



**NOTES:**

- This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'
- Contours are computer generated to Hydrographic Standard (inclusive).
- Contourline obtained from aerial photography is approximate only.
- Soundings coloured to clearance depth of 3.5 m LAT for the Main Channel and 2.5m LAT for the North Arm.
- Vertical control for the survey was based on the Apolonia wavemaster VS RTK-GPS survey system using SmartNetAus corrections (MAX setting).
- Soundings reduced to LAT datum using LAT Separation model ( \\\data\_coast\_region\_20170323\_SNA.v ).
- Horizontal and vertical position check carried out over PM 94486.
- Channel 1100000 E 41-30489-C005 provided by Jose Grao (GCWA) on 16/05/17.
- Channel 1100000 E 41-30489-C005 provided by Jose Grao (GCWA) on 16/05/17.
- Fillets removed from channel centreline and limits for volume calculations.

<b>Horizontal Datum</b>	MGA Zone 56 (GDA94)	<b>Easting</b>		<b>Northing</b>	
<b>Base Station</b>	SmartNetAus CORS Network - (MAX Setting)				
<b>Vertical Datum</b>	LAT based on	See Tide Notes			
<b>Tide Notes</b>	Soundings reduced to datum using RTK-GNSS observations with SmartNetAus CORS network corrections (MAX setting) and a MSG-LAT Ellipsoid separation model (see note 6).				
<b>Depth Tolerance</b>	0.2m	<b>Horizontal Tolerance</b>	1.5m	<b>Weather</b>	5-10 kt SE

<b>Vessel</b>	GG Kaalinga	<b>SOUNDINGS (m)</b>	2.5 below datum
<b>Echo Sounder</b>	Kongsberg GSCompact		0.7 above datum
<b>Heave meter</b>	Apolonia WaveMaster V5	<b>LEVELS (m)</b>	0.5 above datum
<b>Horizontal Positioning</b>	Apolonia WaveMaster V5		0.5 below datum
<b>Data Collection/Processing</b>	SmartNetAus CORS (MAX)		
<b>Tidal Reference Station</b>	TS 10002R, TS 04206A, TS100001		

**SCALE 1 : 2000 AT A1**

CLASS **C** CLIENT **GCWA**

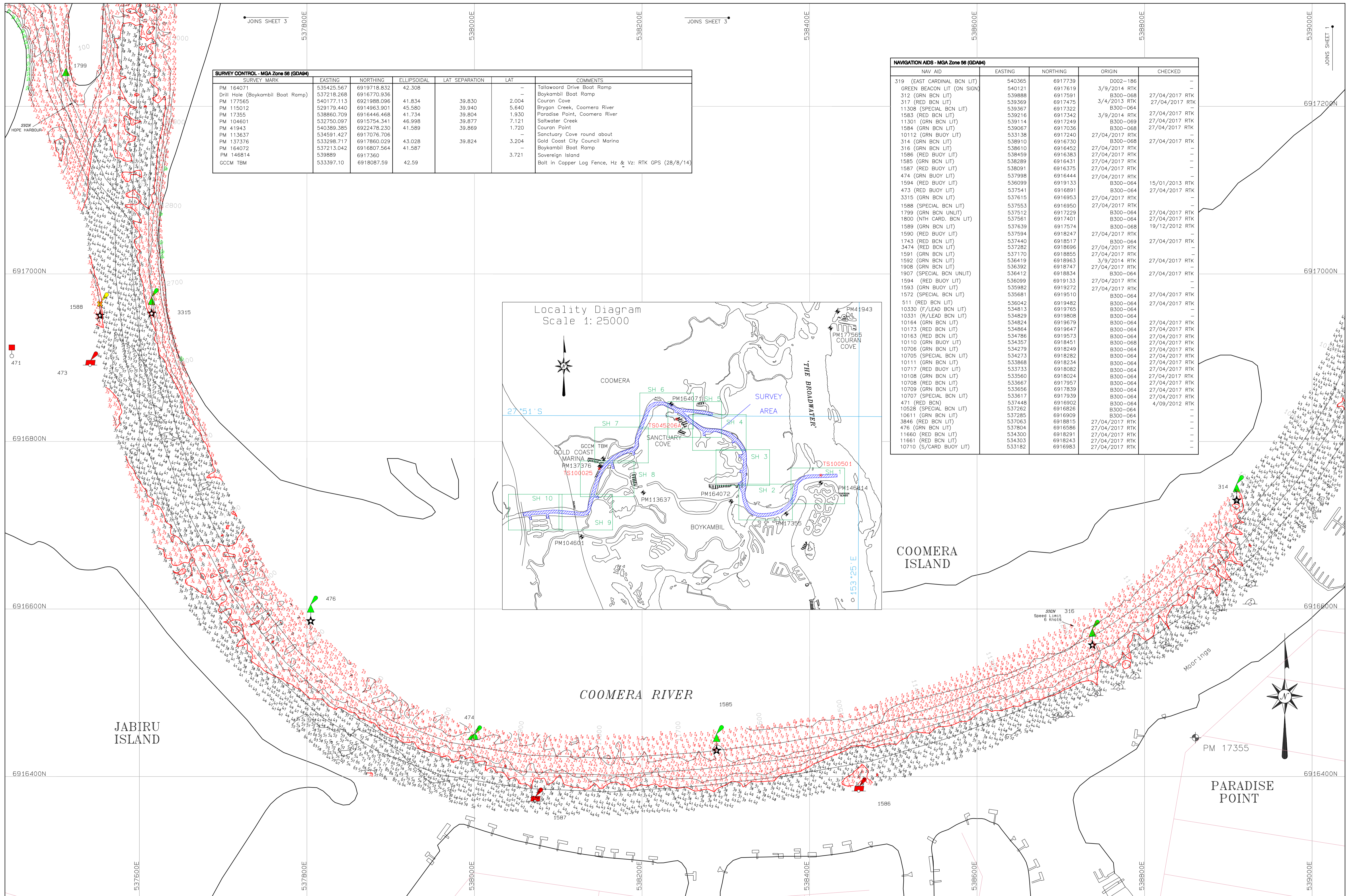
<b>Signature</b>	
<b>Hydrographic Surveyor</b>	P Finger
<b>Checked</b>	D Ning



**COOMERA RIVER**  
SOVEREIGN ISLAND TO PACIFIC HIGHWAY  
HYDROGRAPHIC SURVEY  
11th MAY 2017

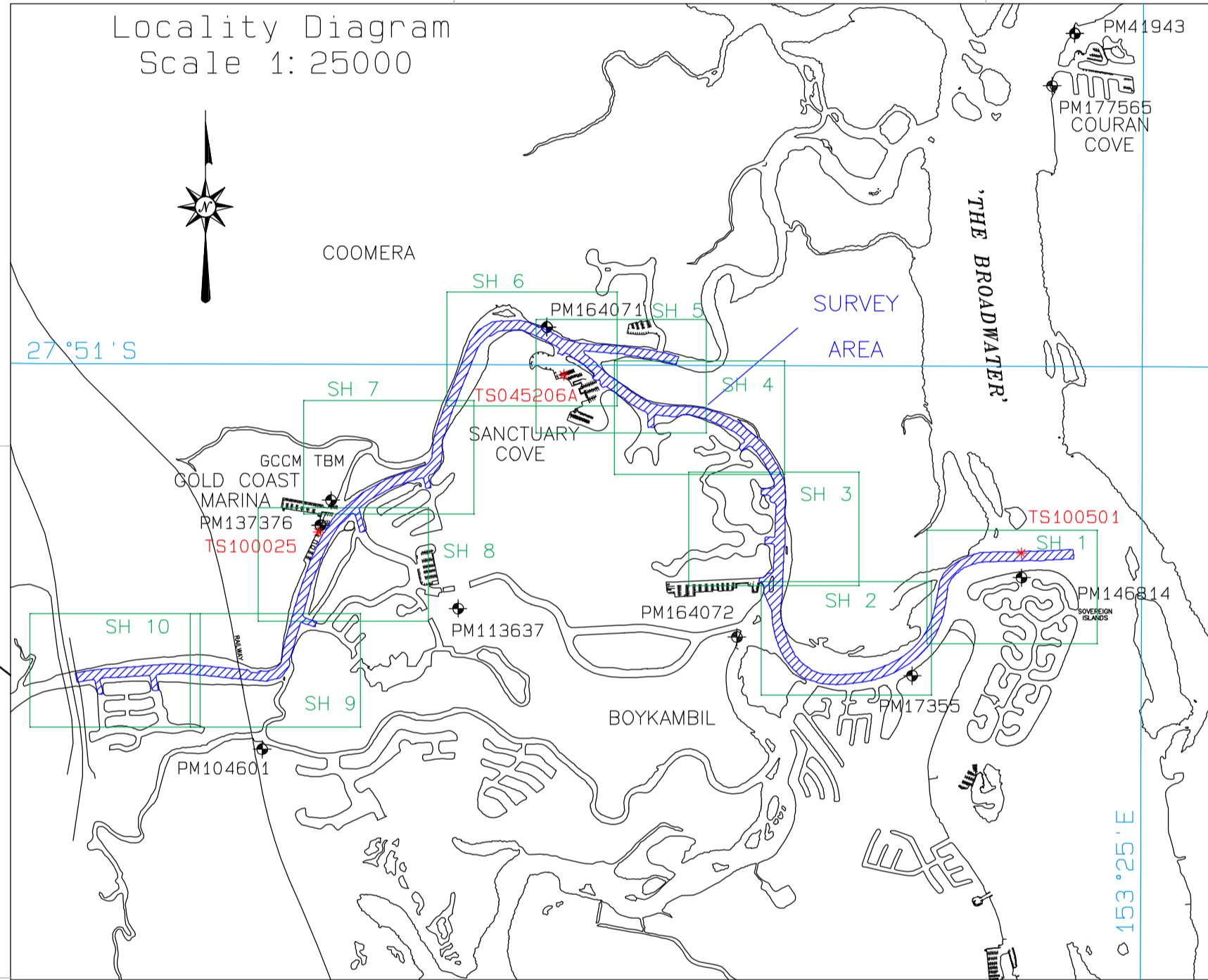
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<b>Plot File:</b>	B300082P1.PDF
<b>Job No.:</b>	GC140052
<b>Plan No.:</b>	<b>B300-082</b>
	SHEET 1 OF 10



SURVEY CONTROL - MGA Zone 56 (GDA84)						
SURVEY MARK	EASTING	NORTHING	ELLIPSOIDAL	LAT SEPARATION	LAT	COMMENTS
PM 164071	535425.567	6919718.832	42.308			Tallowood Drive Boat Ramp
Drill Hole (Boykambil Boat Ramp)	537218.268	6916770.936		39.830	2.004	Boykambil Boat Ramp
PM 177565	540177.113	6921988.096	41.834	39.804	5.640	Couran Cove
PM 115012	529179.440	6914963.901	45.580	39.877	7.121	Brygon Creek, Coomera River
PM 17355	538860.709	6916446.468	41.734	39.869	1.720	Paradise Point, Coomera River
PM 104601	532750.097	6915754.341	46.998			Saltwater Creek
PM 41943	540389.385	6922478.230	41.589			Couran Point
PM 113637	534591.427	6917076.706		39.824	3.204	Sanctuary Cove round about
PM 137376	533298.717	6917860.029	43.028			Gold Coast City Council Marina
PM 164072	537213.042	6916607.564	41.587			Boykambil Boat Ramp
PM 146814	539889	6917360		3.721		Sovereign Island
GCCM TBM	533397.10	6918087.59	42.59			Bolt in Copper Log Fence, Hz & Vz: RTK GPS (28/8/14)

NAVIGATION AIDS - MGA Zone 56 (GDA84)				
NAV AID	EASTING	NORTHING	ORIGIN	CHECKED
319 (EAST CARDINAL BCN LIT)	540365	6917739	D002-186	-
GREEN BEACON LIT (ON SIGN)	540121	6917619	3/9/2014 RTK	-
312 (GRN BCN LIT)	539888	6917591	B300-068	27/04/2017 RTK
317 (RED BCN LIT)	539369	6917475	B300-064	27/04/2017 RTK
11308 (SPECIAL BCN LIT)	539367	6917322	B300-064	-
1583 (RED BCN LIT)	539216	6917342	3/9/2014 RTK	-
11301 (GRN BCN LIT)	539114	6917249	B300-069	27/04/2017 RTK
1584 (GRN BCN LIT)	539067	6917036	B300-068	-
10112 (GRN BUOY LIT)	533138	6917240	27/04/2017 RTK	-
314 (GRN BCN LIT)	538910	6917430	B300-068	27/04/2017 RTK
316 (GRN BCN LIT)	538610	6917452	B300-064	-
1586 (RED BUOY LIT)	538459	6916383	27/04/2017 RTK	-
1585 (GRN BCN LIT)	538289	6916431	27/04/2017 RTK	-
1587 (RED BUOY LIT)	538091	6916375	27/04/2017 RTK	-
474 (GRN BUOY LIT)	537998	6916444	27/04/2017 RTK	-
1594 (RED BUOY LIT)	536099	6919133	B300-064	15/01/2013 RTK
473 (RED BUOY LIT)	537541	6916891	B300-064	27/04/2017 RTK
3315 (GRN BCN LIT)	537615	6916953	27/04/2017 RTK	-
1588 (SPECIAL BCN LIT)	537553	6916950	27/04/2017 RTK	-
1799 (GRN BCN UNLIT)	537512	6917229	B300-064	27/04/2017 RTK
1800 (NTH CARD. BCN LIT)	537561	6917401	B300-064	27/04/2017 RTK
1589 (GRN BCN LIT)	537639	6917574	B300-068	19/12/2012 RTK
1590 (RED BUOY LIT)	537594	6918247	27/04/2017 RTK	-
1743 (RED BCN LIT)	537440	6918517	B300-064	27/04/2017 RTK
3474 (RED BCN LIT)	537282	6918696	27/04/2017 RTK	-
1591 (GRN BCN LIT)	537170	6918855	27/04/2017 RTK	-
1592 (GRN BCN LIT)	536419	6918963	3/9/2014 RTK	27/04/2017 RTK
1908 (GRN BCN LIT)	536392	6918747	27/04/2017 RTK	-
1907 (SPECIAL BCN UNLIT)	536412	6918834	B300-064	27/04/2017 RTK
1594 (RED BUOY LIT)	536099	6919133	27/04/2017 RTK	-
1593 (GRN BUOY LIT)	535982	6919272	27/04/2017 RTK	-
1572 (SPECIAL BCN LIT)	535681	6919510	B300-064	27/04/2017 RTK
511 (RED BCN LIT)	536042	6919482	B300-064	27/04/2017 RTK
10330 (F/LEAD BCN LIT)	534813	6919765	B300-064	-
10331 (R/LEAD BCN LIT)	534829	6919808	B300-064	-
10164 (GRN BCN LIT)	534824	6919679	B300-064	27/04/2017 RTK
10173 (RED BCN LIT)	534864	6919647	B300-064	27/04/2017 RTK
10163 (RED BCN LIT)	534786	6919573	B300-064	27/04/2017 RTK
10110 (GRN BUOY LIT)	534357	6918451	B300-068	27/04/2017 RTK
10706 (GRN BCN LIT)	534279	6918249	B300-064	27/04/2017 RTK
10705 (SPECIAL BCN LIT)	534273	6918282	B300-064	27/04/2017 RTK
10111 (GRN BCN LIT)	533868	6918234	B300-064	27/04/2017 RTK
10717 (RED BUOY LIT)	533733	6918082	B300-064	27/04/2017 RTK
10108 (GRN BCN LIT)	533560	6918024	B300-064	27/04/2017 RTK
10708 (RED BCN LIT)	533667	6917957	B300-064	27/04/2017 RTK
10709 (GRN BCN LIT)	533656	6917839	B300-064	27/04/2017 RTK
10707 (SPECIAL BCN LIT)	533617	6917939	B300-064	27/04/2017 RTK
471 (RED BCN)	537448	6916902	B300-064	4/09/2012 RTK
10528 (SPECIAL BCN LIT)	537262	6916826	B300-064	-
10611 (GRN BCN LIT)	537285	6916909	B300-064	-
3846 (RED BCN LIT)	537063	6918815	27/04/2017 RTK	-
476 (GRN BCN LIT)	537804	6916586	27/04/2017 RTK	-
11660 (RED BCN LIT)	534300	6918291	27/04/2017 RTK	-
11661 (RED BCN LIT)	534303	6918243	27/04/2017 RTK	-
10710 (S/CARD BUOY LIT)	533182	6916983	27/04/2017 RTK	-



**NOTES:**  
 1) This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'  
 2) Contours are computer generated to Hydrographic Standard (inclusive).  
 3) Coastline obtained from aerial photography is approximate only.  
 4) Soundings coloured to clearance depth of 3.5 m LAT for the Main Channel and 2.5m LAT for the North Arm.  
 5) Vertical control for the survey was based on the the Applians wave master VS RTK-GPS survey system using SmartNetAus corrections (MAX setting).  
 6) Soundings reduced to LAT datum using LAT Separation mode ( \\G016\_Coast\_Regions\_20170323\_SNA.v ).  
 7) Horizontal and vertical position check carried out over PM 94486.  
 8) Channel linework and channels based on cad files 41-29533-XC\_BCN\_STRS\_120.DWG & 41-30489-XC\_BCN\_STRS\_120.DWG provided by Jose Grao (GDA) on 6/4/17 and updated using drawings 41-30489-C002 & 41-30489-C003 provided by Jose Grao (GDA) on 16/5/17.  
 9) Fillets removed from channel centreline and limits for volume calculations.

Horizontal Datum	MGA Zone 56 (GDA84)	Eastings	Northings
Base Station	SmartNetAus CORS Network - (MAX Setting)		
Vertical Datum	LAT	based on	See Tide Notes
Tide Notes	Soundings reduced to datum using RTK-GPS observations with SmartNetAus CORS network corrections (MAX setting) and a MSG-LAT Ellipsoid separation mode (see note 6).		
Depth Tolerance	0.2m	Horizontal Tolerance	1.5m
Weather	5-10 kt SE		

Vessel	GG Kaalinga
Echo Sounder	Kongsberg GS+Compact
Heaveometer	Applanix WaveMaster V5 DM 7.30 Fw 7.90
Horizontal Positioning	Applanix WaveMaster V5 DM 7.30 Fw 7.90
Data Collection/Processing	SmartNetAus CORS (Max) CORS WGS84/EGS84 V10 2.27 SOUNDINGS 4.0 5.5
Tidal Reference Station	TS 100028, TS 045206A, TS100901

**SCALE 1 : 2000 AT A1**

CLASS CLIENT  
**C GCWA**

Signature Hydrographic Surveyor  
P Finger  
Checked D Ning

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**COOMERA RIVER**  
SOVEREIGN ISLAND TO PACIFIC HIGHWAY  
HYDROGRAPHIC SURVEY  
11th MAY 2017

Plot File: B300082P2.PDF  
Job No: GC140052  
Plan No:  
**B300-082**  
SHEET 2 OF 10

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**NOTES:**

- This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'
- Contours are computer generated to Hydrographic Standard (inclusive).
- Canal line obtained from aerial photography is approximate only.
- Soundings coloured to clearance depth of 3.5 m LAT for the Main Channel and 2.5m LAT for the North Arm.
- Vertical control for the survey was based on the the Apollonia WaveMaster VS RTK-GPS survey system using SmartNetAus corrections (MAX setting).
- Soundings reduced to LAT datum using LAT Separation model ( \\s01a1\_coast\_region\_20170323\_SNA.v ).
- Horizontal and vertical position check carried out over PM 94486.
- Channel line work and changes based on cad files 41-25633-XC\_BESN\_STRG\_120\_DWG & 41-30489-XC\_BESN\_STRG\_120\_DWG provided by Jose Grao (GCWA) on 15/4/17 and updated using drawings 41-30489-C002 & 41-30489-C003 provided by Jose Grao (GCWA) on 15/5/17.
- Fillets removed from channel centreline and limits for volume calculations.

<b>Horizontal Datum</b> Base Station	MGA Zone 56 (GDA94)	SmartNetAus CORS Network - (MAX Setting)	<b>Eastings</b>	<b>Northings</b>
<b>Vertical Datum</b>	LAT	based on	See Tide Notes	
<b>Tide Notes</b>	Soundings reduced to datum using RTK-GNSS observations with SmartNetAus CORS network corrections (MAX setting) and a MSG-LAT ellipsoid separation model (see note 6).			
<b>Depth Tolerance</b>	0.2m	<b>Horizontal Tolerance</b>	1.5m	<b>Weather</b>
				5-10 kt SE

<b>Vessel</b>	GG Kaalinga	<b>SOUNDINGS (m)</b>	0 to 200
<b>Echo Sounder</b>	Kongsberg GS+Compact	2.5 below datum	
<b>Heave meter</b>	Apollonia WaveMaster V5	0.7 above datum	
<b>Horizontal Positioning</b>	Apollonia WaveMaster V5		
<b>Data Collection/Processing</b>	SmartNetAus CORS (Max)		
<b>Tidal Reference Station</b>	TS 100026, TS 048266A, TS100901	<b>LEVELS (m)</b>	0.5 above datum
		1.5 below datum	

**SCALE 1 : 2000 AT A1**

CLASS **C** CLIENT **GCWA**

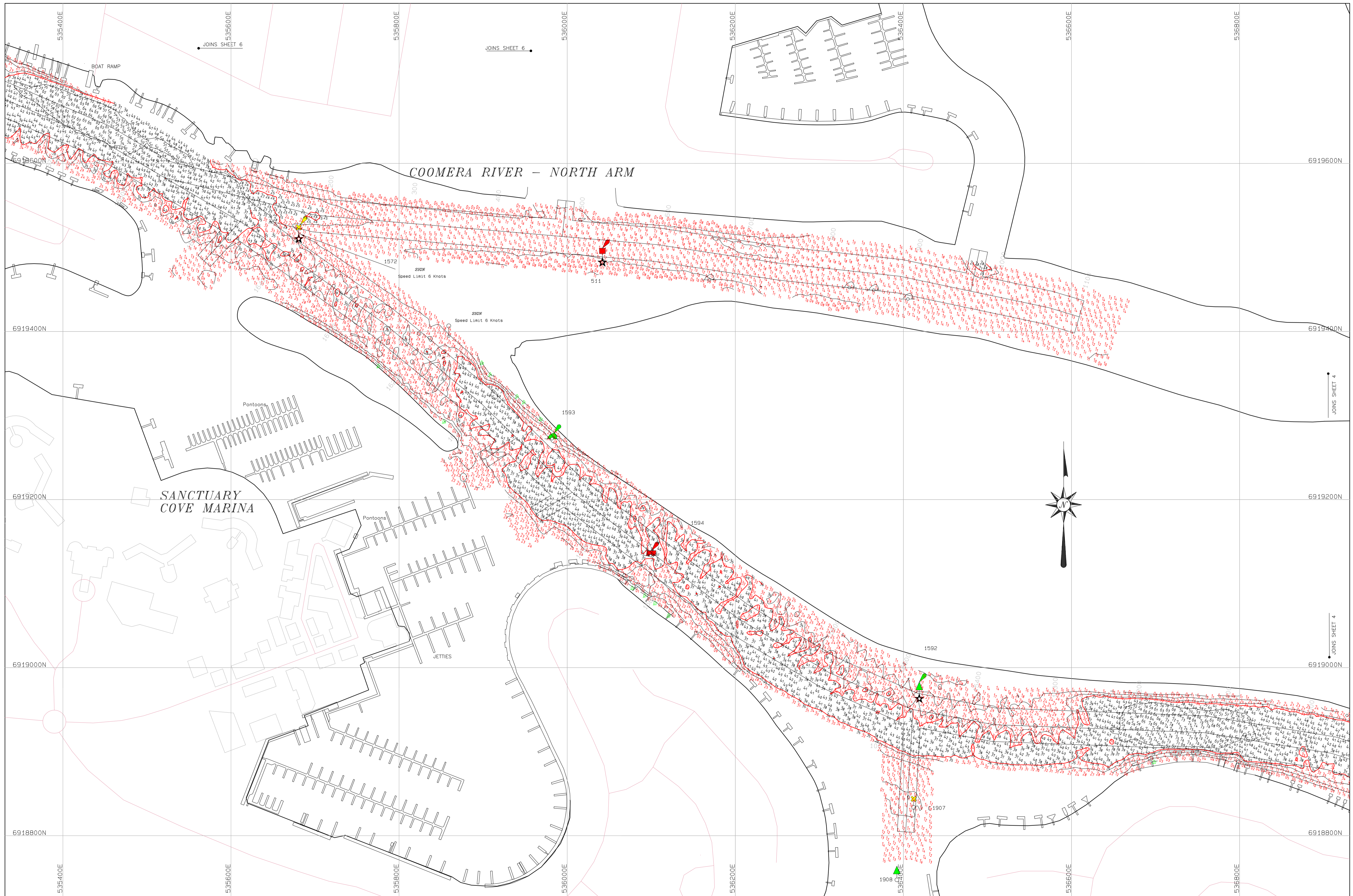
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**COOMERA RIVER**  
SOVEREIGN ISLAND TO PACIFIC HIGHWAY  
HYDROGRAPHIC SURVEY  
11th MAY 2017

Plot File: B300082P3.PDF  
Job No: GC140052  
Plan No: **B300-082**  
SHEET 3 OF 10

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**NOTES:**  
 1) This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'  
 2) Contours are computer generated to Hydrographic Standard (inclusive).  
 3) Coastline obtained from aerial photography is approximate only.  
 4) Soundings coloured to clearance depth of 3.5 m LAT for the Main Channel and 2.5m LAT for the North Arm.  
 5) Vertical control for the survey was based on the the Apollonia wavemaster VS RTK-GPS survey system using SmartNetaus corrections (MAX setting).  
 6) Soundings reduced to LAT datum using LAT Separation model ( \\data\_coast\_region\_20170323\_SNA.v ).  
 7) Horizontal and vertical position check carried out over PM 94486.  
 8) Channel linework and channels based on cad file 41-29533-XC\_IJEN\_STMS\_120.DWG & 41-30488-XC\_IJEN\_STMS\_120.DWG provided by Jose Grao (GCWA) on 6/4/17 and updated using drawings 41-30488-C006 & 41-30488-C005 provided by Jose Grao (GCWA) on 16/5/17.  
 9) Fillets removed from channel centreline and limits for volume calculations.

<b>Horizontal Datum</b>	MGA Zone 56 (GDA94)	<b>Eastings</b>	Northings
<b>Base Station</b>	SmartNetaus CORS Network - (MAX Setting)	<b>Vessel</b>	GG Kainga
<b>Vertical Datum</b>	LAT based on	<b>Echo Sounder</b>	Kongsberg GSCompact
<b>Tide Notes</b>	See Tide Notes	<b>Heaveometer</b>	Apollonia WaveMaster V5 DIN 7.30 Freq 7.900
<b>Horizontal Positioning</b>	SmartNetaus CORS network corrections with SmartNetaus CORS (MAX setting) and a MSG-LAT Ellipsoid separation model (see note 6).	<b>Horizontal Positioning</b>	Apollonia WaveMaster V5 DIN 7.30 Freq 7.900 SmartNetaus CORS (MAX) DIN 7.30 Freq 7.900 SmartNetaus CORS (MAX) DIN 7.30 Freq 7.900
<b>Depth Tolerance</b>	0.2m	<b>Data Collection/Processing</b>	Carla HIRSHMAN V10.2.27 GEMMA V10.5.14
<b>Horizontal Tolerance</b>	1.5m	<b>Tidal Reference Station</b>	TS 100028, TS 049266A, TS100001
<b>Weather</b>	5-10 kt SE		

**SOUNDINGS (m)**  
 2.5 below datum  
 0.7 above datum

**LEVELS (m)**  
 0.5 above datum  
 1.3 below datum

**SCALE 1 : 2000 AT A1**

**CLASS CLIENT**  
**C GCWA**

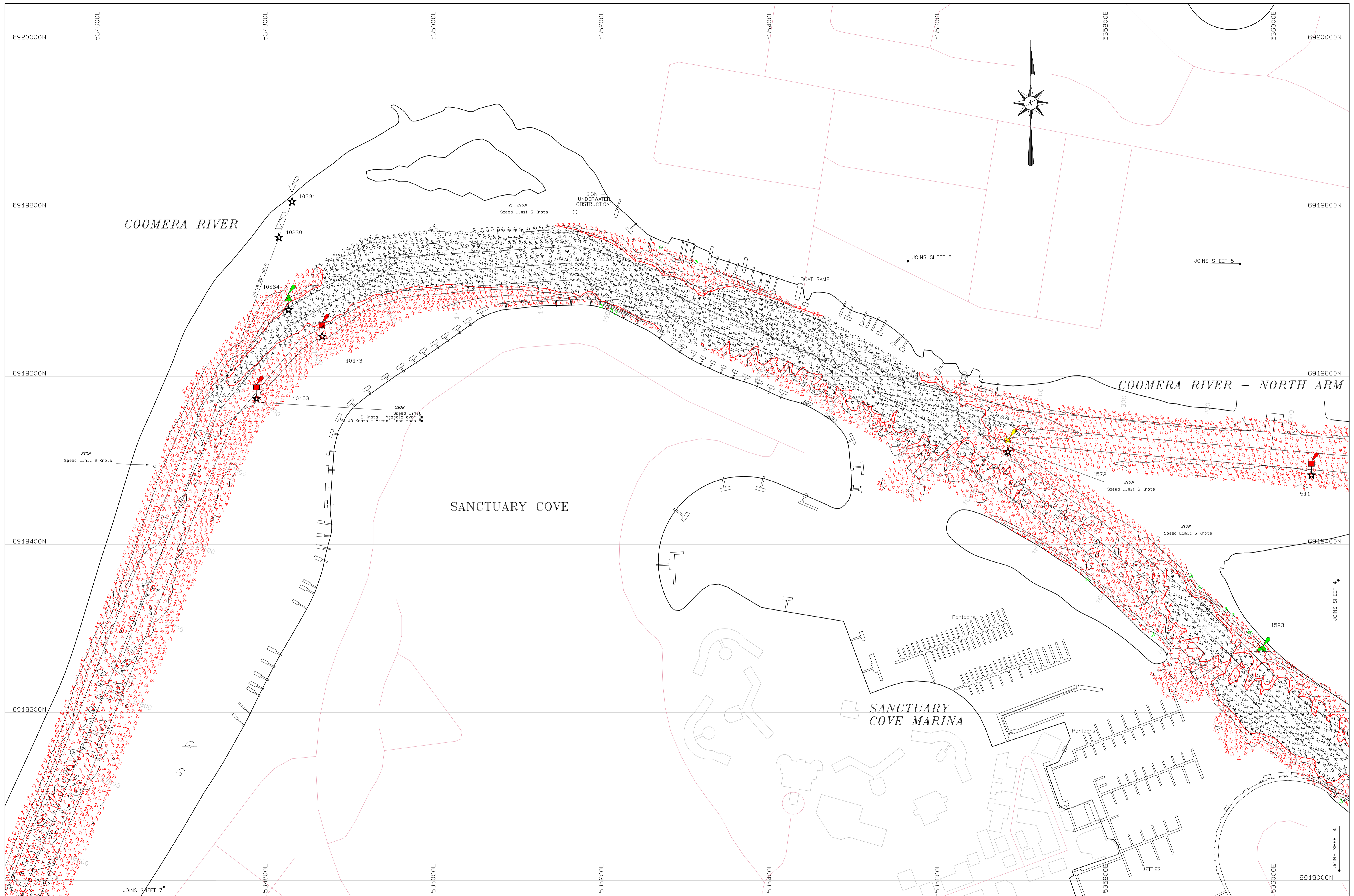
Signature  
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 Surveyor  
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**COOMERA RIVER**  
**SOVEREIGN ISLAND TO PACIFIC HIGHWAY**  
 HYDROGRAPHIC SURVEY  
 11th MAY 2017

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Plot File: B300082P5.PDF  
 Job No: GC140052  
 Plan No:  
**B300-082**  
 SHEET 5 OF 10



**NOTES:**  
 1) This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'  
 2) Contours are computer generated to Hydrographic Standard (inclusive).  
 3) Coastline obtained from aerial photography - is approximate only.  
 4) Soundings coloured to clearance depth of 3.5 m LAT for the Main Channel and 2.5m LAT for the North Arm.  
 5) Vertical control for the survey was based on the Apollonia wavemaster VS RTK-GPS survey system using SmartNetAus corrections (MAX setting).  
 6) Soundings reduced to datum using RTK-GPS observations with SmartNetAus CORS network corrections (MAX setting) and a MSG-LAT ellipsoid separation model (see note 6).  
 7) Horizontal and vertical position check carried out over PM 94486.  
 8) Channel limits and changes based on cad files 41-29533-XC\_DESN\_STRG\_120.DWG & 41-30488-XC\_DESN\_STRG\_120.DWG provided by Jose Gao (GCWA) on 16/4/17 and updated using drawings 41-30488-C002 & 41-30488-C003 provided by Jose Gao (GCWA) on 16/5/17.  
 9) Fillets removed from channel centreline and limits for volume calculations.

<b>Horizontal Datum</b>	MGA Zone 56 (GDA94)	<b>Eastings</b>	534800E	<b>Northings</b>	6919800N
<b>Base Station</b>	SmartNetAus CORS Network - (MAX Setting)				
<b>Vertical Datum</b>	LAT	<b>based on</b>	See Tide Notes		
<b>Tide Notes</b>	Soundings reduced to datum using RTK-GPS observations with SmartNetAus CORS network corrections (MAX setting) and a MSG-LAT ellipsoid separation model (see note 6).				
<b>Depth Tolerance</b>	0.2m	<b>Horizontal Tolerance</b>	1.5m	<b>Weather</b>	5-10 kt SE

<b>Vessel</b>	GG Kaalinga	<b>SOUNDINGS (m)</b>	2.5 below datum 0.7 above datum
<b>Echo Sounder</b>	Kongsberg GS+Compact	<b>LEVELS (m)</b>	0.5 above datum 1.3 below datum
<b>Heave meter</b>	Apollonia WaveMaster V5	<b>CLASS</b>	C
<b>Horizontal Positioning</b>	Apollonia WaveMaster V5 DGN 7.50 PPK 2.00 SmartNetAus CORS (Max)	<b>CLIENT</b>	GCWA
<b>Data Collection/Processing</b>	Carla HIRSHBERG V10.2.27 16/04/17 12:51		
<b>Tidal Reference Station</b>	TS 100026, TS 049206A, TS100001		

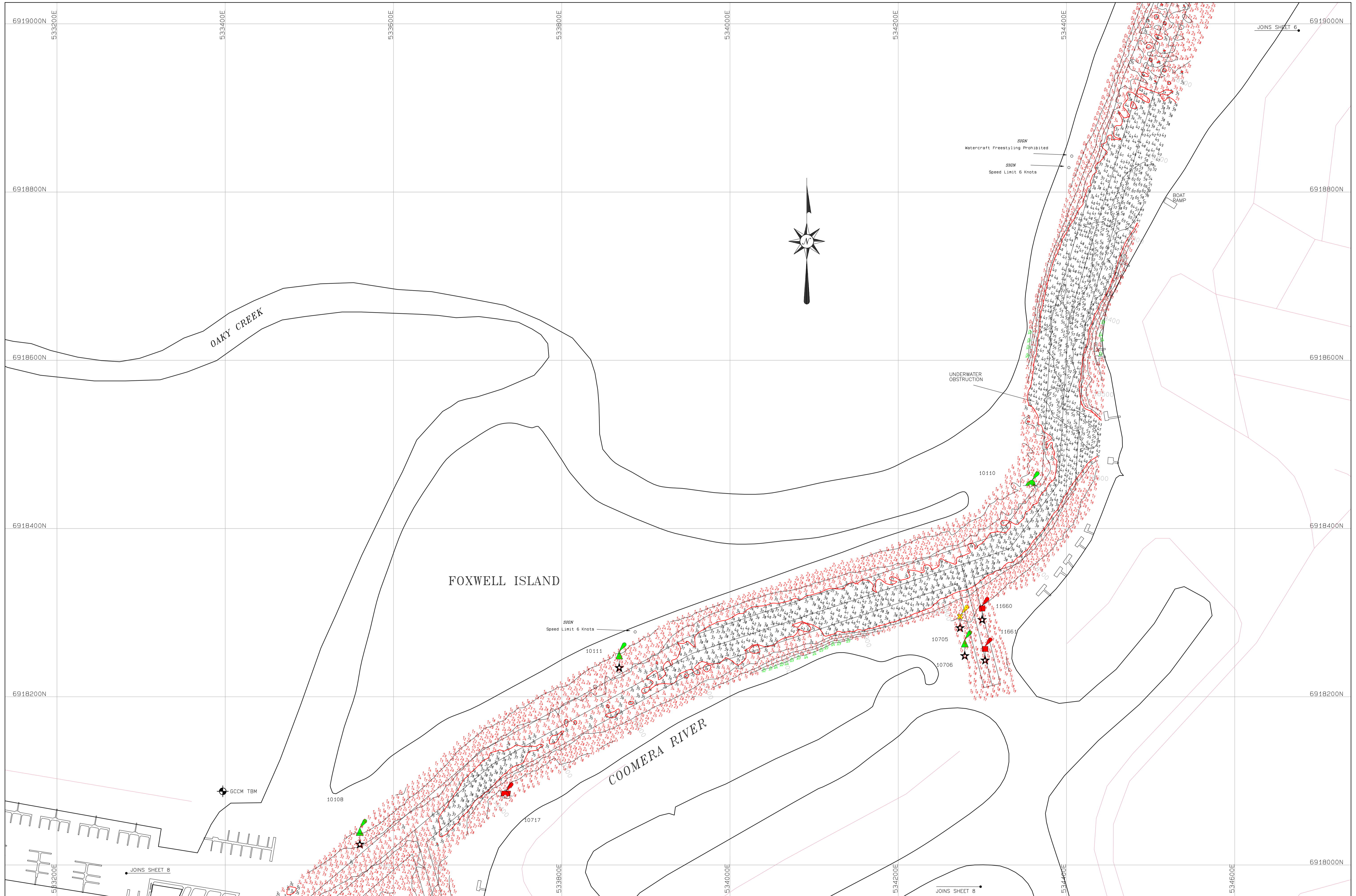
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**COOMERA RIVER**  
 SOVEREIGN ISLAND TO PACIFIC HIGHWAY  
 HYDROGRAPHIC SURVEY  
 11th MAY 2017

Plot File: B300082P6.PDF  
 Job No: GC140052  
 Plan No: **B300-082**  
 SHEET 6 OF 10

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**NOTES:**  
 1) This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'  
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 3) Coastline obtained from aerial photography is approximate only.  
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 5) Vertical control for the survey was based on the the Apollonia wavemaster VS RTK-GPS survey system using SmartNetAus corrections (MAX setting).  
 6) Soundings reduced to LAT datum using LAT Separation model ( \\\\0019\_Coast\_Region\_20170323\_SNA.v ).  
 7) Horizontal and vertical position check carried out over PM 94486.  
 8) Channel linework and changes based on cad files 41-29633-XC\_DESN\_STRS\_120.DWG & 41-30489-XC\_DESN\_STRS\_120.DWG provided by Jose Grao (GCWA) on 15/4/17 and updated using drawings 41-30489-C002 & 41-30489-C003 provided by Jose Grao (GCWA) on 15/5/17.  
 9) Fillets removed from channel centreline and limits for volume calculations.

<b>Horizontal Datum</b>	MGA Zone 56 (GDA64)	<b>Eastings</b>	SmartNetAus CORS Network - (MAX Setting)
<b>Vertical Datum</b>	LAT based on	<b>Horizontal</b>	See Tide Notes
<b>Tide Notes</b>	Soundings reduced to datum using RTK-GNSS observations with SmartNetAus CORS network corrections (MAX setting) and a MSG-LAT ellipsoid separation model (see note 6).		
<b>Depth Tolerance</b>	0.2m	<b>Horizontal Tolerance</b>	1.5m
<b>Weather</b>	5-10 kt SE		
<b>Vessel</b>	GG Kaalinga		
<b>Echo Sounder</b>	Kongsberg GSCompact		
<b>Heave Meter</b>	Apollonia WaveMaster V5 (IM 7.30 PM 7.30)		
<b>Horizontal Positioning</b>	Apollonia WaveMaster V5 (IM 7.30 PM 7.30) SmartNetAus CORS (MAX)		
<b>Data Collection/Processing</b>	CORS V5 RTK-GNSS Compact V3.6U/Carla HIRSHALLS V10.2.27/SMARTNET 4.0.5.14		
<b>Tidal Reference Station</b>	TS 100028, TS 048266A, TS100001		

**SOUNDINGS (m)**  
 2.5 below datum  
 0.7 above datum

**LEVELS (m)**  
 0.5 above datum  
 1.3 below datum

**SCALE 1 : 2000 AT A1**

**CLASS C**    **CLIENT GCWA**

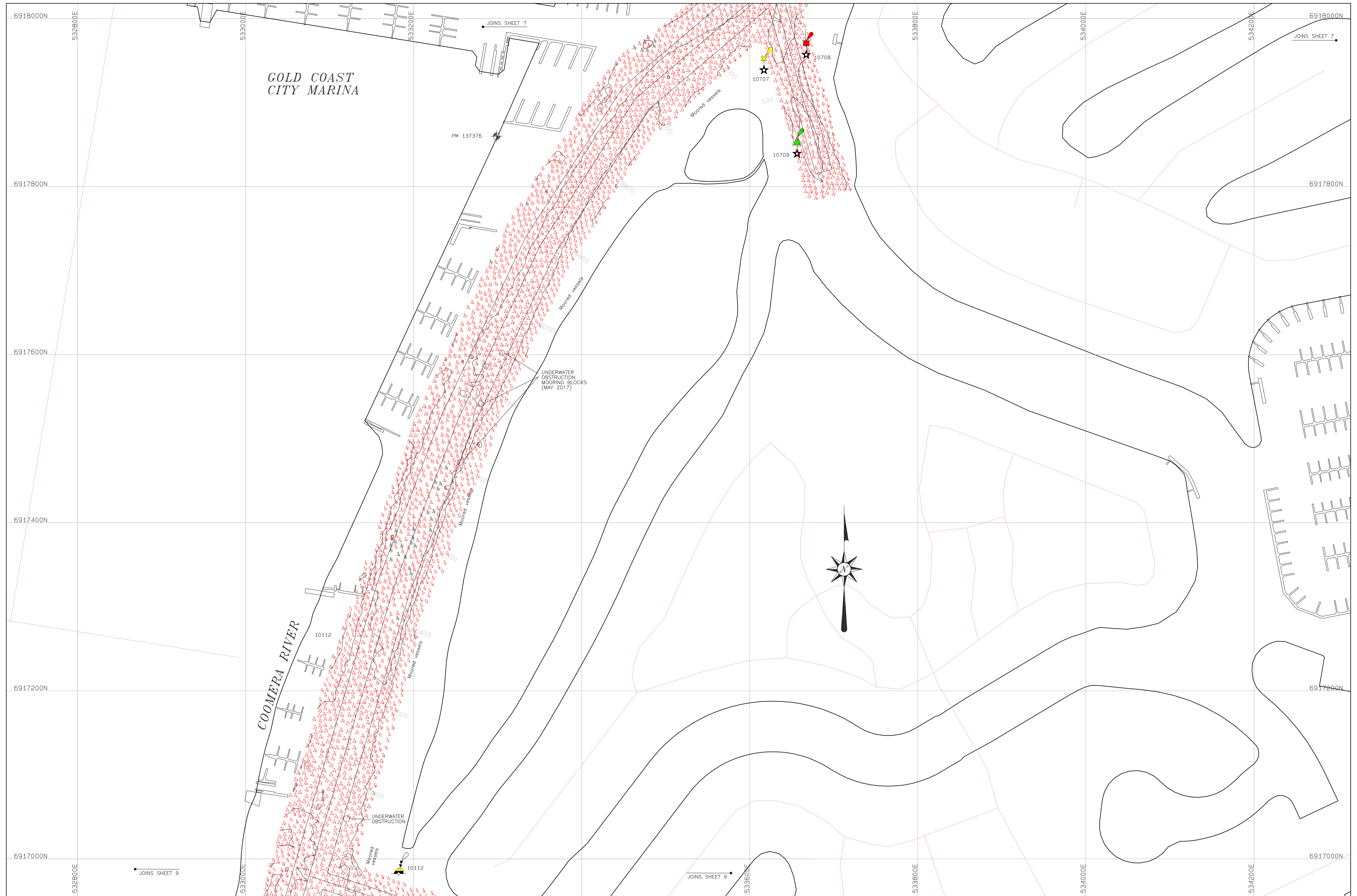
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<b>Checked</b>	D Ning

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**COOMERA RIVER**  
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 HYDROGRAPHIC SURVEY  
 11th MAY 2017

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**Plot File:** B300082P7.PDF  
**Job No.:** GC140052  
**Plan No.:** **B300-082**  
 SHEET 7 OF 10



**NOTES:**  
 1) This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'  
 2) Contours are computer generated to Hydrographic Standard (inclusive).  
 3) Coastline obtained from aerial photography is approximate only.  
 4) Soundings coloured to clearance depth of 3.5 m LAT for the Main Channel and 2.5m LAT for the North Arm.  
 5) Vertical control for the survey was based on the the Apollonia wavemaster VS RIK-GPS survey system using SmartNetAus corrections (MAX setting).  
 6) Soundings reduced to LAT datum using LAT Separation model ( \\50191\_Coast\_Regions\_20170323\_SNA.v ).  
 7) Horizontal and vertical position check carried out over PM 94486.  
 8) Channel line work and changes based on cad files 41-30489-XC\_DESN\_STRS\_120.DWG & 41-30489-XC\_DESN\_STRS\_120.DWG & 41-30489-C002 & 41-30489-C003 provided by Jose Grao (GCWA) on 15/5/17.  
 9) Fillets removed from channel centreline and limits for volume calculations.

<b>Horizontal Datum</b>	MGA Zone 56 (GDAG)	<b>Eastings</b>	Northings
<b>Base Station</b>	SmartNetAus CORS Network - (MAX Setting)		
<b>Vertical Datum</b>	LAT based on	See Tide Notes	
<b>Tide Notes</b>	Soundings reduced to datum using RTK-GNSS observations with SmartNetAus CORS network corrections (MAX setting) and a MSG-LAT ellipsoid separation model (see note 6).		
<b>Depth Tolerance</b>	0.2m	<b>Horizontal Tolerance</b>	1.5m
<b>Weather</b>	5-10 kt SE		

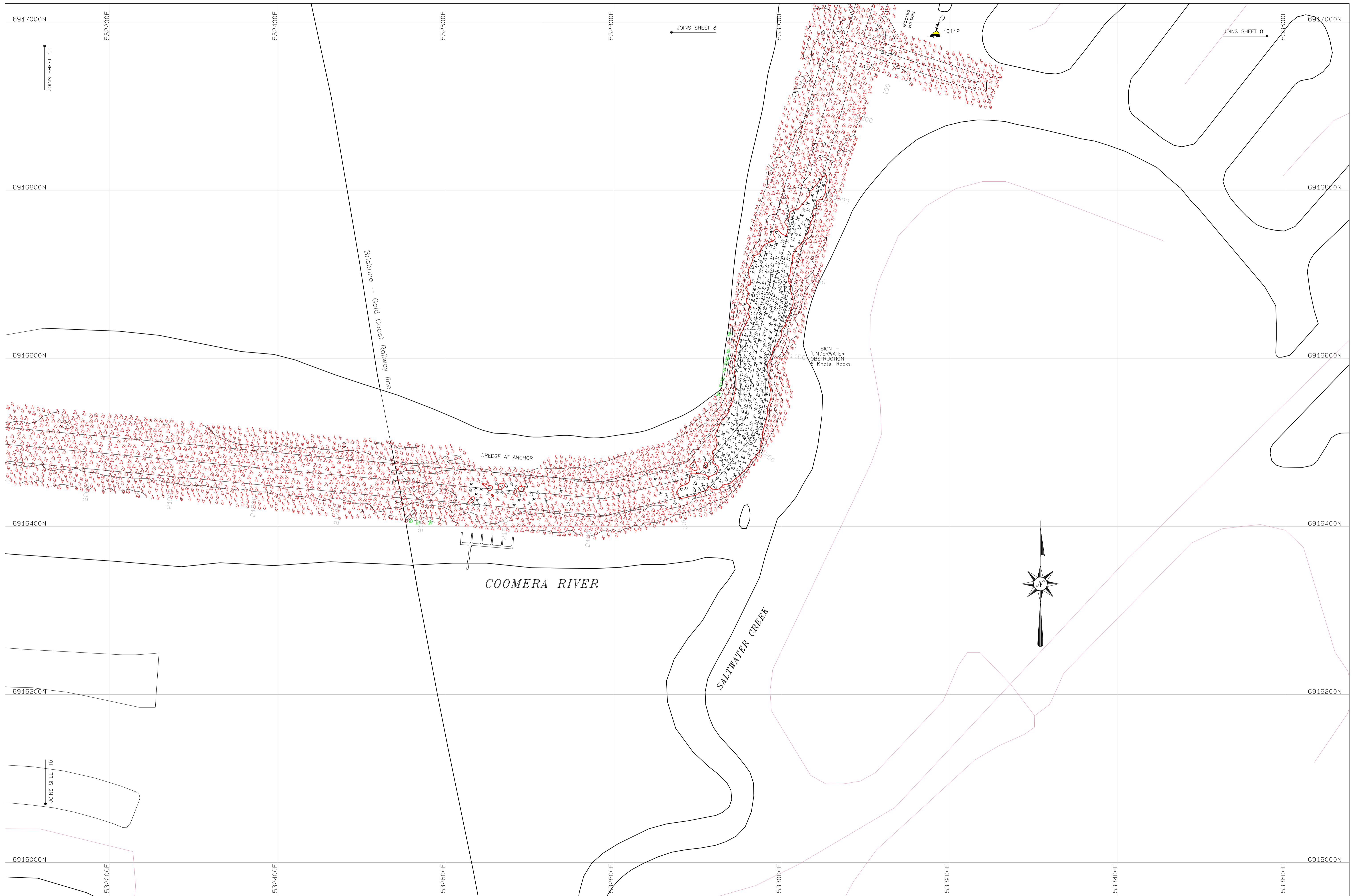
<b>Vessel</b>	GG Kaalinga	<b>SOUNDINGS (m)</b>	2.5 below datum 0.7 above datum
<b>Echo Sounder</b>	Kongsberg GS+Compact	<b>LEVELS (m)</b>	0.5 above datum 1.3 below datum
<b>Heave meter</b>	Apollonia WaveMaster V5 DSE - 7.50 PM - 7.50	<b>CLASS</b>	C
<b>Horizontal Positioning</b>	Apollonia WaveMaster V5 SmartNetAus CORS (Max) CORS VS RTK-CORRECT V3.6U7 CORS WGS84 EPS 314.2.27 EPOCHS 1.0.5.1	<b>CLIENT</b>	GCWA
<b>Data Collection/Processing</b>			
<b>Tidal Reference Station</b>	TS 100026, TS 048266A, TS100901		

<b>Signature</b>	
<b>Hydrographic Surveyor</b>	
<b>Surveyor</b>	P Finger
<b>Checked</b>	D Ning



**COOMERA RIVER**  
 SOVEREIGN ISLAND TO PACIFIC HIGHWAY  
 HYDROGRAPHIC SURVEY  
 11th MAY 2017

Plot File: B300082PB.PDF  
 Job No: GC140052  
 Plan No:  
**B300-082**  
 SHEET 8 OF 10



**NOTES:**

- This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'
- Contours are computer generated to Hydrographic Standard (inclusive).
- Coastline obtained from aerial photography is approximate only.
- Soundings coloured to clearance depth of 3.5 m LAT for the Main Channel and 2.5m LAT for the North Arm.
- Vertical control for the survey was based on the the Apollonia wavemaster VS RTK-GPS survey system using SmartNetAus corrections (MAX setting).
- Soundings reduced to datum using RTK-GNSS observations with SmartNetAus CORS network corrections (MAX setting) and a MSG-LAT ellipsoid separation model (see note 6).
- Horizontal and vertical position check carried out over PM 94486.
- Channel line work and changes based on cad file 41-25633-XC\_BSN\_STRG\_120.DWG & 41-30486-XC\_BSN\_STRG\_120.DWG provided by Jose Gred (GCWA) on 16/5/17.
- 41-30486-C02 & 41-30486-C03 provided by Jose Gred (GCWA) on 16/5/17.
- Fillets removed from channel centreline and limits for volume calculations.

<b>Horizontal Datum</b>	MGA Zone 56 (GDA94)	<b>Eastings</b>	532200E	<b>Northing</b>	6916000N
<b>Base Station</b>	SmartNetAus CORS Network - (MAX Setting)				
<b>Vertical Datum</b>	LAT	based on See Tide Notes			
<b>Tide Notes</b>	Soundings reduced to datum using RTK-GNSS observations with SmartNetAus CORS network corrections (MAX setting) and a MSG-LAT ellipsoid separation model (see note 6).				
<b>Depth Tolerance</b>	0.2m	<b>Horizontal Tolerance</b>	1.5m	<b>Weather</b>	5-10 kt SE
<b>Vessel</b>	GG Kaalinga	<b>Echo Sounder</b>	Kongsberg GS+Compact	<b>Heaveometer</b>	Apollonia WaveMaster V5 DM 7.30 Fk 7.300
<b>Horizontal Positioning</b>	Apollonia WaveMaster V5 DM 7.30 Fk 7.300 SmartNetAus CORS (Max)				
<b>Data Collection/Processing</b>	CORS V5.7.0.0-CONNECT V3.6U7 CORS HIR94219 V10.2.27 CONNECT V3.6U7				
<b>Tidal Reference Station</b>	TS 10002R, TS 04926EA, TS10001				

**SOUNDINGS (m)**  
 2.5 below datum  
 0.7 above datum

**LEVELS (m)**  
 0.5 above datum  
 1.3 below datum

**SCALE 1 : 2000 AT A1**

**CLASS C** CLIENT **GCWA**

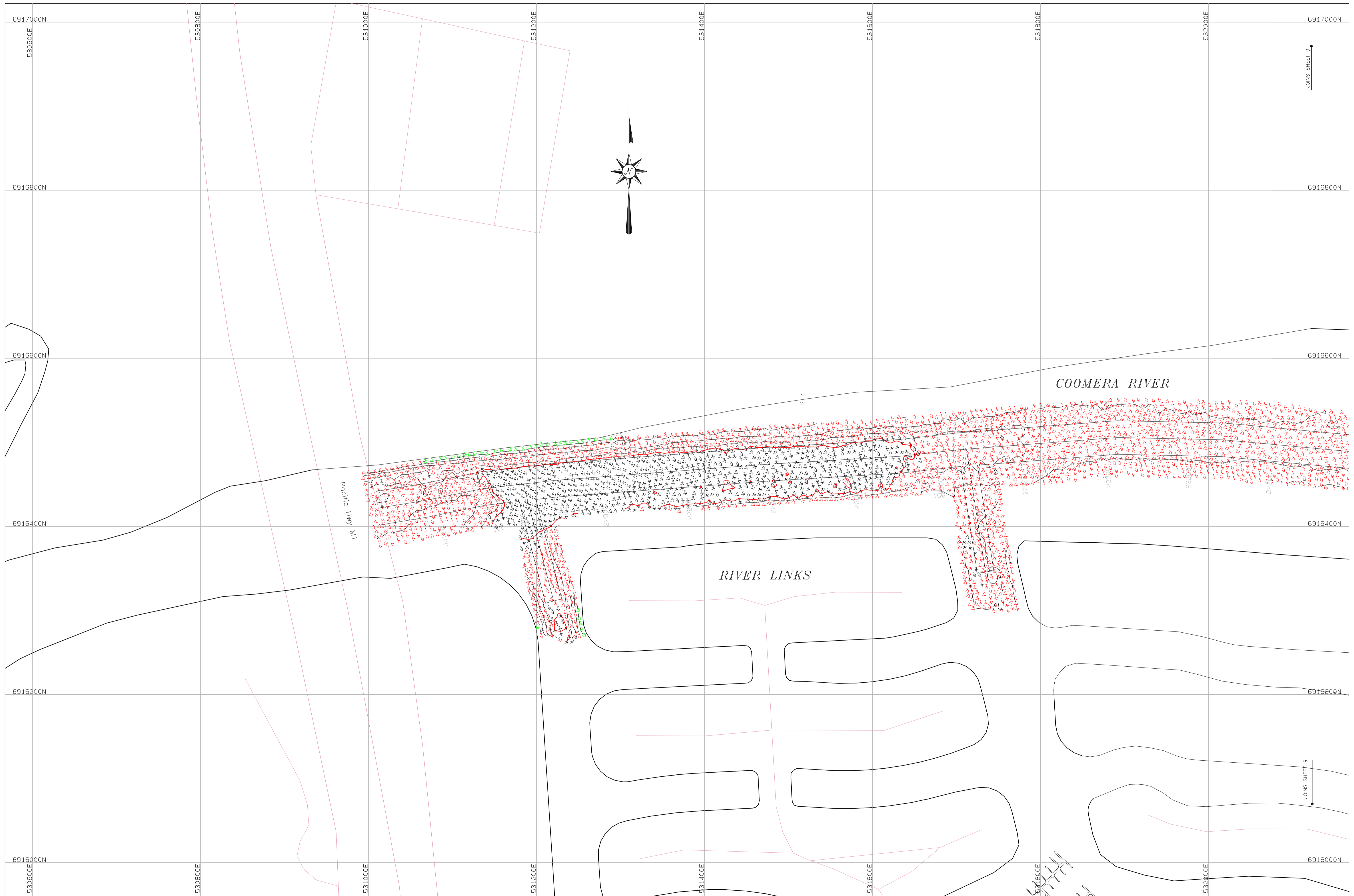
<b>Signature</b>	Hydrographic Surveyor
<b>Surveyor</b>	P Finger
<b>Checked</b>	D Ning

**Queensland Government**  
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**COOMERA RIVER**  
**SOVEREIGN ISLAND TO PACIFIC HIGHWAY**  
**HYDROGRAPHIC SURVEY**  
**11th MAY 2017**

Plot File: B300082P9.PDF  
 Job No: GC140052  
 Plan No: **B300-082**  
 SHEET 9 OF 10

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**NOTES:**  
 1) This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'  
 2) Contours are computer generated to Hydrographic Standard (inclusive).  
 3) Coastline obtained from aerial photography is approximate only.  
 4) Soundings coloured to clearance depth of 3.5 m LAT for the Main Channel and 2.5m LAT for the North Arm.  
 5) Vertical control for the survey was based on the Apollonia WaveMaster VS RTK-GPS survey system using SmartNetAus corrections (MAX setting).  
 6) Soundings reduced to LAT datum using LAT Separation model ( \\s01a1\_coast\_region\_20170323\_SNA.v ).  
 7) Horizontal and vertical position check carried out over PM 94486.  
 8) Channel linework and channels based on cad files 41-30483-C01\_DESN\_STRG\_120.DWG & 41-30489-XC\_DESN\_STRG\_120.DWG provided by Jose Grao (GCWA) on 15/4/17 and updated using drawings 41-30489-C002 & 41-30489-C003 provided by Jose Grao (GCWA) on 15/5/17.  
 9) Fillets removed from channel centreline and limits for volume calculations.

<b>Horizontal Datum</b>	MGA Zone 56 (GDA94)	<b>Eastings</b>	530600E	<b>Northing</b>	6916000N
<b>Base Station</b>	SmartNetAus CORS Network - (MAX Setting)				
<b>Vertical Datum</b>	LAT based on See Tide Notes				
<b>Tide Notes</b>	Soundings reduced to datum using RTK-GNSS observations with SmartNetAus CORS network corrections (MAX setting) and a MSG-LAT ellipsoid separation model (see note 6).				
<b>Depth Tolerance</b>	0.2m	<b>Horizontal Tolerance</b>	1.5m	<b>Weather</b>	5-10 kt SE

<b>Vessel</b>	GG Kainga	<b>Echo Sounder</b>	Kongsberg GS+Compact	<b>Heave Meter</b>	Apollonia WaveMaster V5 DM 7.50 PM 7.500
<b>Horizontal Positioning</b>	Apollonia WaveMaster V5 DM 7.50 PM 7.500 SmartNetAus CORS (Max) GNSS VS RTK-Compact V3.6U7 CORS HPS-RTK V10.2.27 SERVING V3.5.1				
<b>Data Collection/Processing</b>	RTK-GNSS				
<b>Tidal Reference Station</b>	TS 10002N, TS 04826EA, TS100001				

**SOUNDINGS (m)**  
 2.5 below datum  
 0.7 above datum

**LEVELS (m)**  
 0.5 above datum  
 1.3 below datum

**SCALE 1 : 2000 AT A1**

**CLASS C CLIENT GCWA**

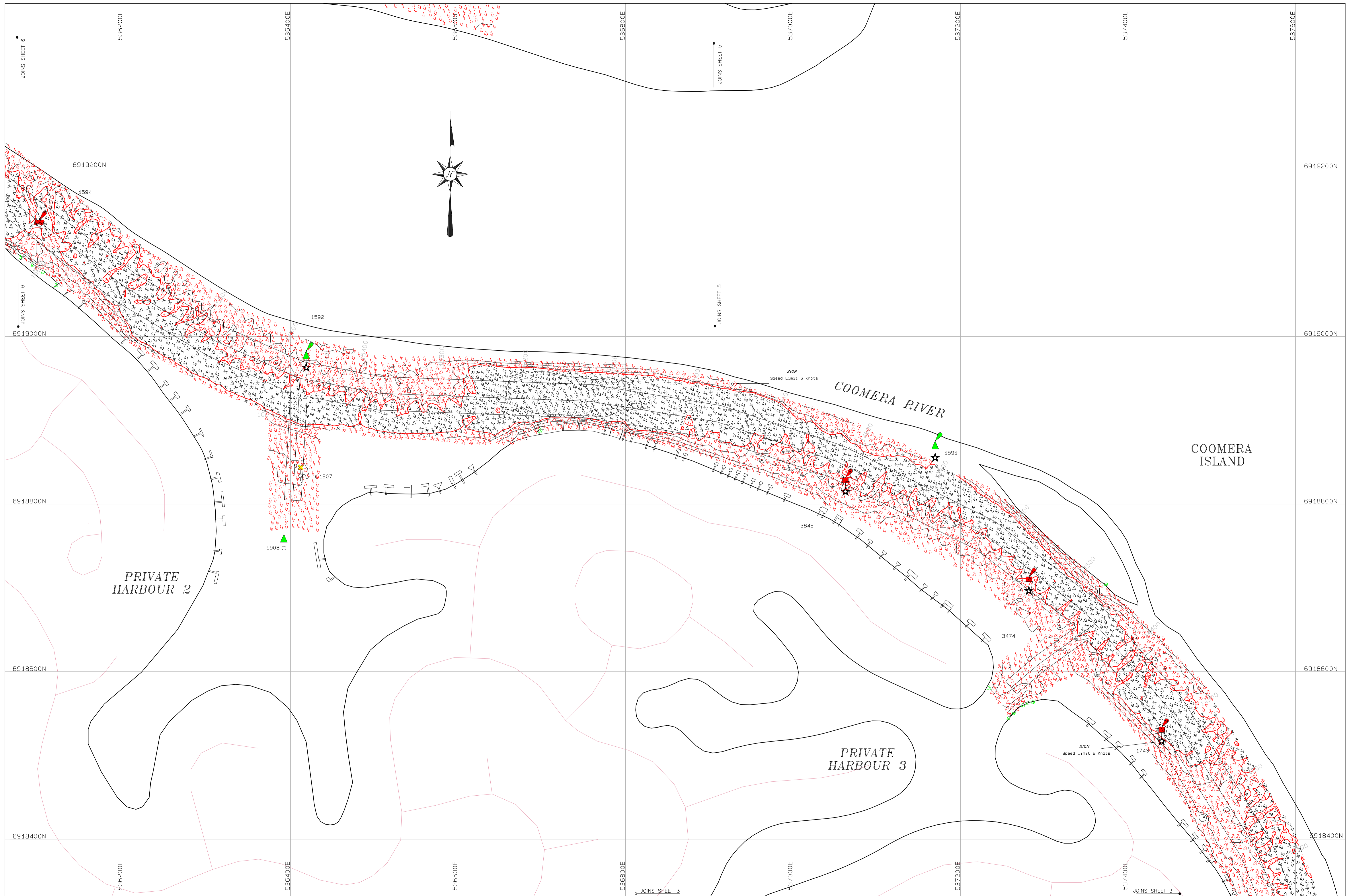
**Signature Hydrographic Surveyor**  
 P Finger  
 Checked D Ning

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**COOMERA RIVER**  
**SOVEREIGN ISLAND TO PACIFIC HIGHWAY**  
**HYDROGRAPHIC SURVEY**  
**11th MAY 2017**

**Plot File:** B300082P10.PDF  
**Job No.:** GC140052  
**Plan No.:** **B300-082**  
 SHEET 10 OF 10

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**NOTES:**  
 1) This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'.  
 2) Contours are computer generated to Hydrographic Standard (inclusive).  
 3) Coastline obtained from aerial photography is approximate only.  
 4) Soundings coloured to clearance depth of 3.5 m LAT for the Main Channel and 2.5m LAT for the North Arm.  
 5) Vertical control for the survey was based on the Apollonia wavemaster VS RTK-GPS survey system using SmartNetaus corrections (MAX setting).  
 6) Soundings reduced to LAT datum using LAT Separation model ( \\data\_coast\_region\_20170323\_SNA.v ).  
 7) Horizontal and vertical position check carried out over PM 94486.  
 8) Channel line work and channels based on cad file 41-29533-XC\_DESN\_STRG\_120.DWG & 41-30488-XC\_DESN\_STRG\_120.DWG provided by Jose Gred (GCWA) on 16/05/17.  
 9) 30489-C002 & 41-30489-C003 provided by Jose Gred (GCWA) on 16/05/17.  
 9) Fillets removed from channel centreline and limits for volume calculations.

<b>Horizontal Datum</b>	MGA Zone 56 (GDA94)	<b>Eastings</b>	536200E	<b>Northing</b>	6919200N
<b>Base Station</b>	SmartNetaus CORS Network - (MAX Setting)				
<b>Vertical Datum</b>	LAT	<b>based on</b>	See Tide Notes		
<b>Tide Notes</b>	Soundings reduced to datum using RTK-GNSS observations with SmartNetaus CORS network corrections (MAX setting) and a MSG-LAT ellipsoid separation model (see note 6).				
<b>Depth Tolerance</b>	0.2m	<b>Horizontal Tolerance</b>	1.5m	<b>Weather</b>	5-10 kt SE

<b>Vessel</b>	GG Kainga	<b>SOUNDINGS (m)</b>	2.5 below datum
<b>Echo Sounder</b>	Kongsberg GSCompact		0.7 above datum
<b>Heave meter</b>	Apollonia WaveMaster V5		
<b>Horizontal Positioning</b>	Apollonia WaveMaster V5		
<b>Data Collection/Processing</b>	SmartNetaus CORS (Max)		
<b>Tidal Reference Station</b>	TS 10002R, TS 04926A, TS100001	<b>LEVELS (m)</b>	0.5 above datum
			1.3 below datum

**SCALE 1 : 2000 AT A1**

CLASS **C** CLIENT **GCWA**

<b>Signature Hydrographic Surveyor</b>	P Finger
<b>Checked</b>	D Ning



**COOMERA RIVER**  
 SOVEREIGN ISLAND TO PACIFIC HIGHWAY  
 HYDROGRAPHIC SURVEY  
 11th MAY 2017

Plot File: B300082P4.PDF  
 Job No: GC140052  
 Plan No: **B300-082**  
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