Government of the People's Republic of Bangladesh
Ministry of Housing and Public Works

Terms of Reference (ToR)

for

Operation & Monitoring System for Cases of the Ministry of Housing and Public Works and Subordinate Organizations

Quality and Cost based Selection (QCBS)

PPR, 2008

(Lump-Sum Contract)

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1 BACKGROUND

The Ministry of Housing and Public Works (MoHPW) and its subordinate organizations are entrusted with the critical responsibility of planning, executing, and maintaining public infrastructure, housing development and related construction activities across the country. As part of these functions, the Ministry and its affiliated agencies handle a substantial number of administrative, legal and project-related cases on an ongoing basis. These cases span a wide range of categories including litigation, procurement disputes, land issues, contractor claims, inter-agency coordination matters and other administrative proceedings.

Currently, the tracking, coordination, and management of these cases are largely manual, fragmented or based on isolated digital tools. This leads to challenges such as delayed updates, lack of centralized access to information, difficulty in tracking the progress or status of cases and inefficiencies in monitoring and reporting. Moreover, the absence of a unified digital platform hinders timely decision-making and increases the risk of non-compliance with legal or procedural obligations.

In order to improve transparency, accountability, and operational efficiency, there is a critical need to develop and implement a centralized Operation & Monitoring System for Cases. This system will serve as a digital backbone for case registration, tracking, document management, progress monitoring, inter-departmental communication, and reporting. The software will be designed to support real-time access and updates, user-based access control, integration with relevant government systems where feasible and customizable dashboards for different levels of management.

The introduction of this system aligns with the Government's broader goals of digital transformation, good governance and efficient public service delivery. It is expected to significantly enhance the Ministry's ability to manage its case-related operations in a more structured, transparent, accountable and befitting manner.

2 GENERAL OVERVIEW

The Ministry of Housing and Public Works (MoHPW), along with 13 (Thirteen) subordinate departments and agencies- including the Public Works Department, Urban Development Directorate, Housing and Building Research Institute, Department of Architecture, Directorate of Internal Audit, Directorate of Government Accommodation, National Housing Authority, Rajdhani Unnayan Kartripakkha, Khulna Development Authority, Rajshahi Development Authority, Cox's Bazar Development Authority, Chattogram Development Authority and Gazipur Development Authority- is engaged in a wide range of functions related to construction, infrastructure development, housing management and the maintenance of public assets. In carrying out these responsibilities, the Ministry and its associated entities deal with numerous cases across administrative, legal, contractual and operational domains. In addition to the 13 (Thirteen) subordinate departments and agencies, 02 (two) special courts — the 1st Court of Settlement and the 2nd Court of Settlement — are also exclusively tasked with handling judicial matters related to abandoned properties under this Ministry's jurisdiction.

To ensure proper governance and accountability, it is essential to have a structured and unified mechanism for tracking, managing, and monitoring these cases across all levels of the Ministry. At present, most of the case management processes are handled manually or through disjointed systems, that poses significant challenges in maintaining accuracy, timeliness, and coordination among stakeholders. This often results in delays, lack of visibility and inefficiencies that hinder timely resolving and decision-making.

The proposed Operation & Monitoring System for Cases is intended to bridge this gap by providing a comprehensive, integrated digital platform to support the end-to-end lifecycle of case management. The system will allow for centralized as well as department and agency wise case registration, tracking, document handling, workflow automation, inter-agency coordination, and reporting functionalities. It will be accessible to authorized personnel across all concerned departments, enabling real-time updates, role-based access and customizable dashboards to meet the diverse monitoring needs of the stakeholders.

This initiative is part of the Ministry's broader effort to modernize its administrative processes, improve service delivery, and align with national goals of e-governance and digital transformation. By deploying this system, MoHPW aims to streamline operations, improve transparency and efficiency and ensure a consistent and accountable approach to managing its wide range of cases across the organization.

3 OBJECTIVE OF THIS ASSIGNMENT

3.1 Primary Objectives

The primary objectives of developing and implementing the Digital **Operation & Monitoring System for Cases** are as follows:

1. **Centralized Case Management**: To establish a unified digital platform for registering, tracking, and managing all types of cases across the Ministry and its subordinate bodies.
2. **Efficient Monitoring and Oversight**: To enable real-time tracking of case progress, responsible officers, key milestones, and deadlines, thus improving institutional oversight and accountability.
3. **Improved Coordination**: To enhance inter-departmental and inter-agency coordination through shared access to case information standardized workflows, and communication tools.
4. **Timely Decision-Making**: To support quicker and more informed decisions by providing structured up-to-date case data and automated alerts on pending actions or delays.
5. **Document Management**: To facilitate the secure and systematic storage, retrieval, and sharing of case-related documents and correspondence.

6. **Transparency and Accountability**: To ensure transparency in case handling processes and to maintain a clear audit trail for internal and external review.
7. **Reporting and Analytics**: To generate automated reports and dashboards for senior management, enabling data-driven planning and performance evaluation.
8. **Support for Digital Governance**: To contribute to the government's broader digital transformation and good governance agenda.

3.2 Specific Objectives

1. **To develop a centralized digital platform** (Both in Bengali and English Version) for registering, updating, and monitoring all types of cases (legal, administrative, operational, etc.) handled by the Ministry and all of its subordinate organizations;
2. **To develop the Mobile Applications** (for both android and iOS version) (Both in Bengali and English Language) for the system;
3. **To collect and entry case related data** (approx. 15000 cases and 100 fields per case) of manual case files from the ministry, 13 subordinate organizations and 02 settlement courts;
4. **To ensure real-time visibility** of case status, progress, deadlines, and responsible officials through automated dashboards and tracking features;
5. **To standardize and streamline workflows** for case management, including initiation, documentation, approval processes, and resolution across all departments and agencies;
6. **To implement a role-based access control system** that ensures secure, permission-based access to sensitive case data and documents;
7. **To enable digital storage and retrieval** of case-related documents, correspondence, evidence, and official records, with proper indexing and version control;
8. **To automate notifications and reminders** for critical deadlines, pending tasks, and upcoming hearings or actions, reducing the risk of oversight or delays;
9. **To generate structured reports dynamically** (e.g., Organization wise, category wise, year wise, court wise etc.) in different formats (e.g., PDF, Excel, HTML, MS Word etc.) for internal use and for submission to higher authorities, allowing for performance evaluation and strategic decision-making;
10. **To ensure auditability and accountability** by maintaining a complete activity log and history of all actions taken on each case;
11. **To provide integration capabilities with other relevant government systems** (e.g., court systems, digital filing platforms) to ensure data consistency and reduce duplication;
12. **To enhance transparency and responsiveness** in case handling by providing management and oversight tools to monitor bottlenecks, delays, and unresolved issues;
13. **To enhance user capacity** through training and user-friendly interfaces, ensuring effective adoption and operation of the system at all levels.

4 SCOPE OF WORK OF THIS ASSIGNMENT

The selected vendor/consultant shall be responsible for designing, developing, implementing, and supporting a comprehensive **Operation & Monitoring System for Cases** for the Ministry of Housing and Public Works (MoHPW) and subordinate organizations. The software shall be a secure, user-friendly, and scalable platform capable of digitizing and streamlining the entire lifecycle of case management across multiple departments and agencies. **System must comply the BNDA guideline of Bangladesh Government** The key components of the Scope of Work are as follows:

4.1 Requirement Analysis and System Planning

- Conduct detailed consultations with relevant stakeholders at the Ministry and subordinate agencies to understand existing workflows and expectations.
- Identify and categorize various types of cases (e.g., legal, administrative, procurement, disciplinary, land disputes etc.).
- Document functional and technical requirements, user roles, case lifecycles and reporting needs.
- Prepare a comprehensive **System Requirement Specification (SRS)** for formal approval.

4.2 System Design and Architecture

- Design a modular, scalable, and secure architecture that can accommodate multiple agencies within a unified platform.
- Ensure the architecture supports:
  - Multi-level access control
  - Workflow customization
  - Multi-agency collaboration
  - Centralized and decentralized operations
- Use industry-standard technologies with future scalability and integration capabilities.

4.3 Web-Based Application Development

Develop a robust and responsive web application with the following key modules:

- **Case Registration and Categorization**: Easy input of new cases with categorization by type, priority, agency and responsible officer.
- **Workflow and Task Management**: Configurable workflows for tracking case status, task delegation, approval steps and progression.
- **Document and File Management**: Secure uploading, tagging, and version-controlled storage of case-related files and correspondence.
- **Alerts and Notifications**: Automatic reminders and escalations via email/SMS/in-app for upcoming deadlines, pending approvals and overdue actions.
- **Calendar and Scheduling**: Integrated calendar for tracking hearings, meetings and case-related events.
- **Role-Based Dashboards**: Customized views for users based on their role, showing assigned cases, progress and pending actions.
- **Advanced Search and Filters**: Powerful tools for filtering and retrieving case data based on multiple parameters.
- **Audit Trail**: Full tracking of user activity and system changes to ensure accountability.
- **Reporting and Analytics**: Generate periodic and ad-hoc reports with visual analytics to support informed decision-making.

4.4 Mobile Application Development (Android & iOS)

Develop dedicated mobile applications for **Android and iOS platforms** to ensure accessibility, field-level case tracking, and improved responsiveness. The mobile apps should offer:

- Secure user login and role-based access
- Case view, update, and status change functionalities
- Real-time notifications and alerts
- Document preview and upload from mobile devices
- Offline data entry (sync when connected)
- Search, filter, and dashboard summaries
- Support for English and Bangla language interfaces

The mobile apps should comply with national mobile app development standards and be available on Google Play Store and Apple App Store (or internal enterprise distribution, as needed).

4.5 Integration with External Systems

- Identify potential integrations with:
    - D-Nothi System (for SSO) of a2i
    - NID Database of Election commission
    - Abandoned Property Database of MoHPW
    - Case Database System of MoHPW
    - Case Management System of Cabinet Division
- Develop secure APIs or middleware to ensure real-time data exchange and interoperability.

4.6 Data Migration and Validation

- Analyze existing case records from manual systems, spreadsheets or legacy databases.
- Design tools and workflows for clean data migration, ensuring consistency, integrity and proper categorization.
- Validate migrated data with stakeholders prior to go-live.

4.7 User Interface and Accessibility

- Develop an intuitive, multilingual (English and Bangla) interface that adheres to accessibility standards (e.g., WCAG).
- Ensure compatibility with all major browsers and responsive design for various screen sizes.
- Provide customizable views and dashboards tailored to different organizational levels and user roles.

4.8 Testing and Quality Assurance

- Conduct thorough system testing parallel by the SQTC Lab of Bangladesh Computer Council (BCC) and another Govt. affiliated reputed 3rd party organization including (not limited to):
    - Unit Testing
    - Integration Testing
    - User Acceptance Testing (UAT)
    - Security and Vulnerability Testing
    - Load and Performance Testing
- Document and resolve all identified issues prior to deployment.

- The consulting firm will be responsible for all activities regarding these issues (including testing fee). The client (MoHPW) will provide the administrative supports only (if needed).

4.9 Training and Capacity Building

- Develop and deliver comprehensive training programs for:
  - Case handlers and administrative staff
  - Departmental heads and supervisors
  - System administrators and IT support teams
- Prepare user manuals, SOPs, video tutorials and quick-reference guides.
- Provide on-site and virtual training sessions and establish a "train-the-trainer" model to support long-term sustainability.
- **To enhance expertise in Security Systems, Database Management and Networking, the consulting firm must provide appropriate Training with Certification on Advanced Cyber Security, Advanced Database Management and Advanced Networking to the technical officials of this Ministry (approx. Three Training with Certification for 4 People).**

4.10 Deployment and Rollout

- Implement a pilot deployment in the Ministry and selected agencies or departments to test functionality, gather feedback and optimize workflows.
- Conduct a full-scale rollout across all departments and subordinate bodies, supported by a detailed implementation plan and checklist.
- Ensure secure hosting in National Data Center of Bangladesh Computer Council (BCC).

4.11 Documentation and Handover

Deliver comprehensive documentation to the Ministry, including:

- System Design Documents and Architecture Diagrams
- User Manuals and Admin Guides
- Complete Source Code along with code documentations
- Deployment and Configuration Documents
- Backup and Disaster Recovery Plans
- Technical Maintenance Procedures

4.12 Support and Maintenance

The vendor shall provide post-deployment support and maintenance services to ensure the software runs smoothly and remains aligned with evolving needs. These services include:

- **Helpdesk Support**: Provide technical support through email, phone or ticketing system during business hours (or 24/7, as required).
- **Bug Fixes and Issue Resolution**: Timely correction of software bugs and user-reported issues.
- **Routine Maintenance**: Regular performance checks, server maintenance and database optimization.
- **Security Updates and Patches**: Address any security vulnerabilities with regular updates.
- **System Monitoring**: Monitor uptime, performance and error logs continuously.
- **Minor Enhancements**: Implement minor improvements and adjustments based on user feedback.
- **Backup and Recovery**: Ensure regular automated backups and a tested recovery mechanism.

- **Capacity Support**: Assist internal IT staff in managing and supporting the system, providing knowledge transfer as needed.
- **Support Duration**: Provide **24 months of maintenance and support**, with options for extension.

The Operation & Monitoring System for Cases of MoHPW should not only be technically sound but also user-centric, sustainable and aligned with the strategic objectives of good governance, accountability and digital transformation in public administration.

5 FEATURES OF THE SYSTEM

Here are the expected modules (but not limited to) which shall be needed to be developed for the **Operation & Monitoring System for Cases** for the Ministry of Housing and Public Works (MoHPW) and its subordinate organizations :

5.1 User Management

Purpose: Manage users, define roles and control access across departments and agencies.
Features:

- Create, edit, deactivate users across the Ministry and subordinate organizations.
- Define user roles (e.g., Administrator, Supervisor, Case Handler, Auditor, Viewer).
- Assign users to specific units (e.g., ministry division, department, regional office).
- Manage login credentials, two-factor authentication and password reset functions.
- Control feature visibility and access to specific data based on user roles.
- User session tracking and automatic logout for security.
- Audit logs of user logins, role changes and access history.

5.2 Case Registration & Categorization

Purpose: Facilitate standardized input and organization of all cases into the system.
Features:

- Register new cases with auto-generated unique case ID.
- Categorize cases under configurable types (Legal, Procurement, Land, HR/Disciplinary, Audit, etc.).
- Input metadata: case subject, summary, date of occurrence, involved parties, legal references.
- Attach supporting documents during registration.
- Assign initial case owner/handler and responsible department.
- Tagging (e.g., high priority, pending court decision, inter-ministerial) for workflow routing.
- Maintain case origin history (manual entry, import, integrated systems).

5.3 Case Workflow Management

Purpose: Automate and track each case through its life cycle from initiation to resolution.
Features:

- Define and configure multiple workflows based on case type and department policies.
- Track case status at every stage (e.g., Registered → Under Review → Assigned → Resolved → Closed).
- Assign cases to individual officers, units, or committees.
- Enable dynamic reassignment with automated notification to users.
- Visual workflow charts to view progress and pending actions.
- Automatic escalation for overdue stages or inactive cases.

- Allow workflow intervention by authorized personnel (e.g., override, fast-track).

5.4 Document & File Management

Purpose: Provide secure and organized handling of all case-related documents and attachments.

Features:

- Upload and manage various file formats (PDF, Word, Excel, images, scanned files).
- Tag and associate documents with specific cases and workflow stages.
- Document version control to track changes and edits.
- Preview documents in-browser and through mobile apps.
- Restrict access to sensitive documents by user role or department.
- Enable inline comments and annotations on files (optional).
- Secure storage with encrypted file management and automatic backup.

5.5 Dashboard & Analytics

Purpose: Give users real-time visibility into case status, workloads and performance metrics.

Features:

- Personalized dashboards for each user role (officer, supervisor, admin).
- Key indicators: number of open, closed and pending cases; oldest unresolved cases; upcoming deadlines.
- Reasons of cases pending.
- Drill-down functionality by case category, region, department or officer.
- Performance metrics (e.g., case disposal rate, resolution time, response compliance).
- Interactive graphs, pie charts, bar diagrams and heat maps.
- Trend analysis over time for decision-making and resource allocation.
- Display the full case history in a single line.

5.6 Calendar & Reminder

Purpose: Help users manage key dates and deadlines associated with cases.

Features:

- Integrated calendar view for hearing dates, submission deadlines, follow-ups.
- Daily/weekly/monthly views filtered by user, department or case.
- Sync with Google Calendar or Outlook (if allowed).
- Automated alerts for upcoming events, delayed actions and priority cases.
- Reminders via email, SMS and in-app push notifications.
- Weekly/Monthly/Quarterly/Half Yearly/Yearly Disposal of Cases

5.7 Communication & Notification

Purpose: Ensure timely internal communication and automatic alerts for all case activities.

Features:

- In-app messaging for case collaboration between users.
- Case-specific comment threads with tagging of team members.
- Email, SMS and mobile push notifications for:
  - New case assignments
  - Status changes
  - Deadlines and overdue alerts
  - Uploaded documents
- Admin announcements or broadcast messages to departments or all users.

5.8 Search & Filter

Purpose: Quickly locate relevant case information across the system.

Features:

- Global and advanced search tools with multiple filters:
    - Case ID, name, type, department, status, date range, assigned user
- Keyword-based search within case details and document content (OCR-enabled for scanned files).
- Save frequent search filters as templates.
- Export search results to Excel or PDF.

5.9 Audit Trail & Activity Log

Purpose: Ensure transparency and traceability of actions across the system.
Features:

- Record all user activities including logins, file uploads, edits, approvals, comments.
- Time-stamped history of every case event.
- Immutable log database for security and accountability.
- Admin-accessible logs for compliance or dispute resolution audits.
- Optional AI-based anomaly detection for irregular user behavior.

5.10 Reporting & Export

Purpose: Generate actionable insights and compliance documents.
Features:

- Predefined reports (daily, weekly, monthly case summaries, case aging, and workload per officer).
- Courte wise report (Court of Settlement, Lower Court, Administrative Tribunal, High Court Division, Appellate division and miscelineous cases & courts e.g., DC, ADC, AC Land etc.)
- Custom report generation with selected fields and filters.
- Export reports to PDF, Excel, CSV for submission or offline use.
- Schedule reports for automatic email delivery to stakeholders.
- Cross-department and cross-case comparative analytics.

5.11 Mobile Application (Android & iOS)

Purpose: Extend access to case monitoring and updates for mobile and field-based staff.
Features:

- Secure login and multi-role access control
- Dashboard for active and assigned cases
- Case status view and updates from the field
- Upload of images, audio notes or documents from the phone
- Offline data entry with auto-sync once online
- Mobile notifications for case movement or upcoming actions
- Touch-friendly interface in Bangla and English
- Device authentication and biometric login (optional)

5.12 Case Archiving & Retrieval

Purpose: Manage old and resolved cases as per data retention policies.
Features:

- Archive closed or inactive cases with automated tagging
- Search and retrieve archived cases with filters
- Access rights controlled for archived data
- Configure data retention policies by case type or agency
- Option for digital or hybrid (digital + physical location mapping) archival

6 INTEGRATION & API

Purpose: Enable the system to interact with other government platforms and databases.
Features:

- RESTful APIs for push/pull of case and document data
- Integration with:
  - D-Nothi (Govt. File Management)
  - Court/Legal Information Systems (in future, if any)
  - NID and Digital Identity Platforms
  - Abandoned Property Management System
- Support for API-based data synchronization
- API key/token management for security

7 ADMINISTRATION & CONFIGURATION

Purpose: Allow system administrators to manage platform settings and configurations.
Features:

- Define and update case categories, user roles, and organizational units
- Configure workflows, reminder intervals, notification settings
- Storage and hosting management (usage, logs, cleanup)
- Custom branding and theme setup for agencies
- Monitor system performance and user activity summary

8 SUPPORT & MAINTENANCE

Purpose: Ensure continuous uptime, issue resolution, and user satisfaction.
Features:

- Dedicated helpdesk with ticketing system or call/email support
- Real-time bug reporting and tracking dashboard
- Routine system diagnostics and performance checks
- Patch releases, minor updates, and performance tuning
- Backup, disaster recovery, and failover systems
- System monitoring (uptime, load, API usage)
- Monthly health check reports and enhancement reviews

After the development of the Case Monitoring and Management Software, any requests for changes, modifications or additions to various features/requirements made from time to time by the Ministry and its subordinate organizations must be addressed promptly by the vendor/ consulting Firm. The detailed descriptions of minor improvements made based on user feedback after the software development must be included in the SRS (Software Requirement Specification) report in future.

9 TECHNICAL FEATURES & REQUIREMENTS

9.1 System Architecture & Design

a. Architecture Design:

- Multi-tenant, cloud-native architecture with micro services.
- Scalable to serve central ministry and multiple subordinate agencies with data isolation and unified reporting.

- Containerization support using **Docker**, orchestrated via **Kubernetes** for fault-tolerant, scalable deployments.

b. Technology Stack:

- **Frontend**: PhP/ ReactJS / VueJS / Angular (SPA with responsive layouts)
- **Backend**: Node.js / Django / .NET Core with RESTful API layer
- **Database**: MySQL/ PostgreSQL/ MongoDB (with spatial and JSON indexing)
- **Caching**: Redis, in-memory storage for faster performance
- **Message Queuing**: RabbitMQ or Apache Kafka for event-driven processing

9.2 Hosting, Performance & Infrastructure

a. Hosting & Cloud Support:

- Deployment on **GovCloud** or National Data Center with HA/DR configurations
- CDN for static resources and file optimization

b. Performance Optimization:

- Load balancers and auto-scaling for peak loads
- Application Performance Monitoring (APM) via tools like New Relic or ELK

c. Backup & DR:

- Daily incremental and weekly full backups
- Geo-redundant storage for backups and data archives

9.3 Mobile Applications (Android & iOS)

- Fully native apps developed using **Kotlin (Android)** and **Swift (iOS)**
- Features include:
  - Push notifications
  - Real-time case updates
  - Offline mode with auto-sync
  - Mobile document scanning (camera-based)
  - Location capture and tagging
- App store compliance and security audit for regular updates

9.4 User Management & Security

a. Authentication:

- Two-Factor Authentication (2FA)
- Biometric login for mobile users
- SSO integration with govt. identity provider (OAuth2/SAML)

b. Authorization:

- Fine-grained Role-Based Access Control (RBAC)
- Hierarchical approval matrix for Ministries/Agencies

c. Security:

- OWASP Top 10 compliance
- Data encryption at rest (AES-256) and in transit (TLS 1.3)
- Real-time intrusion detection alerts

9.5 Workflow & Case Management

- Customizable workflows with:
  - Case routing
  - Task reassignment
  - Auto-reminders
- Workflow visualizer: Tree/flow-diagram of case lifecycle
- Cross-agency case linking and escalation mechanism
- SLA timers for each workflow stage

9.6 Document & File Management

- Cloud-native DMS with:
  - Drag-and-drop upload
  - Auto OCR for scanned files
  - Document sharing with access logs
- Support for encrypted and version-controlled file storage
- Preview documents in-browser (PDF/Office formats)

9.7 Notifications & Alerts

- Multi-channel notifications: Email, SMS, in-app, push
- Admin-configurable notification templates
- Smart escalation: Notify next-level authority if idle for defined days
- Mobile alerts for time-sensitive case actions

9.8 Dashboards, Reports & Visualizations

a. Dynamic Dashboards:

- Live analytics for each user based on role
- KPIs: Case volume, resolution time, backlog, SLA adherence

b. Reporting Engine:

- Customizable report builder with filters
- Reports: Daily summary, pending cases, inter-agency cases
- Exports to PDF, CSV, Excel
- Scheduled reporting via email

c. Visualization Tools:

- Graphs (bar, pie, area), heatmaps, funnel charts
- GIS maps (optional) to visualize region-wise distribution of cases

9.9 Data Analytics & Artificial Intelligence (AI/ML)

a. Data Analytics Features:

- Predictive analysis on:
  - Case resolution times
  - Department performance
  - Bottlenecks in workflows
- Trend analysis across time, department, and case types
- Interactive dashboards with filters (date, priority, location)

b. AI Features:

- **Intelligent Case Categorization**: Use NLP to auto-categorize case titles/descriptions
- **Priority Prediction**: ML model suggests urgency level based on case history
- **Auto-routing**: Predict optimal department/personnel based on case type and load
- **Sentiment Analysis**: For citizen-submitted cases or feedback
- **Anomaly Detection**: Flag unusual case timelines or bulk case generation

c. Machine Learning Engine:

- Training dataset from historical case data
- Feedback loop for improving prediction models
- Integration with open-source ML frameworks (e.g., TensorFlow, scikit-learn)

9.10 System Monitoring & Logs

- Activity log for all users and actions (create/update/delete/login)
- Real-time error tracking and alerting
- Admin dashboard for audit trails, usage stats, login history
- Automated anomaly and integrity checks

9.11 Integration Capabilities

- RESTful APIs for:
  - e-Nothi
  - Court Systems
  - HRM/ERP
  - NID/BR APIs
- Import/Export of CSV, JSON, XML
- Secure token-based authentication for third-party integration

9.12 Localization & Accessibility

- Bangla and English language support with toggle
- Bangla OCR for scanned documents
- Accessible by screen readers (ARIA standards)
- Keyboard navigation and color contrast for visually impaired

9.13 Support & Maintenance

- **Support Levels:**
  - 24/7 critical support
  - 8/5 standard support
- Helpdesk ticketing system
- Incident response and escalation matrix

Maintenance Services:

- Bug fixes and performance updates
- Minor upgrades every quarter
- Annual major release
- Training and onboarding for new users
- Knowledge base, FAQs, and admin manual

9.14 Compliance & Regulatory Requirements

- ISO 27001: Information Security
- e-Government Interoperability Framework (e-GIF)
- National ICT policy alignment
- GDPR-style data privacy compliance (as applicable)
- Digital signature & audit trail readiness (optional)

10 SECURITY AND PRIVACY REQUIREMENTS

10.1 Data Security

a. Encryption:

- All data **in transit** must be encrypted using **TLS 1.2 or higher**.
- All **stored data (at rest)** must be encrypted using **AES-256** standard.
- Sensitive fields (e.g., passwords, personal IDs) must be stored using **one-way hashing (bcrypt or Argon2)**.

b. Secure File Handling:

- Uploaded documents must be virus-scanned and stored in encrypted formats.
- File names and metadata must be sanitized to prevent injection attacks.

c. Role-Based Access Control (RBAC):

- Access to modules, cases, and documents must be strictly based on user roles and permissions.
- Super-admins should be able to define and customize roles with specific access levels.

10.2 Application Security

a. Secure Development Practices:

- Development must follow OWASP Secure Coding Guidelines.
- Periodic **code reviews**, **static code analysis**, and **vulnerability scans** must be enforced.

b. Protection Against OWASP Top 10 Threats:

- **SQL Injection**: Use parameterized queries and ORM.
- **XSS**: Input sanitization and output encoding.
- **CSRF**: Use CSRF tokens for all state-changing requests.
- **Session Hijacking**: Secure cookies, automatic session timeout and token-based authentication.
- **Brute Force Attacks**: Account lockout, CAPTCHA, rate-limiting on login attempts.

c. Security Headers:

- HTTP Strict Transport Security (HSTS)
- Content Security Policy (CSP)
- X-Frame-Options and X-Content-Type-Options

10.3 User Authentication & Access Control

a. Authentication Methods:

- **Username + Password** with optional **2-Factor Authentication (2FA)** using OTP (SMS/email or authenticator app).
- **Single Sign-On (SSO)** integration (OAuth2 / SAML) for ministry-wide access.

b. Session Management:

- Secure session cookies with HttpOnly and Secure flags.
- Auto logout after a configurable period of user inactivity.
- Concurrent session restriction (optional for sensitive roles).

10.4 Audit Logging & Monitoring

a. Comprehensive Logging:

- Track all user activities (login/logout, data access, changes, deletions).
- Logs must include timestamp, user ID, action type, affected object and IP address.

b. Immutable Logs:

- Audit logs must be tamper-proof and retained according to data retention policies.
- Logs must be exportable for internal and third-party audits.

c. Real-Time Monitoring:

- Implement Security Information and Event Management (SIEM) for real-time anomaly detection and alerting.
- Alerts for unauthorized access, unusual login patterns and suspicious behavior.

10.5 Privacy & Data Protection

a. Data Minimization:

- Only necessary data should be collected, processed, and retained.
- Personal Identifiable Information (PII) must be masked or anonymized where appropriate.

b. User Consent & Transparency:

- Users must be informed of the purpose of data collection.
- Privacy policy must be accessible from the system interface.

c. Data Subject Rights:

- Implement rights such as:
  - Access to personal data
  - Correction of incorrect data

- Controlled deletion/anonymization of personal data (as per regulations)

10.6 Backup, Disaster Recovery and Business Continuity

a. Data Backup:

- Encrypted backups must be taken daily (incremental) and weekly (full).
- Backups must be stored in physically and geographically separate locations.

b. Disaster Recovery (DR):

- A DR environment with real-time replication or hourly snapshots must be maintained.
- Clearly defined Recovery Time Objective (RTO) and Recovery Point Objective (RPO).

c. System Resilience:

- High Availability (HA) configuration with failover clustering.
- Regular DR drills and documentation.

10.7 Compliance Requirements

a. Legal Compliance:

- Comply with Bangladesh's national ICT security guidelines and any applicable Data Protection Acts.
- Alignment with the e-Government Interoperability Framework (e-GIF) and Digital Security Act.

b. International Standards (Recommended):

- ISO/IEC 27001: Information Security Management System (ISMS)
- GDPR principles for personal data management (adapted for context)

c. External Audits & Penetration Testing:

- Conduct at least **one external security audit and penetration test annually**.
- Address vulnerabilities based on severity ratings within defined SLA.

10.8 Administrative Security

a. Secure Admin Interface:

- Restricted access to admin portal by IP whitelisting or VPN.
- Multi-layered authentication for system administrators.

b. Change Management:

- Approval and logging of all system changes (configuration, patches, permissions).
- Version-controlled system updates with rollback capabilities.

10.9 Secure APIs and Integrations

a. API Security:

- All APIs must be accessed over HTTPS.
- Use of **JWT tokens**, **API keys**, or **OAuth2** for authentication.
- Input validation and rate limiting for all exposed endpoints.

b. Integration Logging:

- Track all incoming/outgoing API requests with timestamps and status codes.

c. Third-Party Risk Management:

- Assess security posture of third-party integrations before deployment.

11 NON-FUNCTIONAL REQUIREMENTS

Non-functional requirements define how the system should perform rather than what it should do. These are critical to ensure **usability, performance, reliability, scalability and maintainability** of the system.

11.1 Performance Requirements

- **Response Time**: The system should respond to user interactions within **2 seconds** for 95% of requests.
- **Batch Processing**: Capable of handling bulk data uploads (e.g., 10,000+ cases/documents) within acceptable time frames (under 10 minutes).
- **Real-Time Updates**: Case statuses, notifications, and dashboards should update in near real-time (<5 seconds delay).

11.2 Scalability

- **Horizontal & Vertical Scaling**: The architecture must support easy scaling of components (web, API, database) both vertically and horizontally.
- **User Load Handling**: Must support a minimum of **10,000 concurrent users** with capability to expand.
- **Data Volume**: Should be able to handle **millions of case records and files** without performance degradation.

11.3 Availability & Reliability

- **Uptime Guarantee**: The system must ensure at least **99.5% uptime** excluding planned maintenance.
- **Failover Support**: Automated failover mechanisms must be in place to maintain continuous operation during component failures.
- **Monitoring**: Use of real-time system health dashboards and alerts.

11.4 Maintainability

- **Modular Codebase**: System should be designed with modular architecture to ease upgrades and bug fixes.
- **Version Control & CI/CD**: Proper versioning and Continuous Integration/Deployment (CI/CD) pipelines must be established.
- **Error Logging**: Centralized logging of application, server, and security errors with automated alerts to support teams.

11.5 Usability & Accessibility

- **User-Friendly Interface**: Designed for both technical and non-technical users, following intuitive UI/UX principles.
- **Language Support**: Must be available in both **Bangla and English**, with localization-ready architecture.
- **Accessibility**: Conform to **WCAG 2.1** guidelines to ensure accessibility for users with disabilities.

11.6 Portability & Compatibility

- **Cross-Browser Support**: Fully compatible with latest versions of Chrome, Firefox, Edge, and Safari.
- **Mobile Compatibility**: Mobile-responsive web version plus dedicated **Android and iOS apps**.
- **OS Independence**: Should run on Linux/Windows servers without vendor lock-in.

11.7 Backup & Disaster Recovery

- **Data Backup**: Automated daily backups with retention for 90 days.
- **Disaster Recovery (DR)**: DR site must ensure recovery within defined **RTO (≤4 hours)** and **RPO (≤1 hour)**.
- **Data Integrity**: Regular checksum validation to ensure data consistency.

11.8 Interoperability

- The system must be capable of seamless integration with:
    - e-Nothi
    - ERP, HRM, and document repositories
    - National ID, Court System, GIS tools, etc.
- Open APIs following REST/GraphQL with clear documentation (Swagger/OpenAPI).

11.9 Localization & Customization

- Support **multi-agency branding** (logo, header color, terminology).
- Configurable form fields, workflow stages, SLA timers, and notification rules.
- All UI strings should be stored in language files for easy translation/update.

11.10 Auditability & Compliance

- All critical actions must be logged with user, timestamp, action type, and affected data.
- Logs must be immutable and available for at least 1 year.
- System must support **digital signature readiness** and **evidence-grade audit trails**.

11.11 Legal and Regulatory Compliance

- Align with:
    - **ICT Act of Bangladesh**
    - **Digital Security Act**
    - **e-Government Interoperability Framework (e-GIF)**
    - ISO/IEC 27001 for Information Security (recommended)
- Data privacy mechanisms must comply with local and international standards.

11.12 Support & Maintainability

- System must support:
    - Role-based admin configuration (without code changes)
    - Plugin/module addition without downtime
    - Remote diagnostics and patch deployment

12 INFORMATION COLLECTION, MANAGEMENT & ENTRY

As part of the implementation of the Operation & Monitoring System Software for Cases, a critical activity involves the structured collection, digitization, validation, and entry of historical and ongoing case data from approximately **15,000 physical and digital files** currently maintained by **15 organizations** under the Ministry of Housing and Public Works.

12.1 Scope of the Data Collection Initiative

- **Volume**: Approx. **15,000 case files and 100 fields per case**, including legal, administrative, procurement-related, project disputes audit cases etc.
- **Participating Entities**: All subordinate departments/agencies under the Ministry (15 in total).
- **Data Format**: Includes a mix of physical documents, scanned files, spreadsheets, paper case notes and partially digitized databases (where available).

12.2 Data Collection and Digitization Tasks

- **Data Inventory**: Conduct a baseline assessment to identify and catalog case records held by each organization.

- **Data Cleansing**: Identify and eliminate duplicate records, standardize naming conventions and correct inconsistencies in metadata.
- **Metadata Tagging**: Tag each case with standardized attributes (e.g., case ID, type, status, parties involved, filing date, originating department).

12.3 Standardized Data Entry

- **Data Entry Templates**: Develop uniform, pre-approved data entry templates aligned with the case categories and workflow structure of the new system.
- **Entry Interface**: Utilize the case management system's form-based data entry interface for manual input, bulk upload or integration-based ingestion.
- **Historical Case Indexing**: Ensure each case is indexed by type, date, department and reference number to enable quick search and retrieval.

12.4 Human Resource & Training Requirements

- **Data Entry Teams**: Form specialized teams for each organization to carry out the digitization and entry process, including case officers, data operators and validation supervisors.
- **Training & Capacity Building**: Provide training on data collection protocols, system usage, validation rules and handling of confidential information.

12.5 Validation and Quality Assurance

- **Data Accuracy Checks**: Implement multi-level data review and approval processes to ensure completeness and accuracy before final submission.
- **System Validation Reports**: The system should generate exception/error reports and data completeness summaries during and after entry.
- **Supervisor Review**: Each organization's designated officer must verify and approve the data entries related to their respective agency.

12.6 Integration with System Modules

- Historical case data must be fully integrated into the Operation & Monitoring System to support:
    - Workflow management
    - Real-time monitoring and tracking
    - Analytics and reporting dashboards
    - Mobile access for field-level review and updates

12.7 Confidentiality and Data Protection

- Ensure all data collection and digitization activities comply with government data security policies.
- Enforce strict access control and encryption mechanisms during data transfer, storage and entry.
- Maintain a detailed audit trail of all data entry and modification activities.

13 EXPECTED OUTPUTS OF THE ASSIGNMENT

Expected outputs of the assignment are given below:

Sl. No.	Deliverable Name	Description	Due Date (From the date of contract signing)	Responsible Party
1)	Central Case Operation & Monitoring System	Development and deployment of the core web-based platform with modules for case tracking, workflows, reports and search	Month 5	Selected Consulting Firm
2)	Mobile Applications (Android & iOS)	Delivery of native mobile apps with offline data sync, case update and notification features		
3)	Centralized Document Management	File upload, tagging, versioning and OCR search feature development for scanned case files		
4)	Organization-wise Configuration and User Setup	Customization of system roles, access levels, workflow templates and department-wise user creation	Month 8	
5)	Automated Workflow & Escalation Setup	Configuration of case flow logic with escalation triggers and deadline-based alerts		
6)	Reporting and Analytics Dashboard	Real-time dashboard, customized reports (PDF, Excel) and analytics tools with AI-based trend detection		
7)	Security, Hosting & Audit Trail Configuration	System hosting (cloud/on-prem), user authentication, data encryption and audit logging	Month 12	
8)	Training & User Manuals	Preparation of user guides, admin manuals and delivery of training programs in Bangla & English		
9)	System Go-Live	Final testing, bug fixing and full launch of the system with data migrated and live access provided		
10)	Data Collection and Entry of 15,000 Case Files	Digitization, structuring, and system entry of legacy case records from 15 organizations		
11)	Support & Maintenance Services	Two-year post-deployment support, minor updates, issue resolution and helpdesk support	Month 13–36	

14 SPECIFIC DELIVERABLES

No.	Specific Deliverable	Description	Due Date (from the date of contract sign)
1)	**Inception Report**	Detailed documentation on the prospects of the system development and implementation including Methodology, Stakeholder Analysis, SRS Overview, Work Plan and Timeline, Team Structure and Responsibilities, Risk Assessment and Mitigation, Training and Capacity Building Plan, Monitoring and Evaluation Plan, Testing Plan, Assumptions and Constraints etc.	Month 2
2)	**System Requirements Specification (SRS) Document**	Detailed documentation outlining functional, non-functional, technical, and security requirements.	
3)	**UI/UX Design Mockups**	Approved wireframes and interface mockups for web and mobile applications.	
4)	**Structural Design Report**	Report must include- Design Objectives, System Architecture Overview, Module/Component Breakdown, Detailed Design of Each Module (including interfaces and data flow), Sequence Diagrams and Workflow, Data Design and Database Schema, Technology and Tools Used, Design Assumptions and Constraints, Integration Strategy Risks and Mitigation etc.	
5)	**High Level Design Architecture Report**	Report must include- System Architecture Diagram, Component/Module Description, Technology Stack, Data Flow Overview, Interface Design, Security Architecture, Scalability and Performance Considerations, Deployment Overview etc.	
6)	**Data Collection & Digitization Plan**	Detailed action plan for collecting, validating, and digitizing 15,000 case files from 15 organizations.	
7)	**Development of Web-Based Case Monitoring System (Core Modules)**	Case registration, status updates, task assignment, document linking and timeline tracking modules.	Month 5
8)	**Mobile Application (Android & iOS)**	Apps for field-level users for viewing, updating, and managing cases; includes offline sync functionality.	
9)	**AI-Enabled Reporting & Dashboard**	Real-time case trends, aging analysis, bottleneck identification and visual dashboards with filters.	

	Module		
10)	**Role-Based User Access & Organizational Setup**	User creation, permission assignment, department mapping for 15 organizations.	
11)	**Workflow Automation & Escalation System**	Configurable workflows, automatic reminders, escalation protocols based on inactivity or deadlines.	
12)	**Document Management System**	Secure file upload, version control, metadata tagging and full-text search using OCR integration.	
13)	**UAT (User Acceptance Testing) and Bug Fixing**	Hands-on user testing with bug logging, feedback collection and resolution before go-live.	Month 8
14)	**Training Program and User Manuals**	Delivery of training sessions, manuals (Bangla & English) and video tutorials for end-users and admins.	
15)	**System Hosting and Security Configuration**	Deployment to secure server environment, SSL, 2FA, access logs, data encryption and backup policies.	
16)	**Digitization and Structured Data Entry of 15,000 Case Files**	Case-wise data entry, metadata tagging, document scanning/OCR and upload into the system database.	Month 12
17)	**Final System Deployment and Go-Live**	System migration to production, performance testing, go-live checklist completion.	
18)	**Source Code along with code Documentation**	Complete Source Code Package including Version-controlled repository, Frontend code, Backend code, Configuration files, Database scrip etc. Code documentation including all tools and procedures, Licensing and Ownership, Development Guide and Change Log or Release Notes.	
19)	**SQTC test Reports (Final Report with no negative comments or observations)**	To ensure quality, security, and performance standards before the acceptance of the software, major SQTC tests—including Functional Testing, Performance Testing, Security Testing, Usability Testing, Compatibility Testing, Regression Testing, Database Testing, and Compliance and Standards Verification—must be conducted at BCC by the selected vendor/consulting firm and the test report must be submitted to the Ministry.	
20)	**Deployment Design Report and Script**	**Deployment Design Report must include:** Target Environment Details, Deployment Architecture, Deployment Process and Workflow, Security Considerations, Rollback and Recovery Plan etc. **Deployment Script must include:** Installation Steps, Environment Setup, Database	

		Initialization, Service Management Commands, Validation and Rollback Procedures etc.	
21)	**Used Case Design Report**	**Report must include:** Actors Identification, Use Case List and Descriptions, Detailed Use Case Scenarios (main and alternate flows), Use Case Diagrams, Relationships between Use Cases etc.	
22)	**Activity Design Report**	**Report must include:** Key Activities List, Activity Diagrams (UML), Description of Workflows, Actor/System Involvement, Integration Points etc.	
23)	**Support and Maintenance**	Includes bug fixes, system performance monitoring, user support, patch updates and helpdesk service.	Month 13–36
24)	**Service Completion Report (at the end of the contact period)**	**Service Completion Report must include:** Project Objectives and Scope, Summary of Deliverables, Timeline and Milestones, Final System Overview, Testing and Deployment Summary, Training Conducted, Key Challenges and Resolutions, Client Acceptance/Sign-off, Recommendations for Client etc.	Month 36

15 CLIENT INPUT

Following input will be given/ ensured by the Client (MoHPW):

i. Provide local server storage to the Consulting Firm.
ii. Necessary information and related documents & files to the Consulting Firm, which are relevant with system implementation.
iii. Issue/ensure/arrange required temporary gate pass (security pass) to the Consulting Firm's nominated personnel.
iv. Provide necessary administrative, management and reasonable logistics support during case information collection and overall project implementation.

16 DURATION OF THE ASSAIGNMENT

The duration of the consultancy services shall be twelve (12) calendar months from the date of signing the Contract Agreement, comprising nine (9) months for system design & development and three (3) months for implementation. In addition, the consulting firm shall provide a two-year (24-month) support and maintenance service following the completion of the consultancy period, under the same Contract.

17 TEAM COMPOSITION

SN	Position	Quantity	Minimum Educational Qualification	Experience, Skill & Other Qualification
1)	Project Director	1 Person	BSc. or MSc.in Computer Engineering or Applied Physics & Electronics or any	• At least 14 years of work experience in ICT field. • Minimum 08 years ICT related

SN	Position	Quantity	Minimum Educational Qualification	Experience, Skill & Other Qualification
			Related discipline. (PhD in Computer Engineering or any other IT Related Field is more preferable).	project management experience. • Must have national and international professional membership of any professional body like Bangladesh Computer Society (BCS) or Asia Research Forum (ARF),etc. • Must have IT/IOT/Big Data/ Artificial related publications.
2)	Senior Legal and Land Administration Expert	2 Persons	Bachelor / Masters / Diploma in Law	• Minimum 20 years' of professional experience in Bangladesh Government Administrative Service (BCS, Admin) • Experience with Bangladesh Government Land Administration (i.e. served as AC Land and/or Upazilla Nirbahi Officer and/or Deputy Commissioner etc.)
3)	Project Coordinator	1 Person	• Bachelor / Masters in any Discipline	• Minimum 10 years' project management experience in IT& Training filed with government liaison.
4)	Senior Software Requirement Analysis Specialist	1 Person	Bachelor/ Masters in Computer Science & Engineering or Applied Physics & Electronics Engineering or any IT related discipline	• Minimum 10 years of professional experience in ICT field including Software Requirement Specification and Information Management
5)	Senior Database Architect	1 Person	Bachelor/ Masters in Computer Science & Engineering or Applied Physics & Electronics Engineering or any IT related discipline	• Minimum 10 years of professional experience in ICT field including Database Design
6)	Senior IT Security Expert	1 Person	BSc / MSc in Computer Science& Engineering or Electrical & Electronics Engineering or any IT Related Discipline from any reputed university	• Minimum 08 years' of professional experience in IT Security Filed • Must have experience with IT Infrastructure Detail Design, System design in security

SN	Position	Quantity	Minimum Educational Qualification	Experience, Skill & Other Qualification
				parameter.
7)	Senior Software Engineer	1 Persons	• BSc or MSc in Computer Science & Engineering from any reputed university	• Minimum 06 years' experience in Software development and programming related field
8)	Junior Software Engineer	3 Persons	• BSc or MSc in Computer Science & Engineering from any reputed university	• Minimum 04 years' experience in Software development and programming related field
9)	UI/UX Developer	1 Person	BSc in Computer Science & Engineering/ BA in Fine Arts/ BSc in Architecture/ Bachelor in Interior Architecture	• Minimum 07 Years' experience in UI/UX Design
10)	Junior UI/UX Developer	1 Person	• BSc in Computer Science & Engineering or Bachelor in Fine Arts or Bachelor in Architecture or Bachelor in Interior Architecture or any other related discipline	• Minimum 03 Years' experience in UI/UX Design
11)	Graphics Designer	1 Person	• Bachelor in any discipline from any reputed university. Bachelor in Fine Arts/ Digital Arts will be given priority.	• At least 05 years of professional experience in graphics design.
12)	Technical document Writer	2 Persons	• Bachelor in any discipline from any reputed university.	• At least 05 years of professional experience in technical writing.
13)	Support & Maintenance Engineer	2 Persons	• Diploma or BSc or MSc in Computer Science & Engineering from any reputed academy.	• At least 05 years of professional experience as support and maintenance engineer.
14)	Information Collection, Management & QC Coordinator	1 Person	• Bachelor in any discipline from any reputed university.	• At least 06 years of professional experience in data management.
15)	Officer (Information Collection)	15 Person	• Bachelor in any discipline from any reputed university.	• At least 03 years of professional experience in data management.

SN	Position	Quantity	Minimum Educational Qualification	Experience, Skill & Other Qualification
16)	Information Entry, Management & QC Coordinator	1 Person	• Diploma or BSc or MSc in Computer Science & Engineering from any reputed academy.	• At least 06 years of professional experience in data management.
17)	Officer (Information Entry)	10 Person	• Bachelor in any discipline. Diploma or BSc or MSc in Computer Science & Engineering is preferable.	• At least 03 years of professional experience in data management.
18)	Senior Officer (Accounts & Finance)	1 Person	• Bachelor/Masters in Accounting/ Finance or Bachelor/Masters in Commerce (BCom/MCom.) from any reputed university.	• At least 08 years of professional experience in Accounts & Finance.
19)	Support Staff	2 Person	• Secondary School or Higher Secondary Certificate	• At least 3 years of experience

18 SUB-CONSULTANT ENGAGEMENT

Sub-Consultant will be engaged according to Public Procurement Rule (PPR) 2008 (Clause: 53). If any sub-consultant is engaged by the Consultant, the sub-consultant must be experienced in IT / ITES with IT, Training & Capacity Building know-how.

19 PAYMENT SCHEDULE

<table>
<tr><th>No.</th><th>Deliverable Name</th><th>Type and Quantity</th><th>% of total contract value</th></tr>
<tr><td>1)</td><td>Inception Report</td><td rowspan="6">Following documents/items must be submitted against each deliverables:
1. 02 set printed hard copy;
2. 01 soft copy (in a pen drive);
3. Submission letter signed by the proper authority of the consulting firm;</td><td rowspan="6">20%</td></tr>
<tr><td>2)</td><td>System Requirements Specification (SRS) Report</td></tr>
<tr><td>3)</td><td>UI/UX Design Report</td></tr>
<tr><td>4)</td><td>Structural Design Report</td></tr>
<tr><td>5)</td><td>High Level Design Architecture Report</td></tr>
<tr><td>6)</td><td>Data Collection & Digitization Plan</td></tr>
<tr><td>7)</td><td>Development of Web-Based Case Monitoring System (Core Modules)</td><td rowspan="3">Following documents/ items/ system/ software must be submitted/ demonstrated against each deliverable:
1. Live Demonstration of the full system from the developer</td><td rowspan="3"></td></tr>
<tr><td>8)</td><td>Mobile Application (Android & iOS)</td></tr>
<tr><td>9)</td><td>AI-Enabled Reporting &</td></tr>
</table>

	Dashboard Module	environment. 2. 01 soft copy of software and/or database codes/scripts (in a pen drive); 3. Submission letter signed by the proper authority of the consulting firm;	20%
10)	**Role-Based User Access & Organizational Setup**		
11)	**Workflow Automation & Escalation System**		
12)	**Document Management System**		
13)	**UAT (User Acceptance Testing) and Bug Fixing Report**	Following documents/items must be submitted against each deliverable: 1. 02 set printed hard copy; 2. 01 soft copy (in a pen drive); 3. Submission letter signed by the proper authority of the consulting firm;	10%
14)	**Training Programs and User Manuals**		
15)	**System Hosting and Security Configuration Report**		
16)	**Digitization and Structured Data Entry of 15,000 (approx.) Case Files**	Following documents/ items/ system/ software must be submitted/ demonstrated: 1. Live Demonstration of the full system from the developer environment for deliverable no.16-17 each; 2. 01 soft copy of software and/or database codes/scripts (in a pen drive) for deliverable no.16-17 each; 3. 02 set printed hard copy for deliverable no.18-22 each; 4. 01 soft copy (in a pen drive) for deliverable no.18-22 each; 5. Submission letter signed by the proper authority of the consulting firm for each deliverable.	25%
17)	**Final System Deployment and Go-Live**		
18)	**Source Code along with code Documentation**		
19)	**SQTC test Reports (Final Report with no negative comments or observations)**		
20)	**Deployment Design Report with Script**		
21)	**Used Case Design Report**		
22)	**Activity Design Report**		
23)	**Support and Maintenance**	Following documents must be submitted: 1. Recommendation by the concerned officials for successful completion of assigned tasks in every month 2. Service Completion Report at the end of the contact period	25% (payable in 6 equal installments in 4 months interval)
24)	**Service Completion Report (at the end of the contact period)**		

20 ELIGIBILITY CRITERIA OF THE CONSULTING FIRM

a) The consulting firm must be a limited company with a minimum of 5 (five) years of experience in Software Development / IT / ITES business in Bangladesh.

b) The consulting firm must submit valid business documents including up to date Trade License (2024-25), VAT (BIN) Registration Certificate, TIN Certificate. The consulting firm must be registered with the Registrar of Joint Stock Companies and Firms (RJSC) of Bangladesh. Must submit the Certificate of Incorporation.

c) The consulting firm must have an updated BASIS membership. Must submit the proper documents in this regard.

d) The consulting firm must have experience in at least three (03) assignments of a similar nature with Government / Semi-Government / Autonomous / Trustee Organizations. A similar nature of service refers to assignments involving the design, development and implementation of Web-based Applications, Mobile Applications or Desktop-based Applications, either combined or separately.

e) The consulting firm must have successfully completed at least one (1) contract of similar nature or software development/service with a minimum value of BDT 250.00 lac within the last 5 years, counted back from the date of publication of the REOI, with any Government / Semi-Government / Autonomous / Trustee Organization. Similar nature of service refers to assignments involving the design, development and implementation of Web-based Applications, Mobile Applications or Desktop-based Applications, either combined or separately.

f) The consulting firm must have had an average annual turnover exceeding BDT 500.00 lac in the last three (03) financial years. The lead consulting firm must submit audited financial reports for the last three years as evidence.

g) The consulting firm must have a minimum of 30 IT/ITES professionals. A detailed list of IT/ITES professionals (containing name, designation, years of experience with the firm/company, highest educational qualification and job descriptions) must be submitted.

h) The consulting firm must demonstrate its management capacity, submit the documentation containing website link, brochures and other documents describing the company's expertise, strengths, experiences, core functions, products and services, similar assignments, availability of professional staff, logistical capability (including a well-equipped office space) and the relevant experience of its team members to carry out the assignment.

i) The consulting firm with ISO certifications in Information Security Management Systems (ISO 27001) and Quality Management Standards (ISO 9001) will be given preference. Relevant certificates must be submitted.

j) The consulting firm is required to propose a Key Experts Team Composition (K1) with detailed CV with signature and Passport Size Photo. A list of IT personnel (including name, designation, years of experience, number of projects and area of expertise), who can be engaged for the assignment must be provided. Additionally, the required consultation hours for domain experts must be specified.

k) To form Joint Ventures (JVCA) and engage Sub-Consultants under Public Procurement Rules (PPR), 2008 (Rule 53 & 54), the consulting firm need to submit the proper documents as per rules.

21 OWNERSHIP OF THE SOFTWARE AND DOCUMENTS

The Ministry of Housing and Public Works (MoHPW) shall retain full ownership of all software, designs, reports, documents, manuals, and any other deliverables prepared by the consulting firm. These materials shall not be sold, reused, reproduced, modified, distributed, disclosed or transferred to any third party in any form without prior written consent from the Ministry.

(আতাউল হক মো: আসিফ)
সহকারী রক্ষণাবেক্ষণ প্রকৌশলী
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
ও সদস্য

(মো: রাকিব হাসান)
সহকারী ডেভেলপার
বাংলাদেশ কম্পিউটার কাউন্সিল
ও সদস্য

(সোহেল মিয়া)
প্রোগ্রামার
জাতীয় গৃহায়ন কর্তৃপক্ষ
ও সদস্য

(মিহির কান্তি সরকার)
সিস্টেম এনালিস্ট
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
ও সদস্য সচিব

(মো: আশিক উন নবী তালুকদার)
সিনিয়র সহকারী সচিব (প্রশাসন- ১৩)
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
ও সদস্য

(রুবায়েত হায়াত শিপলু)
সিনিয়র সহকারী সচিব (মনিটরিং-১১)
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
ও সদস্য

(আসাদুজ্জামান রিপন)
উপসচিব (আইন অধিশাখা-২)
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
ও সদস্য

(খান মো: নাজমুস শোয়েব)
উপসচিব (বাজেট অধিশাখা-৪)
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
ও সদস্য

(মোহাম্মদ আলমগীর হোসেন)
উপসচিব (আইন অধিশাখা-১)
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
ও সদস্য

M. M. Islam
(ড. মো: মনিরুল ইসলাম)
অধ্যাপক (সিএসই বিভাগ)
বাংলাদেশ প্রকৌশল বিশ্ববিদ্যালয়
ও সদস্য

(মো: গিয়াস উদ্দিন)
যুগ্মসচিব (মনিটরিং অধিশাখা-১০)
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
ও সদস্য

(বাবর আলী মীর)
আইন উপদেষ্টা (যুগ্মসচিব)
গৃহায়ন ও গণপূর্ত মন্ত্রণালয়
ও আহ্বায়ক