To convert this Agile-based Sprint plan into a **Sustainable Smart City Assistant** project using **IBM Granite LLM**, we need to align the structure (Sprints, Epics, Stories, Story Points) to tasks relevant to a smart city solution while incorporating the use of **IBM Granite LLM** for AI-related components (e.g., NLP, chatbot, data insights).

✅ Project Overview

Project Name: Sustainable Smart City Assistant
Goal: Develop an AI-powered assistant using IBM Granite LLM that helps citizens interact with smart city services (like transport, waste management, energy, water usage, etc.) and provides sustainability insights.

✅ Epics, Stories & Story Points

✅ Epic 1: Data Pipeline Development

Sprint 1

User Story 1: Data Collection

- 🟢 *Story: Collect real-time city service data (traffic, utilities, waste management)* – 2 SP
- 🟢 *Story: Load and store data into cloud database (e.g., IBM Cloudant or DB2)* – 1 SP

User Story 2: Data Preprocessing

- 🟢 *Story: Handle missing/incorrect data in city service datasets* – 3 SP
- 🟢 *Story: Convert categorical data (e.g., districts, service types) into usable format* – 2 SP

📊 **Sprint 1 Total Story Points = 8**

✅ Epic 2: AI Assistant Development with IBM Granite LLM

Sprint 2

User Story 3: Model Building

- 🟢 *Story: Fine-tune IBM Granite LLM for local language queries and sustainability terms* – 5 SP
- 🟢 *Story: Test LLM outputs for accuracy and bias in smart city context* – 3 SP

User Story 4: Assistant Deployment

- 🟢 *Story: Design HTML UI for citizen query input and responses* – 3 SP
- 🟢 *Story: Deploy Flask-based API backend on IBM Cloud with Granite integration* – 5 SP

📊 **Sprint 2 Total Story Points = 16**

✅ **Project Metrics**

- **Total Story Points:** 24
- **Number of Sprints:** 2
- **Team Velocity:** 24 / 2 = **12 Story Points/Sprint**

✅ **Deliverables by Sprint**

Sprint 1: Functional Data Pipeline

- Sustainable city datasets ingested, cleaned, and preprocessed.
- Ready for model training and assistant integration.

Sprint 2: Working Assistant MVP

- Granite LLM integrated.
- Web-based Assistant responds to sustainability queries.
- Deployed on IBM Cloud using Flask backend.

✅ **Potential Use Cases for Assistant**

- "What is the best time to use public transport to reduce carbon footprint?"
- "Show water consumption trends in my neighborhood."
- "Report missed garbage collection."
- "Tips for reducing energy usage during summer."

✅ **IBM Tools Integration**

- **IBM Granite LLM**: NLP for smart city queries.

- **IBM Cloud**: Hosting Flask app and databases.
- **Watsonx.ai (Optional)**: For advanced training and evaluation.
