SURVEY CONTROL - MGA94 - ZONE 52, AHD				
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	709742.68	8624317.42	36.21	BRASS PLAQUE
S97185014	709719.66	8624040.12	36.98	BRASS PLAQUE
S97185015	709497.71	8624058.88	37.40	BRASS PLAQUE
S97185017	709500.57	8623436.88	36.71	BRASS PLAQUE
S97185018	709482.57	8623306.65	33.67	BRASS PLAQUE
S97185019	709308.33	8623304.52	33.92	BRASS PLAQUE
S97185074	709911.03	8624375.45	36.30	BRASS PLAQUE
S99190009	710303.83	8624309.25	35.45	BRASS PLAQUE

SURVEY CONTROL - BERRIMAH FARM LOCAL GRID, AHD				
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	9725.87	624315.18	36.21	BRASS PLAQUE
S97185014	9704.87	624037.76	36.98	BRASS PLAQUE
S97185015	9482.81	624054.91	37.40	BRASS PLAQUE
S97185017	9490.20	623433.02	36.71	BRASS PLAQUE
S97185018	9473.15	623302.68	33.67	BRASS PLAQUE
S97185019	9298.95	623299.29	33.92	BRASS PLAQUE
S97185074	9893.77	624374.43	36.30	BRASS PLAQUE
S99190009	10287.00	624311.10	35.45	BRASS PLAQUE

Note
No dimension should be scaled from this plan or extracted from the digital data to an accuracy better than the original data capture. Should dimensions to particular features be required to better accuracy a specific request should be made.

The location of visible services has been surveyed where possible. Underground services alignments and depths have been determined by ground penetrating radar and are approximate. If precise location and depth of services are required, excavation or potholing will be necessary.

Cadastral boundaries shown hereon have been created from the original survey plan of subdivision and are not the result of a thorough reinstatement.

A reinstatement survey is recommended if the location of cadastral boundaries is critical.

Date of Survey: NOVEMBER 2015, AUGUST 2016, MARCH 2017

Contour interval = 0.2 metres
This is a simplified view of the survey
Levels and other information are contained in the digital file
Easements should be confirmed with the current Certificate of Title

Note
Unaudited area (details provided by client)

LEGEND

AIRCONDITIONING
- Airconditioning plant

COMMUNICATIONS
- Cables underground
- Junction box pit
- Manhole
- Marker cable
- Pillar

DRAINAGE
- Culvert
- Downpipe
- Grated inlet pit
- Grated lined drain
- Inspection opening
- Letterbox pit
- Manhole
- Open lined drain
- Open unlined drain
- Pipe underground
- Side entry pit
- Square headwall
- Winged headwall

ELECTRICITY
- Cable marker
- Cables underground
- Earth stake
- Flood light
- HV cables underground
- HV earth
- HV pit
- Light pedestal
- Light pole
- Manhole
- Overhead powerlines
- Outlet
- Pillar
- PX
- Power pole
- Power pole with light
- Substation
- Switchboard
- Tower

- Bottled gas

PROPERTY
- Boundary
- Easement

- Crown
- Flush kerb
- Kerb and gutter
- Kerb only
- Layback kerb
- Line marking
- Mountable kerb
- Rail barrier
- Shoulder

SEWERAGE
- Inspection opening
- Manhole
- Pit
- Pipe underground
- Rising main above ground
- Rising main underground
- Septic tank

- Awning
- Bollard
- Building
- Column / support
- Concrete
- Demountable
- Door
- Fence
- Gate
- Railing
- Retaining wall
- Roofline / eaves
- Sign
- Tower
- Wall

SURVEY
- Benchmark
- Control station
- Coordinated reference mark

- Bottom of embankment

TRAFFIC
- Parking meter
- Parking sign
- Traffic lights
- Traffic sign
- Street name sign

UNKNOWN FEATURE
- Line above ground
- Line below ground
- Manhole
- Pillar
- Pit

VEGETATION
- Edge of vegetation (digitised)
- Sapling
- Shrub
- Tree
- Palm tree

WATER SUPPLY
- Bore / well
- Hose box reel
- Hydrant booster
- Hydrant
- Irrigation control
- Irrigation pipe below ground
- Marker
- Meter
- Manhole
- Pipe above ground
- Pipe below ground
- PX
- Pump station
- Tank above ground
- Tap
- Air valve
- Reflux valve
- Scour valve
- Stop valve

STUART HIGHWAY

PRUEN ROAD

MAKAGON ROAD

STRATH ROAD

Sec 5553
Sec 3121
Sec 3295
Sec 1869
Sec 1870
Sec 6129
Por 2846
Por 2847
Sec 4972
Sec 7347
Sec 7

RESTRICTED AREA - NOT SURVEYED

JOINS 9492/1P.B

JOINS 9492/1P.C

20 0 20 40 60 80 100
metres

SURVEY & PLANNING CONSULTANTS
10 HARVEY STREET
DARWIN NT 0801

PH. (08) 89812494
FAX. (08) 89815205
darwin@eja.com.au

earl james & associates

SECTIONS 7347, 7348 & 7349
HUNDRED OF BAGOT

FEATURE SURVEY

Client **HALIKOS GROUP**

Licensed Surveyor: .....
Date:

Drawn by: EJA
Date: 10/10/2017
Cad File: 9492-1P.DWG

Scale: 1:1000 (A0)
Datum: MGA94 - ZONE 52 AHD

Drawing No:
17/9492/1P.A
PLAN 1 OF 4

SURVEY CONTROL - MGA94 - ZONE 52, AHD				
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	709742.68	8624317.42	36.21	BRASS PLAQUE
S97185014	709719.66	8624040.12	36.98	BRASS PLAQUE
S97185015	709497.71	8624058.88	37.40	BRASS PLAQUE
S97185017	709500.57	8623436.88	36.71	BRASS PLAQUE
S97185018	709482.57	8623306.65	33.67	BRASS PLAQUE
S97185019	709308.33	8623304.52	33.92	BRASS PLAQUE
S97185074	709911.03	8624375.45	36.30	BRASS PLAQUE
S99190009	710303.83	8624309.25	35.45	BRASS PLAQUE

SURVEY CONTROL - BERRIMAH FARM LOCAL GRID, AHD				
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	9725.87	624315.18	36.21	BRASS PLAQUE
S97185014	9704.87	624037.76	36.98	BRASS PLAQUE
S97185015	9482.81	624054.91	37.40	BRASS PLAQUE
S97185017	9490.20	623433.02	36.71	BRASS PLAQUE
S97185018	9473.15	623302.68	33.67	BRASS PLAQUE
S97185019	9298.95	623299.29	33.92	BRASS PLAQUE
S97185074	9893.77	624374.43	36.30	BRASS PLAQUE
S99190009	10287.00	624311.10	35.45	BRASS PLAQUE

Note
No dimension should be scaled from this plan or extracted from the digital data to an accuracy better than the original data capture. Should dimensions to particular features be required to better accuracy a specific request should be made.
The location of visible services has been surveyed where possible. The relevant Service Authority should be consulted if precise locations of underground services are required.
Areas and dimensions should not be scaled or extracted from the original survey plan if subdivision and are not the result of a thorough reinstatement.
A reinstatement survey is recommended if the location of cadastral boundaries is required.

Date of Survey: NOVEMBER 2015, AUGUST 2016, OCTOBER 2016, AUGUST 2017 & MARCH 2017

Contour interval = 0.2 metres
This is a simplified view of the survey
Levels and other information are contained in the digital file
Easements should be confirmed with the current Certificate of Title

Note
Unaudited area (details provided by client)

LEGEND

AIRCONDITIONING
- Airconditioning plant

COMMUNICATIONS
- Cables underground
- Junction box pit
- Manhole
- Marker cable
- Pillar

DRAINAGE
- Culvert
- Downpipe
- Grated inlet pit
- Grated lined drain
- Inspection opening
- Letterbox pit
- Manhole
- Open lined drain
- Open unlined drain
- Pipe underground
- Side entry pit
- Square headwall
- Winged headwall

ELECTRICITY
- Cable marker
- Cables underground
- Earth stake
- Flood light
- HV cables underground
- HV earth
- HV pit
- Light pedestal
- Light pole
- Manhole
- Overhead powerlines
- Outlet
- Pillar
- Pit
- Power pole
- Power pole with light
- Substation
- Switchboard
- Tower

- Bottled gas

PROPERTY
- Boundary
- Easement

- Crown
- Flush kerb
- Kerb and gutter
- Kerb only
- Layback kerb
- Line marking
- Mountable kerb
- Rail barrier
- Shoulder

SEWERAGE
- Inspection opening
- Manhole
- Pit
- Pipe underground
- Rising main above ground
- Rising main underground
- Septic tank

- Awning
- Bollard
- Building
- Column / support
- Concrete
- Demountable
- Door
- Fence
- Gate
- Railing
- Retaining wall
- Roofline / eaves
- Sign
- Tower
- Wall

SURVEY
- Benchmark
- Control station
- Coordinated reference mark

- Bottom of embankment

TRAFFIC
- Parking meter
- Parking sign
- Traffic lights
- Traffic sign
- Street name sign

UNKNOWN FEATURE
- Line above ground
- Line below ground
- Manhole
- Pillar
- Pit

VEGETATION
- Edge of vegetation (digitised)
- Sapling
- Shrub
- Tree
- Palm tree

WATER SUPPLY
- Bore / well
- Hose box reel
- Hydrant booster
- Hydrant
- Irrigation control
- Irrigation pipe below ground
- Marker
- Meter
- Manhole
- Pipe above ground
- Pipe below ground
- Pit
- Pump station
- Tank above ground
- Tap
- Air valve
- Reflux valve
- Scour valve
- Stop valve

LAGOON ROAD

STUART HIGHWAY

Sec 7349

Sec 7348

Sec 4273

AREA - NOT SURVEYED

JOINS 9492/1P.A

JOINS 9492/1P.D

20 0 20 40 60 80 100
metres

SURVEY & PLANNING CONSULTANTS 10 HARVEY STREET DARWIN NT 0801 PH. (08) 89812494 FAX. (08) 89815205 darwin@eja.com.au	**SECTIONS 7347, 7348 & 7349** **HUNDRED OF BAGOT**	Licensed Surveyor: Date:	Scale: 1:1000 (A0) Datum: MGA94 - ZONE 52 AHD
earl james & associates	**FEATURE SURVEY**	Drawn by: EJA Date: 10/10/2017 Cad File: 9492-1P.DWG	Drawing No: **17/9492/1P.B** PLAN 2 OF 4
	Client **HALIKOS GROUP**		

JOINS 9492/1P.A

JOINS 9492/1P.D

STRATH ROAD

MARLOW ROAD

BERRIMAH ROAD

TIGER BRENNAN DRIVE

LEGEND

AIRCONDITIONING
- Airconditioning plant

COMMUNICATIONS
- Cables underground
- Junction box pit
- Manhole
- Mother cable
- Pillar

DRAINAGE
- Culvert
- Drainage pit
- Grated inlet pit
- Grated inlet drain
- Inspection opening
- Manhole
- Mitre drain
- Open lined drain
- Open unlined drain
- Pipe underground
- Spoon drain
- Triple headwall
- Winged headwall

ELECTRICITY
- Cables ladder
- Cables underground
- Feed light
- Flood light
- HV cables underground
- HV earth
- HV pit
- Light pedestal
- Light pole
- Manhole
- Overhead powerlines
- Outlet
- Pillar
- Pit
- Power pole
- Power pole with light
- Substation
- Switchboard
- Tower

Bottled gas

PROPERTY
- Boundary
- Easement

- Crown
- Flush kerb
- Kerb and gutter
- Kerb only
- Layback kerb
- Median kerb
- Mountable kerb
- Rail barrier
- Shoulder

SEWERAGE
- Inspection opening
- Manhole
- Pit
- Pipe underground
- Rising main above ground
- Rising main underground
- Septic tank

- Awning
- Bollard
- Building
- Footing / support
- Concrete
- Demountable
- Door
- Fence
- Gate
- Railing
- Retaining wall
- Roofline / eaves
- Sign
- Timber
- Wall

SURVEY
- Benchmark
- Control station
- Coordinated reference mark

- Bottom of embankment

TRAFFIC
- Parking meter
- Parking sign
- Traffic light
- Traffic sign
- Street name sign

UNKNOWN FEATURE
- Line above ground
- Line below ground
- Manhole
- Pit
- Pit

VEGETATION
- Edge of vegetation (digitised)
- Shrub
- Stump
- Tree
- Palm tree

WATER SUPPLY
- Bore / well
- Hose box reel
- Hydrant above ground
- Hydrant
- Irrigation control
- Meter
- Meter
- Manhole
- Pipe above ground
- Pipe below ground
- Pit
- Pump station
- Tank above ground
- Tap
- Air valve
- Scour valve
- Stop valve

20 0 20 40 60 80 100
metres

SURVEY CONTROL - MGA94 - ZONE 52, AHD

STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	709742.68	8624317.42	36.21	BRASS PLAQUE
S97185014	709719.66	8624040.12	36.98	BRASS PLAQUE
S97185015	709497.71	8624058.88	37.40	BRASS PLAQUE
S97185017	709500.57	8623436.88	36.71	BRASS PLAQUE
S97185018	709482.57	8623306.65	33.67	BRASS PLAQUE
S97185019	709308.33	8623304.52	33.92	BRASS PLAQUE
S97185074	709911.63	8624375.45	36.39	BRASS PLAQUE
S99190009	710303.83	8624309.25	35.45	BRASS PLAQUE

SURVEY CONTROL - BERRIMAH FARM LOCAL GRID, AHD

STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	9725.87	624315.18	36.21	BRASS PLAQUE
S97185014	9704.87	624037.76	36.98	BRASS PLAQUE
S97185015	9482.81	624054.91	37.40	BRASS PLAQUE
S97185017	9490.20	623433.02	36.71	BRASS PLAQUE
S97185018	9473.15	623302.68	33.67	BRASS PLAQUE
S97185019	9298.95	623299.29	33.92	BRASS PLAQUE
S97185074	9893.77	624314.43	36.30	BRASS PLAQUE
S99190009	10287.00	624311.10	35.45	BRASS PLAQUE

Note
All bearings should be scaled from this plan or extracted from the field data to an accuracy better than the original data capture. Should dimensions be particular required for any purpose please contact the surveyor for clarification.
The location of visible services has been surveyed where possible. The relevant service authority should be consulted to ensure all services are accurately located.
Underground services shown hereon have been supplied from the relevant authorities and are indicative only. Their accuracy is not guaranteed.
Prior to excavation it is recommended that location of underground services be verified.

Date of Survey: NOVEMBER 2015, AUGUST 2016, SEPTEMBER 2017

Contour Interval = 0.5 metres
This is a simplified view of the survey.
Refer to Survey Plan for information as endorsed in the Schedule.
Easements should be confirmed with the current Certificate of Title.

Note
Unaudited area (details provided by client)

SURVEY & PLANNING CONSULTANTS
10 HARVEY STREET
DARWIN NT 0801

PH. (08) 89812494
FAX. (08) 89815205
darwin@eja.com.au

earl james & associates

SECTIONS 7347, 7348 & 7349

HUNDRED OF BAGOT

FEATURE SURVEY

Client **HALIKOS GROUP**

Licensed Surveyor: .....

Date:

Drawn by: EJA

Date: 10/10/2017

Cad Dwg: 9492-1P.DWG

Scale: 1:1000 (A0)

Datum: MGA94 - ZONE 52 AHD

Drawing No:

17/9492/1P.C

PLAN 3 OF 4

JOINS 9492/1P.B

JOINS 9492/1P.C

Sec 7348

LICENCE AREA

TIGER BRENNAN DRIVE

LEGEND

AIRCONDITIONING
- Airconditioning plant

COMMUNICATIONS
- Cables underground
- Junction box pit
- Manhole
- Marker cable
- Pillar

DRAINAGE
- Culvert
- Downpipe
- Grated inlet pit
- Grated lined drain
- Inspection opening
- Letterbox pit
- Manhole
- Open lined drain
- Open unlined drain
- Pipe underground
- Side entry pit
- Square headwall
- Winged headwall

ELECTRICITY
- Cable marker
- Cables underground
- Earth stake
- Flood light
- HV cables underground
- HV earth
- HV pit
- Light pedestal
- Light pole
- Manhole
- Overhead powerlines
- Outlet
- Pillar
- Pit
- Power pole
- Power pole with light
- Substation
- Switchboard
- Tower

- Bottled gas

PROPERTY
- Boundary
- Easement

- Crown
- Flush kerb
- Kerb and gutter
- Kerb only
- Layback kerb
- Line marking
- Mountable kerb
- Rail barrier
- Shoulder

SEWERAGE
- Inspection opening
- Manhole
- Pit
- Pipe underground
- Rising main above ground
- Rising main underground
- Septic tank

- Awning
- Bollard
- Building
- Column / support
- Concrete
- Demountable
- Door
- Fence
- Gate
- Railing
- Retaining wall
- Roofline / eaves
- Sign
- Tower
- Wall

SURVEY
- Benchmark
- Control station
- Coordinated reference mark

- Bottom of embankment

TRAFFIC
- Parking meter
- Parking sign
- Traffic lights
- Traffic sign
- Street name sign

UNKNOWN FEATURE
- Line above ground
- Line below ground
- Manhole
- Pillar
- Pit

VEGETATION
- Edge of vegetation (digitised)
- Sapling
- Shrub
- Tree
- Palm tree

WATER SUPPLY
- Bore / well
- Hose box reel
- Hydrant booster
- Hydrant
- Irrigation control
- Irrigation pipe below ground
- Marker
- Meter
- Manhole
- Pipe above ground
- Pipe below ground
- Pit
- Pump station
- Tank above ground
- Tap
- Air valve
- Reflux valve
- Scour valve
- Stop valve

SURVEY CONTROL - MGA94 - ZONE 52, AHD				
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	709742.68	8624317.42	36.21	BRASS PLAQUE
S97185014	709719.66	8624040.12	36.98	BRASS PLAQUE
S97185015	709497.71	8624058.88	37.40	BRASS PLAQUE
S97185017	709500.57	8623436.88	36.71	BRASS PLAQUE
S97185018	709482.57	8623306.65	33.67	BRASS PLAQUE
S97185019	709308.33	8623304.52	33.92	BRASS PLAQUE
S97185074	709911.03	8624375.45	36.30	BRASS PLAQUE
S99190009	710303.83	8624309.25	35.45	BRASS PLAQUE

SURVEY CONTROL - BERRIMAH FARM LOCAL GRID, AHD				
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	9725.87	624315.18	36.21	BRASS PLAQUE
S97185014	9704.87	624037.76	36.98	BRASS PLAQUE
S97185015	9482.81	624054.91	37.40	BRASS PLAQUE
S97185017	9490.20	623433.02	36.71	BRASS PLAQUE
S97185018	9473.15	623302.68	33.67	BRASS PLAQUE
S97185019	9298.95	623299.29	33.92	BRASS PLAQUE
S97185074	9893.77	624374.43	36.30	BRASS PLAQUE
S99190009	10287.00	624311.10	35.45	BRASS PLAQUE

Note
No dimension should be scaled from this plan or extended
by eye. The digital data is an accuracy better than the original
data capture. Should dimensions to particular features be
required a better accuracy a specific request should be made.

The location of visible services has been surveyed where possible.
The relevant Service Authority should be consulted if precise
locations of underground services are required.

Cadastral boundaries shown hereon have been created from the
best available data at the time of creation and are not the result of a
thorough investigation.

A remeasurement survey is recommended if the location of
cadastral boundaries is critical

Date of Survey: NOVEMBER 2015, AUGUST 2016, MARCH 2017

Contour interval = 0.2 metres
This is a simplified view of the survey.
Levels and other information are contained
in the digital file.
Easements should be confirmed with the current
Certificate of Title

Note
Unaudited area (details provided by client)

20 0 20 40 60 80 100
metres

SURVEY & PLANNING CONSULTANTS
10 HARVEY STREET
DARWIN NT 0801

PH. (08) 89812494
FAX. (08) 89815205
darwin@eja.com.au

earl james & associates

SECTIONS 7347, 7348 & 7349

HUNDRED OF BAGOT

FEATURE SURVEY

Client **HALIKOS GROUP**

Licensed Surveyor: .....

Date:

Drawn by: EJA

Date: 10/10/2017

Cad File: 9492-1P.DWG

Scale: 1:1000 (A0)

Datum: MGA94 - ZONE 52 AHD

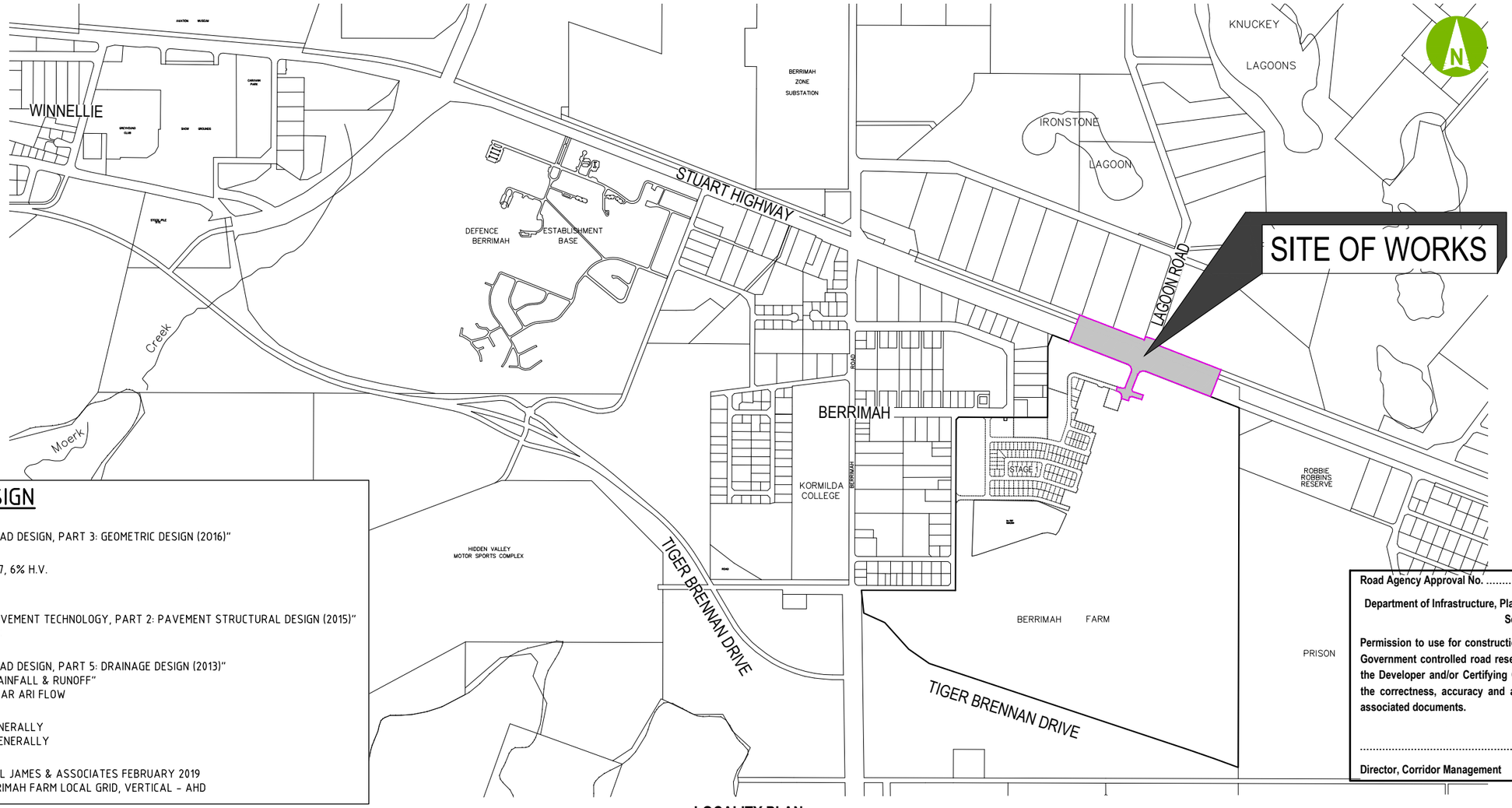
Drawing No:

17/9492/1P.D

PLAN 4 OF 4

Appendix C
Northcrest As Constructed Drawings

NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION



BASIS OF DESIGN

GEOMETRY
AUSTROADS "GUIDE TO ROAD DESIGN, PART 3: GEOMETRIC DESIGN (2016)"

TRAFFIC
2017 AADT TWO WAY 18817, 6% H.V.
3.7 x 10^6 ESA'S

PAVEMENT
AUSTROADS "GUIDE TO PAVEMENT TECHNOLOGY, PART 2: PAVEMENT STRUCTURAL DESIGN (2015)"
SUBGRADE DESIGN CBR 8%

DRAINAGE
AUSTROADS "GUIDE TO ROAD DESIGN, PART 5: DRAINAGE DESIGN (2013)"
I.E. AUST. "AUSTRALIAN RAINFALL & RUNOFF"
CROSS CULVERT 1 IN 20 YEAR ARI FLOW

SPEED
DESIGN SPEED - 110kph GENERALLY
POSTED SPEED - 100kph GENERALLY

SURVEY
A: COMPLETED BY EARL JAMES & ASSOCIATES FEBRUARY 2019
B: HORIZONTAL - BERRIMAH FARM LOCAL GRID, VERTICAL - AHD

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

LOCALITY PLAN
1:10 000

NORTHCREST DRG. No. DN21 0900 DRG 1001

100 0 200 400m
SCALE 1:10000

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
LOCALITY PLAN

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	1 OF 47	R19-1822	0	A1

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

SURVEY CONTROL - MGA94 - ZONE 52. AHD

STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	709742.68	8624317.42	36.21	BRASS PLAQUE
S97185014	709719.66	8624040.12	36.98	BRASS PLAQUE
S97185015	709497.71	8624058.88	37.40	BRASS PLAQUE
S97185017	709500.57	8623436.88	36.71	BRASS PLAQUE
S97185018	709482.57	8623306.65	33.67	BRASS PLAQUE
S97185019	709308.33	8623304.52	33.92	BRASS PLAQUE
S97185074	709911.03	8624375.45	36.30	BRASS PLAQUE
S99190009	710303.83	8624309.25	35.45	BRASS PLAQUE

SURVEY CONTROL - BERRIMAH FARM LOCAL GRID. AHD

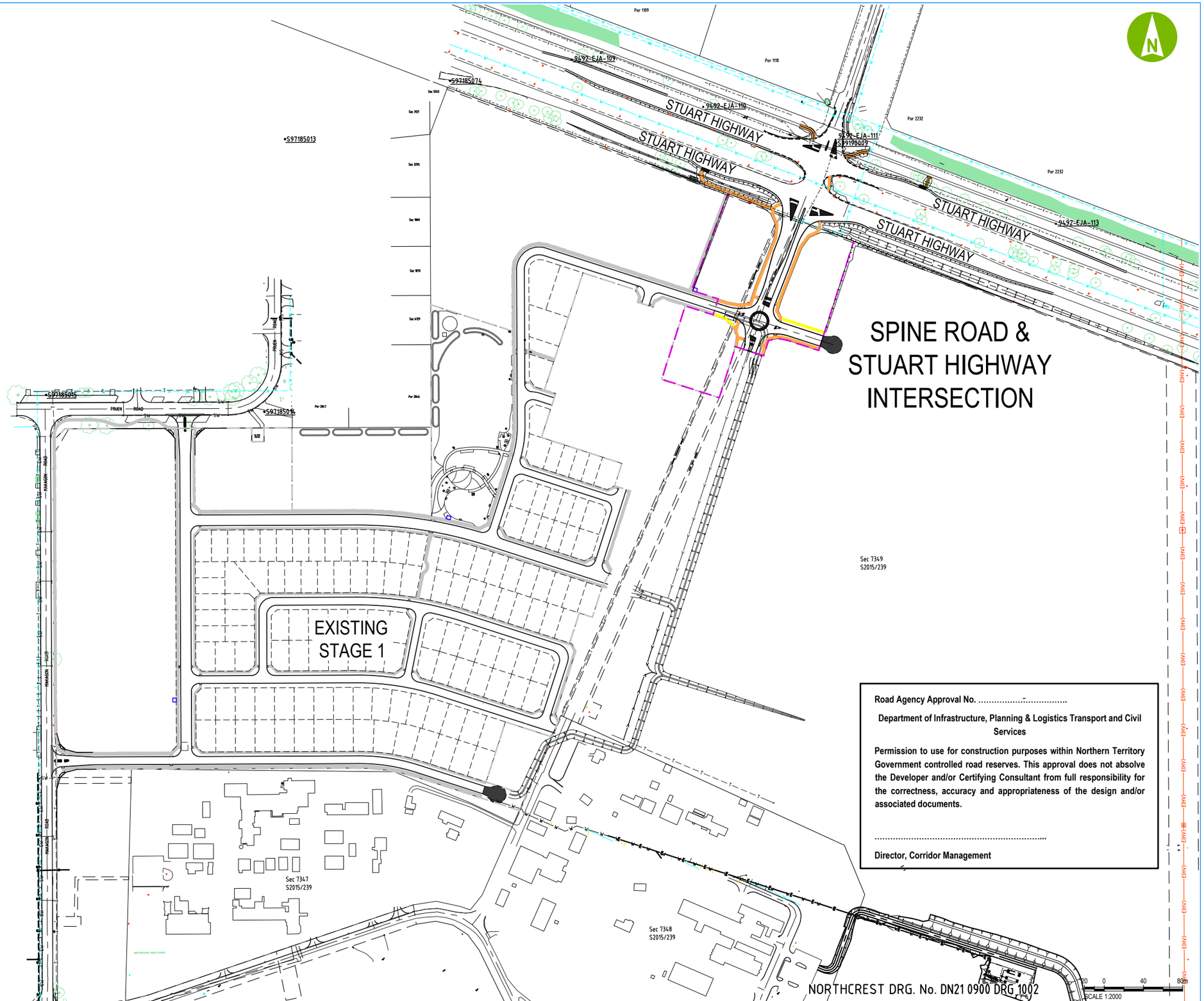
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	9725.87	624315.18	36.21	BRASS PLAQUE
S97185014	9704.87	624037.76	36.98	BRASS PLAQUE
S97185015	9482.81	624054.91	37.40	BRASS PLAQUE
S97185017	9490.20	623433.02	36.71	BRASS PLAQUE
S97185018	9473.15	623302.68	33.67	BRASS PLAQUE
S97185019	9298.95	623299.29	33.92	BRASS PLAQUE
S97185074	9893.77	624374.43	36.30	BRASS PLAQUE
S99190009	10287.00	624311.10	35.45	BRASS PLAQUE

SURVEY CONTROL - MGA94 - ZONE 52, AHD

STN	EASTING	NORTHING	RL	DESCRIPTION
9492-EJA-101	708751.560	8625603.095	36.74	SPIKE
9492-EJA-102	708822.886	8625592.995	36.35	SPIKE
9492-EJA-103	709063.691	8625671.271	35.13	SPIKE
9492-EJA-104	709065.538	8625571.449	35.41	SPIKE
9492-EJA-105	709102.138	8625098.862	34.89	SPIKE
9492-EJA-106	709095.938	8624973.745	34.82	SPIKE
9492-EJA-107	709214.998	8624728.258	35.30	SPIKE
9492-EJA-108	709699.964	8624547.885	35.61	SPIKE
9492-EJA-109	710034.891	8624396.106	36.36	SPIKE
9492-EJA-110	710166.498	8624346.992	35.78	SPIKE
9492-EJA-111	710303.834	8624309.250	35.45	SPIKE
9492-EJA-112	710350.295	8624477.658	35.38	SPIKE
9492-EJA-113	710526.617	8624225.461	36.10	SPIKE
9492-EJA-114	710691.416	8624164.244	36.08	SPIKE

SURVEY CONTROL - BERRIMAH FARM LOCAL GRID, AHD

STN	EASTING	NORTHING	RL	DESCRIPTION
9492-EJA-101	8725.557	625593.454	36.74	SPIKE
9492-EJA-102	8796.945	625583.874	36.35	SPIKE
9492-EJA-103	9037.143	625663.889	35.13	SPIKE
9492-EJA-104	9039.715	625564.096	35.41	SPIKE
9492-EJA-105	9079.746	625091.849	34.89	SPIKE
9492-EJA-106	9074.457	624966.706	34.82	SPIKE
9492-EJA-107	9195.283	624722.123	35.30	SPIKE
9492-EJA-108	9681.485	624545.305	35.61	SPIKE
9492-EJA-109	10017.463	624395.985	36.36	SPIKE
9492-EJA-110	10151.406	624347.850	35.78	SPIKE
9492-EJA-111	10286.995	624311.098	35.45	SPIKE
9492-EJA-112	10332.225	624479.817	35.38	SPIKE
9492-EJA-113	10510.353	624228.942	36.10	SPIKE
9492-EJA-114	10675.572	624168.933	36.08	SPIKE



Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NORTHCREST DRG. No. DN21 0900 DRG 1002

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI	DATE APRIL 2019	CHECKED	DATE
DESIGNED C. HATZI	DATE APRIL 2019	CHECKED P. GRAHAM	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	DATE APRIL 2019	PROJECT OFFICER M. TAIT	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
ALLOTMENT LAYOUT AND STAGE EXTENTS PLAN

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	2 OF 47	R19-1823	0	A1

DRAWING LIST

DIPL DRG. No.	SHEET No.	SHEET TITLE
		GENERAL
R19-1822	DN21-0900-DRG-1001	LOCALITY PLAN
R19-1823	DN21-0900-DRG-1002	ALLOTMENT LAYOUT AND STAGE EXTENTS PLAN
R19-1824	DN21-0900-DRG-1003	SCHEDULE OF DRAWINGS
R19-1825	DN21-0900-DRG-1004	PROJECT NOTES
		ROADWORKS AND ALLOTMENT
R19-1826	DN21-2000-DRG-1005	ROADWORKS CONTROL LINE GEOMETRY PLAN - SHEET 1 OF 2
R19-1827	DN21-2000-DRG-1006	ROADWORKS CONTROL LINE GEOMETRY PLAN - SHEET 2 OF 2
R19-1828	DN21-2000-DRG-1007	ROADWORKS TYPICAL CROSS SECTIONS SHEET 1 OF 3
R19-1829	DN21-2000-DRG-1008	ROADWORKS TYPICAL CROSS SECTIONS SHEET 2 OF 3
R19-1830	DN21-2000-DRG-1009	ROADWORKS TYPICAL CROSS SECTIONS SHEET 3 OF 3
R19-1831	DN21-2000-DRG-1010	ROADWORKS LONGITUDINAL SECTIONS - SHEET 1 OF 1
R19-1832	DN21-2000-DRG-1011	FOOTPATHS LONGITUDINAL SECTIONS - SHEET 1 OF 1
R19-1833	DN21-2000-DRG-1012	ROAD CROSS SECTIONS - SHEET 1 OF 2
R19-1834	DN21-2000-DRG-1013	ROAD CROSS SECTIONS - SHEET 2 OF 2
R19-1835	DN21-2000-DRG-1014	ROADWORKS INTERSECTION DETAILS - SHEET 1 OF 5
R19-1836	DN21-2000-DRG-1015	ROADWORKS INTERSECTION DETAILS - SHEET 2 OF 5
R19-1837	DN21-2000-DRG-1016	ROADWORKS INTERSECTION DETAILS - SHEET 3 OF 5
R19-1838	DN21-2000-DRG-1017	ROADWORKS INTERSECTION DETAILS - SHEET 4 OF 5
R19-1839	DN21-2000-DRG-1018	ROADWORKS INTERSECTION DETAILS - SHEET 5 OF 5
R19-1840	DN21-2000-DRG-1019	LINEMARKING AND SIGNAGE PLAN - SHEET 1 OF 3
R19-1841	DN21-2000-DRG-1020	LINEMARKING AND SIGNAGE PLAN - SHEET 2 OF 3
R19-1842	DN21-2000-DRG-1021	LINEMARKING AND SIGNAGE PLAN - SHEET 3 OF 3
R19-1843	DN21-2000-DRG-1022	FOOTPATH LAYOUT PLAN - SHEET 1 OF 1
R19-1844	DN21-2000-DRG-1023	LOT GRADING PLAN
		2000 - STORMWATER DRAINAGE
R19-1845	DN21-3000-DRG-2000	STORMWATER DRAINAGE LAYOUT PLAN
R19-1846	DN21-3000-DRG-2001	STORMWATER LAYOUT PLAN - SHEET 1 OF 2
R19-1847	DN21-3000-DRG-2002	STORMWATER LAYOUT PLAN - SHEET 2 OF 2
R19-1848	DN21-3000-DRG-2003	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 1 OF 2
R19-1849	DN21-3000-DRG-2004	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 2 OF 2
R19-1850	DN21-3000-DRG-2005	SUBSOIL DRAINAGE LAYOUT PLAN - SHEET 1 OF 1
R19-1851	DN21-3000-DRG-2006	STORMWATER DRAINAGE SPECIAL PIT DETAILS - SHEET 1 OF 1

PWC DRG. No.	SHEET No.	SHEET TITLE
		3000 - WATER SUPPLY
B19-6265	DN21-4000-DRG-3000	PWC COVER - PWC STANDARD NOTES, LEGEND & LOCALITY PLAN
B19-6266	DN21-4000-DRG-3001	WATER RETICULATION - PWC WATER STANDARD NOTES & LEGEND
B19-6267	DN21-4000-DRG-3002	WATER RETICULATION LAYOUT PLAN - SHEET 1 OF 1
B19-6268	DN21-4000-DRG-3003	WATER MAIN LONGITUDINAL SECTION - SHEET 1 OF 2
B19-6269	DN21-4000-DRG-3004	WATER MAIN LONGITUDINAL SECTION - SHEET 2 OF 2
B19-6270	DN21-4000-DRG-3005	DN450 WATERMAIN DETAILS - SHEET 1 OF 2
B19-6271	DN21-4000-DRG-3006	DN450 WATERMAIN DETAILS - SHEET 2 OF 2
		4000 - SEWERAGE
B19-6272	DN21-5000-DRG-4000	SEWERAGE RETICULATION - PWC SEWER STANDARD NOTES & LEGEND
B19-6273	DN21-5000-DRG-4001	SEWERAGE RETICULATION LAYOUT PLAN - SHEET 1 OF 1
B19-6274	DN21-5000-DRG-4002	SEWERAGE RETICULATION LONGSECTIONS - SHEET 1 OF 1
		7000 - MASTER SERVICES
B19-6275	DN21-8000-DRG-7000	MASTER SERVICES LAYOUT PLAN - SHEET 1 OF 1
DIPL DRG. No.		**1500 - EROSION & SEDIMENT CONTROL**
R19-1852	DN21-2500-DRG-1500	GENERAL NOTES
R19-1853	DN21-2500-DRG-1501	OVERALL WORKS ESCP
R19-1854	DN21-2500-DRG-1502	"NOT USED"
R19-1855	DN21-2500-DRG-1503	EARTHWORKS & SERVICES INSTALLATION
R19-1856	DN21-2500-DRG-1504	POST CONSTRUCTION AND REHABILITATION
R19-1857	DN21-2500-DRG-1505	EROSION AND SEDIMENT CONTROL DETAILS
DIPL DRG. No.		**DIPL STANDARD DRAWINGS**
CS-3006	-	CYCLE AND PEDESTRIAN SHARED PATH TYPICAL CROSS SECTIONS AND DETAILS
CS-3100	-	GENERAL DRAINAGE NOTES AND APRON DETAILS
CS-3101	-	INSTALLATION, BEDDING AND FILLING/BACKFILLING AGAINST/OVER CULVERTS
CS-3107	-	RCBC 450mm HIGH TO 1200mm HIGH HEADWALL & WINGWALL DETAILS 0 TO 20 SKEW ANGLE
CS-3121	-	TYPICAL SUBSOIL DRAINAGE DETAILS FOR URBAN AREAS
CS-3300	-	STANDARD KERB PROFILES
CS-3302	-	PRAM RAMPS, WITH AND WITHOUT TACTILE GROUND SURFACE INDICATOR (TGSI)
CS-3306	-	CYCLE/SHARED PATH CULVERT CROSSING FENCE DETAILS
CS-3400	-	LINE MARKING
CS-3401	-	PAVEMENT MARKINGS - CHEVRONS AND RRPM'S SHEET 1
CS-3402	-	PAVEMENT MARKINGS - CHEVRONS AND RRPM'S SHEET 2
CS-3700	-	SHELTER - TYPE 14A & TYPE 14B & TYPE 14C GENERAL NOTES
CS-3710	-	SHELTER - TYPE 14C - 4 BAY TYPICAL PLAN, ELEVATION & SECTION
CS-3711	-	SHELTER - TYPE 14C - 4 BAY SLAB LAYOUT PLAN AND DETAILS (OPTION 1)
CS-3712	-	SHELTER - TYPE 14C - 4 BAY SLAB LAYOUT PLAN AND DETAILS (OPTION 2)
CS-3724	-	BUS BAY LAYOUT DETAILS
BFSG DRG. No.		**BFSG STANDARD DRAWINGS**
USG120	-	STANDARD SIDE ENTRY PITS TYPE 1
USG121	-	MANHOLE AND INLET PITS
USG123	-	STANDARD MANHOLES AND INLET PITS
EJ&A DRG. No.		**EARL JAMES & ASSOCIATES DRAWINGS**
19/9492/47A-4	-	TOPOGRAPHIC SURVEY SHEET 1 OF 4
19/9492/47B-4	-	TOPOGRAPHIC SURVEY SHEET 2 OF 4
19/9492/47C-4	-	TOPOGRAPHIC SURVEY SHEET 3 OF 4
19/9492/47D-4	-	TOPOGRAPHIC SURVEY SHEET 4 OF 4

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NORTHCREST DRG. No. DN21 0900 DRG 1003

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	29-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
SCHEDULE OF DRAWINGS

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	3 OF 47	R19-1824	0	A1

GENERAL NOTES:

1. CONTRACT DOCUMENTATION
ALL DRAWINGS UNDER THIS CONTRACT ARE TO BE READ IN CONJUNCTION WITH THE ENGINEERS SPECIFICATION.

2. SURVEY INFORMATION
CONTROL SURVEY INFORMATION WILL BE ESTABLISHED ON SITE BY THE SUB CONTRACTOR'S SURVEYOR. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.

3. DATUM
ALL LEVELS SHOWN ON DRAWINGS ARE A.H.D. (DERIVED).

4. EXISTING SURVEY CONTROL STATIONS
THE SUB CONTRACTOR IS TO ENSURE THAT SURVEY CONTROL STATIONS ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY CONSTRUCTION ACTIVITIES.

5. EXISTING SERVICES
EXISTING SERVICES LOCATIONS WHERE SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. THE SUB CONTRACTOR SHALL CONTACT THE RELEVANT AUTHORITIES TO ASCERTAIN THE EXACT LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING SERVICES.

6. SITE ACCESS
THE SUB CONTRACTOR SHALL GAIN ACCESS TO THE SITE AT LOCATIONS APPROVED BY THE CONTRACTOR'S PROJECT MANAGER. FREEDOM OF ACCESS TO OTHER WORK AREAS ON THE SITE SHALL BE MAINTAINED AT ALL TIMES.

7. PROVISION FOR TRAFFIC
PROVISION FOR TRAFFIC ON LOCAL ROADS IS TO BE IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION, THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND LOCAL AUTHORITY REQUIREMENTS.

8. WORK BOUNDARIES
THE SUB CONTRACTOR IS TO RESTRICT ACTIVITIES TO THOSE AREAS DESIGNATED AS WORK AREAS UNDER THIS CONTRACT. AT NO TIME SHALL THE SUB CONTRACTOR ENTER ADJOINING PROPERTIES OR CONTRACT WORK AREAS ON THE SITE WITHOUT WRITTEN AUTHORISATION FROM THE CONTRACTOR'S PROJECT MANAGER.

9. SITE CLEARING
CLEARING AND GRUBBING SHALL BE CARRIED OUT ON ALL WORK AREAS AS SPECIFIED AND SHALL INCLUDE THE REMOVAL OF ALL EXISTING TREES (UNLESS NOMINATED TO BE PRESERVED), EXISTING VEGETATION, TIMBER, FENCES, SMALL STRUCTURES AND ANY OTHER DEBRIS.

10. TOPSOIL STRIPPING
ALL TOPSOIL STRIPPED FROM WORK AREAS SHALL BE STOCKPILED FOR LATER RE-SPREADING TO ALL BATTERS AND FILL AREAS.

11. EARTHWORKS (GENERAL)
ALL FILL MATERIAL PLACED SHALL BE COMPACTED AND TRIMMED TO FINAL EARTHWORKS LEVELS AND PROFILES SHOWN ON THE CONTRACT DRAWINGS AND TESTED IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION.

12. COMPACTION STANDARDS
ALL FILL MATERIAL PLACED UNDER THIS CONTRACT SHALL BE COMPACTED IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION, GEOTECHNICAL REPORT AND OTHER RELEVANT DESIGN DOCUMENTS.

13. STORMWATER DRAINAGE
LOCATION AND ALIGNMENT OF ALL STORMWATER DRAIN LINES IS TO BE VERIFIED ON SITE WITH THE CONTRACTOR'S PROJECT MANAGER PRIOR TO EXCAVATION. THE DESIGN SURFACE LEVELS OF MANHOLES AND OTHER STRUCTURES ARE TO BE AS DOCUMENTED. ANY DESIGN CHANGES OR RELOCATION OF STORMWATER DRAIN LINES ARE TO BE APPROVED BY DIPL.

14. SEWERAGE RETICULATION
THE DESIGN SURFACE LEVELS OF SEWER MANHOLES ARE TO BE VERIFIED ON SITE PRIOR TO CONSTRUCTION. ALL SEWERAGE RETICULATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH POWERWATER CORPORATION STANDARD DRAWINGS AND SPECIFICATION.

15. WATER RETICULATION
ALL WATER RETICULATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH POWERWATER CORPORATION STANDARD DRAWINGS AND SPECIFICATION.

16. ELECTRICAL RETICULATION
ALIGNMENTS OF ALL CONDUIT CROSSINGS ARE TO BE VERIFIED ON SITE WITH THE CONTRACTOR'S PROJECT MANAGER PRIOR TO EXCAVATION. ALL TRENCHING AND CONDUIT WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT CONSULTANT'S DRAWINGS AND POWERWATER CORPORATION STANDARD DRAWINGS & SPECIFICATIONS.

17. TOPSOIL REPLACEMENT AND GRASSING
FOLLOWING COMPLETION OF ROADWORKS CONSTRUCTION AND BULK EARTHWORKS OPERATIONS THE FULL EXTENT OF VERGES AND BATTERS IS TO BE RE-TOPSOILED TO A MINIMUM DEPTH OF 100mm AND GRASSED.

18. TESTING
ALL TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION.

19. AS CONSTRUCTED" SURVEY "
AS CONSTRUCTED" SURVEY SHALL BE CARRIED OUT BY THE SUB CONTRACTOR'S SURVEYOR AS WORK PROCEEDS. AS CONSTRUCTED INFORMATION SHALL BE PROVIDED AS HARD COPY 1xA3 PAPER AS WELL AS DIGITAL, BOTH PDF AND DWG/DGN. COORDINATED TO MGA94 AND LEVELS TO AHD.

20. MAINTENANCE OF SITE CONDITION
AT THE COMPLETION OF WORKS THE SITE IS TO BE LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE CONTRACTOR'S PROJECT MANAGER AND DEPARTMENT OF INFRASTRUCTURE PLANNING AND LOGISTICS (DIPL)

21. PITS IN VERGES
PITS IN VERGES TO BE ALIGNED PARALLEL WITH THE FOOTPATH.

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE PROJECT DRAWINGS, ENGINEERS SPECIFICATION AND NTG STANDARD DRAWINGS.

2. MINIMUM STORMWATER PIPE SIZE IS DN375 REINFORCED CONCRETE CLASS 2 U.N.O.

3. BOX CULVERTS SHALL BE 'U' TYPE SUITABLE FOR INSTALLATION ON A CAST INSITU CONCRETE SLAB. PRECAST CULVERTS UP TO A SIZE OF 1200 X 900 SHALL BE IN ACCORDANCE WITH AS1597. ALL OTHER SIZES TO CONFORM TO AS1597.2

4. BEDDING FOR ALL PIPES IS TO BE IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION.

5. MANHOLES ARE TO BE AS PER NTG STANDARD DRAWINGS.

6. MANHOLES ARE TO HAVE FINISHED LID LEVELS FLUSH WITH THE FINISHED SURFACE LEVEL. FINISHED SURFACE LEVELS SHOWN ON THE DRAWINGS SHOULD BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.

7. SIDE ENTRY PITS ARE TO BE IN ACCORDANCE WITH NTG STANDARD DRAWINGS.

8. WEEP HOLES ARE TO BE PROVIDED IN THE WALL OF ALL PITS TO ACCEPT FLOWS FROM PIPE BEDDING.

9. AN APPROVED CONVERTER SLAB SHALL BE USED UNDER THE CHAMBER FOR SHAFT DIAMETERS LARGER THAN 1050MM.

10. 13. ENSURE THAT OVERLAND FLOW RUNS TO STORMWATER INLET PITS AND THERE IS NO PONDING ON LOTS OR ROADS.

EARTHWORKS NOTES:

1. ALL EARTHWORKS CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE ENGINEERS DRAWINGS AND ENGINEERS SPECIFICATION AND BERRIMAH FARM SUBDIVISION GUIDELINES.

2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE ROADWORKS AND EARTHWORKS DRAWINGS AND THE SPECIFICATION.

3. DESIGN LEVELS SHOWN SHALL BE ON THE FINISHED SURFACE INCLUDING TOPSOIL.

4. CLEARED VEGETATION SHALL BE MULCHED AND STOCKPILED FOR RESPREADING.

5. THE SUB CONTRACTOR SHALL ALLOW, TO REMOVE TOPSOIL TO A DEPTH OF 200MM MINIMUM, FROM WORK AREAS AND STOCKPILE ON SITE. THIS IS AN AVERAGE DEPTH OVER THE WORKS AREA BASED ON GEOTECHNICAL INFORMATION PROVIDED.

6. FOLLOWING THE COMPLETION OF EARTHWORKS THE SUB CONTRACTOR SHALL RESPREAD TOPSOIL.

7. THE SUB CONTRACTOR SHALL LIMIT THE MOVEMENT OF EQUIPMENT AND MANPOWER TO THE MINIMUM AREA NECESSARY FOR EARTHWORKS AND PROTECT ALL VEGETATION OUTSIDE THE WORKS BOUNDARY.

8. FOR DESIGN DETAILS OF EARTHWORKS WITHIN THE ROAD RESERVES REFER TO THE ROADWORKS LONGITUDINAL AND CROSS SECTION DRAWINGS.

9. CONSIDERATION SHALL BE GIVEN TO ADJACENT LANDOWNERS DURING THE CONSTRUCTION WORKS.

10. THE SUB CONTRACTOR SHALL ALLOW FOR ALL DUST CONTROL MEASURES IN ACCORDANCE WITH DIPL AND AUTHORITY REQUIREMENTS.

11. REFER TO ESCP PLAN FOR MANAGEMENT AND REHABILITATION OF VEGETATION OF ALL DISTURBED AREAS .

12. ALL NEW WORKS TO MATCH NEATLY TO EXISTING.

13. REFER TO ROAD ANNOTATED CROSS SECTIONS FOR PROPERTY BOUNDARY LEVELS AT ROAD RESERVE BOUNDARY.

ROADWORKS NOTES:

1. ALL ROADWORK CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE DESIGN DRAWINGS, ENGINEERS SPECIFICATION AND NTG STANDARD DRAWINGS.

2. SUBSURFACE DRAINAGE TO BE PROVIDED AS PER THE DESIGN DRAWINGS AND IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG127. DRAINS ARE TO HAVE CLEANING POINTS AT ROAD CRESTS AND AT 50M MAXIMUM SPACING.

3. PAVEMENT WIDTH SHOWN ON THE DRAWING SHALL BE MEASURED BETWEEN NOMINAL KERB LINES.

4. ALL KERB RADII SHOWN ARE ON THE NOMINAL FACE OF KERB LINE.

5. ALL ROAD VERGES SHALL BE STABILISED WITH 100mm OF TOPSOIL LIGHTLY COMPACTED AND GRASSED.

6. SUB CONTRACTOR SHALL SMOOTHLY MATCH TO EXISTING KERB AND PAVEMENT LEVELS FOR ALL CONNECTING ROADS.

7. SUB CONTRACTOR SHALL LIAISE WITH TELSTRA FOR TIMELY INSTALLATION OF ANY ROAD CROSSINGS.

8. REFER TO NTG STANDARD DRAWINGS FOR CONCRETE SHARED PATH (2.5m) AND FOOTPATH (1.5m) DETAILS.

9. PRAM RAMPS REFER TO NTG STANDARD DRAWINGS. PRAM RAMPS ARE REQUIRED TO COMPLY WITH AS1428.1.

10. VERGES ARE TO BE HYDROMULCHED, IRRIGATED AND MAINTAINED FOR A PERIOD OF 10 WEEKS FOLLOWING PRACTICAL COMPLETION.

11. LOT DRAINAGE CONNECTION POINT TO BE PROVIDED FOR ALL LOTS IN ACCORDANCE WITH THE DESIGN DRAWINGS.

SAFETY IN DESIGN

1. CONSTRUCTION ACTIVITY CAN BE HAZARDOUS. POTENTIAL SAFETY HAZARDS CONSIDERED BY THE DESIGNERS TO HAVE A HIGHER RISK THAN NORMAL CONSTRUCTION ACTIVITY ARE IDENTIFIED WITH APPROPRIATE NOTES ON THESE DRAWINGS. IT SHOULD BE NOTED THAT DESIGNERS HAVE A LOWER LEVEL OF UNDERSTANDING OF THE RISKS INVOLVED IN CONSTRUCTION COMPARED TO THAT OF A COMPETENT SUB CONTRACTOR. IT IS THEREFORE ESSENTIAL THAT AN ADEQUATE SAFETY PLAN IS PREPARED BY THE SUB CONTRACTOR FOR THE WORKS. SAFETY PLANS ARE TO BE PREPARED IN COMPLIANCE WITH THE STATUTORY REQUIREMENTS.

2. THE DESIGNERS MAY NOT BE AWARE OF ALL SAFETY RISKS AND HAZARDS INVOLVED IN THIS PROJECT AND THE ABSENCE OF COMMENT DOES NOT IMPLY THAT THERE ARE ONLY LOW LEVEL RISKS OR HAZARDS INVOLVED IN THIS PROJECT. APPROPRIATE WORK METHOD STATEMENTS ARE TO BE PREPARED FOR HIGH RISK ACTIVITY BY THE CONTRACTOR AND SUB CONTRACTOR AS APPLICABLE.

3. THE DESIGNERS ARE AVAILABLE TO BE CONSULTED WHEN REQUIRED CONCERNING THEIR AREA OF CONTROL WITH REGARDS TO SAFETY PLANS.

FOR WORKS UNDERTAKEN IN THE SUBDIVISION (REFER ROAD CHAINAGE 60.00 IN R19-1826) THE FOLLOWING NOTES APPLY:

1. STORMWATER CONSTRUCTION IN SUBDIVISION IS TO BE IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES (BFSG) STANDARD DRAWINGS.

2. MANHOLES ARE TO BE AS PER BERRIMAH FARM SUBDIVISION GUIDELINES BFSG STANDARD DRAWING USG123.

3. 8.MANHOLES ARE TO HAVE HEAVY DUTY B293 GATIC TYPE COVERS AND FRAMES AS PER BERRIMAH FARM SUBDIVISION GUIDELINES BFSG STANDARD DRAWING USG123.

4. OUTLET HEADWALLS FOR RCP's TO BE TYPE 1 AS PER BERRIMAH FARM SUBDIVISION GUIDELINES BFSG STANDARD DRAWING USG102 U.N.O. OUTLET HEADWALLS FOR RCBC's TO BE TYPE 1 AS PER BERRIMAH FARM SUBDIVISION GUIDELINES BFSG STANDARD DRAWING USG104 U.N.O.

5. SIDE ENTRY PITS ARE TO BE TYPE A-G IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES BFSG STANDARD DRAWINGS USG120 & 121.

6. 900x600 FIELD INLET PITS ARE TO HAVE GATIC TYPE COVERS. REFER BERRIMAH FARM SUBDIVISION GUIDELINES BFSG STANDARD DRAWINGS USG123 FOR DETAILS

7. FOR CONCRETE SHAPED PATH (2.5m) AND FOOTPATH (1.5m) WITHIN THE SUBDIVISION REFER BERRIMAH FARM SUBDIVISION GUIDELINES BFSG STANDARD DRAWINGS USG008

8. FOR PRAM RAMPS WITHIN THE SUBDIVISION REFER TO BERRIMAH FARM SUBDIVISION GUIDELINES BFSG STANDARD DRAWINGS USG300. PRAM RAMPS ARE REQUIRED TO COMPLY WITH AS1428.1.

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NORTHCREST DRG. No. DN21 0900 DRG 1004

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
PROJECT NOTES

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	4 OF 47	R19-1825	0	A1

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

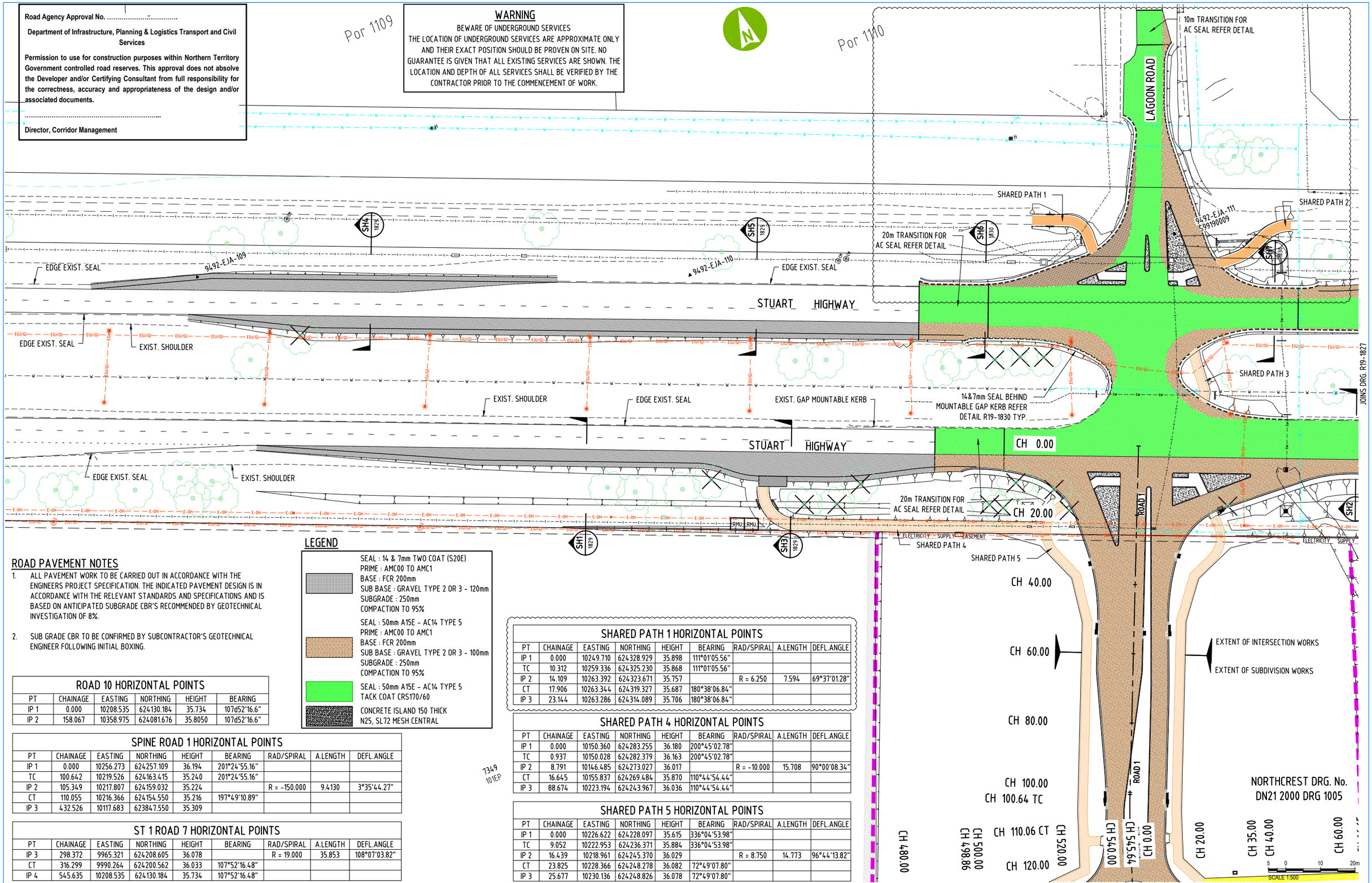
Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.



LEGEND

- SEAL : 14 & 7mm TWO COAT (S20E)
  PRIME : AMC00 TO AMC1
  BASE : FCR 200mm
  SUB BASE : GRAVEL TYPE 2 OR 3 - 120mm
  SUBGRADE : 250mm
  COMPACTION TO 95%
- SEAL : 50mm A15E - AC14 TYPE 5
  PRIME : AMC00 TO AMC1
  BASE : FCR 200mm
  SUB BASE : GRAVEL TYPE 2 OR 3 - 100mm
  SUBGRADE : 250mm
  COMPACTION TO 95%
- SEAL : 50mm A15E - AC14 TYPE 5
  TACK COAT CRS170/60
- CONCRETE ISLAND 150 THICK
  N25, SL72 MESH CENTRAL

ROAD PAVEMENT NOTES

1. ALL PAVEMENT WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE ENGINEERS PROJECT SPECIFICATION. THE INDICATED PAVEMENT DESIGN IS IN ACCORDANCE WITH THE RELEVANT STANDARDS AND SPECIFICATIONS AND IS BASED ON ANTICIPATED SUBGRADE CBR'S RECOMMENDED BY GEOTECHNICAL INVESTIGATION OF 8%.

2. SUB GRADE CBR TO BE CONFIRMED BY SUBCONTRACTOR'S GEOTECHNICAL ENGINEER FOLLOWING INITIAL BOXING.

ROAD 10 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	10208.535	624130.184	35.734	107d52'16.6"
IP 2	158.067	10358.975	624081.676	35.8050	107d52'16.6"

SPINE ROAD 1 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10256.273	624257.109	36.194	201°24'55.16"			
TC	100.642	10219.526	624163.415	35.240	201°24'55.16"			
IP 2	105.349	10217.807	624159.032	35.224		R = -150.000	9.4130	3°35'44.27"
CT	110.055	10216.366	624154.550	35.216	197°49'10.89"			
IP 3	432.526	10117.683	623847.550	35.309				

ST 1 ROAD 7 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 3	298.372	9965.321	624208.605	36.078		R = 19.000	35.853	108°07'03.82"
CT	316.299	9990.264	624200.562	36.033	107°52'16.48"			
IP 4	545.635	10208.535	624130.184	35.734	107°52'16.48"			

7349
101EP

SHARED PATH 1 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10249.710	624328.929	35.898	111°01'05.56"			
TC	10.312	10259.336	624325.230	35.868	111°01'05.56"			
IP 2	14.109	10263.392	624323.671	35.757		R = 6.250	7.594	69°37'01.28"
CT	17.906	10263.344	624319.327	35.687	180°38'06.84"			
IP 3	23.144	10263.286	624314.089	35.706	180°38'06.84"			

SHARED PATH 4 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10150.360	624283.255	36.180	200°45'02.78"			
TC	0.937	10150.028	624282.379	36.163	200°45'02.78"			
IP 2	8.791	10146.485	624273.027	36.017		R = -10.000	15.708	90°00'08.34"
CT	16.645	10155.837	624269.484	35.870	110°44'54.44"			
IP 3	88.674	10223.194	624243.967	36.036	110°44'54.44"			

SHARED PATH 5 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10226.622	624228.097	35.615	336°04'53.98"			
TC	9.052	10222.953	624236.371	35.884	336°04'53.98"			
IP 2	16.439	10218.961	624245.370	36.029		R = 8.750	14.773	96°44'13.82"
CT	23.825	10228.366	624248.278	36.082	72°49'07.80"			
IP 3	25.677	10230.136	624248.826	36.078	72°49'07.80"			

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
1	LAGOON ROAD INTERSECTION ALTERED FOR TELSTRA	08-08-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
D	ISSUED FOR APPROVAL	29-04-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
B	ISSUED FOR INFORMATION	28-03-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

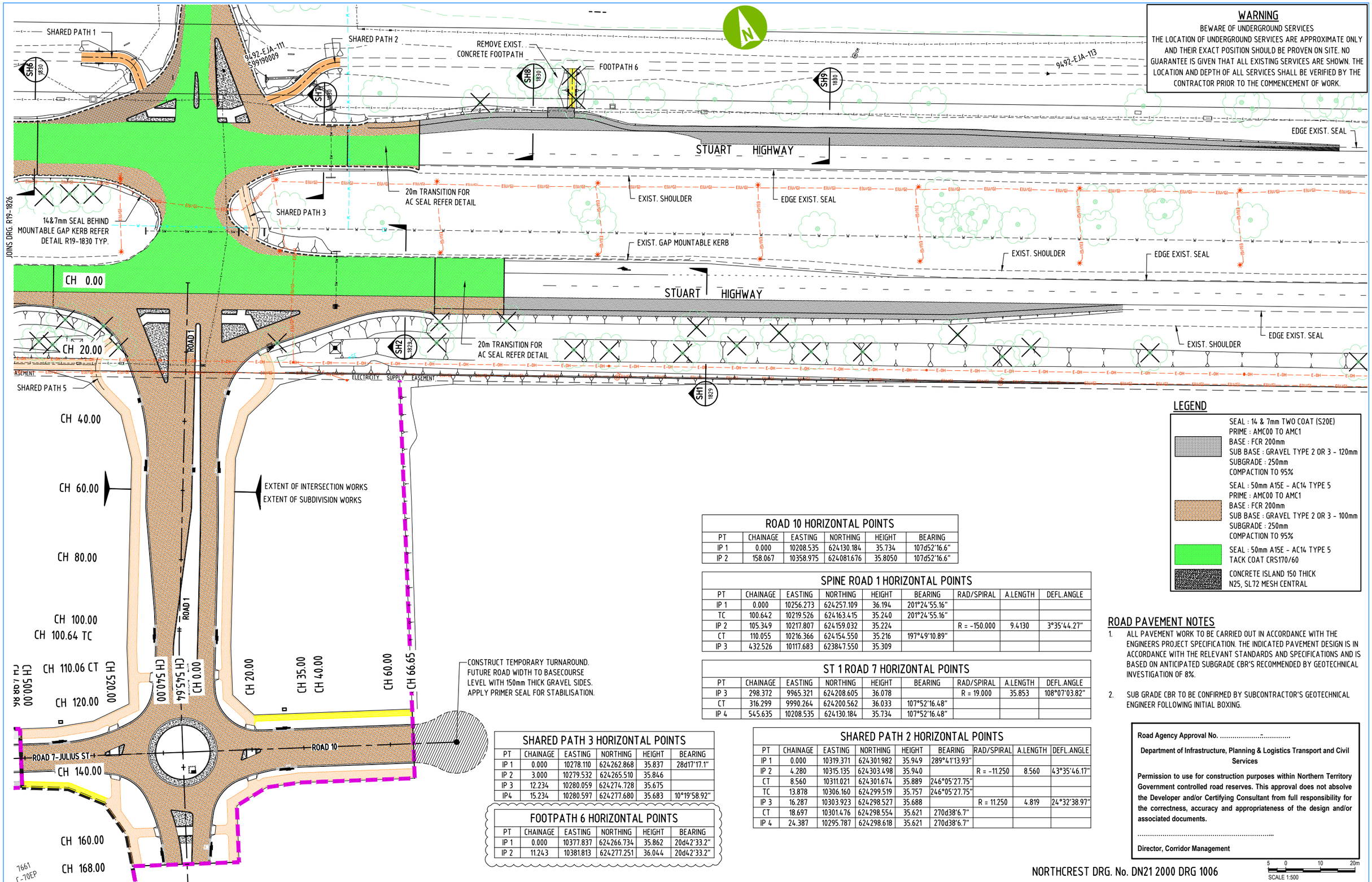
DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

ROADWORKS CONTROL LINE GEOMETRY PLAN SHEET 1 OF 2

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	5 OF 47	R19-1826	1	A1



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

LEGEND

- SEAL : 14 & 7mm TWO COAT (S20E)
  PRIME : AMC00 TO AMC1
  BASE : FCR 200mm
  SUB BASE : GRAVEL TYPE 2 OR 3 - 120mm
  SUBGRADE : 250mm
  COMPACTION TO 95%
- SEAL : 50mm A15E - AC14 TYPE 5
  PRIME : AMC00 TO AMC1
  BASE : FCR 200mm
  SUB BASE : GRAVEL TYPE 2 OR 3 - 100mm
  SUBGRADE : 250mm
  COMPACTION TO 95%
- SEAL : 50mm A15E - AC14 TYPE 5
  TACK COAT CRS170/60
- CONCRETE ISLAND 150 THICK
  N25, SL72 MESH CENTRAL

ROAD 10 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	10208.535	624130.184	35.734	107d52'16.6"
IP 2	158.067	10358.975	624081.676	35.8050	107d52'16.6"

SPINE ROAD 1 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10256.273	624257.109	36.194	201°24'55.16"			
TC	100.642	10219.526	624163.415	35.240	201°24'55.16"			
IP 2	105.349	10217.807	624159.032	35.224		R = -150.000	9.4130	3°35'44.27"
CT	110.055	10216.366	624154.550	35.216	197°49'10.89"			
IP 3	432.526	10117.683	623847.550	35.309				

ST 1 ROAD 7 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 3	298.372	9965.321	624208.605	36.078		R = 19.000	35.853	108°07'03.82"
CT	316.299	9990.264	624200.562	36.033	107°52'16.48"			
IP 4	545.635	10208.535	624130.184	35.734	107°52'16.48"			

SHARED PATH 3 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	10278.110	624262.868	35.837	28d17'17.1"
IP 2	3.000	10279.532	624265.510	35.846	
IP 3	12.234	10280.059	624274.728	35.675	
IP4	15.234	10280.597	624277.680	35.683	10°19'58.92"

FOOTPATH 6 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	10377.837	624266.734	35.862	20d42'33.2"
IP 2	11.243	10381.813	624277.251	36.044	20d42'33.2"

SHARED PATH 2 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10319.371	624301.982	35.949	289°41'13.93"			
IP 2	4.280	10315.135	624303.498	35.940		R = -11.250	8.560	43°35'46.17"
CT	8.560	10311.021	624301.674	35.889	246°05'27.75"			
TC	13.878	10306.160	624299.519	35.757	246°05'27.75"			
IP 3	16.287	10303.923	624298.527	35.688		R = 11.250	4.819	24°32'38.97"
CT	18.697	10301.476	624298.554	35.621	270d38'6.7"			
IP 4	24.387	10295.787	624298.618	35.621	270d38'6.7"			

ROAD PAVEMENT NOTES

1. ALL PAVEMENT WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE ENGINEERS PROJECT SPECIFICATION. THE INDICATED PAVEMENT DESIGN IS IN ACCORDANCE WITH THE RELEVANT STANDARDS AND SPECIFICATIONS AND IS BASED ON ANTICIPATED SUBGRADE CBR'S RECOMMENDED BY GEOTECHNICAL INVESTIGATION OF 8%.
2. SUB GRADE CBR TO BE CONFIRMED BY SUBCONTRACTOR'S GEOTECHNICAL ENGINEER FOLLOWING INITIAL BOXING.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NORTHCREST DRG. No. DN21 2000 DRG 1006

5 0 10 20m
SCALE 1:500

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	BUS BAY LEVELS CHANGED	28-08-19	P. GRAHAM	AURECON
1	LAGOON ROAD INTERSECTION ALTERED FOR TELSTRA	08-08-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
D	ISSUED FOR APPROVAL	29-04-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
B	ISSUED FOR INFORMATION	28-03-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

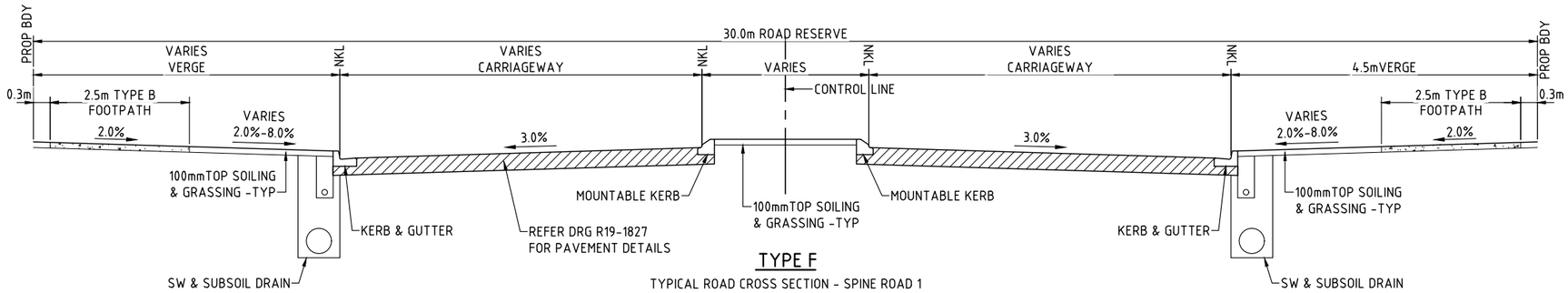
DRAWN C. HATZI	CHECKED
DATE APRIL 2019	DATE
DESIGNED C. HATZI	CHECKED P. GRAHAM
DATE APRIL 2019	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	PROJECT OFFICER M. TAIT
DATE APRIL 2019	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

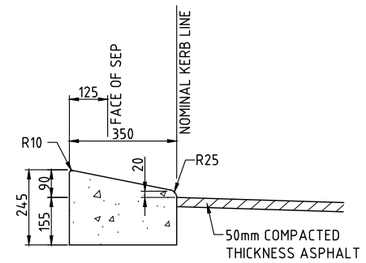
ROADWORKS CONTROL LINE GEOMETRY PLAN SHEET 2 OF 2

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	6 OF 47	R19-1827	2	A1



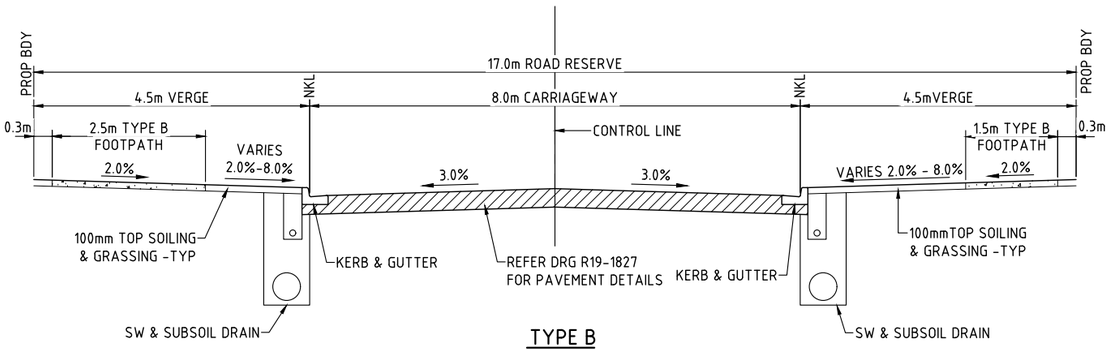
TYPE F

TYPICAL ROAD CROSS SECTION - SPINE ROAD 1
VARIE CARRIAGEWAY - 30m ROAD RESERVE



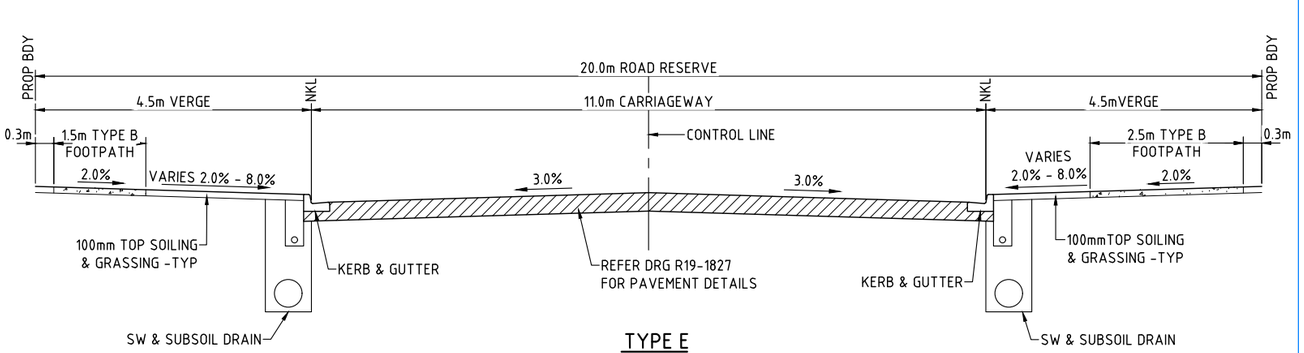
LAYBACK KERB

SCALE 1:10



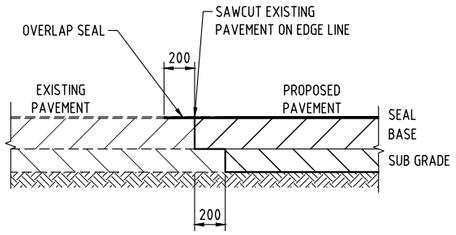
TYPE B

TYPICAL ROAD CROSS SECTION - ST1 ROAD 7 JULIUS ST
8.0m CARRIAGEWAY - 17m ROAD RESERVE



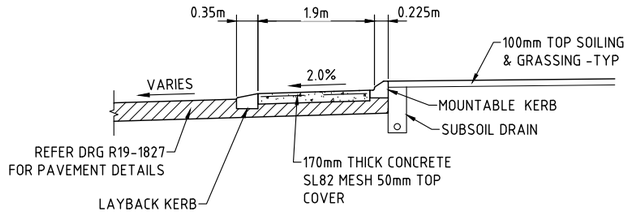
TYPE E

TYPICAL ROAD CROSS SECTION - SPINE ROADS 10
11.0m CARRIAGEWAY - 20m ROAD RESERVE

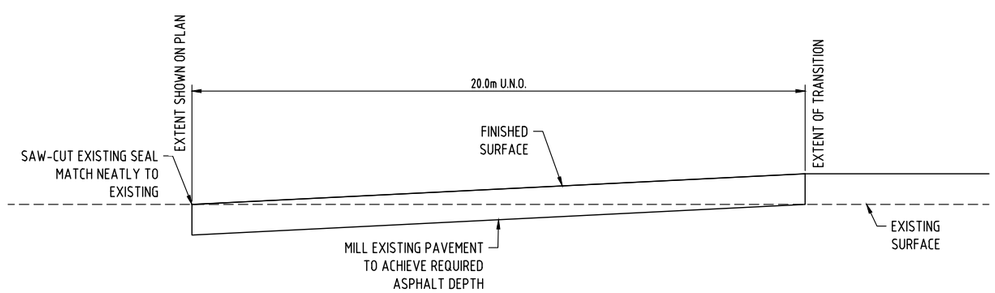


TYPICAL JOINT TO EXISTING ROAD

SCALE 1:20



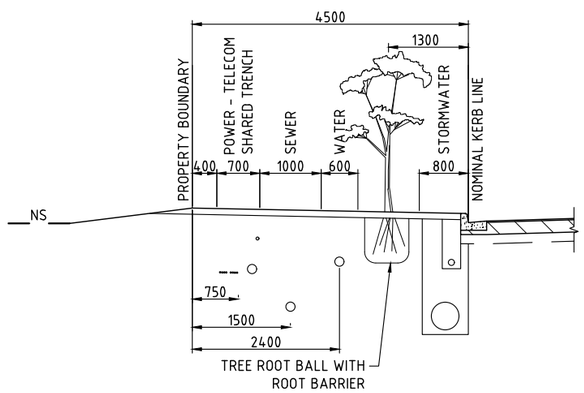
TYPICAL ROUNDABOUT SECTION



ASPHALT SEAL TRANSITION DETAIL

SCALE N.T.S.

ROAD LIGHTING COLUMN AT 1100.
TREE PLANTING AT 1300.



SERVICES ALLOCATIONS

N.T.S. (DIM IN mm)

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NOTES

1. REFER TO DIPL STANDARD DRAWING CS-3300 FOR TYPICAL KERBING DETAILS.
2. REFER TO DIPL STANDARD DRAWING CS3006 & CS3302 FOR FOOTPATHS AND PRAM CROSSING DETAILS.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ROAD LAYOUT PLAN AND ROAD LONGSECTIONS.
4. LOCATION OF SERVICES ARE INDICATIVE ONLY. FOR EXACT LOCATIONS REFER TO RELEVANT SERVICE LAYOUT.
5. FOR PAVEMENT AND SEAL TYPES REFER DRAWING R19-1826 & R19-1827.
6. REFER R19-1828 FOR TYPICAL JOINT TO EXISTING ROAD DETAIL

NORTHCREST DRG. No. DN21 2000 DRG 1007

500 0 1000 2000mm
SCALE 1:50

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

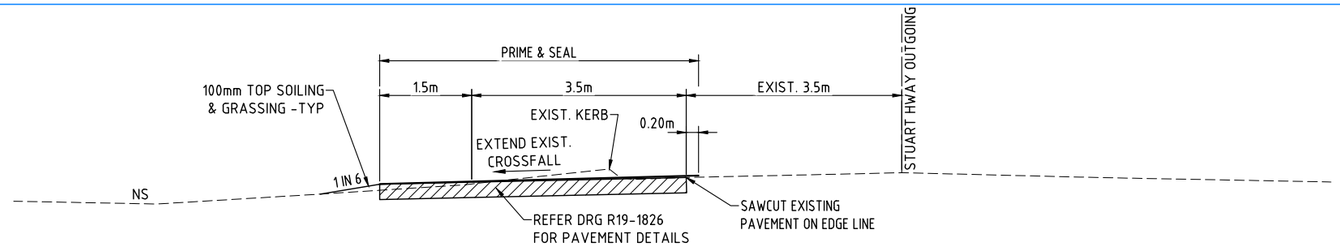
DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE		
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019		
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019		

Northern Territory Government

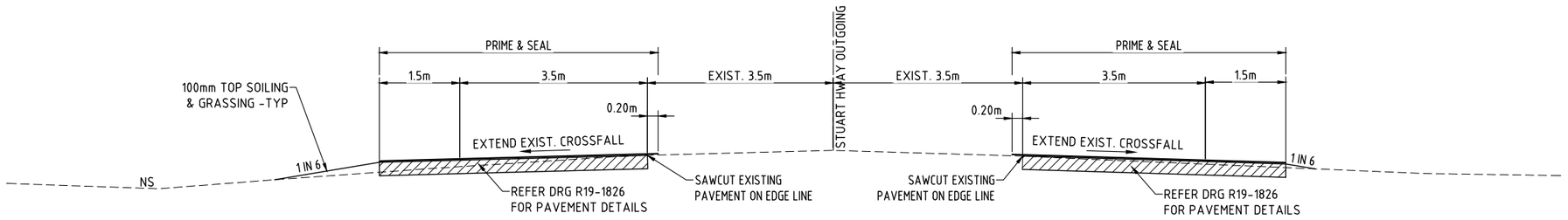
DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

ROADWORKS TYPICAL CROSS SECTIONS SHEET 1 OF 3

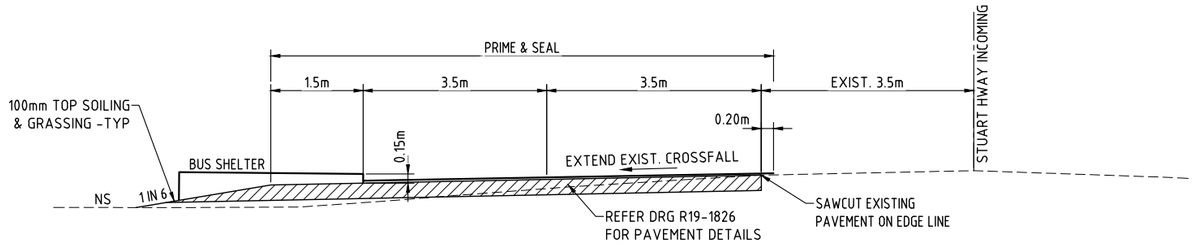
FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	7 OF 47	R19-1828	0	A1



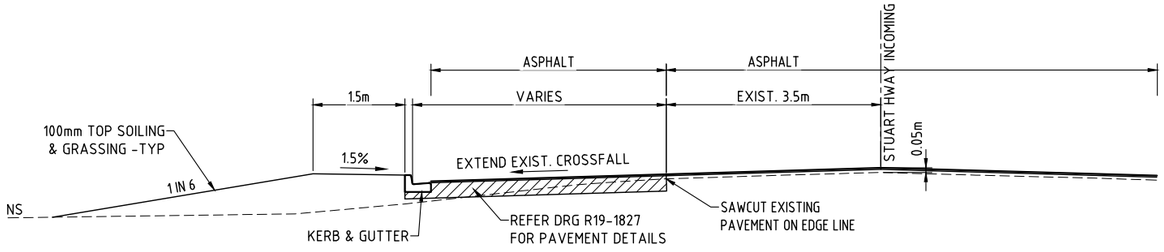
TYPE SH 5



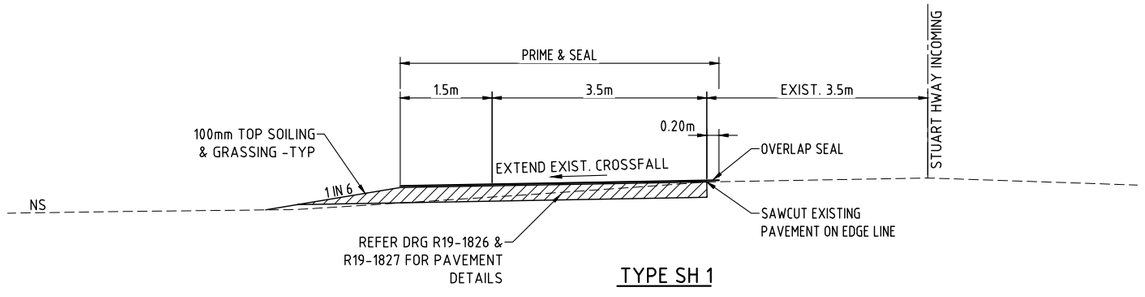
TYPE SH 4



TYPE SH 3



TYPE SH 2



TYPE SH 1

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NOTES

1. REFER TO DIPL STANDARD DRAWING CS-3300 FOR TYPICAL KERBING DETAILS.
2. REFER TO DIPL STANDARD DRAWING CS3006 & CS3302 FOR FOOTPATHS AND PRAM CROSSING DETAILS.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ROAD LAYOUT PLAN AND ROAD LONGSECTIONS.
4. LOCATION OF SERVICES ARE INDICATIVE ONLY. FOR EXACT LOCATIONS REFER TO RELEVANT SERVICE LAYOUT.
5. FOR PAVEMENT AND SEAL TYPES REFER DRAWING R19-1826 & R19-1827.
6. REFER R19-1828 FOR TYPICAL JOINT TO EXISTING ROAD DETAIL

NORTHCREST DRG. No. DN21 2000 DRG 1008

500 0 1000 2000mm
SCALE 1:50

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

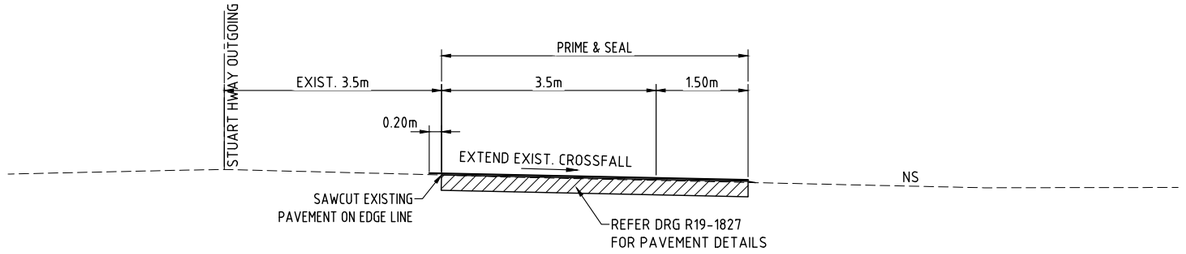
DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

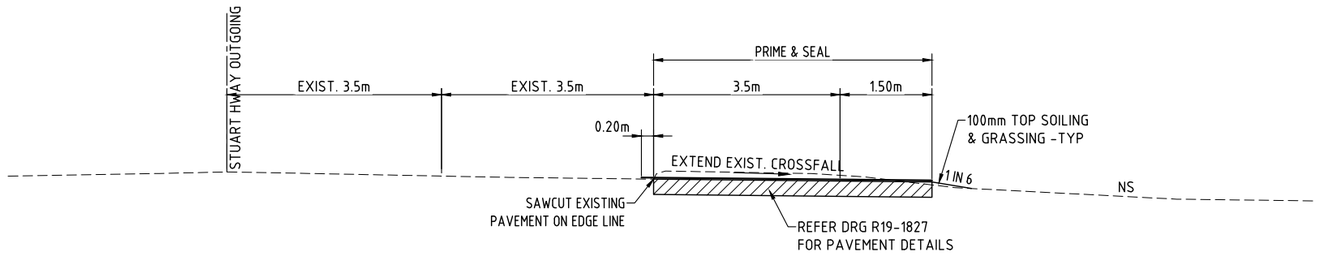
DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

ROADWORKS TYPICAL CROSS SECTIONS SHEET 2 OF 3

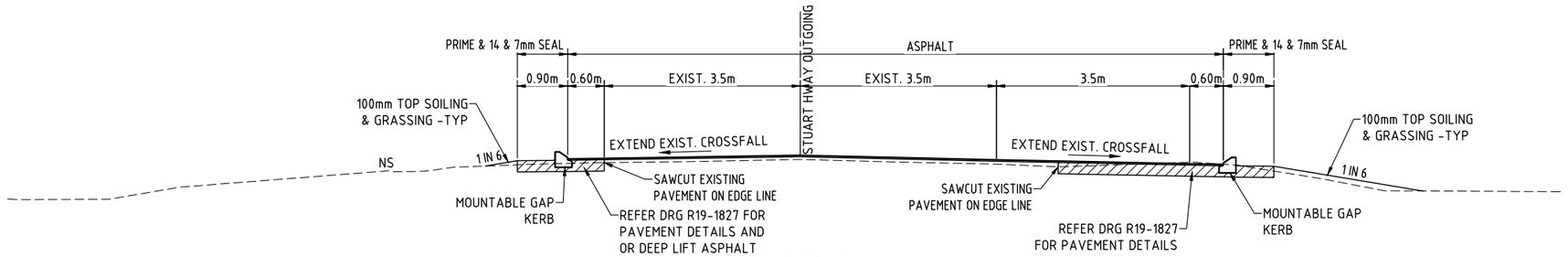
FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	8 OF 47	R19-1829	0	A1



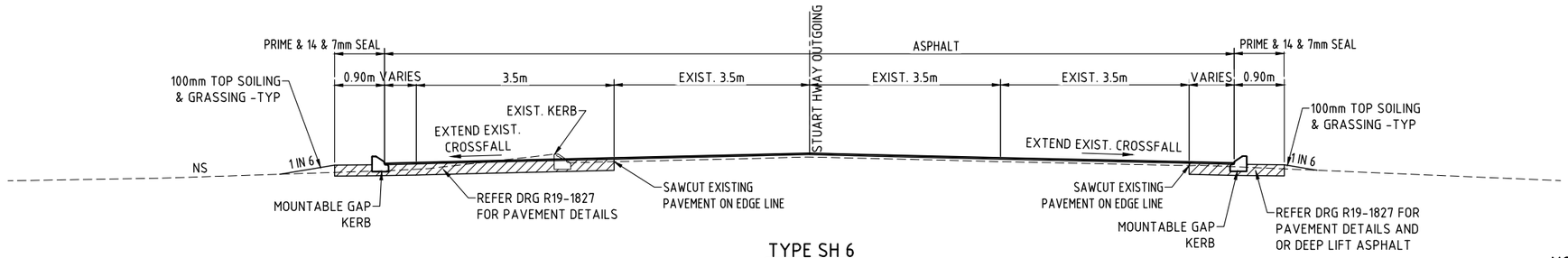
TYPE SH 9



TYPE SH 8



TYPE SH 7



TYPE SH 6

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NOTES

1. REFER TO DIPL STANDARD DRAWING CS-3300 FOR TYPICAL KERBING DETAILS.
2. REFER TO DIPL STANDARD DRAWING CS3006 & CS3302 FOR FOOTPATHS AND PRAM CROSSING DETAILS.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ROAD LAYOUT PLAN AND ROAD LONGSECTIONS.
4. LOCATION OF SERVICES ARE INDICATIVE ONLY. FOR EXACT LOCATIONS REFER TO RELEVANT SERVICE LAYOUT.
5. FOR PAVEMENT AND SEAL TYPES REFER DRAWING R19-1826 & R19-1827.
6. REFER R19-1828 FOR TYPICAL JOINT TO EXISTING ROAD DETAIL

NORTHCREST DRG. No. DN21 2000 DRG 1009

500 0 1000 2000mm
SCALE 1:50

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

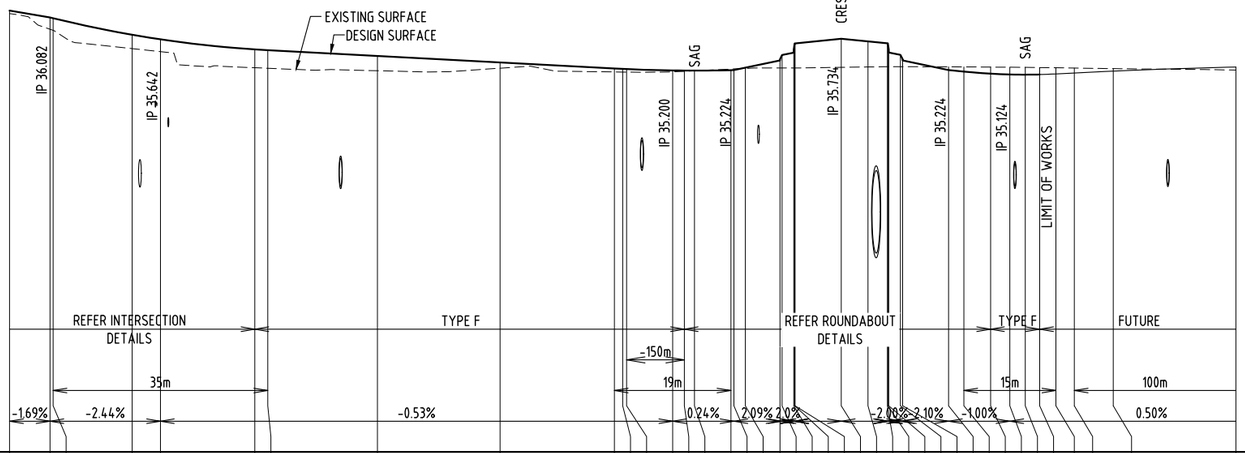
DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

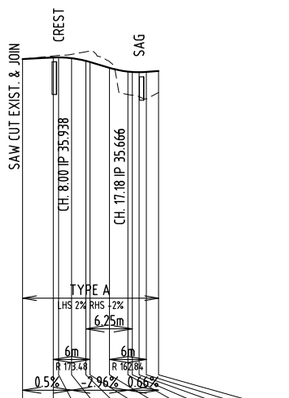
DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

ROADWORKS TYPICAL CROSS SECTIONS SHEET 3 OF 3

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	9 OF 47	R19-1830	0	A1

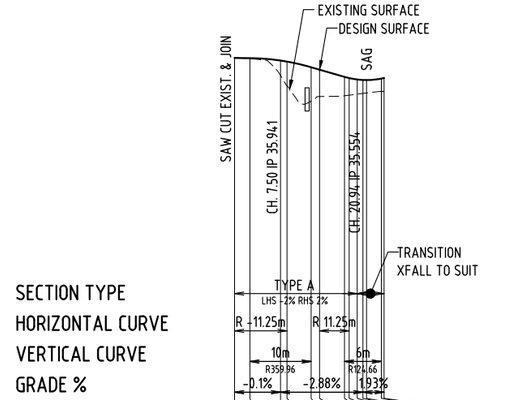

EXISTING SURFACE
DESIGN SURFACE
SAG
CREST
SAG
IP 36.082
IP 35.642
IP 35.200
IP 35.224
IP 35.734
IP 35.224
IP 35.124
LIMIT OF WORKS

| | | |



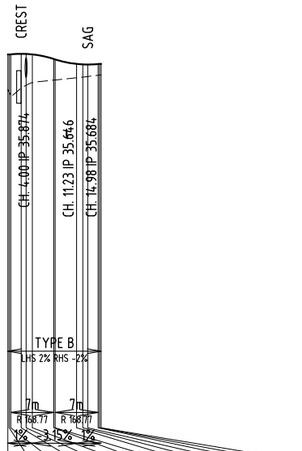
CROSS SECTION TYPE													
HORIZONTAL CURVE													
VERTICAL CURVE													
GRADE %													
DATUM RL. 30.00													
DESIGN CENTRELINE LEVEL	35.898	35.923	35.925	35.912	35.868	35.849	35.755	35.694	35.687	35.683	35.686	35.706	
EXISTING SURFACE LEVEL	35.898	35.949	35.957	35.975	36.017	36.028	35.859	35.320	35.310	35.282	35.249	35.406	
CUT / FILL DEPTH	0.000	-0.026	-0.032	-0.063	-0.148	-0.179	-0.104	0.373	0.377	0.401	0.438	0.300	
CENTRELINE CHAINAGE	0.00	5.00	5.87	8.00	10.31	11.00	14.18	17.18	17.91	19.08	20.18	23.14	

LONGITUDINAL SECTION SHARED PATH 1



SECTION TYPE													
HORIZONTAL CURVE													
VERTICAL CURVE													
GRADE %													
DATUM RL 30.0													
DESIGN CENTRELINE LEVEL	35.949	35.946	35.906	35.889	35.797	35.757	35.641	35.621	35.598	35.590	35.589	35.612	
EXISTING SURFACE LEVEL	35.948	35.937	35.665	35.492	35.242	35.320	35.332	35.342	35.358	35.370	35.377	35.403	35.403
CUT/FILL DEPTH	-0	-0.009	-0.242	-0.397	-0.555	-0.437	-0.309	-0.279	-0.24	-0.22	-0.212	-0.209	-0.218
CENTRELINE CHAINAGE	0.00	2.50	7.50	8.56	12.50	13.88	17.94	18.70	20.00	20.94	21.53	23.94	24.39

LONGITUDINAL SECTION SHARED PATH 2



CROSS SECTION TYPE													
HORIZONTAL CURVE													
VERTICAL CURVE													
GRADE %													
DATUM RL. 29.00													
DESIGN CENTRELINE LEVEL	35.837	35.837	35.839	35.848	35.846	35.838	35.764	35.757	35.683	35.675	35.673	35.682	35.684	35.683
EXISTING SURFACE LEVEL	35.267	35.218	35.149	35.288	35.335	35.378	35.419	35.421	35.458	35.468	35.478	35.498	35.501	35.504
CUT / FILL DEPTH	0.570	0.619	0.691	0.560	0.511	0.460	0.345	0.335	0.225	0.207	0.195	0.183	0.183	0.179
CENTRELINE CHAINAGE	0.00	0.25	0.50	2.18	3.00	4.00	7.50	7.73	11.23	12.23	13.04	14.73	14.98	15.23

LONGITUDINAL SECTION SHARED PATH 3

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

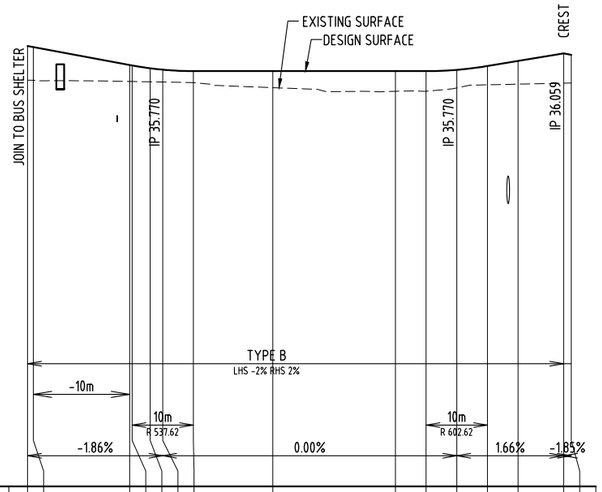
Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

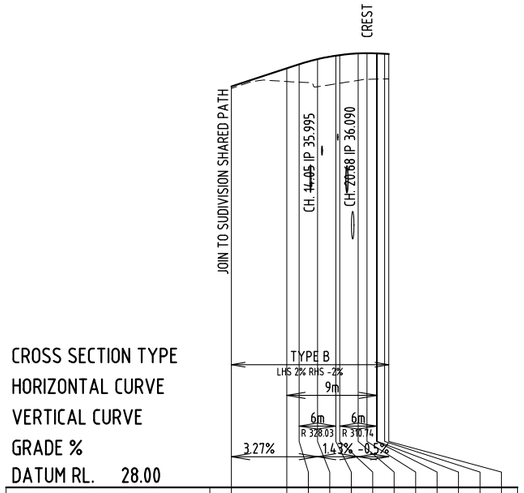
NOTES

1. REFER TO DIPL STANDARD DRAWING CS-3300 FOR TYPICAL KERBING DETAILS.
2. REFER TO DIPL STANDARD DRAWING CS3006 & CS3302 FOR FOOTPATHS AND PRAM CROSSING DETAILS.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ROAD LAYOUT PLAN AND ROAD LONGSECTIONS.
4. LOCATION OF SERVICES ARE INDICATIVE ONLY. FOR EXACT LOCATIONS REFER TO RELEVANT SERVICE LAYOUT.



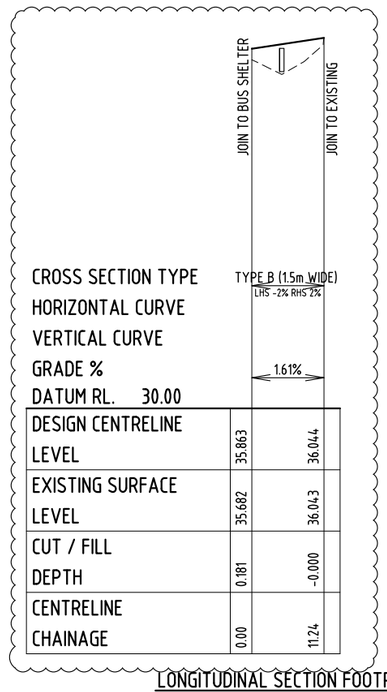
CROSS SECTION TYPE																																					
HORIZONTAL CURVE																																					
VERTICAL CURVE																																					
GRADE %																																					
Datum RL. 29.00																																					
DESIGN CENTRELINE LEVEL	36.180	36.163	35.870	35.863	35.816	35.793	35.770	35.770	35.770	35.770	35.770	35.791	35.853	35.936	36.059	36.036																					
EXISTING SURFACE LEVEL	35.623	35.620	35.602	35.601	35.596	35.592	35.583	35.501	35.440	35.442	35.496	35.547	35.558	35.574	35.577																						
CUT/FILL DEPTH	0.557	0.543	0.269	0.262	0.220	0.201	0.187	0.269	0.330	0.328	0.295	0.306	0.378	0.485	0.459																						
CENTRELINE CHAINAGE	0.00	0.94	16.65	17.05	20.00	22.05	27.05	40.00	60.00	65.00	70.00	75.00	80.00	87.42	88.67																						

LONGITUDINAL SECTION SHARED PATH 4



CROSS SECTION TYPE																																					
HORIZONTAL CURVE																																					
VERTICAL CURVE																																					
GRADE %																																					
DATUM RL. 28.00																																					
DESIGN CENTRELINE LEVEL	35.536	35.832	35.897	35.981	36.038	36.047	36.075	36.079	36.075	36.074	36.068	36.065																									
EXISTING SURFACE LEVEL	35.504	35.616	35.605	35.532	35.579	35.589	35.635	35.651	35.655	35.656	35.658	35.660																									
CUT / FILL DEPTH	0.032	0.216	0.292	0.450	0.459	0.458	0.440	0.428	0.420	0.418	0.410	0.405																									
CENTRELINE CHAINAGE	0.00	9.05	11.05	14.05	17.05	17.68	20.68	22.12	23.68	23.83	25.00	25.68																									

LONGITUDINAL SECTION SHARED PATH 5



CROSS SECTION TYPE																																					
HORIZONTAL CURVE																																					
VERTICAL CURVE																																					
GRADE %																																					
DATUM RL. 30.00																																					
DESIGN CENTRELINE LEVEL	35.863	36.044																																			
EXISTING SURFACE LEVEL	35.682	36.043																																			
CUT / FILL DEPTH	0.181	-0.000																																			
CENTRELINE CHAINAGE	0.00	11.24																																			

LONGITUDINAL SECTION FOOTPATH 6

NORTHCREST DRG. No. DN21 2000 DRG 1011

H: 0 10 20m
V: 0 1 2m
SCALE H:1:500 V:1:50 @A1

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	FOOTPATH 6 REGRADED	28-08-19	P. GRAHAM	AURECON
1	LAGOON ROAD INTERSECTION ALTERED FOR TELSTRA	08-08-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE		
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019		
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019		

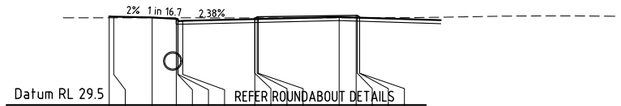
Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

FOOTPATHS LONGITUDINAL SECTIONS

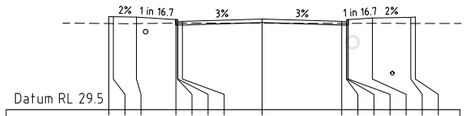
FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	11 OF 47	R19-1832	2	A1

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O.
200mm STRIPPING HAS BEEN ASUMED



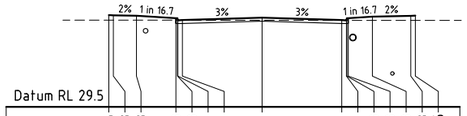
| | | |

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O.
200mm STRIPPING HAS BEEN ASUMED



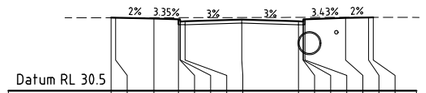
	35.586	35.568	35.538	35.383	35.383	35.233	35.258	35.414	35.258	35.233	35.383	35.383	35.478	35.528	35.546
	35.122	35.119	35.117	35.148	35.149	35.149	35.152	35.141	35.132	35.132	35.132	35.132	35.131	35.130	35.129
	-10.000	-9.700	-8.200	-5.625	-5.525	-5.500	-5.200	0.000	5.200	5.500	5.525	5.625	7.200	9.700	10.000

CH. 80.00



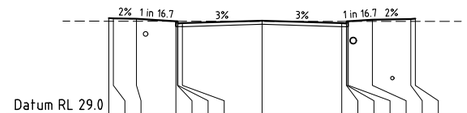
	35.486	35.468	35.438	35.283	35.283	35.133	35.158	35.314	35.158	35.133	35.283	35.283	35.378	35.428	35.446
	35.152	35.152	35.151	35.149	35.149	35.149	35.148	35.144	35.139	35.139	35.139	35.139	35.137	35.135	35.135
	-10.000	-9.700	-8.200	-5.625	-5.525	-5.500	-5.200	0.000	5.200	5.500	5.525	5.625	7.200	9.700	10.000

CH. 60.00



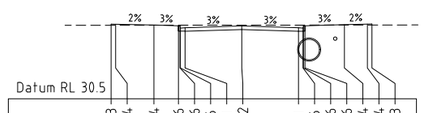
	35.269	35.260	35.210	35.156	35.156	35.006	35.031	35.142	35.031	35.006	35.156	35.156	35.247	35.277	35.286
	35.262	35.262	35.262	35.263	35.263	35.263	35.264	35.272	35.281	35.282	35.282	35.282	35.287	35.285	35.284
	-8.525	-8.225	-5.725	-4.125	-4.025	-4.000	-3.700	0.000	3.700	4.000	4.025	4.125	6.778	8.278	8.578

CH. 500.00



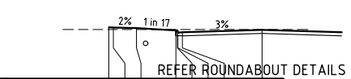
	35.386	35.368	35.338	35.183	35.183	35.033	35.058	35.214	35.058	35.033	35.183	35.183	35.278	35.328	35.346
	35.184	35.183	35.182	35.180	35.180	35.180	35.179	35.175	35.173	35.173	35.173	35.173	35.172	35.171	35.171
	-10.000	-9.700	-8.200	-5.625	-5.525	-5.500	-5.200	0.000	5.200	5.500	5.525	5.625	7.200	9.700	10.000

CH. 40.00



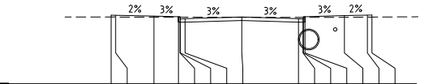
	35.363	35.354	35.304	35.256	35.256	35.106	35.131	35.242	35.131	35.106	35.256	35.256	35.334	35.364	35.373
	35.291	35.291	35.293	35.295	35.295	35.295	35.295	35.298	35.301	35.302	35.302	35.302	35.304	35.305	35.305
	-8.525	-8.225	-5.725	-4.125	-4.025	-4.000	-3.700	0.000	3.700	4.000	4.025	4.125	6.700	8.200	8.500

CH. 480.00



DESIGN SURFACE LEVEL	35.344	35.326	35.296	35.145	35.145	34.995	35.020	35.176														
EXISTING SURFACE LEVEL	35.201	35.201	35.200	35.199	35.199	35.199	35.199	35.198														
CENTRELINE OFFSET	-10.000	-9.700	-8.200	-5.625	-5.525	-5.500	-5.200	0.000														

CH. 29.77



DESIGN SURFACE LEVEL	35.463	35.454	35.404	35.356	35.356	35.206	35.231	35.342	35.231	35.206	35.356	35.356	35.434	35.464	35.473
EXISTING SURFACE LEVEL	35.340	35.340	35.334	35.330	35.330	35.330	35.329	35.321	35.316	35.316	35.316	35.316	35.324	35.335	35.337
CENTRELINE OFFSET	-8.525	-8.225	-5.725	-4.125	-4.025	-4.000	-3.700	0.000	3.700	4.000	4.025	4.125	6.700	8.200	8.500

CH. 460.00

ROAD 10

STAGE 1 ROAD 7-JULIUS ST

NORTHCREST DRG. No. DN21 2000 DRG 1013

0 5 8m
H 1:200 @A1

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

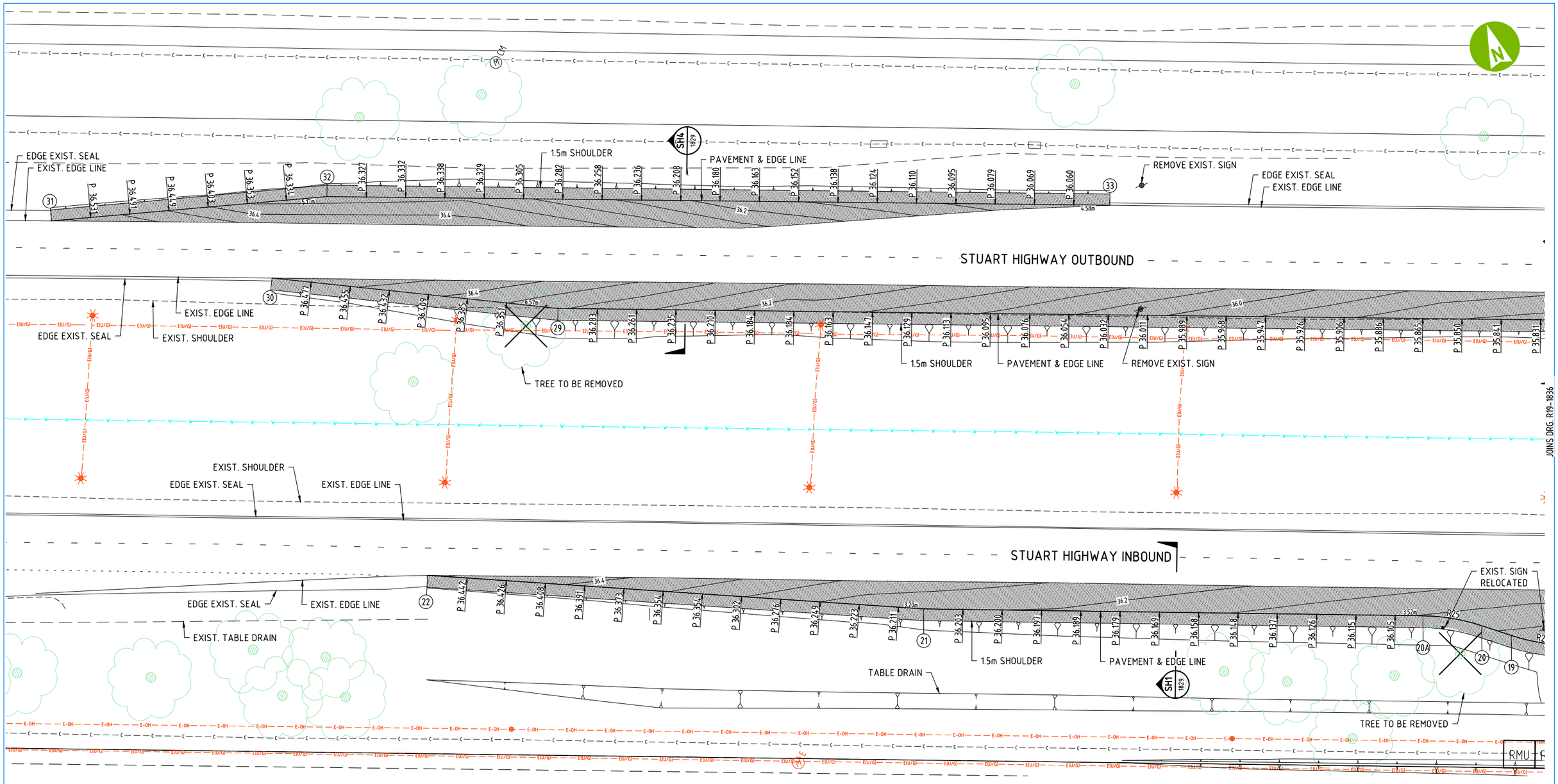
aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
ROAD CROSS SECTIONS
SHEET 2 OF 2

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	13 OF 47	R19-1834	0	A1



POINTS SETOUT TABLE

POINT #	EASTING	NORTHING	HEIGHT	DESCRIPTION
19	10143.903	624290.137	P 36.037	CT
20	10140.798	624292.584	P 36.063	TC R25
20A	10134.198	624296.322	P 36.098	CT
21	10074.814	624318.877	P 36.206	IP
22	10017.015	624344.444	P 36.458	IP
29	10044.182	624370.674	P 36.306	IP
30	10011.328	624386.738	P 36.499	IP
31	9987.456	624403.167	P 36.566	IP
32	10021.434	624394.091	P 36.321	IP
33	10114.628	624358.997	P 36.051	IP

NOTES

1. ALL KERB RADII, POINTS AND COORDINATES ARE TO NOMINAL KERB LINE UNLESS NOTED OTHERWISE.
2. QUARTER POINT LEVELS AROUND KERB RETURNS ARE EQUALLY SPACED U.N.O.
3. QUARTER POINT LEVELS ARE TO TOP OF KERB UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. REFER DIPL STD DWG CS-3300 FOR STANDARD KERB DETAILS.
6. ANY UNPAVED DISTURBED AREA TO BE TOPSOIL & GRASSED.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NORTHCREST DRG. No. DN21 2000 DRG 1014

2.5 0 5 10m
SCALE 1:250

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

ROADWORKS INTERSECTION DETAILS SHEET 1 OF 5

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	14 OF 47	R19-1835	0	A1

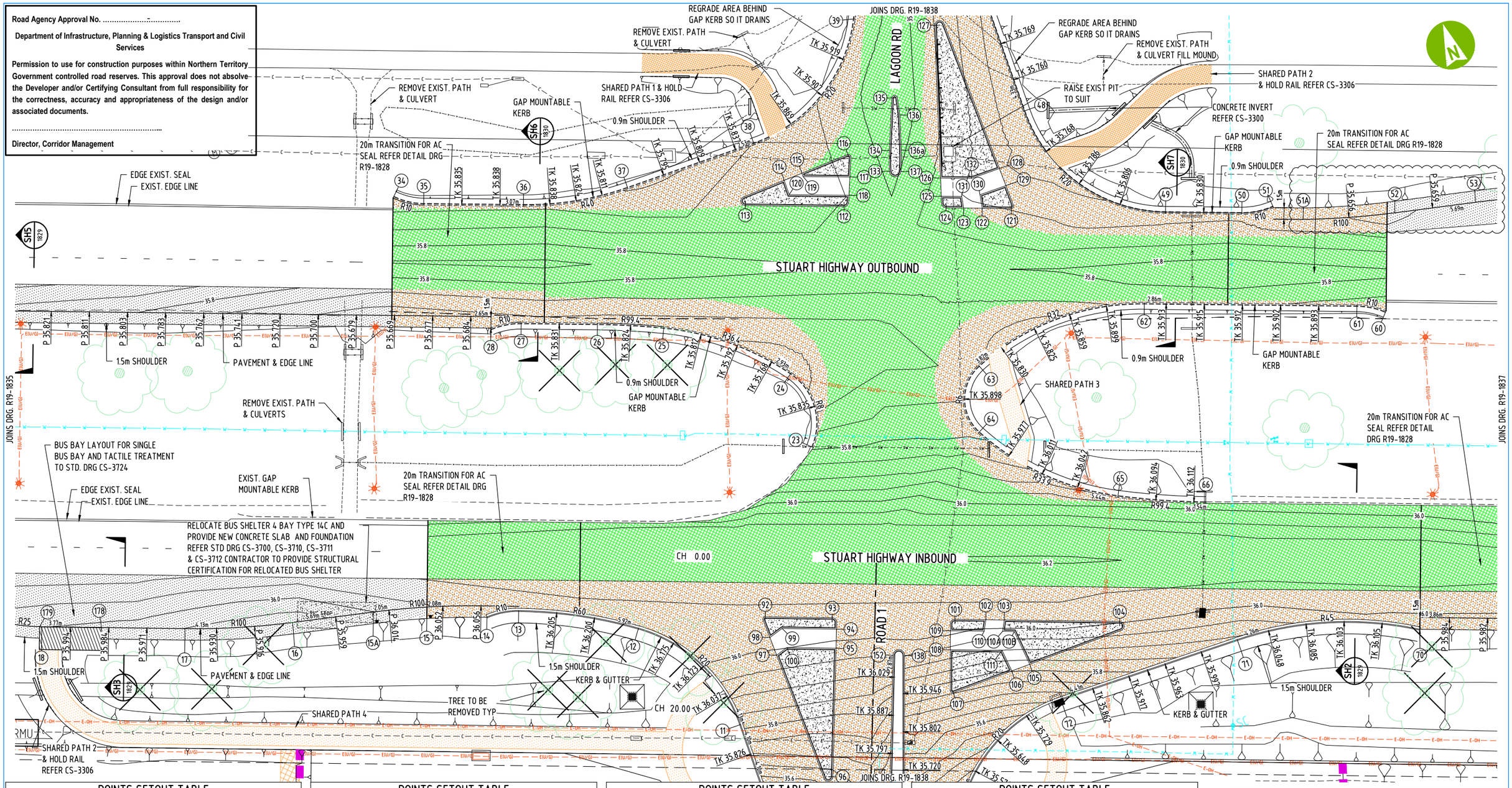
Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management



POINTS SETOUT TABLE

POINT #	EASTING	NORTHING	HEIGHT	DESCRIPTION
11	10232.213	624243.021	TK 35.942	TC R20 (K&G)
12	10223.958	624259.474	TK 36.195	CC R20 & R60 (K&G)
13	10209.988	624267.013	TK 36.209	CC R60 & R10 (K&G)
14	10205.792	624267.640	TK 36.188	END R10 (K&G)
15	10198.852	624271.555	P 36.048	IP
15A	10192.035	624273.340	P 35.999	CT
16	10181.604	624275.682	P 35.913	TC R100
17	10168.078	624279.740	P 35.948	CT
18	10150.522	624286.392	P 36.002	TC R25
23	10253.578	624273.884	TK 35.944	JOIN EXIST. R8 (GAP MK)
24	10254.237	624284.106	TK 35.771	CC R8 & R36.4 (GAP MK)
25	10240.597	624295.460	TK 35.821	CC R36.4 & R99.4 (GAP MK)
26	10232.577	624298.889	TK 35.827	CT (GAP MK)
27	10223.219	624302.413	TK 35.828	TC R10 (GAP MK)

POINTS SETOUT TABLE

POINT #	EASTING	NORTHING	HEIGHT	DESCRIPTION
28	10219.228	624303.044	TK 35.802	END R10 (GAP MK)
34	10213.021	624323.458	TK 35.808	START R10 (GAP MK)
35	10216.462	624321.200	TK 35.831	CT (GAP MK)
36	10228.694	624316.593	TK 35.838	TC R40 (GAP MK)
37	10242.347	624314.030	TK 35.798	CT (GAP MK)
38	10259.880	624313.835	TK 35.851	TC R20 (GAP MK)
48	10294.512	624305.870	TK 35.759	TC R20 (GAP MK)
49	10307.462	624286.931	TK 35.826	CT (GAP MK)
50	10316.820	624283.407	TK 35.834	TC R10 (GAP MK)
51	10321.018	624282.788	TK 35.776	END (GAP MK)
51A	10324.133	624280.012	P 35.661	TC R100
52	10335.710	624276.718	P 35.651	CT
53	10346.146	624274.397	P 35.658	TC R100
60	10330.246	624265.035	TK 35.860	START R10 (GAP MK)

POINTS SETOUT TABLE

POINT #	EASTING	NORTHING	HEIGHT	DESCRIPTION
61	10326.933	624267.097	TK 35.883	CT (GAP MK)
62	10300.861	624276.915	TK 35.913	TC R32 (GAP MK)
63	10277.592	624276.636	TK 35.857	CC R32 & R6 (GAP MK)
64	10274.545	624268.252	TK 35.939	CC R6 & R33.9 (GAP MK)
65	10288.859	624254.097	TK 36.071	CC R33.9 & R99.4 (GAP MK)
66	10299.393	624249.389	TK 36.117	JOIN EXIST. (GAP MK)
70	10320.137	624224.311	TK 36.085	START R45 (K&G)
71	10297.193	624231.234	TK 36.022	CT (K&G)
72	10272.789	624231.807	TK 35.804	TC R20 (K&G)
92	10239.964	624254.905		CENTRE R0.3 (MK)
93	10248.064	624251.515		CENTRE R0.6 (MK)
94	10248.296	624250.465		IP (MK)
95	10247.384	624248.137		IP (MK)
96	10240.677	624232.681		CENTRE R0.6 (MK)

POINTS SETOUT TABLE

POINT #	EASTING	NORTHING	HEIGHT	DESCRIPTION
97	10239.761	624249.944		IP (MK)
98	10239.715	624252.433		IP (MK)
99	10241.620	624252.994		IP (MK)
100	10241.366	624250.417		IP (MK)
101	10263.122	624245.809		CENTRE R0.6 (MK)
102	10267.111	624244.939		IP (MK)
103	10269.375	624244.081		IP (MK)
104	10283.304	624238.162		CENTRE R0.6 (MK)
105	10270.521	624237.480		IP (MK)
106	10268.012	624237.464		IP (MK)
107	10259.842	624237.712		CENTRE R0.3 (MK)
108	10261.393	624242.828		IP (MK)
110A	10268.658	624242.749		IP (MK)
110B	10270.087	624242.207		IP (MK)

NOTES

1. ALL KERB RADII, POINTS AND COORDINATES ARE TO NOMINAL KERB LINE UNLESS NOTED OTHERWISE.
2. QUARTER POINT LEVELS AROUND KERB RETURNS ARE EQUALLY SPACED U.N.O.
3. QUARTER POINT LEVELS ARE TO TOP OF KERB UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. REFER DIPL STD DWG CS-3300 FOR STANDARD KERB DETAILS.
6. ANY UNPAVED DISTURBED AREA TO BE TOPSOIL & GRASSED.
7. REFER SHEET R19-1837 FOR MORE SET OUT POINTS.

NORTHCREST DRG. No. DN21 2000 DRG 1015

2.5 0 5 10m

SCALE 1:250

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
3	BUS BAY LEVELS CHANGED	28-08-19	P. GRAHAM	AURECON
2	TRAFFIC ISLAND CHANGED	20-08-19	P. GRAHAM	AURECON
1	LAGOON ROAD INTERSECTION ALTERED FOR TELSTRA	08-08-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	29-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments

www.aurecongroup.com

NORTH CREST

DRAWN C. HATZI	CHECKED
DATE APRIL 2019	DATE
DESIGNED C. HATZI	CHECKED P. GRAHAM
DATE APRIL 2019	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	PROJECT OFFICER M. TAIT
DATE APRIL 2019	DATE APRIL 2019

Northern Territory Government

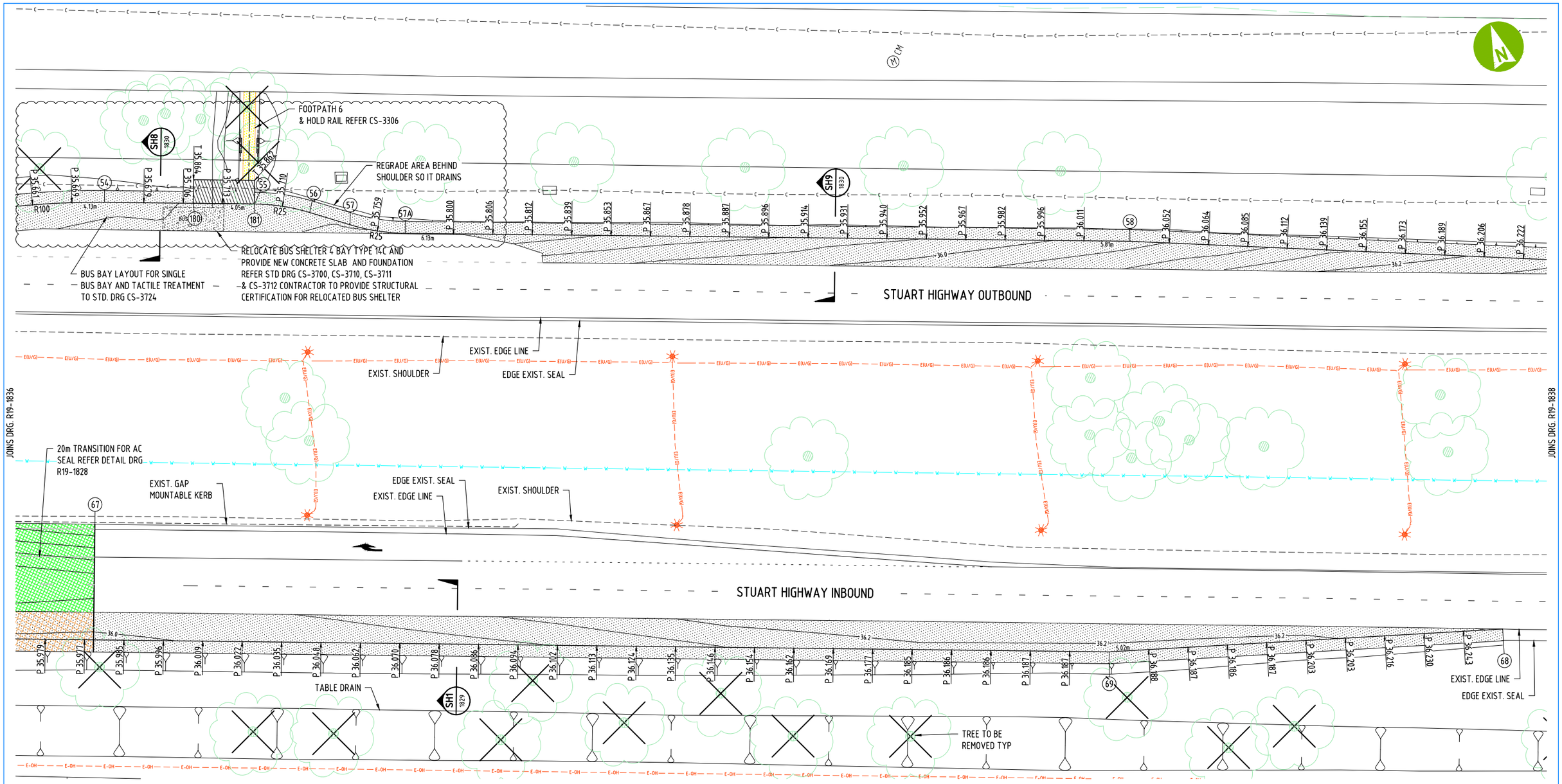
DARWIN REGION - BERRIMAH

NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION

-

ROADWORKS INTERSECTION DETAILS SHEET 2 OF 5

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	15 OF 47	R19-1836	3	A1



POINTS SETOUT TABLE

POINT #	EASTING	NORTHING	HEIGHT	DESCRIPTION
54	10359.680	624270.366	P 35.679	CT
55	10377.508	624263.652	P 35.712	TC R25
56	10383.707	624260.249	P 35.728	CT
57	10387.991	624257.033	P 35.744	TC R25
57A	10394.189	624253.630	P 35.778	CT
58	10480.230	624221.229	P 36.028	IP
67	10344.574	624232.419		END AC SEAL
68	10507.879	624158.845	P 36.255	START OF WIDENING
69	10459.957	624173.192	P 36.188	IP
109	10262.252	624245.176		IP (MK)
110	10266.394	624243.607		IP (MK)
111	10267.741	624240.423		
112	10268.371	624302.720		CENTRE R0.6 (MK)
113	10256.277	624307.275		CENTRE R0.6 (MK)
114	10261.969	624308.083		IP (MK)

POINTS SETOUT TABLE

POINT #	EASTING	NORTHING	HEIGHT	DESCRIPTION
115	10264.470	624308.174		IP (MK)
116	10270.960	624308.112		CENTRE R0.3 (MK)
117	10270.211	624305.554		IP (MK)
118	10269.282	624303.339		IP (MK)
119	10264.465	624307.717		IP (MK)
120	10261.947	624306.101		IP (MK)
121	10288.787	624294.711		CENTRE R0.3 (MK)
122	10285.116	624295.774		IP (MK)
123	10282.833	624296.633		IP (MK)
124	10280.889	624298.006		CENTRE R0.6 (MK)
125	10280.600	624299.077		IP (MK)
126	10281.331	624301.366		IP (MK)
127	10288.070	624320.227		CENTRE R0.6 (MK)
128	10289.003	624299.893		IP (MK)
129	10289.042	624297.492		IP (MK)

POINTS SETOUT TABLE

POINT #	EASTING	NORTHING	HEIGHT	DESCRIPTION
130	10285.436	624297.532		IP (MK)
131	10283.106	624298.133		IP (MK)
132	10285.130	624299.936		IP (MK)
133	10275.342	624304.472		CC R0.75 & R25 (MK)
134	10276.259	624307.041		CT (MK)
135	10279.257	624313.278		CENTRE R0.35 (MK)
136	10279.141	624310.953		IP (MK)
136a	10277.737	624306.552		TC R25 (MK)
137	10276.745	624303.953		CC R25 & R0.75 (MK)
138	10255.497	624244.173		CT (MK)
178	10157.827	624283.626	Top 36.136	BUS SHELTER CONCRETE
179	10150.253	624286.495	Top 36.152	BUS SHELTER CONCRETE
180	10370.233	624266.392	Top 35.834	BUS SHELTER CONCRETE
181	10377.481	624263.662	Top 35.832	BUS SHELTER CONCRETE

NOTES

1. ALL KERB RADII, POINTS AND COORDINATES ARE TO NOMINAL KERB LINE UNLESS NOTED OTHERWISE.
2. QUARTER POINT LEVELS AROUND KERB RETURNS ARE EQUALLY SPACED U.N.O.
3. QUARTER POINT LEVELS ARE TO TOP OF KERB UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. REFER DIPL STD DWG CS-3300 FOR STANDARD KERB DETAILS.
6. ANY UNPAVED DISTURBED AREA TO BE TOPSOIL & GRASSED.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NORTHCREST DRG. No. DN21 2000 DRG 1016

SCALE 1:250

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
3	BUS BAY LEVELS CHANGED	28-08-19	P. GRAHAM	AURECON
2	TRAFFIC ISLAND CHANGED	20-08-19	P. GRAHAM	AURECON
1	LAGOON ROAD INTERSECTION ALTERED FOR TELSTRA	08-08-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	29-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

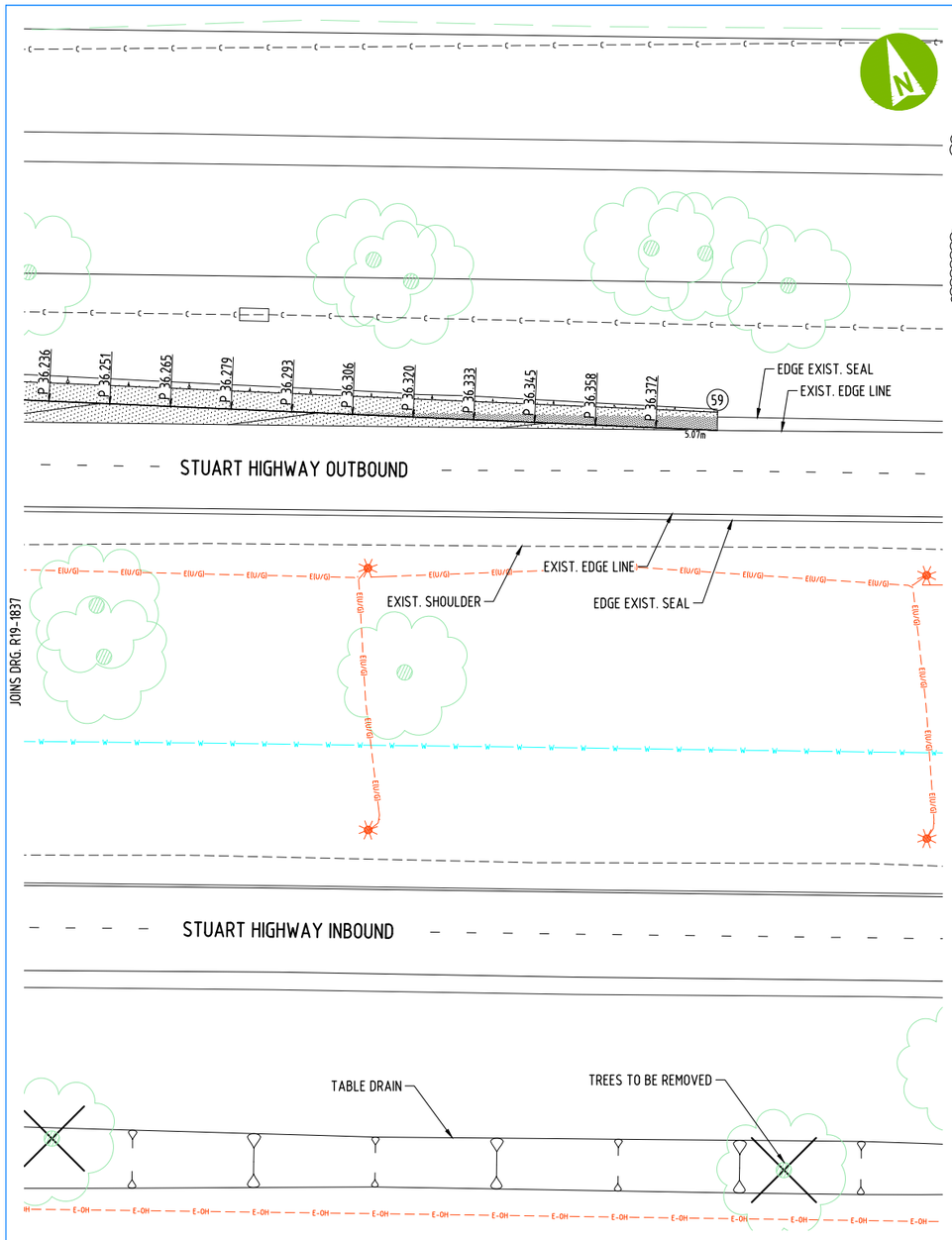
aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI	DATE APRIL 2019	CHECKED	DATE
DESIGNED C. HATZI	DATE APRIL 2019	CHECKED P. GRAHAM	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	DATE APRIL 2019	PROJECT OFFICER M. TAIT	DATE APRIL 2019

Northern Territory Government

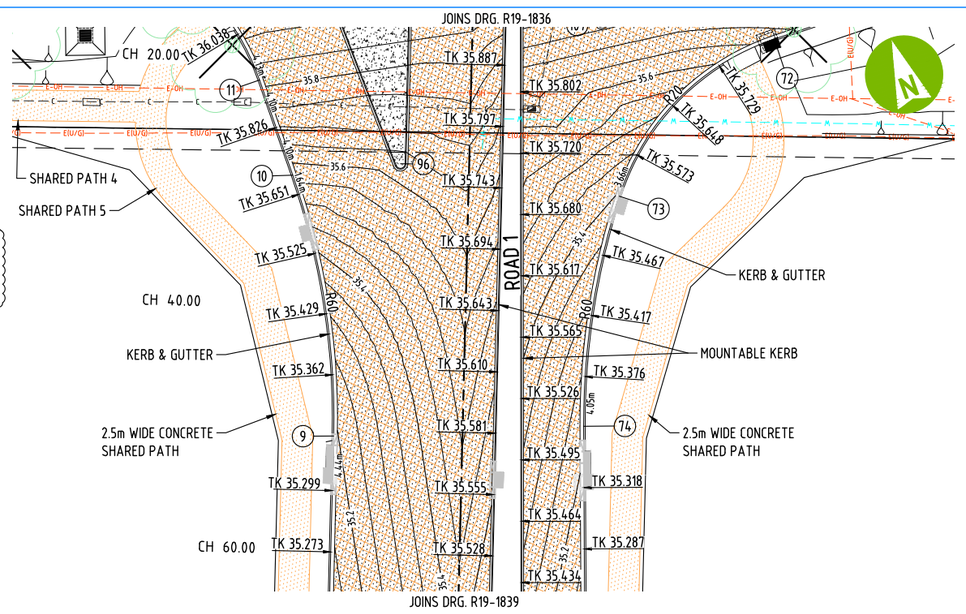
DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
ROADWORKS INTERSECTION DETAILS
SHEET 3 OF 5

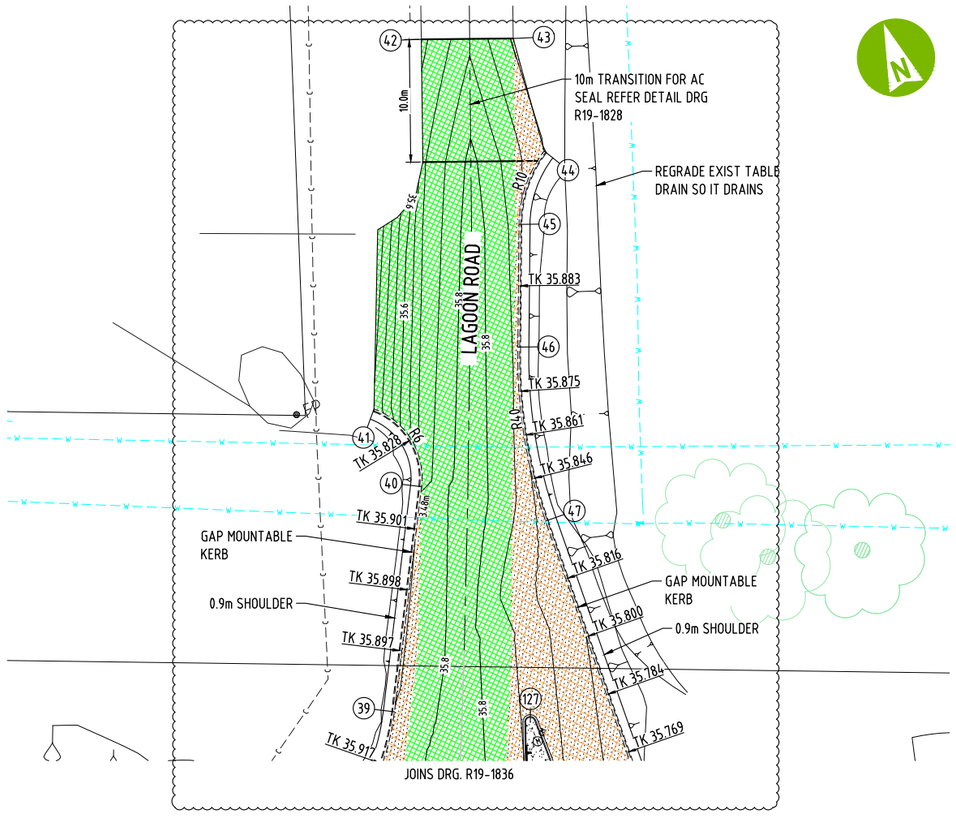
FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	16 OF 47	R19-1837	3	A1



POINTS SETOUT TABLE

POINT #	EASTING	NORTHING	HEIGHT	DESCRIPTION
9	10227.968	624213.695	TK 35.323	TC R60 (K&G)
10	10232.105	624234.813	TK 35.696	CT (K&G)
11	10232.213	624243.021	TK 35.942	TC R20 (K&G)
39	10277.943	624324.795	TK 35.903	CT (GAP MK)
40	10286.295	624341.280	TK 35.895	TC R6 (GAP MK)
41	10284.824	624348.567	TK 35.606	CT (GAP MK)
42	10298.742	624375.547		LIMIT OF WORK
43	10305.812	624373.052		LIMIT OF WORK
44	10305.053	624363.566	TK 35.797	TC R10 (GAP MK)
45	10301.075	624358.649	TK 35.876	CT (GAP MK)
46	10297.568	624349.284	TK 35.890	TC R40 (GAP MK)
47	10294.837	624335.194	TK 35.832	CT (GAP MK)
59	10581.905	624179.099	P 36.386	LIMIT OF WORK
72	10272.789	624231.807	TK 35.804	TC R20 (K&G)
73	10256.539	624224.099	TK 35.526	CC R20 & R60 (K&G)
74	10247.396	624207.473	TK 35.348	CT (K&G)





Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NOTES

1. ALL KERB RADII, POINTS AND COORDINATES ARE TO NOMINAL KERB LINE UNLESS NOTED OTHERWISE.
2. QUARTER POINT LEVELS AROUND KERB RETURNS ARE EQUALLY SPACED U.N.O.
3. QUARTER POINT LEVELS ARE TO TOP OF KERB UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. REFER DIPL STD DWG CS-3300 FOR STANDARD KERB DETAILS.
6. ANY UNPAVED DISTURBED AREA TO BE TOPSOIL & GRASSED.

NORTHCREST DRG. No. DN21 2000 DRG 1017

SCALE 1:250

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
1	LAGOON ROAD INTERSECTION ALTERED FOR TELSTRA	08-08-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

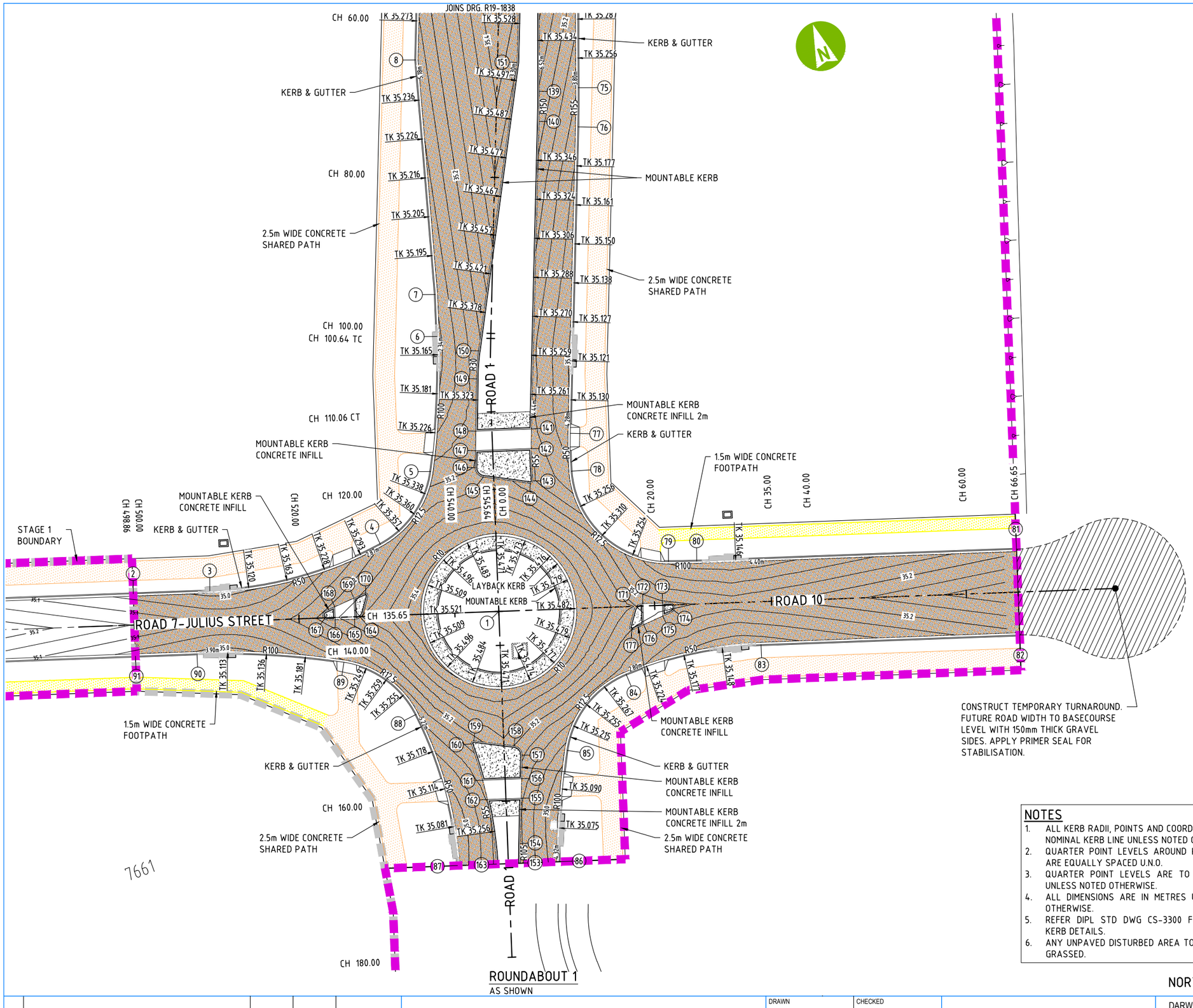
DARWIN REGION - BERRIMAH

NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION

-

ROADWORKS INTERSECTION DETAILS SHEET 4 OF 5

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	17 OF 47	R19-1838	1	A1



POINTS SETOUT TABLE

POINT #	EASTING	NORTHING	HEIGHT	DESCRIPTION
1	10208.535	624130.183	35.734	CENTRE OF ROUNDABOUT
2	10165.253	624148.342	TK 35.162	JOIN EXIST. (K&G)
3	10174.609	624145.325	TK 35.115	TC R50 (K&G)
4	10197.204	624143.440	TK 35.330	CC R50 & R12.5 (K&G)
5	10206.467	624150.017	TK 35.296	CC R12.5 & R100 (K&G)
6	10213.133	624166.005	TK 35.168	CT (K&G)
7	10214.766	624171.132	TK 35.185	IP (K&G)
8	10222.694	624200.247	TK 35.246	IP K&G)
75	10241.057	624189.777	TK 35.232	TC R155 (K&G)
76	10239.298	624185.069	TK 35.203	CT (K&G)
77	10224.957	624148.502	TK 35.147	TC R50 (K&G)
78	10223.404	624143.897	TK 35.186	CC R50 & R12.5 (K&G)
79	10231.165	624128.734	TK 35.177	CC R12.5 & R100 (K&G)
80	10234.590	624127.561	TK 35.153	CT (K&G)
81	10273.650	624114.967	TK 35.316	LIMIT OF WORK (K&G)
82	10270.275	624104.497	TK 35.316	LIMIT OF WORK (K&G)
83	10238.681	624114.684	TK 35.151	TC R50 (K&G)
84	10221.127	624117.046	TK 35.251	CC R50 & R12.5 (K&G)
85	10210.658	624110.456	TK 35.159	CC R12.5 & R100 (K&G)
86	10204.829	624097.394	TK 35.091	LIMIT OF WORK (K&G)
87	10192.428	624101.380	TK 35.090	LIMIT OF WORK R50 (K&G)
88	10194.048	624121.397	TK 35.239	CC R50 & R12.5 (K&G)
89	10187.642	624130.847	TK 35.226	CC R12.5 & R100 (K&G)
90	10170.312	624138.305	TK 35.123	CT (K&G)
91	10162.798	624140.728	TK 35.162	JOIN EXIST. (K&G)
139	10236.217	624191.044	TK 35.395	TC R150 (MK)
140	10234.858	624187.442	TK 35.373	CT (MK)
141	10220.456	624150.721	TK 35.270	TC R55 (MK)
142	10219.579	624148.377	TK 35.297	IP (MK)
143	10218.362	624144.420	TK 35.317	TC R0.3 (MK)
144	10217.933	624144.231	TK 35.319	CT (MK)
145	10212.572	624147.041	TK 35.372	TC R1.2 (MK)
146	10212.008	624148.530	TK 35.352	CT (MK)
147	10212.779	624150.562	TK 35.344	IP (MK)
148	10213.667	624152.903	TK 35.333	IP (MK)
149	10216.042	624159.161	TK 35.325	TC R30 (MK)
150	10217.515	624162.442	TK 35.338	TC R0.75 (MK)
151	10234.808	624195.496	TK 35.502	IP (MK)
152	10254.100	624244.721	TK 36.106	TC R0.75 (MK)
153	10200.066	624098.925	TK 35.263	LIMIT OF WORK R105 (K&G)
154	10200.953	1624101.294	TK 35.259	CT (MK)
155	10203.051	624106.695	TK 35.257	IP (MK)
156	10203.958	624109.030	TK 35.277	IP (MK)
157	10205.046	624111.832	TK 35.307	TC R1.2 (MK)
158	10204.472	624113.336	TK 35.349	CT (MK)
159	10199.852	624115.684	TK 35.333	TC R0.3 (MK)
160	10199.416	624115.416	TK 35.319	CC R0.3 & R55 (K&G)
161	10199.207	624110.557	TK 35.271	IP (MK)
162	10198.927	624108.021	TK 35.255	IP (MK)
163	10197.189	624099.850	TK 35.263	LIMIT OF WORK R55 (K&G)
164	10191.214	624136.685		CENTRE OF R1.2
165	10190.827	624135.549		IP (MK)
166	10188.461	624136.356		IP (MK)
167	10187.718	624137.243		CENTRE OF R0.6
168	10188.971	624137.937		IP (MK)
169	10191.662	624138.137		IP (MK)
170	10193.187	624137.949		CENTRE OF R0.3
171	10225.854	624123.682		CENTRE OF R1.2
172	10226.242	624124.818		IP (MK)
173	10228.608	624124.011		IP (MK)
174	10229.349	624123.124		CENTRE OF R0.6
175	10228.099	624122.430		IP (MK)
176	10225.407	624122.230		IP (MK)
177	10223.882	624122.418		CENTRE OF R0.3

NOTES

1. ALL KERB RADII, POINTS AND COORDINATES ARE TO NOMINAL KERB LINE UNLESS NOTED OTHERWISE.
2. QUARTER POINT LEVELS AROUND KERB RETURNS ARE EQUALLY SPACED U.N.O.
3. QUARTER POINT LEVELS ARE TO TOP OF KERB UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. REFER DIPL STD DWG CS-3300 FOR STANDARD KERB DETAILS.
6. ANY UNPAVED DISTURBED AREA TO BE TOPSOIL & GRASSED.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NORTHCREST DRG. No. DN21 2000 DRG 1018

SCALE 1:250 (2.5 0 5 10m)

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI	DATE APRIL 2019	CHECKED	DATE
DESIGNED C. HATZI	DATE APRIL 2019	CHECKED P. GRAHAM	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	DATE APRIL 2019	PROJECT OFFICER M. TAIT	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

ROADWORKS INTERSECTION DETAILS SHEET 5 OF 5

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	18 OF 47	R19-1839	0	A1

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

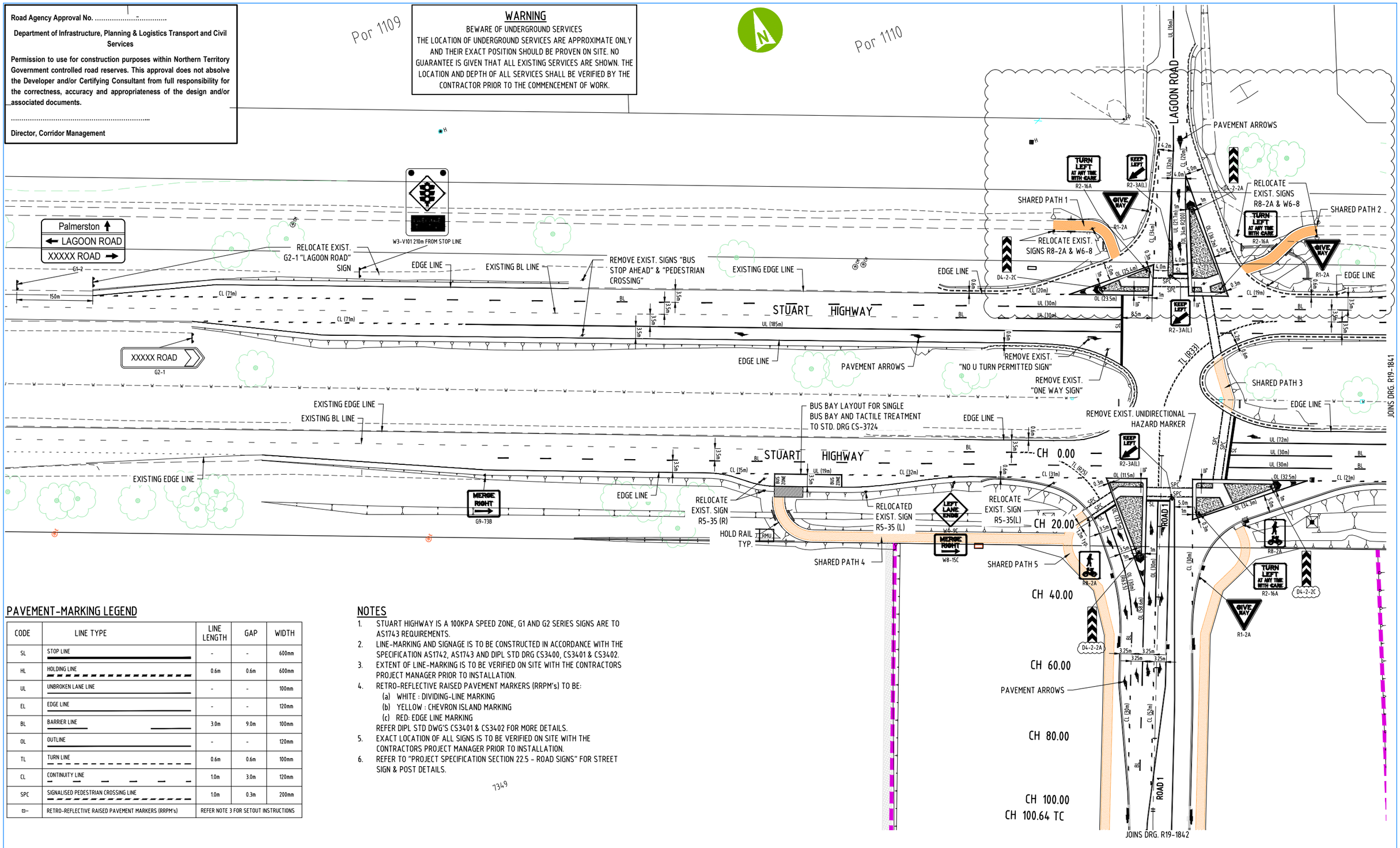
Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.



PAVEMENT-MARKING LEGEND

CODE	LINE TYPE	LINE LENGTH	GAP	WIDTH
SL	STOP LINE	-	-	600mm
HL	HOLDING LINE	0.6m	0.6m	600mm
UL	UNBROKEN LANE LINE	-	-	100mm
EL	EDGE LINE	-	-	120mm
BL	BARRIER LINE	3.0m	9.0m	100mm
OL	OUTLINE	-	-	120mm
TL	TURN LINE	0.6m	0.6m	100mm
CL	CONTINUITY LINE	1.0m	3.0m	120mm
SPC	SIGNALISED PEDESTRIAN CROSSING LINE	1.0m	0.3m	200mm
⊡–	RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's)	REFER NOTE 3 FOR SETOUT INSTRUCTIONS		

NOTES

1. STUART HIGHWAY IS A 100KPA SPEED ZONE, G1 AND G2 SERIES SIGNS ARE TO AS1743 REQUIREMENTS.
2. LINE-MARKING AND SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATION AS1742, AS1743 AND DIPL STD DRG CS3400, CS3401 & CS3402.
3. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SITE WITH THE CONTRACTORS PROJECT MANAGER PRIOR TO INSTALLATION.
4. RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's) TO BE:
   (a) WHITE : DIVIDING-LINE MARKING
   (b) YELLOW : CHEVRON ISLAND MARKING
   (c) RED: EDGE LINE MARKING
   REFER DIPL STD DWG'S CS3401 & CS3402 FOR MORE DETAILS.
5. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE CONTRACTORS PROJECT MANAGER PRIOR TO INSTALLATION.
6. REFER TO "PROJECT SPECIFICATION SECTION 22.5 – ROAD SIGNS" FOR STREET SIGN & POST DETAILS.

7349

NORTHCREST DRG. No. DN21 2000 DRG 1019

SCALE 1:500

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	LAGOON ROAD INTERSECTION ALTERED FOR TELSTRA	08-08-19	P. GRAHAM	AURECON
1	SIGNS ALTERED	31-05-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
D	ISSUED FOR APPROVAL	29-04-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	17-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

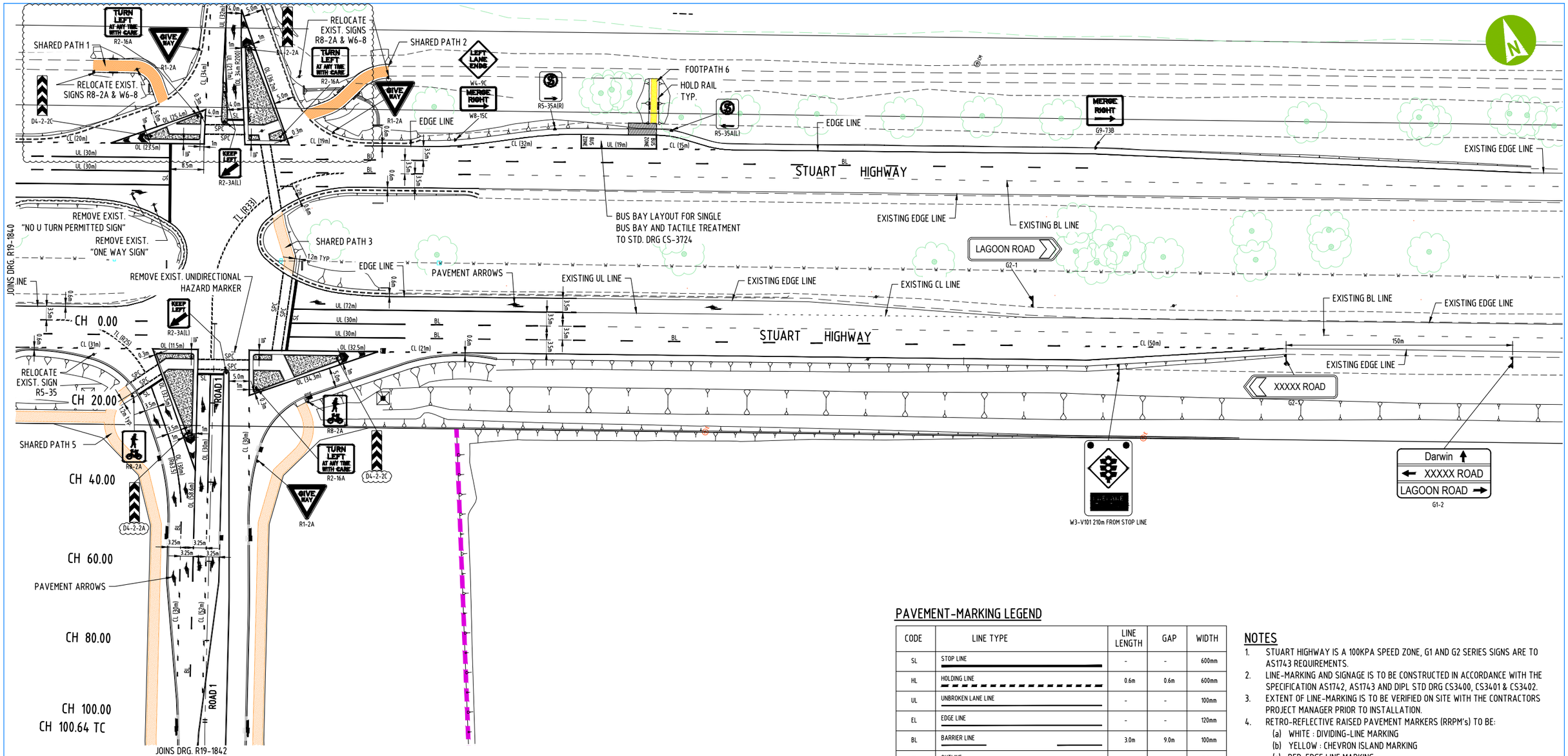
DRAWN C. HATZI	DATE APRIL 2019	CHECKED	DATE
DESIGNED C. HATZI	DATE APRIL 2019	CHECKED P. GRAHAM	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	DATE APRIL 2019	PROJECT OFFICER M. TAIT	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

LINEMARKING AND SIGNAGE PLAN SHEET 1 OF 3

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	19 OF 47	R19-1840	2	A1



PAVEMENT-MARKING LEGEND

CODE	LINE TYPE	LINE LENGTH	GAP	WIDTH
SL	STOP LINE	-	-	600mm
HL	HOLDING LINE	0.6m	0.6m	600mm
UL	UNBROKEN LANE LINE	-	-	100mm
EL	EDGE LINE	-	-	120mm
BL	BARRIER LINE	3.0m	9.0m	100mm
OL	OUTLINE	-	-	120mm
TL	TURN LINE	0.6m	0.6m	100mm
CL	CONTINUITY LINE	1.0m	3.0m	120mm
SPC	SIGNALISED PEDESTRIAN CROSSING LINE	1.0m	0.3m	200mm
⊡-	RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's)	REFER NOTE 3 FOR SETOUT INSTRUCTIONS		

NOTES

1. STUART HIGHWAY IS A 100KPA SPEED ZONE, G1 AND G2 SERIES SIGNS ARE TO AS1743 REQUIREMENTS.
2. LINE-MARKING AND SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATION AS1742, AS1743 AND DIPL STD DRG CS3400, CS3401 & CS3402.
3. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SITE WITH THE CONTRACTORS PROJECT MANAGER PRIOR TO INSTALLATION.
4. RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's) TO BE:
   (a) WHITE : DIVIDING-LINE MARKING
   (b) YELLOW : CHEVRON ISLAND MARKING
   (c) RED: EDGE LINE MARKING
   REFER DIPL STD DWG'S CS3401 & CS3402 FOR MORE DETAILS.
5. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE CONTRACTORS PROJECT MANAGER PRIOR TO INSTALLATION.
6. REFER TO "PROJECT SPECIFICATION SECTION 22.5 - ROAD SIGNS" FOR STREET SIGN & POST DETAILS.

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NORTHCREST DRG. No. DN21 2000 DRG 1020

SCALE 1:500

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	LAGOON ROAD INTERSECTION ALTERED FOR TELSTRA	08-08-19	P. GRAHAM	AURECON
1	SIGNS ALTERED	31-05-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
D	ISSUED FOR APPROVAL	29-04-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	17-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

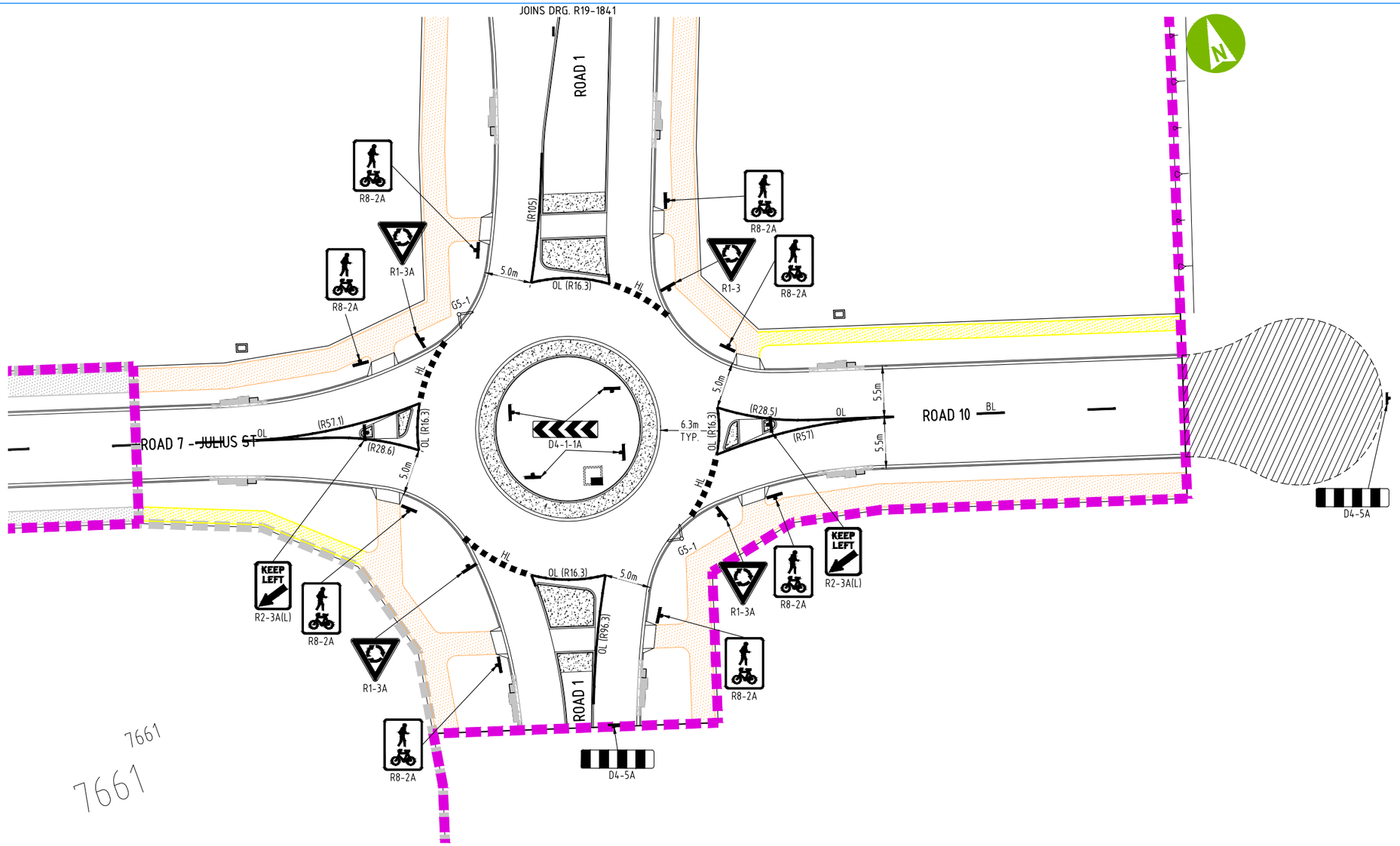
aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI	DATE APRIL 2019	CHECKED	DATE
DESIGNED C. HATZI	DATE APRIL 2019	CHECKED P. GRAHAM	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	DATE APRIL 2019	PROJECT OFFICER M. TAIT	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
LINEMARKING AND SIGNAGE PLAN
SHEET 2 OF 3

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	20 OF 47	R19-1841	2	A1



7661

7661

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

PAVEMENT-MARKING LEGEND

CODE	LINE TYPE	LINE LENGTH	GAP	WIDTH
SL	STOP LINE	-	-	600mm
HL	HOLDING LINE	0.6m	0.6m	600mm
UL	UNBROKEN LANE LINE	-	-	100mm
EL	EDGE LINE	-	-	120mm
BL	BARRIER LINE	3.0m	9.0m	100mm
OL	OUTLINE	-	-	120mm
TL	TURN LINE	0.6m	0.6m	100mm
CL	CONTINUITY LINE	1.0m	3.0m	120mm
SPC	SIGNALISED PEDESTRIAN CROSSING LINE	1.0m	0.3m	200mm
⊡–	RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's)	REFER NOTE 3 FOR SETOUT INSTRUCTIONS		

NOTES

1. STUART HIGHWAY IS A 100KPA SPEED ZONE, G1 AND G2 SERIES SIGNS ARE TO AS1743 REQUIREMENTS.
2. LINE-MARKING AND SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATION AS1742, AS1743 AND DIPL STD DRG CS3400, CS3401 & CS3402.
3. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SITE WITH THE CONTRACTORS PROJECT MANAGER PRIOR TO INSTALLATION.
4. RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's) TO BE:
   (a) WHITE : DIVIDING-LINE MARKING
   (b) YELLOW : CHEVRON ISLAND MARKING
   (c) RED: EDGE LINE MARKING
   REFER DIPL STD DWG'S CS3401 & CS3402 FOR MORE DETAILS.
5. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE CONTRACTORS PROJECT MANAGER PRIOR TO INSTALLATION.
6. REFER TO "PROJECT SPECIFICATION SECTION 22.5 - ROAD SIGNS" FOR STREET SIGN & POST DETAILS.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NORTHCREST DRG. No. DN21 2000 DRG 1021

2.5 0 5 10m
SCALE 1:250

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	29-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

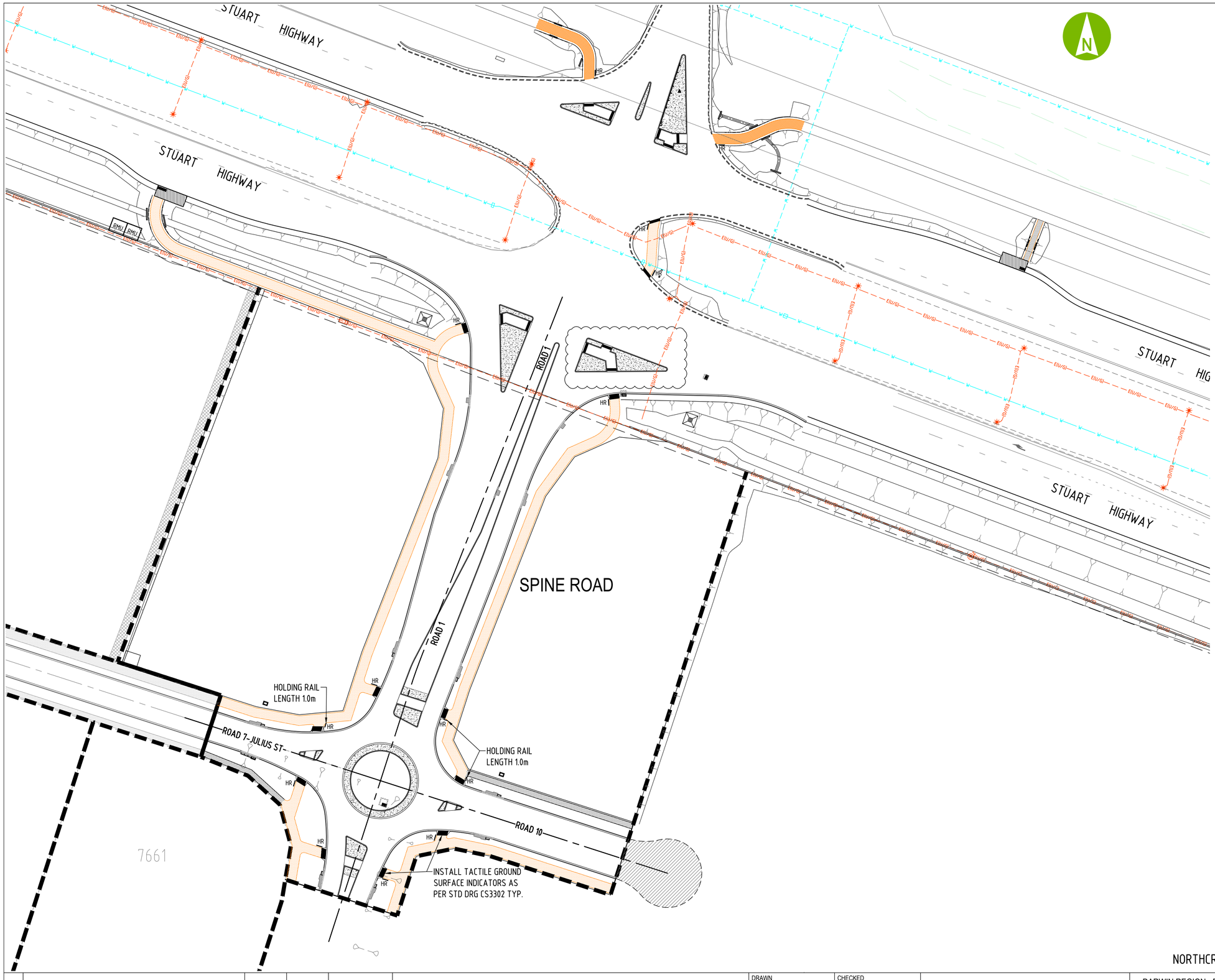
aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI	DATE APRIL 2019	CHECKED	DATE
DESIGNED C. HATZI	DATE APRIL 2019	CHECKED P. GRAHAM	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	DATE APRIL 2019	PROJECT OFFICER M. TAIT	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
LINEMARKING AND SIGNAGE PLAN
SHEET 3 OF 3

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	21 OF 47	R19-1842	0	A1



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

LEGEND

- PROPOSED 2.5m WIDE TYPE A ASPHALT SHARED PATH
- PROPOSED 1.5m WIDE TYPE B CONCRETE FOOTPATH
- PROPOSED 2.5m WIDE TYPE B CONCRETE SHARED PATH
- WORKS BOUNDARY
- HR HOLDING RAIL
- FUTURE VEHICLE ACCESS

NOTES

1. REFER TO DIPL STANDARD DRAWING CS3006 & CS3302 FOR FOOTPATHS AND PRAM CROSSING DETAILS.
2. REFER DRG 1019 TO 1021 FOR FOOTPATH SIGNAGE.
3. REFER DIPL STD DRG CS3302 FOR HOLDING RAIL DETAILS.
4. INSTALL TACTILE GROUND SURFACE INDICATORS (TGSI'S) ON ALL PRAM RAMPS. REFER DIPL STD DRG CS3302 FOR DETAILS.

NORTHCREST DRG. No. DN21 2000 DRG 1022

10 0 20 40m
SCALE 1:1000

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	TRAFFIC ISLAND CHANGED	20-08-19	P. GRAHAM	AURECON
1	LAGOON ROAD INTERSECTION ALTERED FOR TELSTRA	08-08-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	29-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

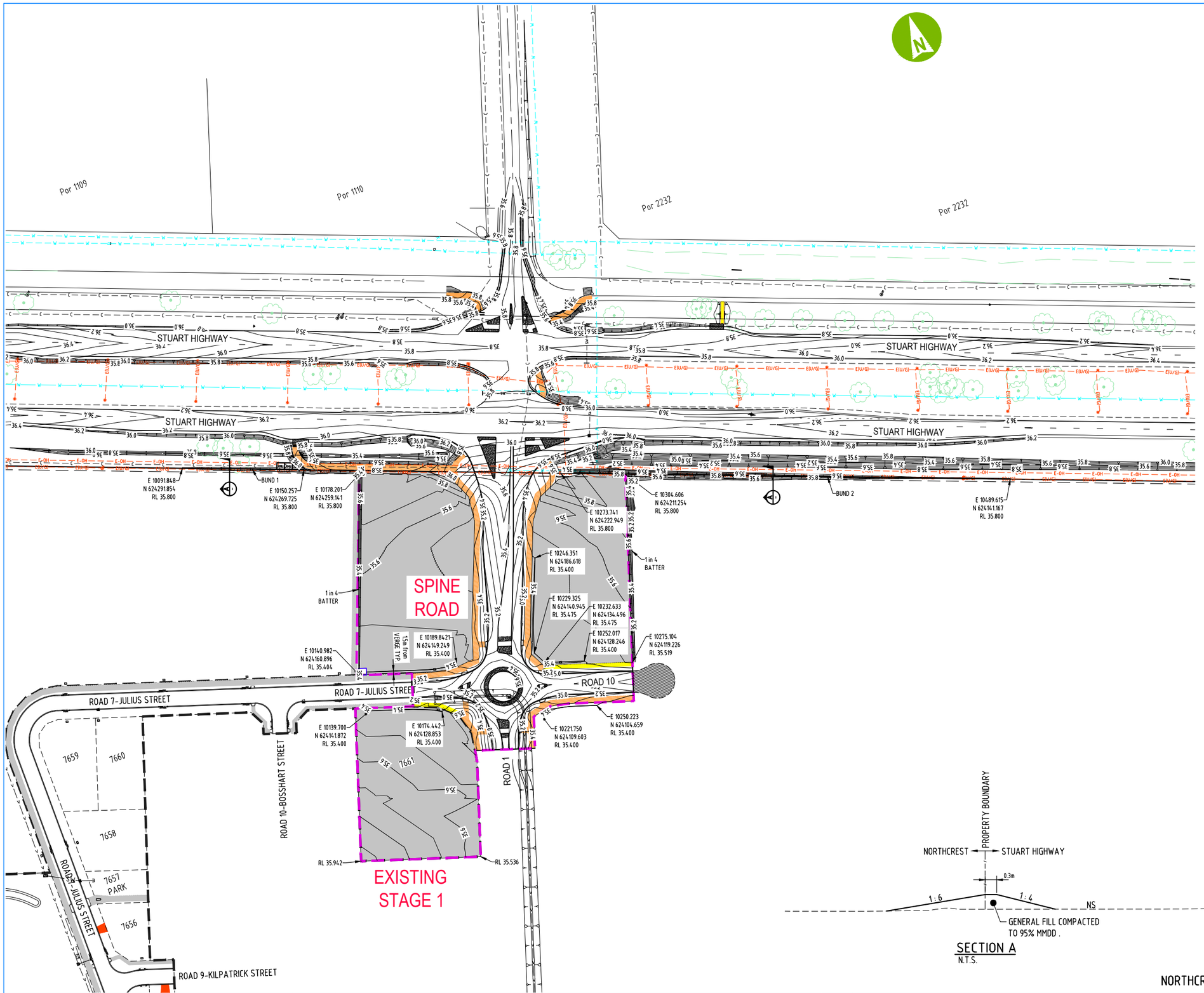
DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

FOOTPATH LAYOUT PLAN
SHEET 1 OF 1

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	22 OF 47	R19-1843	2	A1



NOTE

EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED ONLY WITHIN NORTHCREST

SECTION A
N.T.S.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

NORTHCREST DRG. No. DN21 2000 DRG 1023

SCALE 1:1000 (10 0 20 40m)

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	29-04-19	P. GRAHAM	AURECON
A	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

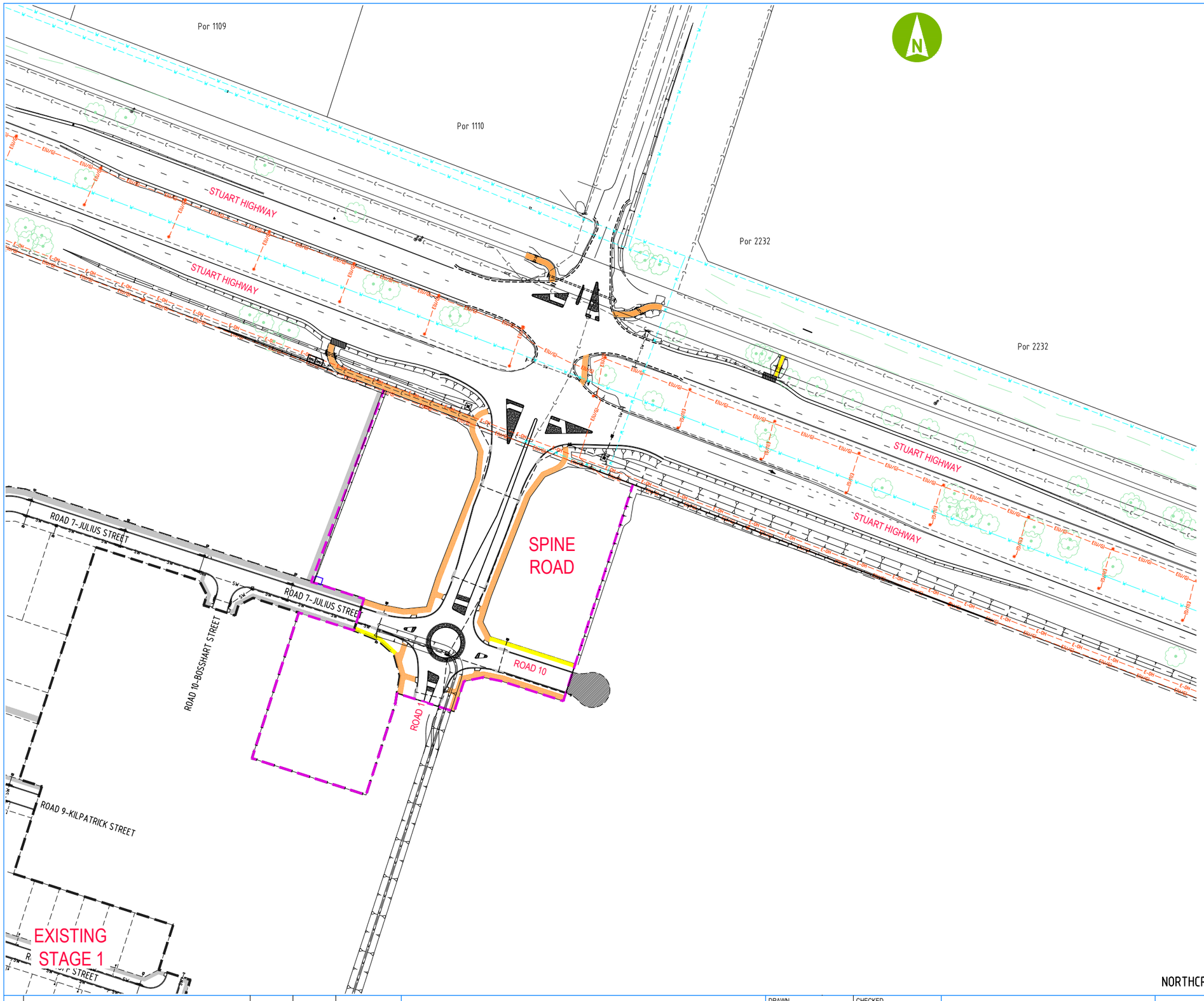
DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

LOT GRADING PLAN

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	23 OF 47	R19-1844	0	A1



Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

NORTHCREST DRG. No. DN21 3000 DRG 2000

10 0 20 40m
SCALE 1:1000

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

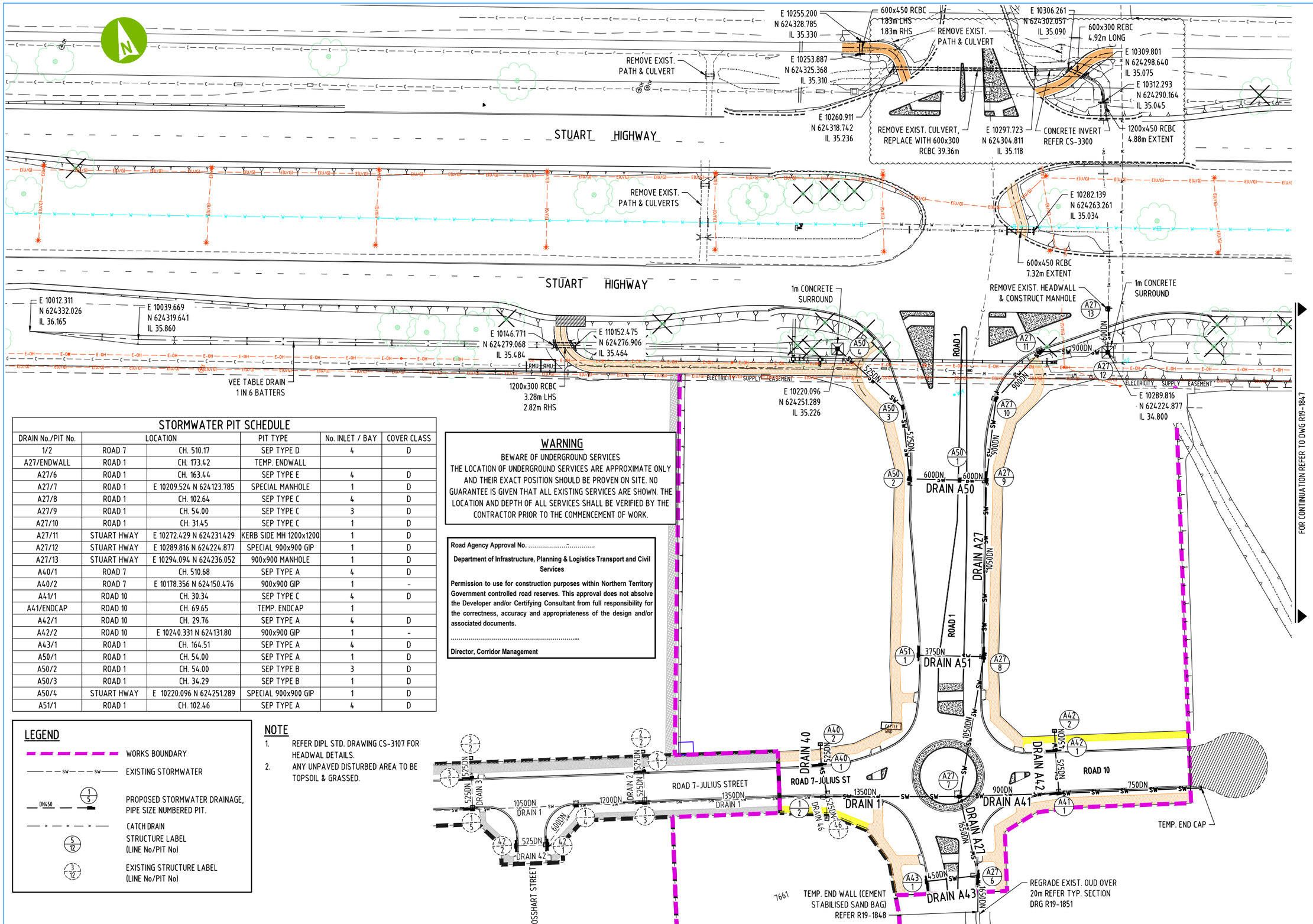
aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
STORMWATER DRAINAGE LAYOUT PLAN

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	24 OF 47	R19-1845	0	A1



STORMWATER PIT SCHEDULE

DRAIN No./PIT No.	LOCATION		PIT TYPE	No. INLET / BAY	COVER CLASS
1/2	ROAD 7	CH. 510.17	SEP TYPE D	4	D
A27/ENDWALL	ROAD 1	CH. 173.42	TEMP. ENDWALL		
A27/6	ROAD 1	CH. 163.44	SEP TYPE E	4	D
A27/7	ROAD 1	E 10209.524 N 624123.785	SPECIAL MANHOLE	1	D
A27/8	ROAD 1	CH. 102.64	SEP TYPE C	4	D
A27/9	ROAD 1	CH. 54.00	SEP TYPE C	3	D
A27/10	ROAD 1	CH. 31.45	SEP TYPE C	1	D
A27/11	STUART HWAY	E 10272.429 N 624231.429	KERB SIDE MH 1200x1200	1	D
A27/12	STUART HWAY	E 10289.816 N 624224.877	SPECIAL 900x900 GIP	1	D
A27/13	STUART HWAY	E 10294.094 N 624236.052	900x900 MANHOLE	1	D
A40/1	ROAD 7	CH. 510.68	SEP TYPE A	4	D
A40/2	ROAD 7	E 10178.356 N 624150.476	900x900 GIP	1	-
A41/1	ROAD 10	CH. 30.34	SEP TYPE C	4	D
A41/ENDCAP	ROAD 10	CH. 69.65	TEMP. ENDCAP	1	
A42/1	ROAD 10	CH. 29.76	SEP TYPE A	4	D
A42/2	ROAD 10	E 10240.331 N 624131.80	900x900 GIP	1	-
A43/1	ROAD 1	CH. 164.51	SEP TYPE A	4	D
A50/1	ROAD 1	CH. 54.00	SEP TYPE A	1	D
A50/2	ROAD 1	CH. 54.00	SEP TYPE B	3	D
A50/3	ROAD 1	CH. 34.29	SEP TYPE B	1	D
A50/4	STUART HWAY	E 10220.096 N 624251.289	SPECIAL 900x900 GIP	1	D
A51/1	ROAD 1	CH. 102.46	SEP TYPE A	4	D

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

LEGEND

- WORKS BOUNDARY
- EXISTING STORMWATER
- PROPOSED STORMWATER DRAINAGE, PIPE SIZE NUMBERED PIT.
- CATCH DRAIN
- STRUCTURE LABEL (LINE No/PIT No)
- EXISTING STRUCTURE LABEL (LINE No/PIT No)

NOTE

1. REFER DIPL STD. DRAWING CS-3107 FOR HEADWAL DETAILS.
2. ANY UNPAVED DISTURBED AREA TO BE TOPSOIL & GRASSED.

NORTH CREST DRG. No.
DN21 3000 DRG 2001

SCALE 1:500

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
1	LAGOON ROAD INTERSECTION ALTERED FOR TELSTRA	08-08-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	30-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI	DATE APRIL 2019	CHECKED	DATE
DESIGNED C. HATZI	DATE APRIL 2019	CHECKED P. GRAHAM	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	DATE APRIL 2019	PROJECT OFFICER M. TAIT	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
STORMWATER LAYOUT PLAN
SHEET 1 OF 2

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	25 OF 47	R19-1846	1	A1

FOR CONTINUATION REFER TO DWG R19-1846

600x300 RCBC
2.44m LONG

E 10378.252
N 624271.283
IL 35.480

E 10380.535
N 624270.420
IL 35.500

STUART HIGHWAY

STUART HIGHWAY

E 10656.394
N 624086.005
IL 35.884

EASEMENT

VEE TABLE DRAIN
1 IN 6 BATTERS

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

LEGEND

- WORKS BOUNDARY
- EXISTING STORMWATER
- DN450 — 1/5 — PROPOSED STORMWATER DRAINAGE, PIPE SIZE NUMBERED PIT.
- CATCH DRAIN
- 5/12 — STRUCTURE LABEL (LINE No/PIT No)
- 3/12 — EXISTING STRUCTURE LABEL (LINE No/PIT No)

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NOTE

1. REFER DIPL STD. DRAWING CS-3107 FOR HEADWAL DETAILS.
2. ANY UNPAVED DISTURBED AREA TO BE TOPSOIL & GRASSED.

NORTH CREST DRG. No. DN21 3000 DRG 2002

5 0 10 20m
SCALE 1:500

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

STORMWATER LAYOUT PLAN
SHEET 2 OF 2

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	26 OF 47	R19-1847	0	A1

Road Agency Approval No. .....-.....

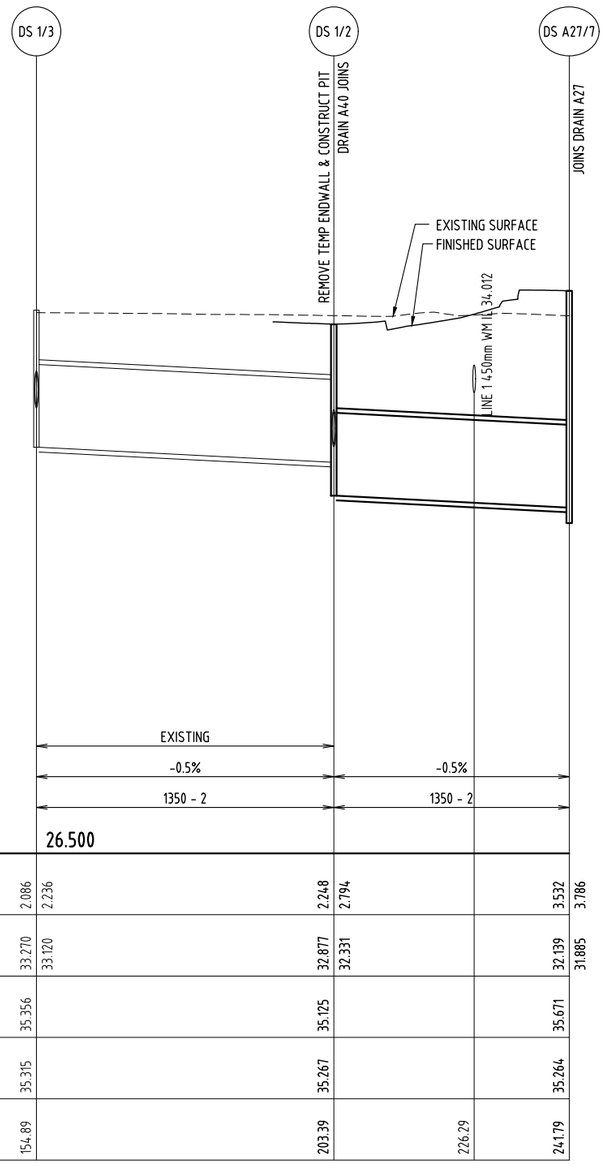
Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

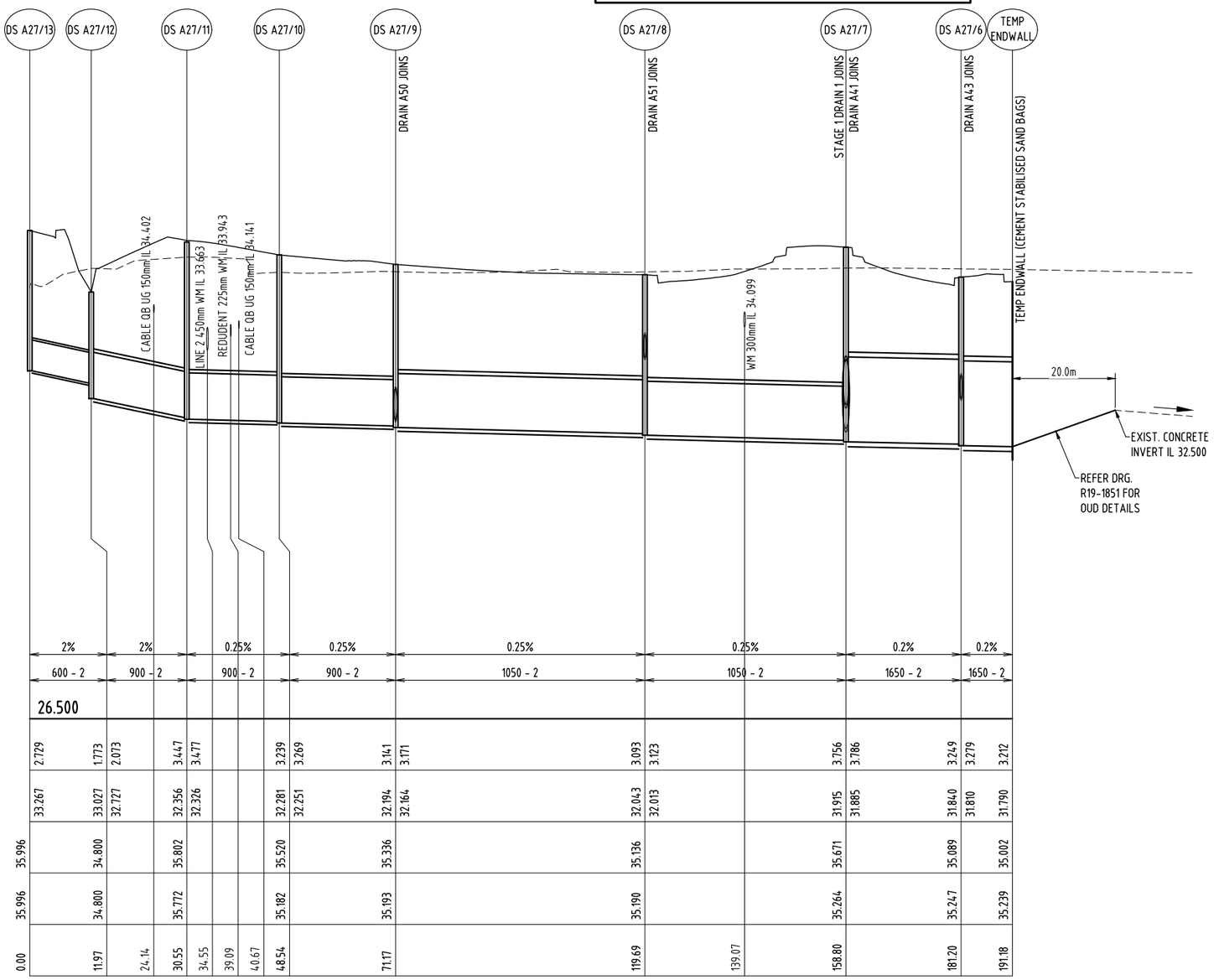
.....

Director, Corridor Management

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED



STAGE 1 DRAIN 1



DRAIN A27

NORTH CREST DRG. No. DN21 3000 DRG 2003

H: 0 10 20m
V: 0 1 2m
SCALE H:1:500 V:1:50 @A1

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	30-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 2

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	27 OF 47	R19-1848	0	A1

Road Agency Approval No. .....

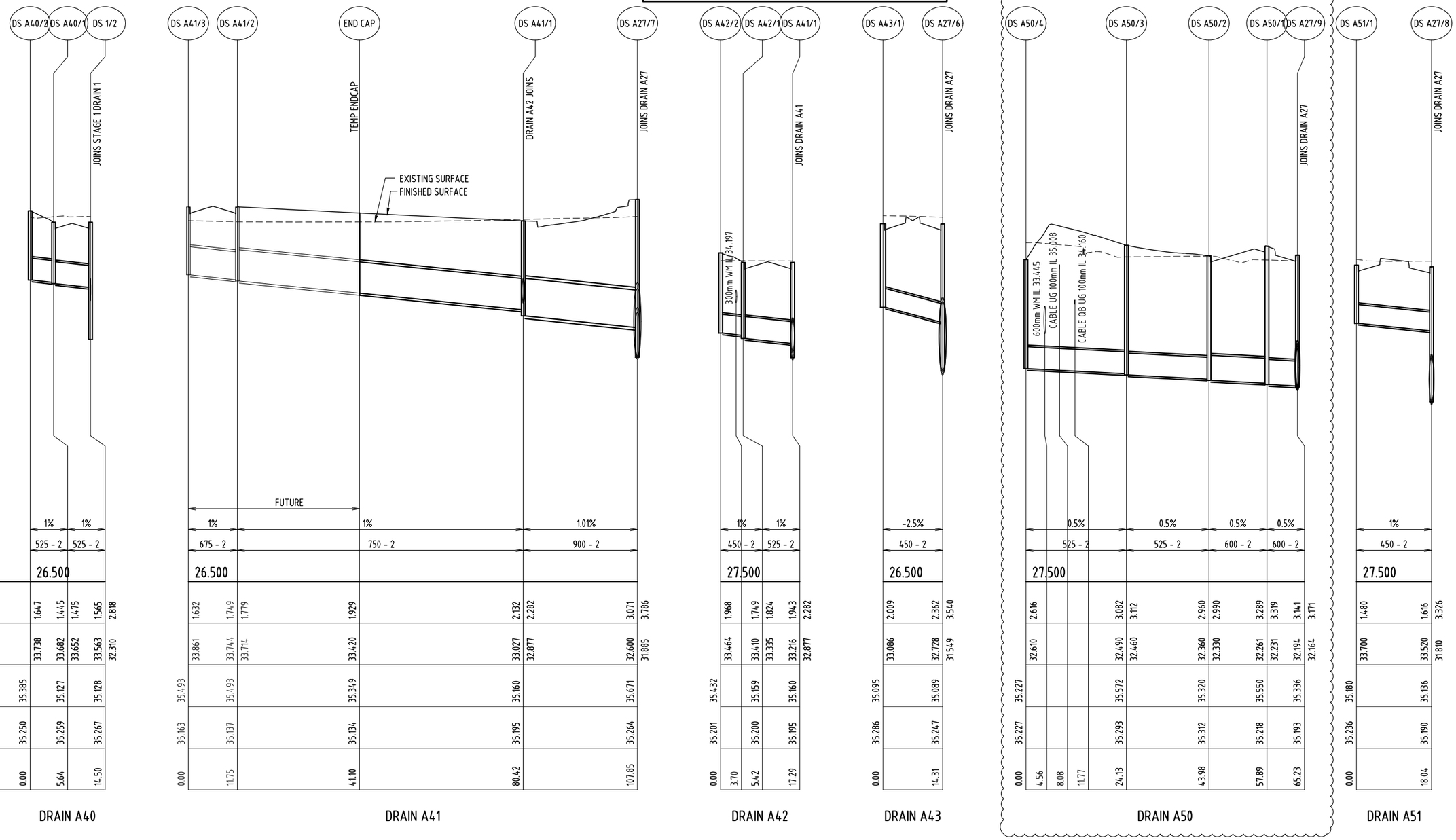
Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED



	DRAIN A40							DRAIN A41								DRAIN A42					DRAIN A43			DRAIN A50								DRAIN A51			
GRADE (%)		1%		1%				1%		1%			1.01%			1%		1%			-2.5%			0.5%		0.5%		0.5%		0.5%			1%		
DIAMETER (mm) - CLASS		525 - 2		525 - 2				675 - 2		750 - 2			900 - 2			450 - 2		525 - 2			450 - 2			525 - 2		525 - 2		600 - 2		600 - 2			450 - 2		
DATUM LEVEL		26.500						26.500								27.500					26.500			27.500									27.500		
DEPTH TO INVERT		1.647	1.445	1.475	1.565	2.818		1.632	1.749	1.779	1.929	2.132	2.282	3.071	3.786	1.968	1.749	1.824	1.943	2.282	2.009	2.362	3.540	2.616			3.082	3.112	2.960	2.990	3.289	3.319	3.141	3.171	1.480	1.616	3.326
INVERT LEVEL		33.738	33.682	33.652	33.563	32.310		33.861	33.744	33.714	33.420	33.027	32.877	32.600	31.885	33.464	33.410	33.335	33.216	32.877	33.086	32.728	31.549	32.610			32.490	32.460	32.360	32.330	32.261	32.231	32.194	32.164	33.700	33.520	31.810
FSL (TOP OF STRUCTURE)	35.385		35.127		35.128		35.493		35.493		35.349	35.160		35.671	35.432		35.159		35.160		35.095	35.089		35.227			35.572		35.320		35.550		35.336		35.180	35.136	
EXISTING SURFACE LEVEL	35.250		35.259		35.267		35.163		35.137		35.134	35.195		35.264	35.201		35.200		35.195		35.286	35.247		35.227			35.293		35.312		35.218		35.193		35.236	35.190	
CHAINAGE	0.00		5.64		14.50		0.00		11.75		41.10	80.42		107.85	0.00	3.70	5.42		17.29		0.00	14.31		0.00	4.56	8.08	11.77	24.13		43.98		57.89		65.23	0.00	18.04	

NORTH CREST DRG. No. DN21 3000 DRG 2004

H: 0 10 20m
V: 0 1 2m
SCALE H:1:500 V:1:50 @A1

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
1	DRAIN 50 REGRADED TO SUIT DN600 WM	23-07-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	30-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

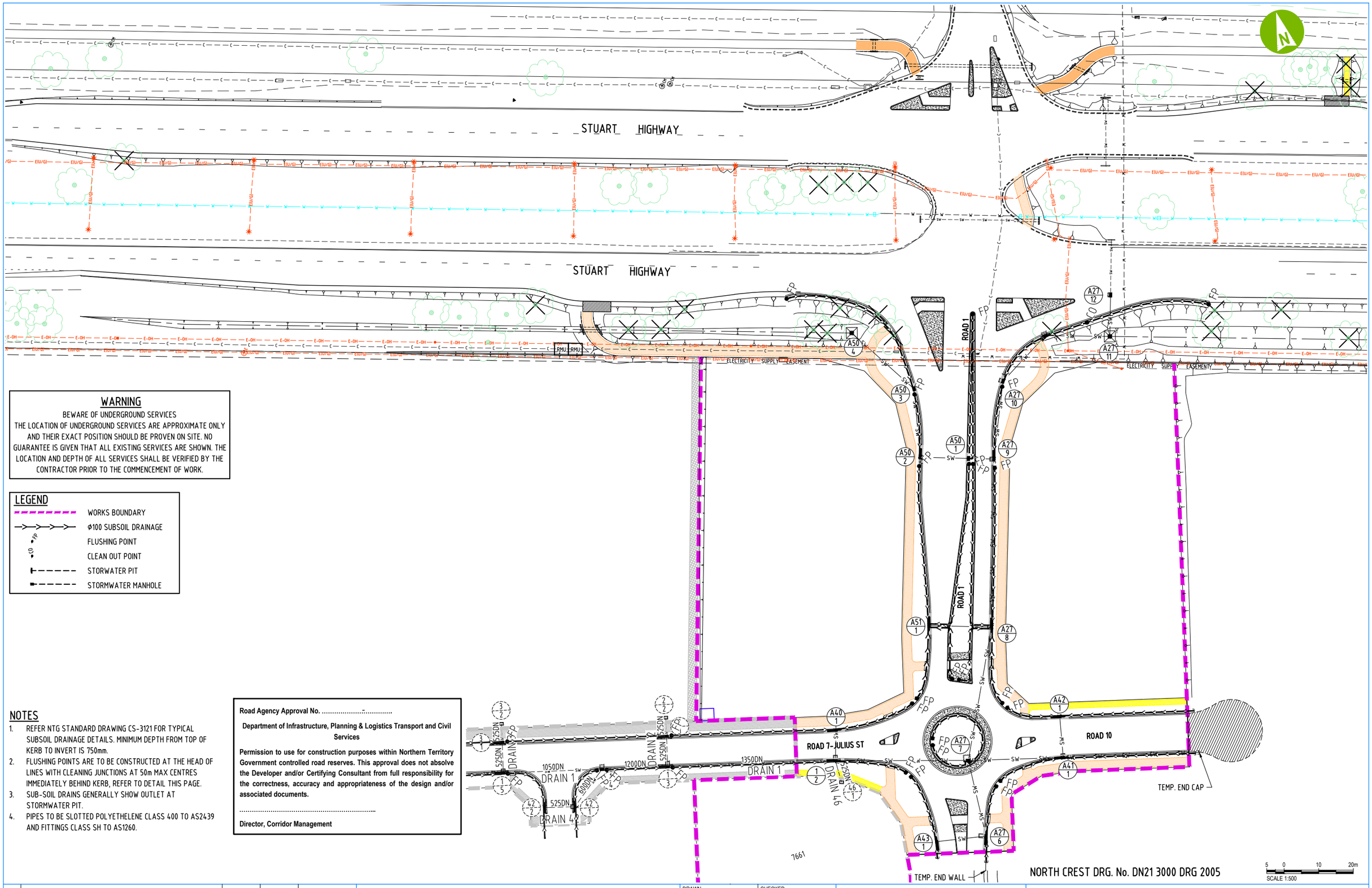
DRAWN C. HATZI	CHECKED
DATE APRIL 2019	DATE
DESIGNED C. HATZI	CHECKED P. GRAHAM
DATE APRIL 2019	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	PROJECT OFFICER M. TAIT
DATE APRIL 2019	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

STORMWATER DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 2

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	28 OF 47	R19-1849	1	A1



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

LEGEND

- WORKS BOUNDARY
- ϕ100 SUBSOIL DRAINAGE
- FLUSHING POINT
- CLEAN OUT POINT
- STORWATER PIT
- STORMWATER MANHOLE

NOTES

1. REFER NTG STANDARD DRAWING CS-3121 FOR TYPICAL SUBSOIL DRAINAGE DETAILS. MINIMUM DEPTH FROM TOP OF KERB TO INVERT IS 750mm.
2. FLUSHING POINTS ARE TO BE CONSTRUCTED AT THE HEAD OF LINES WITH CLEANING JUNCTIONS AT 50m MAX CENTRES IMMEDIATELY BEHIND KERB, REFER TO DETAIL THIS PAGE.
3. SUB-SOIL DRAINS GENERALLY SHOW OUTLET AT STORMWATER PIT.
4. PIPES TO BE SLOTTED POLYETHELENE CLASS 400 TO AS2439 AND FITTINGS CLASS SH TO AS1260.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

NORTH CREST DRG. No. DN21 3000 DRG 2005

SCALE 1:500

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

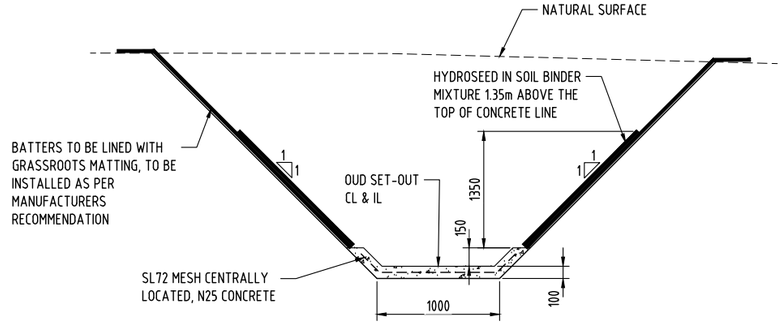
DRAWN C. HATZI	DATE APRIL 2019	CHECKED	DATE
DESIGNED C. HATZI	DATE APRIL 2019	CHECKED P. GRAHAM	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	DATE APRIL 2019	PROJECT OFFICER M. TAIT	DATE APRIL 2019

Northern Territory Government

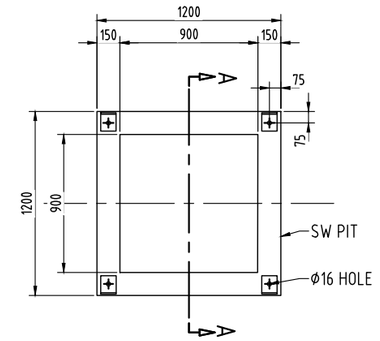
DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

SUBSOIL DRAINAGE LAYOUT PLAN

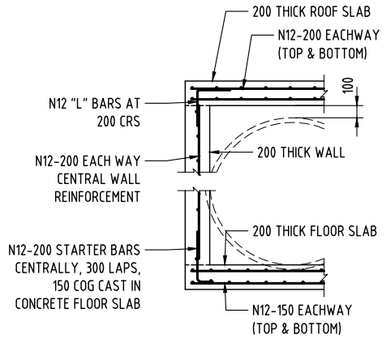
FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	29 OF 47	R19-1850	0	A1



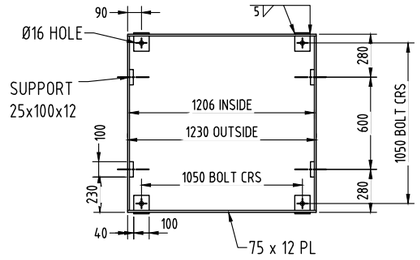
TYPICAL OUD SECTION
SCALE 1:25



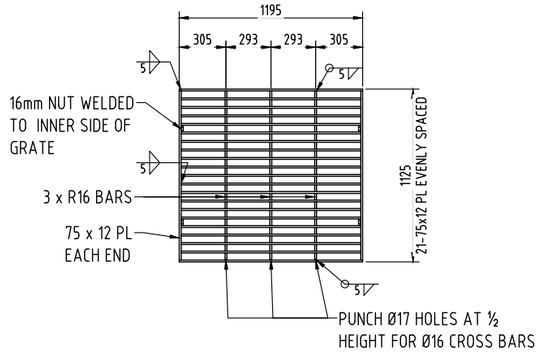
PLAN
GRATE OMITTED FOR CLARITY



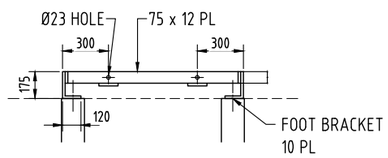
TYPICAL PIT SECTION
NTS



FRAME PLAN

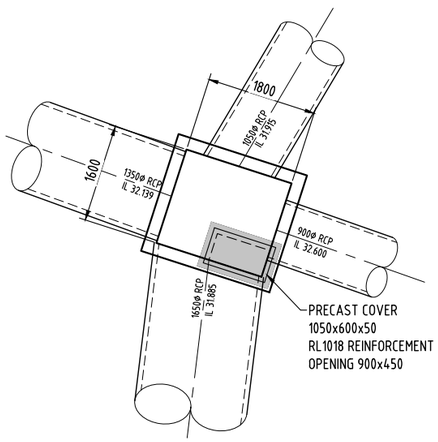


GRATE PLAN



SECTION A-A

STEEL GRATING DETAILS
N.T.S (HOT DIP GALVANIZED)
(DS A27/11 & DS A50/4)



DS A27/7

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUCTION WITH BERRIMAH FARM SUBDIVISION GUIDELINES AND STANDARD DRAWINGS.
2. FOR DRAINAGE LAYOUT PLANS REFER TO DWGS R19-1846 & R19-1847.
3. REFER LONGITUDINAL SECTIONS R199-1848 & R19-1849.
4. ALL PRECAST MEMBERS ARE TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATION AND PROJECT SPECIFICATIONS.

STRUCTURAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUCTION WITH BERRIMAH FARM SUBDIVISION GUIDELINES AND STANDARD DRAWINGS.
2. ALL RECTANGULAR PITS ARE TO BE AS PER BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWINGS.
3. ALL DIMENSIONS ARE IN MILLIMETRES.
4. ALL DIMESIONS ARE TO BE CHECKED ON SITE BEFORE ANY WORK COMMENCES.
5. COMPACTION OF FOUNDATION MATERIAL SHALL BE CHECKED BY THE CONTRACTORS PROJECT MANAGER PRIOR TO POURING OF THE BASE.
6. CONCRETE DIMENSIONS ARE AS FOLLOWS FOR BELOW SPECIAL PITS.
   - ROOF SLAB THICKNESS: 200mm
   - FLOOR SLAB THICKNESS: 200mm
   - WALL THICKNESS: 200mm
7. CONCRETE TO BE GRADE N40 AND TO BE IN ACCORDANCE WITH AS3600 AND CURRENT S.A.A. CODES.
8. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.
9. COVER TO REINFORCEMENT : 50mm (U.N.O.)
10. REINFORCEMENTS (EACH WAY) :
    - ROOF SLAB: N12-200 EACH WAY, TOP & BOTTOM
    - WALL: N12-200 (PLACED CENTRALLY)
    - FLOOR SLAB: N12-150 EACH WAY, TOP & BOTTOM
11. PROVIDE 2 No. N12 TRIMMER BARS AROUND PERIMETER OF ALL PIPE OPENINGS AND ACCESS OPENINGS.
12. PLACEMENT OF REINFORCEMENT AND FORMWORK SHALL BE INSPECTED BY THE CONTRACTORS PROJECT MANAGER FOR APPROVAL PRIOR TO PLACING OF CONCRETE

NORTH CREST DRG. No. DN21 3000 DRG 2006

500 0 1000 2000mm
SCALE 1:50

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	30-04-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI	DATE APRIL 2019	CHECKED	DATE
DESIGNED C. HATZI	DATE APRIL 2019	CHECKED P. GRAHAM	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	DATE APRIL 2019	PROJECT OFFICER M. TAIT	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

STORMWATER DRAINAGE SPECIAL PIT DETAILS

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	30 OF 47	R19-1851	0	A1

PWC GENERAL

WS.1. CONSTRUCTION OF THE WATER AND SEWERAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST AMENDMENT OF THE APPROVED PROJECT DRAWINGS AND SPECIFICATION, AS SIGNED BY A SERVICES DEVELOPMENT OFFICER, AND THE POWER AND WATER CONNECTION CODE, PWC MASTER SPECIFICATION AND ASSOCIATED DOCUMENTS.

WS.2. CONSTRUCTION SITE DESIGN DRAWINGS MUST BE SIGNED AS 'APPROVED FOR CONSTRUCTION' BY A POWER AND WATER SERVICES DEVELOPMENT OFFICER.

WS.3. PRIOR TO COMMENCEMENT OF WORKS THE CONSTRUCTOR SHALL CHECK THE LOCATION OF ALL UNDERGROUND SERVICES, AND CONFIRM FINISHED SURFACE LEVELS AND CHECK THE MATERIAL, DIAMETER, ALIGNMENT, LEVEL AND LOCATION OF EXISTING PIPEWORK AT THE CONNECTION POINT. IT IS NOT GUARANTEED THAT ALL SERVICES HAVE BEEN SHOWN ON THE DRAWINGS.

WS.4. CHANGES REQUESTED BY ANY PARTY TO THE DESIGN OF THE WORKS DURING ANY STAGE OF THE DEVELOPMENT MUST BE ENDORSED BY THE CERTIFYING HYDRAULIC CONSULTING ENGINEER/DESIGNER WITH AMENDED DRAWINGS SUBMITTED TO POWER AND WATER FOR APPROVAL PRIOR TO THE CHANGE BEING CARRIED OUT.

WS.5. SEVEN (7) DAYS WRITTEN NOTICE MUST BE GIVEN TO SERVICES DEVELOPMENT, POWER AND WATER, WITH A 'NOTICE OF INTENTION TO START WORK' PRIOR TO COMMENCEMENT OF WORK. (FORM AVAILABLE ON THE CONNECTION CODE WEBSITE).

WS.6. THE SUB CONTRACTOR SHOULD CONFIRM WITH SERVICES DEVELOPMENT IF A MEETING IS REQUIRED WITH POWER AND WATER, THE HYDRAULIC CERTIFIER AND THE DEVELOPER PRIOR TO COMMENCEMENT OF SITE WORKS.

WS.7. EXISTING SERVICE CONNECTIONS ARE TO REMAIN IN SERVICE UNTIL THE CONSTRUCTION OF THE NEW SERVICE IS COMPLETED TO THE SATISFACTION OF PWC.

WS.8. ALL LEVELS GIVEN ARE TO AUSTRALIAN HEIGHT DATUM (AHD) IN METRES TO THREE DECIMAL PLACES. PROJECTION SHALL BE BASED ON MGA94 MAP GRID OF AUSTRALIAN ZONE 52 OR 53 COORDINATE SYSTEM.

WS.9. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL CHAINAGES AND LEVELS ARE IN METRES UNLESS SHOWN OTHERWISE.

WS.10. MINIMUM COVER TO PIPE IS 750mm IN TRAFFICABLE AREAS, 600mm IN OTHER AREAS. 1500mm COVER REQUIRED FOR THRUST BORING UNDER ROAD.

WS.11. MINIMUM CLEARANCES BETWEEN UNDERGROUND SERVICES IS AS PER WSA 02-2003 TABLE 4.2 FOR SEWER, AND WSA 03-2003 TABLE 4.1 FOR WATER. A MINIMUM VERTICAL CLEARANCE OF 300MM FOR ALL SERVICE CROSSINGS IS TO BE MAINTAINED.

EXCAVATION AND BACKFILLING

WS.12. OBTAIN PERMIT/S FROM THE RELEVANT ROAD AUTHORITY OR COUNCIL PRIOR TO ANY EXCAVATION WITHIN THE ROAD RESERVE. THE CONTRACTOR/SUB CONTRACTOR IS REQUIRED TO SEEK A WRITTEN APPROVAL FROM THE LAND OWNER TO THE EXISTING EASEMENT TO ACCESS AND EXCAVATE WITHIN THEIR PROPERTY. THE CONTRACTOR/SUB CONTRACTOR IS REQUIRED TO SUPPLY THAT WRITTEN APPROVAL TO POWER AND WATER SEVEN (7) DAYS PRIOR TO THE START OF CONSTRUCTION WORKS.

WS.13. BACKFILLING MATERIAL, OUTSIDE ROAD PAVEMENT OR DRAIN, MUST COMPLY WITH THE PWC MASTER SPECIFICATION REQUIREMENTS FOR GENERAL BACKFILL. USE TYPE 2 EMBEDMENT WRAPPED WITH GEOTEXTILE WITH SELECTED BACKFILL OR 3% CEMENT STABILISED SAND BACKFILL FOR ALL ROAD CROSSINGS. USE 5% CEMENT STABILISED GRAVEL BACKFILL BENEATH ALL OUD CROSSING.

WS.14. PROVIDE A MINIMUM OF TYPE 2 EMBEDMENT FOR PVC PIPE OR TYPE 4 EMBEDMENT FOR STEEL PIPE UNLESS GEOTECHNICAL INVESTIGATIONS HAVE BEEN COMPLETED AND THE CONSULTANT'S REPORT SUPPORTS THE USE OF LOWER QUALITY EMBEDMENT. ANY CHANGE TO THE PROPOSED BEDDING TYPE MUST BE APPROVED BY PWC.

WS.15. WHEN EMBEDMENT TYPE CHANGES, A VERTICAL GEOTEXTILE BARRIER SHALL BE INSERTED BETWEEN THE EMBEDMENT TYPES.

WS.16. REINSTATE ALL SURFACES UPON COMPLETION OF THE WORKS AS SPECIFIED OR AS GOOD AS EXISTING TO THE SATISFACTION OF THE RELEVANT AUTHORITY.

COMMISSIONING

WS.17. SIGNED HARD COPY (A3 SIZE - REQUIRED FOR ALL SUBDIVISIONS) AND ELECTRONIC FORMAT (BOTH *.PDF AND CAD *.DGN/*.DWG) 'AS-CONSTRUCTED' DRAWINGS, OTHER INSTALLATION DOCUMENTATION, AND APPROPRIATE RECORDS OF CONSTRUCTION PROGRESS (PHOTOS) MUST BE PROVIDED TO SERVICES DEVELOPMENT, POWER AND WATER PRIOR TO HANDOVER INSPECTION. ENSURE ALL AS-CONSTRUCTED INFORMATION HAS BEEN PICKED UP BY THE SURVEYOR PRIOR TO BACKFILLING.

WS.18. 'AS-CONSTRUCTED' DRAWINGS TO BE CERTIFIED BY THE CERTIFYING ENGINEER. 'AS-CONSTRUCTED' SURVEY BY A REGISTERED SURVEYOR.

WS.19. DESIGNER TO CONTACT SERVICES DEVELOPMENT, POWER AND WATER, TO ARRANGE FOR HANDOVER INSPECTIONS. SEVEN (7) DAYS NOTICE MUST BE PROVIDED PRIOR TO HANDOVER INSPECTIONS.

WS.20. THE CONSTRUCTOR IS RESPONSIBLE FOR ALL CONNECTION FEES, ALL EXCAVATION, SHORING IF REQUIRED, BACKFILLING, REINSTATEMENT OF AREA, SUPPLY OF DIGGING AND LIFTING MACHINERY WHERE REQUIRED, PERMITS, TRAFFIC CONTROL, SUPPLY OF ALL MATERIALS, PIPES AND FITTINGS.

WS.21. POWER AND WATER PERSONNEL SHALL INSTALL ALL NEW WATER CONNECTIONS TO EXISTING MAINS. ENSURE REQUIRED WATER CONNECTION FITTINGS ARE BOLTED TOGETHER AND READY TO BE INSTALLED UPON SHUTDOWN. THE WATER CONNECTION SHALL BE COMPLETED PRIOR TO THE CONSTRUCTION OF THE NEW WATER SERVICE. THIS IS ONLY ALLOWED IF A VALVE LOCK IS INSTALLED BY POWER AND WATER CORPORATION ON THE SLUICE VALVE TO THE WATER MAIN. PRESSURE TESTING AGAINST THE SLUICE VALVE IS PERMITTED TO A MINIMUM OF 1000KPA AND A MAXIMUM PRESSURE OF 1200KPA UNLESS PREVIOUSLY SPECIFIED. IF THE CONSTRUCTOR SUSPECTS THE SLUICE VALVE IS LEAKING UNDER PRESSURE TESTING THEN CONTACT THE SUPPLIER FOR REPLACEMENT. THE VALVE LOCK WILL BE REMOVED BY POWER AND WATER AFTER THE HANDOVER OF THE ASSET HAS BEEN ACHIEVED.

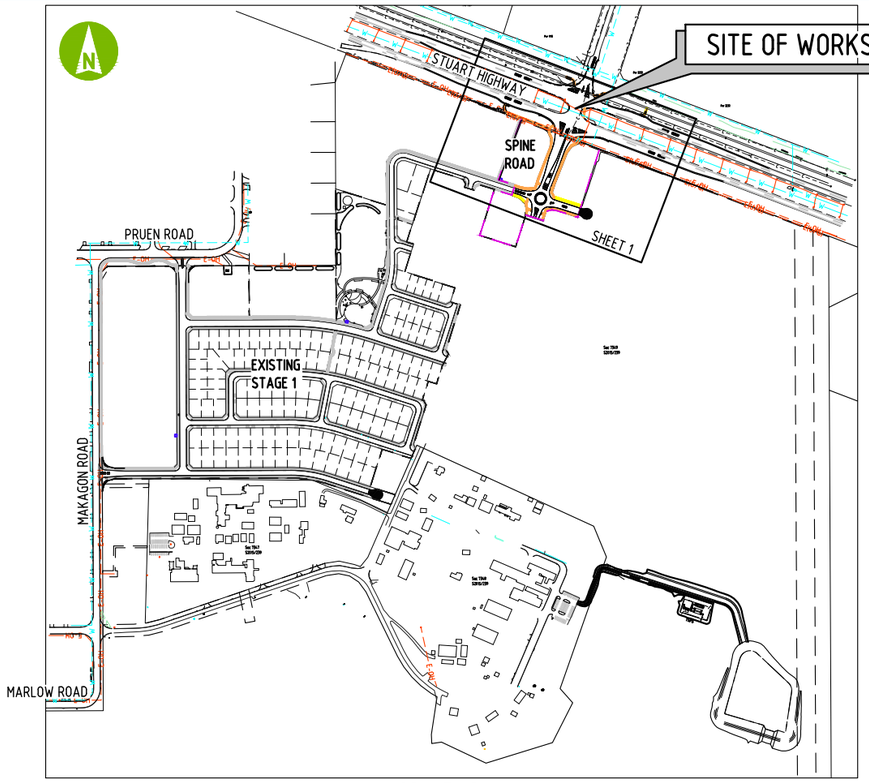
WS.22. POWER AND WATER PERSONNEL SHALL INSTALL ALL NEW SEWER CONNECTIONS TO EXISTING MAINS. A PHYSICAL ISOLATION MUST BE IN PLACE BETWEEN THE EXISTING LIVE SEWER AND THE PROPOSED GIFTED ASSET. THE PHYSICAL ISOLATION DEVICE WILL BE REMOVED BY POWER AND WATER AFTER THE HANDOVER OF THE ASSET HAS BEEN ACHIEVED.

WS.23. AT NO STAGE SHALL ANY SUB CONTRACTOR CARRY OUT WORK ON PWC INFRASTRUCTURE.

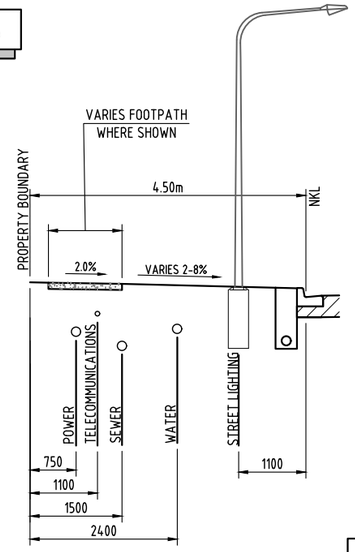
ACCEPTANCE AND DEFECTS LIABILITY PERIOD

WS.24. AT LEAST SEVEN (7) WORKING DAYS NOTICE MUST BE PROVIDED TO SERVICES DEVELOPMENT, POWER AND WATER FOR APPLICATION OF A CERTIFICATE OF FINAL COMPLIANCE/DEVELOPMENT PERMIT CLEARANCE ALLOWING FOR AN INSPECTION AND REPORT OF OUTSTANDING DEFECTS/ISSUES. UPON NOTICE TO SERVICES DEVELOPMENT THAT RECTIFICATION OF OUTSTANDING DEFECTS/ISSUES HAS BEEN ADDRESSED, AN ADDITIONAL SEVEN (7) WORKING DAYS SHOULD BE ALLOWED FOR.

WS.25. A TWENTY-FOUR (24) MONTH DEFECTS LIABILITY PERIOD FOR EXTENSIONS AND SUBDIVISIONS, AND A TWELVE (12) MONTH DEFECTS LIABILITY PERIOD FOR BUILDING DEVELOPMENTS, WILL COMMENCE ONCE THE CERTIFICATE OF FINAL COMPLIANCE/DEVELOPMENT PERMIT CLEARANCE HAS BEEN ISSUED. ALL DEFECTS IDENTIFIED WITHIN THIS PERIOD IS THE RESPONSIBILITY OF THE DEVELOPER. SHOULD ANY COMPONENT FAIL IN THIS PERIOD THE REPLACEMENT COMPONENT WILL BE SUBJECT TO A FURTHER 12 MONTHS DEFECT PERIOD.



LOCALITY PLAN
SCALE 1:5000



TYPICAL ROAD RESERVE SERVICE TRENCH DETAIL
SCALE NTS

LEGEND

- WORKS BOUNDARY
- DN450 — PROPOSED STORMWATER DRAINAGE, PIPE SIZE
- CATCHDRAIN
- 22/12 — STRUCTURE LABEL (LINE No / PIT No)
- 3/43 — EXISTING STRUCTURE LABEL (LINE No / PIT No)
- PROPOSED WATERMAIN
- PROPOSED WATERMAIN, WATER SERVICES AND STOP VALVE
- H — PROPOSED WATERMAIN AND FIRE HYDRANT
- DICL PIPE AT ROAD/ STORMWATER CROSSING
- IRRIGATION CONDUIT
- PROPOSED SEWER MAIN, MANHOLE & PROPERTY CONNECTIONS
- AC 7/3 — PROPOSED SEWER STRUCTURE LABEL (TYPE / LINE No. / PIT No.)

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

SIGNED..... DATE.....

ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE 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 so associated. This drawing is valid for 2 years from the date of signing.

SCHEDULE OF DRAWINGS

DWG No.	PWC No.	Sheet Title
DN21-4000-DRG-3000	B19-6265	PWC COVER - PWC STANDARD NOTES, LEGEND & LOCALITY PLAN
DN21-4000-DRG-3001	B19-6266	WATER RETICULATION - PWC WATER STANDARD NOTES & LEGEND
DN21-4000-DRG-3002	B19-6267	WATER RETICULATION LAYOUT PLAN - SHEET 1 OF 1
DN21-4000-DRG-3003	B19-6268	WATER MAIN LONGITUDINAL SECTION - SHEET 1 OF 2
DN21-4000-DRG-3004	B19-6269	WATER MAIN LONGITUDINAL SECTION - SHEET 2 OF 2
DN21-4000-DRG-3005	B19-6270	DN450 WATERMAIN DETAILS - SHEET 1 OF 2
DN21-4000-DRG-3006	B19-6271	DN450 WATERMAIN DETAILS - SHEET 2 OF 2
DN21-5000-DRG-4000	B19-6272	SEWERAGE RETICULATION - PWC SEWER STANDARD NOTES & LEGEND
DN21-5000-DRG-4001	B19-6273	SEWERAGE RETICULATION LAYOUT PLAN - SHEET 1 OF 1
DN21-5000-DRG-4002	B19-6274	SEWERAGE RETICULATION LONGSECTIONS - SHEET 1 OF 1
DN21-8000-DRG-7000	B19-6275	MASTER SERVICES LAYOUT PLAN - SHEET 1 OF 1

PWC STANDARD DRAWINGS

DWG No.	Sheet Title
W1-1-16/2	DN100-300 Water Mains Typical Detals Branch Off Mains
W1-1-24/5	Property Connection DN80, DN100 & DN150
W1-2-3A/5	BS750 Screw-Down Hydrant Installation in Nature Strip Off DN100 - DN300 Mains
W1-2-3B/3	BS750 Screw-Down Hydrant Installation in Nature Strip Off DN375 - DN750 Mains
W1-2-3D/1	Stop (Isolating) Valve Location Marking
W1-2-3F/3	BS750 Screw-Down Hydrant Location Marking
W1-2-3J/2	Sluice Valve Installation in Nature Strip
W1-2-05/1	Thrust Block & Trench Details For 100 to 225NB Pressure Mains
W1-2-17A/1	Application of Polyethylene Sleeving For Corrosion Protection of DICL Pipes
W1-2-19/5	Temporary Deadends DN100 - DN450
W2-1-04/7	Sewer Connection Layouts DN150
W2-1-05/6	Intermediate & Terminal Inspection Openings. Light & Heavy Duty Arrangements
W2-1-06/2	Terminal Maintenance Shaft & Property Connection Detail
W2-1-08/6	Type 4 Sewer Connections DN150
W2-2-01D/3	Access Chambers - Notes For Construction
W2-2-02/5	Access Chambers - Precast Chambers (Up To 6.0m Deep With Mains <DN450)
W2-2-03/5	Access Chambers - External & Internal Drops Type 1 - 4
W2-2-07/4	Maintenance Shaft Typical Arrangement
W2-2-08/2	Maintenance Shaft Pipeline Connection Details

NORTHCREST DRG. No. DN21 4000 DRG 3000

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI	DATE APRIL 2019	CHECKED	DATE
DESIGNED C. HATZI	DATE APRIL 2019	CHECKED P. GRAHAM	DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM	DATE APRIL 2019	PROJECT OFFICER M. TAIT	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

POWER WATER CORPORATION COVER SHEET PWC STANDARD NOTES, LEGEND & LOCALITY PLAN

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	31 OF 47	B19-6265	0	A1

PWC WATER NOTES

W.1. WATER PIPES SHALL BE BURIED PVC-M SERIES 2 CLASS 16, WITH DICL FITTINGS, UNLESS NOTED OTHERWISE.

W.2. ALL DUCTILE IRON CEMENT LINED (DICL) PIPES SHALL BE CLASS PN16 FLANGED OR CLASS 35 RUBBER RING JOINTED (RRJ). ALL BURIED DICL PIPES AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE SLEEVING BEFORE AND DURING INSTALLATION. MARKING ON PIPES SHALL FACE UPWARDS.

W.3. PIPES UNDER ROAD PAVEMENT, OPEN DRAIN AND DRAINAGE STRUCTURES SHALL BE DICL CLASS 16 FLANGE JOINTED OR CLASS 35 TYTON-LOK, RRJ.

W.4. PROVIDE ANCHORAGE FOR ALL VALVES, REDUCERS, VERTICAL BENDS AND TERMINAL/ENDPOINTS. PROVIDE THRUST BLOCK FOR ALL HORIZONTAL BENDS AND TEES.

W.5. ALL SLUICE VALVES SHALL BE RESILIENT SEATED FLANGED CLASS 16 TO POWER AND WATER STANDARDS WITH RAISED FLANGES, UNLESS NOTED OTHERWISE. ALL DN450 & DN600 SLUICE VALVES TO BE BEDDED ON 300mm DEEP CONCRETE PAD REFER DRG B19-6266.

W.6. ALL FLANGES SHALL BE CLASS 16 RAISED TYPE COMPLYING WITH AS 4087 FIGURE B5 FOR DICL AND FIGURE B7 FOR MSCL, UNLESS NOTED OTHERWISE.

W.7. WATER MAINS SHALL BE OFFSET FROM PROPERTY BOUNDARIES A DISTANCE OF 2.4m IN ROAD RESERVES AND 1.5M IN PRIVATE PROPERTY, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS.

W.8. THE COATING ON THE FITTINGS SHALL BE FULLY PROTECTED BY A FELT OR GEOTEXTILE BARRIER WHEN THE THRUST BLOCK IS POURED AND THRUST BLOCKS MUST NOT OVERLAP THE JOINT.

W.9. WATERMAINS SHALL BE LAID OVER STORM WATER, SEWER, NON-POTABLE AND RECYCLED WATER PIPES.

W.10. JOINT DEFLECTION AND BENDING ARE NOT ALLOWED FOR PVC PIPES. USE SO-SO DICL CONNECTORS TO ACHIEVE A MAXIMUM 2 DEGREE JOINT DEFLECTION OR BENDS FOR LARGER DEFLECTION.

W.11. MARKING TAPE COLOURED GREEN AND MARKED 'WATER MAIN' SHALL BE LAID CONTINUOUSLY AND LOCATED 300mm ABOVE THE WATER PIPEWORK.

W.12. HYDROSTATIC TEST PRESSURE SHALL BE 1000KPA FOR RETICULATION MAINS AND 1200KPA FOR DICL OR MSCL DISTRIBUTION MAINS OVER A 4 HOUR PERIOD. HYDROSTATIC TEST SHALL BE IN ACCORDANCE WITH POWER AND WATER STANDARD DRAWING W1-2-07.

W.13. CONNECTIONS TO EXISTING WATER MAINS WILL ONLY BE CARRIED OUT WHEN ALL WORKS AND TESTING (HYDROSTATIC TESTING, DISINFECTION FLUSHING AND MICROBIOLOGICAL TEST) ARE COMPLETE IN ACCORDANCE WITH THE APPROVED DESIGN DRAWINGS AND PROCEDURES, AND HAVE SATISFACTORILY PASSED FINAL HANDOVER INSPECTION.

PROJECT WATER NOTES

1. ALL SERVICES TO BE COPPER DN20 UNLESS SHOWN OTHERWISE. REFER TO PWC STANDARD DRAWING W1-1-01.
2. MULTI DWELLING LOTS ARE TO BE SERVED WITH COPPER DN25 SERVICE. REFER TO PWC STANDARD DRAWING W1-1-02.
3. ALL HOUSE CONNECTIONS TO MAINS ARE TO BE PRE-TAPPED CONNECTORS. REFER PWC STANDARD DRAWING W1-1-23.
4. ALL DN150 BENDS AND ASSOCIATED THRUST BLOCKS TO BE CONSTRUCTED AS PER PWC STANDARD DRAWING W1-2-05.
5. REFER PWC STANDARD DRAWING W1-2-17A & W1-2-17B FOR DETAILS ON POLYETHYLENE SLEEVING OF DICL PIPES & FITTINGS.
6. ENSURE THAT ALL DICL PIPE ROAD CROSSINGS EXTEND 0.5m PAST THE BACK OF KERB.
7. TRENCHING ARRANGEMENT OF ALL PIPES TO BE AS PER TRENCHING DETAIL.
8. ALL BACKFILLING OUTSIDE OF ROAD PAVEMENTS WILL BE GENERAL BACKFILL AND IS TO COMPLY WITH THE PROJECT SPECIFICATION.
9. ALL BACKFILL UNDER ROAD PAVEMENTS TO BE SELECT BACKFILL (3% CEMENT STABILISED SAND IN 150mm MAX. LAYERS TO 95% M.M.D.D. TO SUBGRADE LEVEL) AND IS TO COMPLY WITH THE PROJECT SPECIFICATION.

MINIMUM REQUIRED INSPECTIONS BY HYDRAULIC CERTIFIER - WATER

INSPECTION 1
INSPECT EXCAVATED TRENCH AND VERIFY BEDDING TYPE REQUIRED FOR THE SUBSOIL CONDITION. TAKE ADVICE OF A GEOTECHNICAL ENGINEER BEFORE ACCEPTING AN ALTERNATIVE BEDDING MATERIAL. GET APPROVAL FROM POWER AND WATER.

INSPECTION 2
MAIN/SERVICE COMPLETED WITH CONNECTION TO EXISTING MAIN AND SERVICE SLUICE VALVE SPINDLE IS LOCKED IN THE CLOSED POSITION. ALL THRUST BLOCKS INSTALLED. VERIFY AS CONSTRUCTED . INFORMATION.

INSPECTION 3
ALL JOINTS EXPOSED, CARRY OUT AIR TEST BEFORE UNDERGOING PRESSURE TEST. INSPECTION 3 NOT REQUIRED FOR LENGTHS GREATER THAN 6m AND FOR ALL ROAD CROSSINGS.

INSPECTION 4
WITNESS OF DISINFECTION, FLUSHING AND WATER SAMPLING.

INSPECTION 5
CONDUCT HANDOVER WITH POWER AND WATER.

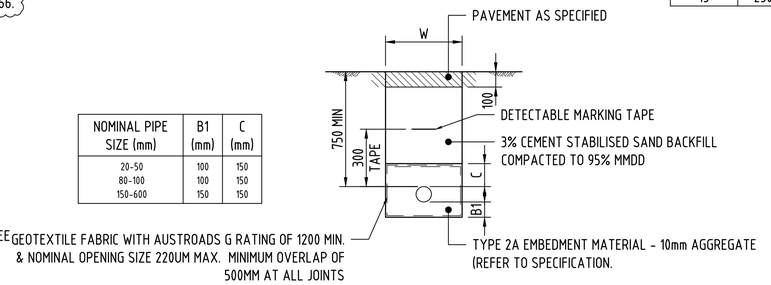
INSPECTION 6
FINAL INSPECTION TO ENSURE ALL OUTSTANDING ITEMS/ DEFECTS ARE COMPLETE

LEGEND

- PROPOSED WATERMAIN
- PROPOSED WATERMAIN, WATER SERVICES AND STOP VALVE
- PROPOSED WATERMAIN AND FIRE HYDRANT
- DUCTILE PIPE AT ROAD/ STORMWATER CROSSING REFER TYPE 4 DETAIL & NOTE W3
- IRRIGATION CONDUIT
- EXISTING WATERMAIN

WATER FITTINGS TABLE

POINT No.	FITTING
1	DEFLECTION
2	ø225-11.25°
3	ø225-22.5°
4	ø225-45°
5	ø300-45°
6	ø450-11.25°
7	ø450-22.5°
8	ø450-45°
9	ø450-90°
10	450x250 TEE
11	450x300 TEE
12	450x450 TEE
13	250x225 TAPER

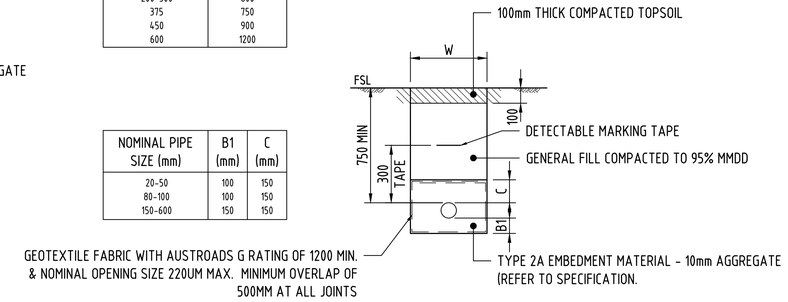


NOMINAL PIPE SIZE (mm)	B1 (mm)	C (mm)
20-50	100	150
80-100	100	150
150-600	150	150

TYPE 2A EMBEDMENT & TRENCH DETAIL - ROAD CROSSING

SCALE NTS

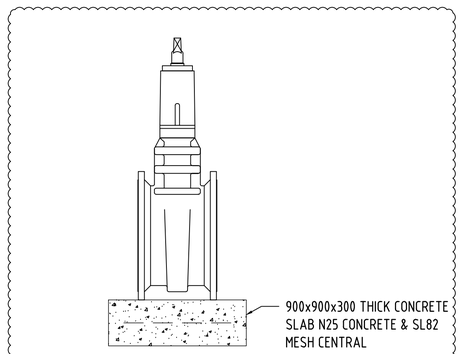
NOMINAL PIPE DIAMETER (DN)	W (mm)
100 & 150	450
200-300	600
375	750
450	900
600	1200



NOMINAL PIPE SIZE (mm)	B1 (mm)	C (mm)
20-50	100	150
80-100	100	150
150-600	150	150

TYPE 2A EMBEDMENT & TRENCH DETAIL - GENERAL

SCALE NTS



TYPICAL DN450 & DN600 VALVE SLAB

SCALE 1:20

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

SIGNED..... DATE.....

ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE 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 so associated. This drawing is valid for 2 years from the date of signing.

NORTHCREST DRG. No. DN21 4000 DRG 3001

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
1	MINOR CHANGES	31-07-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

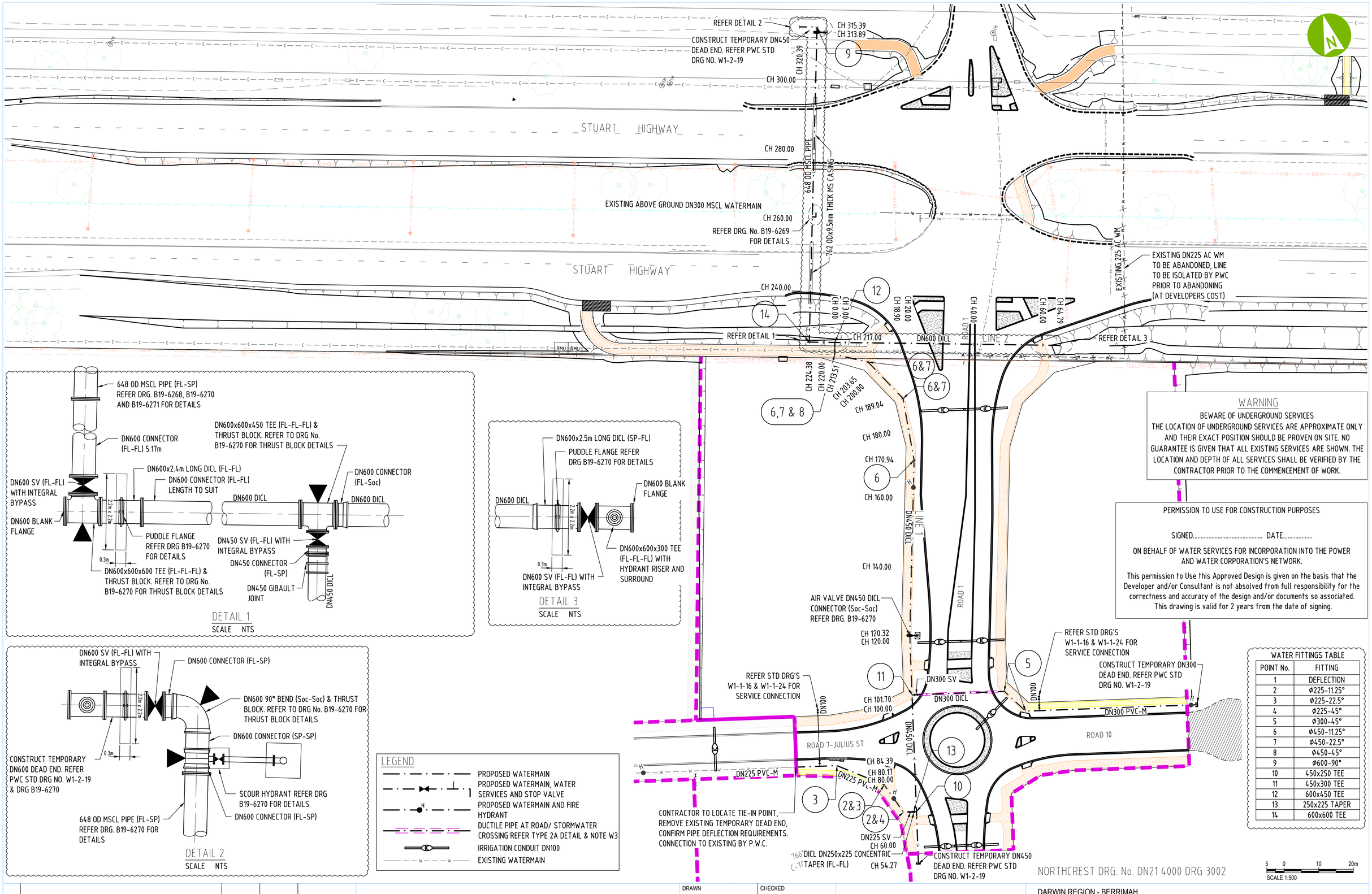
aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE APRIL 2019	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
WATER RETICULATION
PWC WATER STANDARD NOTES & LEGEND

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	32 OF 47	B19-6266	1	A1



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

SIGNED..... DATE.....

ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE 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 so associated. This drawing is valid for 2 years from the date of signing.

DETAIL 1
SCALE NTS

DETAIL 3
SCALE NTS

DETAIL 2
SCALE NTS

LEGEND

- PROPOSED WATERMAIN
- PROPOSED WATERMAIN, WATER SERVICES AND STOP VALVE
- PROPOSED WATERMAIN AND FIRE HYDRANT
- DUCTILE PIPE AT ROAD/ STORMWATER CROSSING REFER TYPE 2A DETAIL & NOTE W3
- IRRIGATION CONDUIT DN100
- EXISTING WATERMAIN

WATER FITTINGS TABLE

POINT No.	FITTING
1	DEFLECTION
2	Ø225-11.25°
3	Ø225-22.5°
4	Ø225-45°
5	Ø300-45°
6	Ø450-11.25°
7	Ø450-22.5°
8	Ø450-45°
9	Ø600-90°
10	450x250 TEE
11	450x300 TEE
12	600x450 TEE
13	250x225 TAPER
14	600x600 TEE

NORTHCREST DRG. No. DN21 4000 DRG 3002

SCALE 1:500

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	MINOR CHANGES	31-07-19	P. GRAHAM	AURECON
1	DN600 DETAILS CHANGED	23-07-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
C	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
B	ISSUED FOR INFORMATION	28-03-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com

NORTH CREST

DRAWN	CHECKED
C. HATZI	
DATE	DATE
DESIGNED	CHECKED
C. HATZI	P. GRAHAM
DATE APRIL 2019	DATE APRIL 2019
DESIGN PROJECT LEADER	PROJECT OFFICER
P. GRAHAM	M. TAIT
DATE APRIL 2019	DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

WATER RETICULATION LAYOUT PLAN
SHEET 1 OF 1

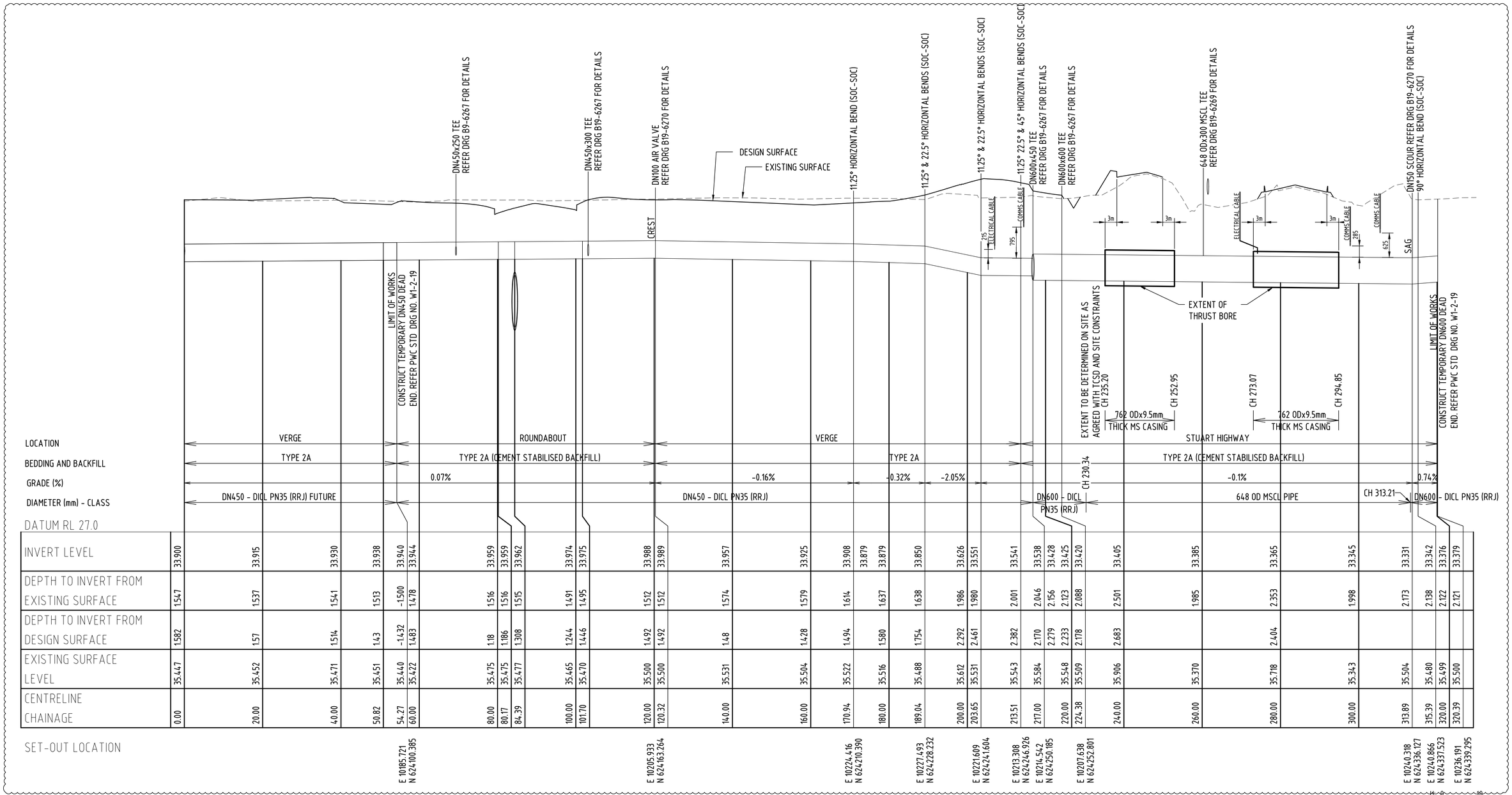
FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	33 OF 47	B19-6267	2	A1

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

SIGNED..... DATE.....

ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE 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 so associated. This drawing is valid for 2 years from the date of signing.



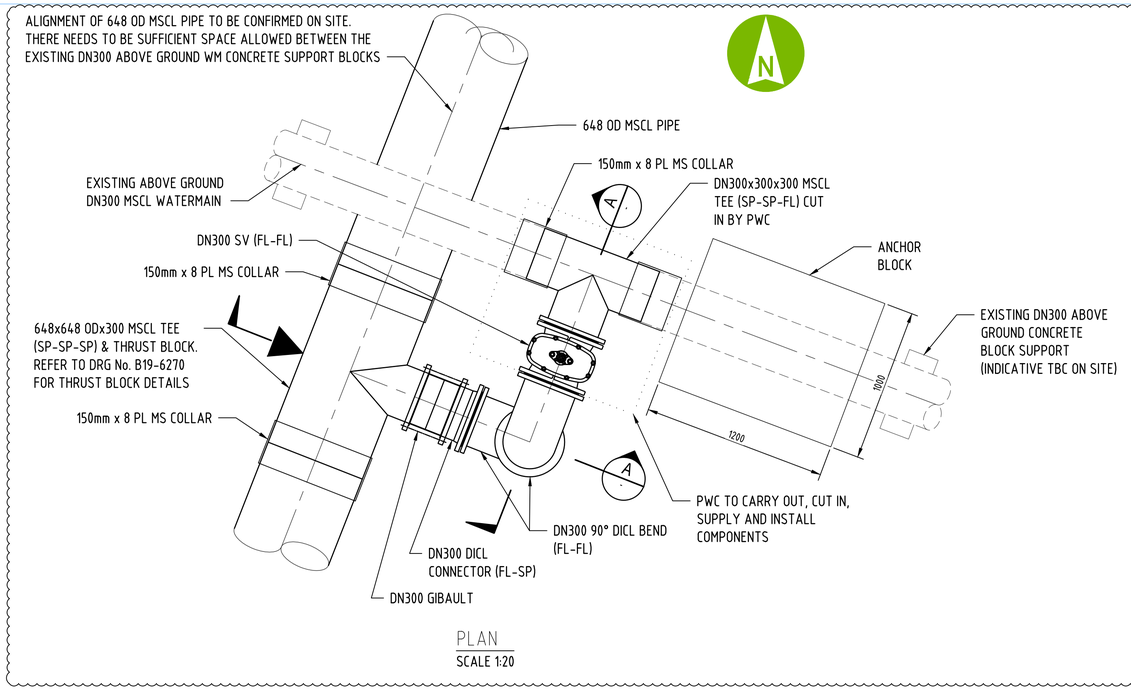
| | | |

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

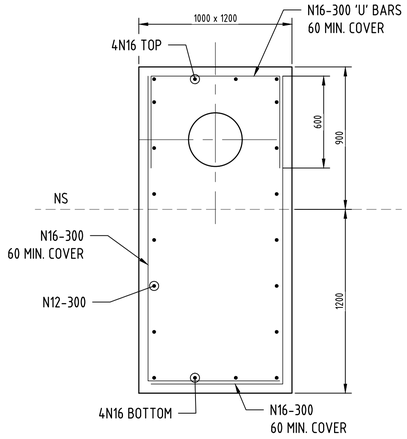
SIGNED..... DATE.....

ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE POWER AND WATER CORPORATION'S NETWORK.

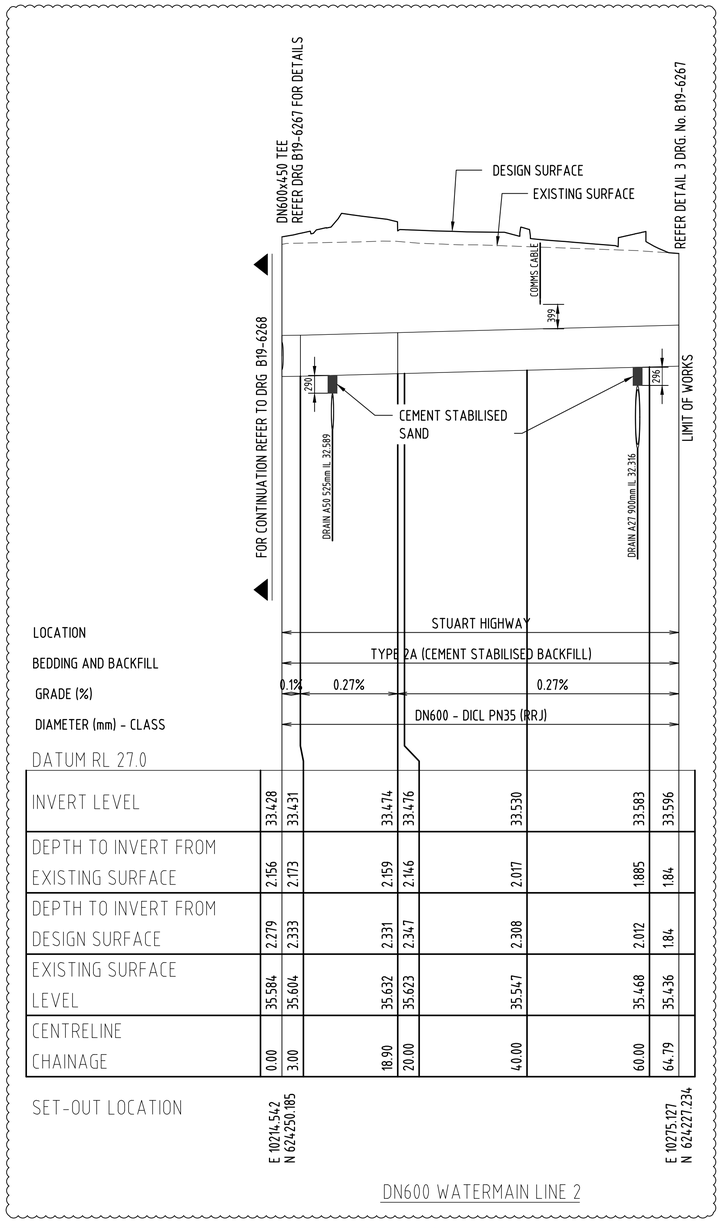
This permission to Use this Approved Design is given on the basis that the Developer and/or Consultant is not absolved from full responsibility for the correctness and accuracy of the design and/or documents so associated. This drawing is valid for 2 years from the date of signing.



PLAN
SCALE 1:20

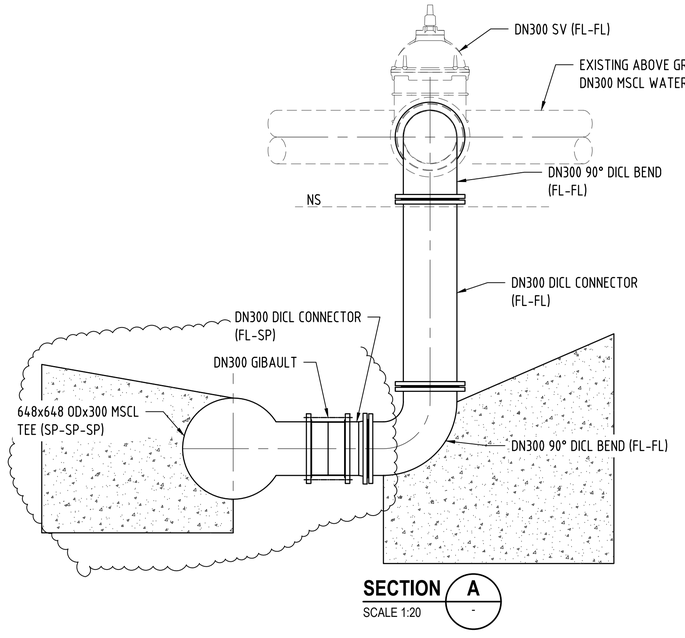


ANCHOR BLOCK
SCALE 1:20

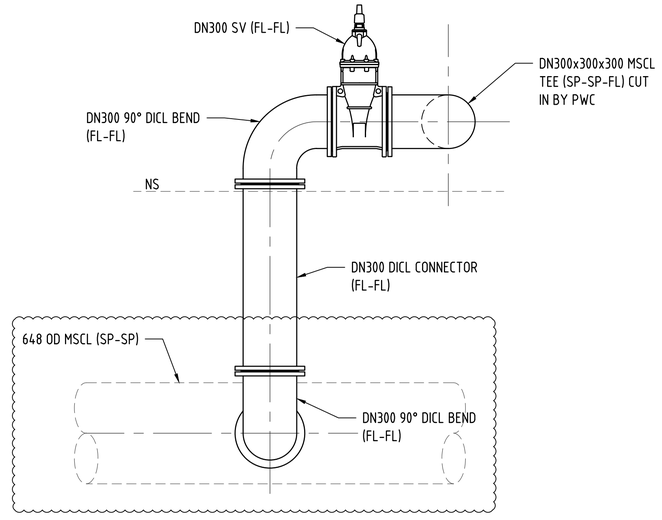


LOCATION							
DATUM RL 27.0							
INVERT LEVEL	33.428	33.431	33.474	33.476	33.530	33.583	33.596
DEPTH TO INVERT FROM EXISTING SURFACE	2.156	2.173	2.159	2.146	2.017	1.885	1.84
DEPTH TO INVERT FROM DESIGN SURFACE	2.279	2.333	2.331	2.347	2.308	2.012	1.84
EXISTING SURFACE LEVEL	35.584	35.604	35.632	35.623	35.547	35.468	35.436
CENTRELINE CHAINAGE	0.00	3.00	18.90	20.00	40.00	60.00	64.79
SET-OUT LOCATION	E 10214.542 N 624250.185						E 10275.127 N 624227.234

DN600 WATERMAIN LINE 2



SECTION A
SCALE 1:20



SECTION B
SCALE 1:20

200 0 400 800mm
SCALE 1:20

H: 0 10 20m
V: 0 1 2m
SCALE H:1:500 V:1:50 @A1

NORTHCREST DRG. No. DN21 4000 DRG 3004

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	MINOR CHANGES	31-07-19	P. GRAHAM	AURECON
1	DN600 WM LINE 2 REGRADED	23-07-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

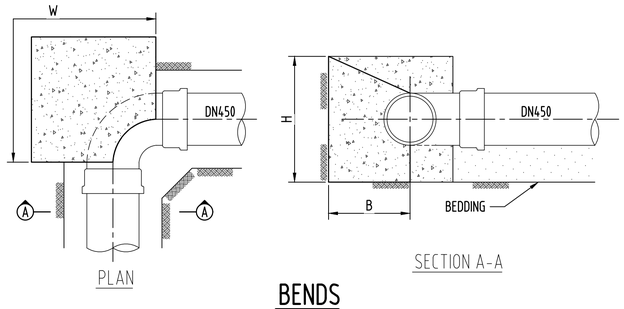
DRAWN C. HATZI DATE	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

WATER MAIN LONGITUDINAL SECTION SHEET 2 OF 2

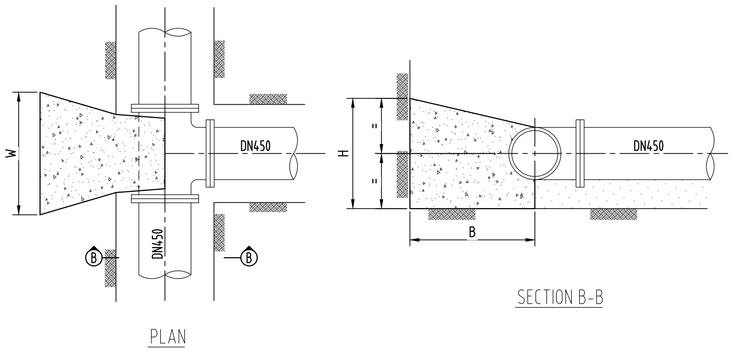
FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	35 OF 47	B19-6269	2	A1



PLAN

SECTION A-A

BENDS



PLAN

SECTION B-B

TEES

DN600, DN450 & DN300 THRUST BLOCK DETAILS

DN600 THRUST BLOCKS			
FITTING	W	H	B
90° BEND	3.2m	2.0m	1.0m
600 x 600DN TEE	2.3m	2.0m	1.0m
600 x 450DN TEE	1.8m	1.5m	0.75m

× SOIL BEARING CAPACITY 100 kPa MIN AS PER GEOTECH REPORT

DN450 THRUST BLOCKS			
FITTING	W	H	B
45° BEND	2.7m	2.0m	1.0m
22.5° BEND	1.5m	1.5m	0.75m
11.25° BEND	1.0m	1.5m	0.75m
450 x 250DN TEE	1.2m	1.5m	0.75m
450 x 300DN TEE	1.7m	1.5m	0.75m

× SOIL BEARING CAPACITY 50 kPa MIN AS PER GEOTECH REPORT

DN300 THRUST BLOCKS			
FITTING	W	H	B
45° BEND	1.3m	1.5m	0.75m
90° BEND	1.75m	2.0m	1.0m

× SOIL BEARING CAPACITY 50 kPa MIN AS PER GEOTECH REPORT

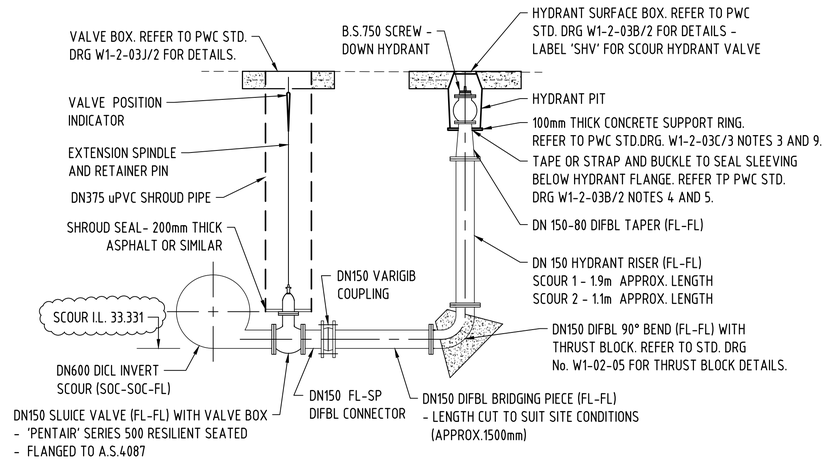
NOTE: CONTRACTOR TO OBTAIN GEOTECHNICAL ENGINEER CONFIRMATION OF IN-SITU BEARING CAPACITY AT THRUST/ANCHOR BLOCK LOCATIONS AND CONFIRM SIZE PRIOR TO CONSTRUCTION OF BLOCKS.

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

SIGNED..... DATE.....

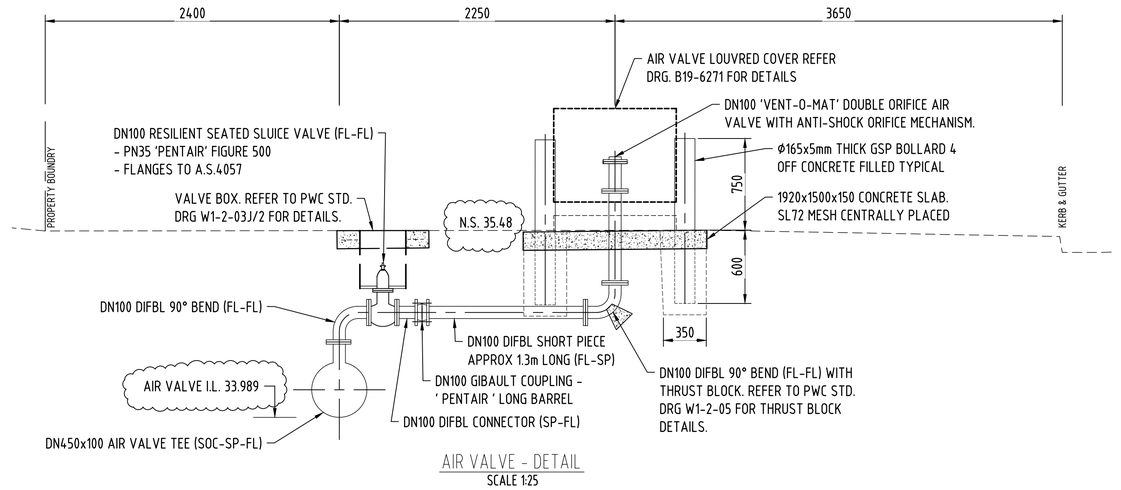
ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE POWER AND WATER CORPORATION'S NETWORK.

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

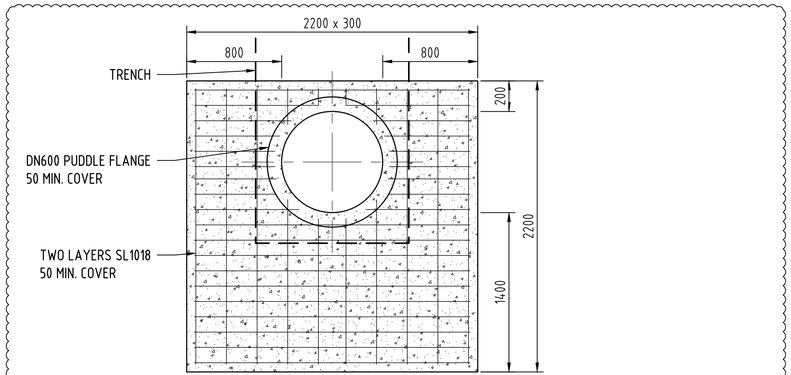


SCOUR HYDRANT DETAIL
SCALE 1:25

NOTE:
1. CONSTRUCT IN CONJUNCTION WITH PWC STD. DRG'S W1-2-03B/2, W1-2-03J/2 AND W1-2-05.

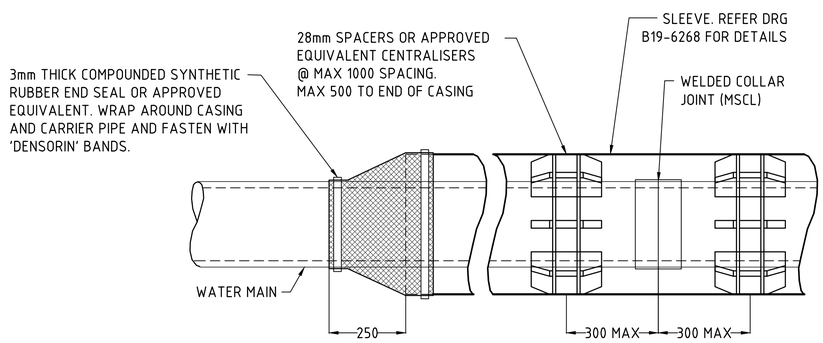


AIR VALVE - DETAIL
SCALE 1:25



PUDDLE FLANGE ANCHOR BLOCK
SCALE 1:20

NOTE:
1. THRUST/ANCHOR BLOCKS TO BE POURED AGAINST UNDISTURBED SOIL.
2. CONCRETE FOR THRUST/ANCHOR BLOCKS TO BE GRADE N32.



TYPICAL PIPE INSERTION INTO SLEEVE DETAIL
N.T.S.

NORTHCREST DRG. No. DN21 4000 DRG 3005

0.25 0 0.5 1m
SCALE 1:25

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	MINOR CHANGES	31-07-19	P. GRAHAM	AURECON
1	MINOR CHANGES	23-07-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

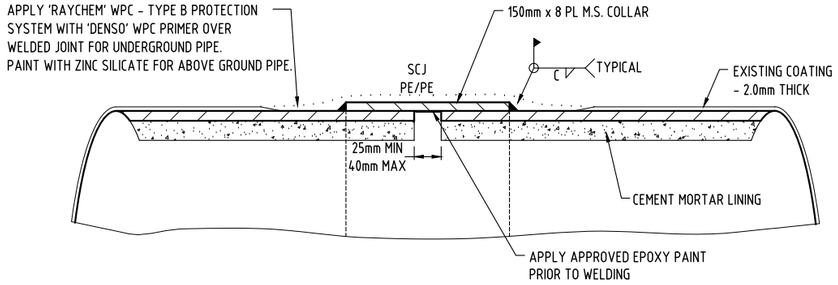
DRAWN C. HATZI DATE	CHECKED DATE		
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019		
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019		

Northern Territory Government

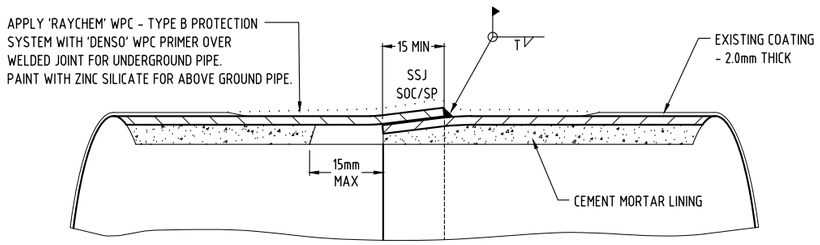
DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

DN450 WATERMAIN DETAILS SHEET 1 OF 2

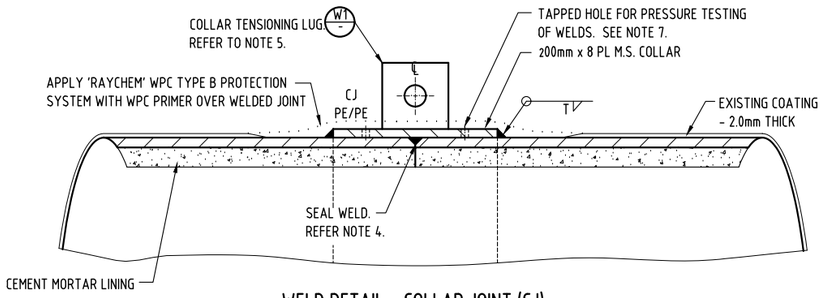
FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	36 OF 47	B19-6270	2	A1



WELD DETAIL - SPECIAL COLLAR JOINT (SCJ)



WELD DETAIL - SPHERICAL SLIP-IN JOINT (SSJ)



WELD DETAIL - COLLAR JOINT (CJ)

WELD NOTES

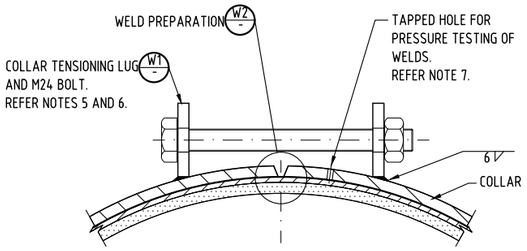
1. STEEL USED FOR COLLARS TO BE IN ACCORDANCE WITH A.S.3678.
2. ALL WELDED JOINTS TO BE MECHANICAL WIRE BRUSH CLEANED AND COATED WITH INORGANIC ZINC SILICATE PRIMER - MINIMUM 75 MICRONS.
3. ALL WELDS TO BE OF SPECIAL CLASS TO A.S.1554.1, UNLESS NOTED OTHERWISE.
4. SEAL WELD SHALL CONSIST OF A SINGLE CONTINUOUS WELD BEAD AROUND THE PIPE. THE WELD BEAD SHALL BE GROUND FLUSH WITH THE PIPE OUTSIDE DIAMETER PRIOR TO FITTING COLLAR.
5. REMOVE BOLTS AND WELDING LUGS AFTER COLLAR HAS BEEN WELDED. GRIND FINISHED SURFACES FLUSH.
6. WRAP AROUND CHAIN TENSIONERS MAY BE USED AS AN ALTERNATIVE TO COLLAR TENSIONING LUGS.
7. PROVIDE A TAPPED HOLE TO ALLOW THE GAP UNDER THE COLLAR TO BE PRESSURISED TO CONFIRM COMPLETE WELDING INTEGRITY. HOLE TO BE PLUGGED ON COMPLETION OF TEST.
8. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT S.A.A. CODES, EXCEPT WHERE VARIED BY THE PROJECT SPECIFICATION.

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

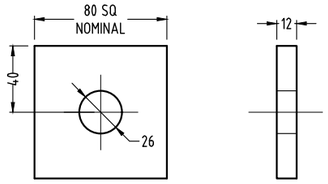
SIGNED..... DATE.....

ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE 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 so associated. This drawing is valid for 2 years from the date of signing.



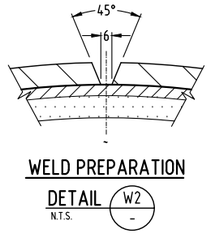
VIEW OF COLLAR IN WELDING POSITION



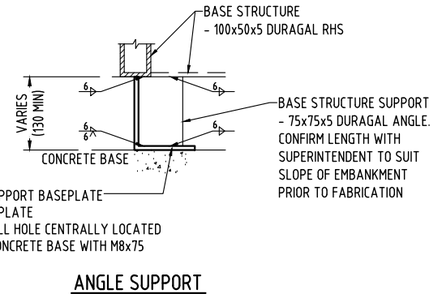
COLLAR TENSIONING LUG DETAIL W1 N.T.S.

WELDED COLLAR DETAILS		
PIPELINE - OD	T	C
502	9.5	8
660	9.5	8

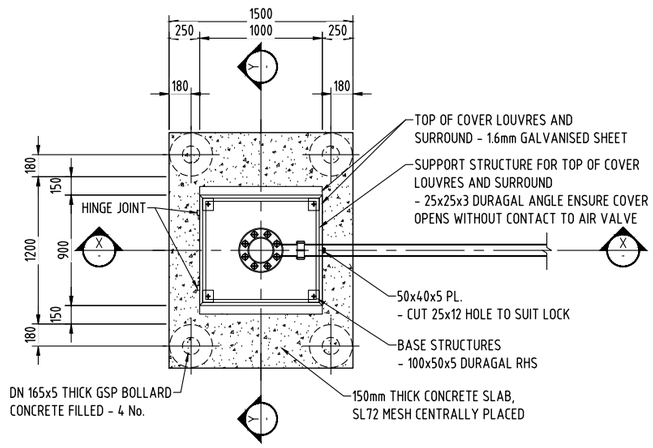
T = PIPE WALL THICKNESS
C = COLLAR THICKNESS



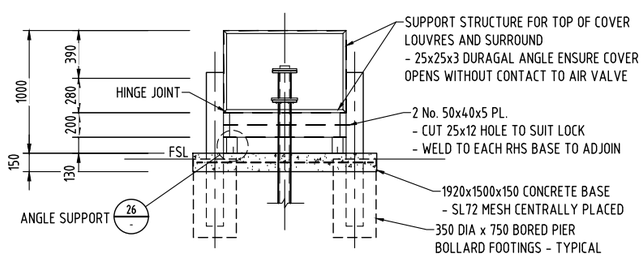
WELD PREPARATION DETAIL W2 N.T.S.



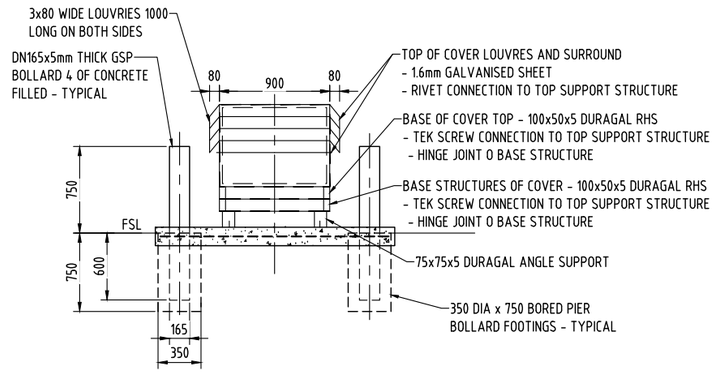
ANGLE SUPPORT DETAIL 26 N.T.S.



PLAN



SECTION X N.T.S.



SECTION Y N.T.S.

NORTHCREST DRG. No. DN21 4000 DRG 3006

0.25 0 0.5 1m
SCALE 1:25

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

DN450 WATERMAIN DETAILS SHEET 2 OF 2

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	37 OF 47	B19-6271	0	A1

PWC SEWER NOTES

S.1. ALL GRAVITY SEWER PIPES SHALL BE UPVC DWV CLASS SN8 WITH STYRENE-BUTADIENE RUBBER RING JOINTS (SBR), UNLESS NOTED OTHERWISE.

S.2. SEWERS SHALL BE OFFSET FROM PROPERTY BOUNDARIES A DISTANCE OF 1.5m IN ROAD RESERVES AND 1.5m IN PRIVATE PROPERTY, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS.

S.3. FOR SEWER SHOW POSITION IN BLG AND LEVELS TO AHD OF ALL MAINTENANCE HOLES, MAINTENANCE SHAFTS, INSPECTION OPENINGS, SEPARATION DISTANCES/LEVELS TO CROSSING SERVICES AND ALL OTHER VALUES REQUIRED TO CERTIFY COMPLIANCE OF THE DRAWINGS.

S.4. ALL GRAVITY SEWERS ARE TO BE A MINIMUM OF DN150, UNLESS NOTED OTHERWISE.

S.5. MAINTENANCE HOLES/MAINTENANCE SHAFT COVERS AND SLABS SHALL FINISH AT: FINISHED SURFACE LEVEL IN ROAD RESERVES AND FOOTPATHS AND MATCH CROSS FALL AWAY FROM MAINTENANCE HOLES, 150 MM ABOVE SURFACE LEVEL IN PRIVATE PROPERTY AND OPEN SPACE (BACKFILL TO BE GRADED AT 1 IN 10 FROM MAINTENANCE HOLES TO FINISHED SURFACE LEVEL).

S.6. THE CONSTRUCTOR SHALL EITHER INSCRIBE OR ATTACH A PLATE TO THE MAINTENANCE HOLES OR MAINTENANCE SHAFT COVER WITH THE IDENTIFYING NUMBER AS SHOWN ON THE DRAWINGS.

S.7. FLEXIBLE JOINTS WITH CONCRETE SURROUND SHALL BE CONSTRUCTED ON BOTH UPSTREAM AND DOWNSTREAM SIDES OF THE MAINTENANCE HOLES. CONCRETE SURROUND CONSTRUCTION 300mm THICK WITH 4 x N12 BAR AT EACH CORNER. EACH N12 BAR TO BE COGGED AND EPOXIED MIN 50mm INTO MAINTENANCE HOLE WALL WITH A MIN 50mm COVER.

S.8. DEPTH TO INVERT AT MAINTENANCE HOLES ARE CALCULATED FROM THE TOP OF MAINTENANCE HOLES.

S.9. MINIMUM CONCRETE STRENGTH FOR ALL SEWERAGE STRUCTURES INCLUDING MAINTENANCE HOLES SHALL BE N50. USE GP CEMENT WITH SILICA FUME CONTENT AS SPECIFIED.

S.10. ALIGN MAINTENANCE HOLE COVER SUCH THAT THE LONG SIDE OF THE LID IS PARALLEL WITH THE SEWER MAIN.

S.11. ALL SEWER RISING MAINS SHALL BE PVC-O CLASS 16 RRJ, UNLESS NOTED OTHERWISE.

S.12. USE DIFBL SO-SO CONNECTORS (OF MAXIMUM 2 DEGREE DEFLECTION) OR DIFBL BENDS FOR SEWER RISING MAINS, UNLESS NOTED OTHERWISE.

S.13. MARKING TAPE COLOURED ORANGE AND MARKED 'SEWER MAIN' SHALL BE LAID CONTINUOUSLY AND LOCATED 300MM ABOVE THE SEWER PIPEWORK.

S.14. LIVE CONNECTIONS TO EXISTING SEWER MAINS WILL ONLY BE CARRIED OUT WHEN ALL WORKS AND TESTING (HYDROSTATIC AND CCTV) ARE COMPLETE IN ACCORDANCE WITH THE APPROVED DESIGN DRAWINGS AND PROCEDURES, AND HAVE SATISFACTORILY PASSED FINAL HANDOVER INSPECTION.

PROJECT SEWER NOTES

1. REFER TO SEWER LONGSECTIONS FOR BENCHING & BACKFILL DETAILS.
2. REFER TO SEWER LONGSECTIONS FOR STRUCTURES SETOUT COORDINATES
3. SEAL END CAPS TO HAVE MARKER TAPE INSTALLED WHICH WILL RISE VERTICALLY FROM SEWER TO SURFACE, & A STAR PICKET INSTALLED AT THE LOCATION. SUB CONTRACTOR TO ENSURE THE LAST LENGTH OF PIPE IS A WHOLE SECTION & NOT CUT.
4. TRENCHING ARRANGEMENTS AS PER DETAIL ON PLAN.
5. ALL HOUSE CONNECTIONS HAVE BEEN DESIGN TO A MINIMUM GRADE OF 1% (1IN100).

MINIMUM REQUIRED INSPECTIONS BY HYDRAULIC CERTIFIER - SEWER

INSPECTION 1
INSPECT EXCAVATED TRENCH AND VERIFY BEDDING TYPE REQUIRED FOR THE SUBSOIL CONDITION. TAKE ADVICE OF A GEOTECHNICAL ENGINEER BEFORE ACCEPTING AN ALTERNATIVE BEDDING MATERIAL. GET APPROVAL FROM POWER AND WATER.

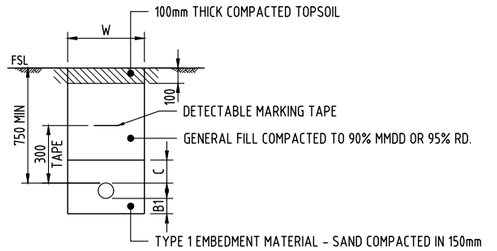
INSPECTION 2
MAIN/SERVICE COMPLETED WITH CONNECTION TO MAIN/MAINTENANCE HOLE/SHAFT WITH DOUBLE ISOLATION, OR MAIN/SERVICE COMPLETED WAITING FOR CONNECTION TO MAIN/MAINTENANCE HOLE/ SHAFT. ALL THRUST BLOCKS INSTALLED (RISING MAINS). VERIFY AS CONSTRUCTED INFORMATION.

INSPECTION 3
ALL JOINTS EXPOSED, CARRY OUT AIR TEST BEFORE UNDERGOING HYDROSTATIC GRAVITY OR PRESSURE (RISING MAINS), AND CCTV INSPECTION (GRAVITY). INSPECTION 3 NOT REQUIRED IF TOTAL LENGTH IS LESS THAN 6m AND THERE ARE NO MAINTENANCE HOLES/SHAFTS.

INSPECTION 4
CONDUCT HANDOVER WITH POWER AND WATER.

INSPECTION 5
FINAL INSPECTION TO ENSURE ALL OUTSTANDING ITEMS/DEFECTS ARE COMPLETE FOR CLEARANCE.

NOMINAL PIPE SIZE (mm)	B1 (mm)	C (mm)
20-50	50	75
80-100	75	75
150-600	100	100

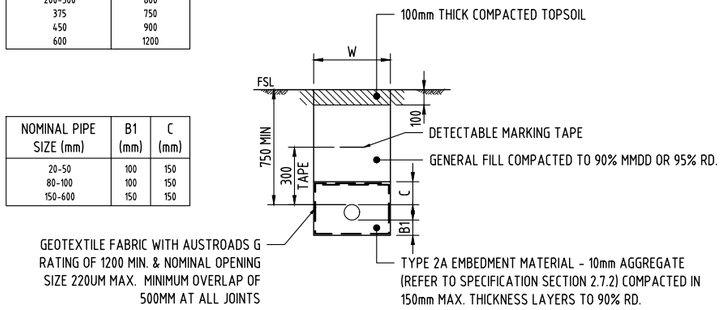


NOTE: IN EXCESSIVE CRAB HOLING AREAS WRAP IN GEOTEXTILE FABRIC REFER TYPE 4A WITH AUSTROADS G RATING OF 1200 MIN. AND NOMINAL OPENING SIZE 220UM MAX. MINIMUM OVERLAP OF 500MM AT ALL JOINTS. CONTRACTORS PROJECT MANAGER TO NOTIFY PWC CRAB HOLES TO BE FILLED.

TYPE 1 EMBEDMENT & TRENCH DETAIL
SCALE NTS

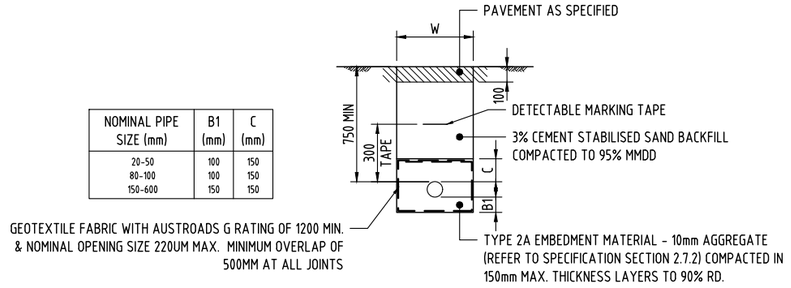
NOMINAL PIPE DIAMETER (DN)	W (mm)
100 & 150	450
200-300	600
375	750
450	900
600	1200

NOMINAL PIPE SIZE (mm)	B1 (mm)	C (mm)
20-50	100	150
80-100	100	150
150-600	150	150



TYPE 2A EMBEDMENT & TRENCH DETAIL - GENERAL
SCALE NTS

NOMINAL PIPE SIZE (mm)	B1 (mm)	C (mm)
20-50	100	150
80-100	100	150
150-600	150	150



TYPE 2A EMBEDMENT & TRENCH DETAIL - ROAD CROSSING
SCALE NTS

LEGEND

- WORKS BOUNDARY
- EXISTING SEWER MAIN
- FUTURE SEWER MAIN
- PROPOSED SEWER MAIN, MANHOLE & PROPERTY CONNECTIONS
- AC 133 3 — PROPOSED SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- MS 136 1 — FUTURE SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- MS 136 1 — EXISTING SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- LOTS TO BE SERVED (SEWER) BUT RELEASED IN FUTURE STAGE
- LOTS SERVED (SEWER) IN PREVIOUS STAGE BUT RELEASED IN THIS STAGE
- TYPE 2 IL21.578 CH25.000 — PROPERTY CONNECTION INFORMATION (TYPE, INVERT LEVEL AT CONNECTION POINT & DISTANCE FROM DOWNSTREAM PIT)

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

SIGNED..... DATE.....

ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE 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 so associated. This drawing is valid for 2 years from the date of signing.

NORTHCREST DRG. No. DN21 5000 DRG 4000

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
SEWERAGE RETICULATION
PWC SEWER STANDARD NOTES & LEGEND

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	38 OF 47	B19-6272	0	A1

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

SIGNED..... DATE.....

ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE 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 so associated. This drawing is valid for 2 years from the date of signing.

LEGEND

- WORKS BOUNDARY
- EXISTING SEWER MAIN
- SRM — PROPOSED SEWER RISING MAIN
- PROPOSED SEWER MAIN, MANHOLE & PROPERTY CONNECTIONS
- AC 133 3 — PROPOSED SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- MS 136 1 — FUTURE SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- MS 136 1 — EXISTING SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- TYPE 2 IL 21.578 CH 25.000 — PROPERTY CONNECTION INFORMATION (TYPE, INVERT LEVEL AT CONNECTION POINT & DISTANCE FROM DOWNSTREAM ACCESS CHAMBER)

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

STUART HIGHWAY

STUART HIGHWAY

ROAD 1

ROAD 7-JULIUS ST

ROAD 10

ELECTRICITY SUPPLY EASEMENT

ELECTRICITY SUPPLY EASEMENT

THRUST BORING

BREAK INTO LIVE AC CONNECTION BY PWC

LINE 1

LINE 24

LINE 20

LINE 20 Φ225

LINE 1

TYPE 4 IL 32.961 CH 7.250

TYPE 4 IL 32.386 CH 53.118

AC 1 2

AC 1 3

TMS 24 1

AC 20 5

AC 20 6

AC 20 7

MS 20 8

MS 20 4

Φ225

225DN END CAP FOR FUTURE CONNECTION.

END CAP

7661 C-70EP

NORTHCREST DRG. No. DN21 5000 DRG 4001

SCALE 1:500

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	HC ON LINE 24 MOVED	29-08-19	P. GRAHAM	AURECON
1	LINE 20 REGRADED	24-07-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-

SEWERAGE RETICULATION LAYOUT PLAN SHEET 1 OF 1

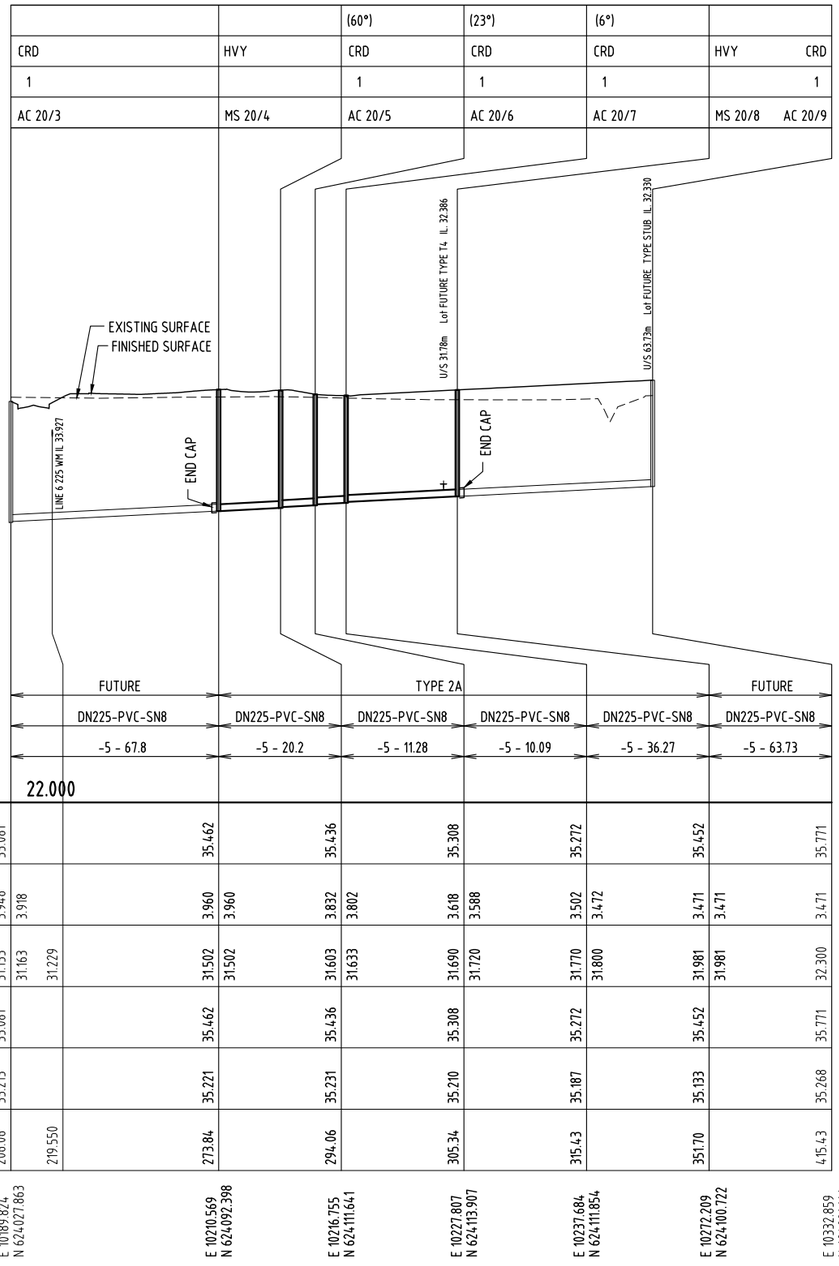
FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	39 OF 47	B19-6273	2	A1

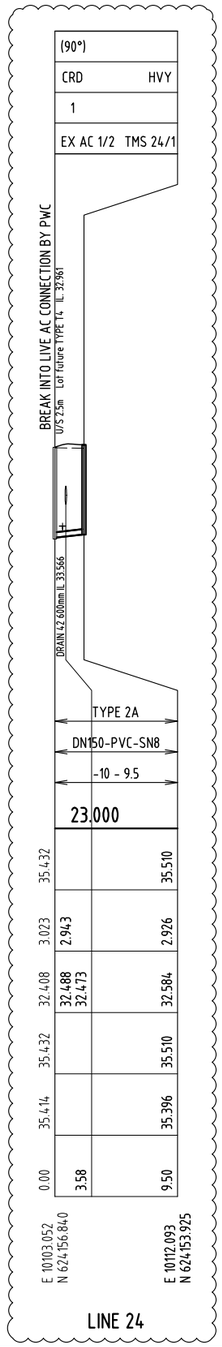
NOTE

ALL ACCESS CHAMBERS ARE TO BE CAST INSITU. CIRCULAR I.D.1200 (AC = ACCESS CHAMBER)
(MS = MAINTENANCE SHAFT)
(TMS = TERMINAL MAINTENANCE SHAFT)
(CRD = CIRCULAR MANHOLE RECTANGULAR COVER, HEAVY DUTY) (HVY = CLASS D TO PWC STD DRG W2-2-07)
REFER SEWER RETICULATION PLAN FOR TRENCH TYPE DETAILS.

NOTE

EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED





JUNCTION LINE:			(60°)	(23°)	(6°)		
MANHOLE & COVER TYPE	CRD	HVY	CRD	CRD	CRD	HVY	CRD
MANHOLE DROP TYPE	1		1	1	1		1
MANHOLE NO.	AC 20/3	MS 20/4	AC 20/5	AC 20/6	AC 20/7	MS 20/8	AC 20/9
BEDDING AND BACKFILL		FUTURE		TYPE 2A		FUTURE	
PIPE DIA. (mm). TYPE & CLASS		DN225-PVC-SN8	DN225-PVC-SN8	DN225-PVC-SN8	DN225-PVC-SN8	DN225-PVC-SN8	DN225-PVC-SN8
GRADE (mm/m) - LENGTH (m)		-5 - 67.8	-5 - 20.2	-5 - 11.28	-5 - 10.09	-5 - 36.27	-5 - 63.73
DATUM R.L.		22.000					
RL TOP OF MANHOLE	35.081		35.462	35.436	35.308	35.272	35.452	35.771
DEPTH TO INVERT	3.948	3.918	3.960	3.960	3.832	3.802	3.618	3.588	3.502	3.472	3.471	3.471	3.471
INVERT LEVEL	31.133	31.163	31.229	31.502	31.502	31.603	31.633	31.690	31.720	31.770	31.800	31.981	31.981	32.300
FINISH SURFACE LEVEL	35.081		35.462	35.436	35.308	35.272	35.452	35.771
NATURAL SURFACE LEVEL	35.213		35.221	35.231	35.210	35.187	35.133	35.268
CHAINAGE (LENGTH)	206.06	219.550	273.84	294.06	305.34	315.43	351.70	415.43
ACCESS CHAMBER LOCATION	E 10189.824 N 624,027.863		E 10210.569 N 624,092.398	E 10216.755 N 624,111.641	E 10227.807 N 624,113.907	E 10237.684 N 624,111.854	E 10272.209 N 624,100.722	E 10332.859 N 624,081.166

LINE 20

	(90°)			
	CRD	HVY		
	1			
	EX AC 1/2	TMS 24/1		
BEDDING AND BACKFILL		TYPE 2A		
PIPE DIA. (mm). TYPE & CLASS		DN150-PVC-SN8		
GRADE (mm/m) - LENGTH (m)		-10 - 9.5		
DATUM R.L.		23.000		
RL TOP OF MANHOLE	35.432		35.510	
DEPTH TO INVERT	3.023	2.943	2.926	
INVERT LEVEL	32.408	32.488 32.473	32.584	
FINISH SURFACE LEVEL	35.432		35.510	
NATURAL SURFACE LEVEL	35.414		35.396	
CHAINAGE (LENGTH)	0.00	3.58	9.50	
ACCESS CHAMBER LOCATION	E 10103.052 N 624,156.840		E 10112.093 N 624,153.925	

LINE 24

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

SIGNED..... DATE.....

ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE 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 so associated. This drawing is valid for 2 years from the date of signing.

NORTHCREST DRG. No. DN21 5000 DRG 4002

H: 0 20 40m
V: 0 2 4m
SCALE H:1:1000 V:1:100 @A1

No.	DESCRIPTION	DATE	NAME	DEPT/COMPANY
2	HC ON LINE 24 MOVED	29-08-19	P. GRAHAM	AURECON
1	LINE 20 REGRADED	24-07-19	P. GRAHAM	AURECON
0	ISSUED FOR CONSTRUCTION	27-05-19	P. GRAHAM	AURECON
B	ISSUED FOR APPROVAL	11-04-19	P. GRAHAM	AURECON
A	ISSUED FOR INFORMATION	22-03-19	P. GRAHAM	AURECON

AMENDMENTS

aurecon halikos Developments
www.aurecongroup.com
NORTH CREST

DRAWN C. HATZI DATE	CHECKED DATE
DESIGNED C. HATZI DATE APRIL 2019	CHECKED P. GRAHAM DATE APRIL 2019
DESIGN PROJECT LEADER P. GRAHAM DATE APRIL 2019	PROJECT OFFICER M. TAIT DATE APRIL 2019

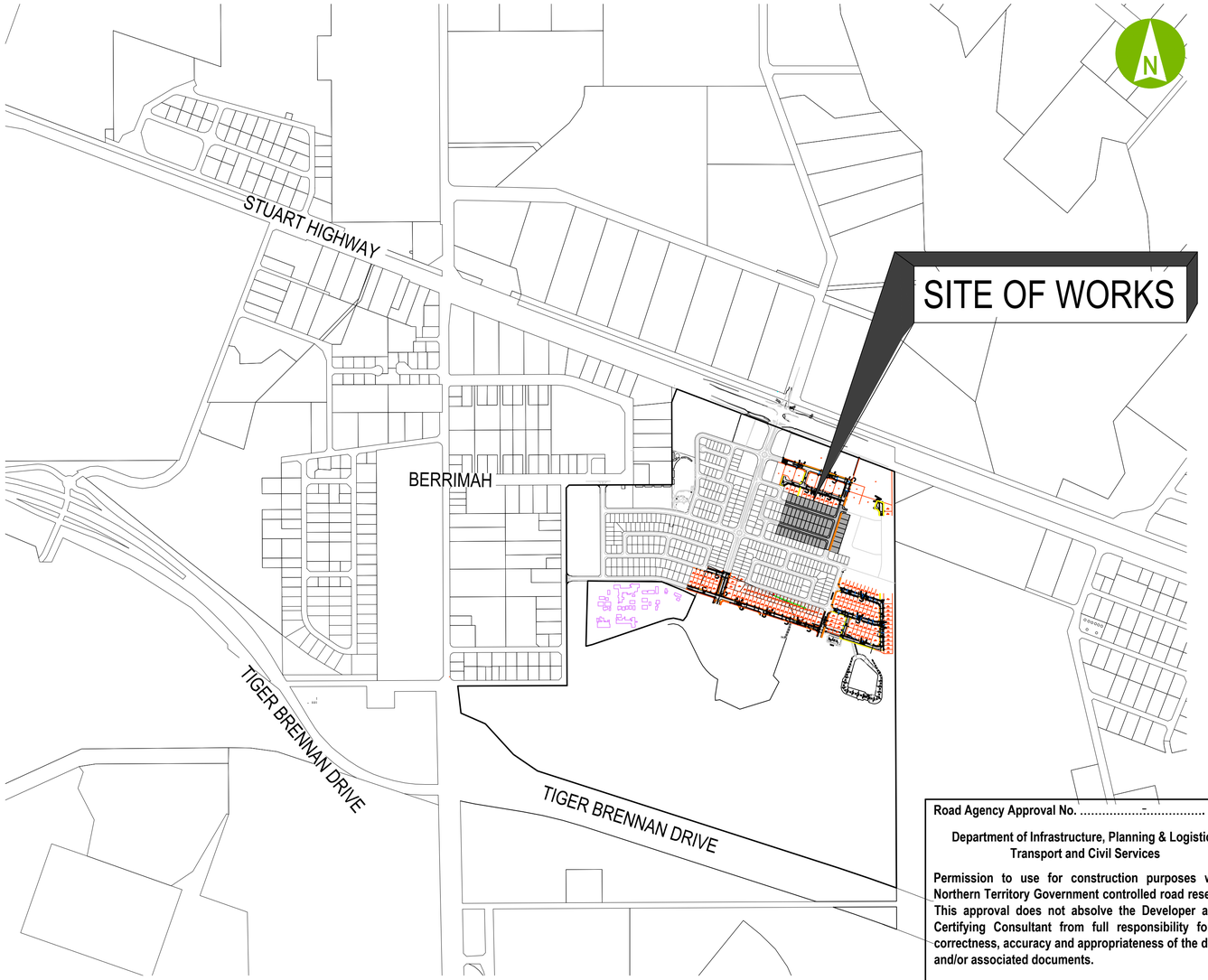
Northern Territory Government

DARWIN REGION - BERRIMAH
NORTHCREST - SPINE ROAD & STUART HIGHWAY INTERSECTION
-
SEWERAGE RETICULATION LONGSECTIONS
SHEET 1 OF 1

FILE No.	ASSET No.	SHEET No.	DRAWING No.	AMEND.	SHEET SIZE
2019-0002	R0001	40 OF 47	B19-6274	2	A1

NORTHCREST - STAGE 4C

DRAWING LIST		
DIPL DRG. No.	SHEET No.	SHEET TITLE
	GENERAL	
R23-XXXX	DN04C-0900-DRG-1001	LOCALITY PLAN & SCHEDULE OF DRAWINGS
R23-XXXX	DN04C-0900-DRG-1002	ALLOTMENT LAYOUT AND STAGE EXTENTS PLAN
R23-XXXX	DN04C-0900-DRG-1003	PROJECT NOTES
	ROADWORKS AND ALLOTMENT	
R23-XXXX	DN04C-2000-DRG-1004	ROADWORKS CONTROL LINE GEOMETRY PLAN - SHEET 1 OF 1
R23-XXXX	DN04C-2000-DRG-1005	ROADWORKS AND PAVEMENT LAYOUT PLAN - SHEET 1 OF 1
R23-XXXX	DN04C-2000-DRG-1006	ROADWORKS TYPICAL CROSS SECTIONS
R23-XXXX	DN04C-2000-DRG-1007	ROADWORKS LONGITUDINAL SECTIONS - SHEET 1 OF 2
R23-XXXX	DN04C-2000-DRG-1008	ROADWORKS LONGITUDINAL SECTIONS - SHEET 2 OF 2
R23-XXXX	DN04C-2000-DRG-1009	ROAD CROSS SECTIONS ROAD 1 - SHEET 1 OF 3
R23-XXXX	DN04C-2000-DRG-1010	ROAD CROSS SECTIONS ROAD 4 - JULIUS STREET SHEET 2 OF 3
R23-XXXX	DN04C-2000-DRG-1011	ROAD CROSS SECTIONS ROAD 10 SHEET 3 OF 3
R23-XXXX	DN04C-2000-DRG-1012	ROADWORKS INTERSECTION DETAILS - SHEET 1 OF 1
R23-XXXX	DN04C-2000-DRG-1013	LINEMARKING AND SIGNAGE PLAN - SHEET 1 OF 1
R23-XXXX	DN04C-2000-DRG-1014	FOOTPATH LAYOUT PLAN - SHEET 1 OF 1
R23-XXXX	DN04C-2000-DRG-1015	EARTHWORKS AND ALLOTMENT GRADING PLAN - SHEET 1 OF 1
R23-XXXX	DN04C-2000-DRG-1016	EARTHWORKS CUT FILL DIFFERANCE PLAN - SHEET 1 OF 1
	2000 - STORMWATER DRAINAGE	
R23-XXXX	DN04C-3000-DRG-2000	STORMWATER DRAINAGE LAYOUT PLAN
R23-XXXX	DN04C-3000-DRG-2001	STORMWATER LAYOUT PLAN & SETOUT TABLE- SHEET 1 OF 1
R23-XXXX	DN04C-3000-DRG-2002	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 1 OF 3
R23-XXXX	DN04C-3000-DRG-2003	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 2 OF 3
R23-XXXX	DN04C-3000-DRG-2004	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 3 OF 3
R23-XXXX	DN04C-3000-DRG-2005	SUBSOIL DRAINAGE LAYOUT PLAN - SHEET 1 OF 1
R23-XXXX	DN04C-3000-DRG-2006	SUBSOIL DRAINAGE DETAILS & SW PROPERTY CONNECTION - SHEET 2 OF 2
R23-XXXX	DN04C-3000-DRG-2007	STORMWATER OUD PLAN & LONGITUDINAL SECTION
PCW DRG. No.	3000 - WATER SUPPLY	
B23-XXXX	DN04C-4000-DRG-3000	PWC COVER SHEET - LEGEND & LOCALITY PLAN
B23-XXXX	DN04C-4000-DRG-3001	WATER RETICULATION - PWC WATER STANDARD NOTES & LEGEND
B23-XXXX	DN04C-4000-DRG-3002	WATER RETICULATION LAYOUT PLAN - SHEET 1 OF 1
	4000 - SEWERAGE	
B23-XXXX	DN04C-5000-DRG-4000	SEWERAGE RETICULATION - PWC SEWER STANDARD NOTES & LEGEND
B23-XXXX	DN04C-5000-DRG-4001	SEWERAGE RETICULATION LAYOUT PLAN - SHEET 1 OF 1
B23-XXXX	DN04C-5000-DRG-4002	SEWERAGE RETICULATION LAYOUT PLAN ACCESS CHAMBER LAYOUTS
B23-XXXX	DN04C-5000-DRG-4003	SEWERAGE RETICULATION LONGITUDINAL SECTIONS - SHEET 1 OF 2
B23-XXXX	DN04C-5000-DRG-4004	SEWERAGE RETICULATION LONGITUDINAL SECTIONS - SHEET 2 OF 2
B23-XXXX	DN04C-5000-DRG-4005	TRUNK SEWER ACCESS CHAMBER HDPE LINER - AC 13/3 & AC 13/4
	7000 - MASTER SERVICES	
B23-XXXX	DN04C-8000-DRG-7000	MASTER SERVICES LAYOUT PLAN - SHEET 1 OF 1
B23-XXXX	DN04C-8000-DRG-7001	TYPICAL SERVICE LOCATIONS
	1500 - EROSION & SEDIMENT CONTROL	
	DN04C-2500-DRG-1500	GENERAL NOTES
	DN04C-2500-DRG-1501	SITE ESTABLISHMENT
	DN04C-2500-DRG-1502	CONSTRUCTION AND REHABILITATION ESC CONTROL
	DN04C-2500-DRG-1503	EROSION AND SEDIMENT CONTROL DETAILS



LOCALITY PLAN
1:10 000

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

100 0 200 400m
SCALE 1:10000

Plot Date: 24/5/2023 4:23:04 PM Office: Filename: C:\USERS\ROBERT.CHRISNADA\AURECON GROUP\25365 - BERRIMAH FARM SUBDIVISION - 5 DELIVER\DESIGN\03 DRAWING\DRAW P COPY\STAGE 4C\25365\3000-DRG-1001.DWG

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	LOCALITY PLAN & SCHEDULE OF DRAWINGS

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	0900	DRG		1001	A

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

SURVEY CONTROL - MGA94 - ZONE 52, AHD				
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	709742.68	8624317.42	36.21	BRASS PLAQUE
S97185014	709719.66	8624040.12	36.98	BRASS PLAQUE
S97185015	709497.71	8624058.88	37.40	BRASS PLAQUE
S97185017	709500.57	8623436.88	36.71	BRASS PLAQUE
S97185018	709482.57	8623306.65	33.67	BRASS PLAQUE
S97185019	709308.33	8623304.52	33.92	BRASS PLAQUE
S97185074	709911.03	8624375.45	36.30	BRASS PLAQUE
S99190009	710303.83	8624309.25	35.45	BRASS PLAQUE

SURVEY CONTROL - BERRIMAH FARM LOCAL GRID, AHD				
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	9725.87	624315.18	36.21	BRASS PLAQUE
S97185014	9704.87	624037.76	36.98	BRASS PLAQUE
S97185015	9482.81	624054.91	37.40	BRASS PLAQUE
S97185017	9490.20	623433.02	36.71	BRASS PLAQUE
S97185018	9473.15	623302.68	33.67	BRASS PLAQUE
S97185019	9298.95	623299.29	33.92	BRASS PLAQUE
S97185074	9893.77	624374.43	36.30	BRASS PLAQUE
S99190009	10287.00	624311.10	35.45	BRASS PLAQUE

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4C BERRIMAH

TITLE: ALLOTMENT LAYOUT AND STAGE EXTENTS PLAN

DRAWING No.

PROJECT No.		WBS		TYPE		DISC		NUMBER		REV
DN04C	–	0900	–	DRG	–		–	1002	–	A

GENERAL NOTES:

1. CONTRACT DOCUMENTATION
ALL DRAWINGS UNDER THIS CONTRACT ARE TO BE READ IN CONJUNCTION WITH THE ENGINEERS SPECIFICATION.

2. SURVEY INFORMATION
CONTROL SURVEY INFORMATION WILL BE ESTABLISHED ON SITE BY THE SUB CONTRACTOR'S SURVEYOR. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.

3. DATUM
ALL LEVELS SHOWN ON DRAWINGS ARE A.H.D. (DERIVED).

4. EXISTING SURVEY CONTROL STATIONS
THE SUB CONTRACTOR IS TO ENSURE THAT SURVEY CONTROL STATIONS ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY CONSTRUCTION ACTIVITIES.

5. EXISTING SERVICES
EXISTING SERVICES LOCATIONS WHERE SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. THE SUB CONTRACTOR SHALL CONTACT THE RELEVANT AUTHORITIES TO ASCERTAIN THE EXACT LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING SERVICES.

6. SITE ACCESS
THE SUB CONTRACTOR SHALL GAIN ACCESS TO THE SITE AT LOCATIONS APPROVED BY THE SUB CONTRACTOR'S PROJECT MANAGER. FREEDOM OF ACCESS TO OTHER WORK AREAS ON THE SITE SHALL BE MAINTAINED AT ALL TIMES.

7. PROVISION FOR TRAFFIC
PROVISION FOR TRAFFIC ON LOCAL ROADS IS TO BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND TRANSPORT & CIVIL SERVICES DIVISION REQUIREMENTS.

8. WORK BOUNDARIES
THE SUB CONTRACTOR IS TO RESTRICT ACTIVITIES TO THOSE AREAS DESIGNATED AS WORK AREAS UNDER THIS CONTRACT. AT NO TIME SHALL THE SUB CONTRACTOR ENTER ADJOINING PROPERTIES OR CONTRACT WORK AREAS ON THE SITE WITHOUT WRITTEN AUTHORISATION FROM THE SUB CONTRACTOR'S PROJECT MANAGER.

9. SITE CLEARING
CLEARING AND GRUBBING SHALL BE CARRIED OUT ON ALL WORK AREAS AS SPECIFIED AND SHALL INCLUDE THE REMOVAL OF ALL EXISTING TREES (UNLESS NOMINATED TO BE PRESERVED), EXISTING VEGETATION, TIMBER, FENCES, SMALL STRUCTURES AND ANY OTHER DEBRIS.

10. TOPSOIL STRIPPING
ALL TOPSOIL STRIPPED FROM WORK AREAS SHALL BE STOCKPILED FOR LATER RE-SPREADING TO ALL FOOTPATHS, BATTERS AND FILL AREAS.

11. EARTHWORKS (GENERAL)
ALL FILL MATERIAL PLACED SHALL BE COMPACTED AND TRIMMED TO FINAL EARTHWORKS LEVELS AND PROFILES SHOWN ON THE CONTRACT DRAWINGS AND TESTED IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION.

12. COMPACTION STANDARDS
ALL FILL MATERIAL PLACED UNDER THIS CONTRACT SHALL BE COMPACTED IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION, GEOTECHNICAL REPORT AND OTHER RELEVANT DESIGN DOCUMENTS.

13. STORMWATER DRAINAGE
LOCATION AND ALIGNMENT OF ALL STORMWATER DRAIN LINES IS TO BE VERIFIED ON SITE WITH THE SUB CONTRACTOR'S PROJECT MANAGER PRIOR TO EXCAVATION. THE DESIGN SURFACE LEVELS OF MANHOLES AND OTHER STRUCTURES ARE TO BE AS DOCUMENTED. ALL DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES, STANDARD DRAWINGS, ENGINEERS SPECIFICATION AND AUTHORITY REQUIREMENTS. ANY DESIGN CHANGES OR RELOCATION OF STORMWATER DRAIN LINES ARE TO BE APPROVED BY DIPL.

14. SEWERAGE RETICULATION
THE DESIGN SURFACE LEVELS OF SEWER MANHOLES ARE TO BE VERIFIED ON SITE PRIOR TO CONSTRUCTION. ALL SEWERAGE RETICULATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH POWERWATER CORPORATION STANDARD DRAWINGS AND SPECIFICATION.

15. WATER RETICULATION
ALL WATER RETICULATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH POWERWATER CORPORATION STANDARD DRAWINGS AND SPECIFICATION.

16. ELECTRICAL RETICULATION
ALIGNMENTS OF ALL CONDUIT CROSSINGS ARE TO BE VERIFIED ON SITE WITH THE SUB CONTRACTOR'S PROJECT MANAGER PRIOR TO EXCAVATION. ALL TRENCHING AND CONDUIT WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT CONSULTANT'S DRAWINGS AND POWERWATER CORPORATION STANDARD DRAWINGS & SPECIFICATIONS.

17. TOPSOIL REPLACEMENT AND GRASSING
FOLLOWING COMPLETION OF ROADWORKS CONSTRUCTION AND BULK EARTHWORKS OPERATIONS THE FULL EXTENT OF VERGES AND BATTERS IS TO BE RE-TOPSOILED TO A MINIMUM DEPTH OF 100mm AND GRASSED.

18. TESTING
ALL TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION.

19. AS CONSTRUCTED" SURVEY "
AS CONSTRUCTED" SURVEY SHALL BE CARRIED OUT BY THE SUB CONTRACTOR'S SURVEYOR AS WORK PROCEEDS. AS CONSTRUCTED INFORMATION SHALL BE PROVIDED AS HARD COPY 1xA3 PAPER AS WELL AS DIGITAL, BOTH PDF AND DWG/DGN. COORDINATED TO MGA94 AND LEVELS TO AHD.

20. MAINTENANCE OF SITE CONDITION
AT THE COMPLETION OF WORKS THE SITE IS TO BE LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE SUB CONTRACTOR'S PROJECT MANAGER AND DEPARTMENT OF INFRASTRUCTURE PLANNING AND LOGISTICS (DIPL)

21. PITS IN VERGES
PITS IN VERGESTO BE ALIGNED PARALLEL WITH THE FOOTPATH.

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE PROJECT DRAWINGS, ENGINEERS SPECIFICATION AND BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWINGS.

2. MINIMUM STORMWATER PIPE SIZE IS DN375 REINFORCED CONCRETE CLASS 2 U.N.O.

3. BOX CONCRETE SHALL BE 'U' TYPE SUITABLE FOR INSTALLATION ON A CAST INSITU CONCRETE SLAB. PRECAST CULVERTS UP TO A SIZE OF 1200 X 900 SHALL BE IN ACCORDANCE WITH AS1597. ALL OTHER SIZES TO CONFORM TO AS1597.2

4. BEDDING FOR ALL PIPES IS TO BE IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION.

5. MANHOLES ARE TO BE AS PER BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG123.

6. MANHOLES ARE TO HAVE HEAVY DUTY B293 GATIC TYPE COVERS AND FRAMES AS PER BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG123.

7. MANHOLES ARE TO HAVE FINISHED LID LEVELS FLUSH WITH THE FINISHED SURFACE LEVEL. FINISHED SURFACE LEVELS SHOWN ON THE DRAWINGS SHOULD BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.

8. OUTLET HEADWALLS FOR RCP'S TO BE TYPE 1 AS PER BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG102 U.N.O.
OUTLET HEADWALLS FOR RCBC'S TO BE TYPE 1 AS PER BERRIMAH FARM SUBDIVISION STANDARD DRAWING USG104 U.N.O.

9. SIDE ENTRY PITS ARE TO BE TYPE A-G IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWINGS USG120 & USG121.

10. WEEP HOLES ARE TO BE PROVIDED IN THE WALL OF ALL PITS TO ACCEPT FLOWS FROM PIPE BEDDING.

11. AN APPROVED CONVERTER SLAB SHALL BE USED UNDER THE CHAMBER FOR SHAFT DIAMETERS LARGER THAN 1050MM.

12. ENSURE THAT OVERLAND FLOW RUNS TO STORMWATER INLET PITS AND THERE IS NO PONDING ON LOTS OR ROADS.

EARTHWORKS NOTES:

1. ALL EARTHWORKS CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE ENGINEERS DRAWINGS AND ENGINEERS SPECIFICATION AND BERRIMAH FARM SUBDIVISION GUIDELINES.

2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE ROADWORKS AND EARTHWORKS DRAWINGS AND THE SPECIFICATION.

3. DESIGN LEVELS SHOWN SHALL BE ON THE FINISHED SURFACE INCLUDING TOPSOIL.

4. CLEARED VEGETATION SHALL BE MULCHED AND STOCKPILED FOR RESPREADING.

5. THE SUB CONTRACTOR SHALL ALLOW, TO REMOVE TOPSOIL TO A DEPTH OF 200MM MINIMUM, FROM WORK AREAS AND STOCKPILE ON SITE. THIS IS AN AVERAGE DEPTH OVER THE WORKS AREA BASED ON GEOTECHNICAL INFORMATION PROVIDED.

6. FOLLOWING THE COMPLETION OF EARTHWORKS THE SUB CONTRACTOR SHALL RESPREAD TOPSOIL.

7. THE SUB CONTRACTOR SHALL LIMIT THE MOVEMENT OF EQUIPMENT AND MANPOWER TO THE MINIMUM AREA NECESSARY FOR EARTHWORKS AND PROTECT ALL VEGETATION OUTSIDE THE WORKS BOUNDARY.

8. FOR DESIGN DETAILS OF EARTHWORKS WITHIN THE ROAD RESERVES REFER TO THE ROADWORKS LONGITUDINAL AND CROSS SECTION DRAWINGS.

9. CONSIDERATION SHALL BE GIVEN TO ADJACENT LANDOWNERS DURING THE CONSTRUCTION WORKS.

10. THE SUB CONTRACTOR SHALL ALLOW FOR ALL DUST CONTROL MEASURES IN ACCORDANCE WITH DIPL AND AUTHORITY REQUIREMENTS.

11. REFER TO ESCP PLAN FOR MANAGEMENT AND REHABILITATION OF VEGETATION OF ALL DISTURBED AREAS .

12. ALL NEW WORKS TO MATCH NEATLY TO EXISTING.

13. REFER TO ROAD ANNOTATED CROSS SECTIONS FOR PROPERTY BOUNDARY LEVELS AT ROAD RESERVE BOUNDARY.

ROADWORKS NOTES:

1. ALL ROADWORK CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE DESIGN DRAWINGS, ENGINEERS SPECIFICATION AND BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWINGS.

2. SUBSURFACE DRAINAGE TO BE PROVIDED AS PER THE DESIGN DRAWINGS AND IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG127. DRAINS ARE TO HAVE CLEANING POINTS AT ROAD CRESTS AND AT 50M MAXIMUM SPACING.

3. PAVEMENT WIDTH SHOWN ON THE DRAWING SHALL BE MEASURED BETWEEN NOMINAL KERB LINES.

4. ALL KERB RADII SHOWN ARE ON THE NOMINAL FACE OF KERB LINE.

5. ALL ROAD VERGES SHALL BE STABILISED WITH 100mm OF TOPSOIL LIGHTLY COMPACTED AND GRASSED.

6. SUB CONTRACTOR SHALL SMOOTHLY MATCH TO EXISTING KERB AND PAVEMENT LEVELS FOR ALL CONNECTING ROADS.

7. SUB CONTRACTOR SHALL LIAISE WITH NBN CONTRACTOR FOR TIMELY INSTALLATION OF ANY ROAD CROSSINGS.

8. REFER TO BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG008 FOR CONCRETE SHARED PATH (2.5m) AND FOOTPATH (1.5m) DETAILS.

9. PRAM RAMPS ARE TO BE TYPE B. REFER TO BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG300 FOR PRAM RAMP DETAILS. PRAM RAMPS ARE REQUIRED TO COMPLY WITH AS1428.1.

10. ALL KERBING IS TO BE KERB & GUTTER REFER USG303 EXCEPT ACROSS DRIVEWAYS WHERE CROSSOVERS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG005 AND EXCEPT WHERE SHOWN ON THE DRAWINGS (I.E. ROUNDABOUT ISLAND AND SPLITTER ISLANDS).

11. VERGES ARE TO BE HYDROMULCHED, IRRIGATED AND MAINTAINED FOR A PERIOD OF 13 WEEKS FOLLOWING PRACTICAL COMPLETION.

12. LOT DRAINAGE CONNECTION POINT TO BE PROVIDED FOR ALL LOTS IN ACCORDANCE WITH THE DESIGN DRAWINGS.

SAFETY IN DESIGN

1. CONSTRUCTION ACTIVITY CAN BE HAZARDOUS. POTENTIAL SAFETY HAZARDS CONSIDERED BY THE DESIGNERS TO HAVE A HIGHER RISK THAN NORMAL CONSTRUCTION ACTIVITY ARE IDENTIFIED WITH APPROPRIATE NOTES ON THESE DRAWINGS. IT SHOULD BE NOTED THAT DESIGNERS HAVE A LOWER LEVEL OF UNDERSTANDING OF THE RISKS INVOLVED IN CONSTRUCTION COMPARED TO THAT OF A COMPETENT SUB CONTRACTOR. IT IS THEREFORE ESSENTIAL THAT AN ADEQUATE SAFETY PLAN IS PREPARED BY THE SUB CONTRACTOR FOR THE WORKS. SAFETY PLANS ARE TO BE PREPARED IN COMPLIANCE WITH THE STATUTORY REQUIREMENTS.

2. THE DESIGNERS MAY NOT BE AWARE OF ALL SAFETY RISKS AND HAZARDS INVOLVED IN THIS PROJECT AND THE ABSENCE OF COMMENT DOES NOT IMPLY THAT THERE ARE ONLY LOW LEVEL RISKS OR HAZARDS INVOLVED IN THIS PROJECT. APPROPRIATE WORK METHOD STATEMENTS ARE TO BE PREPARED FOR HIGH RISK ACTIVITY BY THE CONTRACTOR AND SUB CONTRACTOR AS APPLICABLE.

3. THE DESIGNERS ARE AVAILABLE TO BE CONSULTED WHEN REQUIRED CONCERNING THEIR AREA OF CONTROL WITH REGARDS TO SAFETY PLANS.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
N.T.S.	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

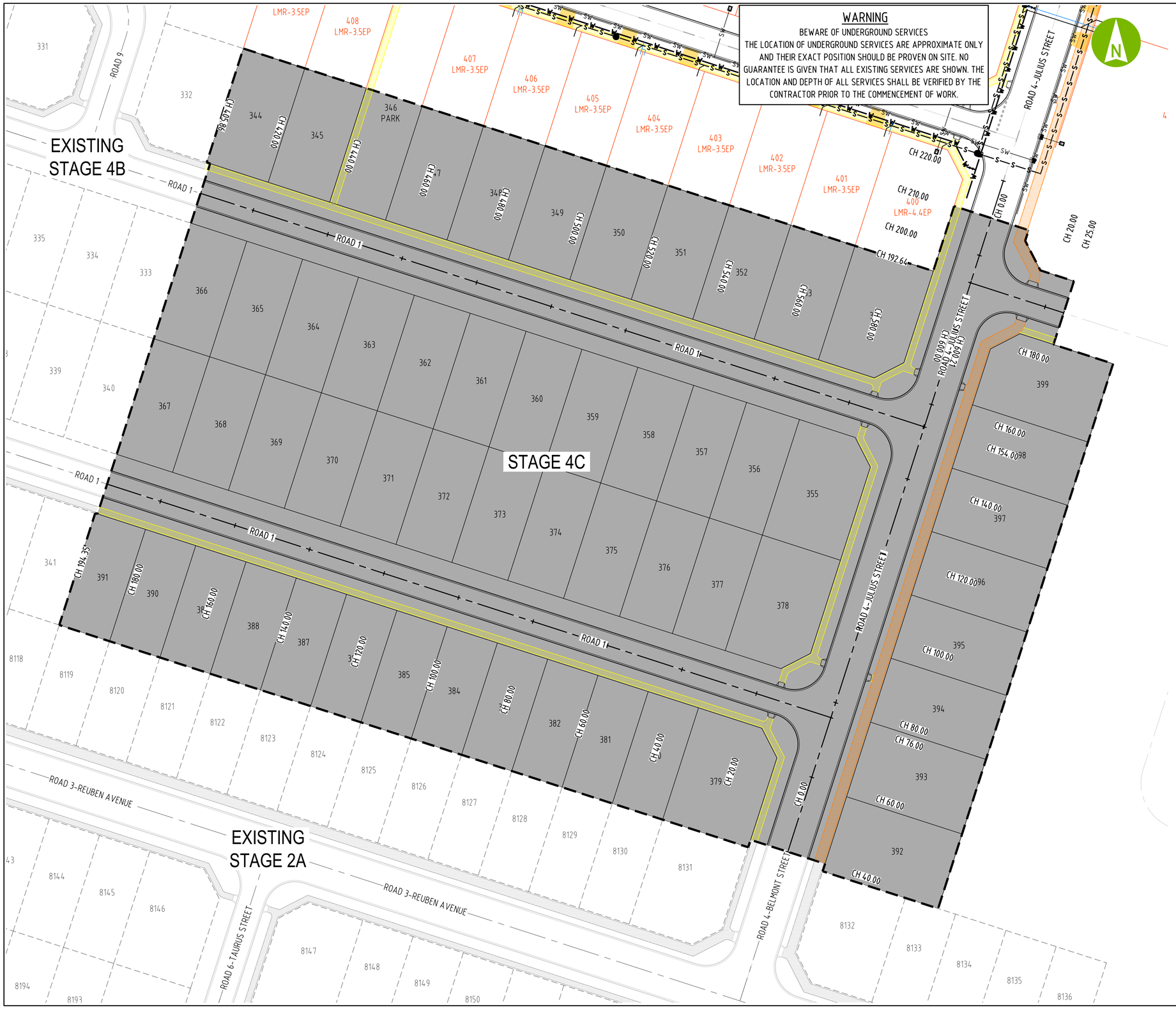
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4C
BERRIMAH

TITLE: PROJECT NOTES

DRAWING No. DN04C – 0900 – DRG – – 1003 – A
(PROJECT No. | WBS | TYPE | DISC | NUMBER | REV)



ROAD 1 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10445.741	623821.624	33.460	287°52'14.62"			
TC	254.264	10203.745	623899.650	35.167	287°52'14.62"			
IP 2	263.683	10192.334	623903.329	35.277		R = 12.000	18.839	89°56'56.72"
CT	273.103	10196.003	623914.743	35.386	17°49'11.34"			
TC	327.108	10212.530	623966.158	35.564	17°49'11.34"			
IP 3	336.538	10216.206	623977.592	35.516		R = 12.000	18.860	90°03'05.15"
CT	345.968	10227.637	623973.906	35.469	107°52'16.48"			
IP 4	600.211	10469.612	623895.885	34.274	107°52'16.48"			

ROAD 4-JULIUS STREET HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10422.484	623749.271	32.193	17°49'11.34"			
TC	281.890	10508.749	624017.637	34.914	17°49'11.34"			
IP 2	293.664	10513.335	624031.905	34.972		R = -15.000	23.548	89°56'54.85"
CT	305.438	10499.072	624036.504	35.031	287°52'16.48"			
IP 3	610.705	10208.535	624130.184		287°52'16.48"			

ROAD 10 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10481.437	623932.672	34.467	107°52'17.19"			
TC	122.635	10598.154	623895.037	34.617	107°52'17.19"			
IP 2	130.551	10605.752	623892.588	34.656		R = -50.000	15.832	18°08'33.02"
CT	138.467	10613.735	623892.625	34.696	89°43'44.17"			
IP 3	155.341	10630.609	623892.705	34.898	89°43'44.17"			

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

5 0 10 20m
SCALE 1:500

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

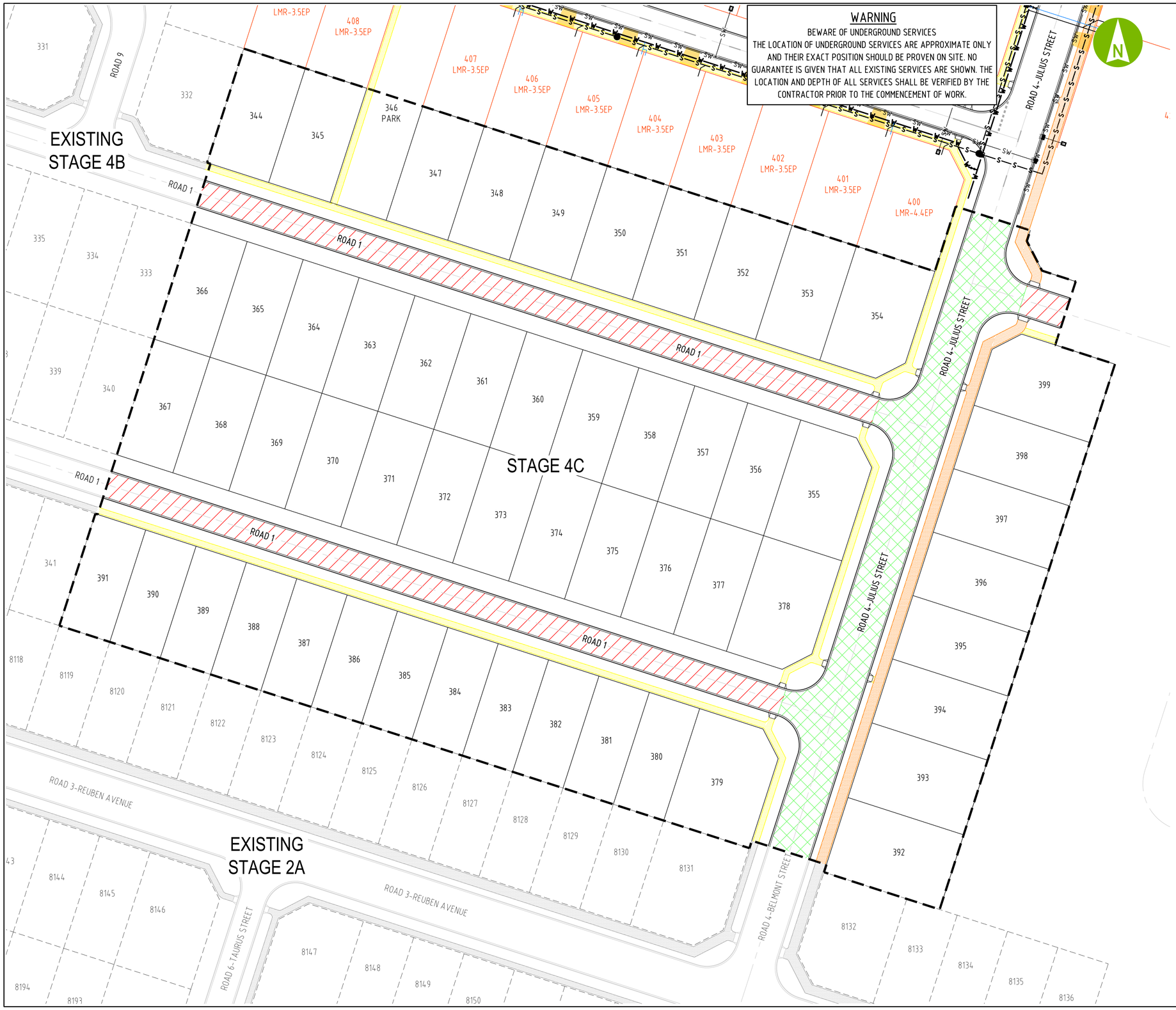
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4C
BERRIMAH

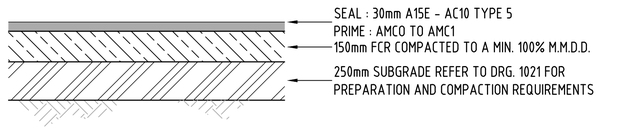
TITLE: ROADWORKS CONTROL LINE GEOMETRY PLAN
SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	2000	DRG		1004	A

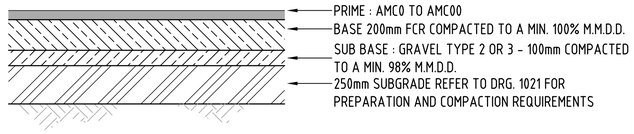


WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.



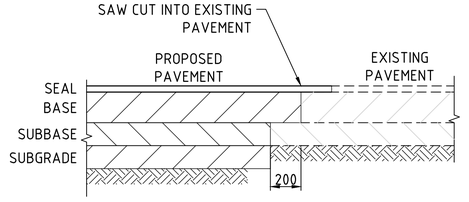
TYPE 1 - PAVEMENT SECTION
NTS



TYPE 2 - PAVEMENT SECTION
NTS

LEGEND

- KERB & GUTTER. REFER USG STD DWG USG303
- PROPOSED 1.5m TYPE B WIDE CONCRETE FOOTPATH
- PROPOSED 2.5m TYPE B WIDE CONCRETE FOOTPATH
- WORKS BOUNDARY
- TYPE 1 - PROPOSED 150mm THICK PAVEMENT
- TYPE 2 - PROPOSED 300mm THICK PAVEMENT



LONGITUDINAL JOIN TO EXISTING ROAD
N.T.S.

ROAD PAVEMENT NOTES

1. ALL PAVEMENT WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES AND THE PROJECT SPECIFICATION. THE INDICATED PAVEMENT DESIGN IS IN ACCORDANCE WITH THE RELEVANT STANDARDS AND SPECIFICATIONS AND IS BASED ON ANTICIPATED SUBGRADE CBR'S RECOMMENDED BY GEOTECHNICAL INVESTIGATION OF 10%.
2. SUB GRADE CBR TO BE CONFIRMED BY A GEOTECHNICAL ENGINEER FOLLOWING INITIAL BOXING.

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

5 0 10 20m
SCALE 1:500

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

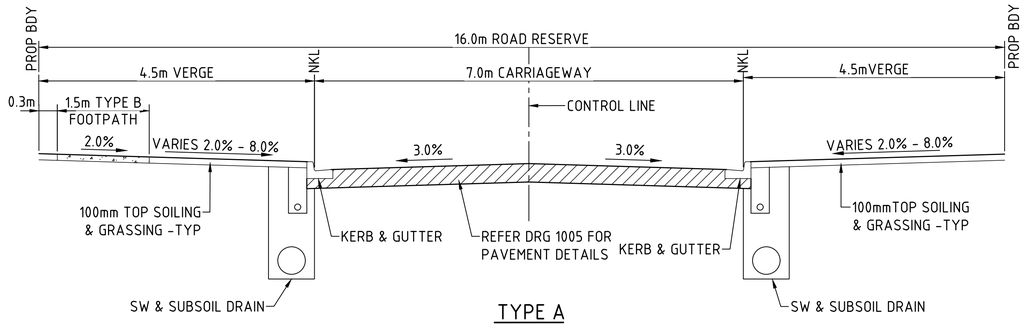
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4C BERRIMAH

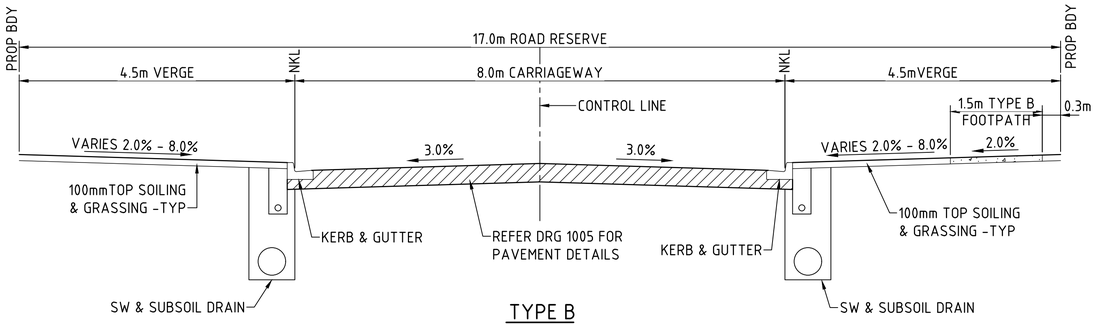
TITLE: ROADWORKS AND PAVEMENT LAYOUT PLAN
SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	2000	DRG		1005	A



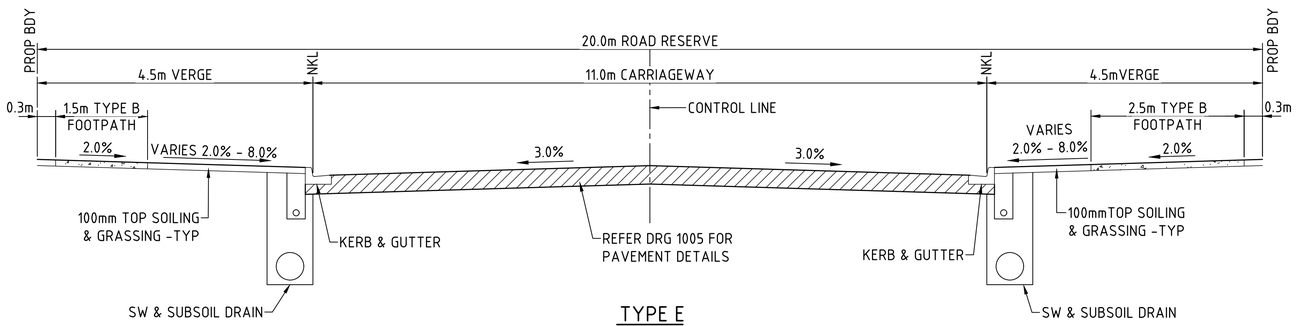
TYPE A

TYPICAL ROAD CROSS SECTION - ROAD 1
7.0m CARRIAGEWAY - 16m ROAD RESERVE



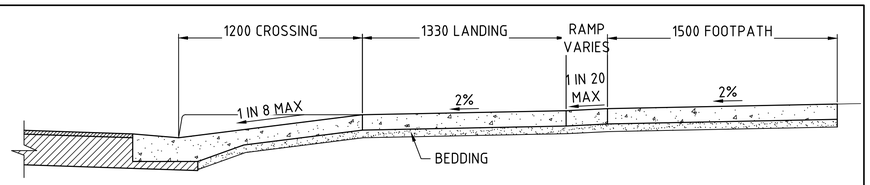
TYPE B

TYPICAL ROAD CROSS SECTION - ROAD 10
8.0m CARRIAGEWAY - 17m ROAD RESERVE

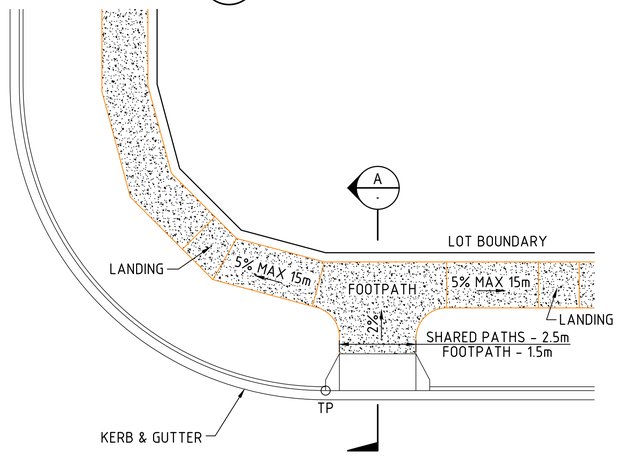


TYPE E

TYPICAL ROAD CROSS SECTION - ROAD 4-JULIUS STREET
11.0m CARRIAGEWAY - 20m ROAD RESERVE



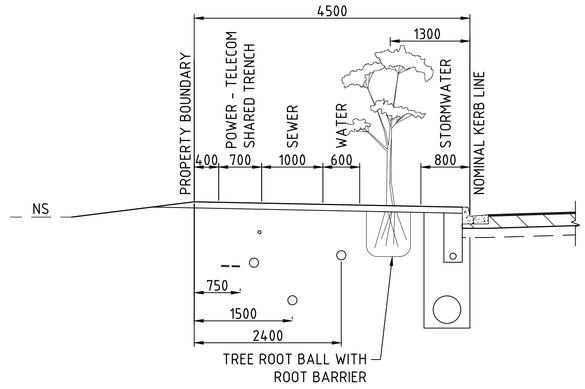
SECTION A
N.T.S.



RAMP CROSSING DETAILS

1:100

ROAD LIGHTING COLUMN AT 1100.
TREE PLANTING AT 1300.



SERVICES ALLOCATIONS

N.T.S. (DIM IN mm)

NOTES

1. REFER TO USG STANDARD DRAWING USG303 FOR TYPICAL KERBING DETAILS.
2. REFER TO USG STANDARD DRAWING USG008 & USG005 FOR FOOTPATHS AND VEHICLE ACCESS DETAILS.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ROAD LAYOUT PLAN AND ROAD LONGSECTIONS.
4. LOCATION OF SERVICES ARE INDICATIVE ONLY. FOR EXACT LOCATIONS REFER TO RELEVANT SERVICE LAYOUT.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

500 0 1000 2000mm
SCALE 1:50

aurecon
www.aurecongroup.com

CLIENT: halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

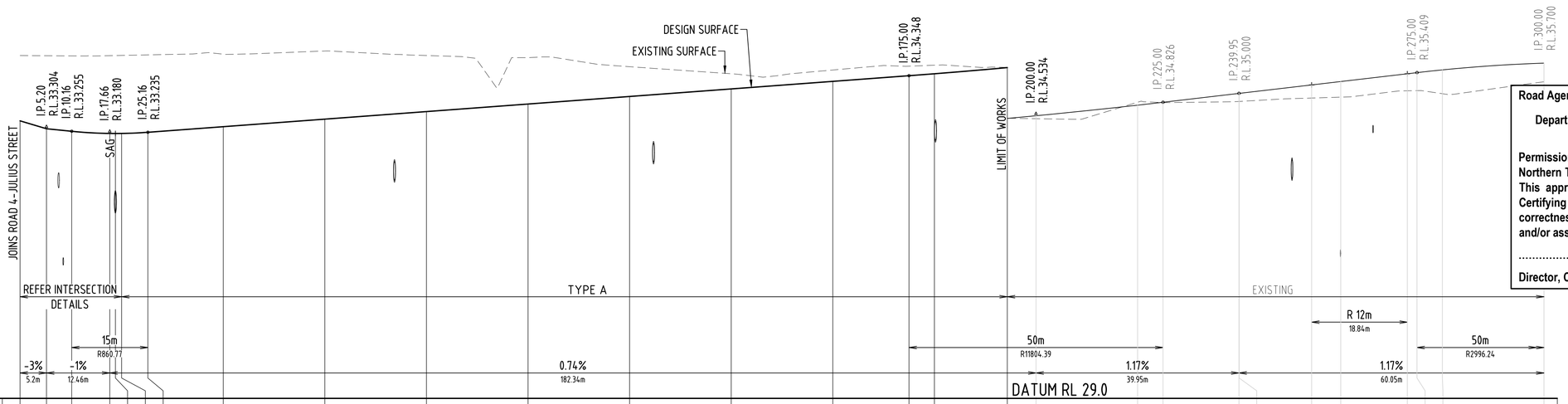
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

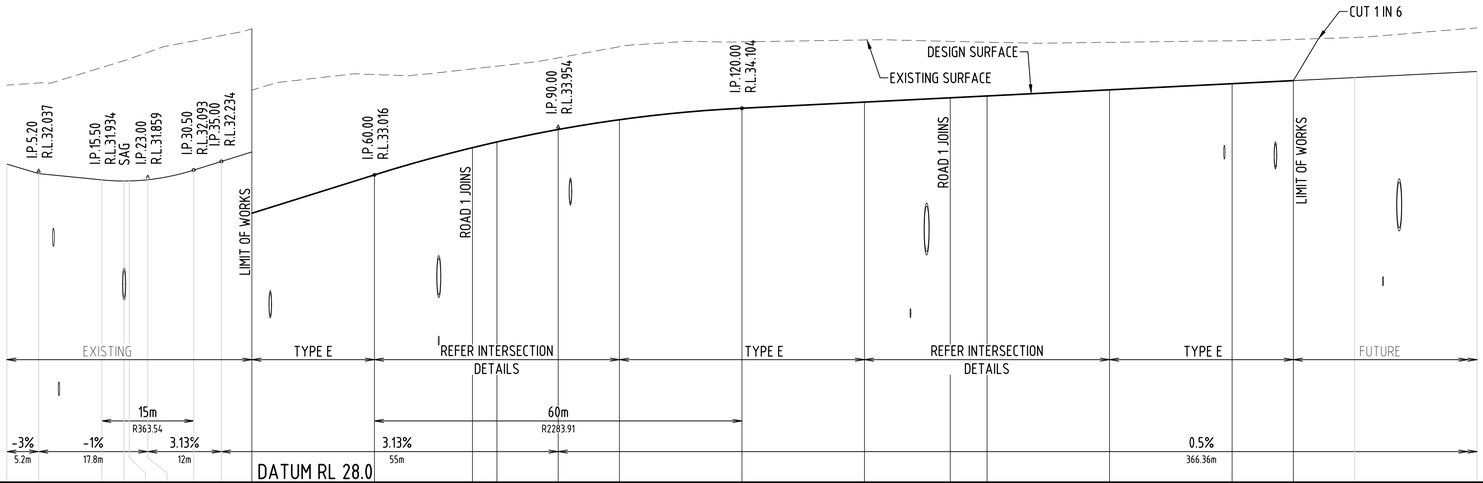
APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	ROADWORKS TYPICAL CROSS SECTIONS

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	2000	DRG		1006	A


DESIGN SURFACE
EXISTING SURFACE
JOINS ROAD 4 - JULIUS STREET
I.P. 5.20 R.L. 33.304
I.P. 10.16 R.L. 33.255
I.P. 17.66 R.L. 33.180
SAG
I.P. 25.16 R.L. 33.235
I.P. 175.00 R.L. 34.348
LIMIT OF WORKS
I.P. 200.00 R.L. 34.534
I.P. 225.00 R.L. 34.826
I.P. 239.95 R.L. 35.000
I.P. 275.00 R.L. 35.409
I.P. 300.00 R.L. 35.700
SECTION TYPE
REFER INTERSECTION DETAILS
TYPE A
EXISTING
HORIZONTAL CURVE
15m R860.77
R 12m 18.84m
50m R11804.39
50m R2996.24
VERTICAL CURVE
GRADE %
-3% 5.2m
-1% 12.46m
0.74% 182.34m
1.17% 39.95m
1.17% 60.05m
DATUM RL 28.0
DATUM RL 29.0

| | | |


CUT 1 IN 6
DESIGN SURFACE
EXISTING SURFACE
I.P. 5.20 R.L. 32.037
I.P. 15.50 R.L. 31.934 SAG
I.P. 23.00 R.L. 31.859
I.P. 30.50 R.L. 32.093
I.P. 35.00 R.L. 32.234
I.P. 60.00 R.L. 33.016
I.P. 90.00 R.L. 33.954
I.P. 120.00 R.L. 34.104
LIMIT OF WORKS
ROAD 1 JOINS
ROAD 1 JOINS
LIMIT OF WORKS
SECTION TYPE
HORIZONTAL CURVE
VERTICAL CURVE
GRADE %
DATUM RL 27.0
EXISTING
TYPE E
REFER INTERSECTION DETAILS
TYPE E
REFER INTERSECTION DETAILS
TYPE E
FUTURE
15m
R363.54
60m
R2283.91
-3%
5.2m
-1%
17.8m
3.13%
12m
3.13%
55m
0.5%
366.36m
DATUM RL 28.0

| | | |

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O.
200mm STRIPPING HAS BEEN ASUMED

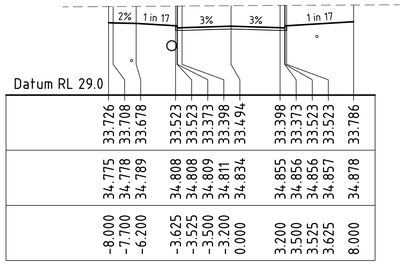
Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

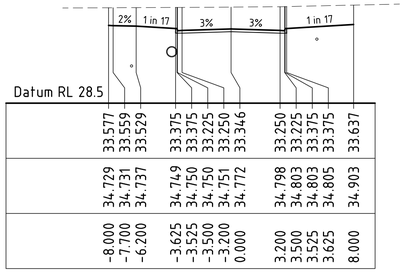
Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

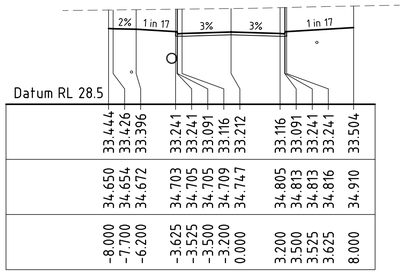
Director, Corridor Management and Design



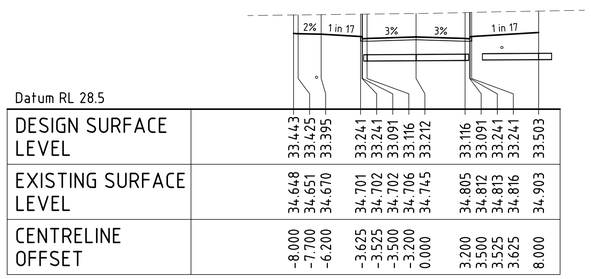
CH. 60.00



CH. 40.00

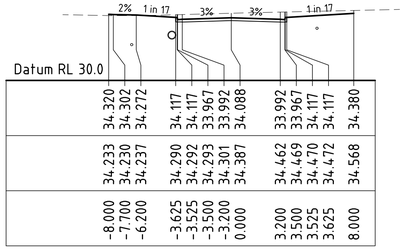


CH. 20.00

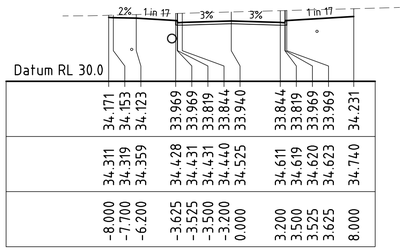


CH. 18.77

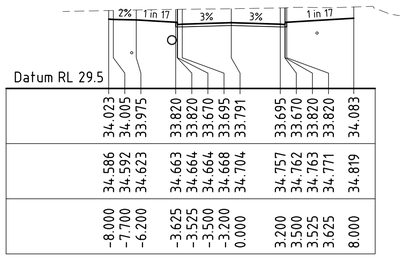
ROAD 1



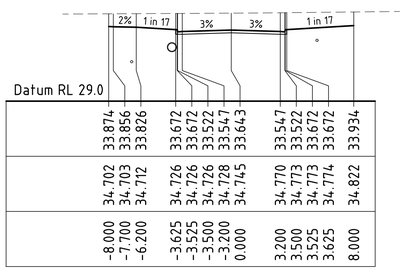
CH. 140.00



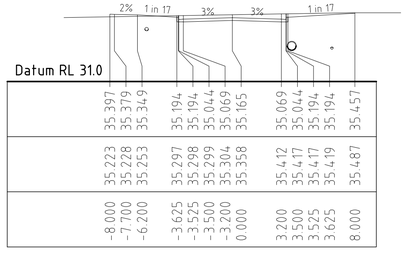
CH. 120.00



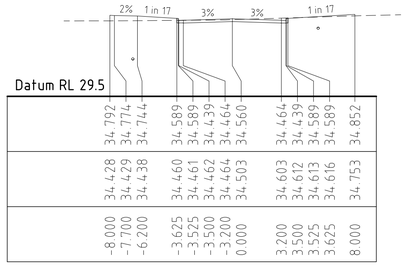
CH. 100.00



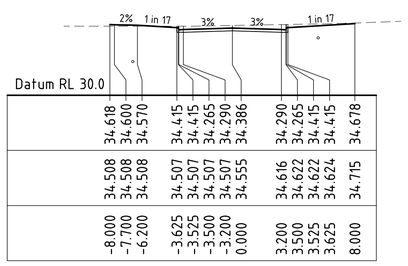
CH. 80.00



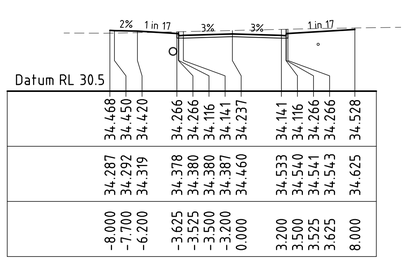
CH. 400.00



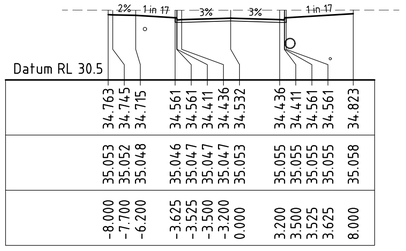
CH. 200.00



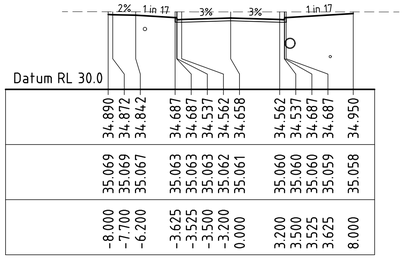
CH. 180.00



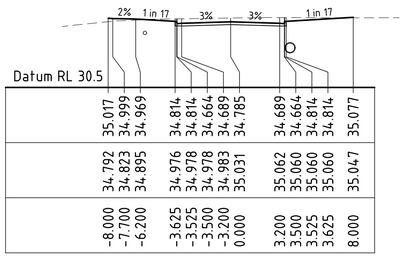
CH. 160.00



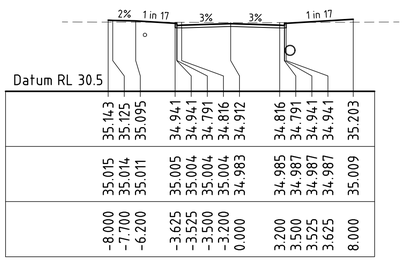
CH. 500.00



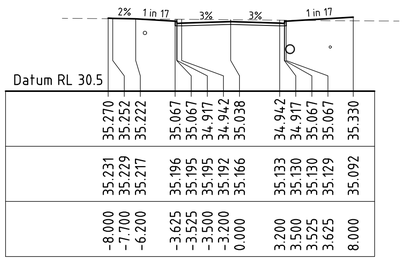
CH. 480.00



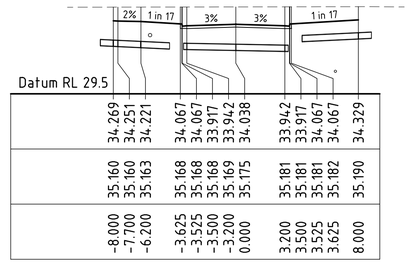
CH. 460.00



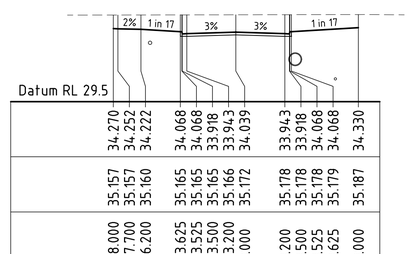
CH. 440.00



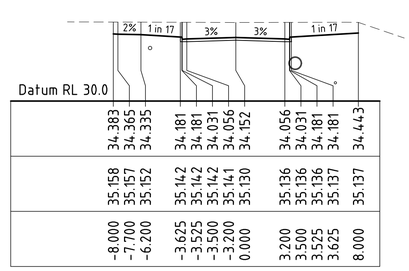
CH. 420.00



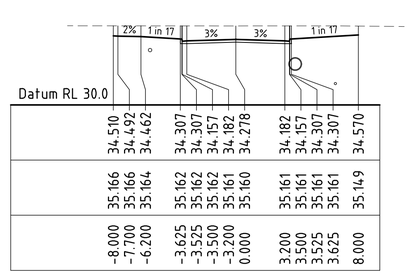
CH. 581.48



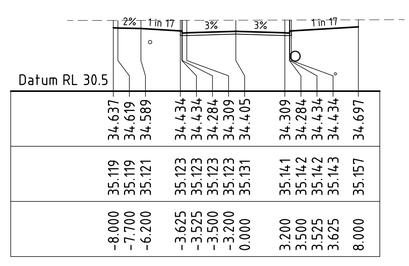
CH. 580.00



CH. 560.00



CH. 540.00



CH. 520.00

DIPL DRG. No. R23-XXXX

0 5 8m
H 1:200 @A1

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4C
BERRIMAH

TITLE: ROAD CROSS SECTIONS ROAD 1
SHEET 1 OF 3

DRAWING No. | PROJECT No. DN04C | WBS 2000 | TYPE DRG | DISC | NUMBER 1009 | REV A

Road Agency Approval No. .....:.....

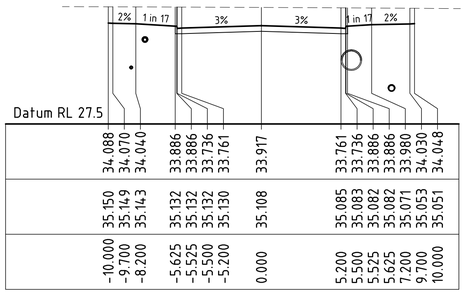
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

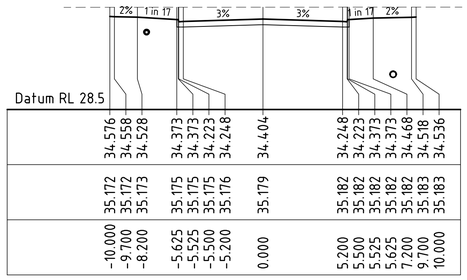
.....

Director, Corridor Management and Design

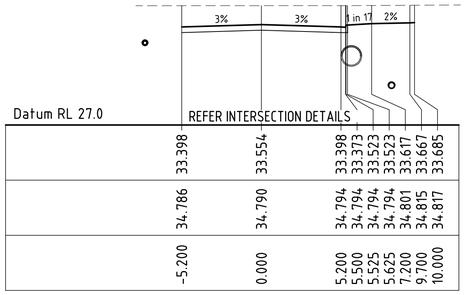
NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O.
200mm STRIPPING HAS BEEN ASUMED



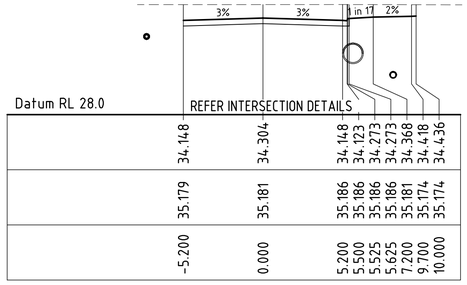
CH. 100.00



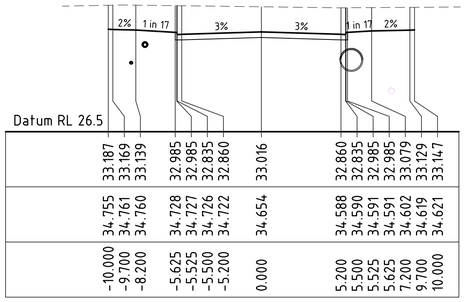
CH. 180.00



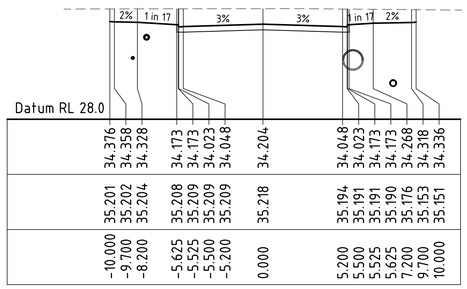
CH. 80.00



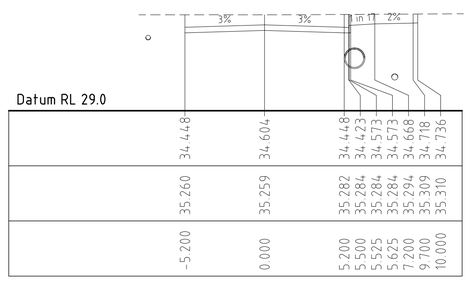
CH. 160.00



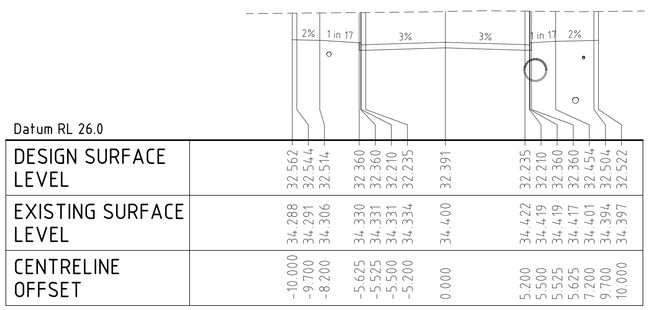
CH. 60.00



CH. 140.00

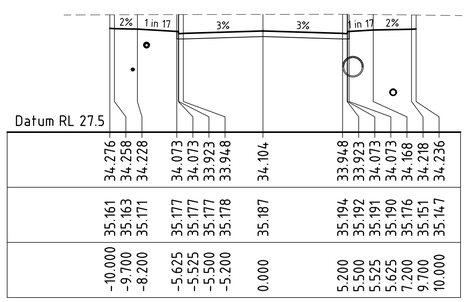


CH. 220.00

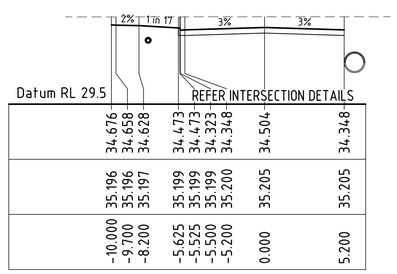


CH. 40.00

ROAD 4-JULIUS STREET



CH. 120.00



CH. 200.00

DIPL DRG. No. R23-XXXX

0 5 8m
H 1:200 @A1

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4C
BERRIMAH

TITLE: ROAD CROSS SECTIONS ROAD 4 - JULIUS STREET
SHEET 2 OF 3

DRAWING No. PROJECT No. DN04C – WBS 2000 – TYPE DRG – DISC – NUMBER 1010 – REV A

Road Agency Approval No. .....:.....

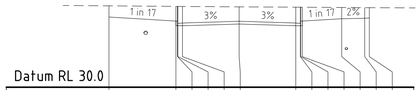
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

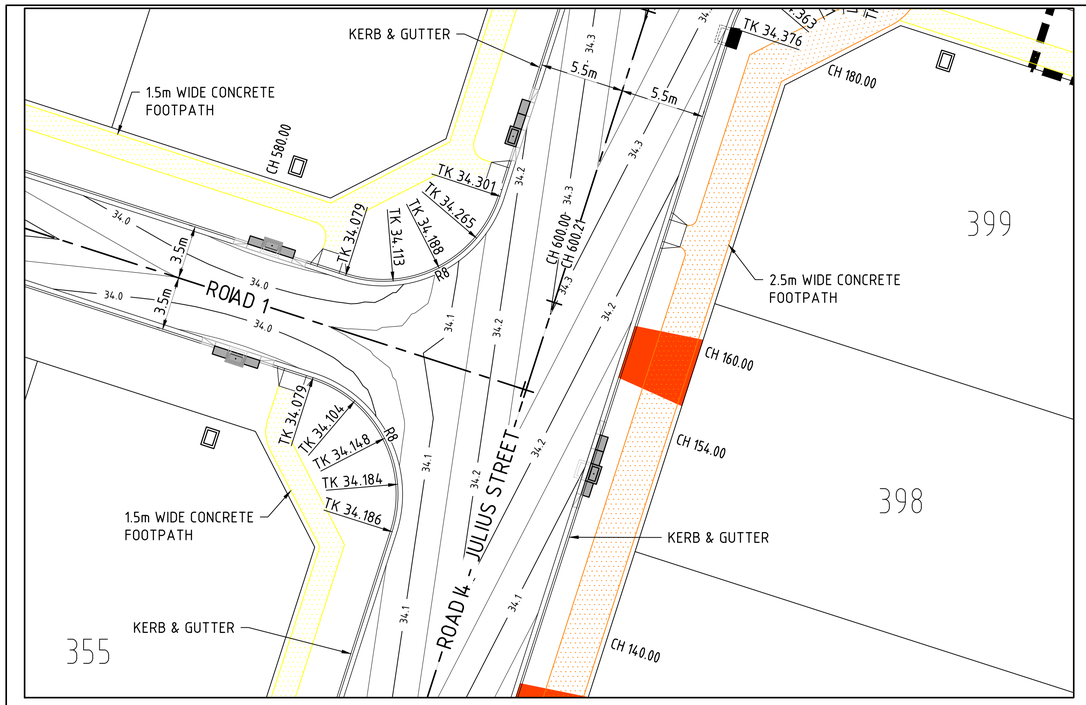
Director, Corridor Management and Design

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O.
200mm STRIPPING HAS BEEN ASUMED



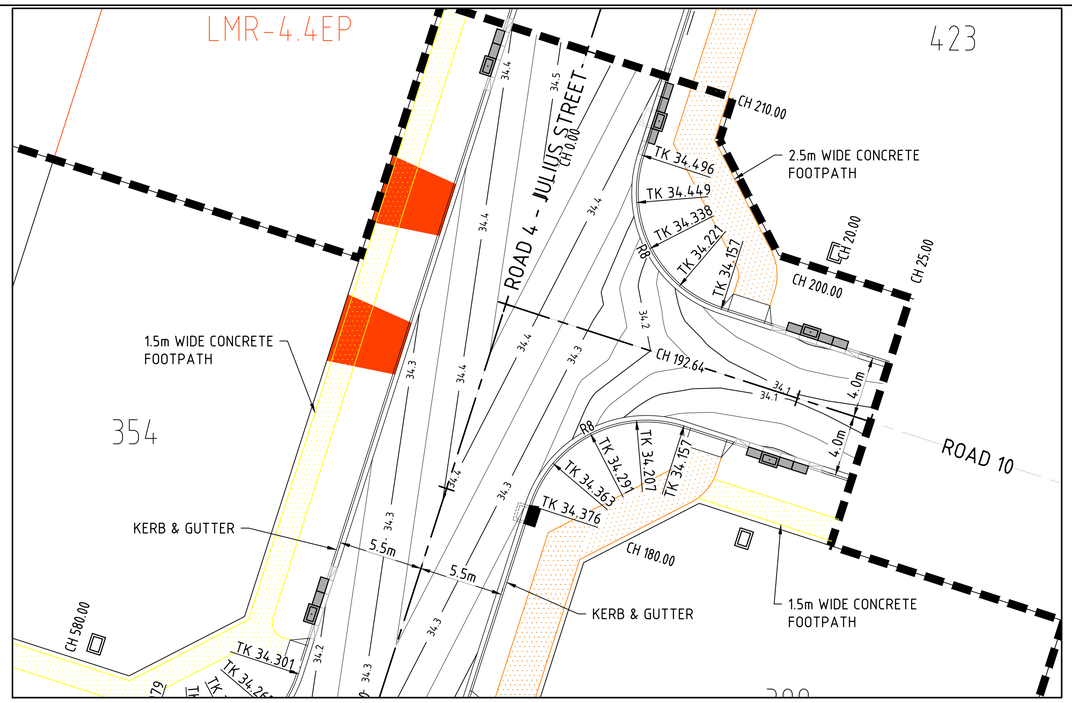
Datum RL 30.0

| | | |



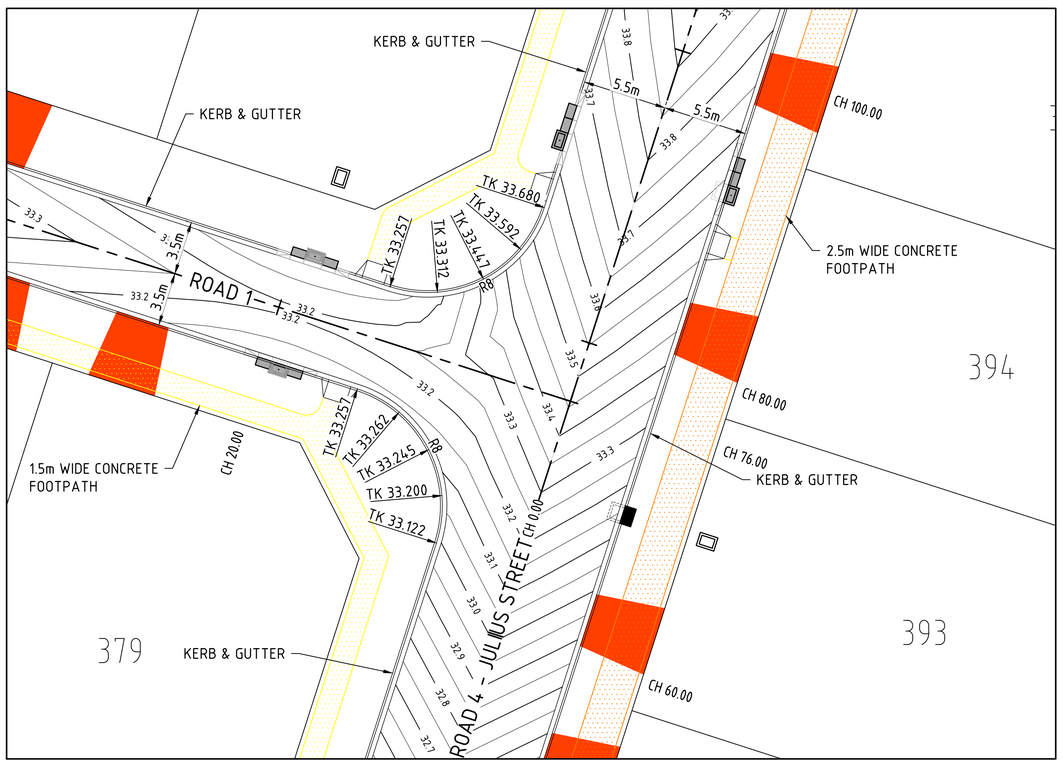
ROAD 4 - JULIUS STREET & ROAD 1 INTERSECTION

-



ROAD 4 - JULIUS STREET & ROAD 1 INTERSECTION

-



ROAD 4 - JULIUS STREET & ROAD 1 INTERSECTION

-

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTES

1. ALL KERB RADII, POINTS AND COORDINATES ARE TO NOMINAL KERB LINE UNLESS NOTED OTHERWISE.
2. QUARTER POINT LEVELS AROUND KERB RETURNS ARE EQUALLY SPACED U.N.O.
3. QUARTER POINT LEVELS ARE TO TOP OF KERB UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. REFER USG STD DWG USG303 FOR STANDARD KERB GUTTER DETAILS.

DIPL DRG. No. R23-XXXX

2 0 4 8m
SCALE 1:200

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

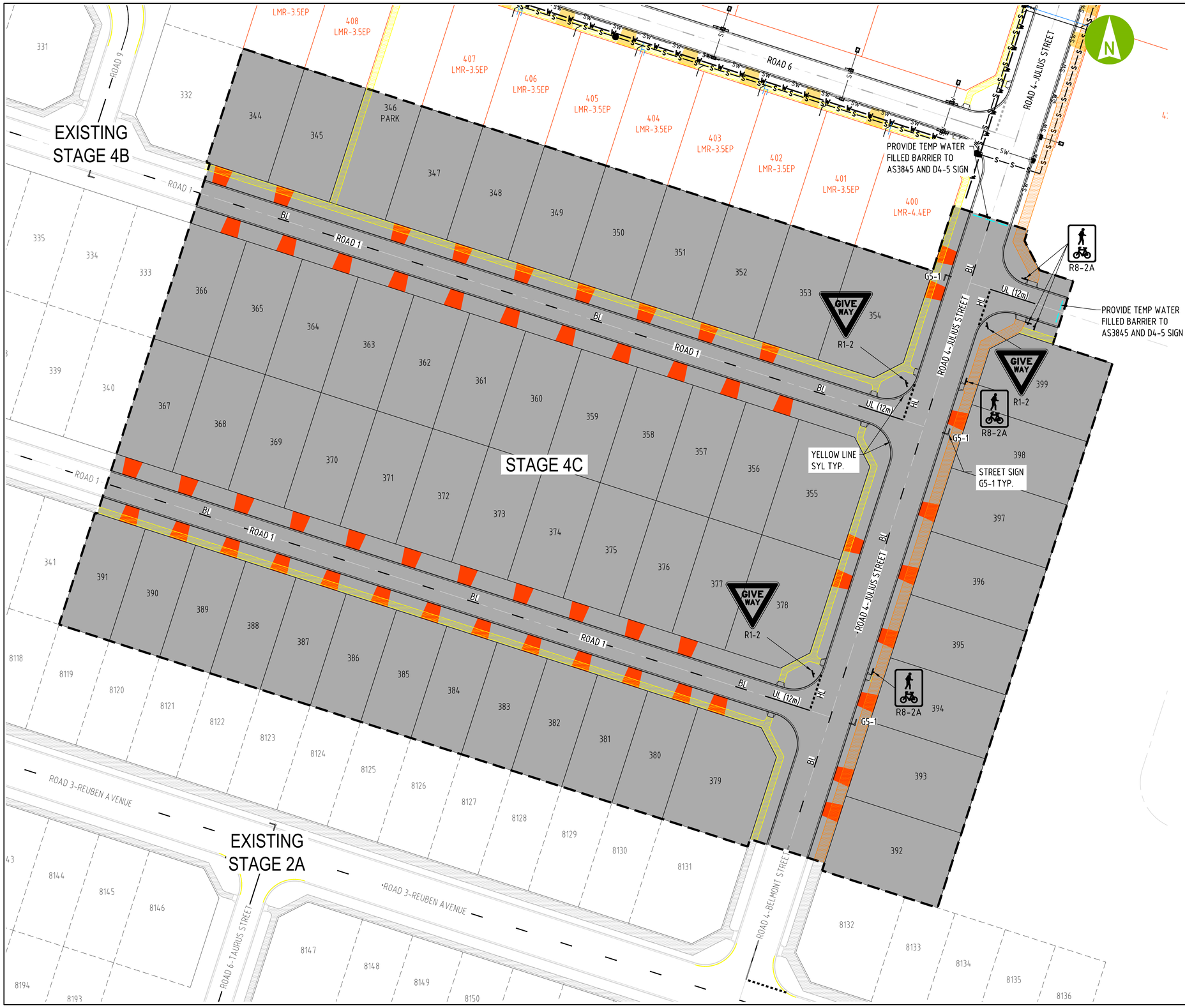
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4C
BERRIMAH

TITLE: ROADWORKS INTERSECTION DETAILS
SHEET 1 OF 2

DRAWING No. DN04C – 2000 – DRG – – 1012 – A
(PROJECT No. – WBS – TYPE – DISC – NUMBER – REV)



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

NOTES

1. LINE-MARKING AND SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATION AND STD DRG USG408 AND USG409.
2. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SITE WITH THE CONTRACTORS PROJECT MANAGER PRIOR TO INSTALLATION.
3. RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's) TO BE:
   (a) WHITE : DIVIDING-LINE MARKING
   (b) YELLOW : CHEVRON ISLAND MARKING
   (c) RED: EDGE LINE MARKING
   REFER USG STD DWG USG409 FOR MORE DETAILS.
4. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE CONTRACTORS PROJECT MANAGER PRIOR TO INSTALLATION.
5. REFER TO AS1742.5 FOR STREET SIGN & POST DETAILS.

PAVEMENT-MARKING LEGEND

CODE	LINE TYPE	LINE LENGTH	GAP	WIDTH
HL	HOLDING LINE	0.6m	0.6m	450mm
UL	UNBROKEN LANE LINE	-	-	100mm
EL	EDGE LINE	-	-	100mm
BL	BROKEN LANE LINE	3.0m	9.0m	100mm
OL	OUTLINE	-	-	200mm
CL	CONTINUITY LINE	1.0m	3.0m	200mm
⊡–	RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's)	REFER NOTE 3 FOR SETOUT INSTRUCTIONS		

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

5 0 10 20m
SCALE 1:500

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	LINEMARKING AND SIGNAGE PLAN SHEET 1 OF 1

DRAWING No. DN04C – 2000 – DRG – – 1013 – A
(PROJECT No. – WBS – TYPE – DISC – NUMBER – REV)

EXISTING STAGE 4B

STAGE 4C

EXISTING STAGE 2A

ROAD 1

ROAD 3-REUBEN AVENUE

ROAD 4-JULIUS STREET

ROAD 4-BELMONT STREET

ROAD 6-TAURUS STREET

ROAD 6

ROAD 9

LMR-3.5EP

LMR-4.4EP

PARK

2.5m TYP.

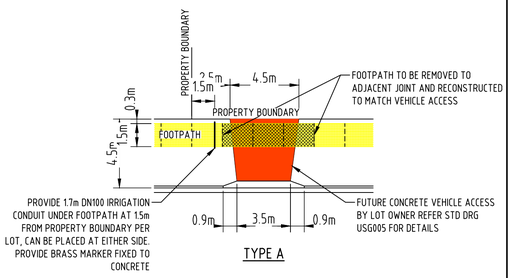
INSTALL TACTILE GROUND SURFACE INDICATORS AS PER STD DRG USG300 TYP.

HOLDING RAIL LENGTH 1.5m TYP.

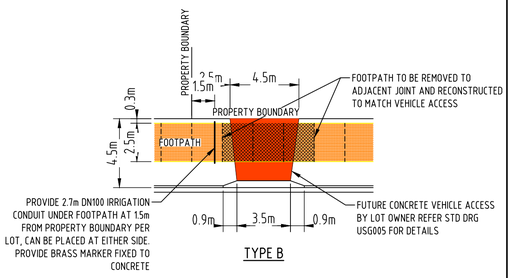
N

WARNING

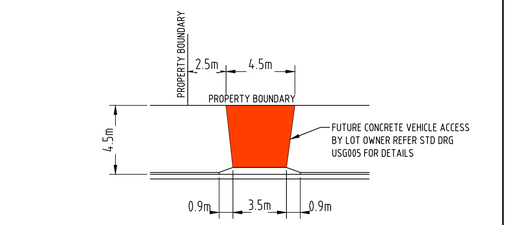
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.



TYPE A



TYPE B



TYPE C

VEHICLE ACCESS MAY BE LOCATED ON THE OPPOSITE SIDE OF THE PROPERTY IF PREFERRED BY LOT OWNER PROVIDED THAT IT DOES NOT CLASH WITH ANY SERVICES OR ABOVE GROUND FEATURES

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

LEGEND

- PROPOSED TYPE A, 1.5m WIDE CONCRETE FOOTPATH
- PROPOSED TYPE B, 2.5m WIDE CONCRETE FOOTPATH
- WORKS BOUNDARY
- HR HOLDING RAIL
- FUTURE VEHICLE ACCESS

NOTES

1. REFER USG STD DWG No. USG008 FOR CONCRETE FOOTPATH NOTES & DETAILS.
2. REFER DRG 1013 FOR FOOTPATH SIGNAGE.
3. REFER STD DRG USG009 FOR HOLDING RAIL DETAILS.
4. INSTALL TACTILE GROUND SURFACE INDICATORS (TGSI'S) ON ALL PRAM RAMPS. REFER STD DRG USG300 FOR DETAILS.

DIPL DRG. No. R23-XXXX

5 0 10 20m
SCALE 1:500

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

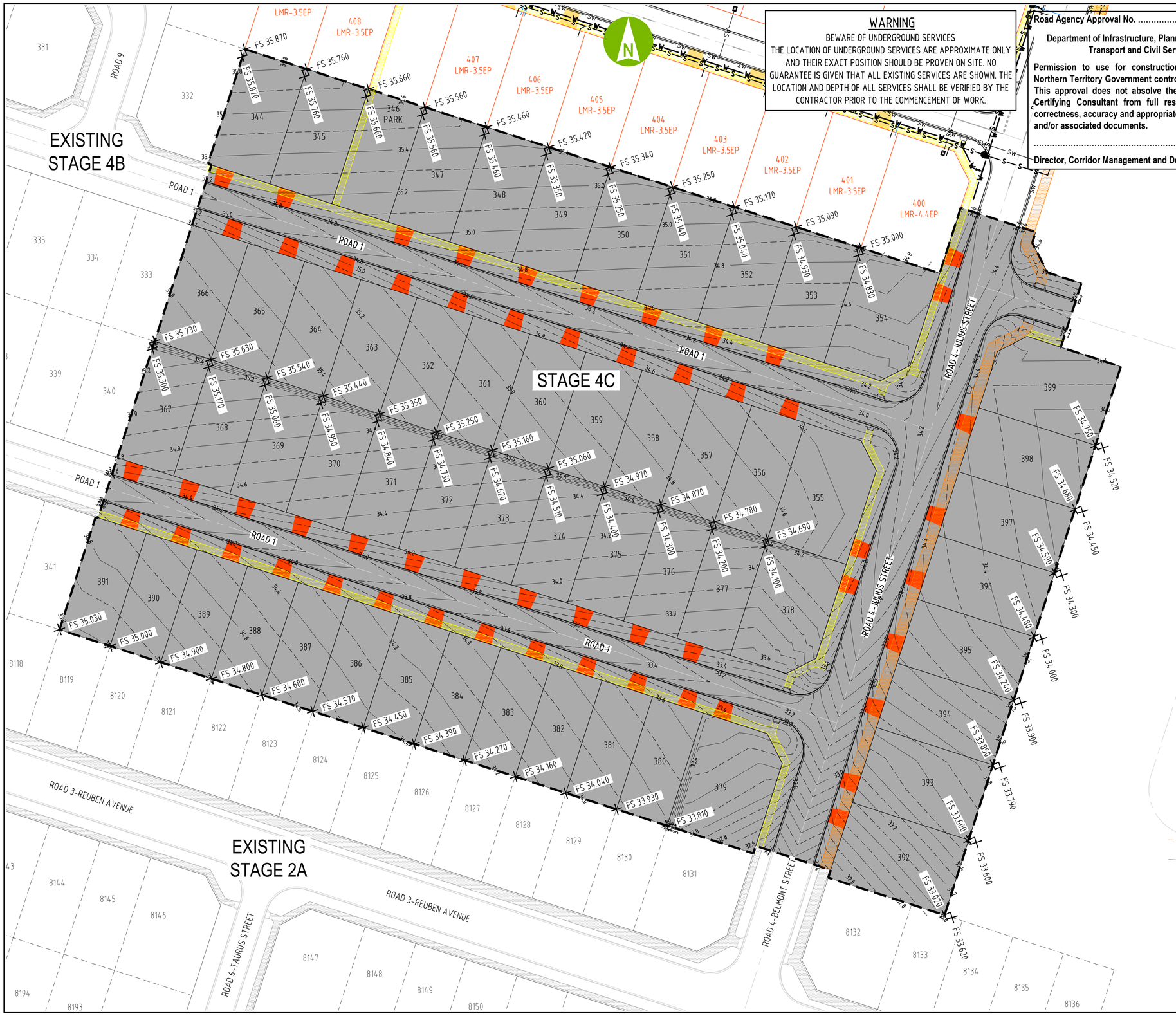
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	FOOTPATH LAYOUT PLAN SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	2000	DRG		1014	A



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

SITE PREPARATION

BUILDINGS

RECOMMENDED SITE PREPARATION AND EARTHWORKS PRACTICES ARE AS FOLLOWS:

1. DEMOLISH AND REMOVE EXISTING SURFACE FEATURES INCLUDING REMOVAL OF TREES AND FENCES.
2. REMOVE PAVEMENT AND STRIP ANY ORGANIC RICH (TOPSOIL) AND REMNANT TREE ROOTS BOWLS.
3. REMOVE EXISTING FILL WHERE PRESENT.
4. CARRY OUT COMPACTION OF THE BASE OF EXCAVATION TO A MINIMUM OF 98% DRY DENSITY RATIO (STANDARD COMPACTION). ANY "SOFT SPOTS" IDENTIFIED DURING COMPACTION SHOULD BE EXCAVATED, TYNED, DRIED AND RE-COMPACTED, OR REMOVED AND REPLACED WITH IMPORTED COMPACTED FILL.
5. FILLING FOR BUILDING PLATFORMS SHOULD BE PLACED IN MAXIMUM 250mm THICK LAYERS AND COMPACTED TO A MINIMUM OF 98% DRY DENSITY RATIO (STANDARD COMPACTION). CLAYEY FILL MATERIALS SHOULD BE PLACED WITHIN 3% OF STANDARD OPTIMUM MOISTURE CONTENT. COMPACTION SHOULD BE CHECKED DURING CONSTRUCTION USING INSITU DENSITY TESTING.

PAVEMENTS

RECOMMENDED SITE PREPARATION AND EARTHWORKS PRACTICES ARE AS FOLLOWS:

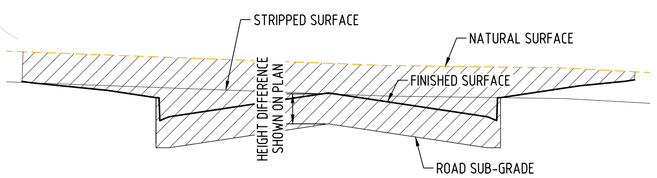
6. DEMOLISH AND REMOVE EXISTING SURFACE FEATURES INCLUDING REMOVAL OF TREES AND FENCES.
7. REMOVE PAVEMENT AND STRIP ANY ORGANIC RICH (TOPSOIL) AND REMNANT TREE ROOTS BOWLS.
8. REMOVE EXISTING FILL WHERE PRESENT.
9. PAVEMENT DESIGN IS BASED ON A SUBGRADE CBR>=15% UNLESS SPECIFIC ADVICE IS PROVIDED BY GEOTECHINAL ENGINEER. WHERE INSITU CBR IS LOWER THAN 15%, REMOVE AND REPLACE 300mm OF EXISTING SUBGRADE MATERIAL WITH MATERIAL CBR 15% OR BETTER, COMPACT IN 150mm LAYERS.
10. RIP SUBGRADE SURFACE TO A MINIMUM DEPTH OF 250mm AND RE-COMPACT TO A MINIMUM OF 95% DRY DENSITY RATIO (MODIFIED COMPACTION).
11. EMBANKMENT FILLING FOR PAVEMENTS SHOULD BE PLACED IN MAXIMUM 250mm THICK LAYERS AND COMPACTED TO A MINIMUM 95% DRY DENSITY RATIO (MODIFIED COMPACTION). CLAYEY FILL MATERIALS SHOULD BE PLACED WITHIN 3% OF STANDARD OPTIMUM MOISTURE CONTENT. COMPACTION SHOULD BE CHECKED DURING CONSTRUCTION USING INSITU DENSITY TESTING.
12. COMPACT VERGES TO MINIMUM 90% AND UNDER FOOTPATHS TO A MINIMUM 95% DRY DENSITY RATIO (MODIFIED COMPACTION)

LEGEND

- PROPOSED TYPE A, 1.5m WIDE CONCRETE FOOTPATH
- PROPOSED TYPE B, 2.5m WIDE CONCRETE FOOTPATH
- 36.0 — DESIGN MAJOR CONTOUR
- DESIGN MINOR CONTOUR
- × FS 20.67 FINISHED SURFACE LEVEL
- × FS 20.67 FINISHED RIDGE LINE LEVEL
- WORKS BOUNDARY
- FUTURE VEHICLE ACCESS

NOTES

1. REFER TO ROAD ANNOTATED CROSS SECTIONS FOR PROPERTY BOUNDARY LEVELS AT ROAD RESERVE BOUNDARY.



CUT PROFILE
SCALE HORIZ. 1:100
VERT. 1:20

DIPL DRG. No. R23-XXXX

5 0 10 20m
SCALE 1:500

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	10/03/23	ISSUED FOR INFORMATION	P. GRAHAM

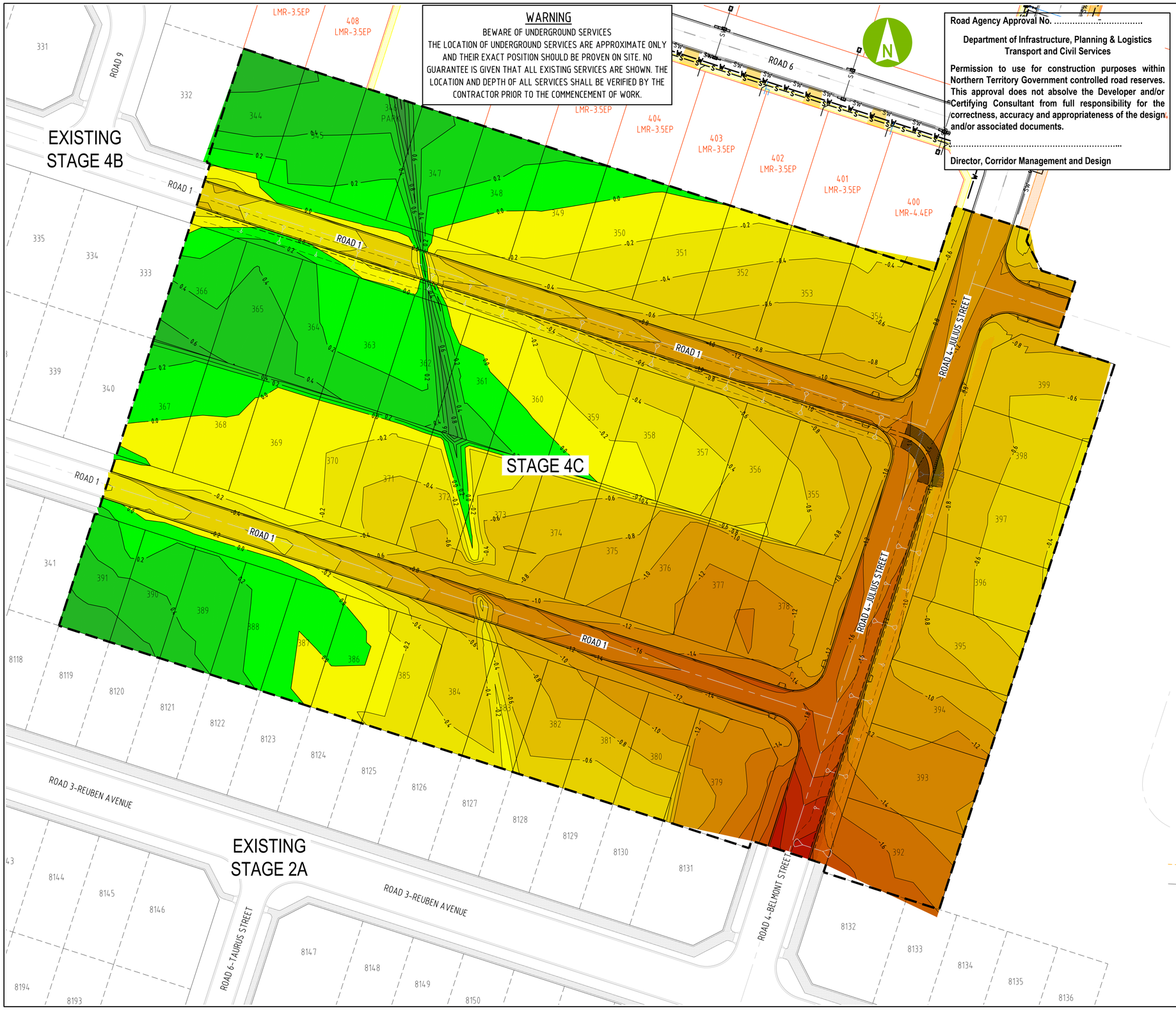
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	EARTHWORKS AND ALLOTMENT GRADING PLAN SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	2000	DRG		1015	A



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTES

1. REFER TO DWG No. DN04B-0900-DRG-1003 FOR EARTHWORKS GENERAL NOTES
2. REFER TO ROAD ANNOTATED CROSS SECTIONS FOR PROPERTY BOUNDARY LEVELS AT ROAD RESERVE BOUNDARY

LEGEND

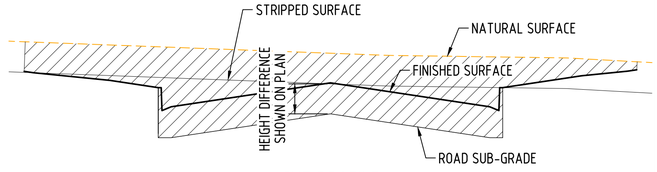
	COLOUR	HEIGHT RANGE (m)
CUT		0.00 - 0.20
		0.20 - 0.40
		0.40 - 0.60
		0.60 - 0.80
		0.80 - 1.00
		1.00 - 1.20
		1.20 - 1.40
		1.40 - 1.60
		1.60 - 1.80
		1.80 - 2.00
		2.00 - 2.20
		2.20 - 2.40
		2.40 - 2.60
		2.60 +
FILL		0.00 - 0.20
		0.20 - 0.40
		0.40 - 0.60
		0.60 - 0.80
		0.80 - 1.00
		1.00 - 1.20
		1.20 - 1.40
		1.40 - 1.60
		1.60 - 1.80
		1.80 - 2.00
		2.00 - 2.20
		2.20 - 2.40
		2.40 - 2.60
		2.60 +

STAGE 4C EARTHWORKS QUANTITIES

	EXISTING SURFACE TO SUBGRADE VOLUME (m^3)	STRIP SURFACE TO SUBGRADE VOLUME (m^3)	STRIP VOLUME x (m^3)	TOTAL EARTHWORKS VOLUME (m^3)
CUT	26839	20860	7088	27948
FILL	1033	2405		2405

NOTE

IN ADDITION TO THE ABOVE FILL QUANTITIES, ALLOW 2698m^3 COMPACTED STANDARD FILL FOR FILLING OF EXISTING DRAINS



CUT PROFILE
SCALE HORIZ. 1:100
VERT. 1:20

DIPL DRG. No. R23-XXXX

5 0 10 20m
SCALE 1:500

aurecon
www.aurecongroup.com

CLIENT
halikos Developments
NORTH CREST

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4C BERRIMAH

TITLE: EARTHWORKS CUT FILL DIFFERANCE PLAN

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	2000	DRG		1016	A

ESCP GENERAL NOTES

BPESC = BEST PRACTICE EROSION AND SEDIMENT CONTROL BY AUSTIECA

GENERAL

1. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MUST BE IMPLEMENTED AND A REVISED EROSION AND SEDIMENT CONTROL PLAN (ESCP) MUST BE SUBMITTED FOR APPROVAL IN THE EVENT THAT SITE CONDITIONS CHANGE SIGNIFICANTLY FROM THOSE CONSIDERED WITHIN THE ESCP.
2. WHERE THERE IS A HIGH PROBABILITY THAT SERIOUS OR MATERIAL ENVIRONMENTAL HARM MAY OCCUR AS A RESULT OF SEDIMENT LEAVING THE SITE, APPROPRIATE ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MUST BE IMPLEMENTED SUCH THAT ALL REASONABLE AND PRACTICABLE MEASURES ARE BEING TAKEN TO PREVENT OR MINIMISE SUCH HARM. ONLY THOSE WORKS NECESSARY TO MINIMISE OR PREVENT ENVIRONMENTAL HARM SHALL BE CONDUCTED ON-SITE PRIOR TO APPROVAL OF THE AMENDED EROSION AND SEDIMENT CONTROL PLAN (ESCP).
3. IN CIRCUMSTANCES WHERE IT IS CONSIDERED NECESSARY TO PREPARE AN AMENDED EROSION AND SEDIMENT CONTROL PLAN (ESCP), AND WHERE THE DELIVERY OF SUCH AN AMENDED ESCP IS NOT IMMINENT, THEN ALL NECESSARY NEW OR MODIFIED EROSION AND SEDIMENT CONTROL WORKS MUST BE IN ACCORDANCE TO BPESC. UPON APPROVAL OF THE AMENDED ESCP, ALL WORKS MUST BE IMPLEMENTED IN ACCORDANCE WITH THE AMENDED PLAN.

LAND CLEARING

4. LAND CLEARING MUST BE DELAYED AS LONG AS PRACTICABLE AND MUST BE UNDERTAKEN IN CONJUNCTION WITH DEVELOPMENT OF EACH PHASE OF WORKS, UNLESS OTHERWISE APPROVED BY THE CONTRACTOR'S PROJECT MANAGER.
5. SELECTIVE CLEARING OF VEGETATION TO BE RESTRICTED TO NOMINATED AREAS. CLEARING IS TO BE BULLDOZER OPERATED ON CONTOUR.
6. ALL REASONABLE AND PRACTICABLE EFFORTS MUST BE TAKEN TO DELAY THE REMOVAL OF, OR DISTURBANCE TO, EXISTING GROUND COVER (ORGANIC OR INORGANIC) PRIOR TO LAND-DISTURBING ACTIVITIES.
7. BULK TREE CLEARING MUST OCCUR IN A MANNER THAT MINIMISES DISTURBANCE TO EXISTING GROUND COVER (ORGANIC OR INORGANIC).
8. NO LAND CLEARING SHALL BE UNDERTAKEN UNLESS PRECEDED BY THE INSTALLATION OF ADEQUATE DRAINAGE AND SEDIMENT CONTROL MEASURES, UNLESS SUCH CLEARING IS REQUIRED FOR THE PURPOSE OF INSTALLING SUCH MEASURES, IN WHICH CASE, ONLY THE MINIMUM CLEARING REQUIRED TO INSTALL SUCH MEASURES SHALL OCCUR.
9. PRIOR TO LAND CLEARING, AREAS OF PROTECTED VEGETATION, AND SIGNIFICANT AREAS OF RETAINED VEGETATION MUST BE CLEARLY IDENTIFIED (E.G. WITH HIGH-VISIBILITY TAPE, OR LIGHT FENCING) FOR THE PURPOSES OF MINIMISING THE RISK OF UNNECESSARY LAND CLEARING.
10. ALL REASONABLE AND PRACTICABLE MEASURES MUST BE TAKEN TO MINIMISE THE REMOVAL OF, OR DISTURBANCE TO, THOSE TREES, SHRUBS AND GROUND COVERS (ORGANIC OR INORGANIC) THAT ARE INTENDED TO BE RETAINED.
11. LAND CLEARING IS LIMITED TO THE MINIMUM PRACTICABLE DURING THOSE PERIODS WHEN SOIL EROSION DUE TO WIND, RAIN OR SURFACE WATER IS POSSIBLE.

SITE ACCESS

12. PRIOR TO THE COMMENCEMENT OF SITE WORKS, THE LOCATION OF THE SITE ACCESS POINT(S) MUST BE VERIFIED WITH THE CONTRACTOR'S PROJECT MANAGER.
13. SITE ACCESS MUST BE RESTRICTED TO THE MINIMUM PRACTICAL NUMBER OF LOCATIONS.
14. SITE EXIT POINTS MUST BE APPROPRIATELY MANAGED TO MINIMISE THE RISK OF SEDIMENT BEING TRACKED ONTO SEALED, PUBLIC ROADWAYS.
15. STORMWATER RUNOFF FROM ACCESS ROADS AND STABILISED ENTRY/EXIT POINTS MUST DRAIN TO AN APPROPRIATE SEDIMENT CONTROL DEVICE.

SOIL AND STOCKPILE MANAGEMENT

16. ALL REASONABLE AND PRACTICABLE MEASURES MUST BE TAKEN TO OBTAINED THE MAXIMUM BENEFIT FROM EXISTING TOPSOIL, INCLUDING:
    (i) WHERE THE PROPOSED AREA OF SOIL DISTURBANCE EXCEEDS 2500m^2, AND THE TOPSOIL DOES NOT CONTAIN UNDESIRABLE WEED SEED, THE TOP 50mm (TBC) OF SOIL MUST BE STRIPPED AND STOCKPILED SEPARATELY FROM THE REMAINING TOPSOIL, AND SPREAD AS A FINAL SURFACE SOIL.
    (ii) IN AREAS WHERE THE TOPSOIL CONTAINS UNDESIRABLE WEED SEED, THE AFFECTED SOIL MUST BE SUITABLY BURIED OR REMOVED FROM THE SITE.
17. STOCKPILES OF ERODIBLE MATERIAL THAT HAS THE POTENTIAL TO CAUSE ENVIRONMENTAL HARM IF DISPLACED, MUST BE:
    (i) APPROPRIATELY PROTECTED FROM WIND, RAIN, CONCENTRATED SURFACE FLOW AND EXCESSIVE UP-SLOPE STORMWATER SURFACE FLOWS.
    (ii) LOCATED UP-SLOPE OF AN APPROPRIATE SEDIMENT CONTROL SYSTEM.
    (iii) PROVIDED WITH AN APPROPRIATE PROTECTIVE COVER (SYNTHETIC, MULCH OR VEGETATIVE) IF THE MATERIALS ARE LIKELY TO BE STOCKPILED FOR MORE THAN 28 DAYS.
    (iv) PROVIDED WITH AN APPROPRIATE PROTECTIVE COVER (SYNTHETIC, MULCH OR VEGETATIVE) IF THE MATERIALS ARE LIKELY TO BE STOCKPILED FOR MORE THAN 10 DAYS DURING THOSE MONTHS THAT HAVE A HIGH EROSION RISK.
    (v) PROVIDED WITH AN APPROPRIATE PROTECTIVE COVER (SYNTHETIC, MULCH OR VEGETATIVE) IF THE MATERIALS ARE LIKELY TO BE STOCKPILED FOR MORE THAN 5 DAYS DURING THOSE MONTHS THAT HAVE A EXTREME EROSION RISK.
18. A SUITABLE FLOW DIVERSION SYSTEM MUST BE ESTABLISHED IMMEDIATELY UP-SLOPE OF A STOCKPILE OF ERODIBLE MATERIAL THAT HAS THE POTENTIAL TO CAUSE ENVIRONMENTAL HARM IF DISPLACED, IF THE UP-SLOPE CATCHMENT AREA DRAINING TO THE STOCKPILE EXCEEDS 1500m^2.
19. DO NOT PLACE STOCKPILED MATERIALS INSIDE VEGETATION PROTECTION AREAS OR WITHIN 10 m OF RETAINED TREES OR WITHIN THE DRIP LINE OF ANY TREES. COMPLY WITH AUSTRALIAN STANDARD AS 4970 "PROTECTION OF TREES ON DEVELOPMENT SITES". DO NOT PLACE STOCKPILES WITHIN 50 m OF ANY DRAINS, DRAINAGE LINES, CREEKS OR OTHER WATERWAYS. ALL STOCKPILES ARE NOT TO BE MORE THAN 3 m IN HEIGHT. STOCKPILES IN RESIDENTIAL AREAS OR ADJACENT TO SENSITIVE RECEIVERS ARE NOT TO EXCEED 2 m IN HEIGHT.

SITE MANAGEMENT

20. ALL OFFICE FACILITIES AND OPERATIONAL ACTIVITIES MUST BE LOCATED SUCH THAT ANY LIQUID EFFLUENT (E.G. PROCESS WATER, WASH-DOWN WATER, EFFLUENT FROM EQUIPMENT CLEANING, OR PLANT WATERING), CAN BE TOTALLY CONTAINED AND TREATED WITHIN THE SITE.
21. THE CONSTRUCTION SCHEDULE MUST AIM TO MINIMISE THE DURATION THAT ANY AND ALL AREAS OF SOIL ARE EXPOSED TO THE EROSIVE EFFECTS OF WIND, RAIN AND SURFACE WATER.
22. LAND-DISTURBING ACTIVITIES MUST BE UNDERTAKEN IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLAN (ESCP) AND ASSOCIATED DEVELOPMENT CONDITIONS.
23. LAND-DISTURBING ACTIVITIES MUST BE UNDERTAKEN IN SUCH A MANNER THAT ALLOWS ALL REASONABLE AND PRACTICABLE MEASURES TO BE UNDERTAKEN TO:
    (i) ALLOW STORMWATER TO PASS THROUGH THE SITE IN A CONTROLLED MANNER AND AT NON-EROSIVE FLOW VELOCITIES UP TO THE SPECIFIED DESIGN STORM DISCHARGE;
    (ii) MINIMISE SOIL EROSION RESULTING FROM RAIN, WATER FLOW AND/OR WIND;
    (iii) MINIMISE ADVERSE EFFECTS OF SEDIMENT RUNOFF, INCLUDING SAFETY ISSUES;
    (iv) PREVENT, OR AT LEAST MINIMISE, ENVIRONMENTAL HARM RESULTING FROM WORK-RELATED SOIL EROSION AND SEDIMENT RUNOFF;
    (v) ENSURE THAT THE VALUE AND USE OF LAND/PROPERTIES ADJACENT TO THE DEVELOPMENT (INCLUDING ROADS) ARE NOT DIMINISHED AS A RESULT OF THE ADOPTED ESC MEASURES.
24. ALL EROSION AND SEDIMENT CONTROL MEASURES MUST CONFORM TO THE STANDARDS AND SPECIFICATIONS CONTAINED IN:
    (i) THE APPROVED ESCP AND SUPPORTING DOCUMENTATION; OR
    (ii) THE LATEST VERSION OF BPESC IF THE STANDARDS AND SPECIFICATIONS ARE NOT CONTAINED IN THE APPROVED ESCP.
25. ANY WORKS THAT MAY CAUSE SIGNIFICANT SOIL DISTURBANCE AND ARE ANCILLARY TO ANY ACTIVITY FOR WHICH REGULATORY BODY APPROVAL IS REQUIRED, MUST NOT COMMENCE BEFORE THE ISSUE OF THAT APPROVAL.
26. ADDITIONAL AND/OR ALTERNATIVE ESC MEASURES MUST BE IMPLEMENTED IN THE EVENT THAT SITE INSPECTIONS, THE SITE'S MONITORING AND MAINTENANCE PROGRAM, OR THE REGULATORY AUTHORITY, IDENTIFIES THAT UNACCEPTABLE OFF-SITE SEDIMENTATION IS OCCURRING AS A RESULT OF THE WORK ACTIVITIES.
27. LAND-DISTURBING ACTIVITIES MUST NOT CAUSE UNNECESSARY SOIL DISTURBANCE IF AN ALTERNATIVE CONSTRUCTION PROCESS IS AVAILABLE THAT ACHIEVES THE SAME OR EQUIVALENT OUTCOMES AT AN EQUIVALENT COST.
28. SEDIMENT (INCLUDING CLAY, SILT, SAND, GRAVEL, SOIL, MUD, CEMENT AND CERAMIC WASTE) DEPOSITED OFF THE SITE AS A DIRECT RESULT OF AN ON-SITE ACTIVITY, MUST BE COLLECTED AND THE AREA APPROPRIATELY CLEANED/REHABILITATED AS SOON AS REASONABLE AND PRACTICABLE, AND IN A MANNER THAT GIVES APPROPRIATE CONSIDERATION TO THE SAFETY AND ENVIRONMENTAL RISKS ASSOCIATED WITH THE SEDIMENT DEPOSITION.
29. WHEREVER REASONABLE AND PRACTICABLE, BRICK, TILE AND MASONRY CUTTING MUST BE CARRIED OUT ON A PERVIOUS SURFACE, SUCH AS GRASS, OR OPEN SOIL, OR IN SUCH A MANNER THAT ALL SEDIMENT-LADEN RUNOFF IS PREVENTED FROM DISCHARGING INTO A GUTTER, DRAIN, OR WATER BODY.
30. ADEQUATE WASTE COLLECTION BINS MUST BE PROVIDED ON-SITE AND MAINTAINED SUCH THAT POTENTIAL AND ACTUAL ENVIRONMENTAL HARM RESULTING FROM SUCH MATERIAL WASTE IS MINIMISED.
31. CONCRETE WASTE AND CHEMICAL PRODUCTS, INCLUDING PETROLEUM AND OIL-BASED PRODUCTS, MUST BE PREVENTED FROM ENTERING AN INTERNAL WATER BODY, OR AN EXTERNAL DRAIN, STORMWATER SYSTEM, OR WATER BODY.
32. ALL FLAMMABLE AND COMBUSTIBLE LIQUIDS, INCLUDING ALL LIQUID CHEMICALS IF SUCH CHEMICALS COULD POTENTIALLY BE WASHED OR DISCHARGED FROM THE SITE, ARE STORED AND HANDLED ON-SITE IN ACCORDANCE WITH RELEVANT STANDARDS SUCH AS AS1940 THE STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.
33. SITE SPOIL MUST BE LAWFULLY DISPOSED OF IN A MANNER THAT DOES NOT RESULT IN ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
34. ALL FILL MATERIAL PLACED ON SITE MUST COMPRISE ONLY NATURAL EARTH AND ROCK, AND IS TO BE FREE OF CONTAMINANTS, BE FREE DRAINING, AND BE COMPACTED IN LAYERS NOT EXCEEDING 300MM TO 90% MODIFIED MAXIMUM DRY DENSITY IN ACCORDANCE WITH AS1289.

DRAINAGE CONTROL

35. WHEREVER REASONABLE AND PRACTICABLE, STORMWATER RUNOFF ENTERING THE SITE FROM EXTERNAL AREAS, AND NON-SEDIMENT LADEN (CLEAN) STORMWATER RUNOFF ENTERING A WORK AREA OR AREA OF SOIL DISTURBANCE, MUST BE DIVERTED AROUND OR THROUGH THAT AREA IN A MANNER THAT MINIMISES SOIL EROSION AND THE CONTAMINATION OF THAT WATER FOR ALL DISCHARGES UP TO THE SPECIFIED DESIGN STORM DISCHARGE.
36. DURING THE CONSTRUCTION PERIOD, ALL REASONABLE AND PRACTICABLE MEASURES MUST BE IMPLEMENTED TO CONTROL FLOW VELOCITIES IN SUCH A MANNER THAN PREVENTS SOIL EROSION ALONG DRAINAGE PATHS AND AT THE ENTRANCE AND EXIT OF ALL DRAINS AND DRAINAGE PIPES DURING ALL STORMS UP TO THE RELEVANT DESIGN STORM DISCHARGE.
37. TO THE MAXIMUM DEGREE REASONABLE AND PRACTICABLE, ALL WATERS DISCHARGED DURING THE CONSTRUCTION PHASE MUST DISCHARGE ONTO STABLE LAND, IN A NON-EROSIVE MANNER, AND AT A LEGAL POINT OF DISCHARGE.
38. WHEREVER REASONABLE AND PRACTICABLE, "CLEAN" SURFACE WATERS MUST BE DIVERTED AWAY FROM SEDIMENT CONTROL DEVICES AND ANY UNTREATED, SEDIMENT-LADEN WATERS.

EROSION CONTROL

39. ALL EROSION CONTROL MEASURES MUST BE APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED ESCP.
40. THE APPLICATION OF LIQUID-BASED DUST SUPPRESSION MEASURES MUST ENSURE THAT SEDIMENT-LADEN RUNOFF RESULTING FROM SUCH MEASURES DOES NOT CREATE A TRAFFIC OR ENVIRONMENTAL HAZARD.
41. ALL TEMPORARY EARTH BANKS, FLOW DIVERSION SYSTEMS, AND EMBANKMENTS ASSOCIATED WITH CONSTRUCTED SEDIMENT BASINS MUST BE MACHINE-COMPACTED,SEEDED, MULCHED OR EQUIVALENT (e.g. JUTE, SOIL BINDER, GEOFABRICS) FOR THE PURPOSE OF ESTABLISHING A TEMPORARY VEGETATIVE COVER WITHIN 10 DAYS AFTER GRADING.

SEDIMENT CONTROL

42. ALL SEDIMENT CONTROL MEASURES MUST BE APPLIED AND MAINTAINED IN ACCORDANCE WITH THE APPROVED ESCP.
43. OPTIMUM BENEFIT MUST BE MADE OF EVERY OPPORTUNITY TO TRAP SEDIMENT WITHIN THE WORK SITE, AND AS CLOSE AS PRACTICABLE TO ITS SOURCE.
44. SEDIMENT TRAPS MUST BE INSTALLED AND OPERATED TO BOTH COLLECT AND RETAIN SEDIMENT.
45. THE POTENTIAL SAFETY RISK OF A PROPOSED SEDIMENT TRAP TO SITE WORKERS AND THE PUBLIC MUST BE GIVEN APPROPRIATE CONSIDERATION, ESPECIALLY THOSE DEVICES LOCATED WITHIN PUBLICLY ACCESSIBLE AREAS.
46. ALL REASONABLE AND PRACTICABLE MEASURES MUST BE TAKEN TO PREVENT, OR AT LEAST MINIMISE, THE RELEASE OF SEDIMENT FROM THE SITE.
47. SUITABLE ALL-WEATHER MAINTENANCE ACCESS MUST BE PROVIDED TO ALL SEDIMENT CONTROL DEVICES.
48. SEDIMENT CONTROL DEVICES MUST BE DE-SILTED AND MADE FULLY OPERATIONAL AS SOON AS REASONABLE AND PRACTICABLE AFTER A SEDIMENT-PRODUCING EVENT, WHETHER NATURAL OR ARTIFICIAL, IF THE DEVICE'S SEDIMENT RETENTION CAPACITY FALLS BELOW 75% OF ITS DESIGN RETENTION CAPACITY.
49. MATERIALS, WHETHER LIQUID OR SOLID, REMOVED FROM SEDIMENT CONTROL DEVICES DURING MAINTENANCE OR DECOMMISSIONING, MUST BE DISPOSED OF IN A MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
50. CONSTRUCTED SEDIMENT BASINS MUST BE MAINTAINED AND FULLY OPERATIONAL THROUGHOUT THE CONSTRUCTION PERIOD.
51. SETTLED SEDIMENT MUST BE REMOVED FROM SEDIMENT BASINS WHEN THE VOLUME OF THE SEDIMENT EXCEEDS THE DESIGNATED SEDIMENT STORAGE VOLUME, OR THE DESIGN MAXIMUM SEDIMENT STORAGE ELEVATION.

SITE REHABILITATION

52. NO COMPLETED EARTHWORK SURFACE MUST REMAIN DENUDED FOR LONGER THAN 60 DAYS.
53. THE TYPE OF GROUND COVER APPLIED TO COMPLETED EARTHWORKS IS COMPATIBLE WITH THE ANTICIPATED LONG-TERM LAND USE, ENVIRONMENTAL RISK, AND SITE REHABILITATION MEASURES.
54. A MINIMUM 60% GROUND COVER MUST BE ACHIEVED ON ALL NON-COMPLETED EARTHWORKS EXPOSED TO ACCELERATED SOIL EROSION IF FURTHER CONSTRUCTION ACTIVITIES OR SOIL DISTURBANCES ARE LIKELY TO BE SUSPENDED FOR MORE THAN 30 DAYS DURING THOSE MONTHS WHEN THE EXPECTED RAINFALL IS LESS THAN 30mm; MINIMUM 70% COVER WITHIN 30 DAYS IF BETWEEN 30 AND 45mm; MINIMUM 70% COVER WITHIN 20 DAYS IF BETWEEN 45 AND 100mm; MINIMUM 75% COVER WITHIN 10 DAYS IF BETWEEN 100 AND 225mm; AND MINIMUM 80% COVER WITHIN 5 DAYS IF GREATER THAN 225mm.
55. TEMPORARY SITE STABILISATION PROCEDURES MUST COMMENCE AT LEAST 30 DAYS PRIOR TO THE NOMINATED SITE SHUTDOWN DATE. AT LEAST 60% STABLE COVER OF ALL UNSTABLE AND/OR DISTURBED SOIL SURFACES MUST BE ACHIEVED PRIOR TO HANDOVER AND SITE SHUTDOWN. THE STABILISATION WORKS MUST NOT RELY UPON THE LONGEVITY OF NON-VEGETATED EROSION CONTROL BLANKETS, OR TEMPORARY SOIL BINDERS.
56. ALL UNSTABLE OR DISTURBED SOIL SURFACES MUST BE ADEQUATELY STABILISED AGAINST EROSION (MINIMUM 60%) PRIOR TO COMMENCEMENT OF USE, OR SURVEY PLAN ENDORSEMENT.
57. ALL VERGES ARE TO BE STABILISED(60%-80% GRASS COVER) PRIOR TO ESCP SIGN OFF BY DENR.

SITE MONITORING

58. ALL ENVIRONMENTALLY RELEVANT INCIDENTS MUST BE RECORDED IN A FIELD LOG THAT MUST REMAIN ACCESSIBLE TO ALL RELEVANT REGULATORY AUTHORITIES.

SITE MAINTENANCE

59. ALL EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING DRAINAGE CONTROL MEASURES, MUST BE MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES DURING THEIR OPERATIONAL LIVES.
60. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING DRAINAGE CONTROL MEASURES, MUST BE FULLY OPERATIONAL AND MAINTAINED IN PROPER WORKING ORDER AT ALL TIMES DURING THE MAINTENANCE PERIOD.
61. ALL DRAINAGE, EROSION AND SEDIMENT CONTROL MEASURES MUST BE INSPECTED:
    (i) AT LEAST DAILY (WHEN WORK IS OCCURRING ON-SITE);
    (ii) AT LEAST WEEKLY (WHEN WORK IS NOT OCCURRING ON-SITE);
    (iii) WITHIN 24 HOURS OF EXPECTED RAINFALL; AND
    (iv) WITHIN 18 HOURS OF A RAINFALL EVENT OF SUFFICIENT INTENSITY AND DURATION TO CAUSE RUNOFF ON-SITE).
62. WASHING/FLUSHING OF SEALED ROADWAYS MUST ONLY OCCUR WHERE SWEEPING HAS FAILED TO REMOVE SUFFICIENT SEDIMENT AND THERE IS A COMPELLING NEED TO REMOVE THE REMAINING SEDIMENT (E.G. FOR SAFETY REASONS). IN SUCH CIRCUMSTANCES, ALL REASONABLE AND PRACTICABLE SEDIMENT CONTROL MEASURES MUST BE USED TO PREVENT, OR AT LEAST MINIMISE, THE RELEASE OF SEDIMENT INTO RECEIVING WATERS. ONLY THOSE MEASURES THAT WILL NOT CAUSE SAFETY AND PROPERTY FLOODING ISSUES SHALL BE EMPLOYED. SEDIMENT REMOVED FROM ROADWAYS MUST BE DISPOSED OF IN A LAWFUL MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
63. SEDIMENT REMOVED FROM SEDIMENT TRAPS AND PLACES OF SEDIMENT DEPOSITION MUST BE DISPOSED OF IN A LAWFUL MANNER THAT DOES NOT CAUSE ONGOING SOIL EROSION OR ENVIRONMENTAL HARM.
64. MAINTENANCE MOWING OF ALL ROAD SHOULDERS, TABLE DRAINS, BATTERS AND OTHER SURFACES LIKELY TO EXPERIENCE ACCELERATED SOIL EROSION MUST AIM TO LEAVE THE GRASS LENGTH NO SHORTER THAN 50MM WHERE REASONABLE AND PRACTICABLE.
65. MAINTENANCE MOWING MUST BE DONE IN A MANNER THAT WILL NOT DAMAGE THE PROFILE OF FORMED, SOFT EDGES, SUCH AS THE CREST OF EARTH EMBANKMENTS.
66. DEWATERING - GOAL IS TO MITIGATE SEDIMENT RELATED ENVIRONMENTAL HARM AND/OR IMPACT TO STORMWATER INFRASTRUCTURE RESULTING FROM DEWATERING ACTIVITIES:
    - FLOW DIVERSION BARRIERS, OR OTHER APPROPRIATE SYSTEMS, WILL BE USED TO MINIMISE THE QUANTITY OF WATER ENTERING EXCAVATIONS AND TRENCHES.
    - DEWATERING CONTROL MAY INCLUDE GEOTEXTILE FABRIC FILTERS (FB-01), NON-WOVEN FILTER FENCING .
    - SEDIMENT UNDER WATER WILL NOT BE DISCHARGED TO THE STORMWATER SYSTEM WITHOUT FIRST BEING TREATED SATISFACTORILY (TO THE REQUIREMENTS OF RELEVANT AUTHORITY).
68. SITE CONTACT INFORMATION -
    SITE FOREMAN: TBC
    PROJECT MANAGER: WAYNE WOLPERS
    CONSTRUCTION TIMING: 01/04/2023 - 30/11/2023
69. ESCP RESPONSIBILITIES: THE MINING - INSTALLATION AND MAINTENANCE IN ACCORDANCE WITH APPROVED PLANS.

TABLE 1 - DUST CONTROL MANAGEMENT ACTIVITIES

1. LIMIT CLEARING OF EXISTING VEGETATION
2. LIMIT AREA OF SOIL DISTURBANCE
3. MINIMISE TRAFFIC MOVEMENTS ON EXPOSED SURFACES
4. LIMIT VEHICULAR SPEED TO 15-25 km/h, WITH EXCEPTION OF SCRAPPER WHICH MUST NOT EXCEED 40 km/h
5. MAINTAIN EXPOSED SOIL SURFACES IN A MOIST CONDITION
6. PROGRAM WORKS TO MINIMISE THE LIFE OF SOIL STOCKPILES
7. TEMPORARILY STABILISE LONG TERM STOCKPILES (WITH VEGETATION OR MULCH)
8. PROMPTLY REPLACE TOPSOIL AND RE-ESTABLISH GRASS GROWTH OR COVER SURFACE WITH MULCH
9. APPLY SOIL BINDERS WHERE IT IS ANTICIPATED THAT SOIL WILL BE EXPOSED FOR AN EXTENDED PERIOD (WITH APPROVAL OF THE PROJECT MANAGER)

C:\Users\chris.hatzivalsamis\Documents\Capture.JPG

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUE FOR INFORMATION	RC

SCALE	SIZE
NTS	A1

DRAWN: BL
DESIGNED: RC
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	STAGE 4C ESCP GENERAL NOTES

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04B	2500	DRG		1500	A

LEGEND:

- EXISTING STOCKPILE AREA
- NO GO AREA
- ROCK OVER FLOW WEIR, REFER DN02B-2500-DRG-1504
- MULCH BERM (MB-01) OR SEDIMENT FENCE (SF-01, SF-02)
- DIRTY WATER DIVERSION DRAIN
- PIPED DIRTY WATER DIVERSION DRAIN
- MAINTENANCE ACCESS CORRIDOR
- CLEAN WATER DIVERSION DRAIN
- EXSITING CLEAN WATER DIVERSION DRAIN
- CHECK DAM, REFER RCD-01
- 2.5 m SHARED PATH
- 1.5 m FOOTPATH

25 0 50 100m
SCALE 1:2500

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUE FOR INFORMATION	RC

SCALE	SIZE
1:2500	A1

DRAWN: DL
DESIGNED: RC
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4C BERRIMAH

TITLE: STAGE4C ESCP SITE ESTABLISHMENT

DRAWING No. PROJECT No. DN04C – WBS 2500 – TYPE DRG – DISC – NUMBER 1501 – REV A

LEGEND:

- EXISTING STOCKPILE AREA
- NO GO AREA
- ROCK OVER FLOW WEIR, REFER DN04C-2500-DRG-1503
- SEDIMENT FILTER SOCKS ACCROSS SEP
- MULCH BERM (MB-01) OR SEDIMENT FENCE (SF-01, SF-02)
- DIRTY WATER DIVERSION DRAIN
- MAINTENANCE ACCESS CORRIDOR
- CLEAN WATER DIVERSION DRAIN
- EXSITING CLEAN WATER DIVERSION DRAIN
- CHECK DAM, REFER RCD-01

NOTES:

1. RESPREAD 50mm TOPSOIL TO VERGE AREAS ONLY.
2. INSTALL TURF ON EXPOSED VERGE AREA, REFER SEED MIX TABLE 24.1
3. REFER DRAWING DN04C-2500-DRG-1502 FOR VERGE GRASSING - MULCH BANK AND VERGE GRASSING. PROVIDE TEMPORARY IRRIGATION UNTIL GRASS ESTABLISHED.
4. NO STOCKPILES TO BE MANAGED ON STAGE 4C SITE. UTILISE EXISTING STOCKPILE AREA.

TABLE 24.1 - SEED MIXES

WATER REGIME	GENERAL LATITUDE	SEED TYPE	PERCENTAGE BY WEIGHT	MIXTURE APPLICATION RATE
DRY GRASSLAND	NORTH OF ADELAIDE RIVER	PASPALUM NOTATUM PENSICOLA	20%	MINIMUM 300 kg PER HECTARE
		PASPALUM NOTATUM ARGENTINA	80	

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUE FOR INFORMATION	RC

SCALE	SIZE
1:2500	A1

DRAWN: DL
DESIGNED: RC
CHECKED: P. GRAHAM

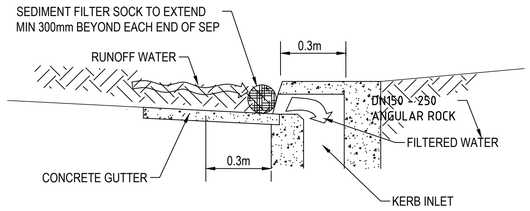
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST STAGE 4C BERRIMAH

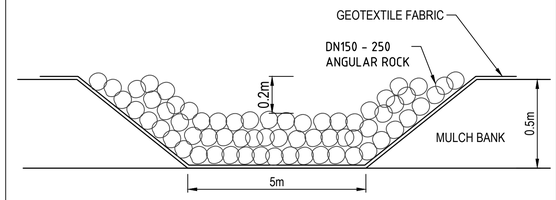
TITLE: STAGE 4C ESCP CONSTRUCTION AND REHABILITATION ESC CONTROL

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	2500	DRG		1502	A



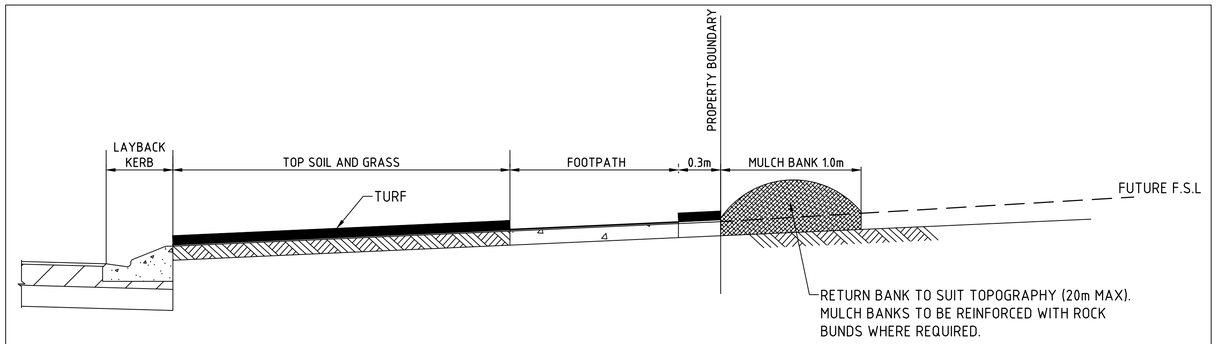
SEDIMENT FILTER SOCK ACROSS SEP

NTS



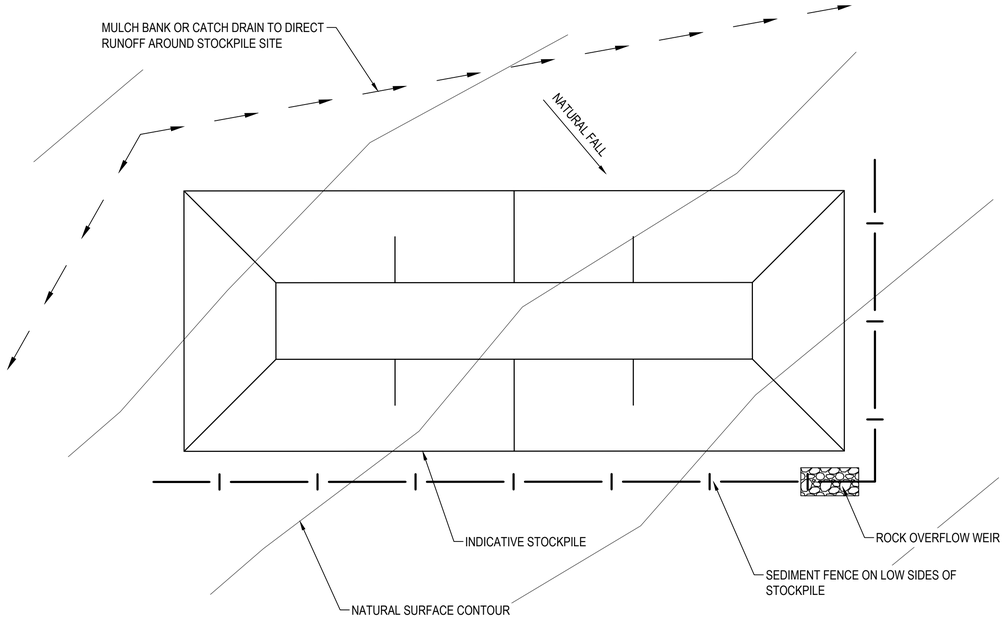
ROCK OVERFLOW WEIR

NTS



MULCH BANK

NTS



TYPICAL STOCKPILE PROTECTION

NOTES:

MAINTENANCE

1. DURING THE SITE'S CONSTRUCTION PERIOD, INSPECT THE DIVERSION CHANNEL WEEKLY AND AFTER ANY INCREASE IN FLOWS WITHIN THE CHANNEL. REPAIR ANY SLUMPS, WHEEL TRACK DAMAGE OR LOSS OF FREEBOARD.
2. ENSURE FILL MATERIAL OR SEDIMENT IS NOT PARTIALLY BLOCKING THE CHANNEL. WHERE NECESSARY, REMOVE ANY DEPOSITED MATERIAL TO ALLOW FREE DRAINAGE.
3. DISPOSE OF ANY COLLECTED SEDIMENT OR FILL IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.

REMOVAL

1. WHEN THE CONSTRUCTION WORK ABOVE TEMPORARY DIVERSION CHANNEL IS FINISH AND THE AREA IS STABILISED, THE AREA SHOULD BE APPROPRIATELY REHABILITATED.
2. DISPOSE OF ANY COLLECTED SEDIMENT OR FILL IN A MANNER THAT WILL NOT CREATE AN EROSION OR POLLUTION HAZARD.
3. GRADE THE AREA AND SMOOTH IT OUT IN PREPARATION.

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUE FOR INFORMATION	RC

SCALE	SIZE
NTS	A1

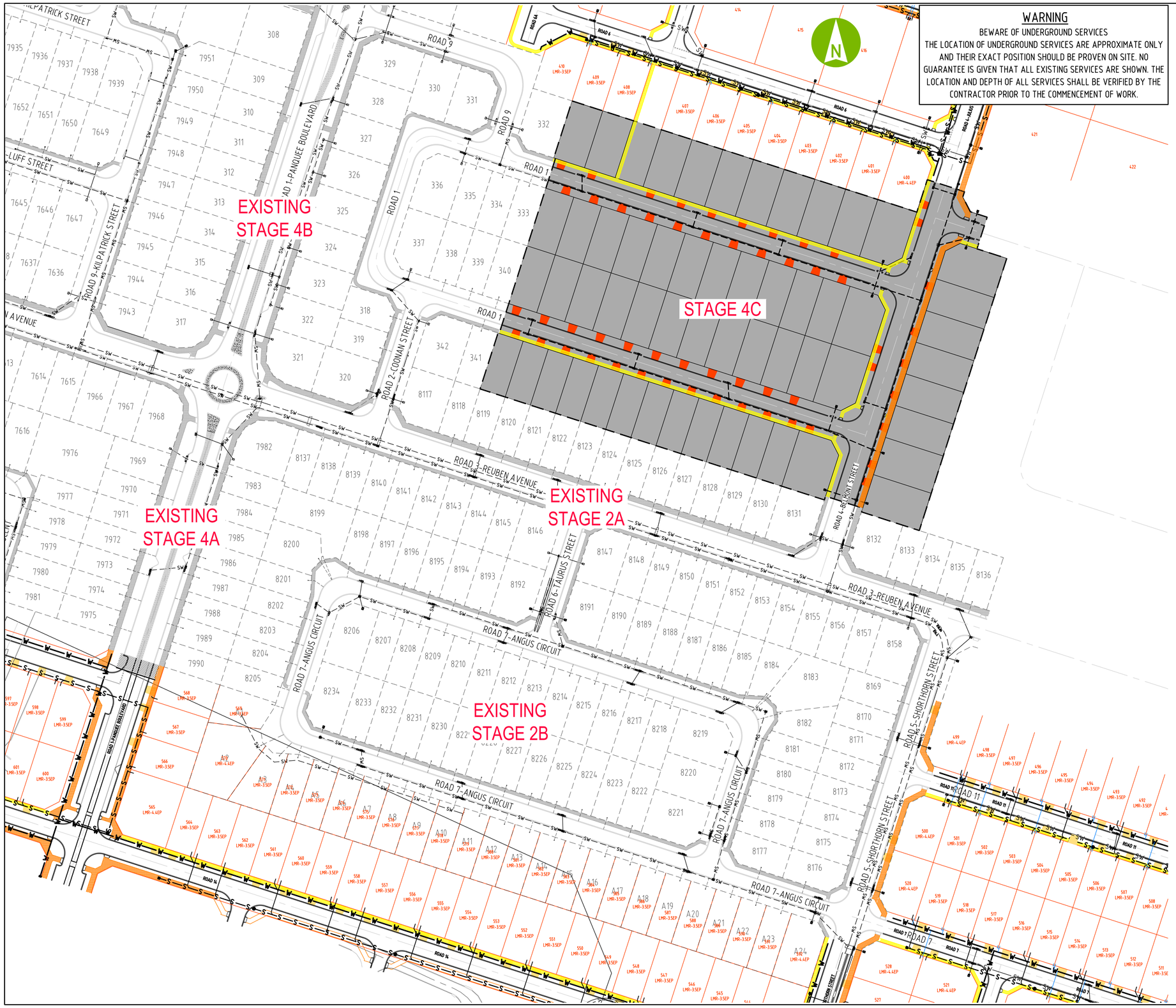
DRAWN: DL
DESIGNED: RC
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	STAGE 4C ESCP EROSION AND SEDIMENT CONTROL DETAILS

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	2500	DRG		1503	A



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE BERRIMAH FARM SUBDIVISION GUIDELINES (BFSG) STANDARD DRAWINGS.
2. MINIMUM STORMWATER PIPE SIZE IS DN375 REINFORCED CONCRETE CLASS 2 U.N.O.
3. BOX CONCRETE CULVERTS SHALL BE 'U' TYPE SUITABLE FOR INSTALLATION ON A CAST INSITU CONCRETE SLAB. PRECAST CULVERTS UP TO A SIZE OF 1200 x 900 SHALL BE IN ACCORDANCE WITH AS1597. ALL OTHER SIZES TO CONFORM TO AS1597.2
4. TRENCHING AND BACKFILL FOR ALL PIPES IS TO BE IN ACCORDANCE WITH THE CIVIL SPECIFICATION.
5. IN AREAS OF EXCESSIVE CRAB HOLING FILL WITH 10mm AGGREGATE OR LEAN MIX CONCRETE.
6. IN AREAS WITH GROUND WATER EVIDENT USE SCREENED AGGREGATE 5mm MIN. / 12mm MAX. WRAPPED IN GEOFABRIC.
7. MANHOLES ARE TO BE AS PER BFSG STANDARD DRAWING USG123, U.N.O.
8. MANHOLES ARE TO HAVE HEAVY DUTY B293 GATIC TYPE COVERS AND FRAMES AS PER BFSG STANDARD DRAWING USG123.
9. FINISHED SURFACE LEVELS OF STORMWATER STRUCTURES SHOWN ON THE DRAWINGS SHOULD BE CONFIRMED ON SITE PRIOR TO COMPLETING CONSTRUCTION.
10. OUTLET HEADWALLS FOR RCP's TO BE AS PER BFSG STANDARD DRAWING USG102 & 103 U.N.O. OUTLET HEADWALLS FOR RCBC's TO BE AS PER BFSG STANDARD DRAWING USG104 U.N.O.
11. SIDE ENTRY PITS ARE TO BE TYPE A-G IN ACCORDANCE WITH BFSG STANDARD DRAWINGS USG120 & 121.
12. WEEP HOLES ARE TO BE PROVIDED IN THE WALL OF ALL PITS TO ACCEPT FLOWS FROM PIPE BEDDING .
13. AN APPROVED CONVERTER SLAB SHALL BE USED UNDER THE CHAMBER FOR SHAFT DIAMETERS LARGER THAN 1050mm.
14. ELECTRICAL CONDUITS ARE TO BE DEEPENED IF CLASHES OCCUR WITH STORMWATER OR OTHER SERVICES. NO VARIATION WILL BE ALLOWED FOR SUCH CHANGES.
15. ELECTRICAL LIGHTPOLE POSITIONS ARE INDICATIVE AND MAY BE MOVED LATERALLY TO AVOID CLASHES WITH OTHER SERVICES.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

LEGEND

STAGE 4B BOUNDARY

STAGE 4B

DIPL DRG. No. R23-XXXX

10 0 20 40m

SCALE 1:1000

aurecon
www.aurecongroup.com

CLIENT

halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

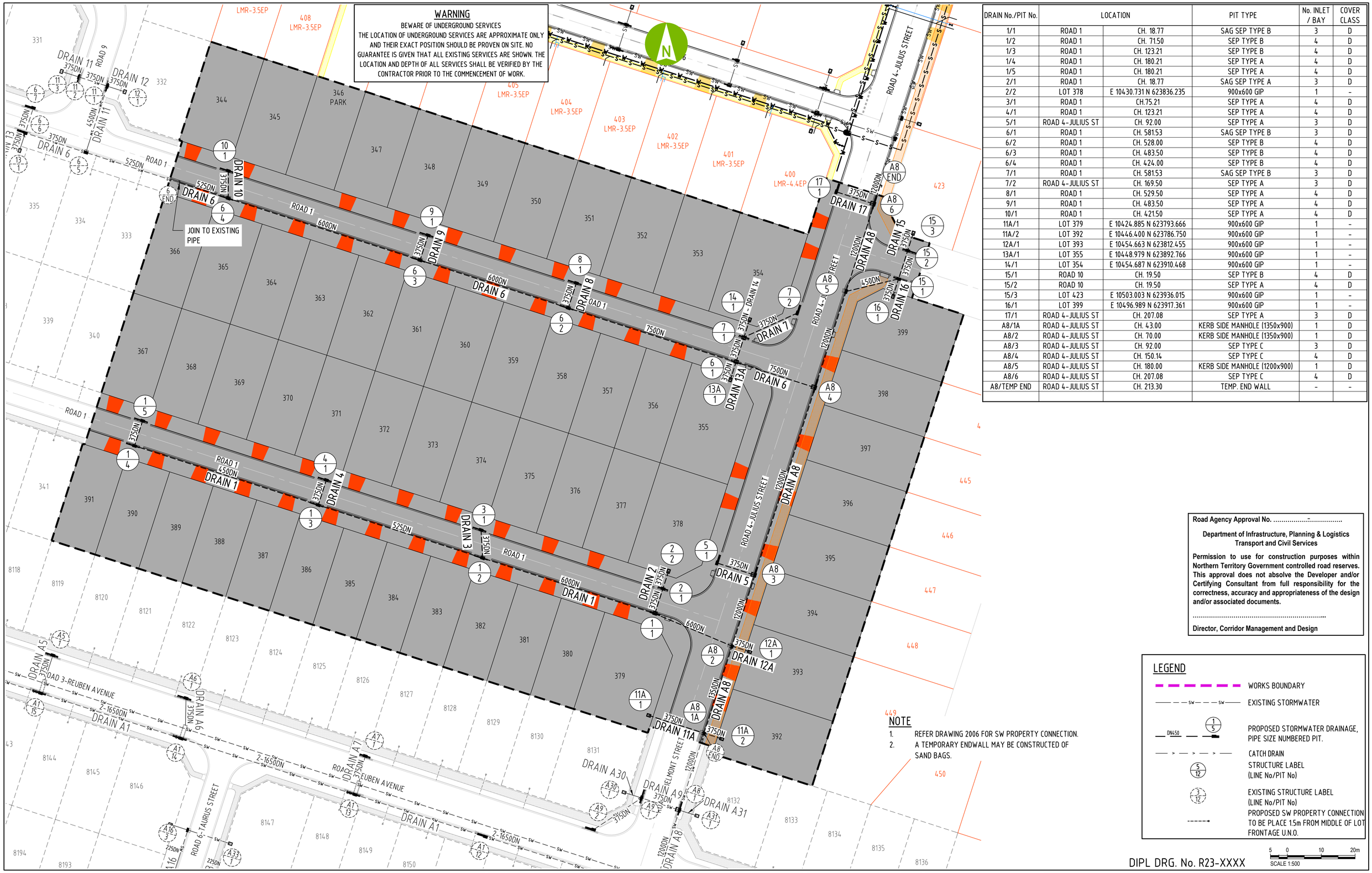
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	STORMWATER DRAINAGE LAYOUT PLAN

DRAWING No.

PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
DN04C	3000	DRG		2000	A



DRAIN No./PIT No.	LOCATION		PIT TYPE	No. INLET / BAY	COVER CLASS
1/1	ROAD 1	CH. 18.77	SAG SEP TYPE B	3	D
1/2	ROAD 1	CH. 71.50	SEP TYPE B	4	D
1/3	ROAD 1	CH. 123.21	SEP TYPE B	4	D
1/4	ROAD 1	CH. 180.21	SEP TYPE A	4	D
1/5	ROAD 1	CH. 180.21	SEP TYPE A	4	D
2/1	ROAD 1	CH. 18.77	SAG SEP TYPE A	3	D
2/2	LOT 378	E 10430.731 N 623836.235	900x600 GIP	1	-
3/1	ROAD 1	CH.75.21	SEP TYPE A	4	D
4/1	ROAD 1	CH. 123.21	SEP TYPE A	4	D
5/1	ROAD 4-JULIUS ST	CH. 92.00	SEP TYPE A	3	D
6/1	ROAD 1	CH. 581.53	SAG SEP TYPE B	3	D
6/2	ROAD 1	CH. 528.00	SEP TYPE B	4	D
6/3	ROAD 1	CH. 483.50	SEP TYPE B	4	D
6/4	ROAD 1	CH. 424.00	SEP TYPE B	4	D
7/1	ROAD 1	CH. 581.53	SAG SEP TYPE B	3	D
7/2	ROAD 4-JULIUS ST	CH. 169.50	SEP TYPE A	3	D
8/1	ROAD 1	CH. 529.50	SEP TYPE A	4	D
9/1	ROAD 1	CH. 483.50	SEP TYPE A	4	D
10/1	ROAD 1	CH. 421.50	SEP TYPE A	4	D
11A/1	LOT 379	E 10424.885 N 623793.666	900x600 GIP	1	-
11A/2	LOT 392	E 10446.400 N 623786.750	900x600 GIP	1	-
12A/1	LOT 393	E 10454.663 N 623812.455	900x600 GIP	1	-
13A/1	LOT 355	E 10448.979 N 623892.766	900x600 GIP	1	-
14/1	LOT 354	E 10454.687 N 623910.468	900x600 GIP	1	-
15/1	ROAD 10	CH. 19.50	SEP TYPE B	4	D
15/2	ROAD 10	CH. 19.50	SEP TYPE A	4	D
15/3	LOT 423	E 10503.003 N 623936.015	900x600 GIP	1	-
16/1	LOT 399	E 10496.989 N 623917.361	900x600 GIP	1	-
17/1	ROAD 4-JULIUS ST	CH. 207.08	SEP TYPE A	3	D
A8/1A	ROAD 4-JULIUS ST	CH. 43.00	KERB SIDE MANHOLE (1350x900)	1	D
A8/2	ROAD 4-JULIUS ST	CH. 70.00	KERB SIDE MANHOLE (1350x900)	1	D
A8/3	ROAD 4-JULIUS ST	CH. 92.00	SEP TYPE C	3	D
A8/4	ROAD 4-JULIUS ST	CH. 150.14	SEP TYPE C	4	D
A8/5	ROAD 4-JULIUS ST	CH. 180.00	KERB SIDE MANHOLE (1200x900)	1	D
A8/6	ROAD 4-JULIUS ST	CH. 207.08	SEP TYPE C	4	D
A8/TEMP END	ROAD 4-JULIUS ST	CH. 213.30	TEMP. END WALL	-	-

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTE

1. REFER DRAWING 2006 FOR SW PROPERTY CONNECTION.
2. A TEMPORARY ENDWALL MAY BE CONSTRUCTED OF SAND BAGS.

LEGEND

- WORKS BOUNDARY
- EXISTING STORMWATER
- PROPOSED STORMWATER DRAINAGE, PIPE SIZE NUMBERED PIT.
- CATCH DRAIN
- STRUCTURE LABEL (LINE No/PIT No)
- EXISTING STRUCTURE LABEL (LINE No/PIT No)
- PROPOSED SW PROPERTY CONNECTION TO BE PLACE 1.5m FROM MIDDLE OF LOT FRONTAGE U.N.O.

5 0 10 20m
SCALE 1:500

DIPL DRG. No. R23-XXXX

aurecon
www.aurecongroup.com

halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	N.T.S.
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	STORMWATER LAYOUT PLAN & SETOUT TABLE SHEET 1 OF 1

DRAWING No. DN04C – 3000 – DRG – – 2001 – A
(PROJECT No. – WBS – TYPE – DISC – NUMBER – REV)

Road Agency Approval No. .....

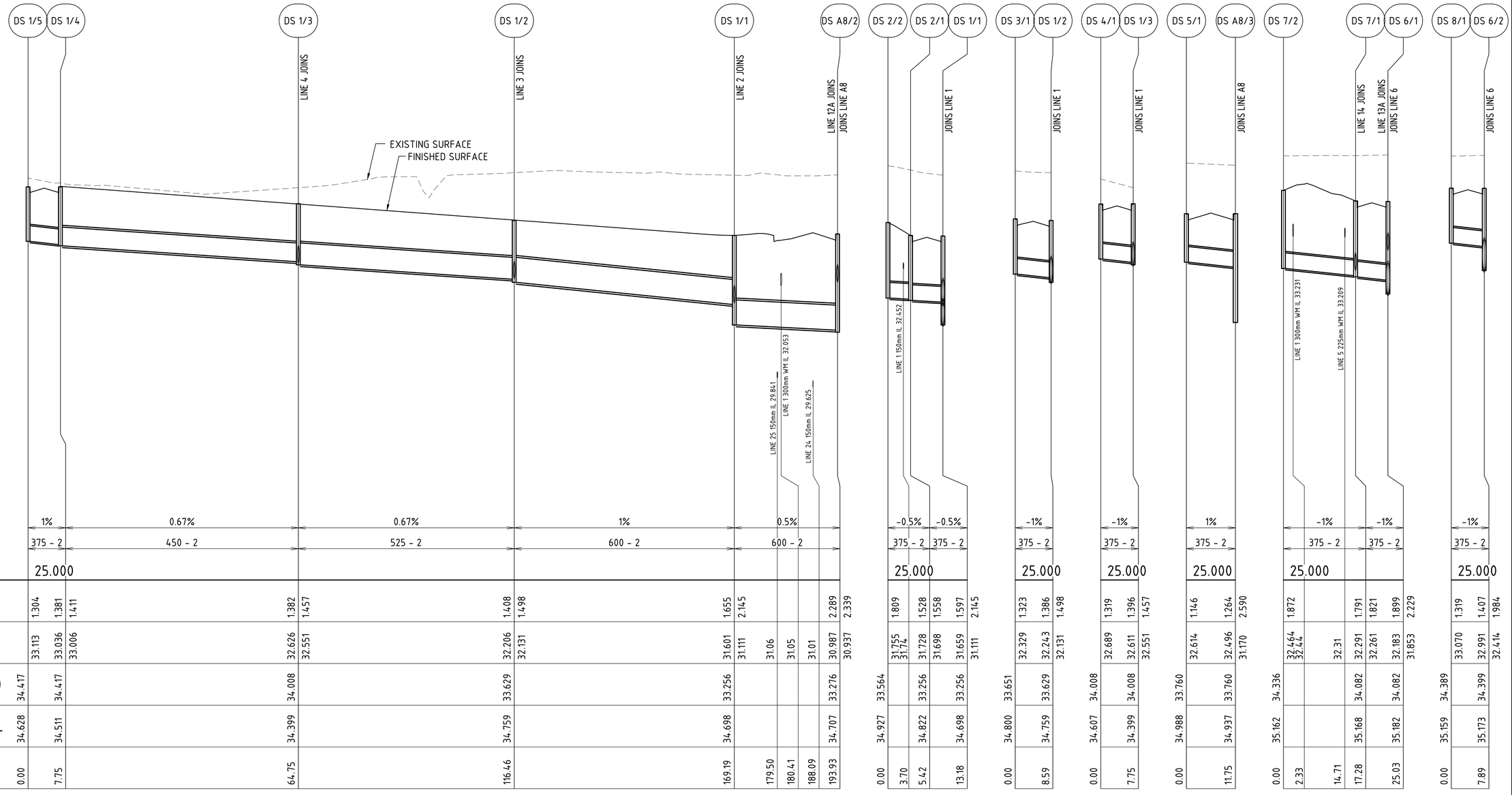
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED



| | | |

Road Agency Approval No. .....

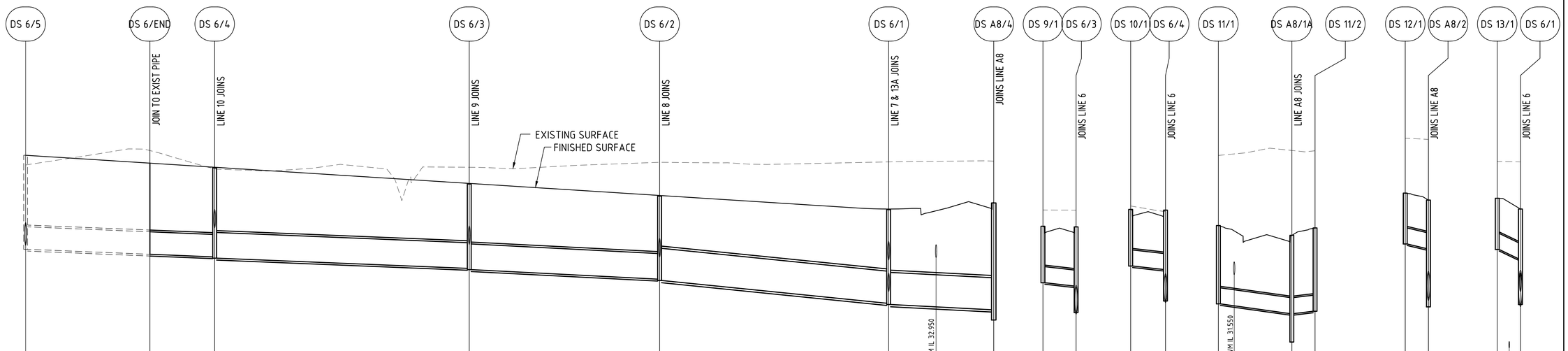
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED



| | | |

Road Agency Approval No. .....

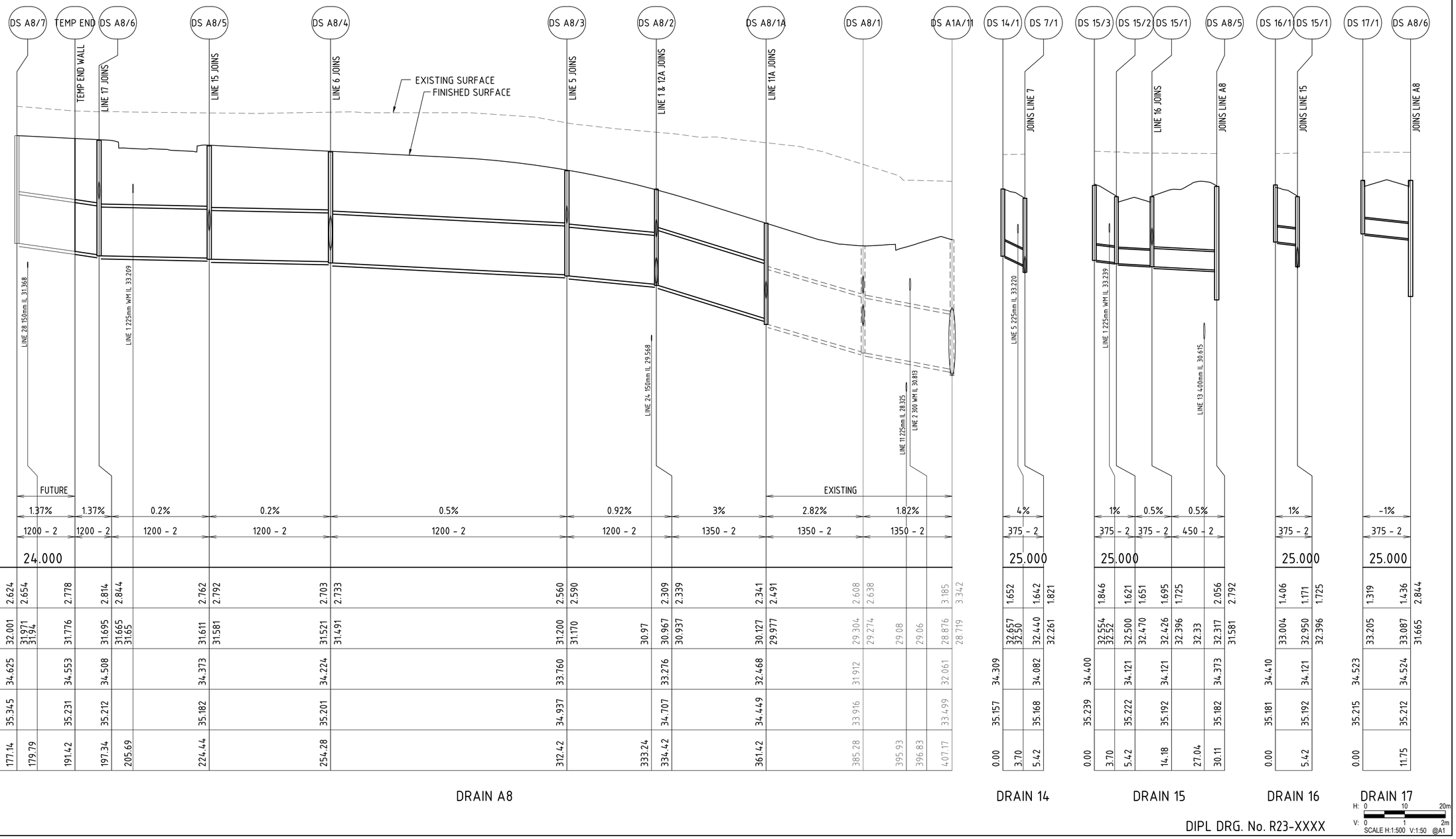
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

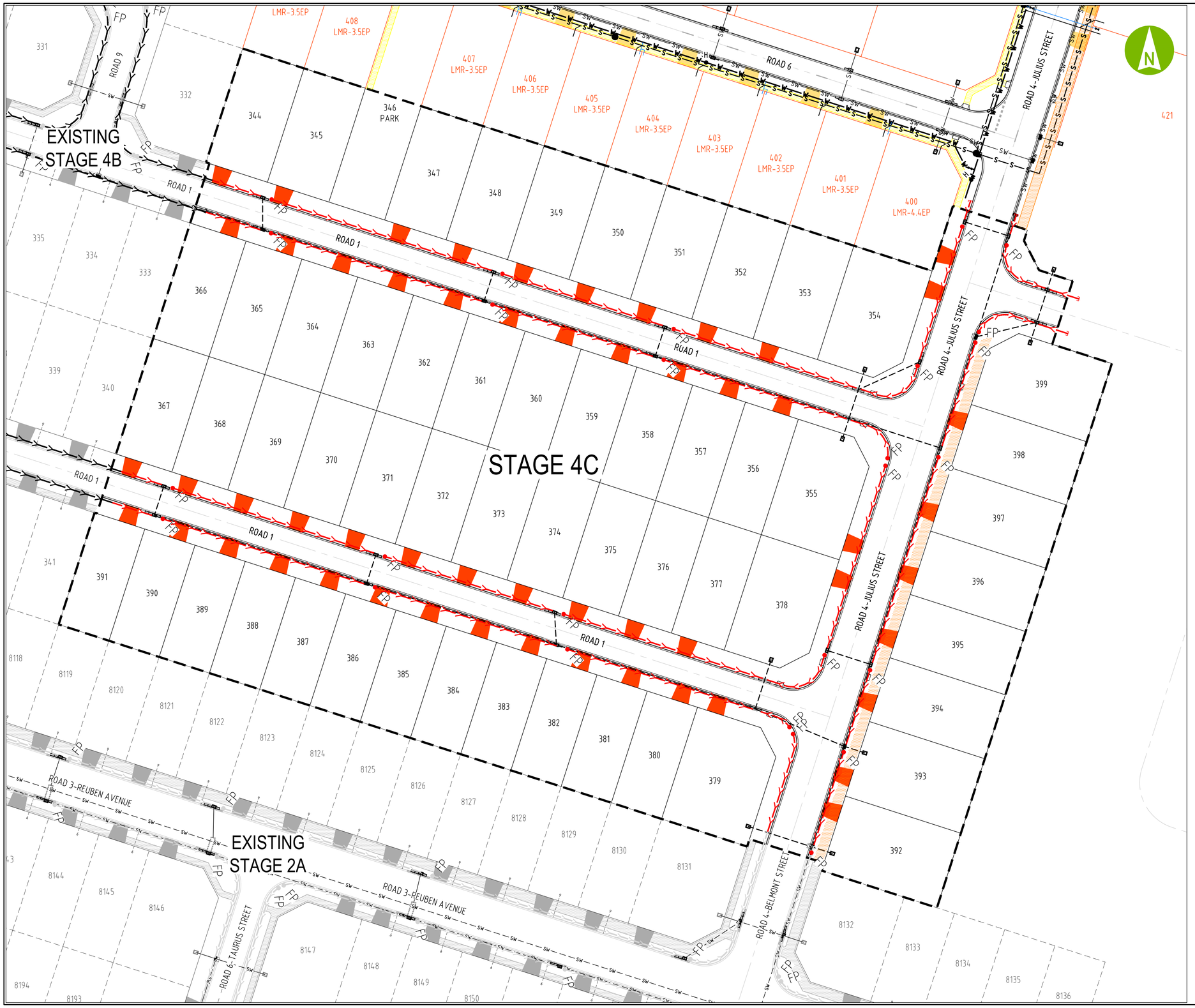
.....

Director, Corridor Management and Design

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED



| | | |



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. ……-……

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

……

Director, Corridor Management and Design

LEGEND

- WORKS BOUNDARY
- Ø100 SUBSOIL DRAINAGE
- FLUSHING POINT
- CLEAN OUT POINT
- STORWATER PIT
- STORMWATER MANHOLE

NOTES

1. REFER BFSG STANDARD DRAWING USG127 FOR DETAILS.
2. FLUSHING POINTS ARE TO BE CONSTRUCTED AT THE HEAD OF LINES WITH CLEANING JUNCTIONS AT 50m MAX CENTRES IMMEDIATELY BEHIND KERB, REFER TO DETAIL THIS PAGE.
3. SUB-SOIL DRAINS GENERALLY SHOW OUTLET AT STORMWATER PIT. REFER TO DETAIL ON BFSG STD DWG USG127.
4. PIPES TO BE SLOTTED POLYETHELENE CLASS 400 TO AS2439 AND FITTINGS CLASS SH TO AS1260.
5. REFER TO DWG. DN04C-3000-DRG-2006 FOR SUBSOIL CLEANING JUNCTION TYPICAL SECTION AND DETAILS.
6. ALL ROADS TO HAVE SUBSOIL DRAINS BOTH SIDES. REFER TO DWG. DN04C-3000-DRG-2006 FOR SUBSOIL DRAIN ABOVE STORMWATER MAIN TYPICAL SECTION.

DIPL DRG. No. R23-XXXX

5 0 10 20m
SCALE 1:500

aurecon
www.aurecongroup.com

halikos Developments

CLIENT

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

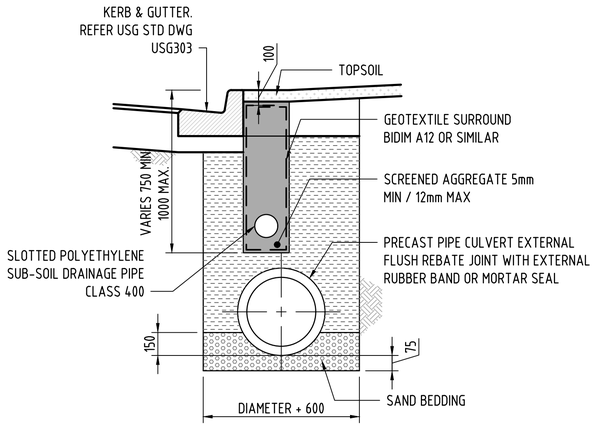
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	SUBSOIL DRAINAGE LAYOUT PLAN SHEET 1 OF 1

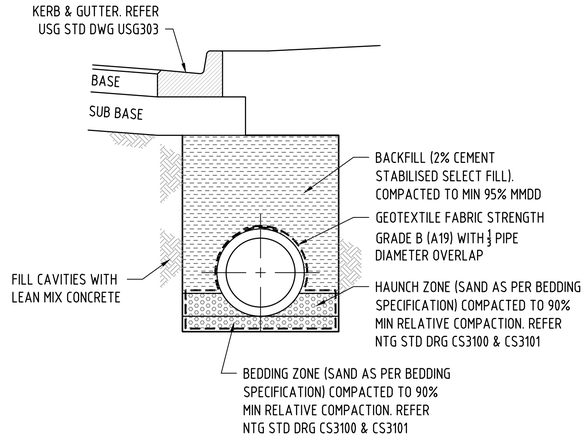
DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	3000	DRG		2005	A

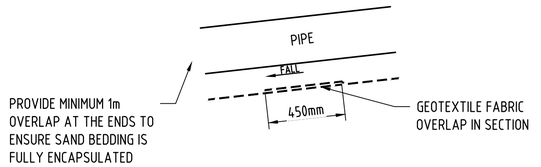


TYPICAL SECTION
SCALE NTS

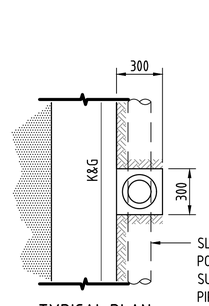
SUBSOIL DRAINAGE ABOVE STORMWATER MAIN
SCALE NTS

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

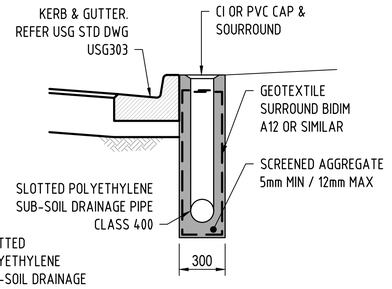




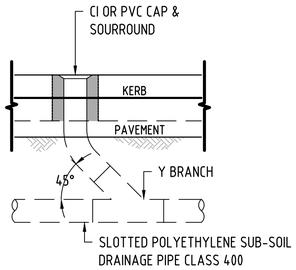
TYPICAL SW TRENCH DETAIL
SCALE NTS



TYPICAL PLAN
SCALE NTS

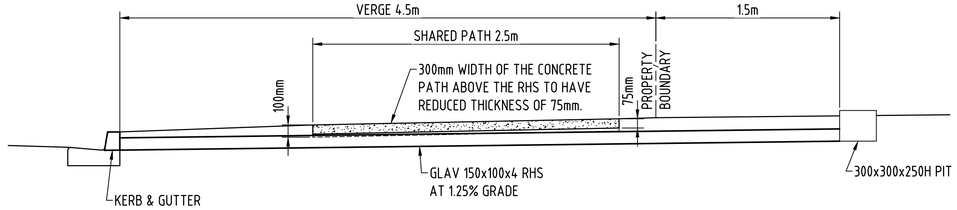


TYPICAL SECTION
SCALE NTS



TYPICAL ELEVATION
SCALE NTS

SUB-SOIL CLEANING JUNCTION DETAIL
SCALE NTS



TYPICAL SW PROPERTY CONNECTION
NTS

NOTES
1. REFER BFSG STANDARD DRAWING USG127 FOR DETAILS.
2. FLUSHING POINTS ARE TO BE CONSTRUCTED AT THE HEAD OF LINES WITH CLEANING JUNCTIONS AT 50m MAX CENTRES IMMEDIATELY BEHIND KERB, REFER TO DETAIL THIS PAGE.
3. SUB-SOIL DRAINS GENERALLY SHOW OUTLET AT STORMWATER PIT. REFER TO DETAIL ON BFSG STD DWG USG127.
4. PIPES TO BE SLOTTED POLYETHELENE CLASS 400 TO AS2439 AND FITTINGS CLASS SH TO AS1260.
5. REFER TO DWG. DN04C-3000-DRG-2006 FOR SUBSOIL CLEANING JUNCTION TYPICAL SECTION AND DETAILS.
6. ALL ROADS TO HAVE SUBSOIL DRAINS BOTH SIDES. REFER TO DWG. DN04C-3000-DRG-2006 FOR SUBSOIL DRAIN ABOVE STORMWATER MAIN TYPICAL SECTION.

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

GENERAL NOTES:
1. THIS DRAWING IS TO BE READ IN CONJUCTION WITH BERRIMAH FARM SUBDIVISION GUIDELINES AND STANDARD DRAWINGS.
2. FOR DRAINAGE LAYOUT PLANS REFER TO DWG DN04C-3000-DWG-2001.
3. REFER LONGITUDINAL SECTIONS FOR SIDE ENTRY PIT TYPES. DWGS DN04C-3000-DWG-2002 TO 2004.
4. ALL PRECAST MEMBERS ARE TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATION AND PROJECT SPECIFICATIONS.

DIPL DRG. No. R23-XXXX

10 0 20 40m
SCALE 1:1000

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

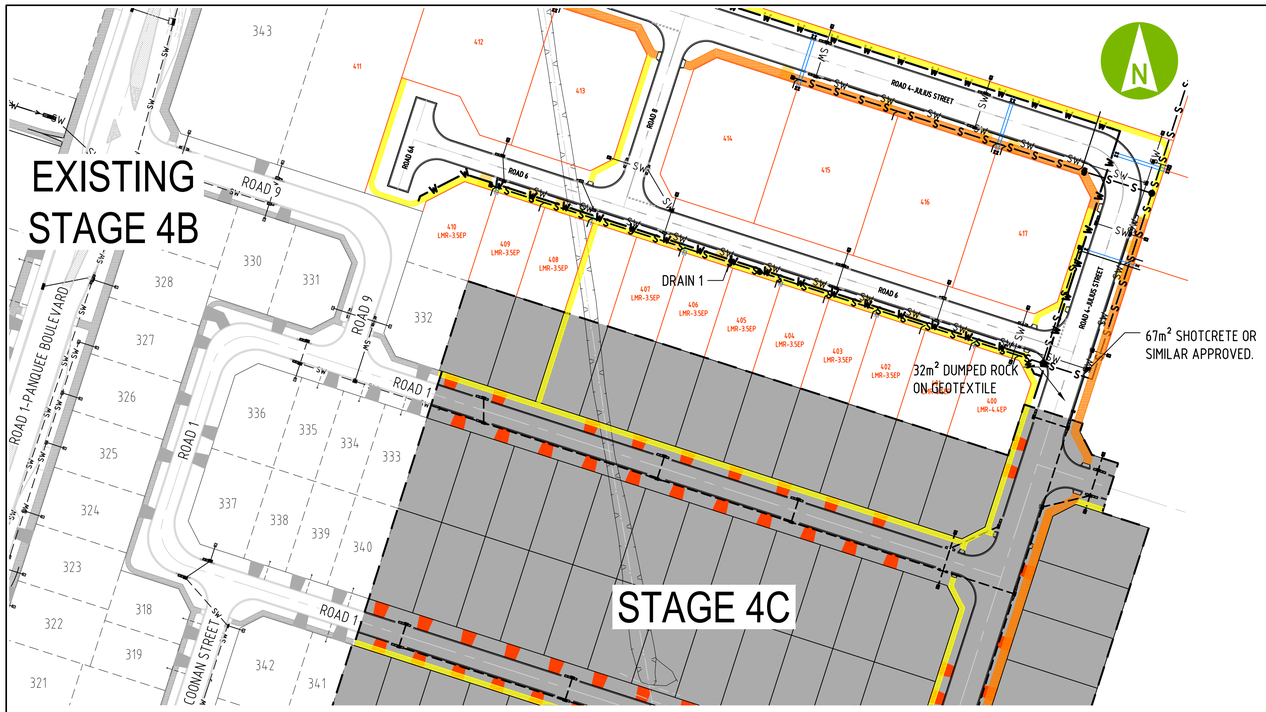
DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

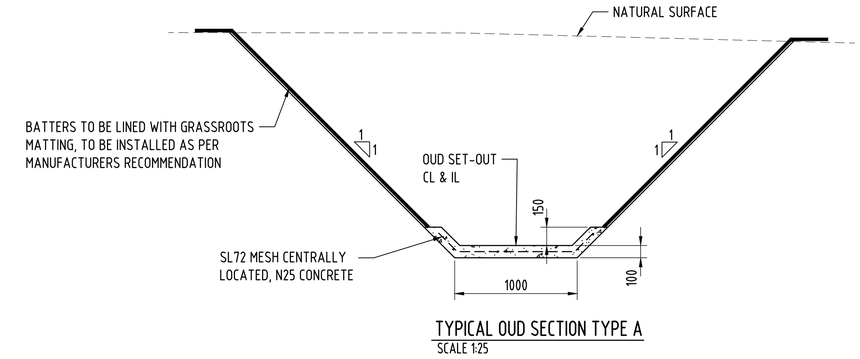
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	SUBSOIL DRAINAGE DETAILS & SW PROPERY CONNECTION SHEET 2 OF 2

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	3000	DRG		2006	A





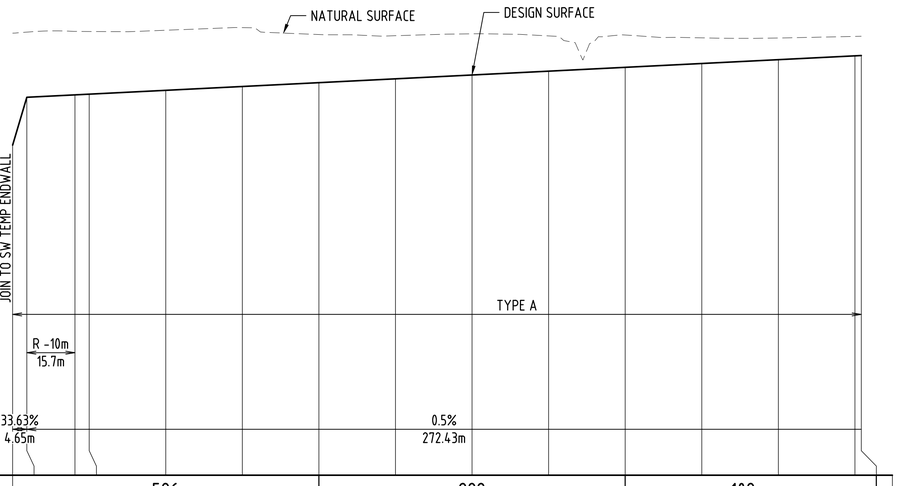
TYPICAL OUD SECTION TYPE A
SCALE 1:25

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

STAGE 4C DRAIN 1 HORIZONTAL POINTS

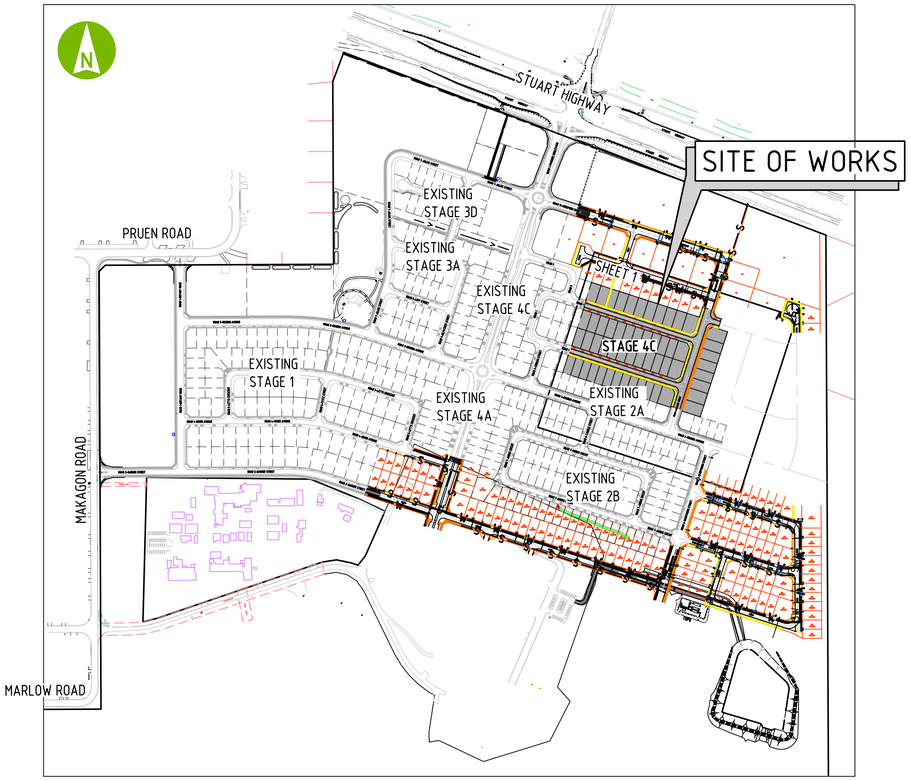
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10492.903	623950.370	31.776	17°49'11.34"			
TC	4.646	10494.325	623954.793	33.338	17°49'11.34"			
IP 2	12.496	10497.382	623964.305	33.377		R = -10.000	15.699	89°56'53.94"
CT	20.345	10487.873	623967.371	33.416	287°52'17.40"			
IP 3	277.076	10243.531	624046.157	34.700	287°52'17.40"			



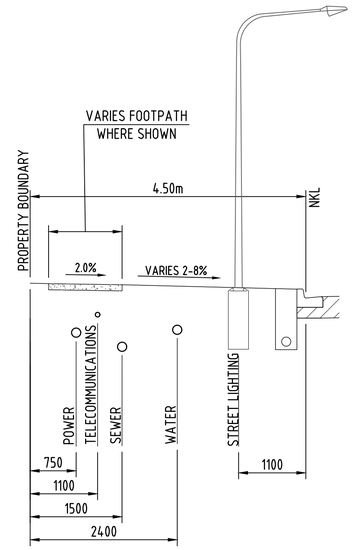
| | | |

SCHEDULE OF DRAWINGS		
DWG No.	PWC No.	Sheet Title
DN04C-4000-DRG-3000	B23-XXXX	PWC COVER SHEET - LEGEND & LOCALITY PLAN
DN04C-4000-DRG-3001	B23-XXXX	WATER RETICULATION - PWC WATER STANDARD NOTES & LEGEND
DN04C-4000-DRG-3002	B23-XXXX	WATER RETICULATION LAYOUT PLAN - SHEET 1 OF 1
DN04C-5000-DRG-4000	B23-XXXX	SEWER RETICULATION - PWC SEWER STD NOTES & LEGEND
DN04C-5000-DRG-4001	B23-XXXX	SEWERAGE RETICULATION LAYOUT PLAN - SHEET 1 OF 1
DN04C-5000-DRG-4002	B23-XXXX	SEWERAGE RETICULATION LAYOUT PLAN - ACCESS CHAMBER LAYOUTS
DN04C-5000-DRG-4003	B23-XXXX	SEWERAGE RETICULATION LONGSECTIONS - SHEET 1 OF 2
DN04C-5000-DRG-4004	B23-XXXX	SEWERAGE RETICULATION LONGSECTIONS - SHEET 2 OF 2
DN04C-5000-DRG-4005	B23-XXXX	TRUNK SEWER ACCESS CHAMBER HDPE LINER - AC 13/3 & AC 13/4
DN04C-8000-DRG-7000	B23-XXXX	MASTER SERVICES LAYOUT PLAN - SHEET 1 OF 1
DN04C-8000-DRG-7001	B23-XXXX	TYPICAL SERVICE LOCATIONS

PWC STANDARD DRAWINGS	
DWG No.	Sheet Title
W1-1-01A/0	20mm Water Service - Copper
W1-1-02A/0	25mm Water Service - Copper
W1-1-04C/0	50mm Water Service - Copper
W1-1-08/3	50mm Water Service - Parks & Garden Irrigation Copper
W1-1-16	DN100-300 Water Mains Typical Detals Branch Off Mains
W1-1-18A/4	Multi Metering Manifold Assembly for DN20 Meters Residential
W1-1-18C/0	Multi Metering Manifold for DN20 or DN25 Meters
W1-1-23/2	Connection to Mains DN20, DN25 & DN50
W1-1-24/4	Property Connection DN80, DN100 & DN150
W1-1-29/2	DN20 Meter for Residential Duplex DN25 Water service - Copper
W1-2-3A/5	BS750 Screw-Down Hydrant Installation in Nature Strip Off DN100 - DN300 Mains
W1-2-3F/3	BS750 Screw-Down Hydrant Location Marking
W1-2-3J/2	Sluice Valve Installation in Nature Strip
W1-2-05/1	Thrust Block & Trench Details For 100 to 225NB Pressure Mains
W1-2-17A/1	Application of Polyethylene Sleeving For Corrosion Protection of DICL Pipes
W1-2-19/3	Temporary Deadends DN100 - DN450
W2-1-01/7	Type 1 Sewer Connections DN150
W2-1-02/6	Type 2 Sewer Connections DN150
W2-1-04/6	Sewer Connection Layouts DN150
W2-1-05/5	Intermediate & Terminal Inspection Openings. Light & Heavy Duty Arrangements
W2-1-06/1	Terminal Maintenance Shaft & Property Connection Detail
W2-1-08/5	Type 4 Sewer Connections DN150
W2-2-01D/2	Access Chambers - Notes For Construction
W2-2-02/5	Access Chambers - Precast Chambers (Up To 6.0m Deep With Mains <DN450)
W2-2-03/4	Access Chambers - External & Internal Drops Type 1 - 4
W2-2-07/3	Maintenance Shaft Typical Arrangement
W2-2-08/1	Maintenance Shaft Pipeline Connection Details
W2-2-09/1	Sewer Rising Mains Location Marking



LOCALITY PLAN
SCALE 1:5000



TYPICAL ROAD RESERVE SERVICE TRENCH DETAIL
SCALE NTS

LEGEND

- WORKS BOUNDARY
- DN450 — PROPOSED STORMWATER DRAINAGE, PIPE SIZE
- CATCHDRAIN
- 22/12 — STRUCTURE LABEL (LINE No / PIT No)
- 3/43 — EXISTING STRUCTURE LABEL (LINE No / PIT No)
- PROPOSED WATERMAIN
- PROPOSED WATERMAIN, WATER SERVICES AND STOP VALVE
- H — PROPOSED WATERMAIN AND FIRE HYDRANT
- DICL PIPE AT ROAD/ STORMWATER CROSSING
- IRRIGATION CONDUIT
- PROPOSED SEWER MAIN, MANHOLE & PROPERTY CONNECTIONS
- AC 7/3 — PROPOSED SEWER STRUCTURE LABEL (TYPE / LINE No. / PIT No.)

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code:
DESCERTBL9

Signed: _ _ _ _ _ _ _ _ _ _ _ _

Date:

ABBREVIATION

AC	ACCESS CHAMBER
A/G	ABOVE GROUND
BM	BENCH MARK
DE	WATERMAIN DEAD END
DICL	DUCTILE IRON CEMENT LINED
DN	NOMINAL BORE
D/S	DOWNSTREAM
EW	ENDWALL
FH	FIRE HYDRANT
FL	FLANGED JOINT
FSL	FINISHED SURFACE LEVEL
HD	HEAVY DUTY
IL	INVERT LEVEL
IP	INTERSECTION POINT
LBP	LETTER BOX PIT
LD	LIGHT DUTY
MH	MAINTENANCE HOLE
MS	MAINTENANCE SHAFT
PP	POWER POLE
PVC	uPVC PIPEWORK
SL	SURFACE LEVEL
SO	SOCKET
SP	SPIGOT
SV	SLUICE VALVE
TMS	TERMINAL MAINTENANCE SHAFT
U/G	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
U/S	UPSTREAM

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
N.T.S.	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4C BERRIMAH

TITLE: POWER WATER CORPORATION COVER SHEET LEGEND & LOCALITY PLAN

DRAWING No.: PROJECT No. DN04C – WBS 4000 – TYPE DRG – DISC – NUMBER 3000 – REV A

POWER AND WATER STANDARD NOTES

GENERAL

WS.1. CONSTRUCTION OF THE WATER AND SEWERAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST AMENDMENT OF THE APPROVED PROJECT DRAWINGS AND SPECIFICATION AND THE POWER AND WATER CONNECTION CODE.

WS.2. DRAWINGS MUST BE SIGNED AS 'APPROVED FOR CONSTRUCTION' BY POWER AND WATER PRIOR TO COMMENCING WORKS. THE DEVELOPER MUST SUBMIT THE "DEVELOPMENT WORK PERMIT" WITH ALL RELEVANT

WS.3. DOCUMENTATION AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF WORKS. THE DEVELOPER MUST CONFIRM WITH POWER AND WATER IF A MEETING IS REQUIRED PRIOR TO COMMENCEMENT OR SITE WORKS. PRIOR TO COMMENCEMENT OF WORKS, THE CONSTRUCTOR MUST CHECK THE LOCATION OF ALL

WS.4. UNDERGROUND SERVICES, CONFIRM FINISHED SURFACE LEVELS, CHECK THE MATEIRAL, DIAMETER ALIGNMENT, LEVEL AND LOCATION OF EXISTING PIPEWORK AT THE CONNECTION POINTS. IT IS NOT GUARANTEED THAT ALL SERVICES HAVE BEEN SHOWN ON THE DRAWINGS. CHANGES REQUESTED BY ANY PARTY TO THE DESIGN OF THE WORKS DURING ANY STAGE OF THE

WS.5. DEVELOPMENT MUST BE ENDORSED BY THE DESIGNER/CERTIFIER WITH AMENDED DRAWINGS SUBMITTED TO POWER AND WATER FOR APPROVAL PRIOR TO THE CHANGE BEING CARRIED OUT. ALL EXISTING PROPERTY SERVICES ARE TO REMAIN IN SERVICE UNTIL THE CONSTRUCTION OF THE NEW

WS.6. SERVICE IS COMPLETED TO THE SATISFACTION OF POWER AND WATER. ALL LEVELS GIVEN ARE TO AUSTRALIAN HEIGHT DATUM (AHD) IN METRES TO THREE DECIMAL

WS.7. PLACES. PROJECTION SHALL BE BASED ON MGA94 MAP GRID OF AUSTRALIA ZONE 52 OR 53 COORDINATE SYSTEM.

WS.8. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL CHAINAGES AND LEVELS IN METRES UNLESS SHOWN OTHERWISE.

EXCAVATION AND BACKFILLING

WS.9. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE RELEVANT AUTHORITY PRIOR TO ANY EXCAVATION. WHERE APPLICABLE, THE CONTRACTOR MUST SEEK A WRITTEN APPROVAL FROM THE LAND OWNER TO ACCESS AND CONSTRUCT WITHIN THEIR PROPERTY. ALL APPROVALS AND PERMITS MUST BE SUBMITTED TO POWER AND WATER AT LEAST SEVEN (7) DAYS PRIOR TO EXCAVATION WORKS.

WS.10. MINIMUM COVER TO PIPE IS 750mm IN TRAFFICABLE AREAS, 600mm IN OTHER AREAS. 1500mm COVER REQUIRED FOR THRUST BORING UNDER ROAD.

WS.11. EMBEDMENT TYPE FOR ALL PIPES MUST BE TYPE 2 WRAPPED IN GEOTEXTILE UNLESS NOTED OTHERWISE. ALL OTHER EMBEDMENT TYPES MUST BE ENDORSED BY THE CERTIFIER WITH SUPPORTING GEOTECHNICAL INVESTIGATION, AND APPROVED BY POWER AND WATER.

WS.12. WHEN EMBEDMENT TYPE CHANGES, A VERTICAL GEOTEXTILE BARRIER SHALL BE INSERTED BETWEEN THE EMBEDMENT TYPES.

WS.13. UNLESS NOTED OTHERWISE IN THE DRAWINGS:

A. USE GENERAL OR SELECTED BACKFILL FOR ROAD RESERVES AND GENERAL AREAS

B. USE 3% CEMENT STABILISED SAND FOR ROADWAYS, DRIVEWAYS AND TRAFFICABLE AREAS

C. USE 5% CEMENT STABILISED GRAVEL FOR OPEN UNLINED DRAIN CROSSINGS.

WS.14. REINSTATE ALL SURFACES UPON COMPLETION OF THE WORKS AS SPECIFIED OR TO MATCH EXISTING TO SATISFACTION OF THE RELEVANT AUTHORITY OR PERSONNEL.

LIVE CONNECTIONS

WS.15. ONLY AUTHORISED POWER AND WATER PERSONNEL ARE PERMITTED TO UNDERTAKE ANY WORKS; OPERATE AND PHYSICALLY ACCESS LIVE ASSETS. AT NO STAGE SHALL ANY OTHER PERSONS CARRY OUT WORK ON POWER AND WATER INFRASTRUCTURE.

WS.16. THE DEVELOPER IS RESPONSIBLE FOR ALL CONNECTION FEES AND CHARGES. THE DEVELOPER MUST SUBMIT THE "REQUEST FOR CONNECTIONS" FORM AND ALLOW FOR A MINIMUM OF TWENTY-ONE (21) DAYS FOR SCHEDULING CONNECTIONS. POWER AND WATER HAVE NO OBLIGATIONS IN AVAILABILITY FOR REQUESTED CONNECTION DATE AND THE DEVELOPER IS TO NEGOTIATE ALTERNATIVE DATES WITH POWER AND WATER.

HANDOVER AND COMMISSIONING

WS.17. THE CERTIFIER MUST SUBMIT THE "HANDOVER REQUEST FORM" WITH ALL RELEVANT DOCUMENTATION AT LEAST SEVEN (7) DAYS PRIOR TO REQUESTED INITIAL HANDOVER INSPECTION DATE.

WS.18. ALL IDENTIFIED DEFECTS MUST BE RECTIFIED BY THE DEVELOPER WITHIN FOURTEEN DAYS (14) OF INITIAL HANDOVER DATE. A FINAL HANDOVER INSPECTION WITH POWER AND WATER MUST BE ARRANGED TO CONFIRM RECTIFICATION OF OUTSTANDING DEFECTS.

WS.19. COMMISSIONING OF GIFTED ASSET WORKS IS UNDERTAKEN BY POWER AND WATER AFTER SUCCESSFUL HANDOVER OF ASSET, RECTIFICATION OF ALL OUTSTANDING DEFECTS AND COMPLETION OF ALL LIVE CONNECTIONS TO EXISTING MAINS.

CLEARANCE, DEFECTS AND LIABILITY PERIOD

WS.20. THE DEVELOPER MUST SUBMIT THE "CLEARANCE REQUEST FORM" WITH ALL RELEVANT DOCUMENTATION AND ALLOW A MINIMUM OF FOURTEEN (14) DAYS TO OBTAIN DEVELOPMENT PERMIT CLEARANCE. ALLOW FOR AN ADDITIONAL FOURTEEN (14) DAYS TO RECTIFY ALL OUTSTANDING DEFECTS AND ISSUES.

WS.21. THE DEFECTS AND LIABILITY PERIOD OF THE ASSET WILL COMMENCE ON THE DATE WHEN DEVELOPMENT CLEARANCE WAS ISSUED BY POWER AND WATER OR DATE OF FINAL ACCEPTANCE OF ASSET.

WS.22. ALL EXTENSIONS AND SUBDIVISIONS ARE SUBJECT TO TWENTY FOUR (24) MONTH DEFECT AND LIABILITY PERIOD. ALL BUILDING DEVELOPMENTS ARE SUBJECT TO TWELVE (12) MONTH DEFECT AND LIABILITY PERIOD.

WS.23. THE DEVELOPER IS FULLY RESPONSIBLE FOR ALL COSTS TO RECTIFY DEFECTS, REPAIR AND EMERGENCY WORKS WITHIN THIS PERIOD. SUCH WORKS WILL RESULT IN AN EXTENDED DEFECTS AND LIABILITY PERIOD OF FIVE (5) YEARS.

WS.24. THE DEVELOPER MUST SCHEDULE AN OFF-MAINTENANCE INSPECTION AT LEAST SEVEN (7) DAYS PRIOR TO REQUESTED INSPECTION DATE. POWER AND WATER WILL TAKE FULL RESPONSIBILITY OF ASSET AFTER ALL DEFECTS HAVE BEEN RECTIFIED AND ALL ASSOCIATED PAYMENT TO REPAIR AND EMERGENCY WORKS HAVE BEEN PAID BY THE DEVELOPER.

WATER (IN CONJUNCTION WITH POWER AND WATER STANDARD DRAWINGS)

W.1. WATER PIPES MUST BE BURIED PVC-M SERIES 2 CLASS 16, WITH DUCTILE IRON (DI) FITTINGS, UNLESS NOTED OTHERWISE.

W.2. ALL DUCTILE IRON CEMENT LINED (DICL) PIPES SHALL BE CLASS PN16 FLANGED OR CLASS 35 RUBBER RING JOINTED (RRJ). ALL BURIED DICL PIPES AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE SLEEVING. MARKING ON PIPES SHALL FACE UPWARDS.

W.3. PIPES UNDER ROAD PAVEMENT, OPEN DRAIN AND DRAINAGE STRUCTURES MUST BE DICL CLASS 16 FLANGED.

W.4. PROVIDE ANCHORAGE FOR ALL VALVES, REDUCERS, AND VERTICAL BENDS. PROVIDE THRUST BLOCKS FOR ALL HORIZONTAL BENDS, TEES AND END CAPS.

W.5. ALL SLUICE VALVES MUST BE RESILIENT SEATED FLANGED CLASS 16 WITH RAISED FLANGES, UNLESS NOTED OTHERWISE.

W.6. ALL FLANGES MUST BE CLASS 16 RAISED TYPE COMPLYING WITH AS 4087 FIGURE B5 FOR DICL AND FIGURE B7 FOR MILD STEEL CEMENT LINED (MSCL), UNLESS NOTED OTHERWISE.

W.7. WATER MAINS MUST BE OFFSET FROM PROPERTY BOUNDARIES A DISTANCE OF 2.4m IN ROAD RESERVES AND 1.5m IN PRIVATE PROPERTY, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS.

W.8. THE COATING ON THE FITTINGS MUST BE FULLY PROTECTED BY A FELT OR GEOTEXTILE BARRIER WHEN THE THRUST BLOCK IS POURED AND THRUST BLOCKS MUST NOT OVERLAP THE JOINT.

W.9. WATERMAINS MUST BE LAID OVER STORM WATER, SEWER, NON-POTABLE AND RECYCLED WATER PIPES, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS.

W.10. NO DEFLECTION AT PVC SOCKET JOINTS ARE PERMITTED. SO-SO DI CONNECTORS (MAXIMUM OF TWO (2) DEGREES) OR DI BENDS MUST BE USED TO ACHIEVE DEFLECTIONS ON PVC PIPES.

W.11. MARKING TAPE COLOURED GREEN AND MARKED 'WATER MAIN' SHALL BE LAID CONTINUOUSLY AND LOCATED 400mm ABOVE THE WATER MAIN.

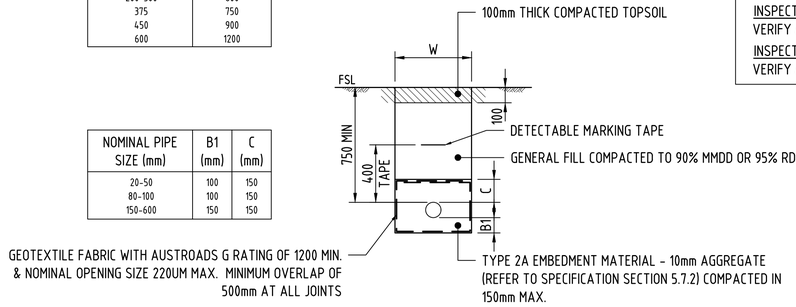
W.12. THE MINIMUM HORIZONTAL CLEARANCE BETWEEN EXISTING SERVICES MUST BE 600mm FOR NEW MAINS UP TO AND EQUAL TO DN200 AND 1000mm FOR NEW MAINS LARGER THAN DN200.

W.13. THE MINIMUM VERTICAL CLEARANCE BETWEEN EXISTING SERVICES MUST BE 300mm FOR NEW MAINS UP TO AND EQUAL TO DN200 AND 500mm FOR NEW MAINS LARGER THAN DN200.

W.14. THE TESTING OF WATER MAINS MUST BE ACCORDING TO POWER AND WATER'S TEST PROCEDURES GUIDELINES.

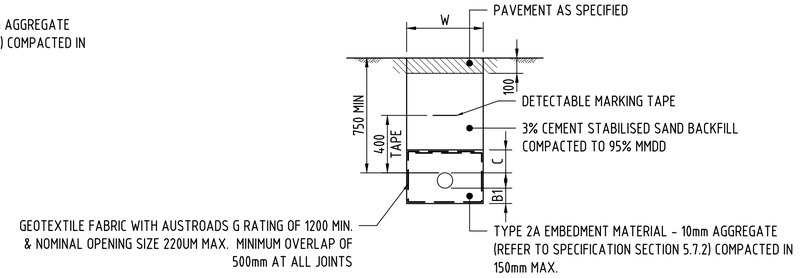
NOMINAL PIPE DIAMETER (DN)	W (mm)
100 & 150	450
200-300	600
375	750
450	900
600	1200

NOMINAL PIPE SIZE (mm)	B1 (mm)	C (mm)
20-50	100	150
80-100	100	150
150-600	150	150



TYPE 2 EMBEDMENT & TRENCH DETAIL - GENERAL

SCALE NTS



TYPE 2 EMBEDMENT & TRENCH DETAIL - ROAD CROSSING

SCALE NTS

MINIMUM REQUIRED INSPECTIONS BY HYDRAULIC CERTIFIER - WATER

PRE-START MEETING
THE CERTIFYING ENGINEER TO ARRANGE PRE-START MEETING WITH POWER WATER REPRESENTATIVE AND PLUMBING CONTRACTOR.

INSPECTION 1
INSPECT EXCAVATED TRENCH AND VERIFY EMBEDMENT TYPE REQUIRED FOR THE SUBSOIL CONDITION. OTHER EMBEDMENT TYPES MUST BE ENDORSED WITH SUPPORTING GEOTECHNICAL REPORT AND APPROVED BY POWER AND WATER.

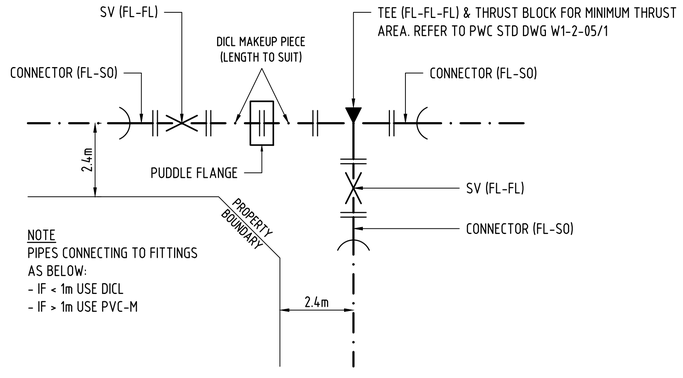
INSPECTION 2
VERIFY ALL CONNECTIONS ARE COMPLETED AND ISOLATED FROM EXISTING.

INSPECTION 3
VERIFY ALL PIPEWORK AND THRUST RESTRAINING PRODUCTS ARE CONSTRUCTED TO DRAWINGS AND SPECIFICATIONS.

INSPECTION 4
WITNESS OF DISINFECTION, FLUSHING AND WATER SAMPLING. VERIFY PRESSURE, DISINFECTION AND BACTERIOLOGICAL TESTS HAVE PASSED.

INSPECTION 5
VERIFY ALL AS CONSTRUCTED INFORMATION. CONDUCT HANDOVER WITH POWER AND WATER.

INSPECTION 6
VERIFY ALL OUTSTANDING DEFECTS ARE COMPLETED.



TYPICAL BRANCH DETAIL

SCALE NTS

EMBEDMENT NOTES

1. TRENCH TO BE INSPECTED AND EMBEDMENT TYPE CERTIFIED BY GEOTECHNICAL ENGINEER.

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY

SIGNED ..... DATE.....

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 or Of the design and/or documents so associated. This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code: DESCERTBL9

Signed: _ _ _ _ _ _ _ _ _ _ _ _

Date:

aurecon
www.aurecongroup.com

CLIENT

halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
N.T.S.	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4C BERRIMAH

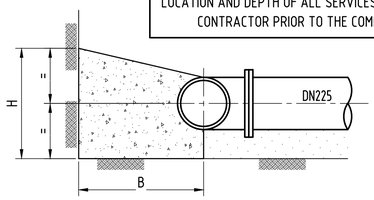
TITLE: WATER RETICULATION PWC WATER STANDARD NOTES & LEGEND

DRAWING No. DN04C - 4000 - DRG - - 3001 - A

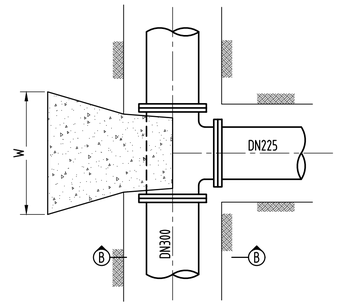
PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
DN04C	4000	DRG		3001	A

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.



SECTION B-B



PLAN

TEES

DN300 THRUST BLOCK DETAILS

DN300 THRUST BLOCKS			
FITTING	W	H	B
300 x 225DN TEE	1.5m	1.2m	1.0m
300 x 150DN TEE	1.2m	0.9m	1.0m

× ASSUMED SOIL BEARING CAPACITY 65 kPa MIN.

WATER FITTINGS TABLE

FITTING	POINT No.
Ø150–22.5°	1
Ø150–45°	2
Ø150–90°	3
Ø225–11.25°	4
Ø225–22.5°	5
Ø225–45°	6
225x225x150 TEE	7
225x225x225 TEE	8
300x300x225 TEE	9
300x300x150 TEE	10
Ø225 TO Ø150 TAPER	11

LEGEND

- PROPOSED WATERMAIN
- PROPOSED WATERMAIN, WATER SERVICES AND STOP VALVE
- PROPOSED WATERMAIN AND FIRE HYDRANT
- DUCTILE PIPE AT ROAD/ STORMWATER CROSSING REFER TYPE 2 DETAIL & NOTE W3
- IRRIGATION CONDUIT DN100
- EXISTING WATERMAIN
- LOTS TO BE SERVED (WATER) BUT RELEASED IN FUTURE STAGE
- LOTS SERVED (WATER) IN PREVIOUS STAGE BUT RELEASED IN THIS STAGE

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code: DESCERTBL9
Signed: _ _ _ _ _ _ _ _ _ _ _ _
Date:

5 0 10 20m
SCALE 1:500

aurecon
www.aurecongroup.com

halikos Developments

CLIENT			
REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
N.T.S.	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	WATER RETICULATION LAYOUT PLAN SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	4000	DRG		3002	A

PWC SEWER NOTES (IN CONJUCTION WITH POWER AND WATER STANDARD DRAWINGS)

S.1. ALL GRAVITY SEWER PIPES SHALL BE UPVC DWV CLASS SN8 WITH STYRENE-BUTADIENE RUBBER RING JOINTS (SBR), UNLESS NOTED OTHERWISE.

S.2. SEWER SHALL BE OFFSET FROM PROPERTY BOUNDARIES A DISTANCE OF 1.6m IN ROAD RESERVES AND 1.5m IN PRIVATE PROPERTY, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS.

S.3. ALL GRAVITY SEWER ARE TO BE A MINIMUM OF DN150, UNLESS NOTED OTHERWISE.

S.4. THE CONTRACTOR SHALL EITHER INSCRIBE OR ATTACH A PLATE TO THE MAINTENANCE HOLES OR MAINTENANCE SHAFT WITH THE IDENTIFYING NUMBER AS SHOWN ON THE DRAWINGS.

S.5. FLEXIBLE JOINTS WITH CONCRETE SURROUND MUST BE CONSTRUCTED ON BOTH UPSTREAM AND DOWNSTREAM SIDES OF THE MAINTENANCE HOLES. CONCRETE SURROUND MUST BE MINIMUM N32, 300mm THICK WITH 4 x N12 BAR AT EACH CORNER. EACH N12 BAR TO BE COGGED AND EPOXIED MIN 50mm INTO MAINTENANCE HOLE WALL WITH A MIN 50mm COVER.

S.6. DEPTH TO INVERT AT MAINTENANCE HOLES/SHAFT ARE MEASURED FROM THE TOP OF MAINTENANCE HOLES/SHAFT.

S.7. UNLESS NOTED OTHERWISE IN THE DRAWINGS, THE MINIMUM CONCRETE STRENGTH FOR ALL SEWERAGE STRUCTURES INCLUDING MAINTENANCE HOLES MUST BE N50. REFER TO POWER AND WATER STANDARD DRAWING W2-2-01D FOR ADDITIONAL NOTES FOR SEWERAGE STRUCTURES.

S.8. ALIGN MAINTENANCE HOLE COVER SUCH THAT THE LONG SIDE OF THE LID IS PARALLEL WITH THE SEWER MAIN. S.9. ALL SEWER RISING MAINS MUST BE PVC-O CLASS 16 RRJ, UNLESS NOTED OTHERWISE. NO DEFLECTIONS AT PVC JOINT ARE PERMITTED. SO-SO DI CONNECTORS (MAXIMUM OF TWO (2) DEGREES) OR DI BENDS MUST BE USED TO ACHIEVE DEFLECTIONS ON PVC PIPES.

S.10. MARKING TAPE COLOURED BEIGE AND MARKED 'SEWER MAIN' MUST BE LAID CONTINUOUSLY AND LOCATED 400mm ABOVE THE SEWER PIPEWORK

S.11. THE MINIMUM HORIZONTAL CLEARANCE BETWEEN EXISTING SERVICES MUST BE 600mm FOR NEW MAINS UP TO AND EQUAL TO DN200 AND 1000mm FOR NEW MAINS LARGER THAN DN200.

S.12. THE MINIMUM VERTICAL CLEARANCE BETWEEN EXISTING SERVICES MUST BE 300mm FOR NEW MAINS UP TO AND EQUAL TO DN200 AND 500mm FOR NEW MAINS LARGER THAN DN200.

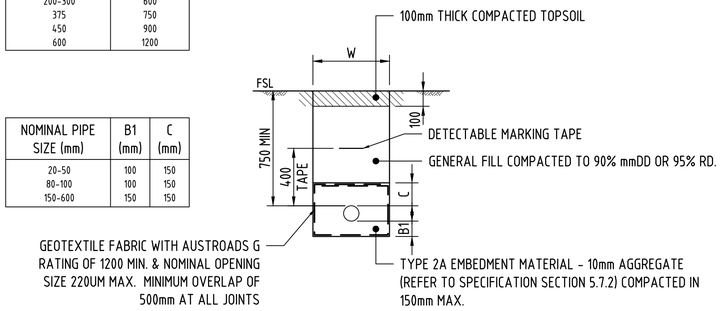
S.13. THE TESTING OF SEWER MAINS AND STRUCTURES MUST BE ACCORDING TO POWER AND WATER'S TEST PROCEDURES GUIDELINE.

PROJECT SEWER NOTES

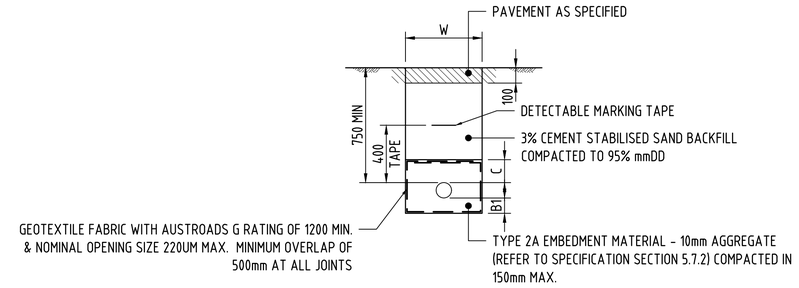
1. REFER TO SEWER LONGSECTIONS FOR BENCHING & BACKFILL DETAILS.
2. REFER TO SEWER LONGSECTIONS FOR STRUCTURES SETOUT COORDINATES
3. SEAL END CAPS TO HAVE MARKER TAPE INSTALLED WHICH WILL RISE VERTICALLY FROM SEWER TO SURFACE, & A STAR PICKET INSTALLED AT THE LOCATION. SUB CONTRACTOR TO ENSURE THE LAST LENGTH OF PIPE IS A WHOLE SECTION & NOT CUT.
4. TRENCHING ARRANGEMENTS AS PER DETAIL ON PLAN.
5. ALL HOUSE CONNECTIONS HAVE BEEN DESIGN TO A MINIMUM GRADE OF 1% (1IN100).

NOMINAL PIPE DIAMETER (DN)	W (mm)
100 & 150	450
200-300	600
375	750
450	900
600	1200

NOMINAL PIPE SIZE (mm)	B1 (mm)	C (mm)
20-50	100	150
80-100	100	150
150-600	150	150



TYPE 2 EMBEDMENT & TRENCH DETAIL - GENERAL
SCALE NTS



TYPE 2 EMBEDMENT & TRENCH DETAIL - ROAD CROSSING
SCALE NTS

MINIMUM REQUIRED INSPECTIONS BY HYDRAULIC CERTIFIER - SEWER

PRE-START MEETING
THE CERTIFYING ENGINEER TO ARRANGE PRE-START MEETING WITH POWER WATER REPRESENTATIVE AND PLUMBING CONTRACTOR.

INSPECTION 1
INSPECT EXCAVATED TRENCH AND VERIFY EMBEDMENT TYPE REQUIRED FOR THE SUBSOIL CONDITION. OTHER EMBEDMENT TYPES MUST BE ENDORSED WITH SUPPORTING GEOTECHNICAL REPORT AND APPROVED BY POWER AND WATER.

INSPECTION 2
VERIFY ALL CONNECTIONS ARE COMPLETED AND ISOLATED FROM EXISTING.

INSPECTION 3
VERIFY ALL PIPE WORK AND CONCRETE STRUCTURES ARE CONSTRUCTED TO DRAWINGS AND SPECIFICATIONS.

INSPECTION 4
ALL JOINTS EXPOSED, CARRY OUT AIR TEST BEFORE UNDERGOING HYDROSTATIC GRAVITY OR PRESSURE (RISING MAIN), AND CCTV INSPECTION (GRAVITY). INSPECTION 3 NOT REQUIRED IF TOTAL LENGTH IS LESS THAN 6m AND THERE ARE NO MAINTENANCE HOLES/SHAFTS.

INSPECTION 5
VERIFY ALL AS CONSTRUCTED INFORMATION. CONDUCT HANDOVER WITH POWER AND WATER.

INSPECTION 6
VERIFY ALL OUTSTANDING DEFECTS ARE COMPLETED.

EMBEDMENT NOTE
TRENCH TO BE INSPECTED AND EMBEDMENT TYPE CERTIFIED BY GEOTECHNICAL ENGINEER.

LEGEND

- WORKS BOUNDARY
- EXISTING SEWER MAIN
- FUTURE SEWER MAIN
- PROPOSED SEWER MAIN, MANHOLE & PROPERTY CONNECTIONS
- PROPOSED SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.) — AC 133 3
- FUTURE SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.) — MS 136 1
- EXISTING SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.) — MS 136 1
- LOTS TO BE SERVED (SEWER) BUT RELEASED IN FUTURE STAGE
- LOTS SERVED (SEWER) IN PREVIOUS STAGE BUT RELEASED IN THIS STAGE
- PROPERTY CONNECTION INFORMATION (TYPE, INVERT LEVEL AT CONNECTION POINT & DISTANCE FROM DOWNSTREAM PIT) — TYPE 2 IL21.578 CH25.000

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code:
DESCERTBL9
Signed: _ _ _ _ _ _ _ _ _ _ _ _
Date:

aurecon
www.aurecongroup.com

CLIENT: halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	10-03-23	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
N.T.S.	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4C
BERRIMAH

TITLE: SEWERAGE RETICULATION
PWC SEWER STANDARD NOTES & LEGEND

DRAWING No. DN04C - 5000 - DRG - - 4000 - A
(PROJECT No. - WBS - TYPE - DISC - NUMBER - REV)

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

EXISTING STAGE 4B

STAGE 4C

EXISTING STAGE 2A

ROAD 1 ROAD 3-REUBEN AVENUE ROAD 4-JULIUS STREET ROAD 4-BELMONT STREET ROAD 6 ROAD 6-TAURUS STREET ROAD 9

LINE 11 LINE 22 LINE 24 LINE 25 LINE 26 LINE 13 LINE 5

3m 150DN STUB FOR FUTURE CONNECTION. IL 30.861 @ 5.41% TYPE 1 DROP

3m 150DN STUB FOR FUTURE CONNECTION. IL 31.225 @ 1.00% TYPE 1 DROP

REMOVE EXISTING END CAP & CONNECT. CONNECTION TO EXISTING CHAMBER TO BE UNDERTAKEN BY PWC (OR ITS AUTHORISED CONTRACTORS) ONLY AFTER INSTALLATION AND TESTING OF ALL UPSTREAM SEWER WORKS IS COMPLETED AND APPROVED.

LEGEND

- WORKS BOUNDARY
- EXISTING SEWER MAIN
- SRM — PROPOSED SEWER RISING MAIN
- PROPOSED SEWER MAIN, MANHOLE & PROPERTY CONNECTIONS
- AC 133 3 — PROPOSED SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- MS 136 1 — FUTURE SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- MS 136 1 — EXISTING SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- LOTS TO BE SERVED (SEWER) BUT RELEASED IN FUTURE STAGE
- LOTS SERVED (SEWER) IN PREVIOUS STAGE BUT RELEASED IN THIS STAGE
- TYPE 2 IL21.578 CH25.000 — PROPERTY CONNECTION INFORMATION (TYPE, INVERT LEVEL AT CONNECTION POINT & DISTANCE FROM DOWNSTREAM ACCESS CHAMBER. TYPE 5 INVERT LEVEL AT SEWER LINE I.O.)

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code: DESCERTBL9
Signed: _ _ _ _ _ _ _ _ _ _ _ _ _ _
Date:

5 0 10 20m
SCALE 1:500

aurecon
www.aurecongroup.com

halikos Developments

CLIENT

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

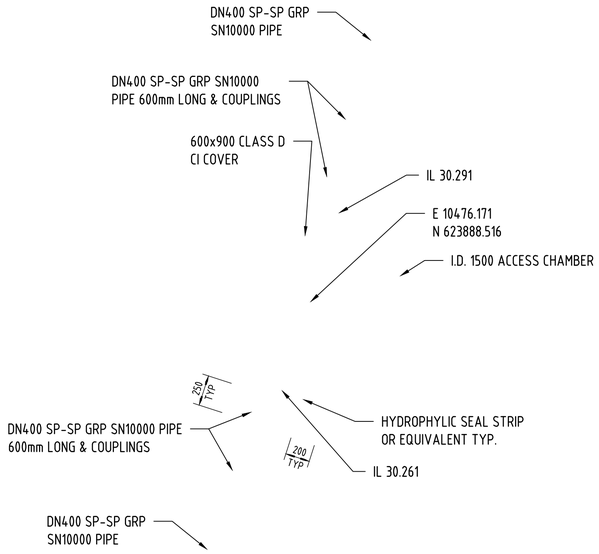
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

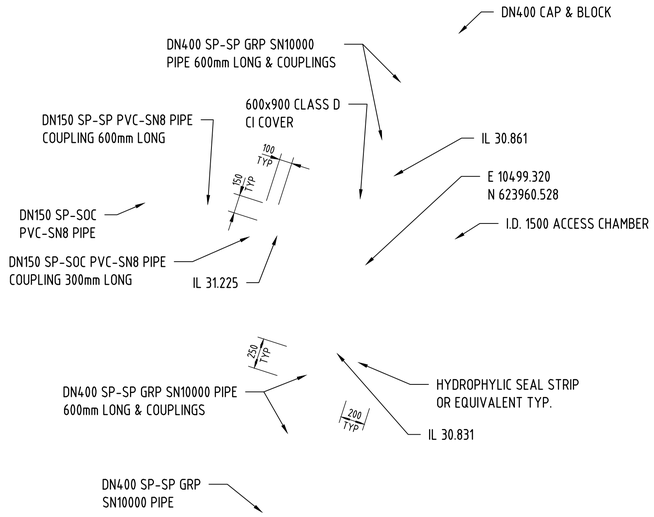
PROJECT: NORTHCREST - STAGE 4C BERRIMAH

TITLE: SEWERAGE RETICULATION LAYOUT PLAN SHEET 1 OF 1

DRAWING No. | PROJECT No. | WBS | TYPE | DISC | NUMBER | REV
DN04C – 5000 – DRG – – 4001 – A



AC 13/3



AC 13/4

PWC DRG No. B23-XXXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

250 0 500 1000mm
SCALE 1:25

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4C
BERRIMAH

TITLE: SEWERAGE RETICULATION LAYOUT PLAN
ACCESS CHAMBER LAYOUTS

DRAWING No.

PROJECT No.		WBS		TYPE		DISC		NUMBER		REV
DN04C	–	5000	–	DRG	–		–	4002	–	A

PWC DRG No. B23-XXXX

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code:
DESCERTBL9

Signed: _ _ _ _ _ _ _ _ _ _ _ _

Date:

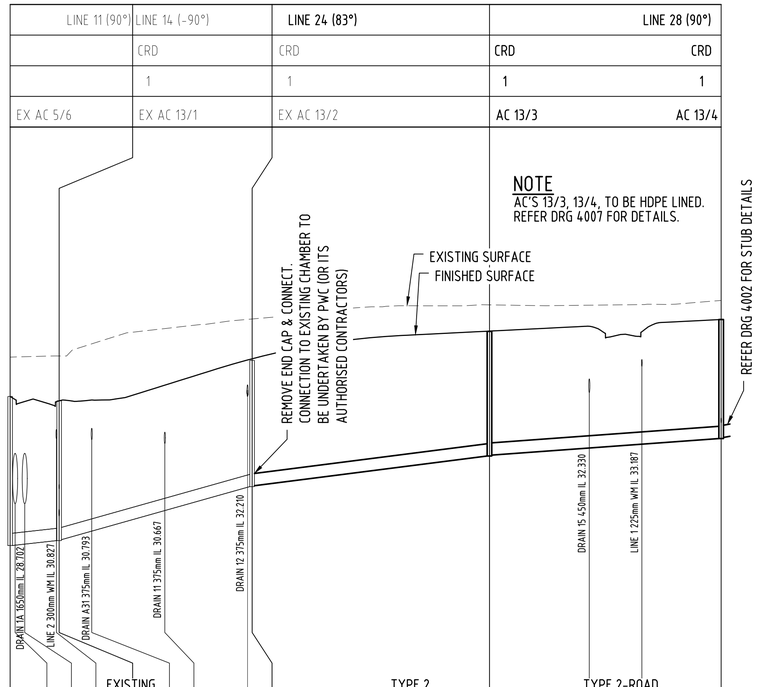
PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
ON BEHALF OF WATER SERVICES FOR THE INCORPORATION INTO POWER AND WATER CORPORATION'S NETWORK.
This permission to use this approved design is given on the Basis that the developer and/or consultant is not absolved From full responsibility for the correctness and accuracy or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

NOTE
ALL ACCESS CHAMBERS ARE TO BE CAST INSITU. CIRCULAR I.D.1200 (AC = ACCESS CHAMBER)
(MS = MAINTENANCE SHAFT)
(TMS = TERMINAL MAINTENANCE SHAFT)
(CRD = CIRCULAR MANHOLE RECTANGULAR COVER, HEAVY DUTY) (HVY = CLASS D TO PWC STD DRG W2-2-07)
REFER SEWER RETICULATION PLAN FOR TRENCH TYPE DETAILS.

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED

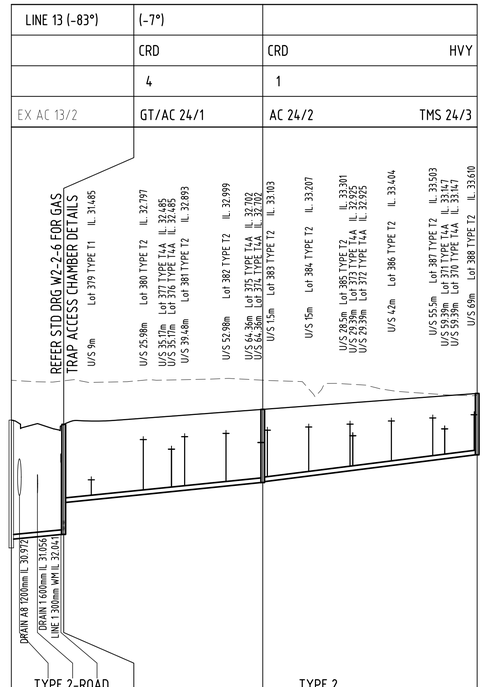
LINE 13

JUNCTION LINE:	LINE 11 (90°)	LINE 14 (-90°)		LINE 24 (83°)			LINE 28 (90°)	
MANHOLE & COVER TYPE		CRD		CRD		CRD		CRD
MANHOLE DROP TYPE		1		1		1		1
MANHOLE NO.	EX AC 5/6	EX AC 13/1		EX AC 13/2		AC 13/3		AC 13/4
TRENCH TYPE		EXISTING			TYPE 2		TYPE 2-ROAD	
PIPE DIA. (mm). TYPE & CLASS		DN400-GRP-SN10000		DN400-GRP-SN10000		DN400-GRP-SN10000	DN400-GRP-SN10000	
GRADE (%)		-1.00% - 16.00		-2.75% - 63.00		-1.25% - 77.50	-0.71% - 75.64	
LENGTH (m)								
DATUM R.L.	19.000							
RL TOP OF MANHOLE	32.204		32.063		33.381	34.339		34.717
DEPTH TO INVERT	4.864		4.563	4.533	4.119	4.089	4.078	4.048	3.886	3.856
INVERT LEVEL	27.340	27.384	27.500	27.530	29.262	29.292	30.261	30.291	30.831	30.861
	27.350	27.498		27.809	29.241		30.523	30.648		
				28.481						
FINISH SURFACE LEVEL	32.204		32.063		33.435	34.339		34.717	
EXISTING SURFACE LEVEL	33.489		33.527		34.734	35.195		35.339	
CHAINAGE (LENGTH)	0.00	1.62	4.76	15.10	16.00	26.65	50.51	77.51	79.00	156.50	189.08	206.24	232.14
ACCESS CHAMBER LOCATION	E 104.28.471 N 623739.751		E 104.33.175 N 623754.757		E 104.52.455 N 623814.734		E 104.76.172 N 623888.516		E 104.99.320 N 623960.528



LINE 24

JUNCTION LINE:	LINE 13 (-83°)	(-7°)		
MANHOLE & COVER TYPE		CRD	CRD	HVY
MANHOLE DROP TYPE		4	1	
MANHOLE NO.	EX AC 13/2	GT/AC 24/1	AC 24/2	TMS 24/3
TRENCH TYPE	TYPE 2-ROAD		TYPE 2	
PIPE DIA. (mm). TYPE & CLASS	DN150-PVC-SN8	DN150-PVC-SN8	DN150-PVC-SN8	
GRADE (%)	-0.89% - 17.12	-1.00% - 64.97	-1.25% - 70.00	
LENGTH (m)				
DATUM R.L.	21.000			
RL TOP OF MANHOLE	33.435	33.293	33.784	34.304
DEPTH TO INVERT	4.173	3.885	3.590	2.548	2.389	2.359	2.004
INVERT LEVEL	29.262	29.550	29.625	29.700	29.703	30.745	31.395	31.425	32.300
		29.568							
FINISH SURFACE LEVEL	33.435	33.293	33.784	34.304
EXISTING SURFACE LEVEL	34.734	34.716	34.735	34.247
CHAINAGE (LENGTH)	0.00	2.64	8.51	16.21	17.12	82.09	152.09
ACCESS CHAMBER LOCATION	E 104.52.455 N 623814.734	E 104.35.662 N 623818.044	E 10373.821 N 623837.983	E 10307.199 N 623859.464



H: 0 20 40m
V: 0 2 4m
SCALE H:1:1000 V:1:100 @A1

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4C BERRIMAH

TITLE: SEWERAGE RETICULATION LONGSECTIONS
SHEET 1 OF 2

DRAWING No.: PROJECT No. DN04C – WBS 5000 – TYPE DRG – DISC – NUMBER 4003 – REV A

PWC DRG No. B23-XXXX

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code:
DESCERTBL9

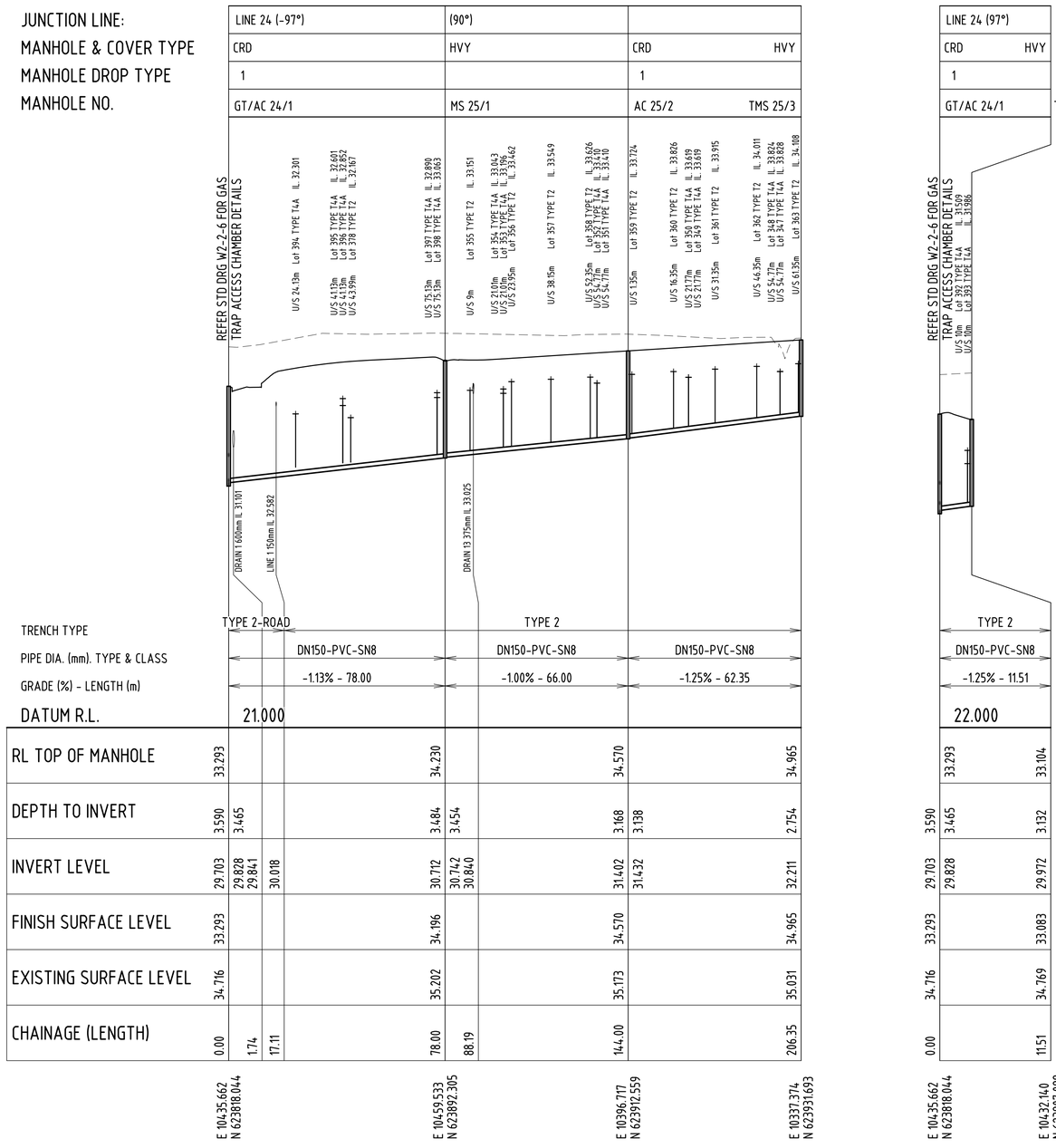
Signed: _ _ _ _ _ _ _ _ _ _ _ _

Date:

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

NOTE
ALL ACCESS CHAMBERS ARE TO BE CAST INSITU. CIRCULAR I.D.1200 (AC = ACCESS CHAMBER)
(MS = MAINTENANCE SHAFT)
(TMS = TERMINAL MAINTENANCE SHAFT)
(CRD = CIRCULAR MANHOLE RECTANGULAR COVER, HEAVY DUTY) (HVY = CLASS D TO PWC STD DRG W2-2-07)
REFER SEWER RETICULATION PLAN FOR TRENCH TYPE DETAILS.

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED



H: 0 20 40m
V: 0 2 4m
SCALE H:1:1000 V:1:100 @A1

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

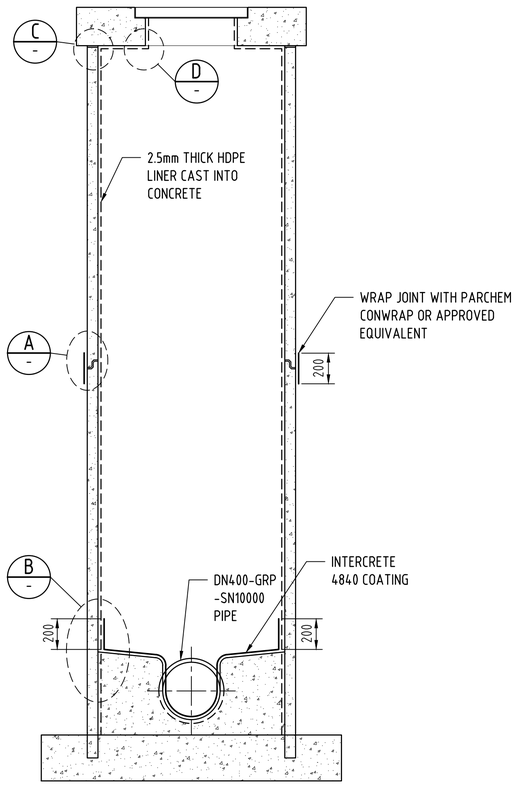
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

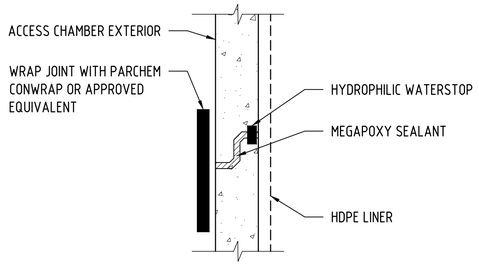
PROJECT: NORTHCREST - STAGE 4C BERRIMAH

TITLE: SEWERAGE RETICULATION LONGSECTIONS
SHEET 2 OF 2

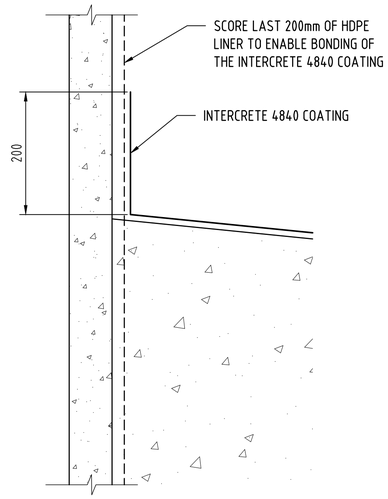
DRAWING No. PROJECT No. DN04C – WBS 5000 – TYPE DRG – DISC – NUMBER 4004 – REV A



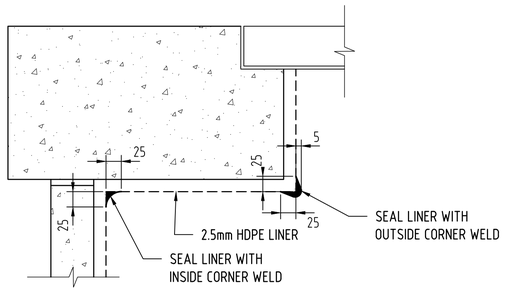
TYPICAL ACCESS CHAMBER LINING
SCALE 1 : 20



DETAIL A
NTS -



DETAIL B
NTS -



DETAIL C & D
NTS -

PWC DRG No. B23-XXXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	R. CHRISNADI

SCALE	N.T.S.
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION
APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	SEWERAGE RETICULATION TRUNK SEWER ACCESS CHAMBER HDPE LINER AC 13/3 & AC 13/4

DRAWING No.

PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
DN04C	5000	DRG		4005	A

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

LEGEND

- WORKS BOUNDARY
- DN450 — PROPOSED STORMWATER DRAINAGE, PIPE SIZE
- CATCHDRAIN
- STRUCTURE LABEL (LINE No / PIT No)
- EXISTING STRUCTURE LABEL (LINE No / PIT No)
- PROPOSED WATERMAIN
- PROPOSED WATERMAIN, WATER SERVICES AND STOP VALVE
- PROPOSED WATERMAIN AND FIRE HYDRANT
- DICL PIPE AT ROAD/ STORMWATER CROSSING
- IRRIGATION CONDUIT
- PROPOSED SEWER MAIN, MANHOLE & PROPERTY CONNECTIONS
- PROPOSED SEWER STRUCTURE LABEL (TYPE / LINE No. / PIT No.)
- LOTS TO BE SERVED (WATER) BUT RELEASED IN FUTURE STAGE
- LOTS SERVED (WATER) IN PREVIOUS STAGE BUT RELEASED IN THIS STAGE
- LOTS TO BE SERVED (SEWER) BUT RELEASED IN FUTURE STAGE
- LOTS SERVED (SEWER) IN PREVIOUS STAGE BUT RELEASED IN THIS STAGE
- PROPOSED ELECTRICAL CONDUIT
- PROPOSED ELECTRICAL SUBSTATION
- PROPOSED ELECTRICAL PILLAR
- PROPOSED LIGHT POLE
- PROPOSED PARK MAIN SWITCHBOARD
- PROPOSED SW PROPERTY CONNECTION

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code:
DESCERTBL9

Signed: _____

Date:

5 0 10 20m
SCALE 1:500

aurecon
www.aurecongroup.com

halikos Developments

CLIENT

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	MASTER SERVICES LAYOUT PLAN SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	8000	DRG		7000	A

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES

SIGNED..... DATE.....

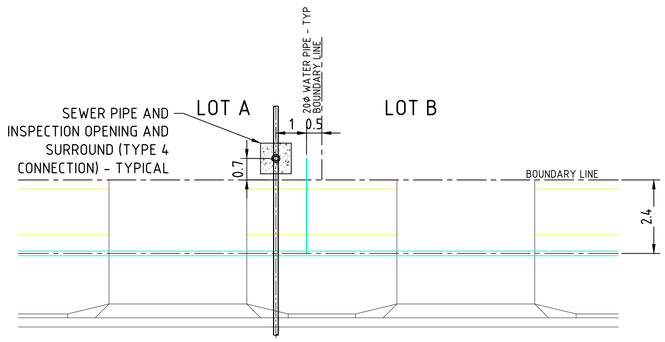
ON BEHALF OF WATER SERVICES FOR INCORPORATION INTO THE POWER AND WATER CORPORATION'S NETWORK.

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

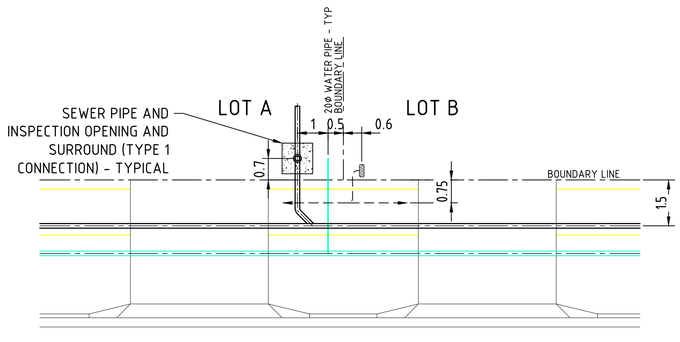
PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code:
DESCERTBL9

Signed: _ _ _ _ _ _ _ _ _ _ _ _ _ _

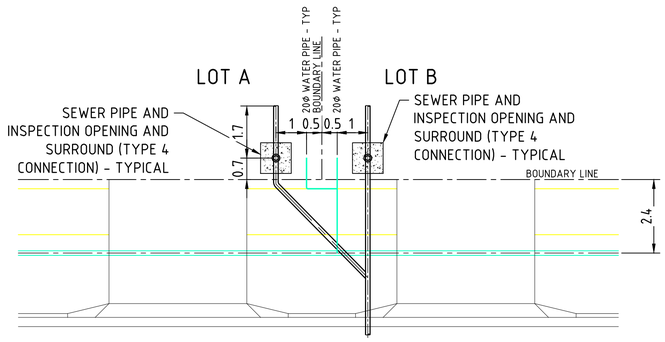
Date:



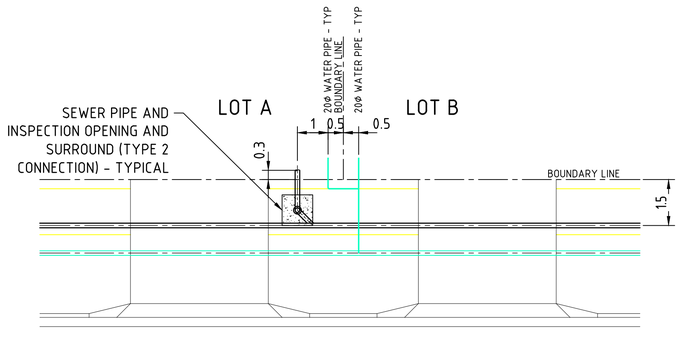
PLAN - TYPICAL SERVICE LOCATION 1



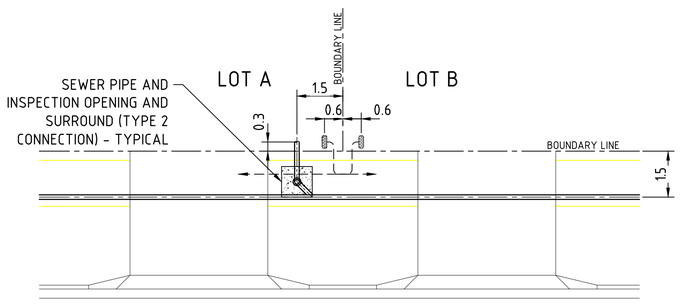
PLAN - TYPICAL SERVICE LOCATION 5



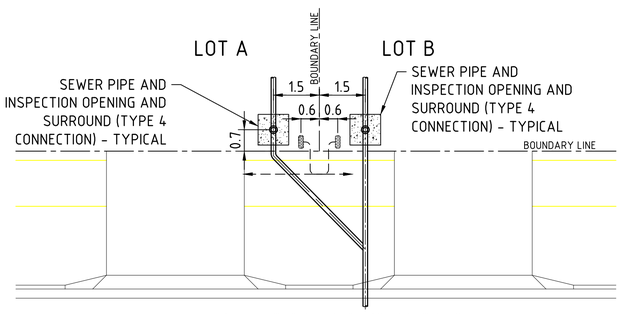
PLAN - TYPICAL SERVICE LOCATION 2



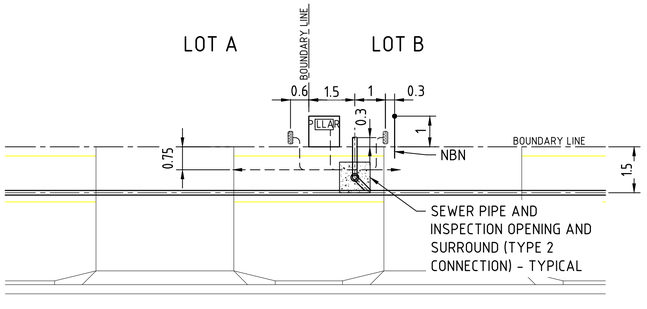
PLAN - TYPICAL SERVICE LOCATION 6



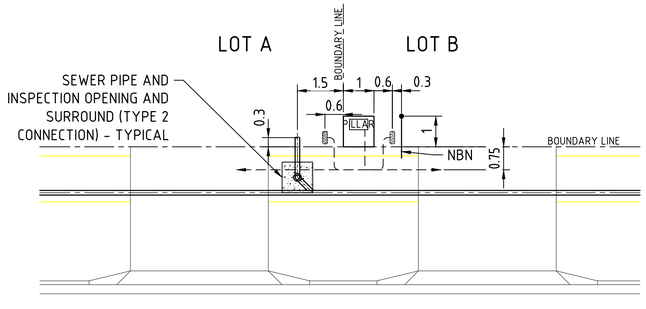
PLAN - TYPICAL SERVICE LOCATION 3



PLAN - TYPICAL SERVICE LOCATION 7



PLAN - TYPICAL SERVICE LOCATION 4



PLAN - TYPICAL SERVICE LOCATION 8

1 0 2 4m
SCALE 1:100

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

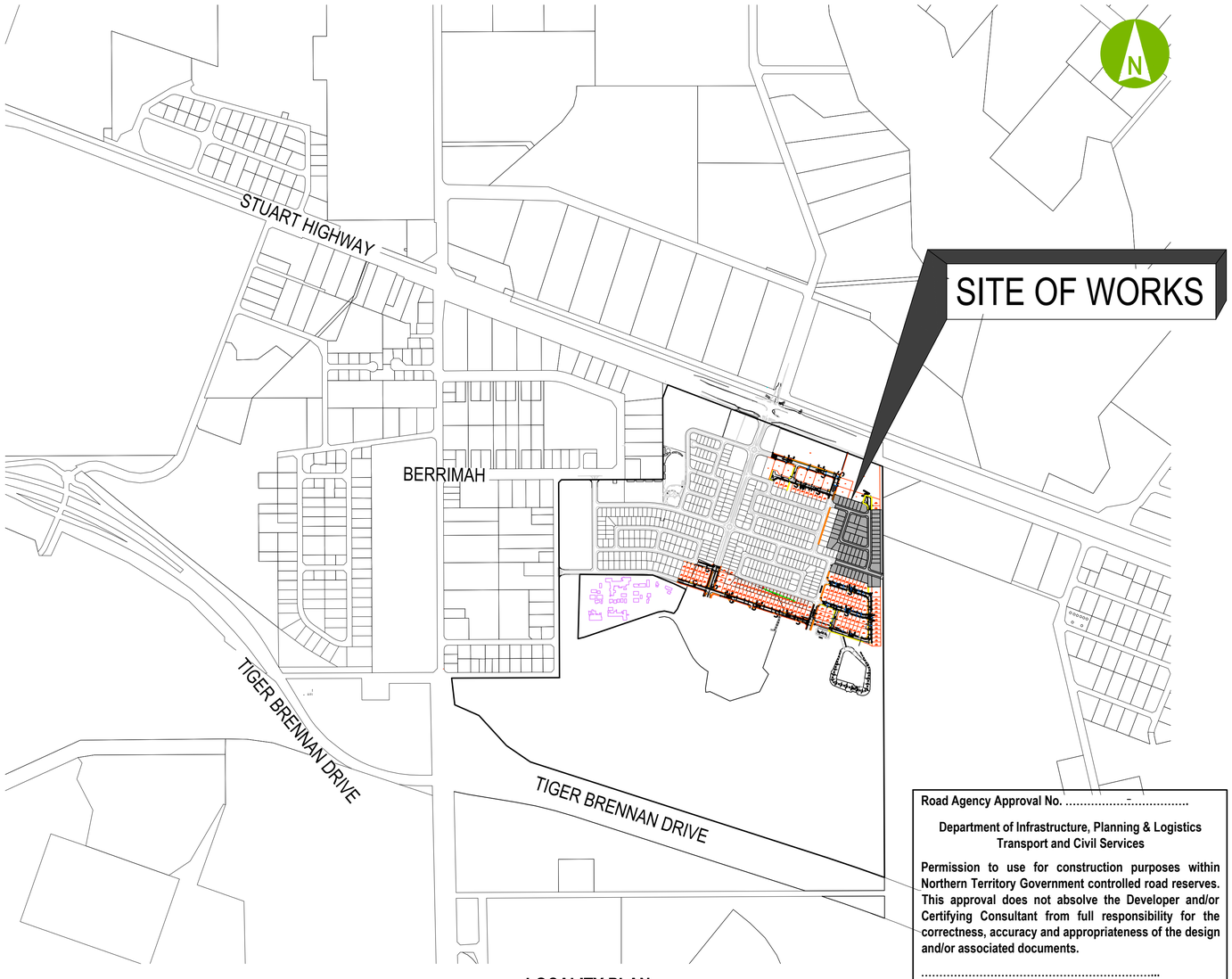
APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4C BERRIMAH
TITLE	TYPICAL SERVICE LOCATIONS

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04C	8000	DRG		7001	A

NORTHCREST - STAGE 4E

DRAWING LIST		
DIPL DRG. No.	SHEET No.	SHEET TITLE
	GENERAL	
R23-XXXX	DN04E-0900-DRG-1001	LOCALITY PLAN & SCHEDULE OF DRAWINGS
R23-XXXX	DN04E-0900-DRG-1002	ALLOTMENT LAYOUT AND STAGE EXTENTS PLAN
R23-XXXX	DN04E-0900-DRG-1003	PROJECT NOTES
	ROADWORKS AND ALLOTMENT	
R23-XXXX	DN04E-2000-DRG-1004	ROADWORKS CONTROL LINE GEOMETRY PLAN - SHEET 1 OF 1
R23-XXXX	DN04E-2000-DRG-1005	ROADWORKS AND PAVEMENT LAYOUT PLAN - SHEET 1 OF 1
R23-XXXX	DN04E-2000-DRG-1006	ROADWORKS TYPICAL CROSS SECTIONS
R23-XXXX	DN04E-2000-DRG-1007	ROADWORKS LONGITUDINAL SECTIONS - SHEET 1 OF 3
R23-XXXX	DN04E-2000-DRG-1008	ROADWORKS LONGITUDINAL SECTIONS - SHEET 2 OF 3
R23-XXXX	DN04E-2000-DRG-1009	ROADWORKS LONGITUDINAL SECTIONS - SHEET 3 OF 3
R23-XXXX	DN04E-2000-DRG-1010	ROAD CROSS SECTIONS ROAD 3 - REUBEN AVENUE - SHEET 1 OF 4
R23-XXXX	DN04E-2000-DRG-1011	ROAD CROSS SECTIONS ROAD 10 - SHEET 2 OF 4
R23-XXXX	DN04E-2000-DRG-1012	ROAD CROSS SECTIONS ROAD 12 - SHEET 3 OF 4
R23-XXXX	DN04E-2000-DRG-1013	ROAD CROSS SECTIONS ROAD 13 - SHEET 4 OF 4
R23-XXXX	DN04E-2000-DRG-1014	ROADWORKS INTERSECTION DETAILS - SHEET 1 OF 2
R23-XXXX	DN04E-2000-DRG-1015	ROADWORKS INTERSECTION DETAILS - SHEET 2 OF 2
R23-XXXX	DN04E-2000-DRG-1016	LINEMARKING AND SIGNAGE PLAN - SHEET 1 OF 1
R23-XXXX	DN04E-2000-DRG-1017	FOOTPATH LAYOUT PLAN - SHEET 1 OF 1
R23-XXXX	DN04E-2000-DRG-1018	EARTHWORKS AND ALLOTMENT GRADING PLAN - SHEET 1 OF 1
R23-XXXX	DN04E-2000-DRG-1019	EARTHWORKS CUT FILL DIFFERANCE PLAN - SHEET 1 OF 1
R23-XXXX	DN04E-2000-DRG-1020	RETAINING WALL LAYOUT PLAN
R23-XXXX	DN04E-2000-DRG-1021	RETAINING WALL DETAILS - SHEET 1 OF 1
	2000 - STORMWATER DRAINAGE	
R23-XXXX	DN04E-3000-DRG-2000	STORMWATER DRAINAGE LAYOUT PLAN
R23-XXXX	DN04E-3000-DRG-2001	STORMWATER LAYOUT PLAN & SETOUT TABLE- SHEET 1 OF 1
R23-XXXX	DN04E-3000-DRG-2002	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 1 OF 4
R23-XXXX	DN04E-3000-DRG-2003	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 2 OF 4
R23-XXXX	DN04E-3000-DRG-2004	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 3 OF 4
R23-XXXX	DN04E-3000-DRG-2005	STORMWATER DRAINAGE LONGITUDINAL SECTIONS - SHEET 4 OF 4
R23-XXXX	DN04E-3000-DRG-2006	SUBSOIL DRAINAGE LAYOUT PLAN - SHEET 1 OF 1
R23-XXXX	DN04E-3000-DRG-2007	SUBSOIL DRAINAGE DETAILS & SW PROPERTY CONNECTION - SHEET 2 OF 2
R23-XXXX	DN04E-3000-DRG-2008	STORMWATER DRAINAGE SPECIAL PIT DETAILS
R23-XXXX	DN04E-3000-DRG-2009	STORMWATER OUD PLAN & LONGITUDINAL SECTION
PCW DRG. No.	3000 - WATER SUPPLY	
B23-XXXX	DN04E-4000-DRG-3000	PWC COVER SHEET - LEGEND & LOCALITY PLAN
B23-XXXX	DN04E-4000-DRG-3001	WATER RETICULATION - PWC WATER STANDARD NOTES & LEGEND
B23-XXXX	DN04E-4000-DRG-3002	WATER RETICULATION LAYOUT PLAN - SHEET 1 OF 1
	4000 - SEWERAGE	
B23-XXXX	DN04E-5000-DRG-4000	SEWERAGE RETICULATION - PWC SEWER STANDARD NOTES & LEGEND
B23-XXXX	DN04E-5000-DRG-4001	SEWERAGE RETICULATION LAYOUT PLAN - SHEET 1 OF 1
B23-XXXX	DN04E-5000-DRG-4002	SEWERAGE RETICULATION LONGITUDINAL SECTIONS - SHEET 1 OF 2
B23-XXXX	DN04E-5000-DRG-4003	SEWERAGE RETICULATION LONGITUDINAL SECTIONS - SHEET 2 OF 2
B23-XXXX	DN04E-5000-DRG-4004	
B23-XXXX	DN04E-5000-DRG-4005	
	7000 - MASTER SERVICES	
B23-XXXX	DN04E-8000-DRG-7000	MASTER SERVICES LAYOUT PLAN - SHEET 1 OF 1
B23-XXXX	DN04E-8000-DRG-7001	TYPICAL SERVICE LOCATIONS
	1500 - EROSION & SEDIMENT CONTROL	
	DN04E-2500-DRG-1500	GENERAL NOTES
	DN04E-2500-DRG-1501	SITE ESTABLISHMENT
	DN04E-2500-DRG-1502	CONSTRUCTION AND REHABILITATION ESC CONTROL
	DN04E-2500-DRG-1503	EROSION AND SEDIMENT CONTROL DETAILS



LOCALITY PLAN
1:10 000

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

100 0 200 400m
SCALE 1:10000

Plot Date: 14/5/2023 5:04:16 PM Office: Filename: C:\USERS\ELIZABETH.LEE\AURECON.GROUP\253863 - BERRIMAH FARM SUBDIVISION - 5 DELIVER\DESIGN\503.DRAWING\DRAFT COPY\STAGE 4E\253863-0900-DRG-1001.DWG

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4E
BERRIMAH

TITLE: LOCALITY PLAN & SCHEDULE OF DRAWINGS

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	0900	DRG		1001	A

SURVEY CONTROL - MGA94 - ZONE 52, AHD				
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	709742.68	8624317.42	36.21	BRASS PLAQUE
S97185014	709719.66	8624040.12	36.98	BRASS PLAQUE
S97185015	709497.71	8624058.88	37.40	BRASS PLAQUE
S97185017	709500.57	8623436.88	36.71	BRASS PLAQUE
S97185018	709482.57	8623306.65	33.67	BRASS PLAQUE
S97185019	709308.33	8623304.52	33.92	BRASS PLAQUE
S97185074	709911.03	8624375.45	36.30	BRASS PLAQUE
S99190009	710303.83	8624309.25	35.45	BRASS PLAQUE

SURVEY CONTROL - BERRIMAH FARM LOCAL GRID, AHD				
STATION	EASTING	NORTHING	RL	DESCRIPTION
S97185013	9725.87	624315.18	36.21	BRASS PLAQUE
S97185014	9704.87	624037.76	36.98	BRASS PLAQUE
S97185015	9482.81	624054.91	37.40	BRASS PLAQUE
S97185017	9490.20	623433.02	36.71	BRASS PLAQUE
S97185018	9473.15	623302.68	33.67	BRASS PLAQUE
S97185019	9298.95	623299.29	33.92	BRASS PLAQUE
S97185074	9893.77	624374.43	36.30	BRASS PLAQUE
S99190009	10287.00	624311.10	35.45	BRASS PLAQUE

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

aurecon
www.aurecongroup.com

CLIENT

halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4E BERRIMAH

TITLE: ALLOTMENT LAYOUT AND STAGE EXTENTS PLAN

DRAWING No.: PROJECT No. DN04E – WBS 0900 – TYPE DRG – DISC – NUMBER 1002 – REV A

GENERAL NOTES:

1. CONTRACT DOCUMENTATION
ALL DRAWINGS UNDER THIS CONTRACT ARE TO BE READ IN CONJUNCTION WITH THE ENGINEERS SPECIFICATION.

2. SURVEY INFORMATION
CONTROL SURVEY INFORMATION WILL BE ESTABLISHED ON SITE BY THE SUB CONTRACTOR'S SURVEYOR. SETOUT INFORMATION SHALL NOT BE OBTAINED BY SCALING FROM THESE DRAWINGS.

3. DATUM
ALL LEVELS SHOWN ON DRAWINGS ARE A.H.D. (DERIVED).

4. EXISTING SURVEY CONTROL STATIONS
THE SUB CONTRACTOR IS TO ENSURE THAT SURVEY CONTROL STATIONS ARE NOT DAMAGED OR DISTURBED IN ANY WAY BY CONSTRUCTION ACTIVITIES.

5. EXISTING SERVICES
EXISTING SERVICES LOCATIONS WHERE SHOWN ON THE DRAWINGS ARE INDICATIVE ONLY. THE SUB CONTRACTOR SHALL CONTACT THE RELEVANT AUTHORITIES TO ASCERTAIN THE EXACT LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK AND SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING SERVICES.

6. SITE ACCESS
THE SUB CONTRACTOR SHALL GAIN ACCESS TO THE SITE AT LOCATIONS APPROVED BY THE SUB CONTRACTOR'S PROJECT MANAGER. FREEDOM OF ACCESS TO OTHER WORK AREAS ON THE SITE SHALL BE MAINTAINED AT ALL TIMES.

7. PROVISION FOR TRAFFIC
PROVISION FOR TRAFFIC ON LOCAL ROADS IS TO BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND TRANSPORT & CIVIL SERVICES DIVISION REQUIREMENTS.

8. WORK BOUNDARIES
THE SUB CONTRACTOR IS TO RESTRICT ACTIVITIES TO THOSE AREAS DESIGNATED AS WORK AREAS UNDER THIS CONTRACT. AT NO TIME SHALL THE SUB CONTRACTOR ENTER ADJOINING PROPERTIES OR CONTRACT WORK AREAS ON THE SITE WITHOUT WRITTEN AUTHORISATION FROM THE SUB CONTRACTOR'S PROJECT MANAGER.

9. SITE CLEARING
CLEARING AND GRUBBING SHALL BE CARRIED OUT ON ALL WORK AREAS AS SPECIFIED AND SHALL INCLUDE THE REMOVAL OF ALL EXISTING TREES (UNLESS NOMINATED TO BE PRESERVED), EXISTING VEGETATION, TIMBER, FENCES, SMALL STRUCTURES AND ANY OTHER DEBRIS.

10. TOPSOIL STRIPPING
ALL TOPSOIL STRIPPED FROM WORK AREAS SHALL BE STOCKPILED FOR LATER RE-SPREADING TO ALL FOOTPATHS, BATTERS AND FILL AREAS.

11. EARTHWORKS (GENERAL)
ALL FILL MATERIAL PLACED SHALL BE COMPACTED AND TRIMMED TO FINAL EARTHWORKS LEVELS AND PROFILES SHOWN ON THE CONTRACT DRAWINGS AND TESTED IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION.

12. COMPACTION STANDARDS
ALL FILL MATERIAL PLACED UNDER THIS CONTRACT SHALL BE COMPACTED IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION, GEOTECHNICAL REPORT AND OTHER RELEVANT DESIGN DOCUMENTS.

13. STORMWATER DRAINAGE
LOCATION AND ALIGNMENT OF ALL STORMWATER DRAIN LINES IS TO BE VERIFIED ON SITE WITH THE SUB CONTRACTOR'S PROJECT MANAGER PRIOR TO EXCAVATION. THE DESIGN SURFACE LEVELS OF MANHOLES AND OTHER STRUCTURES ARE TO BE AS DOCUMENTED. ALL DRAINAGE CONSTRUCTION SHALL BE IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES, STANDARD DRAWINGS, ENGINEERS SPECIFICATION AND AUTHORITY REQUIREMENTS. ANY DESIGN CHANGES OR RELOCATION OF STORMWATER DRAIN LINES ARE TO BE APPROVED BY DIPL.

14. SEWERAGE RETICULATION
THE DESIGN SURFACE LEVELS OF SEWER MANHOLES ARE TO BE VERIFIED ON SITE PRIOR TO CONSTRUCTION. ALL SEWERAGE RETICULATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH POWERWATER CORPORATION STANDARD DRAWINGS AND SPECIFICATION.

15. WATER RETICULATION
ALL WATER RETICULATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH POWERWATER CORPORATION STANDARD DRAWINGS AND SPECIFICATION.

16. ELECTRICAL RETICULATION
ALIGNMENTS OF ALL CONDUIT CROSSINGS ARE TO BE VERIFIED ON SITE WITH THE SUB CONTRACTOR'S PROJECT MANAGER PRIOR TO EXCAVATION. ALL TRENCHING AND CONDUIT WORKS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT CONSULTANT'S DRAWINGS AND POWERWATER CORPORATION STANDARD DRAWINGS & SPECIFICATIONS.

17. TOPSOIL REPLACEMENT AND GRASSING
FOLLOWING COMPLETION OF ROADWORKS CONSTRUCTION AND BULK EARTHWORKS OPERATIONS THE FULL EXTENT OF VERGES AND BATTERS IS TO BE RE-TOPSOILED TO A MINIMUM DEPTH OF 100mm AND GRASSED.

18. TESTING
ALL TESTING SHALL BE CARRIED OUT BY AN APPROVED N.A.T.A. TESTING AUTHORITY IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION.

19. AS CONSTRUCTED" SURVEY ."
AS CONSTRUCTED" SURVEY SHALL BE CARRIED OUT BY THE SUB CONTRACTOR'S SURVEYOR AS WORK PROCEEDS. AS CONSTRUCTED INFORMATION SHALL BE PROVIDED AS HARD COPY 1xA3 PAPER AS WELL AS DIGITAL, BOTH PDF AND DWG/DGN. COORDINATED TO MGA94 AND LEVELS TO AHD.

20. MAINTENANCE OF SITE CONDITION
AT THE COMPLETION OF WORKS THE SITE IS TO BE LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE SUB CONTRACTOR'S PROJECT MANAGER AND DEPARTMENT OF INFRASTRUCTURE PLANNING AND LOGISTICS (DIPL)

21. PITS IN VERGES
PITS IN VERGESTO BE ALIGNED PARALLEL WITH THE FOOTPATH.

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE PROJECT DRAWINGS, ENGINEERS SPECIFICATION AND BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWINGS.

2. MINIMUM STORMWATER PIPE SIZE IS DN375 REINFORCED CONCRETE CLASS 2 U.N.O.

3. BOX CONCRETE SHALL BE 'U' TYPE SUITABLE FOR INSTALLATION ON A CAST INSITU CONCRETE SLAB. PRECAST CULVERTS UP TO A SIZE OF 1200 X 900 SHALL BE IN ACCORDANCE WITH AS1597. ALL OTHER SIZES TO CONFORM TO AS1597.2

4. BEDDING FOR ALL PIPES IS TO BE IN ACCORDANCE WITH THE ENGINEERS SPECIFICATION.

5. MANHOLES ARE TO BE AS PER BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG123.

6. MANHOLES ARE TO HAVE HEAVY DUTY B293 GATIC TYPE COVERS AND FRAMES AS PER BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG123.

7. MANHOLES ARE TO HAVE FINISHED LID LEVELS FLUSH WITH THE FINISHED SURFACE LEVEL. FINISHED SURFACE LEVELS SHOWN ON THE DRAWINGS SHOULD BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.

8. OUTLET HEADWALLS FOR RCP'S TO BE TYPE 1 AS PER BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG102 U.N.O.
OUTLET HEADWALLS FOR RCBC'S TO BE TYPE 1 AS PER BERRIMAH FARM SUBDIVISION STANDARD DRAWING USG104 U.N.O.

9. SIDE ENTRY PITS ARE TO BE TYPE A-G IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWINGS USG120 & USG121.

10. WEEP HOLES ARE TO BE PROVIDED IN THE WALL OF ALL PITS TO ACCEPT FLOWS FROM PIPE BEDDING.

11. AN APPROVED CONVERTER SLAB SHALL BE USED UNDER THE CHAMBER FOR SHAFT DIAMETERS LARGER THAN 1050MM.

12. ENSURE THAT OVERLAND FLOW RUNS TO STORMWATER INLET PITS AND THERE IS NO PONDING ON LOTS OR ROADS.

EARTHWORKS NOTES:

1. ALL EARTHWORKS CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE ENGINEERS DRAWINGS AND ENGINEERS SPECIFICATION AND BERRIMAH FARM SUBDIVISION GUIDELINES.

2. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE ROADWORKS AND EARTHWORKS DRAWINGS AND THE SPECIFICATION.

3. DESIGN LEVELS SHOWN SHALL BE ON THE FINISHED SURFACE INCLUDING TOPSOIL.

4. CLEARED VEGETATION SHALL BE MULCHED AND STOCKPILED FOR RESPREADING.

5. THE SUB CONTRACTOR SHALL ALLOW, TO REMOVE TOPSOIL TO A DEPTH OF 200MM MINIMUM, FROM WORK AREAS AND STOCKPILE ON SITE. THIS IS AN AVERAGE DEPTH OVER THE WORKS AREA BASED ON GEOTECHNICAL INFORMATION PROVIDED.

6. FOLLOWING THE COMPLETION OF EARTHWORKS THE SUB CONTRACTOR SHALL RESPREAD TOPSOIL.

7. THE SUB CONTRACTOR SHALL LIMIT THE MOVEMENT OF EQUIPMENT AND MANPOWER TO THE MINIMUM AREA NECESSARY FOR EARTHWORKS AND PROTECT ALL VEGETATION OUTSIDE THE WORKS BOUNDARY.

8. FOR DESIGN DETAILS OF EARTHWORKS WITHIN THE ROAD RESERVES REFER TO THE ROADWORKS LONGITUDINAL AND CROSS SECTION DRAWINGS.

9. CONSIDERATION SHALL BE GIVEN TO ADJACENT LANDOWNERS DURING THE CONSTRUCTION WORKS.

10. THE SUB CONTRACTOR SHALL ALLOW FOR ALL DUST CONTROL MEASURES IN ACCORDANCE WITH DIPL AND AUTHORITY REQUIREMENTS.

11. REFER TO ESCP PLAN FOR MANAGEMENT AND REHABILITATION OF VEGETATION OF ALL DISTURBED AREAS .

12. ALL NEW WORKS TO MATCH NEATLY TO EXISTING.

13. REFER TO ROAD ANNOTATED CROSS SECTIONS FOR PROPERTY BOUNDARY LEVELS AT ROAD RESERVE BOUNDARY.

ROADWORKS NOTES:

1. ALL ROADWORK CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE DESIGN DRAWINGS, ENGINEERS SPECIFICATION AND BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWINGS.

2. SUBSURFACE DRAINAGE TO BE PROVIDED AS PER THE DESIGN DRAWINGS AND IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG127. DRAINS ARE TO HAVE CLEANING POINTS AT ROAD CRESTS AND AT 50M MAXIMUM SPACING.

3. PAVEMENT WIDTH SHOWN ON THE DRAWING SHALL BE MEASURED BETWEEN NOMINAL KERB LINES.

4. ALL KERB RADII SHOWN ARE ON THE NOMINAL FACE OF KERB LINE.

5. ALL ROAD VERGES SHALL BE STABILISED WITH 100mm OF TOPSOIL LIGHTLY COMPACTED AND GRASSED.

6. SUB CONTRACTOR SHALL SMOOTHLY MATCH TO EXISTING KERB AND PAVEMENT LEVELS FOR ALL CONNECTING ROADS.

7. SUB CONTRACTOR SHALL LIAISE WITH NBN CONTRACTOR FOR TIMELY INSTALLATION OF ANY ROAD CROSSINGS.

8. REFER TO BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG008 FOR CONCRETE SHARED PATH (2.5m) AND FOOTPATH (1.5m) DETAILS.

9. PRAM RAMPS ARE TO BE TYPE B. REFER TO BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG300 FOR PRAM RAMP DETAILS. PRAM RAMPS ARE REQUIRED TO COMPLY WITH AS1428.1.

10. ALL KERBING IS TO BE KERB & GUTTER REFER USG303 EXCEPT ACROSS DRIVEWAYS WHERE CROSSOVERS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWING USG005 AND EXCEPT WHERE SHOWN ON THE DRAWINGS (I.E. ROUNDABOUT ISLAND AND SPLITTER ISLANDS).

11. VERGES ARE TO BE HYDROMULCHED, IRRIGATED AND MAINTAINED FOR A PERIOD OF 13 WEEKS FOLLOWING PRACTICAL COMPLETION.

12. LOT DRAINAGE CONNECTION POINT TO BE PROVIDED FOR ALL LOTS IN ACCORDANCE WITH THE DESIGN DRAWINGS.

SAFETY IN DESIGN

1. CONSTRUCTION ACTIVITY CAN BE HAZARDOUS. POTENTIAL SAFETY HAZARDS CONSIDERED BY THE DESIGNERS TO HAVE A HIGHER RISK THAN NORMAL CONSTRUCTION ACTIVITY ARE IDENTIFIED WITH APPROPRIATE NOTES ON THESE DRAWINGS. IT SHOULD BE NOTED THAT DESIGNERS HAVE A LOWER LEVEL OF UNDERSTANDING OF THE RISKS INVOLVED IN CONSTRUCTION COMPARED TO THAT OF A COMPETENT SUB CONTRACTOR. IT IS THEREFORE ESSENTIAL THAT AN ADEQUATE SAFETY PLAN IS PREPARED BY THE SUB CONTRACTOR FOR THE WORKS. SAFETY PLANS ARE TO BE PREPARED IN COMPLIANCE WITH THE STATUTORY REQUIREMENTS.

2. THE DESIGNERS MAY NOT BE AWARE OF ALL SAFETY RISKS AND HAZARDS INVOLVED IN THIS PROJECT AND THE ABSENCE OF COMMENT DOES NOT IMPLY THAT THERE ARE ONLY LOW LEVEL RISKS OR HAZARDS INVOLVED IN THIS PROJECT. APPROPRIATE WORK METHOD STATEMENTS ARE TO BE PREPARED FOR HIGH RISK ACTIVITY BY THE CONTRACTOR AND SUB CONTRACTOR AS APPLICABLE.

3. THE DESIGNERS ARE AVAILABLE TO BE CONSULTED WHEN REQUIRED CONCERNING THEIR AREA OF CONTROL WITH REGARDS TO SAFETY PLANS.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
N.T.S.	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

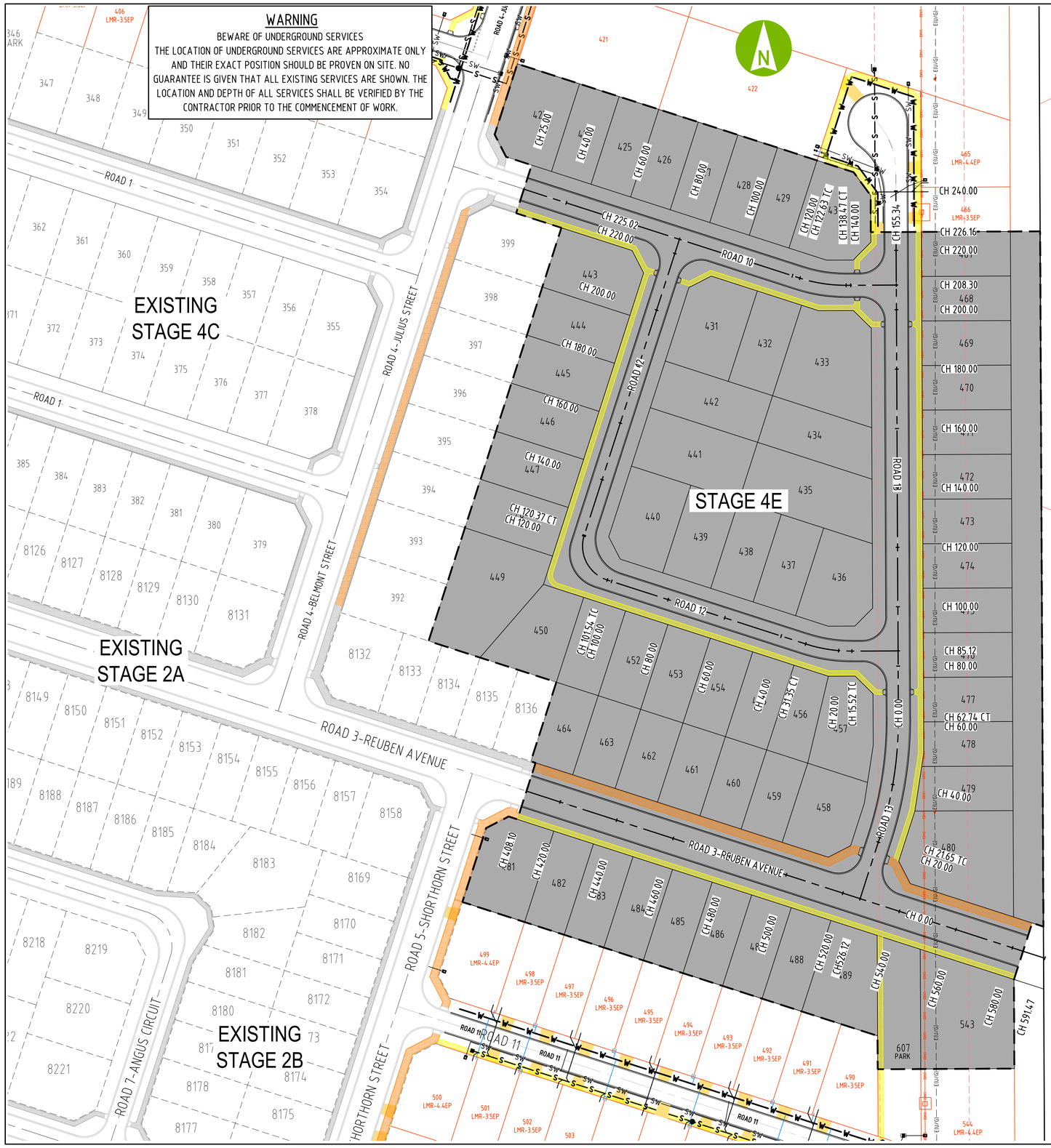
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4E
BERRIMAH

TITLE: PROJECT NOTES

DRAWING No. DN04E – 0900 – DRG – – 1003 – A
(PROJECT No. | WBS | TYPE | DISC | NUMBER | REV)



ROAD 10 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10481.437	623932.672	34.467	107°52'17.19"			
TC	122.635	10598.154	623895.037	34.617	107°52'17.19"			
IP 2	130.551	10605.752	623892.588	34.656		R = -50.000	15.832	18°08'33.02"
CT	138.467	10613.735	623892.625	34.696	89°43'44.17"			
IP 3	155.341	10630.609	623892.705	34.898	89°43'44.17"			

ROAD 12 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10631.192	623769.525	32.736	269°43'44.17"			
TC	15.517	10615.675	623769.451	32.566	269°43'44.17"			
IP 2	23.433	10607.692	623769.413	32.599		R = 50.000	15.832	18°08'32.32"
CT	31.349	10600.094	623771.863	32.639	287°52'16.48"			
TC	101.536	10533.294	623793.402	32.990	287°52'16.48"			
IP 3	110.955	10521.883	623797.081	33.041		R = 12.000	18.839	89°56'54.85"
CT	120.375	10525.552	623808.495	33.112	17°49'11.34"			
IP 4	225.021	10557.577	623908.121	34.403	17°49'11.34"			

ROAD 13 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10618.419	623686.094	31.266	17°50'09.03"			
TC	21.652	10625.051	623706.706	30.985	17°50'09.03"			
IP 2	42.194	10631.396	623726.425	31.463		R = -130.000	41.083	18°06'24.86"
CT	62.735	10631.298	623747.139	32.074	359°43'44.17"			
TC	247.076	10630.425	623931.477	35.245	359°43'44.17"			
IP 3	255.718	10630.383	623940.519	35.323		R = -23.818	17.283	41°34'28.13"
IP 4	264.359	10624.351	623947.254	35.400	318°09'16.04"			

ROAD 3-REUBEN AVENUE HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	10117.683	623847.550	35.309	107°52'16.48"
IP 2	591.473	10680.617	623666.039	31.425	107°52'16.48"

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

7.5 0 15 30m
SCALE 1:750

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

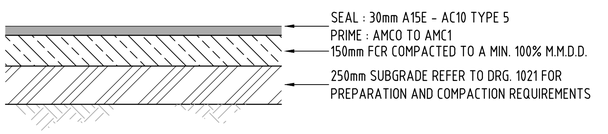
PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	ROADWORKS CONTROL LINE GEOMETRY PLAN SHEET 1 OF 1

DRAWING No.

PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
DN04E	2000	DRG		1004	A

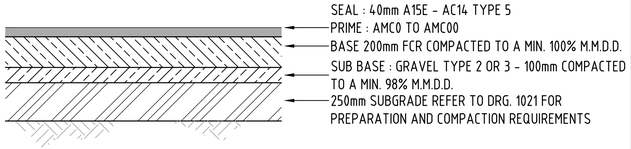
WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.



TYPE 1 - PAVEMENT SECTION

NTS

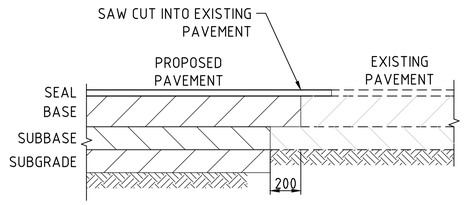


TYPE 2 - PAVEMENT SECTION

NTS

LEGEND

- KERB & GUTTER. REFER USG STD DWG USG303
- PROPOSED 1.5m TYPE B WIDE CONCRETE FOOTPATH
- PROPOSED 2.5m TYPE B WIDE CONCRETE FOOTPATH
- WORKS BOUNDARY
- TYPE 1 - PROPOSED 150mm THICK PAVEMENT
- TYPE 2 - PROPOSED 300mm THICK PAVEMENT



LONGITUDINAL JOIN TO EXISTING ROAD

N.T.S.

ROAD PAVEMENT NOTES

1. ALL PAVEMENT WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH BERRIMAH FARM SUBDIVISION GUIDELINES AND THE PROJECT SPECIFICATION. THE INDICATED PAVEMENT DESIGN IS IN ACCORDANCE WITH THE RELEVANT STANDARDS AND SPECIFICATIONS AND IS BASED ON ANTICIPATED SUBGRADE CBR'S RECOMMENDED BY GEOTECHNICAL INVESTIGATION OF 10%.
2. SUB GRADE CBR TO BE CONFIRMED BY A GEOTECHNICAL ENGINEER FOLLOWING INITIAL BOXING.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

7.5 0 15 30m
SCALE 1:750

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

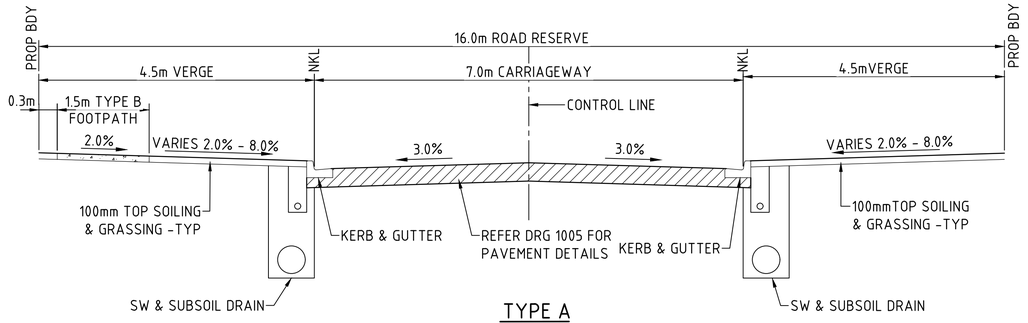
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

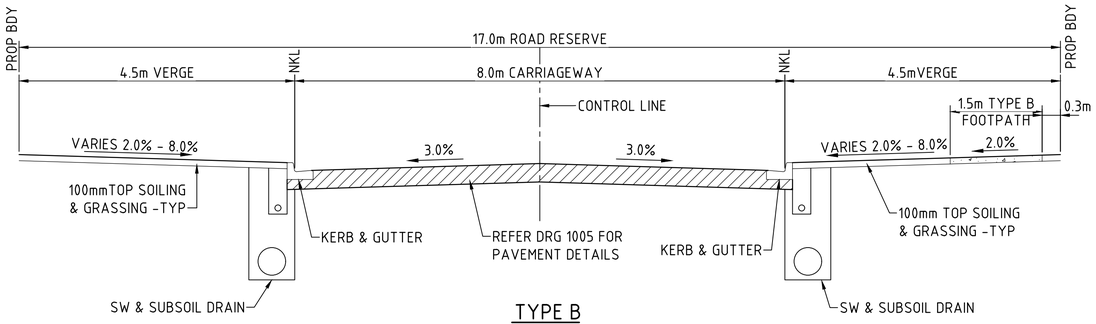
PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	ROADWORKS AND PAVEMENT LAYOUT PLAN SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	2000	DRG		1005	A



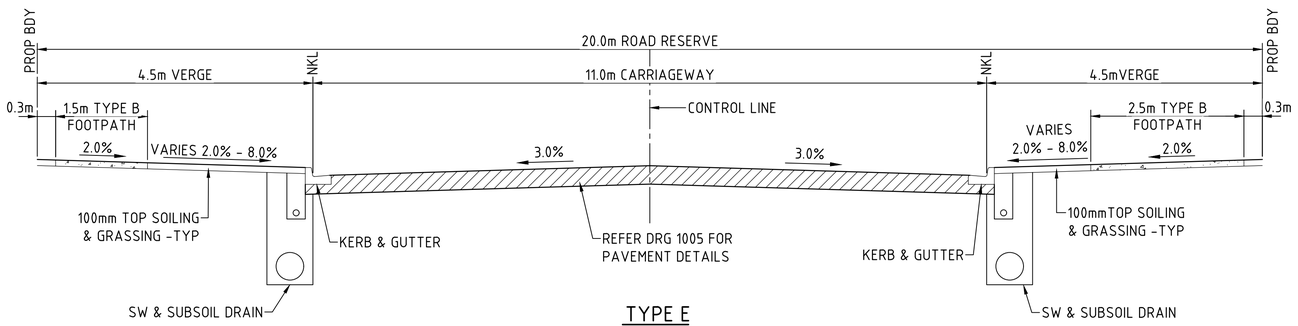
TYPE A

TYPICAL ROAD CROSS SECTION - ROAD 12
7.0m CARRIAGEWAY - 16m ROAD RESERVE



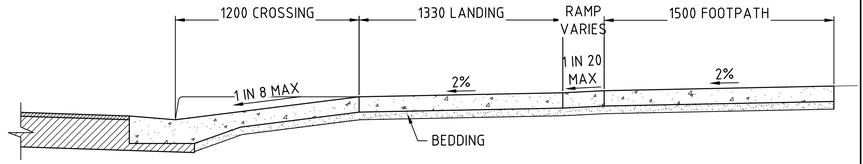
TYPE B

TYPICAL ROAD CROSS SECTION - ROAD 10 & ROAD 13
8.0m CARRIAGEWAY - 17m ROAD RESERVE

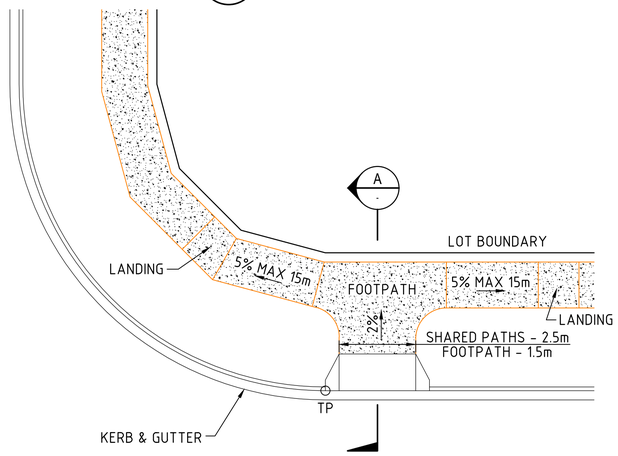


TYPE E

TYPICAL ROAD CROSS SECTION - ROAD 3-REUBEN AVENUE
11.0m CARRIAGEWAY - 20m ROAD RESERVE



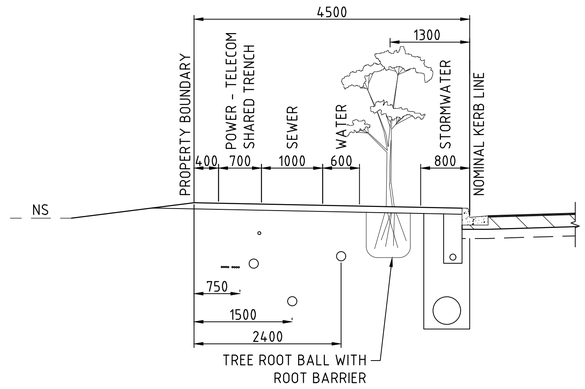
SECTION A
N.T.S.



RAMP CROSSING DETAILS

1:100

ROAD LIGHTING COLUMN AT 1100.
TREE PLANTING AT 1300.



SERVICES ALLOCATIONS

N.T.S. (DIM IN mm)

NOTES

1. REFER TO USG STANDARD DRAWING USG303 FOR TYPICAL KERBING DETAILS.
2. REFER TO USG STANDARD DRAWING USG008 & USG005 FOR FOOTPATHS AND VEHICLE ACCESS DETAILS.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ROAD LAYOUT PLAN AND ROAD LONGSECTIONS.
4. LOCATION OF SERVICES ARE INDICATIVE ONLY. FOR EXACT LOCATIONS REFER TO RELEVANT SERVICE LAYOUT.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

500 0 1000 2000mm
SCALE 1:50

aurecon
www.aurecongroup.com

CLIENT: halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

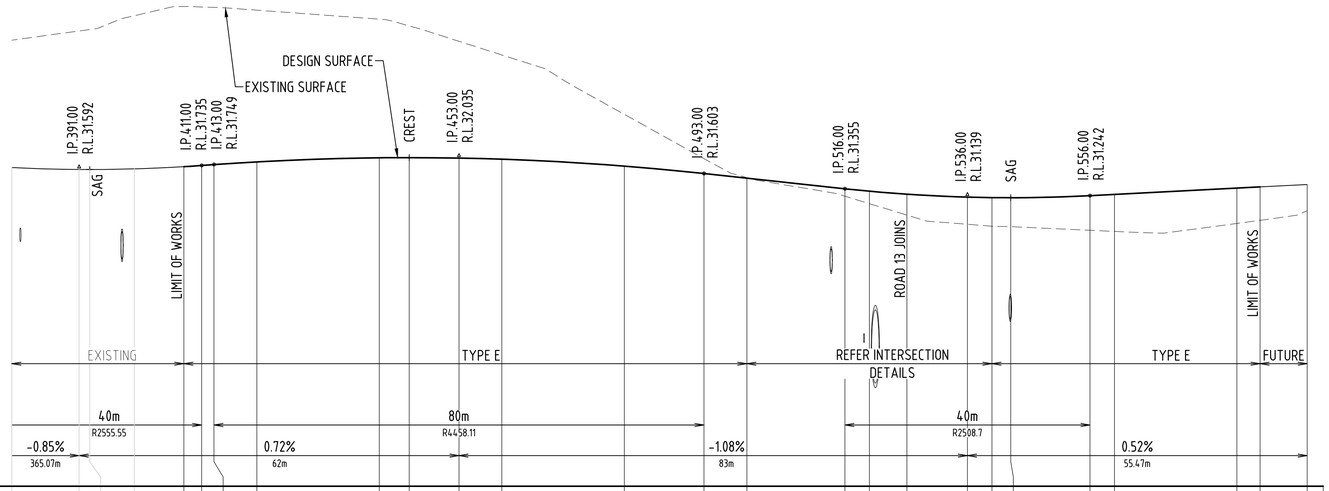
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	ROADWORKS TYPICAL CROSS SECTIONS

DRAWING No. DN04E - 2000 - DRG - - 1006 - A
(PROJECT No. | WBS | TYPE | DISC | NUMBER | REV)


DESIGN SURFACE
EXISTING SURFACE
I.P. 391.00 R.L. 31.592
SAG
I.P. 411.00 R.L. 31.735
I.P. 413.00 R.L. 31.749
LIMIT OF WORKS
CREST
I.P. 453.00 R.L. 32.035
I.P. 493.00 R.L. 31.603
I.P. 516.00 R.L. 31.355
ROAD 13 JOINS
I.P. 536.00 R.L. 31.139
SAG
I.P. 556.00 R.L. 31.242
LIMIT OF WORKS
SECTION TYPE
HORIZONTAL CURVE
VERTICAL CURVE
GRADE %
DATUM RL 26.5
EXISTING
TYPE E
REFER INTERSECTION DETAILS
TYPE E
FUTURE
40m
R2555.55
80m
R4458.11
40m
R2508.7
-0.85%
365.07m
0.72%
62m
-1.08%
83m
0.52%
55.47m

| | | |

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED

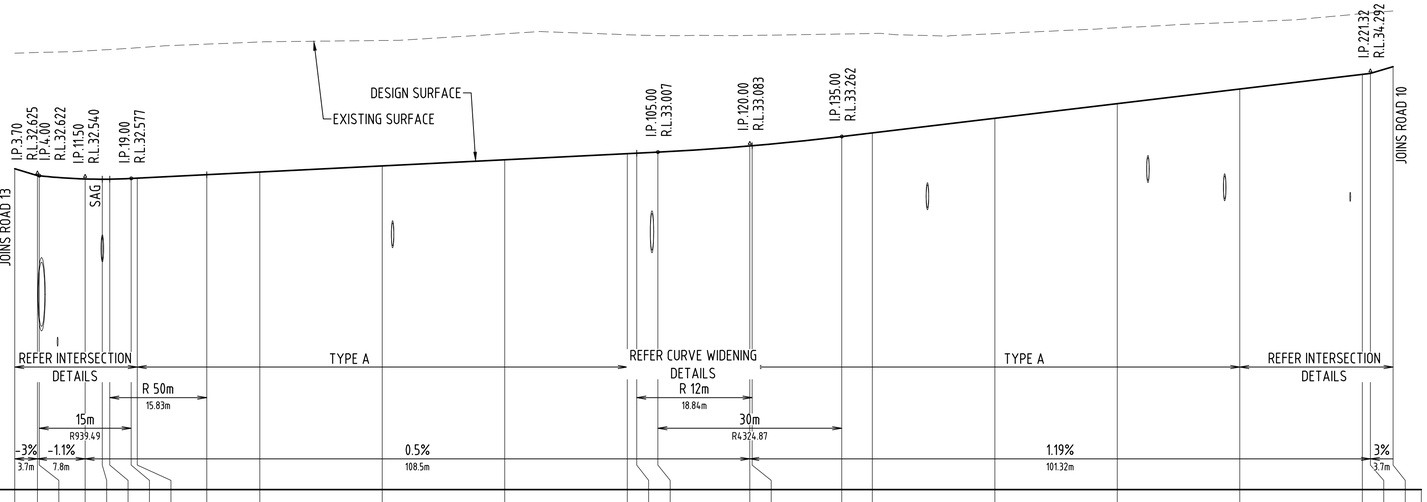
Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design



| | | |

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED

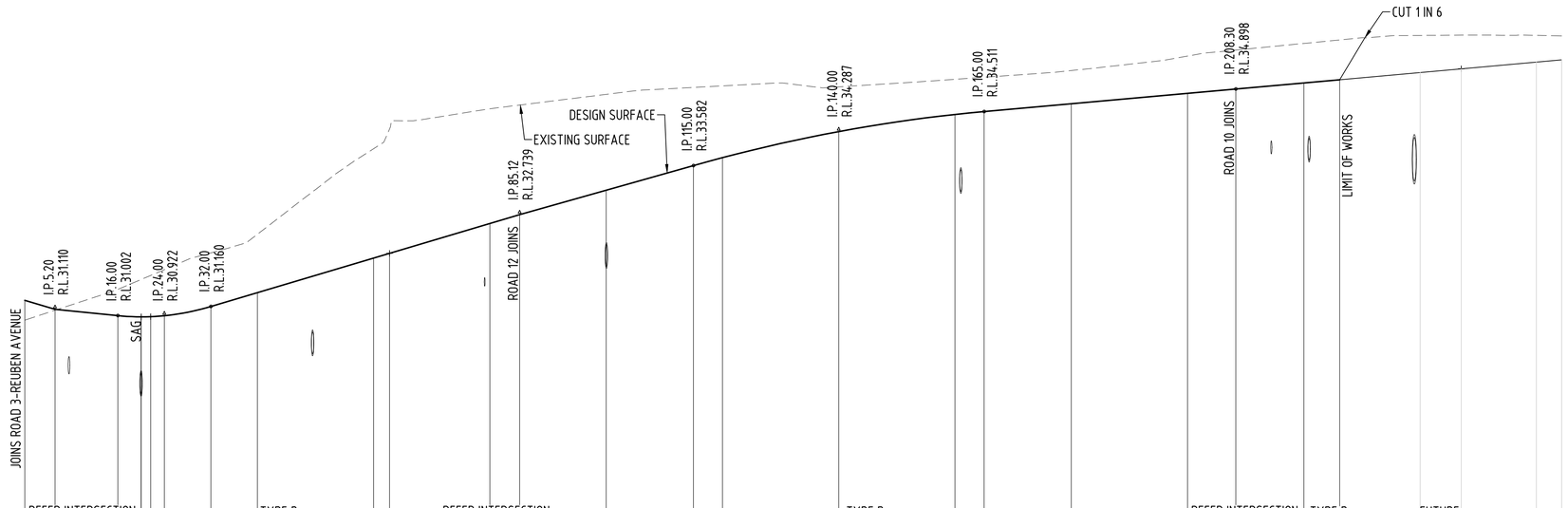
Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design



| | | |

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O.
200mm STRIPPING HAS BEEN ASUMED

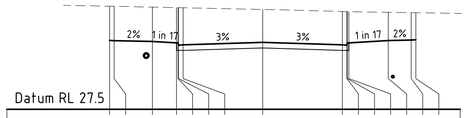
Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design



| | | |

Road Agency Approval No. .....:.....

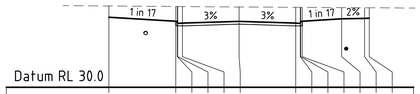
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O.
200mm STRIPPING HAS BEEN ASUMED



| | | |

Road Agency Approval No. .....:.....

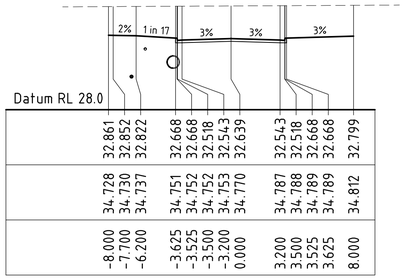
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

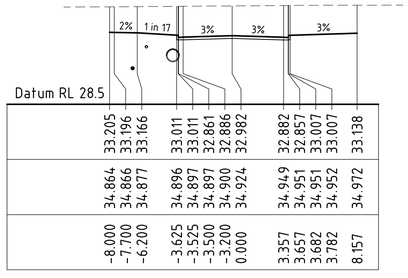
Director, Corridor Management and Design

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O.
200mm STRIPPING HAS BEEN ASUMED



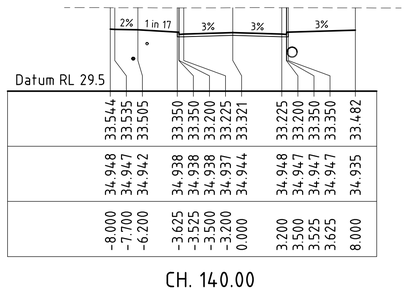
	32.861	32.852	32.822	32.668	32.668	32.518	32.543	32.543	32.668	32.799
	34.728	34.730	34.737	34.751	34.752	34.752	34.753	34.787	34.789	34.812
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	3.200	3.525	8.000

CH. 31.35



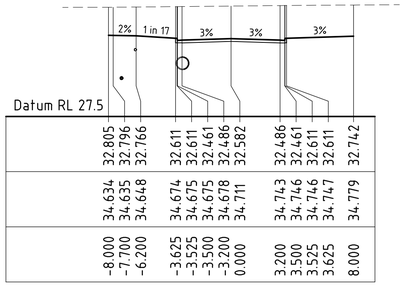
	33.205	33.196	33.166	33.011	33.011	32.861	32.886	32.882	32.857	33.007	33.138
	34.864	34.866	34.877	34.896	34.897	34.897	34.900	34.949	34.951	34.951	34.952	34.972
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.357	3.657	3.682	3.782	8.157

CH. 100.00



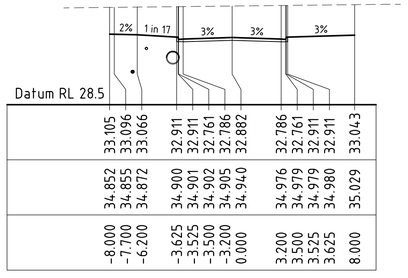
	33.544	33.535	33.505	33.350	33.350	33.200	33.225	33.225	33.200	33.350	33.482
	34.948	34.947	34.942	34.938	34.938	34.938	34.937	34.944	34.948	34.947	34.947	34.935
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.200	3.500	3.525	3.625	8.000

CH. 140.00



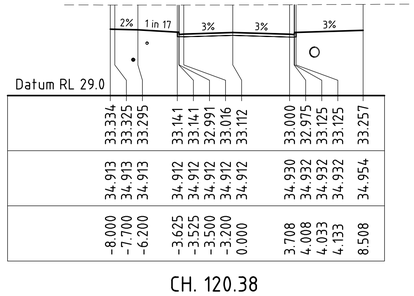
	32.805	32.796	32.766	32.611	32.611	32.461	32.486	32.486	32.461	32.611	32.742
	34.634	34.635	34.648	34.674	34.675	34.675	34.678	34.743	34.746	34.747	34.779
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	3.200	3.500	3.525	3.625	8.000

CH. 20.00



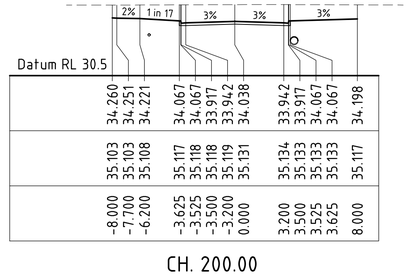
	33.105	33.096	33.066	32.911	32.911	32.761	32.786	32.786	32.761	32.911	33.043
	34.852	34.855	34.872	34.900	34.901	34.902	34.905	34.976	34.979	34.979	34.980	35.029
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	3.200	3.500	3.525	3.625	8.000

CH. 80.00



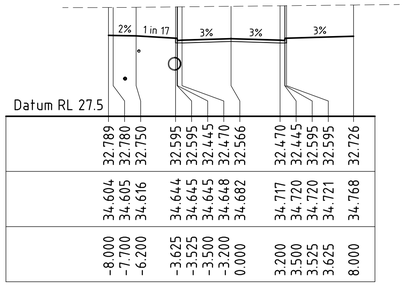
	33.334	33.325	33.295	33.141	33.141	32.991	33.016	33.000	32.975	33.125	33.125	33.257
	34.913	34.913	34.913	34.912	34.912	34.912	34.912	34.930	34.932	34.932	34.932	34.954
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.708	4.008	4.033	4.133	8.508

CH. 120.38



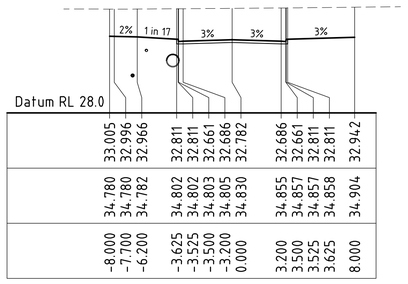
	34.260	34.251	34.221	34.067	34.067	33.917	33.942	33.942	33.917	34.067	34.198
	35.103	35.103	35.108	35.117	35.118	35.118	35.119	35.134	35.133	35.133	35.133	35.117
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.200	3.500	3.525	3.625	8.000

CH. 200.00



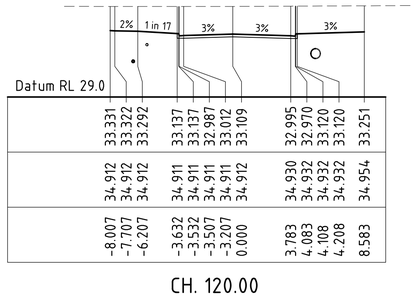
	32.789	32.780	32.750	32.595	32.595	32.445	32.470	32.470	32.445	32.595	32.726
	34.604	34.605	34.616	34.644	34.645	34.645	34.648	34.717	34.720	34.720	34.721	34.768
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.200	3.500	3.525	3.625	8.000

CH. 15.52



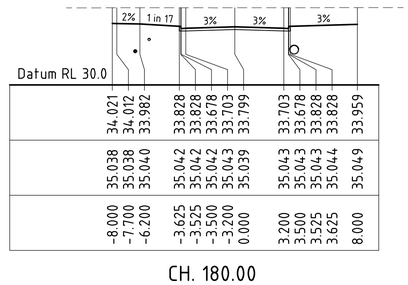
	33.005	32.996	32.966	32.811	32.811	32.661	32.686	32.686	32.661	32.811	32.942
	34.780	34.780	34.782	34.802	34.802	34.803	34.805	34.855	34.857	34.857	34.858	34.904
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.200	3.500	3.525	3.625	8.000

CH. 60.00



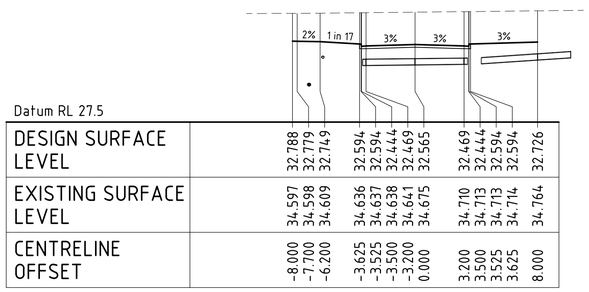
	33.331	33.322	33.292	33.137	33.137	32.987	33.012	32.995	32.970	33.120	33.251
	34.912	34.912	34.912	34.911	34.911	34.911	34.911	34.930	34.932	34.932	34.954
	-8.007	-7.707	-6.207	-3.632	-3.532	-3.507	-3.207	0.000	3.783	4.083	4.108	4.208	8.583

CH. 120.00



	34.021	34.012	33.982	33.828	33.828	33.678	33.703	33.703	33.678	33.828	33.959
	35.038	35.038	35.040	35.042	35.042	35.042	35.043	35.043	35.043	35.043	35.044	35.049
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.200	3.500	3.525	3.625	8.000

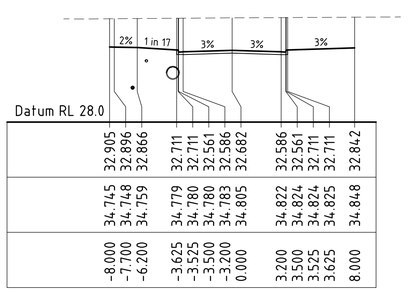
CH. 180.00



DESIGN SURFACE LEVEL	32.788	32.779	32.749	32.594	32.594	32.444	32.469	32.469	32.444	32.594	32.726
EXISTING SURFACE LEVEL	34.597	34.598	34.609	34.636	34.637	34.638	34.641	34.710	34.713	34.713	34.714	34.764
CENTRELINE OFFSET	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.200	3.500	3.525	3.625	8.000

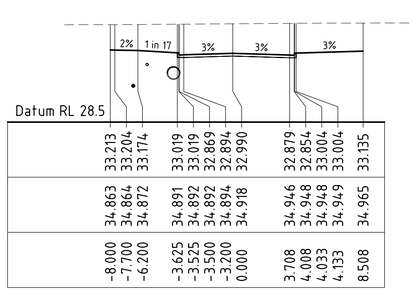
CH. 14.30

ROAD 12



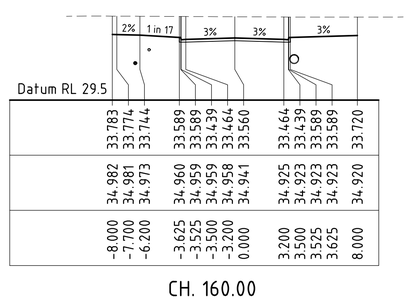
	32.905	32.896	32.866	32.711	32.711	32.561	32.586	32.586	32.561	32.711	32.842
	34.745	34.748	34.759	34.779	34.780	34.780	34.783	34.822	34.824	34.824	34.825	34.848
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.200	3.500	3.525	3.625	8.000

CH. 40.00



	33.213	33.204	33.174	33.019	33.019	32.869	32.894	32.879	32.854	33.004	33.135
	34.863	34.864	34.872	34.891	34.892	34.892	34.894	34.946	34.948	34.948	34.949	34.965
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.708	4.008	4.033	4.133	8.508

CH. 101.54



	33.783	33.774	33.744	33.589	33.589	33.439	33.464	33.464	33.439	33.589	33.720
	34.982	34.981	34.973	34.960	34.959	34.959	34.958	34.925	34.923	34.923	34.923	34.920
	-8.000	-7.700	-6.200	-3.625	-3.525	-3.500	-3.200	0.000	3.200	3.500	3.525	3.625	8.000

CH. 160.00

DIPL DRG. No. R23-XXXX

0 5 8m
H 1:200 @A1

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4E BERRIMAH

TITLE: ROAD CROSS SECTIONS ROAD 12
SHEET 3 OF 4

DRAWING No.: PROJECT No. DN04E – WBS 2000 – TYPE DRG – DISC – NUMBER 1012 – REV A

Road Agency Approval No. .....:.....

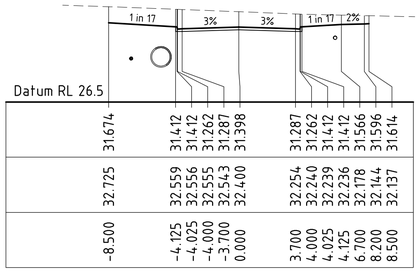
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

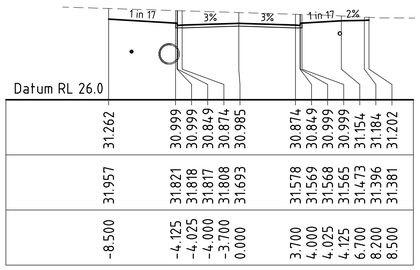
.....

Director, Corridor Management and Design

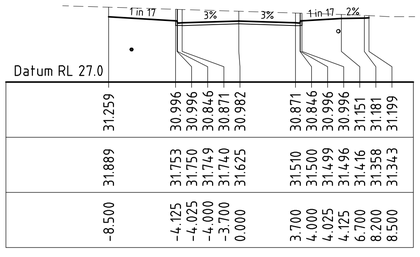
NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O.
200mm STRIPPING HAS BEEN ASUMED



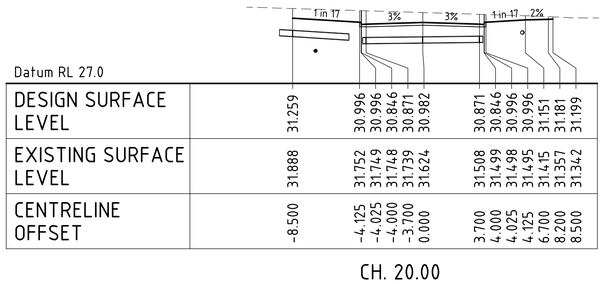
CH. 40.00



CH. 21.65

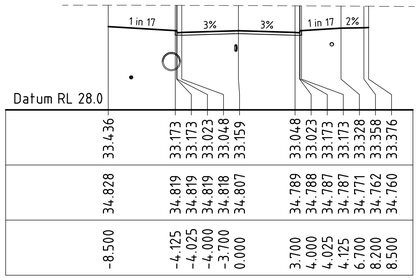


CH. 20.03

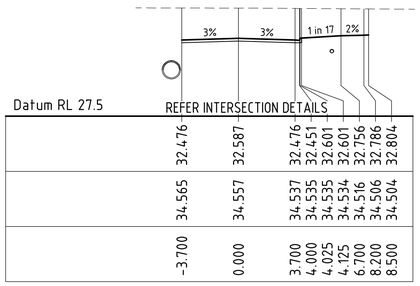


CH. 20.00

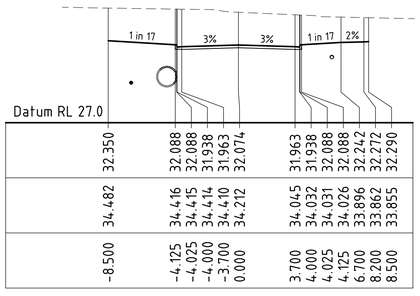
ROAD 13



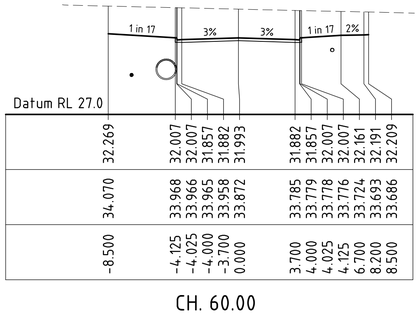
CH. 100.00



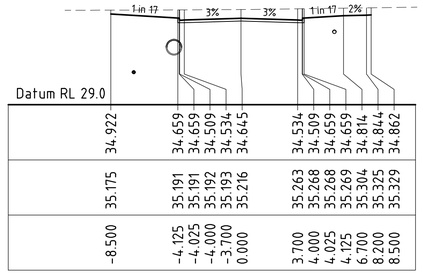
CH. 80.00



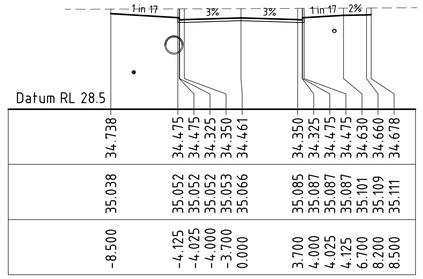
CH. 62.73



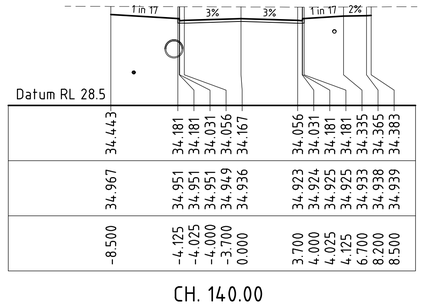
CH. 60.00



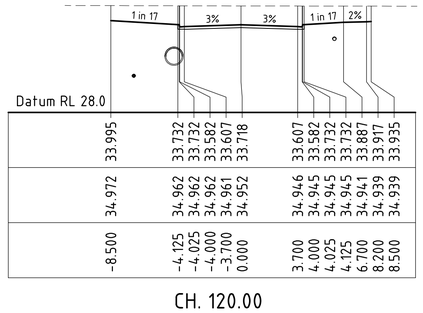
CH. 180.00



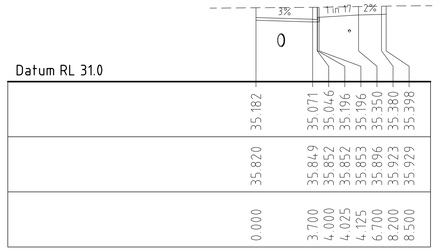
CH. 160.00



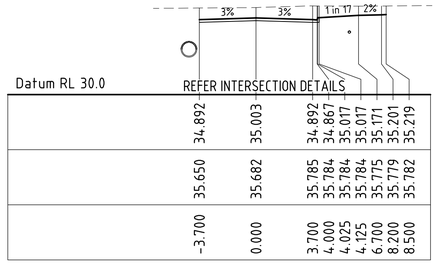
CH. 140.00



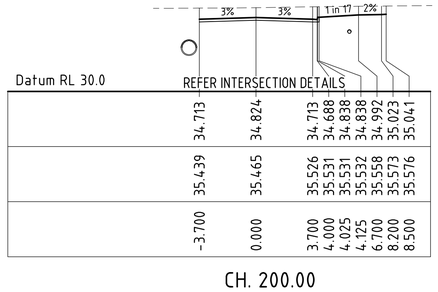
CH. 120.00



CH. 240.00



CH. 220.00



CH. 200.00

DIPL DRG. No. R23-XXXX

0 5 8m
H 1:200 @A1

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

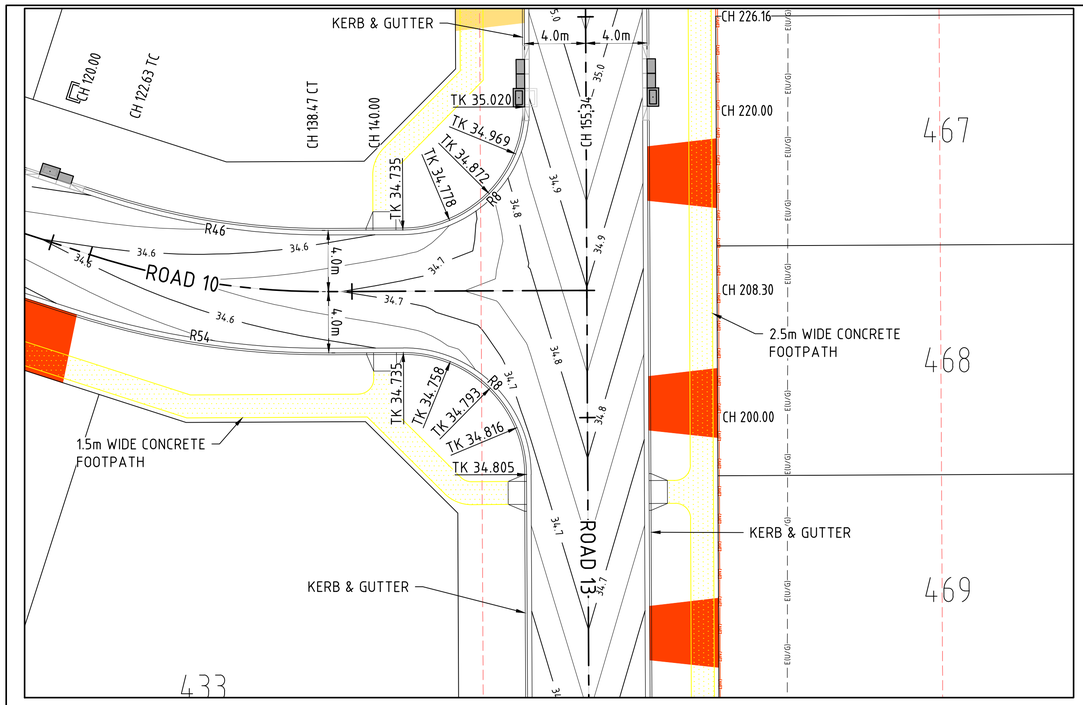
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4E
BERRIMAH

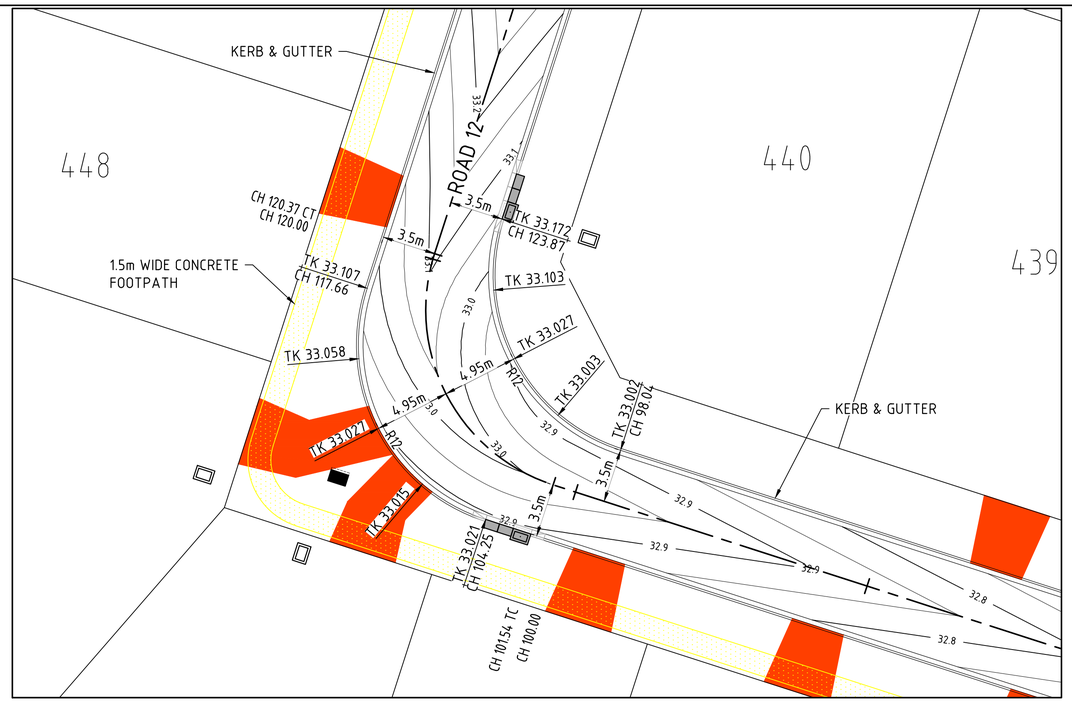
TITLE: ROAD CROSS SECTIONS ROAD 13
SHEET 4 OF 4

DRAWING No. DN04E - 2000 - DRG - - 1013 - A
(PROJECT No. | WBS | TYPE | DISC | NUMBER | REV)



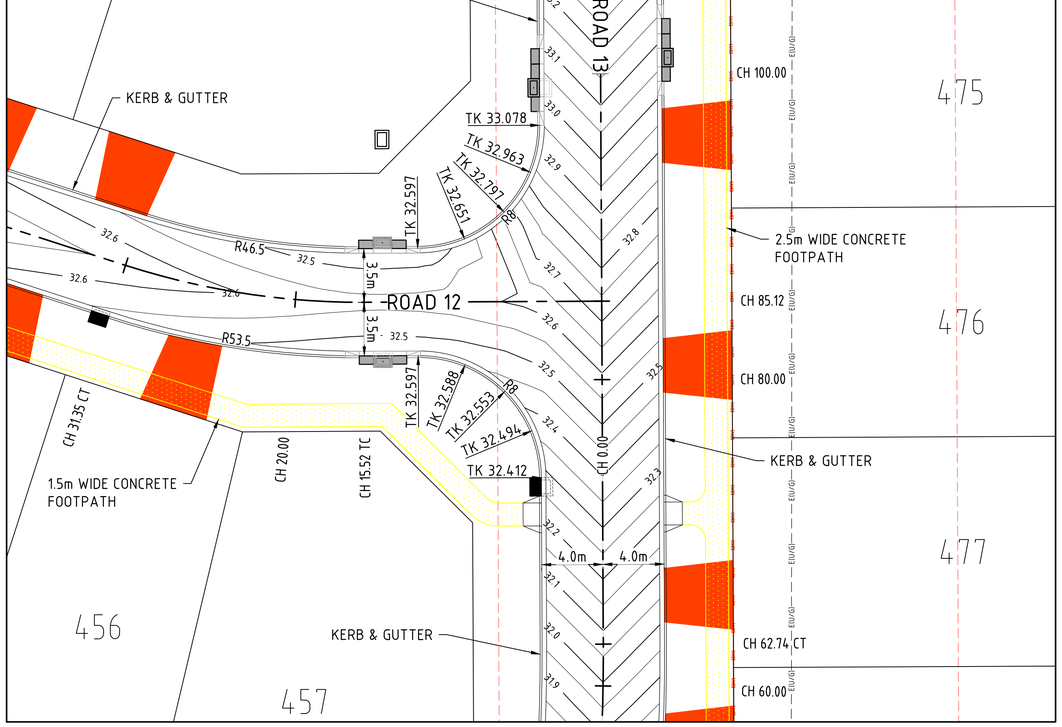
ROAD 13 & ROAD 10 INTERSECTION

-



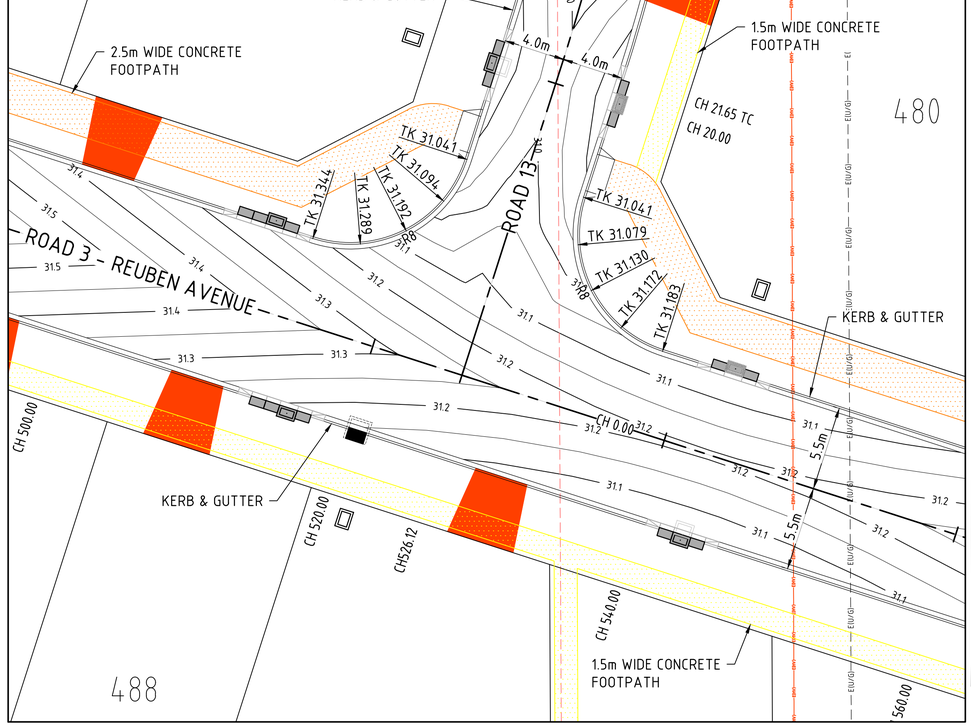
ROAD 12 CURVE WIDENING

-



ROAD 13 & ROAD 12 INTERSECTION

-



ROAD 3 - REUBEN AVENUE & ROAD 13 INTERSECTION

-

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTES

1. ALL KERB RADII, POINTS AND COORDINATES ARE TO NOMINAL KERB LINE UNLESS NOTED OTHERWISE.
2. QUARTER POINT LEVELS AROUND KERB RETURNS ARE EQUALLY SPACED U.N.O.
3. QUARTER POINT LEVELS ARE TO TOP OF KERB UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. REFER USG STD DWG USG303 FOR STANDARD KERB GUTTER DETAILS.

DIPL DRG. No. R23-XXXX

2 0 4 8m
SCALE 1:200

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

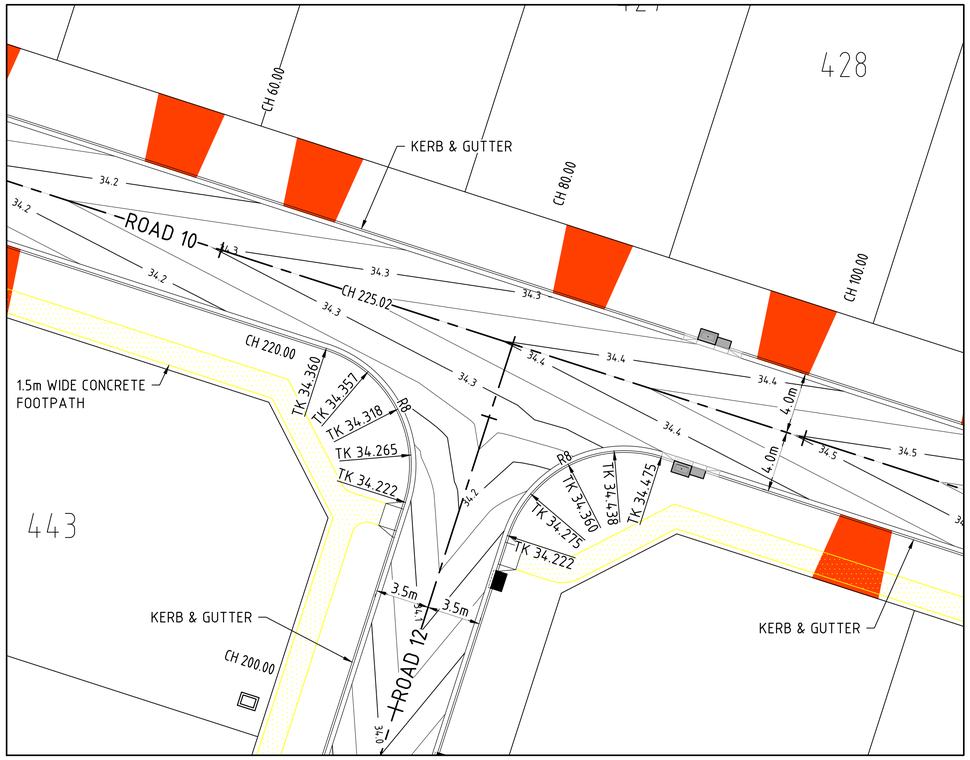
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	ROADWORKS INTERSECTION DETAILS SHEET 1 OF 2

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	2000	DRG		1014	A



ROAD 10 & ROAD 12 INTERSECTION

-

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTES

1. ALL KERB RADII, POINTS AND COORDINATES ARE TO NOMINAL KERB LINE UNLESS NOTED OTHERWISE.
2. QUARTER POINT LEVELS AROUND KERB RETURNS ARE EQUALLY SPACED U.N.O.
3. QUARTER POINT LEVELS ARE TO TOP OF KERB UNLESS NOTED OTHERWISE.
4. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
5. REFER USG STD DWG USG303 FOR STANDARD KERB GUTTER DETAILS.

DIPL DRG. No. R23-XXXX

2 0 4 8m
SCALE 1:200

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

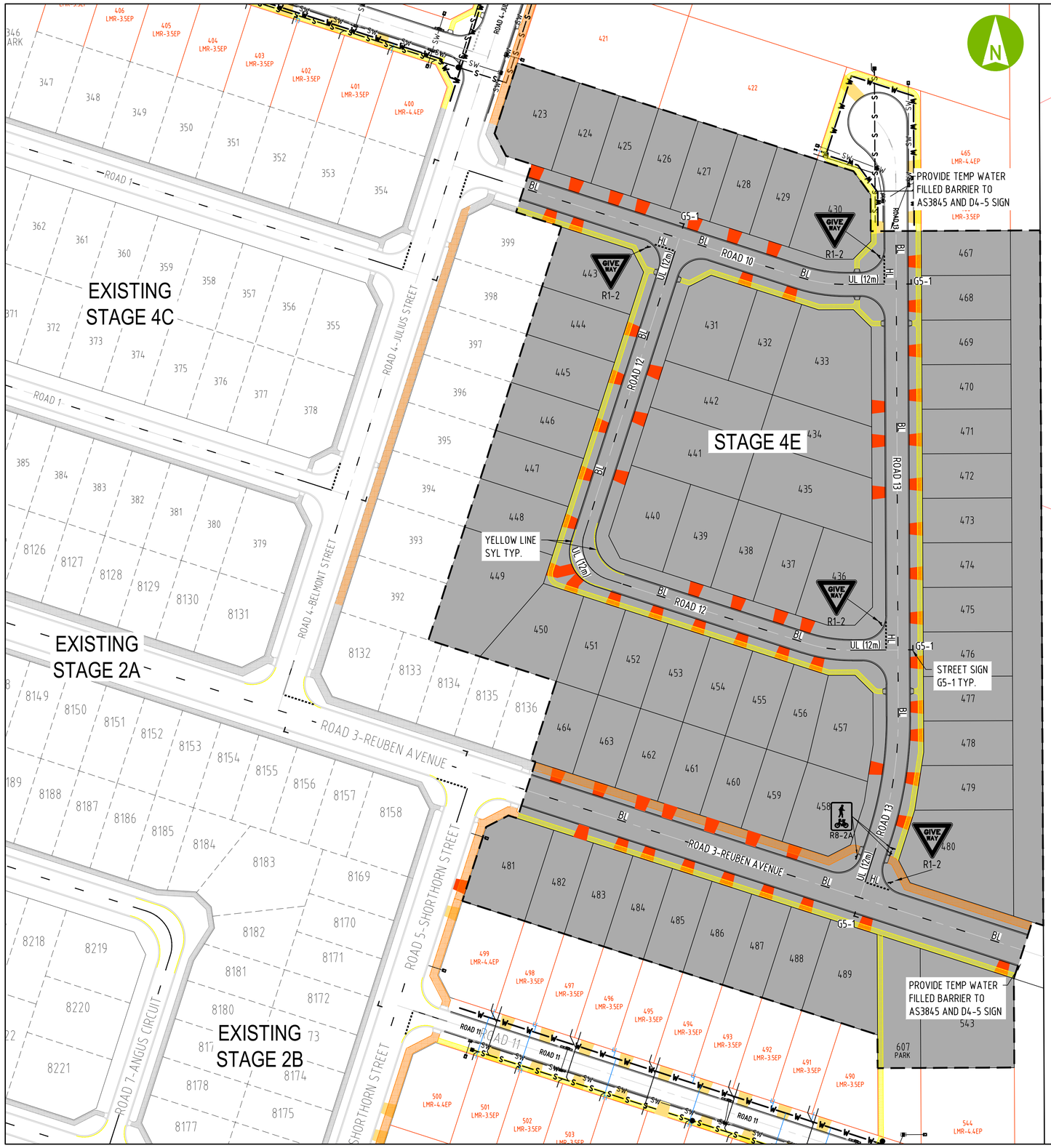
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4E
BERRIMAH

TITLE: ROADWORKS INTERSECTION DETAILS
SHEET 2 OF 2

DRAWING No.: DN04E – 2000 – DRG – – 1015 – A
(PROJECT No. – WBS – TYPE – DISC – NUMBER – REV)



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

NOTES

1. LINE-MARKING AND SIGNAGE IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE SPECIFICATION AND STD DRG USG408 AND USG409.
2. EXTENT OF LINE-MARKING IS TO BE VERIFIED ON SITE WITH THE CONTRACTORS PROJECT MANAGER PRIOR TO INSTALLATION.
3. RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's) TO BE:
   (a) WHITE : DIVIDING-LINE MARKING
   (b) YELLOW : CHEVRON ISLAND MARKING
   (c) RED: EDGE LINE MARKING
   REFER USG STD DWG USG409 FOR MORE DETAILS.
4. EXACT LOCATION OF ALL SIGNS IS TO BE VERIFIED ON SITE WITH THE CONTRACTORS PROJECT MANAGER PRIOR TO INSTALLATION.
5. REFER TO AS1742.5 FOR STREET SIGN & POST DETAILS.

PAVEMENT-MARKING LEGEND

CODE	LINE TYPE	LINE LENGTH	GAP	WIDTH
HL	HOLDING LINE	0.6m	0.6m	450mm
UL	UNBROKEN LANE LINE	-	-	100mm
EL	EDGE LINE	-	-	100mm
BL	BROKEN LANE LINE	3.0m	9.0m	100mm
OL	OUTLINE	-	-	200mm
CL	CONTINUITY LINE	1.0m	3.0m	200mm
▭	RETRO-REFLECTIVE RAISED PAVEMENT MARKERS (RRPM's)	REFER NOTE 3 FOR SETOUT INSTRUCTIONS		

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

7.5 0 15 30m
SCALE 1:750

CLIENT

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	LINEMARKING AND SIGNAGE PLAN SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	2000	DRG		1016	A

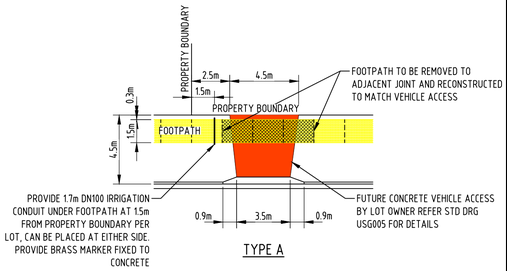
aurecon
www.aurecongroup.com

halikos Developments

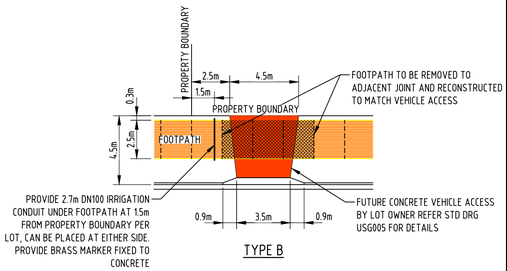
Por 2265

WARNING

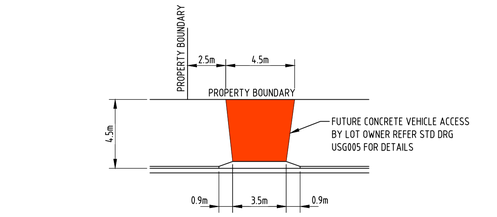
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.



TYPE A



TYPE B



TYPE C

VEHICLE ACCESS MAY BE LOCATED ON THE OPPOSITE SIDE OF THE PROPERTY IF PREFERRED BY LOT OWNER PROVIDED THAT IT DOES NOT CLASH WITH ANY SERVICES OR ABOVE GROUND FEATURES

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

LEGEND

- PROPOSED TYPE A, 1.5m WIDE CONCRETE FOOTPATH
- PROPOSED TYPE B, 2.5m WIDE CONCRETE FOOTPATH
- WORKS BOUNDARY
- HR HOLDING RAIL
- FUTURE VEHICLE ACCESS

NOTES

1. REFER USG STD DWG No. USG008 FOR CONCRETE FOOTPATH NOTES & DETAILS.
2. REFER DRG 1013 FOR FOOTPATH SIGNAGE.
3. REFER STD DRG USG009 FOR HOLDING RAIL DETAILS.
4. INSTALL TACTILE GROUND SURFACE INDICATORS (TGSI'S) ON ALL PRAM RAMPS. REFER STD DRG USG300 FOR DETAILS.

DIPL DRG. No. R23-XXXX

7.5 0 15 30m
SCALE 1:750

aurecon
www.aurecongroup.com

halikos Developments

CLIENT

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

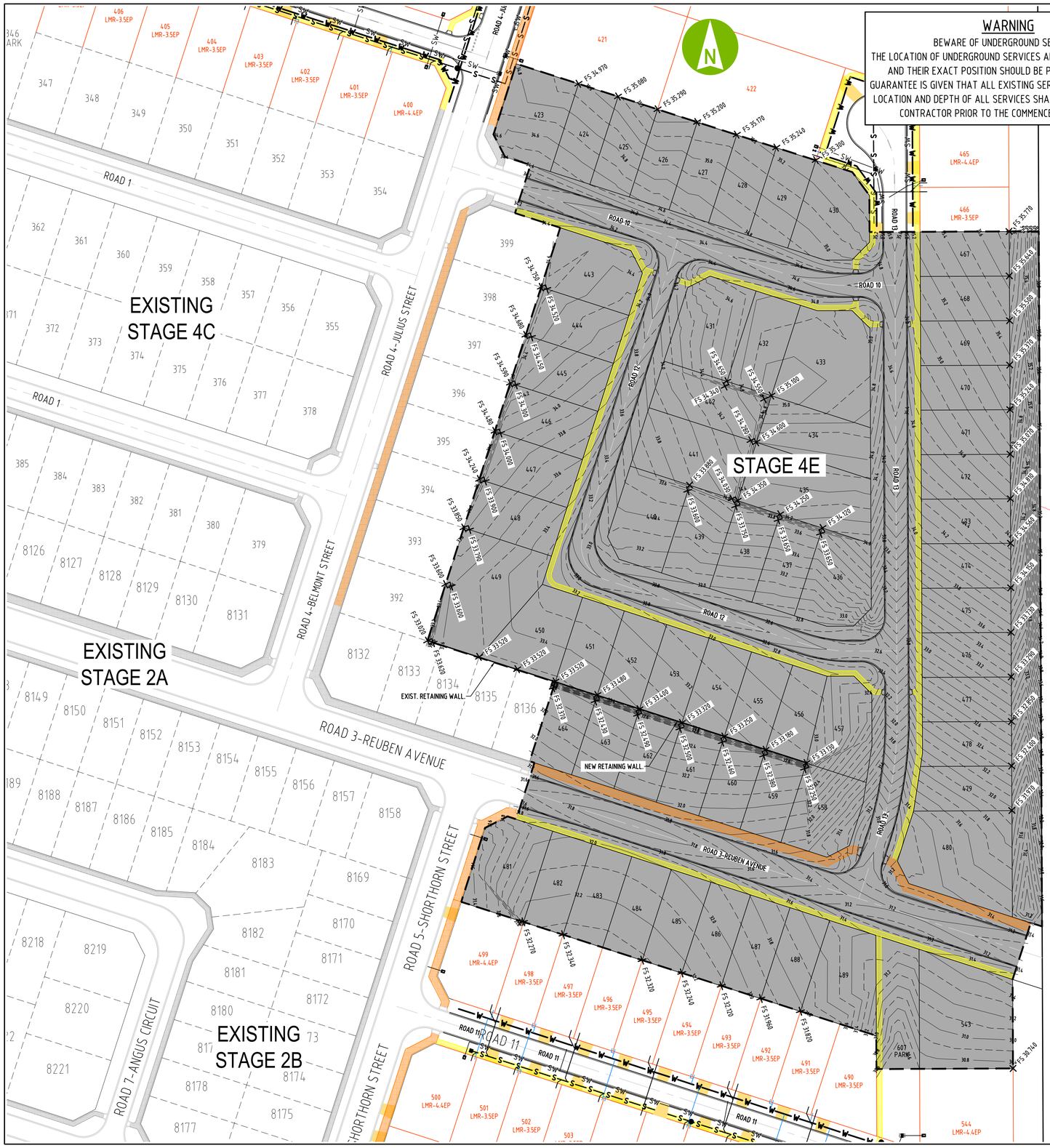
APPROVED
DATE

PROJECT: NORTHCREST - STAGE 4E BERRIMAH

TITLE: FOOTPATH LAYOUT PLAN

SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	2000	DRG		1017	A



WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

SITE PREPARATION

BUILDINGS

RECOMMENDED SITE PREPARATION AND EARTHWORKS PRACTICES ARE AS FOLLOWS:

1. DEMOLISH AND REMOVE EXISTING SURFACE FEATURES INCLUDING REMOVAL OF TREES AND FENCES.
2. REMOVE PAVEMENT AND STRIP ANY ORGANIC RICH (TOPSOIL) AND REMNANT TREE ROOTS BOWLS.
3. REMOVE EXISTING FILL WHERE PRESENT.
4. CARRY OUT COMPACTION OF THE BASE OF EXCAVATION TO A MINIMUM OF 98% DRY DENSITY RATIO (STANDARD COMPACTION). ANY "SOFT SPOTS" IDENTIFIED DURING COMPACTION SHOULD BE EXCAVATED, TYNED, DRIED AND RE-COMPACTED, OR REMOVED AND REPLACED WITH IMPORTED COMPACTED FILL.
5. FILLING FOR BUILDING PLATFORMS SHOULD BE PLACED IN MAXIMUM 250mm THICK LAYERS AND COMPACTED TO A MINIMUM OF 98% DRY DENSITY RATIO (STANDARD COMPACTION). CLAYEY FILL MATERIALS SHOULD BE PLACED WITHIN 3% OF STANDARD OPTIMUM MOISTURE CONTENT. COMPACTION SHOULD BE CHECKED DURING CONSTRUCTION USING INSITU DENSITY TESTING.

PAVEMENTS

RECOMMENDED SITE PREPARATION AND EARTHWORKS PRACTICES ARE AS FOLLOWS:

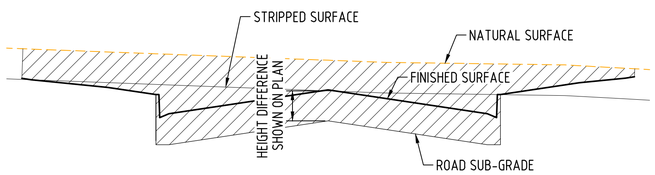
6. DEMOLISH AND REMOVE EXISTING SURFACE FEATURES INCLUDING REMOVAL OF TREES AND FENCES.
7. REMOVE PAVEMENT AND STRIP ANY ORGANIC RICH (TOPSOIL) AND REMNANT TREE ROOTS BOWLS.
8. REMOVE EXISTING FILL WHERE PRESENT.
9. PAVEMENT DESIGN IS BASED ON A SUBGRADE CBR>=15% UNLESS SPECIFIC ADVICE IS PROVIDED BY GEOTECHINAL ENGINEER. WHERE INSITU CBR IS LOWER THAN 15%, REMOVE AND REPLACE 300mm OF EXISTING SUBGRADE MATERIAL WITH MATERIAL CBR 15% OR BETTER, COMPACT IN 150mm LAYERS.
10. RIP SUBGRADE SURFACE TO A MINIMUM DEPTH OF 250mm AND RE-COMPACT TO A MINIMUM OF 95% DRY DENSITY RATIO (MODIFIED COMPACTION).
11. EMBANKMENT FILLING FOR PAVEMENTS SHOULD BE PLACED IN MAXIMUM 250mm THICK LAYERS AND COMPACTED TO A MINIMUM 95% DRY DENSITY RATIO (MODIFIED COMPACTION). CLAYEY FILL MATERIALS SHOULD BE PLACED WITHIN 3% OF STANDARD OPTIMUM MOISTURE CONTENT. COMPACTION SHOULD BE CHECKED DURING CONSTRUCTION USING INSITU DENSITY TESTING.
12. COMPACT VERGES TO MINIMUM 90% AND UNDER FOOTPATHS TO A MINIMUM 95% DRY DENSITY RATIO (MODIFIED COMPACTION)

LEGEND

- PROPOSED TYPE A, 1.5m WIDE CONCRETE FOOTPATH
- PROPOSED TYPE B, 2.5m WIDE CONCRETE FOOTPATH
- 36.0 — DESIGN MAJOR CONTOUR
- DESIGN MINOR CONTOUR
- × FS 20.67 FINISHED SURFACE LEVEL
- × FS 20.67 FINISHED RIDGE LINE LEVEL
- WORKS BOUNDARY
- FUTURE VEHICLE ACCESS

NOTES

1. REFER TO ROAD ANNOTATED CROSS SECTIONS FOR PROPERTY BOUNDARY LEVELS AT ROAD RESERVE BOUNDARY.



CUT PROFILE

SCALE HORIZ. 1:100
VERT. 1:20

DIPL DRG. No. R23-XXXX

7.5 0 15 30m
SCALE 1:750

aurecon
www.aurecongroup.com

CLIENT

halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	10/03/23	ISSUED FOR INFORMATION	P. GRAHAM

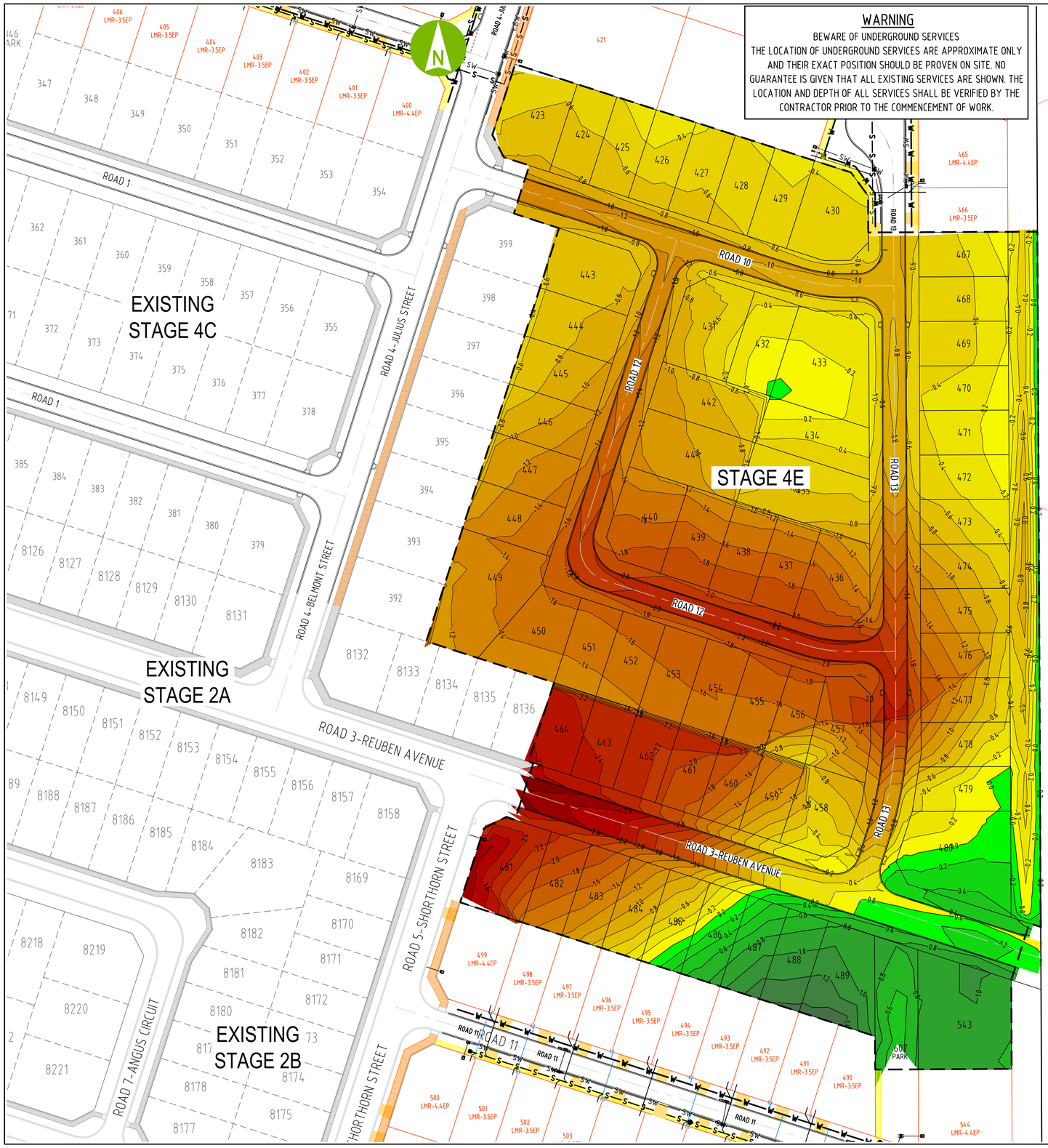
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	EARTHWORKS AND ALLOTMENT GRADING PLAN SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	2000	DRG		1018	A



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTES

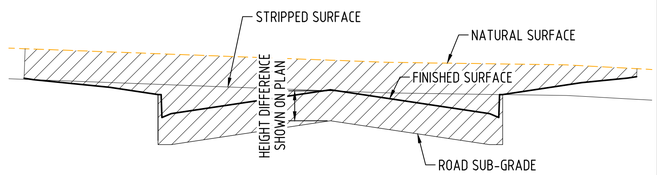
1. REFER TO DWG No. DN04B-0900-DRG-1003 FOR EARTHWORKS GENERAL NOTES
2. REFER TO ROAD ANNOTATED CROSS SECTIONS FOR PROPERTY BOUNDARY LEVELS AT ROAD RESERVE BOUNDARY

LEGEND

	COLOUR	HEIGHT RANGE (m)
CUT		0.00 - 0.20
		0.20 - 0.40
		0.40 - 0.60
		0.60 - 0.80
		0.80 - 1.00
		1.00 - 1.20
		1.20 - 1.40
		1.40 - 1.60
		1.60 - 1.80
		1.80 - 2.00
		2.00 - 2.20
		2.20 - 2.40
		2.40 - 2.60
		2.60 +
FILL		0.00 - 0.20
		0.20 - 0.40
		0.40 - 0.60
		0.60 - 0.80
		0.80 - 1.00
		1.00 - 1.20
		1.20 - 1.40
		1.40 - 1.60
		1.60 - 1.80
		1.80 - 2.00
		2.00 - 2.20
		2.20 - 2.40
		2.40 - 2.60
		2.60 +

STAGE 4E EARTHWORKS QUANTITIES

	EXISTING SURFACE TO SUBGRADE VOLUME (m^3)	STRIP SURFACE TO SUBGRADE VOLUME (m^3)	STRIP VOLUME x (m^3)	TOTAL EARTHWORKS VOLUME (m^3)
CUT	56235	48810	10252	59062
FILL	2252	3829		3829



CUT PROFILE

SCALE HORIZ. 1:100
VERT. 1:20

DIPL DRG. No. R23-XXXX

7.5 0 15 30m
SCALE 1:750

aurecon
www.aurecongroup.com

halikos Developments

CLIENT

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

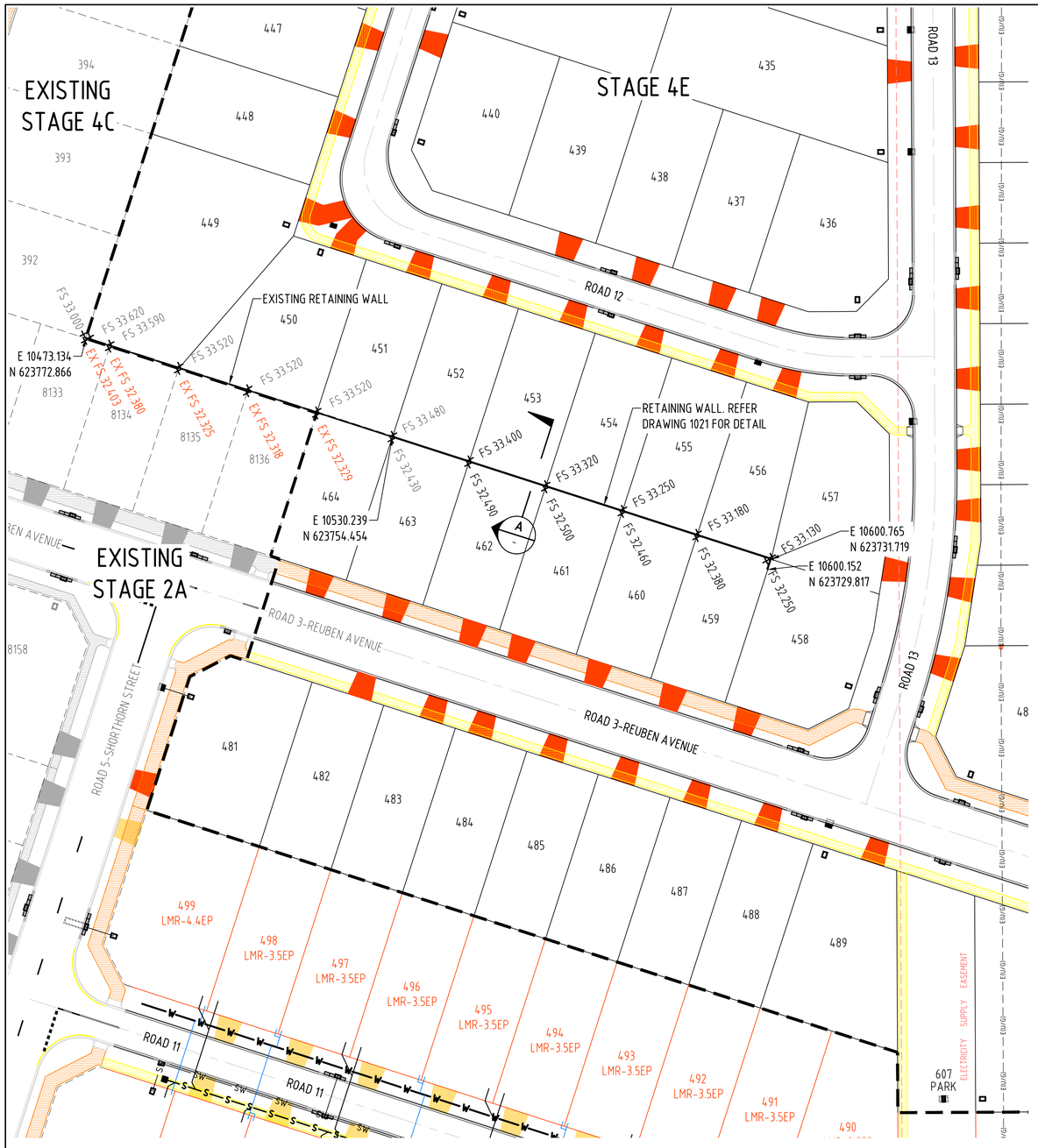
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

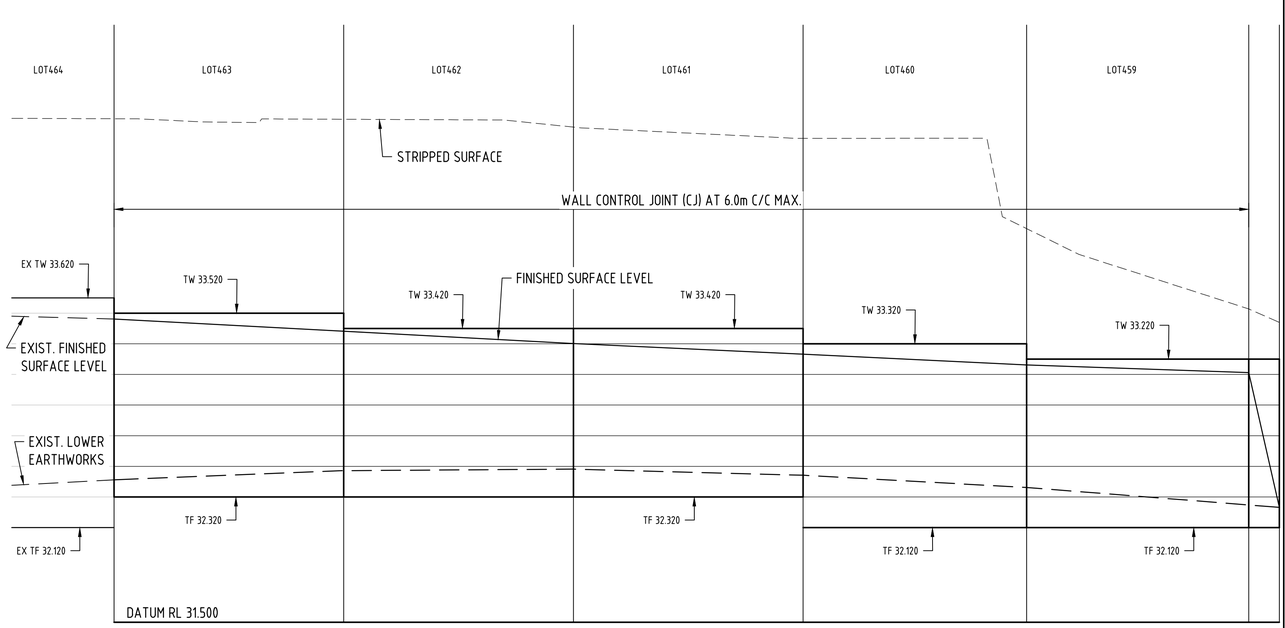
PROJECT: NORTHCREST - STAGE 4E BERRIMAH

TITLE: EARTHWORKS CUT FILL DIFFERANCE PLAN

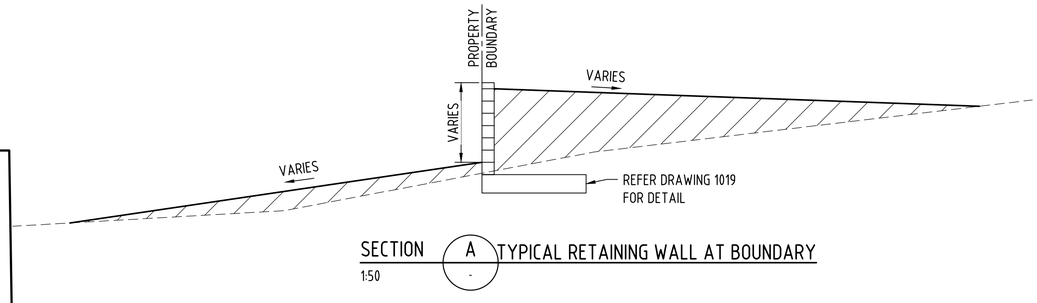
DRAWING No. DN04E - 2000 - DRG - - 1016 - A
(PROJECT No. | WBS | TYPE | DISC | NUMBER | REV)



PLAN
SCALE HORZ. 1:500



LONGITUDINAL SECTION RETAINING WALL
SCALE HORZ. 1:200
VERT. 1:20



SECTION A TYPICAL RETAINING WALL AT BOUNDARY
1:50

LEGEND

36.0	DESIGN MAJOR CONTOUR
	DESIGN MINOR CONTOUR
	ROAD CENTRE LINE
× FS 20.67	FINISHED SURFACE LEVEL
	SUB-WORKS BOUNDARY
TW	TOP OF WALL
TF	TOP OF FOOTING

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

DIPL DRG. No. R23-XXXX

SCALE 1:200 (2 0 4 8m) · SCALE 1:20 (200 0 400 800mm) · SCALE 1:500 (5 0 10 20m) · SCALE 1:50 (500 0 1000 2000mm)

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	R. CHRISNADI

SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

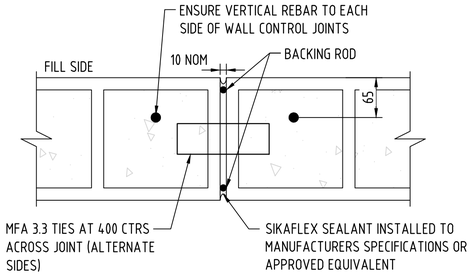
PROJECT: NORTHCREST - STAGE 4E BERRIMAH

TITLE: RETAINING WALL LAYOUT PLAN

DRAWING No.: DN04E – 2000 – DRG – – 1020 – A
(PROJECT No. · WBS · TYPE · DISC · NUMBER · REV)

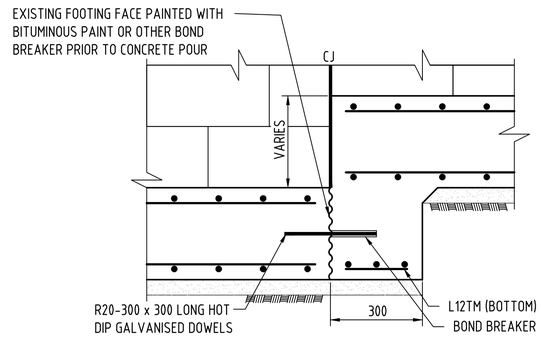
NOTES

1. DESIGN BASED ON 10kPa BACKFILL SURCHARGE AND 5kPa OPERATIONAL SURCHARGE.
2. 32MPa CONCRETE UNO FOR FOOTINGS.
3. ALL CORES FILLED WITH 20MPa GROUT.
4. M3 MORTAR TO BE UTILISED IN ACCORDANCE WITH AS3700.
5. PROVIDE CONTROL JOINT (CJ) @ 6m MAX CTS OR AT FOOTING LEVEL CHANGES WHICHEVER IS THE LESSER.
6. REINFORCED CONCRETE BLOCKWORK SHALL COMPLY WITH THE FOLLOWING:
   - PROVIDE CLEANOUT HOLES AT BASE OF ALL WALLS AND ROD COREHOLES TO REMOVE PROTUDING MORTAR FINS.
   - CORE FILLING GROUT TO HAVE A CHARACTERISTIC STRENGTH OF 20MPa, 10mm MAXIMUM AGGREGATE, 230mm SLUMP (±30mm) WITH A MINIMUM PORTLAND CEMENT CONTENT OF 300kg/m^3.
   - COMPACT THE GROUT WITH A PENCIL VIBRATOR.
   - PROVIDE MIN. 65mm COVER TO REINFORCING BARS FROM FILL SIDE FACE OF THE BLOCKWORK TO ALLOW ADEQUATE GROUT COVER.
7. PROVIDE 50mm COVER TO REINFORCING BARS IN CONCRETE FOOTING.
8. IF TANKING MEMBRANE IS REQUIRED, THE DESIGN AND CERTIFICATION IS TO BE PROVIDED BY WATERPROOFING SPECIALIST.

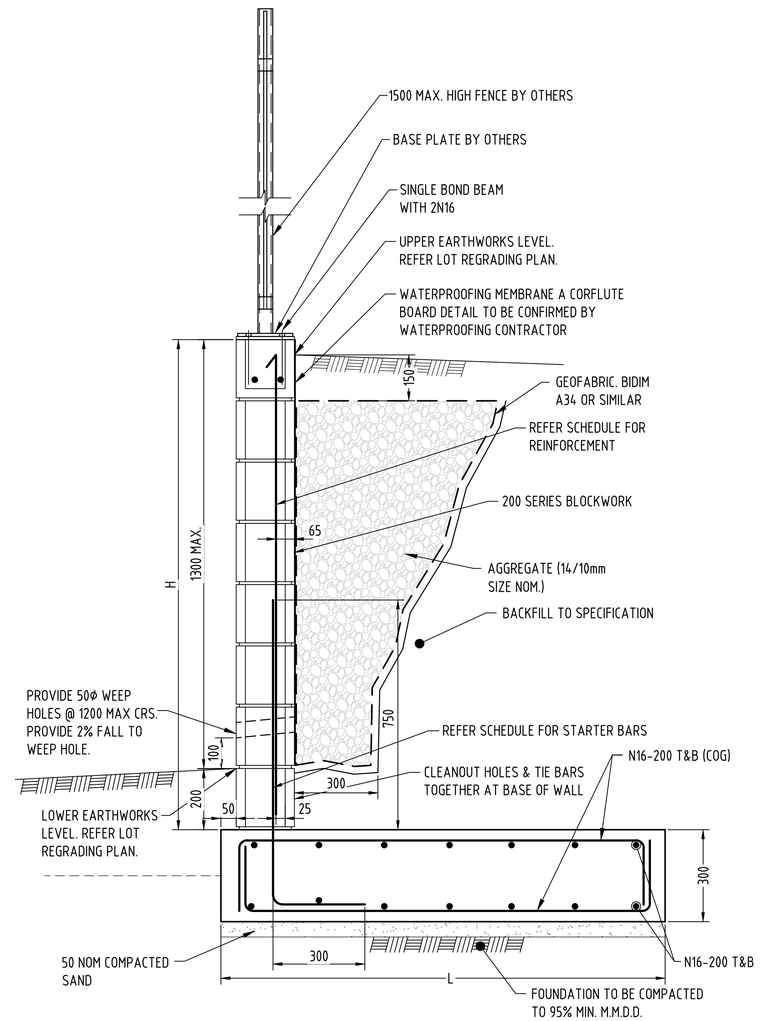


TYPICAL WALL CONTROL JOINT (CJ)
NTS

SCHEDULE			
TYPE	H (mm)	L (mm)	WALL REINFORCEMENT
A	1500 - 0	1450	N16-200 N16-200 STARTER BARS



TYPICAL STEP IN FOOTING
NTS



TYPICAL "A" RETAINING WALL DETAIL
1:10
THE MINIMUM ALLOWABLE BEARING CAPACITY OF THE SUBGRADE MATERIAL SHALL BE 150 kPa

DIPL DRG. No. R23-XXXX

100 0 200 400mm
SCALE 1:10

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	R. CHRISNADI

SCALE	SIZE
AS SHOWN	A1

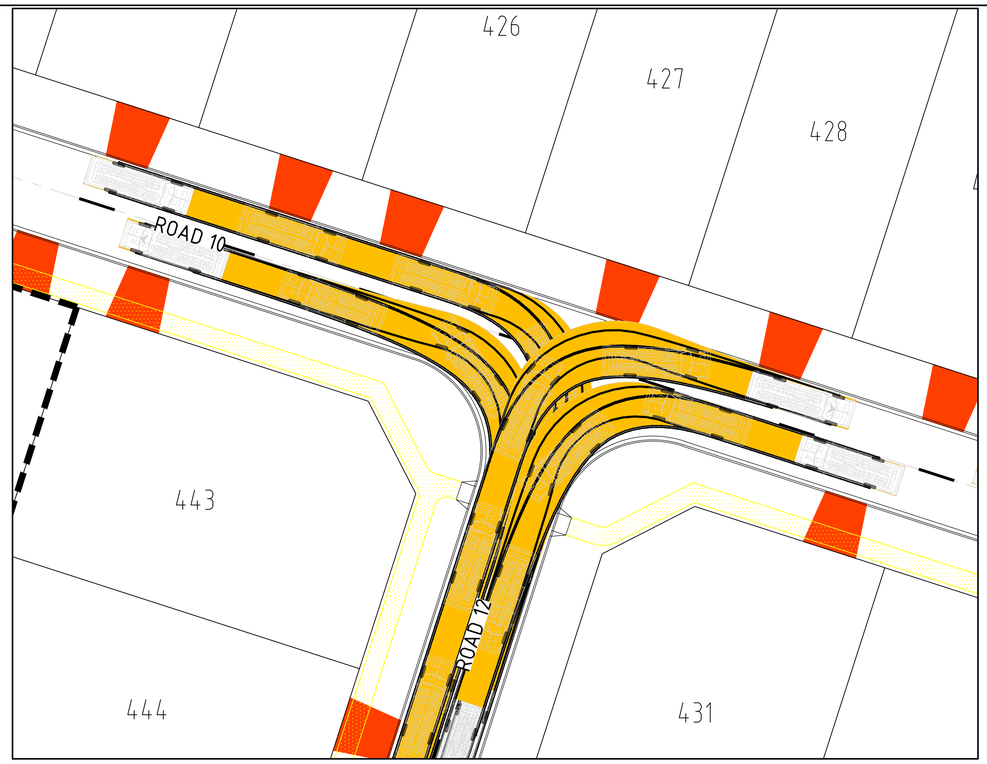
DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

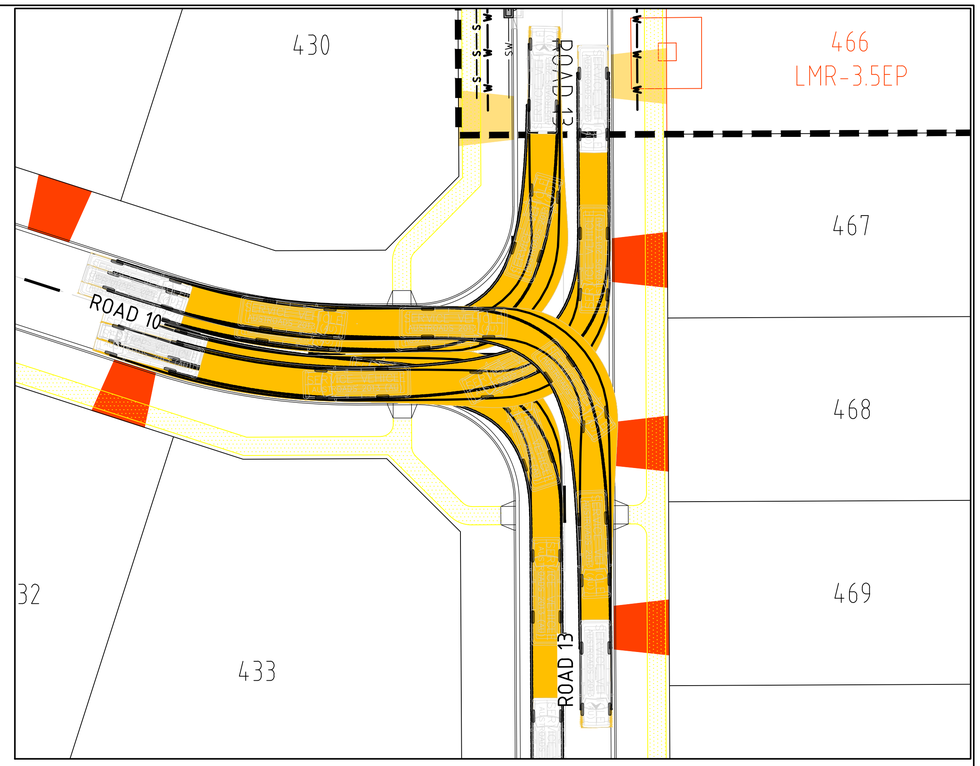
PRELIMINARY
NOT FOR CONSTRUCTION

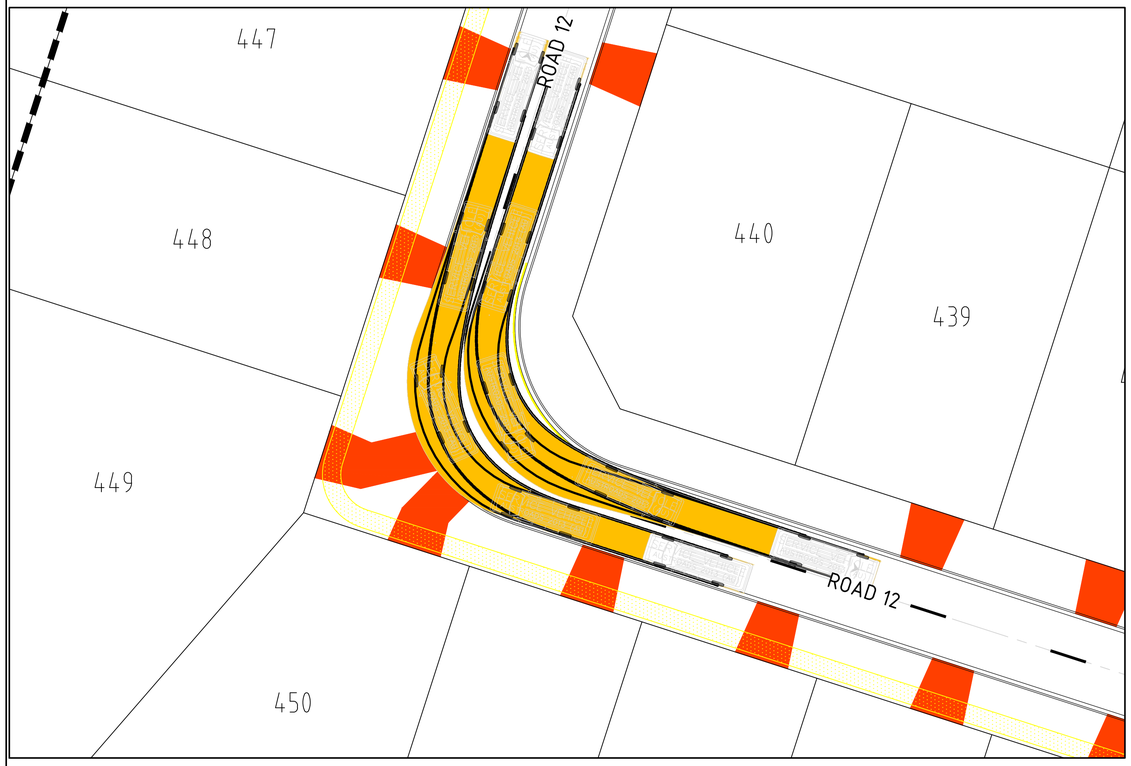
APPROVED
DATE

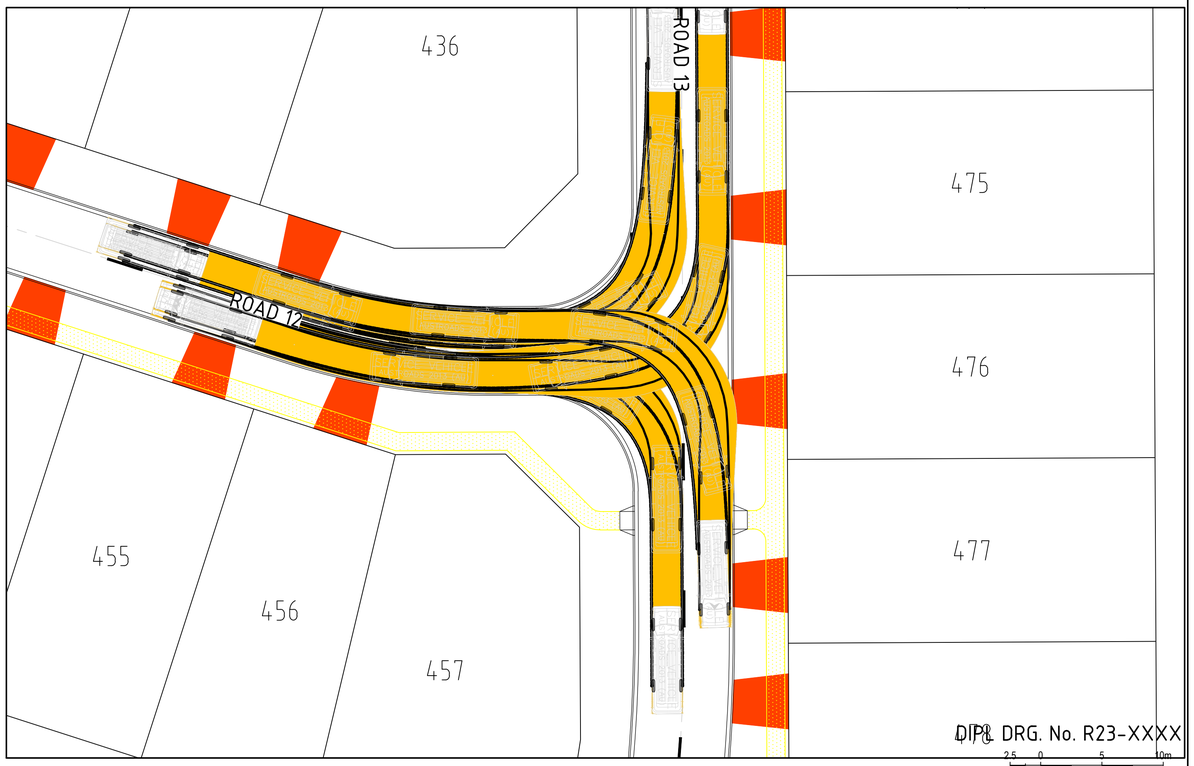
PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	RETAINING WALL DETAILS SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	2000	DRG		1021	A









DIPL DRG. No. R23-XXXX

SCALE 1:250

CLIENT	REV	DATE	REVISION DETAILS	APPROVED
halikos Developments	A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

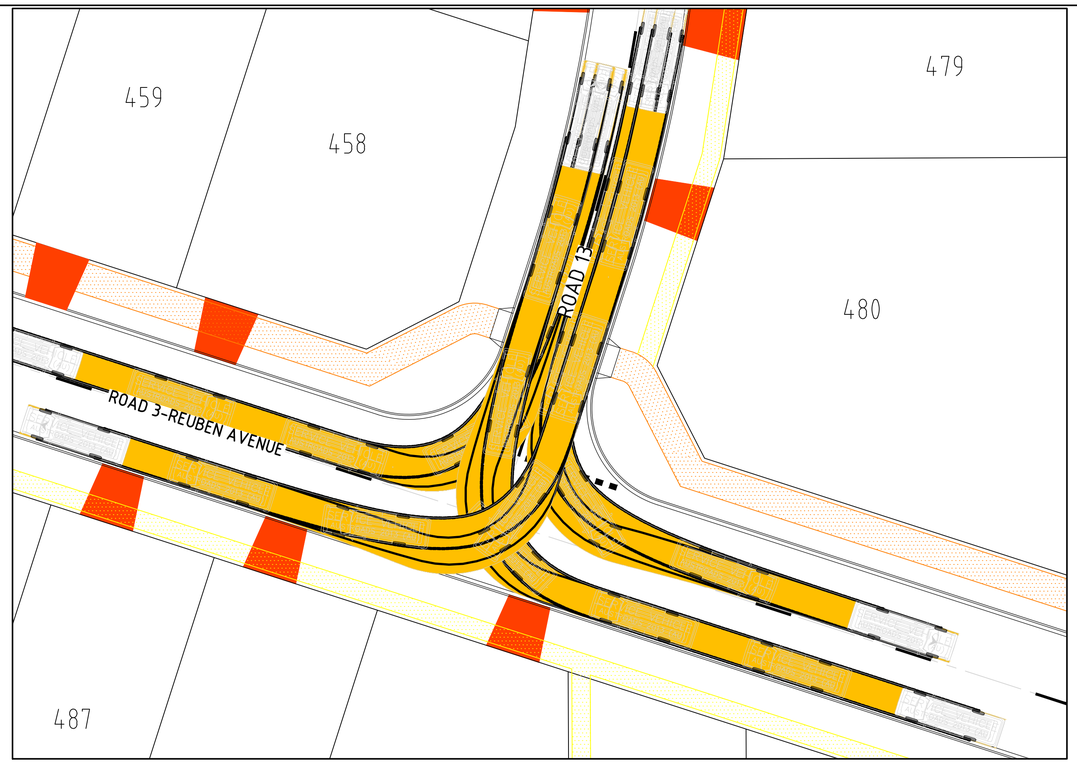
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

aurecon
www.aurecongroup.com

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	SWEPT PATH - 8.8m VEHICLES SHEET 1 OF 4

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	2000	DRG		XXX1	A



DIPL DRG. No. R23-XXXX

2.5 0 5 10m
SCALE 1:250

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

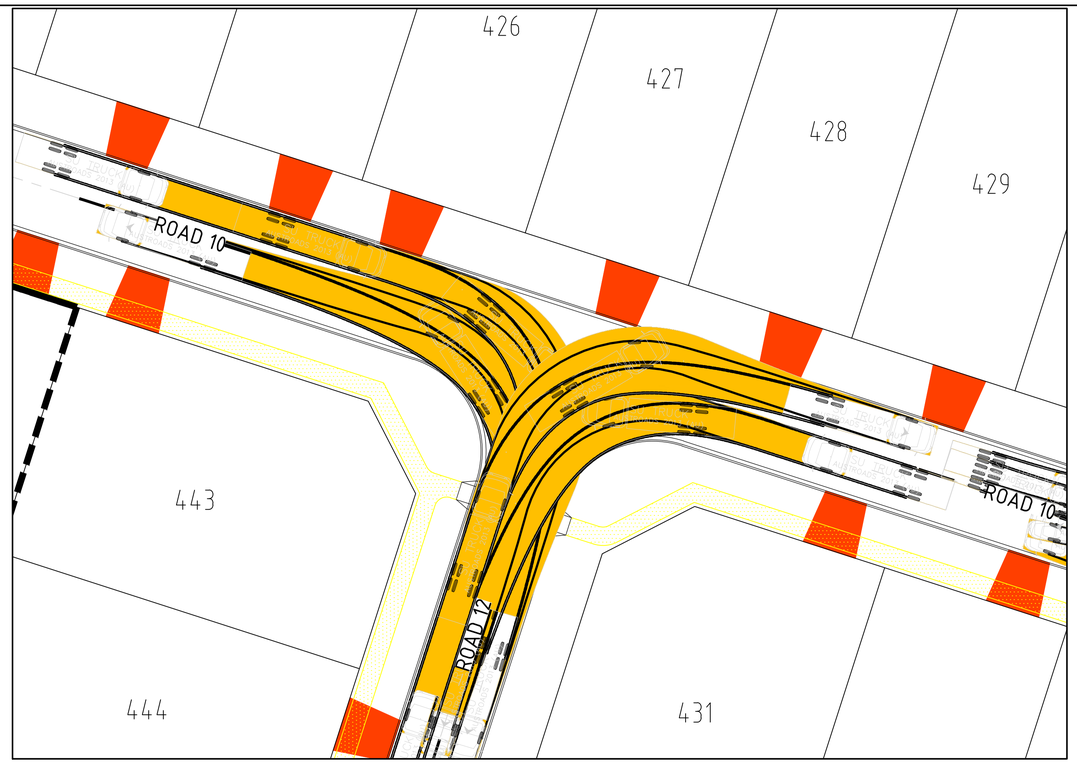
PROJECT: NORTHCREST - STAGE 4E BERRIMAH

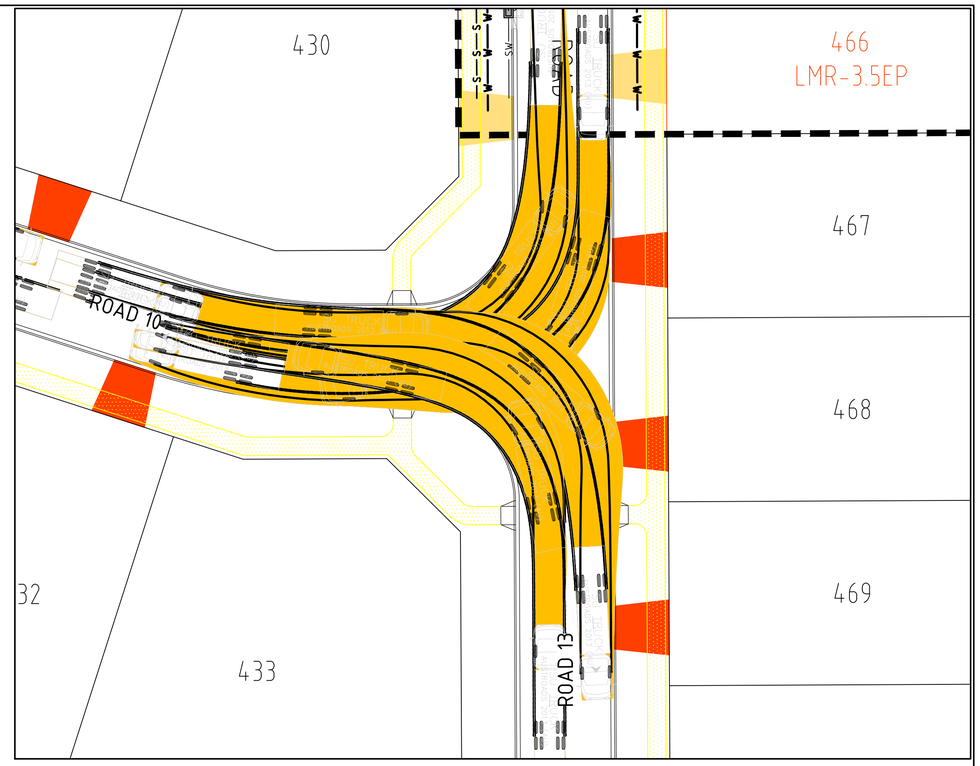
TITLE: SWEPT PATH - 8.8m VEHICLES

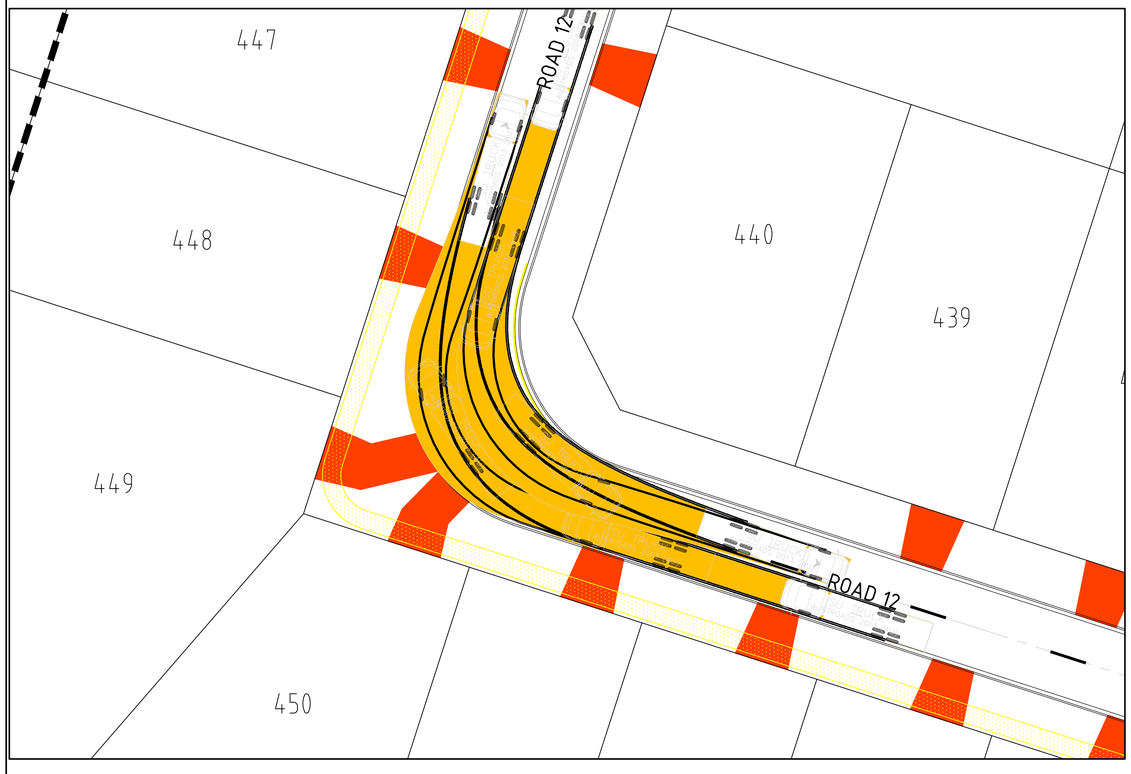
SHEET 2 OF 4

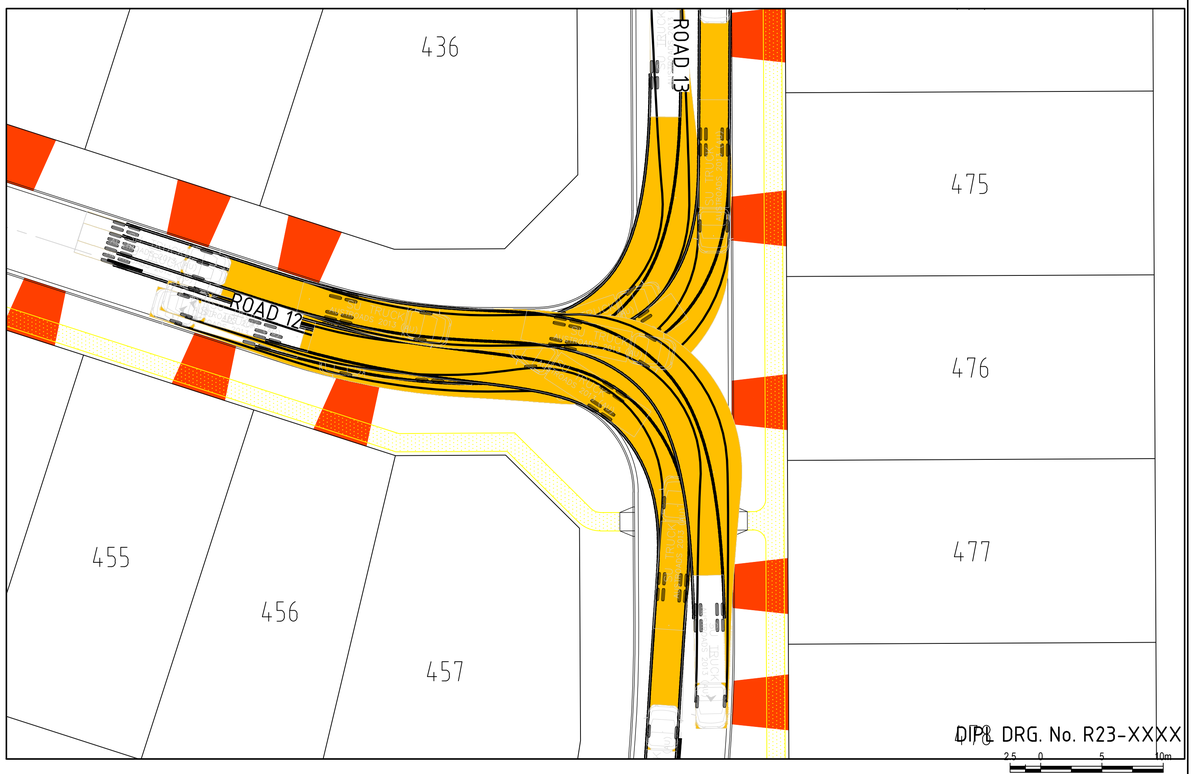
DRAWING No.

PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
DN04E	2000	DRG		XXX2	A









DIPG DRG. No. R23-XXXX

2.5 0 5 10m
SCALE 1:250

aurecon
www.aurecongroup.com

CLIENT

halikos
Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

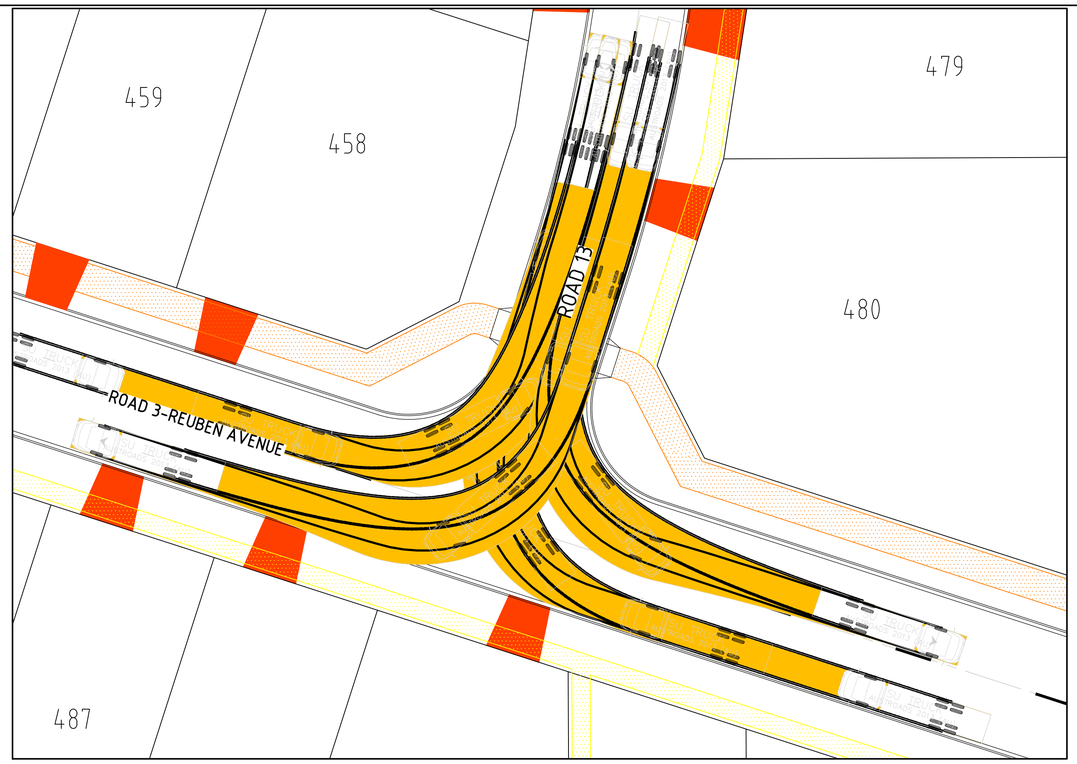
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	SWEPT PATH - 12.5m VEHICLES SHEET 3 OF 4

DRAWING No.	PROJECT No.		WBS		TYPE		DISC		NUMBER		REV
	DN04E	–	2000	–	DRG	–		–	XXX3	–	A



DIPL DRG. No. R23-XXXX

2.5 0 5 10m
SCALE 1:250

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

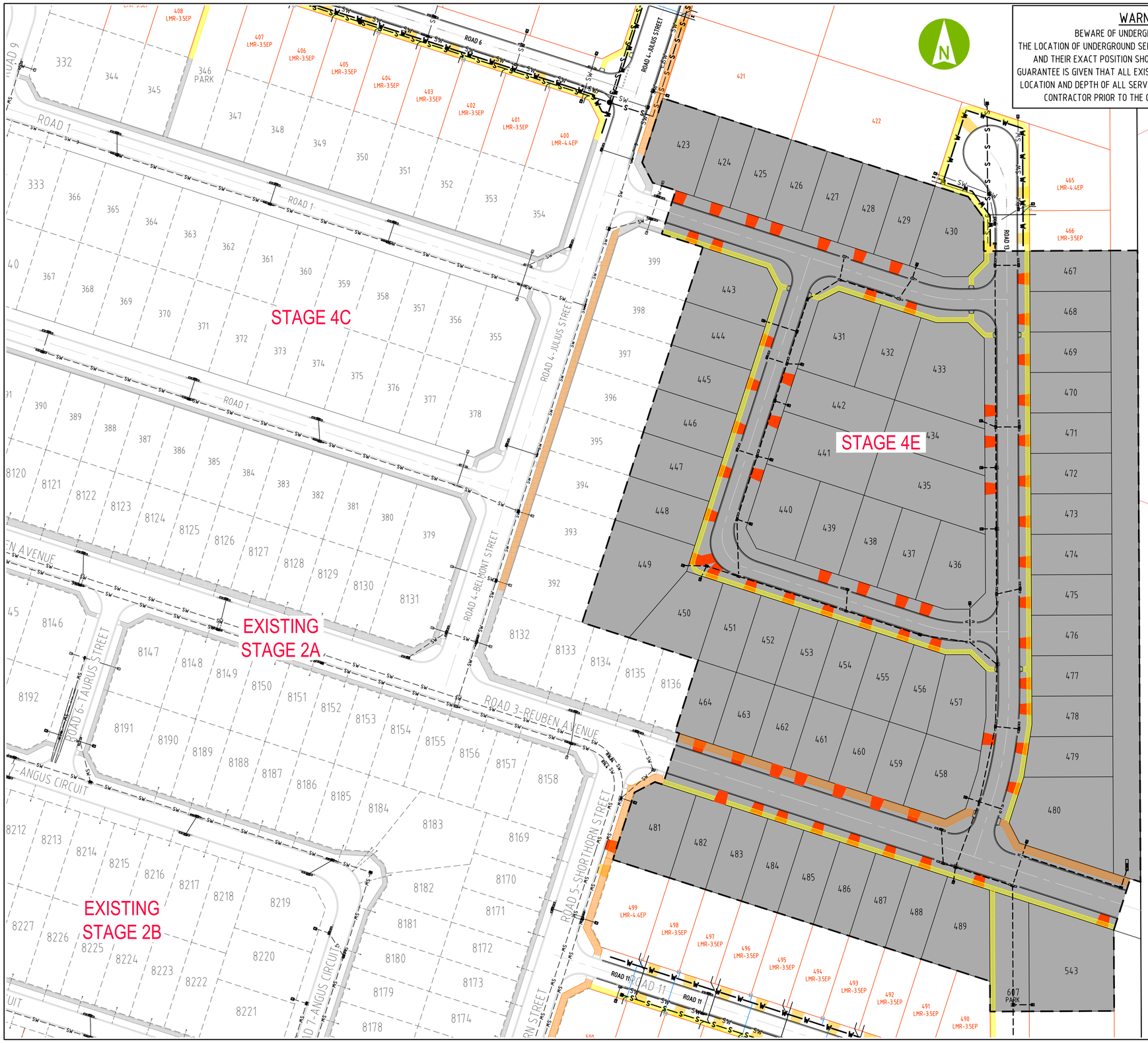
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	SWEPT PATH - 12.5m VEHICLES SHEET 4 OF 4

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	2000	DRG		XXX4	A



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

STORMWATER DRAINAGE NOTES:

1. ALL STORMWATER CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE BERRIMAH FARM SUBDIVISION GUIDELINES (BFSG) STANDARD DRAWINGS.
2. MINIMUM STORMWATER PIPE SIZE IS DN375 REINFORCED CONCRETE CLASS 2 U.N.O.
3. BOX CONCRETE CULVERTS SHALL BE 'U' TYPE SUITABLE FOR INSTALLATION ON A CAST INSITU CONCRETE SLAB. PRECAST CULVERTS UP TO A SIZE OF 1200 x 900 SHALL BE IN ACCORDANCE WITH AS1597. ALL OTHER SIZES TO CONFORM TO AS1597.2
4. TRENCHING AND BACKFILL FOR ALL PIPES IS TO BE IN ACCORDANCE WITH THE CIVIL SPECIFICATION.
5. IN AREAS OF EXCESSIVE CRAB HOLING FILL WITH 10mm AGGREGATE OR LEAN MIX CONCRETE.
6. IN AREAS WITH GROUND WATER EVIDENT USE SCREENED AGGREGATE 5mm MIN. / 12mm MAX. WRAPPED IN GEOFABRIC.
7. MANHOLES ARE TO BE AS PER BFSG STANDARD DRAWING USG123, U.N.O.
8. MANHOLES ARE TO HAVE HEAVY DUTY B293 GATIC TYPE COVERS AND FRAMES AS PER BFSG STANDARD DRAWING USG123.
9. FINISHED SURFACE LEVELS OF STORMWATER STRUCTURES SHOWN ON THE DRAWINGS SHOULD BE CONFIRMED ON SITE PRIOR TO COMPLETING CONSTRUCTION.
10. OUTLET HEADWALLS FOR RCP's TO BE AS PER BFSG STANDARD DRAWING USG102 & 103 U.N.O. OUTLET HEADWALLS FOR RCBC's TO BE AS PER BFSG STANDARD DRAWING USG104 U.N.O.
11. SIDE ENTRY PITS ARE TO BE TYPE A-G IN ACCORDANCE WITH BFSG STANDARD DRAWINGS USG120 & 121.
12. WEEP HOLES ARE TO BE PROVIDED IN THE WALL OF ALL PITS TO ACCEPT FLOWS FROM PIPE BEDDING .
13. AN APPROVED CONVERTER SLAB SHALL BE USED UNDER THE CHAMBER FOR SHAFT DIAMETERS LARGER THAN 1050mm.
14. ELECTRICAL CONDUITS ARE TO BE DEEPENED IF CLASHES OCCUR WITH STORMWATER OR OTHER SERVICES. NO VARIATION WILL BE ALLOWED FOR SUCH CHANGES.
15. ELECTRICAL LIGHTPOLE POSITIONS ARE INDICATIVE AND MAY BE MOVED LATERALLY TO AVOID CLASHES WITH OTHER SERVICES.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

LEGEND

STAGE 4B BOUNDARY

STAGE 4B

DIPL DRG. No. R23-XXXX

7.5 0 15 30m
SCALE 1:750

aurecon
www.aurecongroup.com

CLIENT

halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

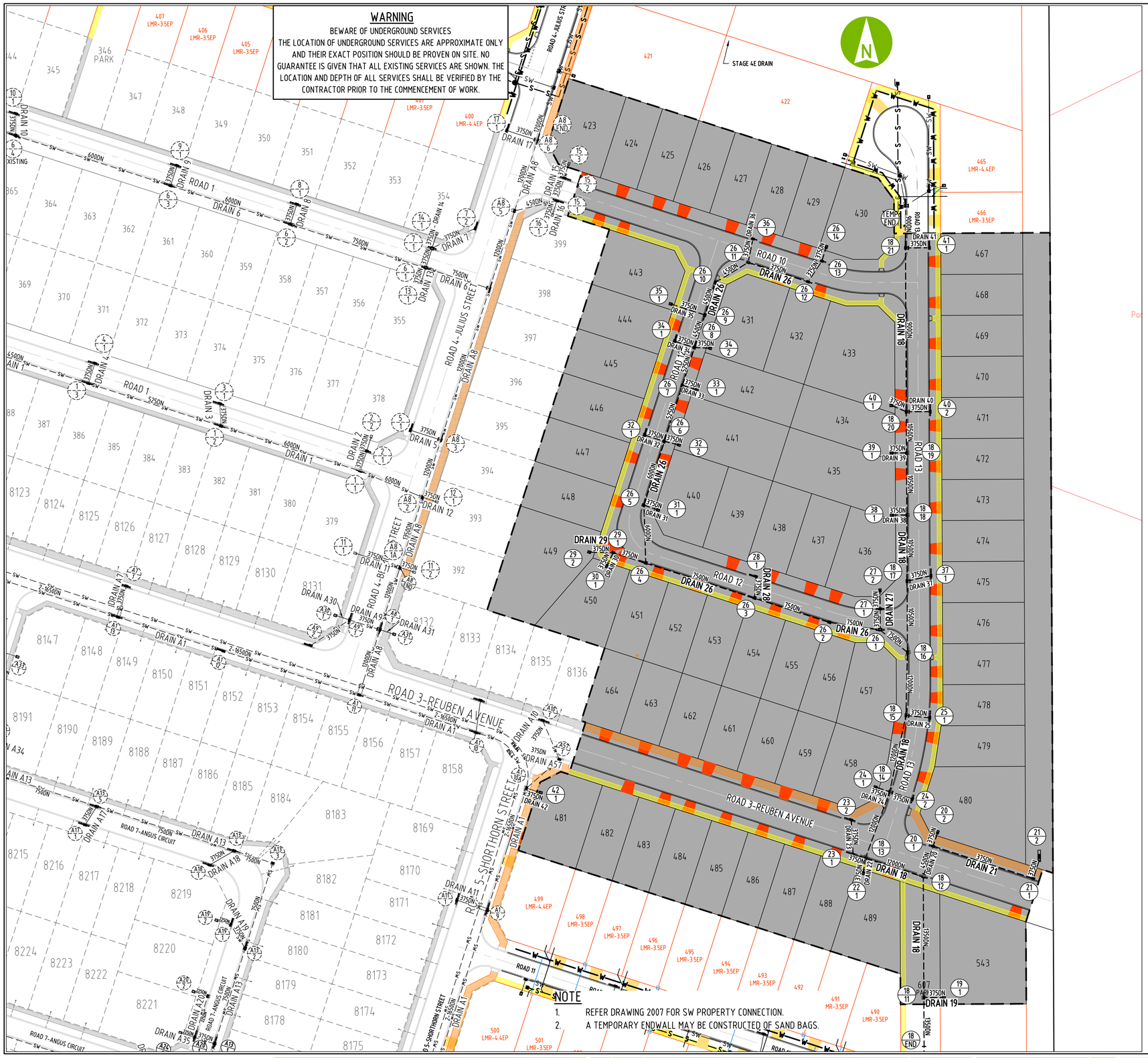
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	STORMWATER DRAINAGE LAYOUT PLAN

DRAWING No. PROJECT No. DN04E – WBS 3000 – TYPE DRG – DISC – NUMBER 2000 – REV A



DRAIN No./PIT No.	LOCATION		PIT TYPE	No. INLET / BAY	COVER CLASS
18/ TEMP END	LOT 607 PARK	E 10631.7139 N 623606.295	TEMP. END WALL	1	-
18/11	LOT 607 PARK	E 10631.596 N 623631.205	SPECIAL 1400x900 GIP	1	D
18/12	ROAD 3-REUBEN AVENUE	CH. 543.00	SPECIAL SAG SEP TYPE C	3	D
18/13	ROAD 3-REUBEN AVENUE	CH. 520.75	SPECIAL 1200x1200 KERB SIDE MH	1	D
18/14	ROAD 13	CH. 20.00	SAG SEP TYPE C	3	D
18/15	ROAD 13	CH. 49.50	SEP TYPE C	4	D
18/16	ROAD 13	CH. 73.02	1200x1000 KERB SIDE MANHOLE	1	D
18/17	ROAD 13	CH. 99.07	SEP TYPE C	4	D
18/18	ROAD 13	CH. 123.25	1050x900 KERB SIDE MANHOLE	1	D
18/19	ROAD 13	CH. 145.96	1050x900 KERB SIDE MANHOLE	1	D
18/20	ROAD 13	CH. 161.00	SEP TYPE C	4	D
18/21	ROAD 13	CH. 220.90	SEP TYPE C	3	D
18/TEMP END	ROAD 13	CH. 236.33	TEMP. END WALL	1	-
19/1	LOT 543	E 10640.146 N 623631.245	900x600 GIP	1	-
20/1	ROAD 3-REUBEN AVENUE	CH. 543.00	SAG SEP TYPE A	3	D
20/2	LOT 480	E 10637.951 N 623691.671	900x600 GIP	1	-
21/1	ROAD 3-REUBEN AVENUE	CH. 581.49	900x900 KERB SIDE MANHOLE	1	D
21/2	EASEMENT	E 10675.109 N 623681.476	LETTER BOX PIT	1	-
22/1	LOT 489	E 10610.729 N 623676.702	900x600 GIP	1	-
23/1	ROAD 3-REUBEN AVENUE	CH. 516.00	SEP TYPE A	4	D
23/2	ROAD 3-REUBEN AVENUE	CH. 511.50	SEP TYPE A	4	D
24/1	LOT 458	E 10615.217 N 623708.138	900x600 GIP	1	-
24/2	ROAD 13	CH. 20.00	SEP TYPE A	3	D
25/1	ROAD 13	CH. 49.50	SEP TYPE A	4	D
26/1	ROAD 12	CH. 14.30	SPECIAL SAG SEP TYPE C	3	D
26/2	ROAD 12	CH. 31.95	900x900 KERB SIDE MANHOLE	4	D
26/3	ROAD 12	CH. 60.69	SEP TYPE B	3	D
26/4	ROAD 12	CH. 102.29	SEP TYPE B	3	D
26/5	ROAD 12	CH. 124.47	SEP TYPE B	3	D
26/6	ROAD 12	CH. 149.00	SEP TYPE B	3	D
26/7	ROAD 12	CH. 170.51	900x600 KERB SIDE MANHOLE	1	D
26/8	ROAD 12	CH. 185.00	SEP TYPE B	3	D
26/9	ROAD 12	CH. 197.53	900x600 KERB SIDE MANHOLE	1	D
26/10	ROAD 12	CH. 210.00	900x600 KERB SIDE MANHOLE	1	D
26/11	ROAD 10	CH. 93.00	SEP TYPE A	2	D
26/12	ROAD 10	CH. 116.00	SEP TYPE A	2	D
26/13	ROAD 10	CH. 118.49	SEP TYPE A	2	D
26/14	LOT 430	E 10597.219 N 623905.636	900x600 GIP	1	-
27/1	ROAD 12	CH. 14.30	SAG SEP TYPE A	3	D
27/2	LOT 436	E 10616.842 N 623780.075	900x600 GIP	1	-
28/1	ROAD 12	CH. 62.69	SEP TYPE A	3	D
29/1	ROAD 12	E 10519.259 N 623793.856	900x600 MANHOLE	1	D
29/2	LOT 449	E 10510.495 N 623794.061	900x600 GIP	1	-
30/1	LOT 450	E 10516.871 N 623788.920	900x600 GIP	1	-
31/1	LOT 440	E 10535.631 N 623809.461	900x600 GIP	1	-
32/1	ROAD 12	CH. 149.00	SEP TYPE A	3	D
32/2	LOT 441	E 10543.282 N 623833.261	900x600 GIP	1	-
33/1	LOT 442	E 10549.750 N 623853.383	900x600 GIP	1	-
34/1	ROAD 12	CH. 185.00	SEP TYPE A	3	D
34/2	LOT 431	E 10554.646 N 623868.615	900x600 GIP	1	-
35/1	LOT 443	E 10540.310 N 623884.794	900x600 GIP	1	-
36/1	ROAD 10	CH. 92.00	SEP TYPE A	2	D
37/1	ROAD 13	CH. 101.00	SEP TYPE A	4	D
38/1	LOT 435	E 10621.211 N 623807.603	900x600 GIP	1	-
39/1	LOT 434	E 10621.104 N 623830.318	900x600 GIP	1	-
40/1	LOT 433	E 10621.022 N 623847.681	900x600 GIP	1	-
40/2	ROAD 13	CH. 161.00	SEP TYPE A	4	D
41/1	ROAD 13	CH. 220.90	SEP TYPE A	3	D
42/1	LOT 481	E 10492.698 N 623706.144	900x600 GIP	1	-

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

LEGEND

- WORKS BOUNDARY
- EXISTING STORMWATER
- PROPOSED STORMWATER DRAINAGE, PIPE SIZE NUMBERED PIT.
- CATCH DRAIN
- STRUCTURE LABEL (LINE No/PIT No)
- EXISTING STRUCTURE LABEL (LINE No/PIT No)
- PROPOSED SW PROPERTY CONNECTION TO BE PLACE 1.5m FROM MIDDLE OF LOT FRONTAGE U.N.O.

DIPL DRG. No. R23-XXXX

7.5 0 15 30m
SCALE 1:750

aurecon
www.aurecongroup.com

halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	N.T.S.
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	STORMWATER LAYOUT PLAN & SETOUT TABLE SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	3000	DRG		2001	A

Road Agency Approval No. .....

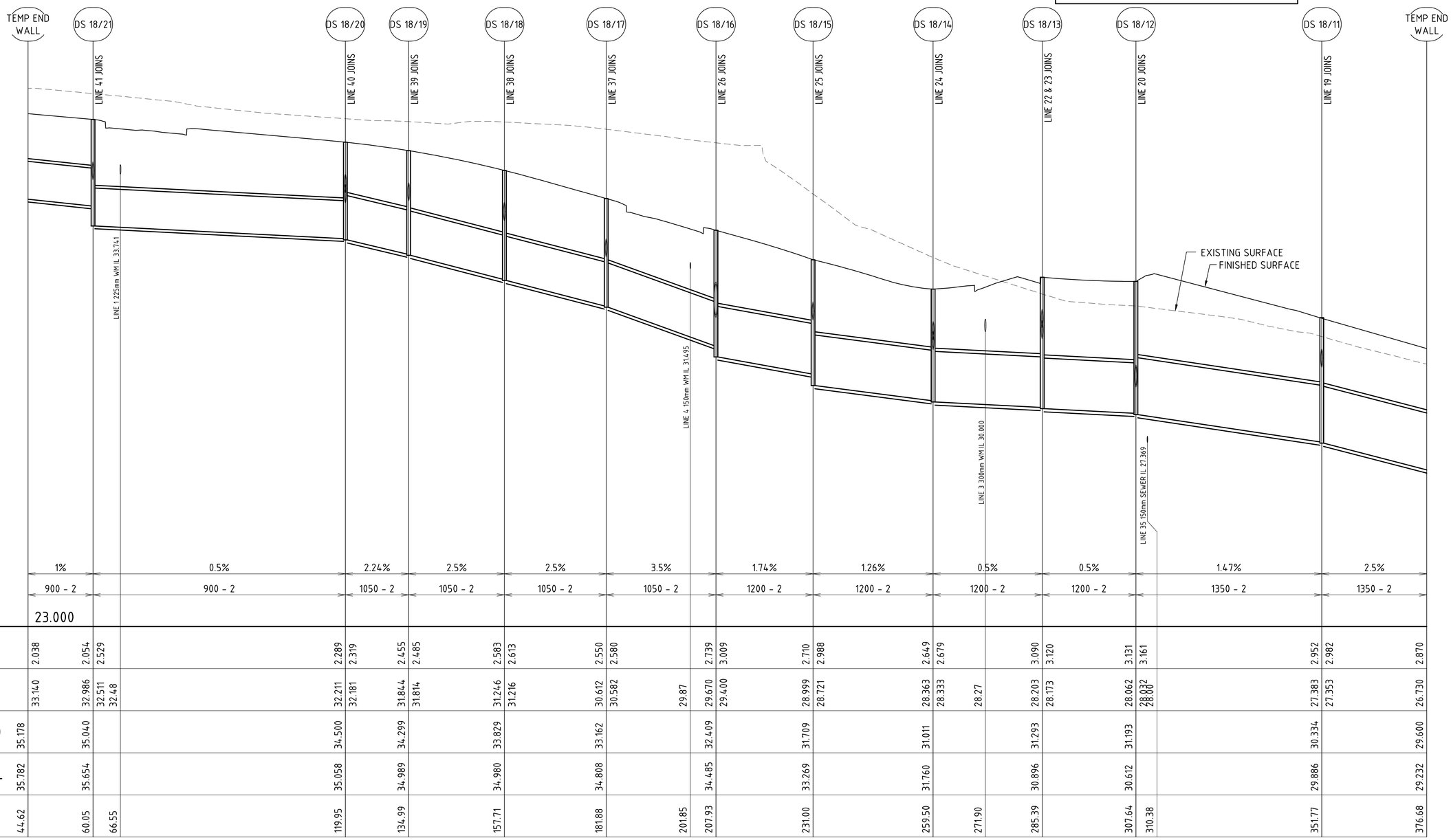
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED



| | | |

Road Agency Approval No. .....

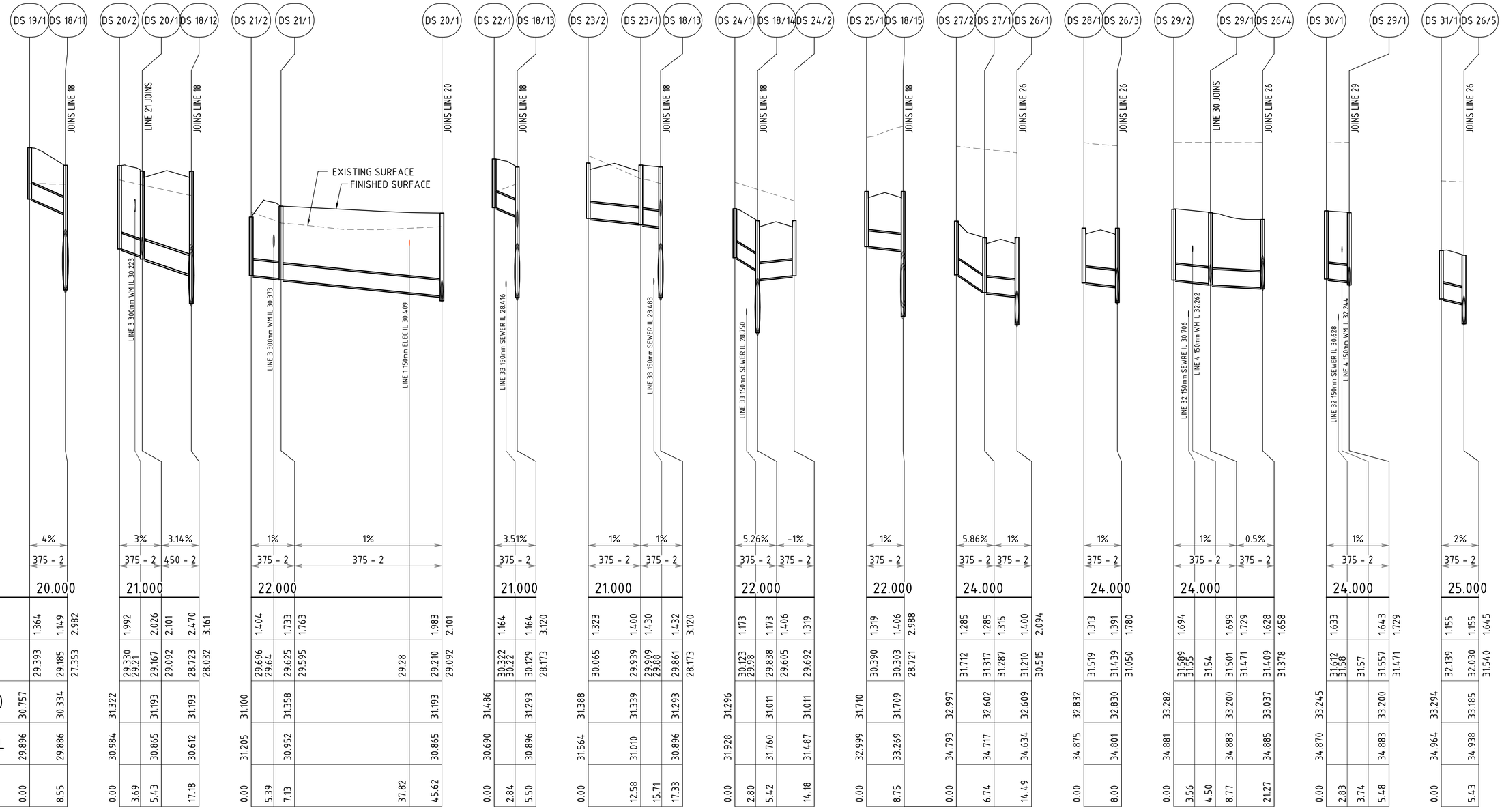
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED



| | | |

Road Agency Approval No. .....

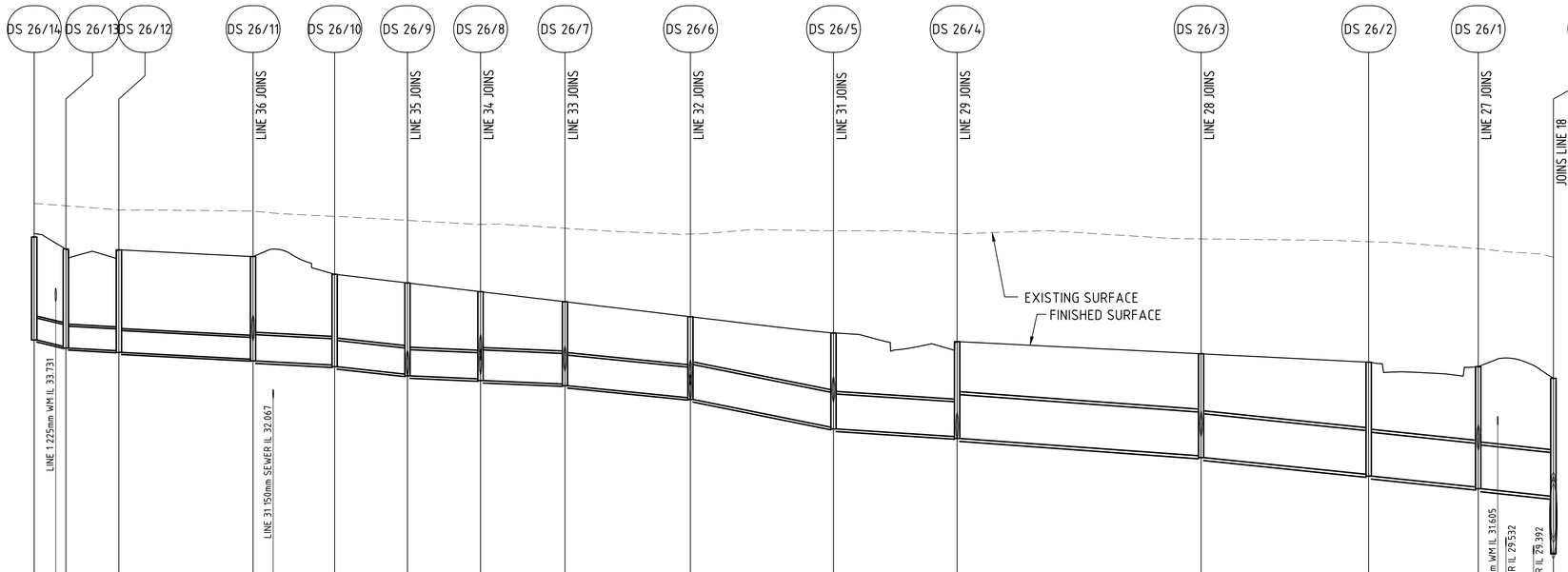
Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED



| | | |

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

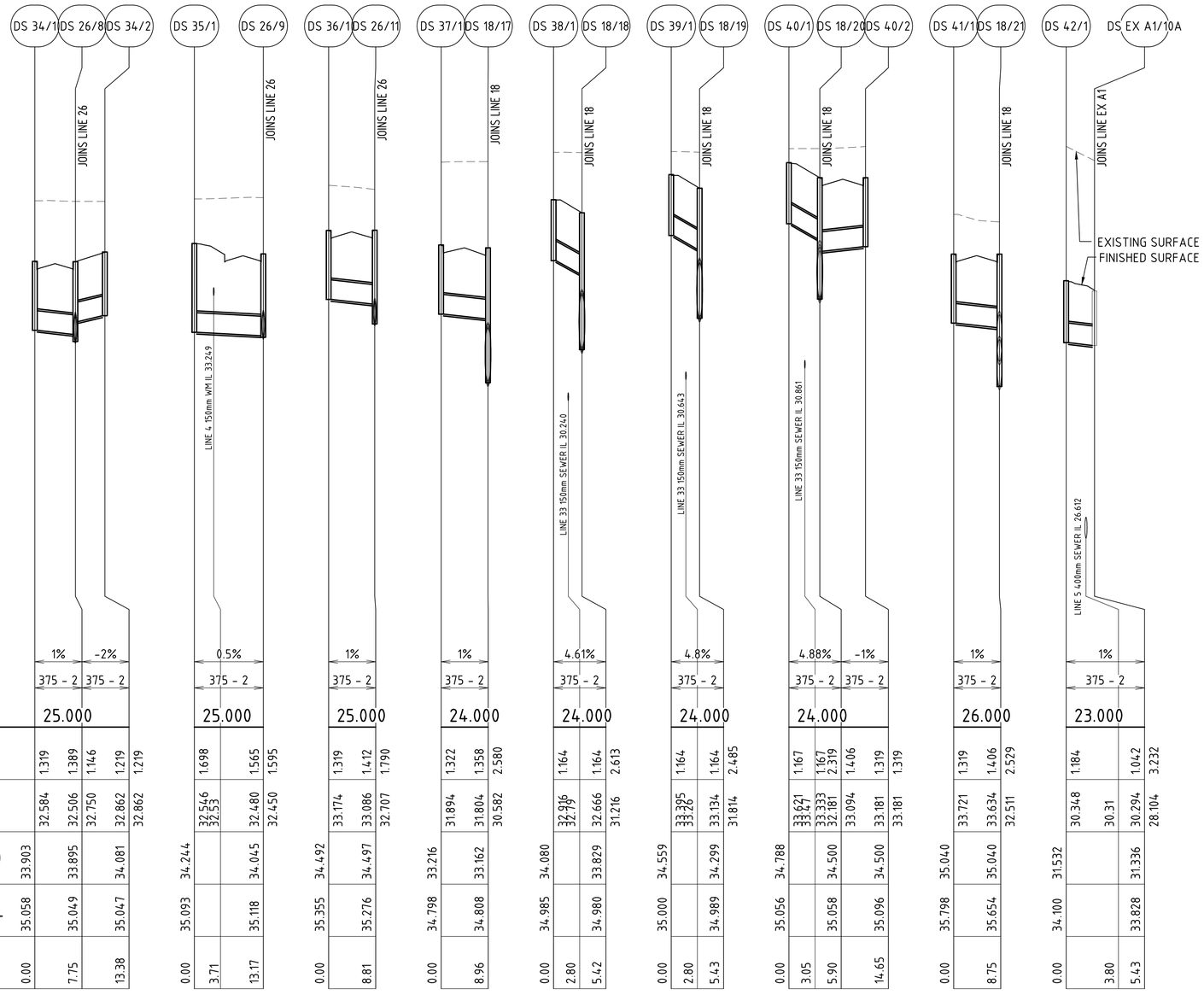
Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

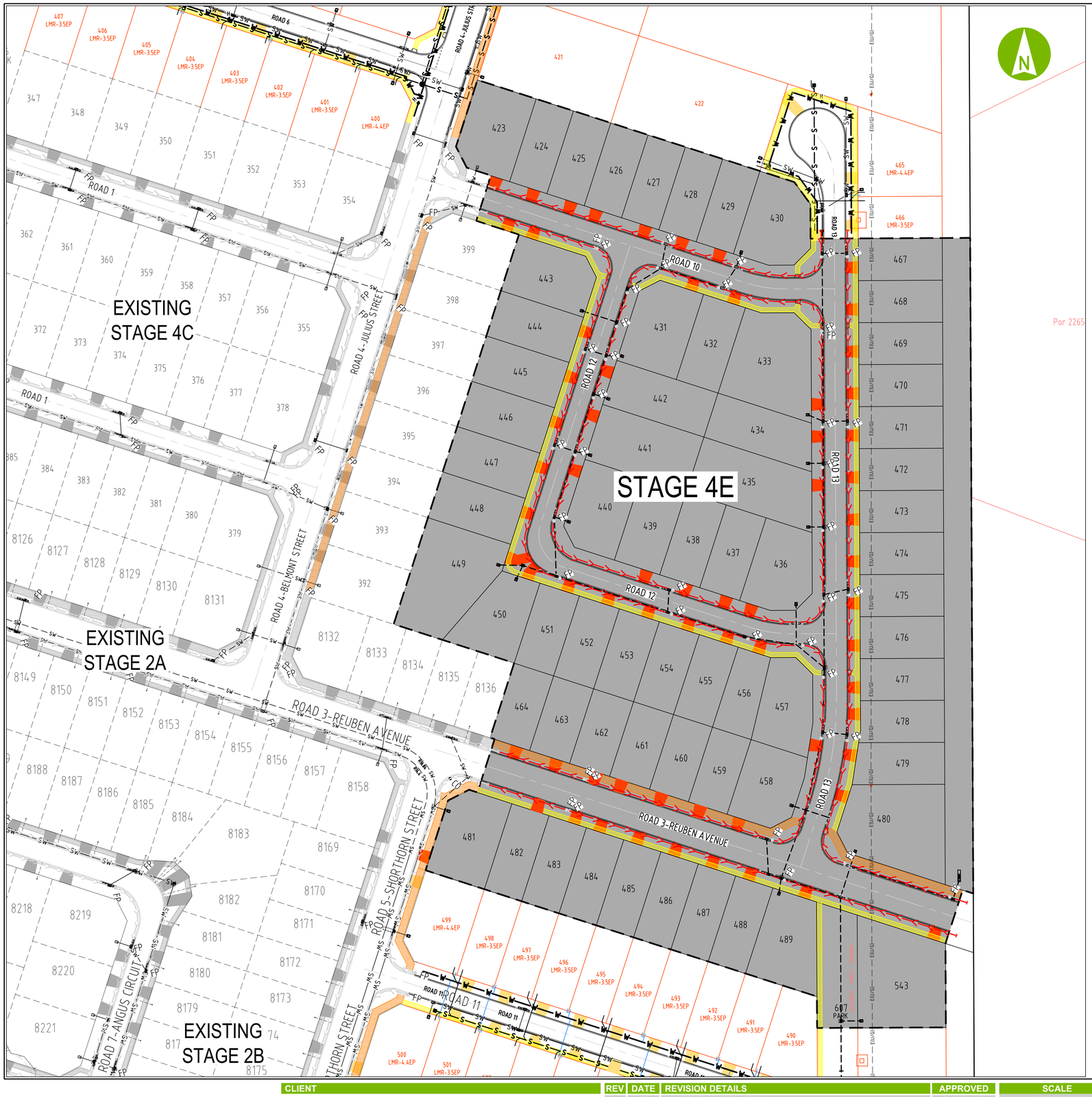
Director, Corridor Management and Design

NOTE

EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED



| | | |



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

LEGEND

- WORKS BOUNDARY
- Ø100 SUBSOIL DRAINAGE
- FP — FLUSHING POINT
- CO — CLEAN OUT POINT
- STORWATER PIT
- STORMWATER MANHOLE

NOTES

1. REFER BFSG STANDARD DRAWING USG127 FOR DETAILS.
2. FLUSHING POINTS ARE TO BE CONSTRUCTED AT THE HEAD OF LINES WITH CLEANING JUNCTIONS AT 50m MAX CENTRES IMMEDIATELY BEHIND KERB, REFER TO DETAIL THIS PAGE.
3. SUB-SOIL DRAINS GENERALLY SHOW OUTLET AT STORMWATER PIT. REFER TO DETAIL ON BFSG STD DWG USG127.
4. PIPES TO BE SLOTTED POLYETHELENE CLASS 400 TO AS2439 AND FITTINGS CLASS SH TO AS1260.
5. REFER TO DWG. DN04E-3000-DRG-2007 FOR SUBSOIL CLEANING JUNCTION TYPICAL SECTION AND DETAILS.
6. ALL ROADS TO HAVE SUBSOIL DRAINS BOTH SIDES. REFER TO DWG. DN04E-3000-DRG-2007 FOR SUBSOIL DRAIN ABOVE STORMWATER MAIN TYPICAL SECTION.

DIPL DRG. No. R23-XXXX

7.5 0 15 30m
SCALE 1:750

aurecon
www.aurecongroup.com

halikos Developments

CLIENT

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

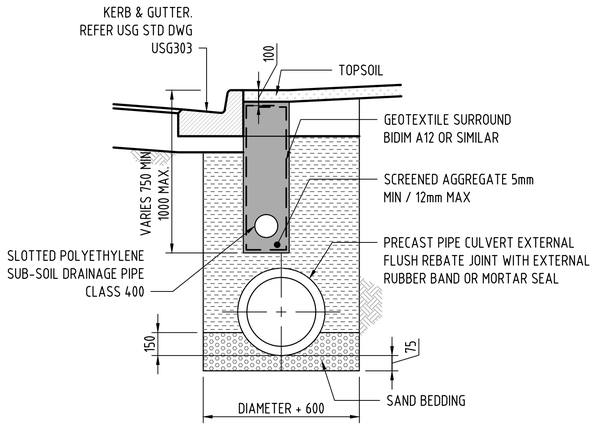
SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	SUBSOIL DRAINAGE LAYOUT PLAN SHEET 1 OF 1

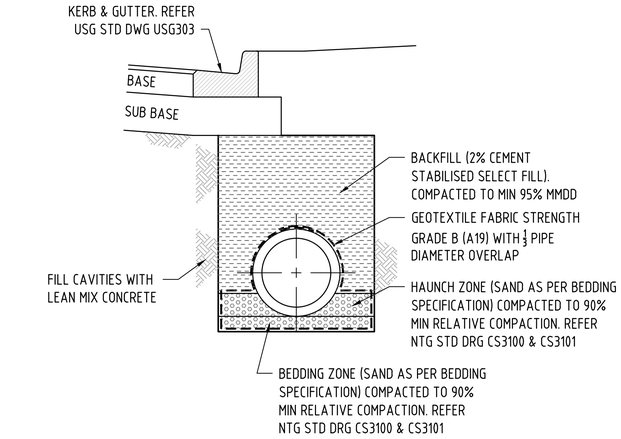
DRAWING No. PROJECT No. DN04E – WBS 3000 – TYPE DRG – DISC – NUMBER 2006 – REV A

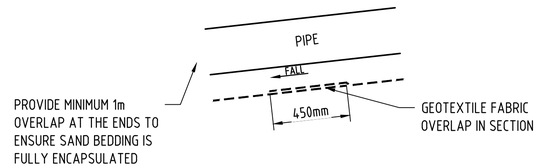


TYPICAL SECTION
SCALE NTS

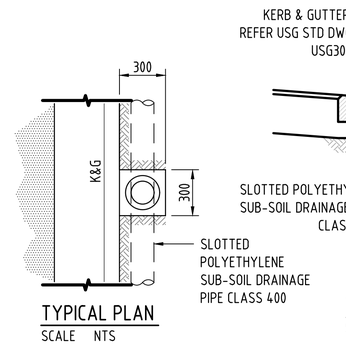
SUBSOIL DRAINAGE ABOVE STORMWATER MAIN
SCALE NTS

WARNING
BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

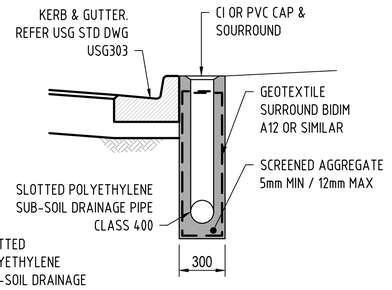




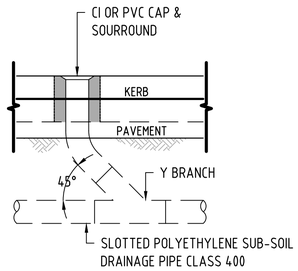
TYPICAL SW TRENCH DETAIL
SCALE NTS



TYPICAL PLAN
SCALE NTS

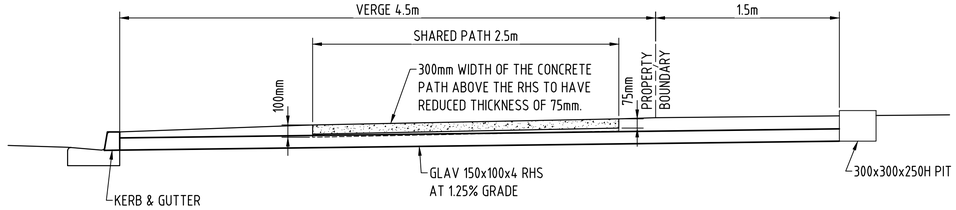


TYPICAL SECTION
SCALE NTS



TYPICAL ELEVATION
SCALE NTS

SUB-SOIL CLEANING JUNCTION DETAIL
SCALE NTS



TYPICAL SW PROPERTY CONNECTION
NTS

NOTES
1. REFER BFSG STANDARD DRAWING USG127 FOR DETAILS.
2. FLUSHING POINTS ARE TO BE CONSTRUCTED AT THE HEAD OF LINES WITH CLEANING JUNCTIONS AT 50m MAX CENTRES IMMEDIATELY BEHIND KERB, REFER TO DETAIL THIS PAGE.
3. SUB-SOIL DRAINS GENERALLY SHOW OUTLET AT STORMWATER PIT. REFER TO DETAIL ON BFSG STD DWG USG127.
4. PIPES TO BE SLOTTED POLYETHELENE CLASS 400 TO AS2439 AND FITTINGS CLASS SH TO AS1260.
5. REFER TO DWG. DN04E-3000-DRG-2007 FOR SUBSOIL CLEANING JUNCTION TYPICAL SECTION AND DETAILS.
6. ALL ROADS TO HAVE SUBSOIL DRAINS BOTH SIDES. REFER TO DWG. DN04E-3000-DRG-2007 FOR SUBSOIL DRAIN ABOVE STORMWATER MAIN TYPICAL SECTION.

Road Agency Approval No. .....-.....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

GENERAL NOTES:
1. THIS DRAWING IS TO BE READ IN CONJUCTION WITH BERRIMAH FARM SUBDIVISION GUIDELINES AND STANDARD DRAWINGS.
2. FOR DRAINAGE LAYOUT PLANS & SIDE ENTRY PIT TYPES. REFER TO DWG DN04E-3000-DWG-2001.
3. REFER LONGITUDINAL SECTIONS. DWGS DN04E-3000-DWG-2002 TO 2005.
4. ALL PRECAST MEMBERS ARE TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATION AND PROJECT SPECIFICATIONS.

DIPL DRG. No. R23-XXXX

10 0 20 40m
SCALE 1:1000

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

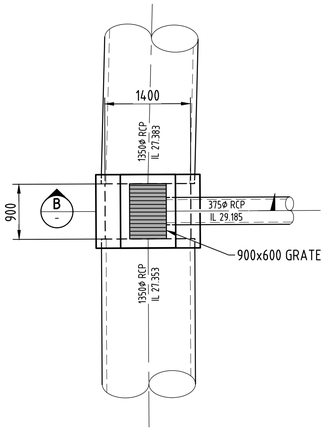
DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

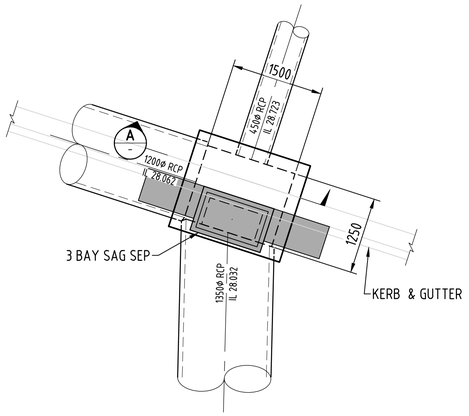
APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	SUBSOIL DRAINAGE DETAILS & SW PROPERY CONNECTION SHEET 2 OF 2

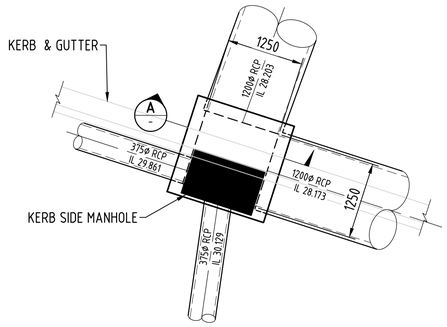
DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	3000	DRG		2007	A



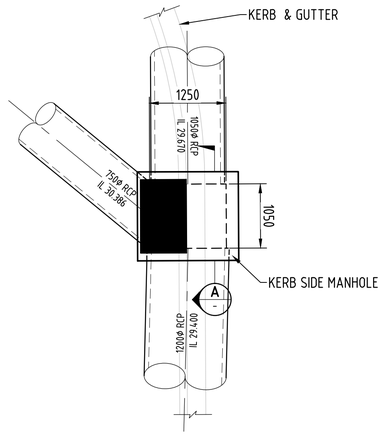
DS 18/11
REFER DRG'S 2001 FOR SET OUT



DS 18/12
REFER DRG'S 2001 FOR SET OUT



DS 18/13
REFER DRG'S 2001 FOR SET OUT



DS 18/16
REFER DRG'S 2001 FOR SET OUT

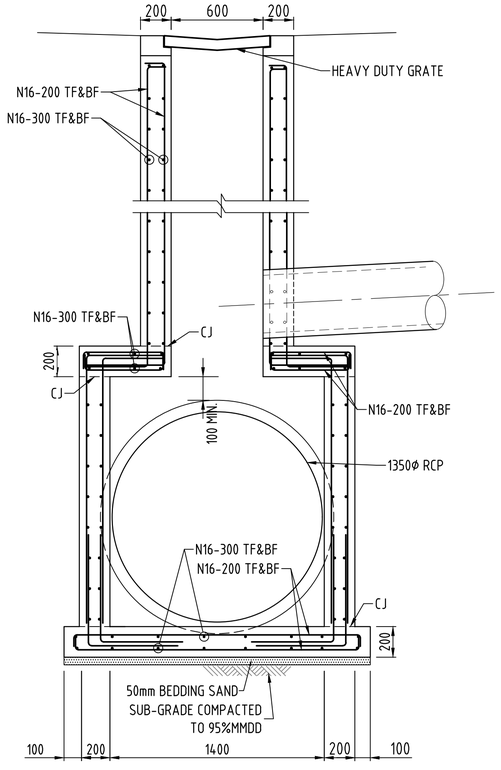
Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

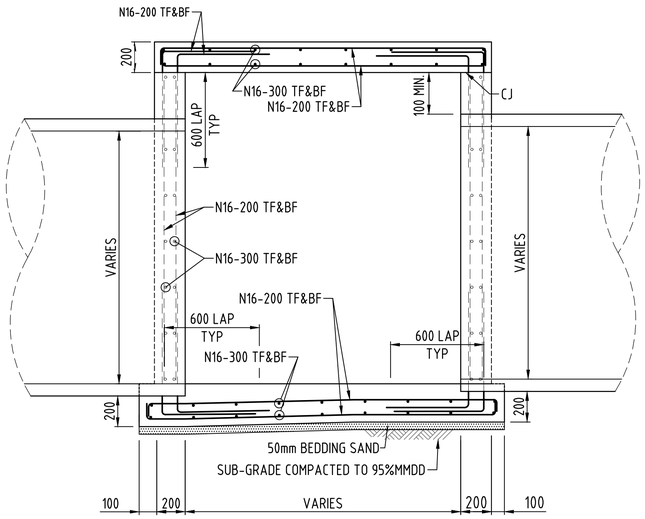
Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design



SECTION B - B
SCALE 1:20



SECTION A - A
SCALE 1:20

GENERAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUCTION WITH BERRIMAH FARM SUBDIVISION GUIDELINES AND STANDARD DRAWINGS.
2. FOR DRAINAGE LAYOUT PLANS REFER TO DWG DN04B-3000-DWG-2001.
3. REFER LONGITUDINAL SECTIONS FOR SIDE ENTRY PIT TYPES. DWGS DN04B-3000-DWG-2002 TO 2004.
4. ALL PRECAST MEMBERS ARE TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATION AND PROJECT SPECIFICATIONS.

STRUCTURAL NOTES:

1. THIS DRAWING IS TO BE READ IN CONJUCTION WITH BERRIMAH FARM SUBDIVISION GUIDELINES AND STANDARD DRAWINGS.
2. ALL RECTANGULAR PITS ARE TO BE AS PER BERRIMAH FARM SUBDIVISION GUIDELINES STANDARD DRAWINGS.
3. ALL DIMENSIONS ARE IN MILLIMETRES.
4. ALL DIMESIONS ARE TO BE CHECKED ON SITE BEFORE ANY WORK COMMENCES.
5. COMPACTION OF FOUNDATION MATERIAL SHALL BE CHECKED BY THE CONTRACTORS PROJECT MANAGER PRIOR TO POURING OF THE BASE.
6. CONCRETE DIMENSIONS ARE AS FOLLOWS FOR BELOW SPECIAL PITS.
   - ROOF SLAB THICKNESS: 200mm
   - FLOOR SLAB THICKNESS: 200mm
   - WALL THICKNESS: 200mm
7. CONCRETE TO BE GRADE N40 AND TO BE IN ACCORDANCE WITH AS3600 AND CURRENT S.A.A. CODES.
8. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.
9. COVER TO REINFORCEMENT : 50mm (U.N.O.)
10. PROVIDE 2 No. N16 TRIMMER BARS AROUND PERIMETER OF ALL PIPE OPENINGS AND ACCESS OPENINGS.
11. PLACEMENT OF REINFORCEMENT AND FORMWORK SHALL BE INSPECTED BY THE CONTRACTORS PROJECT MANAGER FOR APPROVAL PRIOR TO PLACING OF CONCRETE

DIPL DRG. No. R23-xxxx

200 0 400 800mm
SCALE 1:20

500 0 1000 2000mm
SCALE 1:50

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
NTS	A1

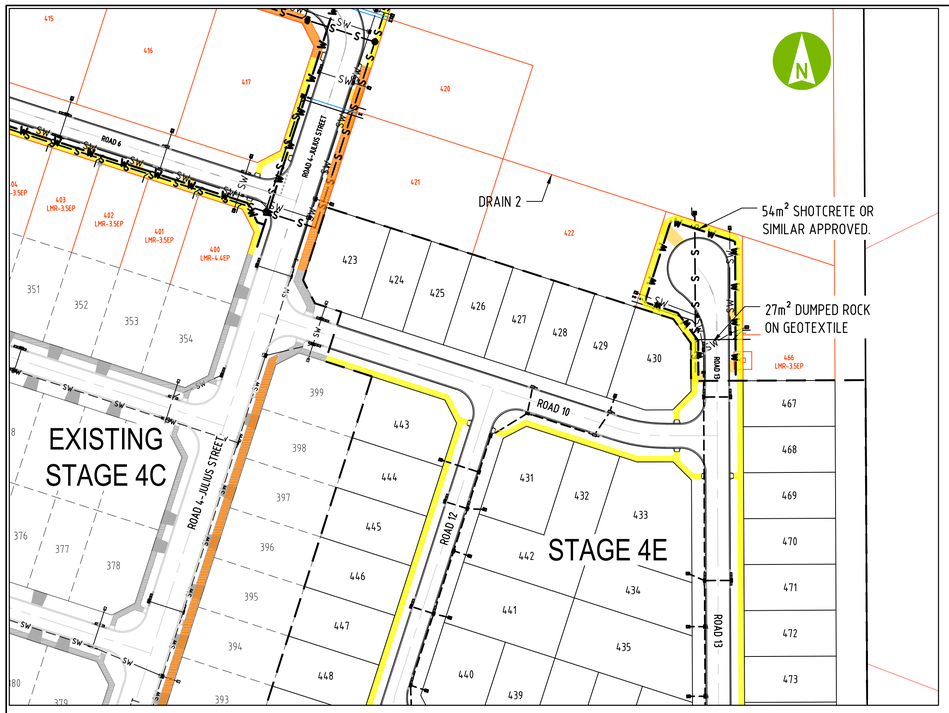
DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	STORMWATER DRAINAGE SPECIAL PIT DETAILS SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	3000	DRG		2008	A

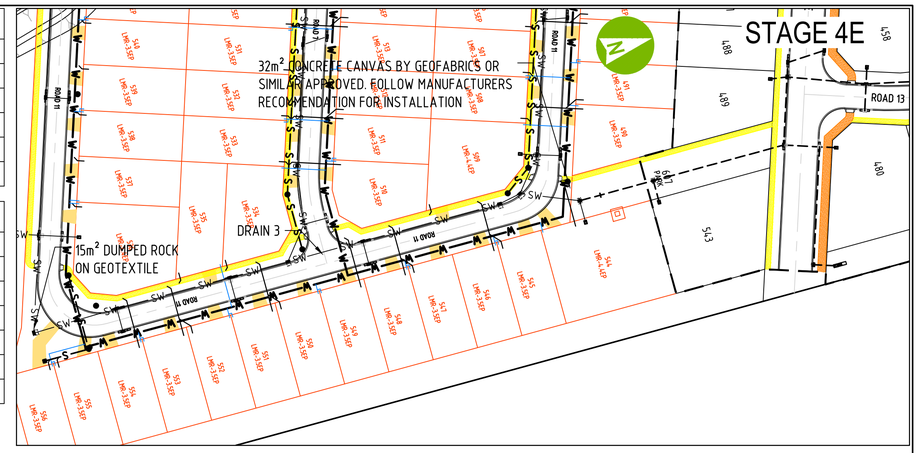


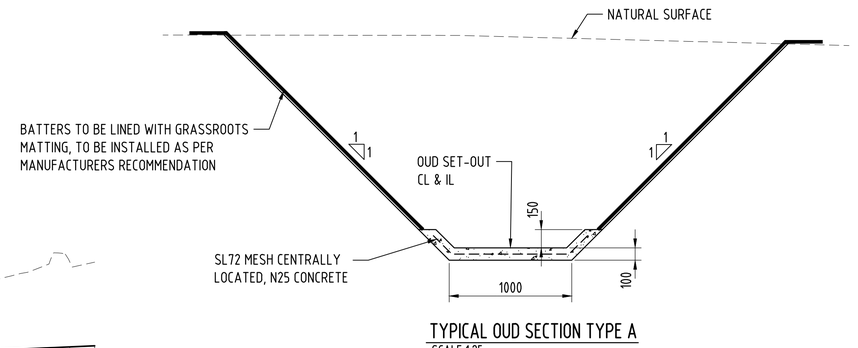
STAGE 4E DRAIN 2 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10626.501	623920.709	33.141	359°43'45.22"			
IP 2	30.278	10626.358	623950.987	34.615				
IP 3	39.684	10626.307	623961.856	34.662		R = -15.000	18.812	71°51'28.91"
CT	49.091	10615.962	623965.192	34.709	287°52'16.16"			
IP 4	157.209	10513.060	623998.371	35.250	287°52'16.16"			

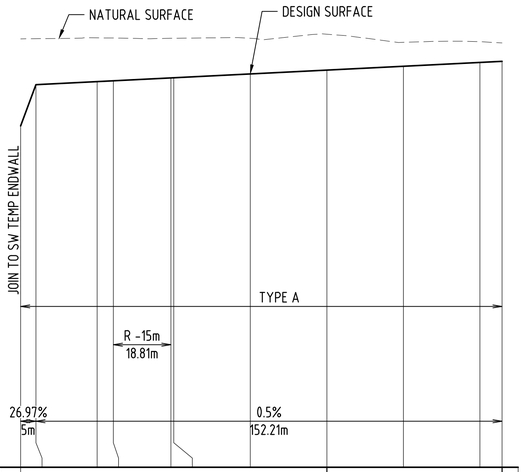
STAGE 4E DRAIN 3 HORIZONTAL POINTS

PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
IP 1	0.000	10628.629	623423.388	25.898	359°43'43.83"			
IP 2	27.793	10628.498	623451.180	26.020				
TC	155.969	10627.891	623579.355	26.581	359°43'44.17"			
IP 3	157.513	10627.884	623580.903	26.588		R = 20.000	3.089	8°50'53.45"
CT	159.058	10628.115	623582.433	26.594	8°34'37.61"			
IP 4	183.190	10631.714	623606.295	26.700	8°34'37.61"			



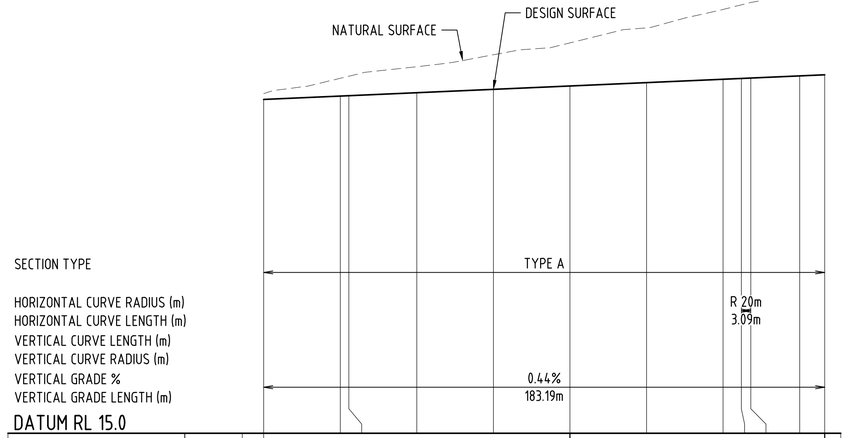


TYPICAL OUD SECTION TYPE A
SCALE 1:25



SECTION TYPE																					
HORIZONTAL CURVE RADIUS (m)																					
HORIZONTAL CURVE LENGTH (m)																					
VERTICAL CURVE LENGTH (m)																					
VERTICAL CURVE RADIUS (m)																					
VERTICAL GRADE %																					
VERTICAL GRADE LENGTH (m)																					
DATUM RL 22.0																					
EARTHWORKS (m3)	CUT	319														89					
	FILL	0														0					
DESIGN CENTRELINE LEVEL		33.141	34.489	34.589	34.615	34.709	34.714	34.839	34.964	35.089		35.214	35.250								
EXISTING SURFACE LEVEL		35.985	35.989	36.017	36.011	36.003	36.004	36.004	36.136	35.871		35.891	35.851								
CUT/FILL DEPTH		-2.845	-1.500	-1.428	-1.396	-1.293	-1.290	-1.165	-1.172	-0.782		-0.677	-0.601								
CENTRELINE CHAINAGE		0.00	5.00	25.00	30.28	49.09	50.00	75.00	100.00	125.00		150.00	157.21								

LONGITUDINAL SECTION STAGE 4E DRAIN 2



SECTION TYPE																					
HORIZONTAL CURVE RADIUS (m)																					
HORIZONTAL CURVE LENGTH (m)																					
VERTICAL CURVE LENGTH (m)																					
VERTICAL CURVE RADIUS (m)																					
VERTICAL GRADE %																					
VERTICAL GRADE LENGTH (m)																					
DATUM RL 15.0																					
EARTHWORKS (m3)	CUT	165														586					
	FILL	0														0					
DESIGN CENTRELINE LEVEL		25.898	26.007	26.020	26.117	26.226	26.336	26.445	26.555	26.581	26.594	26.664	26.700								
EXISTING SURFACE LEVEL		26.087	26.587	26.655	26.965	27.354	27.744	28.232	28.835	28.985	29.064	29.449	29.432								
CUT/FILL DEPTH		-0.189	-0.580	-0.635	-0.848	-1.128	-1.409	-1.787	-2.280	-2.404	-2.470	-2.785	-2.732								
CENTRELINE CHAINAGE		0.00	25.00	27.79	50.00	75.00	100.00	125.00	150.00	155.97	159.06	175.00	183.19								

LONGITUDINAL SECTION STAGE 4E DRAIN 3

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

LEGEND

STAGE 4E BOUNDARY
STAGE 4E

DIPL DRG. No. R23-XXXX

H: 0 20 40m
V: 0 2 4m
SCALE H:1:1000 V:1:100 @A1

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: P. GRAHAM

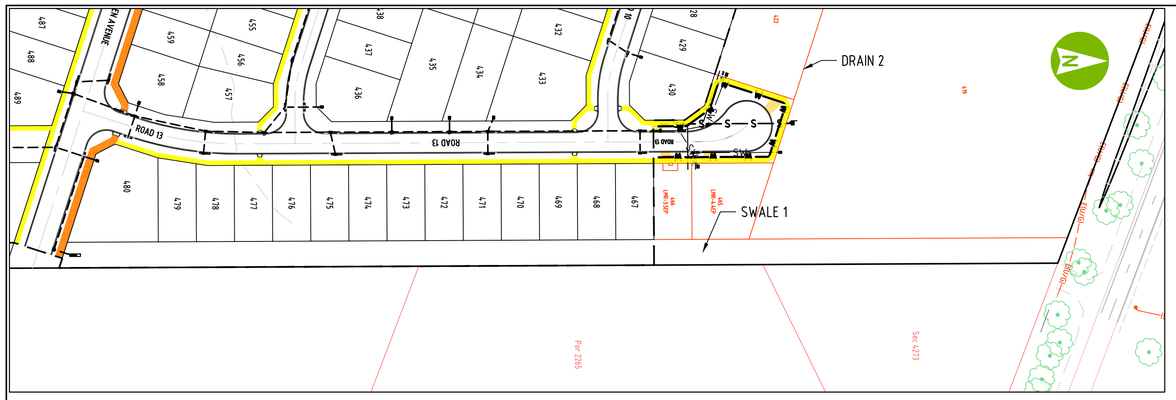
PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4E BERRIMAH

TITLE: STORMWATER OUD PLAN AND LONGITUDINAL SECTION SHEET 1 OF 2

DRAWING No.: PROJECT No. DN04E – WBS 3000 – TYPE DRG – DISC – NUMBER 2009 – REV A

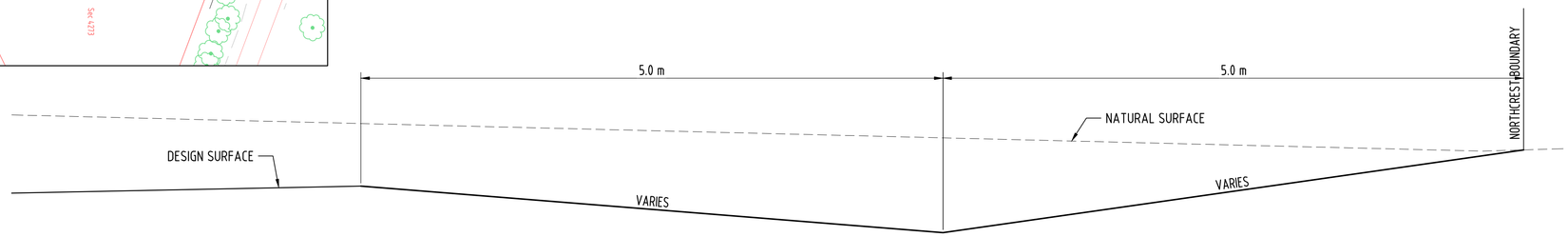


ST 4E SWALE 1 HORIZONTAL POINTS

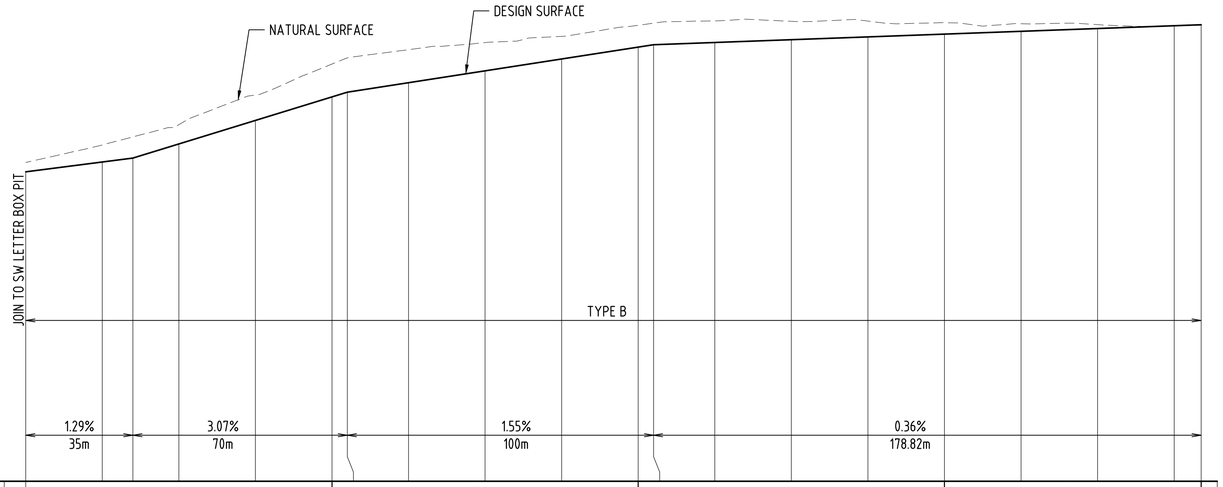
PT	CHAINAGE	EASTING	NORTHING	HEIGHT	BEARING
IP 1	0.000	10675.109	623681.476	31.100	359°43'44.17"
IP 2	383.817	10673.293	624065.289	35.900	359°43'44.17"

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.



TYPICAL SWALE SECTION TYPE B
SCALE 1:25



DATUM RL 21.0

EARTHWORKS (m3)	CUT	252						378					178					3					
	FILL	27						11					23					133					
DESIGN CENTRELINE LEVEL	31.100	31.421	31.550	32.011	32.779	33.546	33.700	34.010	34.398	34.785	35.172	35.250	35.323	35.414	35.504	35.595	35.686	35.777	35.868	35.900			
EXISTING SURFACE LEVEL	31.405	31.978	32.241	32.639	33.605	34.619	34.821	35.087	35.320	35.522	35.884	35.953	36.027	36.015	36.022	35.967	35.935	35.906	35.866	35.887			
CUT/FILL DEPTH	-0.305	-0.557	-0.691	-0.628	-0.827	-1.072	-1.121	-1.077	-0.923	-0.737	-0.712	-0.703	-0.704	-0.601	-0.517	-0.372	-0.249	-0.129	0.001	0.013			
CENTRELINE CHAINAGE	0.00	25.00	35.00	50.00	75.00	100.00	105.00	125.00	150.00	175.00	200.00	205.00	225.00	250.00	275.00	300.00	325.00	350.00	375.00	383.82			

LONGITUDINAL SECTION STAGE 4E SWALE 1

Road Agency Approval No. .....

Department of Infrastructure, Planning & Logistics
Transport and Civil Services

Permission to use for construction purposes within Northern Territory Government controlled road reserves. This approval does not absolve the Developer and/or Certifying Consultant from full responsibility for the correctness, accuracy and appropriateness of the design and/or associated documents.

.....

Director, Corridor Management and Design

LEGEND

STAGE 4E BOUNDARY
STAGE 4E

DIPL DRG. No. R23-XXXX

H: 0 20 40m
V: 0 2 4m
SCALE H:1:1000 V:1:100 @A1

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	AS SHOWN
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	P. GRAHAM

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	STORMWATER OUD PLAN AND LONGITUDINAL SECTION SHEET 2 OF 2

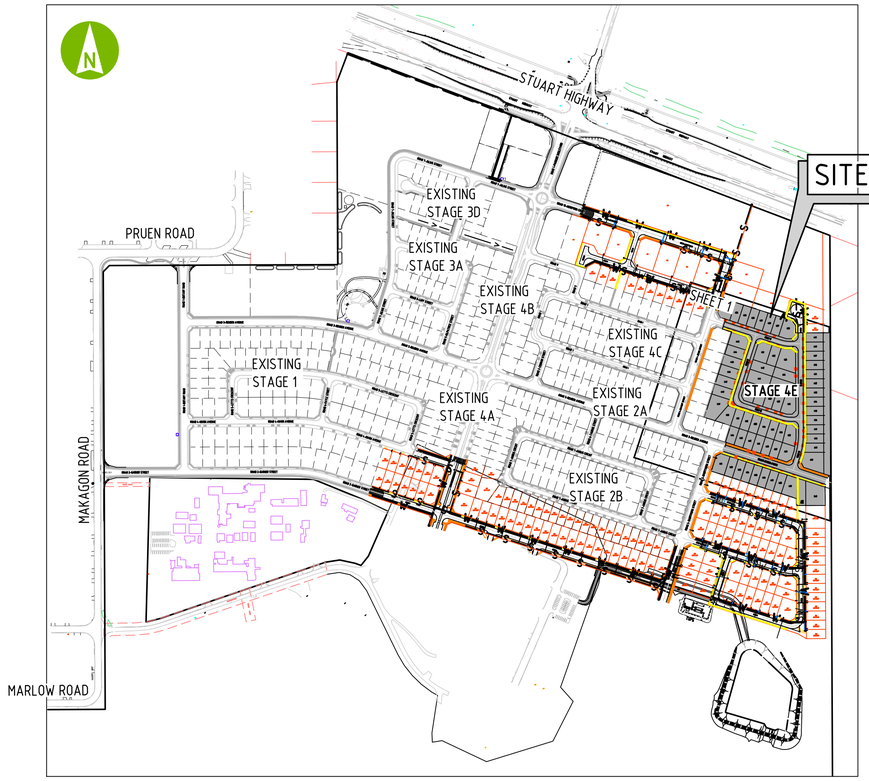
DRAWING No. PROJECT No. DN04E – WBS 3000 – TYPE DRG – DISC – NUMBER 2010 – REV A

SCHEDULE OF DRAWINGS

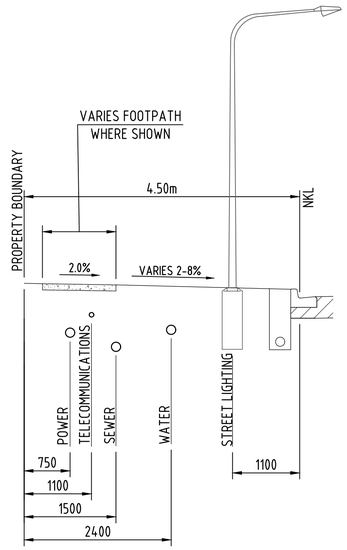
DWG No.	PWC No.	Sheet Title
DN04C-4000-DRG-3000	B23-XXXX	PWC COVER SHEET - LEGEND & LOCALITY PLAN
DN04C-4000-DRG-3001	B23-XXXX	WATER RETICULATION - PWC WATER STANDARD NOTES & LEGEND
DN04C-4000-DRG-3002	B23-XXXX	WATER RETICULATION LAYOUT PLAN - SHEET 1 OF 1
DN04C-5000-DRG-4000	B23-XXXX	SEWER RETICULATION - PWC SEWER STD NOTES & LEGEND
DN04C-5000-DRG-4001	B23-XXXX	SEWERAGE RETICULATION LAYOUT PLAN - SHEET 1 OF 1
DN04C-5000-DRG-4002	B23-XXXX	SEWERAGE RETICULATION LONGSECTIONS - SHEET 1 OF 3
DN04C-5000-DRG-4003	B23-XXXX	SEWERAGE RETICULATION LONGSECTIONS - SHEET 2 OF 3
DN04C-5000-DRG-4004	B23-XXXX	SEWERAGE RETICULATION LONGSECTIONS - SHEET 3 OF 3
DN04C-8000-DRG-7000	B23-XXXX	MASTER SERVICES LAYOUT PLAN - SHEET 1 OF 1
DN04C-8000-DRG-7001	B23-XXXX	TYPICAL SERVICE LOCATIONS

PWC STANDARD DRAWINGS

DWG No.	Sheet Title
W1-1-01A/0	20mm Water Service - Copper
W1-1-02A/0	25mm Water Service - Copper
W1-1-04B/0	50mm Water Service - Copper
W1-1-08/3	50mm Water Service - Parks & Garden Irrigation Copper
W1-1-16	DN100-300 Water Mains Typical Detals Branch Off Mains
W1-1-18A/4	Multi Metering Manifold Assembly for DN20 Meters Residential
W1-1-18C/0	Multi Metering Manifold for DN20 or DN25 Meters
W1-1-23/2	Connection to Mains DN20, DN25 & DN50
W1-1-24/4	Property Connection DN80, DN100 & DN150
W1-1-29/2	DN20 Meter for Residential Duplex DN25 Water service - Copper
W1-2-3A/5	BS750 Screw-Down Hydrant Installation in Nature Strip Off DN100 - DN300 Mains
W1-2-3F/3	BS750 Screw-Down Hydrant Location Marking
W1-2-3J/2	Sluice Valve Installation in Nature Strip
W1-2-05/1	Thrust Block & Trench Details For 100 to 225NB Pressure Mains
W1-2-17A/1	Application of Polyethylene Sleeving For Corrosion Protection of DICL Pipes
W1-2-19/3	Temporary Deadends DN100 - DN450
W2-1-01/7	Type 1 Sewer Connections DN150
W2-1-02/6	Type 2 Sewer Connections DN150
W2-1-04/6	Sewer Connection Layouts DN150
W2-1-05/5	Intermediate & Terminal Inspection Openings. Light & Heavy Duty Arrangements
W2-1-06/1	Terminal Maintenance Shaft & Property Connection Detail
W2-1-08/5	Type 4 Sewer Connections DN150
W2-2-01D/2	Access Chambers - Notes For Construction
W2-2-02/5	Access Chambers - Precast Chambers (Up To 6.0m Deep With Mains <DN450)
W2-2-03/4	Access Chambers - External & Internal Drops Type 1 - 4
W2-2-07/3	Maintenance Shaft Typical Arrangement
W2-2-08/1	Maintenance Shaft Pipeline Connection Details
W2-2-09/1	Sewer Rising Mains Location Marking



LOCALITY PLAN
SCALE 1:5000



TYPICAL ROAD RESERVE SERVICE TRENCH DETAIL
SCALE NTS

LEGEND

- WORKS BOUNDARY
- DN450 — PROPOSED STORMWATER DRAINAGE, PIPE SIZE
- CATCHDRAIN
- 22/12 — STRUCTURE LABEL (LINE No / PIT No)
- 3/43 — EXISTING STRUCTURE LABEL (LINE No / PIT No)
- PROPOSED WATERMAIN
- PROPOSED WATERMAIN, WATER SERVICES AND STOP VALVE
- H — PROPOSED WATERMAIN AND FIRE HYDRANT
- DICL PIPE AT ROAD/ STORMWATER CROSSING
- IC — IRRIGATION CONDUIT
- PROPOSED SEWER MAIN, MANHOLE & PROPERTY CONNECTIONS
- AC 7 3 — PROPOSED SEWER STRUCTURE LABEL (TYPE / LINE No. / PIT No.)

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code:
DESCERTBL9

Signed: _ _ _ _ _ _ _ _ _ _ _ _

Date:

ABBREVIATION

AC	ACCESS CHAMBER
A/G	ABOVE GROUND
BM	BENCH MARK
DE	WATERMAIN DEAD END
DICL	DUCTILE IRON CEMENT LINED
DN	NOMINAL BORE
D/S	DOWNSTREAM
EW	ENDWALL
FH	FIRE HYDRANT
FL	FLANGED JOINT
FSL	FINISHED SURFACE LEVEL
HD	HEAVY DUTY
IL	INVERT LEVEL
IP	INTERSECTION POINT
LBP	LETTER BOX PIT
LD	LIGHT DUTY
MH	MAINTENANCE HOLE
MS	MAINTENANCE SHAFT
PP	POWER POLE
PVC	uPVC PIPEWORK
SL	SURFACE LEVEL
SO	SOCKET
SP	SPIGOT
SV	SLUICE VALVE
TMS	TERMINAL MAINTENANCE SHAFT
U/G	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
U/S	UPSTREAM

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
N.T.S.	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4E BERRIMAH

TITLE: POWER WATER CORPORATION COVER SHEET LEGEND & LOCALITY PLAN

DRAWING No.: PROJECT No. DN04E – WBS 4000 – TYPE DRG – DISC – NUMBER 3000 – REV A

POWER AND WATER STANDARD NOTES

GENERAL

WS.1. CONSTRUCTION OF THE WATER AND SEWERAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST AMENDMENT OF THE APPROVED PROJECT DRAWINGS AND SPECIFICATION AND THE POWER AND WATER CONNECTION CODE.

WS.2. DRAWINGS MUST BE SIGNED AS 'APPROVED FOR CONSTRUCTION' BY POWER AND WATER PRIOR TO COMMENCING WORKS.

WS.3 THE DEVELOPER MUST SUBMIT THE "DEVELOPMENT WORK PERMIT" WITH ALL RELEVANT DOCUMENTATION AT LEAST SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF WORKS. THE DEVELOPER MUST CONFIRM WITH POWER AND WATER IF A MEETING IS REQUIRED PRIOR TO COMMENCEMENT OR SITE WORKS.

WS.4. PRIOR TO COMMENCEMENT OF WORKS, THE CONSTRUCTOR MUST CHECK THE LOCATION OF ALL UNDERGROUND SERVICES, CONFIRM FINISHED SURFACE LEVELS, CHECK THE MATERIAL, DIAMETER ALIGNMENT, LEVEL AND LOCATION OF EXISTING PIPEWORK AT THE CONNECTION POINTS. IT IS NOT GUARANTEED THAT ALL SERVICES HAVE BEEN SHOWN ON THE DRAWINGS.

WS.5. CHANGES REQUESTED BY ANY PARTY TO THE DESIGN OF THE WORKS DURING ANY STAGE OF THE DEVELOPMENT MUST BE ENDORSED BY THE DESIGNER/CERTIFIER WITH AMENDED DRAWINGS SUBMITTED TO POWER AND WATER FOR APPROVAL PRIOR TO THE CHANGE BEING CARRIED OUT.

WS.6. ALL EXISTING PROPERTY SERVICES ARE TO REMAIN IN SERVICE UNTIL THE CONSTRUCTION OF THE NEW SERVICE IS COMPLETED TO THE SATISFACTION OF POWER AND WATER.

WS.7. ALL LEVELS GIVEN ARE TO AUSTRALIAN HEIGHT DATUM (AHD) IN METRES TO THREE DECIMAL PLACES. PROJECTION SHALL BE BASED ON MGA94 MAP GRID OF AUSTRALIA ZONE 52 OR 53 COORDINATE SYSTEM.

WS.8. ALL DIMENSIONS ARE IN MILLIMETRES AND ALL CHAINAGES AND LEVELS IN METRES UNLESS SHOWN OTHERWISE.

EXCAVATION AND BACKFILLING

WS.9. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE RELEVANT AUTHORITY PRIOR TO ANY EXCAVATION. WHERE APPLICABLE, THE CONTRACTOR MUST SEEK A WRITTEN APPROVAL FROM THE LAND OWNER TO ACCESS AND CONSTRUCT WITHIN THEIR PROPERTY. ALL APPROVALS AND PERMITS MUST BE SUBMITTED TO POWER AND WATER AT LEAST SEVEN (7) DAYS PRIOR TO EXCAVATION WORKS.

WS.10. MINIMUM COVER TO PIPE IS 750mm IN TRAFFICABLE AREAS, 600mm IN OTHER AREAS. 1500mm COVER REQUIRED FOR THRUST BORING UNDER ROAD.

WS.11. EMBEDMENT TYPE FOR ALL PIPES MUST BE TYPE 2 WRAPPED IN GEOTEXTILE UNLESS NOTED OTHERWISE. ALL OTHER EMBEDMENT TYPES MUST BE ENDORSED BY THE CERTIFIER WITH SUPPORTING GEOTECHNICAL INVESTIGATION, AND APPROVED BY POWER AND WATER.

WS.12. WHEN EMBEDMENT TYPE CHANGES, A VERTICAL GEOTEXTILE BARRIER SHALL BE INSERTED BETWEEN THE EMBEDMENT TYPES.

WS.13. UNLESS NOTED OTHERWISE IN THE DRAWINGS:

A. USE GENERAL OR SELECTED BACKFILL FOR ROAD RESERVES AND GENERAL AREAS

B. USE 3% CEMENT STABILISED SAND FOR ROADWAYS, DRIVEWAYS AND TRAFFICABLE AREAS

C. USE 5% CEMENT STABILISED GRAVEL FOR OPEN UNLINED DRAIN CROSSINGS.

WS.14. REINSTATE ALL SURFACES UPON COMPLETION OF THE WORKS AS SPECIFIED OR TO MATCH EXISTING TO SATISFACTION OF THE RELEVANT AUTHORITY OR PERSONNEL.

LIVE CONNECTIONS

WS.15. ONLY AUTHORISED POWER AND WATER PERSONNEL ARE PERMITTED TO UNDERTAKE ANY WORKS; OPERATE AND PHYSICALLY ACCESS LIVE ASSETS. AT NO STAGE SHALL ANY OTHER PERSONS CARRY OUT WORK ON POWER AND WATER INFRASTRUCTURE.

WS.16. THE DEVELOPER IS RESPONSIBLE FOR ALL CONNECTION FEES AND CHARGES. THE DEVELOPER MUST SUBMIT THE "REQUEST FOR CONNECTIONS" FORM AND ALLOW FOR A MINIMUM OF TWENTY-ONE (21) DAYS FOR SCHEDULING CONNECTIONS. POWER AND WATER HAVE NO OBLIGATIONS IN AVAILABILITY FOR REQUESTED CONNECTION DATE AND THE DEVELOPER IS TO NEGOTIATE ALTERNATIVE DATES WITH POWER AND WATER.

HANDOVER AND COMMISSIONING

WS.17. THE CERTIFIER MUST SUBMIT THE "HANDOVER REQUEST FORM" WITH ALL RELEVANT DOCUMENTATION AT LEAST SEVEN (7) DAYS PRIOR TO REQUESTED INITIAL HANDOVER INSPECTION DATE.

WS.18. ALL IDENTIFIED DEFECTS MUST BE RECTIFIED BY THE DEVELOPER WITHIN FOURTEEN DAYS (14) OF INITIAL HANDOVER DATE. A FINAL HANDOVER INSPECTION WITH POWER AND WATER MUST BE ARRANGED TO CONFIRM RECTIFICATION OF OUTSTANDING DEFECTS.

WS.19. COMMISSIONING OF GIFTED ASSET WORKS IS UNDERTAKEN BY POWER AND WATER AFTER SUCCESSFUL HANDOVER OF ASSET, RECTIFICATION OF ALL OUTSTANDING DEFECTS AND COMPLETION OF ALL LIVE CONNECTIONS TO EXISTING MAINS.

CLEARANCE, DEFECTS AND LIABILITY PERIOD

WS.20. THE DEVELOPER MUST SUBMIT THE "CLEARANCE REQUEST FORM" WITH ALL RELEVANT DOCUMENTATION AND ALLOW A MINIMUM OF FOURTEEN (14) DAYS TO OBTAIN DEVELOPMENT PERMIT CLEARANCE. ALLOW FOR AN ADDITIONAL FOURTEEN (14) DAYS TO RECTIFY ALL OUTSTANDING DEFECTS AND ISSUES.

WS.21. THE DEFECTS AND LIABILITY PERIOD OF THE ASSET WILL COMMENCE ON THE DATE WHEN DEVELOPMENT CLEARANCE WAS ISSUED BY POWER AND WATER OR DATE OF FINAL ACCEPTANCE OF ASSET.

WS.22. ALL EXTENSIONS AND SUBDIVISIONS ARE SUBJECT TO TWENTY FOUR (24) MONTH DEFECT AND LIABILITY PERIOD. ALL BUILDING DEVELOPMENTS ARE SUBJECT TO TWELVE (12) MONTH DEFECT AND LIABILITY PERIOD.

WS.23. THE DEVELOPER IS FULLY RESPONSIBLE FOR ALL COSTS TO RECTIFY DEFECTS, REPAIR AND EMERGENCY WORKS WITHIN THIS PERIOD. SUCH WORKS WILL RESULT IN AN EXTENDED DEFECTS AND LIABILITY PERIOD OF FIVE (5) YEARS.

WS.24. THE DEVELOPER MUST SCHEDULE AN OFF-MAINTENANCE INSPECTION AT LEAST SEVEN (7) DAYS PRIOR TO REQUESTED INSPECTION DATE. POWER AND WATER WILL TAKE FULL RESPONSIBILITY OF ASSET AFTER ALL DEFECTS HAVE BEEN RECTIFIED AND ALL ASSOCIATED PAYMENT TO REPAIR AND EMERGENCY WORKS HAVE BEEN PAID BY THE DEVELOPER.

WATER (IN CONJUNCTION WITH POWER AND WATER STANDARD DRAWINGS)

W.1. WATER PIPES MUST BE BURIED PVC-M SERIES 2 CLASS 16, WITH DUCTILE IRON (DI) FITTINGS, UNLESS NOTED OTHERWISE.

W.2. ALL DUCTILE IRON CEMENT LINED (DICL) PIPES SHALL BE CLASS PN16 FLANGED OR CLASS 35 RUBBER RING JOINTED (RRJ). ALL BURIED DICL PIPES AND FITTINGS SHALL BE WRAPPED IN POLYETHYLENE SLEEVING. MARKING ON PIPES SHALL FACE UPWARDS.

W.3. PIPES UNDER ROAD PAVEMENT, OPEN DRAIN AND DRAINAGE STRUCTURES MUST BE DICL CLASS 16 FLANGED.

W.4. PROVIDE ANCHORAGE FOR ALL VALVES, REDUCERS, AND VERTICAL BENDS. PROVIDE THRUST BLOCKS FOR ALL HORIZONTAL BENDS, TEES AND END CAPS.

W.5. ALL SLUICE VALVES MUST BE RESILIENT SEATED FLANGED CLASS 16 WITH RAISED FLANGES, UNLESS NOTED OTHERWISE.

W.6. ALL FLANGES MUST BE CLASS 16 RAISED TYPE COMPLYING WITH AS 4087 FIGURE B5 FOR DICL AND FIGURE B7 FOR MILD STEEL CEMENT LINED (MSCL), UNLESS NOTED OTHERWISE.

W.7. WATER MAINS MUST BE OFFSET FROM PROPERTY BOUNDARIES A DISTANCE OF 2.4m IN ROAD RESERVES AND 1.5m IN PRIVATE PROPERTY, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS.

W.8. THE COATING ON THE FITTINGS MUST BE FULLY PROTECTED BY A FELT OR GEOTEXTILE BARRIER WHEN THE THRUST BLOCK IS POURED AND THRUST BLOCKS MUST NOT OVERLAP THE JOINT.

W.9. WATERMAINS MUST BE LAID OVER STORM WATER, SEWER, NON-POTABLE AND RECYCLED WATER PIPES, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS.

W.10. NO DEFLECTION AT PVC SOCKET JOINTS ARE PERMITTED. SO-SO DI CONNECTORS (MAXIMUM OF TWO (2) DEGREES) OR DI BENDS MUST BE USED TO ACHIEVE DEFLECTIONS ON PVC PIPES.

W.11. MARKING TAPE COLOURED GREEN AND MARKED 'WATER MAIN' SHALL BE LAID CONTINUOUSLY AND LOCATED 400mm ABOVE THE WATER MAIN.

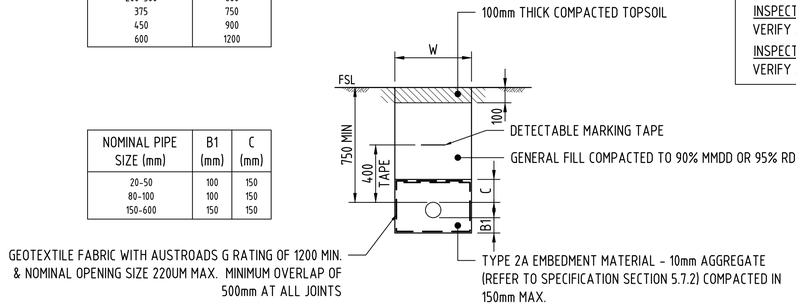
W.12. THE MINIMUM HORIZONTAL CLEARANCE BETWEEN EXISTING SERVICES MUST BE 600mm FOR NEW MAINS UP TO AND EQUAL TO DN200 AND 1000mm FOR NEW MAINS LARGER THAN DN200.

W.13. THE MINIMUM VERTICAL CLEARANCE BETWEEN EXISTING SERVICES MUST BE 300mm FOR NEW MAINS UP TO AND EQUAL TO DN200 AND 500mm FOR NEW MAINS LARGER THAN DN200.

W.14. THE TESTING OF WATER MAINS MUST BE ACCORDING TO POWER AND WATER'S TEST PROCEDURES GUIDELINES.

NOMINAL PIPE DIAMETER (DN)	W (mm)
100 & 150	450
200-300	600
375	750
450	900
600	1200

NOMINAL PIPE SIZE (mm)	B1 (mm)	C (mm)
20-50	100	150
80-100	100	150
150-600	150	150



TYPE 2 EMBEDMENT & TRENCH DETAIL - GENERAL

SCALE NTS

MINIMUM REQUIRED INSPECTIONS BY HYDRAULIC CERTIFIER - WATER

PRE-START MEETING
THE CERTIFYING ENGINEER TO ARRANGE PRE-START MEETING WITH POWER WATER REPRESENTATIVE AND PLUMBING CONTRACTOR.

INSPECTION 1
INSPECT EXCAVATED TRENCH AND VERIFY EMBEDMENT TYPE REQUIRED FOR THE SUBSOIL CONDITION. OTHER EMBEDMENT TYPES MUST BE ENDORSED WITH SUPPORTING GEOTECHNICAL REPORT AND APPROVED BY POWER AND WATER.

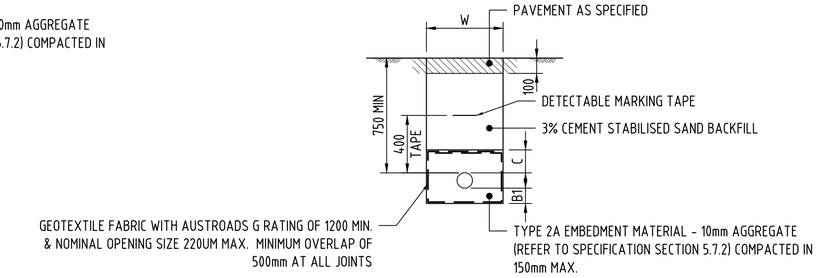
INSPECTION 2
VERIFY ALL CONNECTIONS ARE COMPLETED AND ISOLATED FROM EXISTING.

INSPECTION 3
VERIFY ALL PIPEWORK AND THRUST RESTRAINING PRODUCTS ARE CONSTRUCTED TO DRAWINGS AND SPECIFICATIONS.

INSPECTION 4
WITNESS OF DISINFECTION, FLUSHING AND WATER SAMPLING. VERIFY PRESSURE, DISINFECTION AND BACTERIOLOGICAL TESTS HAVE PASSED.

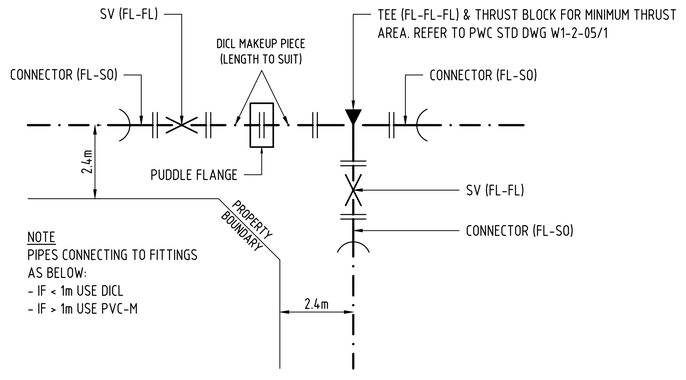
INSPECTION 5
VERIFY ALL AS CONSTRUCTED INFORMATION. CONDUCT HANDOVER WITH POWER AND WATER.

INSPECTION 6
VERIFY ALL OUTSTANDING DEFECTS ARE COMPLETED.



TYPE 2 EMBEDMENT & TRENCH DETAIL - ROAD CROSSING

SCALE NTS



TYPICAL BRANCH DETAIL

SCALE NTS

EMBEDMENT NOTES

1. TRENCH TO BE INSPECTED AND EMBEDMENT TYPE CERTIFIED BY GEOTECHNICAL ENGINEER.

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code: DESCERTBL9

Signed: _ _ _ _ _ _ _ _ _ _ _ _

Date:

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
N.T.S.	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

FOR CONSTRUCTION

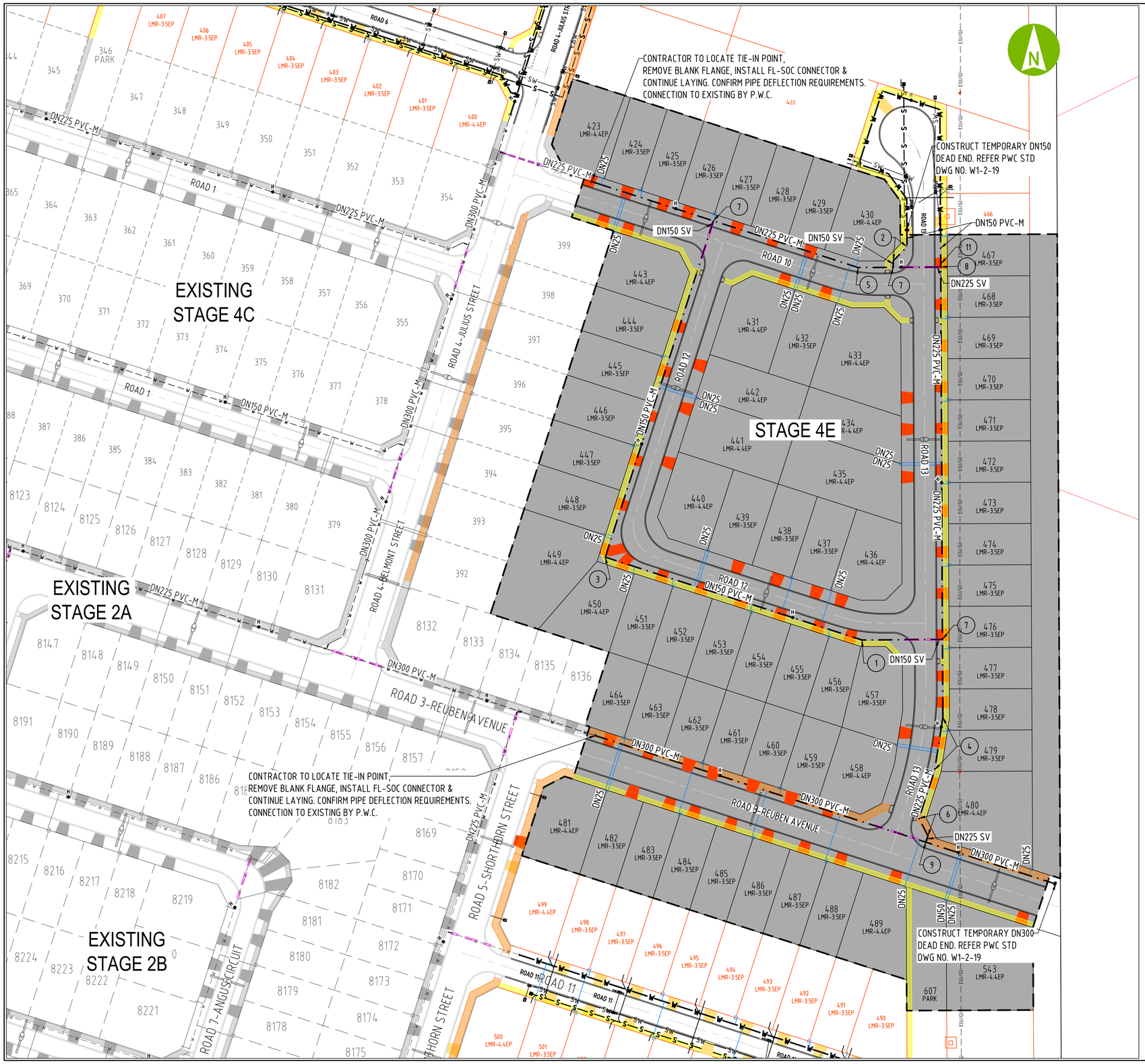
APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4E BERRIMAH

TITLE: WATER RETICULATION PWC WATER STANDARD NOTES & LEGEND

DRAWING No.

PROJECT No.		WBS		TYPE		DISC		NUMBER		REV
DN04E	-	4000	-	DRG	-		-	3001	-	A



WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

WATER FITTINGS TABLE

FITTING	POINT No.
ϕ150-22.5°	1
ϕ150-45°	2
ϕ150-90°	3
ϕ225-11.25°	4
ϕ225-22.5°	5
ϕ225-45°	6
225x225x150 TEE	7
225x225x225 TEE	8
300x300x225 TEE	9
300x300x150 TEE	10
ϕ225 TO ϕ150 TAPER	11

LEGEND

- PROPOSED WATERMAIN
- PROPOSED WATERMAIN, WATER SERVICES AND STOP VALVE
- PROPOSED WATERMAIN AND FIRE HYDRANT
- DUCTILE PIPE AT ROAD/ STORMWATER CROSSING REFER TYPE 2 DETAIL & NOTE W3
- IRRIGATION CONDUIT DN100
- EXISTING WATERMAIN
- LOTS TO BE SERVED (WATER) BUT RELEASED IN FUTURE STAGE
- LOTS SERVED (WATER) IN PREVIOUS STAGE BUT RELEASED IN THIS STAGE

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code:
DESCERTBL9
Signed: _____
Date:

7.5 0 15 30m
SCALE 1:750

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	N.T.S.
SIZE	A1
DRAWN	C. HATZI
DESIGNED	C. HATZI
CHECKED	M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4C & 4E BERRIMAH

TITLE: WATER RETICULATION LAYOUT PLAN SHEET 1 OF 1

DRAWING No. DN04CE – 4000 – DRG – – 3002 – A
(PROJECT No. | WBS | TYPE | DISC | NUMBER | REV)

PWC SEWER NOTES (IN CONJUCTION WITH POWER AND WATER STANDARD DRAWINGS)

S.1. ALL GRAVITY SEWER PIPES SHALL BE UPVC DWV CLASS SN8 WITH STYRENE-BUTADIENE RUBBER RING JOINTS (SBR), UNLESS NOTED OTHERWISE.

S.2. SEWER SHALL BE OFFSET FROM PROPERTY BOUNDARIES A DISTANCE OF 1.6m IN ROAD RESERVES AND 1.5m IN PRIVATE PROPERTY, EXCEPT WHERE SHOWN OTHERWISE ON THE DRAWINGS.

S.3. ALL GRAVITY SEWER ARE TO BE A MINIMUM OF DN150, UNLESS NOTED OTHERWISE.

S.4. THE CONTRACTOR SHALL EITHER INSCRIBE OR ATTACH A PLATE TO THE MAINTENANCE HOLES OR MAINTENANCE SHAFT WITH THE IDENTIFYING NUMBER AS SHOWN ON THE DRAWINGS.

S.5. FLEXIBLE JOINTS WITH CONCRETE SURROUND MUST BE CONSTRUCTED ON BOTH UPSTREAM AND DOWNSTREAM SIDES OF THE MAINTENANCE HOLES. CONCRETE SURROUND MUST BE MINIMUM N32, 300mm THICK WITH 4 x N12 BAR AT EACH CORNER. EACH N12 BAR TO BE COGGED AND EPOXIED MIN 50mm INTO MAINTENANCE HOLE WALL WITH A MIN 50mm COVER.

S.6. DEPTH TO INVERT AT MAINTENANCE HOLES/SHAFT ARE MEASURED FROM THE TOP OF MAINTENANCE HOLES/SHAFT.

S.7. UNLESS NOTED OTHERWISE IN THE DRAWINGS, THE MINIMUM CONCRETE STRENGTH FOR ALL SEWERAGE STRUCTURES INCLUDING MAINTENANCE HOLES MUST BE N50. REFER TO POWER AND WATER STANDARD DRAWING W2-2-01D FOR ADDITIONAL NOTES FOR SEWERAGE STRUCTURES.

S.8. ALIGN MAINTENANCE HOLE COVER SUCH THAT THE LONG SIDE OF THE LID IS PARALLEL WITH THE SEWER MAIN. S.9. ALL SEWER RISING MAINS MUST BE PVC-O CLASS 16 RRJ, UNLESS NOTED OTHERWISE. NO DEFLECTIONS AT PVC JOINT ARE PERMITTED. SO-SO DI CONNECTORS (MAXIMUM OF TWO (2) DEGREES) OR DI BENDS MUST BE USED TO ACHIEVE DEFLECTIONS ON PVC PIPES.

S.10. MARKING TAPE COLOURED BEIGE AND MARKED 'SEWER MAIN' MUST BE LAID CONTINUOUSLY AND LOCATED 400mm ABOVE THE SEWER PIPEWORK

S.11. THE MINIMUM HORIZONTAL CLEARANCE BETWEEN EXISTING SERVICES MUST BE 600mm FOR NEW MAINS UP TO AND EQUAL TO DN200 AND 1000mm FOR NEW MAINS LARGER THAN DN200.

S.12. THE MINIMUM VERTICAL CLEARANCE BETWEEN EXISTING SERVICES MUST BE 300mm FOR NEW MAINS UP TO AND EQUAL TO DN200 AND 500mm FOR NEW MAINS LARGER THAN DN200.

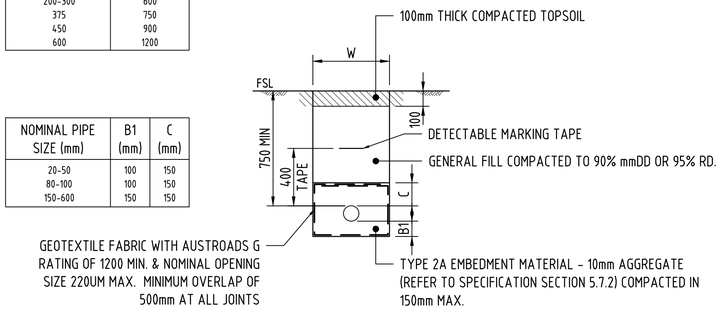
S.13. THE TESTING OF SEWER MAINS AND STRUCTURES MUST BE ACCORDING TO POWER AND WATER'S TEST PROCEDURES GUIDELINE.

PROJECT SEWER NOTES

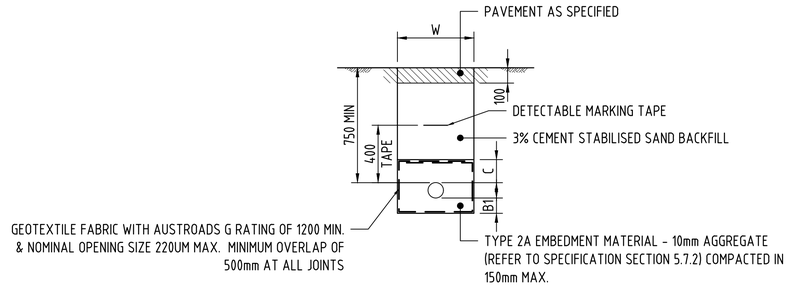
1. REFER TO SEWER LONGSECTIONS FOR BENCHING & BACKFILL DETAILS.
2. REFER TO SEWER LONGSECTIONS FOR STRUCTURES SETOUT COORDINATES
3. SEAL END CAPS TO HAVE MARKER TAPE INSTALLED WHICH WILL RISE VERTICALLY FROM SEWER TO SURFACE, & A STAR PICKET INSTALLED AT THE LOCATION. SUB CONTRACTOR TO ENSURE THE LAST LENGTH OF PIPE IS A WHOLE SECTION & NOT CUT.
4. TRENCHING ARRANGEMENTS AS PER DETAIL ON PLAN.
5. ALL HOUSE CONNECTIONS HAVE BEEN DESIGN TO A MINIMUM GRADE OF 1% (1IN100).

NOMINAL PIPE DIAMETER (DN)	W (mm)
100 & 150	450
200-300	600
375	750
450	900
600	1200

NOMINAL PIPE SIZE (mm)	B1 (mm)	C (mm)
20-50	100	150
80-100	100	150
150-600	150	150



TYPE 2 EMBEDMENT & TRENCH DETAIL - GENERAL
SCALE NTS



TYPE 2 EMBEDMENT & TRENCH DETAIL - ROAD CROSSING
SCALE NTS

MINIMUM REQUIRED INSPECTIONS BY HYDRAULIC CERTIFIER - SEWER

PRE-START MEETING
THE CERTIFYING ENGINEER TO ARRANGE PRE-START MEETING WITH POWER WATER REPRESENTATIVE AND PLUMBING CONTRACTOR.

INSPECTION 1
INSPECT EXCAVATED TRENCH AND VERIFY EMBEDMENT TYPE REQUIRED FOR THE SUBSOIL CONDITION. OTHER EMBEDMENT TYPES MUST BE ENDORSED WITH SUPPORTING GEOTECHNICAL REPORT AND APPROVED BY POWER AND WATER.

INSPECTION 2
VERIFY ALL CONNECTIONS ARE COMPLETED AND ISOLATED FROM EXISTING.

INSPECTION 3
VERIFY ALL PIPE WORK AND CONCRETE STRUCTURES ARE CONSTRUCTED TO DRAWINGS AND SPECIFICATIONS.

INSPECTION 4
ALL JOINTS EXPOSED, CARRY OUT AIR TEST BEFORE UNDERGOING HYDROSTATIC GRAVITY OR PRESSURE (RISING MAIN), AND CCTV INSPECTION (GRAVITY). INSPECTION 3 NOT REQUIRED IF TOTAL LENGTH IS LESS THAN 6m AND THERE ARE NO MAINTENANCE HOLES/SHAFTS.

INSPECTION 5
VERIFY ALL AS CONSTRUCTED INFORMATION. CONDUCT HANDOVER WITH POWER AND WATER.

INSPECTION 6
VERIFY ALL OUTSTANDING DEFECTS ARE COMPLETED.

EMBEDMENT NOTE
TRENCH TO BE INSPECTED AND EMBEDMENT TYPE CERTIFIED BY GEOTECHNICAL ENGINEER.

LEGEND

- WORKS BOUNDARY
- EXISTING SEWER MAIN
- FUTURE SEWER MAIN
- PROPOSED SEWER MAIN, MANHOLE & PROPERTY CONNECTIONS
- AC 133 3 — PROPOSED SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- MS 136 1 — FUTURE SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- MS 136 1 — EXISTING SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- LOTS TO BE SERVED (SEWER) BUT RELEASED IN FUTURE STAGE
- LOTS SERVED (SEWER) IN PREVIOUS STAGE BUT RELEASED IN THIS STAGE
- TYPE 2 IL21.578 CH25.000 — PROPERTY CONNECTION INFORMATION (TYPE, INVERT LEVEL AT CONNECTION POINT & DISTANCE FROM DOWNSTREAM PIT)

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code:
DESCERTBL9
Signed: _ _ _ _ _ _ _ _ _ _ _ _
Date:

aurecon
www.aurecongroup.com

halikos Developments

CLIENT

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
N.T.S.	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4E BERRIMAH

TITLE: SEWERAGE RETICULATION PWC SEWER STANDARD NOTES & LEGEND

DRAWING No. DN04E – 5000 – DRG – – 4000 – A
(PROJECT No. – WBS – TYPE – DISC – NUMBER – REV)

WARNING

BEWARE OF UNDERGROUND SERVICES

THE LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. THE LOCATION AND DEPTH OF ALL SERVICES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK.

STAGE 4C

STAGE 4E

EXISTING STAGE 2A

EXISTING STAGE 2B

3m 150DN STUB FOR FUTURE CONNECTION. IL 31.595 @ 1.25% TYPE 1 DROP

3m 150DN STUB FOR FUTURE CONNECTION & CAP. IL 27.703 @ 1.00%

3m DN150 STUB FOR FUTURE CONNECTION & CAP. IL 26.807 @ 1.95%

NOTE
LOTS 544, 545, 546, 547, 548, 549, 550, 551, 552, 553 & 554 TO CONSTRUCT ONLY THE TYPE 2 & END CAP OF THE TYPE 5 HOUSE CONNECTION

REMOVE EXISTING END CAP & CONNECT. CONNECTION TO EXISTING CHAMBER TO BE UNDERTAKEN BY PWC (OR ITS AUTHORISED CONTRACTORS) ONLY AFTER INSTALLATION AND TESTING OF ALL UPSTREAM SEWER WORKS IS COMPLETED AND APPROVED.

3m DN150 STUB FOR FUTURE CONNECTION & CAP. IL 26.645 @ 1.25% TYPE 4 DROP

3m DN150 STUB FOR FUTURE CONNECTION & CAP. IL 25.805 @ 1.0%

3m DN150 STUB FOR FUTURE CONNECTION & CAP. IL 26.515 @ 1.0% TYPE 4 DROP

JOINS ABOVE

JOINS BELOW

LEGEND

- WORKS BOUNDARY
- EXISTING SEWER MAIN
- SRM — PROPOSED SEWER RISING MAIN
- PROPOSED SEWER MAIN, MANHOLE & PROPERTY CONNECTIONS
- AC 133 / 3 — PROPOSED SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- MS 136 / 1 — FUTURE SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- MS 136 / 1 — EXISTING SEWER STRUCTURE LABEL (TYPE/LINE No./PIT No.)
- LOTS TO BE SERVED (SEWER) BUT RELEASED IN FUTURE STAGE
- LOTS SERVED (SEWER) IN PREVIOUS STAGE BUT RELEASED IN THIS STAGE
- TYPE 2 IL21.578 CH25.000 — PROPERTY CONNECTION INFORMATION (TYPE, INVERT LEVEL AT CONNECTION POINT & DISTANCE FROM DOWNSTREAM ACCESS CHAMBER. TYPE 5 INVERT LEVEL AT SEWER LINE I.O.)

PWC DRG No. B23-XXXX

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY

SIGNED ..... DATE.....

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 or Of the design and/or documents so associated. This drawing is valid for 2 years from the date of signing

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code: DESCERTBL9

Signed: _ _ _ _ _ _ _ _ _ _ _ _

Date:

7.5 0 15 30m
SCALE 1:750

aurecon
www.aurecongroup.com

CLIENT: halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT	NORTHCREST - STAGE 4E BERRIMAH
TITLE	SEWERAGE RETICULATION LAYOUT PLAN SHEET 1 OF 1

DRAWING No.	PROJECT No.	WBS	TYPE	DISC	NUMBER	REV
	DN04E	5000	DRG		4001	A

PWC DRG No. B23-XXXX

PWC ACCREDITED DESIGNER:
Name: PAUL GRAHAM
PWC accreditation code:
DESCERTBL9

Signed: _ _ _ _ _ _ _ _ _ _ _ _

Date:

PERMISSION TO USE FOR CONSTRUCTION PURPOSES ONLY
SIGNED ..... DATE.....
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 or Of the design and/or documents so associated.
This drawing is valid for 2 years from the date of signing

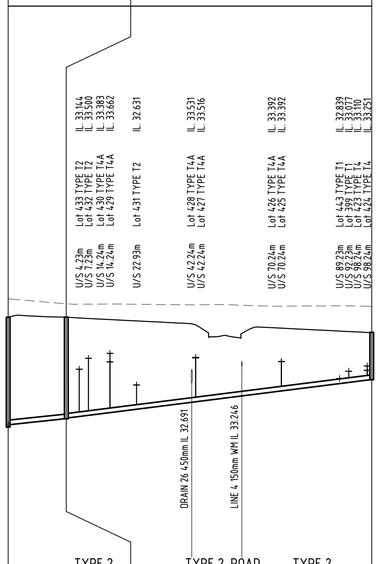
NOTE
ALL ACCESS CHAMBERS ARE TO BE CAST INSITU. CIRCULAR I.D.1200 (AC = ACCESS CHAMBER)
(MS = MAINTENANCE SHAFT)
(TMS = TERMINAL MAINTENANCE SHAFT)
(CRD = CIRCULAR MANHOLE RECTANGULAR COVER, HEAVY DUTY) (HVY = CLASS D TO PWC STD DRG W2-2-07)
REFER SEWER RETICULATION PLAN FOR TRENCH TYPE DETAILS.

NOTE
EXISTING SURFACE LEVEL DENOTES THE STRIP SURFACE LEVEL U.N.O. 200mm STRIPPING HAS BEEN ASUMED

JUNCTION LINE:
MANHOLE & COVER TYPE
MANHOLE DROP TYPE
MANHOLE NO.

LINE 31

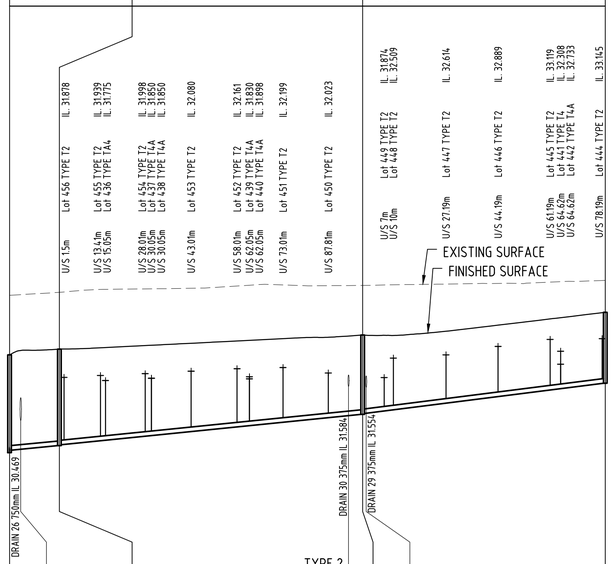
LINE 33 (-90°)	(-18°)		
CRD	CRD		HVY
1	1		
AC 33/16	AC 31/1		TMS 31/2



TRENCH TYPE		TYPE 2		TYPE 2-ROAD		TYPE 2
PIPE DIA. (mm). TYPE & CLASS		DN150-PVC-SN8		DN150-PVC-SN8		
GRADE (%) - LENGTH (m)		1.00% - 18.98		1.25% - 99.74		
DATUM R.L.		23.000				
RL TOP OF MANHOLE	34.841	34.845				34.350
DEPTH TO INVERT	3.585	3.505	3.319	3.289		1.547
INVERT LEVEL	31.256	31.336	31.526	31.556	32.067	32.274	32.803
FINISH SURFACE LEVEL	34.841	34.845				34.338
EXISTING SURFACE LEVEL	35.441	35.279				35.198
CHAINAGE (LENGTH)	0.00	18.98	59.96	76.30	118.72
ACCESS CHAMBER LOCATION	E 10623.642 N 623885.672	E 10604.668 N 623885.582			E 10509.737 N 623916.192

LINE 32

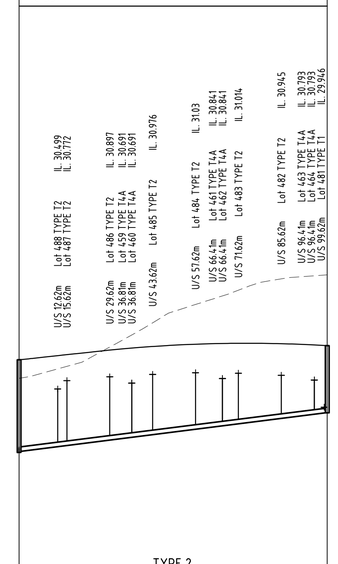
LINE 33 (-90°)	(-18°)	(-90°)	
CRD	CRD	CRD	HVY
1	1	1	
AC 33/14	AC 32/1	AC 32/2	TMS 32/3



TRENCH TYPE		TYPE 2		TYPE 2		TYPE 2
PIPE DIA. (mm). TYPE & CLASS		DN150-PVC-SN8		DN150-PVC-SN8		DN150-PVC-SN8
GRADE (%) - LENGTH (m)		-0.90% - 16.26		-1.00% - 99.04		-1.43% - 79.19
DATUM R.L.		22.000				
RL TOP OF MANHOLE	32.613	32.802			33.260	34.001
DEPTH TO INVERT	3.190	3.109	3.154	3.124	2.591	2.561	2.313
INVERT LEVEL	29.423	29.503	29.648	29.678	30.628	30.669	30.699	30.706	31.689
FINISH SURFACE LEVEL	32.613	32.802			33.260	34.001
EXISTING SURFACE LEVEL	34.559	34.654			34.878	35.043
CHAINAGE (LENGTH)	0.00	3.63	16.26	110.68	115.30	116.44	194.49
ACCESS CHAMBER LOCATION	E 10624.224 N 623762.573	E 10607.964 N 623762.496	E 10513.708 N 623792.888	E 10537.943 N 623868.281

LINE 34

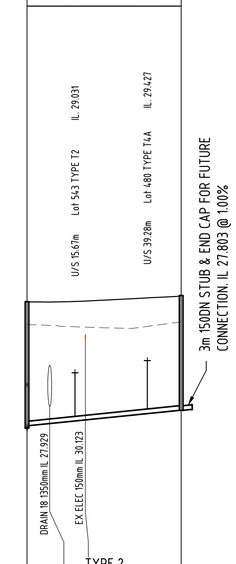
LINE 33 (0°)	
CRD	HVY
1	
AC 33/11	TMS 34/1



TRENCH TYPE		TYPE 2	
PIPE DIA. (mm). TYPE & CLASS		DN150-PVC-SN8	
GRADE (%) - LENGTH (m)		-1.25% - 100.62	
DATUM R.L.		21.000	
RL TOP OF MANHOLE	31.453		31.914
DEPTH TO INVERT	3.021	2.991	2.194
INVERT LEVEL	28.432	28.462	29.720
FINISH SURFACE LEVEL	31.453	31.914
EXISTING SURFACE LEVEL	30.849	34.225
CHAINAGE (LENGTH)	0.00	100.62
ACCESS CHAMBER LOCATION	E 10609.153 N 623680.151	E 10513.386 N 623711.029

LINE 35

LINE 33 (108°)	
CRD	HVY
1	
AC 33/10	MS 35/1



TRENCH TYPE		TYPE 2				
PIPE DIA. (mm). TYPE & CLASS		DN150-PVC-SN8				
GRADE (%) - LENGTH (m)		-1.00% - 50.32				
DATUM R.L.		19.000				
RL TOP OF MANHOLE	31.348					31.530
DEPTH TO INVERT	4.128	4.048				3.727
INVERT LEVEL	27.220	27.300	27.370	27.489		27.803
FINISH SURFACE LEVEL	31.348					31.530
EXISTING SURFACE LEVEL	30.602					30.694
CHAINAGE (LENGTH)	0.00	7.41	19.06			50.32
ACCESS CHAMBER LOCATION	E 10625.640 N 623674.837	E 10673.531 N 623659.395

H: 0 20 40m
V: 0 2 4m
SCALE H:1:1000 V:1:100 @A1

aurecon
www.aurecongroup.com

CLIENT
halikos Developments

REV	DATE	REVISION DETAILS	APPROVED
A	ZZ	ISSUED FOR INFORMATION	P. GRAHAM

SCALE	SIZE
AS SHOWN	A1

DRAWN: C. HATZI
DESIGNED: C. HATZI
CHECKED: M. CAVANEY

PRELIMINARY
NOT FOR CONSTRUCTION

APPROVED
DATE
P. GRAHAM

PROJECT: NORTHCREST - STAGE 4E
BERRIMAH

TITLE: SEWERAGE RETICULATION LONGSECTIONS
SHEET 1 OF 3

DRAWING No. | PROJECT No. DN04E | WBS 5000 | TYPE DRG | DISC | NUMBER 4002 | REV A