Development, Supply, Delivery, Installation, Commissioning and Testing of Quezon City Disease Surveillance Platform

I. RATIONALE AND BRIEF BACKGROUND

Project Background and Context

Quezon City Epidemiology & Surveillance Division (QCESD) requires a platform for managing data for disease surveillance and will play a pivotal role in early detection and management of disease outbreaks, ensuring the health and safety of the community. It involves the development of a comprehensive and user-friendly web-based application.

II. PROJECT DESCRIPTION

The proposed project aims to develop a comprehensive city disease surveillance platform that leverages technology and data analytics to enhance disease monitoring and response capabilities.

The platform will serve as a centralized repository for collecting, analyzing, and reporting disease-related data from various sources, including healthcare providers, laboratories, and public health agencies. It will provide real-time insights and alerts to enable quick and informed decision-making by city health authorities.

III. PROJECT SCOPE OF WORK

The Service Provider must develop, supply, deliver, install, commission, and test a Disease Surveillance Platform that allows for the perpetual use of the software for the Quezon City Epidemiology and Surveillance Division. The Platform will be utilized at designated health facilities with unlimited number of users.

The Disease Surveillance Platform will be transferred to a Quezon City-owned IT infrastructure which may be a cloud and/or an on-premise environment at the end of the project

Development of QCESD disease surveillance modules:
Data Management
- Implementation of designed data architecture and pipeline from data collection to data analytics. Physical database development based on agreed data model for identified disease protocols. Store, retrieve, and manage data for every disease module in-scope.
- Robust search and filtering capabilities.
- Built-in data quality management features such as data libraries to maintain quality standards.
- Flexibility for data managers to add data fields and validations without dependency with developers for agile data collection.
- Data duplication detection feature enabled.

Integrated data entry (online and offline)
- Integration of passive and active surveillance
- Passive: Data entry through web and sms Active: Data entry through create modal, upload linelist, and offline data capture tool.
- QCitizens can view their data or request update for transparency and adherence to data rights

Contact Tracing
- Link patient close contacts and reported locations Application of graph network techniques to generate visualizations
- Facilitiate alert for responders and notifications for at-risk individuals

SMS Integration
- Enable SMS integration that can be used in informing patients, close contacts, and gathering quick feedback.
- The SMS gateway integration can also be used to enhance platform security features such as two-factor authentication for registered users.
- Can be used for behaviorial nudges in citizen engagement

Data Import and Export
- Facilitate data exporting based on selected filters Export to csv and xlsx format

Interoperability
- API integration with DOH disease surveillance systems and other established local system as identified by QCESD for ease of compliance reporting

Data Analytics
- Generate real-time dashboards for monitoring key metrics for disease surveillance and report generation
- Filters and interactive features for data visualizations
- Maps with filters to explore spatial distributions

Data Privacy and security features
- Facilitate data privacy impact assessment and data governance as part of service
- Anonymize data feature is available to redact personal information for usecases that only require aggregated data for analysis and report sharing
- Encryption at-rest and in-transit
- Bot blockers, DDoS protection, and regular security monitoring to prevent cyberattacks
- Two-factor authentication feature
- Stewardship of organizational, technical, and physical security protocols.

Service Management

Operating Hours	24 hours a day, 7 days a week
Expected Availability	99.9%
Expected Reliability	99.9%>
Peak Busy Hours	08:00 hours to 11:00 hours and 16:00 hours to 19:00 hours
Maximum Tolerable Outage	6 hours
Backup Window	7 days; triggered at 00:00 hours on the 7th day; manual backups may be done thru SRF
Backup Requirements	AWS costing and developers' configuration and adjustments when need arises
ITSM monitoring tool	Service management tool is provided upon engagement

Conduct of training and provision of documentations
- Provision of user manual and system documentations
- Capacity building for QCESD personnel on the use of the platform features

- o REST API
- o HL7 FHIR
- o PHPUnit, Cypress
- o OCR
- o AI/ML
- o SMS APIs
- Training development and delivery specialist – Program Associate (1)
  - o Health Informatics
  - o Health Information systems

Trainings:
- Train-the-Trainers session for Data Management and Information Technology Unit and Field Health Services Information System and Data Analytics Unit Personnel of Quezon City Epidemiology and Surveillance Division (QCESD) of Quezon City Health Department to empower key staff members to train other users. User Manuals should be provided during and after the training.

Warranty:
- 1-year Warranty after the user acceptance sign-off which includes Technical Support and Maintenance

VI. PROJECT DURATION

Six (6) months of development and 4-months of maintenance and enhancements. The project starts within the month of receiving the Notice to Proceed letter.

VII. APPROVED BUDGET FOR THE CONTRACT

The Approved Budget for the Contract is Seven Million Pesos (Php7,000,000.00) only

Category	Cost
Project Management and Governance, Technical Assessment, System Design, and Data Modeling	1,005,600.00
Software Development and Analytics Support	1,946,000.00
System Deployment and Testing	148,800.00
System Documentation, Training Module Development and Training	180,800.00
Technical and Service Support	199,200.00
Infrastructure and Licensing	3,519,600.00
TOTAL AMOUNT	**7,000,000**

VIII. No Price Adjustment

The Project cost shall be fixed and there shall be no price adjustments applicable for the duration of the contract except when the operations costs are increased by more than 10% as a result of any extraordinary circumstance as determined by the National Economic Development Authority (NEDA). Pursuant to the provisions of RA 9184 and 'its IRR on contract price escalation, all contract price i escalation shall be approved by the Government Procurement Policy Board (GPPB).

IX. BASIS OF PAYMENT

Progressive Billing

15% Upon submission, approval and acceptance of the Program Implementation Plan
50% Upon Delivery and acceptance of the Data Management Module
20% Upon Delivery and acceptance of Data Analytics Module
15% Upon Official Turnover and User Acceptance Test

X. PENALTIES FOR BREACH OF CONTRACT

Failure to deliver the services according to the 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.

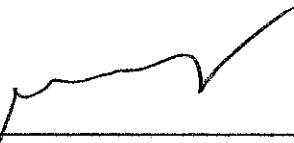## XI. CANCELLATION OR TERMINATION OF CONTRACT

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 itq IRR.
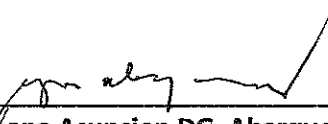
Prepared by:

Johnedel N. Mendoza
IT – Surveillance Officer
QC - Epidemiology and Surveillance Division

Approved by:

Rolando V. Cruz, DMD, PHSAE
City Epidemiologist
QC - Epidemiology and Surveillance Division

Noted by:

Ramona Asuncion DG. Abarquez, MD, MPH
Officer-in-Charge
Acting City Health Officer
Quezon City Health Department

Paul Rene Padilla
Department Head
Quezon City Information Technology
Development Department