# Duty Book

Office of Geospatial Services

Centre for Administrative Services

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# Preface

This Duty Book provides the operational knowledge an officer needs to function in the Office of Geospatial Services on the first day of duty. It is the second duty book produced under the Duty Book System established by the Centre for Administrative Services. A duty book is not a job description and not a procedure manual. A job description specifies the qualifications and classification of a position; that is held by the Civil Service Commission. A procedure manual specifies the detailed step-by-step procedures for every task; that is held by the bureau and updated with every system change. This duty book sits between the two: it states the operational knowledge that an officer assuming the billet must possess to do the job competently from the first hour.

The Office of Geospatial Services produces geospatial intelligence across four domains: flood risk management, food security, energy infrastructure, and minerals and critical resources. The office is established within the Services Desk of the Bureau of Civil Affairs, under the Ministry of the Interior. The first three domains are public-service functions: their products are delivered to consumer offices across the government to support emergency response, strategic reserve management, and critical infrastructure protection. The fourth domain, minerals and critical resources, is a commercial function: its products are sold to external customers, and the revenue funds the public-service functions. The principle that the commercial arm exists to sustain the public-service arm, and that the two arms are institutionally separable, is foundational to the office's design and is restated in every section of this duty book where it bears on the work.

An officer assuming the billet of Manager, Officer, Specialist, or Clerk in the Office of Geospatial Services should read this duty book in full on the first day. The eight sections are arranged in the order in which the information is most useful: first the identification and mandate of the office, then the functions and procedures that constitute the daily work, then the systems and relationships that frame the work, and finally the standards and escalation protocols that govern the work. The duty book is maintained on an annual review cycle and is updated whenever the office's operations change substantially. The certification page at the end records the review history and the officers responsible for the duty book's accuracy.

# Section 1 — Office Identification

The Office of Geospatial Services is a unit of the Services Desk, within the Bureau of Civil Affairs of the Ministry of the Interior. The Bureau of Civil Affairs was formerly designated the Bureau of Civil Registry and Census; the renaming was effected to reflect the bureau's expanded remit, which now encompasses the civil registry, the census, and geospatial services as distinct functional desks. The office is headed by a Manager, who reports to the Desk Chief of the Services Desk. The office's position in the organizational hierarchy of the government is as follows.

The Services Desk is one of three desks within the Bureau of Civil Affairs, alongside the Civil Registry Desk and the Census Desk. The Civil Registry Desk maintains the registry of persons, including the registration of births, deaths, marriages, and changes of status. The Census Desk conducts the census and produces demographic analysis. The Services Desk conducts the geospatial intelligence functions of the bureau. The three desks are operationally distinct: each has its own desk chief, its own complement, and its own duty book. The Bureau of Civil Affairs is headed by a Bureau Chief, who reports to the Deputy Minister of the Interior, who reports to the Minister of the Interior.

The identification metadata of the office is as follows. Office name: Office of Geospatial Services. Parent desk: Services Desk. Parent bureau: Bureau of Civil Affairs. Parent ministry: Ministry of the Interior. Head rank: Manager. Current incumbent: to be recorded by the office upon assumption of the billet. Date of last revision: recorded on the certification page. Duty book series number: 002, being the second duty book produced under the Duty Book System. The office's establishment is recorded in the organizational instrument of the Bureau of Civil Affairs and is reflected in the annual budget of the Ministry of the Interior. The constitutional basis for the office's parent ministry is Article 58(1)(f) of the Constitution, which establishes the Ministry of the Interior.

# Section 2 — Mandate and Purpose

The Office of Geospatial Services exists to produce geospatial intelligence across four domains: flood risk management, food security, energy infrastructure, and minerals and critical resources. The first three domains are public-service functions, conducted for the benefit of consumer offices across the government. The fourth domain, minerals and critical resources, is a commercial function, conducted on a cost-recovery basis with the revenue applied to the sustenance of the public-service functions. The office's mandate derives from the functional necessity of geospatial intelligence for the government's resilience, resource, and infrastructure functions, and from the constitutional framework governing the Ministry of the Interior under Article 58(1)(f).

The office is distinguished from the Bureau of Land Management and Cadastre, which is established under the same ministry and which maintains the Cadastre — the official, legally binding map of the Polity — under Article 130 of the Constitution. The Bureau of Land Management and Cadastre is the authoritative record of land boundaries and titles; the Office of Geospatial Services is the producer of analytical intelligence about land, water, resources, and infrastructure. The two offices are operationally interdependent — the Cadastre is the base layer for every geospatial product the office produces — but they are institutionally distinct, and the distinction is maintained to prevent the analytical function from being compromised by the regulatory function. The office is further distinguished from the Bureau of Emergency Management, which conducts the operational response to emergencies and which is the principal consumer of the office's flood risk products, and from the Ministry of Agriculture and Environmental Affairs, which conducts sectoral regulation and which is a consumer of, not a producer of, geospatial intelligence.

The office operates on a revenue-neutral model in which the commercial minerals arm funds the public-service arms. The principle that the commercial arm exists to sustain the public-service arm, and that the two arms are institutionally separable, is foundational to the office's design. The firewall between the arms is maintained through separate charge codes in the government's financial system, separate classification markings on every commercial product, a separate customer-facing identity for the commercial arm, and the sole authority of the Manager to authorize commercial releases. The firewall is an institutional arrangement, not a managerial discretion; it is restated in the functions, procedures, systems, relationships, standards, and escalation provisions of this duty book, and it is enforced by the audit jurisdiction of the Court of Audit over the commercial arm's accounts.

The office's purpose, stated operationally, is to ensure that every geospatial product — whether a flood inundation map, a crop condition bulletin, an infrastructure risk assessment, or a mineral prospectivity study — is produced accurately, classified correctly, and delivered on time, in a form that serves the purpose for which it was commissioned. The office measures its success by the accuracy of its products, the correctness of its classification decisions, the timeliness of its delivery, and the satisfaction of its consumer offices and commercial customers. Failure in any of these measures is a failure of the office's mandate, regardless of the cause.

# Section 3 — Principal Functions

The office performs six principal functions. The first four are the domain functions, each corresponding to one of the four geospatial domains. The fifth and sixth are shared pipeline functions that underlie all four domain functions. Each function is described below in terms of what it is, whom it serves, what the input is, what the output is, what the standard is, and — for the domain functions — the cadence on which it operates and the classification regime that applies to its products.

## 3.1 Flood Risk Intelligence

Flood risk intelligence is the production of maps, models, and reports that describe the probability, extent, depth, and consequences of flooding across the territory of the Polity. The function serves the Bureau of Emergency Management as its principal consumer, with secondary consumers including the Bureau of Land Management and Cadastre, the Ministry of Waters, and the public through the government portal. The input comprises rain gauge telemetry, river stage sensor data, snowpack observations from satellite and ground stations, the digital elevation model, land cover data, and the Cadastre base layer from the Bureau of Land Management and Cadastre. The Cadastre is what makes flood maps actionable: the inundation extent is meaningful only when it can be associated with specific parcels, specific owners, and specific land uses.

The output comprises real-time inundation maps during flood events, a scenario library covering the standard return periods, exposure reports that quantify the population, property, and infrastructure affected by each scenario, and evacuation guidance for the Bureau of Emergency Management. The standard is hydrological model validation against observed events, parcel-level exposure accuracy against the Cadastre, and delivery within the timeframes specified in Section 7. The cadence is continuous: the office maintains a constant ingestion of telemetry and sensor data, produces event-driven maps during floods, and updates the scenario library on a seasonal basis. The classification regime is tiered: general flood hazard maps are Public; exposure reports for critical infrastructure are Internal; and scenarios involving dam or levee failure are Security Confidential, as their disclosure could inform attacks on critical water infrastructure.

## 3.2 Food Security Intelligence

Food security intelligence is the production of crop condition assessments, yield forecasts, and procurement advisories that support the Ever Normal Granary — the agricultural buffer stock scheme of the Polity. The function serves the Ever Normal Granary authority as its principal consumer, with secondary consumers including the Ministry of Agriculture and Environmental Affairs and the public through a weekly crop condition summary. The input comprises optical satellite imagery, synthetic aperture radar for cloud penetration, weather data, soil moisture observations, the Cadastre base layer for parcel stratification, and farmer-reported planting data transmitted by the Ministry of Agriculture and Environmental Affairs. The Cadastre enables the office to stratify crop observations by parcel, which is the unit at which the Ever Normal Granary manages procurement and release decisions.

The output comprises a weekly crop condition bulletin, a seasonal yield forecast, and a granary procurement advisory that synthesizes the yield forecast with current granary stock levels to produce a release or buy signal. The procurement advisory is the distinctive product of this function: it is what makes the office a forward-sensor for a buffer stock authority rather than a crop-monitoring service. The standard is yield model validation against harvest outcomes, parcel-level stratification accuracy, and delivery of the weekly bulletin by close of business each Wednesday. The cadence is weekly for the bulletin, seasonal for the yield forecast, and ad hoc for anomaly alerts triggered by departures from the historical baseline. The classification regime is Public for the crop condition summary, Internal for the procurement advisories — their premature disclosure could move market prices — and Internal for the farmer-reported planting data transmitted by the Ministry of Agriculture.

## 3.3 Energy Infrastructure Intelligence

Energy infrastructure intelligence is the monitoring of the Polity's energy infrastructure — generation facilities, transmission corridors, substations, and pipelines — for encroachment, degradation, and vulnerability. The function serves the energy state-owned enterprise, the Ministry of Industry, and the Bureau of Emergency Management for critical facility protection. The input comprises high-resolution satellite and aerial imagery from the State Aerial Systems assets, the infrastructure asset registry maintained by the Ministry of Industry and the energy state-owned enterprise, terrain data, and vegetation cover data. The asset registry provides the footprint of every monitored facility; the imagery provides the change signal.

The output comprises an infrastructure risk map showing monitored assets and their vulnerability scores, encroachment alerts when third-party construction or vegetation growth is detected near assets, and maintenance advisories identifying assets at risk from subsidence, erosion, or other ground conditions. The standard is change detection accuracy against ground truth, vulnerability scoring consistency, and delivery of the monthly monitoring cycle by the fifth business day of each month. The cadence is monthly for routine monitoring and event-driven for incidents reported by the energy state-owned enterprise or detected by the monitoring system. The classification regime is Security Confidential by default: the geolocation of critical energy infrastructure is the textbook case for this classification level, and all products of this function carry the marking unless explicitly declassified by the Manager.

## 3.4 Minerals and Critical Resources Intelligence

Minerals and critical resources intelligence is the production of geological maps, prospectivity assessments, and resource estimates that support the mineral sector and the strategic stockpile. The function serves commercial customers — mining and exploration firms that purchase the office's products — and, through standing products, the public and the Ministry of Industry. The input comprises geological survey data, aeromagnetic and gravity geophysics, geochemistry, hyperspectral imagery, historical exploration data, the digital elevation model, and the Cadastre base layer. The analytical methods include data fusion, structural interpretation, prospectivity modeling using weights-of-evidence or machine learning approaches, and resource estimation following international reporting standards.

The output comprises prospectivity maps sold to commercial customers, a national geological map series published as standing products, custom commission reports for specific commercial projects, and a critical minerals inventory that supports the strategic stockpile. The standard is geological accuracy validated against field observations, prospectivity model validation against known deposits, and resource estimation compliance with international reporting standards. The cadence is project-based for commercial commissions, with timelines agreed per project, and annual for the standing products. The classification regime is mixed: base geology is Public; commercial commissions are Confidential, with the customer's identity and the specific findings restricted to the Manager and the Specialist responsible; and the critical minerals inventory is Security Confidential, as its disclosure could inform strategic adversaries about the Polity's resource vulnerabilities. The mixed classification on a single function is the hardest records-management problem in the office, and it is the reason the commercial release procedure in Section 4.6 exists as a distinct procedure.

## 3.5 Geospatial Data Acquisition and Processing

Geospatial data acquisition and processing is the shared pipeline function that underlies all four domain functions. It comprises the tasking of satellites, the purchasing of imagery, the ingestion of sensor feeds, the management of data licenses, and the processing of raw data into analysis-ready products. The function serves the four domain functions as its internal consumers. The input comprises acquisition requests from the domain specialists, the office's standing data subscriptions, and the Cadastre base layer feed from the Bureau of Land Management and Cadastre. The output comprises georeferenced, calibrated, mosaicked, and cloud-masked imagery, fused data products, and the maintained base layer registry — the digital elevation model, land cover, hydrography, and administrative boundaries.

The standard is processing accuracy validated against ground control points, base layer integrity maintained through version control and periodic audit, and processing throughput sufficient to meet the cadence requirements of all four domain functions. This function does not produce classified products directly; rather, it produces the intermediate products from which classified domain products are derived. The classification of intermediate products follows the classification of the domain function they will feed, as determined by the Specialist who requests the processing. This function is the operational backbone of the office, and its integrity is the precondition for every other function.

## 3.6 Cartographic Production and Archive

Cartographic production and archive is the shared pipeline function that produces the final deliverables of all four domain functions and maintains the office's permanent archive. It comprises cartographic design, symbology application, classification marking, format conversion, publication, cataloguing, versioning, and retention management. The function serves the four domain functions as its internal consumers and, through them, the external consumers and commercial customers. The input comprises the analytical products from the domain specialists and the office's cartographic standards. The output comprises the final maps, reports, and data products delivered to consumers and customers, and the archived copies retained for institutional memory.

The standard is compliance with the government's cartographic standards, accurate classification marking on every product, format compatibility with consumer systems, and archive integrity maintained through the records management standards of the Bureau of Professional Standards. Every product produced by this function carries a classification marking, a version number, a provenance record, and a retention designation. The archive is the permanent record of the office's work and is subject to the audit jurisdiction of the Court of Audit. Access to the archive is controlled and logged, with access to classified products restricted to cleared personnel.

# Section 4 — Key Procedures

The office follows six principal procedures. Each procedure is described below in terms of its trigger, the steps in order, the owner at each step, and the standard the procedure must meet. The detailed step-by-step procedures are maintained in the office's procedure reference and are updated as systems and requirements change. The first five procedures constitute the operational pipeline, from data intake through archival. The sixth procedure, the Commercial Release Procedure, is the firewall procedure that governs the release of every commercial minerals product and is the procedural expression of the foundational principle stated in Section 2.

## 4.1 Data Intake and Acquisition Procedure

The Data Intake and Acquisition Procedure governs the receipt of acquisition requests from the domain specialists, the tasking of satellites, the purchasing of imagery, the ingestion of sensor feeds, and the management of data licenses. The procedure is triggered by an acquisition request from a domain Specialist, by the office's standing data subscription schedule, or by an event-driven request from the Bureau of Emergency Management during a flood. The Acquisition and Pipeline Clerk acknowledges the request, verifies that the request is within the office's data license terms or arranges for a new purchase, and submits the tasking or purchase order through the SASI Acquisition Desk submodule. Purchases above the threshold specified in Section 8 require Manager authorization before submission.

The Clerk ingests the acquired data into the SASI Processing Engine, records the provenance and license terms in the SASI Catalog and Archive submodule, and notifies the requesting Specialist that the data is available for processing. The Officer reviews the ingestion log daily to verify that all scheduled acquisitions have been received and that all license terms are recorded. The standard is that every acquisition is acknowledged within one business day, every purchase is authorized before submission, every license term is recorded before the data enters the processing pipeline, and no data is acquired outside the office's license terms or procurement authority.

## 4.2 Processing Procedure

The Processing Procedure governs the transformation of raw acquired data into analysis-ready products. The procedure is triggered by the notification from the Acquisition and Pipeline Clerk that acquired data is available. The Clerk performs georeferencing against ground control points, calibration against sensor metadata, mosaicking of adjacent scenes, projection management to the office's standard coordinate system, cloud masking for optical imagery, and data fusion where multiple sources are combined. The Officer oversees the processing queue, verifies that the processing parameters are correct for the data type and the intended domain function, and authorizes the release of processed products to the domain Specialists.

The Clerk records the processing parameters, the processing date, and the version in the SASI Catalog and Archive submodule, maintaining a complete provenance chain from acquisition through processing to the analytical product. The standard is processing accuracy validated against ground control points, processing throughput sufficient to meet the cadence requirements of all four domain functions, and a complete provenance record for every processed product. No processed product enters the modeling stage without a complete provenance record; this is the integrity guarantee that underlies every analytical product the office produces.

## 4.3 Modeling Procedure

The Modeling Procedure governs the domain-specific analytical layer — the application of hydrological models for flood risk, crop models for food security, change detection for energy infrastructure, and prospectivity models for minerals. The procedure is triggered by the availability of processed data from the Processing Procedure. The domain Specialist configures the model run in the SASI Modeling Workbench, selecting the appropriate domain plug-in and the model parameters for the specific product. The Specialist executes the model run, reviews the outputs for plausibility against historical baselines and ground truth, and iterates the parameters where the outputs deviate from expectation without a documented cause.

The Officer owns the configuration of the Modeling Workbench — the model versions, the parameter libraries, and the validation protocols — and reviews the Specialist's model runs on a sample basis to verify that the parameters are appropriate and the validation is conducted. The Specialist records the model version, the parameters, the validation results, and the model run date in the SASI Catalog and Archive submodule. The standard is model validation against ground truth per the domain-specific protocols, parameter consistency across runs of the same product type, and a complete model provenance record. No model output enters the production stage without a validation record; this is the analytical integrity guarantee that underlies every product the office delivers.

## 4.4 Production Procedure

The Production Procedure governs the transformation of model outputs into final deliverables. The procedure is triggered by the completion of a model run and the Specialist's authorization that the output is ready for production. The Cartographic and Production Clerk receives the model output, applies the appropriate cartographic template through the SASI Product Studio submodule, applies the symbology and classification markings, generates the map layout or report format, and produces the draft product. The Specialist reviews the draft for analytical accuracy and correct classification marking. The Manager reviews the draft for compliance with the government's cartographic standards and for classification correctness before authorizing the product for release.

The Clerk records the product version, the production date, the classification marking, and the intended recipient in the SASI Catalog and Archive submodule. The standard is compliance with the government's cartographic standards, accurate classification marking on every product, format compatibility with the consumer's systems, and delivery within the timeframe specified in Section 7. No product is released without Manager authorization; this is the procedural control that prevents the release of misclassified or non-compliant products. For Security Confidential products, the Manager's authorization is recorded in a separate log that is subject to the audit jurisdiction of the Court of Audit.

## 4.5 Archive and Catalog Procedure

The Archive and Catalog Procedure governs the preservation of the office's outputs and the maintenance of the catalog that makes them retrievable. The procedure is triggered by the release of a product under the Production Procedure. The Cartographic and Production Clerk archives a copy of every product in the SASI Catalog and Archive submodule, catalogued by domain, product type, date of production, classification, and product identifier. The Clerk maintains the catalog as a permanent record, with retention designations assigned per the records management standards of the Bureau of Professional Standards. The Manager ensures that the archive is maintained in accordance with the records management standards and that access to the archive is controlled and logged.

Access to classified products in the archive is restricted to cleared personnel, with every access recorded in the access log. The standard is the permanent preservation of every product, the complete and accurate cataloguing of every product, the controlled and logged access to classified products, and the retention of the archive in accordance with the records management standards. The archive is the institutional memory of the office and is subject to the audit jurisdiction of the Court of Audit. No product may be deleted from the archive without the authorization of the Manager and the documentation of the reason; this is the integrity guarantee that ensures the office's analytical record can be reconstructed and audited.

## 4.6 Commercial Release Procedure

The Commercial Release Procedure governs the release of every commercial minerals product and is the procedural expression of the firewall between the commercial and public-service arms of the office. The procedure is triggered by the completion of a commercial minerals product under the Production Procedure. The Specialist responsible for the minerals domain presents the draft product to the Manager, together with the proposed classification marking, the customer identity, the agreed price, and the charge code. The Manager reviews the product to verify that it contains no information derived from public-service functions, that the classification marking is correct, that the customer identity and price are consistent with the office's commercial arrangements, and that the charge code is the commercial charge code, not a public-service charge code.

The Manager alone authorizes the release. No other officer may authorize a commercial release, and the Manager may not delegate this authority. This is the one decision in the office that cannot be escalated upward or delegated downward. The Manager records the authorization in the commercial release log, which is a separate record from the general production log and which is subject to the audit jurisdiction of the Court of Audit. The Cartographic and Production Clerk releases the product to the customer through the commercial channel, records the release in the SASI Catalog and Archive submodule under the commercial charge code, and invoices the customer through the SASI Accounts Receivable module. The standard is that no commercial product is released without Manager authorization, no commercial product contains information derived from public-service functions, no commercial customer identity is disclosed to non-minerals staff, and every commercial release is recorded in the commercial release log. This procedure exists because the firewall is the foundational principle of the office, and a procedure that is not enforced is not a firewall.

# Section 5 — Systems and Tools

The officer must be competent in the following systems and tools. For each system and tool, this section states what it is, what the officer must be able to do with it, and what training is required. Training is provided by the Centre for Administrative Services or, for specialized systems, by the system proprietor. The systems are grouped into the government's shared SASI modules, the SASI-Spatial submodules that are specific to this office's work, and the standards references that govern the office's output.

## 5.1 SASI Records and Document Management

The SASI Records and Document Management module is the office's primary system for managing documents and records. The officer must be able to create, retrieve, update, and archive documents in the system; to manage the production request workflow; to record the production and distribution status; and to generate reports on the office's activity. Training is the SASI Navigation Basics course, provided by the Centre for Administrative Services, and the Records Management Fundamentals course, also provided by the Centre for Administrative Services.

## 5.2 SASI Analytics

The SASI Analytics module is the office's system for statistical analysis, data exploration, and model evaluation. The officer must be able to query the office's data holdings, generate summary statistics, evaluate model performance against validation data, and produce analytical reports. Training is the Analytics Fundamentals course, provided by the Centre for Administrative Services, with the Advanced Analytics course required for Specialists and above.

## 5.3 SASI Report Writer

The SASI Report Writer module is the office's system for producing formatted reports that draw on SASI data. The officer must be able to design report templates, generate reports from the templates, and export the reports to the production system. Training is the Report Writer Fundamentals course, provided by the Centre for Administrative Services, with the Report Writer Advanced course required for Specialists and above.

## 5.4 SASI Portal/Dashboard

The SASI Portal and Dashboard module is the office's system for workflow management, notifications, and situational awareness. The officer must be able to navigate the portal, manage workflow tasks, respond to notifications, and configure dashboard views for the office's operational status. Training is the SASI Navigation Basics course, provided by the Centre for Administrative Services.

## 5.5 SASI Spatial Data Infrastructure

The SASI Spatial Data Infrastructure is the base layer registry of the SASI-Spatial module. It maintains the digital elevation model, the land cover layer, the hydrography layer, the administrative boundaries layer, and the Cadastre feed from the Bureau of Land Management and Cadastre. The officer must be able to query the base layers, verify layer integrity and version, subscribe to layer updates, and flag discrepancies between the office's base layers and the Cadastre. Training is the SASI-Spatial Foundational course, provided by the Centre for Administrative Services, with the Spatial Data Infrastructure course required for all officers. This submodule is the foundation of every geospatial product the office produces, and its integrity is non-negotiable.

## 5.6 SASI Acquisition Desk

The SASI Acquisition Desk is the submodule of SASI-Spatial that manages satellite tasking, imagery purchasing, sensor feed ingestion, and data license management. The officer must be able to submit tasking requests, manage purchase orders, ingest data feeds, record license terms, and track acquisition status. Training is the SASI-Spatial Foundational course and the Acquisition Desk course, both provided by the Centre for Administrative Services. The Acquisition and Pipeline Clerk is the primary operator of this submodule; the Officer oversees its configuration and the Manager authorizes purchases above the threshold specified in Section 8.

## 5.7 SASI Processing Engine

The SASI Processing Engine is the submodule of SASI-Spatial that performs georeferencing, calibration, mosaicking, projection management, cloud masking, and data fusion. The officer must be able to configure processing pipelines, monitor processing jobs, verify processing outputs against ground control points, and manage the processing queue. Training is the SASI-Spatial Foundational course and the Processing Engine course, both provided by the Centre for Administrative Services. The Acquisition and Pipeline Clerk is the primary operator; the Officer oversees the processing configuration and validates processing outputs.

## 5.8 SASI Modeling Workbench

The SASI Modeling Workbench is the submodule of SASI-Spatial that hosts the domain-specific analytical models. It comprises the workbench itself and four domain plug-ins: the hydrology plug-in for flood risk, the crop model plug-in for food security, the change detection plug-in for energy infrastructure, and the prospectivity plug-in for minerals. The officer must be able to configure model runs, select parameters, execute runs, review outputs, and record model provenance. Training is the SASI-Spatial Foundational course and the domain-specific Modeling course corresponding to the officer's domain assignment, both provided by the Centre for Administrative Services. The domain Specialists are the primary operators; the Officer owns the workbench configuration, the model versions, and the validation protocols.

## 5.9 SASI Product Studio

The SASI Product Studio is the submodule of SASI-Spatial that performs cartographic design, symbology application, classification marking, and format conversion. The officer must be able to select cartographic templates, apply symbology, apply classification markings, generate map layouts and report formats, and export products in the formats required by consumers. Training is the SASI-

Spatial Foundational course and the Product Studio course, both provided by the Centre for Administrative Services. The Cartographic and Production Clerk is the primary operator; the Manager reviews the output for compliance with the government's cartographic standards and for classification correctness.

## 5.10 SASI Catalog and Archive

The SASI Catalog and Archive submodule is the records system for all geospatial products produced by the office. It maintains the provenance chain from acquisition through processing, modeling, and production; the version history of every product; the classification markings; the retention designations; and the access log for classified products. The officer must be able to archive products, query the catalog, manage retention, control access to classified products, and generate audit reports. Training is the SASI-Spatial Foundational course and the Catalog and Archive course, both provided by the Centre for Administrative Services. The Cartographic and Production Clerk is the primary operator; the Manager ensures compliance with the records management standards.

## 5.11 Government Style Manual

The Government Style Manual is the authoritative reference for the formatting of government documents. The officer must be familiar with the manual's provisions on typography, page layout, heading hierarchy, table of contents, page numbering, front and back matter, and the plain language standard. The officer must be able to apply the manual's provisions to any document the office produces and to advise consumer offices on compliance. Training is the Government Style Manual course, provided by the Centre for Administrative Services, required for all officers.

## 5.12 Document Classification System

The document classification system is the system for classifying documents by confidentiality level. The officer must be able to determine the correct classification for a product, apply the classification markings, and handle the product according to its classification. The classification levels are Public, Internal, Confidential, Medical Confidential, and Security Confidential, as defined in the government's classification framework. The office's products span all five levels, and correct classification is a performance standard with zero tolerance for error. Training is the Document Classification course, provided by the Bureau of Professional Standards, required for all officers and refreshed annually.

# Section 6 — Relationships and Reporting

The office's position in the organization is described below from the office's perspective: who the office reports to, who reports to the office, who the office coordinates with, and whom the office serves externally. This section makes the office's organizational relationships operationally explicit.

## 6.1 Reporting Line Up

The office reports to the Desk Chief of the Services Desk. The Desk Chief reports to the Bureau Chief of the Bureau of Civil Affairs, who reports to the Deputy Minister of the Interior, who reports to the Minister of the Interior. The office's Manager reports directly to the Desk Chief on all operational matters and is evaluated by the Desk Chief on the office's performance. The Desk Chief's oversight covers the office's production, its compliance with standards, its financial administration, and its adherence to the commercial firewall. The Bureau Chief's oversight covers the office's strategic direction, its budget, and its inter-bureau coordination. The Deputy Minister's oversight covers the office's establishment, the appointment of the Manager, and inter-ministry coordination disputes.

## 6.2 Supervised Offices Down

The office does not supervise any subordinate offices. The office is a leaf office in the organizational hierarchy — it is the smallest unit at the end of the reporting chain. Within the office, the Manager supervises the Officer, the two Specialists, and the two Clerks, but there are no sub-offices beneath the office. The office's internal structure is flat: the Manager, the Officer, the Specialists, and the Clerks, with no intermediate layers. The flat structure is deliberate: it ensures that the Manager has direct visibility of all operational work and that the commercial firewall is enforceable at the scale of the office.

## 6.3 Coordination Offices Across

The office coordinates with four sets of peer offices. First, the other desks of the Bureau of Civil Affairs: the Civil Registry Desk and the Census Desk. The three desks share the bureau's resources and coordinate on cross-desk projects where geospatial intelligence informs registry or census work. Second, the other bureaus of the Ministry of the Interior: notably the Bureau of Land Management and Cadastre, which provides the Cadastre base layer that underlies every geospatial product the office produces, and the Bureau of Emergency Management, which is the principal consumer of the office's flood risk products and which conducts the operational response that the office's intelligence supports. Third, the Ministry of Agriculture and Environmental Affairs for food security and environmental monitoring coordination, the Ministry of Industry for energy infrastructure and minerals coordination, the Ministry of Waters for flood risk and waterway management coordination, and the Ever Normal Granary authority for food security intelligence delivery. Fourth, the Centre for Administrative Services and the Bureau of Professional Standards on the duty book system, training standards, and quality assurance.

## 6.4 External Parties

The office serves and coordinates with several external parties. First, the commercial customers of the minerals arm: mining and exploration firms that purchase the office's mineral intelligence products. The office's relationship with its commercial customers is governed by the Commercial Release Procedure in Section 4.6, and the customers' identities are not disclosed to non-minerals staff. Second, the satellite imagery vendors from whom the office acquires data, managed through the SASI Acquisition Desk. Third, the operator of the State Aerial Systems, which provides the high-resolution imagery used in the energy infrastructure function. Fourth, the Bureau of Statistics, with which the office shares data under the data-sharing provisions of the Foundational Interagency Procedures. Fifth, the Court of Audit, which exercises audit jurisdiction over the commercial arm's accounts and over the office's compliance with the commercial firewall. Sixth, the Civil Service Commission and the Centre for Administrative Services for personnel and training. Seventh, the Qualifications Branch for the geospatial role family and certification, which is under development as a new role family in the Handbook of Government Roles and Ranks.

# Section 7 — Performance Standards

The office's performance is assessed against the following standards. Each standard is stated as a measurable expectation, not a vague aspiration. The standards are the basis on which the Manager is evaluated by the Desk Chief and on which the office's performance is reviewed by the Bureau Chief.

## 7.1 Output Standards

The office's output is measured by turnaround time, production volume, and on-time delivery rate. Turnaround time varies by domain: flood event response products must be delivered within hours of the event trigger, with the specific timeframe determined by the Bureau of Emergency Management's operational requirements; the food security weekly bulletin must be delivered by close of business each Wednesday; the energy infrastructure monthly monitoring cycle must be delivered by the fifth business day of each month; and minerals project reports must be delivered per the agreed project schedule. Production volume is measured by the number of products produced per month, with the baseline established by the office's historical output and reviewed annually. On-time delivery rate is the percentage of products delivered by the agreed deadline, with the standard being 95 percent or higher.

## 7.2 Quality Standards

The office's quality is measured by classification compliance, Cadastre base integrity, and model validation. Classification compliance requires that every product carries the correct classification marking, with zero tolerance for misclassification. A single misclassified product is a serious failure, as it could result in the disclosure of Security Confidential information or the improper restriction of Public information. Cadastre base integrity requires that the office's base layers are synchronized with the Cadastre maintained by the Bureau of Land Management and Cadastre, with zero tolerance for unsynchronized base layers in production products. Model validation requires that every model output is validated against ground truth per the domain-specific protocols, with validation records maintained in the SASI Catalog and Archive submodule.

## 7.3 Conduct Standards

The office's conduct is measured by confidentiality compliance, firewall compliance, and records management compliance. Confidentiality compliance requires that classified products are handled according to their classification, that no classified information is disclosed to unauthorized parties, and that access to classified products in the archive is controlled and logged. Firewall compliance requires that no commercial product is released without Manager authorization, that no commercial customer identity is disclosed to non-minerals staff, that commercial and public-service charge codes are not commingled, and that the commercial release log is maintained as a separate record. Records management compliance requires that every product is recorded in the SASI Catalog and Archive submodule, that the archive is maintained in accordance with the records management standards, and that access to the archive is controlled and logged.

## 7.4 Review Schedule

The office's performance is reviewed by the Desk Chief monthly, by the Bureau Chief quarterly, and by the Deputy Minister of the Interior annually. The reviews assess the office's performance against the standards stated above, identify any standards that are not being met, and develop corrective actions where required. The office's performance is also subject to the Centre for Administrative Services' duty book system compliance audit, which assesses the office's compliance with the duty book system's requirements, and to the audit jurisdiction of the Court of Audit, which examines the commercial arm's accounts and the office's compliance with the commercial firewall.

# Section 8 — Escalation and Exception

The office's decision authority is described below in terms of what the Manager can decide independently, what requires Desk Chief approval, what requires Bureau Chief approval, what requires Deputy Minister approval, and what requires Ministerial approval. This section prevents both over-escalation and under-escalation. One decision — the authorization of commercial releases — is reserved to the Manager alone and cannot be escalated or delegated; this is stated separately at the end of this section.

## 8.1 Manager Authority

The Manager decides independently on all routine production decisions, including the assignment of acquisition requests to the processing queue, the scheduling of model runs within the office's capacity, the application of classification markings within the standard classification framework, the coordination with peer desks and bureaus under the Foundational Interagency Procedures, and the management of the office's complement. The Manager also decides on the prioritization of production when the queue exceeds capacity, on the acceptance or rejection of finished products based on quality, and on the authorization of purchases within the threshold specified below. The Manager is the sole authority for the authorization of commercial releases, as stated in Section 8.7.

## 8.2 Desk Chief Approval Required

The following decisions require the approval of the Desk Chief: non-standard product requests, where a consumer office requests a product that does not fit the office's standard templates or that requires an unusual format; production priority disputes, where two consumer offices demand priority for their products and the Manager cannot resolve the conflict; client office escalations, where a consumer office is dissatisfied with the office's work and the matter cannot be resolved at the Manager level; changes to the office's internal procedures, where the Manager proposes to change a procedure and the Desk Chief must approve before the change is implemented; and the office's annual duty book review and certification.

## 8.3 Bureau Chief Approval Required

The following decisions require the approval of the Bureau Chief: new product categories, where a consumer office requests a product type that the office has not previously produced; changes to the office's cartographic standards, where the office identifies a need to revise its standards and the Bureau Chief must approve the proposal; major systems investments, where the office needs to invest in new equipment, new software, or new training beyond the office's budget; inter-bureau coordination beyond the Foundational Interagency Procedures, where the office needs to coordinate with another bureau on a project that affects the bureau's operations; and the office's annual performance review and budget submission. Purchases of satellite imagery or data above the threshold of an amount to be specified in the office's financial procedures require Bureau Chief approval.

## 8.4 Deputy Minister Approval Required

The following decisions require the approval of the Deputy Minister of the Interior: inter-ministry coordination disputes, where the office's coordination with another ministry cannot be resolved at the Bureau Chief level; the appointment of the Manager, where the position is vacant and the Deputy Minister appoints the new Manager on the recommendation of the Bureau Chief; strategic direction changes, where the office's work is affected by a strategic decision of the Ministry; and any matter that the Bureau Chief judges to be of sufficient importance to require the Deputy Minister's attention.

## 8.5 Ministerial Approval Required

The following decisions require the approval of the Minister of the Interior: new statutory geospatial obligations, where a new statute imposes a new geospatial obligation on the office; the office's establishment, merger, or dissolution, where the office is to be created, merged, or dissolved; and any matter that the Deputy Minister judges to be of sufficient importance to require the Minister's attention.

## 8.6 Emergency Escalation

In the case of an emergency that requires immediate decision and the relevant authority is not available, the Manager may take the decision and report it to the relevant authority as soon as practicable. Emergency decisions must be reported within one business day. The Manager should not use the emergency provision for decisions that could have been escalated in advance; the emergency provision is for genuine emergencies only. During a flood event, the Bureau of Emergency Management is the operational authority, and the office's role is to provide intelligence support; the office does not assume operational command of the response under any circumstances.

## 8.7 Commercial Release Authority

The authorization of commercial releases is reserved to the Manager alone. No other officer may authorize a commercial release, regardless of the seniority of the customer or the urgency of the request. The Manager may not delegate this authority to the Officer or to any other officer. This decision cannot be escalated upward to the Desk Chief or Bureau Chief, as the accountability for the firewall rests with the Manager. The Manager's authorization is recorded in the commercial release log, which is a separate record from the general production log and which is subject to the audit jurisdiction of the Court of Audit. This provision exists because the commercial firewall is the foundational principle of the office, and a firewall that can be overridden by escalation or eroded by delegation is not a firewall.

# Certification and Revision Record

This duty book is certified as accurate and current by the officers identified below. The certification is reviewed annually, and the revision history records all reviews and updates.

## Office Manager Certification

I certify that this duty book accurately describes the operations of the Office of Geospatial Services as of the date of certification. Name: to be recorded upon assumption of the billet. Signature: to be recorded. Date: to be recorded.

## Desk Chief Review Certification

I certify that I have reviewed this duty book and that it accurately describes the operations of the Office of Geospatial Services as I understand them, and that it is consistent with the operations of the Services Desk. Name: to be recorded. Signature: to be recorded. Date: to be recorded.

## Bureau Chief Accreditation

I accredit this duty book as meeting the template standards of the Duty Book System, as consistent with the operational framework of the Bureau of Civil Affairs, and as having been reviewed and certified by the Desk Chief. Name: to be recorded. Signature: to be recorded. Date: to be recorded.

## Centre for Administrative Services Audit Status

This duty book is subject to audit by the Centre for Administrative Services. Date of last audit: to be recorded. Audit finding: to be recorded. Date of next audit: to be recorded.

## Revision History

The revision history records all reviews and updates of this duty book. Date of initial creation: to be recorded upon the office's first certification. Date of first revision, being the thirty-day review required by the Duty Book System: to be recorded. Dates of annual reviews: to be recorded. Dates of major-change updates: to be recorded, with a brief description of the change.