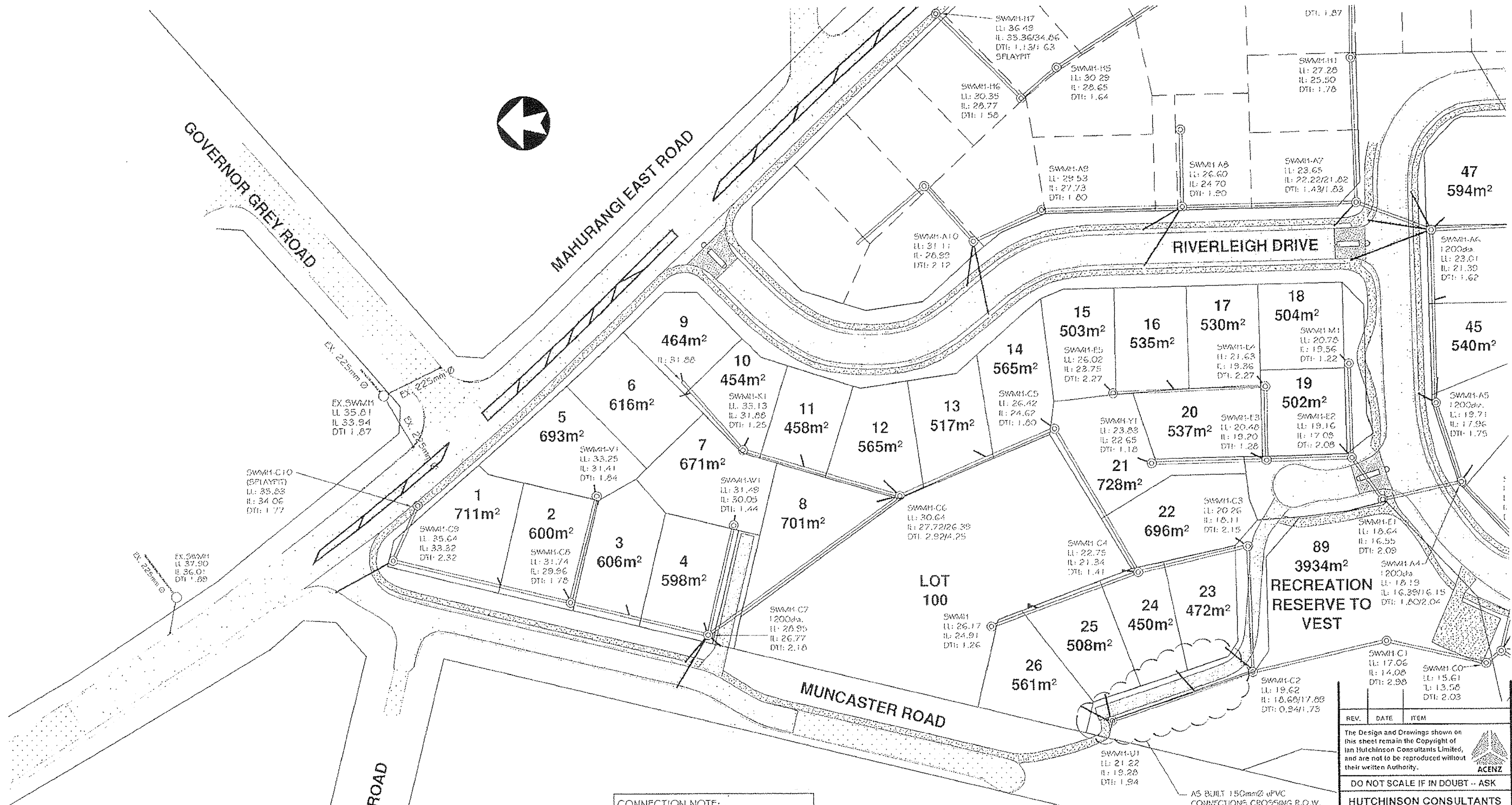




NOTE:
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<p>PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGES 1 & 2 ONLY</p>		
DRAWING TITLE AS BUILT CONTOUR PLAN		
R37295		
SCALE 1:1500 @ A3	DATE OCTOBER 2008	
DRAWN COLIN DRYLAND (021) 565 619 colin@hc.co.nz	DRG No. A3 - 9320 AB stg2/03	



CONNECTION NOTE:
ALL CONNECTIONS EXCEPT WHERE NOTED ARE 100mm Ø uPVC SNI 6 BACKFILLED WITH COMPACTED CLAY.

NOTE:
ALL PIPES UP TO 3m DEEP ARE RCRRJ CLASS 3.
ALL PIPES DEEPER THAN 3m AND UNDER CARRIAGEWAYS ARE RCRRJ CLASS 4.
ALL PIPES HAVE TYPE D BEDDING WITH COMPACTED CLAY BACKFILL EXCEPT THOSE CROSSING ROADS OR ROWS WHICH ARE BACKFILLED WITH COMPACTED HARDFILL.
PIPES CONSTRUCTED BETWEEN 10%-20% HAVE TYPE D + SCORIA CEMENT BEDDING.
ALL MANHOLES ARE 1050mm DIA UNLESS STATED OTHERWISE.

STORMWATER NOTE:
STORMWATER ASBUILT INFORMATION FOR STAGES ONE AND TWO OF THE SUBDIVISIONAL DEVELOPMENT AND THOSE MANHOLES SERVICING THE PORTIONS OF ROADING INVOLVED IN STAGES ONE AND TWO INCLUDING UPGRADING WORKS TO MAHURANGI EAST ROAD. REFER COVER PAGE SCHEME FOR ROADING SERVICED WITHIN STAGES ONE AND TWO.

ALL CESSPITS ARE 675 x 450.
ALL CESSPIT LEADS ARE 225mm DIA. RCRRJ.

AS BUILT 150mm Ø uPVC CONNECTIONS CROSSING R.O.W. BACKFILLED WITH HARDFILL

NOTE:
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ALL AREAS SUBJECT TO FINAL SURVEY

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Civil & Structural Consulting Engineers

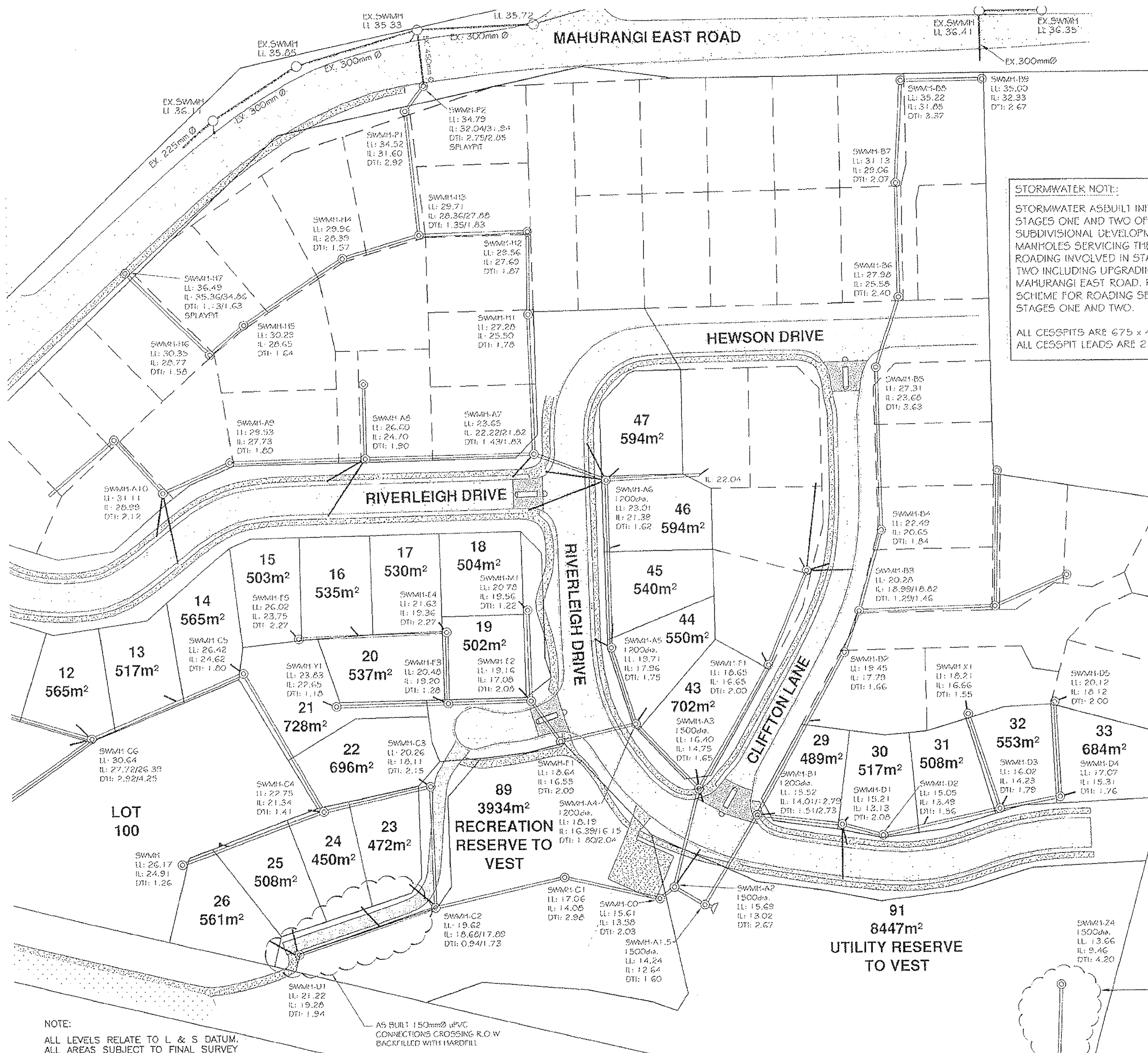
IC Ground Floor Eran House
19 Tamariki Ave
P.O. Box 150
Ōrewa
Auckland

Telephone - (09) 426-5702 - Fax - (09) 426-9859

PROJECT
CABRA DEVELOPMENTS LTD
ASBUILT SUBDIVISION
MAHURANGI EAST ROAD
SNELLS BEACH
STAGES 1 & 2 ONLY

DRAWING TITLE
ASBUILT STORMWATER
PLAN 1
R37295

SCALE 1:1000 @ A3	DATE OCTOBER 2008
DRAWN C. DRYLAND (021) 555 519 colin@hc.co.nz	DRG No. A3 - 9320 AB stg2/14



STORMWATER NOTE:
 STORMWATER ASBUILT INFORMATION FOR STAGES ONE AND TWO OF THE SUBDIVISIONAL DEVELOPMENT AND THOSE MANHOLES SERVICING THE PORTIONS OF ROADING INVOLVED IN STAGES ONE AND TWO INCLUDING UPGRADING WORKS TO MAHURANGI EAST ROAD. REFER COVER PAGE SCHEME FOR ROADING SERVICED WITHIN STAGES ONE AND TWO.
 ALL CESSPITS ARE 675 x 450.
 ALL CESSPIT LEADS ARE 225mm DIA. RCRRJ.

CONNECTION NOTE:
 ALL CONNECTIONS EXCEPT WHERE NOTED ARE 100mmØ uPVC SNI 6 BACKFILLED WITH COMPACTED CLAY.

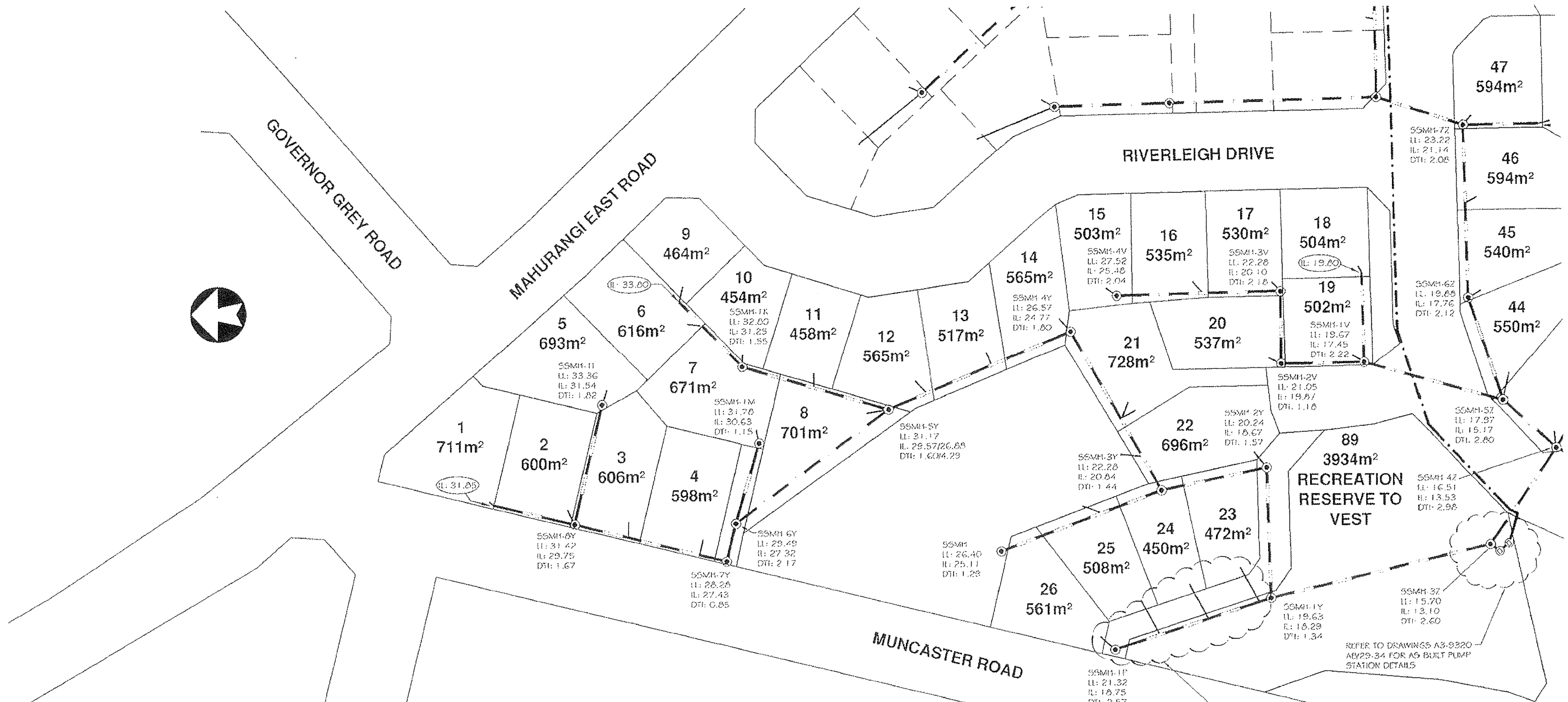
NOTE:
 ALL PIPES UP TO 3m DEEP ARE RCRRJ CLASS 3.
 ALL PIPES DEEPER THAN 3m AND UNDER CARRIAGEWAYS ARE RCRRJ CLASS 4.
 ALL PIPES HAVE TYPE D BEDDING WITH COMPACTED CLAY BACKFILL EXCEPT THOSE CROSSING ROADS OR ROWS WHICH ARE BACKFILLED WITH COMPACTED HARDFILL.
 PIPES CONSTRUCTED BETWEEN 10%-20% HAVE TYPE D # SCORIA CEMENT BEDDING.
 ALL MANHOLES ARE 1050mm DIA UNLESS STATED OTHERWISE.

ASBUILT NOTE:
 STORMWATER LINE "Z" FROM WETLAND OUTLET IS SHOWN ON ASBUILT WETLAND DRAWINGS

NOTE:
 ALL LEVELS RELATE TO L & S DATUM.
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AS BUILT 150mmØ uPVC CONNECTIONS CROSSING R.O.W BACKFILLED WITH HARDFILL

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PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGES 1 & 2 ONLY		
DRAWING TITLE ASBUILT STORMWATER PLAN 2		
R37295		
SCALE	DATE	
1:1000 @ A3	OCTOBER 2008	
DRAWN	DRG No.	
C. DRYLAND (021) 565 619 colin@hc.co.nz	A3 - 9320 AB stg2/15	



NOTE:
ALL LEVELS RELATE TO L & S DATUM.
ALL AREAS SUBJECT TO FINAL SURVEY

ASBUILT NOTE:
ALL INFORMATION SHOWN IS FOR STAGES ONE & TWO ONLY. ASBUILT DATA FOR FURTHER STAGES TO BE PROVIDED AT A LATER DATE.

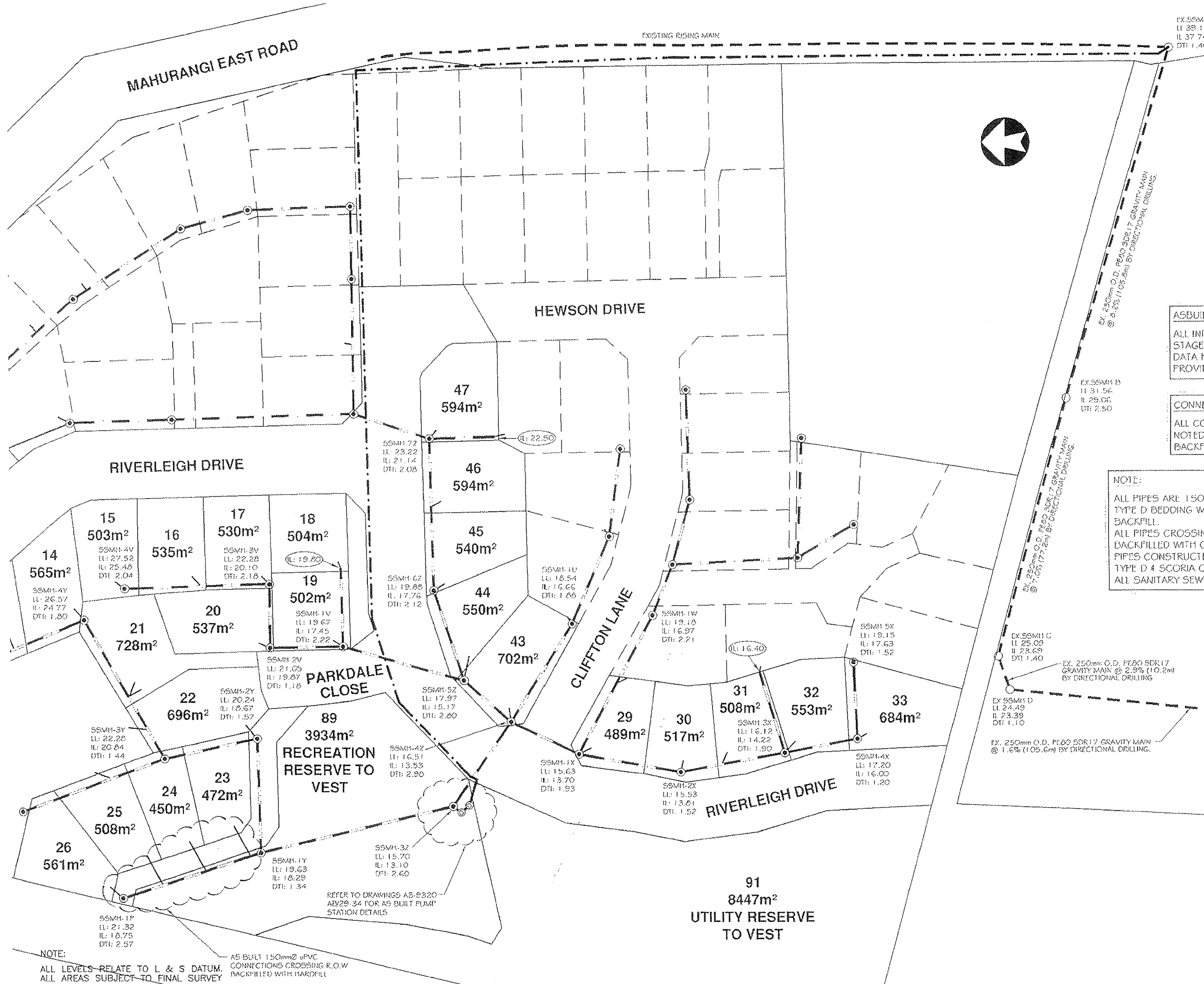
NOTE:
ALL PIPES ARE 150mm Ø uPVC CLASS SN16, TYPE D BEDDING WITH COMPACTED CLAY BACKFILL.
ALL PIPES CROSSING ROAD OR ROWS ARE BACKFILLED WITH COMPACTED HARDFILL.
PIPES CONSTRUCTED BETWEEN 10%-20% HAVE TYPE D & SCORIA CEMENT BEDDING.
ALL SANITARY SEWER MANHOLES ARE 1050mm Ø.

CONNECTION NOTE:
ALL CONNECTIONS EXCEPT WHERE NOTED ARE 100mm Ø uPVC SN16 BACKFILLED WITH COMPACTED CLAY.

AS BUILT 150mm Ø uPVC CONNECTIONS CROSSING R.O.W. BACKFILLED WITH HARDFILL

REFER TO DRAWINGS A3-9320 AB29-34 FOR AS BUILT PUMP STATION DETAILS

REV.	DATE	ITEM
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PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGES 1 & 2 ONLY		
DRAWING TITLE ASBUILT SANITARY SEWER PLAN 1 R37295		
SCALE	DATE	
1:1000 @ A3	OCTOBER 2008	
DRAWN	DRG No.	
C. DRYLAND (021) 565 619 colin@hc.co.nz	A3 - 9320 AB stg2/18	



ASBUILT NOTE:
 ALL INFORMATION SHOWN IS FOR STAGES ONE & TWO ONLY. ASBUILT DATA FOR FURTHER STAGES TO BE PROVIDED AT A LATER DATE.

CONNECTION NOTE:
 ALL CONNECTIONS EXCEPT WHERE NOTED ARE 100mmØ uPVC SN16 BACKFILLED WITH COMPACTED CLAY.

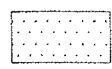
NOTE:
 ALL PIPES ARE 150mmØ uPVC CLASS SN16, TYPE D BEDDING WITH COMPACTED CLAY BACKFILL.
 ALL PIPES CROSSING ROAD OR ROWS ARE BACKFILLED WITH COMPACTED HARDFILL.
 PIPES CONSTRUCTED BETWEEN 10%-20% HAVE TYPE D & SCORIA CEMENT BEDDING.
 ALL SANITARY SEWER MANHOLES ARE 1050mmØ.

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<p> Ground Floor Etan House 19 Tamariki Ave P.O. Box 150 Orewa Auckland</p>		
<p>Telephone - (09) 426-6702 - Fax - (09) 426-9668</p>		
<p>PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGES 1 & 2 ONLY</p>		
<p>DRAWING TITLE ASBUILT SANITARY SEWER PLAN 2</p>		
<p>R37295</p>		
SCALE	DATE	
1:1000 @ A3	OCTOBER 2008	
DRAWN	DRG No.	
C. DRYLAND (021) 565 619 colin@hc.co.nz	A3 - 9320 AB stg2/19	

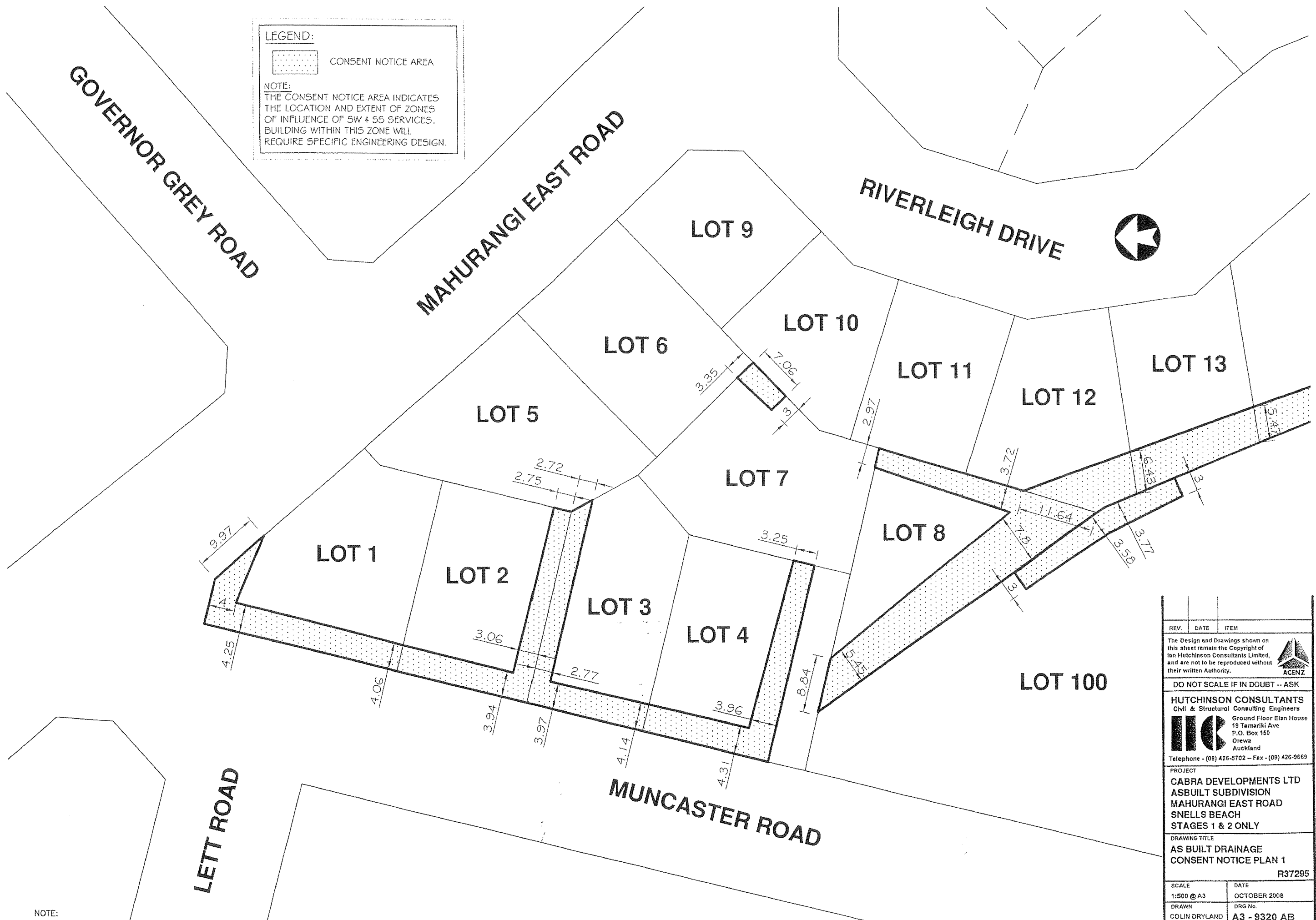
NOTE:
 ALL LEVELS RELATE TO L & S DATUM.
 ALL AREAS SUBJECT TO FINAL SURVEY

AS BUILT 150mmØ uPVC CONNECTIONS CROSSING R.O.W. BACKFILLED WITH HARDFILL

REFER TO DRAWINGS A3-9320 AB/29-34 FOR AS BUILT PUMP STATION DETAILS

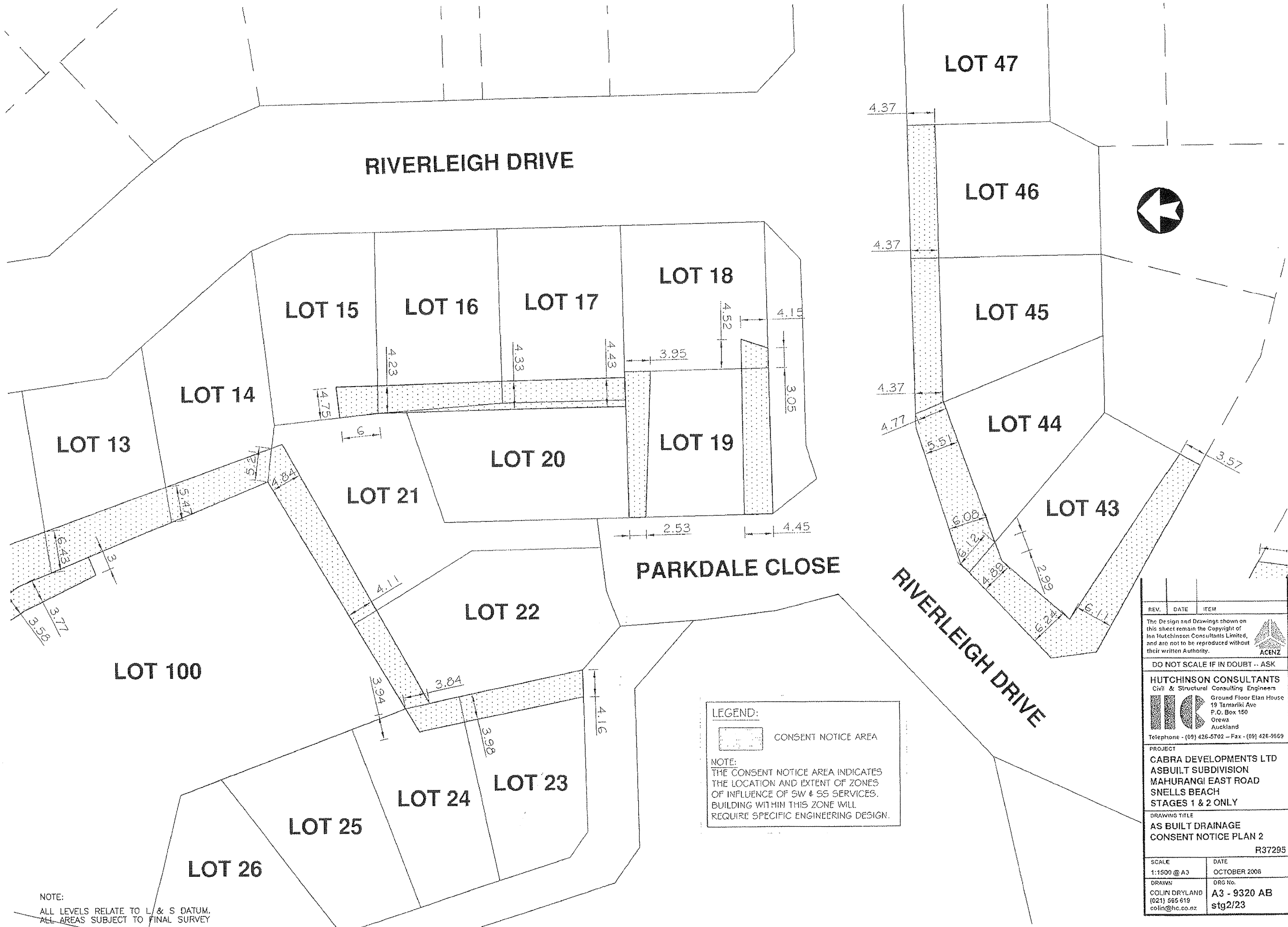
LEGEND:
 CONSENT NOTICE AREA

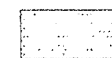
NOTE:
 THE CONSENT NOTICE AREA INDICATES THE LOCATION AND EXTENT OF ZONES OF INFLUENCE OF SW & SS SERVICES. BUILDING WITHIN THIS ZONE WILL REQUIRE SPECIFIC ENGINEERING DESIGN.



NOTE:
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<p>PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGES 1 & 2 ONLY</p>		
<p>DRAWING TITLE AS BUILT DRAINAGE CONSENT NOTICE PLAN 1</p> <p style="text-align: right;">R37295</p>		
SCALE	DATE	
1:500 @ A3	OCTOBER 2008	
DRAWN	DRG No.	
COLIN DRYLAND (021) 585 619 colin@hc.co.nz	A3 - 9320 AB stg2/22	

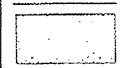


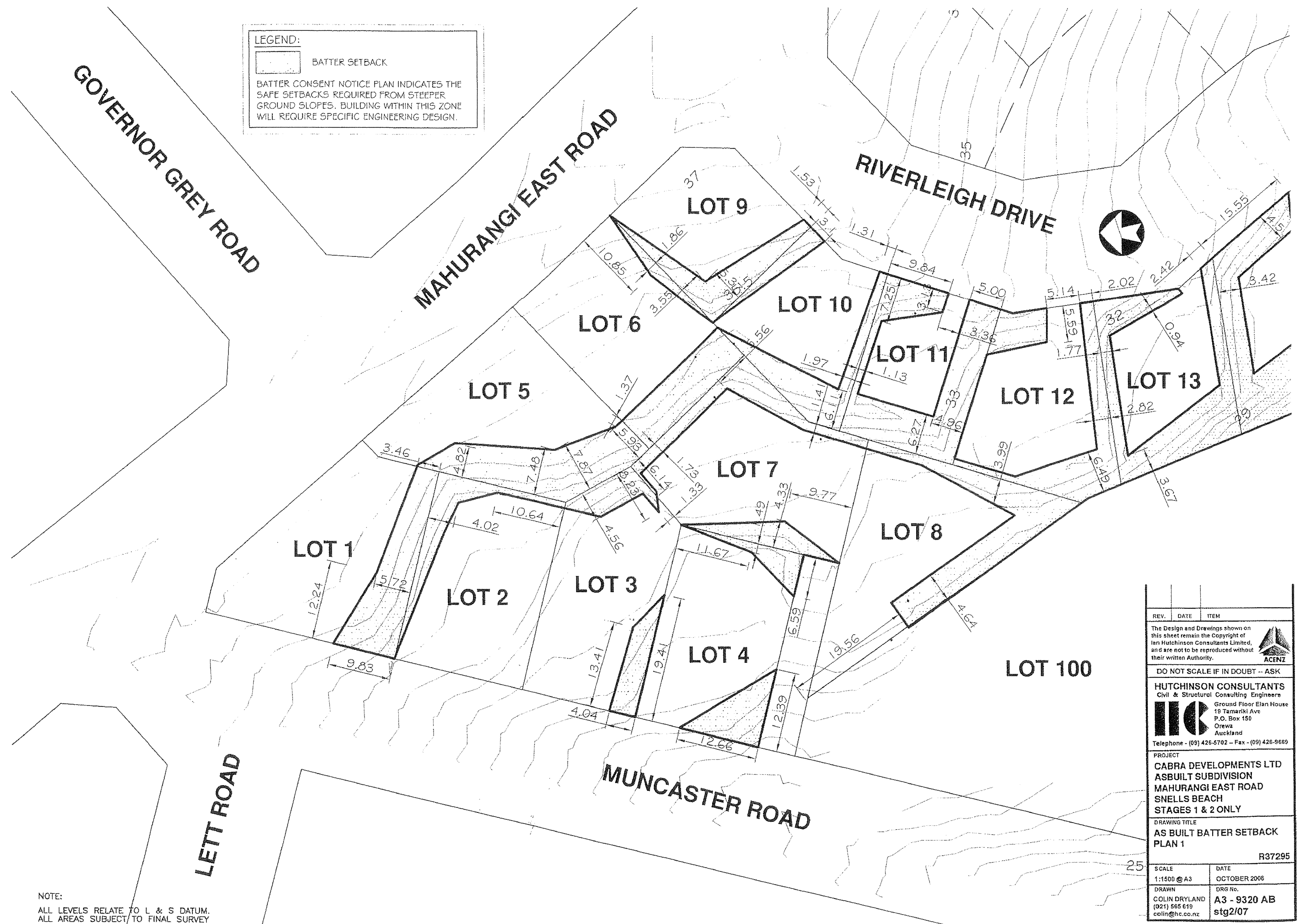
LEGEND:
 CONSENT NOTICE AREA

NOTE:
 THE CONSENT NOTICE AREA INDICATES THE LOCATION AND EXTENT OF ZONES OF INFLUENCE OF SW & SS SERVICES. BUILDING WITHIN THIS ZONE WILL REQUIRE SPECIFIC ENGINEERING DESIGN.

NOTE:
 ALL LEVELS RELATE TO L & S DATUM.
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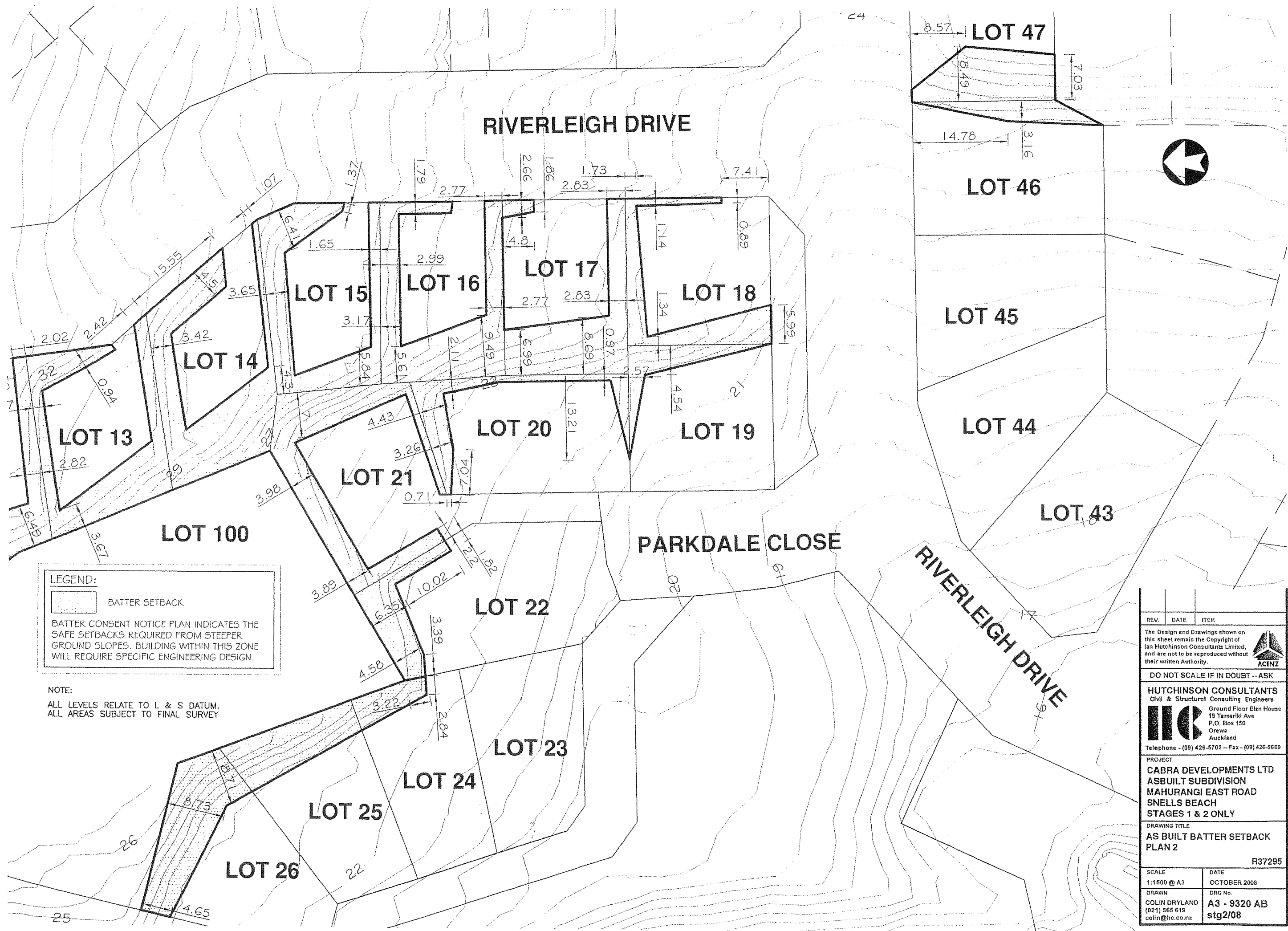
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Telephone - (09) 426-5702 - Fax - (09) 426-9569		
PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGES 1 & 2 ONLY		
DRAWING TITLE AS BUILT DRAINAGE CONSENT NOTICE PLAN 2 R37295		
SCALE	DATE	
1:1500 @ A3	OCTOBER 2008	
DRAWN	DRG No.	
COLIN DRYLAND (021) 565 619 colin@hc.co.nz	A3 - 9320 AB stg2/23	


LEGEND:
 BATTER SETBACK
 BATTER CONSENT NOTICE PLAN INDICATES THE SAFE SETBACKS REQUIRED FROM STEEPER GROUND SLOPES. BUILDING WITHIN THIS ZONE WILL REQUIRE SPECIFIC ENGINEERING DESIGN.



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PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGES 1 & 2 ONLY		
DRAWING TITLE AS BUILT BATTER SETBACK PLAN 1		
R37295		
SCALE	DATE	
1:1500 @ A3	OCTOBER 2008	
DRAWN	DRG No.	
COLIN DRYLAND (021) 565 619 colin@hc.co.nz	A3 - 9320 AB stg2/07	



LEGEND:
 BATTER SETBACK
 BATTER CONSENT NOTICE PLAN INDICATES THE SAFE SETBACKS REQUIRED FROM STEEPER GROUND SLOPES. BUILDING WITHIN THIS ZONE WILL REQUIRE SPECIFIC ENGINEERING DESIGN.

NOTE:
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PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGES 1 & 2 ONLY		
DRAWING TITLE AS BUILT BATTER SETBACK PLAN 2		
R37295		
SCALE	DATE	
1:1500 @ A3	OCTOBER 2008	
DRAWN	DRG No.	
COLIN DRYLAND (021) 565 619 colin@hc.co.nz	A3 - 9320 AB stg2/08	




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<p>PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGES 1 & 2 ONLY</p>		
<p>DRAWING TITLE AS BUILT BATTER SETBACK PLAN 3</p>		
R37295		
SCALE	DATE	
1:1500 @ A3	OCTOBER 2008	
DRAWN	DRG No.	
COLIN DRYLAND (021) 565 619 colin@hc.co.nz	A3 - 9320 AB stg2/09	



LEGEND

EXISTING STAGE 1 & 2 

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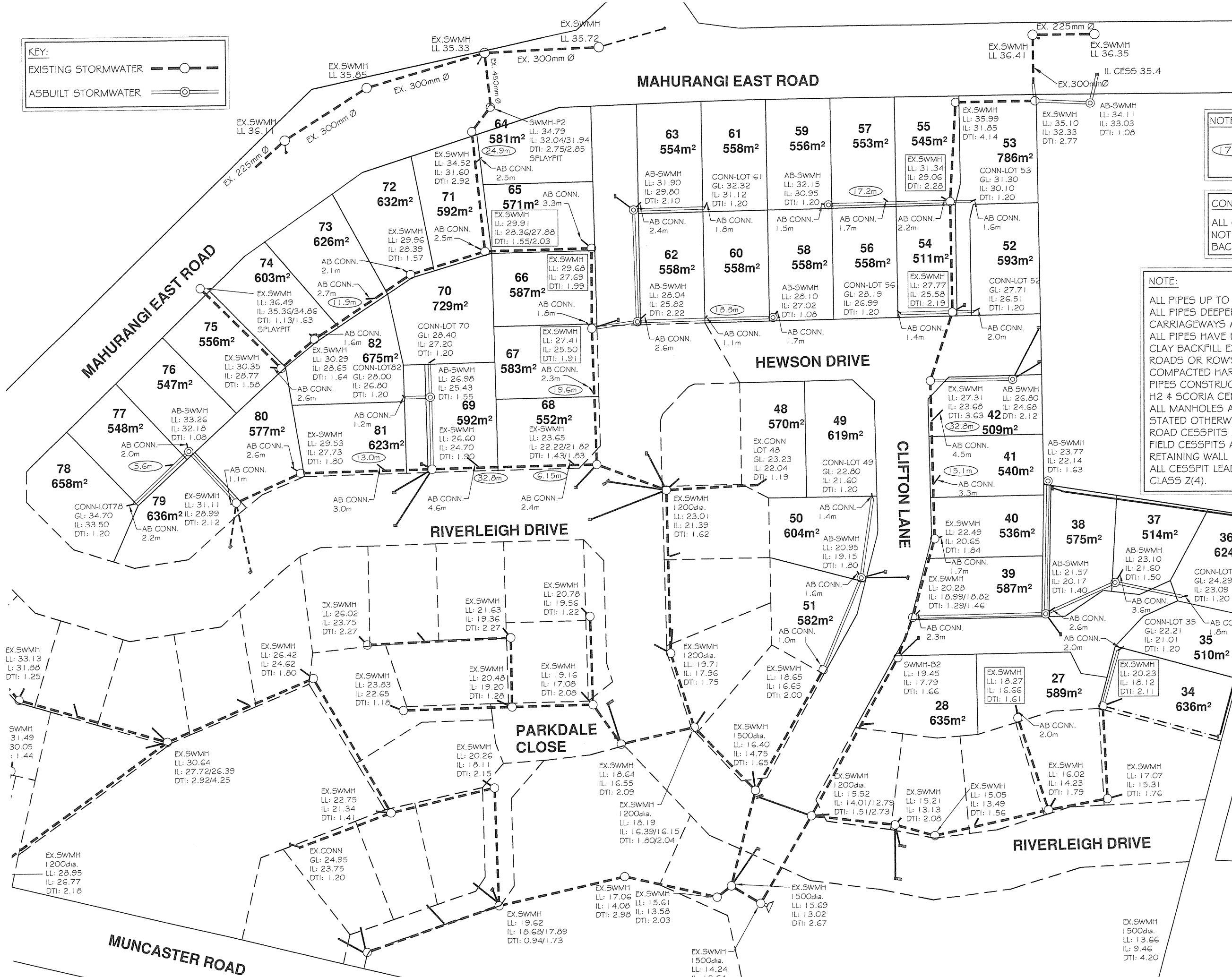
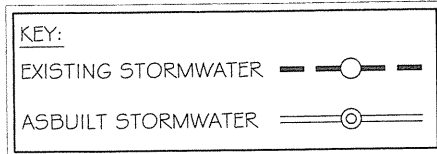


PO Box 150, Orewa 0946
Ground Floor Elan House, 19 Tamariki Ave, Orewa
Ph: 09 426 5702 Fax: 09 426 9669 www.hc.co.nz

PROJECT
**CABRA DEVELOPMENTS LTD
ASBUILT SUBDIVISION
MAHURANGI EAST ROAD
SNELLS BEACH
STAGE 3 & 4 ONLY**

DRAWING TITLE
AS BUILT CONTOUR PLAN

R37295	
SCALE 1:1500 @ A3	DATE NOVEMBER 2009
DRAWN K.M.B	DRG No. A3 - 9320 AB
REV	stg 3-4 /03



NOTE:

DISTANCE FROM CONNECTION TO CENTRE OF DOWNSTREAM MANHOLE

CONNECTION NOTE:

ALL CONNECTIONS EXCEPT WHERE NOTED ARE 100mm Ø uPVC SNI 6 BACKFILLED WITH COMPACTED CLAY.

NOTE:

ALL PIPES UP TO 3m DEEP ARE RCRRJ CLASS 3.
 ALL PIPES DEEPER THAN 3m AND UNDER CARRIAGEWAYS ARE RCRRJ CLASS 4.
 ALL PIPES HAVE H2 BEDDING WITH COMPACTED CLAY BACKFILL EXCEPT THOSE CROSSING ROADS OR ROWS WHICH ARE BACKFILLED WITH COMPACTED HARDFILL.
 PIPES CONSTRUCTED BETWEEN 10%-20% HAVE H2 # SCORIA CEMENT BEDDING.
 ALL MANHOLES ARE 1050mm DIA UNLESS STATED OTHERWISE.
 ROAD CESSPITS ARE 675 x 450mm.
 FIELD CESSPITS ARE 450mm sq TO COLLECT RETAINING WALL DRAINAGE.
 ALL CESSPIT LEADS ARE 225mm DIA. RCRRJ CLASS Z(4).

NOTE:

ALL LEVELS RELATE TO L & S DATUM.
 ALL AREAS SUBJECT TO FINAL SURVEY

REV.	DATE	ITEM

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H Hutchinson CONSULTING ENGINEERS

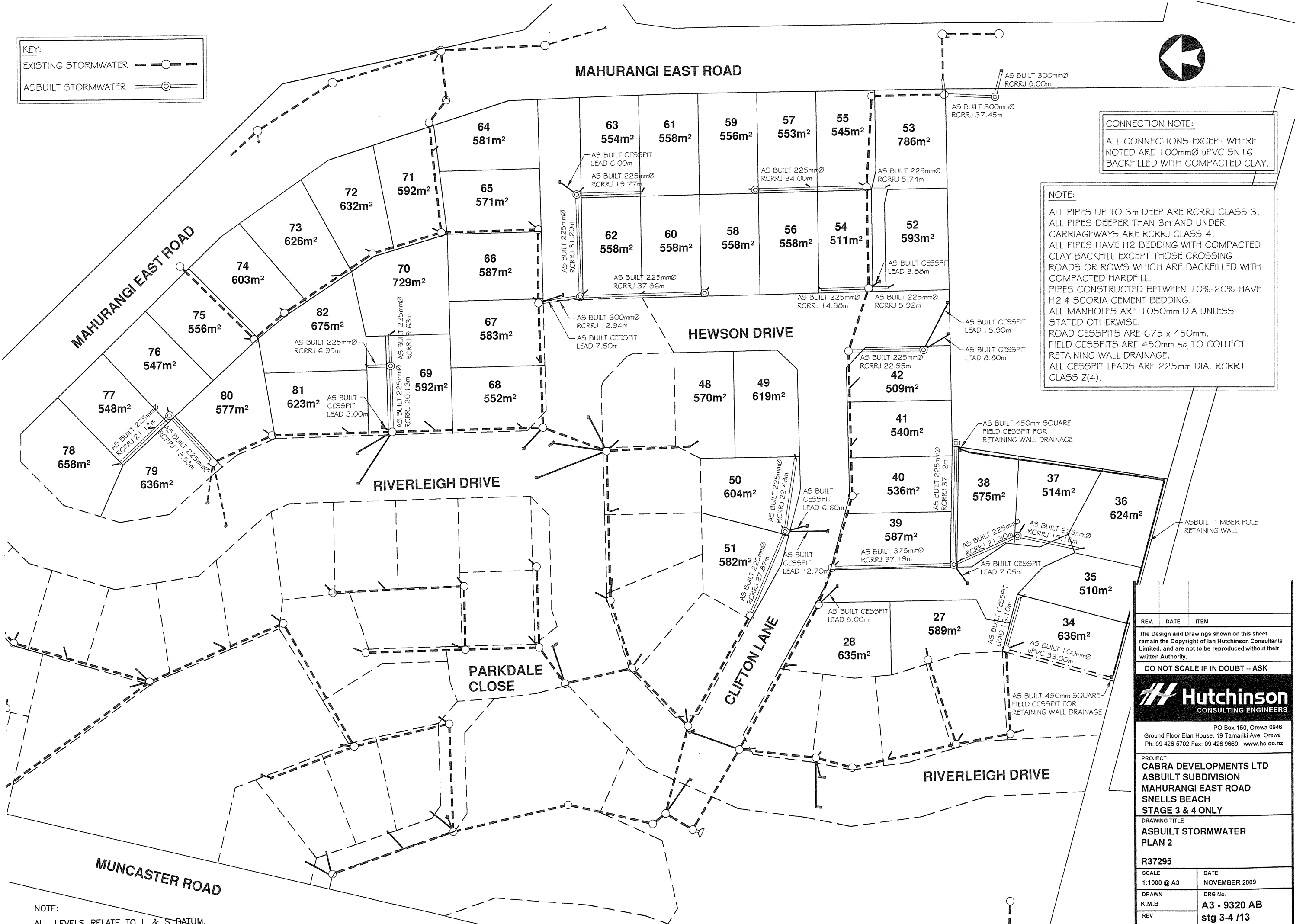
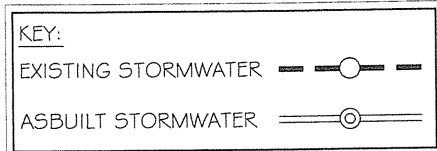
PO Box 150, Orewa 0946
 Ground Floor Elan House, 19 Tamamaki Ave, Orewa
 Ph: 09 426 5702 Fax: 09 426 9669 www.hc.co.nz

PROJECT
 CABRA DEVELOPMENTS LTD
 ASBUILT SUBDIVISION
 MAHURANGI EAST ROAD
 SNELLS BEACH
 STAGE 3 & 4 ONLY

DRAWING TITLE
 ASBUILT STORMWATER
 PLAN 1

R37295

SCALE 1:1000 @ A3	DATE NOVEMBER 2009
DRAWN K.M.B	DRG No. A3 - 9320 AB
REV	stg 3-4 /12



CONNECTION NOTE:
ALL CONNECTIONS EXCEPT WHERE NOTED ARE 100mmØ uPVC SN I G BACKFILLED WITH COMPACTED CLAY.

NOTE:
ALL PIPES UP TO 3m DEEP ARE RCRRJ CLASS 3.
ALL PIPES DEEPER THAN 3m AND UNDER CARRIAGEWAYS ARE RCRRJ CLASS 4.
ALL PIPES HAVE H2 BEDDING WITH COMPACTED CLAY BACKFILL EXCEPT THOSE CROSSING ROADS OR ROW'S WHICH ARE BACKFILLED WITH COMPACTED HARDFILL.
PIPES CONSTRUCTED BETWEEN 10%-20% HAVE H2 & SCORIA CEMENT BEDDING.
ALL MANHOLES ARE 1050mm DIA UNLESS STATED OTHERWISE.
ROAD CESSPITS ARE 675 x 450mm.
FIELD CESSPITS ARE 450mm sq TO COLLECT RETAINING WALL DRAINAGE.
ALL CESSPIT LEADS ARE 225mm DIA. RCRRJ CLASS Z(4).

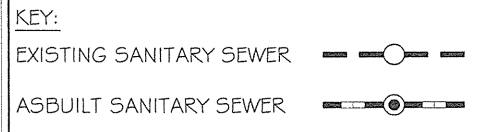
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DRAWING TITLE ASBUILT STORMWATER PLAN 2		
R37295		
SCALE	DATE	
1:1000 @ A3	NOVEMBER 2009	
DRAWN	DRG No.	
K.M.B	A3 - 9320 AB	
REV	stg 3-4 /13	



MAHURANGI EAST ROAD

EXISTING RISING MAIN



NOTE:

DISTANCE FROM CONNECTION TO CENTRE OF DOWNSTREAM MANHOLE

17.8m

CONNECTION NOTE:

ALL CONNECTIONS EXCEPT WHERE NOTED ARE 100mmØ uPVC SNI 6 BACKFILLED WITH COMPACTED CLAY.

NOTE:

ALL PIPES ARE 150mmØ uPVC CLASS SNI 6, TYPE D BEDDING WITH COMPACTED CLAY BACKFILL.

ALL PIPES CROSSING ROAD OR ROW'S ARE BACKFILLED WITH COMPACTED HARDFILL.

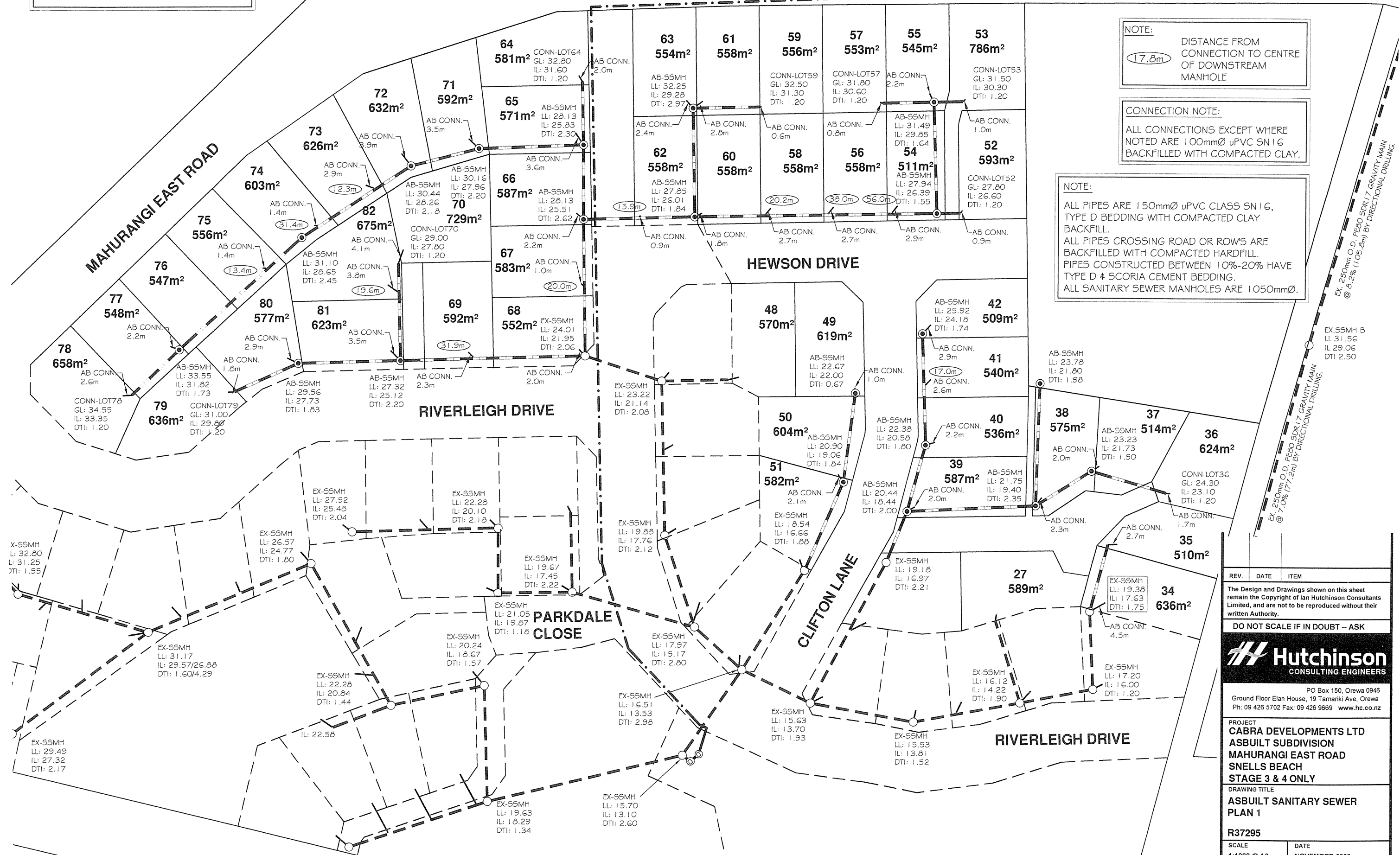
PIPES CONSTRUCTED BETWEEN 10%-20% HAVE TYPE D # SCORIA CEMENT BEDDING.

ALL SANITARY SEWER MANHOLES ARE 1050mmØ.

Ex. 250mm O.D. FE80 SDR17 GRAVITY MAIN @ 0.2% (105.8m) BY DIRECTIONAL DRILLING.

Ex. 55mm B LL 31.56 IL 29.06 DTI 2.50

Ex. 250mm O.D. FE80 SDR17 GRAVITY MAIN @ 7.0% (77.2m) BY DIRECTIONAL DRILLING.



X-SSMH
LL: 32.80
IL: 31.25
DTI: 1.55

EX-SSMH
LL: 31.17
IL: 29.57/26.88
DTI: 1.60/4.29

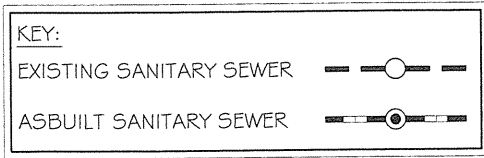
EX-SSMH
LL: 21.32
IL: 18.75
DTI: 2.57

NOTE:

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PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGE 3 & 4 ONLY		
DRAWING TITLE ASBUILT SANITARY SEWER PLAN 1		
R37295		
SCALE 1:1000 @ A3	DATE NOVEMBER 2009	
DRAWN K.M.B	DRG No. A3 - 9320 AB	
REV	stg 3-4 /14	



MAHURANGI EAST ROAD

ASBUILT 125mmØ MDPE SDR17 RISING MAIN, 459m LONG

CONNECTION NOTE:

ALL CONNECTIONS EXCEPT WHERE NOTED ARE 100mmØ uPVC SN16 BACKFILLED WITH COMPACTED CLAY.

NOTE:

ALL PIPES ARE 150mmØ uPVC CLASS SN16, TYPE D BEDDING WITH COMPACTED CLAY BACKFILL.

ALL PIPES CROSSING ROAD OR ROW'S ARE BACKFILLED WITH COMPACTED HARDFILL.

PIPES CONSTRUCTED BETWEEN 10%-20% HAVE TYPE D & SCORIA CEMENT BEDDING.

ALL SANITARY SEWER MANHOLES ARE 1050mmØ.



NOTE:

ALL LEVELS RELATE TO L & S DATUM.

ALL AREAS SUBJECT TO FINAL SURVEY

REV.	DATE	ITEM
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H Hutchinson CONSULTING ENGINEERS		
PO Box 150, Orewa 0946 Ground Floor Elan House, 19 Tamariki Ave, Orewa Ph: 09 426 5702 Fax: 09 426 9669 www.hc.co.nz		
PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGE 3 & 4 ONLY		
DRAWING TITLE ASBUILT SANITARY SEWER PLAN 2		
R37295		
SCALE 1:1000 @ A3	DATE NOVEMBER 2009	
DRAWN K.M.B	DRG No. A3 - 9320 AB	
REV	stg 3-4 /15	

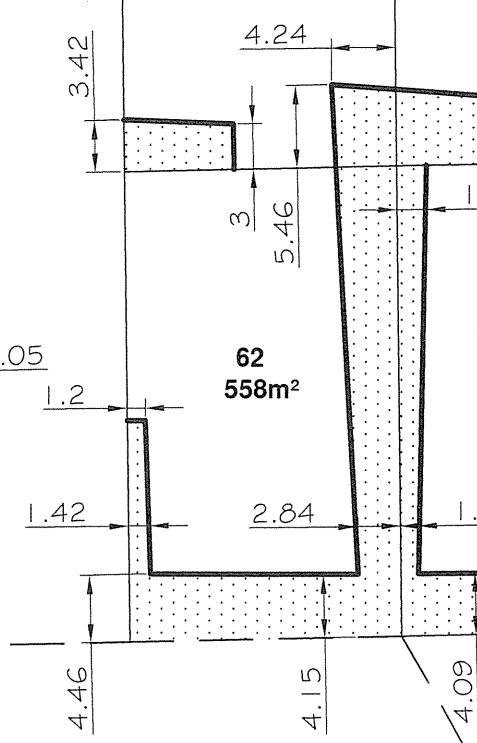
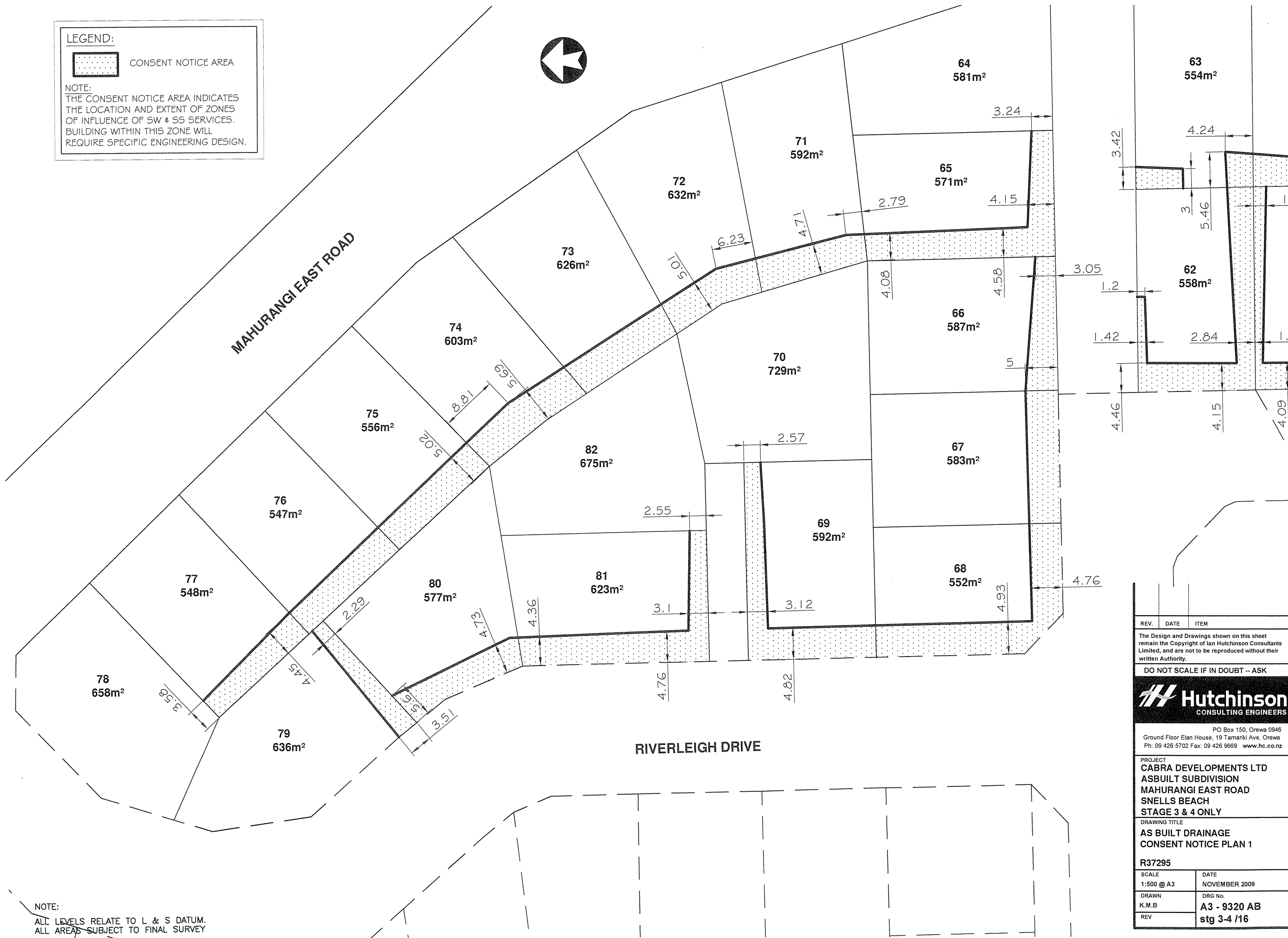
LEGEND:



CONSENT NOTICE AREA

NOTE:

THE CONSENT NOTICE AREA INDICATES THE LOCATION AND EXTENT OF ZONES OF INFLUENCE OF SW & SS SERVICES. BUILDING WITHIN THIS ZONE WILL REQUIRE SPECIFIC ENGINEERING DESIGN.

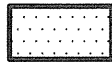


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DRAWING TITLE AS BUILT DRAINAGE CONSENT NOTICE PLAN 1		
R37295		
SCALE 1:500 @ A3	DATE NOVEMBER 2009	
DRAWN K.M.B	DRG No. A3 - 9320 AB	
REV	stg 3-4 /16	

NOTE:
ALL LEVELS RELATE TO L & S DATUM.
ALL AREAS SUBJECT TO FINAL SURVEY



LEGEND:

 CONSENT NOTICE AREA

NOTE:
 THE CONSENT NOTICE AREA INDICATES THE LOCATION AND EXTENT OF ZONES OF INFLUENCE OF SW & SS SERVICES. BUILDING WITHIN THIS ZONE WILL REQUIRE SPECIFIC ENGINEERING DESIGN.

NOTE:
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 ALL AREAS SUBJECT TO FINAL SURVEY

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PROJECT CABRA DEVELOPMENTS LTD ASBUILT SUBDIVISION MAHURANGI EAST ROAD SNELLS BEACH STAGE 3 & 4 ONLY		
DRAWING TITLE AS BUILT DRAINAGE CONSENT NOTICE PLAN 2		
R37295		
SCALE	DATE	
1:500 @ A3	NOVEMBER 2009	
DRAWN	DRG No.	
K.M.B	A3 - 9320 AB	
REV	stg 3-4 /17	

HEWSON DRIVE

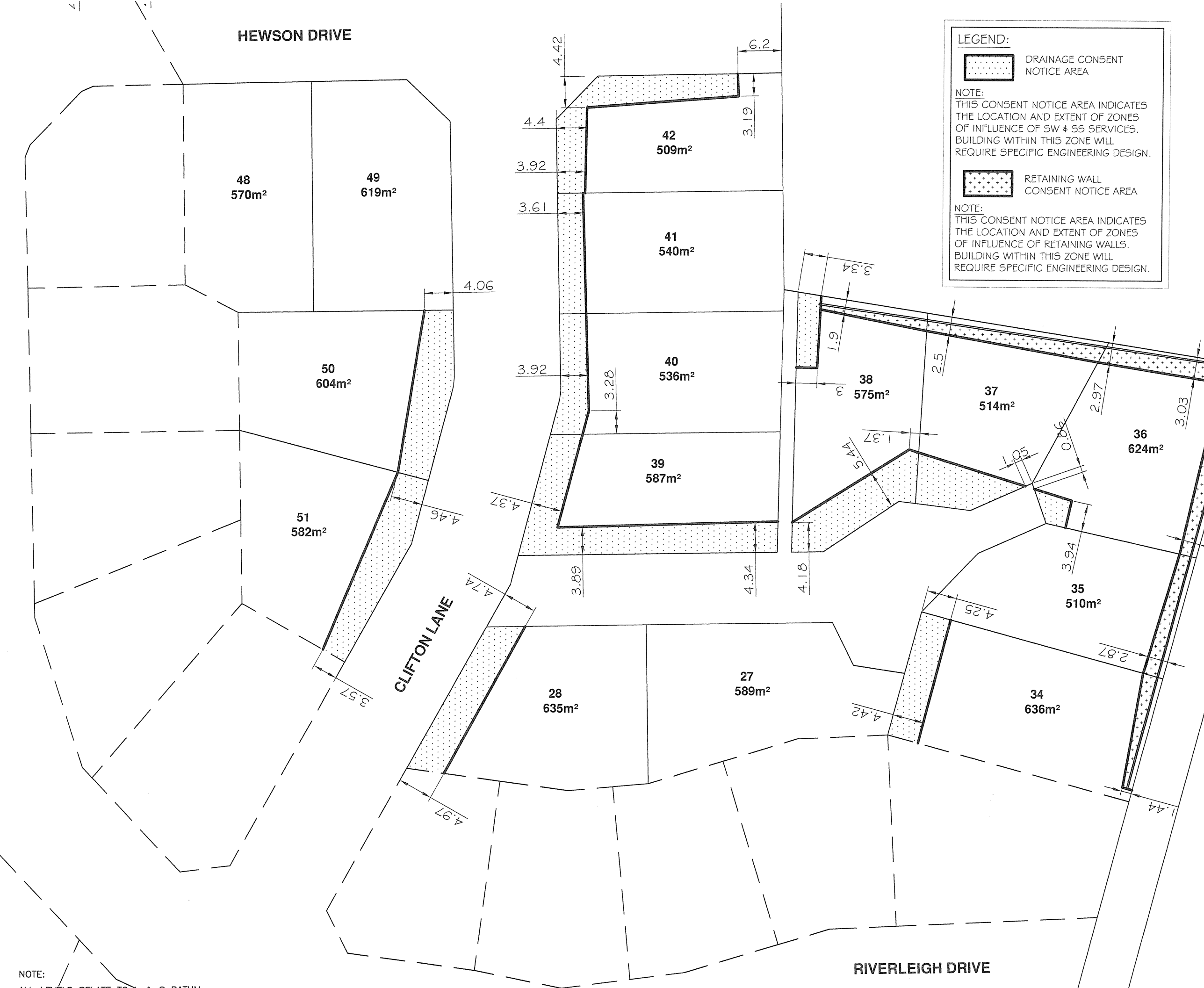
LEGEND:

 DRAINAGE CONSENT NOTICE AREA

NOTE:
THIS CONSENT NOTICE AREA INDICATES THE LOCATION AND EXTENT OF ZONES OF INFLUENCE OF SW & SS SERVICES. BUILDING WITHIN THIS ZONE WILL REQUIRE SPECIFIC ENGINEERING DESIGN.

 RETAINING WALL CONSENT NOTICE AREA

NOTE:
THIS CONSENT NOTICE AREA INDICATES THE LOCATION AND EXTENT OF ZONES OF INFLUENCE OF RETAINING WALLS. BUILDING WITHIN THIS ZONE WILL REQUIRE SPECIFIC ENGINEERING DESIGN.



NOTE:
ALL LEVELS RELATE TO L & S DATUM.
ALL AREAS SUBJECT TO FINAL SURVEY

REV.	DATE	ITEM

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PROJECT
CABRA DEVELOPMENTS LTD
ASBUILT SUBDIVISION
MAHURANGI EAST ROAD
SNELLS BEACH
STAGE 3 & 4 ONLY

DRAWING TITLE
AS BUILT DRAINAGE
CONSENT NOTICE PLAN 3

R37295

SCALE 1:500 @ A3	DATE NOVEMBER 2009
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DRAWN K.M.B	DRG No. A3 - 9320 AB
REV	stg 3-4 /18

RIVERLEIGH DRIVE