|  |  |  |  |
| --- | --- | --- | --- |
| Specific Job Requirements | | Compiled | Type here |
| Job No. | Type here | Verified | Type here |
| Principal Engineer  Date |

# Hydraulic analysis and design

|  |  |  |  |
| --- | --- | --- | --- |
| **Cross Drainage** | **% Probability** | | |
| When designing cross drainage, the Head Water Level should generally be designed to allow 100 mm freeboard to the shoulder, as recommended in the Road Drainage Manual.  However, in difficult situations, immunity Head Water level may be allowed to encroach onto the lane (refer drainage design manual). This applies where floods larger than the design flood could cause unacceptable flooding upstream or damage the road in overtopping. | | | |
| **Road Surface Drainage** | | | |
| Component | | Average Recurrence Interval | |
| Design (Years) | Check (Years) |
| Gazetted Road | | | |
| Gutters | | 10 | 25 |
| Inlets | | 20 | 50 |
| Table Drains | | 20 | 50 |
| Catch Banks | | 20 | 50 |
| Shire Road | | | |
| Gutters | | 5 | 25 |
| Inlets | | 5 | 50 |
| Table Drains | | 10 | 50 |
| Bridge Decks | | 20 | 50 |
| Intersections | | 20 | 50 |

# Lighting

|  |  |
| --- | --- |
| Intersection Lighting | Route Lighting |
| Type here | Type here |
| Road, Intersection or Cul‑de‑sac | |
| Type here | |

# Design year

|  | Design year\* |  | Design year\* |
| --- | --- | --- | --- |
| Pavement Design | 20 | Temporary Connection | 20 |
| Traffic Lanes | 20 | Traffic Signal Ducting | 15 |
| Intersection Design | 15 | Interchanges | # |
| \* Years after opening to traffic (Consultant to calculate year based on project let for construction six months after completion of design Contract). | | | |
| # Refer Austroads Guide to Road Design Part 4C: Interchanges and local standards. | | | |

# Geotechnical investigation

|  |
| --- |
| Minimum requirements: |
| Soaked CBR tests (1 point) on existing pavement at @ locations. |
| Soaked CBR tests (4 point) on subgrade / insitu material at @  locations. |
| Grading and Atterberg limits on existing pavement (base and sub‑base) at @ m intervals. |
| Grading and Atterberg limits on subgrade / insitu material at @ m intervals. |
| Exploratory pits at @ locations including DCP, Moisture Content, Soil Classification and layer depths. |
| Bridge foundations |
| As per Clause 8.2.2 of the Austroads Guide to Bridge Technology Part 4: Design Procurement and Concept Design. |

# Environmental and Cultural Heritage Management

@TypeHere Project Manager to delete reference to Cultural Heritage Agreements if not applicable to Contract

Cultural Heritage Agreements

The Consultant shall refer to C7559 Terms of Reference for Cultural Heritage Assessment, which identifies standard requirements for the Cultural Heritage Agreements (CHFA, CHMA or CHMP). Note that only departmental staff can sign off on agreements, therefore the departmental Project Manager and District Cultural Heritage Officer must be involved in key decision‑making steps and any signing meetings.

(Where applicable, add additional items to be undertaken as part of the agreement process.)

@TypeHere Project Manager to delete reference to Historical / European Heritage Approvals if not applicable to Contract

Historical / European Heritage Approvals

The Consultant shall refer to C7559 Terms of Reference for Cultural Heritage Assessment, which identifies standard requirements for the Historical / European Heritage Approvals.

(Where applicable, add additional items to be undertaken as part of the approvals process.)

Table 5.1 - Scope of Cultural Heritage Agreements and Approvals

|  |  |  |
| --- | --- | --- |
|  | Not Required | Required |
| CHFA | ☐ | ☐ |
| CHMA | ☐ | ☐ |
| CHMP | ☐ | ☐ |
| Historical / European Heritage Approvals | ☐ | ☐ |

***@TypeHere Project Manager to delete reference to REF if not applicable to Contract***

**Terms of Reference for Review of Environmental Factors**

The scope of the Review of Environmental Factors shall be determined based on the risks and uncertainty identified in the Preliminary Environmental Assessment.

The department’s C7558 *Terms of Reference for Review of Environmental Factors,* identifies assessments required for desktop, standard field and high‑risk field assessments of each of the environmental factors. The Consultant shall refer to C7558 *Terms of Reference for Review of Environmental Factors* and undertake the assessment corresponding to the level identified in Table 5.2 following. Where the assessment identifies greater uncertainty or risk that was previously identified, the Consultant shall inform the Principal and propose a suitable assessment level.

Table 5.2 - Review of environmental factors assessment level by environmental factor

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Environmental Factor | Assessment level | | | |
| Out of scope | Desktop | Standard Field | High‑risk field |
| Water |  |  |  |  |
| Soil and Land |  |  |  |  |
| Ecosystems and Habitat |  |  |  |  |
| Flora |  |  |  |  |
| Fauna |  |  |  |  |
| Biosecurity Matters |  |  |  |  |
| Air |  |  |  |  |
| Amenity |  |  |  |  |
| Resource Use and Management (including waste) |  |  |  |  |
| Special Areas and Land Tenures |  |  |  |  |
| Other – @TypeHere Please specify other assessments or deliverables to be included under the Review of Environmental Factors. |  | | | |
| Environmental Management Plan (Planning) |  | | | |