+269.37750 | 197903.34785 | 220320.68764 | 207° 30' 46.62" |
| | 269.46110 | 0+269.46110 | 197903.27370 | 220320.64903 | 207° 30' 46.62" |
| | 269.78600 | 0+269.78600 | 197902.98554 | 220320.49894 | 207° 30' 46.62" |
| | 269.87160 | 0+269.87160 | 197902.90962 | 220320.45940 | 207° 30' 46.62" |
| | 271.15030 | 0+271.15030 | 197901.77554 | 220319.86870 | 207° 30' 46.62" |
| | 271.98100 | 0+271.98100 | 197901.03878 | 220319.48496 | 207° 30' 46.62" |
| | 272.44450 | 0+272.44450 | 197900.62770 | 220319.27085 | 207° 30' 46.62" |
| | 272.49970 | 0+272.49970 | 197900.57875 | 220319.24535 | 207° 30' 46.62" |
| | 272.60340 | 0+272.60340 | 197900.48677 | 220319.19744 | 207° 30' 46.62" |
| | 272.92180 | 0+272.92180 | 197900.20438 | 220319.05036 | 207° 30' 46.62" |
| | 273.37240 | 0+273.37240 | 197899.80474 | 220318.84220 | 207° 30' 46.62" |
| | 273.86920 | 0+273.86920 | 197899.36413 | 220318.61271 | 207° 30' 46.62" |
| | 274.66690 | 0+274.66690 | 197898.65664 | 220318.24421 | 207° 30' 46.62" |

| | | | | | |
|--|-----------|-------------|--------------|--------------|-----------------|
| | 275.19020 | 0+275.19020 | 197898.19252 | 220318.00247 | 207° 30' 46.62" |
| | 277.21230 | 0+277.21230 | 197896.39911 | 220317.06837 | 207° 30' 46.62" |
| | 277.78450 | 0+277.78450 | 197895.89162 | 220316.80404 | 207° 30' 46.62" |
| | 278.76040 | 0+278.76040 | 197895.02609 | 220316.35322 | 207° 30' 46.62" |
| | 279.00510 | 0+279.00510 | 197894.80906 | 220316.24018 | 207° 30' 46.62" |
| | 279.09640 | 0+279.09640 | 197894.72809 | 220316.19801 | 207° 30' 46.62" |
| | 279.36070 | 0+279.36070 | 197894.49368 | 220316.07591 | 207° 30' 46.62" |
| | 279.60980 | 0+279.60980 | 197894.27275 | 220315.96084 | 207° 30' 46.62" |
| | 280.00000 | 0+280.00000 | 197893.92668 | 220315.78059 | 207° 30' 46.62" |
| | 284.24940 | 0+284.24940 | 197890.15786 | 220313.81758 | 207° 30' 46.62" |
| | 288.34220 | 0+288.34220 | 197886.52793 | 220311.92692 | 207° 30' 46.62" |
| | 289.09000 | 0+289.09000 | 197885.86470 | 220311.58147 | 207° 30' 46.62" |
| | 290.05280 | 0+290.05280 | 197885.01079 | 220311.13671 | 207° 30' 46.62" |
| | 290.54000 | 0+290.54000 | 197884.57869 | 220310.91165 | 207° 30' 46.62" |
| | 290.81760 | 0+290.81760 | 197884.33248 | 220310.78341 | 207° 30' 46.62" |
| | 290.89990 | 0+290.89990 | 197884.25949 | 220310.74539 | 207° 30' 46.62" |
| | 291.30860 | 0+291.30860 | 197883.89701 | 220310.55659 | 207° 30' 46.62" |
| | 291.47580 | 0+291.47580 | 197883.74872 | 220310.47936 | 207° 30' 46.62" |
| | 291.67110 | 0+291.67110 | 197883.57551 | 220310.38914 | 207° 30' 46.62" |
| | 291.95190 | 0+291.95190 | 197883.32646 | 220310.25942 | 207° 30' 46.62" |
| | 292.09470 | 0+292.09470 | 197883.19981 | 220310.19346 | 207° 30' 46.62" |
| | 292.25070 | 0+292.25070 | 197883.06146 | 220310.12139 | 207° 30' 46.62" |
| | 292.52490 | 0+292.52490 | 197882.81827 | 220309.99472 | 207° 30' 46.62" |
| | 292.66890 | 0+292.66890 | 197882.69055 | 220309.92820 | 207° 30' 46.62" |
| | 292.72950 | 0+292.72950 | 197882.63681 | 220309.90021 | 207° 30' 46.62" |
| | 292.87300 | 0+292.87300 | 197882.50953 | 220309.83392 | 207° 30' 46.62" |
| | 293.30530 | 0+293.30530 | 197882.12612 | 220309.63422 | 207° 30' 46.62" |
| | 293.44990 | 0+293.44990 | 197881.99788 | 220309.56742 | 207° 30' 46.62" |
| | 295.08820 | 0+295.08820 | 197880.54486 | 220308.81061 | 207° 30' 46.62" |
| | 295.87580 | 0+295.87580 | 197879.84633 | 220308.44678 | 207° 30' 46.62" |
| | 299.62340 | 0+299.62340 | 197876.52256 | 220306.71558 | 207° 30' 46.62" |
| | 300.00000 | 0+300.00000 | 197876.18855 | 220306.54161 | 207° 30' 46.62" |
| | 304.60540 | 0+304.60540 | 197872.10399 | 220304.41415 | 207° 30' 46.62" |
| | 305.96480 | 0+305.96480 | 197870.89833 | 220303.78618 | 207° 30' 46.62" |
| | 306.64330 | 0+306.64330 | 197870.29657 | 220303.47274 | 207° 30' 46.62" |
| | 306.72090 | 0+306.72090 | 197870.22774 | 220303.43690 | 207° 30' 46.62" |
| | 307.39550 | 0+307.39550 | 197869.62944 | 220303.12526 | 207° 30' 46.62" |
| | 309.10490 | 0+309.10490 | 197868.11336 | 220302.33561 | 207° 30' 46.62" |
| | 309.84160 | 0+309.84160 | 197867.45997 | 220301.99529 | 207° 30' 46.62" |
| | 313.96440 | 0+313.96440 | 197863.80344 | 220300.09077 | 207° 30' 46.62" |
| | 314.00870 | 0+314.00870 | 197863.76415 | 220300.07030 | 207° 30' 46.62" |
| | 314.19000 | 0+314.19000 | 197863.60335 | 220299.98655 | 207° 30' 46.62" |
| | 314.64420 | 0+314.64420 | 197863.20052 | 220299.77673 | 207° 30' 46.62" |
| | 314.66710 | 0+314.66710 | 197863.18021 | 220299.76616 | 207° 30' 46.62" |
| | 314.71110 | 0+314.71110 | 197863.14118 | 220299.74583 | 207° 30' 46.62" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|--|-----------|-------------|--------------|--------------|-----------------|
| | 314.82650 | 0+314.82650 | 197863.03883 | 220299.69252 | 207° 30' 46.62" |
| | 314.89100 | 0+314.89100 | 197862.98163 | 220299.66273 | 207° 30' 46.62" |
| | 315.34200 | 0+315.34200 | 197862.58163 | 220299.45439 | 207° 30' 46.62" |
| | 315.52290 | 0+315.52290 | 197862.42119 | 220299.37082 | 207° 30' 46.62" |
| | 319.85900 | 0+319.85900 | 197858.57548 | 220297.36776 | 207° 30' 46.62" |
| | 320.00000 | 0+320.00000 | 197858.45042 | 220297.30263 | 207° 30' 46.62" |
| | 324.17330 | 0+324.17330 | 197854.74910 | 220295.37478 | 207° 30' 46.62" |
| | 324.77830 | 0+324.77830 | 197854.21252 | 220295.09530 | 207° 30' 46.62" |
| | 324.79890 | 0+324.79890 | 197854.19425 | 220295.08578 | 207° 30' 46.62" |
| | 325.05010 | 0+325.05010 | 197853.97146 | 220294.96974 | 207° 30' 46.62" |
| | 325.66910 | 0+325.66910 | 197853.42246 | 220294.68379 | 207° 30' 46.62" |
| | 329.80850 | 0+329.80850 | 197849.75120 | 220292.77160 | 207° 30' 46.62" |
| | 330.39160 | 0+330.39160 | 197849.23405 | 220292.50224 | 207° 30' 46.62" |
| | 335.08530 | 0+335.08530 | 197845.07117 | 220290.33399 | 207° 30' 46.62" |
| | 335.63240 | 0+335.63240 | 197844.58595 | 220290.08126 | 207° 30' 46.62" |
| | 339.96260 | 0+339.96260 | 197840.74546 | 220288.08092 | 207° 30' 46.62" |
| | 340.00000 | 0+340.00000 | 197840.71229 | 220288.06365 | 207° 30' 46.62" |
| | 344.33850 | 0+344.33850 | 197836.86445 | 220286.05948 | 207° 30' 46.62" |
| | 344.84260 | 0+344.84260 | 197836.41736 | 220285.82661 | 207° 30' 46.62" |
| | 344.85940 | 0+344.85940 | 197836.40246 | 220285.81885 | 207° 30' 46.62" |
| | 345.45490 | 0+345.45490 | 197835.87431 | 220285.54376 | 207° 30' 46.62" |
| | 345.95520 | 0+345.95520 | 197835.43059 | 220285.31265 | 207° 30' 46.62" |
| | 350.96740 | 0+350.96740 | 197830.98524 | 220282.99727 | 207° 30' 46.62" |
| | 351.45330 | 0+351.45330 | 197830.55429 | 220282.77281 | 207° 30' 46.62" |
| | 354.87030 | 0+354.87030 | 197827.52373 | 220281.19433 | 207° 30' 46.62" |
| | 355.34960 | 0+355.34960 | 197827.09863 | 220280.97291 | 207° 30' 46.62" |
| | 359.99910 | 0+359.99910 | 197822.97496 | 220278.82508 | 207° 30' 46.62" |
| | 360.00000 | 0+360.00000 | 197822.97416 | 220278.82467 | 207° 30' 46.62" |
| | 363.81220 | 0+363.81220 | 197819.59310 | 220277.06362 | 207° 30' 46.62" |
| | 365.01500 | 0+365.01500 | 197818.52633 | 220276.50799 | 207° 30' 46.62" |
| | 366.33010 | 0+366.33010 | 197817.35996 | 220275.90048 | 207° 30' 46.62" |
| | 380.00000 | 0+380.00000 | 197805.23604 | 220269.58568 | 207° 30' 46.62" |
| | 385.18730 | 0+385.18730 | 197800.63539 | 220267.18942 | 207° 30' 46.62" |
| | 386.64230 | 0+386.64230 | 197799.34494 | 220266.51728 | 207° 30' 46.62" |
| | 400.00000 | 0+400.00000 | 197787.49791 | 220260.34670 | 207° 30' 46.62" |
| | 405.35970 | 0+405.35970 | 197782.74435 | 220257.87079 | 207° 30' 46.62" |
| | 406.92230 | 0+406.92230 | 197781.35847 | 220257.14895 | 207° 30' 46.62" |
| | 420.00000 | 0+420.00000 | 197769.75978 | 220251.10772 | 207° 30' 46.62" |
| | 425.53200 | 0+425.53200 | 197764.85341 | 220248.55222 | 207° 30' 46.62" |
| | 433.09660 | 0+433.09660 | 197758.14432 | 220245.05776 | 207° 30' 46.62" |
| | 434.00440 | 0+434.00440 | 197757.33918 | 220244.63840 | 207° 30' 46.62" |
| | 434.20610 | 0+434.20610 | 197757.16030 | 220244.54523 | 207° 30' 46.62" |
| | 434.81130 | 0+434.81130 | 197756.62354 | 220244.26565 | 207° 30' 46.62" |
| | 435.01300 | 0+435.01300 | 197756.44465 | 220244.17248 | 207° 30' 46.62" |
| | 440.00000 | 0+440.00000 | 197752.02165 | 220241.86874 | 207° 30' 46.62" |

| | | | | | |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 445.70430 | 0+445.70430 | 197746.96247 | 220239.23364 | 207° 30' 46.62" |
| | 460.00000 | 0+460.00000 | 197734.28352 | 220232.62976 | 207° 30' 46.62" |
| EC | 464.54106 | 0+464.54106 | 197730.25602 | 220230.53202 | 207° 30' 46.62" |

IP5 (좌향)

| 구 분 | 원 곡 선 | | 교각(IA) | 5° 46' 27.54" | |
|------|-------|--------------|--------|---------------|-----------------|
| IP좌표 | X | 197698.94541 | 방위각 | 1 | 207° 30' 46.62" |
| | Y | 220214.22375 | | 2 | 201° 44' 19.08" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|----------|
| 원 중심 좌표 | X | 197406.89168 | R | 700.00000 | C L | 70.54657 |
| | Y | 220851.36654 | T L | 35.30317 | S L | 0.88966 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 464.54106 | 197730.25602 | 220230.53202 |
| E C | 535.08763 | 197666.15290 | 220201.14841 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|-----------------|
| EC | 464.54106 | 0+464.54106 | 197730.25602 | 220230.53202 | 207° 30' 46.62" |
| | 465.87690 | 0+465.87690 | 197729.07067 | 220229.91606 | 207° 24' 12.99" |
| | 480.00000 | 0+480.00000 | 197716.46765 | 220223.54275 | 206° 14' 51.42" |
| | 486.09610 | 0+486.09610 | 197710.98845 | 220220.87058 | 205° 44' 55.12" |
| | 500.00000 | 0+500.00000 | 197698.40592 | 220214.95516 | 204° 36' 38.14" |
| | 506.41100 | 0+506.41100 | 197692.56516 | 220212.31203 | 204° 5' 9.05" |
| | 520.00000 | 0+520.00000 | 197680.10624 | 220206.88705 | 202° 58' 24.86" |
| | 526.84040 | 0+526.84040 | 197673.79544 | 220204.24802 | 202° 24' 49.24" |
| EC | 535.08763 | 0+535.08763 | 197666.15290 | 220201.14841 | 201° 44' 19.08" |

IP6 (우향)

| 구 분 | 원 곡 선 | | 교각(IA) | 5° 46' 27.54" | |
|------|-------|--------------|--------|---------------|-----------------|
| IP좌표 | X | 197633.36038 | 방위각 | 1 | 201° 44' 19.08" |
| | Y | 220188.07306 | | 2 | 207° 30' 46.62" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|----------|
| 원 중심 좌표 | X | 197925.41412 | R | 700.00000 | C L | 70.54657 |
| | Y | 219550.93027 | T L | 35.30317 | S L | 0.88966 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 535.08763 | 197666.15290 | 220201.14841 |
| E C | 605.63420 | 197602.04977 | 220171.76479 |

부산외곽순환 고속도로 건설공사 실시설계

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|-----------------|
| EC | 535.08763 | 0+535.08763 | 197666.15290 | 220201.14841 | 201° 44' 19.08" |
| | 540.00000 | 0+540.00000 | 197661.59630 | 220199.31300 | 202° 8' 26.58" |
| | 547.35300 | 0+547.35300 | 197654.80018 | 220196.50606 | 202° 44' 33.24" |
| | 560.00000 | 0+560.00000 | 197643.18127 | 220191.51175 | 203° 46' 39.86" |
| | 563.01330 | 0+563.01330 | 197640.42638 | 220190.29088 | 204° 1' 27.77" |
| | 563.54460 | 0+563.54460 | 197639.94119 | 220190.07439 | 204° 4' 4.33" |
| | 568.42260 | 0+568.42260 | 197635.49423 | 220188.06955 | 204° 28' 1.70" |
| | 580.00000 | 0+580.00000 | 197624.99663 | 220183.18760 | 205° 24' 53.14" |
| | 587.05440 | 0+587.05440 | 197618.64028 | 220180.12803 | 205° 59' 31.82" |
| | 587.57800 | 0+587.57800 | 197618.16973 | 220179.89838 | 206° 2' 6.10" |
| | 587.68270 | 0+587.68270 | 197618.07565 | 220179.85242 | 206° 2' 36.95" |
| | 589.46210 | 0+589.46210 | 197616.47793 | 220179.06914 | 206° 11' 21.28" |
| | 600.00000 | 0+600.00000 | 197607.05720 | 220174.34737 | 207° 3' 6.42" |
| EC | 605.63420 | 0+605.63420 | 197602.04977 | 220171.76479 | 207° 30' 46.62" |

IP7 (좌향)

| 구 분 | 원 곡 선 | | 교각(IA) | 0° 0' 0.00" | |
|------|-------|--------------|--------|-------------|-----------------|
| IP좌표 | X | 197493.68496 | 방위각 | 1 | 207° 30' 46.62" |
| | Y | 220115.32251 | | 2 | 207° 30' 46.62" |

| | | | | | | |
|---------|---|---------|-----|---------|-----|---------|
| 원 중심 좌표 | X | 0.00000 | R | 0.00000 | C L | 0.00000 |
| | Y | 0.00000 | T L | 0.00000 | S L | 0.00000 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 605.63420 | 197602.04977 | 220171.76479 |
| E C | 850.00001 | 197385.32016 | 220058.88023 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|-----------------|
| EC | 605.63420 | 0+605.63420 | 197602.04977 | 220171.76479 | 207° 30' 46.62" |
| | 610.31120 | 0+610.31120 | 197597.90171 | 220169.60426 | 207° 30' 46.62" |
| | 620.00000 | 0+620.00000 | 197589.30865 | 220165.12852 | 207° 30' 46.62" |
| | 631.08080 | 0+631.08080 | 197579.48102 | 220160.00976 | 207° 30' 46.62" |
| | 640.00000 | 0+640.00000 | 197571.57052 | 220155.88954 | 207° 30' 46.62" |
| | 651.70750 | 0+651.70750 | 197561.18706 | 220150.48127 | 207° 30' 46.62" |
| | 660.00000 | 0+660.00000 | 197553.83239 | 220146.65056 | 207° 30' 46.62" |
| | 671.70750 | 0+671.70750 | 197543.44893 | 220141.24229 | 207° 30' 46.62" |
| | 680.00000 | 0+680.00000 | 197536.09426 | 220137.41158 | 207° 30' 46.62" |
| | 691.70750 | 0+691.70750 | 197525.71081 | 220132.00331 | 207° 30' 46.62" |
| | 700.00000 | 0+700.00000 | 197518.35613 | 220128.17260 | 207° 30' 46.62" |
| | 711.70750 | 0+711.70750 | 197507.97268 | 220122.76433 | 207° 30' 46.62" |
| | 720.00000 | 0+720.00000 | 197500.61800 | 220118.93362 | 207° 30' 46.62" |

| | | | | | |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 740.00000 | 0+740.00000 | 197482.87988 | 220109.69464 | 207° 30' 46.62" |
| | 760.00000 | 0+760.00000 | 197465.14175 | 220100.45565 | 207° 30' 46.62" |
| | 780.00000 | 0+780.00000 | 197447.40362 | 220091.21667 | 207° 30' 46.62" |
| | 800.00000 | 0+800.00000 | 197429.66549 | 220081.97769 | 207° 30' 46.62" |
| | 820.00000 | 0+820.00000 | 197411.92736 | 220072.73871 | 207° 30' 46.62" |
| EC | 840.00000 | 0+840.00000 | 197394.18923 | 220063.49973 | 207° 30' 46.62" |

EP

| | | | | |
|-------|---|--------------|-----|-----------------|
| EP 좌표 | X | 197394.18923 | 방위각 | 207° 30' 46.62" |
| | Y | 220063.49973 | | |

카. 기장 · 일광나들목 RAMP-D

BP

| | | | | |
|-------|---|--------------|-----|---------------|
| BP 좌표 | X | 197745.93244 | 방위각 | 35° 0' 28.31" |
| | Y | 220307.72773 | | |

IP1 (우향)

| 구 분 | 원 곡 선 | | 교각(IA) | 4° 31' 16.08" | |
|------|-------|--------------|--------|---------------|----------------|
| IP좌표 | X | 197768.88871 | 방위각 | 1 | 35° 0' 28.31" |
| | Y | 220323.80658 | | 2 | 39° 31' 44.39" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|----------|
| 원 중심 좌표 | X | 197338.61336 | R | 710.00000 | C L | 56.02515 |
| | Y | 220889.26979 | T L | 28.02712 | S L | 0.55297 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|----------|--------------|--------------|
| B C | 0.00000 | 197745.93244 | 220307.72773 |
| E C | 56.02515 | 197790.50610 | 220341.64496 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|----------|-------------|--------------|--------------|----------------|
| BC | 0.00000 | 0+ 0.00000 | 197745.93244 | 220307.72773 | 35° 0' 28.31" |
| | 1.54930 | 0+ 1.54930 | 197747.20046 | 220308.61793 | 35° 7' 58.40" |
| | 20.00000 | 0+ 20.00000 | 197762.15015 | 220319.43070 | 36° 37' 18.58" |
| | 20.10940 | 0+ 20.10940 | 197762.23795 | 220319.49597 | 36° 37' 50.37" |
| | 21.55260 | 0+ 21.55260 | 197763.39524 | 220320.35824 | 36° 44' 49.63" |
| | 40.00000 | 0+ 40.00000 | 197778.03180 | 220331.58580 | 38° 14' 8.86" |
| | 40.26700 | 0+ 40.26700 | 197778.24149 | 220331.75109 | 38° 15' 26.43" |
| | 41.57310 | 0+ 41.57310 | 197779.26635 | 220332.56076 | 38° 21' 45.87" |
| EC | 56.02515 | 0+ 56.02515 | 197790.50610 | 220341.64496 | 39° 31' 44.39" |

IP2 (우향)

| 구분 | 크로소이드 | | 교각(IA) | 1° 25' 7.31" | |
|------|-------|--------------|--------|--------------|----------------|
| IP좌표 | X | 197799.54644 | 방위각 | 1 | 39° 31' 44.39" |
| | Y | 220349.10493 | | 2 | 40° 56' 51.70" |

| | | | | | |
|-----|-----------|----------|--------------|-----|---------|
| R 1 | 710.00000 | A | 158.00000 | R 2 | 0.00000 |
| L 1 | 35.16056 | 원중심 좌표 1 | | L 2 | 0.00000 |
| X 1 | 35.15841 | X | 197338.61336 | X 2 | 0.00000 |
| Y 1 | 0.29019 | Y 2 | 220889.26979 | Y 2 | 0.00000 |
| T 1 | 0.02476 | 원중심 좌표 2 | | T 2 | 0.00000 |
| TL1 | 23.44113 | X | 0.00000 | TL2 | 0.00000 |
| TK1 | 11.72087 | Y 2 | 0.00000 | TK2 | 0.00000 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|----------|--------------|--------------|
| K E | 56.02515 | 197790.50610 | 220341.64496 |
| K A | 91.18572 | 197817.25171 | 220364.46754 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|----------|-------------|--------------|--------------|----------------|
| KE | 56.02515 | 0+ 56.02515 | 197790.50610 | 220341.64496 | 39° 31' 44.39" |
| | 60.00000 | 0+ 60.00000 | 197793.56508 | 220344.18307 | 39° 49' 53.86" |
| | 60.51940 | 0+ 60.51940 | 197793.96383 | 220344.51590 | 39° 52' 6.58" |
| | 61.62660 | 0+ 61.62660 | 197794.81315 | 220345.22621 | 39° 56' 42.06" |
| | 80.00000 | 0+ 80.00000 | 197808.79693 | 220357.14382 | 40° 48' 14.80" |
| | 80.82880 | 0+ 80.82880 | 197809.42419 | 220357.68553 | 40° 49' 28.56" |
| | 81.73330 | 0+ 81.73330 | 197810.10853 | 220358.27697 | 40° 50' 42.58" |
| KA | 91.18572 | 0+ 91.18572 | 197817.25171 | 220364.46754 | 40° 56' 51.70" |

IP3 (좌향)

| 구분 | 크로소이드 | | 교각(IA) | 5° 41' 6.01" | |
|------|-------|--------------|--------|--------------|----------------|
| IP좌표 | X | 197835.24737 | 방위각 | 1 | 40° 56' 51.70" |
| | Y | 220380.08210 | | 2 | 35° 15' 45.69" |

| | | | | | |
|-----|---------|----------|--------------|-----|-----------|
| R 1 | 0.00000 | A | 80.18471 | R 2 | 180.00000 |
| L 1 | 0.00000 | 원중심 좌표 1 | | L 2 | 35.71993 |
| X 1 | 0.00000 | X | 0.00000 | X 2 | 35.68478 |
| Y 1 | 0.00000 | Y 2 | 0.00000 | Y 2 | 1.18057 |
| T 1 | 0.00000 | 원중심 좌표 2 | | T 2 | 0.09922 |
| TL1 | 0.00000 | X | 197948.89712 | TL2 | 23.82558 |
| TK1 | 0.00000 | Y 2 | 220239.99011 | TK2 | 11.91782 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| K A | 91.18572 | 197817.25171 | 220364.46754 |
| K E | 126.90565 | 197844.97843 | 220386.96257 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|----------------|
| KA | 91.18572 | 0+ 91.18572 | 197817.25171 | 220364.46754 | 40° 56' 51.70" |
| | 97.50000 | 0+ 97.50000 | 197822.02521 | 220368.60079 | 40° 46' 12.17" |
| | 97.90000 | 0+ 97.90000 | 197822.32820 | 220368.86194 | 40° 44' 48.58" |
| | 99.00000 | 0+ 99.00000 | 197823.16200 | 220369.57943 | 40° 40' 32.23" |
| | 99.20000 | 0+ 99.20000 | 197823.31370 | 220369.70977 | 40° 39' 41.46" |
| | 100.00000 | 0+100.00000 | 197823.92082 | 220370.23072 | 40° 36' 5.51" |
| | 100.70000 | 0+100.70000 | 197824.45252 | 220370.68602 | 40° 32' 39.71" |
| | 100.70000 | 0+100.70000 | 197824.45252 | 220370.68602 | 40° 32' 39.71" |
| | 102.14873 | 0+102.14873 | 197825.55448 | 220371.62650 | 40° 24' 43.86" |
| | 104.10000 | 0+104.10000 | 197827.04240 | 220372.88886 | 40° 12' 16.53" |
| | 104.50000 | 0+104.50000 | 197827.34800 | 220373.14694 | 40° 9' 28.24" |
| | 106.00000 | 0+106.00000 | 197828.49597 | 220374.11243 | 39° 58' 11.45" |
| | 106.40000 | 0+106.40000 | 197828.80264 | 220374.36925 | 39° 54' 58.79" |
| | 107.20000 | 0+107.20000 | 197829.41672 | 220374.88199 | 39° 48' 18.06" |
| | 107.20000 | 0+107.20000 | 197829.41672 | 220374.88199 | 39° 48' 18.06" |
| | 109.40000 | 0+109.40000 | 197831.11085 | 220376.28553 | 39° 28' 10.18" |
| | 109.40000 | 0+109.40000 | 197831.11085 | 220376.28553 | 39° 28' 10.18" |
| | 116.40000 | 0+116.40000 | 197836.56389 | 220380.67438 | 38° 6' 53.93" |
| | 117.80000 | 0+117.80000 | 197837.66779 | 220381.53543 | 37° 47' 30.05" |
| | 120.00000 | 0+120.00000 | 197839.41260 | 220382.87542 | 37° 14' 54.05" |
| | 120.11940 | 0+120.11940 | 197839.50767 | 220382.94766 | 37° 13' 3.45" |
| | 120.75410 | 0+120.75410 | 197840.01366 | 220383.33083 | 37° 3' 7.86" |
| | 120.96580 | 0+120.96580 | 197840.18268 | 220383.45831 | 36° 59' 46.32" |
| | 121.67530 | 0+121.67530 | 197840.75004 | 220383.88432 | 36° 48' 20.42" |
| | 122.54100 | 0+122.54100 | 197841.44426 | 220384.40152 | 36° 34' 1.64" |
| | 123.08640 | 0-123.08640 | 197841.88273 | 220384.72587 | 36° 24' 48.25" |
| | 123.83000 | 0+123.83000 | 197842.48197 | 220385.16616 | 36° 11' 58.39" |
| | 126.49220 | 0+126.49220 | 197844.64112 | 220386.72349 | 35° 23' 36.72" |
| KE | 126.90565 | 0+126.90565 | 197844.97843 | 220386.96257 | 35° 15' 45.69" |

IP4 (좌향)

| 구 분 | 원 곡 선 | | 교각(IA) | 18° 38' 31.74" | |
|------|-------|--------------|--------|----------------|----------------|
| IP좌표 | X | 197869.10161 | 방위각 | 1 | 35° 15' 45.69" |
| | Y | 220404.01916 | | 2 | 16° 37' 13.95" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|----------|
| 원 중심 좌표 | X | 197948.89712 | R | 180.00000 | C L | 58.56605 |
| | Y | 220239.99011 | T L | 29.54412 | S L | 2.40848 |

부산외곽순환 고속도로 건설공사 실시설계

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 126.90565 | 197844.97843 | 220386.96257 |
| E C | 185.47169 | 197897.41138 | 220412.46972 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|-----------------|
| BC | 126.90565 | 0+126.90565 | 197844.97843 | 220386.96257 | 35 ° 15' 45.69" |
| | 131.90000 | 0+131.90000 | 197849.09586 | 220389.78900 | 33 ° 40' 22.58" |
| | 134.60000 | 0+134.60000 | 197851.35399 | 220391.26911 | 32 ° 48' 48.61" |
| | 140.00000 | 0+140.00000 | 197855.93557 | 220394.12689 | 31 ° 5' 40.67" |
| | 141.58660 | 0+141.58660 | 197857.29779 | 220394.94030 | 30 ° 35' 22.56" |
| | 141.98400 | 0+141.98400 | 197857.64011 | 220395.14215 | 30 ° 27' 47.17" |
| | 144.49810 | 0+144.49810 | 197859.81599 | 220396.40159 | 29 ° 39' 46.22" |
| | 160.00000 | 0+160.00000 | 197873.59991 | 220403.48423 | 24 ° 43' 42.36" |
| | 161.29060 | 0+161.29060 | 197874.77409 | 220404.01991 | 24 ° 19' 3.44" |
| | 161.44720 | 0+161.44720 | 197874.91682 | 220404.08433 | 24 ° 16' 3.99" |
| | 163.50290 | 0+163.50290 | 197876.79565 | 220404.91851 | 23 ° 36' 48.33" |
| | 166.04780 | 0+166.04780 | 197879.13459 | 220405.92138 | 22 ° 48' 12.09" |
| | 180.00000 | 0+180.00000 | 197892.19289 | 220410.82520 | 18 ° 21' 44.04" |
| | 180.86120 | 0+180.86120 | 197893.01088 | 220411.09454 | 18 ° 5' 17.18" |
| EC | 185.47169 | 0+185.47169 | 197897.41138 | 220412.46972 | 16 ° 37' 13.95" |

IP5 (좌향)

| 구 분 | 크 로 소 이 드 | | 교각(1A) | 5 ° 56' 43.16" | |
|------|-----------|--------------|--------|----------------|-----------------|
| IP좌표 | X | 197909.35524 | 방위각 | 1 | 16 ° 37' 13.95" |
| | Y | 220416.03500 | | 2 | 10 ° 40' 30.79" |

| | | | | | |
|-----|-----------|----------|--------------|-----|---------|
| R 1 | 180.00000 | A | 82.00000 | R 2 | 0.00000 |
| L 1 | 37.35556 | 원중심 좌표 1 | | L 2 | 0.00000 |
| X 1 | 37.31535 | X | 197948.89712 | X 2 | 0.00000 |
| Y 1 | 1.29108 | Y 2 | 220239.99011 | Y 2 | 0.00000 |
| T 1 | 0.10377 | 원중심 좌표 2 | | T 2 | 0.00000 |
| TL1 | 24.91776 | X | 0.00000 | TL2 | 0.00000 |
| TK1 | 12.46463 | Y 2 | 0.00000 | TK2 | 0.00000 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| K E | 185.47169 | 197897.41138 | 220412.46972 |
| K A | 222.82725 | 197933.84175 | 220420.65081 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|-----------------|
| KE | 185.47169 | 0+185.47169 | 197897.41138 | 220412.46972 | 16 ° 37' 13.95" |
| | 187.68220 | 0+187.68220 | 197899.53329 | 220413.08923 | 15 ° 56' 15.84" |

| | | | | | |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 200.00000 | 0+200.00000 | 197911.46756 | 220416.13319 | 12 ° 53' 43.14" |
| | 200.66470 | 0+200.66470 | 197912.11566 | 220416.28081 | 12 ° 46' 4.46" |
| | 200.69090 | 0+200.69090 | 197912.14121 | 220416.28659 | 12 ° 45' 46.66" |
| | 209.37920 | 0+209.37920 | 197920.63786 | 220418.10048 | 11 ° 26' 44.66" |
| | 220.00000 | 0+220.00000 | 197931.06354 | 220420.12654 | 10 ° 42' 33.39" |
| | 221.68120 | 0+221.68120 | 197932.71555 | 220420.43848 | 10 ° 40' 50.94" |
| KA | 222.82725 | 0+222.82725 | 197933.84175 | 220420.65081 | 10 ° 40' 30.79" |

IP6 (우향)

| 구분 | 크로소이드 | | 교각(IA) | 3 ° 42' 44.30" | |
|------|-------|--------------|--------|----------------|-----------------|
| IP좌표 | X | 197959.31559 | 방위각 | 1 | 10 ° 40' 30.79" |
| | Y | 220425.45273 | | 2 | 14 ° 23' 15.09" |

| | | | | | |
|-----|---------|----------|--------------|-----|-----------|
| R 1 | 0.00000 | A | 107.99328 | R 2 | 300.00000 |
| L 1 | 0.00000 | 원중심 좌표 1 | | L 2 | 38.87516 |
| X 1 | 0.00000 | X | 0.00000 | X 2 | 38.85884 |
| Y 1 | 0.00000 | Y 2 | 0.00000 | Y 2 | 0.83935 |
| T 1 | 0.00000 | 원중심 좌표 2 | | T 2 | 0.06479 |
| TL1 | 0.00000 | X | 197897.32889 | TL2 | 25.92247 |
| TK1 | 0.00000 | Y 2 | 220719.26509 | TK2 | 12.96357 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| K A | 222.82725 | 197933.84175 | 220420.65081 |
| K E | 261.70241 | 197971.87258 | 220428.67391 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|-----------------|
| KA | 222.82725 | 0+222.82725 | 197933.84175 | 220420.65081 | 10 ° 40' 30.79" |
| | 226.84500 | 0+226.84500 | 197937.78980 | 220421.39598 | 10 ° 42' 53.54" |
| | 228.82350 | 0+228.82350 | 197939.73366 | 220421.76460 | 10 ° 45' 48.74" |
| | 229.15360 | 0+229.15360 | 197940.05794 | 220421.82627 | 10 ° 46' 24.71" |
| | 229.26370 | 0+229.26370 | 197940.16610 | 220421.84686 | 10 ° 46' 37.14" |
| | 231.24710 | 0+231.24710 | 197942.11430 | 220422.21890 | 10 ° 50' 57.71" |
| | 240.00000 | 0+240.00000 | 197950.70362 | 220423.90299 | 11 ° 23' 58.63" |
| | 242.50000 | 0+242.50000 | 197953.15334 | 220424.40184 | 11 ° 37' 33.20" |
| | 253.20000 | 0+253.20000 | 197963.61001 | 220426.66967 | 12 ° 56' 28.53" |
| | 256.90000 | 0+256.90000 | 197967.21182 | 220427.51636 | 13 ° 31' 37.14" |
| | 258.70000 | 0+258.70000 | 197968.96075 | 220427.94206 | 13 ° 50' 10.50" |
| | 259.20000 | 0+259.20000 | 197969.44615 | 220428.06201 | 13 ° 55' 29.93" |
| | 260.00000 | 0+260.00000 | 197970.22240 | 220428.25551 | 14 ° 4' 10.23" |
| KE | 261.70241 | 0+261.70241 | 197971.87258 | 220428.67391 | 14 ° 23' 15.09" |

IP7 (우향)

| 구분 | 원 곡 선 | | 교각(IA) | 12° 31' 4.41" | |
|------|-------|--------------|--------|---------------|----------------|
| IP좌표 | X | 198003.74341 | 방위각 | 1 | 14° 23' 15.09" |
| | Y | 220436.84955 | | 2 | 26° 54' 19.50" |

| | | | | | | |
|---------|---|--------------|-----|-----------|-----|----------|
| 원 중심 좌표 | X | 197897.32889 | R | 300.00000 | C L | 65.54353 |
| | Y | 220719.26509 | T L | 32.90275 | S L | 1.79892 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 261.70241 | 197971.87258 | 220428.67391 |
| E C | 327.24594 | 198033.08460 | 220451.73867 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|----------------|
| BC | 261.70241 | 0+261.70241 | 197971.87258 | 220428.67391 | 14° 23' 15.09" |
| | 264.23960 | 0+264.23960 | 197974.32751 | 220429.31473 | 14° 52' 19.53" |
| | 264.80000 | 0+264.80000 | 197974.86900 | 220429.45907 | 14° 58' 44.83" |
| | 268.70000 | 0+268.70000 | 197978.62982 | 220430.49155 | 15° 43' 26.28" |
| | 280.00000 | 0+280.00000 | 197989.44672 | 220433.75799 | 17° 52' 55.59" |
| | 283.40000 | 0+283.40000 | 197992.67648 | 220434.82031 | 18° 31' 53.25" |
| | 290.10000 | 0+290.10000 | 197999.00478 | 220437.02049 | 19° 48' 39.83" |
| | 291.10000 | 0+291.10000 | 197999.94503 | 220437.36098 | 20° 0' 7.38" |
| | 292.00000 | 0+292.00000 | 198000.79027 | 220437.67010 | 20° 10' 26.18" |
| | 300.00000 | 0+300.00000 | 198008.26180 | 220440.52886 | 21° 42' 6.57" |
| | 301.99840 | 0+301.99840 | 198010.11608 | 220441.27400 | 22° 5' 0.57" |
| | 304.82380 | 0+304.82380 | 198012.72916 | 220442.34854 | 22° 37' 23.17" |
| | 311.30240 | 0+311.30240 | 198018.68189 | 220444.90502 | 23° 51' 37.53" |
| | 320.00000 | 0+320.00000 | 198026.58403 | 220448.53809 | 25° 31' 17.56" |
| | 327.24594 | 0+327.24594 | 198033.08460 | 220451.73867 | 26° 54' 19.50" |
| EC | | | | | |

IP8 (우향)

| 구분 | 크 로 소 이 드 | | 교각(IA) | 4° 42' 35.45" | |
|------|-----------|--------------|--------|---------------|----------------|
| IP좌표 | X | 198047.75491 | 방위각 | 1 | 26° 54' 19.50" |
| | Y | 220459.18309 | | 2 | 31° 36' 54.95" |

| | | | | | |
|-----|-----------|-----------|--------------|-----|---------|
| R 1 | 300.00000 | A | 121.64055 | R 2 | 0.00000 |
| L 1 | 49.32141 | 원중심 좌표 1' | | L 2 | 0.00000 |
| X 1 | 49.28809 | X | 197897.32889 | X 2 | 0.00000 |
| Y 1 | 1.35079 | Y 2 | 220719.26509 | Y 2 | 0.00000 |
| T 1 | 0.08220 | 원중심 좌표 2 | | T 2 | 0.00000 |
| TL1 | 32.89259 | X | 0.00000 | TL2 | 0.00000 |
| TK1 | 16.45106 | Y 2 | 0.00000 | TK2 | 0.00000 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| K E | 327.24594 | 198033.08460 | 220451.73867 |
| K A | 376.56735 | 198075.76581 | 220476.42580 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|----------------|
| KE | 327.24594 | 0+327.24594 | 198033.08460 | 220451.73867 | 26° 54' 19.50" |
| | 336.71480 | 0+336.71480 | 198041.46400 | 220456.14762 | 28° 32' 24.88" |
| | 337.91970 | 0+337.91970 | 198042.52156 | 220456.72499 | 28° 43' 24.14" |
| | 340.00000 | 0+340.00000 | 198044.34320 | 220457.72960 | 29° 1' 34.75" |
| | 346.68000 | 0+346.68000 | 198050.15882 | 220461.01596 | 29° 53' 8.89" |
| | 350.28170 | 0+350.28170 | 198053.27527 | 220462.82148 | 30° 16' 39.07" |
| | 351.59560 | 0+351.59560 | 198054.40919 | 220463.48524 | 30° 24' 28.49" |
| | 358.57180 | 0+358.57180 | 198060.40681 | 220467.04832 | 30° 59' 17.76" |
| | 359.74230 | 0+359.74230 | 198061.40982 | 220467.65166 | 31° 4' 1.84" |
| | 360.00000 | 0+360.00000 | 198061.63054 | 220467.78468 | 31° 5' 1.82" |
| | 371.86730 | 0+371.86730 | 198071.76270 | 220473.96297 | 31° 34' 20.98" |
| KA | 376.56735 | 0+376.56735 | 198075.76581 | 220476.42580 | 31° 36' 54.95" |

IP9 (우향)

| 구분 | 원 곡 선 | | 교각(IA) | 0° 0' 0.00" | |
|------|-------|--------------|--------|-------------|----------------|
| IP좌표 | X | 198090.66193 | 방위각 | 1 | 31° 36' 54.95" |
| | Y | 220485.59542 | | 2 | 31° 36' 54.95" |

| | | | | | | |
|---------|---|---------|-----|---------|-----|---------|
| 원 중심 좌표 | X | 0.00000 | R | 0.00000 | C L | 0.00000 |
| | Y | 0.00000 | T L | 0.00000 | S L | 0.00000 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 376.56735 | 198075.76581 | 220476.42580 |
| E C | 411.55170 | 198105.55804 | 220494.76504 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|----------------|
| BC | 376.56735 | 0+376.56735 | 198075.76581 | 220476.42580 | 31° 36' 54.95" |
| | 380.00000 | 0+380.00000 | 198078.68902 | 220478.22524 | 31° 36' 54.95" |
| | 381.59630 | 0+381.59630 | 198080.04840 | 220479.06204 | 31° 36' 54.95" |
| | 387.15910 | 0+387.15910 | 198084.78561 | 220481.97813 | 31° 36' 54.95" |
| | 387.92980 | 0+387.92980 | 198085.44193 | 220482.38214 | 31° 36' 54.95" |
| | 388.44530 | 0+388.44530 | 198085.88093 | 220482.65237 | 31° 36' 54.95" |
| | 398.60930 | 0+398.60930 | 198094.53646 | 220487.98047 | 31° 36' 54.95" |
| | 400.00000 | 0+400.00000 | 198095.72076 | 220488.70950 | 31° 36' 54.95" |
| EC | 411.55170 | 0+411.55170 | 198105.55804 | 220494.76504 | 31° 36' 54.95" |
| EC | 411.55170 | 0+411.55170 | 198105.55804 | 220494.76504 | 31° 36' 54.95" |

EP

| | | | | |
|-------|---|--------------|-----|-----------------|
| EP 좌표 | X | 198105.55804 | 방위각 | 31 ° 36' 54.95" |
| | Y | 220494.76504 | | |

카. 군도21호선

BP

| | | | | |
|-------|---|--------------|-----|----------------|
| BP 좌표 | X | 198162.75078 | 방위각 | 66 ° 0' 34.98" |
| | Y | 218032.54761 | | |

IP1 (좌향)

| | | | | | |
|-----|---|-----------------|-------|---|--------------|
| 구 분 | | 원 곡 선 | I P좌표 | X | 198171.22597 |
| | | | | Y | 218051.59189 |
| 방위각 | 1 | 66 ° 0' 34.98" | 원중심좌표 | X | 198220.73767 |
| | 2 | 41 ° 28' 17.55" | | Y | 218015.27596 |

| | | | | | |
|-----|-----------------|-----|--------------|-----|--------------|
| I A | 24 ° 32' 17.43" | R | 60.00000 | D T | 20.84499 |
| T L | 13.04821 | S L | 1.40241 | C L | 25.69632 |
| S D | 7.79678 | SPX | 198172.35680 | SPY | 218050.76245 |

| | | | |
|-----|----------|--------------|--------------|
| 구분 | 누가거리 | X 좌표 | Y 좌표 |
| B C | 7.79678 | 198165.92081 | 218039.67086 |
| E C | 33.49309 | 198181.00279 | 218060.23304 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|----------|-------------|--------------|--------------|-----------------|
| BP | 0.00000 | 0+ 0.00000 | 198162.75078 | 218032.54761 | 66 ° 0' 34.98" |
| BC | 7.79678 | 0+ 7.79678 | 198165.92081 | 218039.67086 | 66 ° 0' 34.98" |
| | 18.13800 | 0+ 18.13800 | 198170.91675 | 218048.71060 | 56 ° 8' 4.48" |
| | 20.00000 | 0+ 20.00000 | 198171.97816 | 218050.24037 | 54 ° 21' 23.39" |
| EC | 33.49309 | 0+ 33.49309 | 198181.00279 | 218060.23304 | 41 ° 28' 17.55" |
| EC | 33.49309 | 0+ 33.49309 | 198181.00279 | 218060.23304 | 41 ° 28' 17.55" |

IP2 (우향)

| | | | | | |
|-----|---|-----------------|-------|---|--------------|
| 구 분 | | 원 곡 선 | I P좌표 | X | 198201.37771 |
| | | | | Y | 218078.24121 |
| 방위각 | 1 | 41 ° 28' 17.55" | 원중심좌표 | X | 198134.64543 |
| | 2 | 83 ° 55' 48.98" | | Y | 218112.68297 |

| | | | | | |
|-----|-----------------|-----|--------------|-----|--------------|
| I A | 42 ° 27' 31.43" | R | 70.00000 | D T | 40.24070 |
| T L | 27.19249 | S L | 5.09615 | C L | 51.87312 |
| S D | 0.00000 | SPX | 198196.84915 | SPY | 218080.57848 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|----------|--------------|--------------|
| B C | 33.49309 | 198181.00279 | 218060.23304 |
| E C | 85.36621 | 198204.25301 | 218105.28126 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|----------|-------------|--------------|--------------|-----------------|
| | 40.00000 | 0+ 40.00000 | 198185.67116 | 218064.76246 | 46 ° 47' 51.08" |
| | 42.13780 | 0+ 42.13780 | 198187.11063 | 218066.34289 | 48 ° 32' 50.40" |
| | 60.00000 | 0+ 60.00000 | 198197.10866 | 218081.08637 | 63 ° 10' 3.88" |
| | 63.99950 | 0+ 63.99950 | 198198.81105 | 218084.70487 | 66 ° 26' 28.96" |
| | 80.00000 | 0+ 80.00000 | 198203.48171 | 218099.97209 | 79 ° 32' 16.68" |
| | 84.18230 | 0+ 84.18230 | 198204.11787 | 218104.10510 | 82 ° 57' 40.41" |
| EC | 85.36621 | 0+ 85.36621 | 198204.25301 | 218105.28126 | 83 ° 55' 48.98" |

IP3 (좌향)

| 구 분 | | 원 곡 선 | I P좌표 | X | 198211.04354 |
|-----|---|-----------------|-------|---|--------------|
| | | | | Y | 218169.14114 |
| 방위각 | 1 | 83 ° 55' 48.98" | 원중심좌표 | X | 198416.94215 |
| | 2 | 68 ° 55' 35.16" | | Y | 218119.43686 |

| | | | | | |
|-----|----------------|-----|--------------|-----|--------------|
| I A | 15 ° 0' 13.82" | R | 210.00000 | D T | 91.41239 |
| T L | 27.65418 | S L | 1.81302 | C L | 54.99194 |
| S D | 36.56572 | SPX | 198212.80593 | SPY | 218168.71569 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 121.93193 | 198208.11942 | 218141.64199 |
| E C | 176.92387 | 198220.98705 | 218194.94579 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|----------------|
| | 99.20460 | 0+ 99.20460 | 198205.71626 | 218119.04207 | 83° 55' 48.98" |
| | 100.00000 | 0+100.00000 | 198205.80037 | 218119.83301 | |
| | 101.20760 | 0+101.20760 | 198205.92806 | 218121.03384 | |
| | 104.21220 | 0+104.21220 | 198206.24576 | 218124.02159 | |
| | 108.21820 | 0+108.21820 | 198206.66935 | 218128.00514 | |
| | 120.00000 | 0+120.00000 | 198207.91514 | 218139.72089 | |
| BC | 121.93193 | 0+121.93193 | 198208.11942 | 218141.64199 | 83° 55' 48.98" |
| | 124.24180 | 0+124.24180 | 198208.37629 | 218143.93752 | 83° 18' 0.19" |
| | 133.24480 | 0+133.24480 | 198209.61799 | 218152.85378 | 80° 50' 37.33" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|----|-----------|-------------|--------------|--------------|----------------|
| | 140.00000 | 0+140.00000 | 198210.80000 | 218159.50447 | 79° 0' 2.28" |
| | 141.70770 | 0+141.70770 | 198211.13264 | 218161.17946 | 78° 32' 4.95" |
| | 144.24950 | 0+144.24950 | 198211.65294 | 218163.66742 | 77° 50' 28.36" |
| | 160.00000 | 0+160.00000 | 198215.54437 | 218178.92582 | 73° 32' 38.01" |
| | 161.32060 | 0+161.32060 | 198215.92245 | 218180.19114 | 73° 11' 0.90" |
| | 161.71900 | 0+161.71900 | 198216.03808 | 218180.57239 | 73° 4' 29.59" |
| | 164.35580 | 0+164.35580 | 198216.82152 | 218183.09009 | 72° 21' 19.69" |
| EC | 176.92387 | 0+176.92387 | 198220.98705 | 218194.94579 | 68° 55' 35.16" |

IP4 (우향)

| 구 분 | | 원 곡 선 | I P좌표 | X | 198268.29593 |
|-----|---|----------------|-------|---|--------------|
| | | | | Y | 218317.71824 |
| 방위각 | 1 | 68° 55' 35.16" | 원중심좌표 | X | 198141.60863 |
| | 2 | 106° 35' 2.41" | | Y | 218322.68424 |

| | | | | | |
|-----|----------------|-----|--------------|-----|--------------|
| I A | 37° 39' 27.25" | R | 120.00000 | D T | 159.22622 |
| T L | 40.91862 | S L | 6.78459 | C L | 78.86983 |
| S D | 90.65343 | SPX | 198261.51654 | SPY | 218317.98398 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 267.57730 | 198253.58297 | 218279.53628 |
| E C | 346.44712 | 198256.61690 | 218356.93473 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|----------------|
| | 180.00000 | 0+180.00000 | 198222.09312 | 218197.81619 | 68° 55' 35.16" |
| | 181.77830 | 0+181.77830 | 198222.73254 | 218199.47556 | |
| | 184.72000 | 0+184.72000 | 198223.79028 | 218202.22051 | |
| | 186.83980 | 0+186.83980 | 198224.55249 | 218204.19854 | |
| | 200.00000 | 0+200.00000 | 198229.28445 | 218216.47858 | |
| | 201.87990 | 0+201.87990 | 198229.96040 | 218218.23275 | |
| | 205.10040 | 0+205.10040 | 198231.11838 | 218221.23786 | |
| | 205.15550 | 0+205.15550 | 198231.13819 | 218221.28928 | |
| | 206.09940 | 0+206.09940 | 198231.47759 | 218222.17005 | |
| | 206.45890 | 0+206.45890 | 198231.60685 | 218222.50551 | |
| | 207.54210 | 0+207.54210 | 198231.99634 | 218223.51626 | |
| | 208.07120 | 0+208.07120 | 198232.18658 | 218224.00997 | |
| | 218.51430 | 0+218.51430 | 198235.94157 | 218233.75464 | |
| | 220.00000 | 0+220.00000 | 198236.47578 | 218235.14097 | |
| | 225.59100 | 0+225.59100 | 198238.48611 | 218240.35804 | |
| | 229.94560 | 0+229.94560 | 198240.05188 | 218244.42140 | |
| | 240.00000 | 0+240.00000 | 198243.66710 | 218253.80336 | |
| | 241.89460 | 0+241.89460 | 198244.34834 | 218255.57125 | |

| | | | | | |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 246.02650 | 0+246.02650 | 198245.83403 | 218259.42681 | |
| | 251.65640 | 0+251.65640 | 198247.85835 | 218264.68018 | |
| | 260.00000 | 0+260.00000 | 198250.85843 | 218272.46575 | |
| | 265.27490 | 0+265.27490 | 198252.75511 | 218277.38786 | |
| | 266.46200 | 0+266.46200 | 198253.18195 | 218278.49557 | |
| BC | 267.57730 | 0+267.57730 | 198253.58297 | 218279.53628 | 68° 55' 35.16" |
| | 274.50930 | 0+274.50930 | 198255.88732 | 218286.07304 | 72° 14' 10.40" |
| | 280.00000 | 0+280.00000 | 198257.44231 | 218291.33845 | 74° 51' 28.22" |
| | 286.66010 | 0+286.66010 | 198259.00278 | 218297.81228 | 78° 2' 16.09" |
| | 299.34130 | 0+299.34130 | 198260.97138 | 218310.33377 | 84° 5' 33.46" |
| | 300.00000 | 0+300.00000 | 198261.03737 | 218310.98916 | 84° 24' 25.68" |
| | 306.69610 | 0+306.69610 | 198261.50374 | 218317.66813 | 87° 36' 15.43" |
| | 314.45090 | 0+314.45090 | 198261.57741 | 218325.42123 | 91° 18' 24.95" |
| | 320.00000 | 0+320.00000 | 198261.32265 | 218330.96398 | 93° 57' 23.15" |
| | 327.14600 | 0+327.14600 | 198260.61768 | 218338.07406 | 97° 22' 6.22" |
| | 331.25380 | 0+331.25380 | 198260.02124 | 218342.13813 | 99° 19' 47.01" |
| | 339.94790 | 0+339.94790 | 198258.30237 | 218350.65868 | 103° 28' 51.07" |
| | 340.00000 | 0+340.00000 | 198258.29022 | 218350.70934 | 103° 30' 20.62" |
| | 343.83590 | 0+343.83590 | 198257.33492 | 218354.42422 | 105° 20' 14.05" |
| EC | 346.44712 | 0+346.44712 | 198256.61690 | 218356.93473 | 106° 35' 2.41" |

IP5 (좌향)

| 구분 | | 원곡선 | IP좌표 | X | 198238.37141 |
|-----|---|----------------|-------|---|--------------|
| | | | | Y | 218418.20050 |
| 방위각 | 1 | 106° 35' 2.41" | 원중심좌표 | X | 198311.26790 |
| | 2 | 22° 41' 5.72" | | Y | 218383.64042 |

| | | | | | |
|-----|----------------|-----|--------------|-----|--------------|
| I A | 83° 53' 56.69" | R | 60.00000 | D T | 104.84351 |
| T L | 53.92864 | S L | 20.67402 | C L | 87.85891 |
| S D | 9.99626 | SPX | 198257.05231 | SPY | 218409.34392 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 356.44339 | 198253.76376 | 218366.51517 |
| E C | 444.30230 | 198288.12811 | 218438.99879 |

| 구분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 348.69580 | 0+348.69580 | 198255.97509 | 218359.08987 | 106° 35' 2.41" |
| | 355.11840 | 0+355.11840 | 198254.14194 | 218365.24530 | |
| BC | 356.44339 | 0+356.44339 | 198253.76376 | 218366.51517 | 106° 35' 2.41" |
| | 360.00000 | 0+360.00000 | 198252.85022 | 218369.95192 | 103° 11' 15.67" |
| | 370.26690 | 0+370.26690 | 198251.37249 | 218380.09926 | 93° 23' 0.67" |
| | 380.00000 | 0+380.00000 | 198251.58691 | 218389.81933 | 84° 5' 20.73" |

부산외곽순환 고속도로 건설공사 실시설계

| | | | | | |
|----|-----------|-------------|--------------|--------------|-----------------|
| | 390.38850 | 0+390.38850 | 198253.54373 | 218400.00866 | 74 ° 10' 7.70" |
| | 400.00000 | 0+400.00000 | 198256.89364 | 218409.00653 | 64 ° 59' 25.80" |
| | 411.36770 | 0+411.36770 | 198262.64383 | 218418.79294 | 54 ° 8' 6.53" |
| | 420.00000 | 0+420.00000 | 198268.18622 | 218425.40127 | 45 ° 53' 30.86" |
| | 437.31580 | 0+437.31580 | 198281.85334 | 218435.93558 | 29 ° 21' 23.53" |
| | 440.00000 | 0+440.00000 | 198284.22150 | 218437.19872 | 26 ° 47' 35.93" |
| EC | 444.30230 | 0+444.30230 | 198288.12811 | 218438.99879 | 22 ° 41' 5.72" |

IP6 (좌향)

| 구 분 | 원 곡 선 | I P좌표 | X | 198450.32131 |
|-----|-------|----------------|---|--------------|
| | | | Y | 218506.79554 |
| 방위각 | 1 | 22 ° 41' 5.72" | X | 198481.43569 |
| | 2 | 7 ° 5' 9.74" | Y | 218389.73973 |

| | | | | | |
|-----|-----------------|-----|--------------|-----|--------------|
| I A | 15 ° 35' 55.98" | R | 120.00000 | D T | 229.72123 |
| T L | 16.43676 | S L | 1.12047 | C L | 32.67023 |
| S D | 159.35582 | SPX | 198450.60914 | SPY | 218505.71268 |

| 구분 | 누가거리 | X 좌표 | Y 좌표 |
|-----|-----------|--------------|--------------|
| B C | 603.65812 | 198435.15610 | 218500.45648 |
| E C | 636.32835 | 198466.63253 | 218508.82317 |

| 구 분 | 누가거리 | 측점(STA.) | X좌표 | Y좌표 | 방위각 |
|-----|-----------|-------------|--------------|--------------|----------------|
| | 460.00000 | 0+460.00000 | 198302.61143 | 218445.05282 | 22° 41' 5.72" |
| | 474.51730 | 0+474.51730 | 198316.00566 | 218450.65161 | |
| | 480.00000 | 0+480.00000 | 198321.06422 | 218452.76609 | |
| | 500.00000 | 0+500.00000 | 198339.51701 | 218460.47935 | |
| | 512.35570 | 0+512.35570 | 198350.91687 | 218465.24449 | |
| | 520.00000 | 0+520.00000 | 198357.96981 | 218468.19262 | |
| | 540.00000 | 0+540.00000 | 198376.42260 | 218475.90588 | |
| | 550.19410 | 0+550.19410 | 198385.82808 | 218479.83737 | |
| | 560.00000 | 0+560.00000 | 198394.87539 | 218483.61915 | |
| | 580.00000 | 0+580.00000 | 198413.32818 | 218491.33242 | |
| | 588.03240 | 0+588.03240 | 198420.73919 | 218494.43022 | |
| | 600.00000 | 0+600.00000 | 198431.78097 | 218499.04568 | |
| BC | 603.65812 | 0+603.65812 | 198435.15610 | 218500.45648 | 22° 41' 5.72" |
| | 620.00000 | 0+620.00000 | 198450.61568 | 218505.71441 | 14° 52' 56.10" |
| | 631.14390 | 0+631.14390 | 198461.50310 | 218508.07270 | 9° 33' 41.15" |
| EC | 636.32835 | 0+636.32835 | 198466.63253 | 218508.82317 | 7° 5' 9.74" |
| | 640.00000 | 0+640.00000 | 198470.27614 | 218509.27611 | |
| EP | 650.14409 | 0+650.14409 | 198480.34275 | 218510.52748 | |

EP

| | | | | |
|-------|---|--------------|-----|-------------|
| EP 좌표 | X | 198480.34275 | 방위각 | 7° 5' 9.74" |
| | Y | 218510.52748 | | |

6.2 종단선형 계산서

6.2.1 본선

가. STA. 0+000~STA.0+210(일반구간,기장방향)

BP

| 구 분 | STATION | 지반고 | 계획고 | ELEV | 절성고 |
|-----|-------------|--------|--------|--------|--------|
| BP | -2-300.0000 | 162.06 | 140.38 | 140.38 | -21.68 |

| 측점(STA.) | 지 반 고 | 계 획 고 | ELEV | 절 성 고 | 종 거 |
|-------------|--------|--------|--------|--------|--------|
| -2-300.0000 | 162.06 | 140.38 | 140.38 | -21.68 | 0.0000 |
| -2-294.5000 | 163.19 | 140.30 | 140.30 | -22.89 | 0.0000 |
| -2-288.2000 | 162.76 | 140.21 | 140.21 | -22.55 | 0.0000 |
| -2-280.0000 | 160.00 | 140.09 | 140.09 | -19.91 | 0.0000 |
| -2-260.0000 | 152.08 | 139.80 | 139.80 | -12.28 | 0.0000 |
| -2-242.5000 | 147.35 | 139.55 | 139.55 | -7.80 | 0.0000 |
| -2-241.9000 | 146.75 | 139.54 | 139.54 | -7.21 | 0.0000 |
| -2-240.4000 | 146.55 | 139.52 | 139.52 | -7.03 | 0.0000 |
| -2-240.4000 | 146.05 | 139.52 | 139.52 | -6.53 | 0.0000 |
| -2-240.0000 | 145.95 | 139.51 | 139.51 | -6.44 | 0.0000 |
| -2-220.0000 | 140.54 | 139.22 | 139.22 | -1.32 | 0.0000 |
| -2-207.5000 | 137.55 | 139.04 | 139.04 | +1.49 | 0.0000 |
| -2-205.0000 | 137.55 | 139.01 | 139.01 | +1.46 | 0.0000 |
| -2-200.0000 | 138.03 | 138.94 | 138.94 | +0.91 | 0.0000 |
| -2-180.0000 | 140.10 | 138.65 | 138.65 | -1.45 | 0.0000 |
| -2-160.0000 | 143.34 | 138.36 | 138.36 | -4.98 | 0.0000 |
| -2-140.0000 | 147.79 | 138.07 | 138.07 | -9.72 | 0.0000 |
| -2-120.0000 | 151.07 | 137.78 | 137.78 | -13.29 | 0.0000 |
| -2-100.0000 | 153.23 | 137.49 | 137.49 | -15.74 | 0.0000 |
| -2- 80.0000 | 153.77 | 137.20 | 137.20 | -16.57 | 0.0000 |
| -2- 60.0000 | 152.35 | 136.91 | 136.91 | -15.44 | 0.0000 |
| -2- 52.0000 | 152.12 | 136.80 | 136.80 | -15.32 | 0.0000 |
| -2- 40.0000 | 148.40 | 136.62 | 136.62 | -11.78 | 0.0000 |
| -2- 20.0000 | 142.25 | 136.33 | 136.33 | -5.92 | 0.0000 |