## Solution Requirements (Functional & Non-functional)

**Date:** 26 June 2025  
**Team ID:** LTVIP2025TMID32000  
**Project Name:** Sustainable Smart City Assistant Using IBM Granite LLM

**Functional Requirements**

| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| --- | --- | --- |
| FR-1 | Policy Document Summarization | User uploads city policy document; AI summarizes using Watsonx |
| FR-2 | Citizen Feedback Management | Form submission and tagging of categorized feedback |
| FR-3 | KPI Forecasting | Upload CSV and forecast usage trends with regression |
| FR-4 | Eco Tips Generator | Generate actionable tips from keyword input |
| FR-5 | Anomaly Detection | Highlight usage anomalies in uploaded KPI data |
| FR-6 | Semantic Policy Search | Search vectorized documents with natural language queries |
| FR-7 | Sustainability Report Generator | AI composes city-wise report from KPI insights |

**Non-functional Requirements**

| **NFR No.** | **Non-Functional Requirement** |
| --- | --- |
| NFR-1 | Usability – Simple, intuitive Streamlit dashboard |
| NFR-2 | Security – Secure API key management using dotenv |
| NFR-3 | Reliability – Stable integration with IBM Watsonx and Pinecone |
| NFR-4 | Performance – Fast response time (<5 sec), concurrent processing |
| NFR-5 | Scalability – Cloud-deployable, modular architecture |
| NFR-6 | Accessibility – Responsive UI, support for non-technical users |