SUBMISSION OF DIGITAL AS-CONSTRUCTED INFORMATION

MANUAL

Current as at 29.05.2020

Presented by **GIS / Corporate, Governance & Financial Services**

ISAAC REGION
HELPING TO ENERGISE THE WORLD

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1. INTRODUCTION

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1.1 PURPOSE OF THIS MANUAL

Isaac Regional Council maintains a Geographic Information system and asset database that contains all the known locations and details in regards to those assets. This manual is for use of Contractors, Private Developers, the representatives of Private Developers and consultants who submit "As-Constructed" information to Isaac Regional Council. This manual is designed to assist representatives and consultants by defining the structure, format and required fields needed for submission and integration into the Isaac Regional Council Geographic Information system and Asset Database.

1.1.1 RESPONSIBILITY OF THE CONSULTANT

The consultant shall be responsible for

- Supplying digital data in the format and co-ordinate system set out in this manual.
- Ensuring that the data supplied to Council is accurate and in compliance with this manual.

1.1.2 RESPONSIBILITY OF ISAAC REGIONAL COUNCIL

Isaac Regional Council shall be responsible for

- Updating the Council Geographic Information System and Asset Database with the information supplied by the Consultant.

Isaac Regional Council shall not be responsible for

- Ensuring the correctness of the "As Constructed" data.

Development works will not be accepted off maintenance until any incorrect data has been rectified. Any costs associated with Third party claims against Isaac Regional Council for supply of incorrect data that has been certified by a consultant shall be recovered from that consultant. If data submitted is not in accordance with the required accuracies specified in this document Isaac Regional Council may also recover any associated costs involved with the rectification of that data.

1.2 SCOPE OF THE MANUAL

The following asset categories are considered in detail in Sections 4 to 8 of this manual.

- Roads
- Stormwater Drainage
- Water Supply
- Waste Water (Sewer)
- Miscellaneous

The Consultant should contact the Engineering Coordinator where specific Information for a particular asset is not covered by this manual.

1.3 AIM OF THE MANUAL

The aim of this manual is to assist consultants with their requirements and ensuring new data submitted to Isaac Regional Council is:

- Consistent
- Accurate
- Complete

1.4 PURPOSE OF MAINTAINING COUNCIL'S GIS AND ASSET DATABASE

The Isaac Regional Council is committed to ensuring a highly accurate database of assets for the purposes of:

- Asset Valuation
- Risk Management
- Maintenance Management
- Capital works planning
- Modelling
- Management Strategies
- Decision making
- Comparison of Assets
- Production of Maps for both Council and Public

Essentially the collection of asset data is seen as a core component for decision making within the Isaac Regional Council.

1.5 GENERAL REQUIREMENTS

1.5.1 COUNCIL CONTACT

All enquiries relating to the format of the digital information should be directed to

Council's Geographic Information System Coordinator.

1.5.2 SUBMISSION OF "AS CONSTRUCTED" DATA

As Constructed information as digital files, is to be submitted to the Isaac Regional Council Development Services Department before works will be accepted on maintenance.

1.6 CERTIFICATION OF DIGITAL INFORMATION

1.6.1 CERTIFICATION OF INFORMATION

Digital and Electronic format as constructed information provided to Isaac Regional Council is to be certified by the consultant and include information as follows:

- Wet signed, scanned as-built in electronic format (example: pdf)

- Digitally signed digital drawing file of the as-built as above in the digital formats (example: XML,drg,etc. Council may require more than one format based on systems on use)
- Models used in digital format
- Any other relevant related information as required by Council in electronic and or digital format (example: Traffic count, information from investigations conducted etc).
- For sub-divisions

  Estate Name and Stage _____

  Property Description (prior to subdivision) _____

This digital representation and asset attribute information is a complete and accurate representation of the constructed works within Council's specified survey tolerances. The information is suitable for use by council and others. All works constructed outside the specified construction tolerances have been specifically identified in a separate non-compliance report.

Signed by _____ Date _____

Name _____

Consulting Engineering Firm _____

RPEQ _____ (or) NPER _____

1.6.2 PROFESSIONAL ENGINEERING REQUIREMENTS

In the event that a Professional Engineer wishes to submit alternative certifications contrary to Councils standard certifications detailed within this manual it will be necessary for Council to have the alternatives legally assessed to ensure the proposed certifications identify that the engineer is adequately accepting responsibility for compliance with Councils requirements.

All costs associated with this action are the responsibility of the proposing engineer however once formally accepted the certifications will be acceptable for all works supervised by that engineer.

2. DATA FORMAT

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2.1 SOFTWARE

The software applications below are the preferred solution however, digital files that can be read by the specified software packages are acceptable.

- AutoCAD
- Microsoft Excel

Examples using the specified software are included in Section 9 of this manual.

2.2 DIGITAL PLAN INFORMATION

2.2.1 GENERAL

Digital plan information is to be provided to Council in the following format:

- AutoCAD DXF file or AutoCAD Drawing file

The digital drawing is to be organized into separate layers for each asset type for easy translation into Council's Geographic Information System such as one drawing for water and a separate for Drainage. The specifications for objects in the AutoCAD drawing/DXF file are set out in Table 1 of this manual.

Please note that earlier versions of AutoCAD drawings will be accepted.

2.2.2 NEW/MODIFIED ASSETS

Each new or modified object shown in the CAD drawing should

- Be clearly identified with an asset **Entry No**.
- Have a corresponding row in the attribute table

2.2.3 DELETED ASSETS

Any assets that have been removed or demolished should be shown on any hard copy plans clearly indicating "removed" or simular therefore prompting council officers to remove such assets from the database. No attribute information is required to be submitted for these removals.

Section 9 of this manual contains a worked example of a typical "As Constructed" submission.

2.2.4 PLAN SET-UP

The scale factor used on all drawings shall be:

1 unit = 1 meter

No movement, scaling, translation or rotation shall be applied to the objects in the drawing. The suggested layer names and drawing specifications for each asset type are set out in Table 1 of this manual. Where the suggested layer names are not utilized it will be of significant assistance to Council staff if the layer names used are indicative of the information contained on the layer.

Only one object (CAD object) shall be used to represent a single, specific asset. A consistent object type shall be used for each asset type. The object types for each asset are specified

in Table 1 of this manual. Text, where included in the CAD drawing shall be separated into clearly identifiable layers.

The AutoCAD Drawing and DXF files shall have the following general characteristics;

- Version 2007 or below
- Dimensions 2
- Units Meters
- Projection MGA94
- Number of Decimal Places 6
- Polylines Continuous NOT curve fitted; NOT splined
- Closed Polygons Continuous NOT curve fitted; NOT splined
- Points Scaling Relative

2.2.5 ASSET NUMBERING

An **Entry Number** shall be assigned to each asset by the consultant. The Entry Number shall be assigned to the AutoCAD drawing as a separate layer and the corresponding entry number should be included in the accompanying Excel Spreadsheet.

2.3 ATTRIBUTE DATA

2.3.1 GENERAL

Sections 4 – 8 in this manual designate the required attribute information for each asset. The creation of standard forms will assist the requirements which are available through Council's engineering department. Each line of attribute information is to have a corresponding CAD object.

Example attribute data forms have been included in Section 9 of this manual in both hardcopy and digital form.

2.3.2 ASSET NUMBERING

The consultant shall establish a simple temporary asset numbering system which will allow the information in the attribute forms to be linked to the correct asset in the AutoCAD drawings.

3. SURVEY REQUIREMENTS

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3.1 GENERAL REQUIREMENTS

Survey tolerances and requirements for the submission of as constructed information to council are set in this manual.

3.2 DATUM / PROJECTION

The following datum/projection is the only one acceptable to council.

Level Datum:	Australian Height Datum (AHD)	(Meters)
Projection:	MGA 94, Zone 55	(Meters)

3.3 SURVEY SPECIFICATION

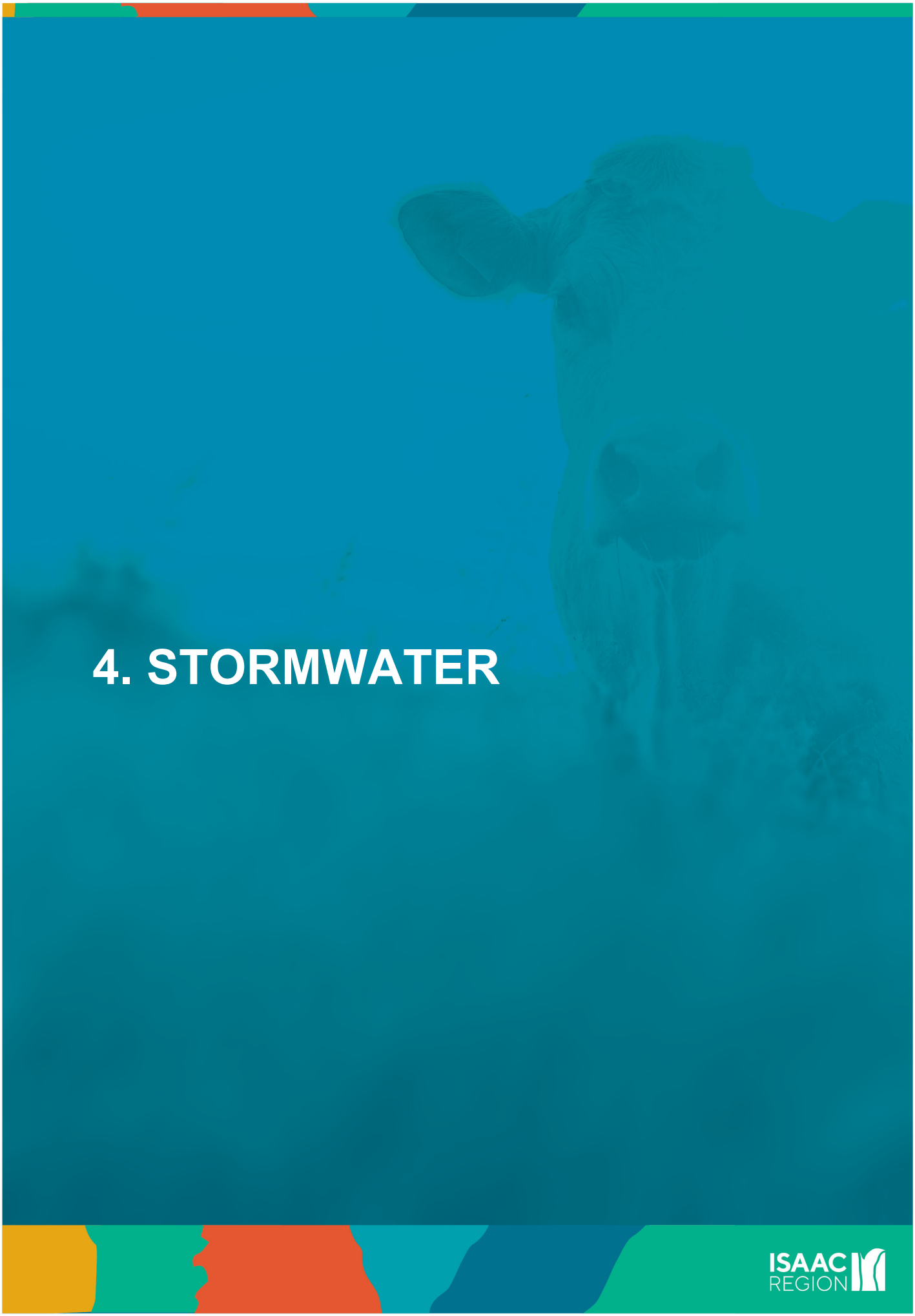
Digital “As Constructed” data recorded and supplied to Council by the Consultant shall be in accordance with Table 1 (On the Next Page).

Table 1 Survey Specification

ASSET CATEGORY	ASSET TYPE	SURVEY LOCATION	HORIZONTAL ACCURACY (XY)	VERTICAL ACCURACY (Z)	AUTOCAD OBJECT TYPE	AUTOCAD SUGGESTED NAME
WATER	Water Valves	Centre of Valve	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	+/- 20 mm	Point / Block	WaterValve
	Water Hydrants	Centre of Hydrant	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	+/- 20 mm	Point / Block	WaterHydrants
	Water Pipes	Centre of fitting to centre of fitting	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Polyline	WaterPipe
	Pump Stations	Centre of Pump Station	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Point / Block	WaterPumpStation
	Reservoirs	Extents of Asset	Design	N/A	Closed Polylines or Region	WaterReservoir
	Tees / Crosses	Centre of Tee or cross	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Point / Block	WaterTee
STORMWATER	Inlet Pits / Manholes	Centre of Lid	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	+/- 20 mm	Point / Block	DrainInlet
	Inlets and Outlets	Centre of Lid	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	+/- 20 mm	Point / Block	DrainInletOutlet
	Pipes	Centre of lid to centre of lid	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Polyline	DrainPipe
	Inter-Allotment Pipes	Centre of lid to centre of lid	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Polyline	DrainInterPipe
	Inter-Allotment Pits	Centre of Lid	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	+/- 20 mm	Point / Block	DrainInterPit
	Open Channels	Top of bank	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Polyline	DrainOpenChannel
	Detention Basins	Extents of Waterbody	Design	N/A	Closed Polylines	DrainDetention

ASSET CATEGORY	ASSET TYPE	SURVEY LOCATION	HORIZONTAL ACCURACY (XY)	VERTICAL ACCURACY (Z)	AUTOCAD OBJECT TYPE	AUTOCAD SUGGESTED NAME
SEWERAGE	Manhole		+/- 80 mm in Urban Area +/- 100 mm in Rural Area	+/- 20 mm	Point / Block	SewerManhole
	Rising Mains	Centre of lid to centre of lid	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Polyline	SewerRising
	Pump Stations / Treatment Plants	Centre of Wet Well	+/- 80 mm in Urban Area +/- 100 mm in Rural Area N/A for Treatment Plants	N/A	Point / Block	SewerPumpTreat
	House Connections	Connection Point	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	+/- 20 mm	Polyline	SewerHouseConnection
ROADS	Pavement	Crown of Road	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Polyline	RoadPavement
	Footpaths	Perimeter of Footpath	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Polyline	RoadFootpath
	Signs	Centre of sign	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Point / Block	RoadSign
	Edge of Seal	Edge of bitumen	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Polyline	RoadEdge
	Kerb and Channel	Back of Kerb	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Polyline	RoadKerb
MISCELLANEOUS	Development Boundary	Extents of Boundary	N/A	N/A	Closed Polyline	Devel
	Property Boundaries	Perimeter or properties	+/- 80 mm in Urban Area +/- 100 mm in Rural Area	N/A	Closed Polyline	Properties

**Note: It is recognized that PSM coordinates have their own inaccuracies. The accuracies stated in the above table are relative to the PSM coordinates. They are not absolute accuracies.*



4. STORMWATER

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4.1 PLAN INFORMATION

Digital plan information, in the acceptable formats specified in Section 2.2 of this manual, is to be provided for all the stormwater assets listed in Table 1.

4.2 ATTRIBUTE INFORMATION

4.2.1 GENERAL

All Stormwater assets that will become the responsibility of Council will need attribute information supplied in the format specified in section 2.3 of this manual. In addition to this all Inter-allotment drainage that connects to Councils stormwater system will need to be included.

The required assets, suggested layer names and form number are listed in Table 1.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets, including Assets that have been moved or modified. Attribute data forms have been designed with this in mind.

All examples of acceptable submissions are displayed in section 9 of this manual.

4.2.2 STANDARD FORMS AND ACCEPTABLE ENTRIES

The forms and an explanation of each of the entry columns for each of the forms including acceptable values are included in the following sections.

Table 2: Stormwater Attribute Form – Drain Outlets

FIELD NAME	DESCRIPTION	VALUE
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
TYPE	Type of Inlet or Outlet	Outlet (with headwall) Inlet (with headwall) Inlet (without headwall) Outlet (without headwall) High level outlet Weir / Drop Inlet Other
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
LOCATION	Describes where the asset is located	Drain (Inlets / Outlets connection to an open channel or drain) Footpath (Within the road carriageway (outside K&C outside road seal)) Road (Within the road carriageway (between K&C within road seal) Private Property/Reserve (Within real property i.e. private property, Easement, Council reserve or Crown land)
DIMENSION 1	The overall length of the inlet or outlet structure in mm	600
DIMENSION 2	The overall height of the structure	600
SURFACE LEVEL	The surface level at the centre point of the inlet / outlet structure	6.35
INVERT LEVEL	The lowest point of the structure	
MATERIAL	Describes the material of the structure	Stone Pitched Concrete Cast Insitu Concrete Precast Concrete

FIELD NAME	DESCRIPTION	VALUE
		Sandbags
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
HEIGHT VALUE	How the Height (Z) value was determined	Survey
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 3: Stormwater Attribute Form – Drain Inlet Pits / Manholes and Drain Inter-allotment Pits

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
TYPE	Type of Inlet or Outlet	1 bay side entry pit 2 bay side entry pit 3 bay side entry pit 4 bay side entry pit Field entry pit Grated inlet Letter box pit Surcharge pit Access Chamber (Manhole) Junction Side Entry Pit with Grate Keysin Pit Other
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
LOCATION	Describes where the asset is located	Drain (Inlets / Outlets connection to an open channel or drain) Footpath (Within the road carriageway (outside K&C outside road seal)) Road (Within the road carriageway (between K&C within road seal) Private Property/Reserve (Within real property i.e. private property, Easement, Council reserve or Crown land)
DIMENSION 1	The overall length of the inlet or outlet structure in mm	600, 900 etc.
DIMENSION 2	The overall height of the structure	600, 900 etc.
SURFACE LEVEL	The surface level at the centre point of the inlet structure	6.35

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
INVERT LEVEL	The lowest point of the manhole.	
COVER MATERIAL	Describes the material of the structure	Stone Pitched Concrete Cast Insitu Concrete Precast Concrete Sandbags Other
COVER BRAND	Describes the brand of cover	
SURROUND MATERIAL	Describes the construction material for the surround	
CHAMBER MATERIAL	Describes the construction material for the Chamber	Poured concrete Block work Precast Concrete Other
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
HEIGHT VALUE	How the Height (Z) value was determined	Survey Derived
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 4: Stormwater Attribute Form – Drain Pipes and Drain Inter-allotment Pipes

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
UPSTREAM NODE	This Column represents the unique identifier (Entry No) of the upstream asset.	
DOWNSTREAM NODE	This Column represents the unique identifier (Entry No) of the downstream asset.	
TYPE	Describes the type of asset	Circular Pipe Reinforced Concrete Box Culvert Slab Link Box Culvert
DIMENSION 1	Describes the nominal maximum dimension (for Rib's) or diameter for circular pipes, whichever is applicable in millimetres. NOTE: For RCBC's, this field must represent the largest dimension of the reinforced concrete box culvert.	600, 900 etc.
DIMENSION 2	Describes the nominal minimum dimension for RCBC's. Circular pipes to have a value of 0.	600, 900 etc.
LENGTH	Recorded in meters this column describes the slope length of the pipe from end to end excluding chamber length. That is the true length, not the plan length.	6.35
MATERIAL	Describes the material from which the pipe is constructed.	Fibre Reinforced Concrete uPVC PVC Cast Iron Steel Reinforced Concrete Polypropylene HDPE Corrugated Galvanized Steel

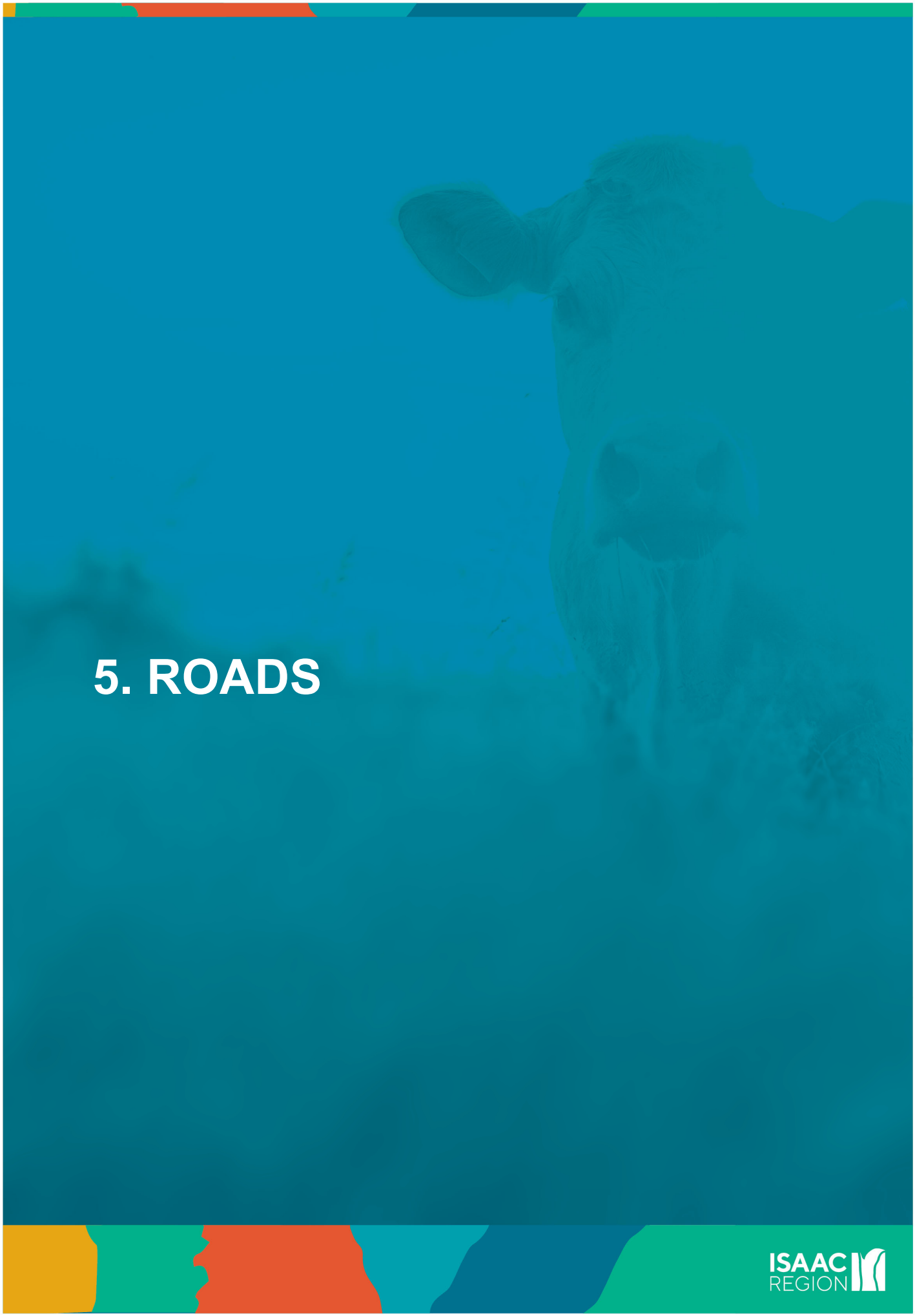
FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
		Corrugated Aluminium Other
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
HEIGHT VALUE	How the Height (Z) value was determined	Survey Derived
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 5: Stormwater Attribute Form – Drain Open Channels

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
TYPE	Column representing the type of open channel	Open concrete lined channel Open vegetated channel Open vegetated channel with concrete invert Open vegetated channel with rock invert Overland flow path Rock lined open channel
LENGTH	Column representing the slope length of the asset from end to end. Recorded in meters	e.g. 33.5
BOTTOM WIDTH	Column representing the width of the channel in meters at its base taken at a typical cross-section in meters	e.g. 5.2
TOP WIDTH	Column representing the width of the channel in meters at its top taken at a typical cross-section in meters.	600, 900 etc.
DOWNSTREAM NODE	If applicable the downstream UID of the stormwater fixture (Outlet, Inlet, Pit etc.) that connects the asset to further stormwater infrastructure.	1,2,3,
UPSTREAM NODE	If applicable the Upstream UID of the stormwater fixture (Outlet, Inlet, Pit etc.) that connects the asset to further stormwater infrastructure.	1,2,3,
BANKFULL DEPTH	The distance in meters from the invert to the top of bank taken at a typical cross-section.	e.g. 2.3
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 6: Stormwater Attribute Form – Drain Detention Basins

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
TYPE	Column representing the type of Detention Basin	Retardation Basin – Dry Retardation Basin – Wet
INVERT LEVEL	The invert level at the deepest point in the basin, recorded in meters AHD.	e.g. 27.5
WEIR	Column indicating if the detention basin has a weir	Yes No
STORAGE CAPACITY	The total storage capacity of the Detention basin in m, discounting any storage used for permanent water storage.	35
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)



5. ROADS

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5.1 PLAN INFORMATION

Digital plan information, in the acceptable formats specified in Section 2.2 of this manual, is to be provided for all the stormwater assets listed in Table 1.

5.2 ATTRIBUTE INFORMATION

5.2.1 GENERAL

All road assets that will become the responsibility of Council will need attribute information supplied in the format specified in section 2.3 of this manual. The required assets, suggested layer names and form number are listed in Table 1.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets, including Assets that have been moved or modified. Attribute data forms have been designed with this in mind.

All examples of acceptable submissions are displayed in section 9 of this manual

5.2.2 STANDARD FORMS AND ACCEPTABLE ENTRIES

The forms and an explanation of each of the entry columns for each of the forms including acceptable values are included in the following sections.

Table 6: Road Attribute Form – Road Kerb

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
TYPE	Column representing the type of road kerb.	Kerb and Channel Semi-Mountable Kerb and Channel Mountable Kerb and Channel Concrete Invert Kerb Barrier Kerb Semi-Mountable
PROFILE	The subject profile of the road kerb.	B1 SM1 M1 M2 B2 B3 SM2
LENGTH	The length is the length of the single CAD object to which the attribute data is to be linked.	e.g. 27.5
ROAD NAME	The road name where the asset is physically located.	35
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 7: Road Attribute Form – Road Pavement / Surfacing

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
SURFACING DEPTH	Column for the depth of the sealed road surface where applicable i.e. for AC surfacing, pavers or concrete (In metres)	
SURFACING TYPE	The Type of Surface used	Asphaltic Concrete 1 coat Bitumen 2 coat Bitumen 80 mm Pavers Concrete Other
LENGTH	The length of the road based on the length of continuous pavement and surfacing material. Where there is a change in either the surfacing type or the pavement composition a new length and details are to be entered on a new line of the spreadsheet (corresponding to a new CAD object).	e.g. 27.5
REINFORCEMENT	The type of reinforcement used in concrete surfacing – leave blank where no reinforcement is used.	e.g. F72 mesh
BASE 1 DEPTH	The depth of the base course pavement material. (In metres)	0.25
BASE 1 TYPE	The type of the base course pavement material, (As per Main Roads Standard Specification.)	e.g. Asphaltic Concrete
BASE 2 DEPTH	If applicable the depth of the second base course pavement material. (In metres)	
BASE 2 TYPE	If applicable the type of the base course pavement material as per Main Roads Standard Specification	
SUB BASE 1 DEPTH	The depth of the sub-base course pavement material (In metres)	

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
SUB BASE 1 TYPE	The type of the sub-base course pavement material as per Main Roads Standard Specification	
SUB BASE 2 DEPTH	If applicable the depth of the sub-base course pavement material (In metres)	
SUB BASE 2 TYPE	If applicable the type of the sub-base course pavement material as per Main Roads Standard Specification	
SUBGRADE CBR	The CBR test results, based on a 4-day soaked CBR test, of the in-situ sub-grade material upon which the pavement design was based.	
ROAD HIERARCHY	The Road Hierarchy	Rural Rural Res Access Street Rural Res Collector Park Res Access Place Park Res Access Street Park Res Collector Res Access Place Res Access Street Res Collector Res Trunk Collector Res Sub Arterial Commercial/Industrial Access Street Commercial/Industrial Collector
ROAD NAME	The name of the road	
WIDTH OF SEAL	Represents the width of seal from invert of kerb and channel to invert of kerb and channel or width of seal where no kerb exists. (In metres)	
WIDTH CARRIAGEWAY	The width of the road Carriageway from shoulder point to shoulder point. (In metres)	

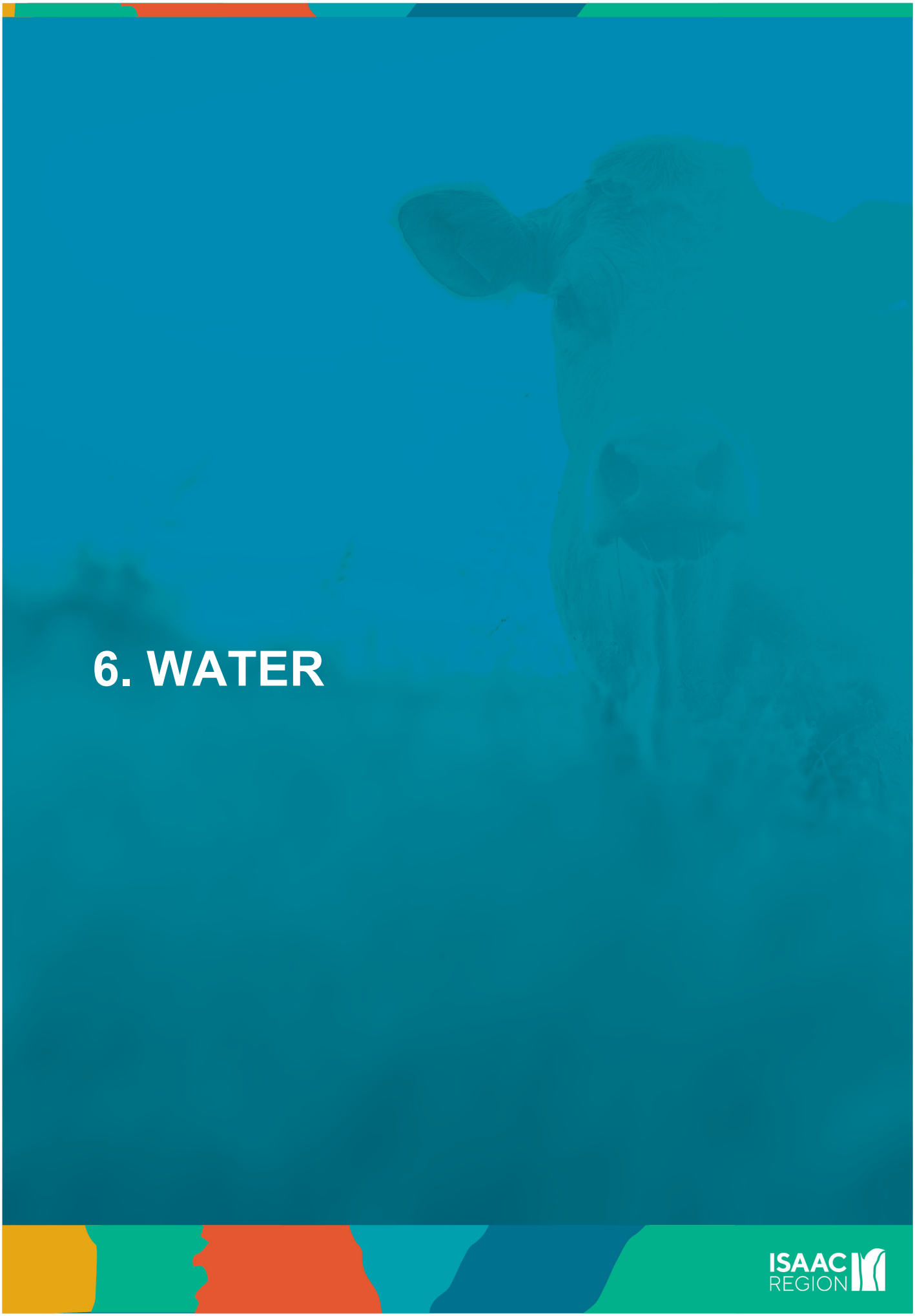
FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 8: Road Attribute Form – Road Footpath

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
MATERIAL	Column representing the material from which the footpath is constructed.	Concrete Paved Asphaltic Concrete Other
DEPTH	The depth of the pavement/concrete including paver bedding in metres	0.1
WIDTH	The width of the footpath in metres	e.g. 1.5
LENGTH_M	The length of the footpath in metres	35
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 9: Road Attribute Form – Road Signs

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
MUTCD CODE	The numbering system for the sign specified by the Queensland Department of Main Roads in the Manual of Uniform Traffic Control Devices (MUTCD).	
COMMON NAME	The common name that the sign is known by	e.g. Stop, Give Way
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)



6. WATER

ISAAC REGION

6.1 PLAN INFORMATION

Digital plan information, in the acceptable formats specified in Section 2.2 of this manual, is to be provided for all the water assets listed in Table 1.

6.2 ATTRIBUTE INFORMATION

6.2.1 GENERAL

All water assets that will become the responsibility of Council will need attribute information supplied in the format specified in section 2.3 of this manual. The required assets, suggested layer names and form number are listed in Table 1.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets, including Assets that have been moved or modified. Attribute data forms have been designed with this in mind.

All examples of acceptable submissions are displayed in section 9 of this manual.

6.2.2 STANDARD FORMS AND ACCEPTABLE ENTRIES

The forms and an explanation of each of the entry columns for each of the forms including acceptable values are included in the following sections.

Table 10: Water Attribute Form – Water Pipe

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
DIAMETER	Column representing the diameter of the water main.	e.g. 100, 150
MATERIAL	The material used to construct the water main.	Ductile iron cement lined Asbestos Cement AV AVC Cast Iron HDPE MDPE HOB uPVC Other
LENGTH_M	The plan length of the water pipe	e.g. 27.5
CLASS	The pipe class in accordance with the relevant Australian Standard (e.g. AS2280-1995 Ductile Iron Pressure Pipes and Fittings).	e.g. 12
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 11: Water Attribute Form – Water Valve

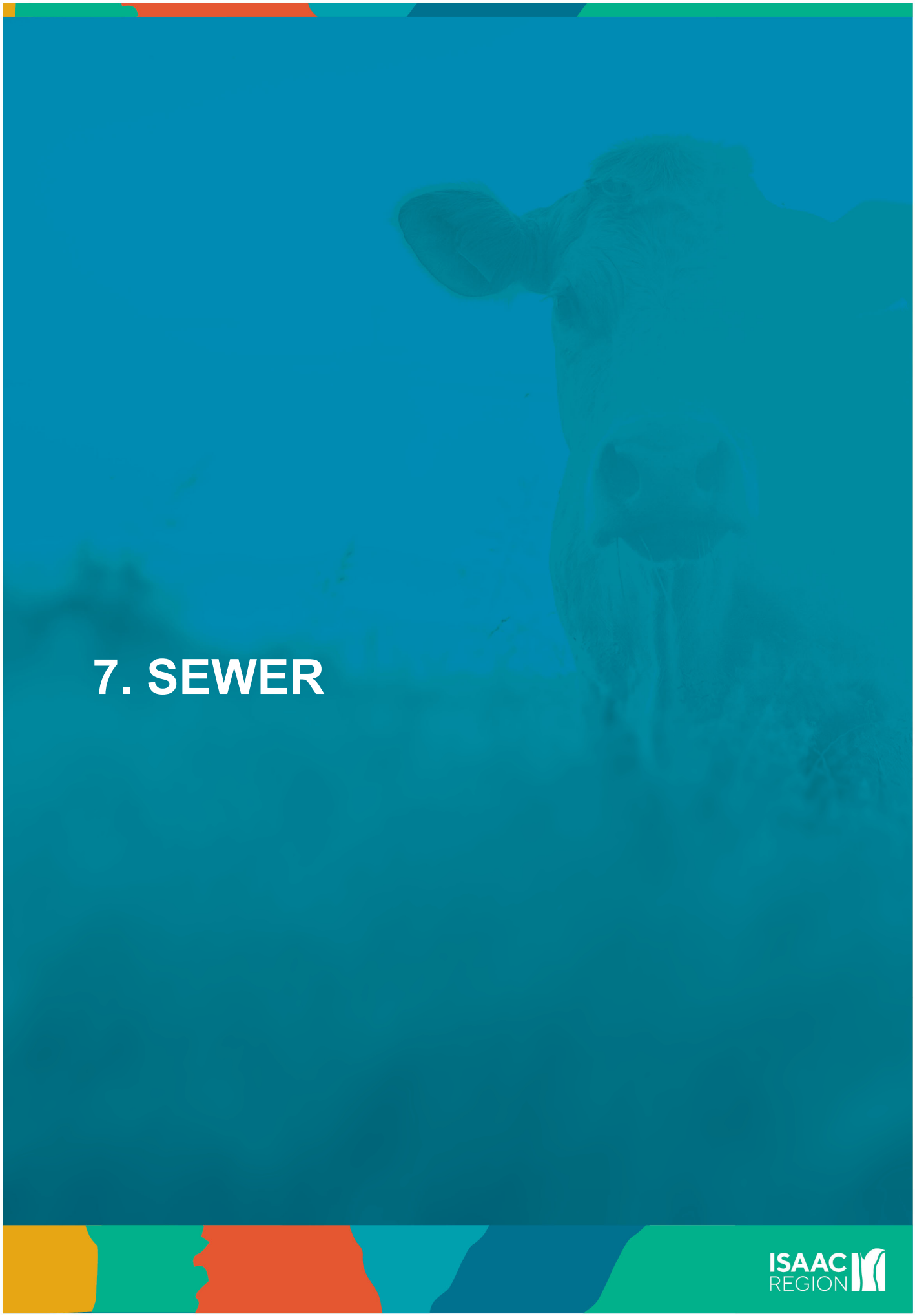
FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
MAIN UID	Each Valve must be associated with a water supply main – the unique identifier of that main is to be supplied here.	1,2,3 etc.
TYPE	The actual type of water valve	Air Valve Sluice Valve Scour Valve PRV PSV Altitude Valve Reflux Valve Other
SURFACE LEVEL	The surface level in meters AHD of the water valve	2.36
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
HEIGHT VALUE	How the height (z) value was ascertained	Derived Survey
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 12: Water Attribute Form – Water Hydrants

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
MAIN UID	Each hydrant must be associated with a water supply main – the unique identifier of that main is to be supplied here.	1,2,3 etc.
SURFACE LEVEL	The surface level in meters AHD of the water valve	2.36
INSTALLATION DATE	The installation date of the asset	"24/09/2007"
REMARKS	Any remarks concerning the asset	
HEIGHT VALUE	How the height (z) value was ascertained	Derived Survey
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	"N" for new assets "M" for modified existing assets "R" for removed assets (no attribute details required.)

Table 13: Water Attribute Form – Water Pump Stations

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
ITEM	Description of the pump	e.g. Transfer Pump, Booster Pump, Pump 1
BRAND	The brand of the pump	2.36
TYPE	The type of Pump	e.g. Centrifugal, Sub Centrifugal.
INSTALLATION DATE	The installation date of the asset	"24/09/2007"
REMARKS	Any remarks concerning the asset	
CIVIL STRUCTURES	Any civil structures associated with the pump station	e.g. Buildings, Compounds, Shelters
HEIGHT VALUE	How the height (z) value was ascertained	Derived Survey
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	"N" for new assets "M" for modified existing assets "R" for removed assets (no attribute details required.)



7. SEWER

ISAAC REGION

7.1 PLAN INFORMATION

Digital plan information, in the acceptable formats specified in Section 2.2 of this manual, is to be provided for all the water assets listed in Table 1.

7.2 ATTRIBUTE INFORMATION

7.2.1 GENERAL

All sewer assets that will become the responsibility of Council will need attribute information supplied in the format specified in section 2.3 of this manual. The required assets, suggested layer names and form number are listed in Table 1.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets, including Assets that have been moved or modified. Attribute data forms have been designed with this in mind.

All examples of acceptable submissions are displayed in section 9 of this manual

7.2.2 STANDARD FORMS AND ACCEPTABLE ENTRIES

The forms and an explanation of each of the entry columns for each of the forms including acceptable values are included in the following sections.

Table 14: Sewer Attribute Form – Sewer Manholes

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
LOCATION	Indicating the position of the Manhole	Verge (Between property boundary and road kerb and channel) Road (Within road carriageway) Private Property / Reserve
COVER MATERIAL	Indicating the cover material of the manhole.	Ductile iron Cast Iron Concrete Other
BOLT DOWN COVER	Does the manhole have a bolt down cover?	Yes No
COVER SHAPE	Indicating the shape of the Cover.	Rectangular Circular
COVER MANUFACTURER	Indicating the cover manufacturer	Humes Rocla Gattic Webforge Havestock Other
COVER CONSTRUCTION	The nature of the cover construction.	Poured Pre-Cast
CHAMBER DIMENSION 1	Indicates the maximum internal dimension for rectangular manholes or diameter for circular. (Recorded in millimetres). For rectangular manholes this is the largest dimension	e.g. 1050

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
CHAMBER DIMENSION 2	Representing the smaller dimension in the event of rectangular manholes	e.g. 600
CHAMBER CONSTRUCTION	Describes the construction technique used to build the chamber walls.	Poured Pre-Cast
BASE CONSTRUCTION	Describes the construction technique used to build the base.	Poured Pre-Cast
SURFACE LEVEL	Record a surface level on the centre of the manhole lid. (In metres AHD)	5.36
INVERT LEVEL	Invert Level or lowest point of the manhole in metres.	1.89
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
CCTV SURVEYED DATE	The date of the CCTV survey	“24/09/2007”
HEIGHT VALUE	How the height (z) value was ascertained	Derived Survey
POLY RELINED DATE	The date of relined	“24/09/2007”
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 15: Sewer Attribute Form – Sewer Gravity Mains

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
UPSTREAM UID	Indicates the unique identifier of the upstream manhole	
DOWNSTREAM UID	Indicates the unique identifier of the downstream manhole	
DIAMETER	Indicating the nominal diameter of the pipe recorded in millimetres	e.g. 100, 150
MATERIAL	Indicating the material of the main.	Concrete Clay Vitrified Clay PVC uPVC Other
LENGTH_M	True actual length of the pipe from end to end (Not plan length). Excluding chamber dimension and recorded in metres.	75.3
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 16: Sewer Attribute Form – Sewer Rising Mains

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
PUMP STATION	Indicating the pump station unique identifier that feeds the pump station	
DIAMETER	Indicating the nominal diameter of the pipe recorded in millimetres	e.g. 100, 150
MATERIAL	Indicating the material of the main	Concrete Clay Vitrified Clay PVC uPVC BB Other
LENGTH_M	True actual length of the pipe from end to end (Not plan length). Excluding chamber dimension and recorded in metres.	75.3
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 17: Sewer Attribute Form – Sewer Pump Stations \ Treatment Plants

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
TYPE	Indicating the type of structure	Pump Station Treatment Plant
SURFACE LEVEL	Record a surface level in metres AHD of the centre of the pump	2.36
PUMP NUMBER	Number of pumps in well	1,3 etc.
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

Table 18: Sewer Attribute Form – Sewer House Connections

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
UID	Unique Identifier, Each asset requires a unique identifier	1,2,3 etc.
MAIN UID	The unique identifier of the sewer main the house connection is attached to.	
DIAMETER	Indicating the nominal diameter of the house connection.	
MATERIAL	Indicating the material of the House Connection	Concrete Clay Vitrified Clay PVC uPVC Other
DISTANCE FROM DOWN MANHOLE	The distance along the sewer main starting from the edge of the downstream manhole and finishing perpendicular with the house connection.	e.g. 33.5
DISTANCE FROM MAIN	Indicating the perpendicular distance the house connection projects from the sewer main.	e.g. 1.5
INVERT LEVEL	Record a invert level in metres AHD of the centre of the pump	2.36
INSTALLATION DATE	The installation date of the asset	“24/09/2007”
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	
ASSETS ADDED / MODIFIED	If the asset is new, existing or being removed.	“N” for new assets “M” for modified existing assets “R” for removed assets (no attribute details required.)

8. MISCELLANEOUS

ISAAC REGION

8.1 PLAN INFORMATION

Digital plan information, in the acceptable formats specified in Section 2.2 of this manual, is to be provided for all the water assets listed in Table 1.

8.2 ATTRIBUTE INFORMATION

8.2.1 GENERAL

All miscellaneous assets of interest to council will need basic attribute information supplied in the format specified in section 2.3 of this manual. The required assets, suggested layer names and form number are listed in Table 1.

Attribute information is also to be supplied for all assets which have been modified during the construction of new assets, including Assets that have been moved or modified. Attribute data forms have been designed with this in mind.

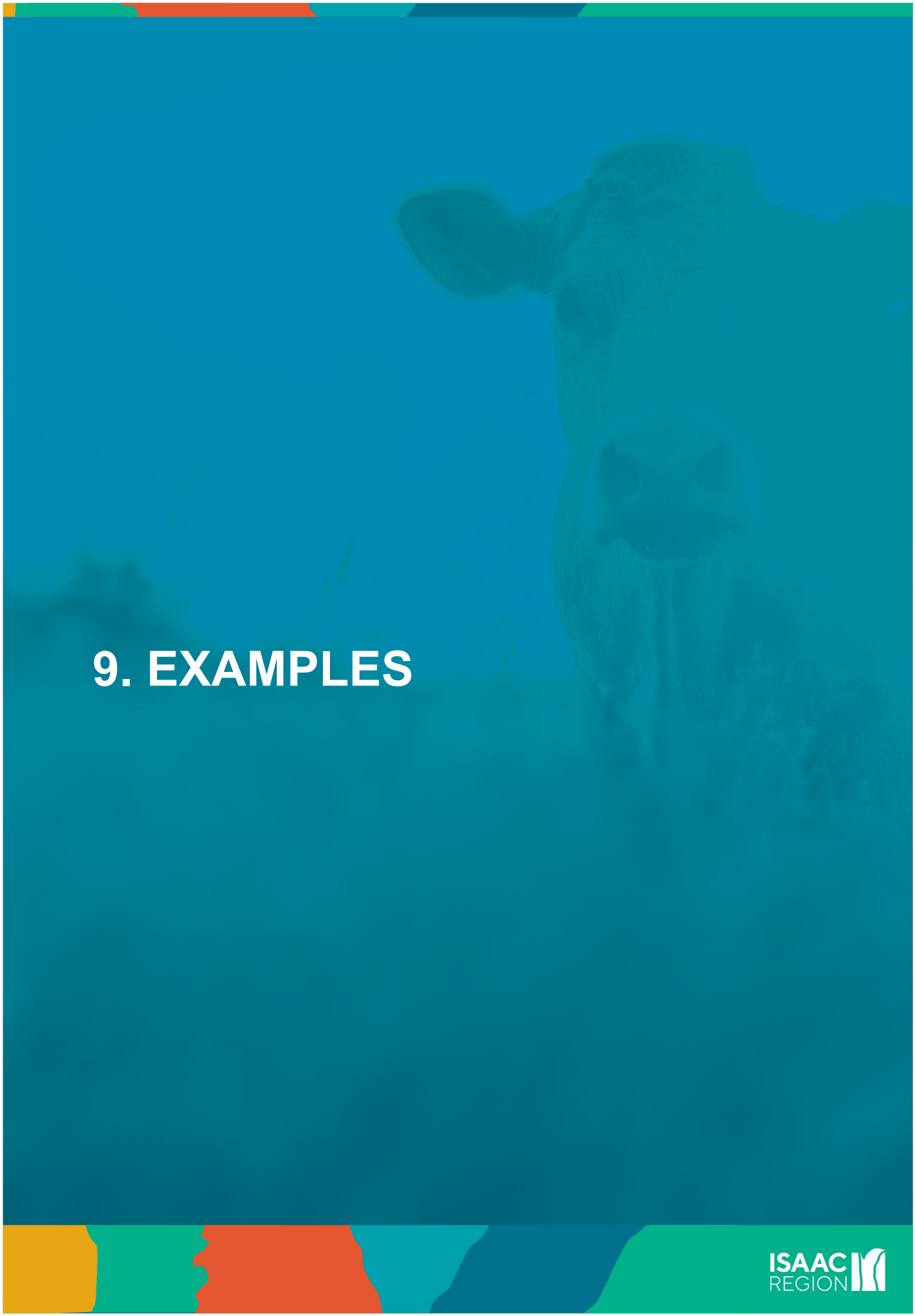
All examples of acceptable submissions are displayed in section 9 of this manual

8.2.2 STANDARD FORMS AND ACCEPTABLE ENTRIES

The forms and an explanation of each of the entry columns for each of the forms including acceptable values are included in the following sections.

Table 19: Misc. Attribute Form – Development Boundary

FIELD NAME	DESCRIPTION	ACCEPTABLE VALUES
NAME	The name of the development including stage number in multiple stages are planned	Glenhaven Estate – Stage 1
INSTALLATION DATE	The date in which the development was completed	“01/12/2007”
DEVELOPER	The name of the developer	
REMARKS	Any remarks concerning the asset	
DATA SOURCE	The name of the consultant	



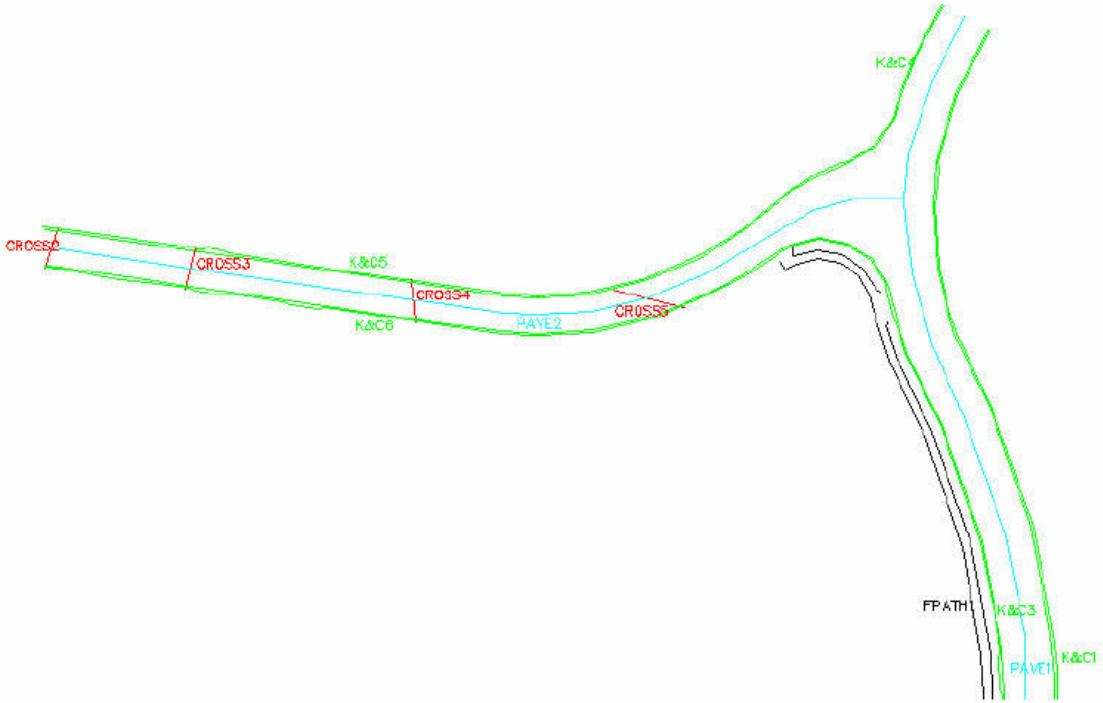
9. EXAMPLES

ISAAC REGION

The following data is included as an example only and can't be considered a true representation of As-Constructed works

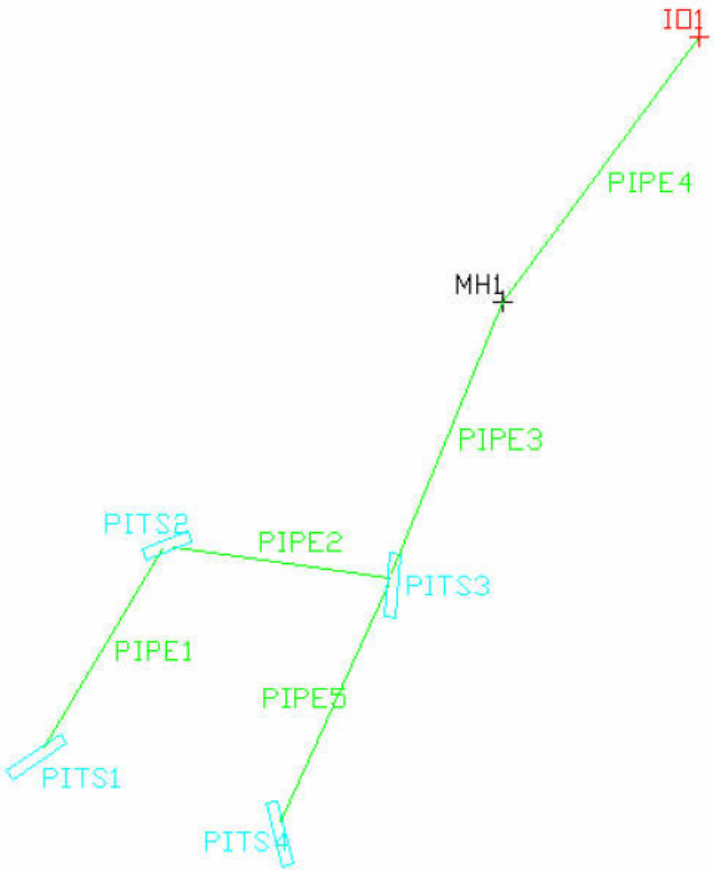
9.1 ROADS

An example of marked up plans showing asset numbering and hardcopy plots of Roads Attribute Data Form.



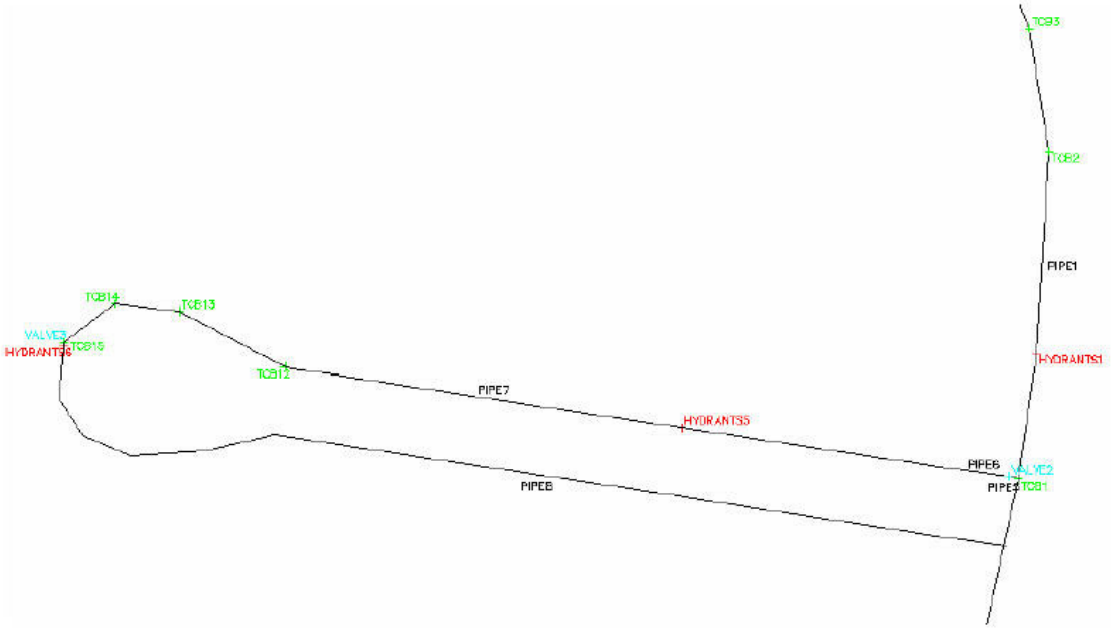
9.2 STORMWATER DRAINAGE

An example of marked up plans showing asset numbering and hardcopy plots of Stormwater Drainage Attribute Data Form.



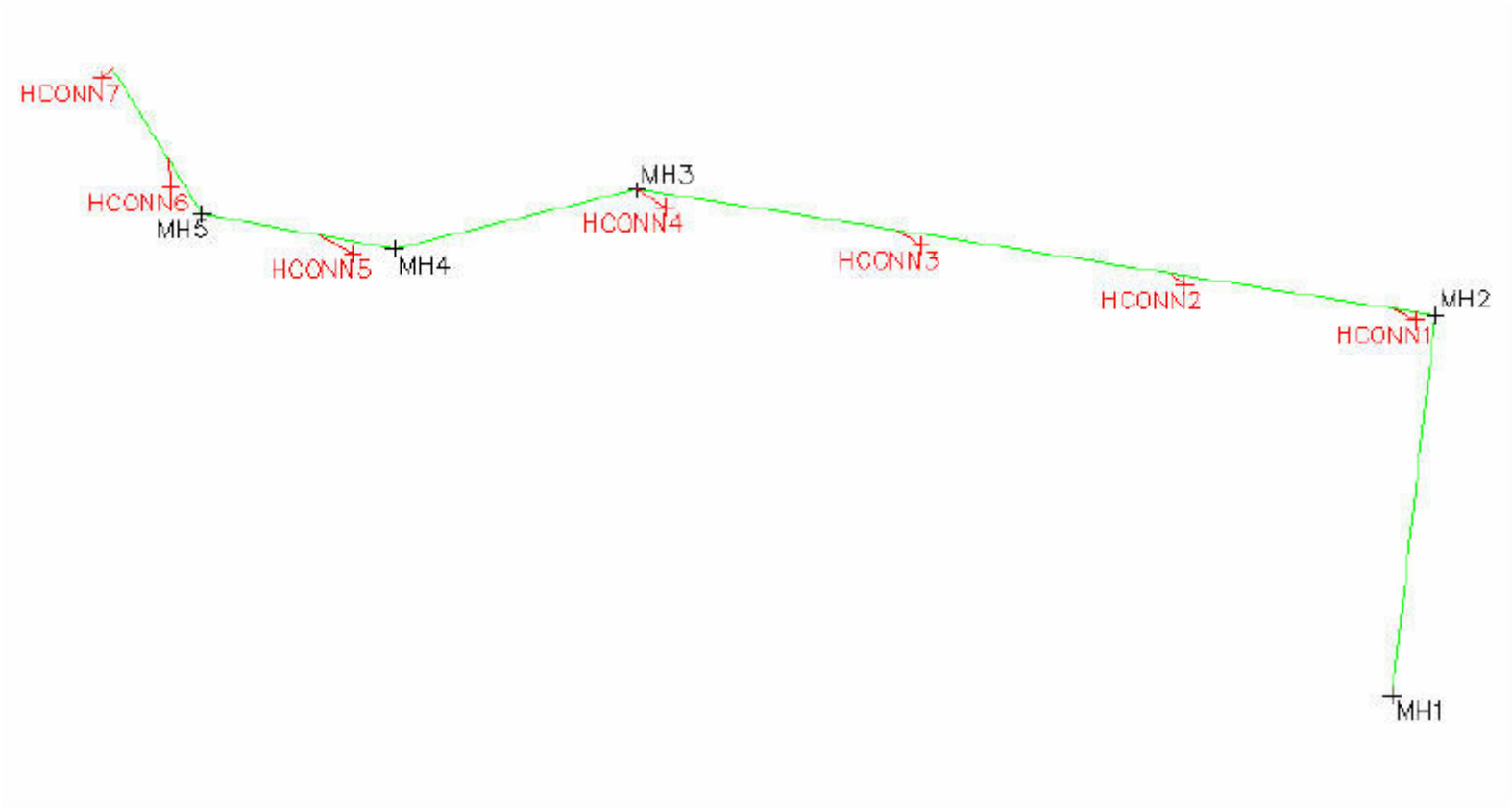
9.3 WATER

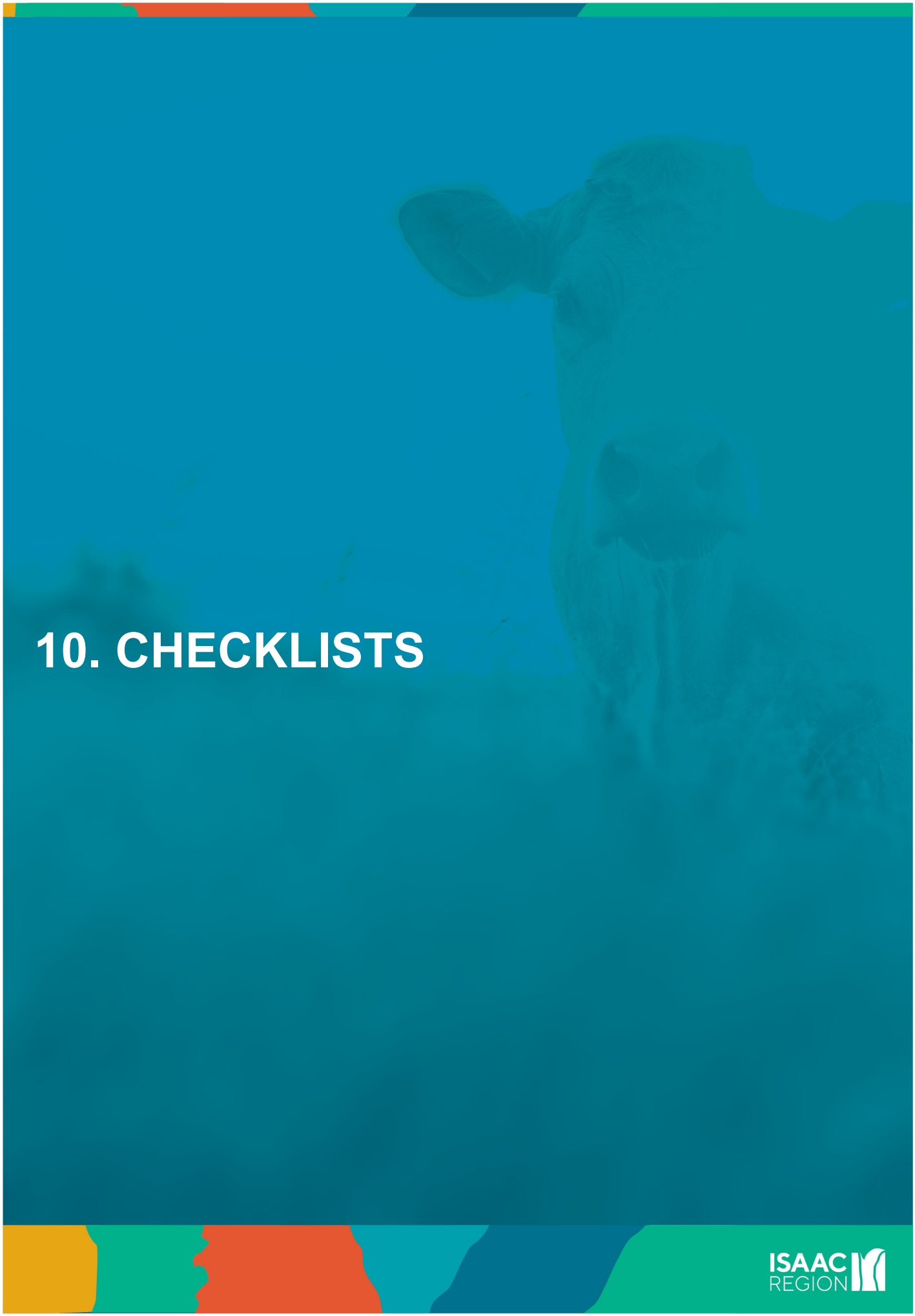
An example of marked plans showing asset numbering and hardcopy plots of Water Attribute Data Form.



9.4 SEWER

An example of marked up plans showing asset numbering and hardcopy plots of Sewer Attribute Data Form.





10. CHECKLISTS

ISAAC REGION

LAYER NAME	AUTOCAD LAYER	EXCEL SPREADSHEET ENTRY
ROAD KERB	☐	☐
ROAD PAVEMENT	☐	☐
ROAD FOOTPATHS	☐	☐
ROAD SIGNS	☐	☐
ROAD EDGE OF SEAL	☐	N/A
STORMWATER INLETS / OUTLETS	☐	☐
STORMWATER INLET PITS / MANHOLES	☐	☐
STORMWATER PIPES	☐	☐
STORMWATER INTER-ALLOTMENT PIPES	☐	☐
STORMWATER INTER-ALLOTMENT PITS	☐	☐
STORMWATER OPEN CHANNELS	☐	☐
STORMWATER DETENTION BASINS	☐	☐
WATER HYDRANTS	☐	☐
WATER PIPES	☐	☐
WATER PUMPING STATIONS	☐	☐
WATER RESERVOIRS	☐	N/A
SEWER MAINS	☐	☐
SEWER MANHOLES	☐	☐
SEWER RISING MAINS	☐	☐
SEWER PUMP STATIONS / TREATMENT PLANTS	☐	☐

LAYER NAME	AUTOCAD LAYER	EXCEL SPREADSHEET ENTRY
SEWER HOUSE CONNECTIONS	☐	☐
DEVELOPMENT BOUNDARY	☐	N/A
PROPERTY BOUNDARIES	☐	N/A

ITEM	CONFIRMED
AUTOCAD DRAWING SUBMITTED IN CORRECT PROJECTION (TRUE POSITION)	☐