MRC GUIDELINES FOR "AS-CONSTRUCTED" AND ADAC V4.1 SURVEY PICK-UP

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VERSION NO	DESCRIPTION AND DISTRIBUTION	DATE	COMMENTS
2017.06A	ORIGINAL ISSUE	02/06/2017	-
2020.06A	GDA2020 IMPLEMENTATION	22/06/2020	-
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1 PURPOSE

The purpose of this document is to act as a reference guide with respect to completing "As-Constructed" surveys of new donated civil infrastructure and associated assets handed over to the Mackay Regional Council (MRC).

The "As-Constructed" survey data shall accurately reflect the location of all infrastructure installed and earthworks completed and will form the basis of any "As-Constructed" drawings and plans and ADAC XML file(s).

Note: Specific details regarding the preparation and presentation of any required "As-Constructed" drawings, plans, and XML files should be produced as per Mackay Regional Council's Engineering Design Guidelines (D20), Drawings and Documentation Guidelines and the MRC Guidelines for the Creation and Lodgement of ADAC XML Files.

2 GENERAL SURVEY REQUIREMENTS

2.1 Work must be carried out by a Registered Surveying Person

All "As-Constructed" works (except for the cases listed below) must be surveyed by a Surveying Associate, Graduate or Surveyor registered with the Surveyors Board of Queensland.

The Registered Surveying Person shall certify the details upon completion of the project. Their certification must note that the "As-Constructed" survey data represents the true and accurate location of the relevant construction element presented in the data, relative to the appropriate survey data (i.e. the exact location in space of each construction element/entity).

The Registered Surveying Person certification must accompany the "As-Constructed" plans and electronic file to Council. Refer to per Mackay Regional Council's Engineering Design Guidelines (D20), Drawings and Documentation Guidelines for an example of an acceptable Registered Surveying Person's Certification.

2.2 Survey Exceptions

All "As-Constructed" plans submitted to Council must be based on a physical survey with the following exceptions:

1. Pre-fabricated assets with no underground services (e.g. bus shelters, waste collection points, bicycle fittings etc.). In this situation, a site map with GPS coordinates will suffice.
2. Other low risk asset types as determined by Technical Services (e.g. footpaths). If you are in doubt whether a survey is required, please contact Technical Services for advice.

2.3 Review and Approval

Council will conduct random site audits to confirm that submitted data conforms to requirements, including positional accuracies and tolerances, as well as the submission of all required objects and attributes.

Release / Sealing of subdivisional title plans and approval of construction project milestones will <u>not</u> occur until all required "As-Constructed" information is received in the manner prescribed in this manual.

Mackay REGIONAL COUNCIL

3 SURVEY ELEMENTS

The "As-Constructed" survey will include the following details at the Chainages or Point Numbers as shown on the "For Construction" plans:

1. Road centreline
2. Change of grade of finished surface
3. Edge of bitumen
4. Lip, Invert and top of kerb and channel
5. Lip of kerb on median strips
6. Line marking including chevrons
7. Gully pits, headwalls, stormwater manholes/chambers, and field inlet pits
8. Subsoil drains and flush points
9. Invert levels of pipes and box culverts
10. Road shoulder
11. Top and invert of drains
12. New Signs placed
13. Concrete driveways, and invert crossings
14. Kerb ramps
15. Crash barriers
16. Fencing
17. Road and park furniture and concrete pathways
18. New sewer lines and manholes
19. New water lines, valves, hydrants, water meters, and water services
20. New Telecommunications services
21. New electrical services including street lighting
22. Corners of bridge deck and abutments
23. Retaining wall bases and any steps along the top and changes in direction
24. Trees

4 SURVEY DATA STANDARDS

Digital "As-Constructed" data recorded and supplied to Council by the Submitter shall be in accordance with Section 6 - "As-Constructed" Survey Requirements

4.1 Survey Codes

When picking up detail, all points shall be coded in accordance with Council's Standard Survey Codes. Council's standard survey codes and layers are shown in MRC Survey Codes and Layers.pdf

4.2 Required Datum / Projection

The horizontal datum for "As-Constructed" surveys is dependent on the original project datum. The required vertical datum for "As-Constructed" surveys is AHD71. All ADAC XML files are to be submitted with MGA2020 co-ordinates.

Refer to flowchart below for guidance for correct horizontal datum selection for the "As-Constructed" submission.
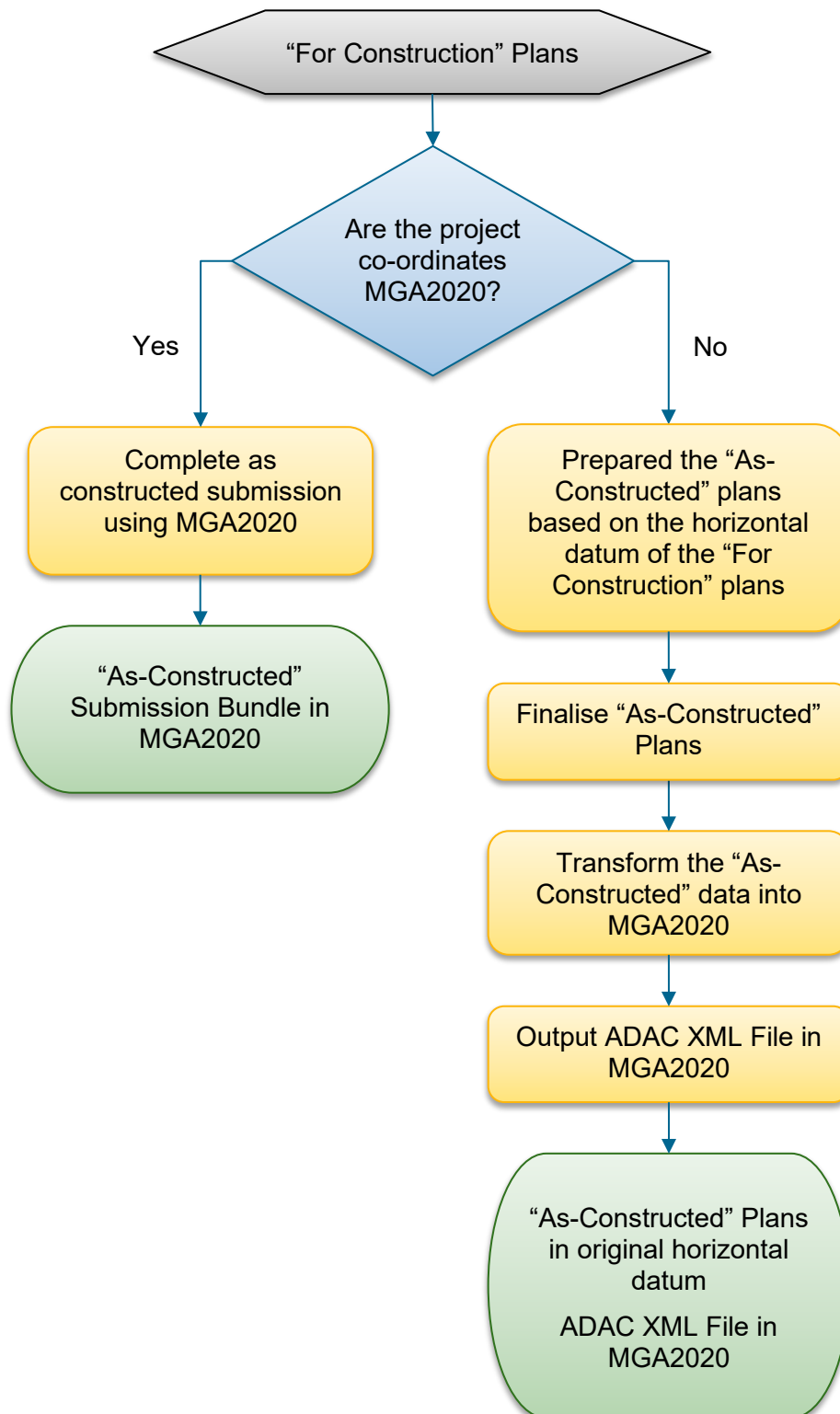
4.3   Acceptable tolerances

All engineering surveys undertaken which are used as the basis of "As-Constructed" plans to be submitted to Council shall comply with the following limits:

1. All levels on survey stations and bench marks placed shall be to an accuracy of ±2 mm and shall be based on AHD Level Datum as defined by a PSM with a vertical uncertainty of 18 mm * √k (4th order/class D)[1] or better.

2. All distances between survey marks placed shall be measured to an accuracy of ±5 mm.

3. All distances to other features shall be measured to an accuracy of ± 10 mm.

4. All bearings and angles to be measured to an accuracy of ± 5 seconds. The origin of all bearings shall be MGA94 ZONE 55 and this is to be indicated on the field notes plan when the project is being undertaken on behalf of Council.

5. In general, all reduced levels on surveyed hard surface features shall be measured to an accuracy of ±7 mm and all reduced levels on surveyed natural surface features shall be measured to an accuracy of ±20 mm. Refer to Section 6 - "As-Constructed" Survey Requirements for more specific details

5 SCOPE OF SURVEY

The survey must include all new; modified; removed; and abandoned infrastructure associated with the physical works that is, or will be, the responsibility of MRC. These assets can potentially be within easements, private property, Council's local government road reserves and Queensland State controlled road reserves.

The "As-Constructed" data must include all asset types and boundary information that is relevant to the submission even when no ADAC attribute information is required.

If an asset type is not listed in Section 6 - "As-Constructed" Survey Requirements, contact the Survey Coordinator for more information

6 "AS-CONSTRUCTED" SURVEY REQUIREMENTS

The table below contains Council's survey requirements for "As-Constructed" plan assets / objects.

The required horizontal survey accuracies (XY) and vertical survey accuracies (Z) listed below are for "As-Constructed" surveys of projects built to a design.

These accuracies are within the capability of a competent operator utilising contemporary surveying equipment that is in good adjustment.

However, it is recognised some small projects built in isolation based on a standard drawing (e.g., bus stops) do not need to be located to this high level of accuracy for asset management purposes. In such instances, a second set of accuracies has been listed.

Refer also to the example sketch plans for Road, Open Space, and Services for guidance regarding Council's survey methodology.

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[1] As defined by Intergovernmental Committee on Surveying and Mapping (ICSM) Standard for the Australian Control Network Special Publication 1 (SP1) Version 2.0 October 2013 – www.icsm.gov.au

Notes:

1. Since Council has adopted the Asset Design As Constructed (ADAC) data specification published by the Institute of Public Works Engineering (IPWEA), there may be two sets of survey location data required (i.e., Council's standard asset pick-up points and additional ADAC data points).

2. Not all surveyed objects have corresponding asset data attributes in Council's "As-Constructed" Data Specification (Refer to MRC Guidelines for the Creation and Lodgement of ADAC XML Files). Where an object requires additional attribute data, the Asset Class and Asset Type are shown.

3. The structure of the table is as follows:

Description	The survey code description	
Survey Code	**The three digit survey code**	
Layer Name	The drafting package layer name	
Surveyed Location	MRC	The survey pick up method as required by MRC
	ADAC	The survey pick up method as required by ADAC
Required Survey Accuracy	Horizontal (XY)	The required MRC "As-Constructed" horizontal survey accuracy relative to the survey control
	Vertical (Z)	The required MRC "As-Constructed" vertical survey accuracy relative to the survey control
Required Accuracy for Asset Management Purposes	Horizontal (XY)	The maximum horizontal survey accuracy of assets located purely for asset management purposes
	Vertical (Z)	The maximum vertical survey accuracy of assets located purely for asset management purposes
Object Type	The geometry type (point, line or polygon)	
Asset Class/ADAC Element	The corresponding ADAC Class and Element	
Extra Comments:	Any additional comments e.g., regarding the survey pick up method	

Description	Top Cut / Fill	
Survey Code	**102**	
Layer Name	BATTER TOP	
Surveyed Location	MRC	String most abrupt change of aspect
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 25 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Toe Cut / Fill	
Survey Code	**103**	
Layer Name	BATTER TOE	
Surveyed Location	MRC	String most abrupt change of aspect
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 25 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:	To define the toe of bank in detention basins use code 326 (SW BASIN) instead	

Description	Spot Level	
Survey Code	**104**	
Layer Name	SPOT LEVEL	
Surveyed Location	MRC	Single surface shot
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 25 mm
Object Type	Point	
Asset Class/ADAC Element	*Surface* SpotHeight	
Extra Comments:		

Description	Change of Grade	
Survey Code	**105**	
Layer Name	CH GRADE	
Surveyed Location	MRC	String change of aspect
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 25 mm
Object Type	Polyline	

Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		
Description	**Permanent Survey Mark**	
Survey Code	**111**	
Layer Name	SURV PSM	
Surveyed Location	MRC	Locate centre of mark, record PSM number
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 5 mm
	Vertical (Z)	± 2 mm
Object Type	Point	
Asset Class/ADAC Element	*Cadastre* SurveyMark	
Extra Comments:	When the PSM is occupied as a survey station use code 114. Pole check shots may have a horizontal accuracy (XY) of ± 10 mm and a vertical accuracy (Z) of ± 7 mm	
Description	**Survey Target**	
Survey Code	**112**	
Layer Name	SURV TRGT	
Surveyed Location	MRC	Locate centre of mark
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 5 mm
	Vertical (Z)	± 2 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	When the TRGT is occupied as a survey station use code 114. Pole check shots may have a horizontal accuracy (XY) of ± 10 mm and a vertical accuracy (Z) of ± 7 mm	
Description	**Station**	
Survey Code	**114**	
Layer Name	SURV STN	
Surveyed Location	MRC	Locate centre of mark
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 5 mm
	Vertical (Z)	± 2 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		
Description	**Original Pegs and References**	
Survey Code	**115**	
Layer Name	SURV CADST	

Surveyed Location	MRC	Locate centre of mark, record station number and survey plan number
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	Mainly used to record the position of original boundary pegs	

Description	Dumpy Peg	
Survey Code	**116**	
Layer Name	SURV DUMPY	
Surveyed Location	MRC	Locate centre of peg
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	Dumpy pegs are not acceptable for use as survey stations except in isolated cases to acquire small amounts of detail	

Description	Nail	
Survey Code	**117**	
Layer Name	SURV NAIL	
Surveyed Location	MRC	Locate centre of mark
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 5 mm
	Vertical (Z)	± 2 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	When the nail is a survey station use code 114. Mainly used to record check measurements. Pole check shots may have a horizontal accuracy (XY) of ± 10 mm and a vertical accuracy (Z) of ± 7 mm	

Description	Spike	
Survey Code	**118**	
Layer Name	SURV SPIKE	
Surveyed Location	MRC	Locate centre of mark
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 5 mm
	Vertical (Z)	± 2 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	

Extra Comments:	When the spike is a survey station use code 114. Mainly used to record check measurements. Pole check shots may have a horizontal accuracy (XY) of ± 10 mm and a vertical accuracy (Z) of ± 7 mm	
Description	**Drill Hole**	
Survey Code	**119**	
Layer Name	SURV DRILL	
Surveyed Location	MRC	Locate centre of mark
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	When the drill hole is a survey station use code 114. Mainly used to record check measurements. Pole check shots may have a horizontal accuracy (XY) of ± 10 mm and a vertical accuracy (Z) of ± 7 mm	
Description	**Traverse Line**	
Survey Code	**150**	
Layer Name	SURV TRAV	
Surveyed Location	MRC	Line from boundary corner to boundary corner or survey mark to survey mark
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	N/A – Dependant on accuracy of end points
	Vertical (Z)	N/A – Dependant on accuracy of end points
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		
Description	**Existing Property Boundary**	
Survey Code	**151 or 151 gis**	
Layer Name	RP BDY E or RP BDY E gis	
Surveyed Location	MRC	The property boundary
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	151: ± 10 mm (assuming lots close within acceptable limits) 151 gis: ± 100 mm (urban areas) 151 gis: ± 500 mm (rural areas)
	Vertical (Z)	N/A – Null all heights
Object Type	Polyline	
Asset Class/ADAC Element	N/A	
Extra Comments:	Use 151 (RP BDY E) when boundaries are plotted from cadastral connections. Use 151 gis (RP BDY E gis) when boundaries are imported from the DCDB.	
Description	**Existing Easement Boundary**	

Survey Code	154 or 154 gis	
Layer Name	EASE BDY E or EASE BDY E gis	
Surveyed Location	MRC	The easement boundary
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	154: ± 10 mm (assuming lots close within acceptable limits) 154 gis: ± 100 mm (urban areas) 154 gis: ± 500 mm (rural areas)
	Vertical (Z)	N/A – Null all heights
Object Type	Polyline	
Asset Class/ADAC Element	N/A	
Extra Comments:	Use 154 (EASE BDY E) when boundaries are plotted from cadastral connections. Use 154 gis (EASE BDY E gis) when boundaries are imported from the DCDB.	

Description	Small Tree < 0.3 dia.	
Survey Code	201	
Layer Name	TREE SMALL	
Surveyed Location	MRC	Centre of trunk
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 20 mm
	Vertical (Z)	± 50 mm (see extra comments)
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* Tree	
Extra Comments:	The tree height at ground level is preferred, but not necessary. If the recorded height is not indicative of the ground surface, null the height.	

Description	Large Tree	
Survey Code	202	
Layer Name	TREE LARGE	
Surveyed Location	MRC	Centre of Trunk
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 50 mm (see extra comments)
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* Tree	
Extra Comments:	The tree height at ground level is preferred, but not necessary. If the recorded height is not indicative of the ground surface, null the height.	

Description	Palm – all varieties	
Survey Code	203	
Layer Name	TREE PALM	
Surveyed Location	MRC	Centre of Trunk

	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 50 mm (see extra comments)
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* Tree	
Extra Comments:	The tree height at ground level is preferred, but not necessary. If the recorded height is not indicative of the ground surface, null the height.	

Description	Single Shrub < 5 m	
Survey Code	**204**	
Layer Name	SHRUB	
Surveyed Location	MRC	Centre of Shrub
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 50 mm (see extra comments)
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* Tree	
Extra Comments:	The tree height at ground level is preferred, but not necessary. If the recorded height is not indicative of the ground surface, null the height.	

Description	Garden Edge	
Survey Code	**205**	
Layer Name	GARDEN EDG	
Surveyed Location	MRC	String along outermost edge of the garden at ground level
	ADAC 4.1	For new landscaped areas within open space areas, string around the outermost edge of landscaped areas using code A205 instead
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**205** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **A205** *OpenSpace* LandscapeArea	
Extra Comments:		

Description	Edge of Vegetation	
Survey Code	**206**	
Layer Name	VEGETATION	
Surveyed Location	MRC	String along the outermost edge of the cultivated area
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 50 mm
Object Type	Polyline/Polygon	

Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		
Description	**Tree Drip Line**	
Survey Code	**207**	
Layer Name	TREE DRIP LINE	
Surveyed Location	MRC	String along the outermost edge of the cultivated area
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 300 mm
	Vertical (Z)	N/A
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		
Description	**Lip of Concrete Channel**	
Survey Code	**280**	
Layer Name	CONCHN LIP	
Surveyed Location	MRC	String along top edge of concrete channel
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		
Description	**Invert of Concrete Channel**	
Survey Code	**281**	
Layer Name	CONCHN INV	
Surveyed Location	MRC	String along bottom of concrete channel
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*StormWater* SurfaceDrain	
Extra Comments:		
Description	**Loose Rock e.g. Erosion Protection**	
Survey Code	**282**	
Layer Name	ROCK AREA	
Surveyed Location	MRC	Locate perimeter of rock area
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 100 mm

	Vertical (Z)	± 50 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:	Mainly used to locate the extent of areas of loose rock placed at stormwater outlets	

Description	Watercourse Centreline	
Survey Code	**290**	
Layer Name	WCOURSE CL	
Surveyed Location	MRC	String along lowest point of channel
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*StormWater* SurfaceDrain	
Extra Comments:	Mainly used to show flow paths that are not clearly defined drains with top and bottom banks	

Description	Pondage – dam/lake	
Survey Code	**291**	
Layer Name	POND	
Surveyed Location	MRC	String around contour of water level
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		

Description	Creek	
Survey Code	**292**	
Layer Name	CREEK	
Surveyed Location	MRC	String along contour of water level
	ADAC 4.1	String along lowest point of channel
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class	*StormWater* SurfaceDrain	
Extra Comments:	Usually only used when the water level is specifically requested as part of a brief	

Description	Stormwater Pipe Invert Level	
Survey Code	**304**	
Layer Name	SW PIPE INV	

Surveyed Location	MRC	Locate invert of pipe, record material and diameter as vertex text e.g., "375RCP"
	ADAC 4.1	For a single pipe, join the inverts using a polyline coded 312. For multiple pipes, join the inverts of the middle pipe using a polyline coded 312 and record the number of pipes.
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	**304** *Supplementary* PointFeature **312** *StormWater* Pipe	
Extra Comments:		

Description	Box Culvert Invert Level	
Survey Code	**305**	
Layer Name	SW RCBC INV	
Surveyed Location	MRC	Locate invert of box culvert at centre of cell, record material and dimensions as vertex text e.g., "1200w × 900h RCBC"
	ADAC 4.1	For a single cell, join the invert of box culvert at the centre of cell using a polyline coded 312. For multiple cells, join the invert of box culvert at the centre of the middle cell using a polyline coded 312 and record the number of pipes.
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	**305** *Supplementary* PointFeature **312** *StormWater* Pipe	
Extra Comments:		

Description	Pit without Grate	
Survey Code	**308**	
Layer Name	PIT OTHER	
Surveyed Location	MRC	Closed figure around extents of pit. For gully pits, also string single line across top of kerb and across invert of kerb
	ADAC 4.1	Using code A310, locate a single point representing the centre of the chamber
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**308** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **A310** *StormWater* Pit	
Extra Comments:		

Description	Pit with Grate	

Survey Code	309	
Layer Name	PIT GRATED	
Surveyed Location	MRC	Closed figure around extents of pit. For gully pits, also string single line across top of kerb and across invert of kerb
	ADAC 4.1	Using code A310, locate a single point representing the centre of the chamber
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**309** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **A310** *StormWater* Pit	
Extra Comments:		

Description	Stormwater Manhole	
Survey Code	310	
Layer Name	SW MH	
Surveyed Location	MRC	Single point in centre of round lid
	ADAC 4.1	Using code A310, locate a single point representing the centre of chamber
Required Survey Accuracy	Horizontal (XY)	± 30 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	**310** *Supplementary* PointFeature **A310** *StormWater* Pit	
Extra Comments:		

Description	Stormwater Manhole Strung	
Survey Code	311	
Layer Name	SW MH STR	
Surveyed Location	MRC	String around edge of lid
	ADAC 4.1	Using code A310, locate a single point representing the centre of chamber
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polygon	
Asset Class/ADAC Element	**311** *Supplementary* PolygonFeature **A310** *StormWater* Pit	
Extra Comments:		

Description	Stormwater Underground	
Survey Code	312	
Layer Name	SW UNDERG	

Surveyed Location	MRC	String centreline of pipe/cell, record vertical surveyed location as a note e.g., paint mark on surface
	ADAC 4.1	String centreline of pipe from invert of pipe to invert of pipe. Locate any fittings using code A312.
Required Survey Accuracy Refer to *AS5488-2013 Classification of Subsurface Utility Information*	Horizontal (XY)	Quality Level A – ± 50 mm Quality Level B – ± 300 mm Quality Level C – ± 300 mm Quality Level D – Existing Record
	Vertical (Z)	Quality Level A – ± 50 mm Quality Level B – ± 500 mm Quality Level C – N/A Quality Level D – Existing Record
Object Type	Polyline	
Asset Class/ADAC Element	**312** *StormWater* Pipe **A312** *StormWater* Fitting	
Extra Comments:		

Description	Culvert/Pipe Crown	
Survey Code	**316**	
Layer Name	SW CULV CROWN	
Surveyed Location	MRC	Locate crown of pipe or crown of culvert at centre of cell
	ADAC 4.1	N/A – not a mandatory inclusion Refer to code 312 (SW UNDERG)
Required Survey Accuracy	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	Mainly used to record the location of underground services that have been vacuum excavated.	

Description	Culvert/Pipe Obvert	
Survey Code	**317**	
Layer Name	SW CULV OBVT	
Surveyed Location	MRC	Locate obvert of pipe or obvert of culvert at centre of cell
	ADAC 4.1	N/A – not a mandatory inclusion Refer to code 312 (SW UNDERG)
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	304 (SW PIPE INV) or 305 (SW RCBC INV) are preferred	

Description	Headwall &/or Wingwall

Survey Code	318	
Layer Name	HEADWALL	
Surveyed Location	MRC	String around: inside edge at base of structure; inside edge at top of structure; and, where accessible, back edge at top of structure
	ADAC 4.1	Using code A318, locate a single point at the top of the structure in the centre
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**318** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **A318** *StormWater* EndStructure	
Extra Comments:	If the top of the structure is higher than the surrounding natural surface, string the back of the structure at ground level using 105 (CH GRADE)	

Description	Property Drainage Connection	
Survey Code	319	
Layer Name	PROP DRCON	
Surveyed Location	MRC	Locate the invert of the drainage connection pipe at outlet point
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Maximum Height Gauge	
Survey Code	320	
Layer Name	MAX HT GUA	
Surveyed Location	MRC	Locate centre of gauge at ground level
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	Mainly used to locate flood level indicators	

Description	Subsoil Flush Point	
Survey Code	321	
Layer Name	SUBSOIL PT	
Surveyed Location	MRC	Locate centre top of flush point box
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm

	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	**321** *Transport* FlushPoint **SubSoilDrain** *Transport* SubSoilDrain	
Extra Comments:		
Description	**Stormwater Silt Trap**	
Survey Code	**322**	
Layer Name	SW STRAP	
Surveyed Location	MRC	String the edge of the trap
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 100 mm
	Vertical (Z)	N/A
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		
Description	**Stormwater Trash Rack**	
Survey Code	**323**	
Layer Name	SW TRACK	
Surveyed Location	MRC	Locate a single point in the centre of the visible rack
	ADAC 4.1	Locate single point representing the centre of the chamber
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 100 mm
	Vertical (Z)	N/A
Object Type	Point	
Asset Class/ADAC Element	*StormWater* GPTComplex	
Extra Comments:		
Description	**Gross Pollutant Trap – Manhole**	
Survey Code	**324**	
Layer Name	GPT MH	
Surveyed Location	MRC	Locate a single point in the centre of the manhole lid
	ADAC 4.1	Locate single point representing the centre of the chamber
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 100 mm
	Vertical (Z)	N/A

Object Type	Point	
Asset Class/ADAC Element	*StormWater* GPTSimple	
Extra Comments:		
Description	**Gross Pollutant Trap – Other**	
Survey Code	**325**	
Layer Name	GPT OTHER	
Surveyed Location	MRC	Locate a single point in the centre of the visible trap
	ADAC 4.1	Locate single point representing the centre of the chamber
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 100 mm
	Vertical (Z)	N/A
Object Type	Point	
Asset Class/ADAC Element	*StormWater* NonGPTSimple	
Extra Comments:		
Description	**Stormwater Detention Basin**	
Survey Code	**326**	
Layer Name	SW DBASIN	
Surveyed Location	MRC	String around the toe of bank
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 50 mm
Object Type	Polygon	
Asset Class/ADAC Element	*StormWater* WSUDArea	
Extra Comments:		
Description	**Centre of Bitumen**	
Survey Code	**401**	
Layer Name	RD CN BITU	
Surveyed Location	MRC	String along crown of road
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 25 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:	Used to define centre of bitumen when no line marking is present	
Description	**Change of Grade on Bitumen**	
Survey Code	**402**	
Layer Name	CH GRD BIT	

Surveyed Location	MRC	String along change of aspect, change in seal
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 25 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Edge of Bitumen	
Survey Code	**403**	
Layer Name	RD ED BITU	
Surveyed Location	MRC	String along edge of bitumen where no kerb is present
	ADAC 4.1	Same as MRC. Use where appropriate to generate a polygon in the office representing an area of pavement or parking with code "Pavement" or "Parking". The original edge of bitumen polyline is not a mandatory inclusion in the ADAC XML file.
Required Survey Accuracy	Horizontal (XY)	± 25 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	**403** *Supplementary* PolylineFeature **Pavement** *Transport* Pavement **Parking** *Transport* Parking	
Extra Comments:		

Description	Edge of Shoulder	
Survey Code	**405**	
Layer Name	RD ED SHDR	
Surveyed Location	MRC	String along change of aspect closest to edge of bitumen
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 25 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:	May be used instead of 102 (BATTER TOP) for the road side of table drains	

Description	Lip of K&C	
Survey Code	**406**	
Layer Name	KC LIP	
Surveyed Location	MRC	String part of kerb closest to carriageway
	ADAC 4.1	Same as MRC. Use where appropriate on _existing_ kerb to generate a polygon in the office representing an area of pavement or parking with the code

		"Pavement" or "Parking". The original lip of K&C polyline is not a mandatory inclusion in the ADAC XML.
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	**406** *Supplementary* PolylineFeature **Pavement** *Transport* Pavement **Parking** *Transport* Parking	
Extra Comments:		

Description	Invert of K&C	
Survey Code	**407**	
Layer Name	KC INVERT	
Surveyed Location	MRC	String lowest point of kerb
	ADAC 4.1	Same as MRC. Use where appropriate on *new* kerb to generate a polygon in the office representing an area of pavement or parking with the code "Pavement" or "Parking". The original invert of K&C polyline is not a mandatory inclusion in the ADAC XML.
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	**407** *Supplementary* PolylineFeature **Pavement** *Transport* Pavement **Parking** *Transport* Parking	
Extra Comments:		

Description	Top of K&C	
Survey Code	**408**	
Layer Name	KC TOP	
Surveyed Location	MRC	String highest point of kerb
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Back of K&C	
Survey Code	**409**	
Layer Name	KC BACK	
Surveyed Location	MRC	String the part of kerb the farthest from the carriageway

	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Transport* RoadEdge	
Extra Comments:		

Description	Kerb Only	
Survey Code	**410**	
Layer Name	KERB ONLY	
Surveyed Location	MRC	String around the part of the kerb closest to the carriageway at the level of the bitumen
	ADAC 4.1	Using code A410, string around the back of kerb of traffic islands. Create a new polygon for changes in material type e.g., concrete to grass; stencilled to plain.
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**410** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **A410** *Transport* RoadIsland	
Extra Comments:	Mainly used to locate concrete traffic islands	

Description	Footpath	
Survey Code	**411**	
Layer Name	FOOTPATH	
Surveyed Location	MRC	String the edges of the footpath
	ADAC 4.1	Create a polyline in the office with code "Pathway" or "RoadPathway" representing the centreline of the footpath or on-road pathway
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 100 mm
	Vertical (Z)	N/A
Object Type	Polyline	
Asset Class/ADAC Element	**411** *Supplementary* PolylineFeature **Pathway** *Transport* Pathway **RoadPathway** *Transport* RoadPathway	
Extra Comments:		

Description	Driveway	
Survey Code	**414**	
Layer Name	DRIVEWAY	
Surveyed Location	MRC	String the edges of the structure

	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		

Description	Driveway – Not on DTM	
Survey Code	**415**	
Layer Name	DRIVEWAY N	
Surveyed Location	MRC	String around the top edge of the structure or along the centreline of wheel tracks
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:	Mainly used to locate wheel tracks and concrete bridge crossovers	

Description	Tactile Ground Surface Indicators	
Survey Code	**416**	
Layer Name	TACTILE	
Surveyed Location	MRC	String around perimeter of TGSI area
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polygon	
Asset Class/ADAC Element	*Supplementary* PolygonFeature	
Extra Comments:		

Description	Pram Ramp	
Survey Code	**417**	
Layer Name	PRAM RAMP	
Surveyed Location	MRC	String around the edges of the structure
	ADAC	Using code A417, locate point in centre of pram ramp at invert of kerb
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**417** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **A417** *Transport* PramRamp	
Extra Comments:		

Description	Borehole – Geotechnical	

Survey Code	418	
Layer Name	BOREH GEOT	
Surveyed Location	MRC	Locate centre of borehole
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Edge of Gravel Road	
Survey Code	419	
Layer Name	RD ED GRAV	
Surveyed Location	MRC	String along edge of gravel
	ADAC 4.1	Same as MRC. Use where appropriate to generate a polygon in the office representing an area of pavement or parking with code "Pavement" or "Parking". The original edge of gravel road polyline is not a mandatory inclusion in the ADAC XML file.
Required Survey Accuracy	Horizontal (XY)	± 25 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	**419** *Supplementary* PolylineFeature **Pavement** *Transport* Pavement **Parking** *Transport* Parking	
Extra Comments:		

Description	Centre of Gravel Road	
Survey Code	420	
Layer Name	RD CN GRAV	
Surveyed Location	MRC	String along crown of gravel road
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 25 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Edge of Track	
Survey Code	421	
Layer Name	RD ED TRAC	
Surveyed Location	MRC	String along edge of unformed trafficked area

	ADAC 4.1	Use where appropriate to generate a polyline in the office with code "PathStructure" representing the centreline of a beach access ramp.
Required Survey Accuracy	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	**421** *Supplementary* PolylineFeature **PathStructure** *Transport* PathStructure	
Extra Comments:		

Description	Guardrail	
Survey Code	**501**	
Layer Name	GUARDRAIL	
Surveyed Location	MRC	String around edge of guardrail closest to carriageway
	ADAC 4.1	Same as MRC; preferably record point at each upright
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*OpenSpace* BarrierContinuous	
Extra Comments:		

Description	Large Signs Strung	
Survey Code	**502**	
Layer Name	SIGNS STR	
Surveyed Location	MRC	Locate support posts of sign
	ADAC 4.1	Locate single point in centre of sign (refer to code 503)
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Signs	
Survey Code	**503**	
Layer Name	SIGNS	
Surveyed Location	MRC	Locate support post of sign (single)
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* Sign	

Extra Comments:		
Description	**Letterbox/Postbox**	
Survey Code	**504**	
Layer Name	LETTERBOX	
Surveyed Location	MRC	Locate centre of letterbox/postbox
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		
Description	**Traffic Light**	
Survey Code	**505**	
Layer Name	TR SIGNAL	
Surveyed Location	MRC	Locate centre of traffic light post
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		
Description	**Traffic Controller Box**	
Survey Code	**506**	
Layer Name	TR CON BOX	
Surveyed Location	MRC	Locate centre of box
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		
Description	**Traffic Pit**	
Survey Code	**507**	
Layer Name	TR PIT	
Surveyed Location	MRC	Locate centre of pit lid
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	

Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		
Description	**Traffic Unclassified**	
Survey Code	**508**	
Layer Name	TR UNC	
Surveyed Location	MRC	Locate centre of feature
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		
Description	**Road Furniture Uncl**	
Survey Code	**509**	
Layer Name	FURN RD UN	
Surveyed Location	MRC	Locate centre of feature
	ADAC 4.1	N/A – not a mandatory inclusion Use code A509 to locate the centre of bicycle fittings
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	**509** *Supplementary* PointFeature **A509** *OpenSpace* BicycleFitting	
Extra Comments:		
Description	**Monument**	
Survey Code	**510**	
Layer Name	MONUMENT	
Surveyed Location	MRC	String around outside edge of monument
	ADAC	Using code A510, locate single point in centre of artwork
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 500 mm
	Vertical (Z)	N/A
Object Type	Polygon	
Asset Class/ADAC Element	**510** *Supplementary* PolygonFeature **A510** *OpenSpace* Artwork	
Extra Comments:		
Description	**Joint Use Pole**	
Survey Code	**511**	

Layer Name	TR JU POLE	
Surveyed Location	MRC	Locate centre of pole used for both traffic signals and street lighting
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Traffic Controller Box Strung	
Survey Code	**512**	
Layer Name	TR CON BOX STR	
Surveyed Location	MRC	String around outside of large box
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polygon	
Asset Class/ADAC Element	*Supplementary* PolygonFeature	
Extra Comments:		

Description	Red Light Camera	
Survey Code	**515**	
Layer Name	TR RED CAM	
Surveyed Location	MRC	Locate centre of support post
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Guide Post	
Survey Code	**519**	
Layer Name	GUIDE POST	
Surveyed Location	MRC	Locate centre of post
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Chevrons & Symbols	
Survey Code	530	
Layer Name	PMARK CHEV	
Surveyed Location	MRC	String centre of white line around outside of chevrons; String outside edge of large painted signs and symbols; String the centre of turning arrows
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		

Description	Unbroken Line – All types, excl. Edge Line	
Survey Code	531	
Layer Name	PMARK SLIN	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Lane Line	
Survey Code	532	
Layer Name	PMARK LANE	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Rumble Bars	
Survey Code	540	
Layer Name	PMARK RMBL	
Surveyed Location	MRC	Locate the end points of each string of rumble bars
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm

Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Dividing Line 3 m 9 m	
Survey Code	**541**	
Layer Name	PMARK SEP39	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Barrier Line One Direction	
Survey Code	**543**	
Layer Name	PMARK BARR1	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Barrier Line Both Directions	
Survey Code	**544**	
Layer Name	PMARK BARR2	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Edge Line	
Survey Code	**545**	
Layer Name	PMARK EDGE	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm

	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Continuity Line	
Survey Code	**546**	
Layer Name	PMARK CONT	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Turn Line	
Survey Code	**547**	
Layer Name	PMARK TURN	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Stop Line	
Survey Code	**548**	
Layer Name	PMARK STOP	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Give Way Line	
Survey Code	**550**	
Layer Name	PMARK GIVE	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion

Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Crosswalk Line	
Survey Code	551	
Layer Name	PMARK CROSS	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Parking Line	
Survey Code	552	
Layer Name	PMARK PARK	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Exit line at multilane roundabout	
Survey Code	553	
Layer Name	PMARK EXIT	
Surveyed Location	MRC	String centre of line
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Wall	
Survey Code	600	
Layer Name	WALL	
Surveyed Location	MRC	String outside edge of wall at ground level

	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Awning/Eaves	
Survey Code	**601**	
Layer Name	AWNING	
Surveyed Location	MRC	String bottom, outside edge of awning
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		

Description	Shed	
Survey Code	**602**	
Layer Name	SHED	
Surveyed Location	MRC	String outside edge of structure at ground level
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		

Description	Building	
Survey Code	**603**	
Layer Name	BUILDING	
Surveyed Location	MRC	String outside edge of structure at ground level
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polygon	
Asset Class/ADAC Element	*OpenSpace* Building	
Extra Comments:		

Description	Verandah	
Survey Code	**604**	
Layer Name	VERANDAH	

Surveyed Location	MRC	String the outside edge of verandah at the deck level
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		
Description	**Steps**	
Survey Code	**605**	
Layer Name	STEPS	
Surveyed Location	MRC	String each tread
	ADAC 4.1	Using code "PathStructure" create a polyline in the office representing the longitudinal centreline of the steps when they form part of a pathway
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**605** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **PathStructure** *Transport* PathStructure	
Extra Comments:		
Description	**Bridge**	
Survey Code	**606**	
Layer Name	BRIDGE	
Surveyed Location	MRC	String the top of the bridge structure recording changes of level i.e., string the bridge deck and the top of the bridge abutments
	ADAC 4.1	Road – N/A Footbridge - Using code "PathStructure" create a polyline in the office representing the longitudinal centreline of the bridge
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**606** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **PathStructure** *Transport* PathStructure	
Extra Comments:		
Description	**Concrete Slab**	
Survey Code	**607**	
Layer Name	SLAB CONC	
Surveyed Location	MRC	String top, outside edge of slab
	ADAC 4.1	N/A – not a mandatory inclusion

		Use where appropriate to generate a polygon in the office representing a boat ramp with the code "BoatingFacility"
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**607** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **BoatingFacility** *OpenSpace* BoatingFacility	
Extra Comments:	When the top of a concrete slab is higher than the surrounding ground level, use 105 (CH GRADE) to string around the base of the slab	

Description	Structure – Unclassified	
Survey Code	**610**	
Layer Name	STRUCT UNC	
Surveyed Location	MRC	String around the outside of the structure
	ADAC 4.1	Pathway Structure – Using code "PathStructure" create a polyline in the office representing the longitudinal centreline of the structure if it is part of a pathway
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**610** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **PathStructure** *Transport* PathStructure	
Extra Comments:		

Description	Swimming Pool	
Survey Code	**611**	
Layer Name	SWIM POOL	
Surveyed Location	MRC	String around the edge of the pool
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		

Description	Bore/Well	
Survey Code	**613**	
Layer Name	WELL BORE	
Surveyed Location	MRC	Locate the outside edge of the bore
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm

Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		

Description	Sports Arena/Field	
Survey Code	**616**	
Layer Name	OVAL SPORT	
Surveyed Location	MRC	String around the perimeter of the open area
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 100 mm
	Vertical (Z)	± 25 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*OpenSpace* ActivityArea	
Extra Comments:		

Description	Tower/Chimney	
Survey Code	**618**	
Layer Name	CHIMNEY	
Surveyed Location	MRC	String around the outside of the chimney (usually at the base)
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		

Description	Retaining Wall	
Survey Code	**620**	
Layer Name	RET WALL	
Surveyed Location	MRC	String around the outside edge of the retaining wall at top and bottom
	ADAC 4.1	String the outside edge of the retaining wall at ground level. If the retaining wall changes height over its length, the highest point of the wall is adopted as the height.
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*OpenSpace* RetainingWall	
Extra Comments:		

Description	Tank - General	
Survey Code	**625**	
Layer Name	TANK ABOVE	

Surveyed Location	MRC	String around outside edge of tank
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	*Supplementary* PolylineFeature, *Supplementary* PolygonFeature	
Extra Comments:		

Description	Floor Level	
Survey Code	**628**	
Layer Name	FLOOR LEVE	
Surveyed Location	MRC	Locate single point at floor level
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	Also used to record the floor level of manhole chambers and stormwater pits when required in addition to pipe inverts	

Description	Park – Bench Seat	
Survey Code	**629**	
Layer Name	PARK SEAT	
Surveyed Location	MRC	String outside edge of seat - usually the top of the concrete slab upon which the seat sits
	ADAC 4.1	Using code A629, locate a single point in the centre of the (isolated) seat
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 500 mm
	Vertical (Z)	N/A
Object Type	Polygon	
Asset Class/ADAC Element	**629** *Supplementary* PolygonFeature **A629** *OpenSpace* Seat	
Extra Comments:		

Description	Park – Playground Equipment	
Survey Code	**630**	
Layer Name	PARK EQUIP	
Surveyed Location	MRC	String around the outside edge of the soft fall area
	ADAC 4.1	Same as MRC. In addition, using code A630, locate the centre of each piece of equipment
Required Survey Accuracy	Horizontal (XY)	± 100 mm

	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 500 mm
	Vertical (Z)	N/A
Object Type	Polygon	
Asset Class/ADAC Element	**630** *OpenSpace* ActivityArea **A630** *OpenSpace* ActivityPoint	
Extra Comments:		

Description	Park – Table/Chairs on Slab	
Survey Code	**631**	
Layer Name	PARK TABLE	
Surveyed Location	MRC	String outside edge of the table and chairs – usually the top of the concrete slab when the table and chairs are sitting on an individual slab
	ADAC 4.1	Using code A631, locate a single point in the centre of the table
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 500 mm
	Vertical (Z)	N/A
Object Type	Polygon	
Asset Class/ADAC Element	**631** *Supplementary* PolygonFeature **A631** *OpenSpace* Table	
Extra Comments:	When multiple tables and chairs are sitting on a concrete slab with other park equipment, string the outside edge of the table and chairs and use 607 (SLAB CONC) to record the location of the single slab	

Description	Park - Barbeque	
Survey Code	**632**	
Layer Name	PARK BBQ	
Surveyed Location	MRC	String the outside edge of the BBQ – usually the top of the concrete slab when the BBQ is sitting on an individual slab
	ADAC 4.1	Using code A632, locate a single point in the centre of the BBQ
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 500 mm
	Vertical (Z)	N/A
Object Type	Polygon	
Asset Class/ADAC Element	**632** *Supplementary* PolygonFeature **A632** *OpenSpace* Barbeque	
Extra Comments:	When a BBQ is sitting on a concrete slab with other park equipment, string the outside edge of the BBQ and use 607 (SLAB CONC) to record the location of the single slab	

Description	Park – Rubbish Bin	
Survey Code	**633**	
Layer Name	PARK RUBBI	
Surveyed Location	MRC	String the outside edge of the bin – usually the top of the concrete slab upon which the bin sits
	ADAC 4.1	Using code A633, locate a single point in the centre of the bin
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 500 m
	Vertical (Z)	N/A
Object Type	Polygon	
Asset Class/ADAC Element	**633** *Supplementary* PolygonFeature **A633** *OpenSpace* WasteCollectionPoint	
Extra Comments:		
Description	**Irrigation Sprinkler Head**	
Survey Code	**640**	
Layer Name	IRR SPRINKLER	
Surveyed Location	MRC	Locate the centre of the sprinkler head
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*WaterSupply* IrrigationFitting	
Extra Comments:		
Description	**Irrigation Pit**	
Survey Code	**641**	
Layer Name	IRR PIT	
Surveyed Location	MRC	Locate the centre of the pit lid
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		
Description	**Irrigation Underground**	
Survey Code	**645**	
Layer Name	IRR UNDERG	
Surveyed Location	MRC	Locate the centreline of the pipework

	ADAC 4.1	String the centreline of the pipe; Using code A755, locate the centre of any fittings e.g., Tees and Tapping Bands
Required Survey Accuracy Refer to *AS5488-2013 Classification of Subsurface Utility Information*	Horizontal (XY)	Quality Level A – ± 50 mm Quality Level B – ± 300 mm Quality Level C – ± 300 mm Quality Level D – Existing Record
	Vertical (Z)	Quality Level A – ± 50 mm Quality Level B – ± 500 mm Quality Level C – N/A Quality Level D – Existing Record
Object Type	Polyline	
Asset Class/ADAC Element	**645** *WaterSupply* Pipe **A755** *WaterSupply* Fitting	
Extra Comments:		

Description	Bus Shelter	
Survey Code	**650**	
Layer Name	BUS SHELTR	
Surveyed Location	MRC	String the outside edge of the shelter – usually the top of the concrete slab upon which the shelter sits
	ADAC 4.1	Using code A650, locate single point in centre of bus/general shelter structure
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 500 mm
	Vertical (Z)	N/A
Object Type	Polygon	
Asset Class/ADAC Element	**650** *Supplementary* PolygonFeature **A650** *OpenSpace* Shelter	
Extra Comments:		

Description	Electricity Marker	
Survey Code	**706**	
Layer Name	EL MARK P	
Surveyed Location	MRC	Locate the centre of the marker
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Electricity Substation on ground	
Survey Code	**707**	

Layer Name	EL SUBSTN	
Surveyed Location	MRC	Locate the outside edge of the substation – usually the top of the concrete slab upon which the substation sits
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polygon	
Asset Class/ADAC Element	*Supplementary* PolygonFeature	
Extra Comments:		

Description	Staywire	
Survey Code	**708**	
Layer Name	STAY	
Surveyed Location	MRC	Locate the end of the staywire where it meets the ground and string to the pole
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Staypole	
Survey Code	**709**	
Layer Name	EL STAYPOL	
Surveyed Location	MRC	Locate the centre of the pole and record the pole number as vertex text
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 30 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Electricity Manhole/Box Strung	
Survey Code	**710**	
Layer Name	EL MH STR	
Surveyed Location	MRC	String around edge of lid
	ADAC 4.1	Using code 716, locate a single point in the centre of the manhole
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm

Object Type	Polygon	
Asset Class/ADAC Element	**710** *Supplementary* PolygonFeature **716** *OpenSpace* ElectricalFitting	
Extra Comments:		

Description	Light Pole + no.	
Survey Code	**711**	
Layer Name	EL PP	
Surveyed Location	MRC	Locate the centre of the pole and record the pole number as vertex text
	ADAC 4.1	Locate the centre of the pole
Required Survey Accuracy	Horizontal (XY)	± 30 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* ElectricalFitting	
Extra Comments:		

Description	Electricity Pole Only + no.	
Survey Code	**712**	
Layer Name	EL PP	
Surveyed Location	MRC	Locate the centre of the pole and record the pole number as vertex text
	ADAC 4.1	Locate the centre of the pole
Required Survey Accuracy	Horizontal (XY)	± 30 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* ElectricalFitting	
Extra Comments:		

Description	Electricity Pole with Light + no.	
Survey Code	**713**	
Layer Name	EL PLP	
Surveyed Location	MRC	Locate the centre of the pole and record the pole number as vertex text
	ADAC 4.1	Locate the centre of the pole
Required Survey Accuracy	Horizontal (XY)	± 30 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* ElectricalFitting	
Extra Comments:		

Description	Electricity Unclassified	
Survey Code	**715**	
Layer Name	EL UNC	

Surveyed Location	MRC	Locate the centre of the feature
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* ElectricalFitting	
Extra Comments:		

Description	Electricity Pit	
Survey Code	**716**	
Layer Name	EL PIT	
Surveyed Location	MRC	Locate the centre of the pit lid
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* ElectricalFitting	
Extra Comments:		

Description	Electricity Line Overhead	
Survey Code	**717**	
Layer Name	EL OVERHEA	
Surveyed Location	MRC	String the overhead line between poles
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:	Mainly used to record the sag of overhead lines where the line crosses a road	

Description	Electricity Line Underground	
Survey Code	**718**	
Layer Name	EL UNDERG	
Surveyed Location	MRC	String the centreline of the cable/conduit, record vertical surveyed location as a note e.g., paint mark on surface
	ADAC 4.1	String the centreline of the cable/conduit
Required Survey Accuracy Refer to *AS5488-2013 Classification of Subsurface Utility Information*	Horizontal (XY)	Quality Level A – ± 50 mm Quality Level B – ± 300 mm Quality Level C – ± 300 mm Quality Level D – Existing Record
	Vertical (Z)	Quality Level A – ± 50 mm

		Quality Level B – ± 500 mm
		Quality Level C – N/A
		Quality Level D – Existing Record
Object Type	Polyline	
Asset Class/ADAC Element	*OpenSpace* ElectricalConduit	
Extra Comments:		

Description	Electricity Pillar	
Survey Code	**719**	
Layer Name	EL PILLAR	
Surveyed Location	MRC	Locate the centre of the pillar
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* PointFeature	
Extra Comments:		

Description	Communications Manhole/Box Strung	
Survey Code	**720**	
Layer Name	COMMS MH STR	
Surveyed Location	MRC	String around edge of lid/s
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polygon	
Asset Class/ADAC Element	*Supplementary* PolygonFeature	
Extra Comments:	For single (usually concrete) lids, see 721 (COMMS PIT)	

Description	Communications Pit	
Survey Code	**721**	
Layer Name	COMMS PIT	
Surveyed Location	MRC	Locate the centre of the pit
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	For large multiple lids, see 720 (TEL MH STR)	

Description	Communications Pillar	
Survey Code	**722**	
Layer Name	COMMS PILLAR	

Surveyed Location	MRC	Locate the centre of the pillar
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Communications Marker	
Survey Code	**723**	
Layer Name	COMMS MARK P	
Surveyed Location	MRC	Locate the centre of the marker
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Communications Pole + no.	
Survey Code	**724**	
Layer Name	COMMS POLE	
Surveyed Location	MRC	Locate the centre of the pole and record the pole number as vertex text
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 30 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Communications Cabinet	
Survey Code	**725**	
Layer Name	COMMS PHONEB	
Surveyed Location	MRC	Locate the outside edge of the phone box – usually the top of the concrete slab upon which the phone box sits
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polygon	
Asset Class/ADAC Element	*Supplementary* PolygonFeature	
Extra Comments:		

Description	Communications Unclassified	
Survey Code	**726**	
Layer Name	COMMS UNC	
Surveyed Location	MRC	Locate the centre of the feature
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Communications Lines Overhead	
Survey Code	**727**	
Layer Name	COMMS OVERHE	
Surveyed Location	MRC	String the overhead line between poles
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:	Mainly used to record the sag of overhead lines where the line crosses a road	

Description	Communications Lines Underground	
Survey Code	**728**	
Layer Name	COMMS UNDERG	
Surveyed Location	MRC	String the centreline of the cable/conduit
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy Refer to *AS5488-2013 Classification of Subsurface Utility Information*	Horizontal (XY)	Quality Level A – ± 50 mm Quality Level B – ± 300 mm Quality Level C – ± 300 mm Quality Level D – Existing Record
	Vertical (Z)	Quality Level A – ± 50 mm Quality Level B – ± 500 mm Quality Level C – N/A Quality Level D – Existing Record
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Optic Fibre Underground	
Survey Code	**729**	
Layer Name	OPT UNDERG	

Surveyed Location	MRC	String the centreline of the cable/conduit
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy Refer to *AS5488-2013 Classification of Subsurface Utility Information*	Horizontal (XY)	Quality Level A – ± 50 mm Quality Level B – ± 300 mm Quality Level C – ± 300 mm Quality Level D – Existing Record
	Vertical (Z)	Quality Level A – ± 50 mm Quality Level B – ± 500 mm Quality Level C – N/A Quality Level D – Existing Record
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Electricity Conduit Crown	
Survey Code	**730**	
Layer Name	EL CROWN	
Surveyed Location	MRC	Locate the crown of the conduit
	ADAC 4.1	N/A – not a mandatory inclusion Refer to code 718 (EL UNDERG)
Required Survey Accuracy	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	Mainly used to record the location of underground services that have been vacuum excavated.	

Description	Communications Conduit Crown	
Survey Code	**731**	
Layer Name	COMMS CROWN	
Surveyed Location	MRC	Locate the crown of the conduit
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	Mainly used to record the location of underground services that have been vacuum excavated.	

Description	Optic Fibre Crown	
Survey Code	**732**	
Layer Name	OPT CROWN	
Surveyed Location	MRC	Locate the crown of the conduit
	ADAC 4.1	N/A – not a mandatory inclusion

Required Survey Accuracy	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	Mainly used to record the location of underground services that have been vacuum excavated.	

Description	**Gas Manhole/Box Strung**	
Survey Code	**734**	
Layer Name	GAS MH STR	
Surveyed Location	MRC	String around edge of lid
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polygon	
Asset Class/ADAC Element	*Supplementary* PolygonFeature	
Extra Comments:		

Description	**Gas Valve**	
Survey Code	**735**	
Layer Name	GAS VALVE	
Surveyed Location	MRC	Locate the centre of the valve
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 100 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	**Gas Marker**	
Survey Code	**736**	
Layer Name	GAS MARK P	
Surveyed Location	MRC	Locate the centre of the marker
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	**Gas Unclassified**	

Survey Code	737	
Layer Name	GAS UNC	
Surveyed Location	MRC	Locate the centre of the feature
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		
Description	**Gas Underground**	
Survey Code	738	
Layer Name	GAS UNDERG	
Surveyed Location	MRC	String the centreline of the pipe
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy Refer to *AS5488-2013 Classification of Subsurface Utility Information*	Horizontal (XY)	Quality Level A – ± 50 mm Quality Level B – ± 300 mm Quality Level C – ± 300 mm Quality Level D – Existing Record
	Vertical (Z)	Quality Level A – ± 50 mm Quality Level B – ± 500 mm Quality Level C – N/A Quality Level D – Existing Record
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		
Description	**Sewer Manhole/Box Strung**	
Survey Code	740	
Layer Name	SEW MH STR	
Surveyed Location	MRC	String around edge of lid
	ADAC 4.1	Using code A741, locate a single point representing the centre of chamber
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polygon	
Asset Class/ADAC Element	**740** *Supplementary* PolygonFeature **A741** *Sewerage* MaintenanceHole	
Extra Comments:		
Description	**Sewer Manhole**	
Survey Code	741	
Layer Name	SEW MH	

Surveyed Location	MRC	Single point in centre of round manhole lid
	ADAC 4.1	Using code A741, locate a single point representing the centre of chamber
Required Survey Accuracy	Horizontal (XY)	± 30 mm
	Vertical (Z)	± 7 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 100 mm
Object Type	Point	
Asset Class/ADAC Element	**741** *Supplementary* PointFeature **A741** *Sewerage* MaintenanceHole	
Extra Comments:	If part of the chamber is above the surrounding ground level, string around the top edge of the chamber using 607 (SLAB CONC) and string around the chamber at ground level using 105 (CH GRADE)	

Description	Sewer Unclassified	
Survey Code	**742**	
Layer Name	SEW UNC	
Surveyed Location	MRC	Locate the centre of the feature
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Sewer Underground	
Survey Code	**743**	
Layer Name	SEW UNDERG	
Surveyed Location	MRC	String the centreline of the pipe, record vertical surveyed location as a note e.g., paint mark on surface
	ADAC 4.1	String the centreline of the pipe using code 743 for pipes and code A743 for connections breaking the polyline where there are changes in pipe size, material, class embedment, direction etc.,; Using code A742, locate the centre of any fittings
Required Survey Accuracy Refer to *AS5488-2013 Classification of Subsurface Utility Information*	Horizontal (XY)	Quality Level A – ± 50 mm Quality Level B – ± 300 mm Quality Level C – ± 300 mm Quality Level D – Existing Record
	Vertical (Z)	Quality Level A – ± 50 mm Quality Level B – ± 500 mm Quality Level C – N/A Quality Level D – Existing Record
Object Type	Polyline	

Asset Class/ADAC Element	**743** *Sewerage* PipeNonPressure, *Sewerage* PipePressure **A743** *Sewerage* Connection **A742** *Sewerage* Fitting	
Extra Comments:		
Description	**Sewer – Rising Main Valve**	
Survey Code	**744**	
Layer Name	SEW VALVE	
Surveyed Location	MRC	Locate the centre of the valve lid
	ADAC 4.1	Using code A744, locate the centre of the valve body
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 100 mm
Object Type	Point	
Asset Class/ADAC Element	**744** *Supplementary* PointFeature **A744** *Sewerage* Valve	
Extra Comments:		
Description	**Sewer Invert**	
Survey Code	**745**	
Layer Name	SEW INV	
Surveyed Location	MRC	Locate invert of pipe, record diameter as vertex text
	ADAC 4.1	NA – not a mandatory inclusion Refer to code 743 (SEW UNDERG)
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		
Description	**Sewer Crown**	
Survey Code	**746**	
Layer Name	SEW CROWN	
Surveyed Location	MRC	Locate the crown of the conduit
	ADAC 4.1	N/A – not a mandatory inclusion Refer to code 743 (SEW UNDERG)
Required Survey Accuracy	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	Mainly used to record the location of underground services that have been vacuum excavated.	

Description	Sewer Vent Pole	
Survey Code	**747**	
Layer Name	SEW VENT	
Surveyed Location	MRC	Locate the centre of vent pole
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 30 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Water Manhole/Box Strung	
Survey Code	**750**	
Layer Name	WAT MH STR	
Surveyed Location	MRC	Locate edge of the lid
	ADAC 4.1	Using code A750, locate a single point representing the centre of chamber
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 100 mm
Object Type	Polygon	
Asset Class/ADAC Element	**750** *Supplementary* PolygonFeature **A750** *WaterSupply* MaintenanceHole	
Extra Comments:		

Description	Water Valve	
Survey Code	**751**	
Layer Name	WAT VALVE	
Surveyed Location	MRC	Locate the centre of the valve lid
	ADAC 4.1	Using code A751, locate the top of spindle
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 100 mm
Object Type	Point	
Asset Class/ADAC Element	**751** *Supplementary* PointFeature **A751** *WaterSupply* Valve	
Extra Comments:		

Description	Water Tap	
Survey Code	**752**	

Layer Name	WAT TAP	
Surveyed Location	MRC	Locate the centre of the tap post
	ADAC 4.1	Same as MRC, otherwise locate centre of feature
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*WaterSupply* ServiceFitting	
Extra Comments:	Also used to record the location of beach showers	

Description	Fire Hydrant	
Survey Code	**753**	
Layer Name	WAT HYDRNT	
Surveyed Location	MRC	Locate the centre of the hydrant lid
	ADAC 4.1	Using code A753, locate the centre of the vertical hydrant branch
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 100 mm
Object Type	Point	
Asset Class/ADAC Element	**753** *Supplementary* PointFeature **A753** *WaterSupply* Hydrant	
Extra Comments:		

Description	Water Meter	
Survey Code	**754**	
Layer Name	WAT METER	
Surveyed Location	MRC	Locate centre of meter
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 100 mm
Object Type	Point	
Asset Class/ADAC Element	*WaterSupply* Meter	
Extra Comments:		

Description	Water Unclassified	
Survey Code	**755**	
Layer Name	WAT UNC	
Surveyed Location	MRC	Locate centre of feature
	ADAC 4.1	N/A – not a mandatory inclusion

Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Water Underground	
Survey Code	**756**	
Layer Name	WAT UNDERG	
Surveyed Location	MRC	String the centreline of the pipe, record vertical surveyed location as a note e.g., paint mark on surface
	ADAC 4.1	String the centreline of the pipe; Using code A755, locate the centre of any fittings e.g., Tees and Tapping Bands
Required Survey Accuracy Refer to *AS5488-2013 Classification of Subsurface Utility Information*	Horizontal (XY)	Quality Level A – ± 50 mm Quality Level B – ± 300 mm Quality Level C – ± 300 mm Quality Level D – Existing Record
	Vertical (Z)	Quality Level A – ± 50 mm Quality Level B – ± 500 mm Quality Level C – N/A Quality Level D – Existing Record
Object Type	Polyline	
Asset Class/ADAC Element	*WaterSupply* Pipe	
Extra Comments:		

Description	Water – Reservoir	
Survey Code	**757**	
Layer Name	WAT RESERV	
Surveyed Location	MRC	String chords around the outside edge of the reservoir at ground level
	ADAC 4.1	Locate a single point in the centre of the tank
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Required Accuracy for Asset Management Purposes	Horizontal (XY)	± 500 mm
	Vertical (Z)	N/A
Object Type	Polyline/Polygon	
Asset Class/ADAC Element	**757** *Supplementary* PolylineFeature, *Supplementary* PolygonFeature **A757** *WaterSupply* StorageTank	
Extra Comments:		

Description	Watermain Crown	
Survey Code	**758**	
Layer Name	WAT CROWN	

Surveyed Location	MRC	Locate the crown of the pipe
	ADAC 4.1	N/A – not a mandatory inclusion Refer to code 756 (WAT UNDERG)
Required Survey Accuracy	Horizontal (XY)	± 50 mm
	Vertical (Z)	± 7 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:	Mainly used to record the location of underground services that have been vacuum excavated.	

Description	Water Marker	
Survey Code	**759**	
Layer Name	WAT MARK P	
Surveyed Location	MRC	Locate the centre of the marker
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Water Service	
Survey Code	**760**	
Layer Name	WAT SERVICE	
Surveyed Location	MRC	String the centreline of the domestic sized service, record vertical surveyed location as a note e.g., paint mark on surface
	ADAC 5.0.1	String the centreline of the domestic sized service; Using code 752, locate the centre of any service fittings e.g., Taps
Required Survey Accuracy Refer to *AS 5488.1:2019 Classification of Subsurface Utility Information*	Horizontal (XY)	Quality Level A – ± 50 mm Quality Level B – ± 300 mm Quality Level C – ± 300 mm Quality Level D – Existing Record
	Vertical (Z)	Quality Level A – ± 50 mm Quality Level B – ± 500 mm Quality Level C – N/A Quality Level D – Existing Record
Object Type	Polyline	
Asset Class/ADAC Element	*WaterSupply* Pipe	
Extra Comments:		

Description	Unclassified Pit	
Survey Code	**762**	
Layer Name	UNCL PIT	

Surveyed Location	MRC	Locate the centre of the pit
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Unclassified Pole	
Survey Code	**763**	
Layer Name	UNCL POLE	
Surveyed Location	MRC	Locate the centre of the pole
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Unclassified Utility	
Survey Code	**764**	
Layer Name	UNCL UTILI	
Surveyed Location	MRC	Locate the centre of the utility
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Unclassified Manhole/Box Strung	
Survey Code	**765**	
Layer Name	UNCL MHSTR	
Surveyed Location	MRC	String around edge of lid
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polygon	
Asset Class/ADAC Element	*Supplementary* PolygontFeature	
Extra Comments:		

Description	Railway Line	
Survey Code	**801**	

Layer Name	RLY LINE	
Surveyed Location	MRC	String along top of each track
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Railways Boom Gate	
Survey Code	**802**	
Layer Name	RLY BOOMGA	
Surveyed Location	MRC	Locate the centre of the support post of the boom gate
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 30 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Railways Signals Pole	
Survey Code	**803**	
Layer Name	RLY SIGPOL	
Surveyed Location	MRC	Locate the centre of the pole
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 30 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Railways Signal Box	
Survey Code	**804**	
Layer Name	RLY SIGBOX	
Surveyed Location	MRC	Locate the centre of the box
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Railways Switch	
Survey Code	**805**	
Layer Name	RLY SWITCH	
Surveyed Location	MRC	Locate the centre of the switch
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Railways Unclassified	
Survey Code	**806**	
Layer Name	RLY UNC	
Surveyed Location	MRC	Locate the centre of the feature
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*Supplementary* PointFeature	
Extra Comments:		

Description	Cattle Grid	
Survey Code	**901**	
Layer Name	GRID	
Surveyed Location	MRC	String edge of cattle grid at road level
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 7 mm
Object Type	Polygon	
Asset Class/ADAC Element	*Supplementary* PolygonFeature	
Extra Comments:		

Description	Fence	
Survey Code	**902**	
Layer Name	FENCE	
Surveyed Location	MRC	String along fence at ground level
	ADAC 4.1	Same as MRC; preferably record point at each upright. Use where appropriate to generate a polygon in the office representing an open space with the code "OpenSpaceArea"
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm

Object Type	Polyline	
Asset Class/ADAC Element	**902** *OpenSpace* BarrierContinuous **OpenSpaceArea** *OpenSpace* OpenSpaceArea	
Extra Comments:		

Description	Fence Post – Isolated	
Survey Code	**903**	
Layer Name	FENCE POST	
Surveyed Location	MRC	Locate the centre of the post
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* BarrierPoint	
Extra Comments:		

Description	Gate	
Survey Code	**904**	
Layer Name	GATE	
Surveyed Location	MRC	Locate both sides of gate opening
	ADAC 4.1	N/A – not a mandatory inclusion
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Polyline	
Asset Class/ADAC Element	*Supplementary* PolylineFeature	
Extra Comments:		

Description	Bollard	
Survey Code	**905**	
Layer Name	BOLLARD	
Surveyed Location	MRC	Locate the centre of the bollard
	ADAC 4.1	Same as MRC
Required Survey Accuracy	Horizontal (XY)	± 10 mm
	Vertical (Z)	± 20 mm
Object Type	Point	
Asset Class/ADAC Element	*OpenSpace* BarrierPoint	
Extra Comments:		

APPENDIX A   EXAMPLE SKETCHES OF DETAIL CODES

EXAMPLE SKETCH PLAN - ROAD

(Not to Scale)

Survey Code Requirements for MRC Design and As Constructed

Note: Do not change any curved features strung from chords to arcs

Original drawing by Darryl W. 25 July 2006
Updated 01 June 2017

LEGEND

- A¹²³ • Additional ADAC Attribute Point and Survey Code
- Abc Additional ADAC Polyline/Polygon and ADAC Name (Office Edits)
- 123 • Standard pick-up location for MRC Design and As Constructed and Survey Code

Note: Points at 2.5 metre intervals. Leave as chords - do not change to arcs

Roundabout

School Crossing

Centre of Bitumen

401(02)   401(01)

530(02)   530(02)   530(02)

408(05)   410(02)   410(01)   410(01)   410(02)   408(05)   A410

Parking (polygon)
Parking   Bays
552(01)   552(01)   552(02)   552(01)

Stop Line   548(01)   Giveway Line   550(01)   Lip of Kerb   406(01)
Invert of Kerb   407(01)
Top of Kerb   408(01)   409(01)

Pavement (polygon)

402(01)

406(03)   407(03)   408(07)   409(05)   417(02)   A417   408(08)   409(06)   406(03)

Sign   503

Barrier Line Both Directions   544(01)

Pram Ramp   A417   417(01)   409(02)   408(02)   407(01)   406(01)

Tactile Ground Surface Indicators

Telecom M/H Strung   720(01)   720(02)

411(01)
411(02)   Footpath   Pathway
411(03)   411(04)

Pathway

Small Telecom Pit   721
711*LP No.   Light Pole

Gully Plt   308(01)/309(01)   A310   304

Property Stormwater Pipe   319

Bus Shelter   A650   650(01)   607(01)
Conc Slab

Electricity Pole with Light
713*PLP No.   717

Electricity Pole only
712*PP No.   717   712*PP No.   712*PP No.

Stay (at ground)   708(01)

H/wall   318(01)
102(02)   290(01)   304   312   A318
311(01)   A310   312   312

Stormwater M/hole Strung

541(01)

Note: The start of the drain must be strung from as close as possible from the invert of RCP

Field Pit
290(04)   105(01)   304   308(01)   A310   607(02)   103(03)   102(05)   Inlet level at Surface   103(04)   607(02)
105(02)   312   A318   318(02)   H/wall

Top of Bank   102(02)
Bottom of Bank   103(01)
Shoulder   405(02)
Invert Box Culvert 305   Drain   290(02)   318(02) H/wall   318(03)   304   A318   312
Edge of Bitumen   403(01)

419(01)   419(01)   Gravel Driveway (Rural Road)   318(04) H/wall   304   A318

Dividing Line   545(01)

Edge Line   405(02)

Solid Line   531(01)
Pavement Marking   530(01)   530(01)

Change in grade of bitumen

Pavement (polygon)   402(01)

406(02)   407(02)   408(03)   409(03)

Conc Driveway   414(01)   414(01)   414(01)   414(01)

Note: Extend Driveway Sections 5 to 7 metres into Property

Water Meter   754   902(02)

Fence   902(01)

Conc Bridge Crossing   415(01)
Conc Tracks   414(02)   414(02)   414(03)   414(03)
Conc Tracks   414(02)   414(04)   414(04)   414(05)   414(05)

Gate   904(01)   415(02)   415(03)   904(01)
Centre Gravel or Grass Wheel Tracks   902(03)

102(01)   411(06)   411(07)

Conc Island   A410   408(06)   410(03)   410(03)

Note: These points are taken at bitumen level against face of kerb.

Note: Leave as chords - do not change to arcs.

Note: The points are taken at bitumen level against face of kerb.

EXAMPLE SKETCH PLAN - OPEN SPACE (Not to Scale)

Survey Code Requirements for MRC Design and As Constructed

Note: Do not change any curved features strung from chords to arcs

Updated 01 June 2017

LEGEND

- **A123** Additional ADAC Attribute Point and Survey Code
- **Abc** Additional ADAC Polyline/Polygon and ADAC Name (Office Edits)
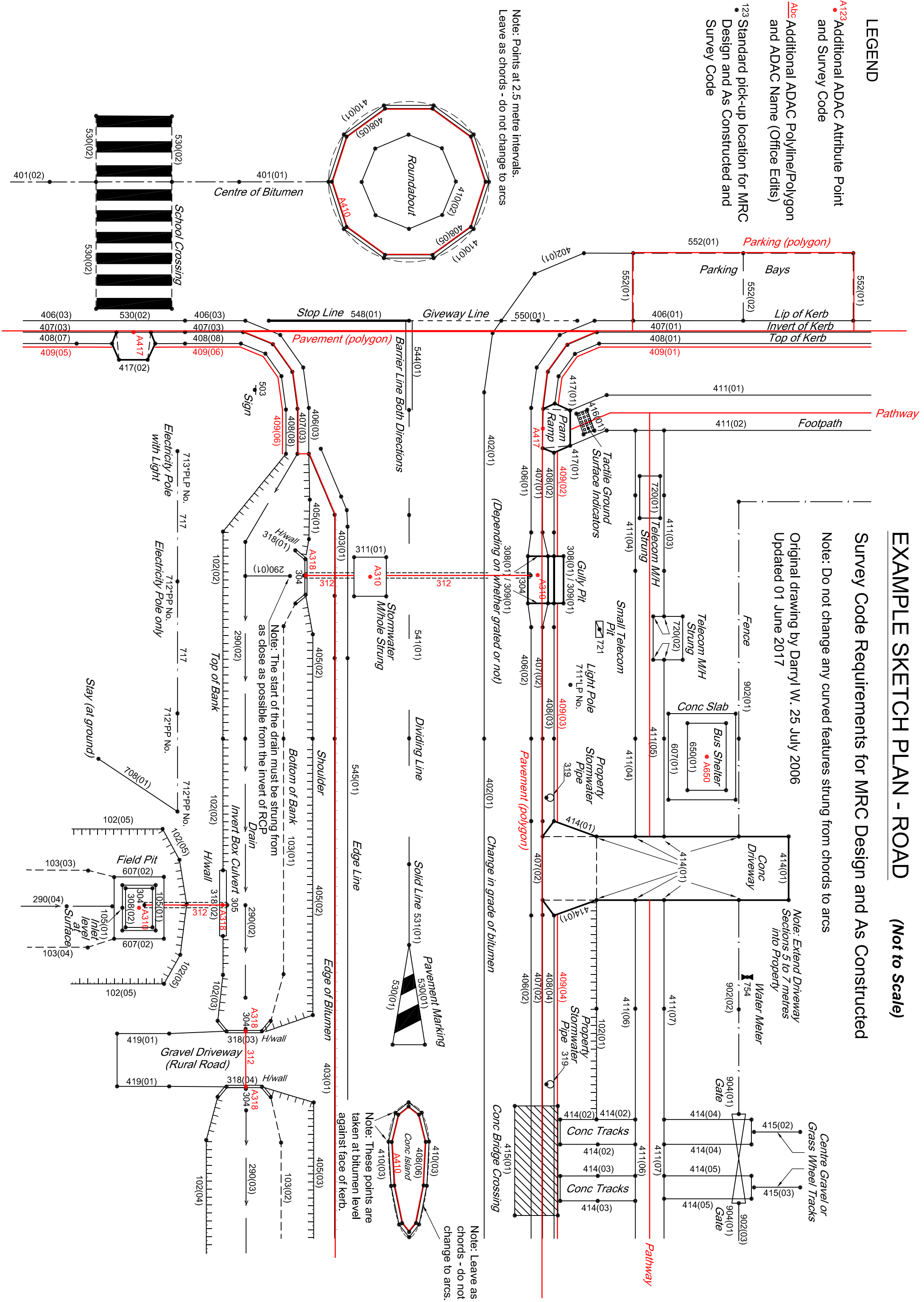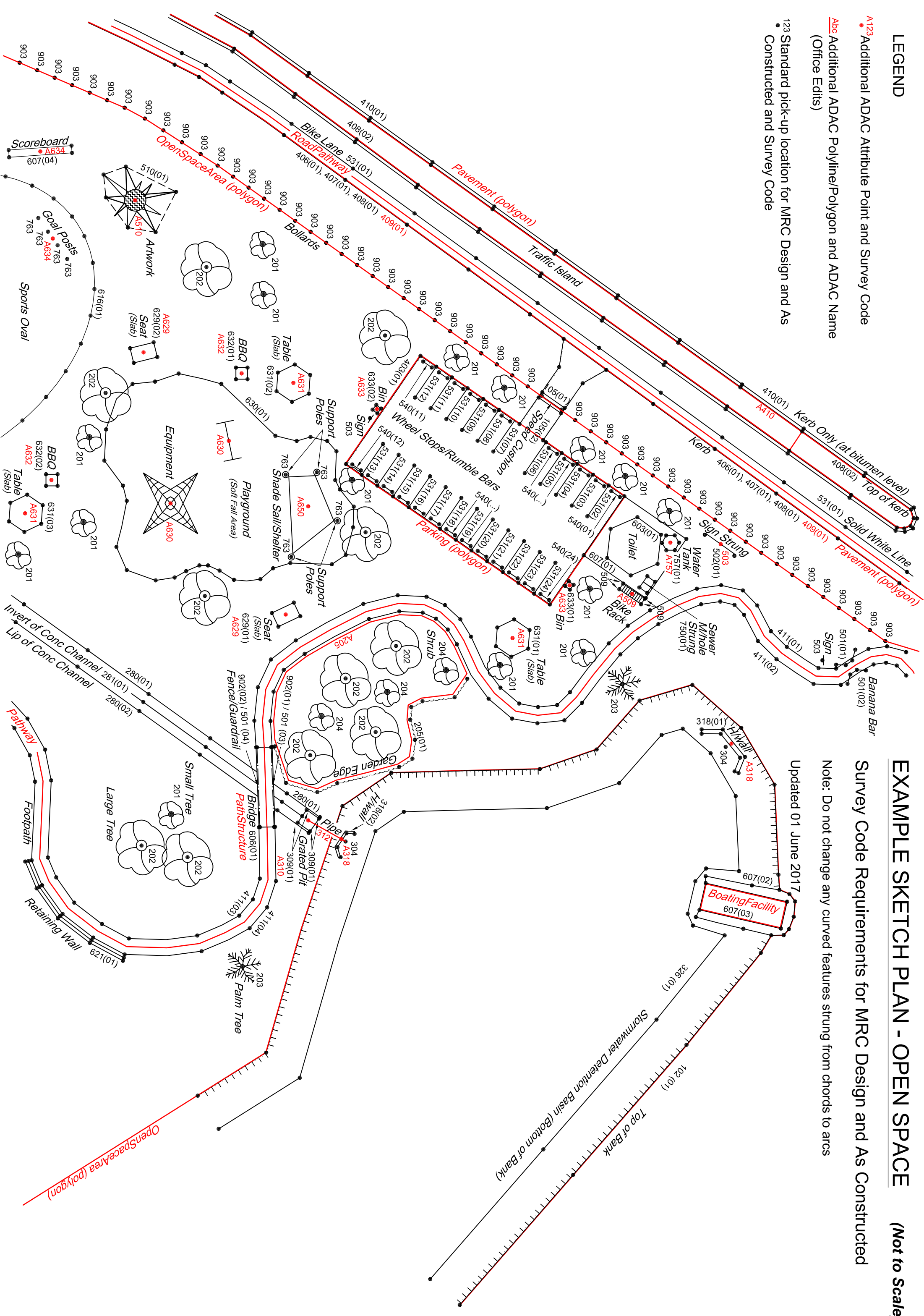- **123** Standard pick-up location for MRC Design and As Constructed and Survey Code

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Bike Lane

Road/Pathway

Pavement (polygon)

Traffic Island

410(01)
408(02)
531(01)
406(01), 407(01), 408(01)
409(01)

Bollards

903 (repeated along curve)

Open Space Area (polygon)

Scoreboard
A634
607(04)

Artwork
510(01)
A510

Goal Posts
763
A634

Sports Oval
611(01)

Seat (Slab)
629(02)
A629
631(01)

BBQ
632(01)
A632

Table (Slab)
631(01)

Bin
633(02)
A633

Sign
503

Support Poles
630(02)

Equipment
630(01)
A630

Playground (Soft Fall Area)

Shade Sail/Shelter

Support Poles
763
A650

Seat (Slab)
629(01)
A629

BBQ
632(02)
A632

Table (Slab)
631(03)
A631

Wheel Stops/Rumble Bars

Speed Cushion
105(01)
540(01)

Parking (polygon)

531(12), 531(11), 531(10), 531(09), 531(08), 531(07), 531(06), 531(05), 531(04), 531(03), 531(02)
540(11), 540(12), 540(13), 540(14), 540(15), 540(16), 540(17), 540(18), 540(19), 540(20), 540(21), 540(22), 540(23), 540(24)
531(13), 531(14), 531(15), 531(16), 531(17), 531(18), 531(19), 531(20), 531(21), 531(22), 531(23), 531(24)

Kerb

Kerb Only (at bitumen level)
410(01)
A410
406(01), 407(01), 408(01)
408(02)
531(01)
409(01)
Top of Kerb
Solid White Line
Pavement (polygon)

Toilet
603(01)
607(01)

Water Tank
757(01)
A757

Bike Rack
A509
509

Sewer M/hole Strung
750(01)

Sign Strung
503
502(01)

Banana Bar
501(02)
501(01)

Sign
503
411(01)
411(02)

Bin
633(01)
A633

Table (Slab)
631(01)
A631

Shrub
A205
204, 202, 205(01)

Garden Edge
902(02), 501(04)
902(01), 501(03)

Fence/Guardrail

Bridge
606(01)

Path Structure
A310

Pipe
A318
312
309(01)

Grated Pit
309(01)

H/Wall
304
318(02)

H/Wall
318(01)
A318
304

Invert of Conc Channel
281(01)
280(01)

Lip of Conc Channel
280(02)

Pathway

Footpath

Small Tree
201

Large Tree
202
411(03)

Retaining Wall
621(01)
411(04)

Palm Tree
203

Boating Facility
607(02)
607(03)

Stormwater Detention Basin (Bottom of Bank)
326(01)

Top of Bank
102(01)

EXAMPLE SKETCH PLAN - SERVICES *(Not to Scale)*

Survey Code Requirements for MRC Design and As Constructed

Note: Do not change any curved features strung from chords to arcs

01 June 2017

LEGEND

A123 • Additional ADAC Attribute Point and Survey Code

Abc — Additional ADAC Polyline/Polygon and ADAC Name

• 123 Standard pick-up location for MRC Design and As Constructed and Survey Code

Fitting
AT755
Water Supply Pipe
Hydrant Lid
753
AT753
Centre Hydrant Branch
756
Water Supply Pipe
Pipe Invert
304
A310
Meter
754

751 Valve Lid
AT751
Top of Spindle
102
Batter Top
103
Batter Toe
290
Watercourse CL
(Surface Drain)
Pipe Invert
304
318
Hwall
342
318
304
A310
Centre Chamber
304 Pipe Invert
AT755
Fitting
756
Irrigation Pipe
645

Pipe Non-Pressure
743
Pipe Invert
743
743 Pipe Invert
A741
Centre Chamber
AT742
Fitting
743
A743
House Connection

Electricity Pit
716
Light Pole
711*Pole No.
Sewer M/H Lid
741

312
304 Pipe Invert
304
Pipe Invert
A310
Centre Chamber
Gully Pit
308/309

640
640
202
640
Tree
Sprinkler Heads