

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:22:26 AM

Insp ID: 827

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

What is Pole Material type:	Welded
What is the condition of pole:	3
How is the pole planted:	Concrete
What is the Condition of plant:	3
Is street light fitted:	Yes
Street Light Power Supply:	
Street Light Type	S70D 12
Street Light Watts	
Street Light Condition	2
Street Light Height	
What is the type of service:	Three
What is the HV voltage level:	400
What is the arrangement of connected cables:	Twisted
Are there isolators on the pole:	No
What is the Condition:	3
How many Lots are connected to this pole:	1
Overhead Pole Comments:	Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:22:26 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:18:11 AM

Insp ID: 829

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 3

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:18:11 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:15:11 AM

Insp ID: 830

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 07

Street Light Watts

Street Light Condition 3

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:15:11 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:11:43 AM

Insp ID: 831	Group 3 - Tennant Creek, Elliott	Tingkarli

What Category are you capturing:	Overhead Poles
What is Pole Material type:	Welded
What is the condition of pole:	3
How is the pole planted:	Concrete
What is the Condition of plant:	3
Is street light fitted:	Yes
Street Light Power Supply:	
Street Light Type	Unknown
Street Light Watts	
Street Light Condition	3
Street Light Height	
What is the type of service:	Three
What is the HV voltage level:	400
What is the arrangement of connected cables:	Twisted
Are there isolators on the pole:	No
What is the Condition:	3
How many Lots are connected to this pole:	0
Overhead Pole Comments:	Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:11:43 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 1:00:49 PM

Insp ID: 802

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type Unknown

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 1:00:49 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:48:51 PM

Insp ID: 803

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 11

Street Light Watts 70

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:48:51 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:46:20 PM

Insp ID: 804

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts 70

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:46:20 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:43:37 PM

Insp ID: 805

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 10

Street Light Watts 70

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:43:37 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:33:57 PM

Insp ID: 806

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

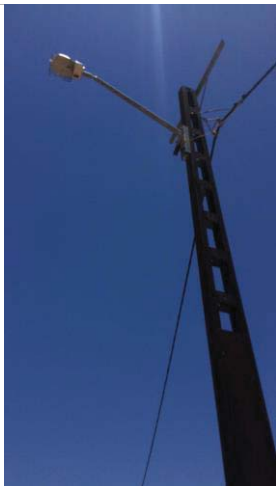
Street Light Power Supply:

Street Light Type S70D 09

Street Light Watts 70

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:33:57 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:30:24 PM

Insp ID: 807

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts 125

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:30:24 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:25:51 PM

Insp ID: 808

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts 125

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:25:51 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:18:01 PM

Insp ID: 810

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 12

Street Light Watts 80

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:12:14 PM

Insp ID: 812

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 98

Street Light Watts 70

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:12:14 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:07:15 PM

Insp ID: 813

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 09

Street Light Watts 70

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:07:15 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:04:24 PM

Insp ID: 814

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 11

Street Light Watts 70

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:04:24 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:56:08 AM

Insp ID: 815

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 15

Street Light Watts 70

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:56:08 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:52:32 AM

Insp ID: 817

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 10

Street Light Watts 70

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:52:32 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:49:50 AM

Insp ID: 818

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts 70

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:49:50 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:41:52 AM

Insp ID: 819

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts 125

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:41:52 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:39:00 AM

Insp ID: 820

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 09

Street Light Watts 125

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:39:00 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:36:12 AM

Insp ID: 821

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 11

Street Light Watts 70

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:36:12 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:33:51 AM

Insp ID: 822

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 10

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:33:51 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:27:46 AM

Insp ID: 823

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 06

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:27:46 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:25:27 AM

Insp ID: 824

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 12

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:25:27 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:22:26 AM

Insp ID: 827

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 12

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:22:26 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:18:11 AM

Insp ID: 829

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:18:11 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:15:11 AM

Insp ID: 830

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 07

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:15:11 AM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 11:11:43 AM

Insp ID: 831

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type Unknown

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:22:09 PM

Insp ID: 809

Group 3 - Tennant Creek, Elliott

Tingkarli

What Category are you capturing:	Transformers
What is Transformer installation method:	Pole
If method know:	11SS1P
What is the condition of the mounting:	3
What is Transformer Rating:	Unknown
Is there access to transformers name plate to take a photo:	No
What is the condition of transformer:	3
What is cable type to transformer:	PVC insulated black
What is cable size to transformer:	
Is there switch gear or fusing associated with the transformer:	Cut out fuse
Transformer Comment:	

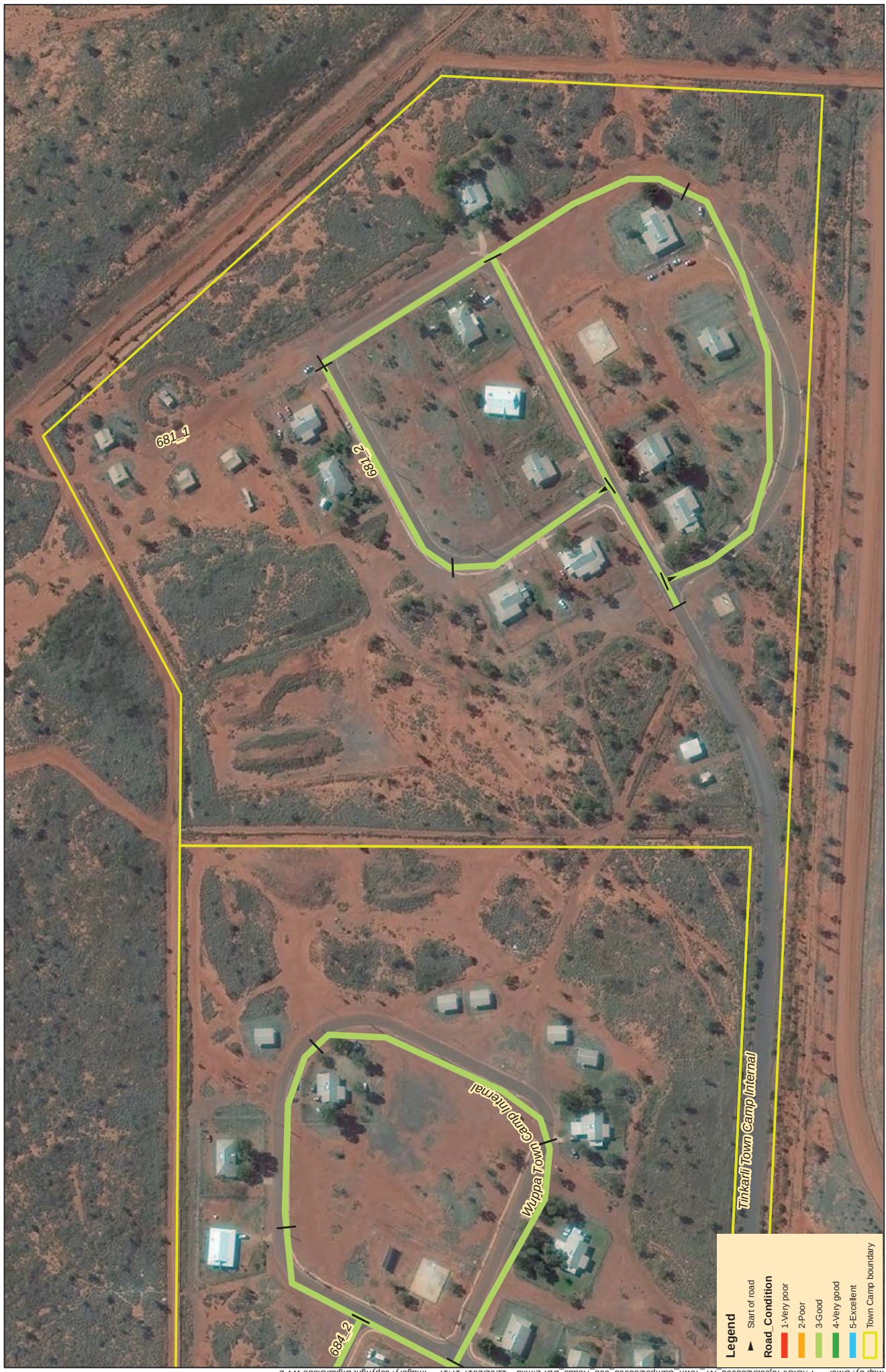


Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 12:22:09 PM

Road map



NT Town Camp Road Assessments

681 - Tinkarli (Tennant Creek)

Date: 11/02/2017 Version: 1
Coordinate system: GDA 1994

A3 scale: 1:2,000

0 20 40 60 80 100m



Legend

- Start of road
- Road Condition**
- 1-Very poor
- 2-Poor
- 3-Good
- 4-Very good
- 5-Excellent
- Town Camp boundary

Existing drawings

TINGKARLI

- H Existing Residential Development (or as high-lighted by building sketch layout).
- V Forecast Residential Lots for Development (up to 2014). Utility Reticulation Services Compliance has been costed for Existing and Forecast Development up to 2014 only.

LEGEND:

— W —	NEW WATER LINE
— HW —	NEW WATER RISING MAIN
— W —	EXISTING WATER LINE
— HW —	EXISTING WATER RISING MAIN
— S —	NEW SEWER LINE
— SS —	NEW SEWER RISING MAIN
— S —	EXISTING SEWER LINE
— SS —	EXISTING SEWER RISING MAIN
— LV —	NEW LOW VOLTAGE
— HV —	NEW HIGH VOLTAGE
— LV —	EXISTING LOW VOLTAGE
— HV —	EXISTING HIGH VOLTAGE



CONNECTING NEIGHBOURS PROJECT - PROPOSED SERVICES LAYOUT
FIGURE F15 - TINGKARLI

1452

DO NOT SCALE

Scale: 1:250

Client: [blank]

Project: [blank]

Drawn: [blank]

Design: [blank]

Check: [blank]

Approved: [blank]

Date: [blank]

PARADEE MAESTRO
ENGINEERING
PVT. LTD.

Client: [blank]

Project: [blank]

Drawn: [blank]

Design: [blank]

Check: [blank]

Approved: [blank]

Date: [blank]

Original Size: A1

Drawing No: [blank]

Rev: A

No.

Revision

Note

* Indicates signature on original issue of drawing or full revision of drawing

Drawn

Checked

Approved

Date



PROPOSED SEWER	127	TYPE 2 HOUSE CONNECTION
PROPOSED RISING MAIN	(1371-1501)	AT IL 371-150
EXISTING SEWER	1261	EXTENDED TYPE 2 HOUSE
	(3701-7051)	AT IL 370-705
PROPOSED MANHOLES	118	EXTENDED TYPE 1 HOUSE
EXISTING MANHOLES		
HOUSE CONNECTIONS DOWNSTREAM FROM MANHOLES		

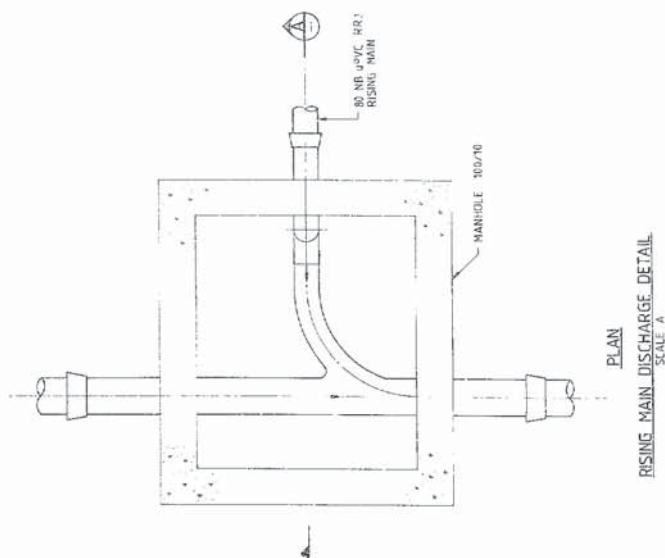
LINE 101/101D/101C/101A AND ASSOCIATED MANHOLES CONSTRUCTED BY OTHERS. HOUSE CONNECTIONS OTHER THEN "NEW" CONSTRUCTED BY OTHERS.

SEWERAGE LAYOUT PLAN
300--89--13--5042 / 2

GUTTERIDGE HASKINS & DAVEY
PTY. LTD.
ALICE SPRINGS
AUSTRALIA
DATE 11/1/99

LINE NO.	RE-ALIGNMENT OF LINE NO. 1	DATE
1	LOT LAYOUT ALIGNED 2-HOUSE CONNECTIONS TO LINE NO. 1	05/23/85
2	LOT LAYOUT ALIGNED 2-HOUSE CONNECTIONS TO LINE NO. 1	05/23/85

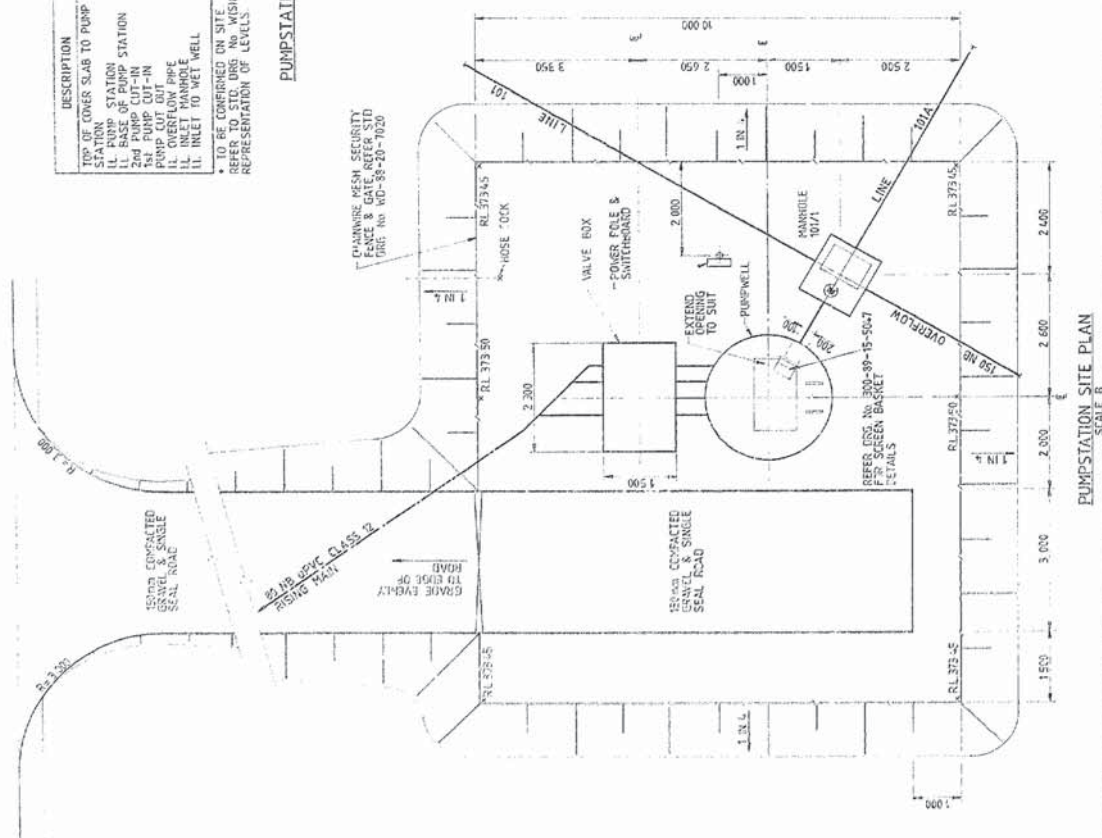
MICROBOX



DESCRIPTION	DESIGNATION	R.L.
TOP OF COVER SLAB TO PUMP STATION	A	373.65
11. BASE OF PUMP STATION	B	369.40
2nd PUMP CUT-IN	C	368.90
1st PUMP CUT-IN	D	370.30
PUMP CUT OUT	E	370.15
11. OVERFLOW PIPE	F	369.90
11. INLET MANHOLE	G	372.89
11. INLET TO WET WELL	H	370.676
	J	370.68

• TO BE CONFIRMED ON SITE
REFER TO STD. DRG. No. W5187-426 FOR DIAGRAMATIC
REPRESENTATION OF LEVELS

PUMPSTATION LEVELS



PUMP STATION SITE PLAN
SCALE: 1" = 10'

The diagram shows two horizontal bars representing scales. The top bar is labeled 'SCALE B' and has markings at 0, 1, 2, and 3. The bottom bar is labeled 'SCALE A' and has markings at 0, 0.2, 0.4, 0.6, and 0.8. To the right of the scales is a vertical axis labeled 'METRES' with arrows pointing up and down.

LOWER
AND
UPPER
WATER
AUTHORITY

TENNANT CREEK
WUPPA AND TINGKARLI SEWERAGE
AND WATER SUPPLY

SEWER PUMPSTATION SITE PLAN

AS SHOWN	L.M.	E.H.	LM
4-84-107	Pl. End	9.8.89	

GUTTERIDGE HASKINS & DAVEY
PTY. LTD. 

RECEIVED
DATE 6/1/64

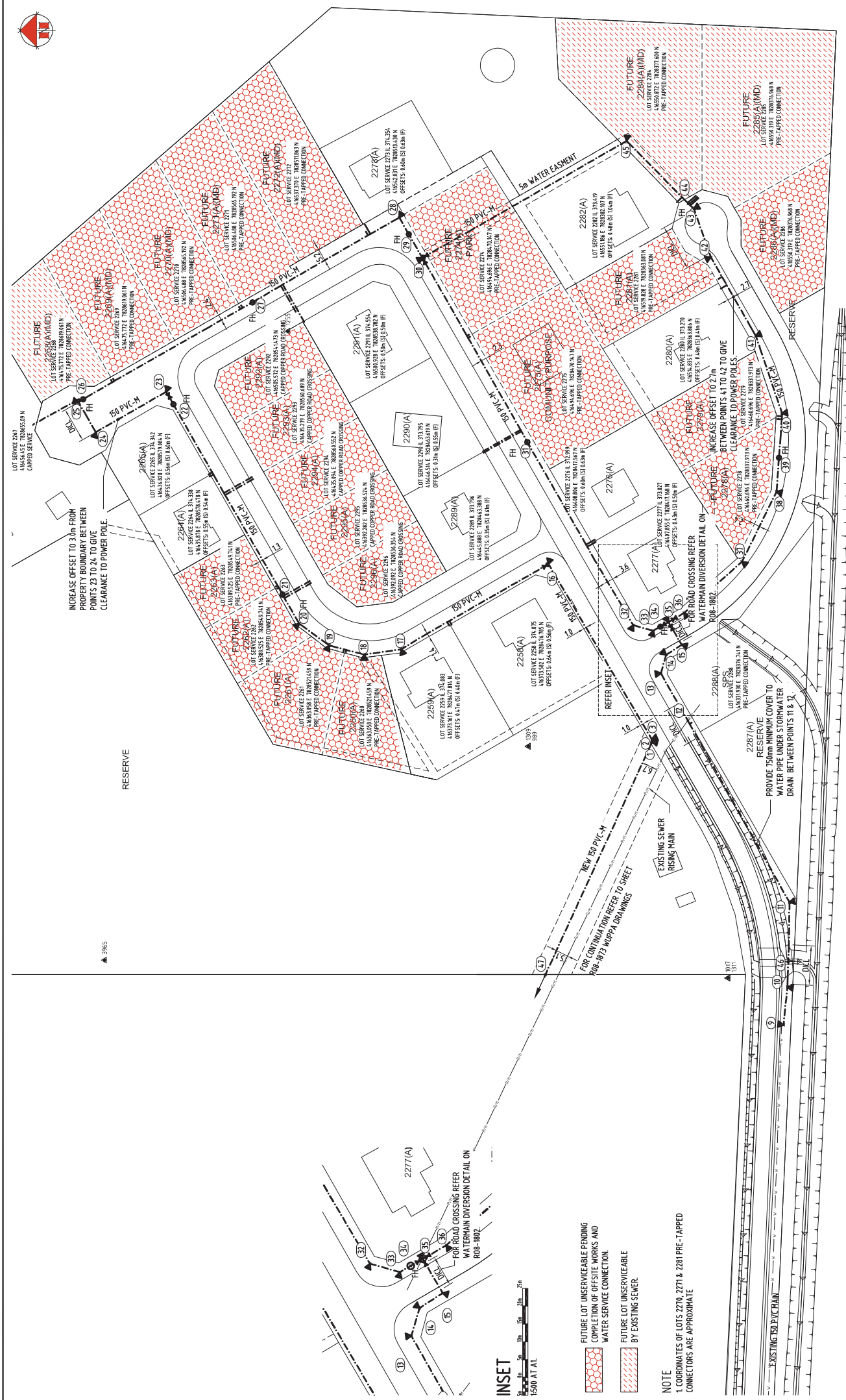
MICROBOX

57

 Δ

50

42



NOTE
1. COORDINATES OF LOTS 2270, 2271 & 2281 PRE-TAPPED CONNECTORS ARE APPROXIMATE

1:750 AT A1.

No.	DESCRIPTION	DATE	INIT.
4	AS CONSTRUCTED	09.08.11	DHB
3	AS CONSTRUCTED	07.07.11	DHB
2	AS CONSTRUCTED	13.05.11	DHB
1	ISSUE FOR CONSTRUCTION	21.08.09	SGE

QANTREC McWILLIAM

 The Association of
Consulting Engineers
Australia

A.B.N. 79 088 342 035

Level 1, 60 Smith Street
Darwin NT 0801
GPO Box 4083 Darwin NT 0801

Telephone: (08) 8981 7500
Facsimile: (08) 8941 1862

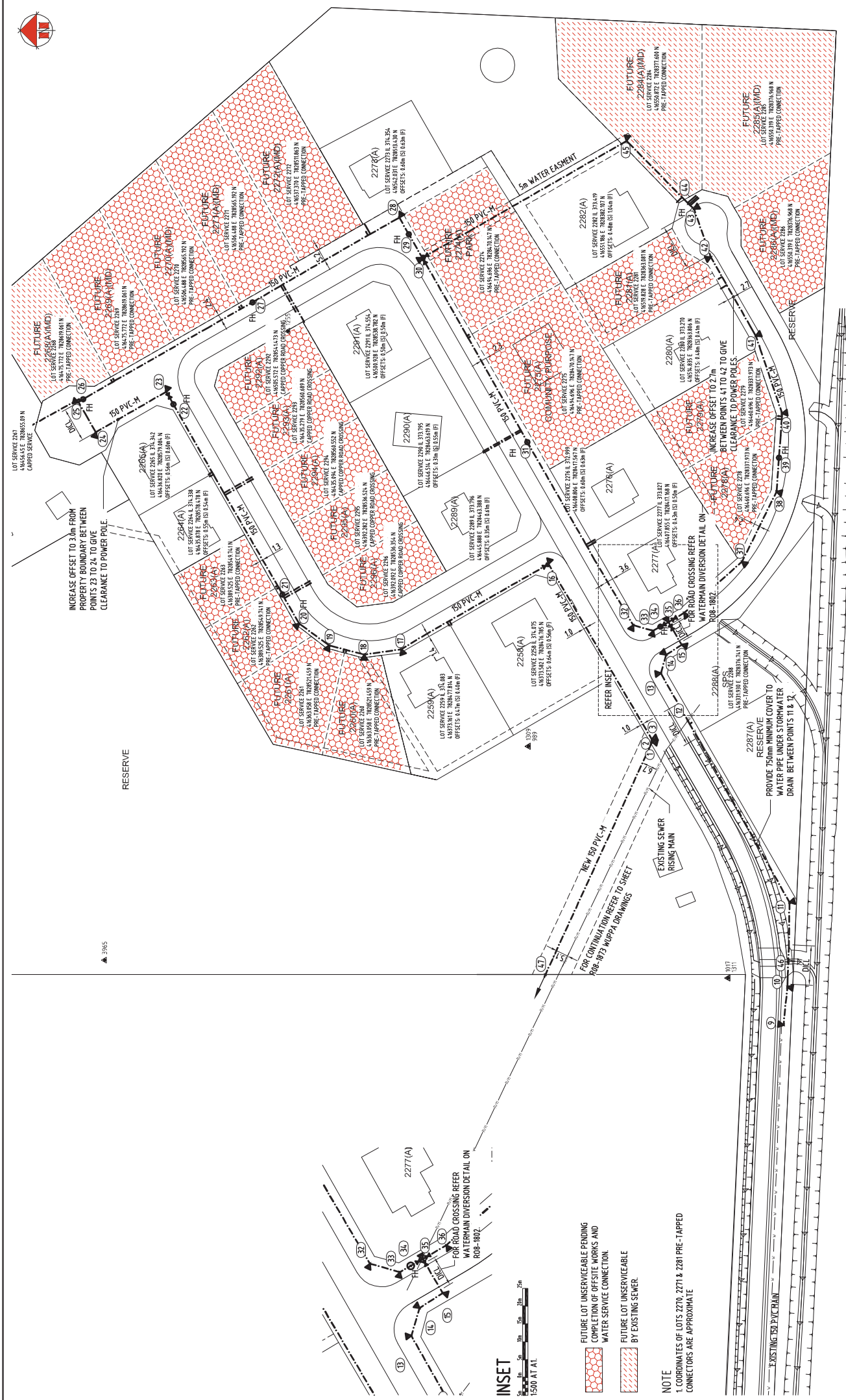
E-Mail: darwin@opusmcw.com.au

IPT-02-681-CVL-DWG-0108



LE No.	ASSET No.	SHEET No.	DRAWING No.	SHEET No.
—	—	C05.01 OF —	R08-1911	4

AS CONSTRUCTED



1:750 AT A1.

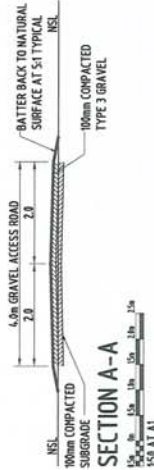
[illegible]

No.	DESCRIPTION	OPUS		DATE	INIT.	N-D804.06	 OPUS A B N 19 086 342 025 Level 1, 80 South Street Darwin NT 0801 GPO Box 41833 Darwin NT 0801 Tel: (08) 8941 1800 Facsimile: (08) 8941 1802 Email: darwin@opusgroup.com.au	 territory housing The Community Housing Program of the Northern Territory Government	 Northern Territory Government Department of Planning and Infrastructure		TENNANT CREEK TINKARLI 6891 – LOT 2045 PERRY DRIVE, TENNANT CREEK INFRASTRUCTURE DESIGN PROJECT FOR TENNANT CREEK URBAN LIVING AREAS WATER – LAYOUT PLAN	FILE No. _____ ASSET No. _____ SHEET No. _____ OF _____	AMENDMENT No. _____
		4. AS CONSTRUCTED 99.08.11 DMB	3. AS CONSTRUCTED 97.07.11 DMB										

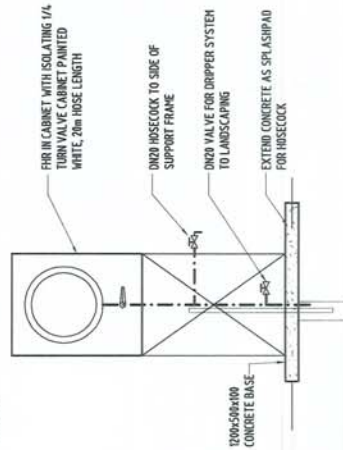
1. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS/NZS 3000, AS/NZS 3008.1.1, PVC REGULATIONS & STANDARD PVC DRAWINGS 884-4751 TO 884-4768 INCLUSIVE.
2. CONTRACTOR SHALL SUPPLY & INSTALL NEW OVERHEAD TWISTED ALUMINUM SUPPLY TO NEW PUMP STATION SERVICE POLE SHALL BE 7.5M SERVICE POLE TYPE IN ACCORDANCE WITH STANDARD PUMP SERVICE POLE S01-1-39 & INSTALLED IN ACCORDANCE WITH PVC STANDARD DWG B88-4762. CABLEING SHALL BE 4 CORE 16 Sq mm CU, TWISTED AERIALS & BE RUN BETWEEN EXISTING CABLE POWER POLES & NEW SERVICE POLES IN PUMP STATION COMPOUND.

1. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH AS/NZS 3000, AS/NZS 3008.1, PNC REGULATIONS & STANDARD PNC DRAWINGS B84-5705, B84-5706, B84-5707, B84-5708, B84-5709, B84-5710, B84-5711, B84-5712, B84-5713, B84-5714, B84-5715, B84-5716, B84-5717, B84-5718, B84-5719, B84-5720, B84-5721, B84-5722, B84-5723, B84-5724, B84-5725, B84-5726, B84-5727, B84-5728, B84-5729, B84-5730, B84-5731, B84-5732, B84-5733, B84-5734, B84-5735, B84-5736, B84-5737, B84-5738, B84-5739, B84-5740, B84-5741, B84-5742, B84-5743, B84-5744, B84-5745, B84-5746, B84-5747, B84-5748, B84-5749, B84-5750, B84-5751, B84-5752, B84-5753, B84-5754, B84-5755, B84-5756, B84-5757, B84-5758, B84-5759, B84-5760, B84-5761, B84-5762, B84-5763, B84-5764, B84-5765, B84-5766, B84-5767, B84-5768, B84-5769, B84-5770, B84-5771, B84-5772, B84-5773, B84-5774, B84-5775, B84-5776, B84-5777, B84-5778, B84-5779, B84-5780, B84-5781, B84-5782, B84-5783, B84-5784, B84-5785, B84-5786, B84-5787, B84-5788, B84-5789, B84-5790, B84-5791, B84-5792, B84-5793, B84-5794, B84-5795, B84-5796, B84-5797, B84-5798, B84-5799, B84-5800, B84-5801, B84-5802, B84-5803, B84-5804, B84-5805, B84-5806, B84-5807, B84-5808, B84-5809, B84-5810, B84-5811, B84-5812, B84-5813, B84-5814, B84-5815, B84-5816, B84-5817, B84-5818, B84-5819, B84-5820, B84-5821, B84-5822, B84-5823, B84-5824, B84-5825, B84-5826, B84-5827, B84-5828, B84-5829, B84-5830, B84-5831, B84-5832, B84-5833, B84-5834, B84-5835, B84-5836, B84-5837, B84-5838, B84-5839, B84-5840, B84-5841, B84-5842, B84-5843, B84-5844, B84-5845, B84-5846, B84-5847, B84-5848, B84-5849, B84-5850, B84-5851, B84-5852, B84-5853, B84-5854, B84-5855, B84-5856, B84-5857, B84-5858, B84-5859, B84-5860, B84-5861, B84-5862, B84-5863, B84-5864, B84-5865, B84-5866, B84-5867, B84-5868, B84-5869, B84-5870, B84-5871, B84-5872, B84-5873, B84-5874, B84-5875, B84-5876, B84-5877, B84-5878, B84-5879, B84-5880, B84-5881, B84-5882, B84-5883, B84-5884, B84-5885, B84-5886, B84-5887, B84-5888, B84-5889, B84-5890, B84-5891, B84-5892, B84-5893, B84-5894, B84-5895, B84-5896, B84-5897, B84-5898, B84-5899, B84-5900, B84-5901, B84-5902, B84-5903, B84-5904, B84-5905, B84-5906, B84-5907, B84-5908, B84-5909, B84-5910, B84-5911, B84-5912, B84-5913, B84-5914, B84-5915, B84-5916, B84-5917, B84-5918, B84-5919, B84-5920, B84-5921, B84-5922, B84-5923, B84-5924, B84-5925, B84-5926, B84-5927, B84-5928, B84-5929, B84-5930, B84-5931, B84-5932, B84-5933, B84-5934, B84-5935, B84-5936, B84-5937, B84-5938, B84-5939, B84-5940, B84-5941, B84-5942, B84-5943, B84-5944, B84-5945, B84-5946, B84-5947, B84-5948, B84-5949, B84-5950, B84-5951, B84-5952, B84-5953, B84-5954, B84-5955, B84-5956, B84-5957, B84-5958, B84-5959, B84-5960, B84-5961, B84-5962, B84-5963, B84-5964, B84-5965, B84-5966, B84-5967, B84-5968, B84-5969, B84-5970, B84-5971, B84-5972, B84-5973, B84-5974, B84-5975, B84-5976, B84-5977, B84-5978, B84-5979, B84-5980, B84-5981, B84-5982, B84-5983, B84-5984, B84-5985, B84-5986, B84-5987, B84-5988, B84-5989, B84-5990, B84-5991, B84-5992, B84-5993, B84-5994, B84-5995, B84-5996, B84-5997, B84-5998, B84-5999, B84-6000, B84-6001, B84-6002, B84-6003, B84-6004, B84-6005, B84-6006, B84-6007, B84-6008, B84-6009, B84-6010, B84-6011, B84-6012, B84-6013, B84-6014, B84-6015, B84-6016, B84-6017, B84-6018, B84-6019, B84-6020, B84-6021, B84-6022, B84-6023, B84-6024, B84-6025, B84-6026, B84-6027, B84-6028, B84-6029, B84-6030, B84-6031, B84-6032, B84-6033, B84-6034, B84-6035, B84-6036, B84-6037, B84-6038, B84-6039, B84-6040, B84-6041, B84-6042, B84-6043, B84-6044, B84-6045, B84-6046, B84-6047, B84-6048, B84-6049, B84-6050, B84-6051, B84-6052, B84-6053, B84-6054, B84-6055, B84-6056, B84-6057, B84-6058, B84-6059, B84-6060, B84-6061, B84-6062, B84-6063, B84-6064, B84-6065, B84-6066, B84-6067, B84-6068, B84-6069, B84-6070, B84-6071, B84-6072, B84-6073, B84-6074, B84-6075, B84-6076, B84-6077, B84-6078, B84-6079, B84-6080, B84-6081, B84-6082, B84-6083, B84-6084, B84-6085, B84-6086, B84-6087, B84-6088, B84-6089, B84-6090, B84-6091, B84-6092, B84-6093, B84-6094, B84-6095, B84-6096, B84-6097, B84-6098, B84-6099, B84-6100, B84-6101, B84-6102, B84-6103, B84-6104, B84-6105, B84-6106, B84-6107, B84-6108, B84-6109, B84-6110, B84-6111, B84-6112, B84-6113, B84-6114, B84-6115, B84-6116, B84-6117, B84-6118, B84-6119, B84-6120, B84-6121, B84-6122, B84-6123, B84-6124, B84-6125, B84-6126, B84-6127, B84-6128, B84-6129, B84-6130, B84-6131, B84-6132, B84-6133, B84-6134, B84-6135, B84-6136, B84-6137, B84-6138, B84-6139, B84-6140, B84-6141, B84-6142, B84-6143, B84-6144, B84-6145, B84-6146, B84-6147, B84-6148, B84-6149, B84-6150, B84-6151, B84-6152, B

1. EXISTING CONCRETE SLAB TO BE DEMOLISHED, AND NEW GRAVEL HARDSTAND AREA TO BE CONSTRUCTED.
2. EXISTING FENCE TO BE REMOVED, REUSE EXISTING FENCING MATERIALS WHERE POSSIBLE IN CONSTRUCTION OF NEW FENCE.



150 AT AT



NTS

Ⓐ PROVIDE SECURITY FENCE IN ACCORDANCE WITH PWC STD. DWG W1-6-02

Ⓑ PROVIDE DN25 WATER SERVICE CONNECTION FROM NEW WATER MAIN

- ④ PROVIDE SECURITY FENCE IN ACCORDANCE WITH PMC STD DWG W-4-02
- ⑤ PROVIDE DMS WATER SERVICE CONNECTION FROM NEW WATER MAIN
- ⑥ PROVIDE CONCRETE SURROUND BELOW
- ⑦ PROVIDE DMS VALVE
- ⑧ PROVIDE DMS WATER METER
- ⑨ PROVIDE DMS RP2D BACK FLOW PREVENTION DEVICE
- ⑩ PROVIDE FIRE HOSE REEL AND DN20 HOSE TAP, WITH SPLASH PAD REFER SECTION
- ⑪ PROVIDE NEW GANTRY IN ACCORDANCE WITH STD DWG W-3-03.
- ⑫ PROVIDE 4x DOUBLE GATE
- ⑬ PROVIDE PEDESTALIAN GATE
- ⑭ NEW 9 In SERVICE POLE TYPE IN ACCORDANCE WITH STD PMWC DWG NO S91-1-1-39 WITH CONCRETE FOOTING.
- ⑮ CONTROL PANEL AND SHADE STRUCTURE IN ACCORDANCE WITH PMWC STD DWGS.
- ⑯ CONTRACTOR SHALL SUPPLY AND INSTALL NEW UNDERGROUND MAINS SUPPLY FROM METER PANEL TO PUMP CONTROL PANEL.
- ⑰ CONTRACTOR SHALL SUPPLY AND INSTALL NEW UNDERGROUND CABLEING IN CONDUIT BETWEEN NEW CONTROL PANEL AND NEW FLOW METER, TRANSMITTER, AND ALSO BETWEEN NEW CONTROL PANEL AND PUMP COLLECTOR UPSTAND.
- ⑱ EXISTING SERVICE POLE TO BE REMOVED
- ⑲ HOT DIPPED GALV. STEEL GUARDRAIL SYSTEM REFER PMWC STD DWG W-2-3-4A. NOMINAL DIMENSION INDICATES OVERALL PANEL LENGTH.

SETTING OUT TABLE		
POINT	EASTING	NORTHING
1	416350.581	7828370.656
2	416352.372	7828367.533
3	416355.273	7828368.505
4	416336.561	7828375.191
5	416348.711	7828357.496

WARNING

REASONABLE CARE HAS BEEN TAKEN TO ACCURATELY SHOW THE POSITION OF EXISTING AND PROPOSED SERVICES. HOWEVER, THE POSITION OF SUCH SERVICES SHOULD BE PROVEN ON SITE AND NO GUARANTEE CAN BE GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. AIR-AS SUBORDINATE EXISTING SERVICES ARE TO BE EXCAVATED BY HAND.

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY

SIGNED John H. H. H. DATE 19/10/09
ON BEHALF OF WATER SERVICES FOR THE INCORPORATION INTO
POWER AND WATER CORPORATION'S NETWORK.

This permission to Use this Approved Design is given on the basis
that the Developer and/or Consultant is not absolved from full
responsibility for the correctness and accuracy of the
design and/or documents associated.

This drawing is valid for 2 years from the date of signing.

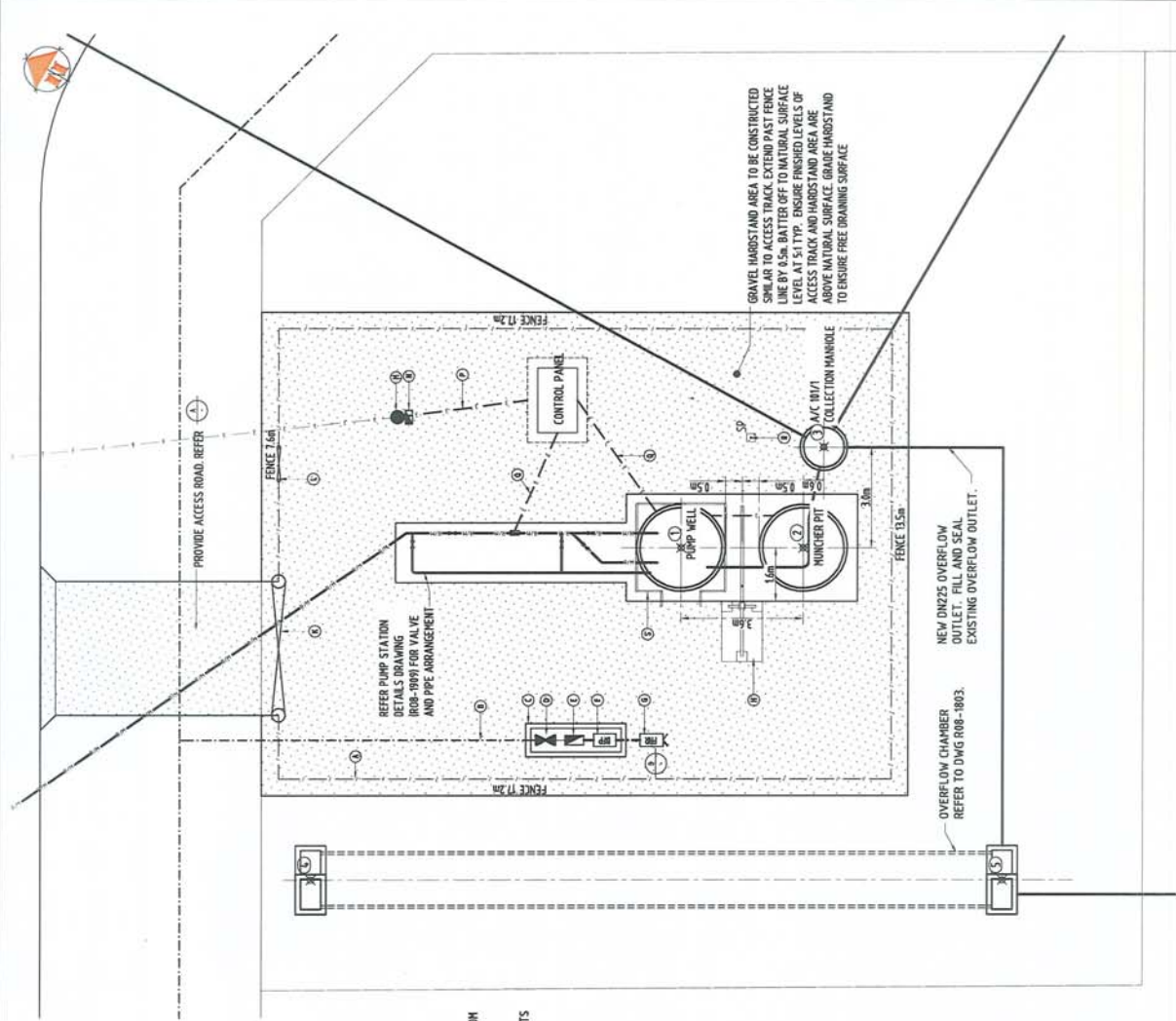
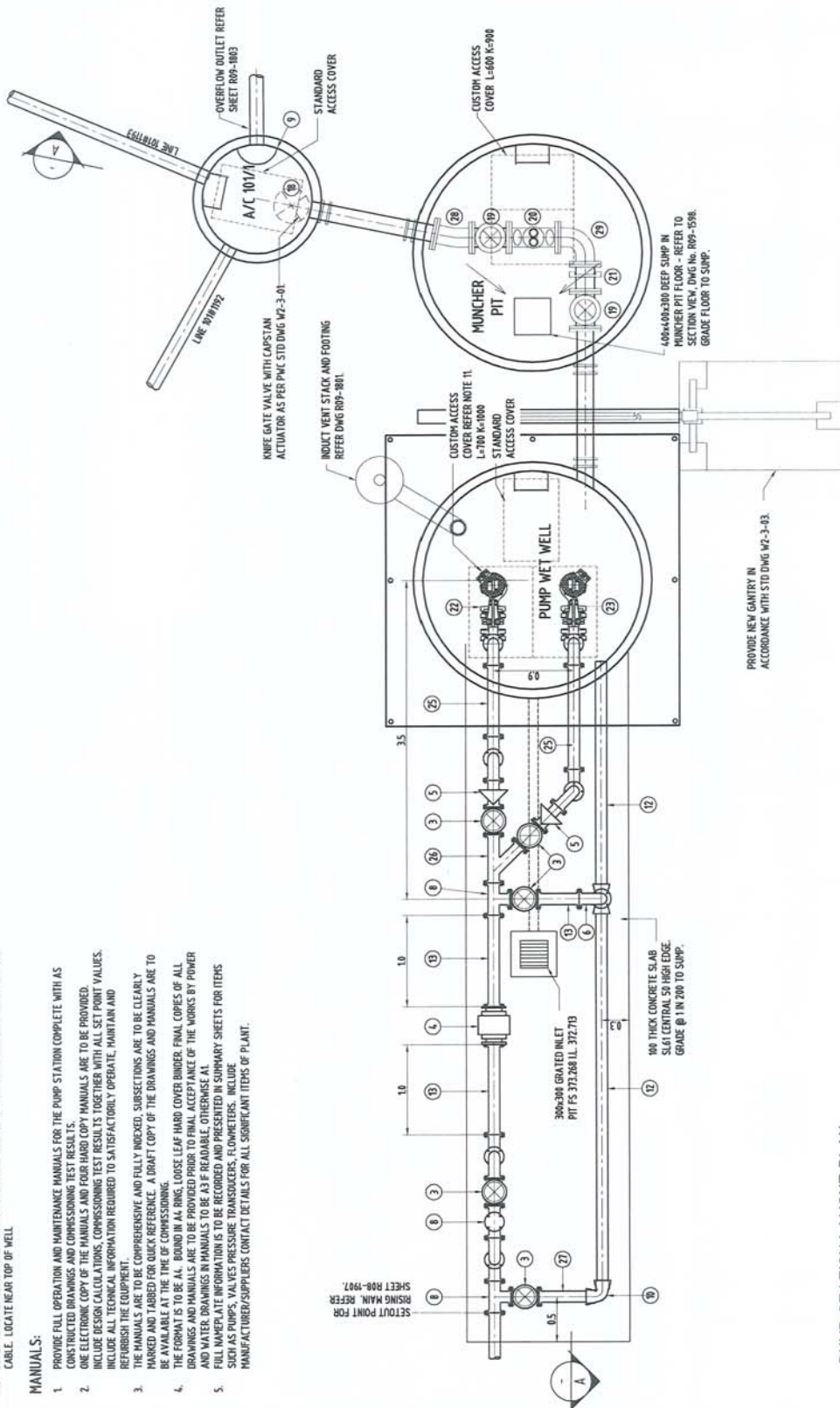


Figure 6 shows a vertical scale from 0.5m to 2.5m. Horizontal bars indicate the presence of the 150 AT Al gene at various points along this scale.

PPHWORK SCHEDULE	DESCRIPTION
1	WELDED OR BOLTED FLANGE (TYP)
2	PLUGG (FLANGE) (TYP)
3	DN150 ISOLATING VALVE - SAUNDERS DIAPHRAGM VALVE - TYPE K0
4	DN150 AIR MACHINASTER FLANGED FLOWMETER - CONVERTER & DISPLAY MOUNTED IN CONTROL PANEL. REFER NOTE 12.
5	ITT FLYGT - H01. TYPE 5087 SINKING BALL NON-RETURN VALVE (TYP)
6	DN150 90° BEND DCL FL-FL (TYP)
7	DISMANTLING JOINT
8	DN150 DCL FL-FL, TEE (TYP)
9	STAINLESS STEEL OVERFLOW BAFFLE (TYP). PWC STD DING W2-3-42.
10	DN150 90° BEND DCL SDC SDC (TYP)
11	DN150 DCL SDC-SDC-FL TEE
12	DN150 CLASS 15 90°YEE LENGTH TO SUIT
13	DN150 DCL K9 PIPE FL-FL LENGTH TO SUIT
14	PE200 PMS PIPE FL-FL LENGTH TO SUIT
15	DN150 BLANK FL TAPPED 50 BSP
16	DN150 5/8" BALL VALVE & 50 BSP 5/8" FERRULES
17	DN150 SEWAGE GAS RELEASE VALVE (VENTWIND ROCK TYPE)
18	KNIFE GATE VALVE WITH CAPSTAN ACTUATOR (PWC STD DING W2-3-41)
19	DN150 ISOLATING VALVE - SAUNDERS DIAPHRAGM VALVE
20	ITT AMF H04000401-006 HUFFIN MONSTER (38 /r/and)
21	DN150 SHOOT TO FLANGE CONNECTION - DISMANTLING JOINT CLASS 35
22	FLYGT PUMP-A
23	FLYGT PUMP-B
24	DN150 90° BEND STAINLESS STEEL FL-FL, GRADE 316
25	DN150 3" LANCELESS STEEL GRADE 316 LENGTH TO SUIT
26	DN150 DCL 45° ANGLE BRANCH FL-FL
27	DN150 DCL K9 PIPE FL-SP LENGTH TO SUIT
28	DN150 1125 DCL BEND FL-FL
29	DN150 90° DCL BEND FL-FL
30	DN150-ANSI PER100 PMS FL-FL 50" REDUCER (BUILT WELD TO REDUCER)

DESIGN CRITERIA		ULTIMATE FUTURE DESIGN
DESCRIPTION	CONTRIBUTING EP	352 EP
	$\text{ADMF} = \text{EP} \times \text{ADFDF}$	1.22 l/sec
	$\text{PDMF} = r \times Q_u$	4.71 l/sec
	$\text{PMWF} = 3 \times \text{PDMF}$	14.13 l/sec
DUTY FLOW OP. LESSER OF 0.750v & In ADMF		9.78 l/sec
PUMP HEAD AT DUTY FLOW		8.6 m/sec
RISING MAIN (DNOM PVC-0) DESIGN FLOW		9.9m
RISING MAIN VELOCITY		1.6 m/sec
ACTUAL PUMP DUTY TO SUIT PUMP CURVE)		9.9 l/sec @8.6m HEAD
PUMP INFORMATION		
2 x 2 x VEGT PUMPS, CP94S, 181 HT 106 DN50, 12kW DUTY 9.9 l/sec@8.6m HEAD (DNOM PVC-0 RISING MAIN) STAINLESS STEEL PUMP GUIDE RAILS CONNECTED @ 2000 MAX CENTRES. THE SPECIFIED PUMP PERFORMANCE DUTY WILL BE TESTED ON SITE AND MUST BE NET WITH NO NEGATIVE TOLERANCE.		

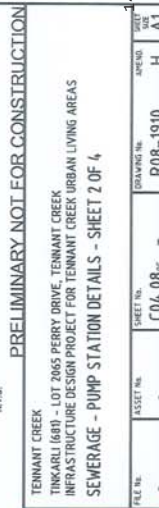
PUMP STATION LAYOUT PLAN
NTS

OPUS QANTIC McWILLIAM		teritory housing		JTL	
DESCRIPTION	DATE	SIZE	AGE	DATE	CREATED
H	ISSUE FOR PWC APPROVAL	4/5/09	56E	AUG 2008	DATE
F	ISSUE FOR R. TINDER	10/28/09	56E	AUG 2008	DATE
F	RE-ISSUE FOR WEN REVIEW	10/29/09	56E	DATE	DESIGN PROJECT LEADER
F	ISSUE FOR TINDER	11/15/09	56E	DATE	PROJECT
F	ISSUE FOR W. S. REVIEW	11/22/09	56E	DATE	PROJECT

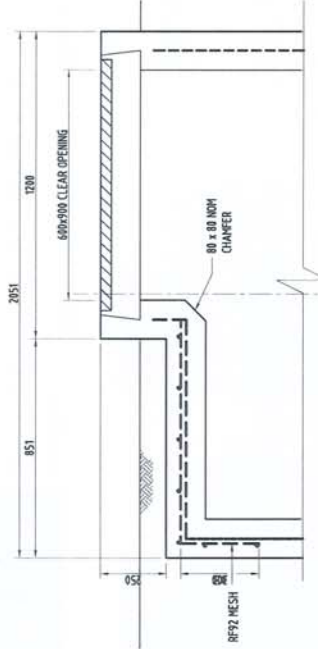
PRELIMINARY NOT FOR CONSTRUCTION

TENNANT CREEK
TINKARLI (681) - LOT 2065 PERRY DRIVE, TENNANT CREEK
INFRASTRUCTURE DESIGN PROJECT FOR TENNANT CREEK URBAN LIVING AREAS
SEWERAGE - PUMP STATION DETAILS - SHEET 1 OF 4

E. No.	ASSET No.	SHEET No.	DIAMETER No.	APPROX. SIZE	SHEET SIZE
-	-	C04.07 ²	R08-1909	H	A1



- NOTES:
1. ALL CONCRETE TO BE TYPE SR.
 2. THE SUPERINTENDENT SHALL DETERMINE BEDDING TYPE AFTER INSPECTION OF EXCAVATED TRENCH.
 3. ALTERNATIVE OVERFLOW STORAGE SYSTEMS MAY BE CONSIDERED. SUBMIT DESIGN INCLUDING GEOTECHNICAL INVESTIGATION TO SUPERINTENDENT FOR APPROVAL.



OVERFLOW CHAMBER CLASS RB COVER

NTS

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY

SIGNED: *[Signature]* DATE: 14/12/09

ON BEHALF OF WATER SERVICES CORPORATION AND WATER AND WASTE CORPORATION NETWORK

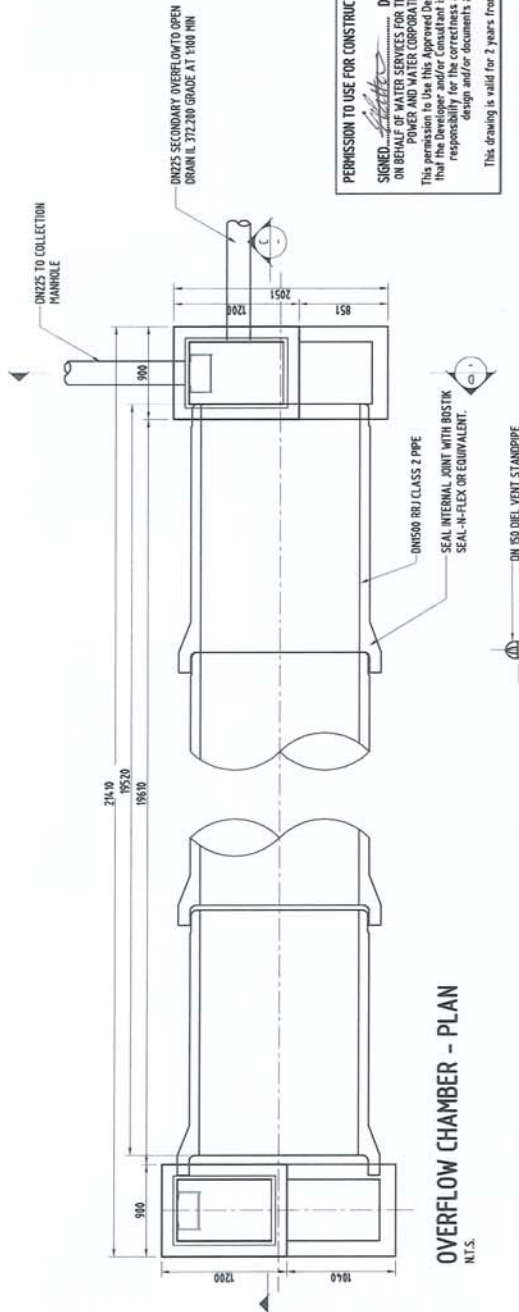
This permission is given on the basis that the Developer and/or Consultant is not absolved from full responsibility for the correctness and accuracy of the design and/or documents associated.

This drawing is valid for 2 years from the date of signing.

PPENWORK SCHEDULE

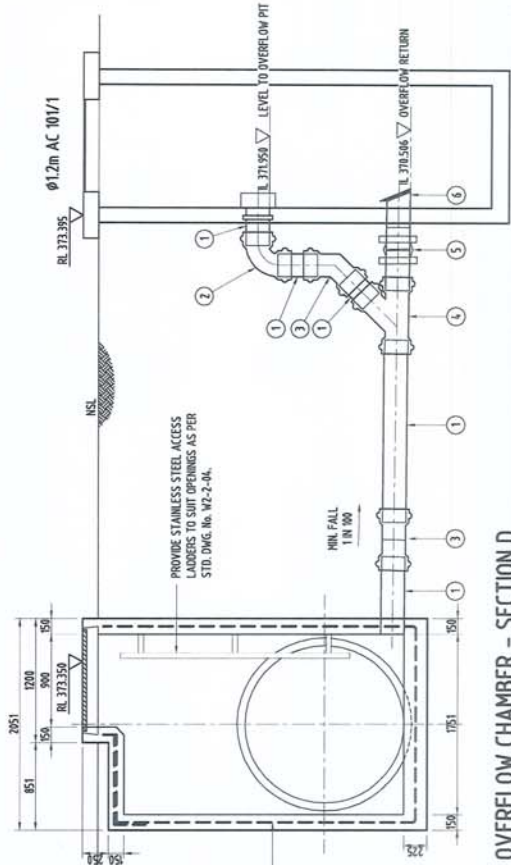
No.	DESCRIPTION
1	DN225 PVC CLASS SIB DWH STD STANDARD SPIGOT CONNECTOR
2	DN225 UPVC CLASS SIB DWH 90° BEND ISO-SO
3	DN225 UPVC CLASS SIB DWH 90° BEND ISO-SO (NOT SHOWN)
4	DN225 PVC CLASS SIB DWH EQUAL SLOPE JOINT ISO-SO-SO
5	DN225 GBAULT
6	300mm FLAP GATE MODEL FCS-III WATERGATES 3P S.S. GRADE 316 WALL MOUNTED

REFER TO SHEET R08-1909 FOR NOTES.



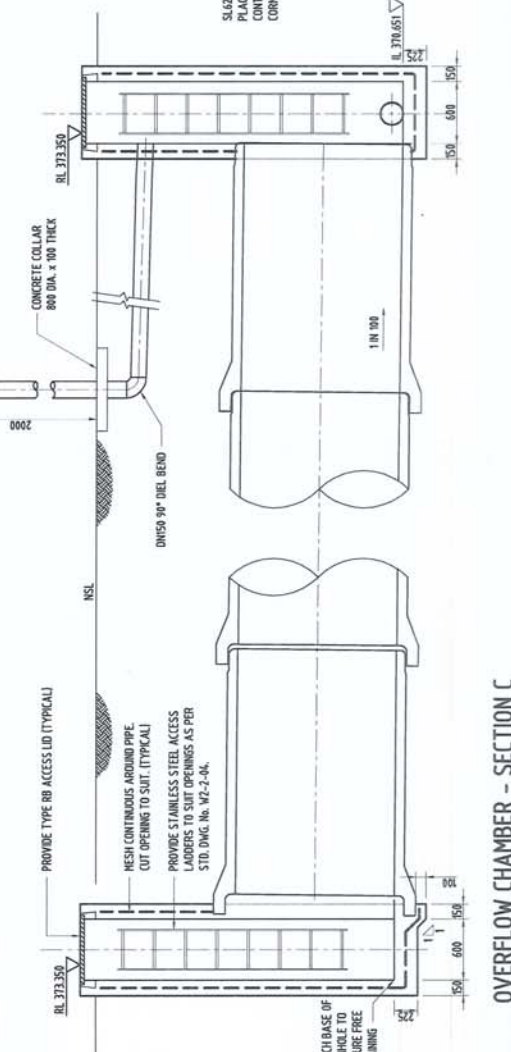
OVERFLOW CHAMBER - PLAN

NTS



OVERFLOW CHAMBER - SECTION D

NTS



OVERFLOW CHAMBER - SECTION C

NTS

PRELIMINARY NOT FOR CONSTRUCTION

TEINANT CREEK
TINKARL (680) - LOT 2065 PERRY DRIVE, TEINANT CREEK
INFRASTRUCTURE DESIGN PROJECT FOR TEINANT CREEK URBAN LIVING AREAS
SEWERAGE - PUMP STATION DETAILS - SHEET 4 OF 4

territory housing

OPUS QANTREC McWILLIAM
A/N: 19 08 242 006
Level 1, 60 State Street
Darwin NT 081000
Telephone: (08) 8941 1882
Email: jarrad@qantrec.com.au

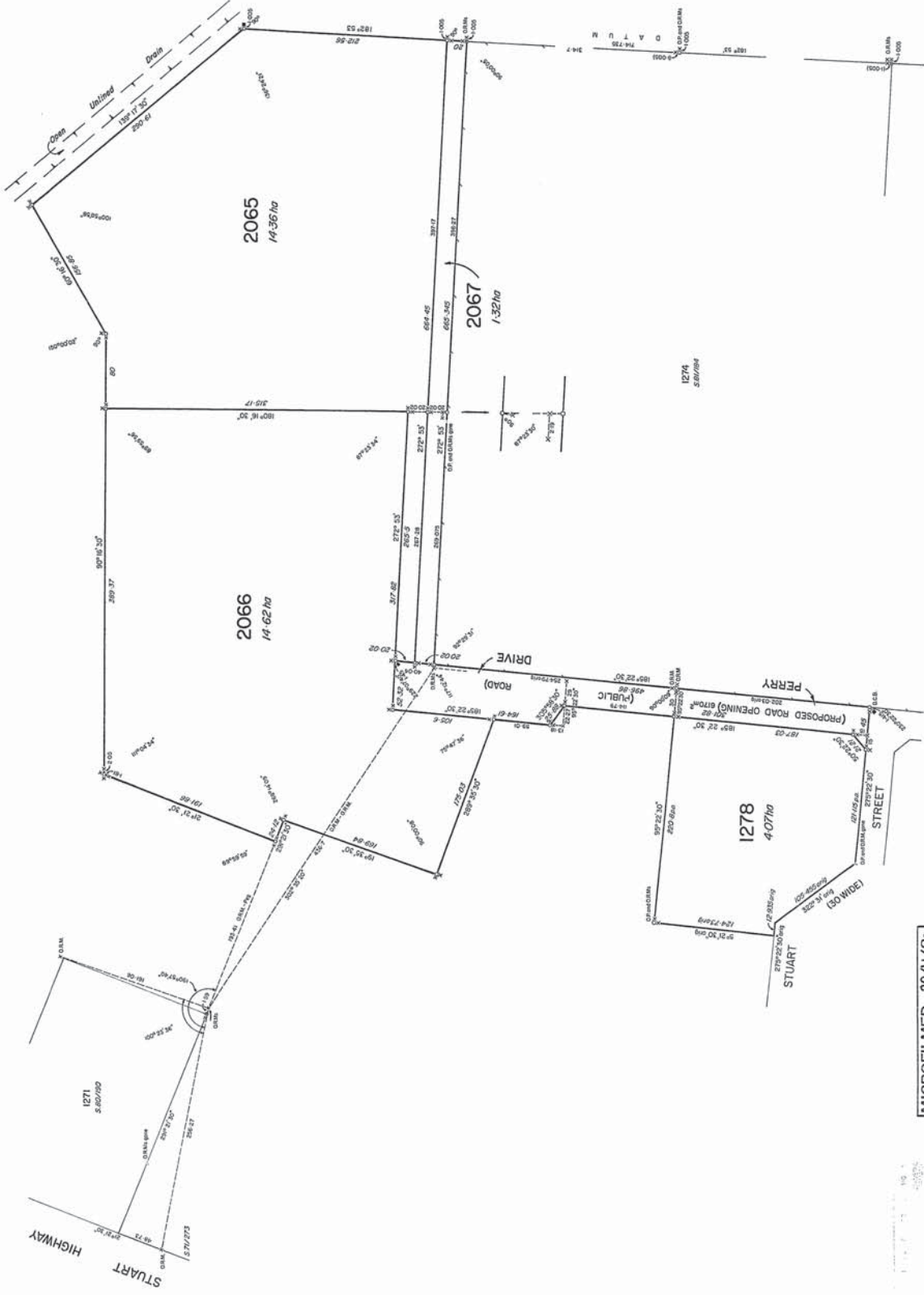
OPUS
A/N: 0004.96

NO.	DESCRIPTION	DATE	INT.
1	ISSUE FOR PWC APPROVAL	19.08.09	SIZE
2	ISSUE FOR RB TENDER	28.08.09	SIZE
3	ISSUE FOR WWA REVIEW	15.05.09	SIZE
4	ISSUE FOR TENDER	11.05.09	SIZE
5	ISSUE FOR RB X REVIEW	15.02.08	SIZE

ATTACHMENTS

SHEET NO. C04.10 OF 10
ASSET NO. -
DRAWING NO. R08-1903
H A1

SUPERSEDES PART S82/19



MICROFILMED 28/11/90

	THOMAS JIM MCKINNON Surveyor License No. 12345 Date: 1/1/98	Reference Date Approved Date	Notes Reference to the plan of the surveying system which shows the area to be surveyed from L.P. 400 (Lot 1271) is 407m.	Field Book S. 88/37 D. M. WHITE 23-8-88	LEGEND Concrete Post Concrete Block Peg or Wooden Post Reference Mark Lock Fence Post	TOWN OF TENNANT CREEK SCALE 1:2000 S. 88/37
	SURVEY APPROVED [Signature] 23/1/98	AMENDMENTS 1.	1.	ADMITH Assumed from S. 81/184 Observed at	Examined M. J. White 23-8-88	TOWN OF TENNANT CREEK S. 88/37

WARNING - Damaged or outdated plan will be replaced

Transformer data

Group	Com Id	Location	Community Name	Dwellings No. (Funded Dwellings)	Dwellings No. (Bennett Design)	New Houses ** (Future Demand)	Primary Voltage Level (KV)	PWC Substation ID	PWC Test Number	Transformer size (KVA)	KVA Total dwellings @ 4.5KVA	KVA Total dwellings @ 7KVA	Comments
1	290	Darwin	Bagot	55	55		11	1924	1735	300	247.5	385	
	344	Darwin	Knuckey Lagoons	18	19	2	11	1771	2163	100	85.5	133	
	347	Darwin	Kulajuk	19	19		11	1092	10607	50	85.5	133	
	403	Darwin	Palmerston Town Camp	20	16		22	10196	10245	100	90	140	Two transformers for this Town Camp. Transformers are not in boundary of Town Camp [The nearest transformers data to Town Camp are highlighted in yellow].
	412	Darwin	Railway Dam (One Mile Dam)	5	6	2	22	265	11645	25	27	42	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	427	Adelaide River	Amangel	9	9		22	216	12187	100	40.5	63	Two transformers for this Town Camp.
	687	Jabiru	Manabadurna	10	12		22	184	5646	63	54	84	
	825	Darwin	Minmarana Park	24	24		11	5650	11107	200	108	168	
	606	Katherine	Warlpiri Transient Camp	9	9		22	6416	4886	100	40.5	63	Two transformers for this Town Camp.
	621	Katherine	Miall Brumby (Kelano)	47	31		22	6133	12417	315	211.5	329	
2	640	Pine Creek	Pine Creek Compound	4	4		22	6666	3147	25	18	28	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	971	Mataranka	Mulgagan	12	9	4	22	6819	5296	16	54	84	
							22	6818	5297	16			
							22	6384	11028	25			
	215	Tennant Creek	Blueberry Hill (Munji-Maria)	2	2		22	7079	1968	200	9	14	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	223	Tennant Creek	Dump Camp (Maria-Maria)	7	7		22	7181	11088	200	31.5	49	
	224	Elliott	Elliott South Camp	12	12		11	7504	4718	200	54	84	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	225	Elliott	Elliott North Camp	36	25		11	7505	4715	100	162	252	
	238	Tennant Creek	Karganu (East Side Camp)	12	12	1	22	7572		200	54	84	
	246	Tennant Creek	Ngalpa Ngajpa	18	21		22	7179		200	94.5	147	Two transformers for this Town Camp.
3	271	Tennant Creek	Village Camp	12	12	1	22	7183	11107	200	54	84	
	681	Tennant Creek	Tingkarli	12	12		22	7180		200	54	84	
	684	Tennant Creek	Wuppa	15	15	1	22	7141	11092	100	67.5	105	Two transformers for this Town Camp.
							22	7182	11095	200			
	3	Alice Springs	Angwertwaere (Morris Soak)	11	15		11	8596	11336	300	67.5	105	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	16	Alice Springs	Anthellk Empaye (Charles Creek)	17	10		11	8599	315	315	76.5	119	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	17	Alice Springs	Anthepe	15	15		22	8598	5874	200	67.5	105	Data extracted from PWC asset information. There was not access to this Town Camp due to ceremony on inspection day.
	19	Alice Springs	Aper Alwerkinge (Palmer)	7	6		11	8405	2939	200	31.5	49	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	35	Alice Springs	Ewyenper Atwaive (Hidden Valley)	47	47		11	8622	11202	100	211.5	329	
							22	8625	11205	63			
4	47	Alice Springs	Iparpa	13	13		22	8611	11702	200	58.5	91	
	48	Alice Springs	Iperte Iyathe (Walpiri)	10	9		11	8001	11209	315	45	70	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	50	Alice Springs	Iyperenye (Old Timers)	10	10		22	8145	3323	100	45	70	
	64	Alice Springs	Bassos	2	2		11	8002	10946	50	9	14	
	69	Alice Springs	Karnte	19	19		22	8282	2345	100	85.5	133	
	87	Alice Springs	Yarrenty Altere (Larapinta Valley)	34	34		11	8617	11334	100			
							11	8619	11335	100	153	238	
							11	8620	11201	100			
	90	Alice Springs	Inarlenge (Little Sisters)	16	22		22	8137	2925	100	99	154	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	108	Alice Springs	Mpwetyerre (Abbotts)	6	6		11	8093	11703	315	27	42	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
5	113	Alice Springs	Mount Nancy (Nyeuente)	11	12		11	8405	2939	200	54	84	
	129	Alice Springs	Nyeuente (Trucking Yards)	26	26		11	8629	11312	300	117	182	
	675	Alice Springs	Hoppys	15	19		11	8314	369	50	85.5	133	There is not any Transformer in boundary of Town Camp. Also it's not shown in PWC asset information.
	676	Alice Springs	Ipive Ipive (Golders Camp)	15	14		11	8569	315	100	67.5	105	
	1029	Alice Springs	Kunoth	4	4		11	8569	315	100	18	28	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	222	Borrooloola	Mara	28	29	2	11	6187	12610	100	130.5	203	Two transformers for this Town Camp.
	229	Borrooloola	Garawa 1	16	14		11	6545	10166	100	72	112	Two transformers for this Town Camp.
	278	Borrooloola	Yanyula	29	29		11	6162	10496	200	130.5	203	Data extracted from PWC asset information. It's outside of Town Camp shown only Transformer to this Town Camp.
	992	Borrooloola	Garawa 2	11	11		11	6189	2669	25	49.5	77	This transformer is not shown in PWC asset information. It's installed in Boat Ramp Road near to Town Camp and connected to Electrical reticulation of Town Camp.

** For New house's demand calculation see section 13.4 "Future Demand".

Wuppa

Wuppa

1 Design

The infrastructure reviews have been undertaken against current relevant standards for typical sub-divisions. The following standards have been used in undertaking the reviews.

Sewerage

- Water Services Association of Australia – Sewerage Code – WSA 02 Part 1: Planning and Design
- Power and Water Corporation supplement to WSA 02
- Water Services Association of Australia – Sewerage Pumping Station Code – WSA 04 -2005 Part 1: Planning and Design
- Power and Water Corporation supplement to WSA 04
- Power and Water Corporation Indigenous Community Engineering Guidelines (2008)
- Essential Services Infrastructure Assessment and Upgrade Guidelines (for Town Camps in Urban Communities), Power and Water Corporation, February 2009.
- Power and Water Corporation Standard Drawings
- Australian Standards

Water supply

- Water Services Association of Australia – Water Supply Code – WSA 03 2002 Part 1: Planning and Design
- Power and Water Corporation supplement to WSA 03
- Power and Water Corporation Standard Drawings
- Essential Services Infrastructure Assessment and Upgrade Guidelines (for Town Camps in Urban Communities), Power and Water Corporation, February 2009.
- Australian Standards

Electrical services

Electrical infrastructure has been assessed against AS/NZS3000 Wiring Rules and against PWC Service, Installation and Metering Rules and Urban Residential Development (URD) Design Standards where possible.

With one exception, town camps are each a single lot and compliance with AS/NZS3000 is sufficient to address potential safety concerns.

As such application of PWC URD Design Standards will mainly apply to the incoming supply and bulk or initial multi-metering panels if provided.

URD Design Standards for internal reticulation and street lighting appear to have been applied in many cases for convenience rather than compliance.

For the purposes of this report, the demand per dwelling allowances of URD Design Standards have been used to estimate incoming supply and overall distribution capacity requirements.

The following standards apply:

- Australian Standards
- Power Networks Design and Construction Guidelines, Power and Water Corporation
 - NP001.1_Design and Construction of Network Assets – General Requirements

- NP001.3_General Specification for Overhead Electrical Reticulation
- NP001.6_General Specification for URD Subdivisions
- NP003_Installation Rules_V3
- NP007_Service Rules
- NP027_Capture of Newly Installed Street Lighting Information
- NP041_Guidelines for Electrical Design Consultants

Further referral to the guidelines in this report will be designated by the guidelines number, NP001.1.

Communications

- National Broadband Network Website viewed 21 January 2017 (<http://www.nbnco.com.au/>) – NBN rollout maps

General

It should be noted that if the town camps are proposed to be subdivided and services assets gifted to Power and Water Corporation (PWC) for operation and maintenance, all of these services will need to fully meet PWC standards. With the exception of a few town camps that have recently been upgraded, this will require the full replacement and/or realignment of most services.

2 Condition assessment

2.1 Rating assessment matrix

A condition rating matrix was developed and used to assess all municipal infrastructure. The same rating was used for all services to maintain consistency in assessments. Table 1 below shows the condition rating and operability.

Table 1 Condition rating

Condition rating		Operability
1	Very Poor	Not operational
2	Poor	Not fully operational or requires immediate maintenance to keep operational
3	Good	Fully operational, may require routine maintenance
4	Very Good	Fully operational, may require maintenance in the next six months
5	Excellent	New, fully operational

2.2 Civil assessment limitations

The civil infrastructure condition investigations were subject to a number of limitations. These include:

- Only accessible services have been investigated. This includes inspecting the top of sewer manholes, side entry pits, etc., however, does not include opening pits to inspect infrastructure below ground.
- No physical testing of the sewer, water or stormwater network was undertaken.
- No survey or service locating was undertaken.

As there was no survey, potholing or CCTV undertaken on the underground infrastructure there is insufficient information to make determinations on the asset condition. The condition assessments discussed in this report are only for the accessible services and do not necessarily represent the condition of the underground infrastructure. For the majority of the town camps, other than a few that have recently been upgraded it was found that the underground services are generally undersized and it is likely, due to their age, that these services are in poor condition. Either factor would trigger the need for a complete replacement to meet current relevant standards.

2.3 Electrical assessment limitations

The electrical infrastructure condition investigations were subject to a number of limitations. These include:

- Inspections were carried out without the assistance of an electrical tradesman.
- Only accessible services were investigated. Assessments were of a visual nature and no pit covers were removed.
- Overhead equipment was assessed from ground level.
- Switchboards were not opened and no assessment of the internal connections or bus ratings was made.

- Electrical infrastructure was assessed down to the meter for multi-meter panels and down to the termination, overhead pole or distribution pillar, of the supply cable to a meter located at a dwelling.

3 Current infrastructure issues

Power and Water Corporation (PWC) have advised of the following concerns and issues in regard to the sewerage, water and electrical infrastructure at all town camps.

3.1 Ownership and maintenance

PWC stated there has always been confusion regarding the ownership and responsibilities of the internal sewer, water and electrical infrastructure. PWC have advised that they have no legal tenure on the majority of assets in any town camps and that the owner is essentially that of the land owner or leaseholder. This is further discussed for each type of infrastructure for each town camp.

The ownership and who is responsible for the maintenance of the sewage pump stations and street lighting is a major concern. In most town camps it was found that PWC have been maintaining the assets on an in-kind basis, although there are no maintenance or access agreements in place and the infrastructure is generally not compliant to PWC standards.

3.2 Access to infrastructure

PWC advised that due to the uncertainty surrounding ownership and responsibility of the sewerage, water and electrical infrastructure, each town camp is seen as a single lot with multiple houses on it. There are no formal road reserves or easements where the municipal infrastructure should be located. PWC therefore have no legal right to enter the town camps to work on the infrastructure, nor can PWC stop others from working on the infrastructure. There is a risk that the maintenance undertaken by others may be to a lower standard than PWC.

3.3 Existing infrastructure

PWC have stated that although the existing sewerage and water infrastructure appears to comply with relevant standards in some locations, the capacity cannot be assumed to meet PWC requirements due to the potential for underground substandard condition and/or grading of pipework. It is likely that these assets will need to be fully replaced to PWC standards to ensure sufficient capacity.

The planning process currently allows construction within the town camps on Commonwealth land without requiring service authority (PWC) approvals. This means that there has been no opportunity for PWC to recover contributions towards required upgrades to headworks servicing the developments and these upgrades have been paid for by PWC in the past. This inconsistency needs to be addressed for future developments within the town camps to ensure PWC are able to continue to provide adequate services.

3.4 Safety concerns

PWC have expressed concerns with safety of PWC staff and contractors working within the camps. PWC have employed procedures such as multiple people / vehicles to attend the site, with police or housing safety officers as required. This generally leads to a delayed response time and increased cost to respond to and remediate emergency situations.

PWC have also raised the concern that if others work on water infrastructure within the town camps and do not apply the correct sanitation procedures they not only risk contaminating the entire water supply network within the town camp, at some town camps with direct connections to the town supply, they risk contaminating the entire town's water supply.

4 Available information

As the site investigations were limited to accessible / visible services, information on below ground services (such as electrical cables, sewer pipes, water supply pipes, etc.) were determined from available information. This information included:

- Serviced Land Availability Program (SLAP) maps,
- Department of Family & Community Services - Connecting Neighbours Program – Essential Services Scoping Study Report Volume 1 April 2005,
- Connecting Neighbours Project – Infrastructure Assessment and Recommendation Report - Arup Pty Ltd, April 2005,
- Drawings supplied by NT Department of Infrastructure - Technical Records,
- Drawings supplied by Power and Water Corporation,
- Bennett Design inspection reports and population data.

Aurecon undertook a site investigation of the Wuppa community on 1 December 2016 to inspect roads, stormwater drainage, electrical services, sewerage and water supply, and community structures. The following sections detail the outcomes of this investigation and the assessments of the infrastructure.

The civil and electrical inspection reports can be found in the Appendices.

5 Sewerage

5.1 Ownership and boundaries

The Wuppa community is currently serviced by a reticulation main. It appears as though the community has recently had sewer upgrades with the pipe size increased to DN150 PVC as part of the SIHIP program, refer Appendices for as-constructed drawings. The as-constructed drawings show that the new sewer network is generally within the road reserves or easement at the back or sides of properties. The Land Title for the Wuppa community, refer Appendices, does not show any easements. It should be noted that there are currently no legal road reserves since the town camp is perceived as a single lot. An easement should be created over the sewerage infrastructure to allow service providers access to the infrastructure, in particular for the sections where the pipework does not follow the road alignment. There are currently no easements over the sewerage infrastructure.

The gravity main also receives flows from neighbouring community Tingkarli via a sewer rising main. These flows have been included in the analysis of the community.

The internal sewer assets within Wuppa community are believed to be owned by Julalikari Housing Incorporated, but are the responsibility of Far North – T&J Contractors to maintain.

5.1.1 Connection methods and billing

PWC advised that they currently charge a single sewerage bill based on the number of houses, which for Wuppa is 15. The sewerage bill is charged to the Department of Housing and Community Development.

It is not known what contribution the residents make towards the sewerage bills.

5.2 Existing infrastructure condition assessment

The sewer infrastructure inspection was limited to inspecting the condition of manhole covers, as all other sewerage infrastructure is below ground. A comprehensive review of all available documentation, including reviewing as-constructed drawings and having discussions with Power and Water Corporation was conducted. The following table compares the assets that have been constructed, according to the as-constructed drawings, and the assets assessed during the inspections conducted by Aurecon.

Table 2 Sewerage assets inspected

Asset type	Number of assets as per documentation	Number of assets assessed during inspection
Manholes	35	9

As per Table 2, a number of manholes were not assessed during the inspections, this is likely due to access limitations such as manholes being located within private property or outside of the town camp, or were not visible at the time of the inspection (covered with grass, dirt or debris). Within the Wuppa town camp there was one sewer line (Line 100) in which none of the manholes were able to be

assessed. As a result Aurecon is unable to verify whether these lines have been constructed, especially since the line is to service ‘future’ lots which have not been constructed, and there is an existing sewer line (Ex. Line 100) which services the two existing lots.

The condition ratings of the manholes inspected are as follows:

Table 3 Sewer condition assessment

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
Manholes		1	7	1		9



Figure 1 Sewer manhole, condition: *very good*



Figure 2 Sewer manhole, condition: *poor*

The sewer manholes were generally in good condition, with only one being rated in poor condition. This is due to the grass covering the manhole and the concrete damage to the lid.

5.3 Current performance and risks

5.3.1 Current sewer network performance

The current capacity of the sewer network was calculated based on the following design assumptions:

- The adopted minimum grade for the pipework is 1.0%, as advised by Power and Water Corporation.

- The Equivalent Population (EP) has been calculated assuming one household equates to 9 EP, based on discussions with Power and Water Corporation.
- The capacity has been assessed by calculating the current flow rate, and the maximum flow rate when the sewer pipe flows full. The result is then a percentage of how much of the pipe is currently being used.
- Manning's roughness coefficient of the pipework is 0.012, as recommended by PWC for PVC pipes.
- Where the sewer pipe grade, size or material is not known, it is assumed to be non-compliant to PWC standards.

The current number of houses in Wuppa community is 23, including a number of non-dwellings where people are currently living, this multiplied by 9 EP per house gives a total current EP of 207. The capacity of the existing sewer was then calculated. The percentage shows how much of the pipe capacity is currently being used.

Table 4 Existing sewer capacity

Catchment	Current total EP	Diameter of connection (mm)	Adopted PWC minimum slope (%)	Q_{full} (L/s)	Current Q (L/s)	Current capacity (%)
Catchment 1	207	150	1.0	16.50	1.64 (Tingkarlil) + 2.37 (Wuppa) = 3.81	24%

Table 4 above shows that the capacity of the existing sewer network is adequate for the current peak population.

5.4 Future demands

The future demand analysis showed that one additional house is required to provide permanent accommodation for residents that are currently living in non-house dwellings. The type and location of house, number of bedrooms, etc. will need to be determined by the Department of Housing and Community Development when this work is undertaken.

An allowance of 9 EP has already been provided for each temporary house (caravans, structures, etc) in the current demand calculations, so the future EP will not increase since the residents from the temporary housing will be living in the new accommodation and the number of tenants will not be increased.

The location of the new house is assumed to be close to the existing houses such that significant extension of the existing sewerage infrastructure would not be required. This means that no additional sewerage infrastructure upgrades would be required to cater for the new house, other than what has already been recommended for the current demand, and not including a new house drain and connection to the existing network. The cost estimates for these works have been allowed for in the upgrades for current demand.

5.5 Recommended works

5.5.1 Works required to existing infrastructure for current demand

No immediate maintenance works or upgrades are required.

5.5.2 Works required to existing infrastructure for future demand

The new house will require a new house drain and connection to the existing sewer network.

6 Water supply

6.1 Ownership and boundaries

The water supply infrastructure was upgraded to PWC standards as part of the SIHIP program. The water reticulation network servicing Wuppa includes DN150 PVC looped mains with three supply points, refer to Appendices for as-constructed drawings.

The water supply assets within Wuppa are believed to be owned by Julalikari Housing Incorporated, but are the responsibility of Far North – T&J Contractors to maintain. The water is supplied from a water mains outside of the community, which is the responsibility of PWC.

PWC have advised they currently maintain the water assets up to the residential lot water meters, although there is no formal agreement covering this maintenance.

Figure 3 shows the extent of the water services.



Figure 3 Wuppa water supply network

Note Figure 3 indicates DN100 pipes, however the as-constructed engineering drawings shown in the Appendices specify DN150. Furthermore a third supply to the community is shown on the as-constructed drawings which is not displayed in Figure 3. It is understood that the Figure above has not been updated recently.

6.1.1 Connection methods and billing

Through consultation with PWC it has been determined that the water usage is currently charged as a fixed daily rate for 15 house water meters within Wuppa. The bill is issued to the Department of Housing and Community Services. It is not known what contribution the residents make towards water bills.

It is proposed that PWC measure the water supply to the entire community, as opposed to individual lots within the community. This requires the installation of a bulk water meter on the water main located at the community boundary. Under this scheme, the water bill for the entire community is the responsibility of the governing body, being Julalikari Housing Incorporated for Wuppa. It will be up to governing body to assign bills to residents accordingly.

It is recommended that the individual lot meters are maintained in addition to the proposed use of bulk water meters. This will assist the governing body with distributing bills to residents, the identification of any leaks in the network, and meeting PWC standards should the town camp be subdivided in the future.

A total of ten water meters were assessed during the inspection. However, Bennett Design recorded 15 permanent dwellings in the community. Therefore, up to six additional water meters are required to cover the properties without an existing water meter. Note, some water meters may have been present however, not visible due to overgrown flora or restricted property access. Consequently, water meters may not have been discovered during the inspection.

6.2 Existing infrastructure condition assessment

The site investigation for the water infrastructure included assessing the condition of any air valves, fire hydrants, tanks, taps, and water meters. The assessment was limited to services that could be assessed above ground; no below ground services were inspected. A comprehensive review of all available documentation, including reviewing as-constructed drawings and having discussions with Power and Water Corporation was conducted. The following table compares the assets that have been constructed, according to the as-constructed drawings, and the assets assessed during the inspections conducted by Aurecon.

Table 5 Water supply assets inspected

Asset type	Number of assets as per documentation	Number of assets assessed during inspection
Fire hydrants	9	8
Water meter (residential lots)	16	10

As per Table 5, a fire hydrant and a number of water meters were not assessed during the inspections, this is likely due to overgrown flora or restricted property access as previously discussed. The condition of each asset is as follows:

Table 6 Water asset condition assessment

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
Fire hydrants			6	2		8
Water meter (residential lots)			8	2		10



Figure 4 Fire hydrant, condition: *good*



Figure 5 Water meter (lot), condition: *good*

No water supply assets were assessed as being in poor or very poor condition, however it is recommended that dirt and vegetation covering three fire hydrants is cleared for easier identification in case of an emergency.

6.3 Current performance and risks

The current demand of the community was calculated based on the following design assumptions:

- The nominal peak day flow is 1300 L/capita/day, based on PWC's supplement to WSA 03 2002. This value is for the southern region of NT. It was assumed that the nominal peak day flow of 1300 L/capita/day also applies to water usage within the community, although it is possible that this value could be higher in real life due to a lack of controls to reduce water usage.
- The Equivalent Population (EP) has been calculated assuming one household equates to 9 EP, based on discussions with Power and Water Corporation.
- The peak hour factors are listed in PWC's Supplement to WSA 03-2002, and they depend on the population range of the community. The peak hour factor of 3.0 has been adopted, for populations less than 500.

Table 7 shows the calculated demand.

Table 7 Current water demand

Total dwellings	EP	Demand (l/s)	Peak hour demand (l/s)
23	207	3.11	9.31

The system is expected to meet PWC flow (peak hour and fire flow) requirements.

The assessment of water supply for firefighting has been based on the size of the water mains and the condition of the accessible fire hydrants. Additional hydrants have been recommended where it appears the existing number of hydrants are insufficient. In the case of Wuppa, the existing fire hydrants are expected to provide adequate coverage for firefighting.

The water reticulation is believed to have sufficient capacity and it appears that the pipe sizes are compliant with PWC standards. The as-constructed drawings show a section of the water main is installed in a dedicated water main easement, however, the Land Title information indicates that no formal easements are located within the community. It is recommended that if the assets are to be gifted to PWC, that easements are created over the services.

6.4 Future demands

The future demand analysis showed that one additional house is required to provide permanent accommodation for residents that are currently living in non-house dwellings. The type and location of house, number of bedrooms, etc. will need to be determined by the Department of Housing and Community Development when this work is undertaken.

An allowance of 9 EP has already been provided for each temporary house (caravans, structures, etc) in the current demand calculations, so the future EP will not increase since the residents from the temporary housing will be living in the new accommodation and the number of tenants will not be increased.

The location of the new house is assumed to be close to the existing houses, so that an extension of the existing water supply infrastructure would not be required. This means that no additional water supply infrastructure upgrades would be required to cater for the new house, except for a new residential lot water meter and connection to the existing network. The cost estimates for these have been allowed for in the upgrades for current demand.

6.5 Recommended works

6.5.1 Works required to existing infrastructure for current demand

The infrastructure that was assessed as very poor or poor is recommended to be upgraded to prevent failure in the future. The following maintenance works are recommended;

- Clear dirt and overgrown grass from three fire hydrants
- The community is viewed overall as a large single lot and as previously detailed, proposed to have the water usage measured accordingly. In order to measure the water usage as a single lot, a bulk water meter should be installed. Since the existing network has three supply points, two should be disconnected and

reconnected elsewhere, creating network looping. This allows the single remaining connection to be metered. The cost estimates for upgrades at Wuppa include;

- Disconnect two supply points and loop dead ends.
- Install bulk water meter at the community boundary
- Install up to five new residential lot water meters

6.5.2 Works required to existing infrastructure for future demand

The new house will require an additional residential lot water meter and connection the existing network.

7 Roadworks

7.1 Ownership and boundaries

The roads within Wuppa community are believed to be owned by Julalikari Housing Incorporated, but are the responsibility of Far North – T&J Contractors to maintain.

7.2 Existing infrastructure condition assessment

The road network within Wuppa community consists primarily of sealed roads. There are also numerous tracks which appear to be used frequently which are not included in the inspection and report. Road furniture including signs, foot paths and car parks were also inspected. Table 8 below summarise the condition of the road furniture as assessed during the site inspection.

Table 8 Roadworks condition assessment

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
Footpaths			3	2		5
Signs	3	1	3			7



Figure 6 Sign, condition: good



Figure 7 Footpath, condition: very good

The signs in Wuppa were mostly in poor or very poor condition. This is due the street name signs not having a sign, but only a post. One sign also had some graffiti. It is recommended that these signs are installed and replaced.

The footpaths in Wuppa were generally in good or very good condition. Some sections of footpath require general maintenance to remove weeds, grass, debris, and graffiti.



Figure 8 Wuppa community road network

Table 9 below details the condition of the roads within Wuppa community for specific segments. Figure 8 shows a map of the community’s road network with the condition ratings, road name, and chainage direction. Note, the percentage refers to the percentage of that particular road segment which experiences the defect.

Table 9 Road network condition assessment

Road Name	Chainage start (km)	Chainage end (km)	Road segment condition (1-5)	Defects and associated condition
684_2	0	0.15	3	-some dirt in gutters (3) -road has poor general appearance due to graffiti, loose stones, dirt in gutters
	0.15	0.3	3	-some dirt in gutters (3) -road has poor general appearance due to graffiti, loose stones, dirt in gutters
Wuppa Town Camp Internal	0.1	0.3	3	-some dirt in gutters (3) -20% of road has bleeding defect (3) -3 sections of graffiti (2)
	0.3	0.4	3	-some dirt in gutters (3)
	0.4	0.55	3	-gutters full of dirt (3) -20% of road has stone loss -20% of road has bleeding defects (3)
	0.55	0.68	3	-some dirt in gutters (3) -10% of road has stone loss -20% of road has bleeding defects (3)

It is recommended that the dirt is removed from the gutters and the roads are generally tidied up to remove loose stones, debris, and graffiti.



Figure 9 Wuppa Town Camp Internal Road, condition: *good*. Dirt in gutters



Figure 10 Wuppa Town Camp Internal Road, condition: *good*. Stone loss, bleeding defects

7.3 Current performance and risks

The road network is sufficient for the current number of houses and is in a generally good condition. It was noted during the site inspections that a number of unsealed 'short-cuts' had been created and were regularly used. It is not recommended that these paths are formalised.

7.4 Future demands

The addition of one new house will not require any upgrades to the road network. The additional house will require minor upgrades to the kerb to provide a layover kerb for a driveway.

7.5 Recommended works

7.5.1 Works required to existing infrastructure for current demand

The infrastructure that was assessed as very poor or poor is recommended to be upgraded. The following works are recommended to upgrade the current infrastructure;

- Install three street name signs (sign only)
- Replace one Give Way sign (or remove graffiti)
- General maintenance of footpath – approximately 100 m
- Remove graffiti from road
- General tidy up – approximately 300 m
- Clear out gutters – approximately 400 m

7.5.2 Works required to existing infrastructure for future demand

Works required to provide for one additional house include upgrading the existing kerb to a layover kerb.

8 Stormwater drainage

8.1 Ownership and boundaries

The stormwater drainage assets within Wuppa community are believed to be owned by Julalikari Housing Incorporated, but are the responsibility of Far North – T&J Contractors to maintain.

Stormwater drainage infrastructure outside of the community is owned by Barkly Regional Council.

8.2 Existing infrastructure condition assessment

The site investigation for the stormwater infrastructure included assessing the condition of swales, culverts, headwalls, and side entry pits (SEP). Only the above ground infrastructure was assessed. As the inspection was undertaken outside of a storm event and no CCTV of the pipes was undertaken, flooding due to blockages or damage to the underground infrastructure could not be assessed. Table 10 below summarises the condition of the stormwater assets as assessed during the inspection.

Table 10 Stormwater condition assessment

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
SEP		2	20	5		27



Figure 11 Two bay side entry pit, condition: *poor*



Figure 12 Two bay side entry pit, condition: *very good*

27 side entry pits were inspected during the site investigation. Of these pits, only one had blockage of approximately 60%, while majority had between 0% and 20% blockages. It is recommended that these pits are cleaned out to avoid further blockages in the underground stormwater pipes.

Only one pit, shown in Figure 11, had concrete damage. It is recommended that this side entry pit is repaired to prevent further damage.

8.3 Current performance and risks

The detailed performance of the stormwater network cannot be fully analysed without significant hydraulic and hydrodynamic modelling, which is outside the scope of this project. However based on the condition of the stormwater infrastructure assessed it would appear to be operating adequately.

8.4 Future demands

The addition of one new house in the community will not have an impact on the stormwater drainage infrastructure, and no upgrades are required as a result.

8.5 Recommended works

8.5.1 Works required to existing infrastructure for current demand

The following works are recommended to upgrade or improve the current infrastructure:

- Repair one two bay side entry pit
- Clear blockages from 21 side entry pits

8.5.2 Works required to existing infrastructure for future demand

No upgrades required.

9 **Community structures**

9.1 **Ownership and boundaries**

There are no community structures at Wuppa community.

9.2 **Future demands**

The population of Wuppa is not expected to increase with the addition of one new house, as this house will provide permanent accommodation for residents that currently live in temporary housing. No additional community structures are required.

10 Electrical services

10.1 Ownership and boundaries

The following points, from Network Policy NP003 Installation Rules Section 3, define the typical shared ownership of electrical infrastructure by Power and Water Corporation (PWC) and customers.

- The point of supply is defined as the point where PWC makes the electrical supply available. For domestic supply, this is normally one of the following:
- A point of attachment of an overhead service on to a building or pole on which a metering panel is fitted.
- A point of attachment of an overhead service on to a pole forming part of unmetered aerial consumer's mains.
- A nominated point on a distribution substation located on the customer's lot.
- A point of connection of an underground service in a metering panel, including underground services originating at an overhead line.
- A point of connection of an underground service in a pillar or junction box forming part of unmetered consumer's mains, located on the customer's lot.
- A point on a Power and Water pillar located on the customer's lot.

Typically, distribution infrastructure upstream of the Point Of Supply is owned and maintained by PWC and infrastructure below the point of supply is owned and maintained by the customer.

In many cases PWC have defined a Point Of Supply to ensure that they retain responsibility for aerial high voltage infrastructure, and aerial low voltage infrastructure where installed with aerial high voltage infrastructure, to minimise the possibility of the community or its contractors coming into contact, either deliberately or inadvertently, with aerial high voltage infrastructure.

In other cases isolation facilities are present or desired by PWC to define the Point of Supply at or near the boundary of the town camp.

PWC advise that most of Tennant Creek/Alice Springs Town Camps have undergone upgrades under the SIHIP program with the intent to normalise the services to look like an urban subdivision but have never been formally handed over to PWC for operations and maintenance.

The Wuppa community electrical reticulation systems is supplied by two transformer to an overhead reticulation scheme to individual house and overhead power pole mount street lights. Prepaid meters are utilised in Wuppa community.

PWC advise that the Point Of Supply is the LV terminals of the substations and that they own and are responsible for the first pole mount substation and upstream infrastructure.

PWC recommend that a GBS (Gas Break Switch) be provided upstream of the first transformer to establish a demarcation point.

PWC advise that street lighting is supplied from unmetered LV infrastructure and is the responsibility of the lot holder and not PWC.

All meters, whether pre- or post-paid are the property of PWC.

Wuppa community are responsible for maintain all unmetered and metered LV infrastructure including the main switchboard, metering panel (excluding meter), LV distribution feeders, distribution pillars, consumers mains and consumer switchboards and street lights.

10.2 Existing infrastructure condition assessment

Table 11 shows the condition rating given to the street lights. The street lights were of a low voltage overhead feeder design, mercury and sodium lamp type, M125D and S70D. The street lights have 19% operational rating and 81% inoperable.

Table 11 Street light on O/H pole condition assessment

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
Street light on O/H pole		25	6			31

Table 12 shows the condition rating given to the transformers. The transformers were of pole mount substation design. The transformer was visually accessed to be in good condition.

Table 12 Transformer condition assessment

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
Transformer			2			2

Table 13 shows the condition rating given to the Overhead poles. The overhead poles are of Weld Construction (Universal Pole construction).

Table 13 Overhead pole condition assessment

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
Overhead pole			32			32

Table 14 shows the condition rating given to the metering panels. All assessed meters in this community are prepaid digital meters.

Table 14 Meter panel condition assessment

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
Pre-paid meter			10			10
Switchboard			10			10

Table 15 shows the condition rating given to the switchboards associated to dwellings.

Table 15 Switchboard condition assessment (Housing footprint)

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
Switchboard			10			10

The details of the individual inspections and photographs of each infrastructure item are included in the Appendices.

10.3 Current performance and risks

The electrical infrastructure evaluation was conducted against the following criteria

- Number of dwellings on tenure, the higher value of the funded dwelling and as quoted in the population report was utilised.
- Urban area, NP001.1, 4. Definitions.
- General Specification for URD Subdivisions, NP001.6, 4.3 Substation Size.
- Normal ADMD (After Diversity Maximum Demand) of 4.5 kVA and high cost subdivisions at 7 kVA.
- Transformer ratings were assumed to be correct in Dekho (PWC asset information system) and compared against photographs of test or transformer numbers collected.
- Substation loads were compared against transformer sizes only. No load flow analysis was conducted.
- No load calculations were performed or assessment conducted on overhead or underground cable, visual inspection from the ground only.
- Street lighting loads were ignored as they are not significant.

The calculated maximum demand of the Wuppa community transformer is 23% of rated capacity based on 4.5kVA/dwelling. The calculated maximum demand is within the total capacity of the substation on site.

Table 16 Wuppa current demand load vs transformer ratings

Com Id	Community name	Dwellings	Transformer (kVA)	kVA Total @ 4.5kVA	kVA Total @ 7kVA	Comments
684	Wuppa	15	100 200	67.5	105	Two transformers for this Town Camp.

A tabulated summary of all the community transformers in the Appendices.

There is a risk of equipment not being maintained associated with the non-standard division of responsibilities between the customer and PWC.

The following points from the PWC Metering Rules should be noted:

- The routine maintenance of metering installations and the replacement of any faulty meters is the responsibility of PWC.
- The property owners are responsible for the maintenance and upkeep of meter rooms, boxes and panels (including lids, doors and locking mechanisms).
- The installation of pre-paid metering is a cost to the customer, refer NP010 Meter Manual-Maintenance of Metering Installations, Power and Water Corporation.

10.4 Future demands

There is one new development currently planned for Wuppa community. Calculated future maximum demand of the Wuppa community transformer is 24% of rated

capacity based on 4.5kVA/dwelling. The calculated future maximum demand is within the total capacity of the substation on site.

Table 17 Wuppa current demand load vs transformer ratings

Com Id	Community name	Dwellings	Transformer (kVA)	kVA Total @ 4.5kVA	kVA Total @ 7kVA	Comments
684	Wuppa	16	100 200	72	112	Two transformers for this Town Camp.

10.5 Recommended works

The Wuppa community transformer is owned by PWC who are aware of the loading of this transformer and have assessed the load does not require that this transformer be upgraded or replaced.

The following maintenance works and upgrades are recommended:

- Repair 25 street lights 125W

11 Communications

11.1 Ownership and boundaries

Details of Telstra pit and conduit infrastructure within the town camp boundaries were sought but were not forthcoming.

11.2 Existing infrastructure condition assessment

The telecommunications infrastructure assessed included pits and telephone booths.

The Appendices contain the individual reports.

Table 18 Telecommunication pit condition assessment

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
Telecommunication pit		2	4			6

Table 19 Telephone booth condition assessment

Asset	1 Very Poor	2 Poor	3 Good	4 Very Good	5 Excellent	Total
Phone booth						2 (status unknown)

11.3 Current performance and risks

No details of the performance of communications infrastructure were obtained.

11.4 Future demands

The current availability of broadband services at Wuppa is displayed in the Figure 13 below. NBN is available to residents via a fixed telecommunication line on application to an appropriate NBN access provider.

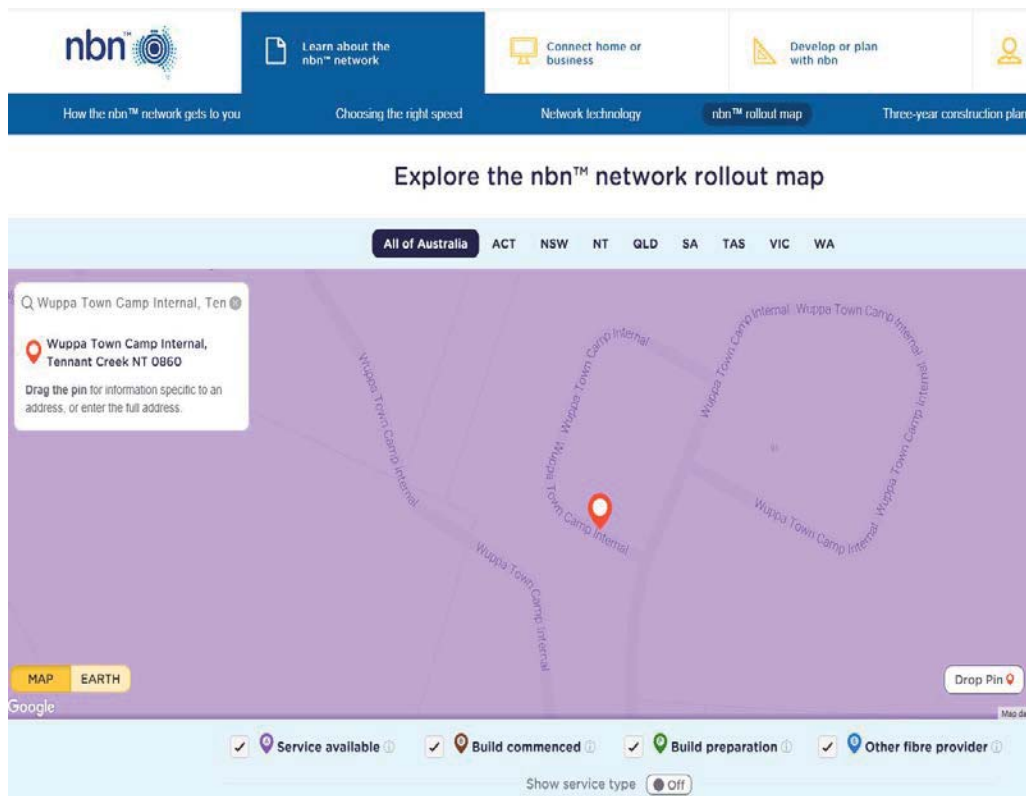


Figure 13 NBN network availability map

The NBN rollout map confirms that NBN is planned to be made available to residents via fixed telecommunications line on application to an appropriate NBN access provider.

11.5 Recommended works

Representatives from NBN's Land Access and Stake Holder management teams are currently engaged with Yilli Housing and NT Housing to look at how camps will be serviced. It is expected that any existing premises in these camps will have some type of NBN service via the NBN brownfields rollout in the future.

No works are required at Wuppa because NBN is available to residents via fixed telecommunications line on application to an appropriate NBN access provider.

12 Cost estimates

Table 20 below shows a summary of the cost estimates to undertake the maintenance required to fix the existing infrastructure, to upgrade the existing network to meet current design standards, and to upgrade the existing network to cater for the future design. The cost estimates for the future design have been incorporated in the current design cost estimates since no significant upgrades are required. The estimates take into account a 30% contingency, are inclusive of GST, and a location factor has been applied to town camps outside of Darwin.

Table 20 Cost estimates

Infrastructure	Maintenance of existing infrastructure	Upgrades to meet current design
Sewerage	\$ 0	\$ 0
Water supply	\$ 1,000	\$ 96,000
Roadworks	\$ 33,000	\$ 0
Stormwater drainage	\$ 7,000	\$ 0
Community structures	\$ 0	\$ 0
Electrical	\$ 33,000	\$ 0
Communications	\$ 0	\$ 0
Miscellaneous provisions	\$ 20,000	\$ 23,000
Total (including GST)	\$ 94,000	\$ 119,000
Grand total	\$ 213,000	

The cost estimates are a preliminary estimate only. Since Aurecon has no control over the cost of labour, materials, equipment or services furnished by others, or over contractors' methods of determining prices, or over competitive bidding or market conditions, Aurecon cannot guarantee actual costs will not vary from these estimates.

13 Summary

The following works are recommended for Wuppa community:

Sewerage

- No works required

Water supply

- Clear dirt and overgrown grass from three fire hydrants
- Disconnect two supply points and loop dead ends.
- Install bulk water meter at the community boundary
- Install up to five new residential lot water meters

Roadworks

- Install three street name signs (sign only)
- Replace one Give Way sign
- General maintenance of footpath – approximately 100 m
- Remove graffiti from road
- General tidy up – approximately 300 m
- Clear out gutters – approximately 400 m

Stormwater drainage

- Repair one two bay side entry pit
- Clear blockages from 21 side entry pits

Community structures

- No works required

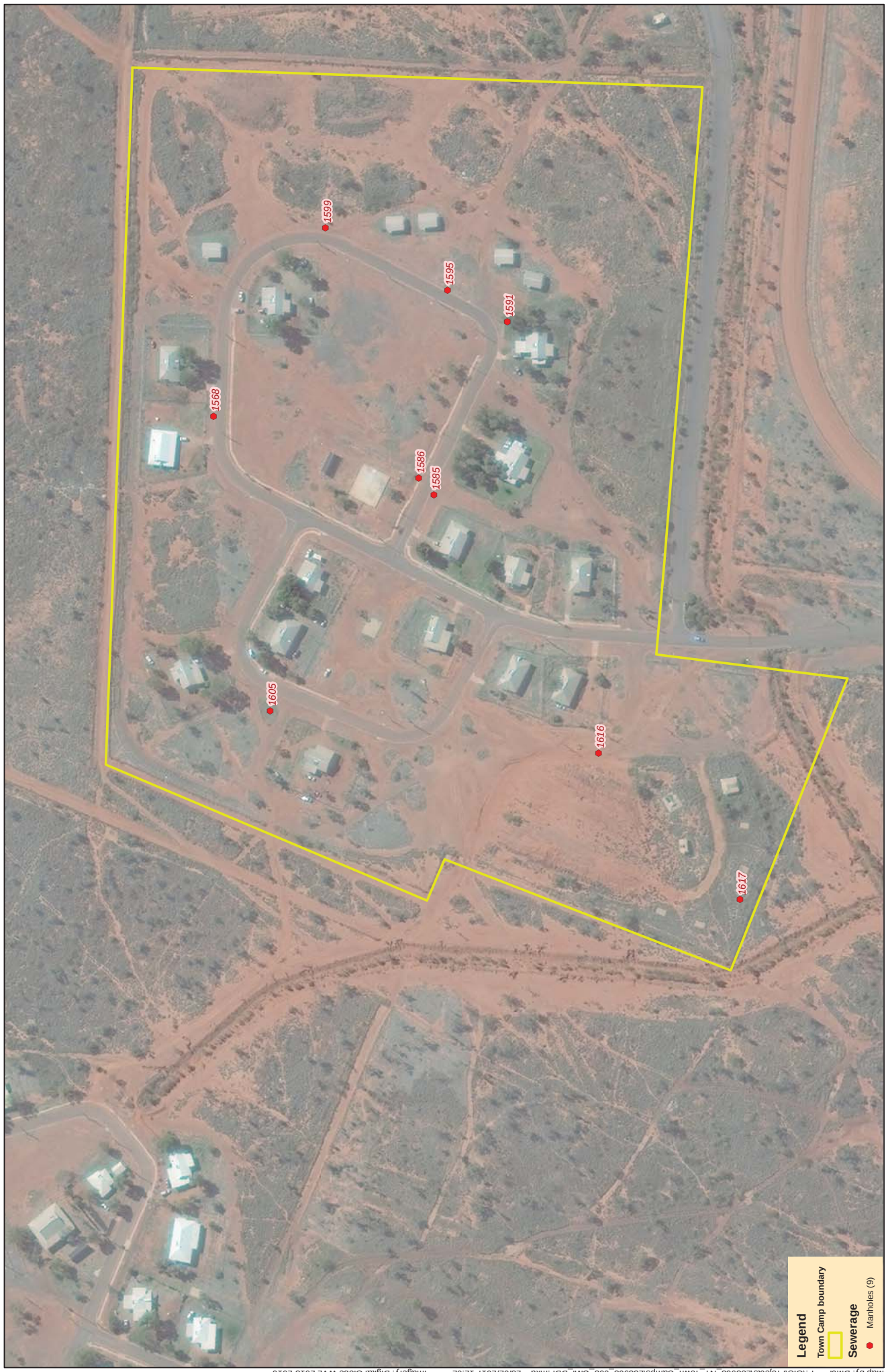
Electrical services

- Repair 25 street lights 125W

Communications

- No works are required because NBN is available to residents via fixed telecommunications line on application to an appropriate NBN access provider.

Civil inspection reports



Map by: DMCP P:\GIS\Projects\253963 NT Town Camps\253963_003 Civil DDP.mxd 23/02/2017 12:02 Imagery: Digital Globe WV2 2013-2016

A3 scale: 1:2,000



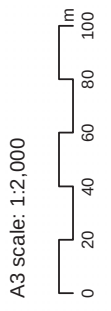
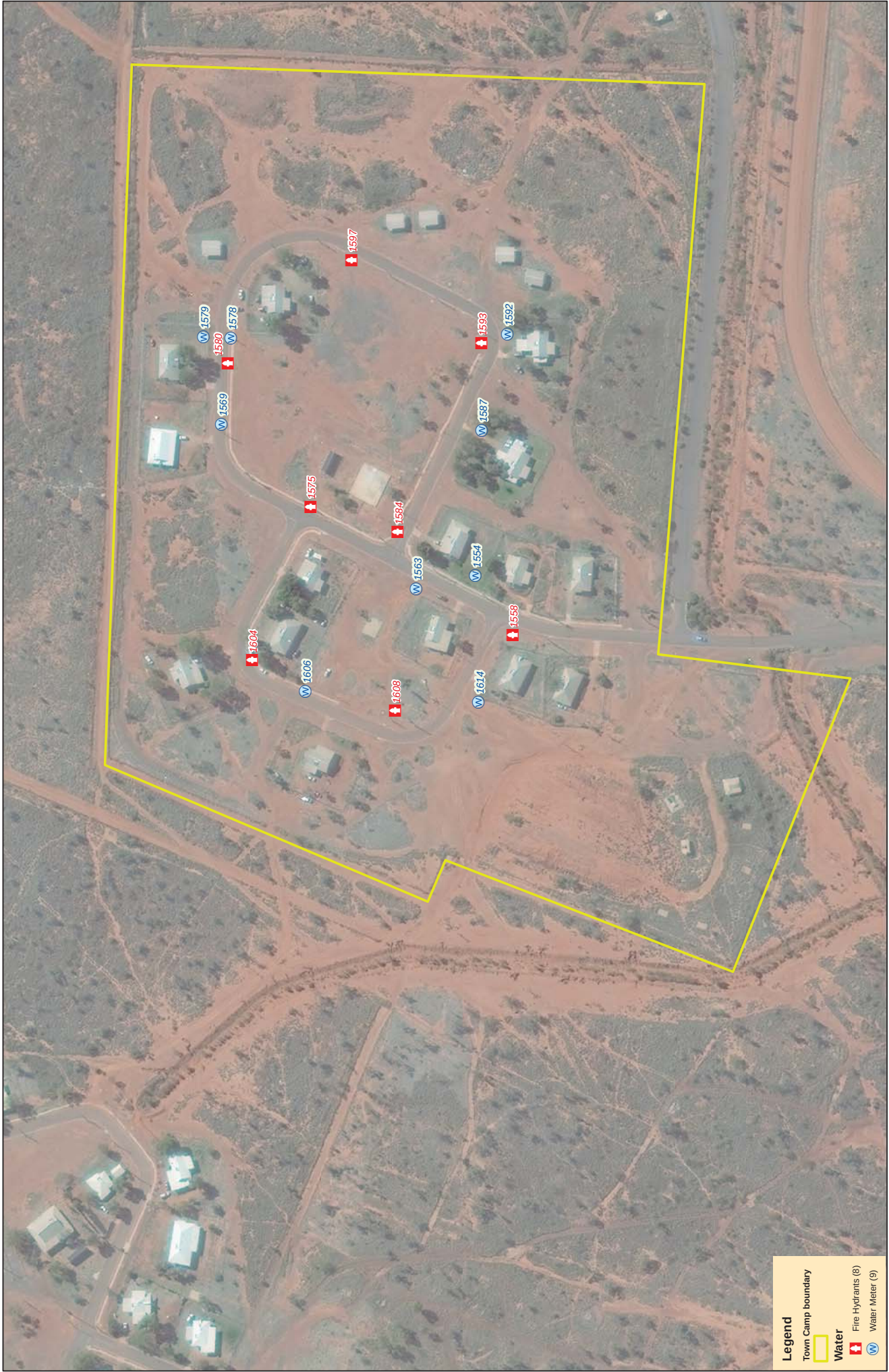
Note:
Label numbers refer to survey /Ds



Date: 23/02/2017 Version: 2
Coordinate system: MGA94 Zone 52

NT Town Camp Infrastructure Assessments: Sewerage

684 - Wuppa (Tennant Creek)

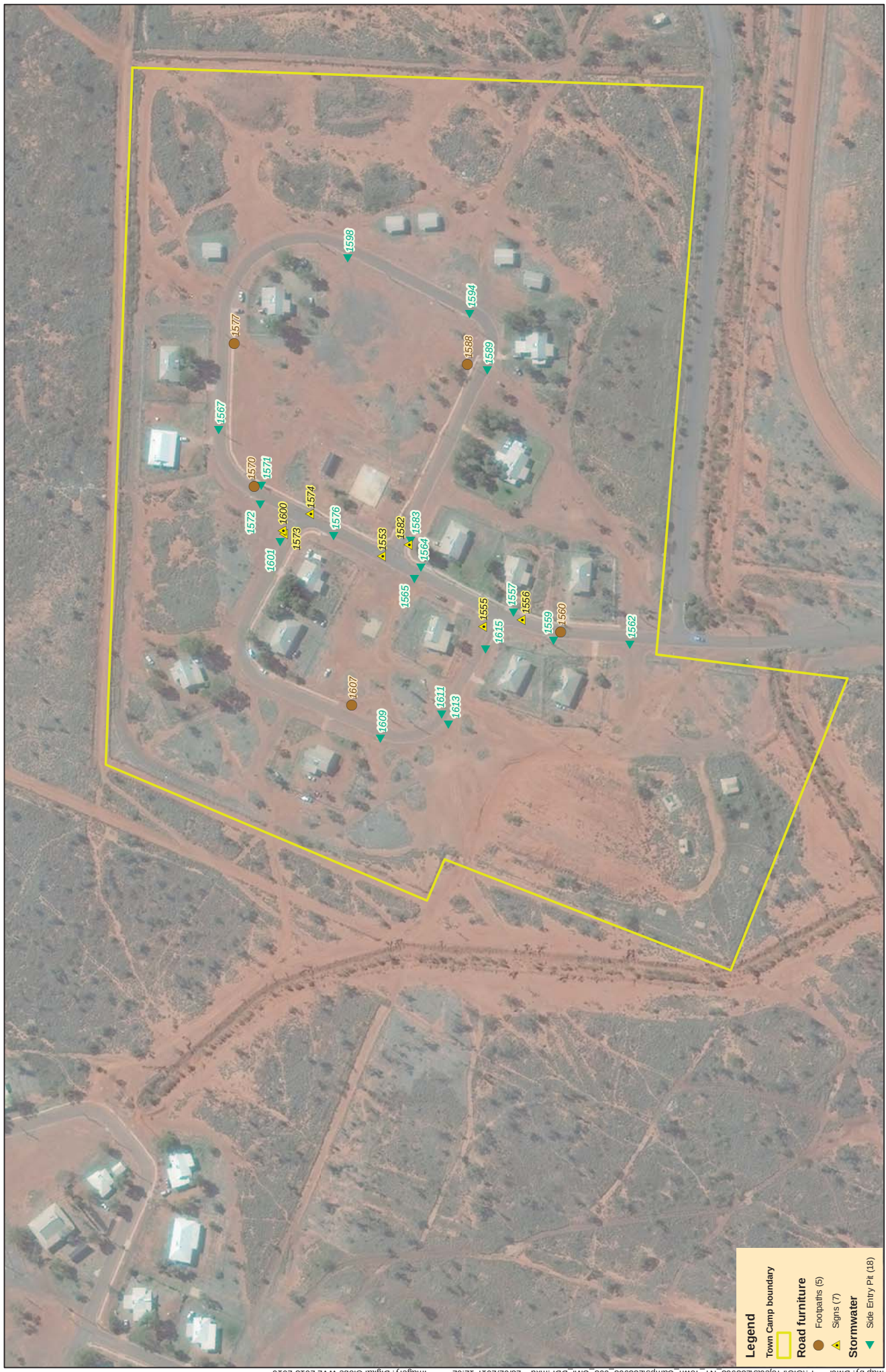


A3 scale: 1:2,000

Note:
Label numbers refer to survey IDs



Date: 23/02/2017 Version: 2
Coordinate system: MGA94 Zone 52

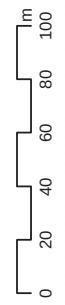


Map by: DMCP P:\GIS\Projects\253963 NT Town Camps\253963_003 Civil DDP.mxd 23/02/2017 12:02
Imagery: Digital Globe WYZ 2013-2016

Legend

- Town Camp boundary
- Road furniture
 - Footpaths (5)
 - Signs (7)
- Stormwater
 - Side Entry Pt (18)

A3 scale: 1:2,000



Note:
Label numbers refer to survey / IDs



Date: 23/02/2017 Version: 2
Coordinate system: MGA94 Zone 52

NT Town Camp Infrastructure Assessments

Road furniture, stormwater drainage & community structures

684 - Wuppa (Tennant Creek)

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:01:07 PM

Insp ID: 1558

Group 3 - Tennant Creek, Elliott

Wuppa

What Water Asset Are you Capturing: Fire Hydrants

Single or Double:

Sluice Valve: No

Above or Below ground: Below ground

FH Leakage: No Access

Bollards around hydrant: No

FH Condition: 4 - Very Good

FH Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:23:19 PM

Insp ID: 1575

Group 3 - Tennant Creek, Elliott

Wuppa

What Water Asset Are you Capturing: Fire Hydrants

Single or Double:

Sluice Valve: No

Above or Below ground: Below ground

FH Leakage: No Access

Bollards around hydrant: No

FH Condition: 3 - Good

FH Comment: Tree growing over



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:35:28 PM

Insp ID: 1580	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Fire Hydrants

Single or Double:

Sluice Valve: No

Above or Below ground: Below ground

FH Leakage: No Access

Bollards around hydrant: No

FH Condition: 3 - Good

FH Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:07:53 PM

Insp ID: 1584	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Fire Hydrants

Single or Double:

Sluice Valve: No

Above or Below ground: Below ground

FH Leakage: No Access

Bollards around hydrant: No

FH Condition: 3 - Good

FH Comment: Paint fading/peeling



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:56:00 PM

Insp ID: 1593

Group 3 - Tennant Creek, Elliott

Wuppa

What Water Asset Are you Capturing: Fire Hydrants

Single or Double:

Sluice Valve: No

Above or Below ground: Below ground

FH Leakage: No Access

Bollards around hydrant: No

FH Condition: 3 - Good

FH Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:45:59 PM

Insp ID: 1597

Group 3 - Tennant Creek, Elliott

Wuppa

What Water Asset Are you Capturing: Fire Hydrants

Single or Double:

Sluice Valve: No

Above or Below ground: Below ground

FH Leakage: No Access

Bollards around hydrant: No

FH Condition: 4 - Very Good

FH Comment: Paint peeled from kerb



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:34:48 PM

Insp ID: 1604

Group 3 - Tennant Creek, Elliott

Wuppa

What Water Asset Are you Capturing: Fire Hydrants

Single or Double:

Sluice Valve: No

Above or Below ground: Below ground

FH Leakage: No Access

Bollards around hydrant: No

FH Condition: 3 - Good

FH Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:31:07 PM

Insp ID: 1608	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Fire Hydrants

Single or Double:

Sluice Valve: No

Above or Below ground: Below ground

FH Leakage: No Access

Bollards around hydrant: No

FH Condition: 3 - Good

FH Comment: Graffiti



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 1:58:28 PM

Insp ID: 1560

Group 3 - Tennant Creek, Elliott

Wuppa

Road Name: Wuppa Town Camp Internal

What are you inspecting: Foot Paths

Footpath Width (mm): 1200

Footpath Type: Concrete

Footpath Condition: 3 - Good

Comment:

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:28:51 PM

Insp ID: 1570

Group 3 - Tennant Creek, Elliott

Wuppa

Road Name: Wuppa Town Camp Internal

What are you inspecting: Foot Paths

Footpath Width (mm): 1200

Footpath Type: Concrete

Footpath Condition: 4 - Very Good

Comment: Some graffiti

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:41:07 PM

Insp ID: 1577

Group 3 - Tennant Creek, Elliott

Wuppa

Road Name:Wuppa Town Camp Internal

What are you inspecting:Foot Paths

Footpath Width (mm):1200

Footpath Type:Concrete

Footpath Condition:3 - Good

Comment:Some graffiti

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:02:22 PM

Insp ID: 1588

Group 3 - Tennant Creek, Elliott

Wuppa

Road Name:Wuppa Town Camp Internal

What are you inspecting:Foot Paths

Footpath Width (mm):1200

Footpath Type:Concrete

Footpath Condition:4 - Very Good

Comment:

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:31:53 PM

Insp ID: 1607

Group 3 - Tennant Creek, Elliott

Wuppa

Road Name: 684_2

What are you inspecting: Foot Paths

Footpath Width (mm): 1200

Footpath Type: Concrete

Footpath Condition: 3 - Good

Comment:

General Comment: Footpath from ch 150 to 300 only



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:32:42 PM

Insp ID: 1568	Group 3 - Tennant Creek, Elliott	Wuppa

What Sewerage Asset are you capturing: Manholes

MH Cover Shape: Rectangular

Manhole Cover Diam (mm):

Manhole Length (mm): 1000

Manhole Width (mm): 700

Manhole Condition: 2 - Poor

Notes on Lid:

Comments:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:07:03 PM

Insp ID: 1585

Group 3 - Tennant Creek, Elliott

Wuppa

What Sewerage Asset are you capturing: Manholes

MH Cover Shape: Rectangular

Manhole Cover Diam (mm):

Manhole Length (mm): 1000

Manhole Width (mm): 700

Manhole Condition: 3 - Good

Notes on Lid: New 100/D1

Comments:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:05:47 PM

Insp ID: 1586

Group 3 - Tennant Creek, Elliott

Wuppa

What Sewerage Asset are you capturing: Manholes

MH Cover Shape: Rectangular

Manhole Cover Diam (mm):

Manhole Length (mm): 1000

Manhole Width (mm): 700

Manhole Condition: 3 - Good

Notes on Lid: NEW 100/D2

Comments:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:57:16 PM

Insp ID: 1591

Group 3 - Tennant Creek, Elliott

Wuppa

What Sewerage Asset are you capturing: Manholes

MH Cover Shape: Rectangular

Manhole Cover Diam (mm):

Manhole Length (mm): 1000

Manhole Width (mm): 700

Manhole Condition: 3 - Good

Notes on Lid: EX100/10

Comments:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:49:14 PM

Insp ID: 1595

Group 3 - Tennant Creek, Elliott

Wuppa

What Sewerage Asset are you capturing: Manholes

MH Cover Shape: Rectangular

Manhole Cover Diam (mm):

Manhole Length (mm): 1000

Manhole Width (mm): 700

Manhole Condition: 3 - Good

Notes on Lid: EX100/11

Comments: Lid not on properly



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:44:09 PM

Insp ID: 1599	Group 3 - Tennant Creek, Elliott	Wuppa

What Sewerage Asset are you capturing: Manholes

MH Cover Shape: Rectangular

Manhole Cover Diam (mm):

Manhole Length (mm): 1000

Manhole Width (mm): 700

Manhole Condition: 3 - Good

Notes on Lid:

Comments:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:33:54 PM

Insp ID: 1605	Group 3 - Tennant Creek, Elliott	Wuppa

What Sewerage Asset are you capturing:	Manholes
MH Cover Shape:	Rectangular
Manhole Cover Diam (mm):	
Manhole Length (mm):	1000
Manhole Width (mm):	700
Manhole Condition:	3 - Good
Notes on Lid:	
Comments:	Lid covered with grass and dirt



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:43:37 PM

Insp ID: 1616

Group 3 - Tennant Creek, Elliott

Wuppa

What Sewerage Asset are you capturing: Manholes

MH Cover Shape: Rectangular

Manhole Cover Diam (mm):

Manhole Length (mm): 1000

Manhole Width (mm): 700

Manhole Condition: 3 - Good

Notes on Lid:

Comments:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:53:50 PM

Insp ID: 1617

Group 3 - Tennant Creek, Elliott

Wuppa

What Sewerage Asset are you capturing: Manholes

MH Cover Shape: Rectangular

Manhole Cover Diam (mm):

Manhole Length (mm): 1000

Manhole Width (mm): 700

Manhole Condition: 4 - Very Good

Notes on Lid: EX100/3

Comments:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 1:56:30 PM

Insp ID: 1561	Group 3 - Tennant Creek, Elliott	Wuppa

Road Name: Wuppa Town Camp Internal

What are you inspecting: Pavements

Ch From (km): 0

Ch To (km): 0.1

Road Type: Sealed - spray seal

Section Width (m): 7.2

Road Condition: 3 - Good

General Comment:

Road Defects Section

Kerbs Section

Kerb Type	Kerb Cond	Kerb Comments
Kerb and Gutter	3 - Good	Some dirt in gutters

Shoulders Section

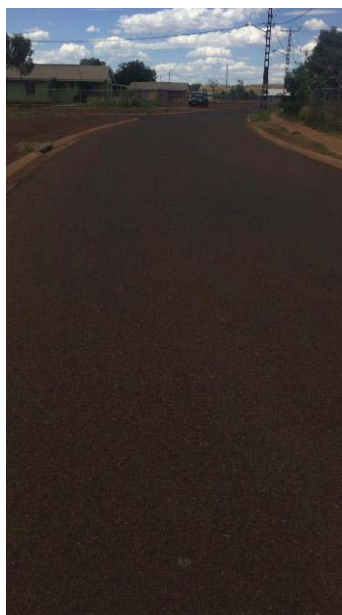
Linemarking Section

Obstruction Section

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 1:56:30 PM



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 1:56:30 PM

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:11:13 PM

Insp ID: 1566 **Group 3 - Tennant Creek, Elliott** **Wuppa**

Road Name: Wuppa Town Camp Internal

What are you inspecting: Pavements

Ch From (km): 0.1

Ch To (km): 0.3

Road Type: Sealed - spray seal

Section Width (m): 7.2

Road Condition: 3 - Good

General Comment:

Road Defects Section

Defect Type	Defect QTY	Defect Condition	Defect Comments
Bleeding	20	3 - Good	20% of road
General Appearance	3	2 - Poor	Graffiti

Kerbs Section

Kerb Type	Kerb Cond	Kerb Comments
Kerb and Gutter	3 - Good	Gutters filled with dirt in some sections

Shoulders Section

Linemarking Section

Obstruction Section

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:11:13 PM



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:11:13 PM

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:36:44 PM

Insp ID: 1581	Group 3 - Tennant Creek, Elliott	Wuppa

Road Name: Wuppa Town Camp Internal

What are you inspecting: Pavements

Ch From (km): 0.3

Ch To (km): 0.4

Road Type: Sealed - spray seal

Section Width (m): 7.2

Road Condition: 3 - Good

General Comment:

Road Defects Section

Kerbs Section

Kerb Type	Kerb Cond	Kerb Comments
Kerb and Gutter	3 - Good	Filled with dirt in some sections

Shoulders Section

Linemarking Section

Obstruction Section

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:36:44 PM



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:36:44 PM

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:58:14 PM

Insp ID: 1590 **Group 3 - Tennant Creek, Elliott** **Wuppa**

Road Name: Wuppa Town Camp Internal

What are you inspecting: Pavements

Ch From (km): 0.55

Ch To (km): 0.68

Road Type: Sealed - spray seal

Section Width (m): 7.2

Road Condition: 3 - Good

General Comment:

Road Defects Section

Defect Type	Defect QTY	Defect Condition	Defect Comments
Stone Loss	10	3 - Good	10% of road
Bleeding	20	3 - Good	20% of road

Kerbs Section

Kerb Type	Kerb Cond	Kerb Comments
Kerb and Gutter	3 - Good	Gutters have some dirt

Shoulders Section

Linemarking Section

Obstruction Section

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:58:14 PM



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:58:14 PM

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:46:58 PM

Insp ID: 1596 **Group 3 - Tennant Creek, Elliott** **Wuppa**

Road Name: Wuppa Town Camp Internal

What are you inspecting: Pavements

Ch From (km): 0.4

Ch To (km): 0.55

Road Type: Sealed - spray seal

Section Width (m): 7.2

Road Condition: 3 - Good

General Comment:

Road Defects Section

Defect Type	Defect QTY	Defect Condition	Defect Comments
Bleeding	20	3 - Good	20% of road
Stone Loss	20	3 - Good	20% of road has stone loss

Kerbs Section

Kerb Type	Kerb Cond	Kerb Comments
Kerb and Gutter	3 - Good	Gutters full of dirt

Shoulders Section

Linemarking Section

Obstruction Section

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:46:58 PM



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:46:58 PM

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:35:59 PM

Insp ID: 1603 **Group 3 - Tennant Creek, Elliott** **Wuppa**

Road Name: 684_2

What are you inspecting: Pavements

Ch From (km): 0.15

Ch To (km): 0.3

Road Type: Sealed - spray seal

Section Width (m): 7.2

Road Condition: 3 - Good

General Comment:

Road Defects Section

Defect Type	Defect QTY	Defect Condition	Defect Comments
General Appearance		3 - Good	Loose stones, dirt in gutters

Kerbs Section

Shoulders Section

Linemarking Section

Obstruction Section

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:35:59 PM

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:27:02 PM

Insp ID: 1610 **Group 3 - Tennant Creek, Elliott** **Wuppa**

Road Name: 684_2

What are you inspecting: Pavements

Ch From (km): 0

Ch To (km): 0.15

Road Type: Sealed - spray seal

Section Width (m): 7.2

Road Condition: 3 - Good

General Comment:

Road Defects Section

Defect Type	Defect QTY	Defect Condition	Defect Comments
General Appearance		3 - Good	Graffiti, loose stones, dirt in gutters

Kerbs Section

Kerb Type	Kerb Cond	Kerb Comments
Kerb and Gutter	3 - Good	Dirt in gutters

Shoulders Section

Linemarking Section

Obstruction Section

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:27:02 PM



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:27:02 PM

Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:04:37 PM

Insp ID: 1557

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:SEP

Number of Bays:2

On grade or sag pit:

Both sides of road:Right

Condition:3 - Good

Blockage (%):10

Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 1:59:55 PM

Insp ID: 1559

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:SEP

Number of Bays:2

On grade or sag pit:

Both sides of road:Left

Condition:4 - Very Good

Blockage (%):0

Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 1:53:52 PM

Insp ID: 1562

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure: SEP
Number of Bays: 2
On grade or sag pit:
Both sides of road: Both
Condition: 3 - Good
Blockage (%): 10
Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:15:14 PM

Insp ID: 1564

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:

SEP

Number of Bays:

2

On grade or sag pit:

Both sides of road:

Right

Condition:

3 - Good

Blockage (%):

20

Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:14:39 PM

Insp ID: 1565

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:SEP

Number of Bays:2

On grade or sag pit:

Both sides of road:Left

Condition:2 - Poor

Blockage (%):10

Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:33:31 PM

Insp ID: 1567

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:SEP

Number of Bays:2

On grade or sag pit:

Both sides of road:Right

Condition:4 - Very Good

Blockage (%):0

Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:27:52 PM

Insp ID: 1571

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:	SEP
Number of Bays:	2
On grade or sag pit:	
Both sides of road:	Right
Condition:	2 - Poor
Blockage (%):	10
Comment:	Broken concrete



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:26:58 PM

Insp ID: 1572

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:SEP

Number of Bays:2

On grade or sag pit:

Both sides of road:Left

Condition:4 - Very Good

Blockage (%):10

Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:18:53 PM

Insp ID: 1576

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure: SEP
Number of Bays: 2
On grade or sag pit:
Both sides of road: Both
Condition: 3 - Good
Blockage (%): 20
Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:09:00 PM

Insp ID: 1583

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:

SEP

Number of Bays:

2

On grade or sag pit:

Both sides of road:

Both

Condition:

3 - Good

Blockage (%):

10

Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:01:18 PM

Insp ID: 1589

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure: SEP
Number of Bays: 2
On grade or sag pit:
Both sides of road: Both
Condition: 3 - Good
Blockage (%): 10
Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:54:01 PM

Insp ID: 1594

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure: SEP
Number of Bays: 2
On grade or sag pit:
Both sides of road: Both
Condition: 4 - Very Good
Blockage (%): 0
Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:43:18 PM

Insp ID: 1598

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:	SEP
Number of Bays:	2
On grade or sag pit:	
Both sides of road:	Both
Condition:	3 - Good
Blockage (%):	10
Comment:	Image 1 left, image 2 right



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:38:07 PM

Insp ID: 1601

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure: SEP
Number of Bays: 2
On grade or sag pit:
Both sides of road: Both
Condition: 3 - Good
Blockage (%): 10
Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:30:05 PM

Insp ID: 1609

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure: SEP
Number of Bays: 2
On grade or sag pit:
Both sides of road: Both
Condition: 3 - Good
Blockage (%): 10
Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:17:59 PM

Insp ID: 1611

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:	SEP
Number of Bays:	2
On grade or sag pit:	
Both sides of road:	Right
Condition:	3 - Good
Blockage (%):	60
Comment:	Graffiti



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:18:16 PM

Insp ID: 1613

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure:SEP

Number of Bays:2

On grade or sag pit:

Both sides of road:Left

Condition:3 - Good

Blockage (%):10

Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:14:46 PM

Insp ID: 1615

Group 3 - Tennant Creek, Elliott

Wuppa

Stormwater Infrastructure: SEP
Number of Bays: 2
On grade or sag pit:
Both sides of road: Both
Condition: 3 - Good
Blockage (%): 0
Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:09:40 PM

Insp ID: 1553	Group 3 - Tennant Creek, Elliott	Wuppa

Road Name: Wuppa Town Camp Internal

What are you inspecting: Signs

Type of Sign: Street name

Sign Condition: 1 - Very Poor

Sign Comment: No sign

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:06:50 PM

Insp ID: 1555 **Group 3 - Tennant Creek, Elliott** **Wuppa**

Road Name: 684_2

What are you inspecting: Signs

Type of Sign: Give Way

Sign Condition: 3 - Good

Sign Comment:

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:05:55 PM

Insp ID: 1556	Group 3 - Tennant Creek, Elliott	Wuppa

Road Name: Wuppa Town Camp Internal

What are you inspecting: Signs

Type of Sign: Street name

Sign Condition: 1 - Very Poor

Sign Comment: No sign

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:24:11 PM

Insp ID: 1573 **Group 3 - Tennant Creek, Elliott** **Wuppa**

Road Name: 684_2

What are you inspecting: Signs

Type of Sign: Give Way

Sign Condition: 3 - Good

Sign Comment:

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:22:18 PM

Insp ID: 1574 **Group 3 - Tennant Creek, Elliott** **Wuppa**

Road Name: 684_2

What are you inspecting: Signs

Type of Sign: Street name

Sign Condition: 1 - Very Poor

Sign Comment: No sign

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:11:34 PM

Insp ID: 1582	Group 3 - Tennant Creek, Elliott	Wuppa

Road Name: Wuppa Town Camp Internal

What are you inspecting: Signs

Type of Sign: Give Way

Sign Condition: 2 - Poor

Sign Comment: Graffiti

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:39:17 PM

Insp ID: 1600 **Group 3 - Tennant Creek, Elliott** **Wuppa**

Road Name: 684_2

What are you inspecting: Signs

Type of Sign: Give Way

Sign Condition: 3 - Good

Sign Comment: Paint chipping

General Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:07:49 PM

Insp ID: 1554	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Water Meter

Water Meter Type: Lot

Bulk Water Meter Size (mm):

Bulk Water Meter Condition:

Bulk Water Meter Comment:

Lot Number:

Lot Water Meter Size: 25

Lot Water Meter Condition: 3 - Good

Lot Water Meter Comment: Two meters in one lot



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:15:57 PM

Insp ID: 1563	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Water Meter

Water Meter Type: Lot

Bulk Water Meter Size (mm):

Bulk Water Meter Condition:

Bulk Water Meter Comment:

Lot Number:

Lot Water Meter Size: 25

Lot Water Meter Condition: 3 - Good

Lot Water Meter Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:29:44 PM

Insp ID: 1569	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Water Meter

Water Meter Type: Lot

Bulk Water Meter Size (mm):

Bulk Water Meter Condition:

Bulk Water Meter Comment:

Lot Number:

Lot Water Meter Size: 25

Lot Water Meter Condition: 3 - Good

Lot Water Meter Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:37:00 PM

Insp ID: 1578

Group 3 - Tennant Creek, Elliott

Wuppa

What Water Asset Are you Capturing: Water Meter

Water Meter Type: Lot

Bulk Water Meter Size (mm):

Bulk Water Meter Condition:

Bulk Water Meter Comment:

Lot Number:

Lot Water Meter Size: 25

Lot Water Meter Condition: 3 - Good

Lot Water Meter Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:36:10 PM

Insp ID: 1579	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Water Meter

Water Meter Type: Lot

Bulk Water Meter Size (mm):

Bulk Water Meter Condition:

Bulk Water Meter Comment:

Lot Number:

Lot Water Meter Size: 25

Lot Water Meter Condition: 4 - Very Good

Lot Water Meter Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:03:16 PM

Insp ID: 1587	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Water Meter

Water Meter Type: Lot

Bulk Water Meter Size (mm):

Bulk Water Meter Condition:

Bulk Water Meter Comment:

Lot Number:

Lot Water Meter Size: 25

Lot Water Meter Condition: 4 - Very Good

Lot Water Meter Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 2:56:40 PM

Insp ID: 1592	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Water Meter

Water Meter Type: Lot

Bulk Water Meter Size (mm):

Bulk Water Meter Condition:

Bulk Water Meter Comment:

Lot Number:

Lot Water Meter Size: 25

Lot Water Meter Condition: 3 - Good

Lot Water Meter Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:32:58 PM

Insp ID: 1606	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Water Meter

Water Meter Type: Lot

Bulk Water Meter Size (mm):

Bulk Water Meter Condition:

Bulk Water Meter Comment:

Lot Number:

Lot Water Meter Size: 25

Lot Water Meter Condition: 3 - Good

Lot Water Meter Comment:



Northern Territory Town Camps

Civil Infrastructure

Inspection Date 1/12/2016 3:16:54 PM

Insp ID: 1614	Group 3 - Tennant Creek, Elliott	Wuppa

What Water Asset Are you Capturing: Water Meter

Water Meter Type: Lot

Bulk Water Meter Size (mm):

Bulk Water Meter Condition:

Bulk Water Meter Comment:

Lot Number:

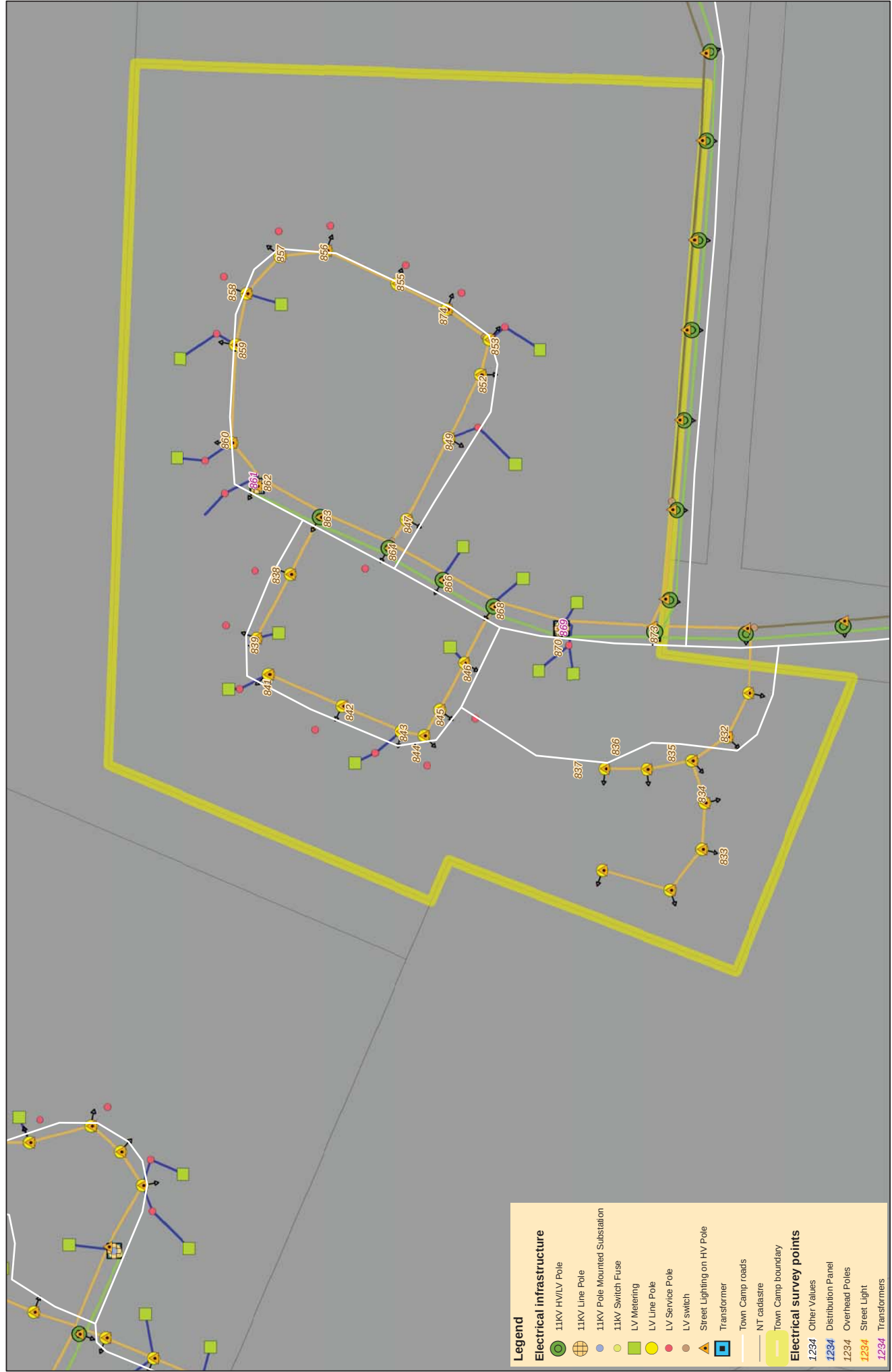
Lot Water Meter Size: 25

Lot Water Meter Condition: 3 - Good

Lot Water Meter Comment:



Electrical inspection reports



A3 scale: 1:2,000



Date: 23/02/2017 Version: 3
Coordinate system: MGA94 Zone 52

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:00:43 PM

Insp ID: 840

Group 3 - Tennant Creek, Elliott

Wuppa

What Comms Category are you capturing:

Distribution

What is distribution method to households:

Underground

Is it Shared with PWC:

Is there Anti-climb barrier provided for this pole:

What is Pole construction type:

Is street light fitted:

Is there concrete collar around the base of pole:

What is the condition of tap off to house:

What is the condition of pole:

How many Lots are connected to this pole:

Is there access to Pits to take a photo:

No

What is Pit Condition:

2

Underground Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:37:21 PM

Insp ID: 848

Group 3 - Tennant Creek, Elliott

Wuppa

What Comms Category are you capturing:

Distribution

What is distribution method to households:

Underground

Is it Shared with PWC:

Is there Anti-climb barrier provided for this pole:

What is Pole construction type:

Is street light fitted:

Is there concrete collar around the base of pole:

What is the condition of tap off to house:

What is the condition of pole:

How many Lots are connected to this pole:

Is there access to Pits to take a photo:

No

What is Pit Condition:

3

Underground Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:30:33 PM

Insp ID: 850	Group 3 - Tennant Creek, Elliott	Wuppa

What Comms Category are you capturing:	Distribution
What is distribution method to households:	Underground

Is it Shared with PWC:

Is there Anti-climb barrier provided for this pole:

What is Pole construction type:

Is street light fitted:

Is there concrete collar around the base of pole:

What is the condition of tap off to house:

What is the condition of pole:

How many Lots are connected to this pole:

Is there access to Pits to take a photo:	No
What is Pit Condition:	3

Underground Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:42:13 PM

Insp ID: 865

Group 3 - Tennant Creek, Elliott

Wuppa

What Comms Category are you capturing:

Distribution

What is distribution method to households:

Underground

Is it Shared with PWC:

Is there Anti-climb barrier provided for this pole:

What is Pole construction type:

Is street light fitted:

Is there concrete collar around the base of pole:

What is the condition of tap off to house:

What is the condition of pole:

How many Lots are connected to this pole:

Is there access to Pits to take a photo:

No

What is Pit Condition:

3

Underground Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:36:30 PM

Insp ID: 867

Group 3 - Tennant Creek, Elliott

Wuppa

What Comms Category are you capturing:

Distribution

What is distribution method to households:

Underground

Is it Shared with PWC:

Is there Anti-climb barrier provided for this pole:

What is Pole construction type:

Is street light fitted:

Is there concrete collar around the base of pole:

What is the condition of tap off to house:

What is the condition of pole:

How many Lots are connected to this pole:

Is there access to Pits to take a photo:

No

What is Pit Condition:

3

Underground Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:25:43 PM

Insp ID: 872	Group 3 - Tennant Creek, Elliott	Wuppa

What Comms Category are you capturing:	Distribution
What is distribution method to households:	Underground

Is it Shared with PWC:

Is there Anti-climb barrier provided for this pole:

What is Pole construction type:

Is street light fitted:

Is there concrete collar around the base of pole:

What is the condition of tap off to house:

What is the condition of pole:

How many Lots are connected to this pole:

Is there access to Pits to take a photo:	No
What is Pit Condition:	2

Underground Comments:



Northern Territory Town Camps

Communications Infrastructure

Inspection Date 1/12/2016 3:29:49 PM

Insp ID: 851

Group 3 - Tennant Creek, Elliott

Wuppa

- What Comms Category are you capturing:

General
- Telstra Comms Drawing Available:

No
- Facility upgrade not in drawings:

No
- Which telecoms carriers are present in the town camp:
- How many Communications Pit(s) are allocated in this town camp:



Northern Territory Town Camps

Communications Infrastructure

Inspection Date 1/12/2016 2:26:22 PM

Insp ID: 871

Group 3 - Tennant Creek, Elliott

Wuppa

- What Comms Category are you capturing:General
- Telstra Comms Drawing Available:No
- Facility upgrade not in drawings:No
- Which telecoms carriers are present in the town camp:
- How many Communications Pit(s) are allocated in this town camp:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 6/12/2016 3:41:43 PM

Insp ID: 3448

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Electrical Meters

Meter Type: Prepaid
Meter Switchboard Cond: 3
Meter Condition: 3
Meter Comment: Indoor SB, Cond 3
Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 6/12/2016 3:57:30 PM

Insp ID: 3556

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Electrical Meters

Meter Type: Prepaid

Meter Switchboard Cond: 3

Meter Condition: 3

Meter Comment: Indoor SB, Cond 3

Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 10/01/2017 2:30:38 PM

Insp ID: 3566

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Electrical Meters

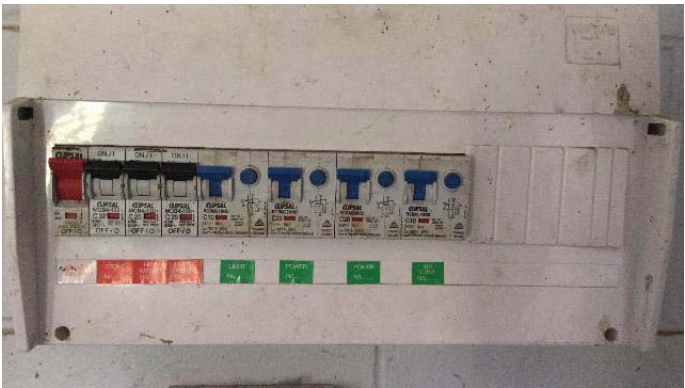
Meter Type: Prepaid

Meter Switchboard Cond: 3

Meter Condition: 3

Meter Comment: Indoor SB, Cond 3

Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 9/01/2017 1:34:31 PM

Insp ID: 3571

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Electrical Meters

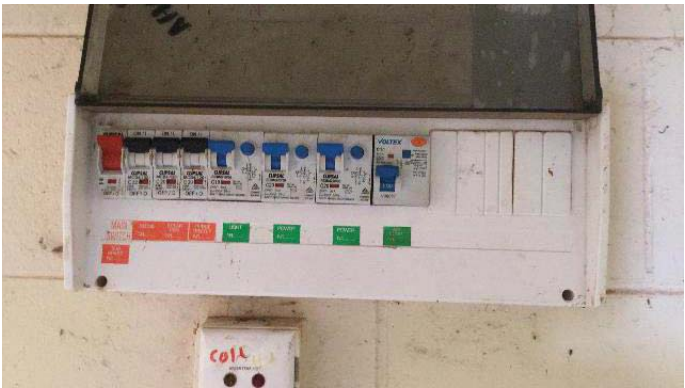
Meter Type: Prepaid

Meter Switchboard Cond: 3

Meter Condition: 3

Meter Comment: Indoor SB, Cond 3

Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 9/01/2017 1:17:15 PM

Insp ID: 3572

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Electrical Meters

Meter Type: Prepaid

Meter Switchboard Cond: 3

Meter Condition: 3

Meter Comment: Indoor SB, Cond 3

Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 9/01/2017 1:02:48 PM

Insp ID: 3573

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Electrical Meters

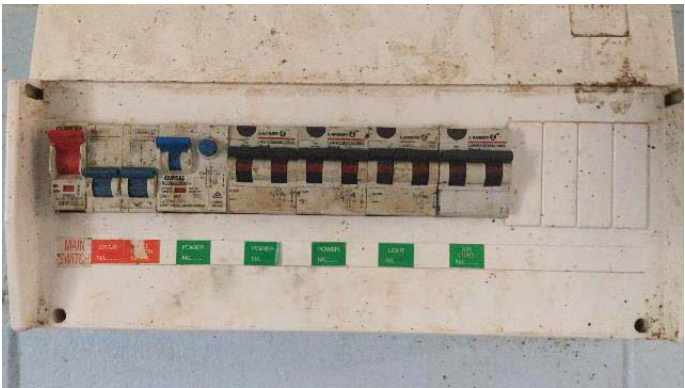
Meter Type: Prepaid

Meter Switchboard Cond: 3

Meter Condition: 3

Meter Comment: Indoor SB, Cond 3

Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 9/01/2017 12:53:02 PM

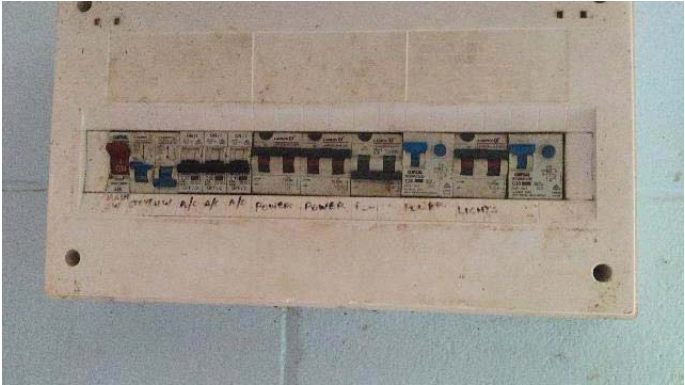
Insp ID: 3574

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Electrical Meters

Meter Type: Prepaid
Meter Switchboard Cond: 3
Meter Condition: 3
Meter Comment: Indoor SB, Cond 3
Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 9/01/2017 1:43:40 PM

Insp ID: 3577

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Electrical Meters

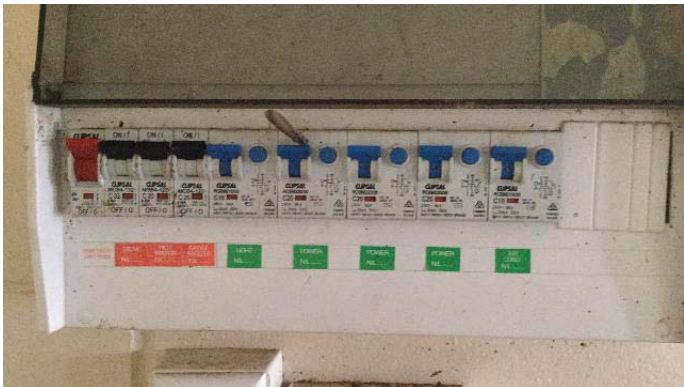
Meter Type: Prepaid

Meter Switchboard Cond: 3

Meter Condition: 3

Meter Comment: Indoor SB, Cond 3

Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 9/01/2017 12:56:57 PM

Insp ID: 3578

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Electrical Meters

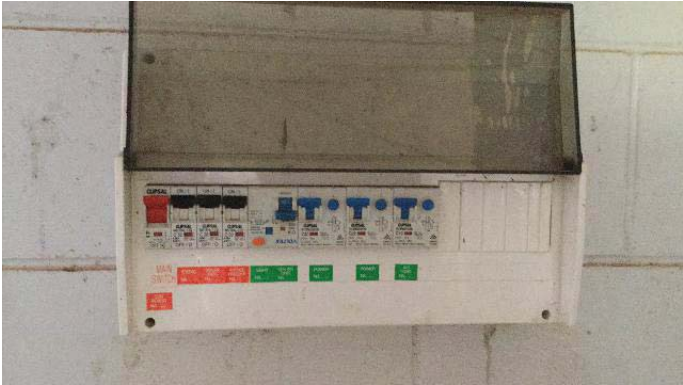
Meter Type: Prepaid

Meter Switchboard Cond: 3

Meter Condition: 3

Meter Comment: Indoor SB, Cond 3

Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 10/01/2017 9:33:29 AM

Insp ID: 3582

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Electrical Meters

Meter Type: Prepaid

Meter Switchboard Cond: 3

Meter Condition: 3

Meter Comment: Indoor SB, Cond 3

Comments:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:31:46 PM

Insp ID: 832

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:31:46 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:27:50 PM

Insp ID: 833

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 10

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:27:50 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:21:54 PM

Insp ID: 834

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 10

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:21:54 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:19:30 PM

Insp ID: 835Group 3 - Tennant Creek, ElliottWuppa

What Category are you capturing: Overhead Poles

What is Pole Material type:Welded

What is the condition of pole:3

How is the pole planted:Concrete

What is the Condition of plant:3

Is street light fitted:Yes

Street Light Power Supply:

Street Light TypeS70D 05

Street Light Watts

Street Light Condition2

Street Light Height

What is the type of service:Three

What is the HV voltage level:400

What is the arrangement of connected cables:Twisted

Are there isolators on the pole:No

What is the Condition:3

How many Lots are connected to this pole:0

Overhead Pole Comments:Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:19:30 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:17:17 PM

Insp ID: 836

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 09

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:17:17 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:14:43 PM

Insp ID: 837Group 3 - Tennant Creek, ElliottWuppa

What Category are you capturing: Overhead Poles

What is Pole Material type:

Welded

What is the condition of pole:

3

How is the pole planted:

Concrete

What is the Condition of plant:

3

Is street light fitted:

Yes

Street Light Power Supply:

Street Light Type

S70D 11

Street Light Watts

Street Light Condition

2

Street Light Height

What is the type of service:

Three

What is the HV voltage level:

400

What is the arrangement of connected cables:

Twisted

Are there isolators on the pole:

No

What is the Condition:

3

How many Lots are connected to this pole:

0

Overhead Pole Comments:

Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:14:43 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:10:43 PM

Insp ID: 838

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 3

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 1

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:10:43 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:07:45 PM

Insp ID: 839

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 1

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:07:45 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:59:38 PM

Insp ID: 841

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 1

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:59:38 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:56:49 PM

Insp ID: 842

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 14

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:56:49 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:54:04 PM

Insp ID: 843

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 1

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:54:04 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:51:49 PM

Insp ID: 844

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:51:49 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:49:17 PM

Insp ID: 845

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 15

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:49:17 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:47:00 PM

Insp ID: 846

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 15

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole:

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:47:00 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:40:12 PM

Insp ID: 847

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:40:12 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:36:33 PM

Insp ID: 849

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant:

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 12

Street Light Watts

Street Light Condition 3

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 1

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:36:33 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:28:54 PM

Insp ID: 852

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 11

Street Light Watts

Street Light Condition 3

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:28:54 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:26:49 PM

Insp ID: 853

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 1

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:26:49 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:21:30 PM

Insp ID: 855

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 14

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole:

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:21:30 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:17:22 PM

Insp ID: 856

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:17:22 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:15:04 PM

Insp ID: 857

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 12

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:15:04 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:09:48 PM

Insp ID: 858

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 1

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:09:48 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:07:11 PM

Insp ID: 859Group 3 - Tennant Creek, ElliottWuppa

What Category are you capturing: Overhead Poles

What is Pole Material type:Welded

What is the condition of pole:3

How is the pole planted:Concrete

What is the Condition of plant:3

Is street light fitted:Yes

Street Light Power Supply:

Street Light TypeM125D 10

Street Light Watts

Street Light Condition2

Street Light Height

What is the type of service:Three

What is the HV voltage level:400

What is the arrangement of connected cables:Twisted

Are there isolators on the pole:No

What is the Condition:3

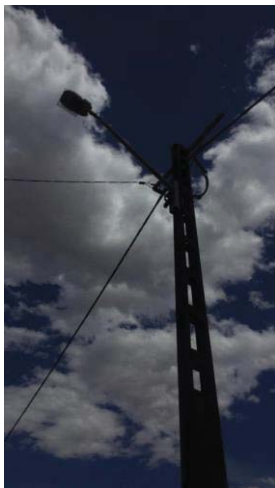
How many Lots are connected to this pole:1

Overhead Pole Comments:Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:07:11 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:01:36 PM

Insp ID: 860

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Three

What is the HV voltage level: 400

What is the arrangement of connected cables: Twisted

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 1

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:01:36 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:55:28 PM

Insp ID: 862

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Combined

What is the HV voltage level: 11000

What is the arrangement of connected cables: Parallel

Are there isolators on the pole: Yes

What is the Condition: 3

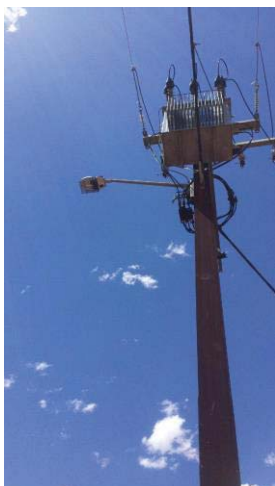
How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:55:28 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:47:52 PM

Insp ID: 863

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Combined

What is the HV voltage level: 11000

What is the arrangement of connected cables: Parallel

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:47:52 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:44:29 PM

Insp ID: 864

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Combined

What is the HV voltage level: 11000

What is the arrangement of connected cables: Parallel

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:41:32 PM

Insp ID: 866

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 15

Street Light Watts

Street Light Condition 2

Street Light Height

What is the type of service: Combined

What is the HV voltage level: 11000

What is the arrangement of connected cables: Parallel

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 1

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:41:32 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:35:44 PM

Insp ID: 868

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 3

Street Light Height

What is the type of service: Combined

What is the HV voltage level: 11000

What is the arrangement of connected cables: Parallel

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 1

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:35:44 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:29:19 PM

Insp ID: 870Group 3 - Tennant Creek, ElliottWuppa

What Category are you capturing: Overhead Poles

What is Pole Material type:

Welded

What is the condition of pole:

3

How is the pole planted:

Concrete

What is the Condition of plant:

3

Is street light fitted:

Yes

Street Light Power Supply:

Street Light Type

S150C 60

Street Light Watts

Street Light Condition

3

Street Light Height

What is the type of service:

Combined

What is the HV voltage level:

11000

What is the arrangement of connected cables:

Parallel

Are there isolators on the pole:

Yes

What is the Condition:

3

How many Lots are connected to this pole:

2

Overhead Pole Comments:

Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:29:19 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:25:02 PM

Insp ID: 873

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

What is Pole Material type: Welded

What is the condition of pole: 3

How is the pole planted: Concrete

What is the Condition of plant: 3

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S150D 18

Street Light Watts

Street Light Condition 3

Street Light Height

What is the type of service: Combined

What is the HV voltage level: 11000

What is the arrangement of connected cables: Parallel

Are there isolators on the pole: No

What is the Condition: 3

How many Lots are connected to this pole: 0

Overhead Pole Comments: Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:25:02 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:24:09 PM

Insp ID: 874Group 3 - Tennant Creek, ElliottWuppa

What Category are you capturing: Overhead Poles

What is Pole Material type:Welded

What is the condition of pole:3

How is the pole planted:Concrete

What is the Condition of plant:3

Is street light fitted:No Access

Street Light Power Supply:

Street Light Type

Street Light Watts

Street Light Condition

Street Light Height

What is the type of service:Three

What is the HV voltage level:400

What is the arrangement of connected cables:Twisted

Are there isolators on the pole:No

What is the Condition:3

How many Lots are connected to this pole:0

Overhead Pole Comments:Surface rusted

Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:24:09 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:31:46 PM

Insp ID: 832

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:31:46 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:27:50 PM

Insp ID: 833

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 10

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:21:54 PM

Insp ID: 834

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

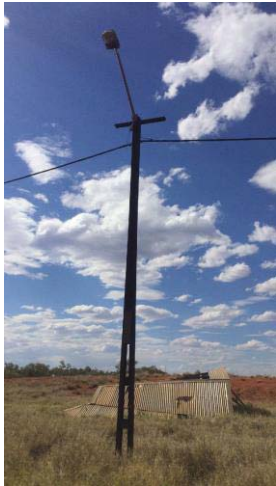
Street Light Power Supply:

Street Light Type S70D 10

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:19:30 PM

Insp ID: 835

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 05

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:17:17 PM

Insp ID: 836

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 09

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:17:17 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:14:43 PM

Insp ID: 837

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 11

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:14:43 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:10:43 PM

Insp ID: 838

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:10:43 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 4:07:45 PM

Insp ID: 839

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:59:38 PM

Insp ID: 841

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:59:38 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:56:49 PM

Insp ID: 842

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 14

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:56:49 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:54:04 PM

Insp ID: 843

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:54:04 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:51:49 PM

Insp ID: 844

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:51:49 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:49:17 PM

Insp ID: 845

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 15

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:47:00 PM

Insp ID: 846

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 15

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:47:00 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:40:12 PM

Insp ID: 847

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:40:12 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:36:33 PM

Insp ID: 849

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 12

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:36:33 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:28:54 PM

Insp ID: 852

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 11

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:28:54 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:26:49 PM

Insp ID: 853

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:26:49 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:21:30 PM

Insp ID: 855

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 14

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:21:30 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:17:22 PM

Insp ID: 856

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

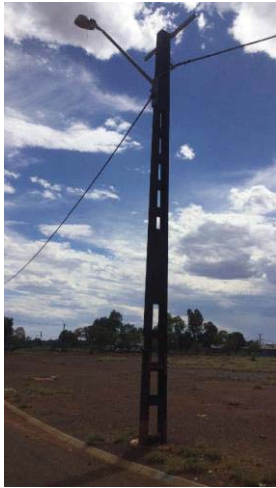
Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:17:22 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:15:04 PM

Insp ID: 857

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 12

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:15:04 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:09:48 PM

Insp ID: 858

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:09:48 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:07:11 PM

Insp ID: 859

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

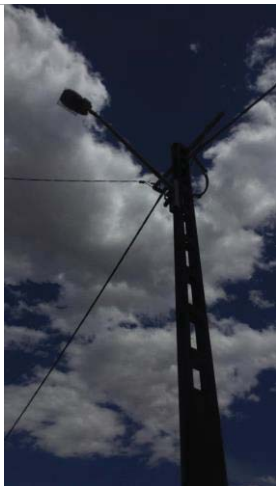
Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:07:11 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:01:36 PM

Insp ID: 860

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 3:01:36 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:55:28 PM

Insp ID: 862

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:55:28 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:47:52 PM

Insp ID: 863

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:47:52 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:44:29 PM

Insp ID: 864

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type M125D 10

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:44:29 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:41:32 PM

Insp ID: 866

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 15

Street Light Watts

Street Light Condition 2

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:41:32 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:35:44 PM

Insp ID: 868

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S70D 13

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:29:19 PM

Insp ID: 870

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S150C 60

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:29:19 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:25:02 PM

Insp ID: 873

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Overhead Poles

Is street light fitted: Yes

Street Light Power Supply:

Street Light Type S150D 18

Street Light Watts

Street Light Condition 3

Street Light Height



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:25:02 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:58:37 PM

Insp ID: 861

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Transformers

What is Transformer installation method: Pole

If method know: 11SS1P

What is the condition of the mounting: 3

What is Transformer Rating: Unknown

Is there access to transformers name plate to take a photo: No

What is the condition of transformer: 3

What is cable type to transformer: PVC insulated black

What is cable size to transformer:

Is there switch gear or fusing associated with the transformer: Cut out fuse

Transformer Comment:



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:58:37 PM



Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:32:35 PM

Insp ID: 869

Group 3 - Tennant Creek, Elliott

Wuppa

What Category are you capturing: Transformers

What is Transformer installation method: Pole

If method know: 11SS1P

What is the condition of the mounting: 3

What is Transformer Rating: Unknown

Is there access to transformers name plate to take a photo: No

What is the condition of transformer: 3

What is cable type to transformer: PVC insulated black

What is cable size to transformer:

Is there switch gear or fusing associated with the transformer: Cut out fuse

Transformer Comment:



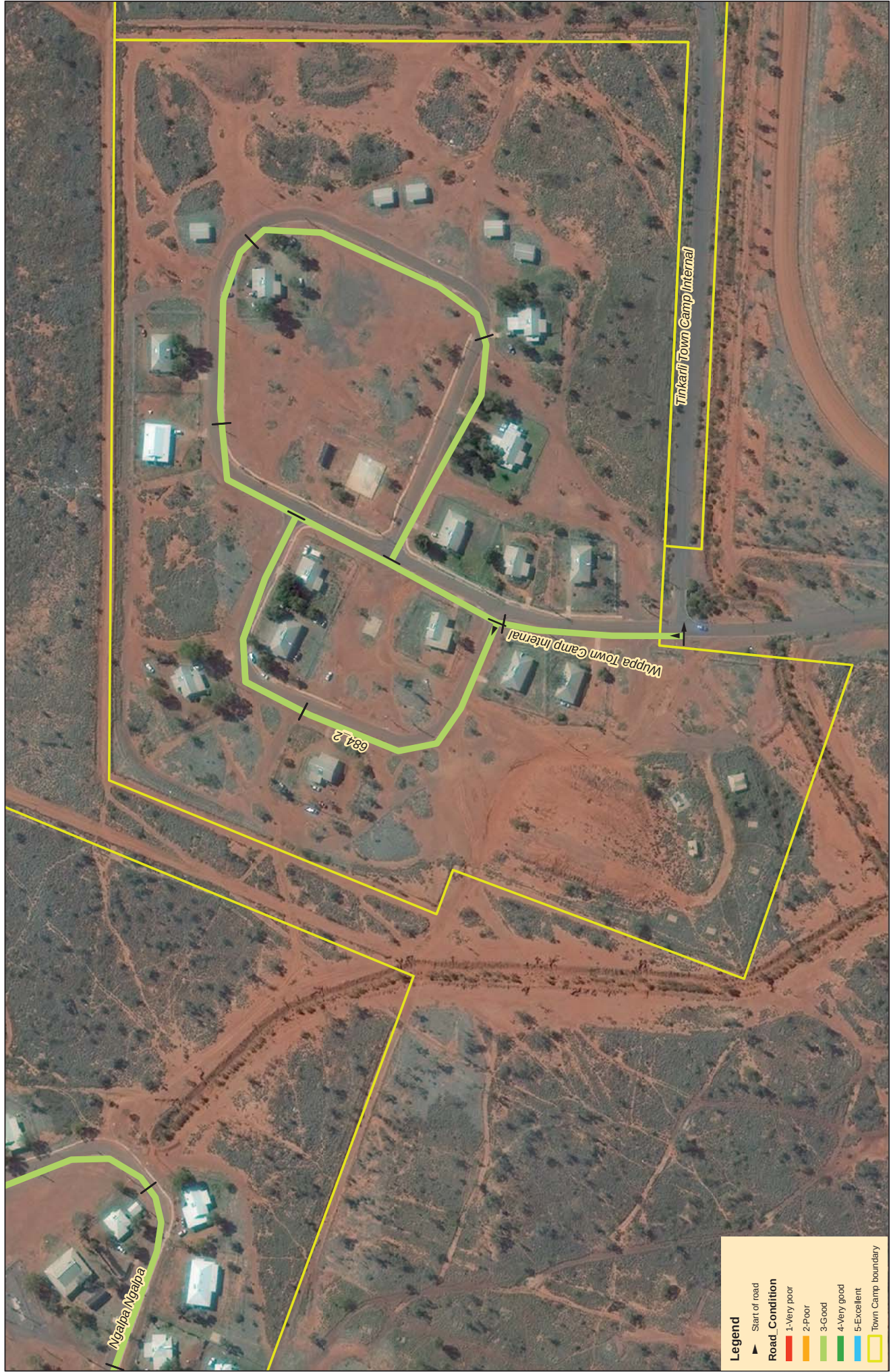
Northern Territory Town Camps

Electrical Infrastructure

Inspection Date 1/12/2016 2:32:35 PM



Road map



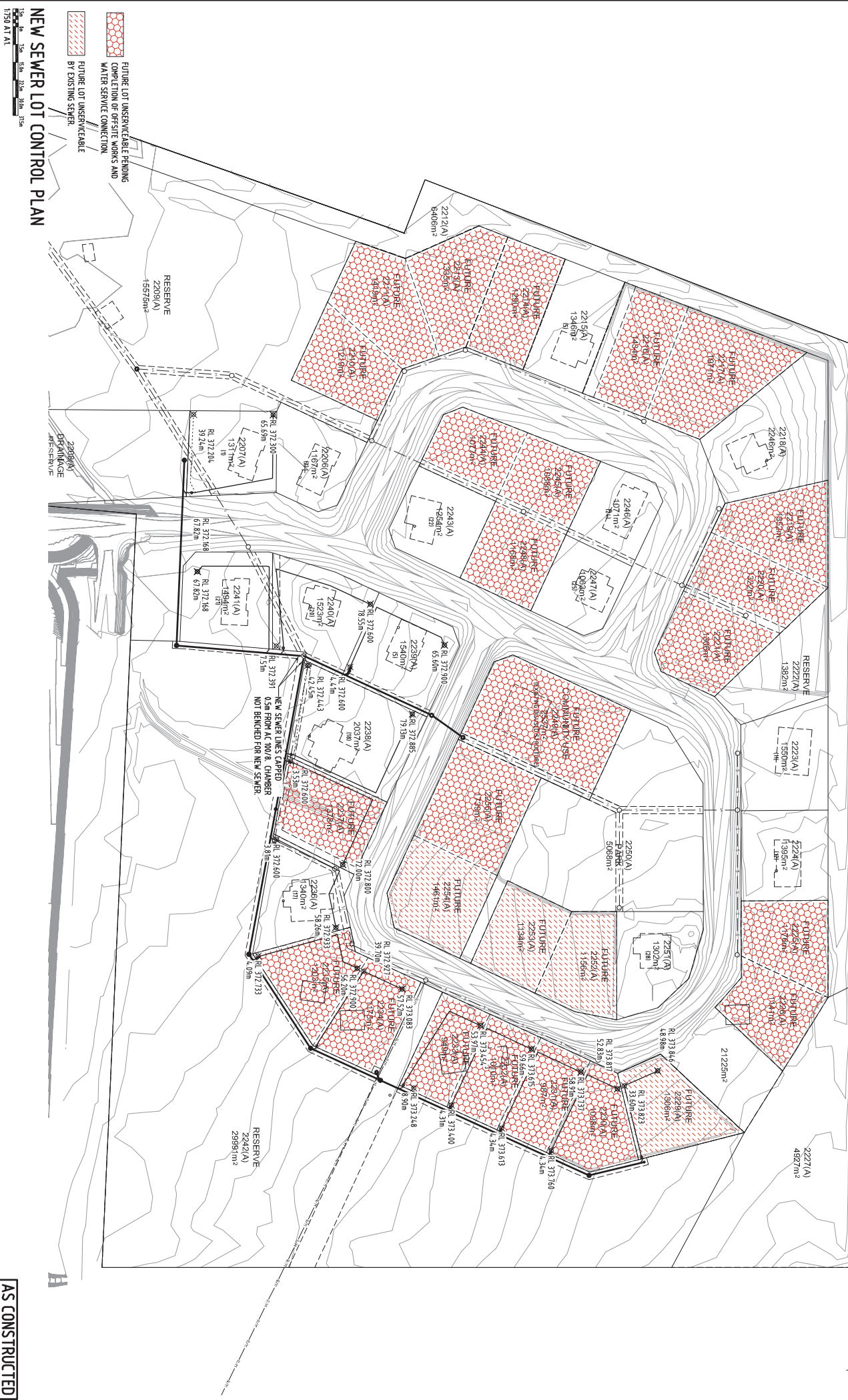
Existing drawings

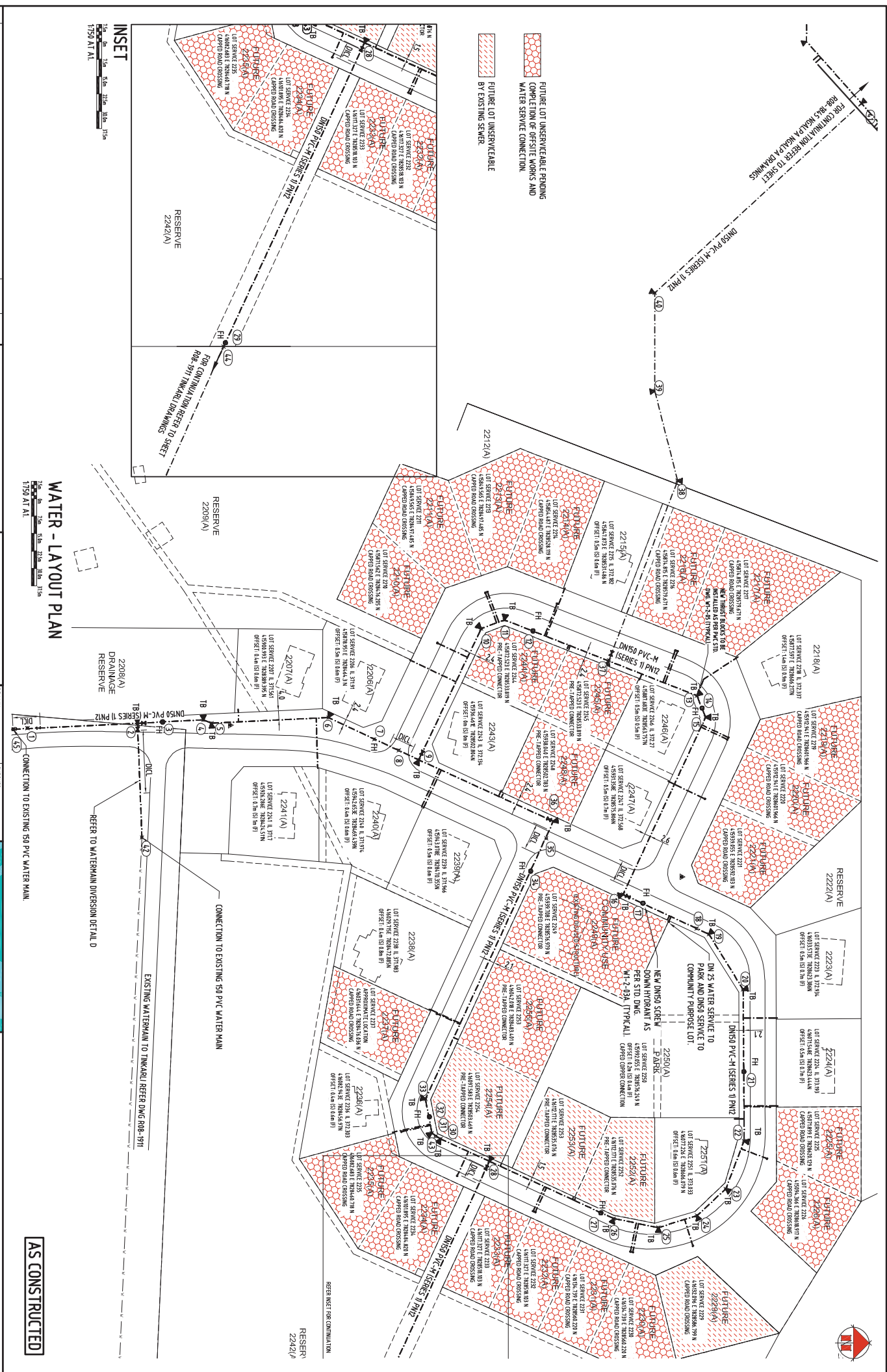
territory
housing



Northern Territory Government
Department of Planning and Infrastructure

FILE NO.	ASSET NO.	SHEET NO.	DRAWING NO.	AMEND.	SHEET NO.
-	-	C04.07 OF 32	B10-14.9A.5	2	AT





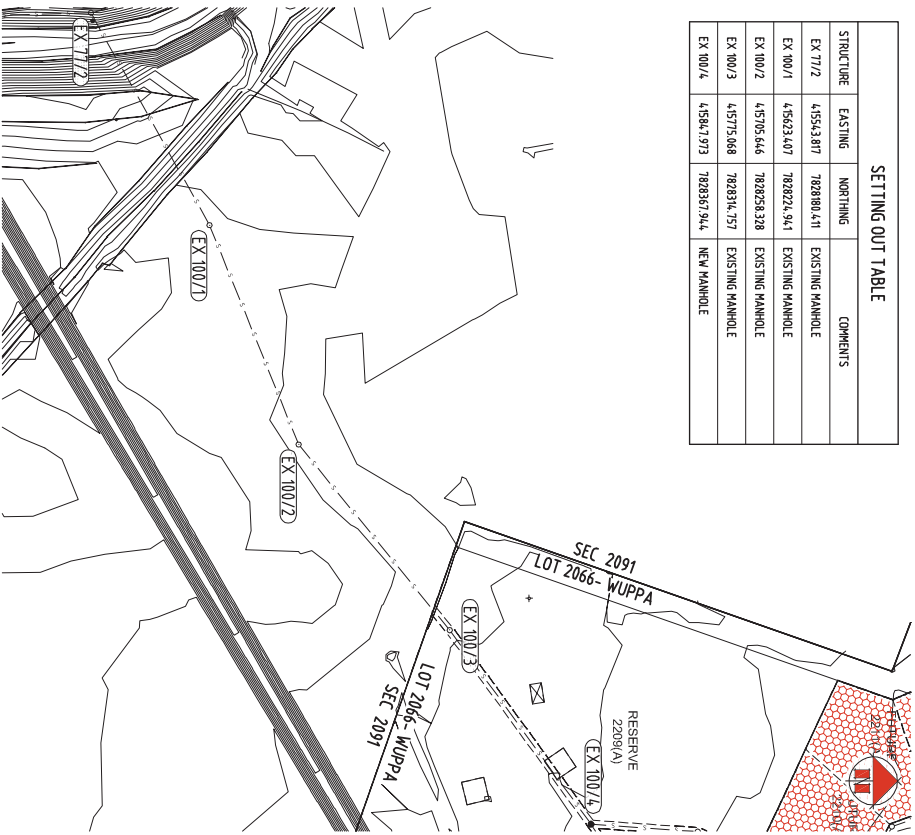
ASSET No.	SHEET No.	DRAWING No.	AREAS
-	COA.03 OF 32	R08-1870	5

[illegible]

 territory housing IP-02-684-CV-DWG-0055	DATE	SEPT 2008	DATE	SEPT 2008	 Northern Territory Government Department of Planning and Infrastructure
	DESIGNED	JTL	DRAWN		
	DATE	SEP 7 2008	DATE	SEP 1 2008	
	DESIGN PROJECT LEADER		PROJECT OFFICER		
DATE		DATE			

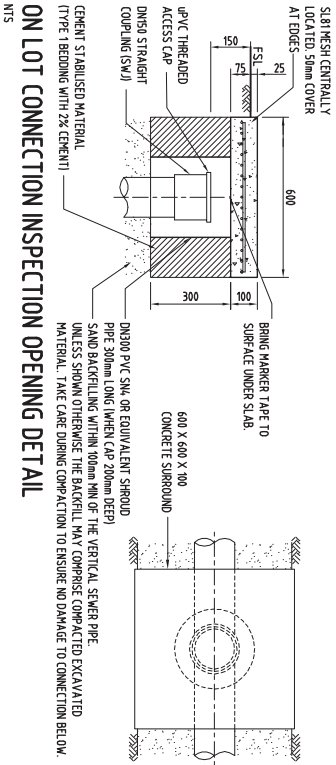
ASSET No.	SHEET No.	DRAWING No.	AREAL SQ. FT.
-	C04.03 OF 32	R08-1870	5 A1

SETTING OUT TABLE			
STRUCTURE	EASTING	NORTHING	COMMENTS
EX 77/2	45563.87	782386.471	EXISTING MANHOLE
EX 100/1	45563.407	782823.941	EXISTING MANHOLE
EX 100/2	45705.646	782829.328	EXISTING MANHOLE
EX 100/3	45715.688	782834.157	EXISTING MANHOLE
EX 100/4	45847.973	782837.944	NEW MANHOLE



SEWERAGE LAYOUT PLAN

1:1000 AT A1



ON LOT CONNECTION INSPECTION OPENING DETAIL

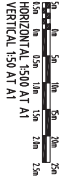
NTS

JOINS WITH LINE NO. MANHOLE & COVER TYPE MANHOLE DROP TYPE MANHOLE NUMBER

LINE NO.	MANHOLE & COVER TYPE	MANHOLE DROP TYPE	MANHOLE NUMBER
C(1200)RB	C(1200)RB	C(1200)RB	C(1200)RB
1	1	1	1
EX 77/2	EX 100/1	EX 100/2	EX 100/3
EX 100/4	EX 100/4	EX 100/4	EX 100/4

LOCATION	PIPE TYPE & CLASS	LENGTH-DIAMETER GRADE	DATUM R.L.	RL TOP OF MANHOLE	DEPTH TO INVERT	INVERT LEVEL	FINISHED SURFACE LEVEL	NATURAL SURFACE	CHAINAGE
EXISTING LINE 100	UPVC-SN8	91.20-150	354.00	371.716	4.56	367.156	370.961	370.961	0.000
EXISTING LINE 100	UPVC-SN8	88.76-150	354.00	371.557	3.74	367.817	371.544	371.544	91.200
EXISTING LINE 100	UPVC-SN8	89.67-150	354.00	371.649	3.33	368.319	371.646	371.646	179.958
EXISTING LINE 100	UPVC-SN8	90.04-150	354.00	372.085	3.31	368.772	371.682	371.682	269.630
EXISTING LINE 100	UPVC-SN8	90.04-150	354.00	372.129	2.70	369.433	372.015	372.015	359.668

SEWERAGE LONGSECTION (BEYOND ULA)



VERTICAL 150 AT A1

AS CONSTRUCTED

OPUS

OPUS QANTEC McWILLIAM

A.B.N. 79 008 342 085

Level 1, 60 Smith Street

Darwin NT 0801

Telephone: (08) 8081 7500

Facsimile: (08) 8081 7500

Email: darwin@opusqntec.com.au

QCEA

The Association of Consulting Engineers Australia

100 Smith Street

Darwin NT 0801

territory housing

Department of Planning and Infrastructure

TENNANT CREEK

WUPPA (684) - LOT 2066 PERRY DRIVE, TENNANT CREEK

INFRASTRUCTURE DESIGN PROJECT FOR TENNANT CREEK URBAN LIVING AREAS

SEWERAGE - LAYOUT PLAN & LONGSECTION (BEYOND ULA)

FILE No.

ASSET No.

SHEET No.

DRAWING No.

AMEND

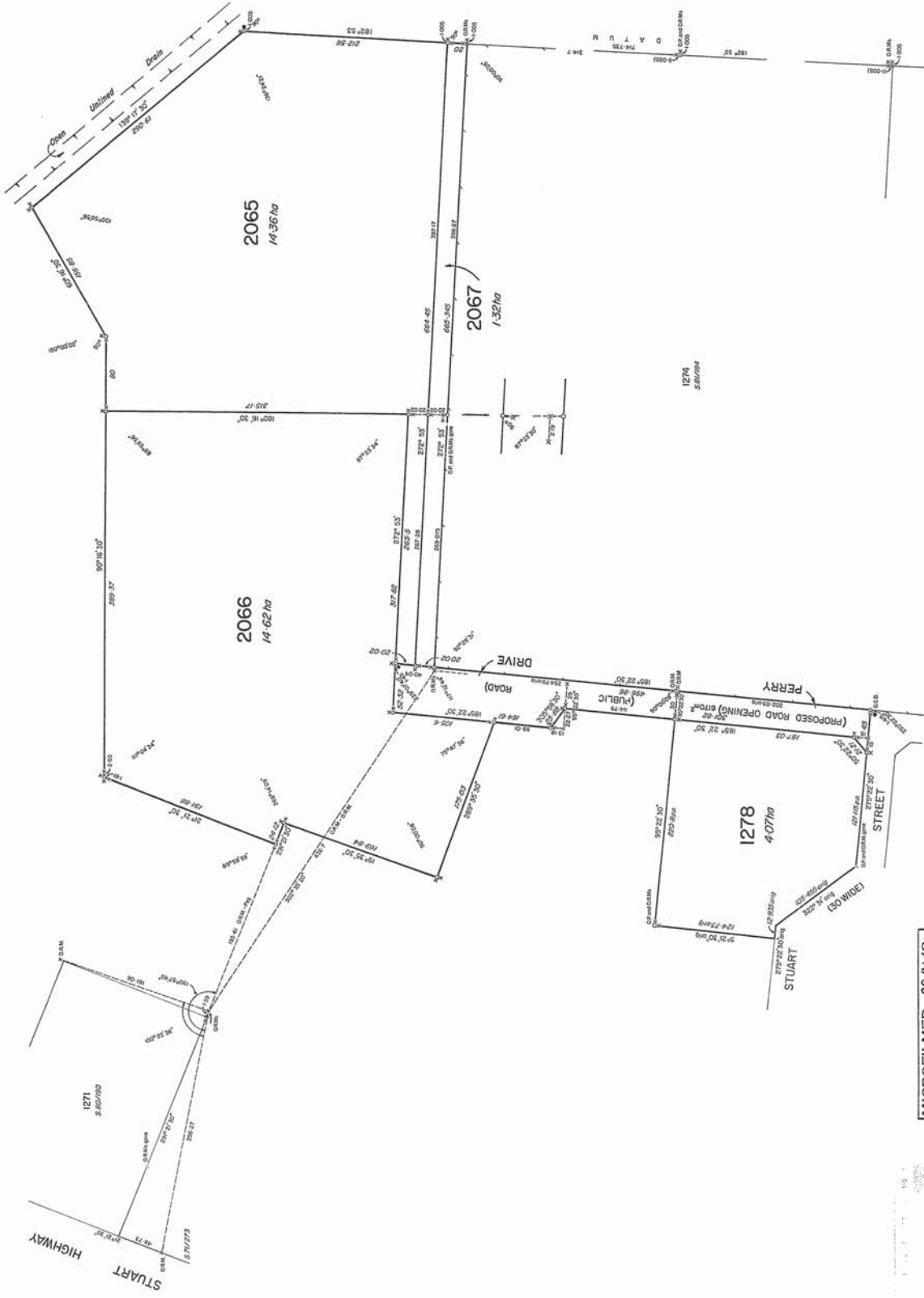
SHEET

1730

Year	Men (%)	Women (%)
1990	85	85
1995	80	80
2000	85	85
2005	90	88
2010	95	90



SUPERSEDES PART S82/19



MICROFILMED 28/11/90

	THOMAS JIM MCDONNELL Licensed Surveyor 1/1/98	SURVEY APPROVED 23/11/90 Director of the Land and Planning Northern Territory	AMENDMENTS 1.	Date 28/11/90	Notes Reference to the map of the survey plan is to be made in accordance with the provisions of the Land and Planning Act 1988. Areas to be surveyed from L.P. 400 (Lot 1271) to 400 (Lot 1278).	Field Book S.88/37 D. M. WHITE 23-8-88	Examined M. J. MCDONNELL 23-8-88	Map Reference TENANT CREEK 1:2500 SHEETS 23, 24	ADMITH Assumed from S. 81/194 Observed at	LEGEND Concrete Post Concrete Block Peg or Wooden Post Reference Mark Lock Fence Post	LOTS 1278 AND 2065 TO 2067 TOWN OF TENANT CREEK	SCALE 1:2000 S.88/37

WARNING - Damaged or altered plan will be replaced

Date Registered: 18/07/1994

Volume 371 Folio 161

Duplicate Certificate as to Title issued? Yes

SEARCH CERTIFICATE

CROWN LEASE IN PERPETUITY 01123

Lot 2066 Town of Tennant Creek from plan(s) S 88/37

Area under title is 14 hectares 6200 square metres

Owner:

Julalikari Housing Incorporated

of 13 Maloney Street, Tennant Creek NT 0860

Registered Date	Dealing Number	Description
		Previous title is Volume 371 Folio 019
26/11/1996	364710	Statutory Notice - Prescribed Property
18/07/1994	312147	Notice of a Right to a Grant of Interest
End of Dealings		

IMPORTANT MESSAGE: This title information is compiled from the paper register and may be incomplete. Please refer to the scanned image of the paper title for further details. Contact Land Titles Office staff for assistance.

Commencement Date: 29th June, 1994

Expiry Date: In Perpetuity

Reservations:

1. Reservation of right of entry and inspection.
2. Reservation of all minerals, mineral substances and ores in or under the land including gems, stones, sands, valuable earths and fossil fuels.
3. Reservation of power of resumption.

Provisions:

1. The purpose of the lease ('the lease purpose') is Aboriginal Residential Complex (Wuppa).
2. The annual rent for the lease shall be ten (10) cents if and when demanded.
3. If the rent referred to in provision 2 is unpaid for six months or more, the lease shall be liable to be forfeited.
4. This lease is granted under and subject to the Crown Lands Act and the Regulations for the time being in force thereunder, and is conditional upon compliance by the Lessee with the covenants and conditions to be complied with by the Lessee, and shall, subject to the Crown Lands Act and the Regulations, be liable to be determined and forfeited for non-compliance with any such covenant or condition.
5. The Lessee, having paid all rent due to be paid by the Lessee may at any time surrender the lease in the manner prescribed under the Crown Lands Act.
6. For the purposes of sections 58 and 59 of the Crown Lands Act the Lessee agrees that the Minister may at his absolute discretion determine the Lessee's rights in improvements and whether compensation is payable for improvements following surrender, expiry, termination or forfeiture of this lease.

Conditions and covenants:

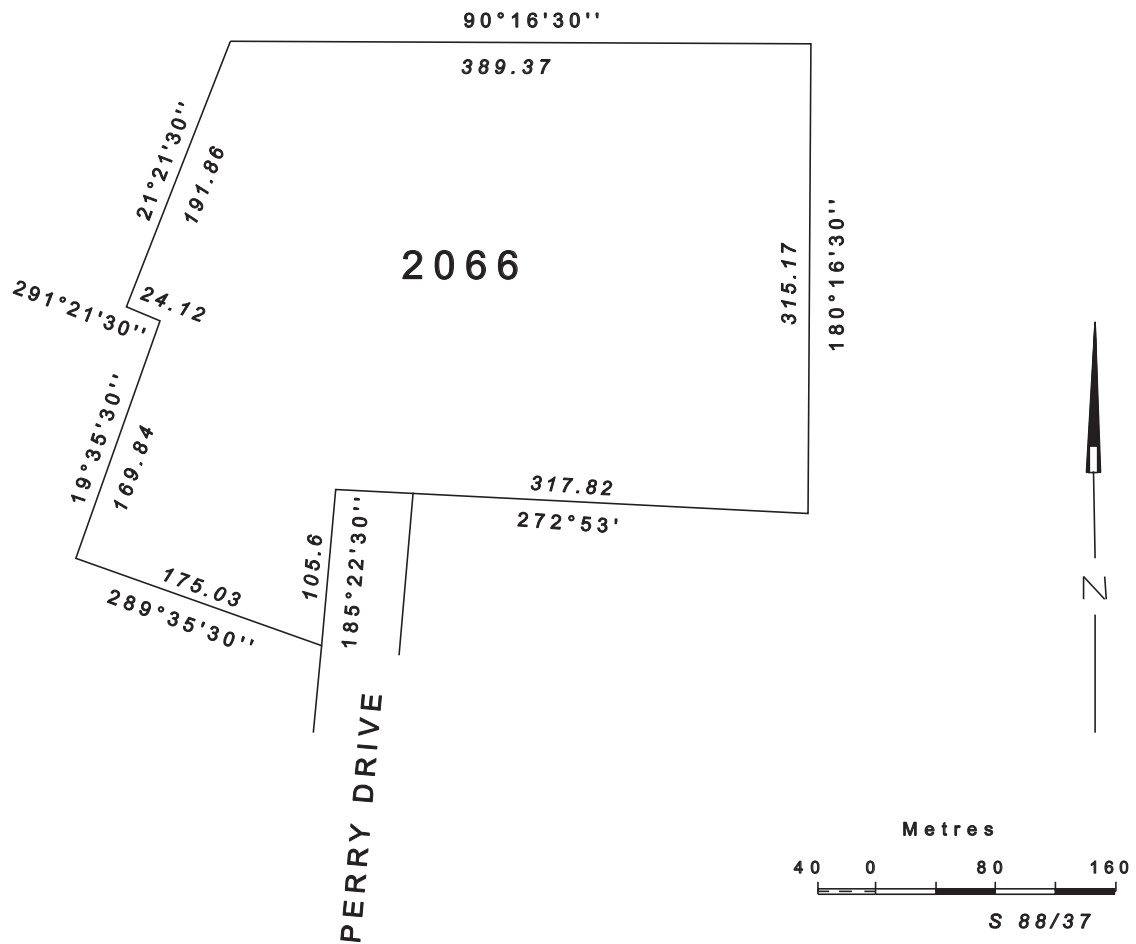
Duplicate Certificate as to Title issued? Yes

1. Subject to the Crown Lands Act the Lessee will not use the land for a purpose other than the lease purpose.
2. The Lessee will pay rates and taxes which may at any time become due in respect of the leased land.
3. The Lessee will pay the rent annually in advance.
4. The Lessee will at all times maintain and repair and keep in repair all improvements to the value of five hundred thousand dollars (\$500,000) on the land to the satisfaction of the Minister.
5. All development will be in accordance with any Planning Instrument and or any Instrument of Determination issued under the Planning Act affecting the land subject of the lease.
6. The Lessee will, in respect of land included in the lease, ensure that at all times and to the satisfaction of the Minister, the land is kept clean, tidy and free from weeds, debris, dry herbage, rubbish, carcasses of animals and other unsightly or offensive matter and harbour for insects, pests and the breeding of mosquitoes.
7. The Lessee covenants with the Minister that if the Lessee fails to observe and carry out or to cause to be observed or carried out the requirements of condition 6 above, the Territory will have a right to enter onto the leased premises and do all things necessary to that end and the expense and cost thereof (as determined by the Minister) will be borne and payable by the Lessee on demand.
8. The Lessee will at all times maintain and repair and keep in repair the whole of the boundary fence of the leased land to the satisfaction of the Minister.

In addition the Lessee will share the cost of erecting a 1.83m fence for a total length of 1577m surrounding Lot 1274, Town of Tennant Creek, on a 50/50 share basis with the Tennant Creek Town Council.

9. That all electrical reticulation, water reticulation and sewerage will conform at all times with the appropriate by-laws, standards and specification of the Power and Water Authority.
10. That the leased land will be dust suppressed and adequately drained for stormwater and all such drainage will conform at all times with the appropriate by-laws, standards and specifications of the Department of Transport and Works and the Town Engineer, Tennant Creek Town Council.
11. The access to the leased land will be constructed in accordance with plans and specifications previously submitted to and approved by the Tennant Creek Town Council.

Duplicate Certificate as to Title issued? Yes





NORTHERN TERRITORY OF AUSTRALIA

Record of Administrative Interests and Information

Record of Administrative Interests and Information

The information contained in this record of Administrative Interests only relates to the below parcel reference.

Parcel Reference: Lot 02066 Town of Tennant Creek plan(s) S 88/37

(See section 38 of the Land Title Act)

Note: The Record of Administrative Interests and Information is not part of the Land Register and is not guaranteed by the Northern Territory of Australia, and the NT Government accepts no Liability for any omission, misstatement or inaccuracy contained in this statement.

Registrar General

Government Land Register

(none found)

Custodian - Registrar General (+61 8 8999 6252)

Current Title

CUFT 371 161 (order 1)

Tenure Type

CROWN LEASE IN PERPETUITY 1123

Tenure Status

Current

Area Under Title

14 hectares 6200 square metres

Owners

Julalikari Housing Incorporated
13 Maloney Street, Tennant Creek NT 0860

Easements

(none found)

Scheme Name

(none found)

Scheme Body Corporate Name

(none found)

Reserved Name(s)

(none found)

Unit Entitlements

(none found)



Transfers

(none found)

Tenure Comments

(none found)

Historic Titles

CUFT 371 019 (order 1)

CUCL 201 093 (order 1)

Visit the website http://www.nt.gov.au/justice/bdm/land_title_office/

Custodian - Surveyor General (+61 8 8995 5362)**Address**

91 PERRY DR, TENNANT CREEK

Survey Plan

S 88/037

Survey Status

Approved

Parcel Status

CURRENT

Parcel Area

14 hectares, 6200 square metres

Map Reference

Code 730 Scale 2500 Sheet 23.33

Parent Parcels

Lot 00294 Town of Tennant Creek plan(s) A 000404

Lot 01142 Town of Tennant Creek plan(s) S 73/028

Parcel Comments

PROP SUB'N FOR JULALIKARI COUNCIL INTO LOTS 2065 AND 2066 VIDE S88/37. SEE S2008/27 LOTS 2206(A) TO 2257(A) ALLOCATION OF ADMIN PARCELS AT WUPPA TOWN CAMP LOT 2066 TENNANT CREEK

Survey Comments

(none found)

Proposed Easements

(none found)

Municipality

BARKLY SHIRE

Region

BARKLY

Custodian - Valuer General (+61 8 8995 5375)**Owner's Last Known Address**

Department of Housing, PROPERTY RATES OFFICER, GPO BOX 4621, DARWIN NT 0801

Parcels in Valuation

Lot 02066 Town of Tennant Creek



Unimproved Capital Value

\$135,000 on 01/07/2015
\$133,000 on 01/07/2012
\$102,500 on 01/07/2010
\$56,000 on 01/07/2004
\$66,000 on 01/07/2001
\$66,000 on 01/07/1998
\$63,000 on 01/07/1995
\$63,000 on 01/07/1992
\$72,000 on 01/01/1990
\$63,000 on 01/01/1987

Valuation Improvements

01/02/1996 Demountable/donga x 8
01/02/1996 House x 20
21/09/1989 Land

Custodian - Property Purchasing (+61 8 8999 6631)**Acquisitions**

(none found)

Custodian - Building Advisory Service (+61 8 8999 8965)**Building Control Areas**

BBTEN001 - Building Control Area

TENNANT CREEK BUILDING AREA

Building Permits

Application Number:

13 of 15

Description:

DWELLING SITE 11

Number of Residential Units:

1

Australian Bureau of Statistics Type:

Separate House

Building Class:

Single Dwelling

Area:

0 square metres

Certification:

Single Dwelling - Full Code - *issued on 19/09/2002*

Visit the website <http://www.nt.gov.au/building/>

Custodian - Town Planning and Development Assessment Services (+61 8 8999 6046)**Planning Scheme Zone**

CL (Community Living)

Interim Development Control Orders

(none found)

Planning Notes

(none found)

Planning Applications**File Number**

PA1990/0212



Type

Development

Date Received

26/04/1990

Application Purpose

COMMUNITY FACILITY THIS SITE IS STUART HIGHWAY

Application Status

Approved

Other Affected Parcels

(none found)

Instrument Signed

28/05/1990

Instrument Number

DV3824

Instrument Issued

Signed

Instrument Status

Completed

File Number

PA1988/0347

Type

Subdivision

Date Received

08/07/1988

Application Purpose

TWO ABORIGINAL LIVING AREAS PLUS ACCESS AREA THIS AREA WAS SUBDIVIDED FROM VCL. PROPOSED LOTS ARE 2066 AND 2065.

Application Status

Approved

Other Affected Parcels

Lot 02065 Town of Tennant Creek

Instrument Signed

28/02/1989

Instrument Number

S01091

Instrument Issued

Signed

Instrument Status

Completed



Custodian - Power and Water Corporation (1800 245 092)

Meters on Parcel

Power Water - Electricity	15
Power Water - Water	2

For Account balances, contact the Power and Water Corporation.

Custodian - Pool Fencing Unit (+61 8 8924 3641)

Swimming Pool/Spa Status

(none found)

For more information, contact the Pool Fencing Unit (+61 8 8924 3641).

Custodian - Mines and Energy (+61 8 8999 5322)

For information on possible Exploration Licences, contact Mines & Energy or visit the website
http://www.nt.gov.au/d/Minerals_Energy/

For information on possible Petroleum Titles, contact Mines & Energy for further details.

Custodian - NT Environment Protection Authority (+61 8 8924 4218)

Results of site contamination assessment

(none found)

For further information contact Environment Protection Authority or visit the website
<https://ntepa.nt.gov.au/waste-pollution/contaminated-land>

Custodian - Heritage Branch (+61 8 8999 5039)

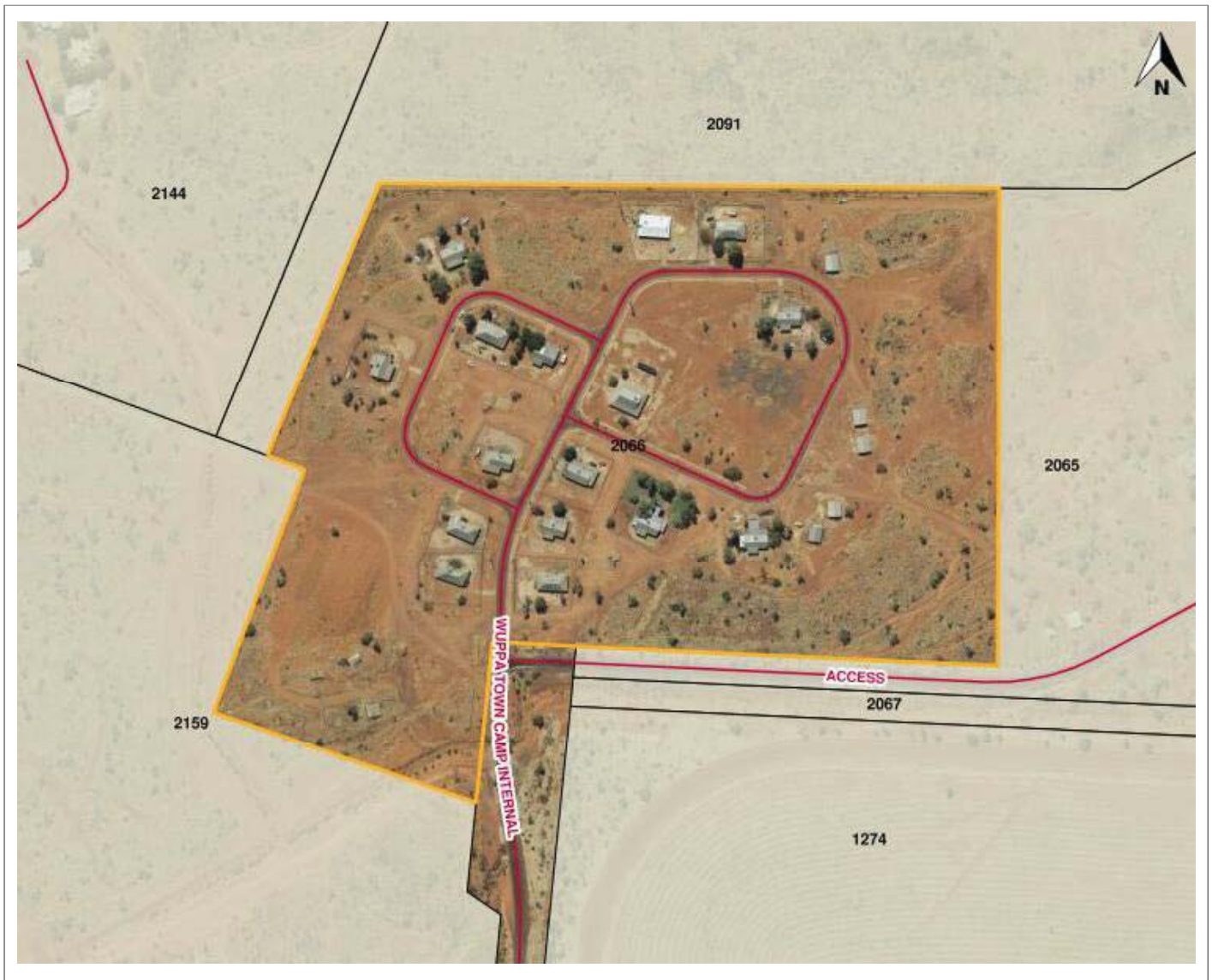
Heritage Listing:

(none found)

For further information on heritage places contact Heritage Branch or visit the website
<https://nt.gov.au/property/land/heritage-register-search-for-places-or-objects>

Other Interests

For Account balances, contact Barkly Shire Council



Transformer data

Group	Com Id	Location	Community Name	Dwellings No. (Funded Dwellings)	Dwellings No. (Bennett Design)	New Houses ** (Future Demand)	Primary Voltage Level (KV)	PWC Substation ID	PWC Test Number	Transformer size (KVA)	KVA Total dwellings @ 4.5KVA	KVA Total dwellings @ 7KVA	Comments
1	290	Darwin	Bagot	55	55		11	1924	1735	300	247.5	385	
	344	Darwin	Knudkey Lagoons	18	19	2	11	1771	2163	100	85.5	133	
	347	Darwin	Kulajuk	19	19		11	1092	10607	50	85.5	133	
	403	Darwin	Palmerston Town Camp	20	16		22	10196	10245	100	90	140	Two transformers for this Town Camp. Transformers are not in boundary of Town Camp [The nearest transformers data to Town Camp are highlighted in yellow].
	412	Darwin	Railway Dam (One Mile Dam)	5	6	2	22	265	11645	25	27	42	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	427	Adelaide River	Amangel	9	9		22	216	12187	100	40.5	63	Two transformers for this Town Camp.
	687	Jabiru	Manabadurna	10	12		22	184	5646	63	54	84	
	825	Darwin	Minmarana Park	24	24		11	5650	11107	200	108	168	
	606	Katherine	Waripiri Transient Camp	9	9		22	6416	4886	100	40.5	63	Two transformers for this Town Camp.
	621	Katherine	Miall Brumby (Kelano)	47	31		22	6133	12417	315	211.5	329	
2	640	Pine Creek	Pine Creek Compound	4	4		22	6666	3147	25	18	28	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	971	Mataranka	Mulgagan	12	9	4	22	6819	5296	16	54	84	
							22	6818	5297	16			
							22	6384	11028	25			
3	215	Tennant Creek	Blueberry Hill (Munji-Maria)	2	2		22	7079	1968	200	9	14	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	223	Tennant Creek	Dump Camp (Maria-Maria)	7	7		22	7181	11088	200	31.5	49	
	224	Elliott	Elliott South Camp	12	12		11	7504	4718	200	54	84	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	225	Elliott	Elliott North Camp	36	25		11	7505	4715	100	162	252	
	238	Tennant Creek	Karganu (East Side Camp)	12	12	1	22	7572		200	54	84	
	246	Tennant Creek	Ngalpa Ngajpa	18	21		22	7179		200	94.5	147	Two transformers for this Town Camp.
	271	Tennant Creek	Village Camp	12	12	1	22	7033	10904	315	54	84	
	681	Tennant Creek	Tingkarli	12	12		22	7183	11107	200	54	84	
							22	7180		200	54	84	
	684	Tennant Creek	Wuppa	15	15	1	22	7141	11092	100	67.5	105	Two transformers for this Town Camp.
4	3	Alice Springs	Angwertwaere (Morris Soak)	11	15		11	8596	11386	300	67.5	105	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	16	Alice Springs	Anthellk Empaye (Charles Creek)	17	10		11	8599	315	315	76.5	119	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	17	Alice Springs	Anthepe	15	15		22	8598	5874	200	67.5	105	Data extracted from PWC asset information. There was not access to this Town Camp due to ceremony on inspection day.
	19	Alice Springs	Aper Alwerkinge (Palmer's)	7	6		11	8405	2939	200	31.5	49	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	35	Alice Springs	Ewyenper Atwaive (Hidden Valley)	47	47		11	8622	11202	100	211.5	329	
							11	8623	11203	100			
							22	8625	11205	63			
							11	8626	11204	100			
	47	Alice Springs	Ilipapa	13	13		22	8611	11702	200	58.5	91	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	48	Alice Springs	Iperite Iyathe (Walpiri)	10	9		11	8001	11209	315	45	70	
5	50	Alice Springs	Iyperenye (Old Timers)	10	10		22	8145	3323	100	45	70	
	64	Alice Springs	Bassos	2	2		11	8002	10946	50	9	14	
	69	Alice Springs	Karnte	19	19		22	8282	2345	100	85.5	133	
	87	Alice Springs	Yarrenty Altere (Larapinta Valley)	34	34		11	8617	11334	100			
							11	8618	11200	63	153	238	
							11	8619	11335	100			
							11	8620	11201	100			
	90	Alice Springs	Inarlenge (Little Sisters)	16	22		22	8137	2925	100	99	154	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	108	Alice Springs	Mpwetyerre (Abbotts)	6	6		11	8093	11703	315	27	42	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	113	Alice Springs	Mount Nancy (Nyeuwente)	11	12		11	8405	2939	200	54	84	
6	129	Alice Springs	Nyeuwente (Trucking Yards)	26	26		11	8629	11312	300	117	182	
	675	Alice Springs	Hoppys	15	19		11	8314	369	50	85.5	133	There is not any Transformer in boundary of Town Camp. Also it's not shown in PWC asset information.
	676	Alice Springs	Ilipve Iipve (Golders Camp)	15	14		11	8569		315	67.5	105	
	1029	Alice Springs	Kunoth	4	4		11	8569		315	18	28	Transformer is not in boundary of Town Camp [The nearest transformer data to Town Camp is highlighted in yellow].
	222	Borrooloola	Mara	28	29	2	11	6187	12610	100	130.5	203	Two transformers for this Town Camp.
	229	Borrooloola	Garawa 1	16	14		11	6545	10166	100	72	112	Two transformers for this Town Camp.
	278	Borrooloola	Yanyula	29	29		11	6162	10496	200	130.5	203	Data extracted from PWC asset information. It's outside of Town Camp shown only Transformer to this Town Camp.
	992	Borrooloola	Garawa 2	11	11		11	6189	2669	25	49.5	77	This transformer is not shown in PWC asset information. It's installed in Boat Ramp Road near to Town Camp and connected to Electrical reticulation of Town Camp.

** For New house's demand calculation see section 13.4 "Future Demand".