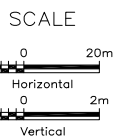
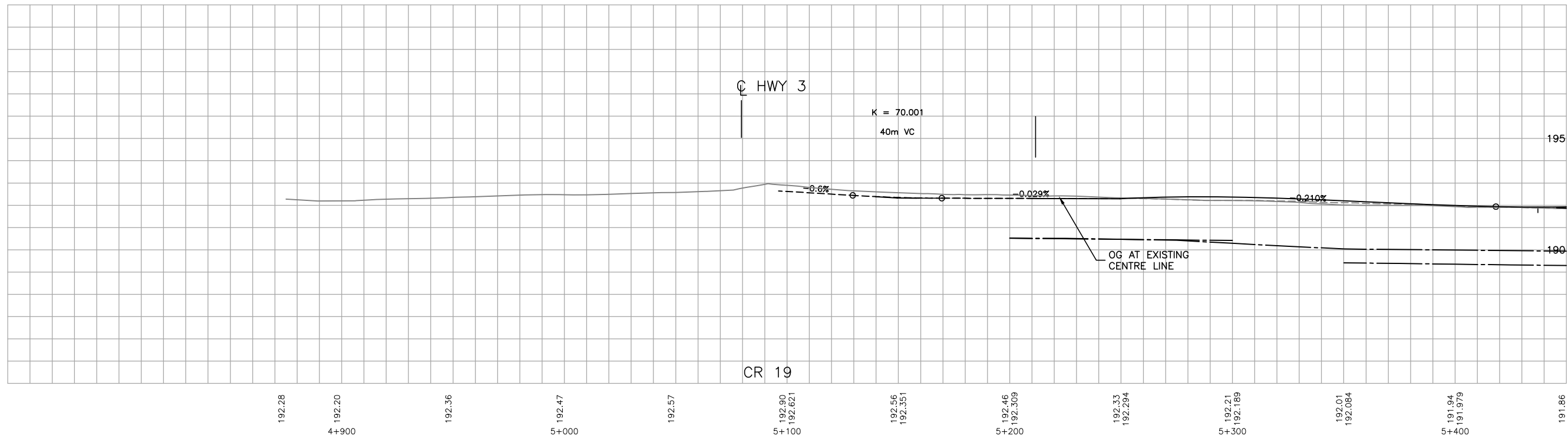
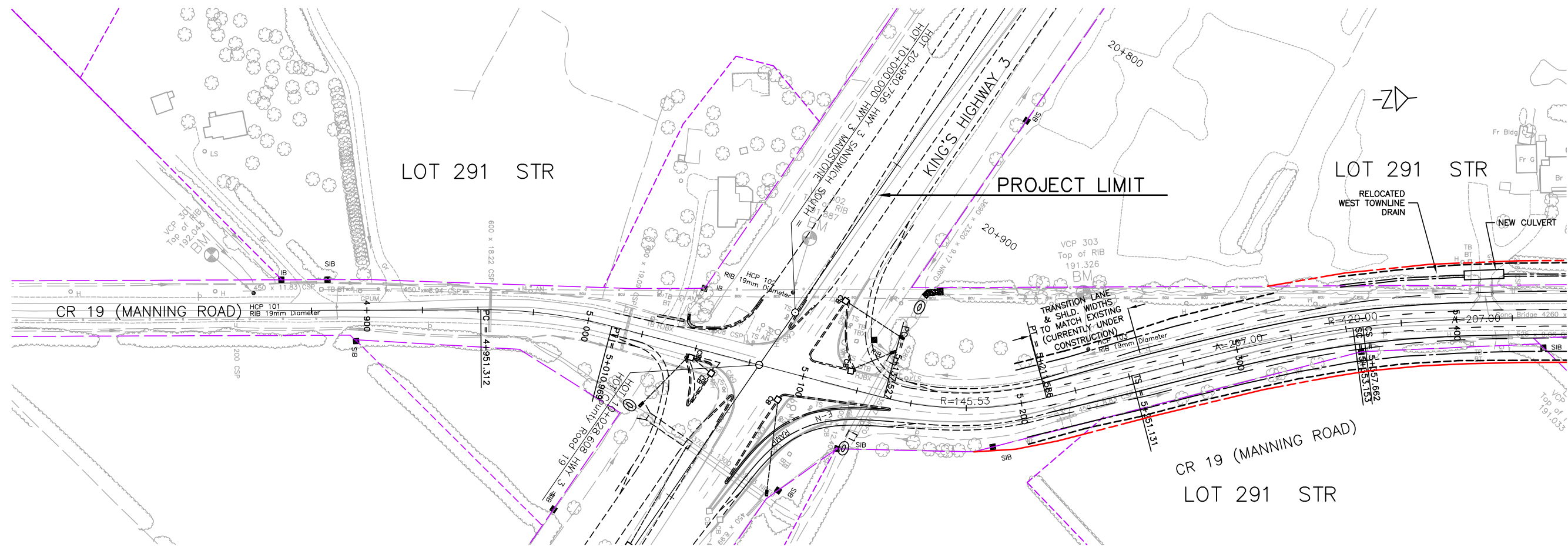


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**APPENDIX E**  
**PLAN, PROFILE AND TYPICAL SECTIONS**

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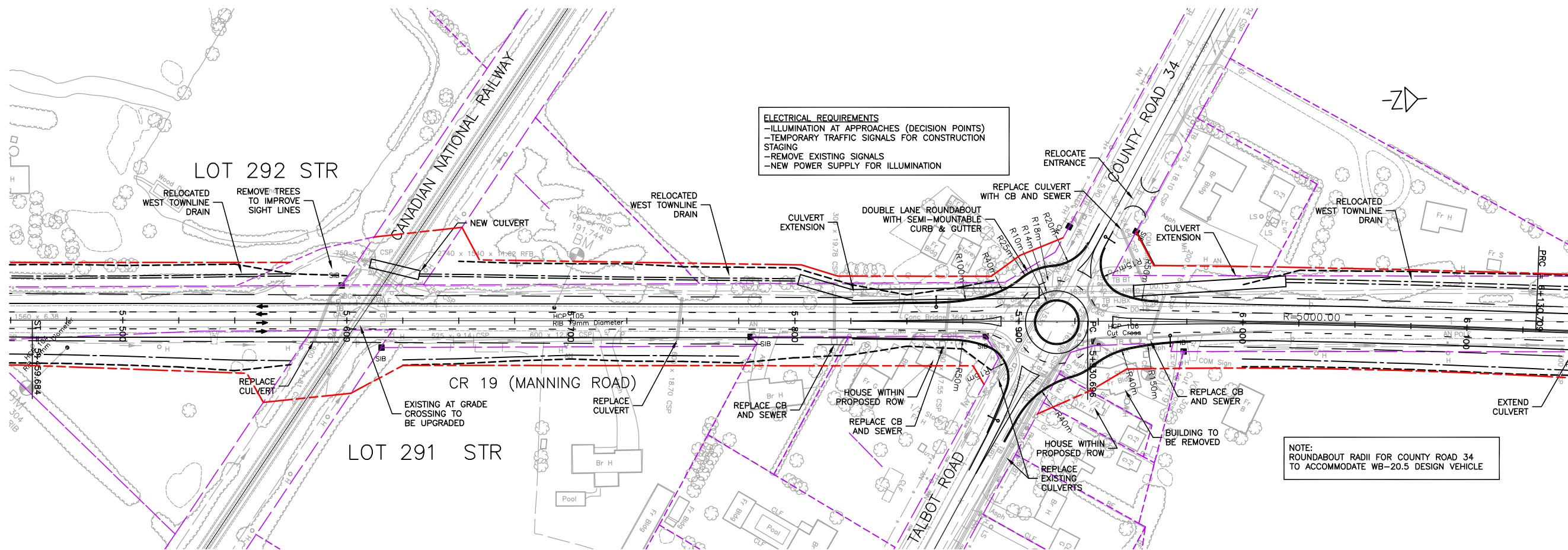




- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

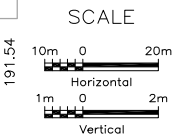
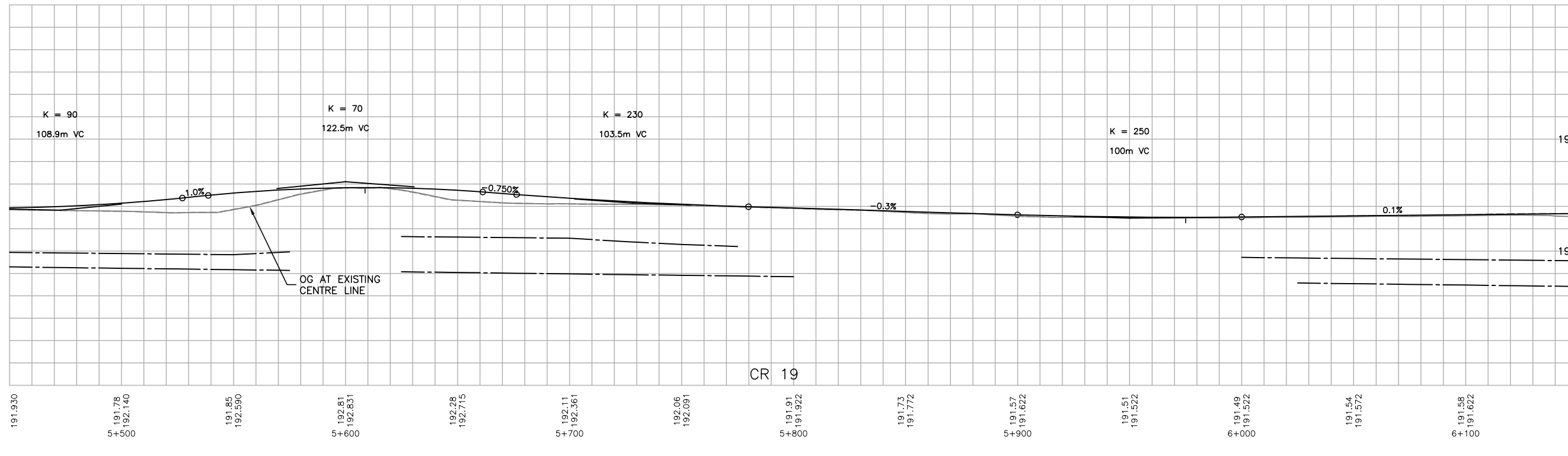
**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19**  
**PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET 1**



**ELECTRICAL REQUIREMENTS**  
 -ILLUMINATION AT APPROACHES (DECISION POINTS)  
 -TEMPORARY TRAFFIC SIGNALS FOR CONSTRUCTION STAGING  
 -REMOVE EXISTING SIGNALS  
 -NEW POWER SUPPLY FOR ILLUMINATION

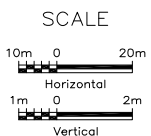
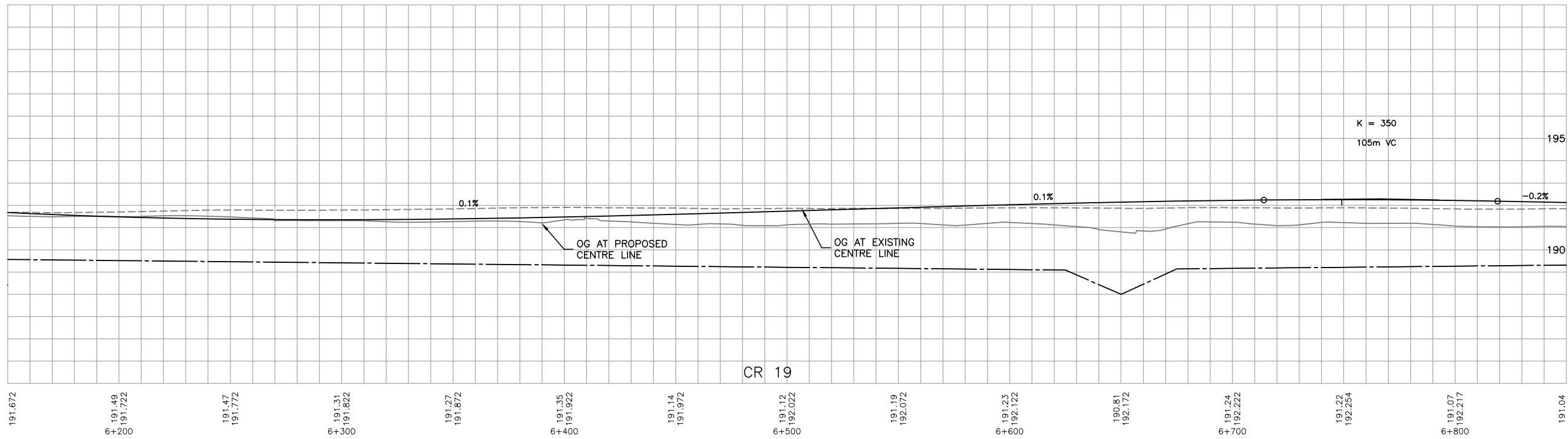
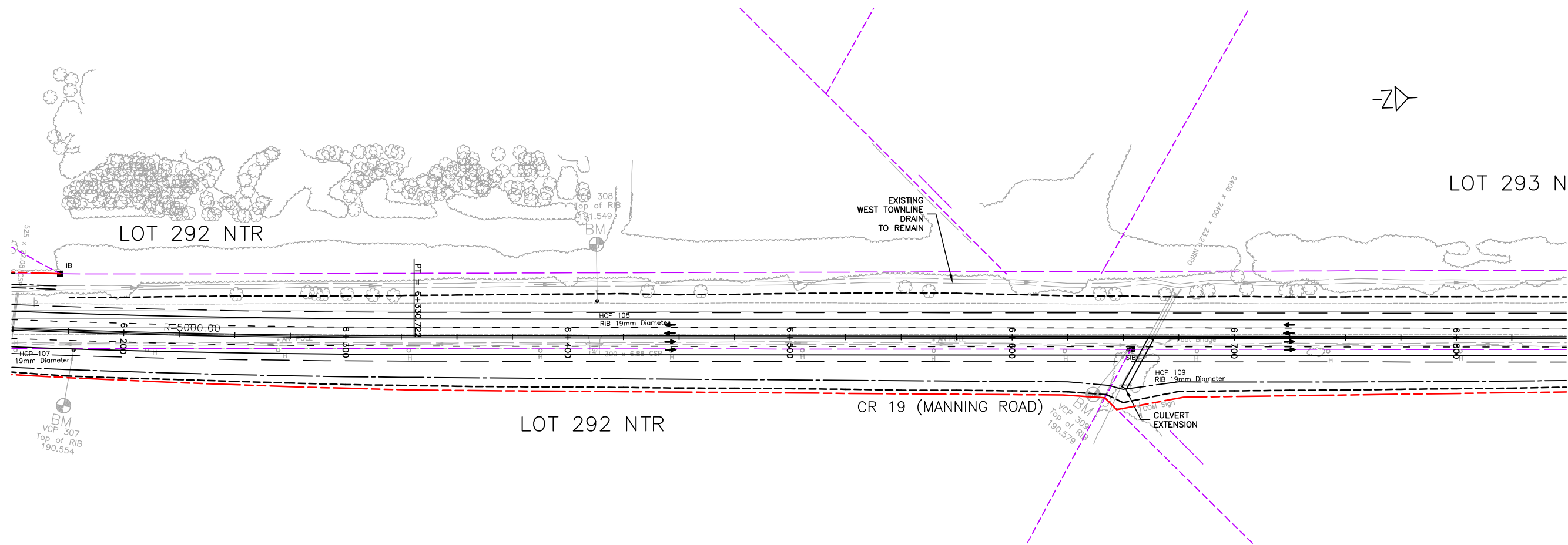
NOTE:  
 ROUNDABOUT RADII FOR COUNTY ROAD 34  
 TO ACCOMMODATE WB-20.5 DESIGN VEHICLE



- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19 PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET 2**



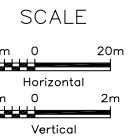
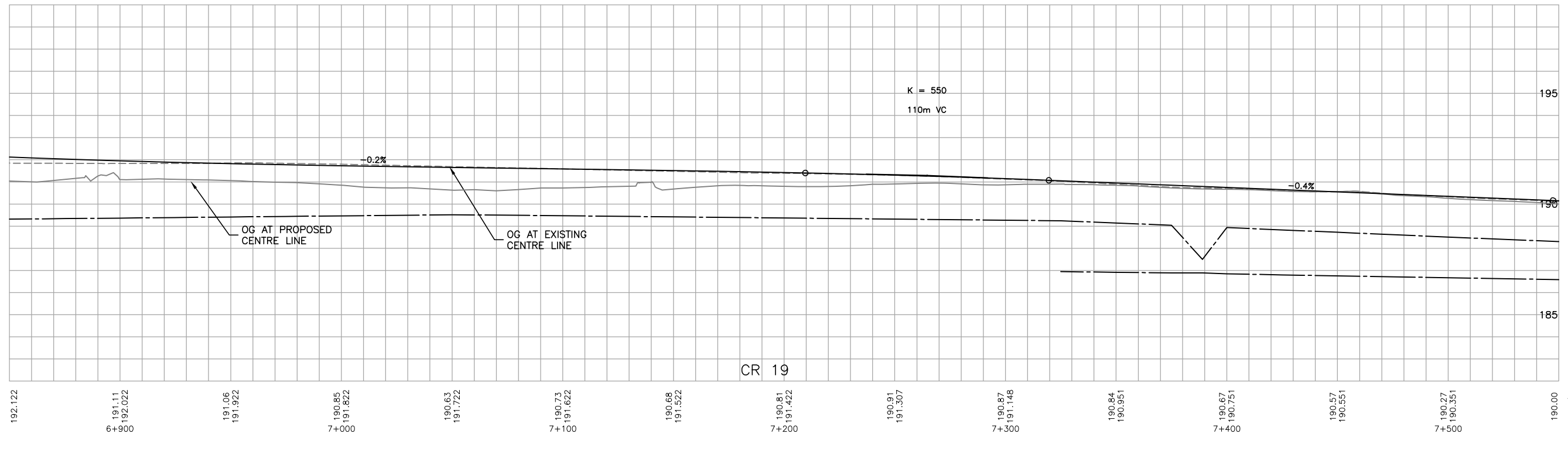
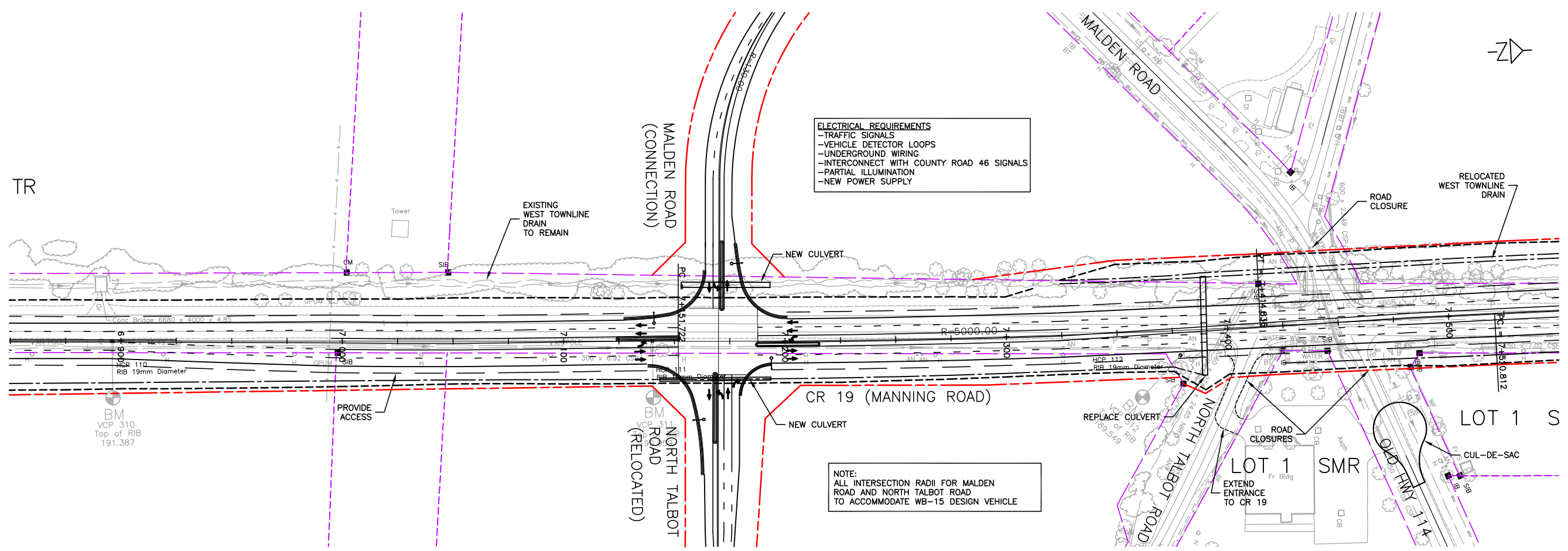
- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19**  
**PRELIMINARY DESIGN**

**NOV 2008**

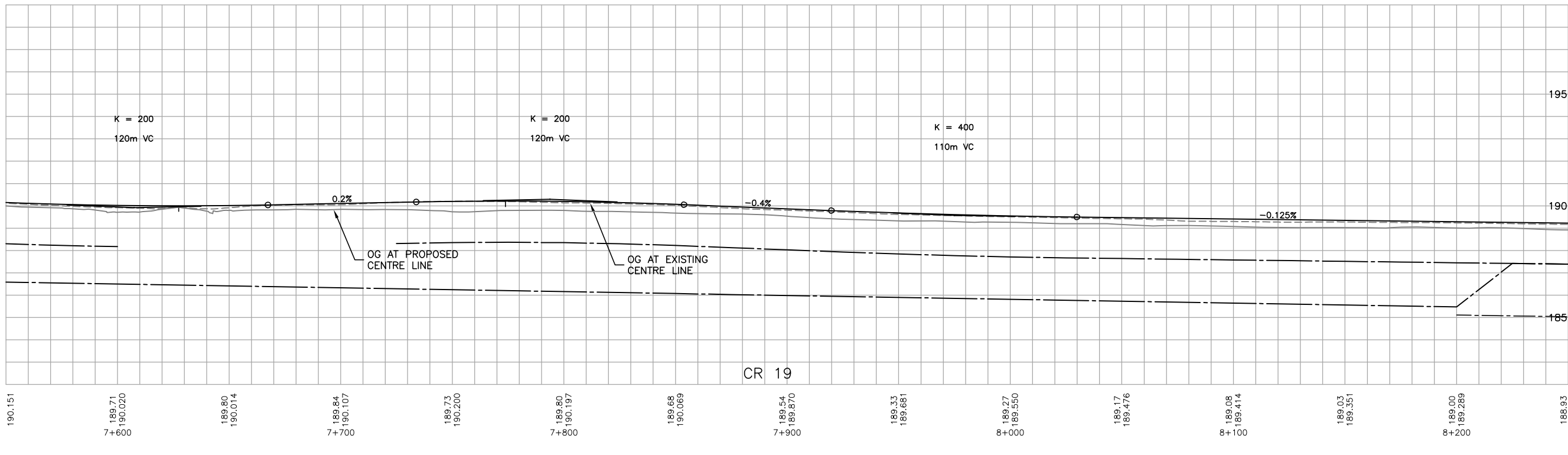
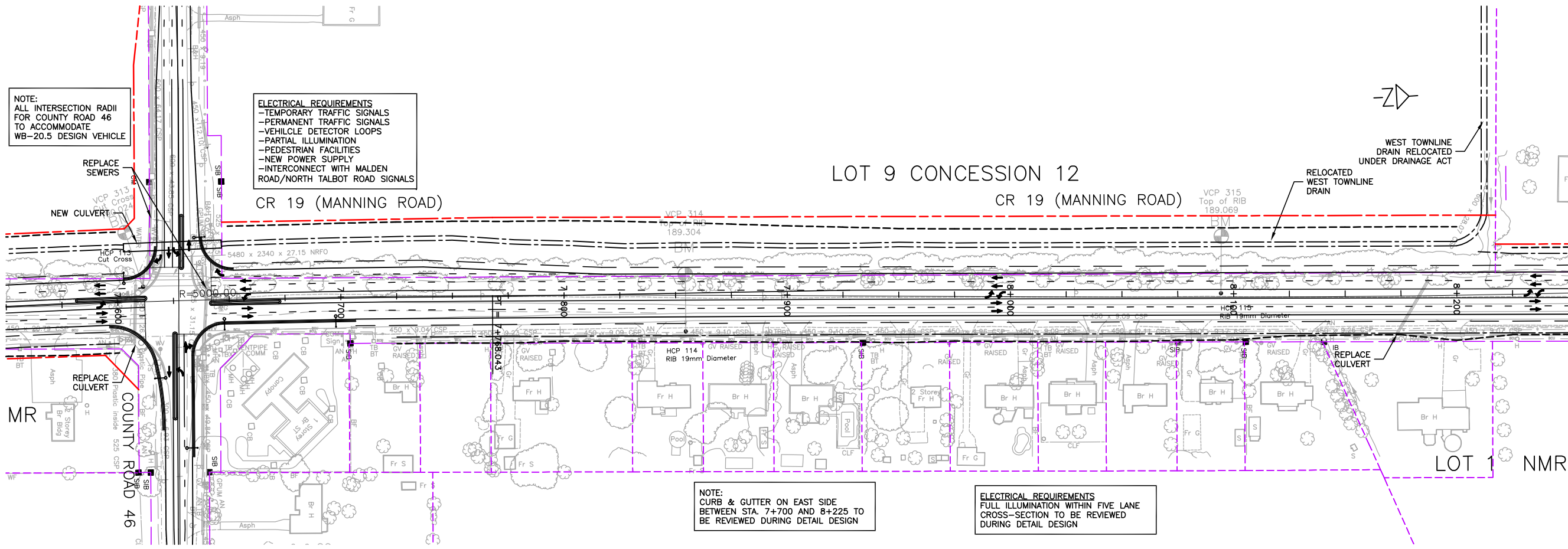
**SHEET 3**



- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

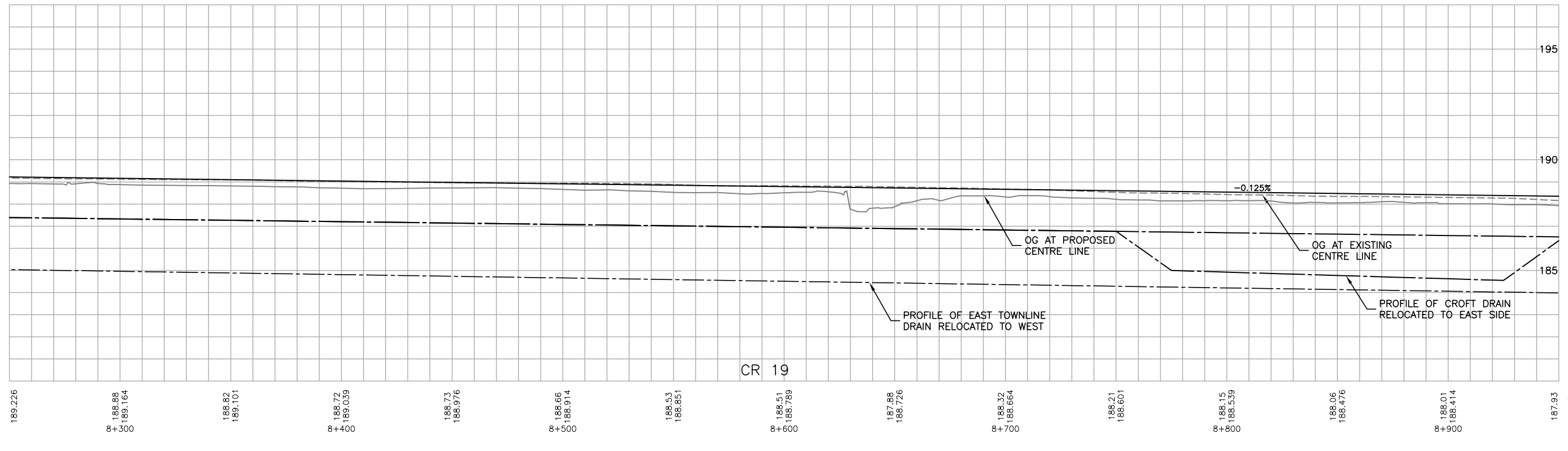
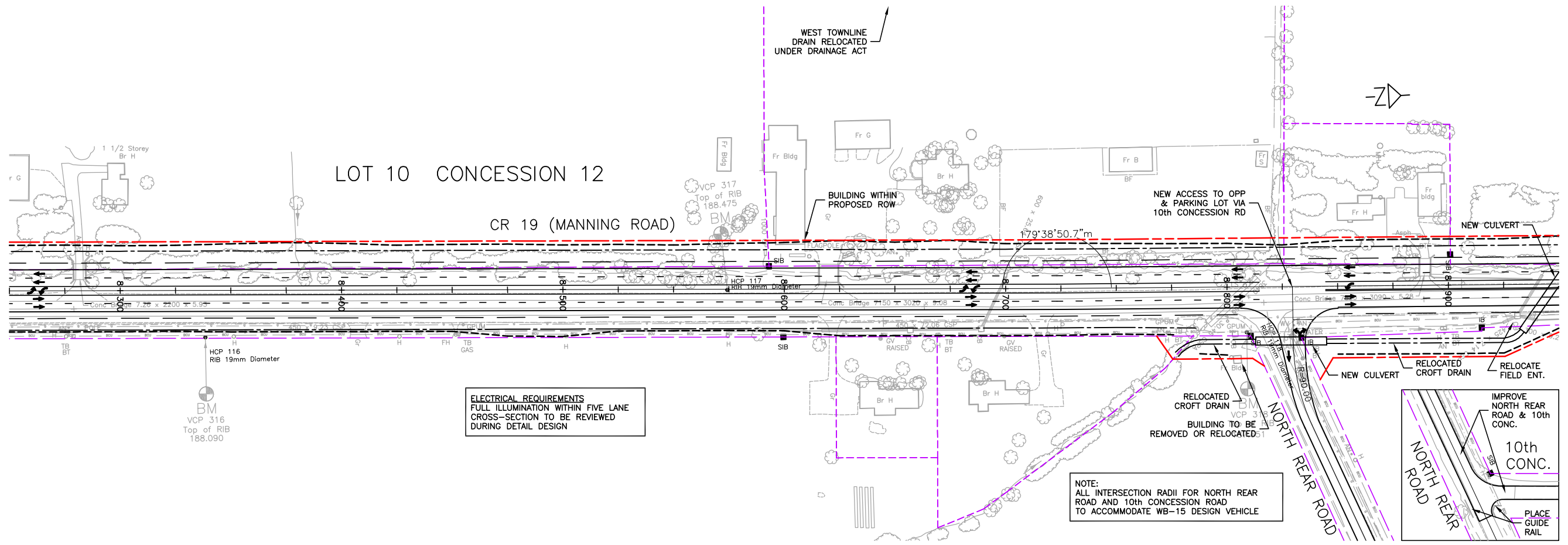
<b>CR 19 PRELIMINARY DESIGN</b>	
<b>NOV 2008</b>	<b>SHEET 4</b>



- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19**  
**PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET 5**



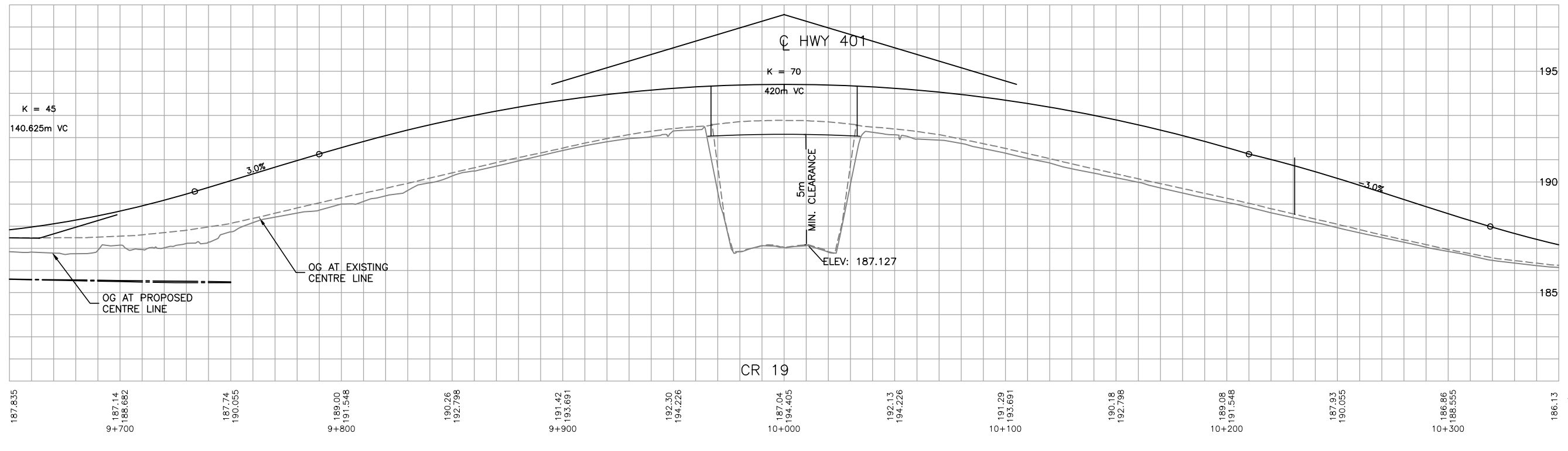
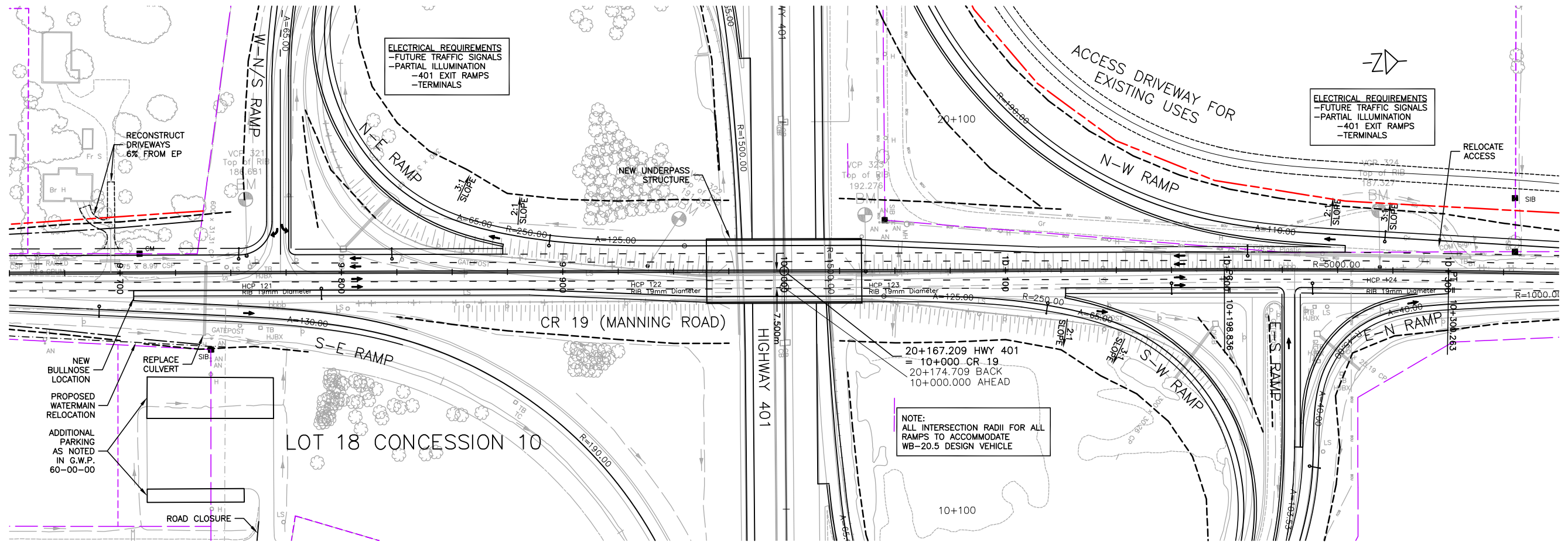
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- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19**  
**PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET 6**







- - - - - EXISTING LOT LINE
- - - - - EXISTING ROW LINE
- - - - - PROPOSED ROW LINE
- - - - - GRANULAR SHOULDER
- - - - - DITCH/DRAIN
- - - - - APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19 PRELIMINARY DESIGN**

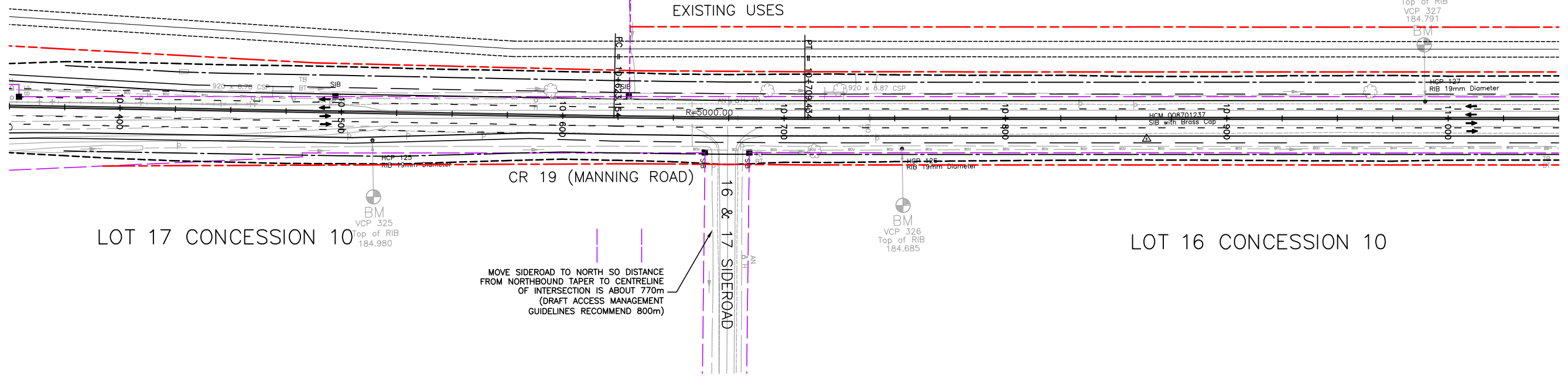
**NOV 2008**      **SHEET 8**



LOT 13 CONCESSION 12

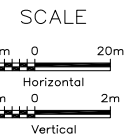
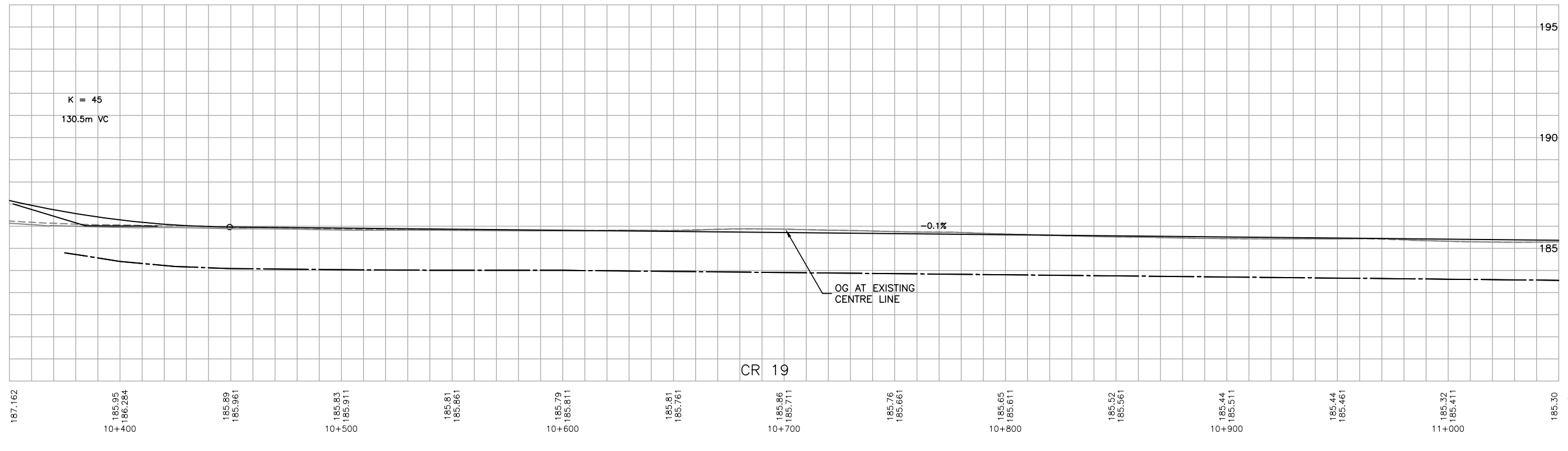
LOT 14 CONCESSION 12

ACCESS DRIVEWAY FOR EXISTING USES



LOT 17 CONCESSION 10

LOT 16 CONCESSION 10

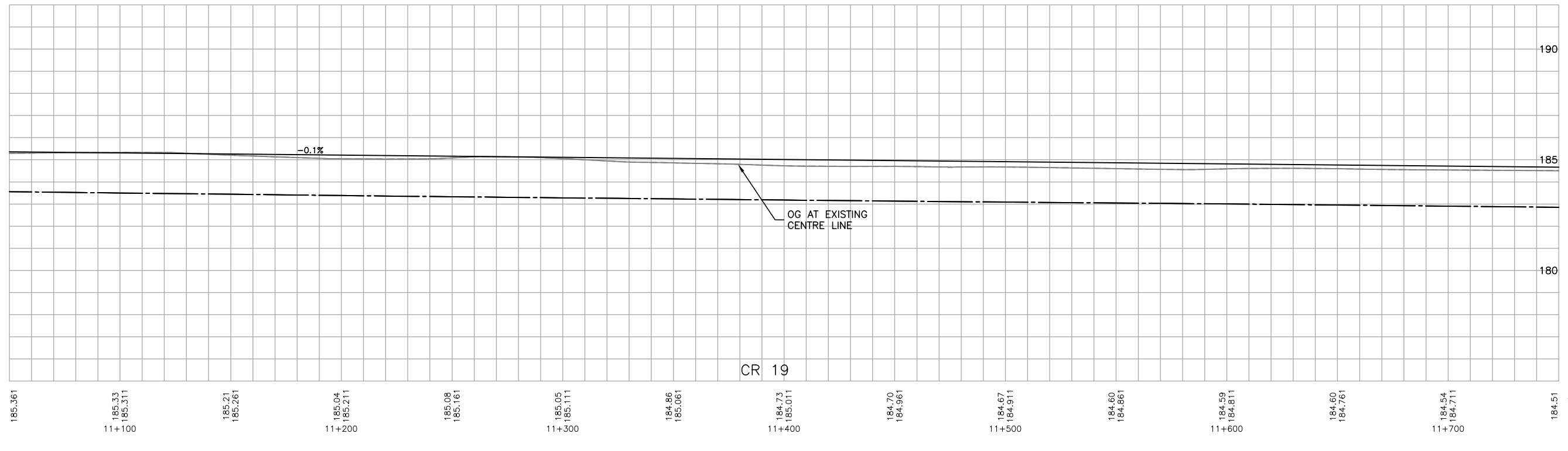
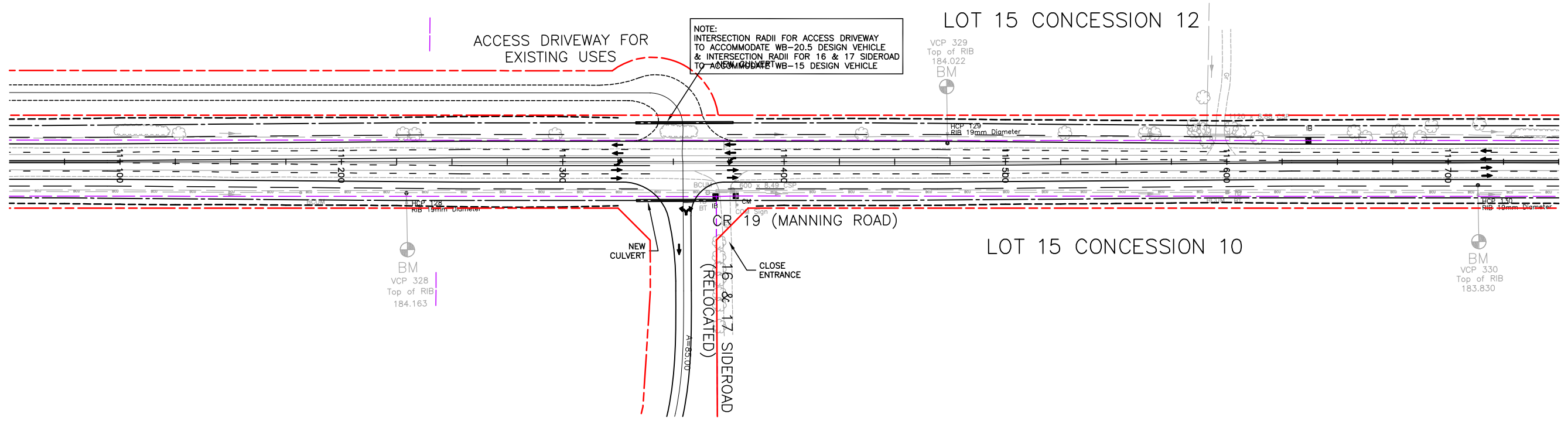


- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19 PRELIMINARY DESIGN**

<b>NOV 2008</b>	<b>SHEET 9</b>
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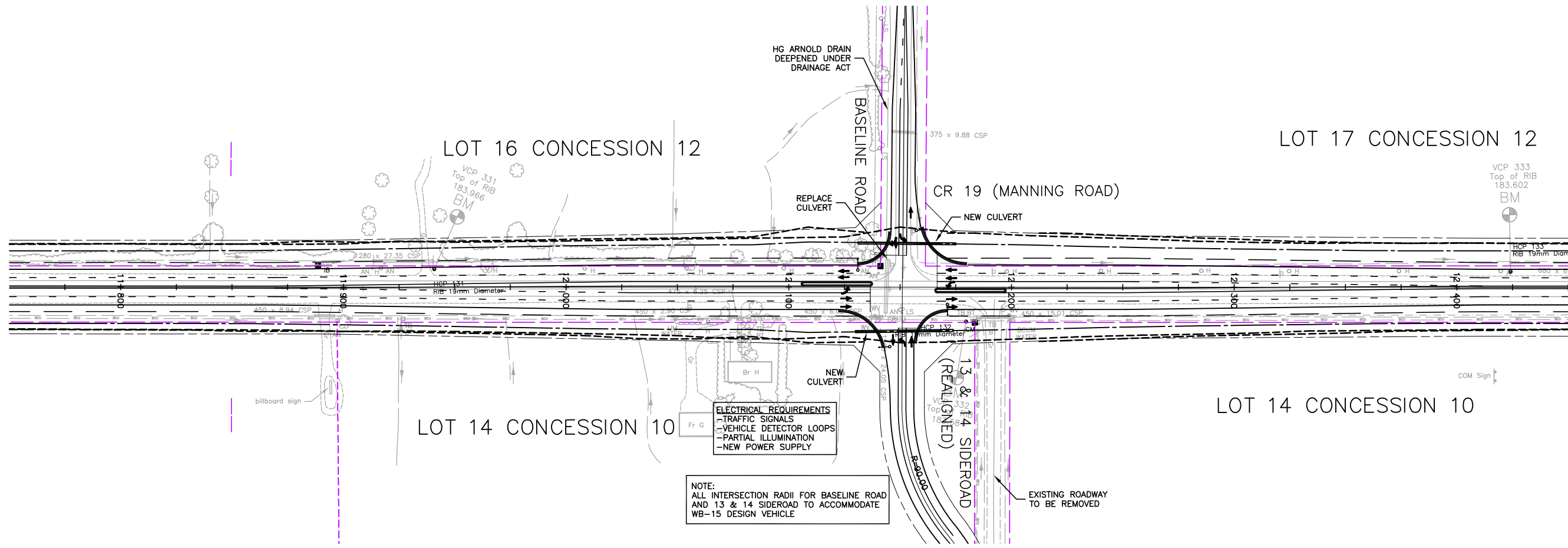
- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19 PRELIMINARY DESIGN**

**NOV 2008**      **SHEET 10**

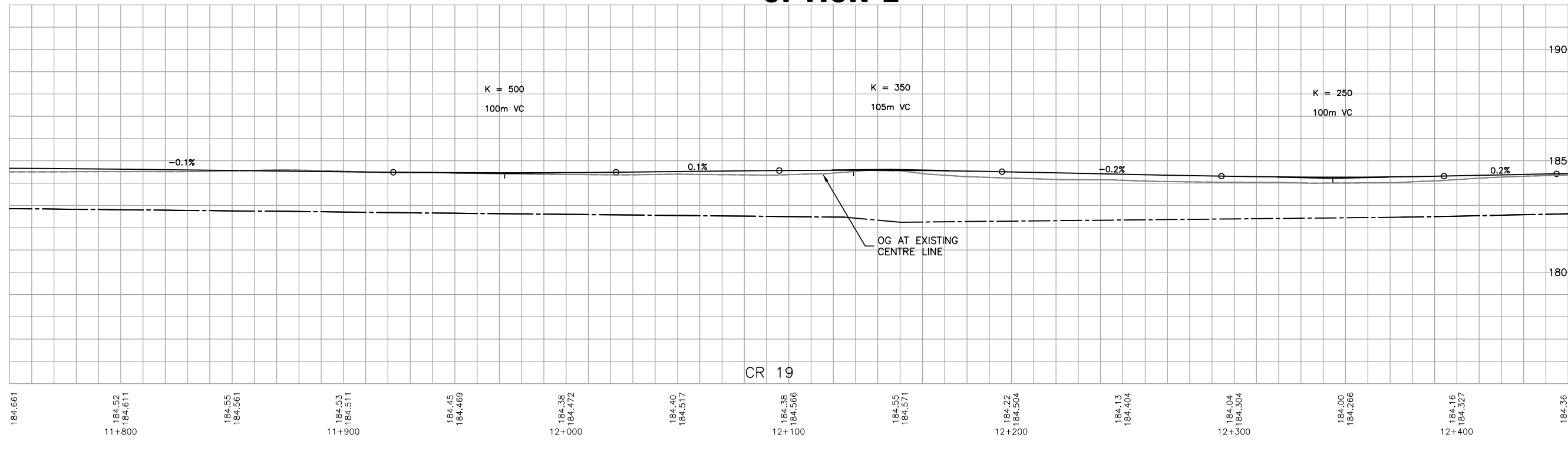




**ELECTRICAL REQUIREMENTS**  
 - TRAFFIC SIGNALS  
 - VEHICLE DETECTOR LOOPS  
 - PARTIAL ILLUMINATION  
 - NEW POWER SUPPLY

**NOTE:**  
 ALL INTERSECTION RADII FOR BASELINE ROAD  
 AND 13 & 14 SIDEROAD TO ACCOMMODATE  
 WB-15 DESIGN VEHICLE

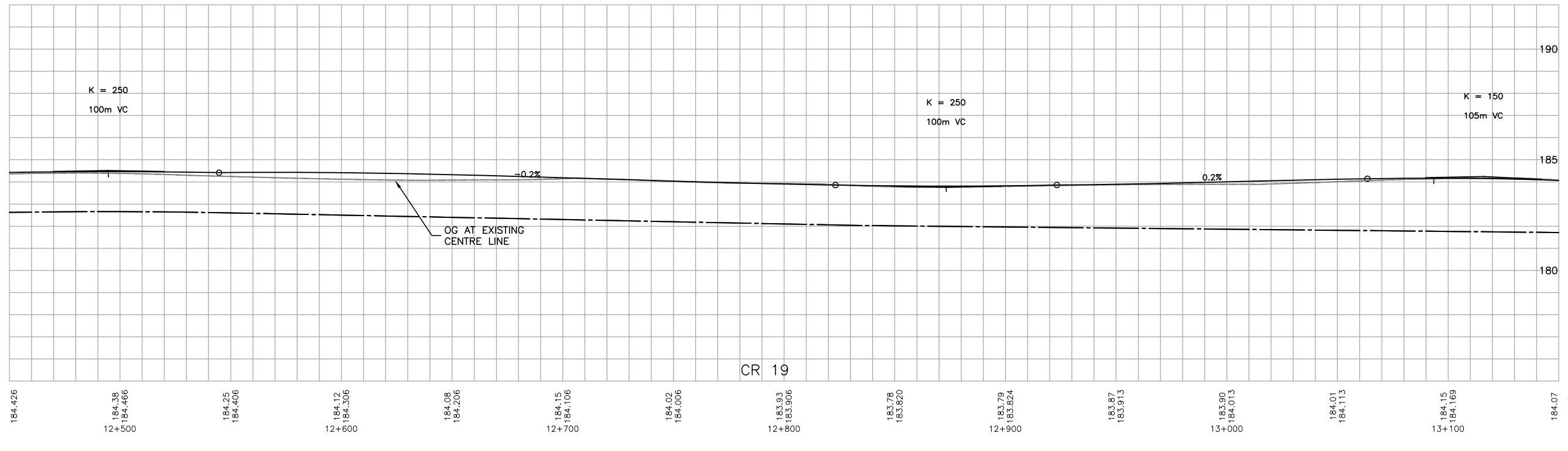
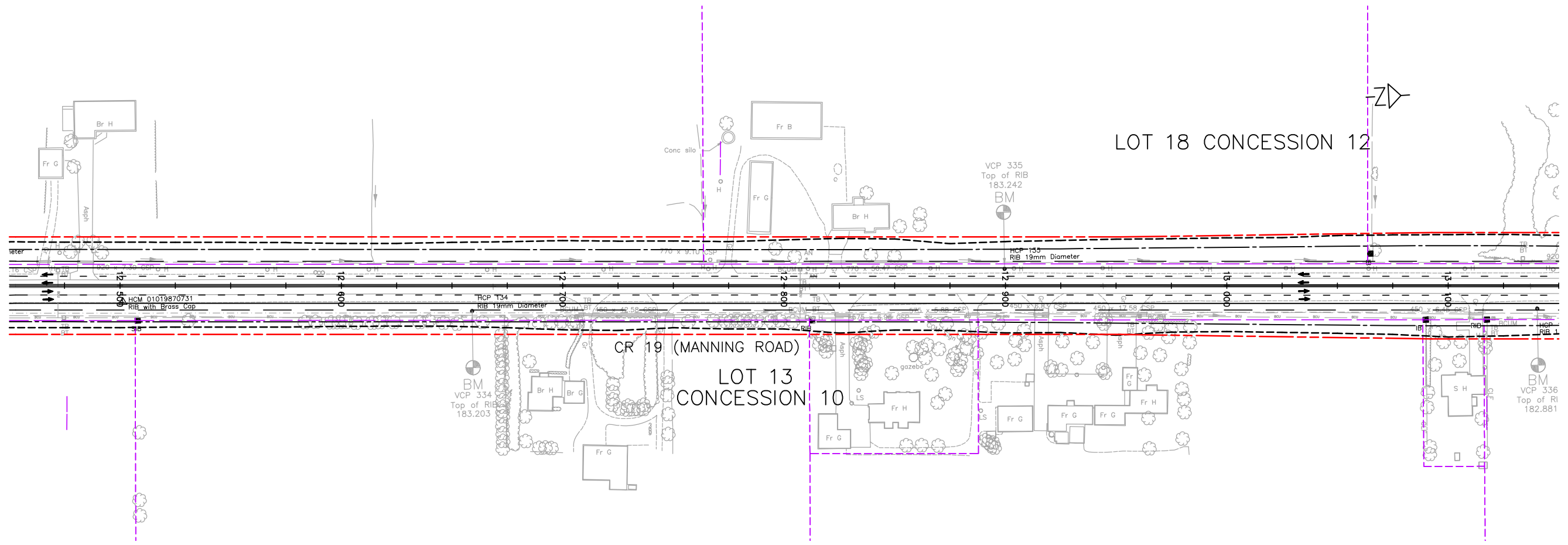
**OPTION 2**



- - - - - EXISTING LOT LINE
- - - - - EXISTING ROW LINE
- - - - - PROPOSED ROW LINE
- - - - - GRANULAR SHOULDER
- - - - - DITCH/DRAIN
- - - - - APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19 PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET 11-2**

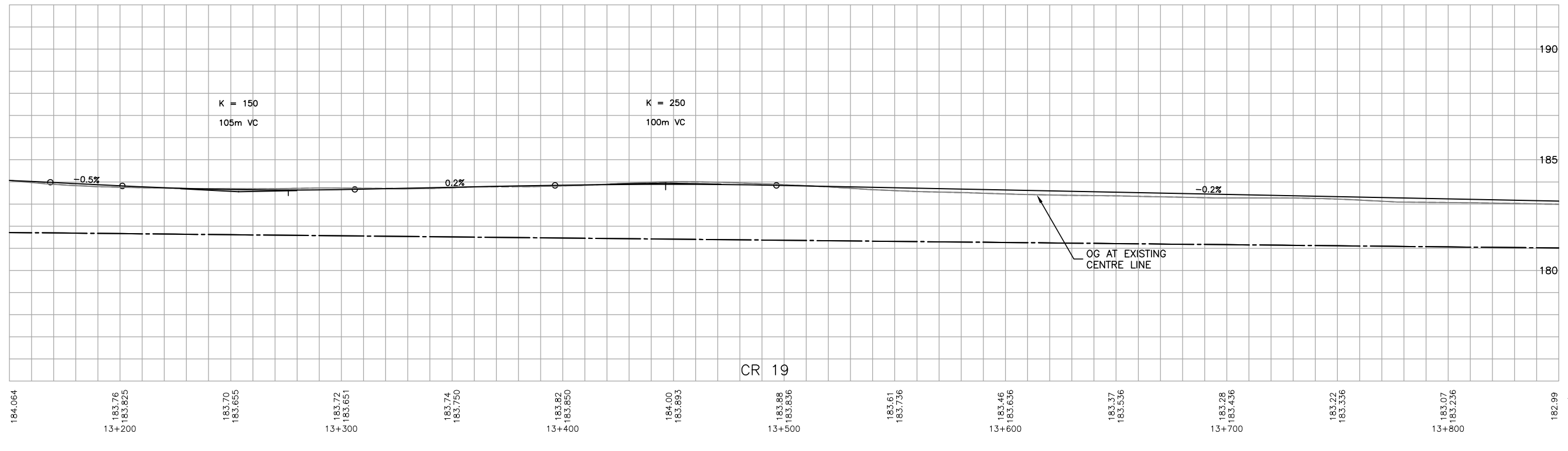
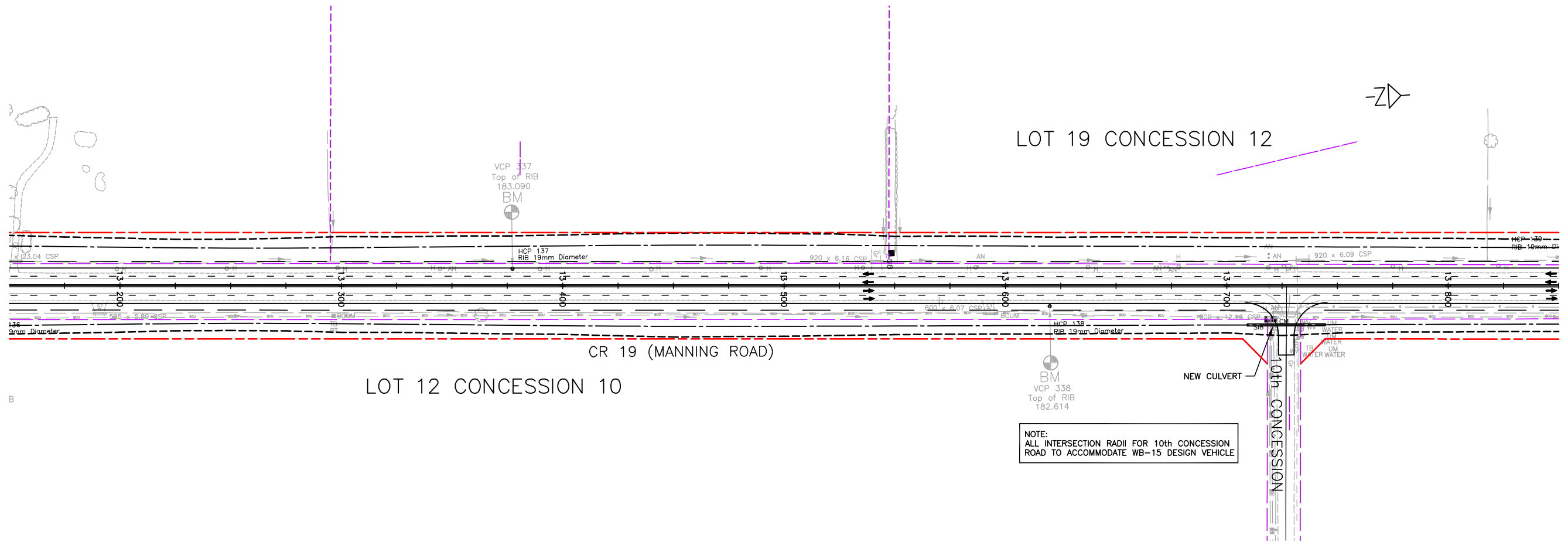


- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19**  
**PRELIMINARY DESIGN**

<b>NOV 2008</b>	<b>SHEET 12</b>
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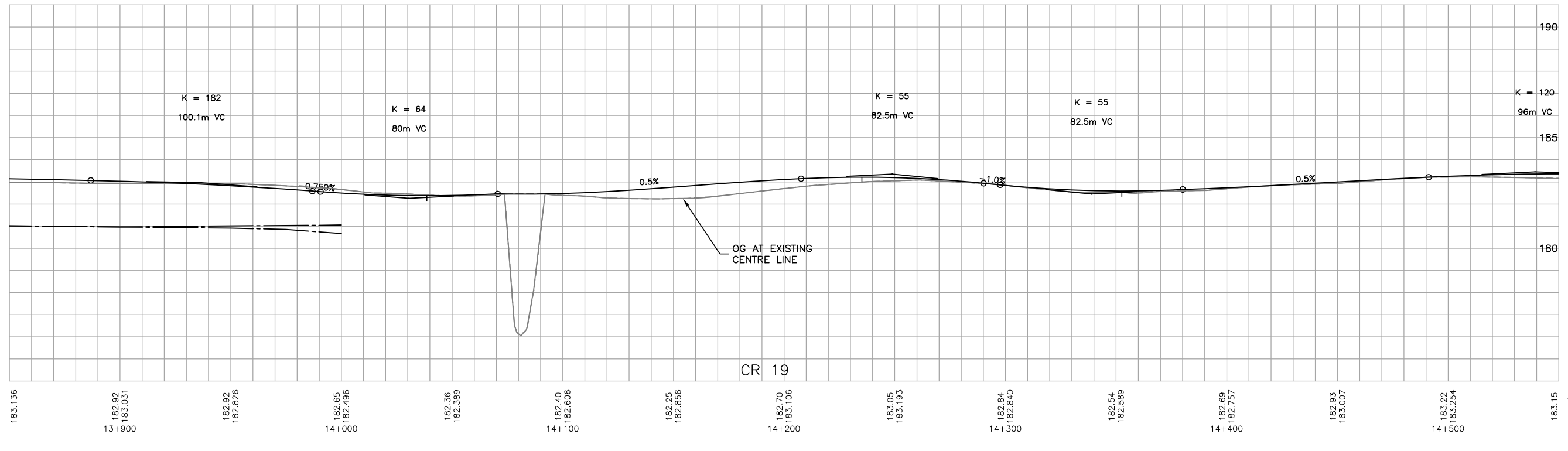
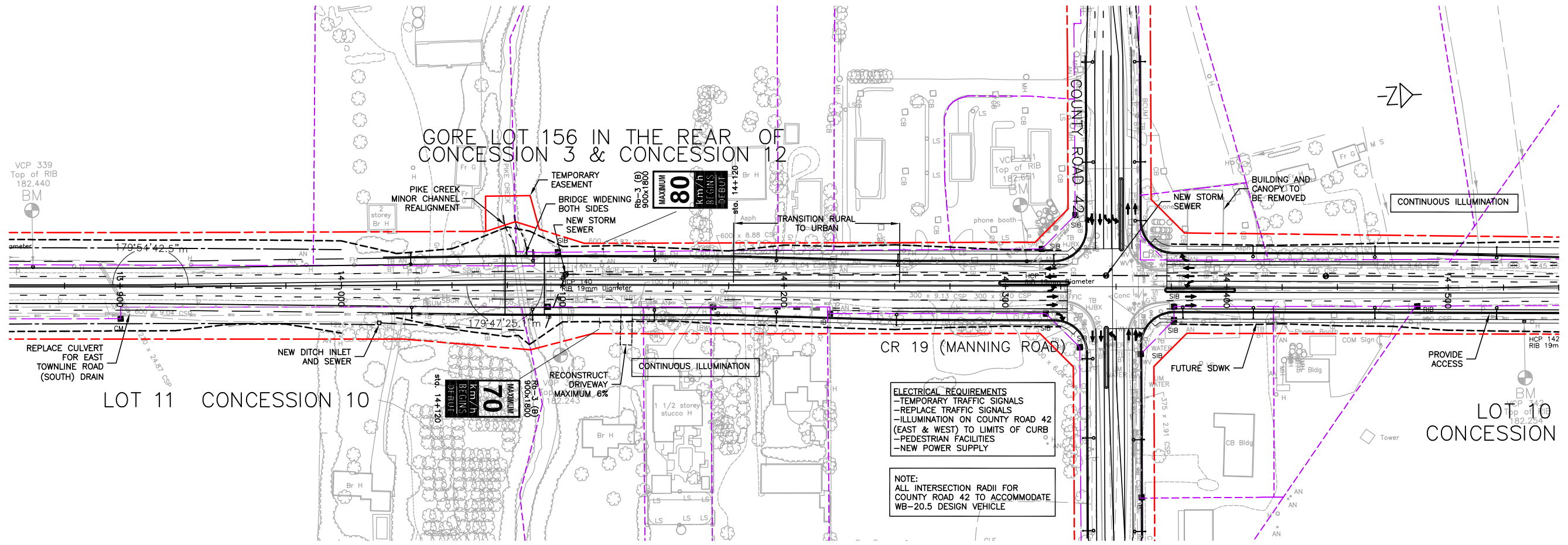
- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19 PRELIMINARY DESIGN**

**NOV 2008**      **SHEET 13**

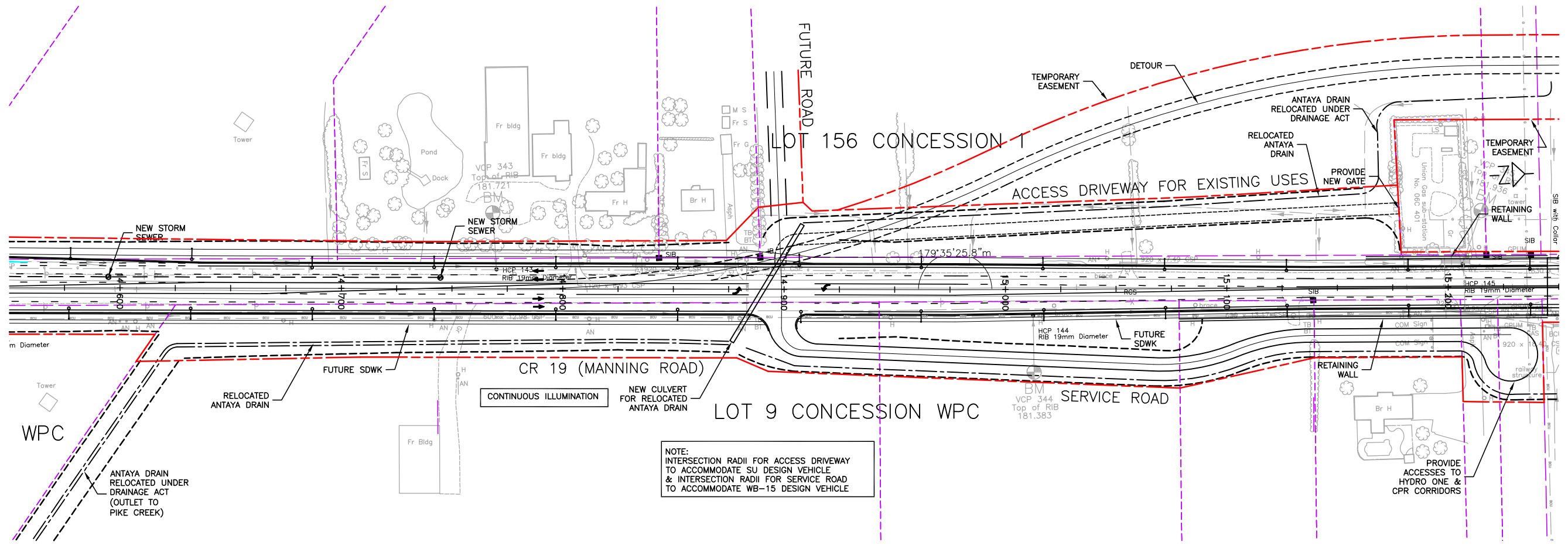




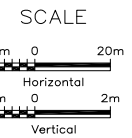
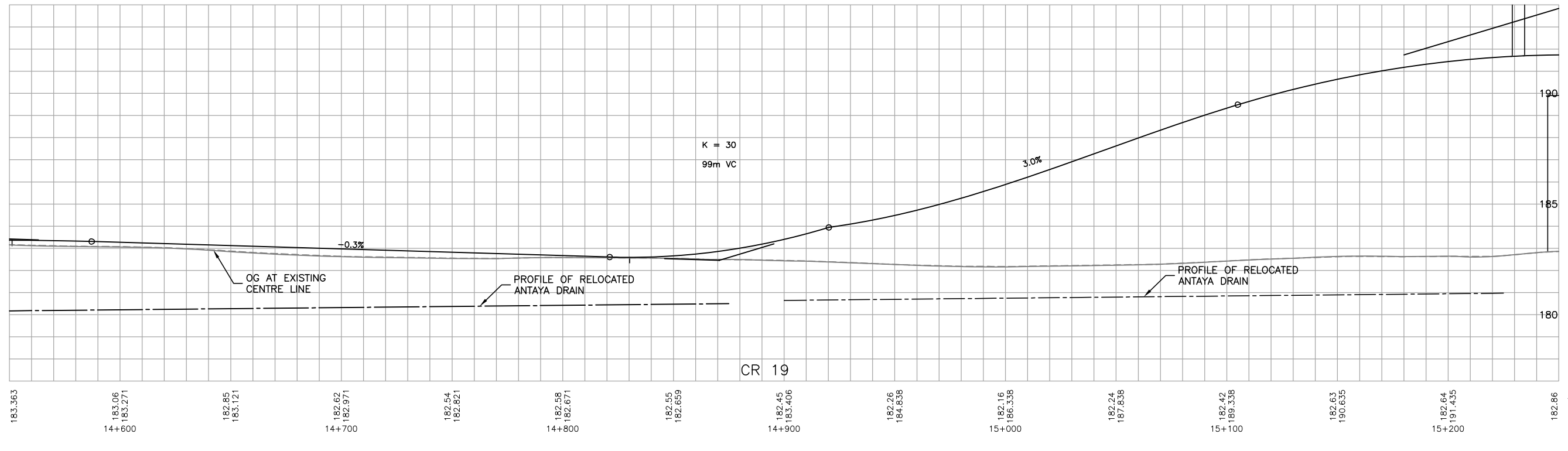
- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19**  
**PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET 14**



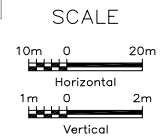
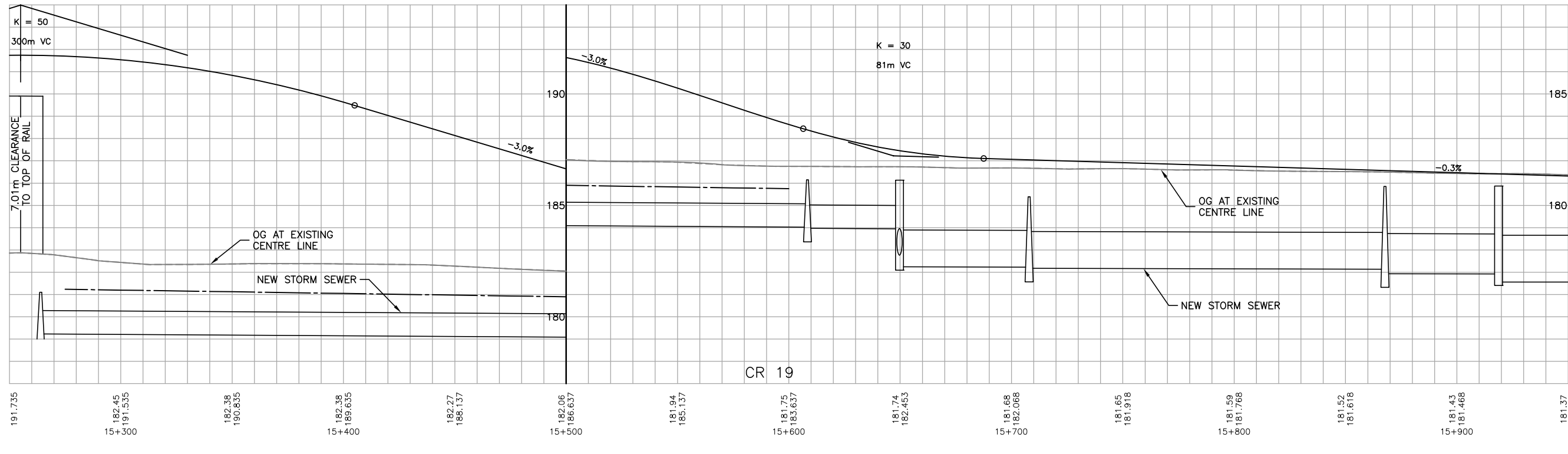
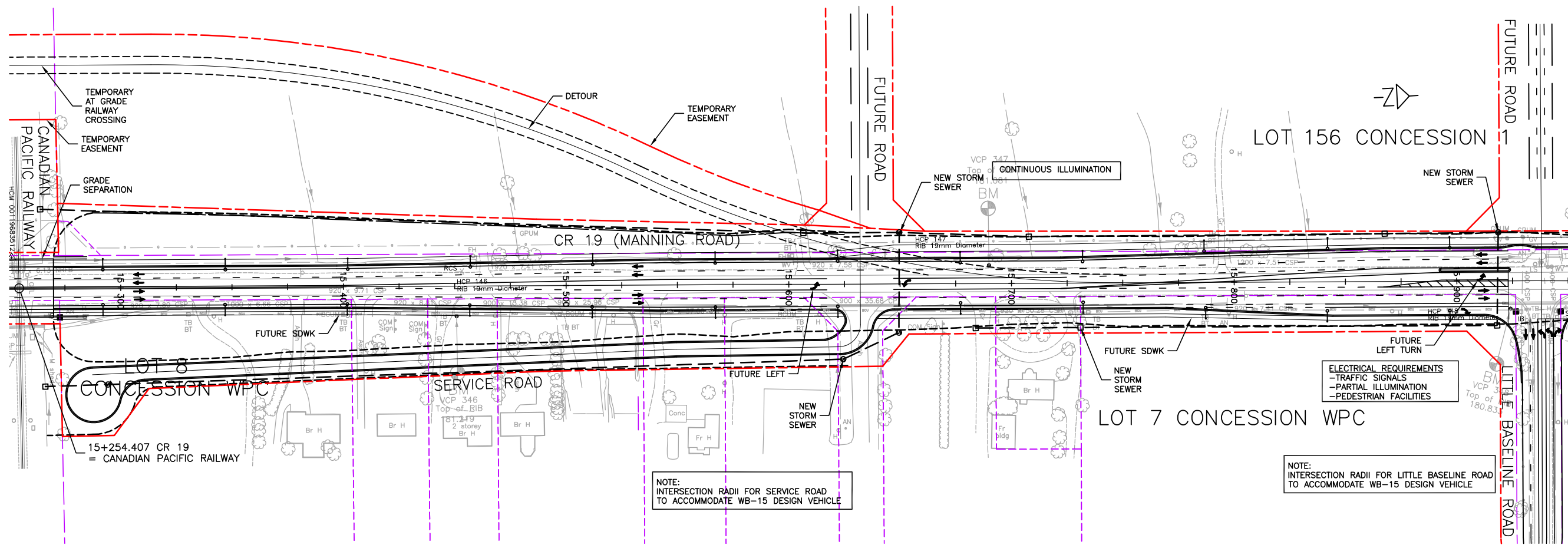
NOTE:  
 INTERSECTION RADII FOR ACCESS DRIVEWAY  
 TO ACCOMMODATE SU DESIGN VEHICLE  
 & INTERSECTION RADII FOR SERVICE ROAD  
 TO ACCOMMODATE WB-15 DESIGN VEHICLE



- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

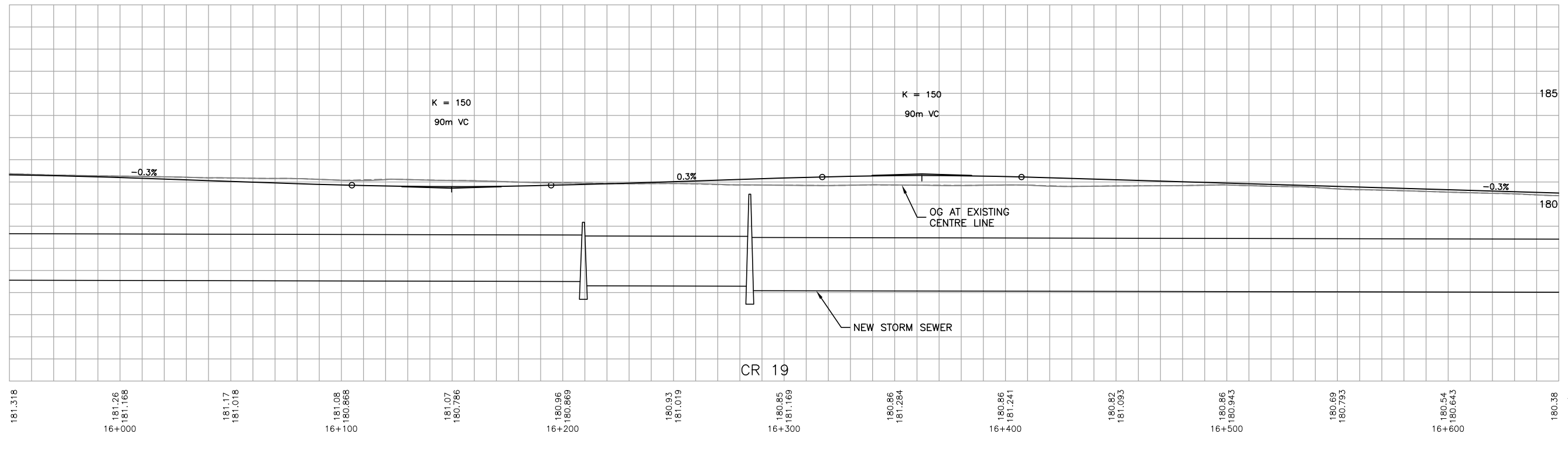
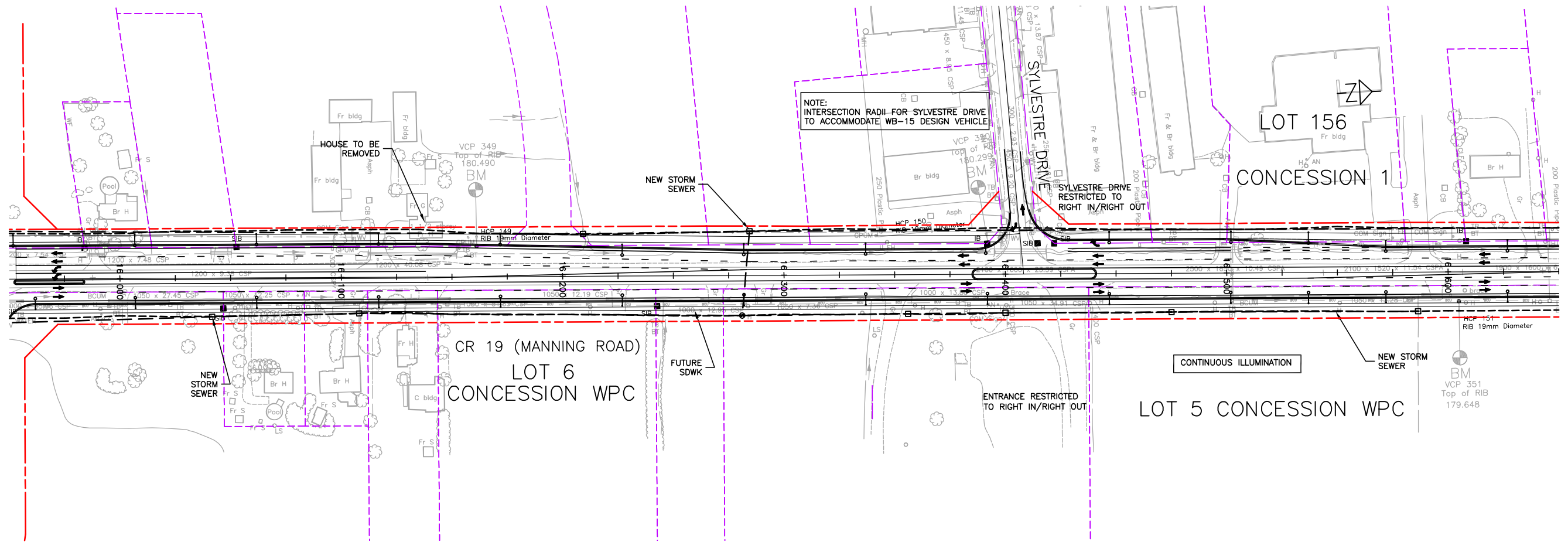
**CR 19 PRELIMINARY DESIGN**  
**NOV 2008**  
**SHEET 15**



- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19**  
**PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET 16**



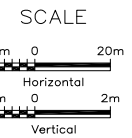
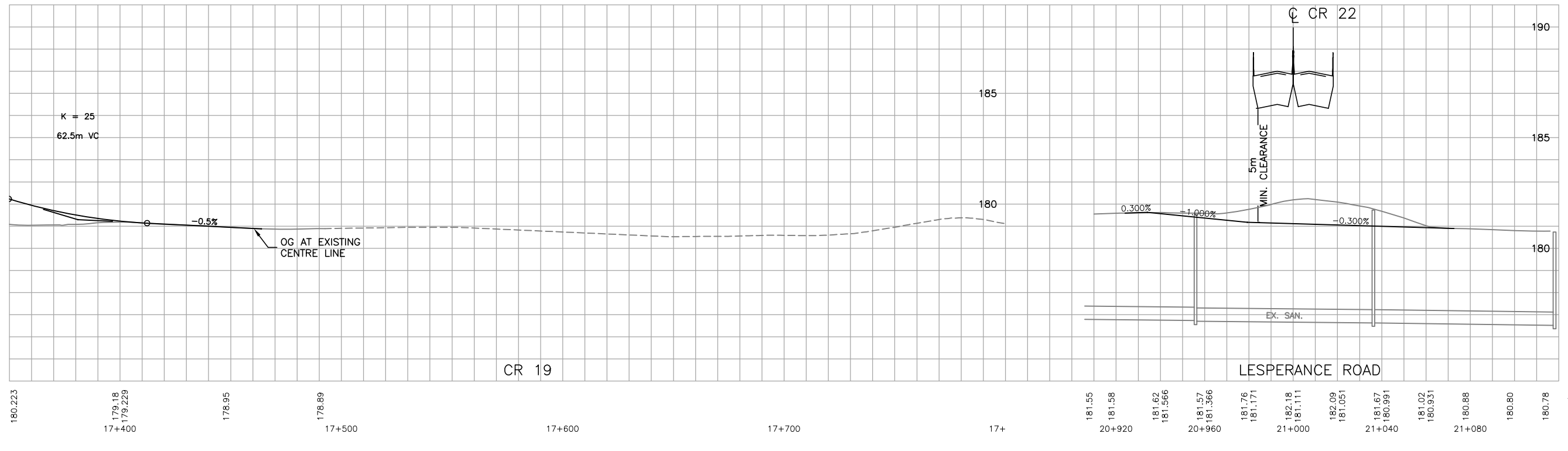
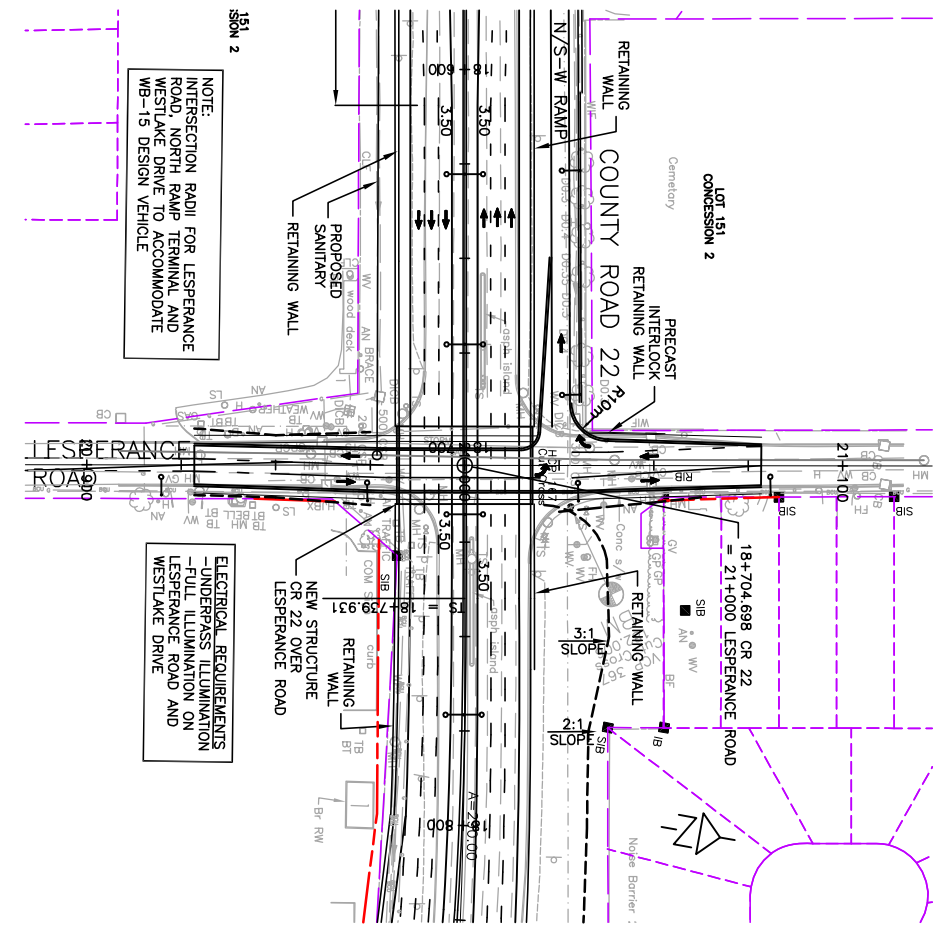
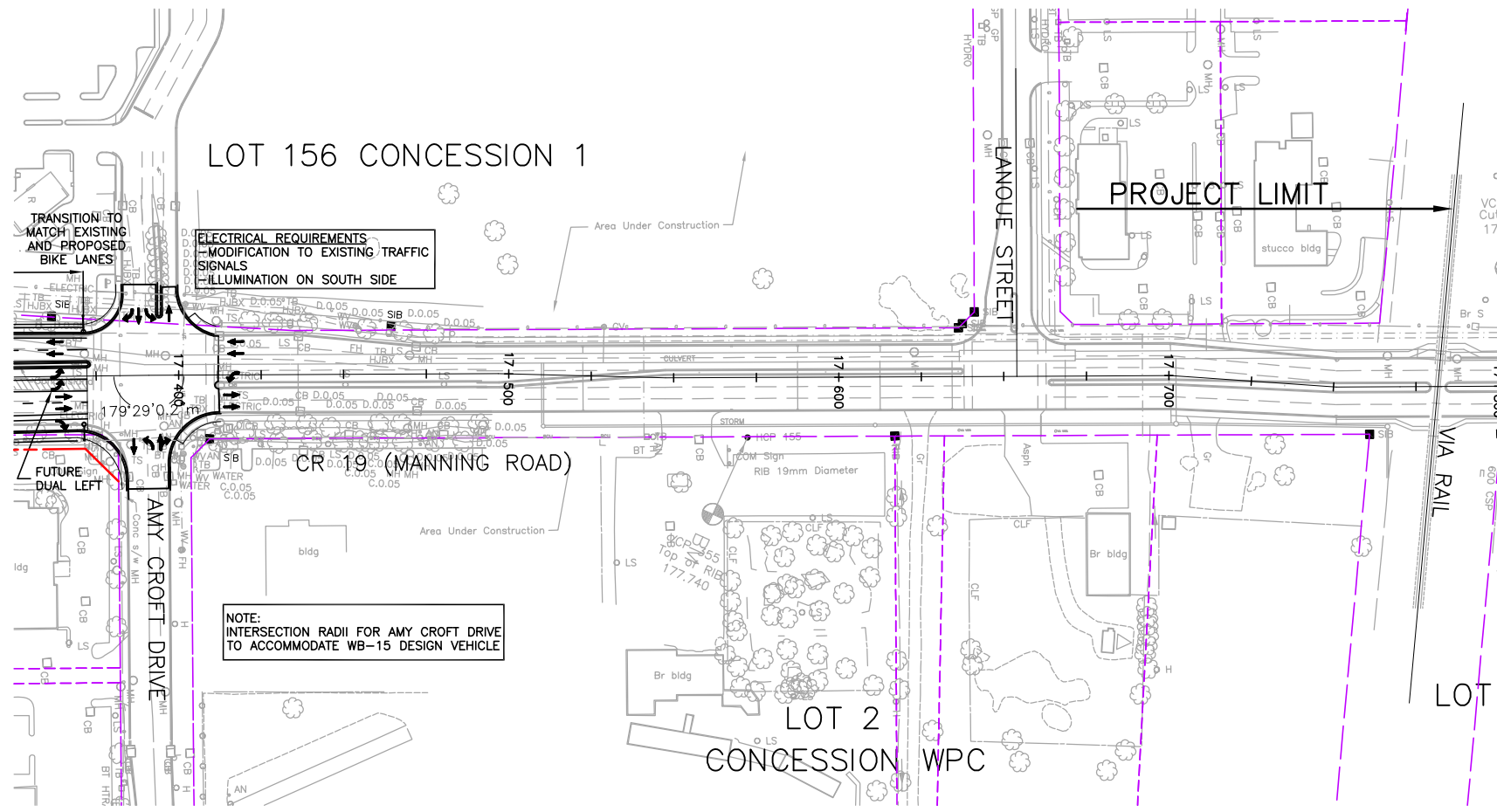
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- - - - - EXISTING ROW LINE
- - - - - PROPOSED ROW LINE
- - - - - GRANULAR SHOULDER
- - - - - DITCH/DRAIN
- - - - - APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19 PRELIMINARY DESIGN**

<b>NOV 2008</b>	<b>SHEET 17</b>
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- - - - - EXISTING LOT LINE
- - - - - EXISTING ROW LINE
- - - - - PROPOSED ROW LINE
- - - - - GRANULAR SHOULDER
- - - - - DITCH/DRAIN
- - - - - APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**

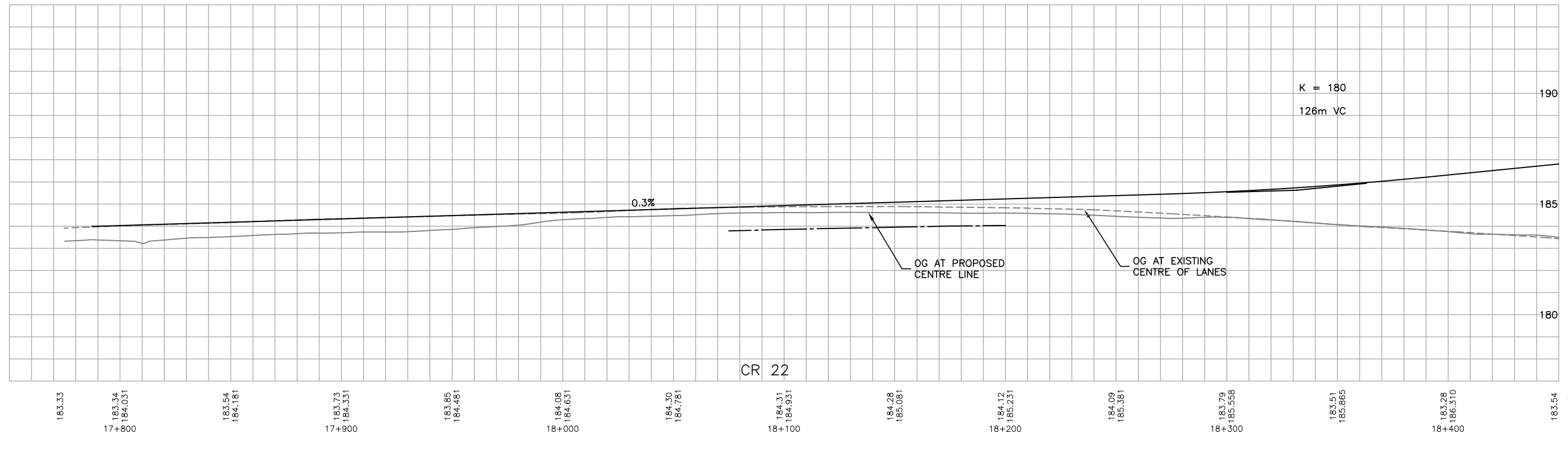
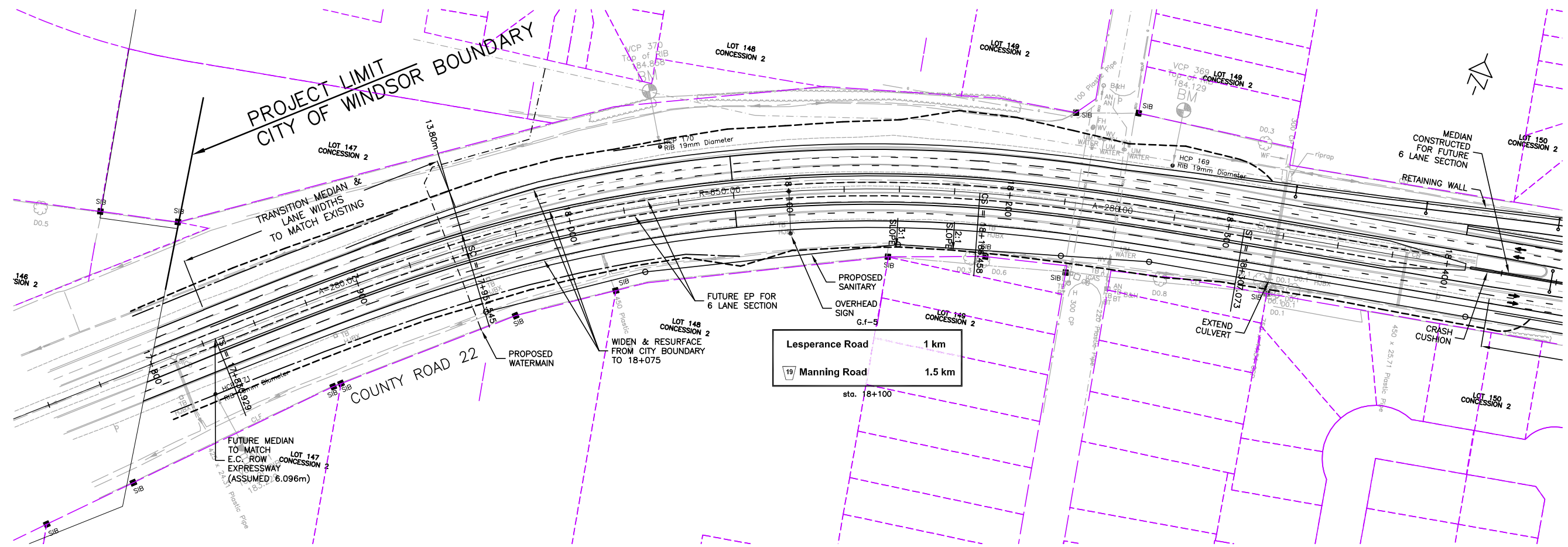
**GWP 3031-06-00**

**Class Environmental Assessment**

**CR 19 & LESPERANCE ROAD PRELIMINARY DESIGN**

**NOV 2008**

**SHEET 19**

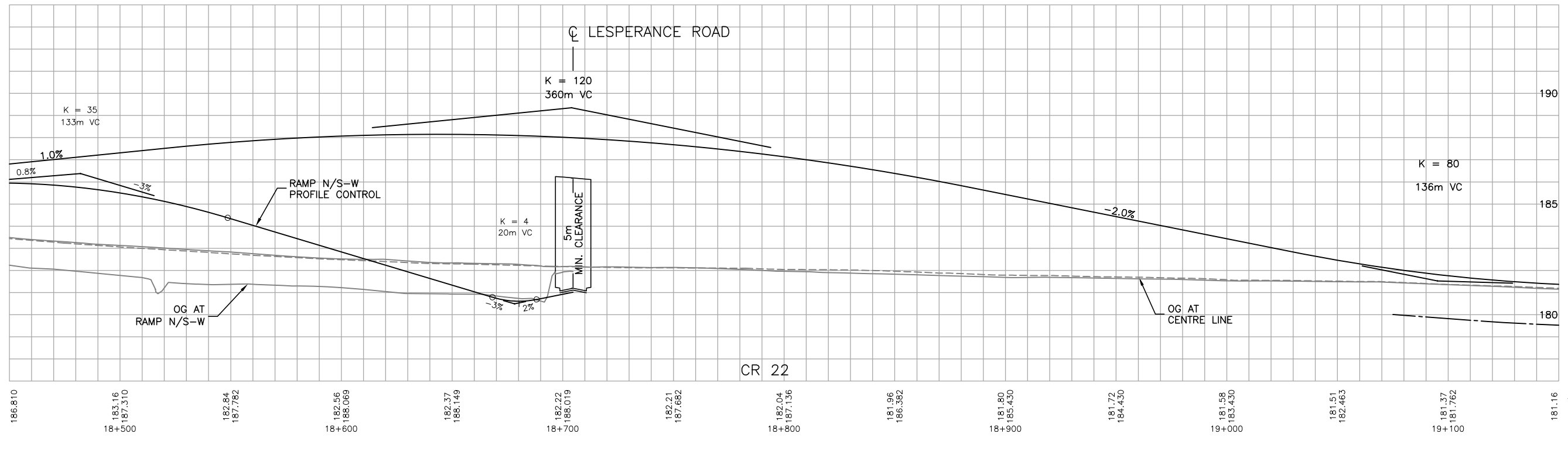
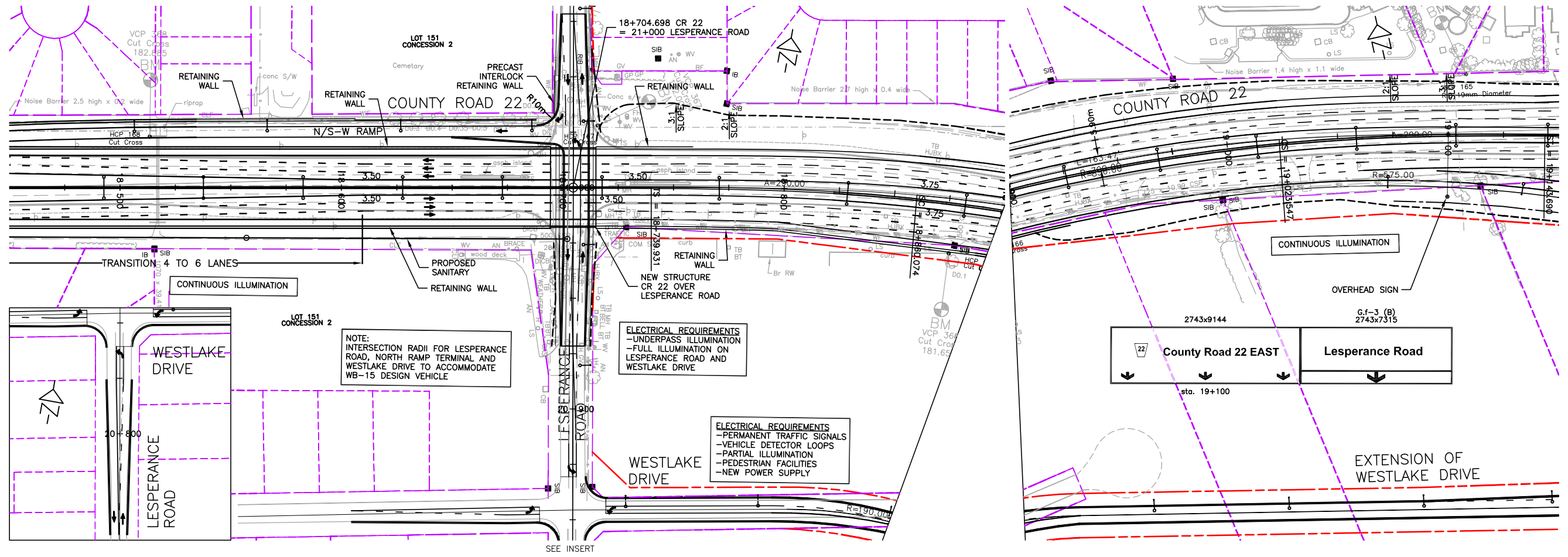


- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 22**  
**PRELIMINARY DESIGN**

<b>NOV 2008</b>	<b>SHEET 20</b>
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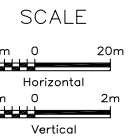
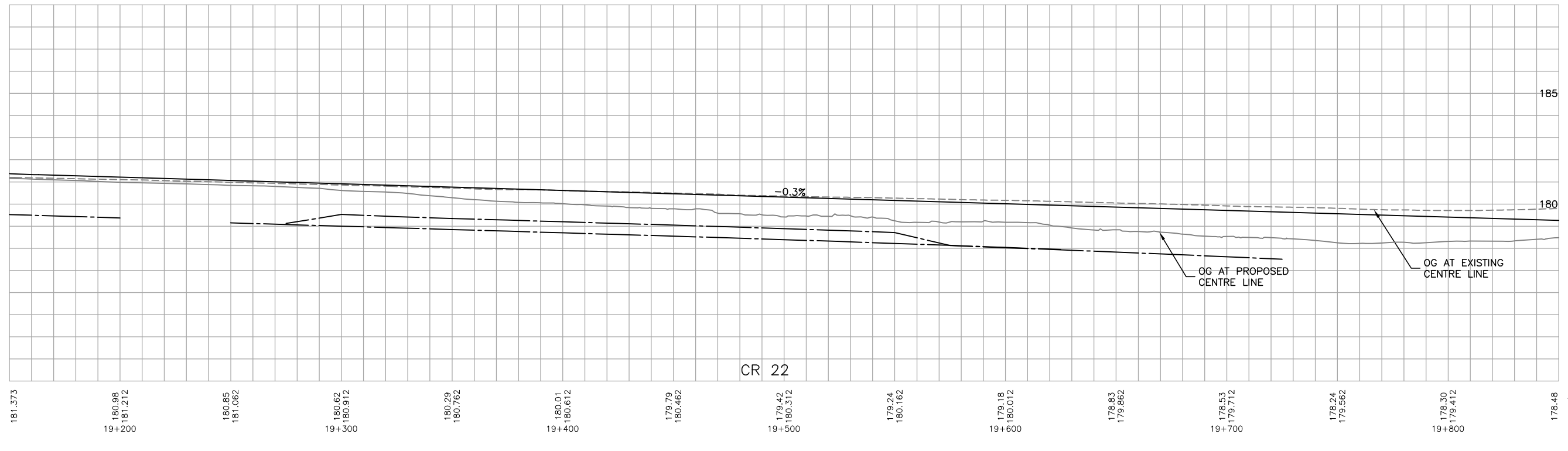
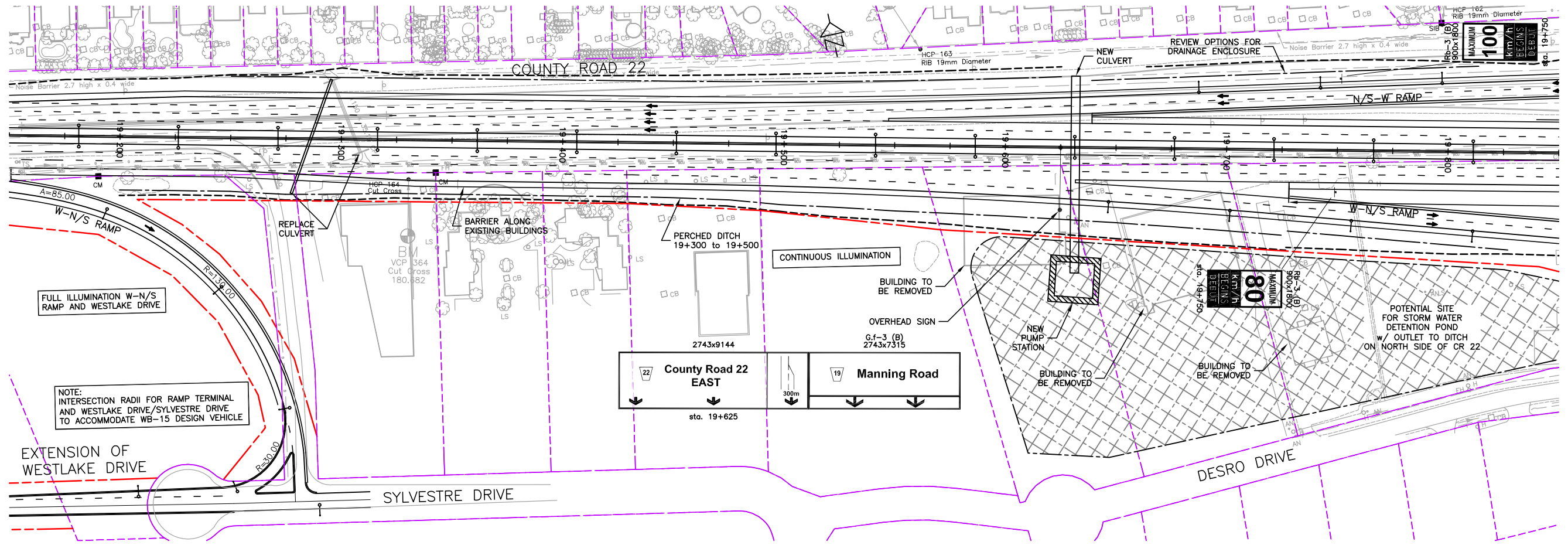


- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

<b>CR 22</b> <b>PRELIMINARY DESIGN</b>	
<b>NOV 2008</b>	<b>SHEET 21</b>



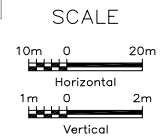
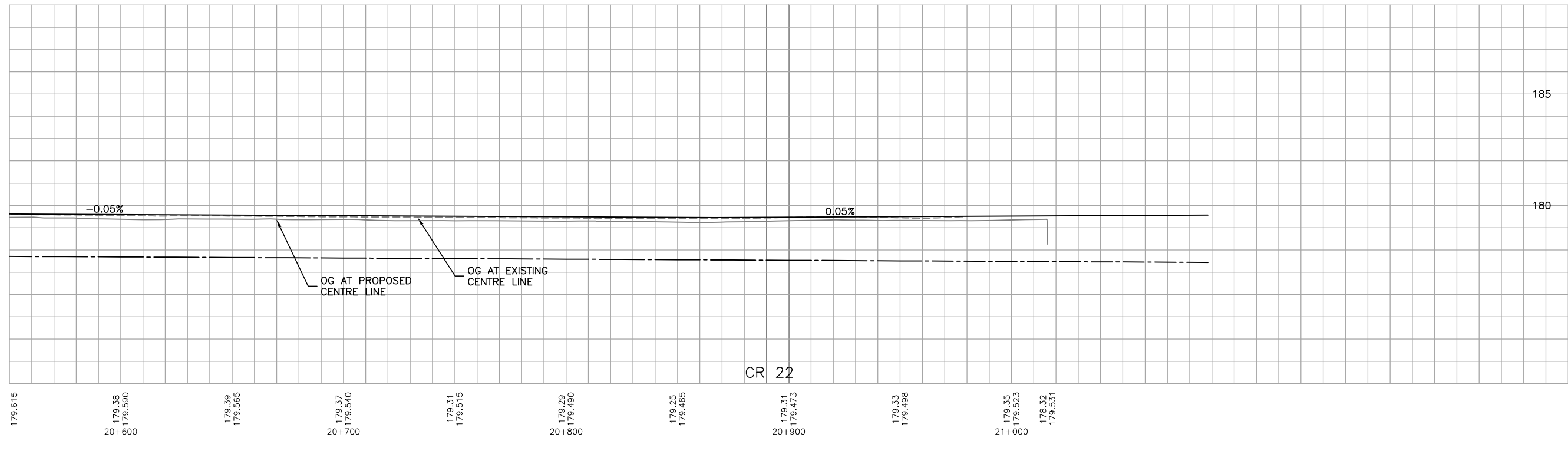
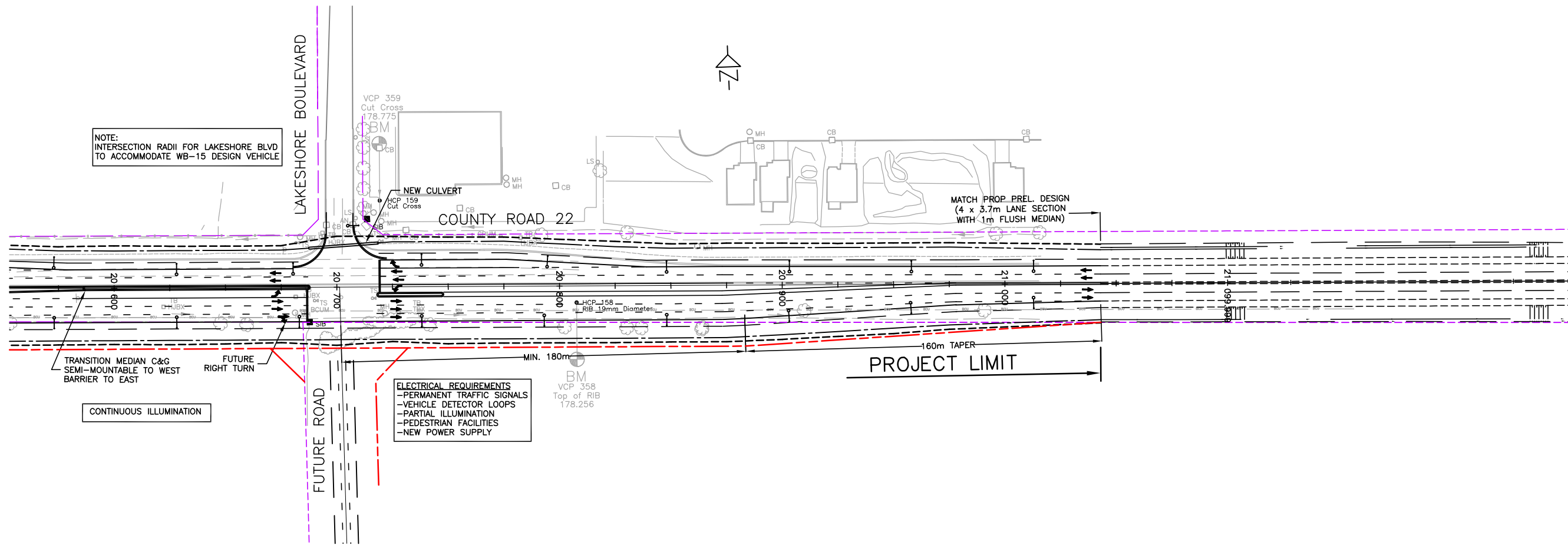


- - - - - EXISTING LOT LINE
- - - - - EXISTING ROW LINE
- — — — PROPOSED ROW LINE
- - - - - GRANULAR SHOULDER
- - - - - DITCH/DRAIN
- - - - - APPROX. CUT/FILL LIMIT
- — — — PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 22**  
**PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET 22**





- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**

**GWP 3031-06-00**

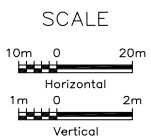
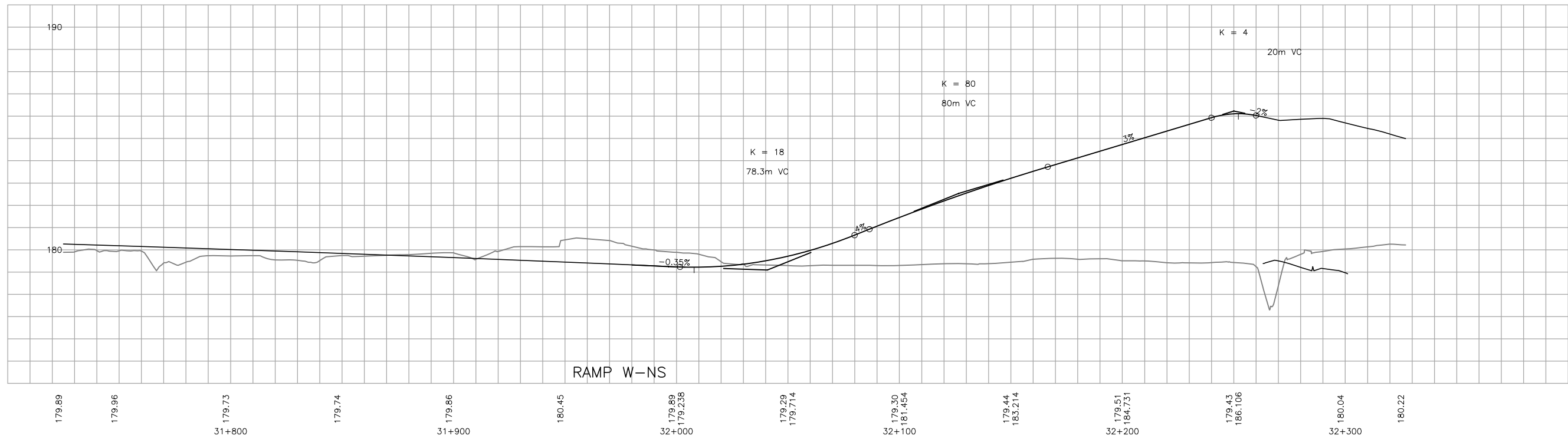
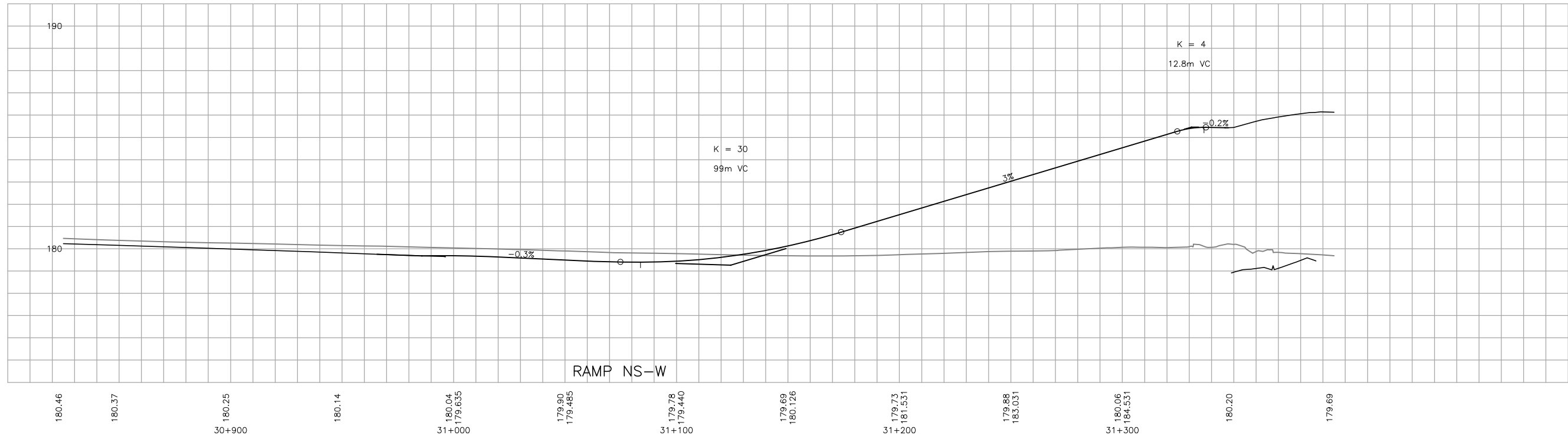
**Class Environmental Assessment**

**CR 22**

**PRELIMINARY DESIGN**

**NOV 2008**

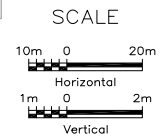
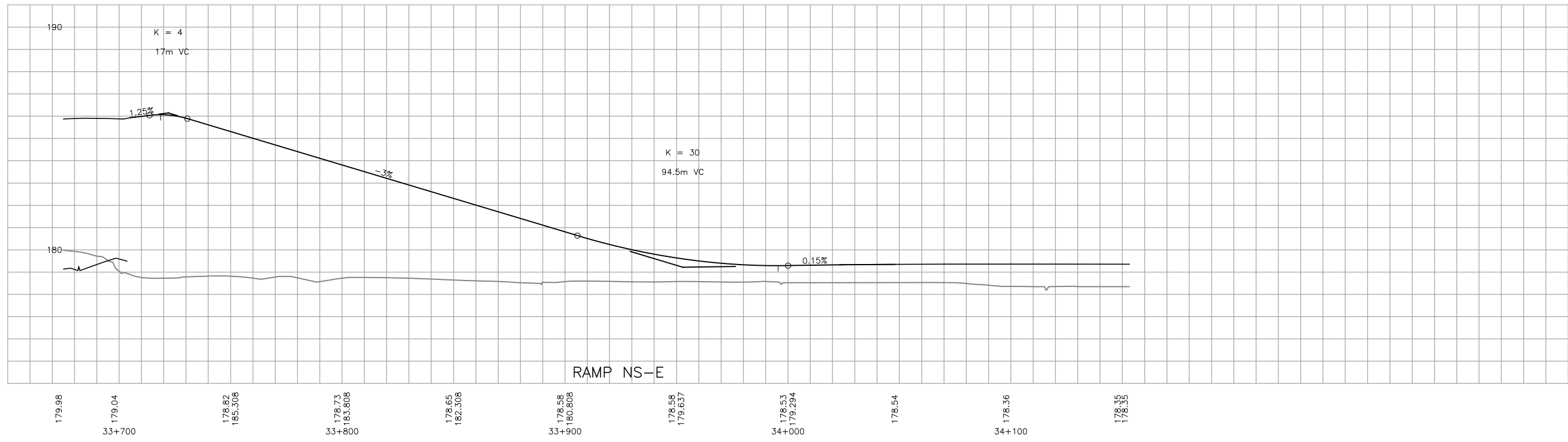
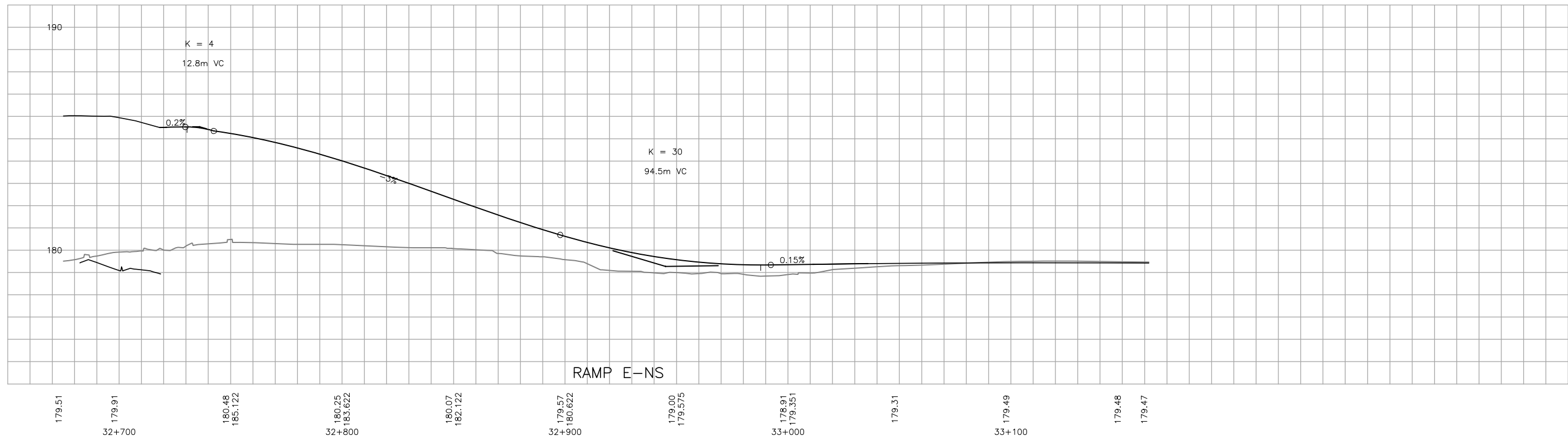
**SHEET 24**



**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 22 RAMPS**  
**PRELIMINARY DESIGN**

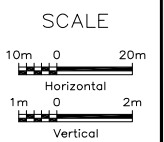
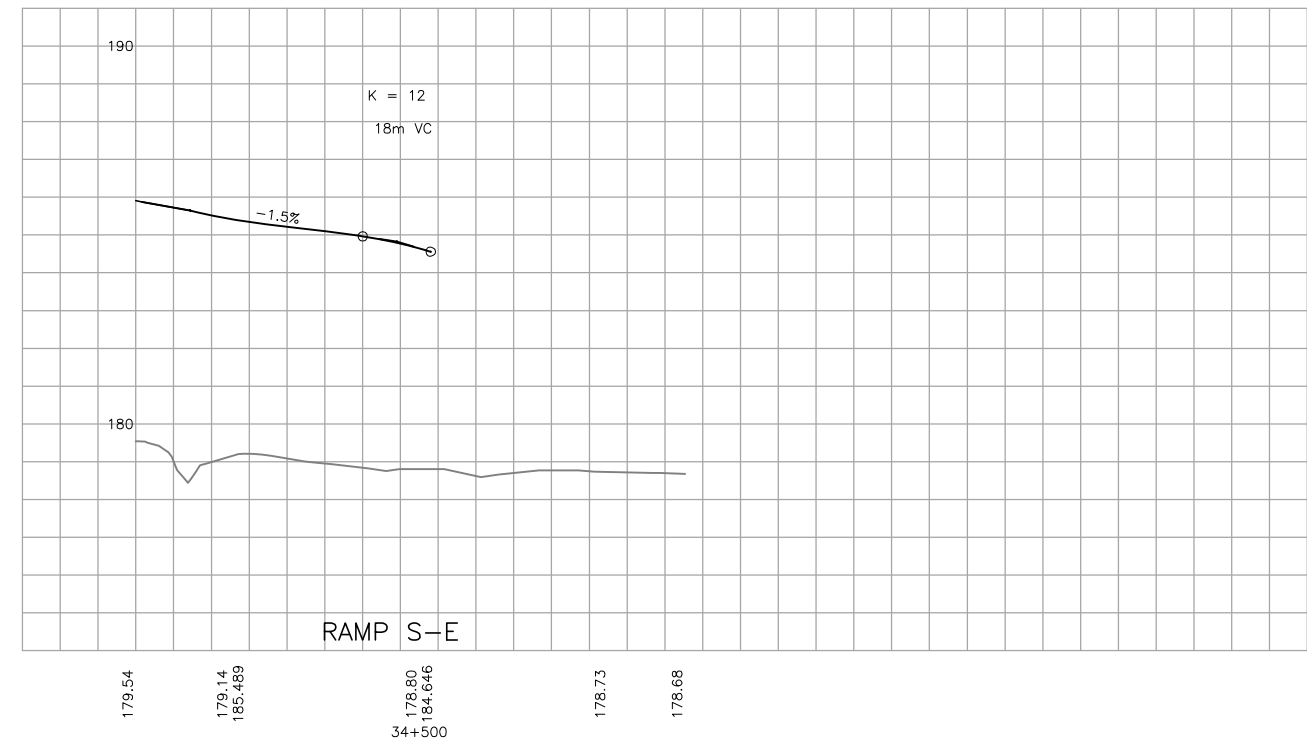
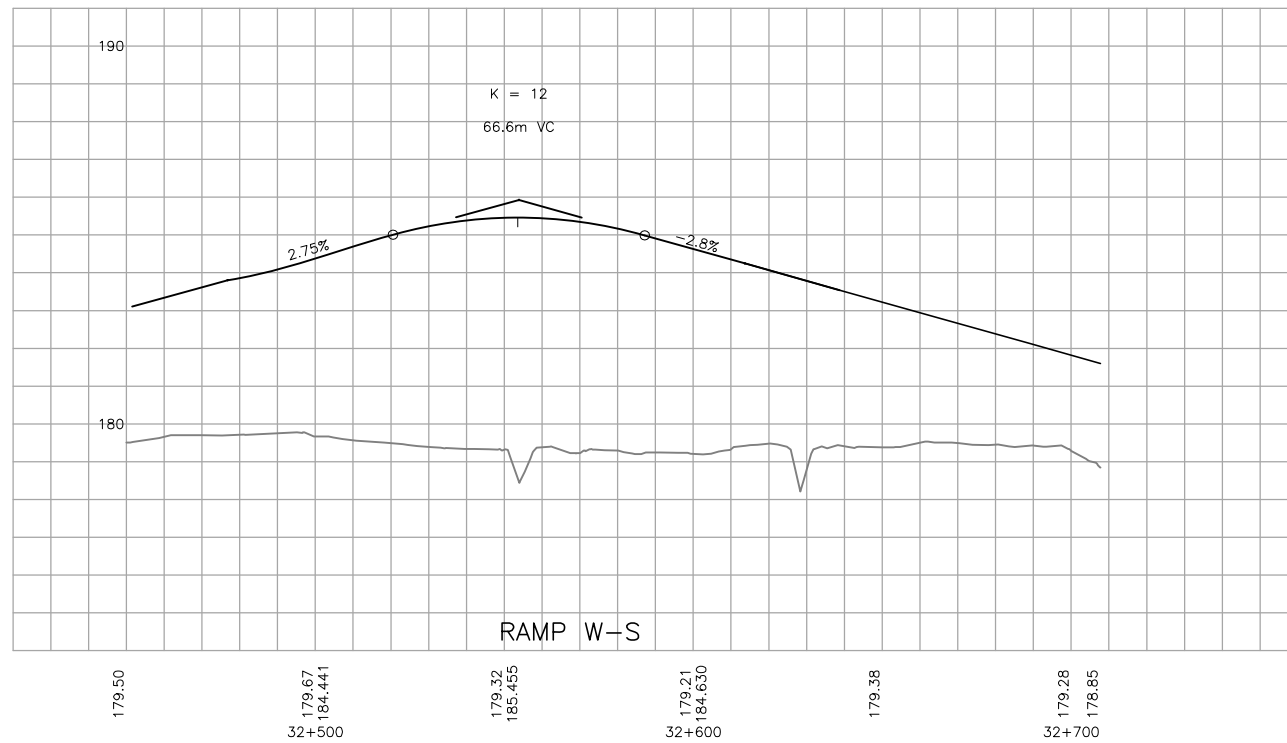
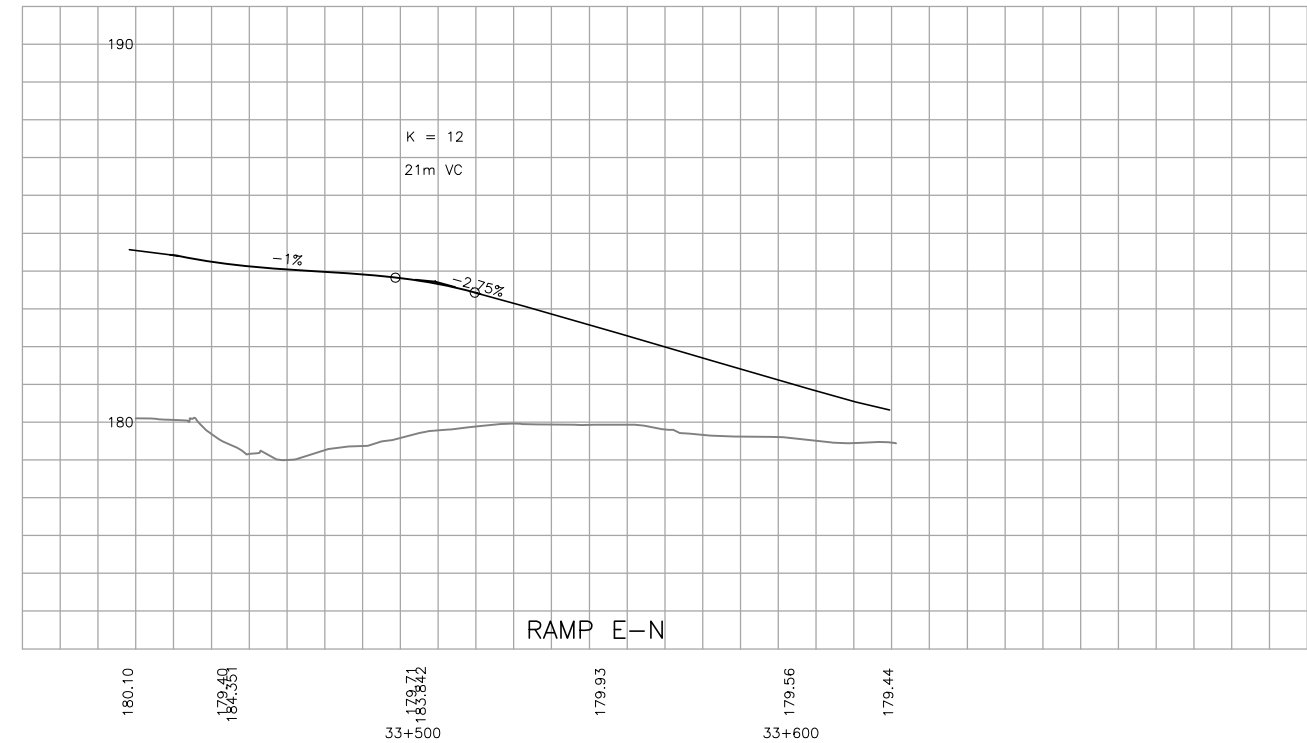
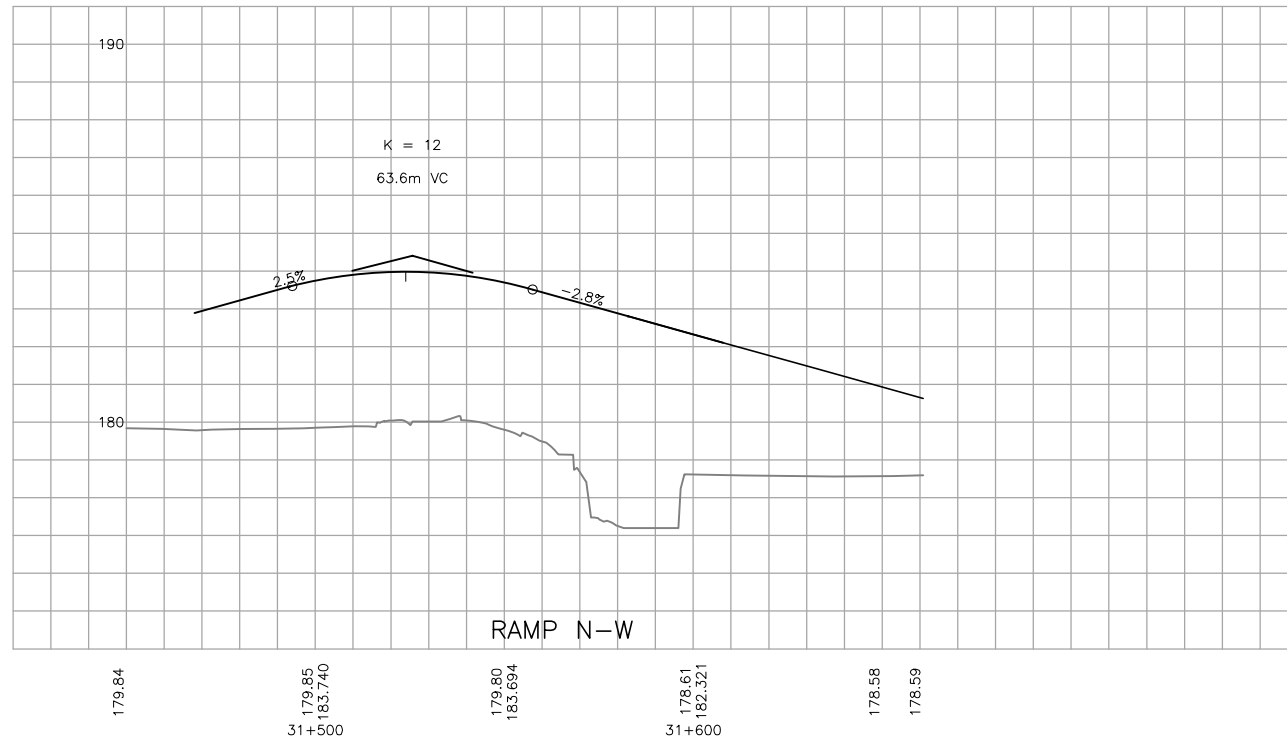
**NOV 2008**      **SHEET 25**



**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

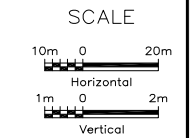
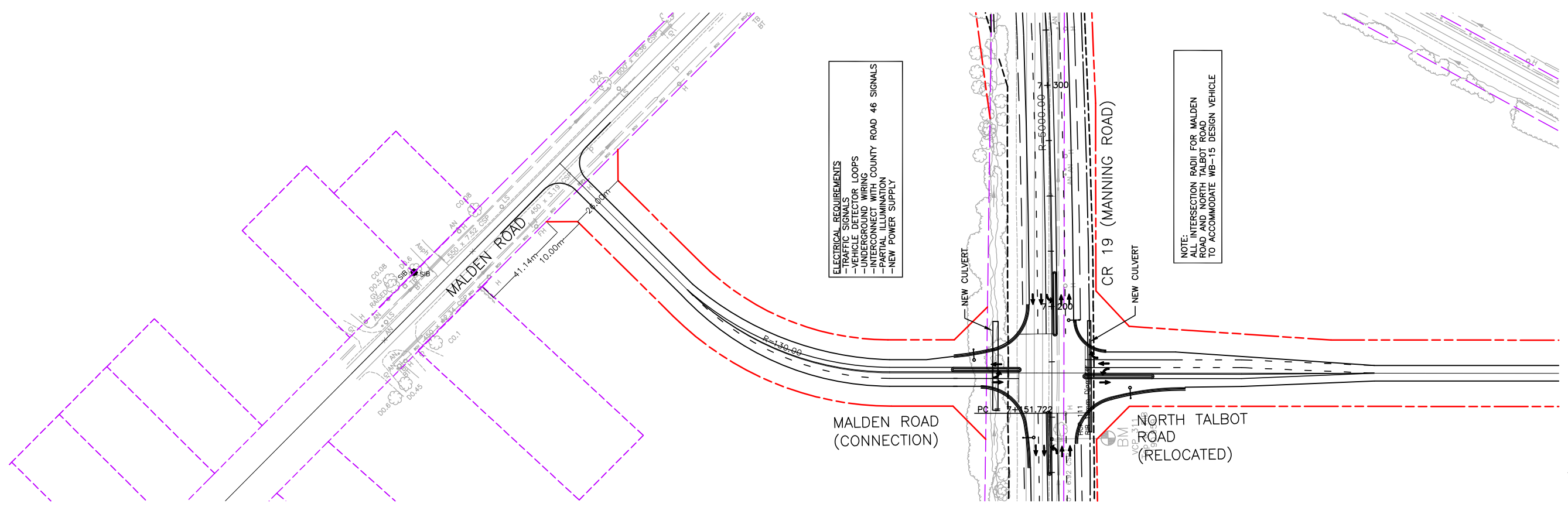
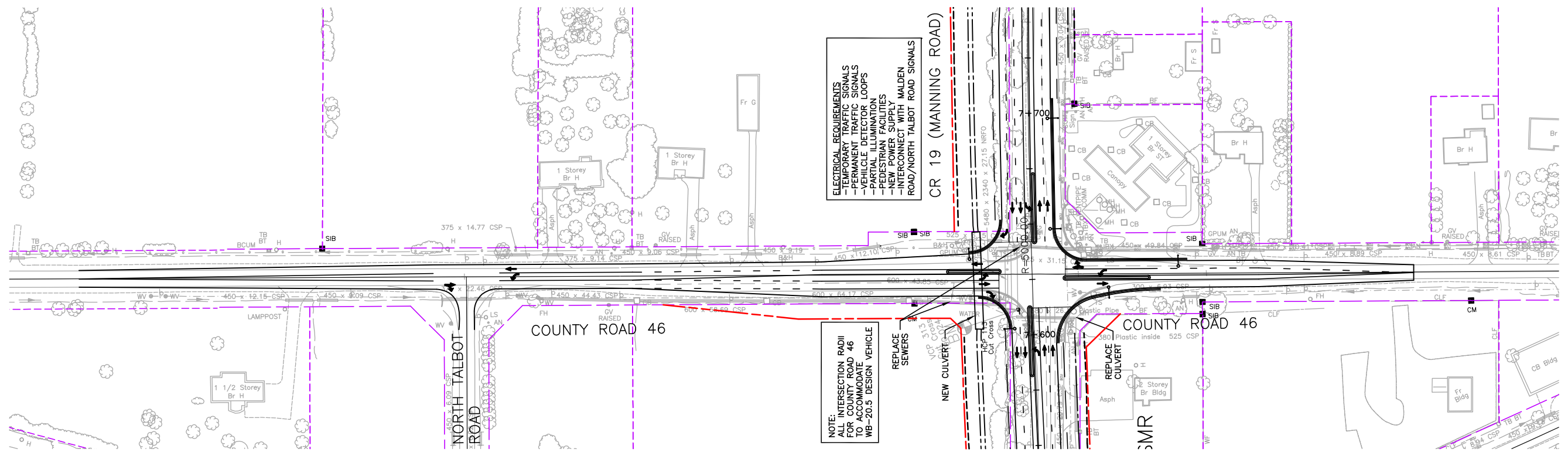
**CR 22 RAMPS**  
**PRELIMINARY DESIGN**

**NOV 2008**      **SHEET 26**



**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 22 RAMPS**  
**PRELIMINARY DESIGN**  
**NOV 2008**  
**SHEET 27**



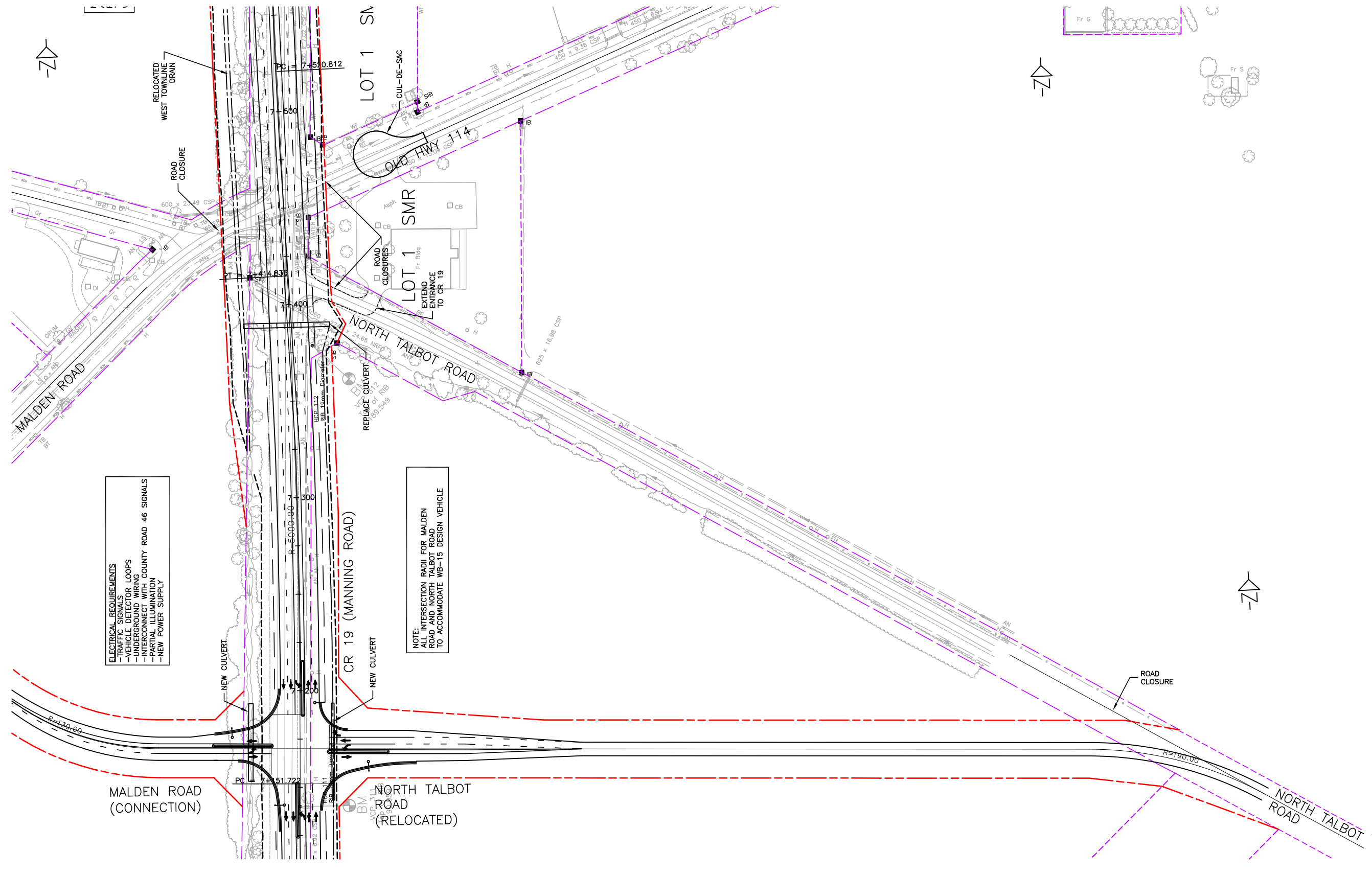
- - - - - EXISTING LOT LINE
- - - - - EXISTING ROW LINE
- - - - - PROPOSED ROW LINE
- - - - - GRANULAR SHOULDER
- - - - - DITCH/DRAIN
- - - - - APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 46 & MALDEN ROAD PRELIMINARY DESIGN**

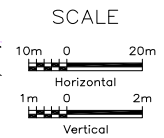
**NOV 2008**

**SHEET 28**



- ELECTRICAL REQUIREMENTS**
- TRAFFIC SIGNALS
  - VEHICLE DETECTOR LOOPS
  - UNDERGROUND WIRING
  - INTERCONNECT WITH COUNTY ROAD 46 SIGNALS
  - PARTIAL ILLUMINATION
  - NEW POWER SUPPLY

**NOTE:**  
ALL INTERSECTION RADII FOR MALDEN ROAD AND NORTH TALBOT ROAD TO ACCOMMODATE WB-15 DESIGN VEHICLE



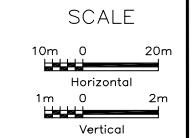
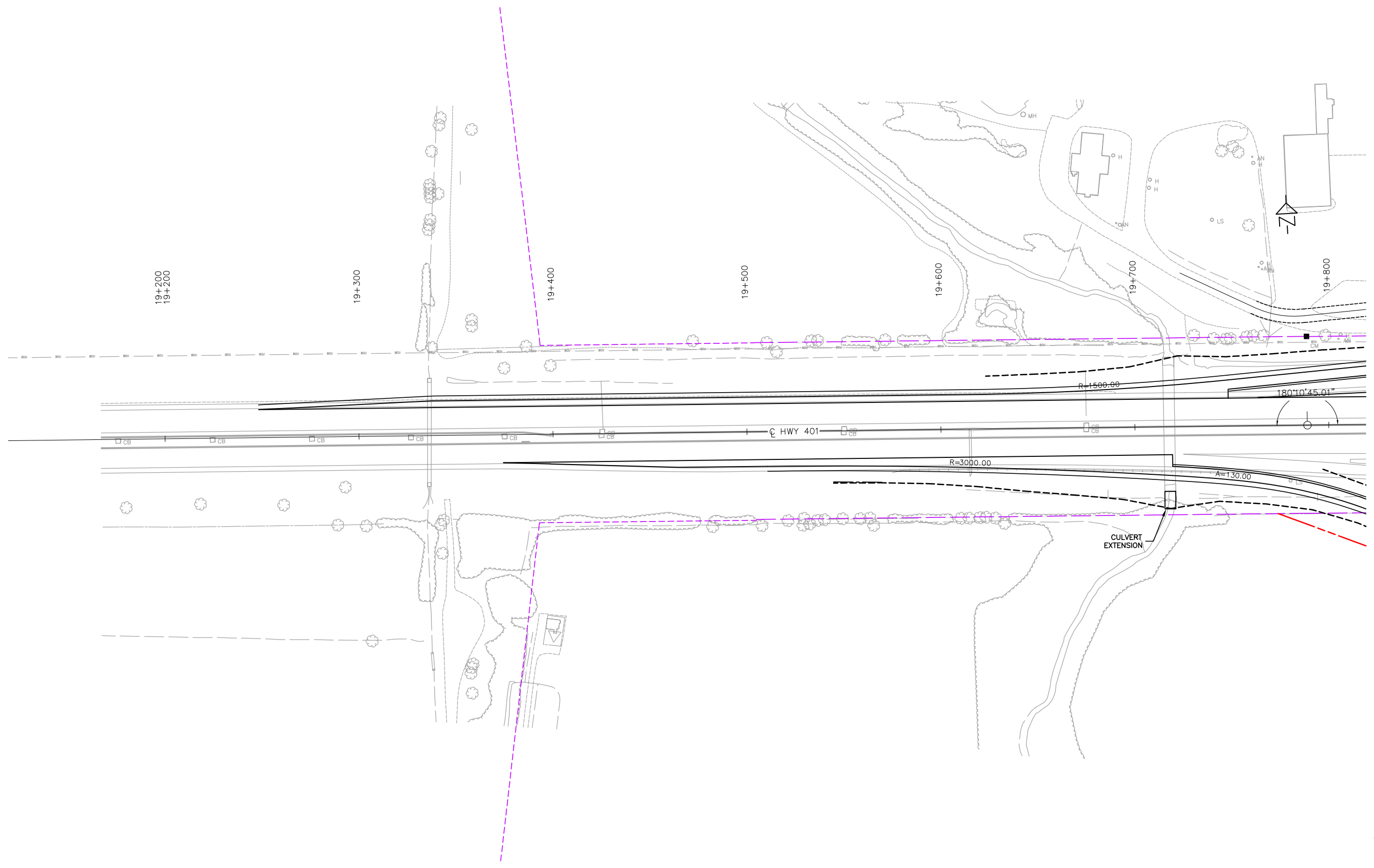
- - - - - EXISTING LOT LINE
- - - - - EXISTING ROW LINE
- - - - - PROPOSED ROW LINE
- - - - - GRANULAR SHOULDER
- - - - - DITCH/DRAIN
- - - - - APPROX. CUT/FILL LIMIT
- - - - - PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**NORTH TALBOT ROAD**  
**PRELIMINARY DESIGN**

**NOV 2008**      **SHEET 29**

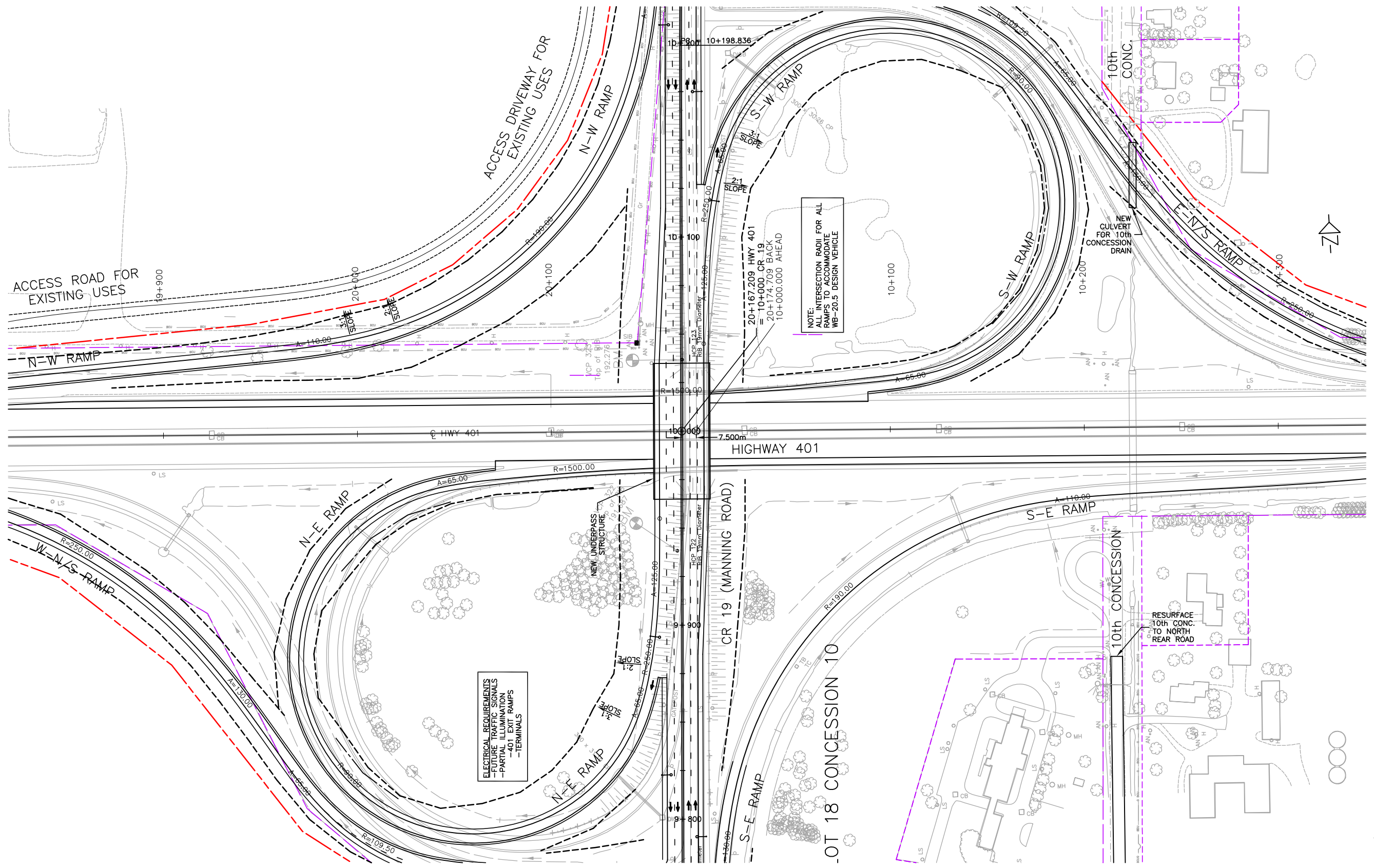




- EXISTING LOT LINE
- - - EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- - - DITCH/DRAIN
- - - APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

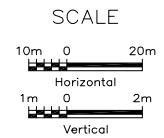
**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

<b>HWY 401 PRELIMINARY DESIGN</b>	
<b>NOV 2008</b>	<b>SHEET 30</b>



ELECTRICAL REQUIREMENTS  
 - FUTURE TRAFFIC SIGNALS  
 - PARTIAL ILLUMINATION  
 - 401 EXIT RAMP  
 - TERMINALS

NOTE: ALL INTERSECTION RADII FOR ALL RAMP TO ACCOMMODATE WB-20.5 DESIGN VEHICLE

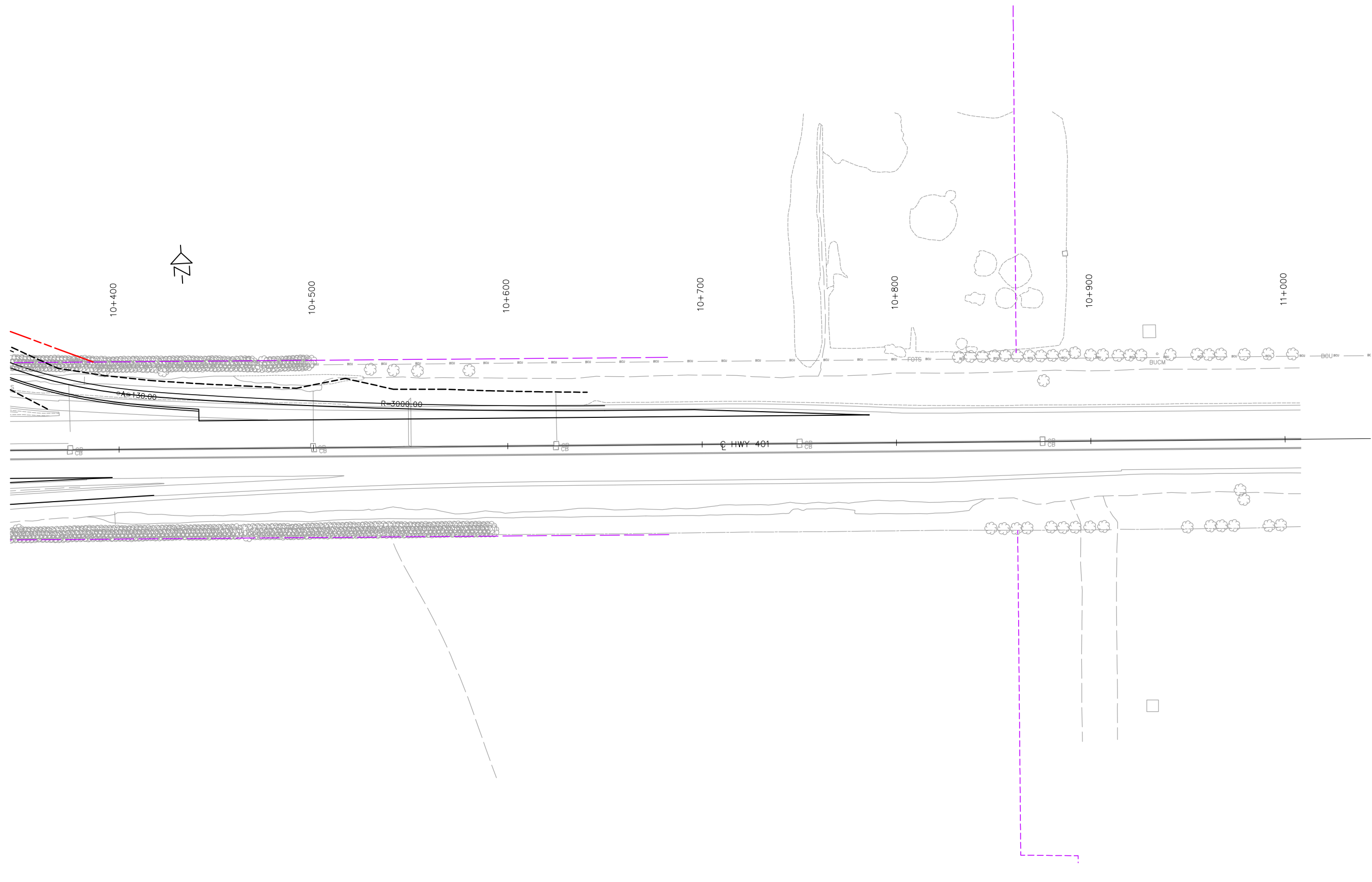


- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**HWY 401**  
**PRELIMINARY DESIGN**

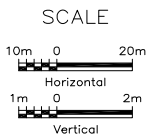
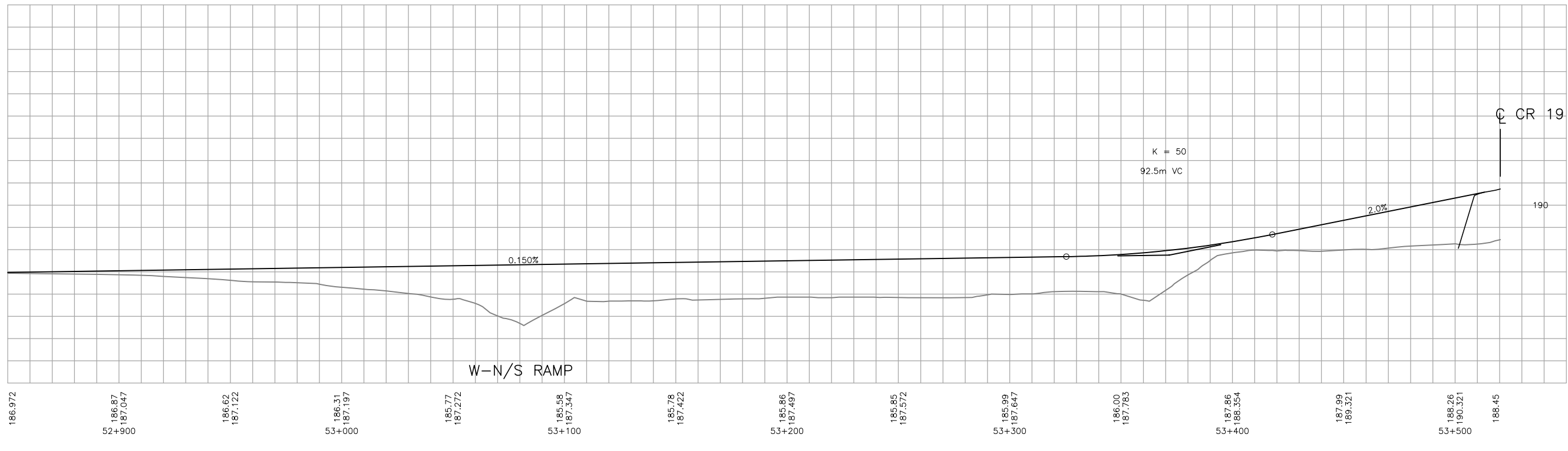
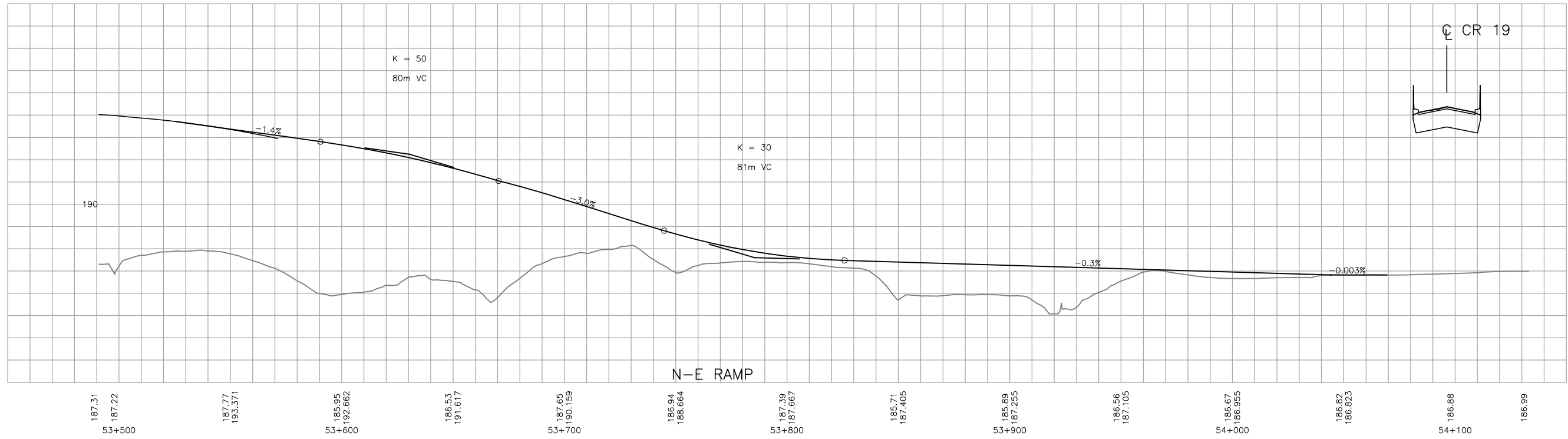
**NOV 2008**      **SHEET 31**



- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

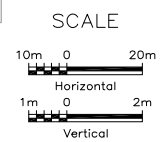
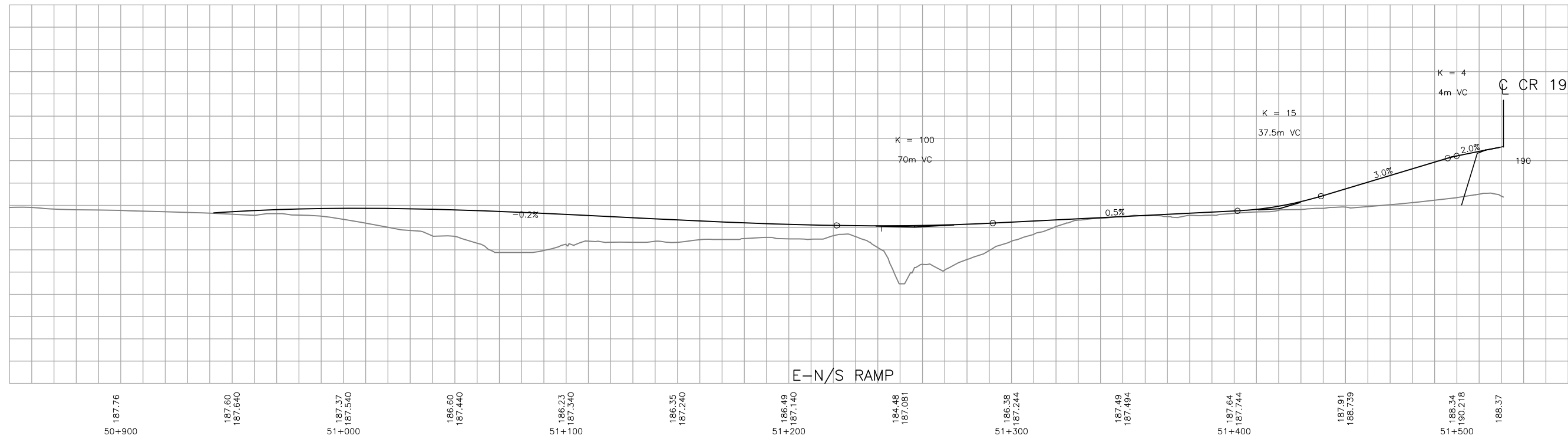
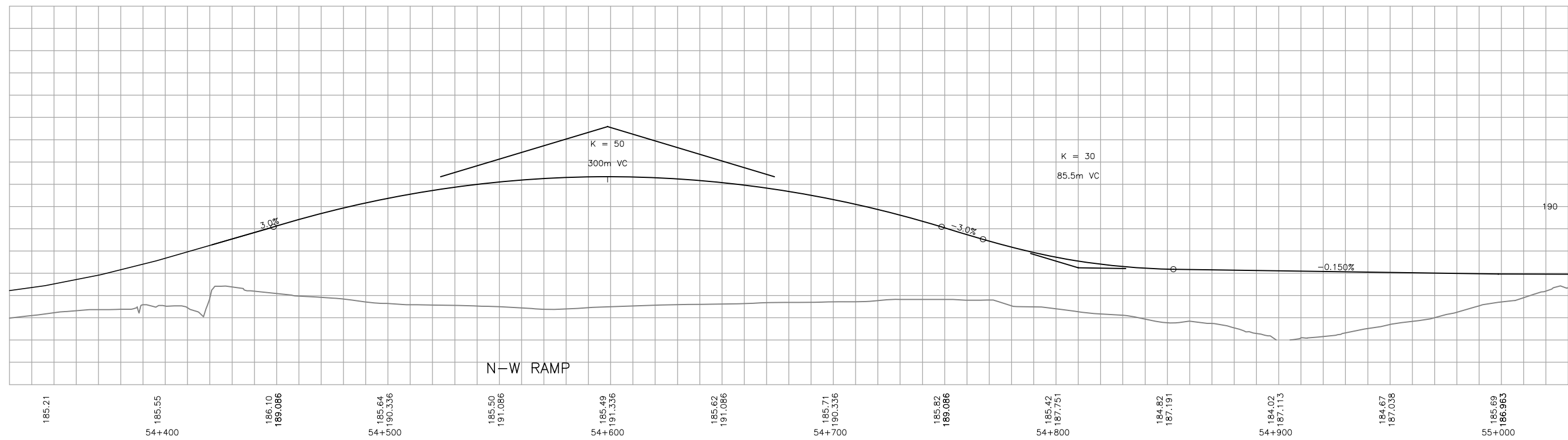
<b>HWY 401 PRELIMINARY DESIGN</b>	
<b>NOV 2008</b>	<b>SHEET 32</b>



**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**HWY 401 RAMPS**  
**PRELIMINARY DESIGN**

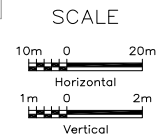
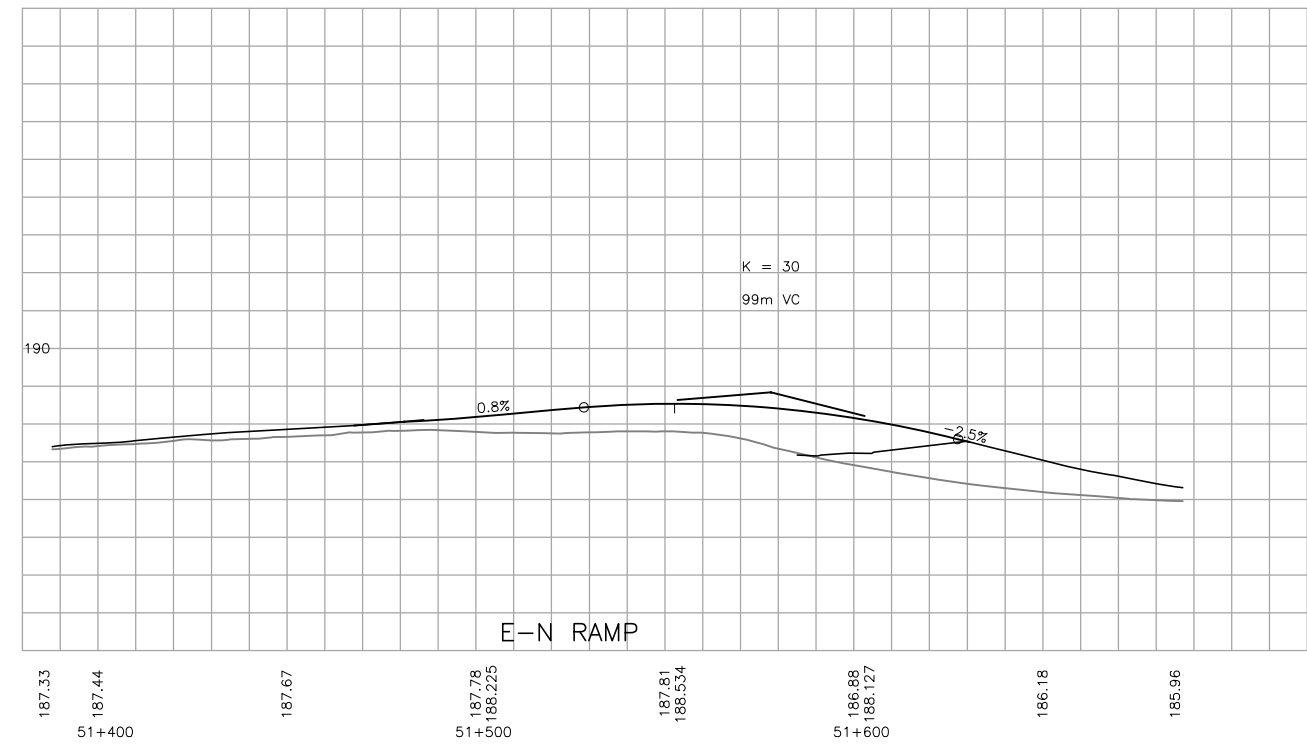
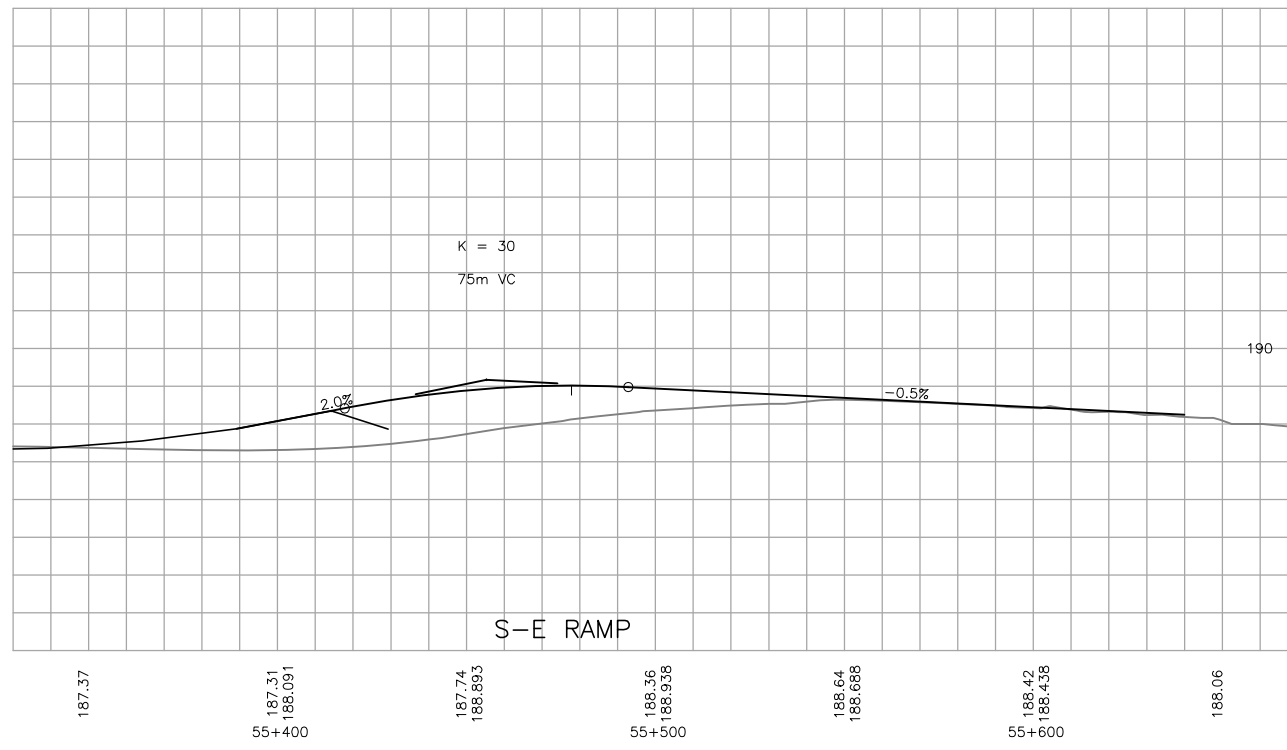
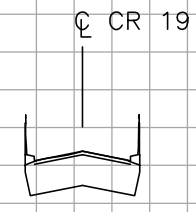
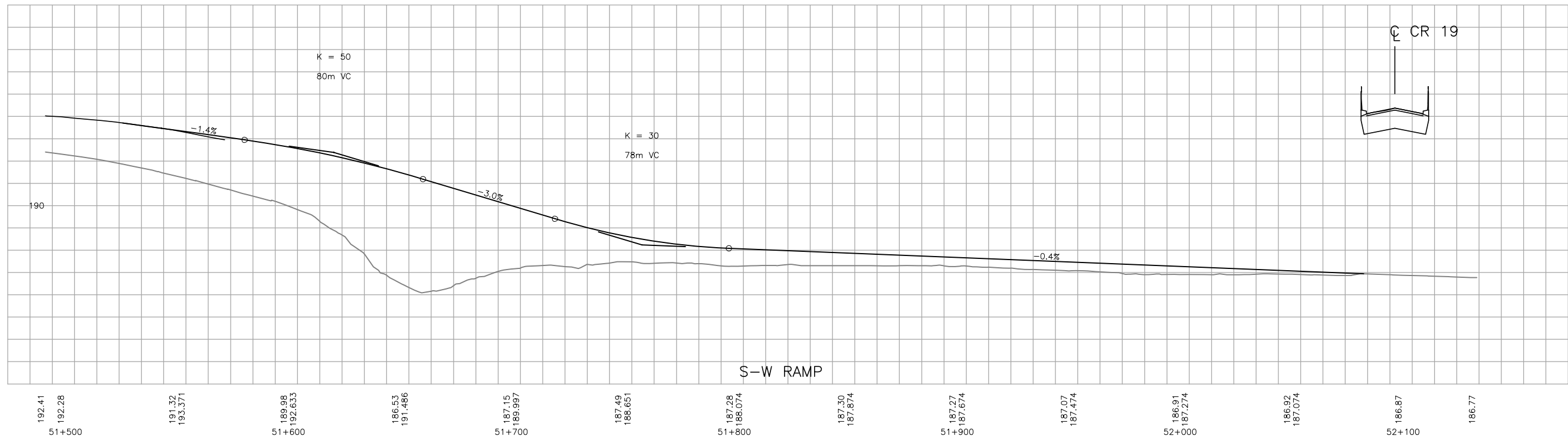
**NOV 2008**      **SHEET 33**



**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**HWY 401 RAMPS**  
**PRELIMINARY DESIGN**

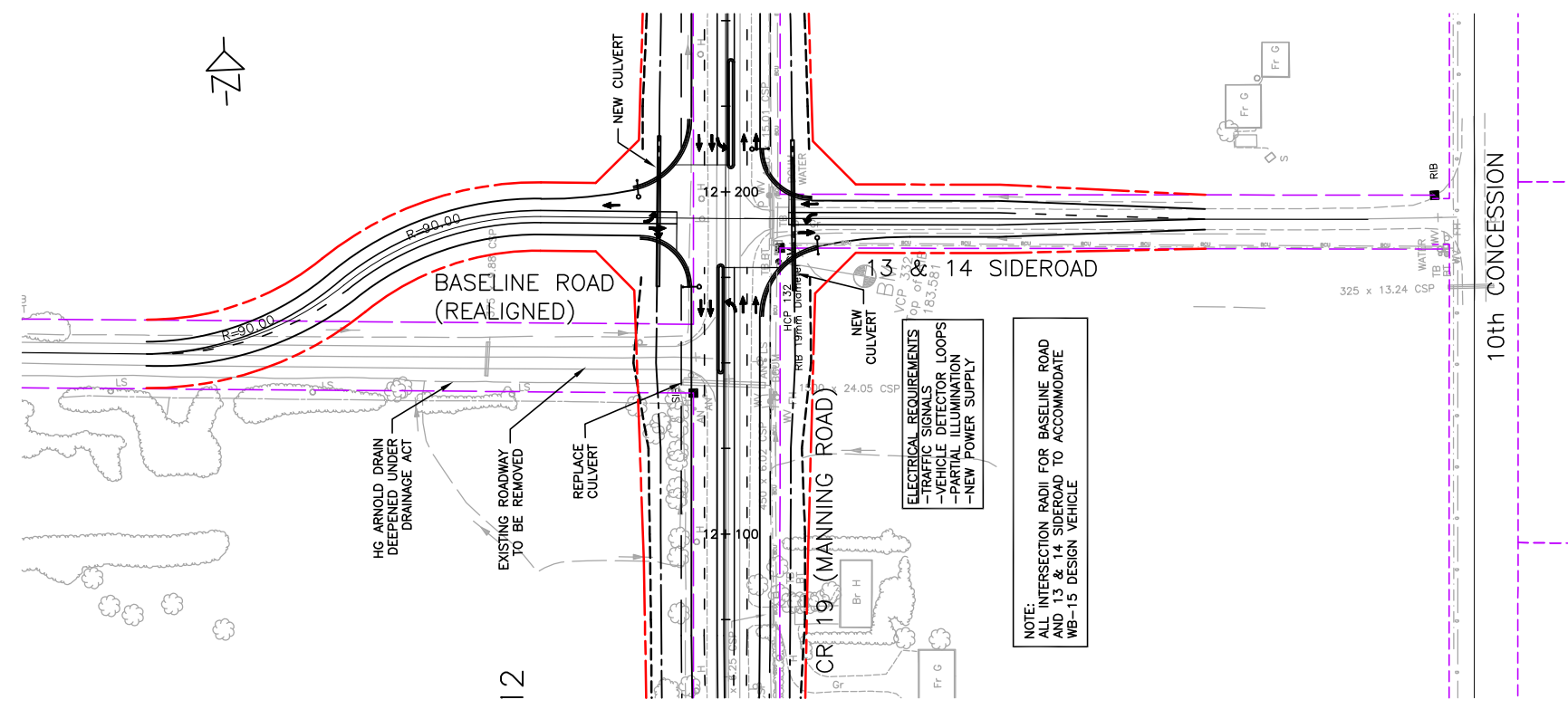
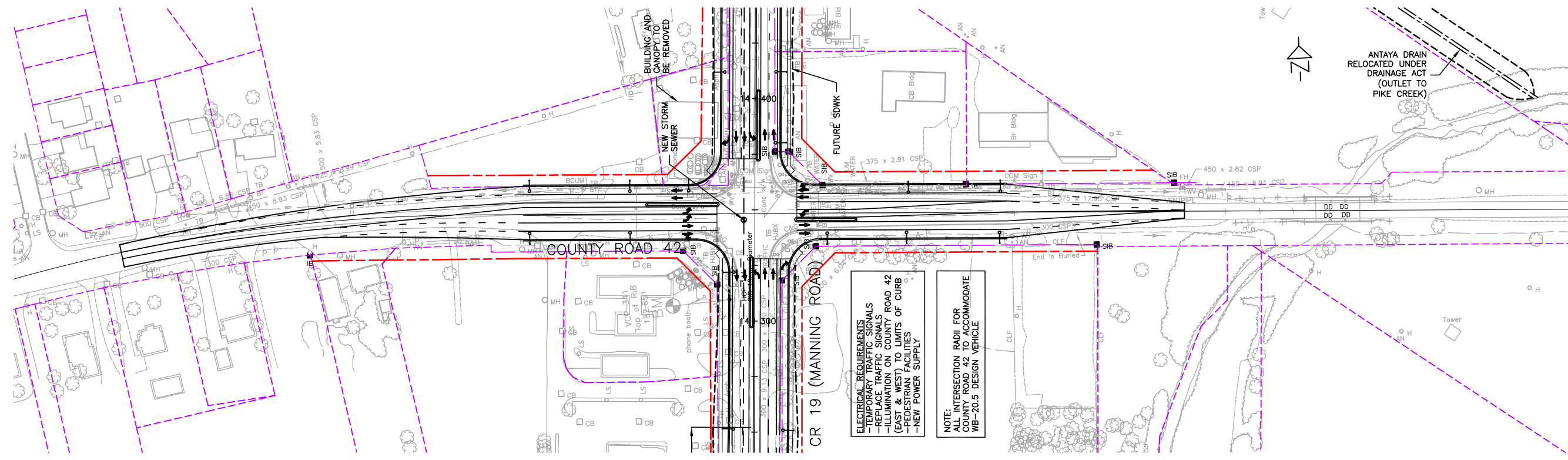
**NOV 2008**      **SHEET 34**



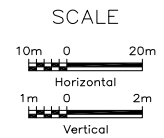
**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**HWY 401 RAMPS**  
**PRELIMINARY DESIGN**

**NOV 2008**      **SHEET 35**



**OPTION 1**

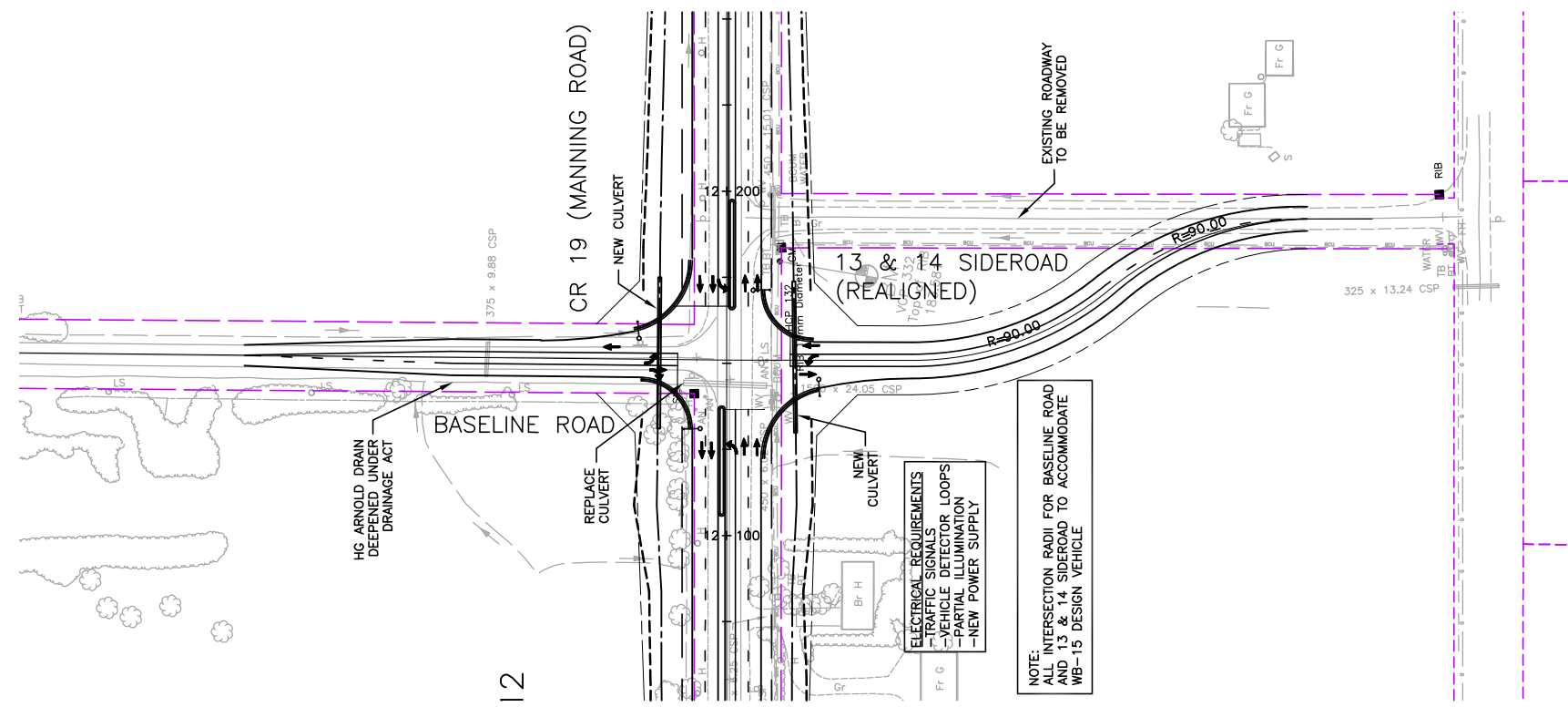


- - - - - EXISTING LOT LINE
- - - - - EXISTING ROW LINE
- - - - - PROPOSED ROW LINE
- - - - - GRANULAR SHOULDER
- - - - - DITCH/DRAIN
- - - - - APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**SIDERoadS AND CR 42**  
**PRELIMINARY DESIGN**

**NOV 2008**      **SHEET 36-1**



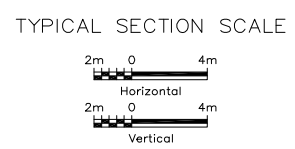
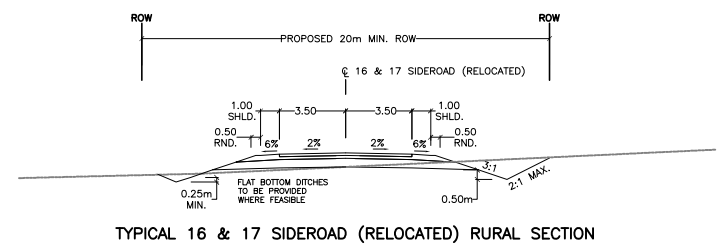
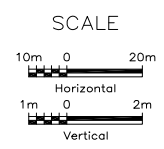
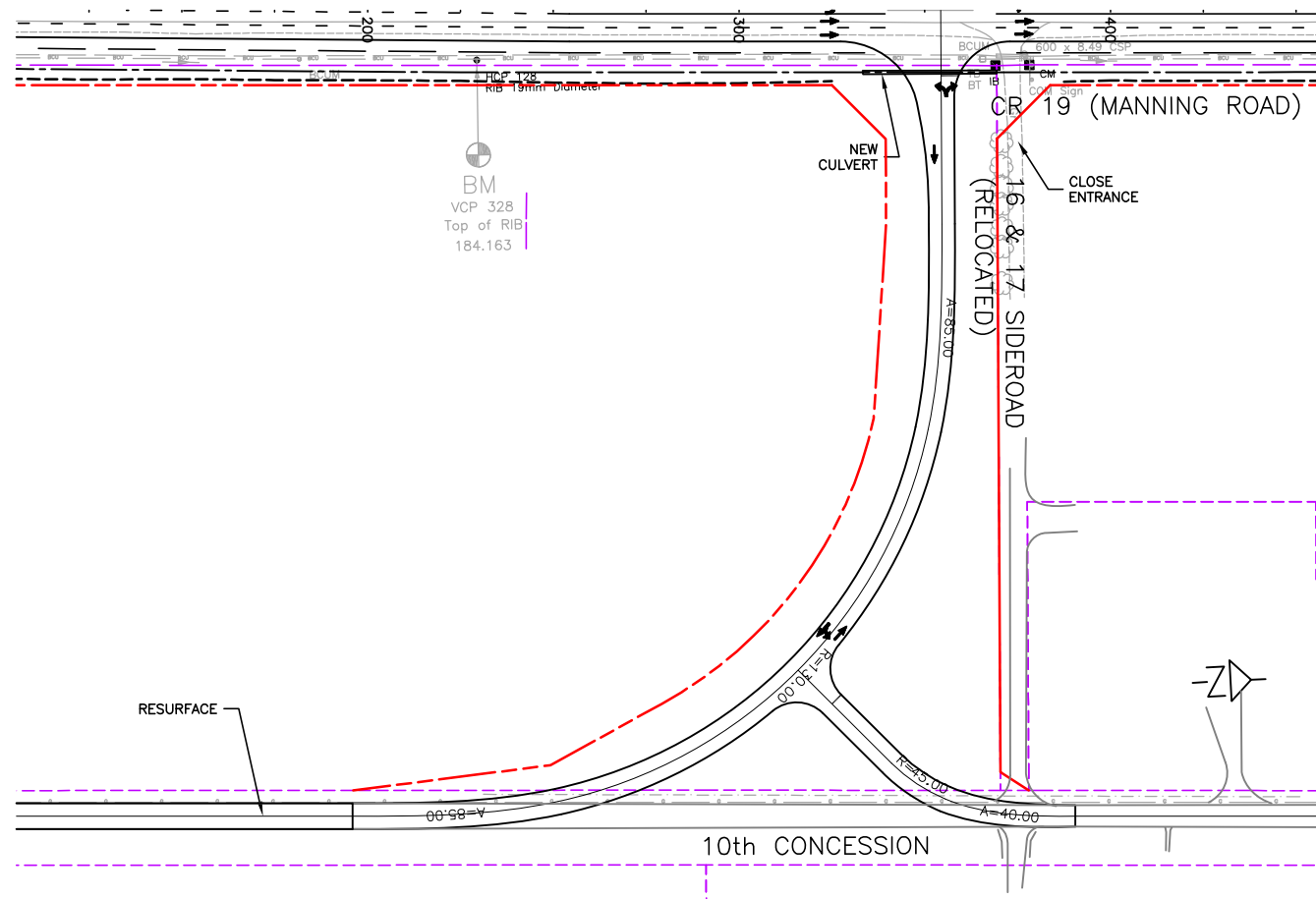
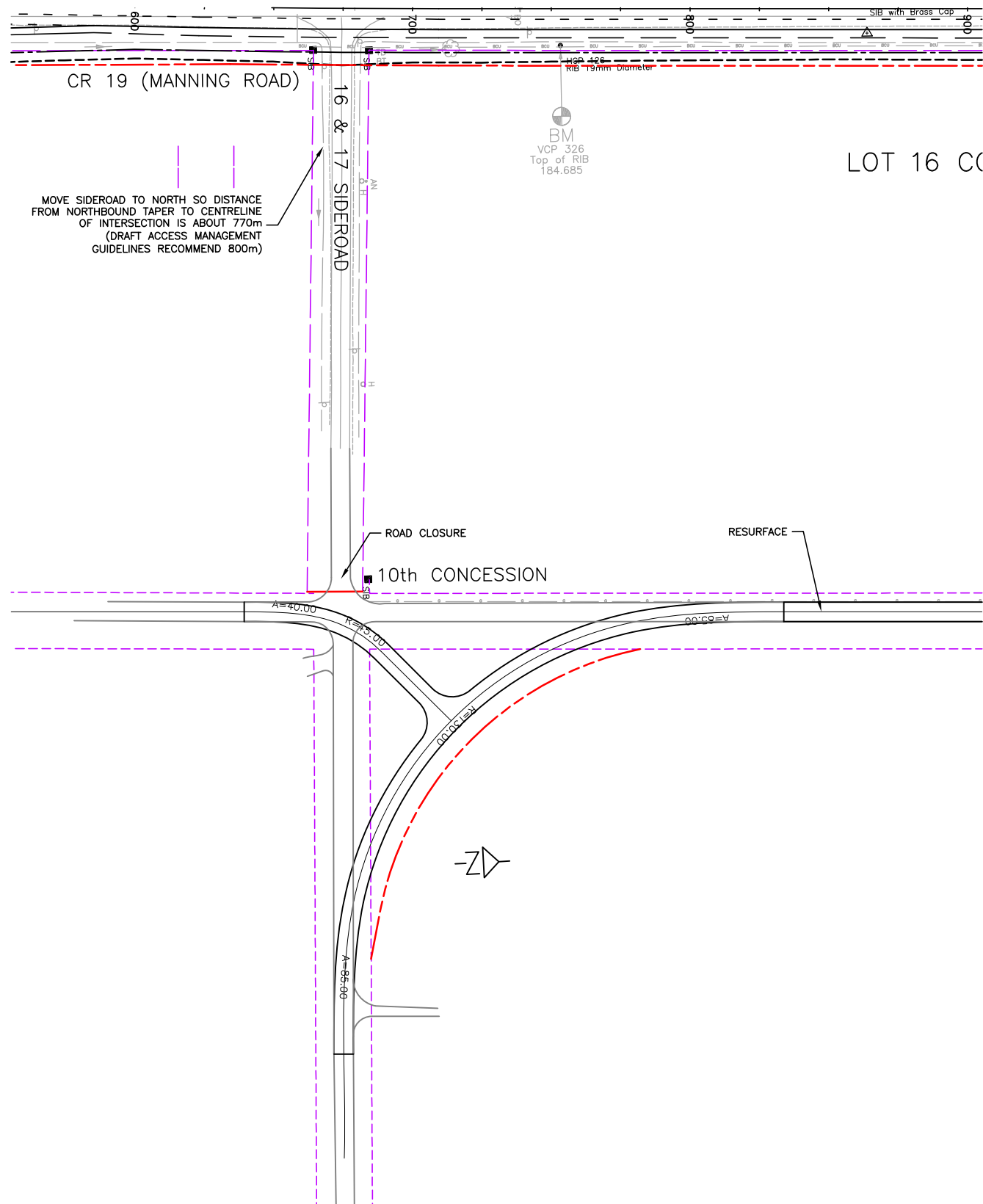
- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**SIDEROADS AND CR 42**  
**PRELIMINARY DESIGN**

<b>NOV 2008</b>	<b>SHEET 36-2</b>
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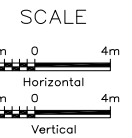
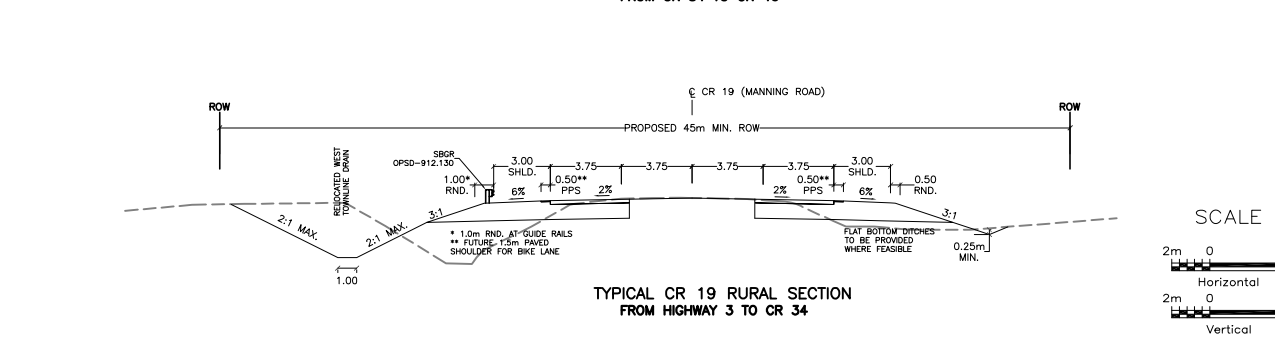
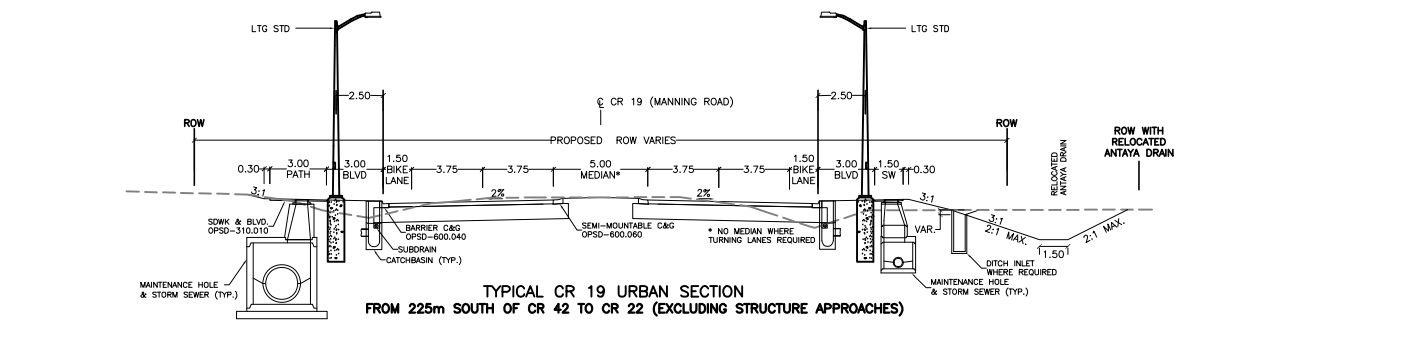
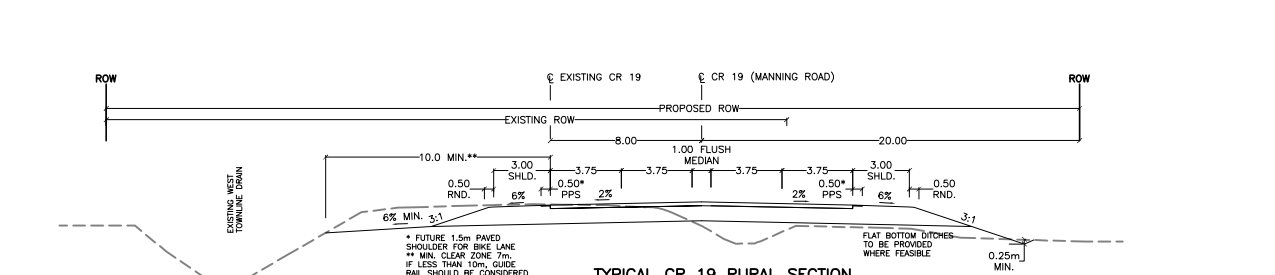
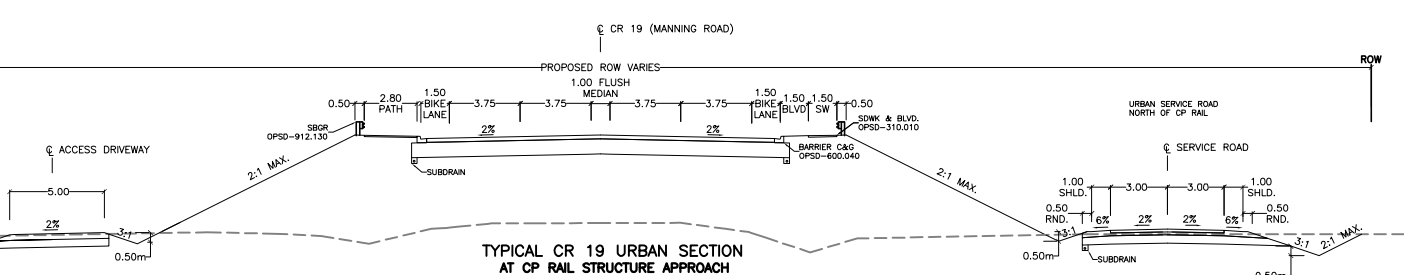
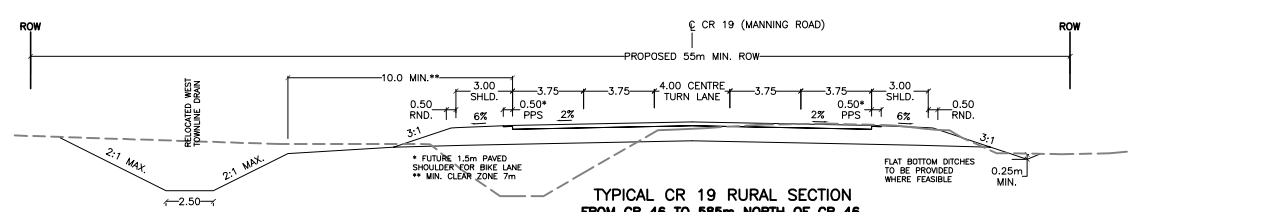
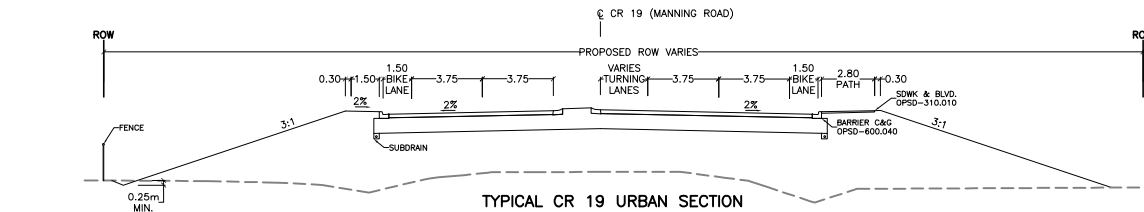
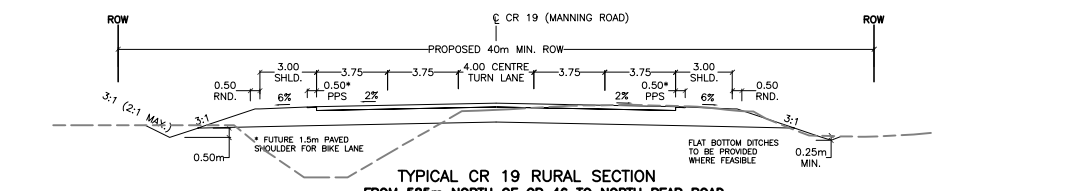
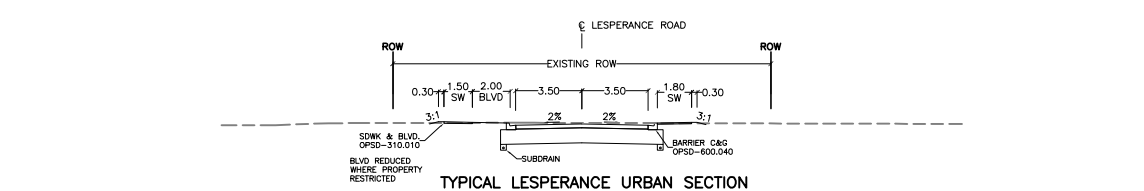
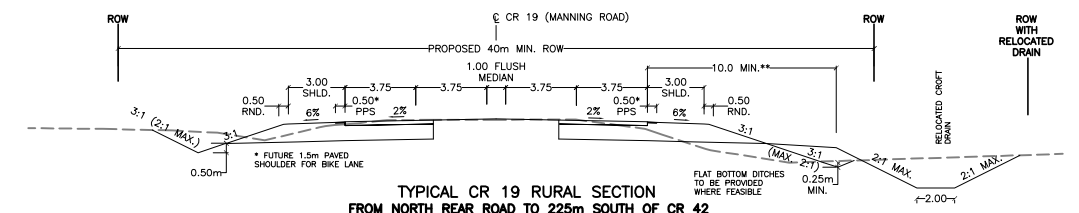
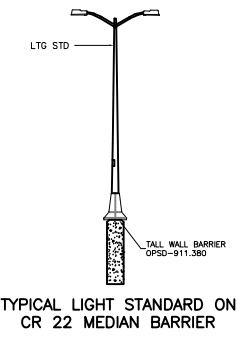
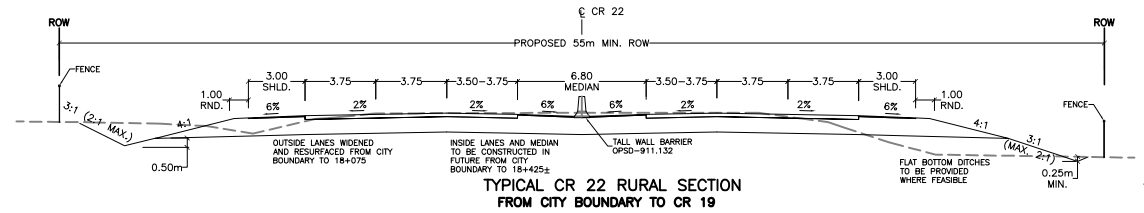
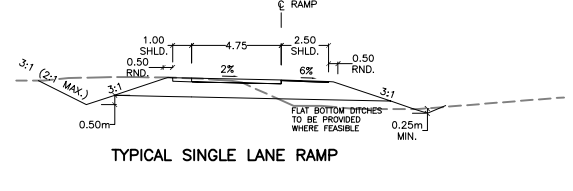
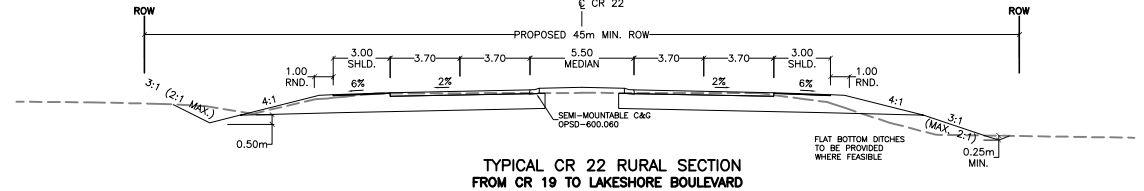
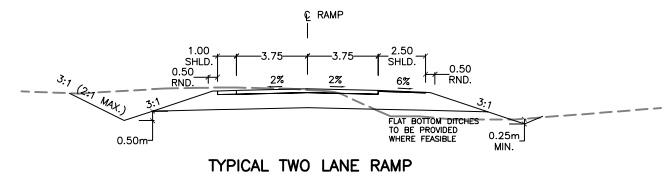
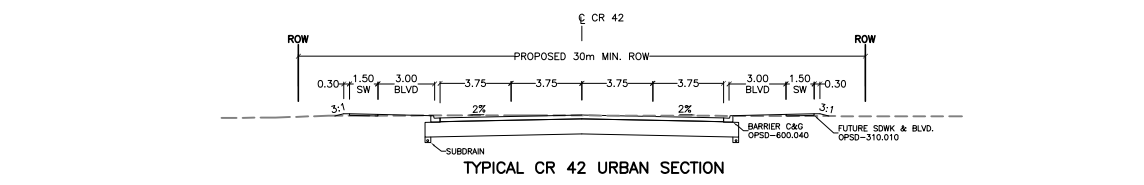




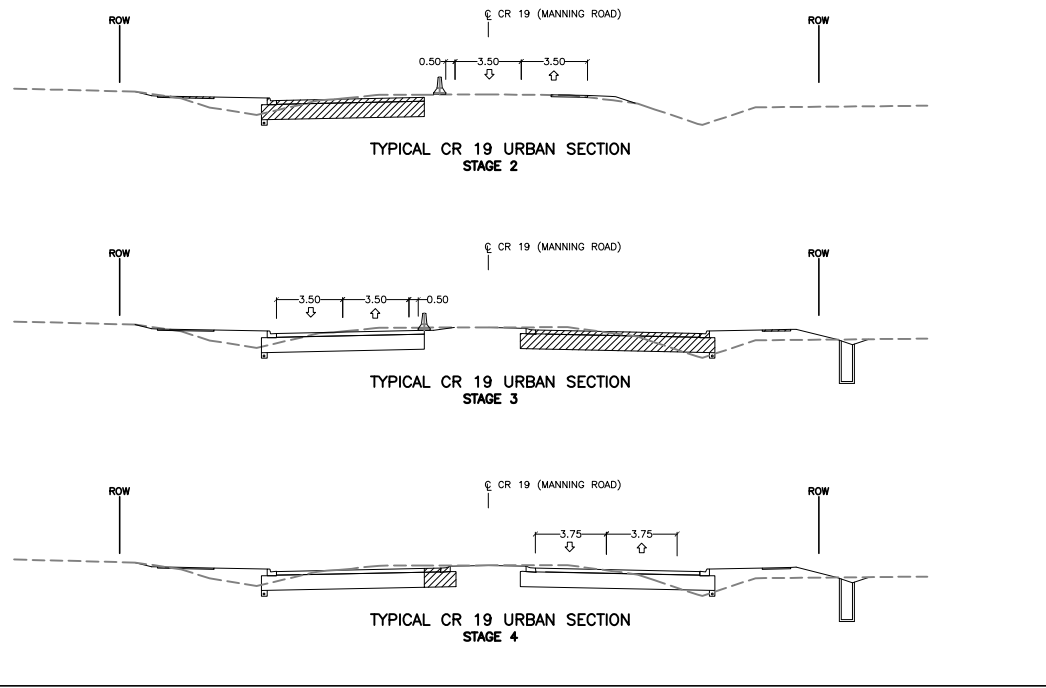
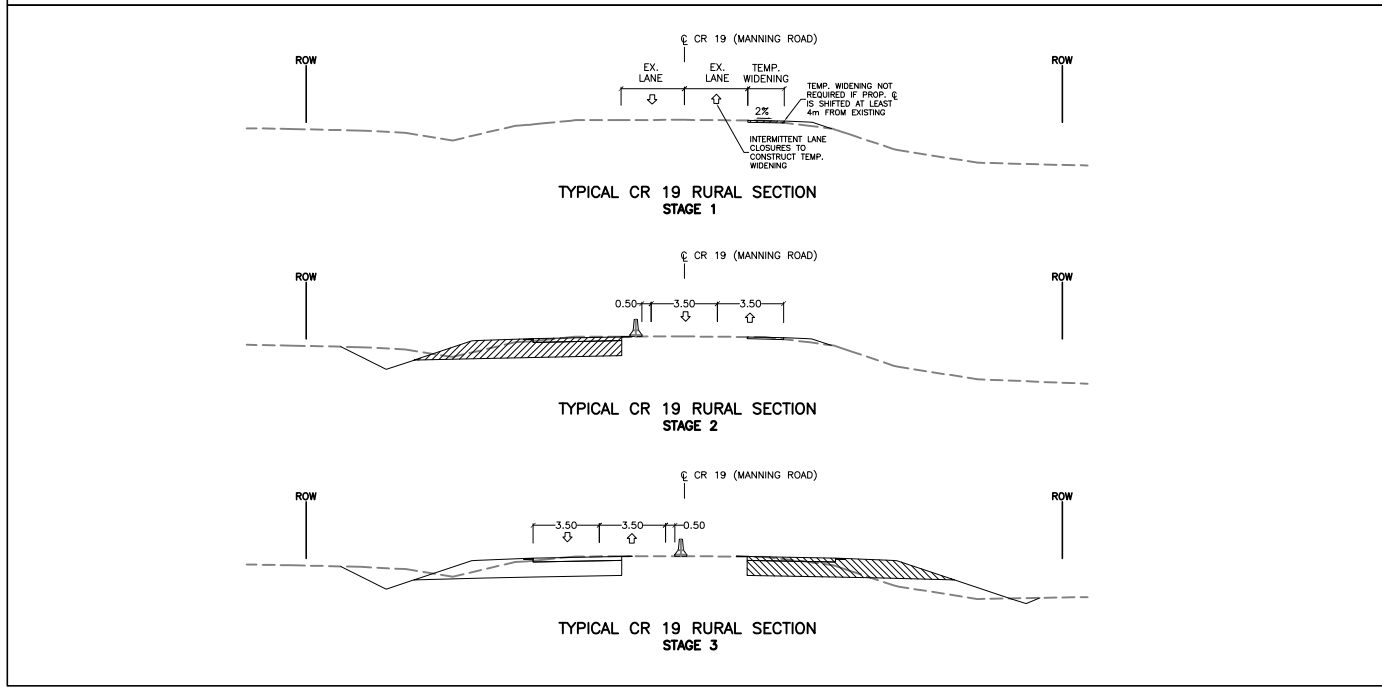
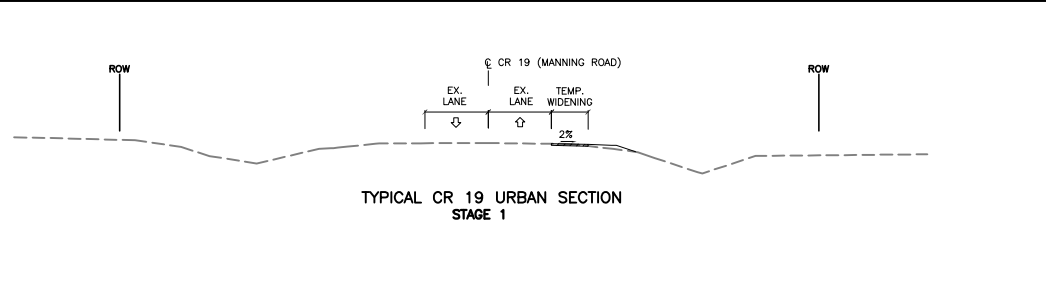
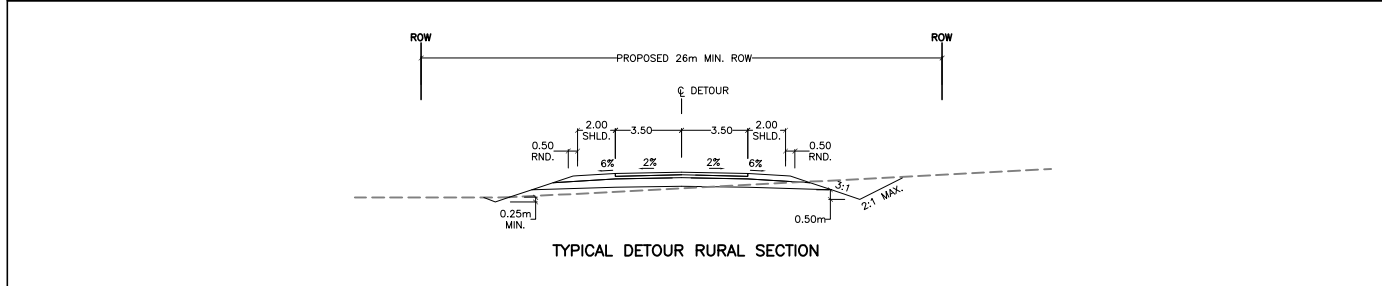
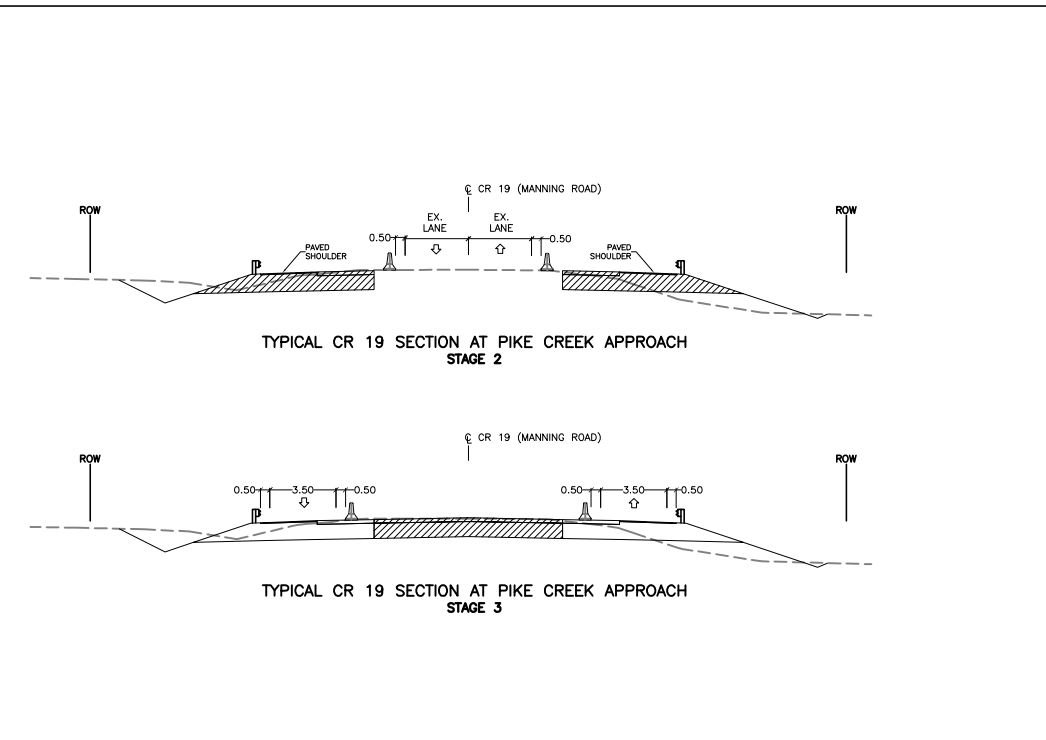
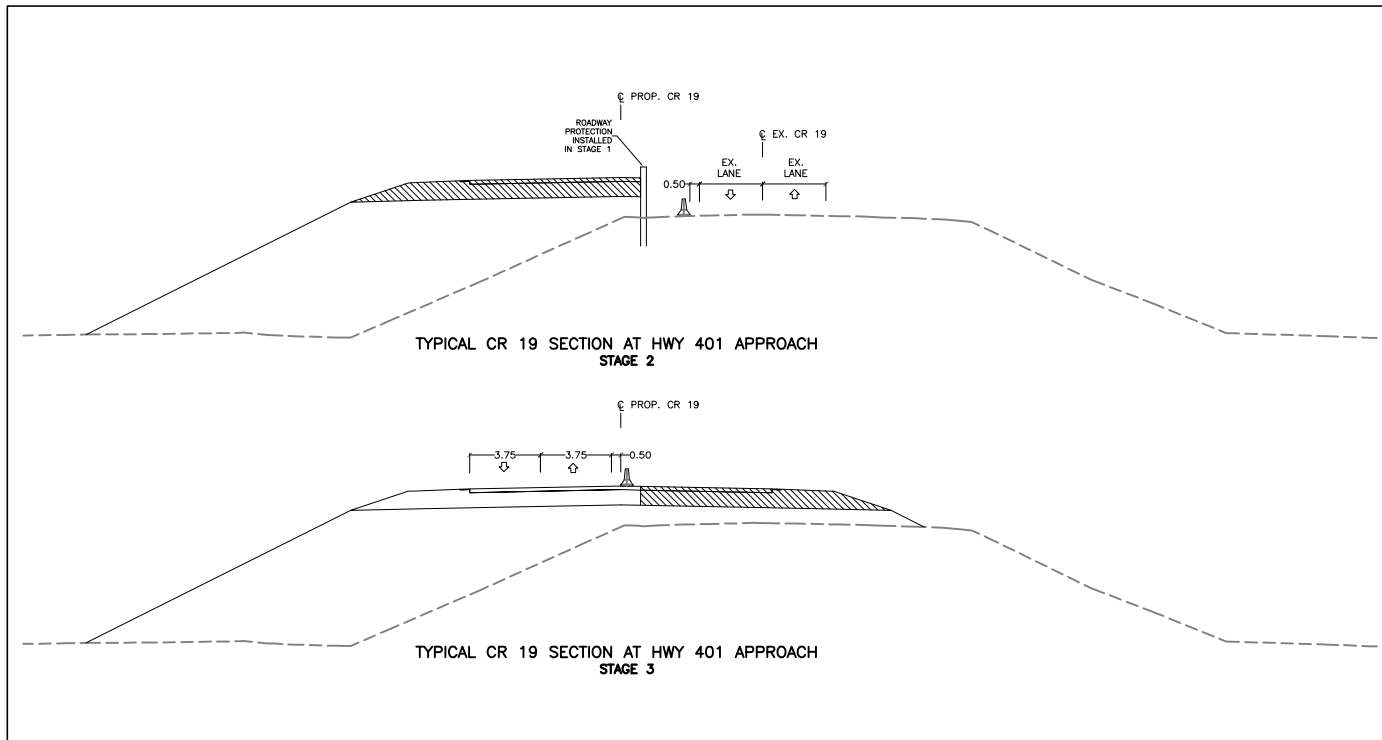
- EXISTING LOT LINE
- EXISTING ROW LINE
- PROPOSED ROW LINE
- GRANULAR SHOULDER
- DITCH/DRAIN
- APPROX. CUT/FILL LIMIT
- PROPOSED LIGHT STANDARD

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

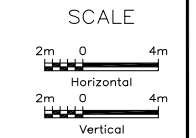
**16 & 17 SIDEROAD**  
**PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET 37**



**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**



NOTES:  
 1. ENTRANCES TO BE MAINTAINED.  
 2. SOME RAMPS WILL BE CLOSED TO CONSTRUCT THE APPROACHES TO THE CR 19/HWY 401 UNDERPASS STRUCTURE. TRAFFIC TO BE DETOURED TO OTHER INTERCHANGES.  
 3. CR 19 DETOUR REQUIRED IN ORDER TO CONSTRUCT CR 19/CPR OVERHEAD STRUCTURE AND APPROACHES (SEE PRELIMINARY DESIGN DRAWINGS).  
 4. CR 19 WILL BE CLOSED AT CR 22 IN ORDER TO CONSTRUCT CR 19/CR 22 OVERPASS STRUCTURE AND APPROACHES. REFER TO SHEETS ST-3 AND ST-4.

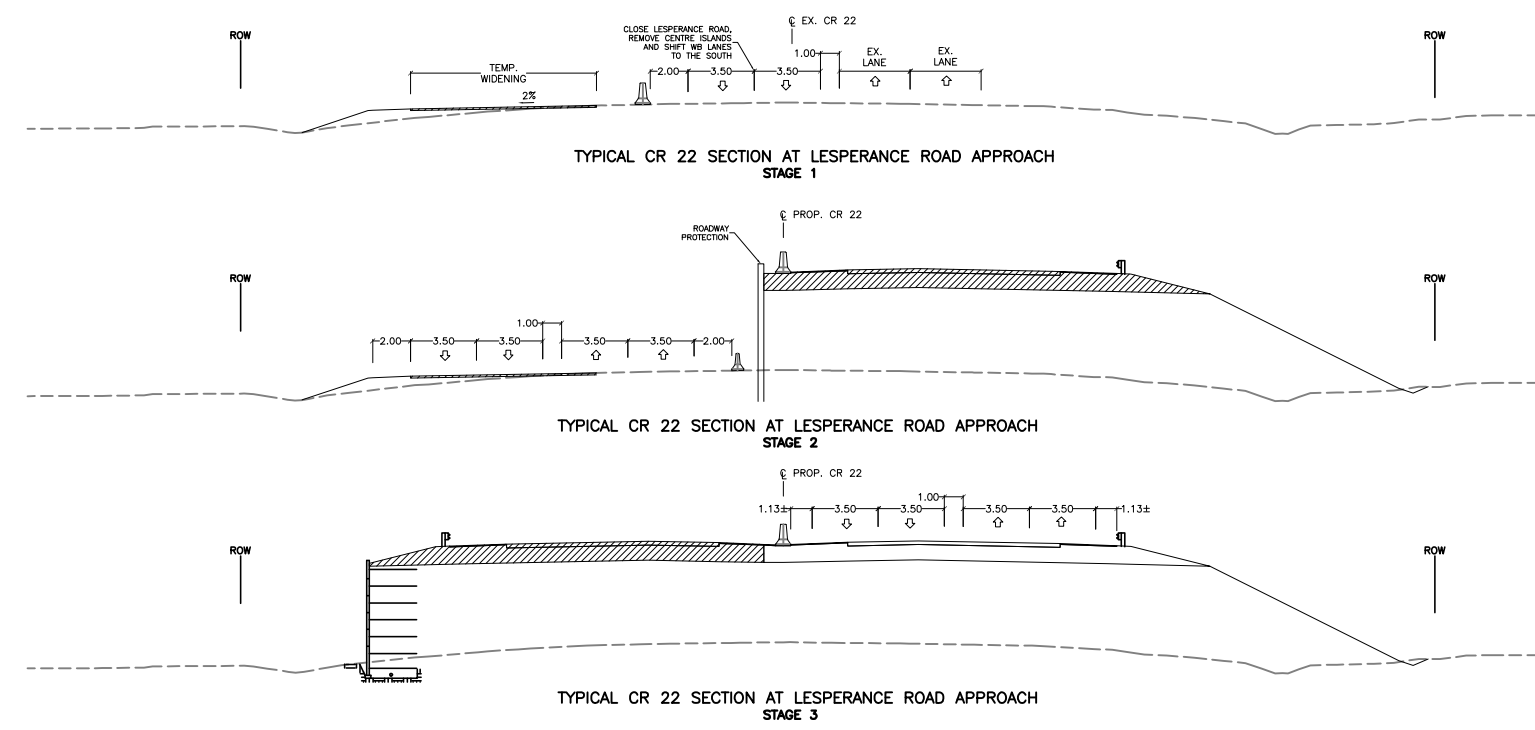
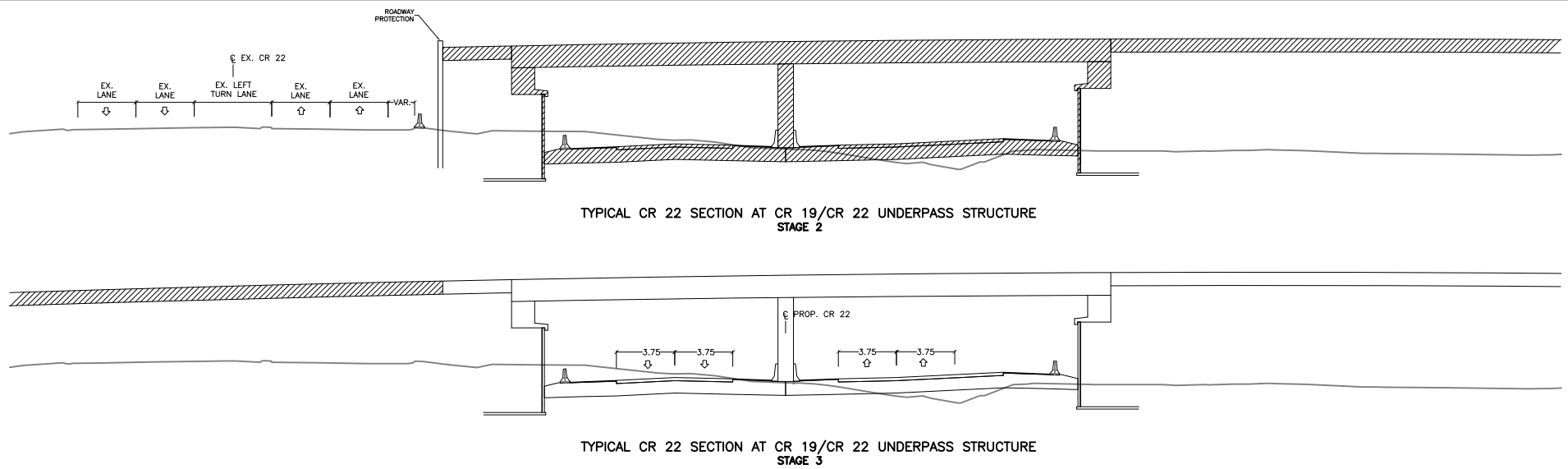
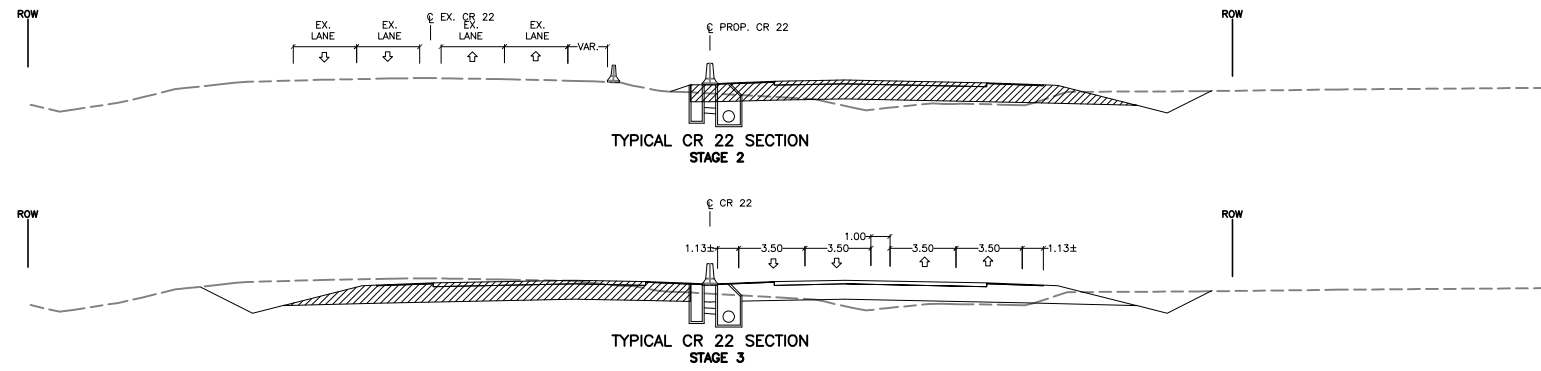


UNDER CONSTRUCTION  
 TRAFFIC LANE AND DIRECTION  
 TEMPORARY CONCRETE BARRIER

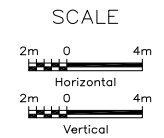
**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19 STAGING TYPICALS**  
**PRELIMINARY DESIGN**

**NOV 2008**      **SHEET ST-1**



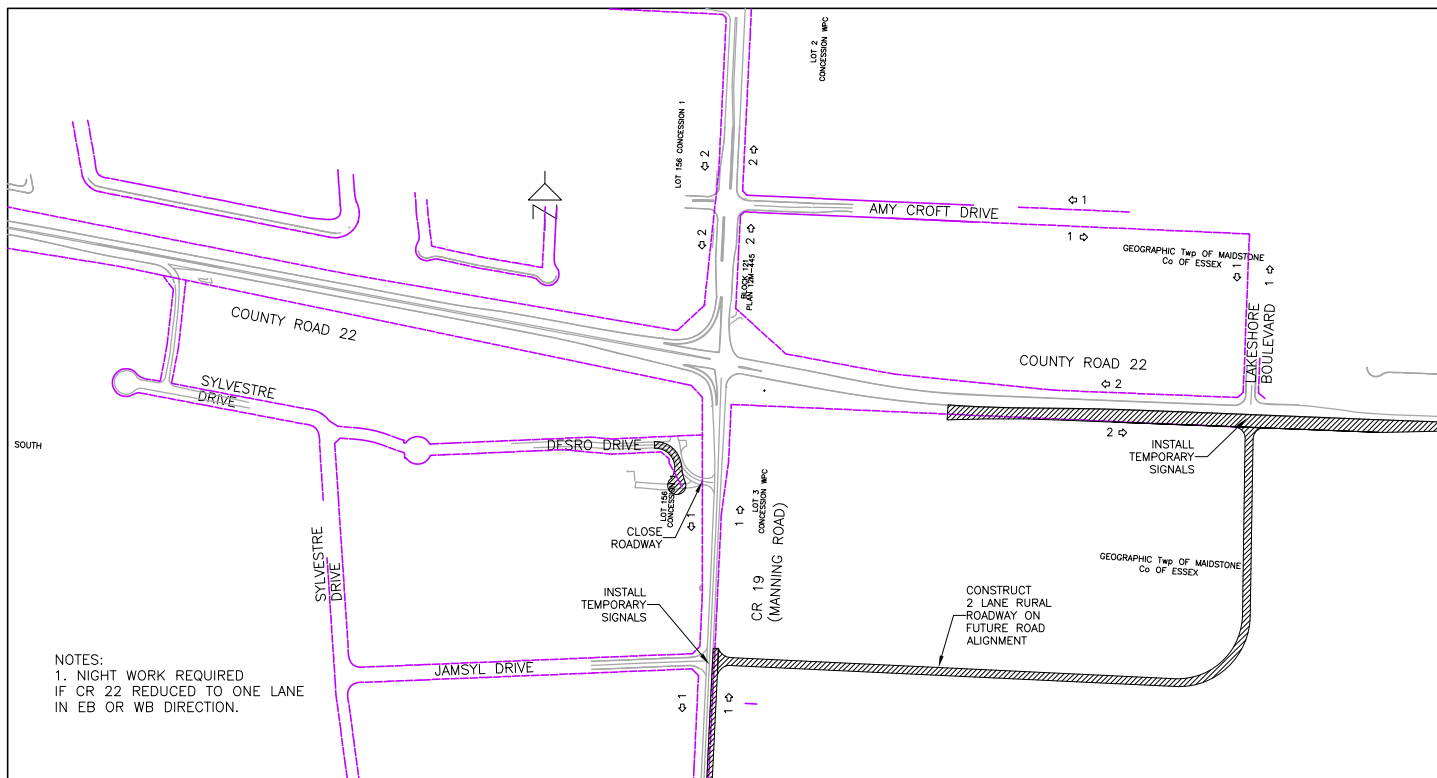
NOTES:  
 1. EXIT TO SYLESTRE DRIVE AND LESPERANCE ROAD TO BE CLOSED FOR STAGES 2 & 3.  
 2. CR 19 SOUTH OF CR 22 TO BE CLOSED IN STAGES 2 & 3. TRAFFIC DETOURED TO LAKESHORE BLVD VIA EXTENSION OF JAMSYL DRIVE.  
 3. CR 19 NORTH AND SOUTH OF CR 22 TO BE CLOSED IN STAGE 3. TRAFFIC DETOURED TO AMY CROFT DRIVE AND LAKESHORE BLVD.



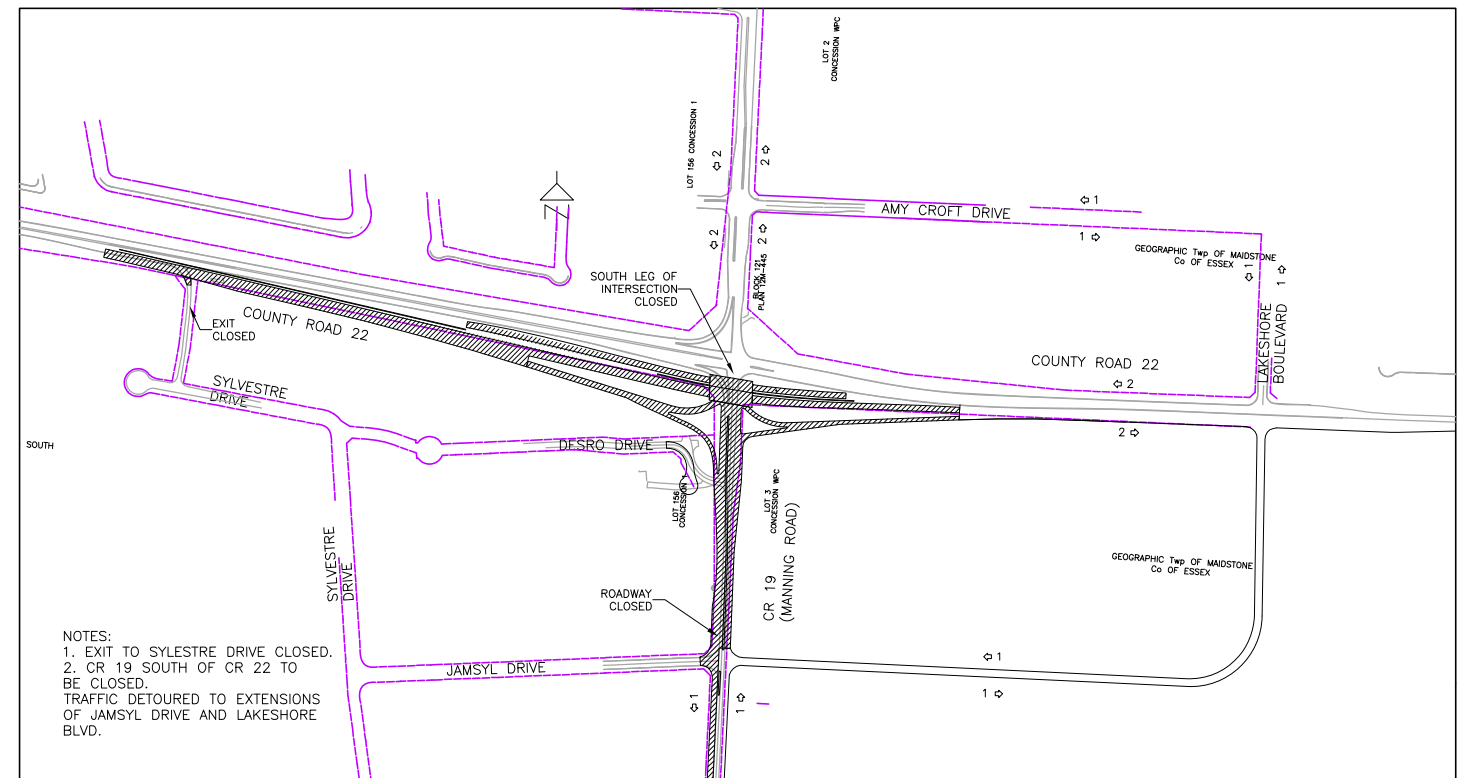
- UNDER CONSTRUCTION
- TRAFFIC LANE AND DIRECTION
- TEMPORARY OR PERMANENT CONCRETE BARRIER
- TALL WALL CONCRETE BARRIER

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

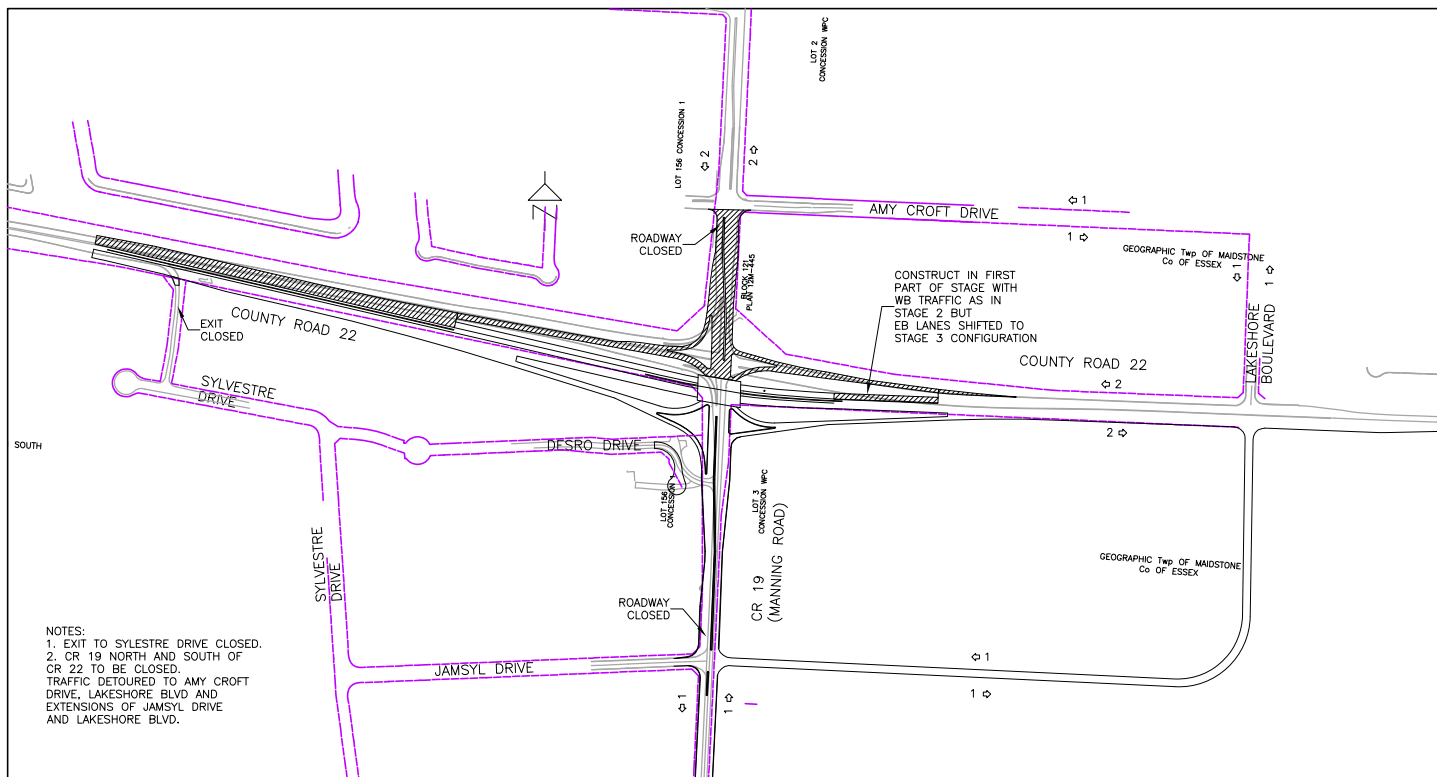
**CR 22 STAGING TYPICALS**  
**PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET ST-2**



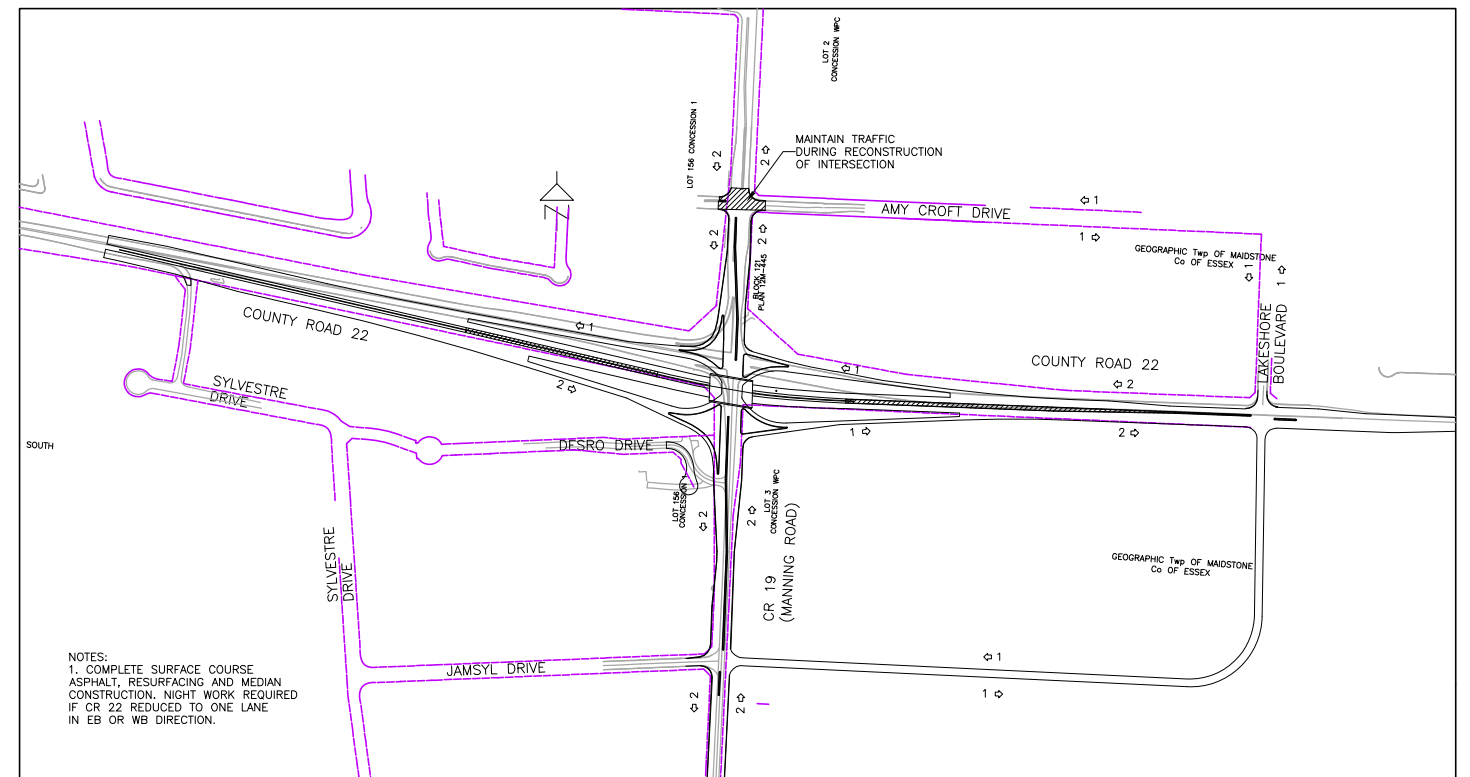
**STAGE 1**



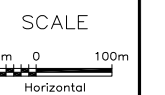
**STAGE 2**





**STAGE 3**



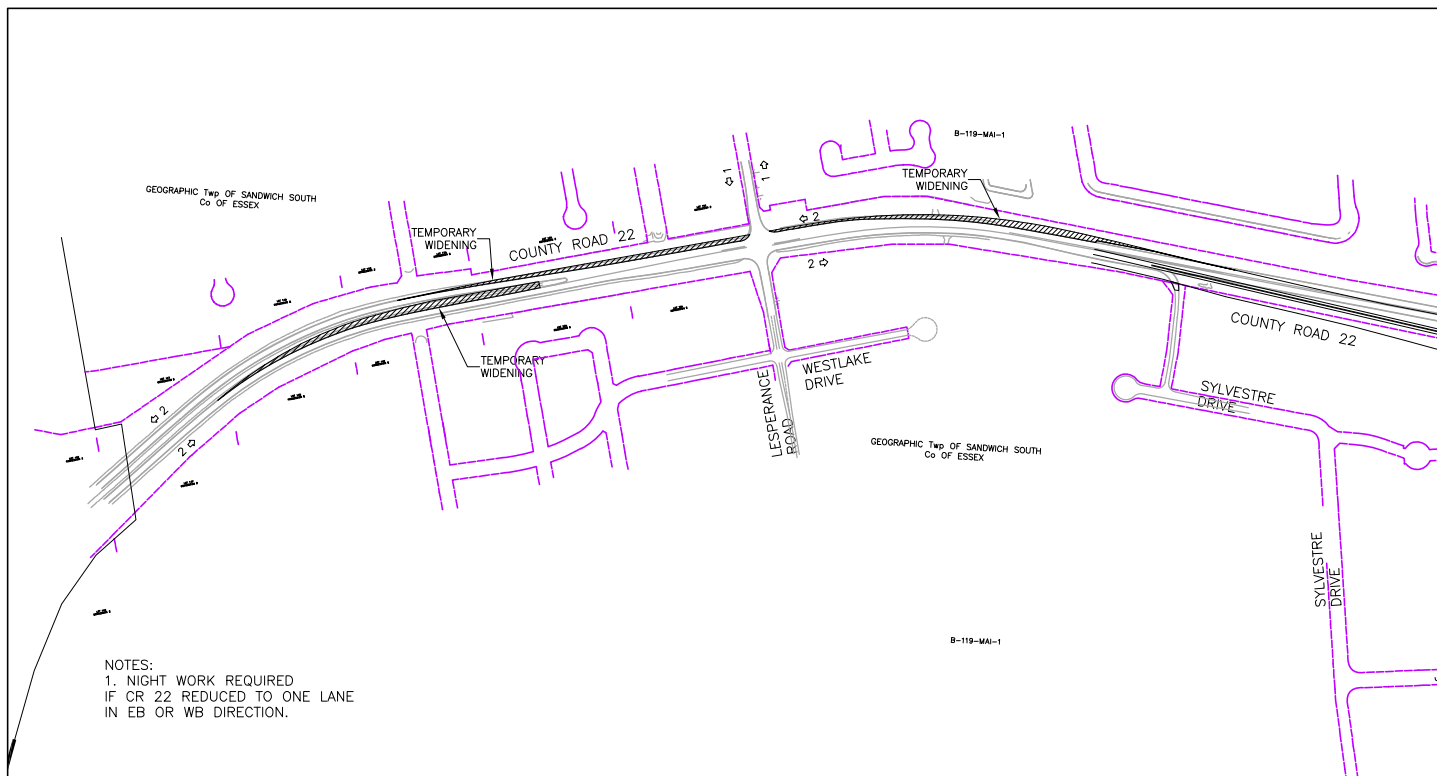
**STAGE 4**



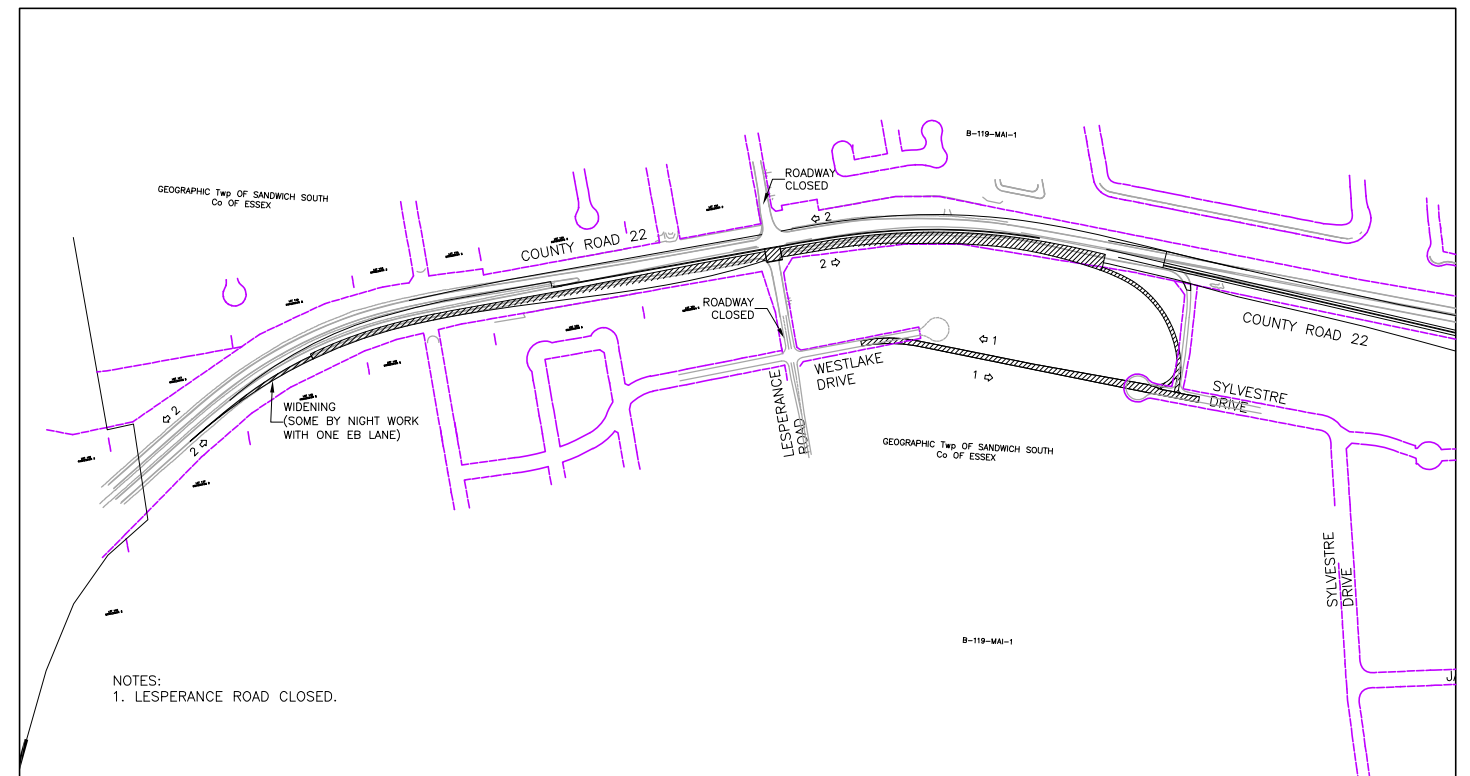
 UNDER CONSTRUCTION  
 NO. OF TRAFFIC LANES AND DIRECTION

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

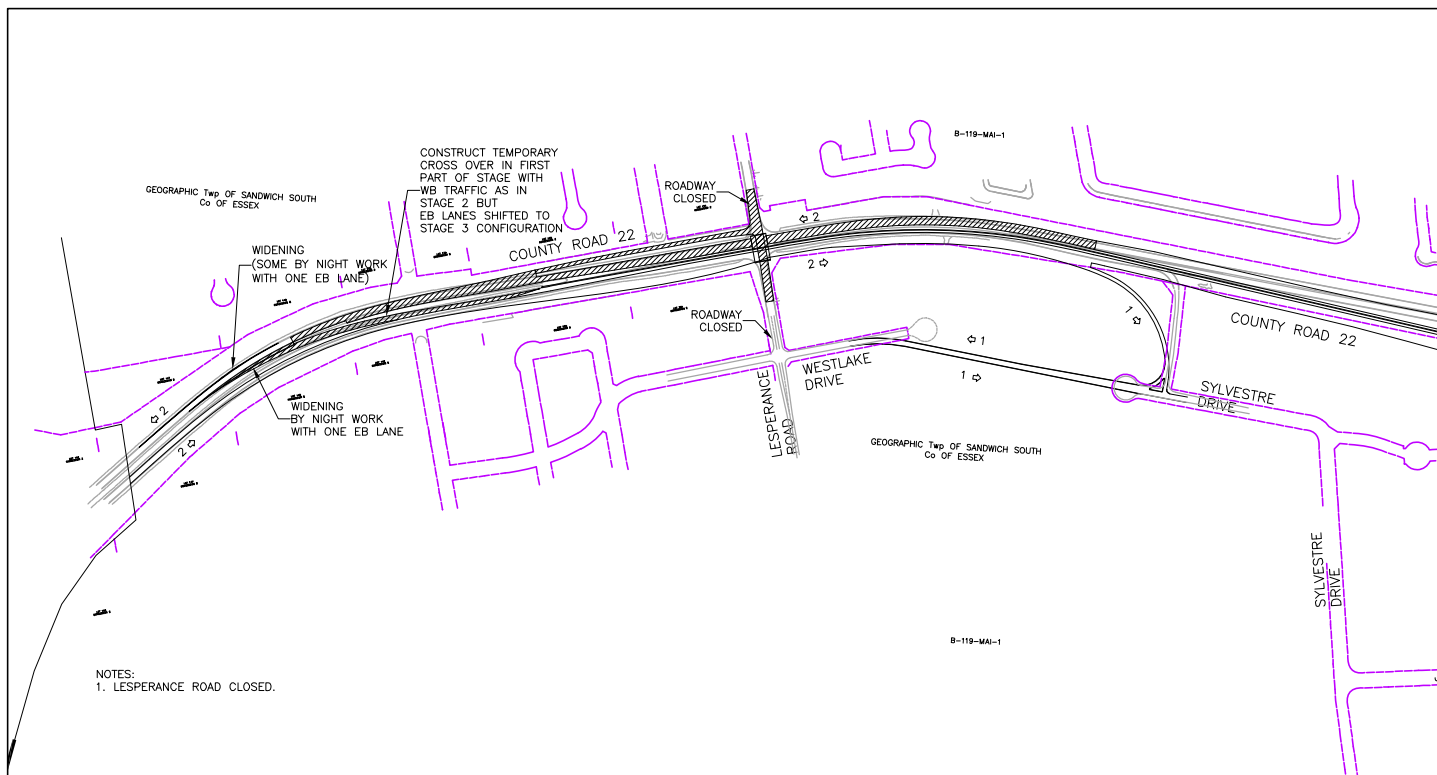
**CR 22 STAGING - PHASE 1**  
**PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET ST-3**



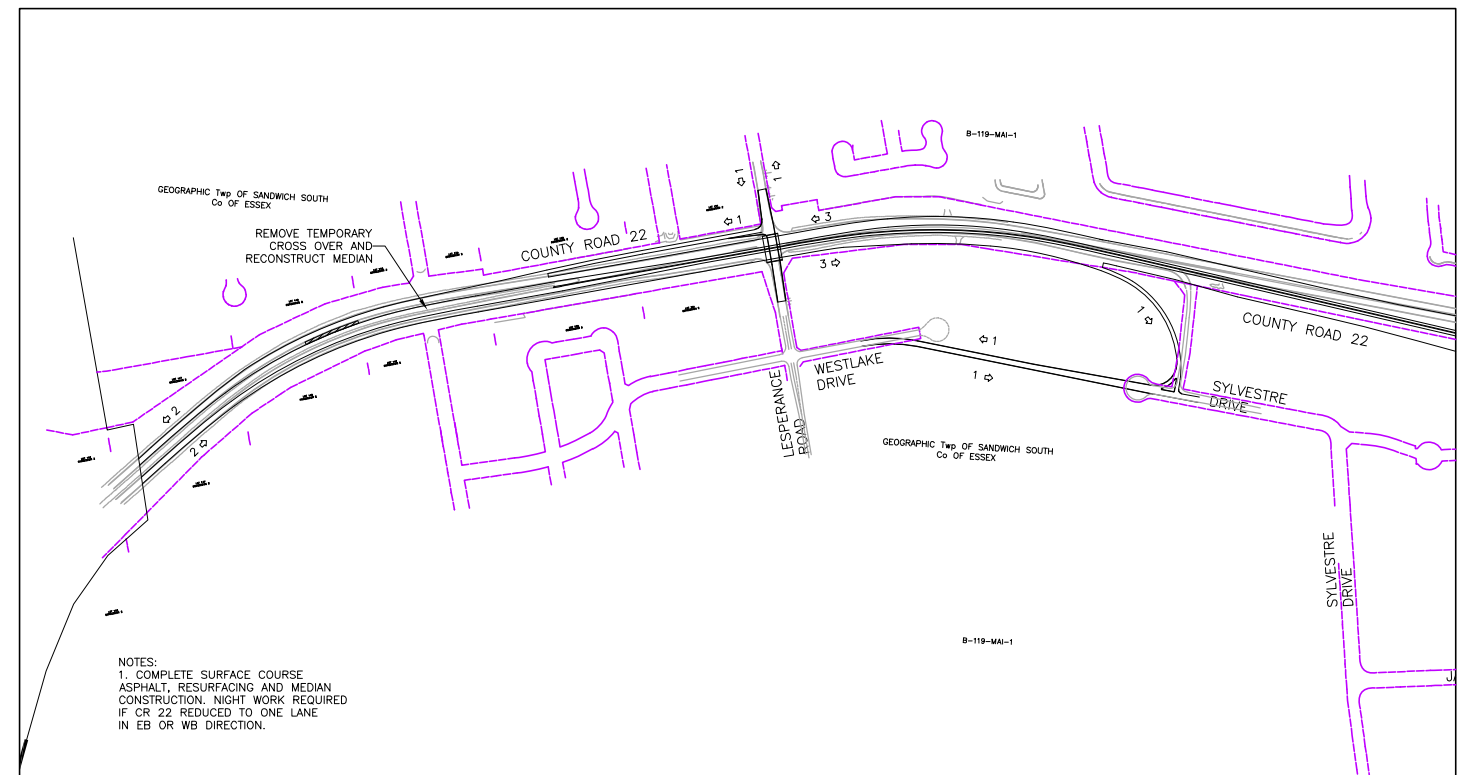
**STAGE 1**



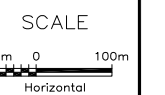
**STAGE 2**





**STAGE 3**



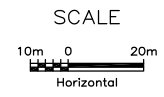
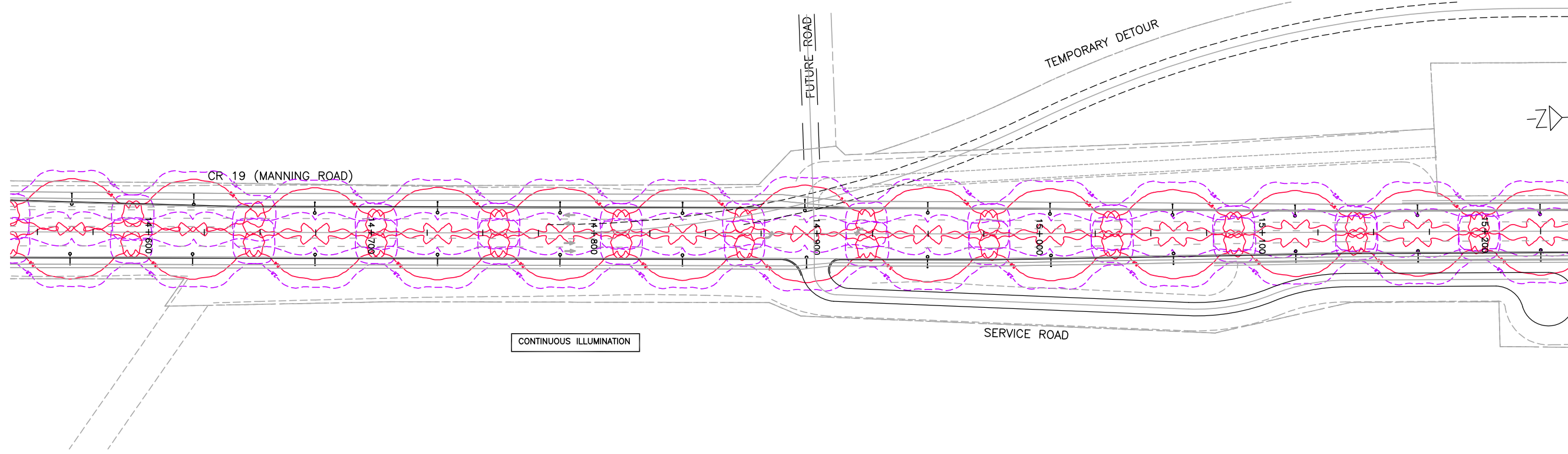
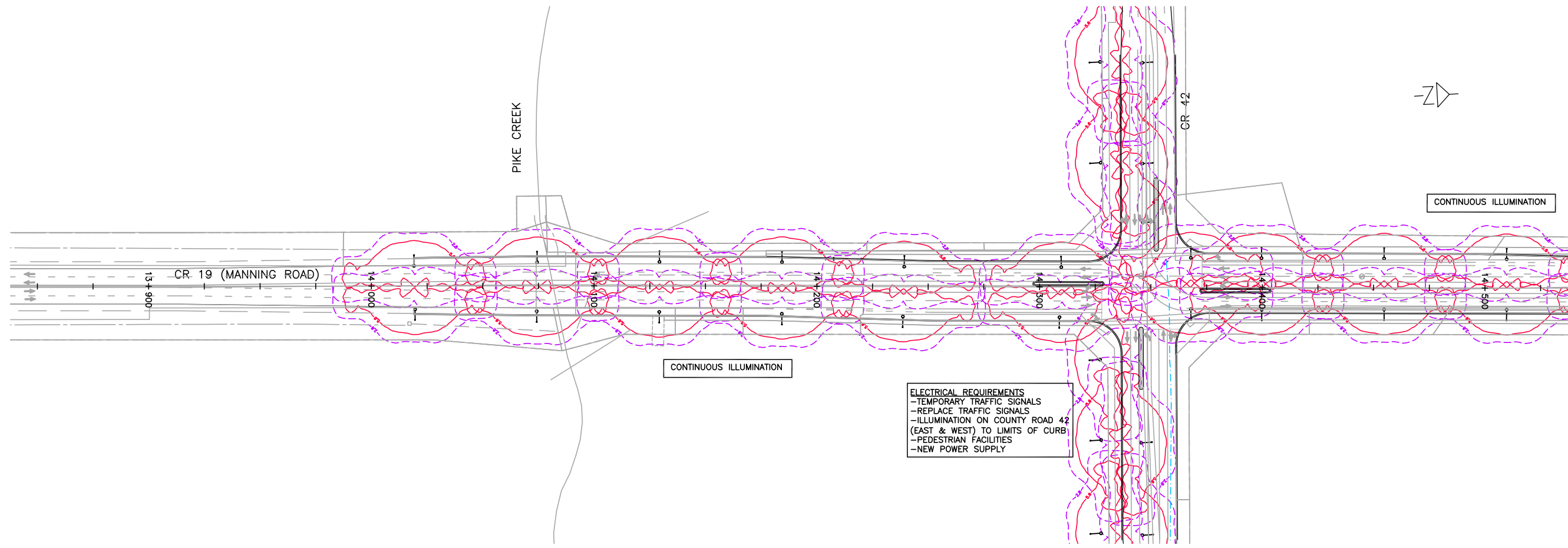
**STAGE 4**



 UNDER CONSTRUCTION  
 NO. OF TRAFFIC LANES AND DIRECTION

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 22 STAGING - PHASE 2**  
**PRELIMINARY DESIGN**  
**NOV 2008**      **SHEET ST-4**



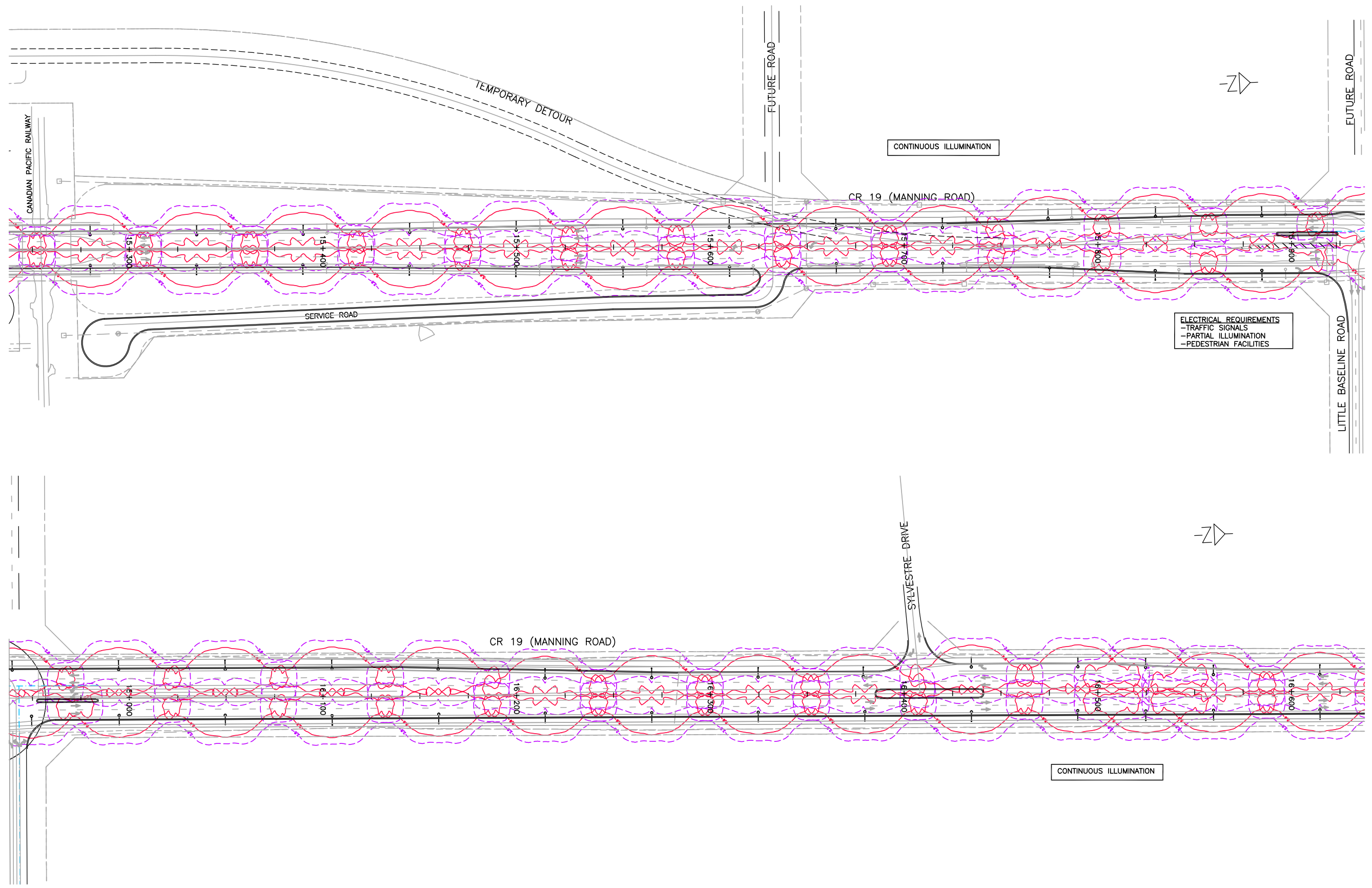
**ELECTRICAL LEGEND**

	ISOLUX CURVE LINE - 2.5 LUX LINE
	ISOLUX CURVE LINE - 5.8 LUX LINE



**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19**  
**PRELIMINARY DESIGN**  
**NOV 2008**

**SHEET E1**



**ELECTRICAL LEGEND**

	ISOLUX CURVE LINE - 2.5 LUX LINE
	ISOLUX CURVE LINE - 5.8 LUX LINE

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19**  
**PRELIMINARY DESIGN**  
**NOV 2008**

**SHEET E2**

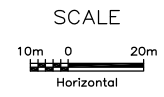
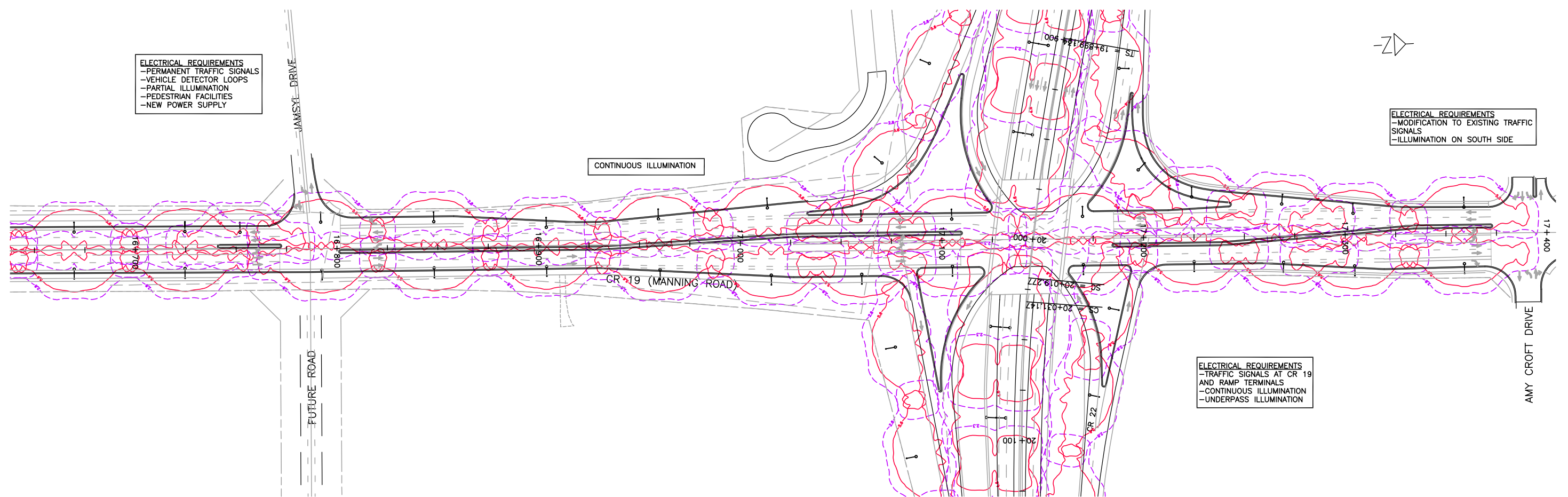


**ELECTRICAL REQUIREMENTS**  
 -PERMANENT TRAFFIC SIGNALS  
 -VEHICLE DETECTOR LOOPS  
 -PARTIAL ILLUMINATION  
 -PEDESTRIAN FACILITIES  
 -NEW POWER SUPPLY

**ELECTRICAL REQUIREMENTS**  
 -MODIFICATION TO EXISTING TRAFFIC SIGNALS  
 -ILLUMINATION ON SOUTH SIDE

CONTINUOUS ILLUMINATION

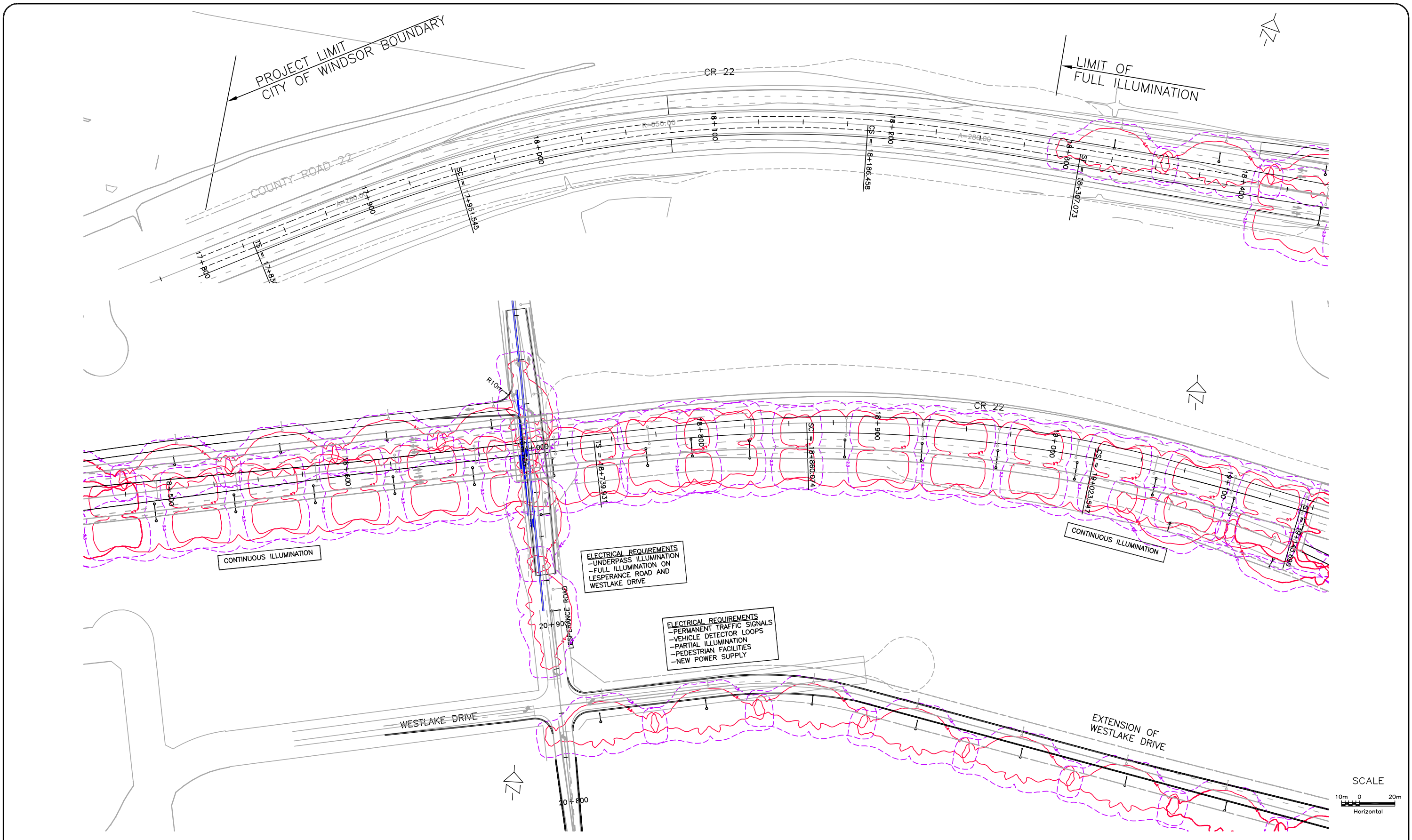
**ELECTRICAL REQUIREMENTS**  
 -TRAFFIC SIGNALS AT CR 19 AND RAMP TERMINALS  
 -CONTINUOUS ILLUMINATION  
 -UNDERPASS ILLUMINATION



**ELECTRICAL LEGEND**  
 - - - 2.8 - - - ISOLUX CURVE LINE - 2.5 LUX LINE  
 - - - 5.6 - - - ISOLUX CURVE LINE - 5.8 LUX LINE

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 19 PRELIMINARY DESIGN**  
**NOV 2008**  
**SHEET E3**



ELECTRICAL LEGEND	
<span style="color: purple;">---</span>	ISOLUX CURVE LINE - 2.5 LUX LINE
<span style="color: red;">---</span>	ISOLUX CURVE LINE - 5.8 LUX LINE

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

**CR 22**  
**PRELIMINARY DESIGN**  
**NOV 2008**

**SHEET E4**



FULL ILLUMINATION W-N/S RAMP AND WESTLAKE DRIVE

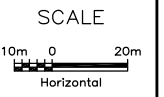
CONTINUOUS ILLUMINATION

EXTENSION OF WESTLAKE DRIVE



SYLVESTRE DRIVE

CONTINUOUS ILLUMINATION SWITCH FROM MEDIAN TO OUTSIDE AT 20+150

CONTINUOUS ILLUMINATION

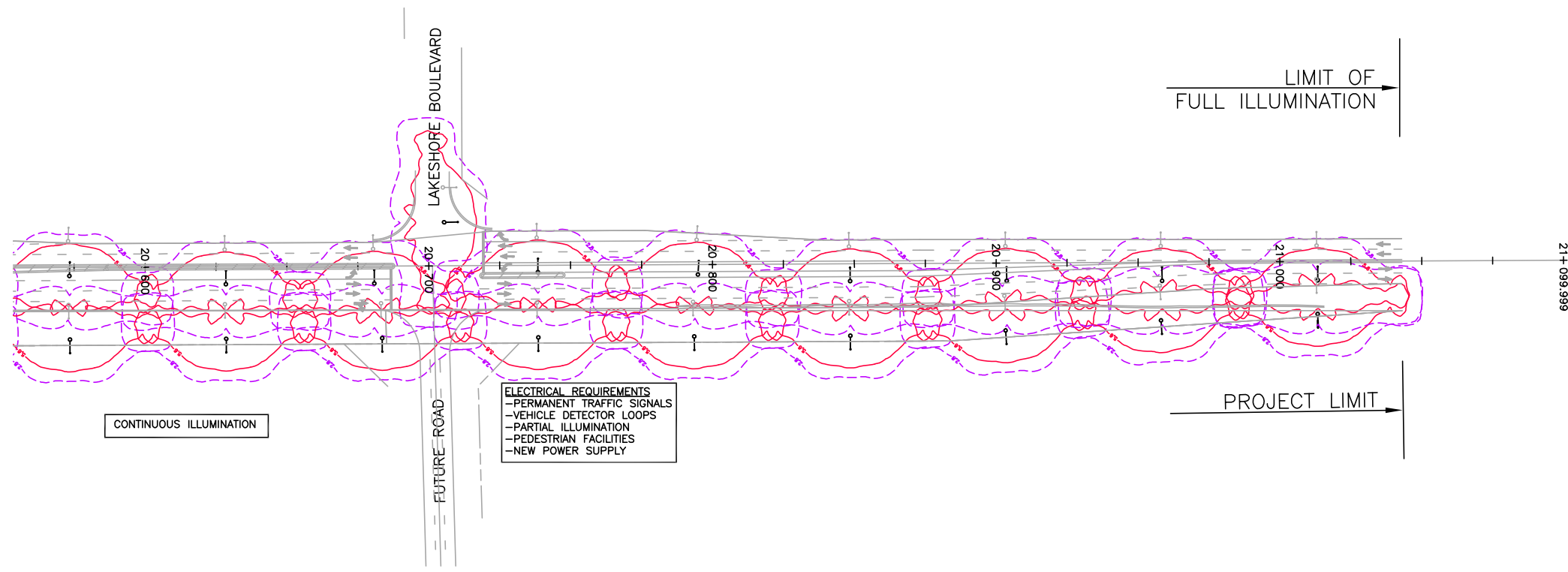


**ELECTRICAL LEGEND**

	ISOLUX CURVE LINE - 2.5 LUX LINE
	ISOLUX CURVE LINE - 5.8 LUX LINE

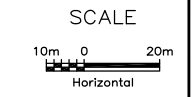
**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

<b>CR 22</b>	
<b>PRELIMINARY DESIGN</b>	
<b>NOV 2008</b>	<b>SHEET E5</b>





**ELECTRICAL REQUIREMENTS**  
 -PERMANENT TRAFFIC SIGNALS  
 -VEHICLE DETECTOR LOOPS  
 -PARTIAL ILLUMINATION  
 -PEDESTRIAN FACILITIES  
 -NEW POWER SUPPLY

CONTINUOUS ILLUMINATION



**ELECTRICAL LEGEND**

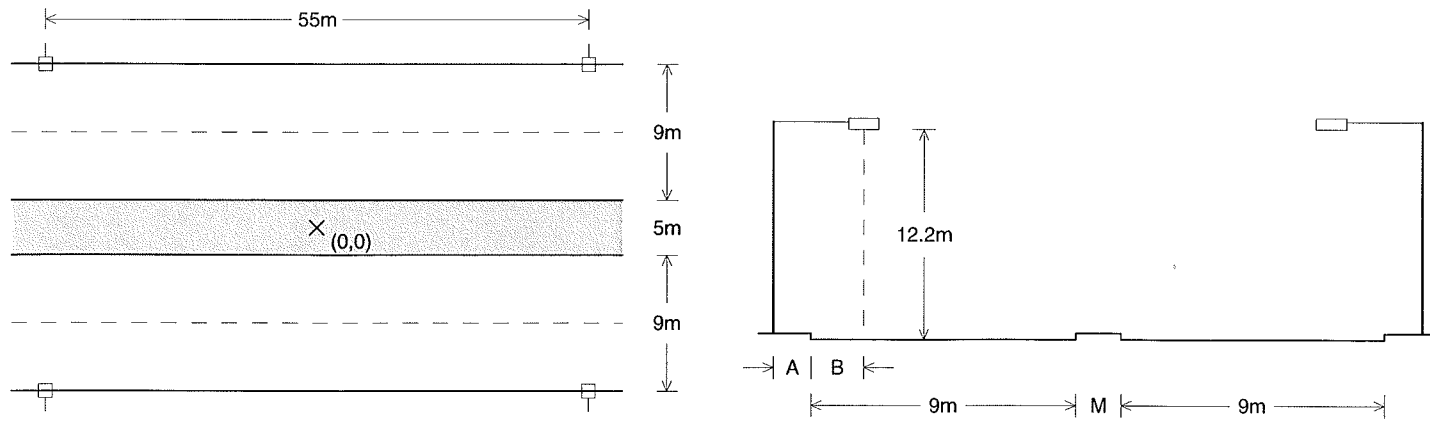
	ISOLUX CURVE LINE - 2.5 LUX LINE
	ISOLUX CURVE LINE - 5.6 LUX LINE

**CR 19 (MANNING ROAD) IMPROVEMENTS**  
**GWP 3031-06-00**  
**Class Environmental Assessment**

<b>CR 22 PRELIMINARY DESIGN</b>	
<b>NOV 2008</b>	<b>SHEET E6</b>

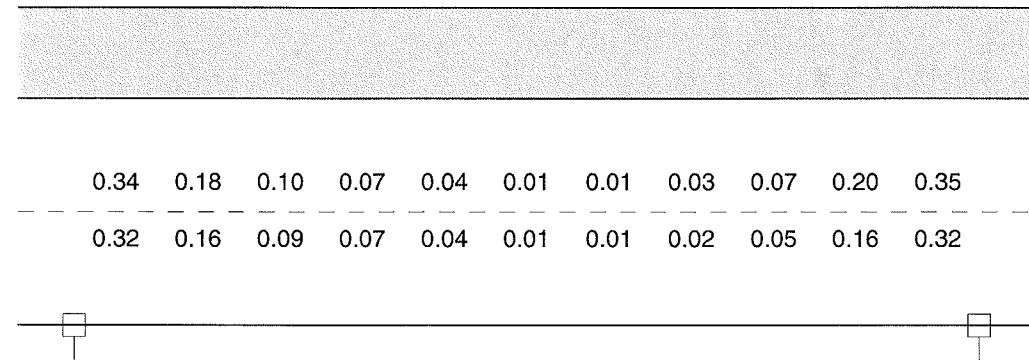
**Typical CR 19 Urban Section  
Type II Full Cutoff**

AutoLUX v7.89 - 04 September 2008



Number lanes = 2    Setback (A) = 2.50 m    Overhang (B) = -0.10 m    Median (M) = 5.00 m

□ luminaire  
lamp(s): XXX  
candela file 'AE6155.IES'  
1 lamp(s) per luminaire, 27500 initial lumens per lamp  
Light Loss Factor = 0.750, watts per luminaire = 310  
Outreach (from mounting axis to photometric center)= 2400 mm



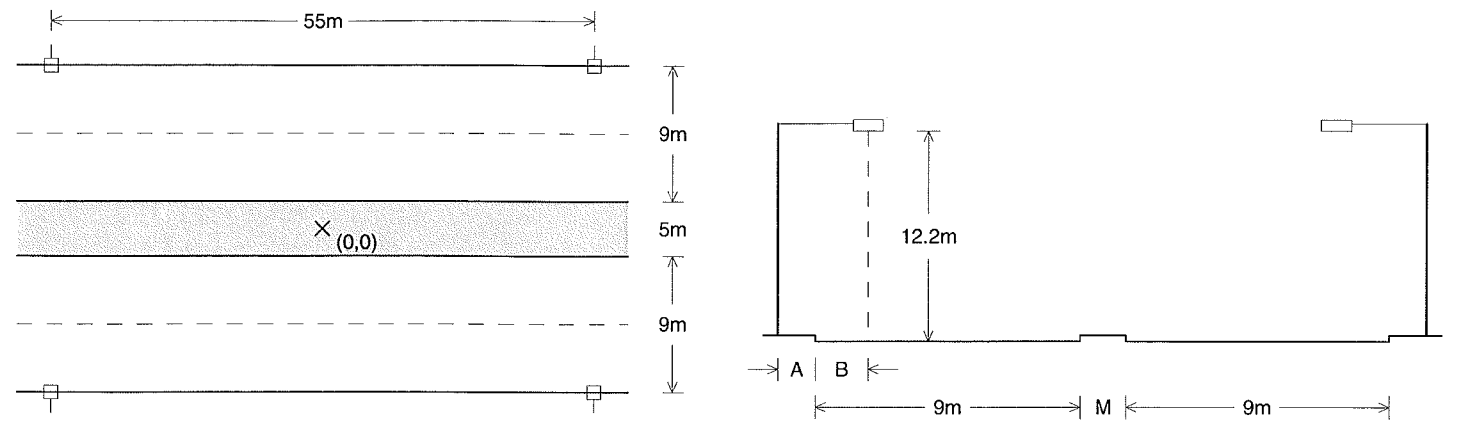
**Veiling Luminance**  
0.12 cd/ sq m Average  
0.01 cd/ sq m Minimum  
0.35 cd/ sq m Maximum  
12.05 Avg:Min  
35.00 Max:Min  
0.23 Lv(max) : L(avg)

Calculation point locations and summaries are in accordance with IESNA publication RP-8-00.

Direction of Travel =====>  
Driving on Right

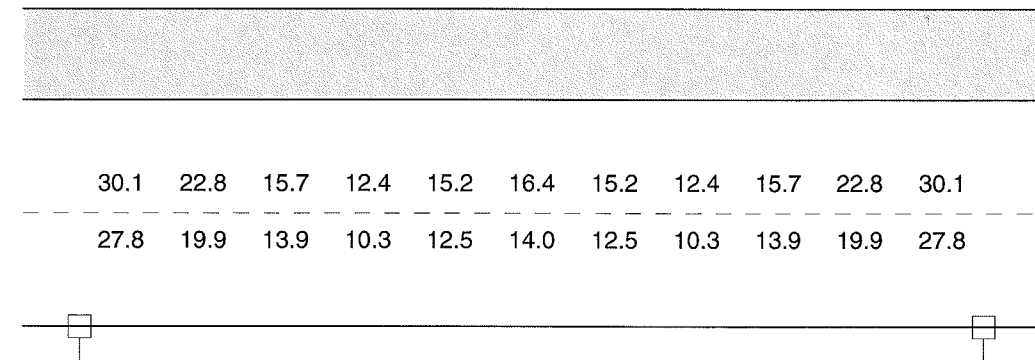
**Typical CR 19 Urban Section  
Type II Full Cutoff**

AutoLUX v7.89 - 04 September 2008



Number lanes = 2    Setback (A) = 2.50 m    Overhang (B) = -0.10 m    Median (M) = 5.00 m

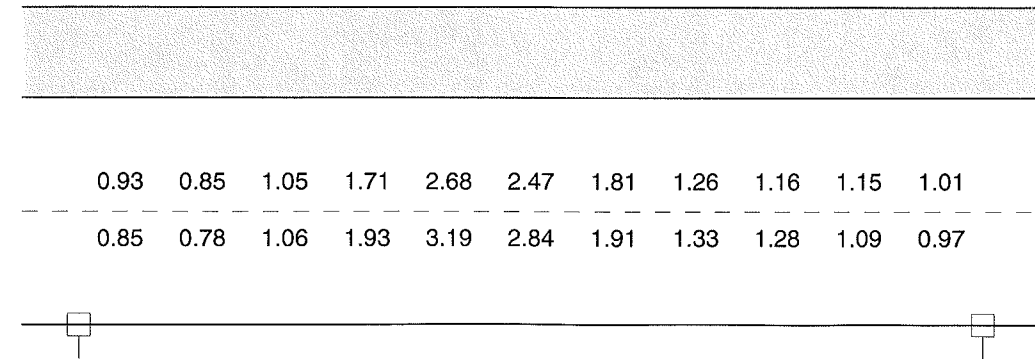
□ luminaire  
lamp(s): XXX  
candela file 'AE6155.IES'  
1 lamp(s) per luminaire, 27500 initial lumens per lamp  
Light Loss Factor = 0.750, watts per luminaire = 310  
Outreach (from mounting axis to photometric center)= 2400 mm



**Horizontal Illuminance**  
17.8 lux Average  
10.3 lux Minimum  
30.1 lux Maximum  
1.73 Avg:Min  
2.92 Max:Min

Calculation point locations and summaries are in accordance with IESNA publication RP-8-00.

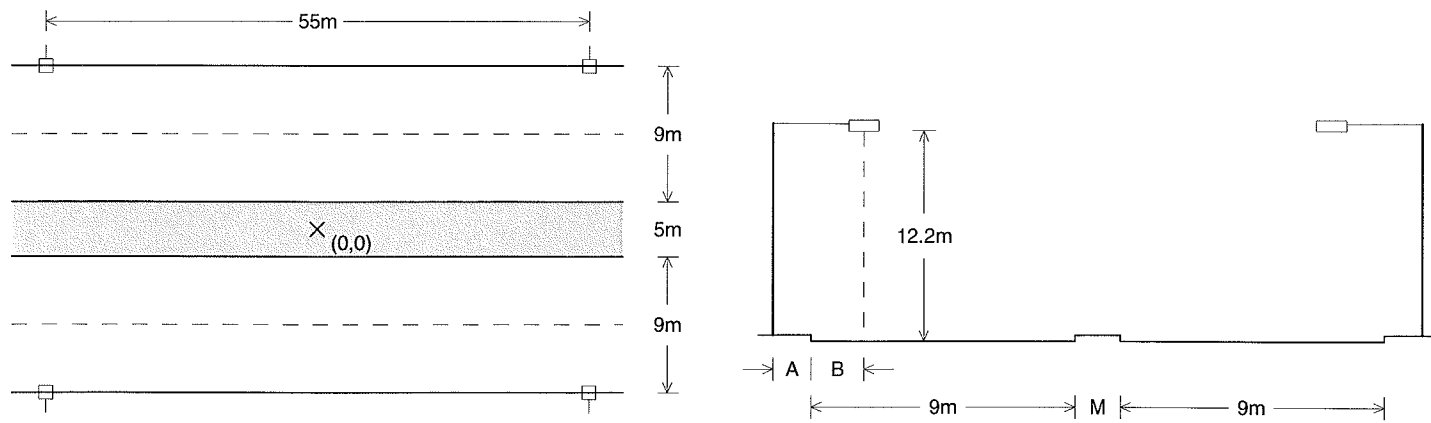
Direction of Travel =====>  
Driving on Right



**Roadway Luminance**  
1.51 cd/ sq m Average  
0.78 cd/ sq m Minimum  
3.19 cd/ sq m Maximum  
1.94 Avg:Min  
4.09 Max:Min  
4.09 Long.Uniformity  
0.23 Lv(max) : L(avg)  
CIE\_surface\_R3 Reflectance Table  
0.070 Avg Reflectance(Qo)

**Typical CR 19 Urban Section  
Type III Full Cutoff**

AutoLUX v7.89 - 04 September 2008

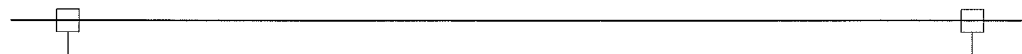


Number lanes = 2    Setback (A) = 2.50 m    Overhang (B) = -0.10 m    Median (M) = 5.00 m

□ luminaire  
lamp(s): XXX  
candela file 'AE6157.IES'  
1 lamp(s) per luminaire, 27500 initial lumens per lamp  
Light Loss Factor = 0.750, watts per luminaire = 310  
Outreach (from mounting axis to photometric center)= 2400 mm



0.29	0.15	0.08	0.06	0.04	0.01	0.01	0.03	0.08	0.18	0.32
0.23	0.13	0.09	0.06	0.03	0.01	0.01	0.02	0.05	0.14	0.27



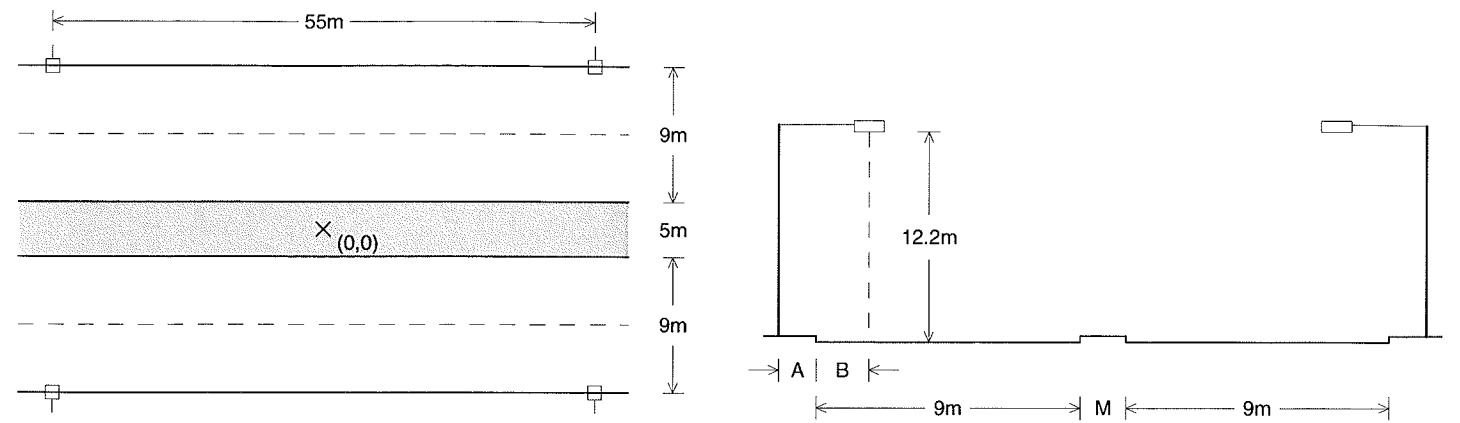
**Veiling Luminance**  
0.10 cd/ sq m Average  
0.01 cd/ sq m Minimum  
0.32 cd/ sq m Maximum  
10.41 Avg:Min  
32.00 Max:Min  
0.24 Lv(max) : L(avg)

Calculation point locations and summaries are in accordance with IESNA publication RP-8-00.

Direction of Travel =====>  
Driving on Right

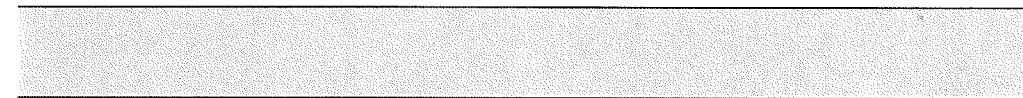
**Typical CR 19 Urban Section  
Type III Full Cutoff**

AutoLUX v7.89 - 04 September 2008

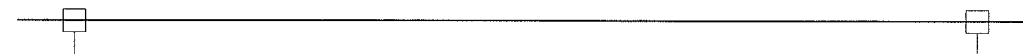


Number lanes = 2    Setback (A) = 2.50 m    Overhang (B) = -0.10 m    Median (M) = 5.00 m

□ luminaire  
lamp(s): XXX  
candela file 'AE6157.IES'  
1 lamp(s) per luminaire, 27500 initial lumens per lamp  
Light Loss Factor = 0.750, watts per luminaire = 310  
Outreach (from mounting axis to photometric center)= 2400 mm



30.9	21.3	14.2	11.5	14.3	16.7	14.3	11.5	14.2	21.3	30.9
27.0	17.6	13.2	10.7	11.3	12.5	11.3	10.7	13.2	17.6	27.0



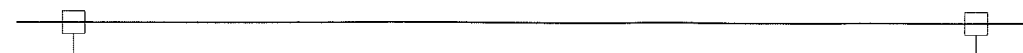
**Horizontal Illuminance**  
17.0 lux Average  
10.7 lux Minimum  
30.9 lux Maximum  
1.59 Avg:Min  
2.89 Max:Min

Calculation point locations and summaries are in accordance with IESNA publication RP-8-00.

Direction of Travel =====>  
Driving on Right



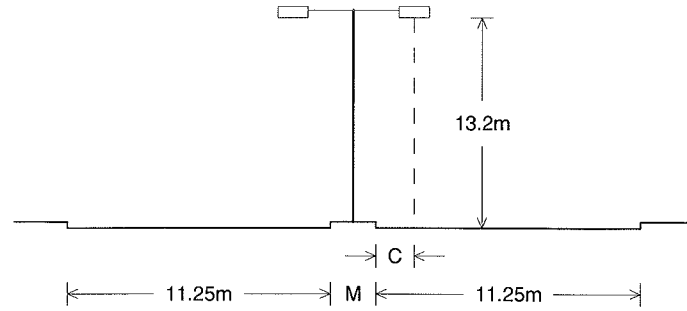
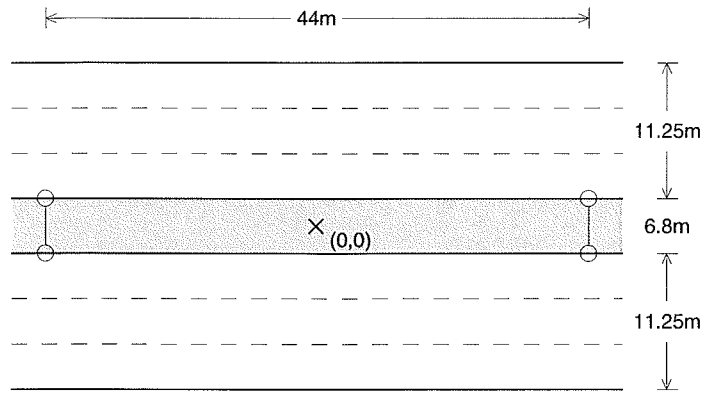
0.96	0.83	0.97	1.53	2.29	2.21	1.58	1.13	1.03	1.07	1.04
0.83	0.71	0.97	1.68	2.43	2.11	1.59	1.38	1.20	0.96	0.95



**Roadway Luminance**  
1.34 cd/ sq m Average  
0.71 cd/ sq m Minimum  
2.43 cd/ sq m Maximum  
1.89 Avg:Min  
3.42 Max:Min  
3.42 Long.Uniformity  
0.24 Lv(max) : L(avg)  
CIE\_surface\_R3 Reflectance Table  
0.070 Avg Reflectance(Qo)

Typical CR 22 Rural Section

AutoLUX v7.89 - 04 September 2008



Number lanes = 3

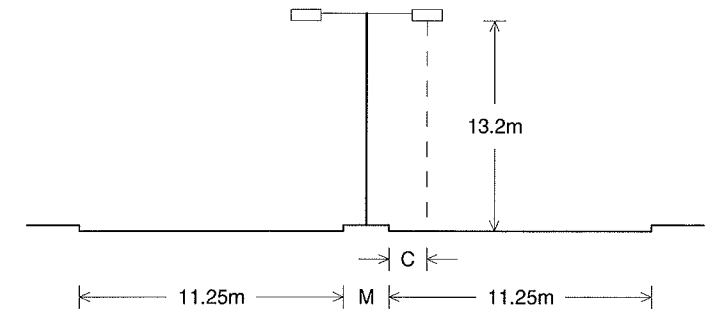
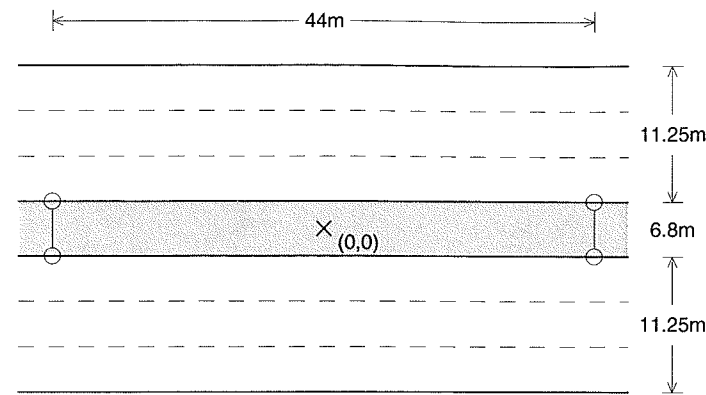
Median (M) = 6.80 m

Overhang (C) = -1.00 m

- luminaire
- lamp(s): XXX
- 2 luminaires per location, candela file 'AE6155.IES'
- 1 lamp(s) per luminaire, 27500 initial lumens per lamp
- Light Loss Factor = 0.750, watts per luminaire = 310
- Outreach (from mounting axis to photometric center)= 2400 mm

Typical CR 22 Rural Section

AutoLUX v7.89 - 04 September 2008

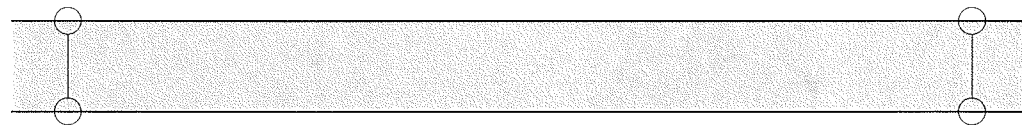


Number lanes = 3

Median (M) = 6.80 m

Overhang (C) = -1.00 m

- luminaire
- lamp(s): XXX
- 2 luminaires per location, candela file 'AE6155.IES'
- 1 lamp(s) per luminaire, 27500 initial lumens per lamp
- Light Loss Factor = 0.750, watts per luminaire = 310
- Outreach (from mounting axis to photometric center)= 2400 mm



--	-0.17	-0.26	-0.23	-0.15	-0.10	-0.08	-0.05	-0.04	-0.04	-0.09	--
	0.15	0.22	0.20	0.12	0.09	0.06	0.04	0.03	0.04	0.07	
--	-0.12	-0.18	-0.17	-0.10	-0.07	-0.04	-0.03	-0.02	-0.03	-0.06	--

**Veiling Luminance**

0.10	cd/ sq m	Average
0.02	cd/ sq m	Minimum
0.26	cd/ sq m	Maximum
5.08		Avg:Min
13.00		Max:Min
0.29		Lv(max) : L(avg)

Calculation point locations and summaries are in accordance with IESNA publication RP-8-00.

Direction of Travel =====>  
Driving on Right



--	-17.1	-21.1	-16.7	-16.8	-14.3	-14.3	-16.8	-16.7	-21.1	-17.1	--
	13.2	15.4	15.5	15.2	13.5	13.5	15.2	15.5	15.4	13.2	
--	-10.8	-11.2	-13.9	-13.3	-11.9	-11.9	-13.3	-13.9	-11.2	-10.8	--

**Horizontal Illuminance**

14.7	lux	Average
10.8	lux	Minimum
21.1	lux	Maximum
1.36		Avg:Min
1.95		Max:Min

Calculation point locations and summaries are in accordance with IESNA publication RP-8-00.

Direction of Travel =====>  
Driving on Right



--	-0.98	-1.40	-1.46	-1.34	-1.11	-1.02	-1.02	-0.87	-0.96	-0.81	--
	0.77	1.04	1.21	1.11	0.91	0.86	0.85	0.75	0.69	0.62	
--	-0.60	-0.78	-1.02	-0.92	-0.76	-0.68	-0.69	-0.65	-0.51	-0.50	--

**Roadway Luminance**

0.90	cd/ sq m	Average
0.50	cd/ sq m	Minimum
1.46	cd/ sq m	Maximum
1.79		Avg:Min
2.92		Max:Min
2.04		Long.Uniformity
0.29		Lv(max) : L(avg)
CIE_surface_R3		Reflectance Table
0.070		Avg Reflectance(Qo)

