Terra Phase 1 – Property Claim System

Revenue-Ready Specification – Version 1.0

1. Purpose

Implement a frictionless, GPS-based property claim flow using cadastral intersection. EPUs remain analytical units. Properties become identity and billing units.

2. Architectural Separation

Identity Layer: Cadastral Property Polygon

Analytical Layer: 1km EPU Grid

Landscape Layer: 4.2km Aggregation Radius

3. Required Spatial Data

• State cadastral parcel polygons (Lot/Plan, geometry, area)

• EPU grid table (geometry + precomputed TBLS)

• Property–EPU intersection cache table

4. Claim Flow

Step 1: Capture GPS

Step 2: Backend point-in-polygon query

Step 3: Display boundary overlay for confirmation

Step 4: Account creation (email + password)

Step 5: Associate property with user

Step 6: Compute weighted property score

Step 7: Offer Monitoring Trial

5. Subscription Hook

Free: Static score + landscape context

Monitor ($10/month): NDVI trend, vegetation change detection, alerts, quarterly updates

6. Network Integration

After claim, show corridor status and invite neighbour functionality. Referral grants 1 free month if invitee subscribes.

7. Performance Requirements

• Parcel detection <300ms

• No client-side spatial math

• All intersections cached server-side

• No runtime crashes permitted

8. Phase 1 Non-Scope

• Legal ownership validation

• Government registry integration

• Complex parcel merging logic

9. Success Criteria

• Claim completed <60 seconds

• Property boundary visible

• Subscription trial available immediately

• Stable production build (no crashes)