

**The Local Government of Quezon City
Civil Registry Department**

**SUPPLY, INSTALLATION, COMMISSIONING AND
TESTING OF
CIVIL REGISTRY INFORMATION SYSTEM
PROJECT TECHNOLOGY REFRESH (CRISP-TR)**

Terms of Reference

TERMS OF REFERENCE (TOR) for the procurement of

SUPPLY, INSTALLATION, COMMISSIONING AND TESTING OF CIVIL REGISTRY INFORMATION SYSTEM PROJECT TECHNOLOGY REFRESH (CRISP-TR)

I. RATIONALE AND BRIEF BACKGROUND

The Local Government of Quezon City intends to procure the CIVIL REGISTRY INFORMATION SYSTEM PROJECT TECHNOLOGY REFRESH (CRISP-TR). This project is to ensure the continuous operation and reliability of the Civil Registry Archiving and Document Management Operations of the Civil Registry Department. The project shall develop the digital archiving lifecycle of valuable civil registry documents that includes the digitization (scanning and publishing), uploading (indexing and storing), encoding, archiving, retrieval, reporting, and preservation of all documents from small to large formats and multiple relational documents. This is part of the **Digital Transformation Vision of the City Government of Quezon City**.

Existing infrastructure and systems on archiving have reached end of life status and the probability of disruption due to the vulnerability on breakdowns and corruptions are now increased. However, this project shall guarantee security of the files and databases with the provision of sufficient storage, backup, and restoration facilities for the continuous availability and satisfactory performance of the system developed. The project will provide the qualified support and technical personnel who will pro-actively monitor the system and will provide timely reports of issues once they arise.

The main challenge of this project is the migration of the Databases and Scanned Files of the previous digitization and archiving project (See Annex A) which should be in order and be aligned with the proposed digitization process, structure and standards. Notwithstanding the format, version and condition of the source of the previous files and databases, the service provider must ensure the integrity of this project's database and files. Other challenges of this project is the transition of existing Digitization standards from the previous standards and the connectivity of the previous IT infrastructure to the delivered IT infrastructure. The service provider shall also install controls to ensure that the project is compliant with Republic Act 10173 or the Data Privacy Act 2012. The expected Data Governance of this project includes the following:

- Data Source Management
- Data and Document Quality
- Data Privacy Security
- Document and Data Metadata Management
- Monitoring & Management of digitized and hardcopies of the documents

The CRISP-TR was conceived in an effort to standardize, unify, centralize and put into general use the digitized copies of all documents and records of the civil registry department. The project will provide security functionality for access level requirements and to prevent unauthorized accessing. The project likewise aims to preserve archived documents for reference and other legal purposes. It is also to protect paper copies from wear and tear, and getting lost. The project will preserve existing digitized files

and existing databases for the continuing archiving activities of the Civil Registry Department of the Local Government of Quezon City.

There are Five (5) phases for the implementation of the Project namely:

1. Delivery and Configuration of IT Infrastructure;
2. Systems Development and Customization of the Civil Registry Information System Program Refresh (CRISPER);
3. Migration of existing digitization and archived databases;
4. Scanning, Evaluation, Encoding and production of newly scanned documents;
and
5. Development of a backup and recovery system with DR exercise.

It is a web-based centralized system using development tools that is independent to the existing information systems and current IT infrastructure of the City Government.

On top of the capabilities of the previous system, the CRISPER features workflow for the management of confidential and non-confidential documents, user maintenance, and security features. The project will cover one year preventive maintenance activities as part of the project guarantee after acceptance of the project.

II. PROJECT DESCRIPTION

With the completion of the project, the Office of the Civil Registry of the Local Government of Quezon City will enjoy the benefits of CRISPER, an integrated system that will house all digitization efforts; current and previous; providing digitized access of the documents of the Office of Civil Registry. This system will be regularly checked based on its file and database integrity and alignments ensuring reliability of records. The delivered systems will be accompanied with utilities and tools for maintenance and backup purposes.

The completion of the project will ensure an overall of 5,500,000 (five million five hundred thousand) database records from the migration of database records and digitized files of the previous digitization project (see Annex A) equivalent to 4,553,883 (four million five hundred fifty three thousand eight hundred eighty three) and the managed services of the project that included evaluation, encoding and uploading of newly scanned documents equivalent to 1,000,000 (one million) documents. The system is equipped with a Dashboard System for Intelligent Statistical Reporting of the data extracted from the scanned documents.

The delivered Infrastructure of this project will include servers, workstations, laptops, scanners, printers and network equipment. The Information Systems will include ownership licenses plus licenses of system proprietary software. The turnover of the system will include user and technical training, and a year of maintenance on the infrastructure and application systems on defined functionalities.

III. PROJECT SCOPE OF WORK

The project shall cover the delivery of services for the installation, configuration, customization, testing, deployment, documentation, training and implementation of the CRISPER, which includes but not limited to the following:

1. Delivery and Configuration of IT Infrastructure

- Prepare Work Area and Server Rooms
 - Deliver Servers and Storages
 - Deliver Scanners, Workstations and printers
 - Install operating system, database management system to server and storages
 - Connect and configure server and storages.
 - Configure Internal firewall to ensure access control
 - Provide Network Cabling and switches in support with the connectivity of the equipment of the project
 - Deliver furnishings for IT equipment
2. Systems Development and Customization of the Civil Registry Information System Program Refresh (CRISPER)
- Design and Develop Workflows for Scanning, evaluation, encoding, uploading and Retrieval
 - Design and Develop CRISPER system based on user requirements
 - Design and implement Relational Database System
 - Develop utilities for batch uploading
 - User Acceptance Testing and regression testing
 - Configure and Install File Server System
 - Install CRISPER to Servers
 - Deploy CRISPER to Web enabled environment
 - Training and Hand over Services
 - User Maintenance Features
3. Migration of existing Database and Files from previous Digitization projects
- Preparation and pre-configuration of existing database for migration
 - Check DB integrity of old databases (2 DB from previous Digitization projects, see Annex A)
 - Validate the integrity of previous data source
 - Migration of databases and restoration for active status
 - Migration of File systems
 - Ensure that the integrity of migrated database
4. Digitization services, encoding and uploading to system of newly scanned documents
- Organization of Records and documents
 - Grooming of documents
 - Scanning Process
 - Publishing in PDF format
 - Evaluation of Records and Digitized Documents
 - Uploading of Digitized File to CRISPER
 - Encoding of Records Information to CRISPER Database
 - Revision Control of Files and Databases to ensure that corrupted and duplicate files and records are replaced with valid files and records
 - Encoding of deficient records in Databases
5. Development of a backup system
- Three copies of back up (2 servers, 1 portable storage)
 - Production application, File and database server
 - Staging server for Application, File and Database
 - Monthly Full Back up of Scanned Digitized Document
 - Regular Weekly incremental and changes to backup of Scanned Documents

IV. AREA OF COVERAGE

The six (6) features of the CRISP-TR project that is essential to the success of the project shall be instituted in the Civil Registry Department of the Local Government of Quezon City. The technical and functional features will all be establish within the compounds of the department. The features are as follows:

1. Staging and Production Servers for Application, Database and Files
 - Staging servers will handle all newly scanned documents prior to the 3-stage evaluation process;
 - Production will always be assumed all in order and clear of invalid scanned docs and data; and
 - 3 sets of copies of scanned documents that will be distributed to servers with one alpha copy that will be secured of its integrity.
2. Seven (7) steps digitization process
 - Organizing, grooming, and distributing of documents for scanning;
 - Scanning and uploading to file server;
 - Evaluation process of scanned documents;
 - Encoding and uploading to CRISPER;
 - Indexing of scanned documents;
 - Encryption of scanned documents for backup purposes; and
 - Post processing of documents.
 - Return of scanned docs in original state and location
 - labelling of scanned documents as “scanned”
 - Reporting of damaged documents
 - Logging of scanned documents
3. Optical Character Recognition – This will reduce encoding activities and encoding related issues. The OCR shall ensure that the characteristics of the characters are recognizable.
 - Layout analysis
 - line and word detection
4. 3 stage evaluation of scanned documents – this is the Quality control stage of the project. This will filter newly scanned documents and data to the production servers.
 - Pre-evaluation checklist – duplicates, resolution, clarity and completion check of all markings.
 - Evaluation – side by side evaluation and validation of digitized copy and actual document.
 - Post evaluation – validation of encoded information and document metadata. Promotion of digitized copy and its relevant data to the production servers.
5. Encryption and decryption of backup copies scanned documents – this is to ensure that all documents will be safe once it is uploaded to the server.
6. Organization of Original/Base and Annotated Documents – this project will assign links on documents that are related.

V. PROJECT OBJECTIVES

The Civil Registry Information System Program Refresh (CRISPER) is envisioned to fully satisfy the needed adequacy of the local government's approaches to the digitization and archiving of all of the local governments civil registry records and documents. This project will also implement identified IT services for better practices and opportunities for improvement to the City Government. A fully implemented CRISPER will assist those responsible to better manage and improve service delivery and to promote accountability for performance of the office.

The General Objective of the project is to deliver an IT system and services that will provide archiving infrastructure, information systems and Managed Services for the support in the civil registry operations on their archiving goals. The project also will provide technology refresh that includes migration of functionalities, files and records of the previous systems, databases, and files.

Specific Objectives are as follows:

- To deliver and install a technology infrastructure to support an online web based the Civil Registry Information System Program Refresh (CRISPER);
- To install, configure and customize a web based Information System, the Civil Registry Information System Program Refresh (CRISPER) accessible 24/7 by all authenticated users;
- To develop a workflow system for the management of confidential and non-confidential documents;
- To provide a Dashboard System for Intelligent Statistical Reporting
- To provide migration services of existing database and files (see Annex A)
- To provide managed services to organize, scan, upload and encode newly scanned documents.
- To complete the project with proper turnovers and training for the users and administrators of the system within one year upon the approval of the notice to proceed;
- To develop strategy for archiving and digitization for the prioritization of records and documents of the Civil Registry Department;
- To provide warranty and maintenance services for all systems and equipment delivered; and
- To provide consultancy regarding CRISPER and other related systems that includes system administration.

VI. PROJECT STANDARDS AND REQUIREMENTS

The requirements are expressed in indicative and functional terms to guide the Service Provider in the provision of services that will ensure the overall health of the system to include its performance, interoperability, integration, and information exchange.

1. BIDDERS REQUIRED STANDARDS/QUALIFICATIONS

- 1.1. The bidder/service provider shall submit, as part of its bid, a copy of its company profile and organizational structure.
- 1.2. The bidder/service provider should have implemented and completed an archiving project or a project similar to the Civil Registry Information System Project Technology Refresh (CRISP-TR) which includes Digitization of Civil

Registry documents as required as similar project in nature with at least 50% of the ABC within the last three (3) years. The bidder/service provider must submit proof of project and completion.

- 1.3. The bidder/service provider must submit resume of at least two (2) personnel who will act as Project Team and IT Technical support team for this project. It shall show systems development trainings and experience.
- 1.4. The winning bidder must be of good standing and has satisfactory performance with respect to its latest completed project with the Local Government of Quezon City.

2. SYSTEM SPECIFICATIONS

2.1 CIVIL REGISTRY INFORMATION SYSTEM PROJECT TECHNOLOGY REFRESH (CRISP-TR)

- Perpetual License with unlimited users of City Civil Registry Department
- Six Main Modules of the System – Scanning, Uploading, indexing, Inquiry and Printing, Reporting, Administration, and other functions
- Document uploading and encoding - Registration and document profiling are entered to a database system for Indexing
- Document Searching - Inquiry results from the queries of searches with printing that provides authenticity markings
- Reporting and Printing Module - this provides the needed reports by the office
- Maintenance Module – this administration module provides simple and effective administration of the system such as reference table maintenance
- Other functionality is administration of the system such as user authentication, system diagnostics and system policies.
- Optical Character Recognition - an embedded function that will reduce encoding and encoding related issues
- Encryption and Decryption – this will ensure the confidentiality of scanned documents
- Performance statistics window presents strategic decision-making information. This includes number of records and status and others.
- Systems Utilities for batch uploading and scanning control center.
- Compliance Data Privacy Law, all scanned documents are exclusively property of City Civil Registry Department only and shall be processed with utmost protection

2. HARDWARE SPECIFICATION

2.1 Servers (3 Units)

- Intel Xeon E5-2630 v4 2.2GHz,25M Cache,8.0 GT/s QPI, Turbo, HT,10C/20T (85W) Max Mem 2133MHz
- 64GB RDIMM, 2400MT/s, Dual Rank, x8 Data Width
- Broadcom 5720 QP 1Gb Network Daughter Card
- PERC H730P Integrated RAID Controller, 2GB Cache
- 300GB 15K RPM SAS 12Gbps 2.5in Hot-plug Hard Drive
- 600GB x6. 10K RPM SAS 2.5in Hot-plug Hard Drive, Cuskit Chassis with up to 8, 2.5" Hard Drives
- DVD+/-RW, SATA, Internal
- Single, x2 Hot-plug Power Supply (1+0), 750W
- iDRAC8 Enterprise, integrated Dell remote access controller
- windows server 2016

2.1.1 Server Cabinet/Rack 42u (1 Unit)

2.1.2 Uninterruptible Power Supply (UPS) Rack Mounted 6KVA (1 unit)

2.2 Workstation (15 Units)

- 21.5 inches' monitor
- Intel i5 processor 10th Generation
- 8 GB Memory
- 4GB Video Card
- 1TB Hard disk
- Latest Windows 10 Home Edition
- UPS 500VA
- Standard Anti-virus License
- Mouse and keyboard

2.2.1 Portable Hard Disk 4TB (10 Units)

2.3 Laptops (2 Units)

- 15.6 inches' monitor
- Intel i5 processor 10th Generation
- Latest Windows 10 Home Edition
- 4 GB Memory
- 1TB Hard disk
- Standard Anti-virus License
- hdmi / lan port, 3 USB ports
- Microphone , Headphones
- Bag, Battery, Charger, and Box

2.4 Network Attach Storage 4 bay (1 Unit)

- 10 TB useable Storage

2.5 Regular size scanner with feeder (10 Units)

- Scanning Face: Duplex scanning
- Scanning Method: Color CIS (600 dpi) / Black or White Background / Sensor : CMOS
- Scanning Resolution: 100 – 600 dpi (1 dpi step)
- 1,200 dpi (Interpolated)
- Optical: 300 dpi / 600 dpi (Automatic switch)

2.6 Image Scanner (1 Unit)

- Scanner Type: Overhead, Simplex
- Scanning Modes: Color, Grayscale, Monochrome, Automatic (Color / Grayscale / Monochrome detection)
- Image Sensor: Lens reduction optics /Color CCD x1
- Light Source: (White LED + Lens illumination) x 2
- Optical Resolution : 285 to 218 dpi (Horizontal scanning)
- 283 to 152 dpi (Vertical scanning)

2.7 Continuous Ink System Printers (2 Units)

- Print resolution: Up to 600 X 600 dpi

- 1 Ethernet 10/100; Memory

2.8 Local Area Network Specifications (1 set)

- Structured Cabling with Patch Panels and Patch Cords
- CAT6 cable 1box(300meters/Box)
- LAN 24 port gigabit
- Mouldings 20pcs. 1 inchx10ft
-

2.9 SOFTWARE SPECIFICATION

3.0 Database Management System

- Server Installation Package
- Enterprise License

3.1 Civil Registry Information System Program Refresh (CRISPER)

- Web based Installation Package
- Performance Monitoring
- Web System Software
- Client Runtime
- Internal Firewall to ensure validated access levels

4. MANAGED SERVICES

4.1 Project Management

- Project Kick off
- Qualified Project Manager and Project Management Team
- Full Documentation on Project implementation
- User Acceptance Testing (UAT) and Operation Acceptance Testing (OAT) facilitation
- Digitization, encoding and uploading services
- Organizing, housekeeping and grooming of civil registry documents
- Scanning and publishing documents
- Indexing, encoding and uploading in CRISPER
- Validation, evaluation and production of scanned documents
- Three (3) stage evaluation to ensure that raw scanned documents and its information is aligned and in proper order
- Ensure that the proper resolution and clarity standards are set in place
- Publication of scanned documents to production servers
- Post processing of scanned documents

4.2 Migration of exiting Database to CRISPER Database

- Preparation and pre-configuration of existing database for migration
- Check Database integrity of old databases (2 Databases from previous Digitization projects)
- Validate the integrity of previous data source
- Migration of databases and restoration for active status
- Migration of File systems
- Ensure that the integrity of migrated database

4.3 Validation, evaluation, and production of previously scanned documents (previously scanned documents from previous contracts)

- Previously scanned documents performed by previous contractor and employees shall pass through the pre- evaluation, evaluation, post evaluation process of uploading and publication to ensure that the production data bases and files will be assumed accurate and reliable
- Validation of alignment of the data and meta data of the previously scanned documents to the existing data base
- Re-encoding and correction process if there is a need.

4.4 Training and Manuals

- Knowledge transfer training on application fixes, enhancements, technical configuration, system administration and database support
- Classroom Training
- 2 days (16 hours) for 30 participants
- User Manuals and Technical Manuals (Installation and Playbook)

4.5 Back-up and recovery support

- Passive replication of database and scanned files
- Onsite and offsite full back up
- Daily and Weekly incremental backup
- On site recovery validation

4.6 Warranty, Maintenance and Support

- One (1) hour response time for critical issues for resolution within twenty-four (24) hours.
- 1-year coverage after full acceptance of project

5. PROJECT MANAGEMENT PLAN

5.1 Project Management

- a. Project Plan – the overall project planning includes project timelines and deliverables, systems design, development and deployment, training and handover, and documentation.
- b. Delivery of Hardware components
 - i. Installation and Configuration of web-based Application Servers and Database Servers
 - ii. Installation and Configuration of File Servers
 - iii. Installation and Configuration of workstations and servers
- c. Customization of Systems:
 - i. Systems and Database Design
 - ii. System Configuration and Program Customization
- d. Migration of Files and Databases
- e. Digitization and uploading of scanned documents
- f. Project Documentation
- g. Functional, Technical and User Trainings
- h. Warranty and Support Services
- i. Backup and Restore Procedure
- j. User Acceptance Testing

6. PROFESSIONAL SERVICES

The contractor/Service Provider/Bidder shall have the critical technical knowledge that includes knowledge of database systems; ability to manage database system integration, implementation, and testing; ability to manage relational databases

and create complex reports; knowledge and ability to implement data and information policies, security requirements; and knowledge of client tools used by business users. The project should provide the following **Professional Services**:

- a. **Project Manager** - The Project Manager should have at least project management experience in digitization lifecycle.
- b. **System Analyst (1)** – System Analysts will identify and develop functionalities and modules of the system by using design techniques and implement them into the production environment.
- c. **Programmers (2)** – Programmers will develop and customize the Civil Registry Information System Program Technology Refresh (CRISP-TR). They should have background on web-based application.
- d. **Systems Administrator (2)** – System Administrators are for the installation and configuration of systems that includes operating systems, security systems, and backup systems. These administrators will provide support systems to assure continuous operation of the systems including all servers, storages, and software systems.
- e. **Facilities Support (2)** – Provides technical support to assure all facilities including all scanners, workstations, network and peripherals are all in good condition.
- f. **Digitization Experts (10)** – These personnel are assigned for the regular format documents.
- g. **Staff Aides (3)** – These personnel will provide organizational housekeeping and grooming activities on the documents and other services needed for the completion of the digitization process.

VII. PROJECT DURATION

This project will commence immediately upon the receipt of Notice to Proceed (NTP) by the winning service provider for a period of one (1) year for the implementation or full acceptance whichever comes first and one (1) year for maintenance and warranty.

Project duration is for a period of one (1) year from receipt of Notice to Proceed (NTP). The delivery schedule expressed as calendar days stipulates the project delivery date.

Item No.	Description	Delivered (Days)
1	Delivery of Project Management Plan and Hardware	Within 60 days upon the receipt of the NTP
2	Development and Customization of the Civil Registry Information System Program Refresh (CRISPER)	Within 90 days upon receipt of NTP.
3	Migrate existing digitization and archived Files and Databases equivalent to 4,553,883 Civil Registry documents	Within 90 days upon receipt of NTP

3	scanning, encoding and uploading Services	One year duration upon the receipt of the NTP or the completion of 1,000,000 documents including migrated files whichever comes first
6	Knowledge Transfer/ Training	Within one year upon the receipt of the NTP
7	Documentation	Within one year upon the receipt of the NTP

VIII. APPROVED BUDGET FOR CONTRACT

The Local Government of Quezon City, intends to apply the sum of **Twenty Million Nine Hundred Thousand Pesos (PhP 20,900,000.00)** being the Approved Budget for the Contract (ABC) for the payments for the completion of the CIVIL REGISTRY INFORMATION SYSTEM PROJECT TECHNOLOGY REFRESH (CRISP-TR). Bids and Proposals received in excess of the ABC shall be automatically rejected at opening of the financial proposals.

IX. BASIS FOR PAYMENT

The terms of payment shall be based on the following completed man-days:

- 30% upon delivery of Project Management Plan and Hardware
- 40% upon completion and acceptance of CRISPER and migration of database records and scanned documents equivalent to 4,553,883
- 30% upon completion of digitization (scanning, evaluation, encoding and uploading) activities 1 year or the completion of One Million (1,000,000) documents whichever comes first. This payment term shall also include the completion of training, documentation and, full completion and acceptance of the project

X. PENALTIES FOR BREACH OF CONTRACT

Failure to deliver the services according to standards and requirements set by the City shall constitute an offence and shall subject the Contractor to penalties and/or liquidated damages pursuant to RA 9184 and its revised Implementing Rules and Regulations.

XI. CANCELLATION OR TERMINATION OF CONTRACT

Should there be any dispute, controversy or difference between the parties arising out of this TOR, the parties herein shall exert efforts to amicably settle such dispute or difference. However, if any dispute, controversy or difference cannot be resolved by them amicably to the mutual satisfaction of parties, then the matter may be submitted for arbitration in accordance with existing laws, without prejudice for the aggrieved party to seek redress before a court of competent jurisdiction.

The guidelines contained in RA 9184 and its revised IRR shall be followed in the termination of any service contract. In the event the City terminated the contract due to

default insolvency, or for cause, it may enter into negotiated procurement pursuant to section 53(d) of RA 9184 and its IRR.

XII. PROOF OF CONCEPT

The winning bidder should have provided a proof of concept of the system and scanners that will be used in this project. The winning bidder shall present a prototype system that includes a database system for the migration of previous databases. The proof of concept activity shall also present handling of aged documents that are in the state of disintegration.

ANNEX A

Information for Migration, Evaluation, Uploading and Encoding

A. Migration Objects

This activity aims to migrate all data from existing databases to the new system database. Information such as Birth Certificates, Marriage Certificates and Death certificates and all corresponding data shall be extracted, transformed and loaded to the new system. The following items are included in the scope of data migration activity:

Data objects	Type	Guideline data Volume
Birth Certificates	Transaction	3,151,575 total records
Marriage Certificates	Transaction	761,933 total records
Death Certificates	Transaction	640,375 total records
Barangay Master List	Master Data	142 total records



SALVADOR G. CARIÑO JR.
City Civil Registrar