



Environmental and Heritage Data Standards

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Information Branch.


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Director, Environment & Heritage Branch


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3/9/26

Manager, Asset & Geospatial Information Branch

Document Control

Owner	Director Environment and Heritage
Custodian	Manager Asset and Geospatial Information
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Amendments

Revision Number	Revision Date	Description of Key Changes	Section / Page No.
10	03/09/2026	Revised to: - Improve document structure and readability. - Update data submission, QA/QC, and metadata requirements. - Update naming conventions and GIS/CAD data standards. - Align Appendix 2 schemas with updated ISA Standards. - Update to current corporate branding and formatting.	All sections; Appendix 2
9	09/05/2025	Revised to: - Include new schemas - Deletion of superseded schemas - Minor amendments to existing schemas - Data delivery updated to align with changed IT policy	-
8	06/09/2023	Revised to: - Remove references to GDA94 Datum - Remove reference to WGS84 - Change ESRI ArcMap to ArcGIS Pro - Update metadata template - Minor changes to Attribute Definitions and Schema	All
7	08/11/2021	Revised to include fauna installation layer. Changes to Digital Photography requirements (Section 3.4). Minor changes to Attribute Definitions and Schema (Appendix 2) - Addition of Survey Details Feature Class - Addition of Fauna Installation Feature Class - Changes to field length and domain (various)	All
6	02/06/2020	Revised to: - Align with updated naming conventions (Section 8). - Align with updated IBSA Standards (Appendix 2).	All

Revision Number	Revision Date	Description of Key Changes	Section / Page No.
		Use Main Roads new corporate template.	
5	01/08/2019	Minor changes to Attribute Definitions and Schema: - Vegetation Condition, Vegetation Association and Fauna Habitat Feature Classes updated to state hectares for area; - Vegetation Condition and Dieback Feature Classes updated to replace Highly Disturbed with Cleared; - Quadrat Floristics Feature Class updated to include Taxon Name, which replaces genus, species, subspecies, indeterminant species and variety fields, and height of plant changed from centimetres to metres; - Survey Archaeological and Ethnographic Feature Classes updated to include the full citation of the survey report; - Aboriginal Heritage Sites Feature Class updated to include the area of the site in square kilometres and not hectares.	Appendix 2
4	28/09/2018	Inclusion of an ESRI geodatabase template, data is to be in GDA94 and not MGA94, changes to the naming convention of unrecorded heritage sites and a major revision of Appendix 2. Changes to Appendix 2 to align with IBSA.	Sections 2, 7 and 8, Appendix 2, Appendix 3
3	25/01/2018	Requirement for MXD files to be consistent with project/survey names and document number. A rounded SLK range is to be used in the file name. Revised naming convention for heritage sites. Appendix 2 has been revised to include a new feature class for ecological community, a new feature class for fauna records, an additional field for report details and amendments to the heritage layers.	Section 3.3, Section 8, Appendix 2
2	08/12/2017	Amendments to Feature Class Schemas and Lossy/Lossless Raster data definitions	Appendix 2, Section 3.2
1	06/07/2017	Inclusion of Dieback-Polygon Data	Appendix 2
0	12/04/2017	Document released	-

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1 PURPOSE

This document sets out the data standards required by Main Roads Western Australia (Main Roads) for environmental and heritage surveys, assessments, and installation of artificial fauna habitat undertaken by Contractors and consultants.

This document must be reviewed in its entirety prior to preparing data for submission to Main Roads. Failure to meet these standards, where set, will be considered a failure to meet contractual obligations.

1.1 Policy / Procedure Statement

All data collected from desktop assessments, government database searches, fieldwork or any other project activities undertaken on behalf of Main Roads, must be provided in accordance with the standards specified in this document, and subsequent revisions.

This includes all data that is collected, purchased, or collated, as well as data associated with the installation of artificial fauna habitat.

All data and associated licences purchased for work undertaken on behalf of Main Roads must be licensed to Main Roads and provided at the completion of the project.

All draft GIS data must be submitted with the draft biodiversity and/or heritage survey report for preliminary review. Any comments on the data format and status should be included at this stage. All draft data will be reviewed by the relevant Main Roads staff. Feedback will be provided by Main Roads on the draft data and written report as required.

Final datasets must be submitted to Main Roads in digital format with the final report. GIS data formats and requirements are detailed in Section 3.

1.2 Raw Data

All spatial data must be provided to Main Roads in ESRI Shapefile format, in accordance with the relevant data templates provided.

For the purpose of this document, 'raw data' refers to data collected during surveys prior to entry into GIS. Often this information is collated in spreadsheet format by consultants to manipulate and validate in bulk. Raw data may also include any data that is not presented in the final report. The consultant must provide Main Roads with all raw data in excel format.

If the consultant is unable to provide GIS data in an ESRI Shapefile format, raw data may be accepted as an interim deliverable, subject to prior agreement with Main Roads.

All data must comply with the Main Roads Environmental and Heritage Data Standards.

1.3 Spatial Data

Main Roads provides biodiversity and heritage survey data templates to support standardised data submission.

Where surveys require alternative formats (e.g. for specific studies or opportunistic data collection), the proposed format must be agreed with the Main Roads Environment and Heritage Branch prior to commencement of work.

In all cases, GIS data must comply with the standards outlined in Section 3 onwards.

2 PREPARING DATA FOR SUBMISSION

2.1 Format Overview

2.1.1 Environmental Spatial Data

Main Roads uses ESRI ArcGIS Pro version 2.9.5 as its standard Geographic Information System (GIS) platform for the management, analysis and visualisation of spatial data.

Spatial data must be submitted by contractors in one of the following formats, listed in order of preference:

- ESRI-compatible GIS formats (preferred; see Section 3 for requirements)
- Computer-Aided Design (CAD) formats (acceptable alternative; see Section 4 for requirements).

An ESRI Shapefile template, developed in accordance with Main Roads data standards, is available for use on the Main Roads website (refer to Appendix 3).

2.1.2 Raw Data

Raw data tables are commonly used for the delivery of scientific or monitoring data and may include spatial coordinates.

If GIS datasets cannot be supplied, raw data tables may be accepted by prior agreement with Main Roads provided they meet the requirements outlined in Section 6.

2.2 Quality Assurance/Quality Control (QA/QC)

Contractors must undertake Quality Assurance and Quality Control (QA/QC) of all datasets prior to submission to Main Roads.

Quality Assurance (QA) refers to processes used to prevent errors during data collection and preparation. Quality Control refers to processes used to identify and correct errors in datasets.

At a minimum, all datasets must be checked for:

- Spatial accuracy (e.g. coordinate errors in raw data tables; incorrect geometry of features in spatial datasets).
- Attribute accuracy errors (e.g. errors and inconsistencies in the data recorded in raw data table columns or in spatial data attribute fields).
- Completeness (all required datasets and attributes are included).
- Consistency with data shown in any accompanying documents (such as reports or drawings).
- Compliance with the data standards outlined in this document.

Once submitted, datasets will be reviewed by Main Roads. Datasets that do not meet these requirements will be returned to the contractor for correction and resubmission.

3 GIS DATA STANDARDS

All GIS datasets submitted to Main Roads must comply with the standards specified in this section, including requirements for vector data, raster data, ArcGIS Pro project files and digital photography. These requirements support the consistent management and use of spatial information across Main Roads.

3.1 Vector Data

Vector data includes point, line and polygon datasets.

Each GIS vector dataset submitted to Main Roads must include the key deliverables outlined in Table 1 and meet the associated requirements.

Table 1. Key Deliverables for GIS Vector Data

Key Deliverables	Requirements
Vector Dataset	File Format (Compatible with ArcGIS Pro 2.9.5 or lower version): - ESRI Shapefile (must include *.SHP, *.SHX, *.DBF and *.PRJ files as a minimum). Datum, Projection and Coordinates: - Correct datum and projections must be used and duly noted for all datasets submitted (see Section 7). Attributes (as detailed in Appendix 2): - Attribute fields must be clearly and logically named. - Attribute fields must use the correct data type (e.g. Date or Text or Number/Integer). - All mandatory fields must be completed. File Name: - Must comply with the conventions outlined in Section 8. - Only alphanumeric characters, spaces, hyphens and underscores are allowed. - Feature class names must begin with a letter (not a numeral or special character).
Layer File (ArcGIS users only)	Where ArcGIS is used, symbology is required to interpret figures or datasets, an ESRI Layer File must be submitted along with the vector dataset.
Metadata File	- A completed metadata form (see Appendix 1) must be provided for each Feature Class or Shapefile submitted. - Comply with the requirements outlined in Section 9.

3.2 Raster Data

Raster data includes satellite imagery or aerial photography.

Each GIS raster dataset submitted to Main Roads must include the key deliverables outlined in Table 2 and comply with the requirements below.

Raster datasets that do not meet compression, projection, or metadata requirements will be returned for correction

Table 2. Key Deliverables for GIS Raster Data

Key Deliverables	Requirements
Raster Dataset	File Format: • Preferably JPEG2000 (.JP2); OR • Enhanced Compression Wavelet (.ECW); OR • GeoTIFF (.TIF, .TIFF); OR • ERDAS Imagine (.IMG); OR • ESRI GRID (ASCII or Binary) Compression: <i>(if supported by selected raster file format)</i> • Lossless compression (or no compression) must be used for datasets. • Lossy compression methods may only be used for display purposes (rather than for analysis) and must be approved by Main Roads Asset & Geospatial Information Branch prior to submission. Datum, Projection and Coordinates: • Correct datum and projections must be used and comply with the requirements specified in Section 7. File Name: • File names must comply with the naming conventions outlined in Section 8. • File names must be limited to alphanumeric characters and underscores. • Capture date and datum/projection must be included in the file name.
Metadata File	• A completed metadata form (refer to Appendix 1) or Metadata Statement - Digital Rectified Imagery (available from Main Roads website at https://www.mainroads.wa.gov.au/49bddd/globalassets/technical-commercial/technical-library/surveying-and-geospatial-services/data-management-guidelines/metadata-statement-form-digital-rectified-imagery.pdf) must be provided for each raster dataset submitted. • Metadata must comply with the requirements outlined in Section 9.

3.3 ArcGIS Pro Project (APRX) Files

Main Roads uses ArcGIS Pro as its primary GIS mapping application.

Where contractors use ArcGIS Pro to prepare maps and figures for Main Roads reports, Main Roads will provide templates and guidelines to be used by the contractors to maintain a style of cartography that is consistent with the styles used in Main Roads' reports. Where no template is provided, then use of the template is not required.

ArcGIS Pro project (.aprx) files must be provided for each figure produced in the report and use the datum and projection specified in Section 7. They must be consistent with the associated report, figures and spatial datasets, and named in accordance with the conventions outlined in Section 8.

A copy of each APRX file used to generate figures must be submitted to Main Roads along with the spatial data (where available).

APRX file names must include project or survey name, associated document number and year the report was written.

3.4 Digital Photography

All photographs taken during biodiversity and/or heritage surveys must be provided to Main Roads at project completion as part of the final data submission.

Photographs must be provided in .jpg format. Photo locations must be provided as a "Photo Location" Feature Class.

Each photograph must be linked to its corresponding spatial point in the Photo Location Feature Class. The photo file name must exactly match the corresponding attribute value in the Photo Location Feature Class. Photographs that cannot be linked to spatial data may be returned as non-compliant.

Photo file names must follow the format below:

- Photo ID, Photo Description, Site, Source, Date (YYYYMMDD).

All other photos, such as opportunistic observations or non-site-specific generic photos must use:

- 'OTHER', Photo Description, Site, Source, Date (YYYYMMDD)' (e.g. OTHER Granite Outcrop Brookton Highway, Consultant X, 20260430).

Where relevant, the time and photo direction should be included in the file name. (i.e. 'Site Access Track- Brookton 9am South Facing').

4 CAD DATA QUALITY STANDARDS: ENVIRONMENTAL DATA

Where GIS files cannot be supplied, CAD data may be accepted as an alternative. However CAD data will be imported into GIS software by Main Roads for cartography and spatial analysis.

For this reason, CAD data must be provided in a file format compatible with ArcGIS Pro and comply with the requirements outlined in this section.

Each CAD dataset submitted to Main Roads must include the key deliverables specified in Table 3.

Table 3. Key Deliverables for Environmental CAD Data

Key Deliverables	Requirements
CAD File	File Format: - AutoCAD DWG or DXF (file formats up to version 2024); OR - MicroStation DGN (file formats up to version 8). Datum, Projection and Coordinates: - Correct datum and projections must be used and duly noted for all datasets submitted (see Section 7). Layer/Levels: - Must be properly separated. - Must be clearly and logically named. Attributes: - If the features in the CAD data are to be linked to external raw data tables, then the feature labels must appear in the feature attributes (rather than in a separate annotation layer) and be consistent with the labels that are used in the external raw data table. - For example, point features denoting monitoring sites must include an attribute describing the monitoring site names, so that each feature can be linked to its corresponding monitoring data. File Name: - File names must comply with naming conventions outlined in Section 8. - Only alphanumeric characters, spaces, hyphens and underscores are permitted.
Metadata File	Metadata must be provided for each CAD dataset using one of the following methods: A completed metadata form (refer to Appendix 1) in accordance with Section 9. OR Metadata included within the CAD file title block, containing at a minimum: - Descriptive title - Date of data acquisition - Drawing date - Author or company logo - Datum and projection.

5 CAD DATA STANDARDS: SURVEY AND ALIGNMENT DATA

Project specific documents or drawings take precedence over this document where applicable. Where no project-specific guidance is provided, these standards must be applied to all CAD data with geospatial or mapping relevance. Examples of such datasets include biological surveys, and data supplied from State and Federal Government agencies.

This document should be used as standards in the absence of any other specific guidance from Main Roads.

While ArcGIS files are the preferred format for submission, CAD data may be provided where appropriate.

Each CAD dataset submitted to Main Roads must include the key deliverables outlined in Table 4.

Table 4. Key Deliverables for Survey and Alignment CAD Data

Key Deliverables	Requirements
CAD File	File Format: • AutoCAD DWG or DXF (file formats up to version 2024); OR • MicroStation DGN (up to V8 format). Datum, Projection and Coordinates: • Must comply with the requirements specified in Section 7. • Must use Real World Coordinates (local Main Roads project zone or MGA2020) Layer/Levels: • Must be properly separated. • Must be clearly and logically named. File Name: • File names must comply with naming conventions outlined in Section 8. • Only alphanumeric characters, spaces, hyphens and underscores are permitted.
Metadata File	Metadata must be provided for each CAD dataset using one of the following methods: A completed metadata form (refer to Appendix 1) in accordance with Section 9. OR Metadata included within the CAD file title block, containing at a minimum: • Descriptive title • Date of data acquisition • Drawing date • Author or company logo • Datum and projection.

6 RAW DATA STANDARDS

Each raw data set submitted to Main Roads must include the key deliverables outlined in Table 5 and meet the requirements below.

Raw data sets must include all fields required to interpret, validate and analyse the dataset.

Raw datasets that do not meet formatting, metadata, or structural requirements may be returned for correction.

Table 5. Key Deliverables for Raw Data

Key Deliverables	Requirements
Data Table(s)	File Format: Raw data must be provided in one of the following formats: • Microsoft Excel spreadsheets (.XLS, .XLSX – preferred); OR • Text files (.TXT, .CSV) Other file formats may be accepted with prior approval from Main Roads Asset & Geospatial Information Branch. Datum, Projection and Coordinates: <i>(if data includes spatial coordinates)</i> • Where spatial coordinates are included, datasets must comply with the requirements specified in Section 7. • Coordinate system information must be clearly identified. Columns and Structure: • Column tables must be provided in the first row of each table. • Column names must be correctly formatted by data type (e.g. Date or Text or Number/ Integer). File Naming: • File names must comply with naming conventions outlined in Section 8. • Only alphanumeric characters, spaces, hyphens and underscores are permitted.
Metadata File	A completed metadata form (refer to Appendix 1) must be provided for each raw file being submitted dataset, in accordance with Section 9.

7 DATUMS AND PROJECTIONS

All spatial data submitted to Main Roads must comply with the datum and projection requirements outlined below.

7.1 Horizontal Datum

The standard horizontal datum must be the Geocentric Datum of Australia 2020 (GDA2020) (EPSG: 7844).

7.2 Coordinate Format

Spatial data must be provided in geographic coordinates (latitudes and longitudes) using decimal degrees.

Coordinates must be recorded to a minimum of six decimal places.

Where data is created in a projected coordinate system (e.g. MGA2020 or a local Main Roads project zone), it must be capable of transformation to GDA2020 prior to submission.

7.3 Vertical Datum

Where applicable, elevation must use the Australian Height Datum (AHD 1971).

7.4 GIS Data Requirements

All GIS vector and raster datasets must include embedded coordinate system information via a projection file (*.prj).

7.5 CAD Data Requirements

Coordinate system information must be embedded where possible. Where embedding is not possible, coordinate system details must be included in the metadata statement and/or clearly shown in map annotations or title blocks within the map.

7.6 Raw Data Requirements

For raw datasets containing spatial coordinates, the coordinate system must be clearly identified in the metadata statement. Coordinate fields must be clearly labelled in the data table.

For example, GDA2020 geographic coordinates could be called "Lat" and "Long". MGA Zone 50 projected coordinates could be called "E_MGA50" and "N_MGA50", or "Easting", "Northing" and a "Zone" column.

8 NAMING CONVENTIONS

All datasets submitted to Main Roads must comply with the naming conventions outlined in this section.

8.1 General Naming Format

Survey data files and associated metadata file names must be named using the following structure:

- **XXXXX_RoadNumber_SLK_from_SLK_to**

SLK values must be rounded to whole numbers.

For example: I2B_Flora_M043_54_55_point

Alternative (Projects without Road/SLK)

Where multiple or new roads, bridges, or non-linear projects are involved, file names need to include the project name instead of road number and SLK.

8.2 Data Type Prefixes

The file prefix identifies the data type and must match the dataset content. Below is the list of approved prefixes per data type:

- I1 SurveyBoundary
- I2A_SampleSites
- I2B_Flora
- I2C_Vegetation
- I2D_VegetationCondition
- I2E_Fauna
- I2F_FaunaHabitat
- FaunaHabitatTrees
- BlackCockatooForagingHabitat
- QuadratPhysical
- QuadratFloristics
- HeritageSurveyedArea
- AboriginalHeritageSites
- NoiseSampling
- NoiseModelling
- Dieback
- FaunaInstallation

Note: Capital i for ISA prefix is used for the first seven layers.

8.3 Geometry Suffix

Where datasets with the same prefix include different geometry types, a suffix must be applied:

- _point
- _polygon
- _polyline

For example: I2B_Flora_M043_54_55_point

8.4 APRX File Naming

APRX files must be named using the figure number and creation date (separated by underscores) to the Main Roads Document Number for the document in which they appear:

- DocumentNumber_FigureNumber_Date

For example: Figure2_12_2_2017_ D16#797498.

8.5 Aboriginal Heritage Site Naming

All new previously unrecorded heritage sites identified during Aboriginal heritage surveys must follow the naming convention of MR, Native Title Group Identifier (first three letters if possible), year, site number (separated by underscores):

- MR_GroupIdentifier_Year_SiteNumber

For example: MR_THA_18_001.

8.6 Raster File Naming

All raster imagery capture must include capture date and projection zone/coordinate system (must reference datum – GDA94 or GDA2020).

- XXXXX_RoadNumber_SLK range_YYYYMMDD_Projection

For example: I2C_Vegetation_M043_54_55_20260430_GDA2020

8.7 Additional Requirements

File names must use only:

- Letters
- Numbers
- Underscores (_)
- Hyphens (-)

Spaces and special characters should be avoided where possible to ensure compatibility with GIS systems.

9 METADATA STANDARDS

Each dataset submitted to Main Roads must be accompanied by a metadata record.

A metadata record is defined as a completed metadata form (Appendix 1), which describes the content, source, structure, and limitations of the dataset.

9.1 Metadata Requirements

A completed metadata form must be provided for each dataset submitted to Main Roads.

The metadata form is provided as a standalone Microsoft Word document (see Appendix 1) and must be completed in full.

9.2 Supporting Documentation

Where available, additional documentation relevant to the dataset must be included in the submission.

This may include:

- Licensing information
- Agreements
- Copyright information
- Disclaimers
- Metadata statements
- Reports or manuals.

10 DATA DELIVERY

Data must be delivered to Main Roads using an approved method appropriate to the size of the dataset.

10.1 Delivery Methods

Data should be sent via compressed (zipped) email attachments where file sizes permit. Where datasets exceed email size limits, alternative transfer methods (e.g. secure file transfer) must be arranged with Main Roads prior to submission.

10.2 Notification Requirements and Recipients

An email notification must be sent at the time of data delivery, regardless of the delivery method used. The notification must:

- Identify the data being delivered.
- Confirm the delivery method.
- Provide any relevant supporting information.

Data delivery notifications must be sent to:

- Main Roads Project Manager
- Environment Officer
- Heritage Officer
- Or other nominated point of contact.

11 ABBREVIATIONS AND DEFINITIONS

Term	Definition
AHD 71	Australian Height Datum 1971
ArcGIS	The standard Geographic Information System (GIS) software platform used by Main Roads.
ArcGIS Pro	A desktop GIS application within ESRI ArcGIS suite, used for spatial data visualisation and analysis.
ArcMap	A former component of the ArcGIS platform that is being phased out by ESRI.
CAD	Computer-Aided Design software used to create, modify, analyse and optimise designs in two- or three-dimensional space, and is commonly used in surveying, engineering and architectural applications.
Contractor/Consultant	Any non-Main Roads employee undertaking work on behalf of Main Roads according to a specific scope of work and approved proposal.
Dataset	A collection of related data, typically representing a single spatial layer or data table, shapefile, feature class or CAD dataset. In some cases, a dataset may include both a spatial dataset (e.g., monitoring site locations) and related raw data tables containing scientific data (e.g., monitoring data collected at those sites).
DBCA	Department of Biodiversity, Conservation and Attractions
DPLH	Department of Planning, Lands and Heritage
ESRI	Environmental Research Systems Institute, the vendor of ArcGIS software.
GDA2020	Geocentric Datum of Australia 2020, the current standard geodetic datum for Australia. GDA2020 coordinates include both latitude and longitude, which are measured in decimal degrees or degrees, minutes and seconds. The relative difference in position between GDA2020 and GDA94 is approximately 1.8 metres.
GDA94	Geocentric Datum of Australia 1994, the previous national geodetic datum before GDA2020.
GIS	Geographic Information Systems used to store, manipulate, analyse and visualise spatial data.
ISO	International Organisation for Standardisation. The GIS Metadata Standard type required.
Local Project zone	A local projected coordinate system developed by Main Roads to meet tolerances for building roads and bridges on the earth's curved surface.
Main Roads	Main Roads Western Australia.
Metadata	Information describing the content, the history, accuracy, currency, origin, etc.
MGA2020	Map Grid of Australia 2020, a projected coordinate system based on the GDA2020, using Easting (units in metres), a Northing (units in metres), and an MGA Zone number.
SLK	Straight Line Kilometres, a linear referencing system defined by Main Roads to define features along a road.
QA/QC	Quality Assurance/Quality Control. Quality Assurance can be described as the process of preventing errors from entering into datasets; while Quality Control can be described as the process of identifying and correcting existing errors in datasets.

Term	Definition
Raw Data	Data stored in its original format (such as an excel spreadsheet or text file). In some cases, raw data tables can include columns containing coordinate information (such as MGA2020 or GDA2020 coordinates) describing the geographic location of observations or measurements.
Spatial Data	Data representing the geographic location and extent of features or boundaries, as well as attributes that describe the properties of those features.

12 REFERENCES AND RELATED DOCUMENTS

Document Number	Title
D16#800711	<u>Environmental and Heritage Survey Data Management Plan</u>

13 APPENDICES

Appendix	Title
Appendix 1	Metadata Template
Appendix 2	Attribute Definitions and Schema
Appendix 3	Shapefile Template

APPENDIX 1: Metadata Template

The Metadata Template is provided as a standalone Microsoft Word document and must be completed for each dataset submitted to Main Roads. This appendix provides guidance on how to complete the metadata template to ensure consistency and compliance with the requirements outlined in this document.

DATASET DESCRIPTION	
Title	<i>The name of the dataset.</i>
Data Created	<i>The date on which the dataset was originally created.</i>
Date Last Updated	<i>The date on which the dataset was last updated or modified.</i>
Abstract	<i>A concise summary of the dataset, including type of data, key contents and general project or location.</i>
Purpose	<i>A description of the specific needs the dataset was designed to meet.</i>
Document Number	<i>The document number(s) for any associated reports or submissions .</i>
Contact Organisation	<i>The organisation responsible for collecting and preparing the dataset.</i>
Contact Name	<i>The primary contact person responsible for preparation of the dataset.</i>
Contact Position	<i>The job title or position of the contact person responsible for preparation of the dataset.</i>
Contact Phone	<i>Phone number of the contact person responsible for preparation of the dataset.</i>
Contact Email	<i>Email address of the contact person responsible for preparation of the dataset.</i>
Lineage	<i>Describe how the dataset was created and the sources and processes that were used.</i>
Datum/Coordinate System	<i>Name of the datum and coordinate system, if the data includes geographic or projected coordinates.</i>
Geographic Description	<i>Name of the road (and road number) and SLK range or other location that describes the geographic extent of the dataset.</i>
Restrictions	<i>Any restrictions on access to or use of the dataset.</i>



Metadata Statement - Digital Rectified Imagery

Asset and Geospatial Information Branch

KEY DETAILS

Survey Title			
Panel Contract Job #		Consultants Ref #	

CONSULTANT DETAILS

Organisation		Contact Name	
Position		E-mail	
Telephone		Mobile	

CUSTODIAN CONTACT DETAILS

Organisation		Contact Name	
Position		E-mail	
Telephone		Mobile	

GEOGRAPHIC DETAILS

Projection		Road	
Vertical Datum	AHD71	SLK Start	
		SLK End	
Bounding Box (Project Zone Coordinates)			
NW Corner (E,N)		NE Corner (E,N)	
SW Corner (E,N)		SE Corner (E,N)	

STANDARDS USED

(check all that apply)

☐ Survey has been performed in accordance with the below standards:

- | | | |
|--|---|--|
| ☐ Digital Ground Survey | ☐ Standard Survey Mark Control | ☐ Mapping |
| ☐ Underground Utilities Survey | ☐ Road Reference Marks | ☐ Digital Rectified Images |
| ☐ Earthwork Volume Calculations | ☐ Minor Control Points | ☐ Aerial Lidar Delivery Standard |
| | ☐ Differential Levelling | ☐ Mobile Laser Scanning Delivery Standard |
| | ☐ Settlement Monitoring | |



Metadata Statement - Digital Rectified Imagery

Asset and Geospatial Information Branch

DATA COLLECTION METHODS

(Check all that apply)

☐ Self Captured ☐ Landgate Aerial Photography

IMAGE DETAILS

Image Type Image Width (px) Image Width (mm)
 Image Scale Image Length (px) Image Length (mm)
 Accuracy Class Image Resolution (dpi) Image Flown Date

OVERLAY DETAILS

Data	Data	Data
Scale	Scale	Scale
Date of Acquisition	Date of Acquisition	Date of Acquisition
Format	Format	Format
Data	Data	Data
Scale	Scale	Scale
Date of Acquisition	Date of Acquisition	Date of Acquisition
Format	Format	Format

OTHER NOTES / COMMENTS

LIST OF CONTROL USED (names only)

APPENDIX 2: Attribute Definitions and Schema**I1_SurveyBoundary Attribute Definitions and Schema – Polygon**

FIELD	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
SurveyName	Survey Name	The name of the survey and include phase information if necessary	Text	Yes	150	To be consistent with the survey i.e. Flora and Vegetation Survey of Lot 123 Outback Rd
SurveyType	Survey Type	A description of the type of survey	Text	Yes	150	To be consistent with the survey i.e. Detailed Flora and Vegetation Survey
Author	Author	The name of the person or group who authored the survey report and datasets	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
StartDate	Start Date	The date on which the survey commenced	Date	Yes	N/A	dd/mm/yyyy
EndDate	End Date	The date on which the survey concluded	Date	Yes	N/A	dd/mm/yyyy
Citation	Citation	A full citation for the accompanying survey report	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.
FinalTRIM	Final TRIM Reference	TRIM reference to the final version of the report	Text	NO	30	<i>Main Roads Western Australia Internal Use Only</i>

I2A_SampleSites Feature Class-Point or Polyline¹ Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
SiteName	Site Name	The name of the sampling site, as used in the survey report.	Text	Yes	50	Unique identifier given by consultant i.e. Site T-1
SampleType	Sample Type	A description of the type of sampling undertaken, i.e. flora, flora and vegetation, aquatic, terrestrial vertebrate fauna, terrestrial invertebrate fauna or subterranean fauna.	Text	Yes	50	i.e. Terrestrial vertebrate fauna, flora, vegetation, flora and vegetation, terrestrial invertebrate fauna, subterranean fauna, aquatic macroinvertebrate, aquatic vertebrate
SiteType	Site Type	A description of the site type.	Text	Yes	50	i.e. Trapping, Transect, Quadrat, Relevé, Traverse, Camera
Effort	Effort	A brief description of effort expended at the site.	Text	Yes	100	i.e. 7 nights x 60 traps, nights, minutes, kilometres
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting.
StartDate	Start Date	The date the sampling commenced at this site.	Date	Yes	N/A	Dd/mm/yyyy
EndDate	End Date	The date the sampling concluded at this site.	Date	Yes	N/A	Dd/mm/yyyy
Comments	Comments	Additional information about the sample site, if any.	Text	No	254	
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.

¹ If a survey has captured sample sites best represented by a combination of points (e.g. quadrats) and lines (e.g. transects), a separate shapefile for each geometry type is required.

I2B_Flora Feature Class-Point² or Polygon³ Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
TaxonName	Taxon Name	The taxon name of the flora species recorded.	Text	Yes	254	Accepted name according to WA census
SiteName	Site Name	Name of the site at which the flora observation/collection was made, as per the Sample Sites Survey Data spatial dataset. Use 'no site' if not made at a named site.	Text	Yes	50	Unique identifier given by consultant i.e. Site T-1
Abundance	Abundance	Use '0' if the taxon was present but abundance was not recorded, otherwise populate with abundance (the number of individuals of this taxon observed at this location) ⁴ .	Long Integer	Yes	5	Numeric
HerbRef	Herbarium Reference	Herbarium reference. Leave blank if the specimen has not been collected. If lodged and accessioned, insert the unique accession number assigned by the herbarium. If the specimen has been lodged but not accessioned, use the collector's name and number (or other lodgement reference).	Text	No	50	
WAConStat	WA Conservation Status	The code for the conservation status (in WA) of the flora species recorded, as per the Conservation Codes for Western Australian Flora and Fauna published by the Department of Biodiversity, Conservation and Attractions (DBCA). Leave blank if the species has no conservation status. ⁵	Text	No	5	P1, P2, P3, P4, T, RE, WoNS, DP,*
DateObs	Date Observed	The date this taxon was observed / collected.	Date	Yes	N/A	dd/mm/yyyy
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
Comments	Comments	Additional information about the flora record, if any.	Text	No	254	

² I2B_Flora shapefile should include conservation significant flora and/or significant weeds (WoNS, Declared Pests). Quadrat or relevé data with individual plant cover should be supplied in QuadratFloristic and QuadratPhysical shapefiles.

³ If a survey has produced flora data best represented by a combination of points, e.g. locations of individuals, and polygons, e.g. distribution of a large population, a separate shapefile for each geometry type is required.

⁴ If it is necessary to denote absence, i.e. a situation where the taxon has been specifically surveyed for and definitively found to be absent, use '-9999' (in practice, it is expected that use of this option will be rare).

⁵ This data includes weeds not just native species.

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.
Datum	Datum	Datum of the geocode.	Text	Yes	10	GDA2020
Precision_	Precision	Precision of the geocode.	Integer	No	2	Radius in metres, may be a grid block. i.e. standard GPS=15 DGPS=1
Latitude	Latitude	Geographic co-ordinate location.	Double	Yes	15	-XX.XXXXXX
Longitude	Longitude	Geographic co-ordinate location.	Double	Yes	15	XXX.XXXXXX

I2C_Vegetation Feature Class-Polygon Layer

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Veg_Ass	Vegetation Association	Vegetation Association Code.	Text	Yes	20	Unique identifier given by consultant
VegUnit	Vegetation Unit	Description of the discrete vegetation unit.	Text	Yes	254 ⁶	i.e. Themeda sp. Hamersley Station, Eriachne benthamii tall closed tussock grassland
PECTEC_Sts	TEC PEC Status	PEC/TEC status. At the time of finalisation of the report, is this vegetation unit consistent with or part of a known threatened or priority ecological community and treated as such in the assessment? Yes, no or possible.	Text	Yes	8	Yes_No_Possible
PECTEC_Det	PEC TEC Details	PEC/TEC details. Leave blank if above field is 'no', otherwise provide the jurisdiction (WA or EPBC), type (TEC or PEC) and name (as per its official documentation) of the PEC/TEC. Include the details for both jurisdictions if relevant.	Text	No	254	In accordance with listing name. WA TEC 'Themeda grasslands on cracking clays (Hamersley Station, Pilbara)'
Area_ha	Area hectares	Size of unit in hectares.	Double	Yes	N/A	XXX.xxha
CreationYr	Creation Year	The year the mapping polygons were created ⁷ .	Long Integer	Yes	5	YYYY
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
Comments	Comments	Additional information about the TEC/PEC, if any. Identify if the polygon is in the context area ⁸	Text	No	254	
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished

⁶ Field length may be extended beyond this character limit as required.

⁷ Vegetation classification and mapping may be based on multiple surveys, over multiple years, by multiple botanists. As such, it is difficult to attach a precise date to a vegetation map based on survey timing. However, including the year of creation of the vegetation mapping polygons in this field gives an indication of its currency for future reference. For the dates of the surveys that contributed to the mapping, users should refer to the methodology section of the associated flora and vegetation survey report.

⁸ Where the mapped vegetation falls within the mapped context area (i.e.) outside the survey area, it should be indicated in the comments section.

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
						report prepared for XYZ Developments.

I2D_VegetationCondition Feature Class-Polygon Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
VegCond	Vegetation Condition	Observed condition of the vegetation as per EPA technical guidance, i.e. Pristine, Excellent, Very Good, Good, Poor, Degraded, Completely Degraded.	Text	Yes	20	Pristine, Excellent, Very Good, Good, Poor, Degraded, Completely Degraded and Cleared. Areas devoid of vegetation to be mapped as Cleared. ⁹ Condition range to be abbreviated eg. D to CD for Degraded to Completely Degraded
CreationYr	Creation Year	The year the mapping polygons were created ¹⁰ .	Long Integer	Yes	5	YYYY
Area_ha	Area hectares	Size in hectares.	Double	Yes	N/A	XXX.xxha
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
Comments	Comments	Additional information about the vegetation condition, if any.	Text	No	254	
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.

⁹ Revegetation should not be included in this layer and should be in I2C_Vegetation instead.

¹⁰ Vegetation condition mapping may be based on multiple surveys, over multiple years, by multiple botanists. As such, it is difficult to attach a precise date to a vegetation condition map based on survey timing. However, including the year of creation of the vegetation condition mapping polygons in this field gives an indication of its currency for future reference. For the dates of the surveys that contributed to the condition mapping, users should refer to the methodology section of the associated flora and vegetation survey report.

I2E_Fauna Feature Class–Point Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
TaxonName	Taxon Name	The taxon name of the fauna species observed.	Text	Yes	254	Accepted name according to WAM
SiteName	Site Name	Name of the site at which the flora observation/collection was made, as per the Sample Sites Survey Data spatial dataset. Use 'no site' if not made at a named site.	Text	Yes	50	Unique identifier given by consultant i.e. Site T-1
Abundance	Abundance	Use '0' if the taxon was present but abundance was not recorded, otherwise populate with abundance (the number of individuals of this taxon observed at this location) ¹¹ .	Long Integer	Yes	5	Numeric
MuseumRef	Museum Reference	Museum reference. Leave blank if the specimen has not been vouchered. If the specimen has been vouchered and catalogued, insert the unique catalogue number assigned by the museum. If the specimen has been vouchered but not catalogued, used the voucher number (or other lodgement reference).	Text	No	50	
WConStat	WA Conservation Status	The code for the conservation status (in WA) of the flora species recorded, as per the Conservation Codes for Western Australian Flora and Fauna published by the DBCA. Leave blank if the species has no conservation status.	Text	No	2	P1, P2, P3, P4, T, SP
SRE_Sts	SRE Status	SRE status. At the time of finalisation of the report, was this taxon considered to be a Short-range Endemic and treated as such in the assessment? Yes, no or possible.	Text	Yes	8	Yes_No_Possible
ObsMethod	Observation Method	The method by which this taxon was observed.	Text	Yes	50	
FaunaType	Fauna Type	Type of fauna i.e. terrestrial vertebrate, terrestrial invertebrate, aquatic, subterranean.	Text	Yes	50	
DateObs	Date Observed	The date this taxon was observed.	Date	Yes	N/A	dd/mm/yyyy

¹¹ If it is necessary to denote absence, i.e. a situation where the taxon has been specifically surveyed for and definitively found to be absent, use '-9999' (in practice, it is expected that use of this option will be rare).

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
Comments	Comments	Additional information about the fauna record, if any.	Text	No	254	
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.
Datum	Datum	Datum of the geocode.	Text	Yes	10	GDA2020
Precision_	Precision	Precision of the geocode.	Integer	No ¹²	2	Radius in metres, may be a grid block. i.e. standard GPS=15 DGPS=1
Latitude	Latitude	Geographic co-ordinate location.	Double	Yes	15	-XX.XXXXXX
Longitude	Longitude	Geographic co-ordinate location.	Double	Yes	15	XXX.XXXXXX

¹² Mandatory field for Commonwealth species.

I2F_FaunaHabitat Feature Class-Point or Polygon¹³ Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Fauna_Cod	Fauna Code	Fauna Habitat Code.	Text	Yes	20	Unique identifier given by consultant
FaunaHab	Fauna Habitat	Description of fauna habitat.	Text	Yes	254	Broad habitat type or corresponding description of vegetation association or type
Area_ha	Area hectares	Size of habitat in hectares.	Double	Yes	N/A	XXha
CreationYr	Creation Year	The year the habitat mapping polygons were created ¹⁴ .	Long Integer	Yes	5	YYYY
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
Comments	Comments	Additional information about the fauna habitat, if any.	Text	No	254	
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.

¹³ If a survey has produced fauna habitat data best represented by a combination of points, e.g. bat caves, and polygons, e.g. spinifex sand plain, a separate shapefile for each geometry type is required.

¹⁴ Fauna habitat mapping may be based on multiple surveys, over multiple years, by multiple zoologists. As such, it is difficult to attach a precise date to a fauna habitat map based on survey timing. However, including the year of creation of the fauna habitat mapping polygons in this field gives an indication of its currency for future reference. For the dates of the surveys that contributed to the fauna habitat mapping, users should refer to the methodology section of the associated fauna survey report.

FaunaHabitatTrees Feature Class-Point Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
FaunaHab	Fauna Habitat	Description of fauna habitat.	Text	Yes	254	Broad habitat type or corresponding description of vegetation association or type
Fauna_Sp	Fauna Species	Habitat for which fauna species.	Text	Yes	254	Genus, species, sub-species according to WAM nomenclature
Flora_Sp	Flora Species	Identification of the habitat.	Text	Yes	254	Genus, species, sub-species according to WA HERB census
DBH	Diameter at breast height	Diameter at breast height.	Short Integer	Yes	4	XXXXmm
Latitude	Latitude	Geographic co-ordinate location.	Double	Yes	15	-XX.XXXXXX
Longitude	Longitude	Geographic co-ordinate location.	Double	Yes	15	XXX.XXXXXX
Height_m	Height in metres	Height of the tree in metres.	Text	Yes	5	XX.XXm
Category	Category	Suitable DBH Tree Category for Black Cockatoos. To be determined by the consultant in accordance with Table 2 of the Technical Guidance Factsheet for Black Cockatoos.	Text	Yes	254	Cat No. XX
Hollow	Number of hollows	Amount of hollows visible.	Short Integer	Yes	2	0-99
Hollow_Sz	Size of hollows	Hollows of suitable size for use as per DER guidelines for each species of fauna relevant to species of tree. Each hollow to be recorded in mm, separated by a comma.	Text	No	254	XXXmm
CreationYr	Creation Year	The year the habitat mapping polygons were created.	Long Integer	Yes	5	YYYY

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
Comments	Comments	Populate with clarifying information if required.	Text	No	254	Eg. Hollow suitability, evidence of use, presence of fauna
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.

BlackCockatooForagingHabitat Feature Class-Polygon Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
CBC_Forag	Carnaby Foraging	Carnaby's Cockatoo Foraging habitat score. To be calculated by the consultant.	Long Integer	Yes	3	Quantitative (a score between 0 – 10 for Bamford)
BC_Forag	Baudin Foraging	Baudin's Cockatoo Foraging habitat score. To be calculated by the consultant.	Long Integer	Yes	3	Quantitative (a score between 0 – 10 for Bamford)
FRTBC_Fora	FRTBC Foraging	FRTBC Foraging habitat score. To be calculated by the consultant.	Long Integer	Yes	3	Quantitative (a score between 0 – 10 for Bamford)
Method	Assessment Methodology	Citation of habitat scoring system / methodology used to determine Black Cockatoo habitat.	Text	Yes	100	To be consistent with the survey i.e. Bamford (2020)
Area_ha	Area hectares	Size of habitat in hectares.	Double	Yes	N/A	XXha
CreationYr	Creation Year	The year the habitat mapping polygons were created.	Long Integer	Yes	5	YYYY
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
Comments	Comments	Additional information about the fauna habitat, if any.	Text	No	254	Eg. Description of fauna habitat.
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.

QuadratPhysical Feature Class-Point Data¹⁵

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Quadrat	Quadrat	Identifier quadrat.	Text	Yes	10	XYZ123
Quad_size	Quadrat size	Size of quadrat.	Text	No	10	XXm x XXm
Date	Date	Date of quadrat data collection.	Date	Yes	N/A	dd/mm/yyyy
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
Soil_Color	Soil Colour	Describe soil colour.	Text	Yes	30	References include Maunsell Soil Colour Chart and/or MacDonald Soil handbook
Soil_Type	Soil Type	Describe the soil type.	Text	Yes	30	Reference MacDonald e.g. Clay/loam/sandy
Rock_Type	Rock Type	Describe the type/extent and presence of rock at surface.	Text	Yes	30	Reference MacDonald e.g. granite
Age_fire	Age since fire	Age since last fire.	Text	Yes	20	Years or comment
Veg_Type	Vegetation Type	Broad description of vegetation type.	Text	Yes	254	NVIS
Comments	Comments	Further important details.	Text	No	254	
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.

¹⁵ This shapefile should be used to quadrat or relevé data where data consistent with these fields has been collected.

QuadratFloristics Feature Class- Point Data¹⁶

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Quadrat	Quadrat	Identifier quadrat.	Text	Yes	10	XYZ123
Date	Date	Date of quadrat data collection.	Date	Yes	N/A	dd/mm/yyyy
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
TaxonName	Taxon Name	The taxon name of the flora species recorded.	Text	Yes	254	Accepted name according to WA census
Height	Height	Height of the plant in metres	Text	No	10	XX.XXm or X – Xm
Plant_Co	Plant Count	Number of plants.	Short Integer	No	4	
Cover	Cover	Percentage of taxon cover.	Text	Yes	10	XXXX% or X – X%
Comments	Comments	Further important details.	Text	No	254	
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.

¹⁶ This shapefile should be used to quadrat or relevé data where data consistent with these fields has been collected.

HeritageSurveyedArea Feature Class-Polygon Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Surv_name	Survey name	Title of survey report.	Text	Yes	254	RoadName_SLK_Typeofwork
Group_Name	Cultural Group	Native Title or other cultural party(s) relevant/consulted.	Text	Yes	254	MR_XXX
SurveyType	Type	Type of survey conducted.	Text	Yes	100	Archaeological
Rec_Level	Recording Level	Level of recording undertaken.	Text	Yes	40	Work Area Clearance/Site ID/Site Avoidance
Date	Date	Date field survey undertaken.	Date	Yes	N/A	dd/mm/yyyy
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
Comments	Comments	Further important details.	Text	No	254	XXXXXX
TRIM_FILE	TRIM_FILE	TRIM reference to the final version of the report	Text	No	30	<i>Main Roads Western Australia Internal Use Only</i>

AboriginalHeritageSites Feature Class-Polygon Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
MR_ID	MRWA Site ID	New unique number for any new sites.	Text	Yes	15	MR_XXX_YY_XXX
Site_Name	New Site Name	Cultural name given to site by Traditional Owners.	Text	No	70	XXXXX
DPLH_ID	DPLH Site ID	Existing Department of Planning, Lands and Heritage (DPLH) number for previously recorded sites.	Text	No	15	DPLH XXXXX
HISF_Num	HISF ID	Heritage Information Submission Form number for sites to be registered with DPLH.	Text	Yes	25	HIS-XXXXXXXX-XXXX
Site_Type	Site Type	Site features identified.	Text	Yes	254	e.g. Artefact Scatter / Mythological / Ceremonial / Burial / Engraving / Historical / Scarred tree / Quarry
Site_Class	Site Class	Type of site identified.	Text	Yes	254	Archaeological / Ethnographic / Archaeological and Ethnographic
Site_Area	Site Area	Area of site in square kilometres.	Double	Yes	N/A	XXX.XXkm ²
Date_Rec	Date Recorded	Date of site recording.	Date	Yes	N/A	dd/mm/yyyy
Data_Rest	Data Restricted	Site is restricted or unrestricted access.	Text	No	3	Yes/No
Rec_Level	Record Level	Level of recording undertaken.	Text	Yes	40	Work Area Clearance / Site ID / Site Avoidance
Citation	Citation	A full citation for the accompanying .survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Archaeological Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.
Comments	Comments	Further important details.	Text	No	254	XXXXX

NoiseSampling Feature Class-Point Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Address	Address	Address that noise measurements are taken from.	Text	Yes	150	Street Name_Cres/Rd/St/etc_Postcode Number_Street
Date	Date	Date measurement recorded.	Date	Yes	N/A	dd/mm/yyyy
Start_Time	Start Time	Time of first measurement.	Text	Yes	5	24 hr time hh:mm
End_Time	End Time	Time of last measurement.	Text	Yes	5	24 hr time hh:mm
L_Aeq_Day	L_Aeq(Day)	A-weighted noise measurement 6am -10pm.	Float	Yes	10	XX.XdB(A)
L_Aeq_Nigh	L_Aeq (Night)	A-weighted noise measurement 10pm-6am.	Float	Yes	10	XX.XdB(A)
Latitude	Latitude	Geographic co-ordinate location.	Double	Yes	15	-XX.XXXXXX
Longitude	Longitude	Geographic co-ordinate location.	Double	Yes	15	XXX.XXXXXX
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Noise Assessment of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.

NoiseModelling Feature Class-Polygon Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Year	Year	Year for which noise is modelled.	Text	Yes	4	yyyy
L_Aeq_Day	L_Aeq(Day)	A-weighted noise measurement 6am - 10pm.	Float	Yes	10	XX.XdB(A)
L_Aeq_Nigh	L_Aeq (Night)	A-weighted noise measurement 10pm-6am.	Float	Yes	10	XX.XdB(A)
Treatment	Treatment	Noise mitigation treatment.	Text	Yes	20	
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Noise Assessment of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.

Dieback Feature Class-Polygon Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
Status	Status	Dieback status.	Text	Yes	30	Excluded, Infested, Uninfested, Uninterpretable
Interpret	Interpreter	Name of Interpreter.	Text	No	30	First Name_Last Name
Condition	Condition	Condition as per WA flora veg technical guide 2015.	Text	No	50	Pristine, Excellent, Very Good, Good, Poor, Degraded, Completely Degraded and Cleared. Areas devoid of vegetation to be mapped as Cleared.
Protect	Protectable	Protectability of area.	Text	No	30	Protectable, unprotectable
Date	Date	Date specimen recorded.	Date	Yes	N/A	dd/mm/yyyy
Author	Author	The name of the person or group who authored the survey report and datasets.	Text	Yes	100	To be consistent with the survey i.e. ABC Consulting
Citation	Citation	A full citation for the accompanying survey report.	Text	Yes	254	To be consistent with the survey i.e. ABC Consulting (2018). Detailed Flora and Vegetation Survey of Lot 123 Outback Rd. Unpublished report prepared for XYZ Developments.

FaunaInstallation Feature Class-Point Data

FIELD NAME	ALIAS NAME	DESCRIPTION	DATA TYPE	MANDATORY	SIZE	DOMAIN
TypeInstal	Type of Installation	Type of structure installed	Text	Yes	150	i.e. Nest box, Rope Bridge, Drey
ID	Identification Number	Unique identifier of structure	Text	No	20	Unique identifier given by company
FaunaSp	Fauna Species	Fauna species installation is targeted at	Text	No	254	i.e. Possum, Black Cockatoo, Red-tailed Phascogale
Status	Status	Current status of installation	Short Integer	Yes	1	1 (Current) 2 (Historical) 3 (Expired)
YearInstal	Year Installed	Provide the year the structure was installed	Long Integer	Yes	5	YYYY
MonitorDur	Monitoring Duration	Provide the amount of years monitoring is required	Long Integer	No	10	20
Reason	Reason	Reason the structure was installed	Text	Yes	150	i.e. Approval condition, Stakeholder commitment, Regional initiative
FixPoint	Fixing Point	Description of what the structure is adhered to	Text	No	254	i.e. Pole, Wandoo
Height	Nominal Height	Provide the nominal height of structure above ground in meters	Double	No	3	XX.XXm
Latitude	Latitude	Geographic co-ordinate location	Double	Yes	15	-XX.XXXXXX
Longitude	Longitude	Geographic co-ordinate location	Double	Yes	15	XXX.XXXXXX
Company	Company	The name of the person or group who installed the structure.	Text	Yes	100	i.e. ABC Consulting
RoadRes	Road reserve	Statement as to whether the installation is in or out of the road reserve	Text	No	5	Yes or No
TRIMFolder	TRIM Folder	TRIM folder reference that contains surveys, monitoring data etc	Text	No	30	<i>Main Roads Western Australia Internal Use Only</i>

Comments	Comments	Additional information about the structure, if any.	Text	No	254	
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APPENDIX 3: Shapefile Template

The Shapefile Template and Raw Data Templates are available through the Main Roads website:

<https://www.mainroads.wa.gov.au/technical-commercial/contracting-to-main-roads/environmental-heritage-management/>

(Main Roads > Community & Environment > Environment > Consultant & Contractor Info> Environmental & Heritage Management > Environmental and Heritage Consultants>