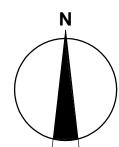
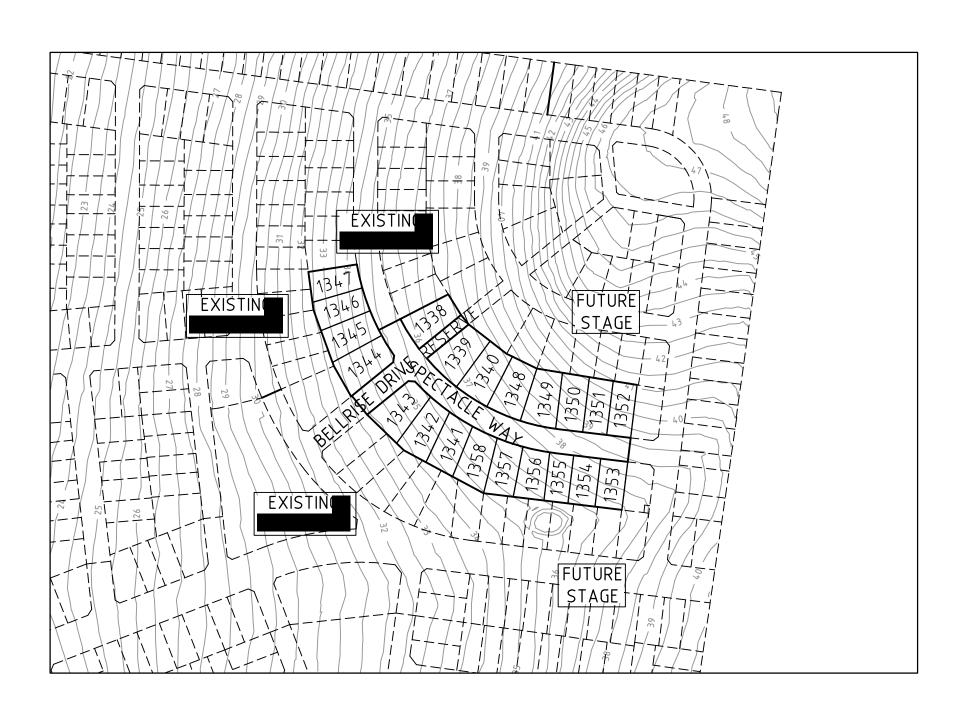
Estuary

Stage 13C

City of Greater Geelong





LOCALITY PLAN
MELWAYS REF: 468 D6





Principal

Leopold Property Developments Pty Ltd Level 1, 6 Riverside Quay Southbank, Victoria 3006

Drawing Index

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Standard Construction Notes

1. <u>GENERAL</u>

1.1 **Drawings** - The drawings are to be read in conjunction with the contract specification and the responsible Authorities standard drawings and current specifications for Roadworks and Drainage. Any observed discrepancy to be referred to the Superintendent prior to start of work.

- 1.2 **Responsible Authority Documentation Availability** A set of the respective responsible Authority standard construction documentation including drawings and specification/s are to be provided by the Contractor and made available on-site for the duration of the construction period.
- 1.3 **Conformity with Drawings** All works are to be finished in conformity with the lines, grades, thicknesses and cross sections shown in the drawings.
- 1.4 **Materials and Workmanship** Materials and workmanship to comply with responsible Authority specifications and relevant SAA Codes.
- 1.5 **Tolerances** Works are to be constructed in compliance with tolerances specified by the relevant responsible Authorities.
- 1.6 **Minimum Standards** The standards of work and materials stated in the drawings and specification are the minimum acceptable irrespective of relevant responsible Authority minimum standards.
- 1.7 **Sewer/Water Supply** Construction notes specific to sewer and water supply asset construction are incorporated in the drawings approved by the Water Company as attached hereto.

2. EXISTING CONDITIONS

- 2.1 **Discrepancy with Drawings** Any discrepancy observed/identified between the drawings and existing conditions and site features are to be referred to the Superintendent prior to start of any related work.
- 2.2 **Municipal Assets & Infrastructure** The condition of existing Council assets potentially affected by the works is to be assessed by a joint site inspection with Council Officers prior to the start of works. Asset conditions are to be recorded and witnessed by Council and the Contractor. The Contractor is to arrange and record site inspections and is liable for all rectification/reinstatement costs for damage to existing assets.
- 2.3 **Utility Services** The locations of existing utility services, as shown in the drawings, are not guaranteed. Exact service locations are to be proven prior to start of works. Service location works are to comply with the requirements of the relevant responsible Authority. The Contractor is liable for rectification/reinstatement costs for damage to existing utility services.

3. NOTIFICATIONS

- 3.1 **Council** Minimum notification periods are:
- (a) two (2) days written notice of intention to start works
- (b) two (2) days notice to inspect condition of existing Council assets
- (c) twenty four (24) hours notice for weekend work
- (d) twenty four (24) hours notice for:
 - inspection of drainage works
 - inspection of sub-soil drainsproof roll of prepared sub-grade or constructed pavement
 - inspection of prepared base for concrete works
 - other works as stated in the drawings or specified

Or as otherwise agreed with Council Officers.

3.2 **Property Owners/Tenants** - Seven (7) days written notice to property owners/tenants affected by the works.

4. OCCUPATION OF PUBLIC ROADS

All roadworks signage to comply with VicRoads Worksite Traffic Management Code incorporating AS 1742.3.

- 4.1 **Roads under VicRoads jurisdiction** The Contractor is to arrange VicRoads consent via "Application for Consent Works within Road Reserves" (refer VicRoads web site).
- 4.2 **Roads under Council control** The Contractor is to arrange and acquire requisite Road Closure Permits via Council's Traffic Officer.

5. SET OUT

- 5.1 **Survey Stations and Reference Marks** The locations of survey stations and reference marks are to be verified prior to start of works.
- 5.2 **Road Chainages** Road chainages as shown in the drawings are to road centreline, unless otherwise stated.
- 5.3 **Kerb & Channel** Kerb and channel radii and levels relate to edge of channel, unless otherwise stated.
- 5.4 **Drainage Pits** The locations and orientation of drainage pits are to be accurately set out from co ordinates and/or offsets as stated.
- 5.5 **Pipe Drains** Drainage lines are to be accurately set out from coordinates and/or offsets as stated. Further to Standard Note 5.4 drainage lines at pits are to be accurately set out to ensure that the outlet pipe is aligned directly opposite the inlet pipe (where deflection angles are 45° or less) or as otherwise stated in the drawings or directed.

6. TOPSOIL

- 6.1 **Stripping Limits** Clearing and stripping of topsoil to be restricted to areas to be excavated/filled as stated in the drawings or limits as otherwise directed by the Superintendent.
- 6.2 **Surplus Material** Surplus topsoil must be re-used on-site unless otherwise stated in the drawings or directed by the Superintendent.

7. EXISTING VEGETATION

All existing trees and significant vegetation within and external to the worksite are to be retained, preserved and protected unless otherwise stated in the drawings or directed by the Superintendent.

8. EXCAVATION/TRENCHING

- 8.1 **Trenching** Trenching operations exceeding 1.5 metres depth are to comply with the provisions of the Mines (Trenches) Regulations 1982.
- 8.2 **Work close to Trees and Vegetation** Excavation work within the drip line of trees is not to be performed unless otherwise stated in the drawings or approved by the Superintendent.
- 8.3 **Unstable Sub-Grade** Unstable sub-grade/"soft spots" to be excavated to a sound proof-rolled base and backfilled with material approved by Council.

9. SOIL EROSION

The Contractor must install necessary protection works to effectively manage and limit soil erosion within the worksite. Works to include, but are not limited to:

- 9.1 **Silt Fences** downstream of all exposed areas.
- 9.2 **Silt Barriers** upstream of all pits

10. DRAINAGE WORK

- 10.1 **Existing Drains** The location of existing drainage assets to be verified prior to start of works.
- 10.2 **Pipe Class** Pipes to be, unless otherwise stated in the drawings:
- (a) Roads & Reserves Class 2 Rubber Ring Jointed RCP
- (b) Easements Rubber Ring Jointed RCP/FRP or Sewer Class Solvent Cement UPVC
- 10.3 **Pit Covers** Pit covers are to be placed to match actual finished surface profiles level and cross fall of adjacent structures/surfaces. Finished surface levels stated in the drawings are indicative, for depth range purposes, and are not to be used as the basis for setting final pit cover levels
- 10.4 **Pit Construction** Precast standard pits are to be installed. Cast in-situ standard pits are only to be constructed where approved by the Superintendent. All sumps in precast concrete pits are to be infilled with concrete flush to the inlet level of the outlet pipe unless otherwise approved by the superintendent.

10.5 **Sub-Soil Drains**

DRAWING NOTES

Level 1, 6 Riverside Quay

Southbank, Victoria 3006

otherwise stated.

Leopold Property Developments Pty Ltd

- (a) Entry to pits to be trimmed flush with inner wall and effectively mortared in place through the full pit wall thickness.
- (b) Details of granular filter material including source to be submitted to the Superintendent prior to start of sub-soil drainage works.

Do not scale drawings - use only dimensions stated.

Dimensions - Dimensions are in metres [m] unless

Australian Height (AHD) unless otherwise stated.

Australian Height Datum - Reduced levels are to

11. BACKFILL MATERIAL

- 11.1 Trenches under all edgings/kerb sections & Nature Strips 20mm Class 3 Fine Crushed Rock or other material as approved by Council.
- 11.2 **Trenches under road pavement S** tormwater pipes are to be backfilled with two percent (2%) cement stabilised sand to extend from the bottom of the pipe to the springline (mid point) of the pipe. Class 3 Fine Crushed Rock is then to be used as the backfill material from the springline up to the road pavement base.
- 11.3 **Allotments/Reserves/** Selected best quality excavated in-situ material or other material as approved by Council.

12. COMPACTION STANDARDS

Compaction standards are to be checked and proven in accordance with the requirements of AS 1289. Where unspecified by the responsible Authority, the following minimum standards will apply:

- 12.1 **Structural Fill**
- (a) Fill base top 150mm 95% standard compaction
- (b) Fill zone 95% standard compaction
- (c) Under road pavement zone less than 450mm under road pavement surface 98% standard compaction
- 12.2 Road Pavement
- (a) Road sub-grade top 150mm 98% standard compaction
- (b) Pavement materials 98% modified compaction
- 12.3 Trench Backfill
- (a) Granular under all pavement & edgings/kerb sections 98% modified compaction
- (b) Granular behind kerbing 95% modified compaction
- (c) Earth around structures 95% standard compaction

13. CONCRETE WORK

13.1 Minimum Strength

- Concrete for drainage pits to have a minimum compressive strength of 32 MPa at 28 days.

- Concrete for all other applications to have a minimum compressive strength of 25 MPa at 28 days

- 13.2 **Bar Chairs** All reinforcement in footpaths, vehicle crossings and roads to be supported by appropriately sized bar chairs.
- 13.3 **Slump** Concrete to have 75mm maximum slump.
- 13.4 **Kerb Cement Content** Concrete for kerb extrusion machines to have a minimum cement content of 280 kg/m3.
- 13.5 **Services Distribution Mains & Conduits** Mains and conduits are to be installed prior to kerb section construction works.
- 13.6 **Footpaths** All footpaths are to be a minimum of 125mm thick with F62 reinforcement, bedded on min of 75mm compacted Class 3 FCR. Bedding to extend 100mm beyond the edges of the footpath. Contraction joints to be constructed at 12.5m intervals. Class 4 FCR is to be used where filling is required under footpath Class 3 FCR bedding material.
- 13.7 **Continuous Kerb** To allow for a continuous concrete kerb and channel pour the "Gatic" HD concrete surround is to be in place prior to the pour commencing. If the pit surrounds are not in place then the initial kerb and channel pour is to stop one metre either side of pit.

14. ROAD PAVEMENT WORK

- 14.1 **Pavement Composition** The minimum standard of pavement composition is stated in the drawings for the respective road sections.
- 14.2 **Road surfacing** Road surfacing must not be performed until all other works have been completed.

15. <u>IDENTIFICATION MARKING</u>

Scale @ A1

As Shown

Designed

C. Barker

C. Barker

Checked

C. Birkett

Authorised

J. Golden

May 2011

Drawn

All identification marking figures are to be a minimum of 50mm high.

15.1 **Conduits** - Letter "W", "G" "E" or "T" for water, gas, electricity or telecommunications conduit to be stamped into face of kerb sections at frontage of lot served

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- 15.2 **House Drain Connections** Letter "H" to be stamped into face of kerb sections opposite street drain connection point.
- 15.3 **Lot Nos.** Lot Nos. to be stenciled in white paint on face of kerb sections at lot frontages.

16. TESTING

- 16.1 **Specified Testing** Testing will be conducted in compliance with specified requirements. The Contractor is liable for all costs.
- 16.2 **Proof-Rolling** Pneumatic tyred plant minimum weight 20 tonne with minimum ground contact pressure 450 kPa per tyre.

17. EXPOSED SURFACES RESTORATION

17.1 **Topsoiling** - All exposed residual surface areas at completion of civil works to be topsoiled with 100mm depth of best available material.

- 17.2 **Allotments/Reserves** Allotments and reserves are to be evenly graded at a minimum gradient of 1 in 100 to their nominated drainage connection points.
- 17.3 **Nature Strips** Nature strip surfaces are to be trimmed to grade between adjacent surfaces. Top-soiling and compaction operations are to ensure there is no later settlement/subsidence.
- 17.4 **Top-Dressing** Undisturbed grassed areas are to be top-dressed and evenly graded as directed by the Superintendent.
- 17.5 **Hydroseeding** At completion of the above works all prepared exposed surfaces are to be well watered and hydroseeded.
- 17.6 **Batter Slopes** Batter slopes shall be a maximum of 1 in 5 for fill and 1 in 3 for cut unless otherwise shown.

18. FINAL WORKS PRESENTATION

At Practical Completion the following minimum standards of presentation will apply:

18.1 **Roads/Paved Areas** - All roads and paved areas are to be swept/washed down to produce clean surfaces free of all deleterious materials.

- 18.2 **Pipe Systems** All pipe systems are to be flushed and cleared of all accumulated debris and deleterious materials.
- 18.3 **Site** The site is to be prepared to a state acceptable for presentation to the public for sale purposes and is to be in a condition satisfactory to the Superintendent with completion of, at least, the following activities:
- (a) all incidental and minor works
- (b) site clean up operations
- (c) site cleared of all facilities, temporary structures, plant, litter, surplus materials, etc. that are to be removed off-site.
- 18.4 **Reserve Frontages** Round topped treated pipe bollards (0.6m high) are to be placed across reserve frontages at 1.5m centres. A demountable section for vehicle access consisting of an appropriate length of 50mm diameter (2.3mm wall thickness) galvanised water pipe, short section of chain (3 links) welded to each end. Two galvanised steel bollards one each side of the entry, with one end to have a D20 padlock, which locks in to a link, which has been welded onto the bollard. Unless otherwise stated on plans.
- 18.5 **Street Signs** Street signs are to be located as indicated on the plans and installed in accordance with Vicroads Traffic Engineering Manual Volume 2. Mounting height is to be to the underside of the sign and is to be a minimum of 2.1m and maximum of 3.0m
- 18.6 **No Through Road** No through road signs are to be installed below the street sign where applicable.

19. MAINTENANCE WORKS

The Contractor must responsively repair/remediate defective works as directed during the maintenance period.

- 19.1 **Council Assets** for Maintenance Period of 3 months
- 19.2 **Water Company Assets** for Defects Liability Period of 12 months and Maintenance Period of 2 years
- 19.3 **Inspection & General Maintenance Activities** the Contractor must undertake regular site inspections of all completed works. Special attention must be given to the adequacy of the following soil protection works:
- (a) Silt fences
- (b) Silt barriers
- (c) Areas hydroseeded

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Estuary
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City of Greater Geelong
Roadworks and Drainage
General Notes

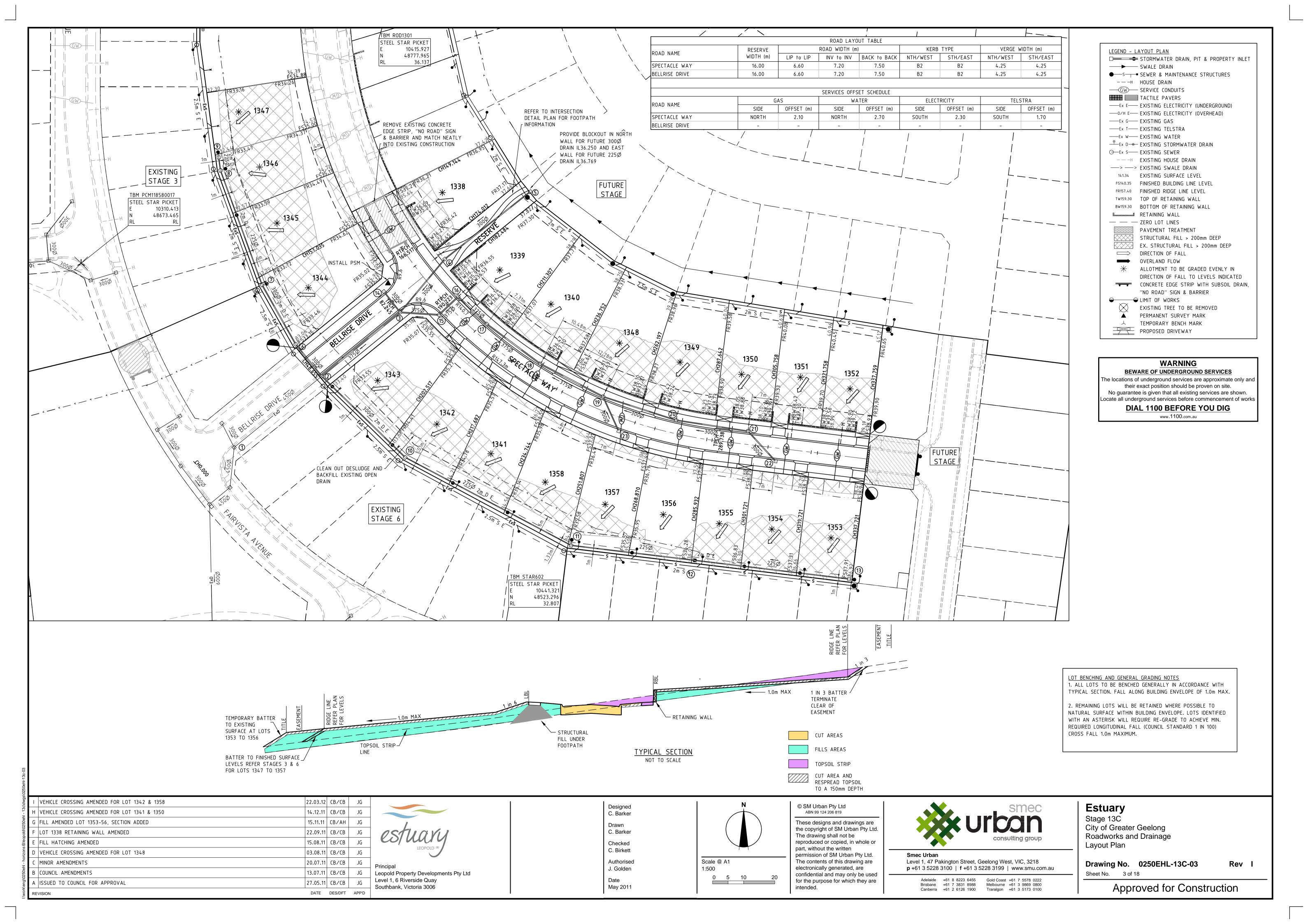
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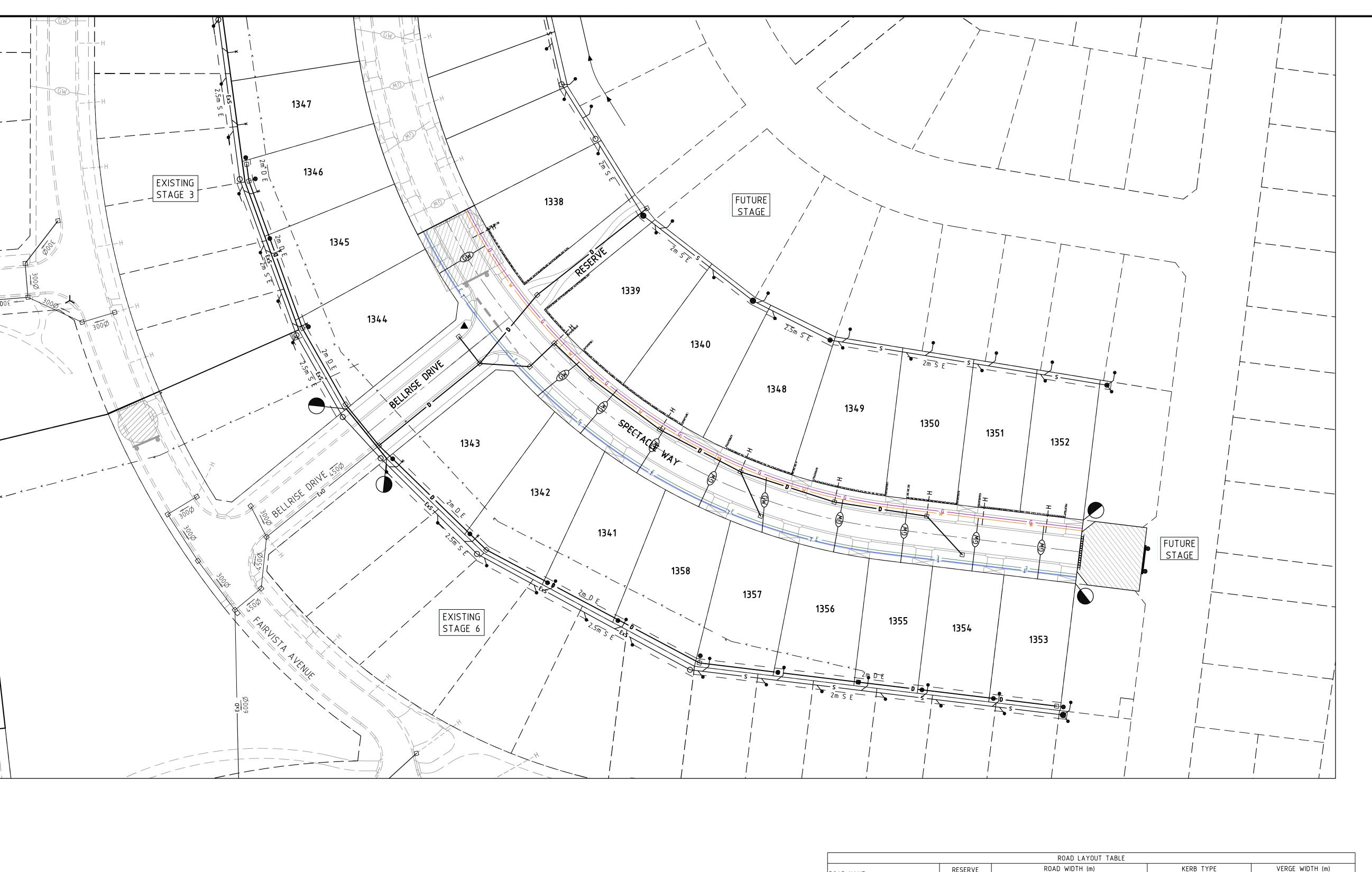
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Rev B

B COUNCIL AMENDMENTS 13.07.11 CB/CB JG
A ISSUED TO COUNCIL FOR APPROVAL 27.05.11 CB/CB JG

REVISION DATE DES/DFT APP'D





<u>LEGEND - FUNCTIONAL LAYOUT PLAN</u>
——E—— ELECTRICITY (UNDERGROUND)
——-G——- GAS
——⊤—— TELSTRA
————— WATER
□──□ STORMWATER DRAIN, PIT & PROPERTY INLET
──► SWALE DRAIN
●──S───SEWER & MAINTENANCE STRUCTURES
———н HOUSE DRAIN
—ŒW─ SERVICE CONDUITS
TACTILE PAVERS
——Ex E—— EXISTING ELECTRICITY (UNDERGROUND)
—────── EXISTING ELECTRICITY (OVERHEAD)
——Ex G—— EXISTING GAS
——Ex T—— EXISTING TELSTRA
——Ex W—— EXISTING WATER
Ex D— EXISTING STORMWATER DRAIN
O—Ex S—— EXISTING SEWER
H EXISTING HOUSE DRAIN
> EXISTING SWALE DRAIN
— — ZERO LOT LINES
PAVEMENT TREATMENT
□⇒ DIRECTION OF FALL
OVERLAND FLOW
st ALLOTMENT TO BE GRADED EVENLY IN
DIRECTION OF FALL TO LEVELS INDICATED
CONCRETE EDGE STRIP WITH SUBSOIL DRAIN,
"NO ROAD" SIGN & BARRIER
⊕ ⊕ LIMIT OF WORKS
EXISTING TREE TO BE REMOVED

ROAD LAYOUT TABLE												
ROAD NAME	RESERVE	ROAD WIDTH (m)			KERB	TYPE	VERGE WIDTH (m)					
ROAD NAME	WIDTH (m)	LIP to LIP	INV to INV	BACK to BACK	NTH/WEST	STH/EAST	NTH/WEST	STH/EAST				
SPECTACLE WAY	16.00	6.60	7.20	7.50	В2	B2	4.25	4.25				
BELLRISE DRIVE	16.00	6.60	7.20	7.50	В2	B2	4.25	4.25				

			SERVICES OFFS	SET SCHEDULE					
ROAD NAME	C	iAS	WA	TER	ELECT	RICITY	TELSTRA		
RUAD NAME	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	
SPECTACLE WAY	NORTH	2.10	NORTH	2.70	SOUTH	2.30	SOUTH	1.70	
BELLRISE DRIVE	-	-	_	_	-	_	-	-	

WARNING BEWARE OF UNDERGROUND SERVICES The locations of underground services are approximate only and their exact position should be proven on site. No guarantee is given that all existing services are shown. Locate all underground services before commencement of works DIAL 1100 BEFORE YOU DIG

www.1100.com.au

 _					
Е	ROAD NAMES AMENDED	15.11.11	AH/AH	JG	'
D	VEHICLE CROSSING AMENDMENT FOR LOT 1348	03.08.11	CB/CB	JG	
C	MINOR AMENDMENTS	20.07.11	CB/CB	JG	Pri
В	COUNCIL AMENDMENTS	13.07.11	CB/CB	JG	Le
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estuary LEOPOLD ®

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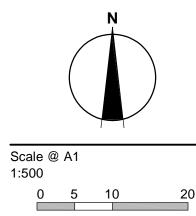
Designed
C. Barker

Drawn
C. Barker

Checked
C. Birkett

Authorised
J. Golden

Date
May 2011



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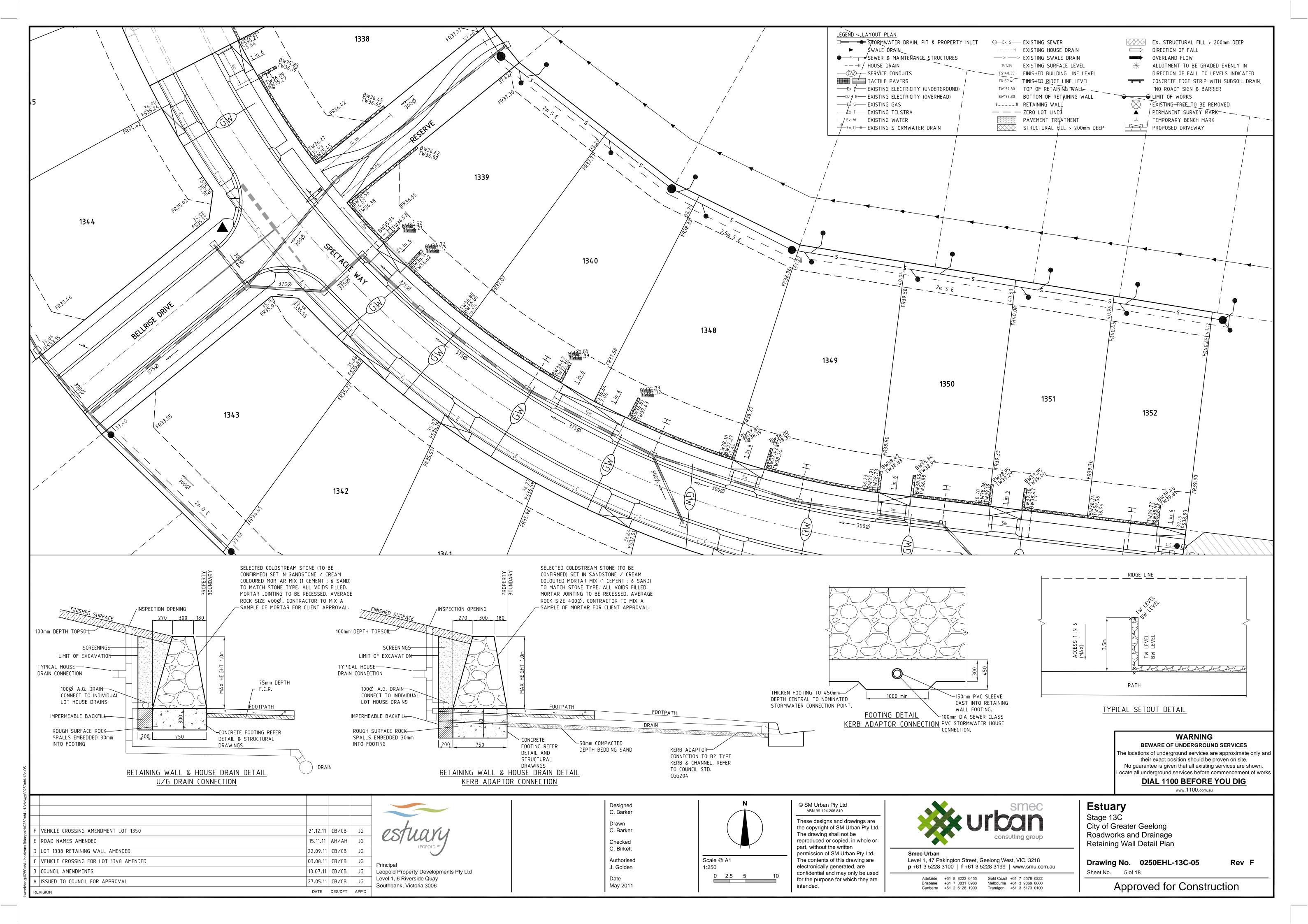
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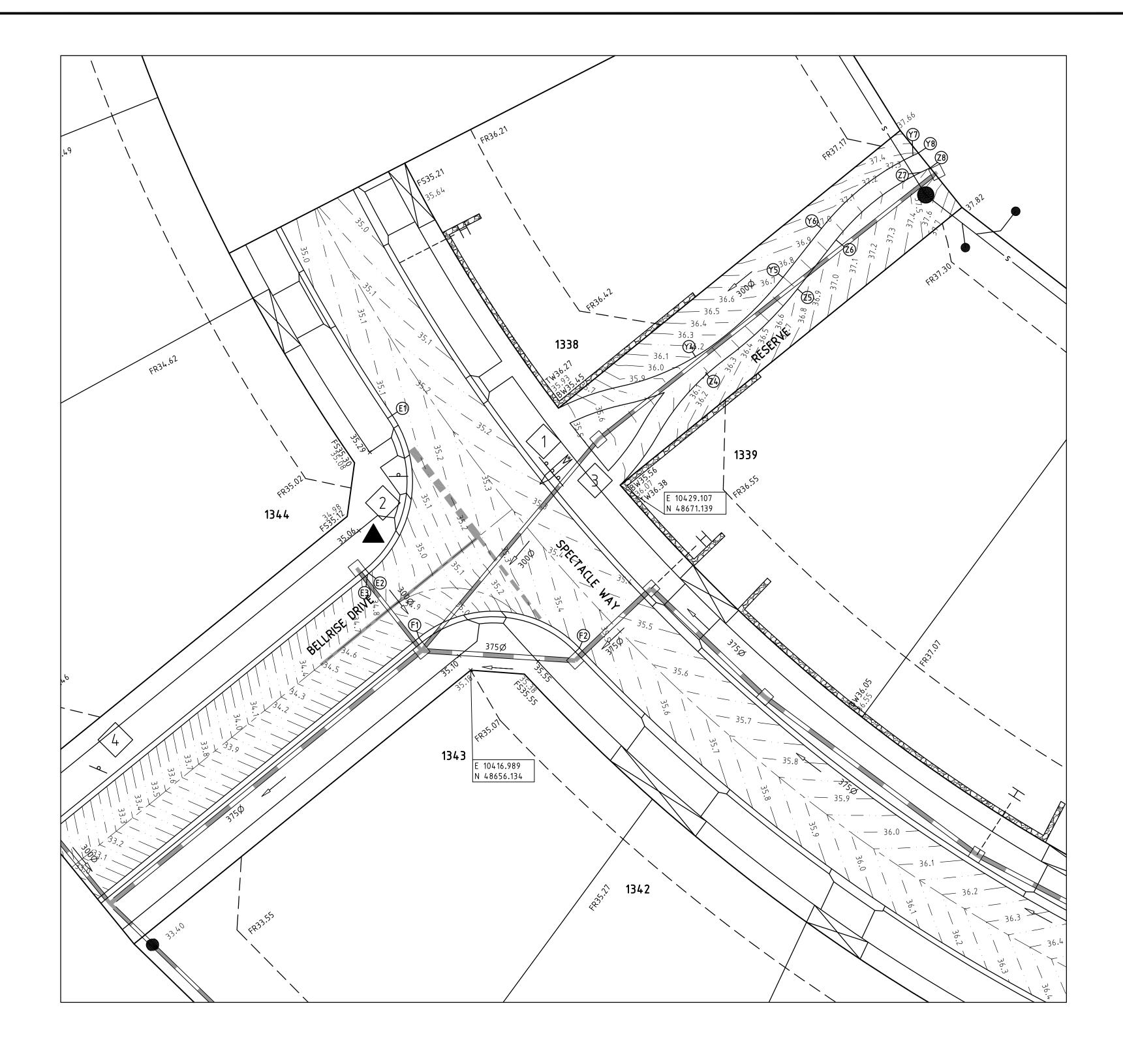
Estuary
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Roadworks and Drainage
Services Layout Plan

Drawing No. 0250EHL-13C-04Sheet No. 4 of 18

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Rev E





STREET SIGN R1-2 D4-2-1

REF

SIGN SCHEDULE

WARNING

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Locate all underground services before commencement of works

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REFER TO SHEET No 7 FOR LIP PROFILES.

REFER TO SHEET No 8 FOR SETOUT INFORMATION.

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Ε	LINEMARKING AMENDED 15.1	12.11	CB/CB	JG	estuari LEOPOLD ®
D	COUNCIL AMENDMENTS 02.1	12.11	AH/AH	JG	LEOPOLD ®
С	ROAD NAMES AMENDED 15.1	11.11	AH/AH	JG	Principal
В	COUNCIL AMENDMENTS 13.0	07.11	CB/CB	JG	Leopold Property Developm
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<u>LEGEND - INTERSECTION PLAN</u>

────── SWALE DRAIN

- — −H HOUSE DRAIN

TACTILE PAVERS

RETAINING WALL

⊖ ⊖ LIMIT OF WORKS

---H EXISTING HOUSE DRAIN

PAVEMENT TREATMENT

PROPOSED DRIVEWAY

STORMWATER DRAIN, PIT & PROPERTY INLET

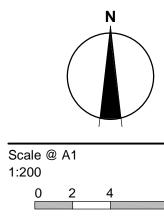
CONCRETE EDGE STRIP WITH SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER

> EXISTING TREE TO BE REMOVED PERMANENT SURVEY MARK TEMPORARY BENCH MARK

● S T SEWER & MAINTENANCE STRUCTURES

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay

Designed C. Barker Drawn C. Barker Checked C. Birkett Authorised J. Golden May 2011



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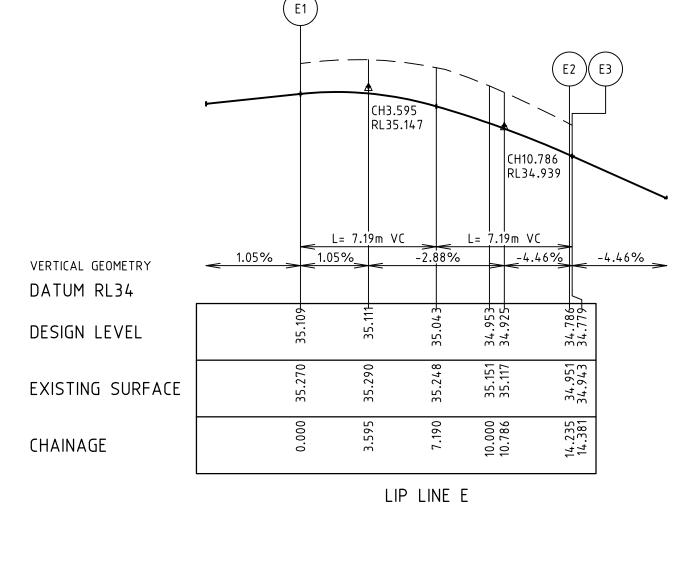
Estuary Stage 13C City of Greater Geelong Roadworks and Drainage Intersection Detail Plan

Drawing No. 0250EHL-13C-06

Rev F

<u>LEGEND</u> — — EXISTING SURFACE DESIGN LINE — — FUTURE DESIGN LINE

RL35.147 CH3.586 RL34.939 CH10.786 RL34.939 L= 7.17m VC _ L= 7.19m VC _ L= 7.17m VC VERTICAL GEOMETRY VERTICAL GEOMETRY DATUM RL34 DESIGN LEVEL EXISTING SURFACE CHAINAGE LIP LINE E LIP LINE F

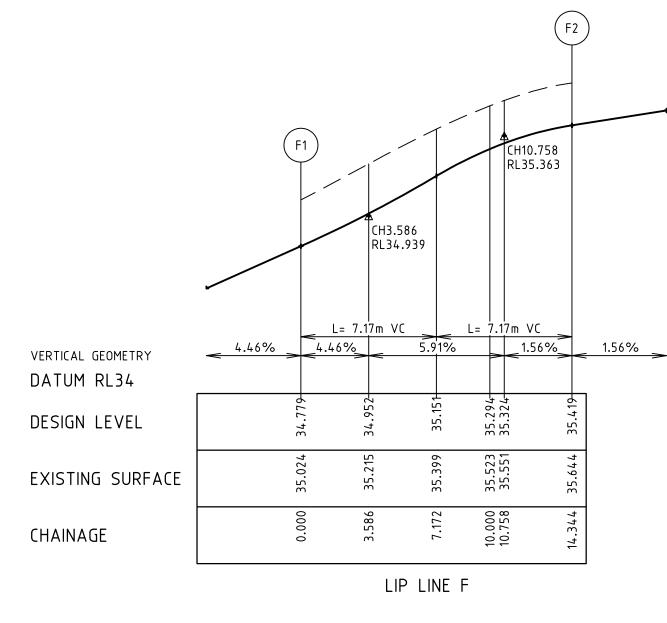


1. CHAINAGES REFER TO LIP OF KERB/EDGE OF CONCRETE.

2. REFER TO SHEET No 8 FOR SETOUT INFORMATION.

B COUNCIL AMENDMENTS

A ISSUED TO COUNCIL FOR APPROVAL



13.07.11 CB/CB JG Leopold Property Developments Pty Ltd

27.05.11 CB/CB JG Level 1, 6 Riverside Quay
Southbank, Victoria 3006

DATE DES/DFT APP'D

Designed C. Barker Drawn C. Barker Checked C. Birkett Authorised J. Golden

May 2011

Scale @ A1 H1:200, V1:20 0 2 4 8 0.2 0.4 0.8

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City of Greater Geelong
Roadworks and Drainage Lip Profiles

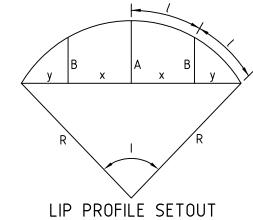
Drawing No. 0250EHL-13C-07

Rev B

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BELLRISE DRIVE DESIGN LINE
 CHAINAGE EASTING NORTHING BEARING
   48.655 10384.633 48640.137 50°53′20" IP
   94.687 10420.351 48669.176 50°53′20″ IP
 COORDINATE = 10384.6333 48640.1373
 CHAINAGE = 48.6549
 COORDINATE = 10420.3507 48669.1755
 CHAINAGE = 94.6870
SPECTACLE WAY DESIGN LINE CHAINAGE EASTING
                      NORTHING
                                  BEARING
  149.144
             10404.515
                         48693.597 152°50′11″ IP
                         48693.589 152°50′11" TC
   149.154
             10404.520
   200.000
             10435.157
                         48653.341 132°36′20″
   289.738
             10515.338
                         48616.372 96°54′00″ CT
             10515.338
                         48616.372 96°54′00″ IP
  289.738
                         48615.139 96°54′00″
  300.000
             10525.526
  337.758
            10563.011
                         48610.603 96°54′00" IP
 COORDINATE = 10404.5151
                              48693.5974
 CHAINAGE =
                  149.1441
 COORDINATE =
                     10439.4278
                                   48625.5583
  CENTRE
                     10532.6374
                                   48759.3293
 RADIUS
                     -144.0000
 LENGTH
                      140.5836
 INTERSECT ANGLE =
                      55°56′11″
 START TANGENT
   COORDINATE =
                   10404.5196
                                48693.5886
   LENGTH =
                    76.4637
   CHAINAGE =
                    149.1540
   BEARING =
                  152°50′11″
  END TANGENT
   COORDINATE =
                  10515.3377
                                48616.3722
   LENGTH =
                   76.4637
   CHAINAGE =
                    289.7376
   BEARING =
                   96°54′00″
 COORDINATE = 10515.3377 48616.3722
  CHAINAGE = 289.7376
  INTERSECT ANGLE = 0°00′00″
 COORDINATE = 10563.0108 48610.6031
 CHAINAGE = 337.7585
<u>ALIGNMENT E</u>
                           NORTHING
POINT NO
             EASTING
                                        RL
             10410.624
                            48676.806
                                       35.109
 E 1
 E 2
             10408.728
                            48663.979
                                        34.786
 E 3
             10408.615
                            48663.888
                                        34.779
CURVE NO
                                                                                            MID POINT RL
E1 - E2
            84.961 9.600 14.235 2.520
                                                     1.868 3.478 3.005 3.559 35.045
 <u>ALIGNMENT F</u>
                           NORTHING
             EASTING
POINT NO
                                        34.779
             10412.779
                            48658.766
 F 2
                                        35.419
             10425.798
                            48657.926
CURVE NO
                                                                                             MID POINT RL
 F1 - F2
             85.607
                       9.600
                                 14.344
                                            2.557
                                                       1.895
                                                                 3.503
                                                                           3.020
                                                                                      3.586
                                                                                             35.151
<u>ALIGNMENT Y</u>
POINT NO
             EASTING
                            NORTHING
                                         RL
             10426.086
                            48674.805
 Y 2
             10429.332
                            48677.439
                                        35.692
             10432.845
                            48679.991
                                        35.923
 Υ3
             10435.228
                            48681.536
                                        36.103
             10442.301
                            48687.988
                                        36.698
             10445.424
                            48691.954
                                        36.950
 Υ6
             10452.845
                            48697.871
                                        37.375
             10453.275
                            48698.075
                                        37.401
CURVE NO
                                                                                             MID POINT RL
                       RADIUS
             6.109
                       40.750
                                            0.058
                                                       0.043
                                                                 1.086
                                                                            1.085
                                  4.345
                                                                                      1.086
                                                                                              35.798
 Y2 - Y3
                       29.250
 Y4 - Y5
             18.838
                                  9.617
                                            0.394
                                                       0.296
                                                                 2.402
                                                                            2.385
                                                                                      2.404
                                                                                              36.411
                       20.750
             26.441
                                  9.576
                                            0.550
                                                                           2.357
 Y6 - Y7
                                                       0.412
                                                                 2.389
                                                                                      2.394
                                                                                              37.160
ALIGNMENT Z
POINT NO
             EASTING
                            NORTHING
                                         RL
             10427.031
                            48673.640
             10430.277
                            48676.274
                                        35.695
             10433.661
                            48678.733
                                        35.915
 Z 3
             10436.044
                            48680.277
                                        36.091
             10443.480
                            48687.060
                                        36.703
             10446.603
                            48691.026
                                        36.958
             10453.487
                            48696.516
                                        37.368
 Z 8
             10454.242
                            48696.873
                                        37.416
CURVE NO
                                  ARC
                                                                                             MID POINT RL
             6.109
                                            0.056
                                                       0.042
                                                                 1.046
                                                                           1.045
                                                                                     1.046
                                                                                              35.798
 Z2 - Z3
                       39.250
                                  4.185
                                  10.110
                                                                 2.525
                                                                                      2.528
 Z4 - Z5
             18.838
                       30.750
                                            0.415
                                                       0.311
                                                                           2.508
                                                                                              36.405
                                                                                              37.162
 Z6 - Z7
             26.441
                       19.250
                                            0.510
                                                       0.382
                                                                           2.187
                                  8.884
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- 1. SETOUT CO-ORDINATES REFER TO LIP OF KERB/EDGE OF CONCRETE.
- 2. REFER TO SHEET No 7 FOR LIP PROFILES.

					estuary LEOPOLD ®
С	ROAD NAMES AMENDED	15.11.11	AH/AH	JG	Principal
В	COUNCIL AMENDMENTS	13.07.11	CB/CB	JG	Leopold Property Developments Pty Ltd
Α	ISSUED TO COUNCIL FOR APPROVAL	27.05.11	CB/CB	JG	Level 1, 6 Riverside Quay Southbank, Victoria 3006
REV	ISION	DATE	DES/DFT	APP'D	Countries, violena 0000



Designed C. Barker Drawn C. Barker Checked C. Birkett Authorised J. Golden

Date

May 2011

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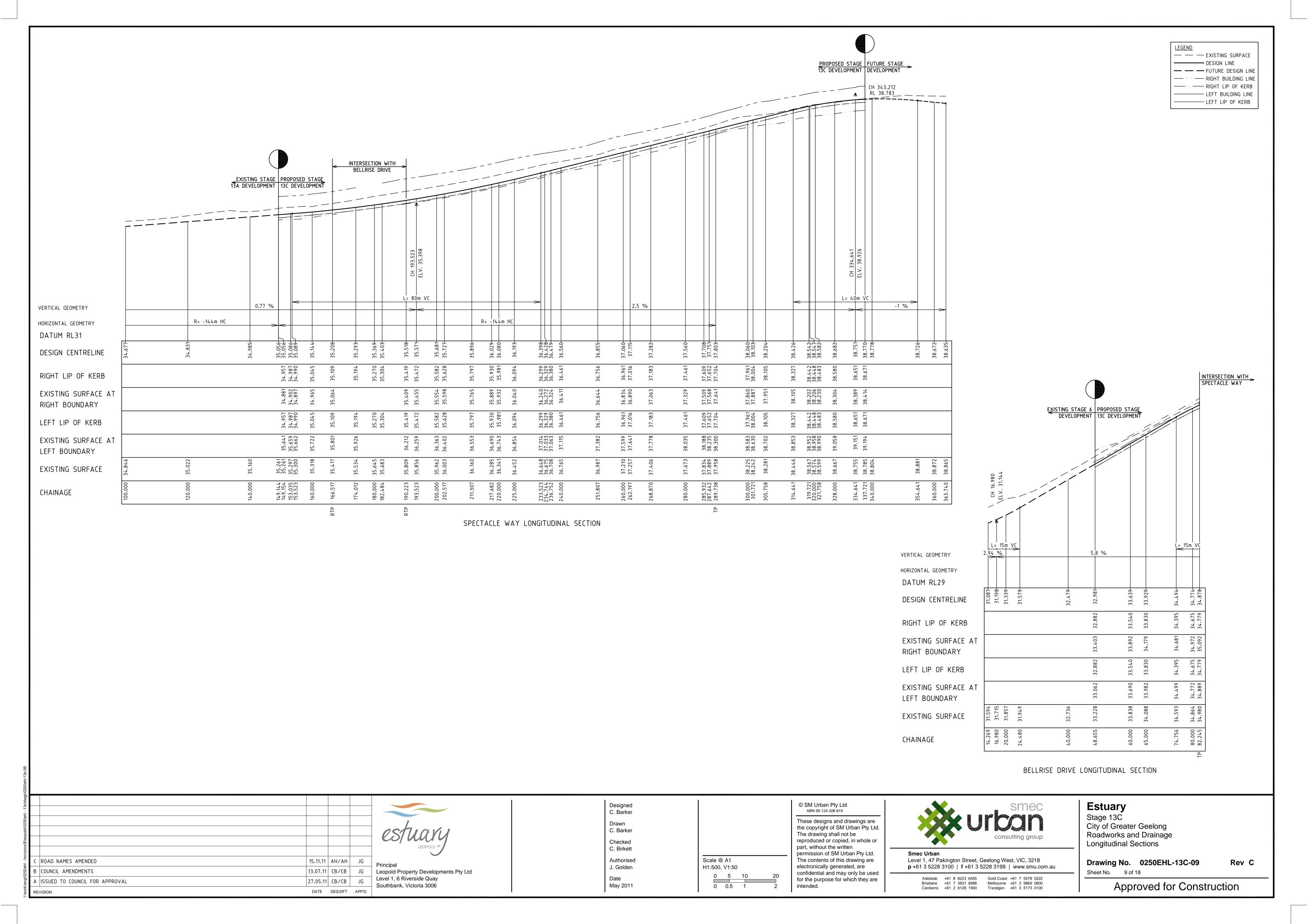
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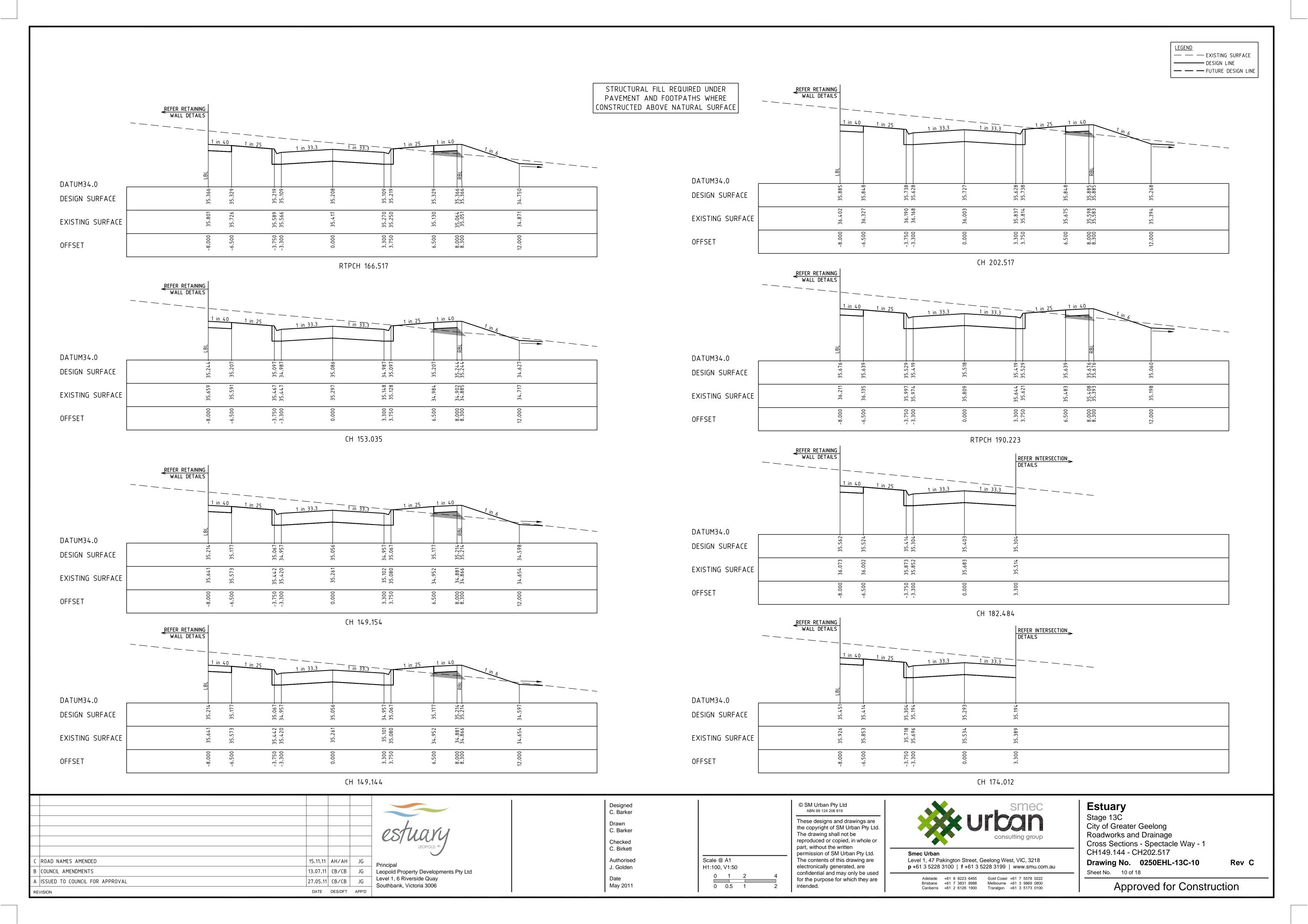
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Estuary Stage 13C City of Greater Geelong Roadworks and Drainage Setout Information Plan

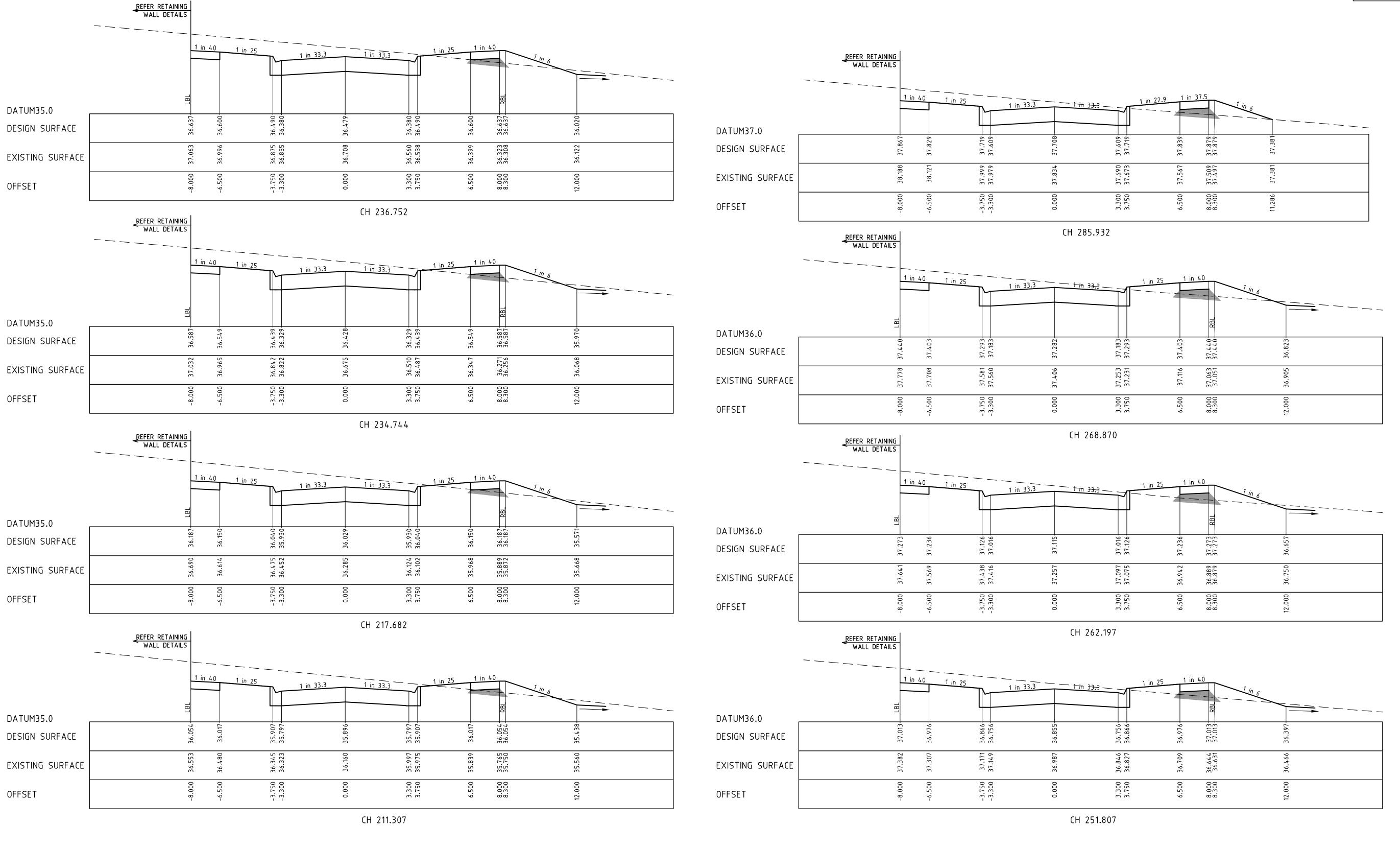
Drawing No. 0250EHL-13C-08 Sheet No. 8 of 18

Approved for Construction









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				LEOPOLD ™
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B COUNCIL AMENDMENTS	13.07.11	CB/CB	JG	Leopold Property Developn
A ISSUED TO COUNCIL FOR APPROVAL	27.05.11	CB/CB	JG	Level 1, 6 Riverside Quay Southbank, Victoria 3006
REVISION	DATE	DES/DFT	APP'D	Couribanii, violona oooo

Leopold Property Developments Pty Ltd Level 1, 6 Riverside Quay

Designed C. Barker Drawn C. Barker Checked C. Birkett Authorised J. Golden Date May 2011

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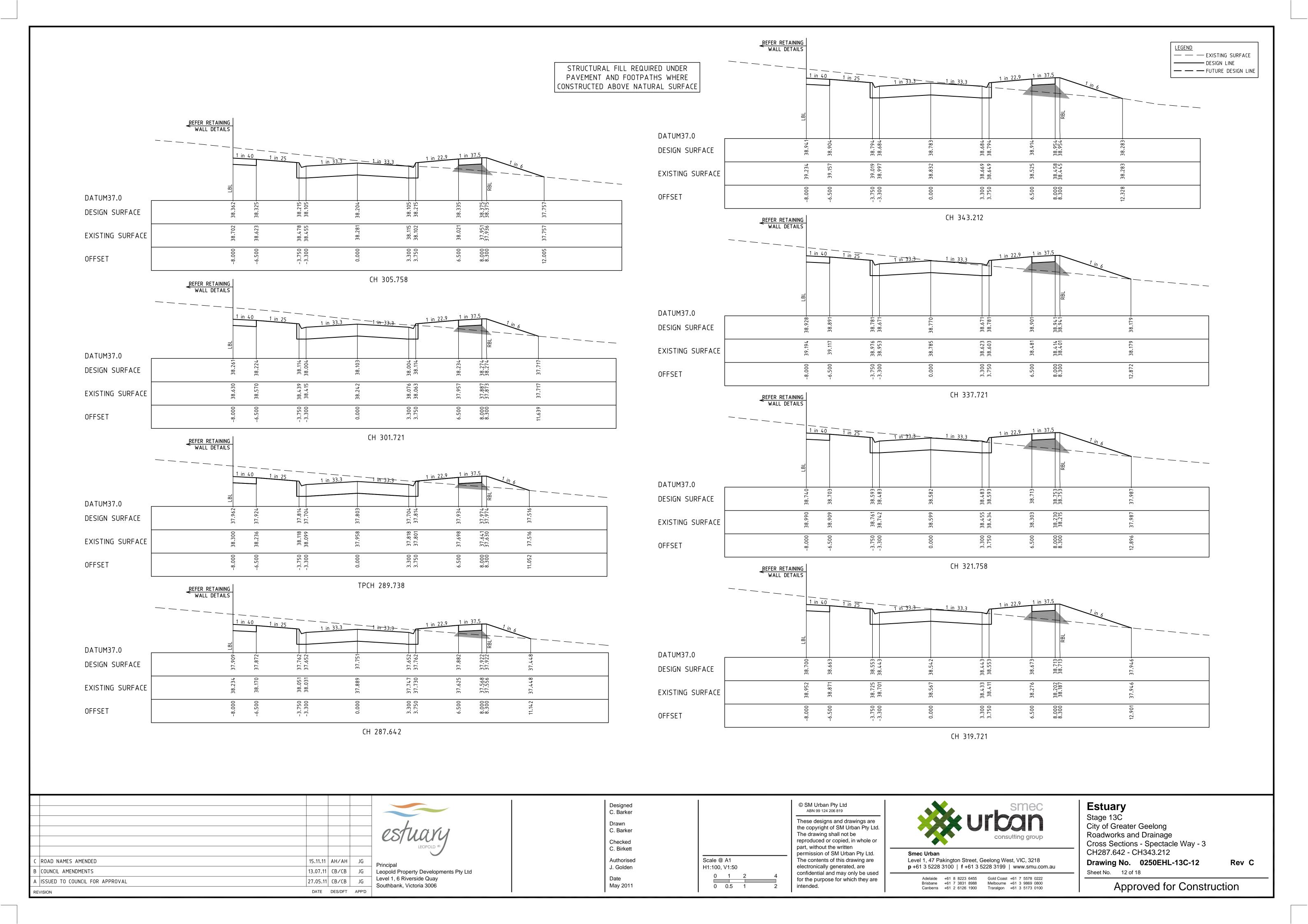
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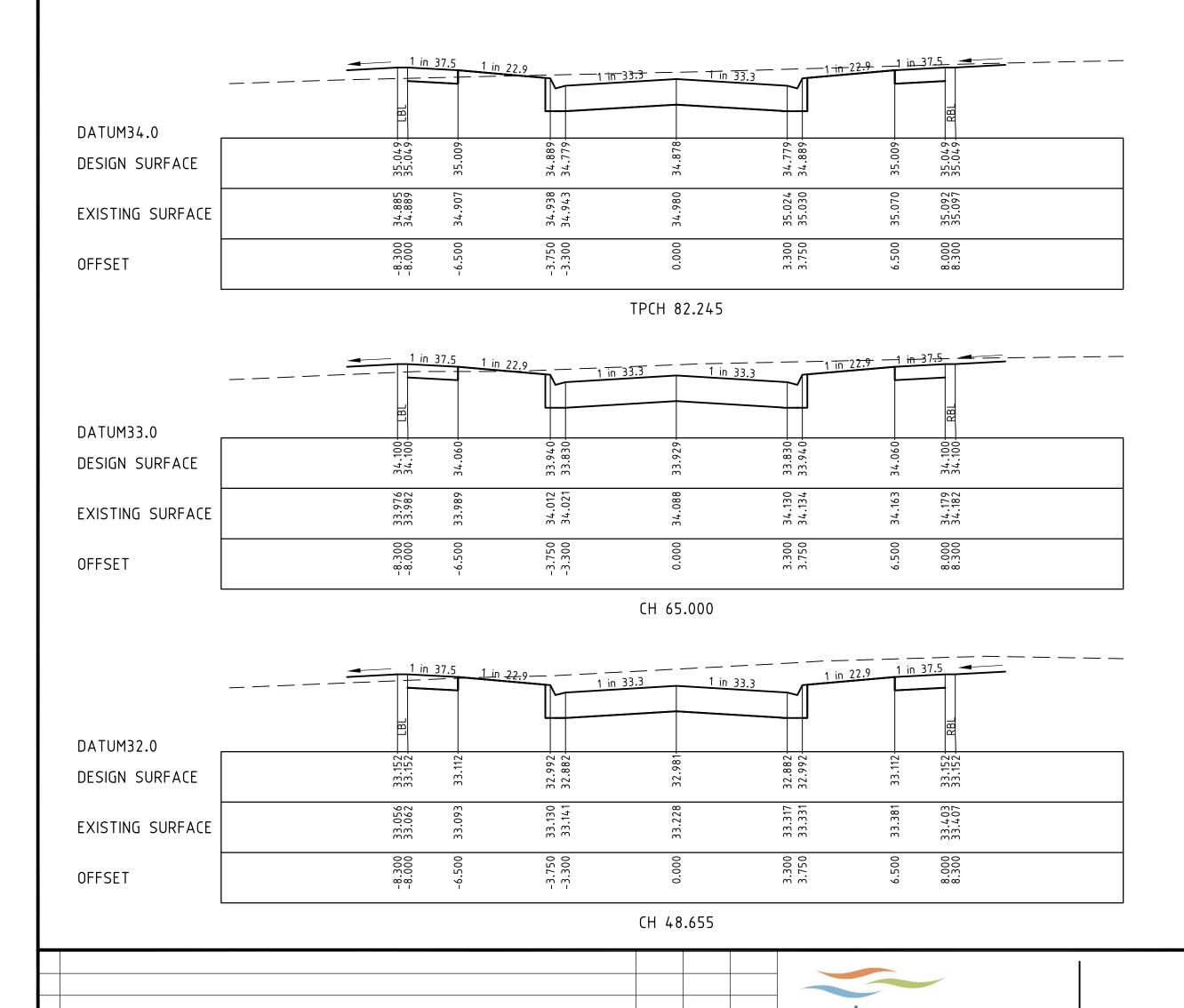
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Estuary Stage 13C City of Greater Geelong Roadworks and Drainage Cross Sections - Spectacle Way - 2 CH211.307 - CH285.932 Drawing No. 0250EHL-13C-11 Sheet No. 11 of 18

Rev C



<u>LEGEND</u> — — EXISTING SURFACE ——— DESIGN LINE — — FUTURE DESIGN LINE



| 15.11.11 | AH/AH | JG

27.05.11 CB/CB JG

DATE DES/DFT APP'D

13.07.11 CB/CB JG Leopold Property Developments Pty Ltd

27.05.11 CB/CB IG Level 1, 6 Riverside Quay

Southbank, Victoria 3006

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A ISSUED TO COUNCIL FOR APPROVAL

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Drawn C. Barker

Checked

C. Birkett

Authorised

J. Golden

Date

May 2011

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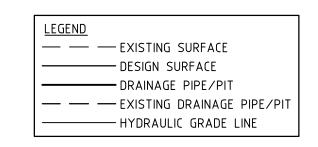
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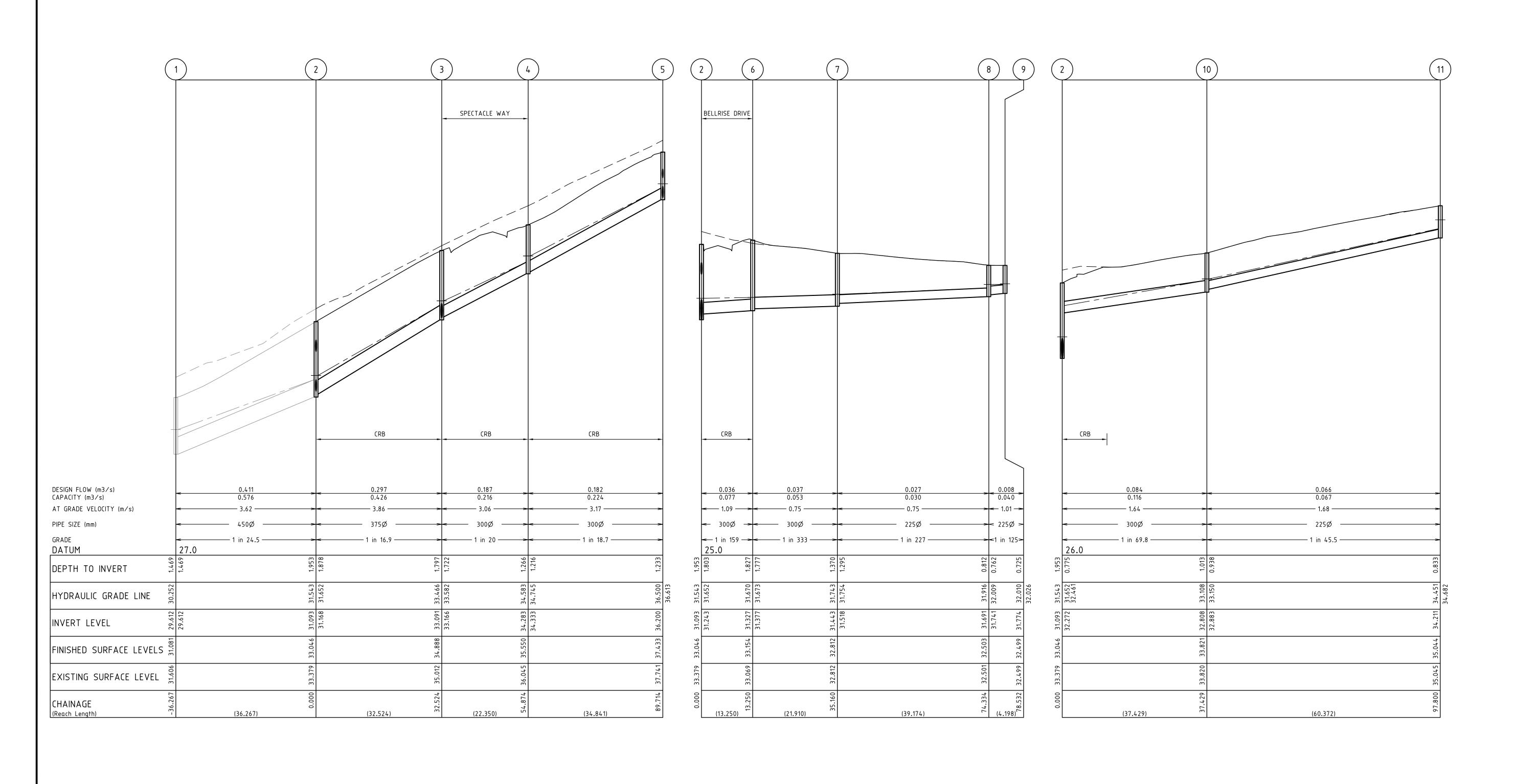
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Estuary Stage 13C City of Greater Geelong Roadworks and Drainage Cross Sections - Bellrise Drive

Drawing No. 0250EHL-13C-13 Sheet No. 13 of 18

Rev C





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-					estuari LEOPOLD ®
					LEOPOLD ®
С	ROAD NAMES AMENDED	15.11.11	AH/AH	JG	Principal
В	COUNCIL AMENDMENTS	13.07.11	CB/CB	JG	Leopold Property Developn
Α	ISSUED TO COUNCIL FOR APPROVAL	27.05.11	CB/CB	JG	Level 1, 6 Riverside Quay Southbank, Victoria 3006
RE	VISION	DATE	DES/DFT	APP'D	Coambann, Violona 0000

Leopold Property Developments Pty Ltd Level 1, 6 Riverside Quay

Designed C. Barker Drawn C. Barker Checked C. Birkett Authorised J. Golden Date May 2011

Scale @ A1 H1:500, V1:50 0 5 10 0 0.5 1

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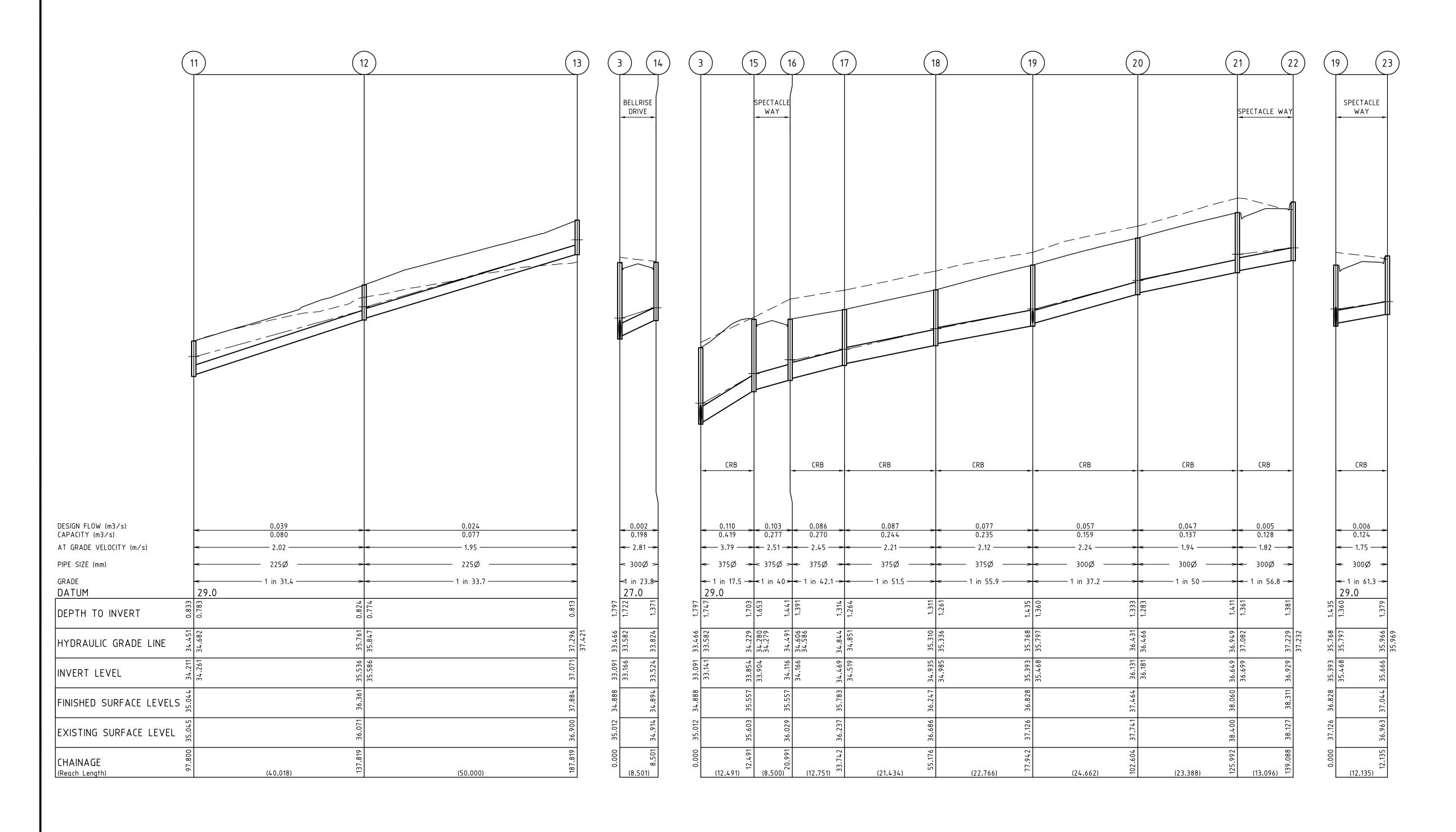
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Estuary Stage 13C City of Greater Geelong Roadworks and Drainage Drainage Longitudinal Sections - 1

Drawing No. 0250EHL-13C-14 Sheet No. 14 of 18

Approved for Construction

— — EXISTING SURFACE — DESIGN SURFACE DRAINAGE PIPE/PIT — — EXISTING DRAINAGE PIPE/PIT — HYDRAULIC GRADE LINE



					estuary LEOPOLD ®
					LEOPOLD [®]
C	ROAD NAMES AMENDED	15.11.11	AH/AH	JG	Principal Principal
В	COUNCIL AMENDMENTS	13.07.11	CB/CB	JG	Leopold Property Developments Pty Ltd
Α	ISSUED TO COUNCIL FOR APPROVAL	27.05.11	CB/CB	JG	Level 1, 6 Riverside Quay Southbank, Victoria 3006
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Designed C. Barker Drawn C. Barker Checked C. Birkett Authorised J. Golden May 2011

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Estuary Stage 13C City of Greater Geelong Roadworks and Drainage Drainage Longitudinal Sections - 2

Drawing No. 0250EHL-13C-15 Sheet No. 15 of 18

Rev C

						PIT SC	HEDULE				
PIT	TYPE	INTER	INTERNAL		ET OUTLET		TLET	F.S.L. (m)	DEPTH (m)	STANDARD DRAWING	REMARKS
NUMBER		WIDTH (mm)	LENGTH (mm)	DIAMETER (mm)	INVERT R.L.(m)	DIAMETER (mm)	INVERT R.L. (m)	, ,	, ,		
2	Ex PIT			375	31.168	450	31.093	33.046	1.953		CONNECT TO EXISTING PIT
				300	31.243						
_				300	32.272				_		
3	SIDE ENTRY PIT	900	900	300	33.166	375	33.091	34.888	1.797	SD 430	
				300	33.166						
4	JUNCTION PIT	900	900	375 300	33.141 34.333	300	34.283	35.550	1.266	SD 420	
5		900	900	300	34.333	300		37.433	1.233	SD 420	
5	JUNCTION PIT	900	900	225	36.769	300	36.200	37.433	1.255	3D 420	
				300	36.250						
6	JUNCTION PIT	900	900	300	31.377	300	31.327	33.154	1.827	SD 425	
7	JUNCTION PIT	900	900	225	31.518	300	31.443	32.812	1.370	SD 425	
8	JUNCTION PIT	600	900	225	31.741	225	31.691	32.503	0.812	SD 425	
9	JUNCTION PIT	600	900			225	31.774	32.499	0.725	SD 425	
10	JUNCTION PIT	600	900	225	32.883	300	32.808	33.821	1.013	SD 425	
11	JUNCTION PIT	600	900	225	34.261	225	34.211	35.044	0.833	SD 425	
12	JUNCTION PIT	600	900	225	35.586	225	35.536	36.361	0.824	SD 425	
13	JUNCTION PIT	600	900			225	37.071	37.884	0.813	SD 425	
14	SIDE ENTRY PIT	900	900			300	33.524	34.894	1.371	SD 430	
15	SIDE ENTRY PIT	900	900	375	33.904	375	33.854	35.557	1.703	SD 430	
16	SIDE ENTRY PIT	900	900	375	34.166	375	34.116	35.557	1.441	SD 430	
17	JUNCTION PIT	900	900	375	34.519	375	34.469	35.783	1.314	SD 420	
18	JUNCTION PIT	900	900	375	34.985	375	34.935	36.247	1.311	SD 420	
19	SIDE ENTRY PIT	900	900	300	35.468	375	35.393	36.828	1.435	SD 430	
				300	35.468						
20	JUNCTION PIT	900	900	300	36.181	300	36.131	37.464	1.333	SD 420	
21	SIDE ENTRY PIT	900	900	300	36.699	300	36.649	38.060	1.411	SD 430	
22	SIDE ENTRY PIT	900	900			300	36.929	38.311	1.381	SD 430	
23	SIDE ENTRY PIT	900	900			300	35.666	37.044	1.379	SD 430	

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006 B COUNCIL AMENDMENTS A ISSUED TO COUNCIL FOR APPROVAL DATE DES/DFT APP'D

Designed C. Barker Drawn C. Barker Checked C. Birkett Authorised J. Golden Date May 2011

Scale @ A1

H1:500, V1:50

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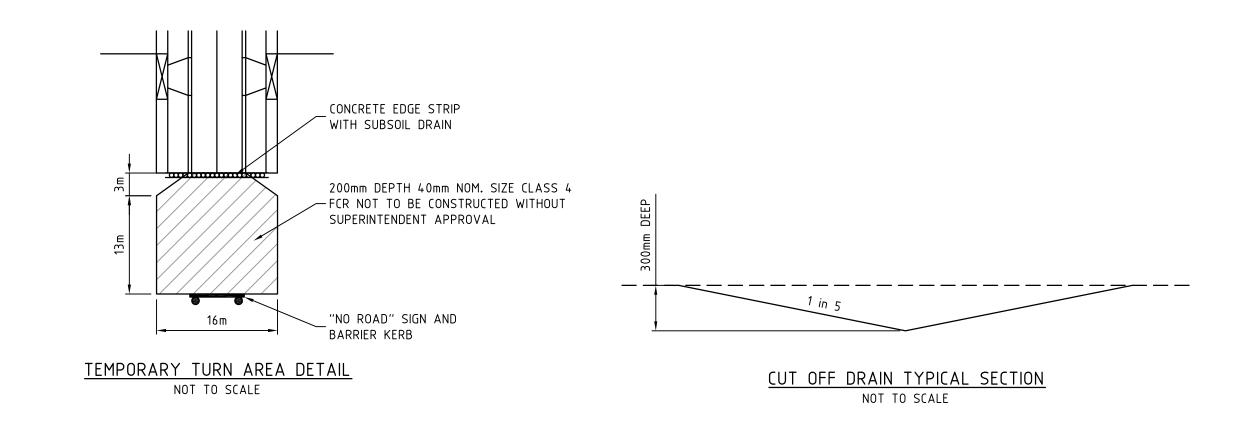
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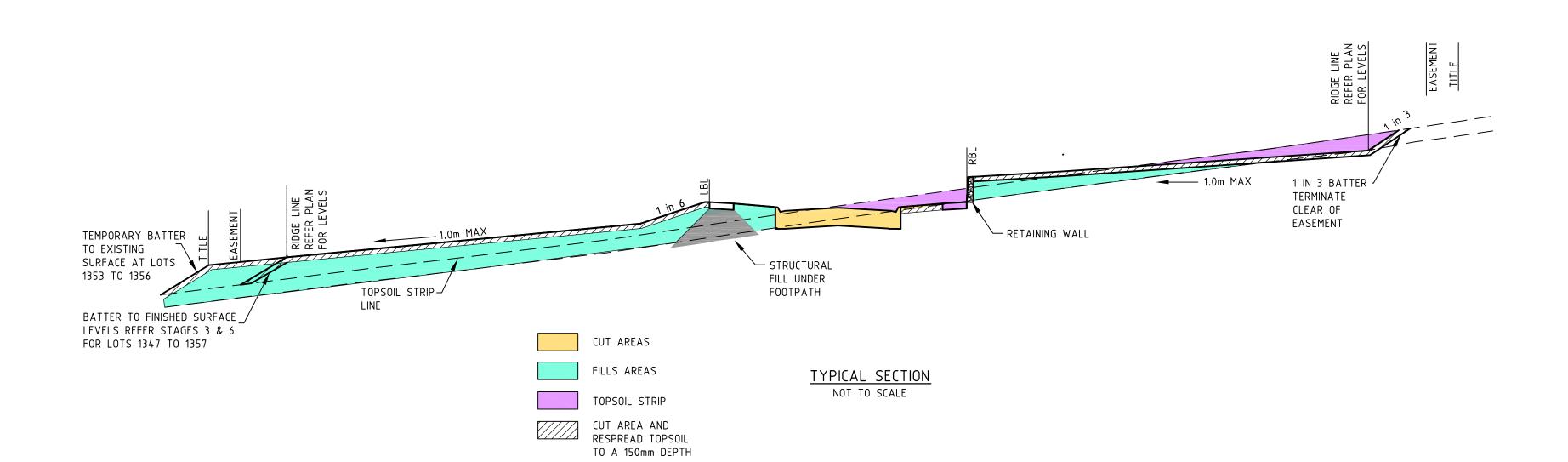
Estuary
Stage 13C
City of Greater Geelong
Roadworks and Drainage
Plt Schedule

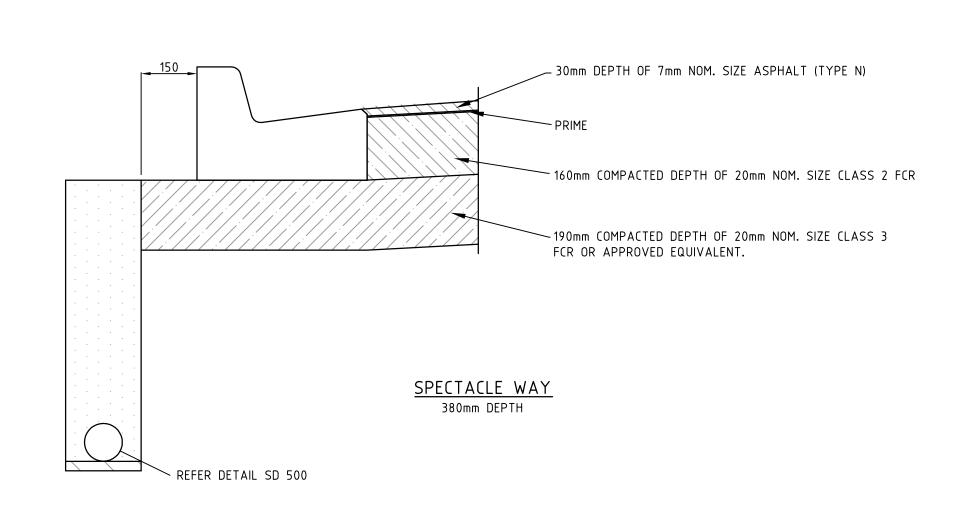
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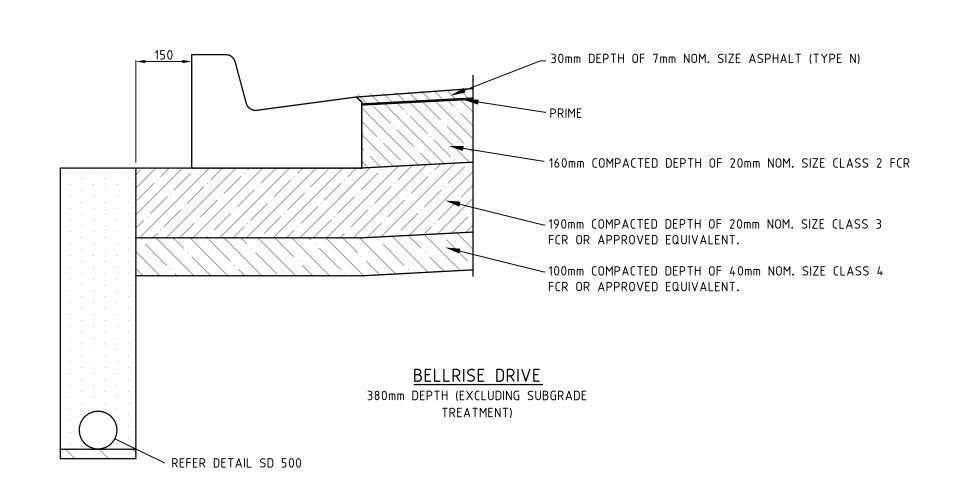
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Rev B









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SSUED TO COUNCIL FOR APPROVAL	27.05.11	CB/CB	JG	Leve
SION	DATE	DES/DFT	APP'D	304
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estuary LEOPOLD ®

Principal
Leopold Property Developments Pty Ltd
Level 1, 6 Riverside Quay
Southbank, Victoria 3006

Designed
C. Barker

Drawn
C. Barker

Checked
C. Birkett

Authorised
J. Golden

Date
May 2011

Scale @ A1 As Shown

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Consulting group

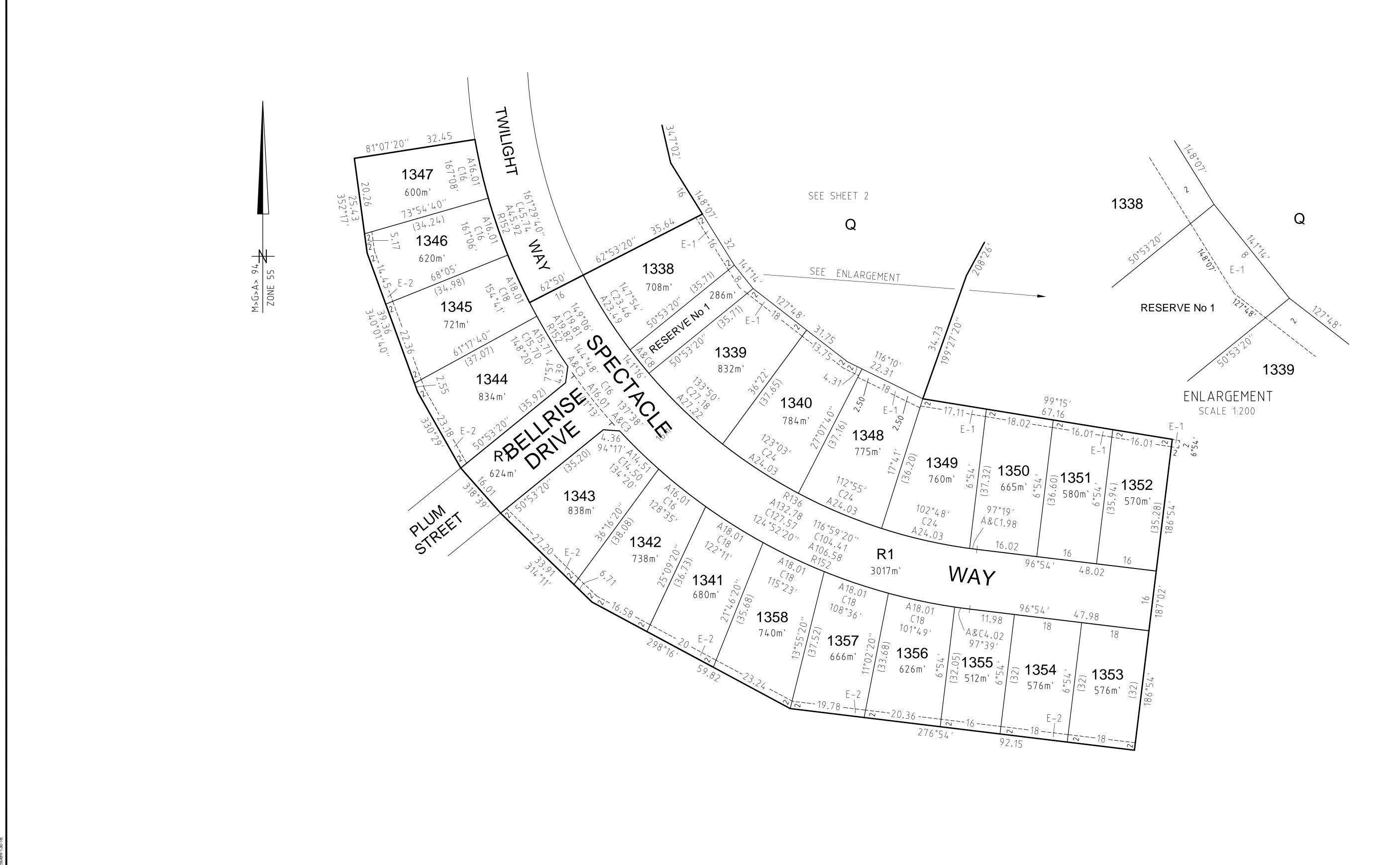
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Estuary
Stage 13C
City of Greater Geelong
Roadworks and Drainage
Details

Drawing No. 0250EHL-13C-17Sheet No. 17 of 18

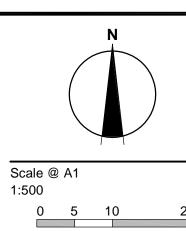
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			LEOPOLD ™
С	ROAD NAMES AMENDED	15.11.11 AH/AH JG Princ	cinal
В	COUNCIL AMENDMENTS	13.07.11 CB/CB JG Leop	oold Property Developr
Α	ISSUED TO COUNCIL FOR APPROVAL		el 1, 6 Riverside Quay thbank, Victoria 3006
RE	VISION	DATE DES/DFT APP'D	and and visiona cocc

Principal Leopold Property Developments Pty Ltd Level 1, 6 Riverside Quay

Designed C. Barker Drawn C. Barker Checked C. Birkett Authorised J. Golden May 2011



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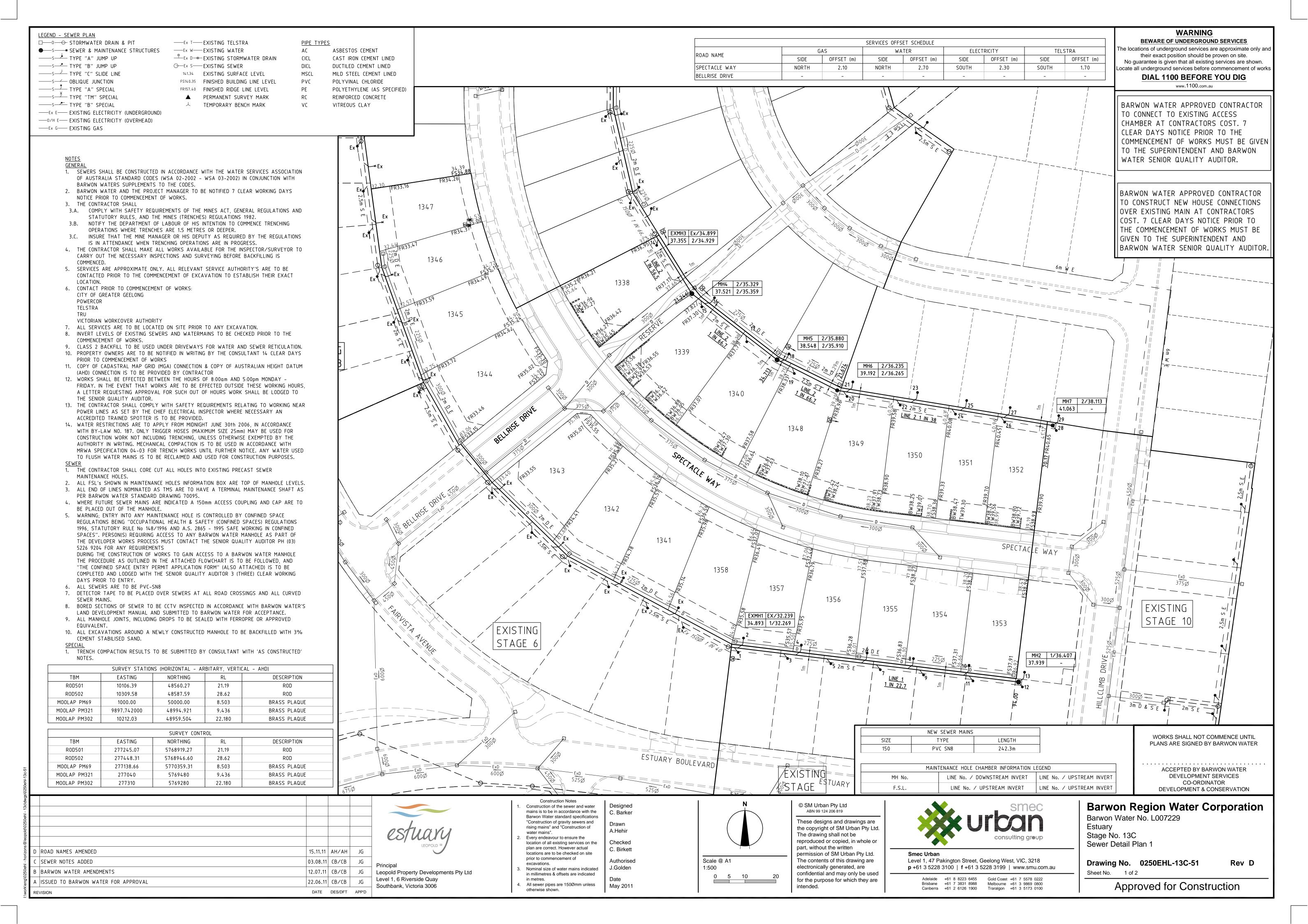
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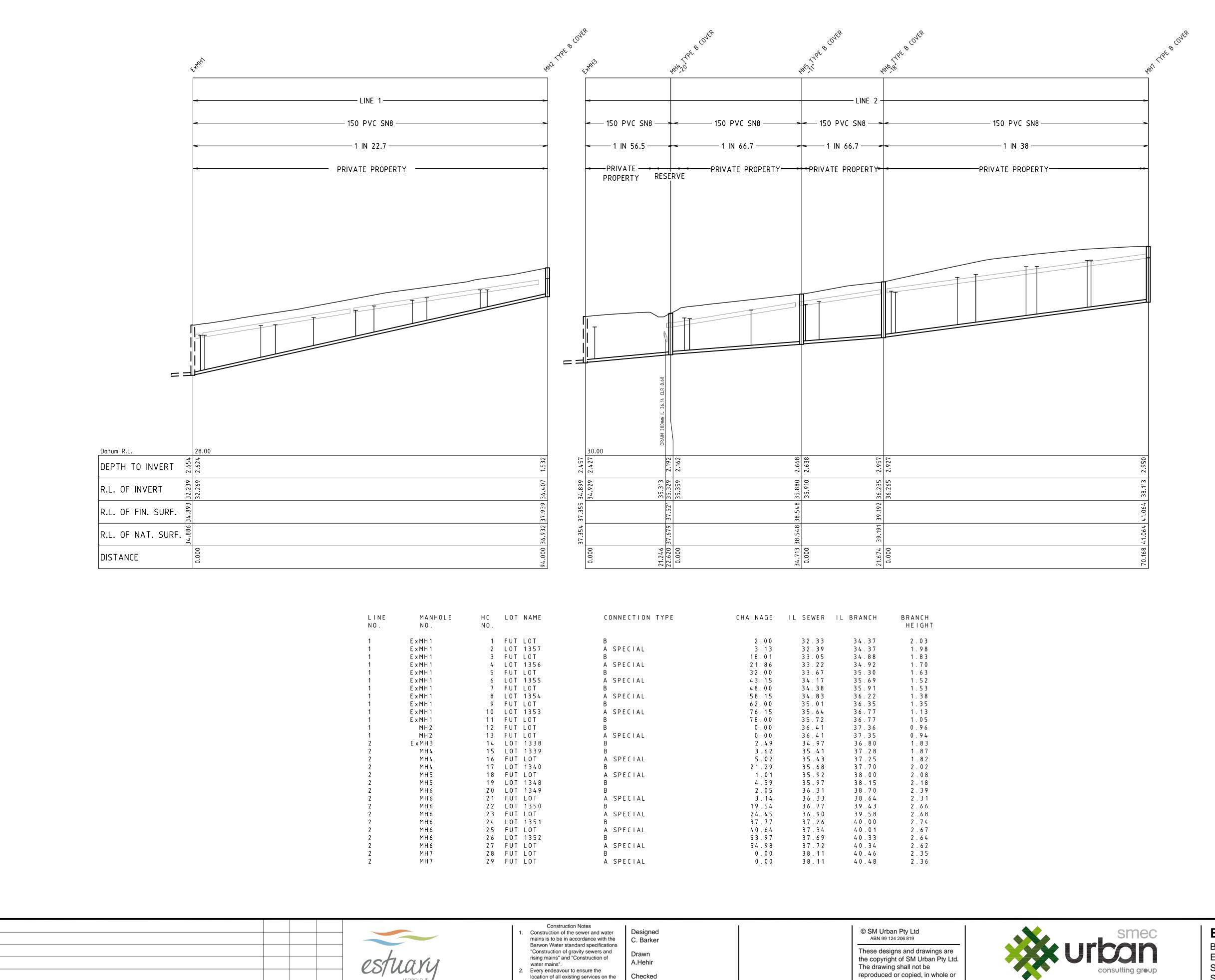
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Estuary Stage 13C City of Greater Geelong Roadworks and Drainage Subdivision Setout Plan

Drawing No. 0250EHL-13C-18

Approved for Construction





WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

ACCEPTED BY BARWON WATER DEVELOPMENT SERVICES CO-ORDINATOR

DEVELOPMENT & CONSERVATION

| 12.07.11 | CB/CB | JG | B BARWON WATER AMENDMENTS A ISSUED TO BARWON WATER FOR APPROVAL 22.06.11 CB/CB DATE DES/DFT APP'D

Leopold Property Developments Pty Ltd Level 1, 6 Riverside Quay Southbank, Victoria 3006

location of all existing services on the plan are correct. However actual locations are to be checked on site prior to commencement of excavations. Nominal size of water mains indicated

in metres.

otherwise shown.

C. Birkett Authorised J. Golden in millimetres & offsets are indicated All sewer pipes are 1500mm unless May 2011

Scale @ A1 1:500

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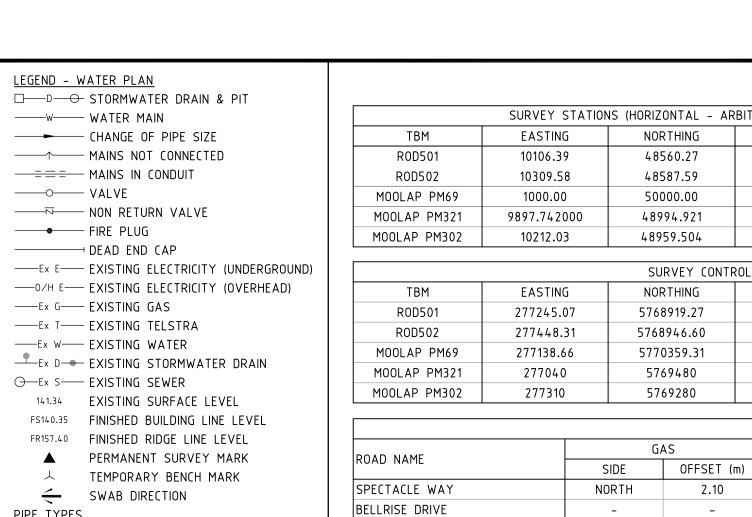
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Barwon Region Water Corporation

Barwon Water No. L007229 Estuary Stage No. 13C

Sewer Longitudinal Sections 1

Drawing No. 0250EHL-13C-52 Rev B Sheet No. 2 of 2



PIPE TYPES

CICL

DICL

MSCL

PVC

ASBESTOS CEMENT

CAST IRON CEMENT LINED

MILD STEEL CEMENT LINED

POLYETHYLENE (AS SPECIFIED)

DUCTILED CEMENT LINED

POLYVINAL CHLORIDE

REINFORCED CONCRETE

VITREOUS CLAY

B BARWON WATER COMMENTS

A ISSUED TO BARWON WATER FOR APPROVAL

SURVEY STATIONS (HORIZONTAL - ARBITARY, VERTICAL - AHD)					
TBM	EASTING	NORTHING	RL	DESCRIPTION	
R0D501	10106.39	48560.27	21.19	ROD	
ROD502	10309.58	48587.59	28.62	ROD	
MOOLAP PM69	1000.00	50000.00	8.503	BRASS PLAQUE	
MOOLAP PM321	9897.742000	48994.921	9.436	BRASS PLAQUE	
MOOLAP PM302	10212.03	48959.504	22.180	BRASS PLAQUE	
SURVEY CONTROL					
TBM	EASTING	NORTHING	RL	DESCRIPTION	
ROD501	277245.07	5768919.27	21.19	ROD	
ROD502	277448.31	5768946.60	28.62	ROD	

8.503

9.436

22.180

NORTH

SERVICES OFFSET SCHEDULE

WATER

SIDE OFFSET (m)

2.70

BRASS PLAQUE

BRASS PLAQUE

BRASS PLAQUE

ELECTRICITY

SIDE

SOUTH

OFFSET (m)

2.30

TELSTRA

OFFSET (m)

1.70

SIDE

SOUTH

,		BARWON WATER TAPPING	OTHER SERVICES.
LOT PROPERTY BOUNDARY	<u> </u>		9

1. ALL LOTS ARE TO BE TAPPED USING A TAPPING SADDLE AND PRESSURE

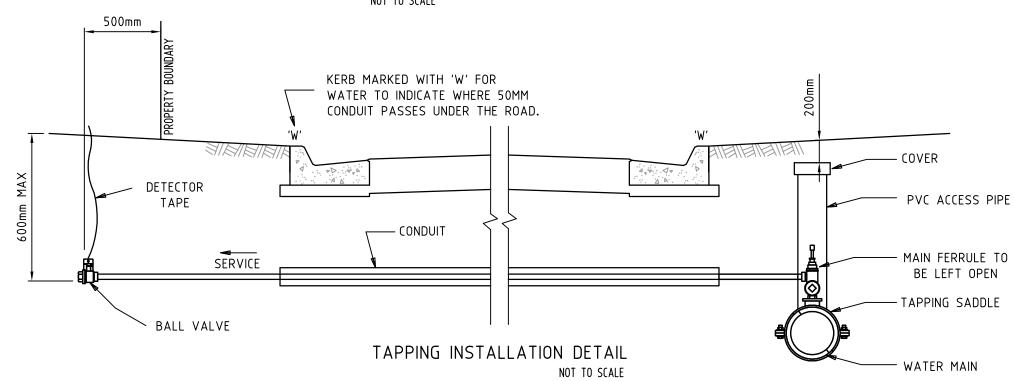
2. A MINIMUM SIZE SERVICE (IE 20MM COPPER, 25MM PE) IS THEN TO BE EXTENDED TO A POINT 500MM WITHIN THE PROPERTY.

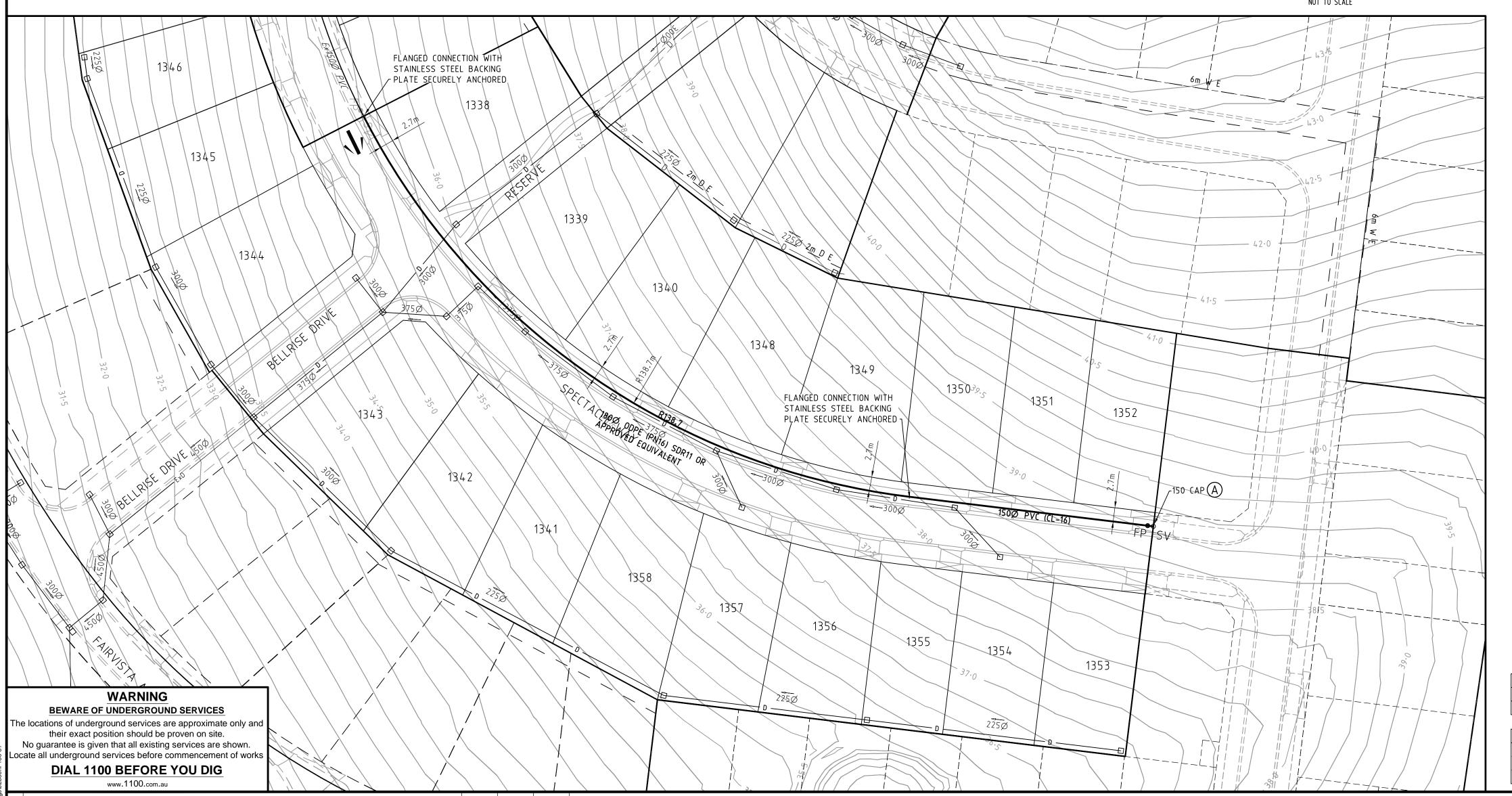
SERVICE PIPE BETWEEN MAIN FERRULE AND BALL VALVE TO BE A CONTINUOUS LENGTH (IE NO JOINS)

SERVICE TO BE TYPE 'B' COPPER OR CLASS 12 TYPE 50 PE. IN THE CASE OF PE OR ANY OTHER NON-METALLIC SERVICE BEING INSTALLED, A COPPER TRACE WIRE IS TO BE INCORPORATED. A BURIED BALL VALVE IS TO BE PLACED AT THE END OF THE SERVICE.

DETECTOR TAPE IS TO BE RUN TO SURFACE LEVEL. 8. BALL VALVE TO BE IN ACCORDANCE WITH AUSTRALIAN STANDARDS (IE STAMPED 'W') BRASS FITTING WITH STAINLESS STEEL BALL.

TAPPING OFFSET DETAIL





DESIGN HEAD=136m AHD TEST PRESSURE=1600kPa

GENERAL

1. SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE WATER SERVICES ASSOCIATION OF AUSTRALIA STANDARD CODES (WSA 02-2002 - WSA 03-2002) IN CONJUNCTION WITH BARWON WATERS SUPPLEMENTS TO THE CODES.

2. BARWON WATER AND THE PROJECT MANAGER TO BE NOTIFIED 7 CLEAR WORKING DAYS NOTICE PRIOR TO COMMENCEMENT OF WORKS.

THE CONTRACTOR SHALL 3.A. COMPLY WITH SAFETY REQUIREMENTS OF THE MINES ACT, GENERAL REGULATIONS AND STATUTORY RULES, AND THE MINES (TRENCHES)

REGULATIONS 1982. NOTIFY THE DEPARTMENT OF LABOUR OF HIS INTENTION TO COMMENCE TRENCHING OPERATIONS WHERE TRENCHES ARE 1.5 METRES OR DEEPER.

INSURE THAT THE MINE MANAGER OR HIS DEPUTY AS REQUIRED BY THE REGULATIONS IS IN ATTENDANCE WHEN TRENCHING OPERATIONS ARE IN

4. THE CONTRACTOR SHALL MAKE ALL WORKS AVAILABLE FOR THE INSPECTOR/SURVEYOR TO CARRY OUT THE NECESSARY INSPECTIONS AND

SURVEYING BEFORE BACKFILLING IS COMMENCED. 5. SERVICES ARE APPROXIMATE ONLY. ALL RELEVANT SERVICE AUTHORITY'S ARE TO BE CONTACTED PRIOR TO THE COMMENCEMENT OF EXCAVATION TO

ESTABLISH THEIR EXACT LOCATION. 6. CONTACT PRIOR TO COMMENCEMENT OF WORKS: CITY OF GREATER GEELONG

POWERCOR TELSTRA

VICTORIAN WORKCOVER AUTHORITY

7. ALL SERVICES ARE TO BE LOCATED ON SITE PRIOR TO ANY EXCAVATION. 8. INVERT LEVELS OF EXISTING SEWERS AND WATERMAINS TO BE CHECKED PRIOR TO THE COMMENCEMENT OF WORKS.

9. CLASS 2 BACKFILL TO BE USED UNDER DRIVEWAYS FOR WATER AND SEWER RETICULATION.

10. PROPERTY OWNERS ARE TO BE NOTIFIED IN WRITING BY THE CONSULTANT 14 CLEAR DAYS PRIOR TO COMMENCEMENT OF WORKS

11. COPY OF CADASTRAL MAP GRID (MGA) CONNECTION & COPY OF AUSTRALIAN HEIGHT DATUM (AHD) CONNECTION IS TO BE PROVIDED BY CONTRACTOR

12. WORKS SHALL BE EFFECTED BETWEEN THE HOURS OF 8:00am AND 5:00pm MONDAY - FRIDAY. IN THE EVENT THAT WORKS ARE TO BE EFFECTED OUTSIDE THESE WORKING HOURS, A LETTER REQUESTING APPROVAL FOR SUCH OUT OF

HOURS WORK SHALL BE LODGED TO THE SENIOR QUALITY AUDITOR. 13. THE CONTRACTOR SHALL COMPLY WITH SAFETY REQUIREMENTS RELATING TO WORKING NEAR POWER LINES AS SET BY THE CHIEF ELECTRICAL INSPECTOR WHERE NECESSARY AN ACCREDITED TRAINED SPOTTER IS TO BE PROVIDED.

14. WATER RESTRICTIONS ARE TO APPLY FROM MIDNIGHT JUNE 30th 2006, IN ACCORDANCE WITH BY-LAW NO. 187. ONLY TRIGGER HOSES (MAXIMUM SIZE 25mm) MAY BE USED FOR CONSTRUCTION WORK NOT INCLUDING TRENCHING, UNLESS OTHERWISE EXEMPTED BY THE AUTHORITY IN WRITING. MECHANICAL COMPACTION IS TO BE USED IN ACCORDANCE WITH MRWA SPECIFICATION 04-03 FOR TRENCH WORKS UNTIL FURTHER NOTICE. ANY WATER USED TO FLUSH WATER MAINS IS TO BE RECLAIMED AND USED FOR CONSTRUCTION PURPOSES.

1. ENSURE WATERMAINS ARE GRADED TO SUFFICIENT DEPTH UNDER ROADWAYS TO OBTAIN REQUIRED CLEARANCE UNDER STORM WATER DRAINS AND PAVEMENT

2. MARKER POSTS TO BE PLACED AT FIRE PLUGS. FIRE PLUG INDICATORS ARE TO BE IN ACCORDANCE WITH CFA & WSAA REQUIREMENTS.

3. ALL ALLOTMENTS ARE TO BE PROVIDED WITH A WATER SERVICE AS PART OF WATER RETICULATION WORKS. THE WATER MAIN IS TO BE TAPPED USING A TAPPING SADDLE AND PRESSURE FERRULE (FERRULE TO BE LEFT OPEN). A MINIMUM SIZE SERVICE (i.e. 20mm COPPER, 25mm PE) IS THEN TO BE EXTENDED TO A POINT 500mm WITHIN THE PROPERTY. THE SERVICE IS TO BE A CONTINUOUS LENGTH WITH NO JOINTS. IN THE CASE OF PE OR ANY OTHER NON-METALLIC SERVICE BEING INSTALLED, A COPPER TRACE WIRE IS TO BE INCORPORATED. A BURIED BALL VALVE IS TO BE PLACED AT THE END OF THE SERVICE AND BACKFILLED WITH SAND TO DESIGN SURFACE LEVEL. DETECTOR

4. PE PIPE TO BE LAID IN ACCORDANCE WITH WSA-01 WITH LONG RADIUS BENDS

OR DEFLECTION ONLY. NO COMPRESSION BENDS TO BE USED.

TAPE FROM BALL VALVE TO BE RUN TO SURFACE LEVEL.

5. <u>AC PIPE NOTE</u>

ANY WORK INVOLVING THE REMOVAL (CUTTING AND HANDLING), STORAGE, TRANSPORTATION AND DISPOSAL OF WASTE ASBESTOS CEMENT (AC) PIPES MUST BE CARRIED OUT IN ACCORDANCE WITH THE OCCUPATIONAL, HEALTH AND SAFETY (ASBESTOS) REGULATIONS 1992 AND RELEVANT CODES OF PRACTICE (REMOVAL), THE ENVIRONMENT PROTECTION (PRESCRIBED WASTE) REGULATIONS 1998 (STORAGE, TRANSPORTATION AND DISPOSAL), AND BARWON WATER'S SAFETY MANAGEMENT SYSTEM "SAFEAS".

6. FITZROY BOXES ARE TO BE PLACED OVER MONT TAP (MT) OR ANY TAPPING LOCATED WITHIN THE ROAD PAVEMENT.

7. THRUST BLOCKS ARE TO BE CONSTRUCTED AS PER BARWON WATER STANDARD

DRAWING No'S 70104, 70105 AND 70106 8. SWABBING OF WATER MAINS IS TO BE DONE IN ACCORDANCE WITH SECTION 6.7 AND SECTION 18 OF WSAA WATER SUPPLY CODE OF AUSTRALIA WSA 03-2002

9. ALL WATER MAINS MUST BE HYDROSTATIC PRESSURE TESTED IN ACCORDANCE WITH SECTION 19.4 OF WSAA WATER SUPPLY CODE OF AUSTRALIA WSA 03-2002 MRWA EDITION 1.0. THE CONTRACTOR MUST BE GIVE BARWON WATER THREE WORKING DAYS NOTICE IN WRITING OF THE DATE AND TIME OF THE PROPOSED HYDROSTATIC PRESSURE TESTING TO ENSURE THAT BARWON WATER

HAS THE OPPORTUNITY TO WITNESS THESE TESTS.

CONSTRUCTED' NOTES.

1. TRENCH COMPACTION RESULTS TO BE SUBMITTED BY CONSULTANT WITH 'AS

	LOCATION	TYPE	AREA (m²)	NUMBER
Α	SPECTACLE WAY	CONCRETE	0.64	1

NEW WATER MAINS				
SIZE	TYPE	LENGTH		
150	PVC (CL-16)	48m		
180	ODDE (DN16)	135 /.m		

WORKS SHALL NOT COMMENCE UNTIL PLANS ARE SIGNED BY BARWON WATER

ACCEPTED BY BARWON WATER DEVELOPMENT SERVICES CO-ORDINATOR **DEVELOPMENT & CONSERVATION**

AD NAMES AMENDED	15.11.11	AH/AH	JG

Leopold Property Developments Pty Ltd

Level 1, 6 Riverside Quay

Southbank, Victoria 3006

|12.07.11| CB/CB | JG

DATE DES/DFT APP'D

Construction Notes Construction of the sewer and water mains is to be in accordance with the Barwon Water standard specifications "Construction of gravity sewers and rising mains" and "Construction of

Every endeavour to ensure the location of all existing services on the plan are correct. However actual locations are to be checked on site prior to commencement of excavations. Nominal size of water mains indicated in millimetres & offsets are indicated

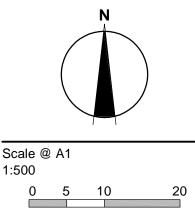
. All sewer pipes are 1500mm unless

otherwise shown.

C. Barker Checked C. Birkett Authorised J. Golden

Designed

March 2011



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Barwon Region Water Corporation Barwon Water No. L007229

Estuary Stage No. 13C Water Detail Plan - 1

Drawing No. 0250EHL-13C-61

Rev C