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Figure 34. *Allium purpureoviride* (IUCN: VU)



Figure 35. *Beta macrorhiza* (IUCN: VU)





Figure 36. *Paronychia arabica* subsp. *euphratica* (IUCN: VU)



Figure 37. *Campanula yildirimii* (IUCN: EN)





Figure 38. *Hesperis breviscapa* (IUCN: EN)



Figure 39. *Thymus cappadocicus* var. *cappadocicus* (IUCN: VU)





Figure 40. *Achillea pseudoaleppica* (IUCN: VU)



Figure 41. *Asphodeline tenuior* var. *puberulenta* (IUCN: VU)





Figure 42. *Centaurea aucherana* (IUCN: EN)



Figure 43. *Cousinia sintenisii* (IUCN: VU)





Figure 44. *Hyacinhella acutiloba* (IUCN: VU)



Figure 45. *Limoniopsis owerinii* (IUCN: VU)





Figure 46. *Origanum haussknechtii* (IUCN: VU)



Figure 47. *Reseda armena* var. *scabridula* (IUCN: VU)





Figure 48. *Verbascum tuna-ekimii* (IUCN: CR)



Figure 49. *Gladiolus hamzaoglui* (IUCN: VU)



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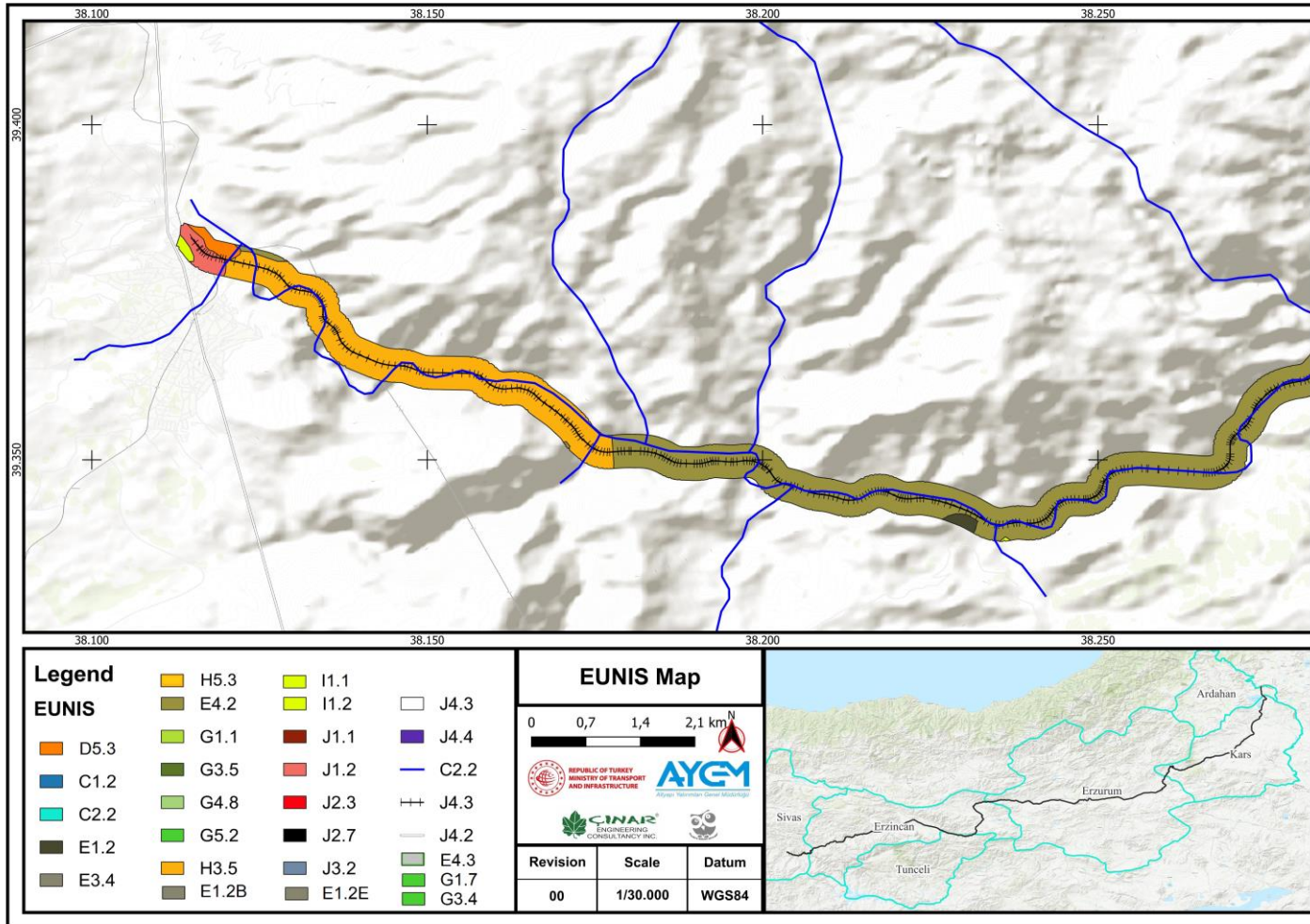


Figure 50. *Hedysarum yilmazunalii* (IUCN: CR)

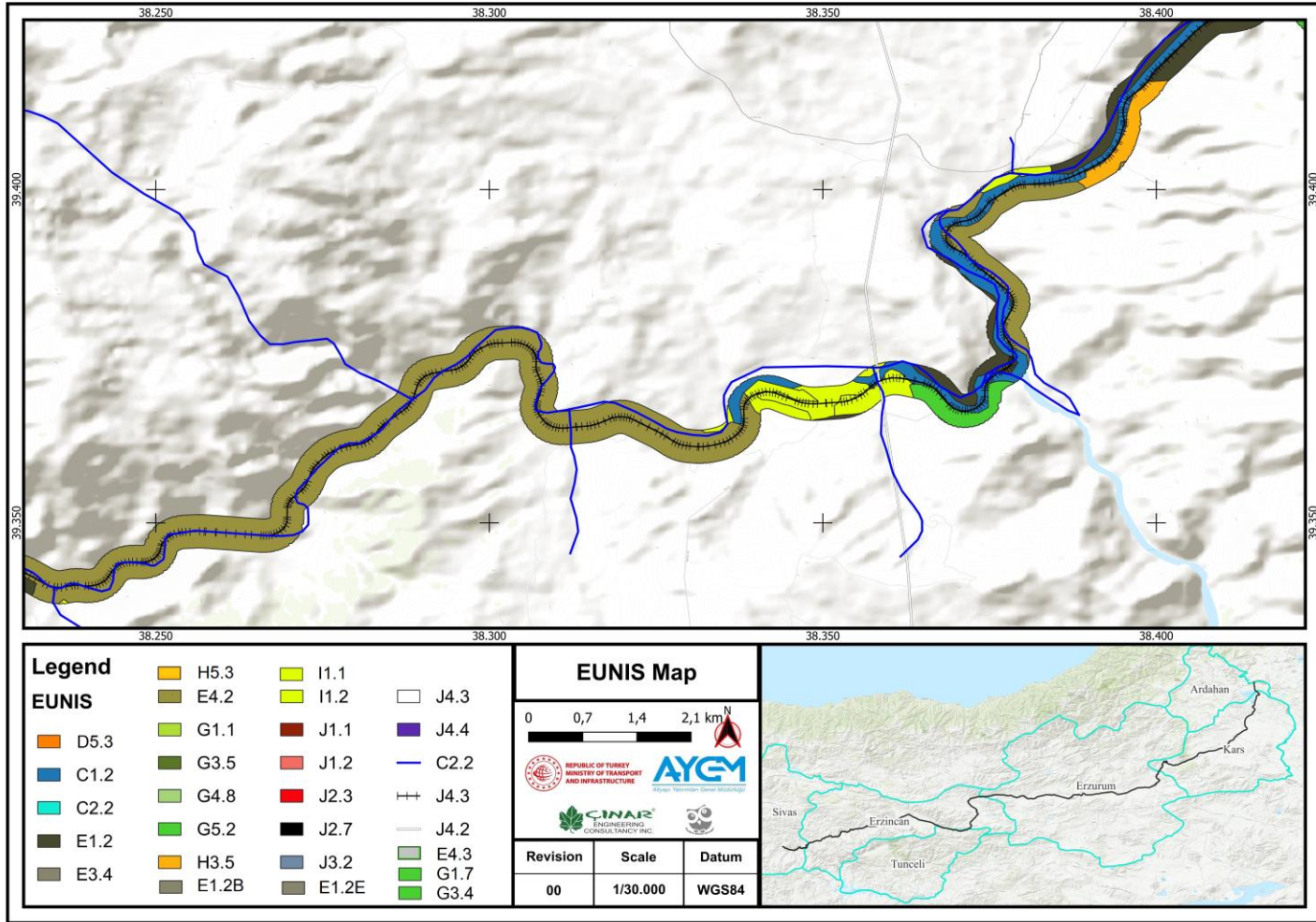




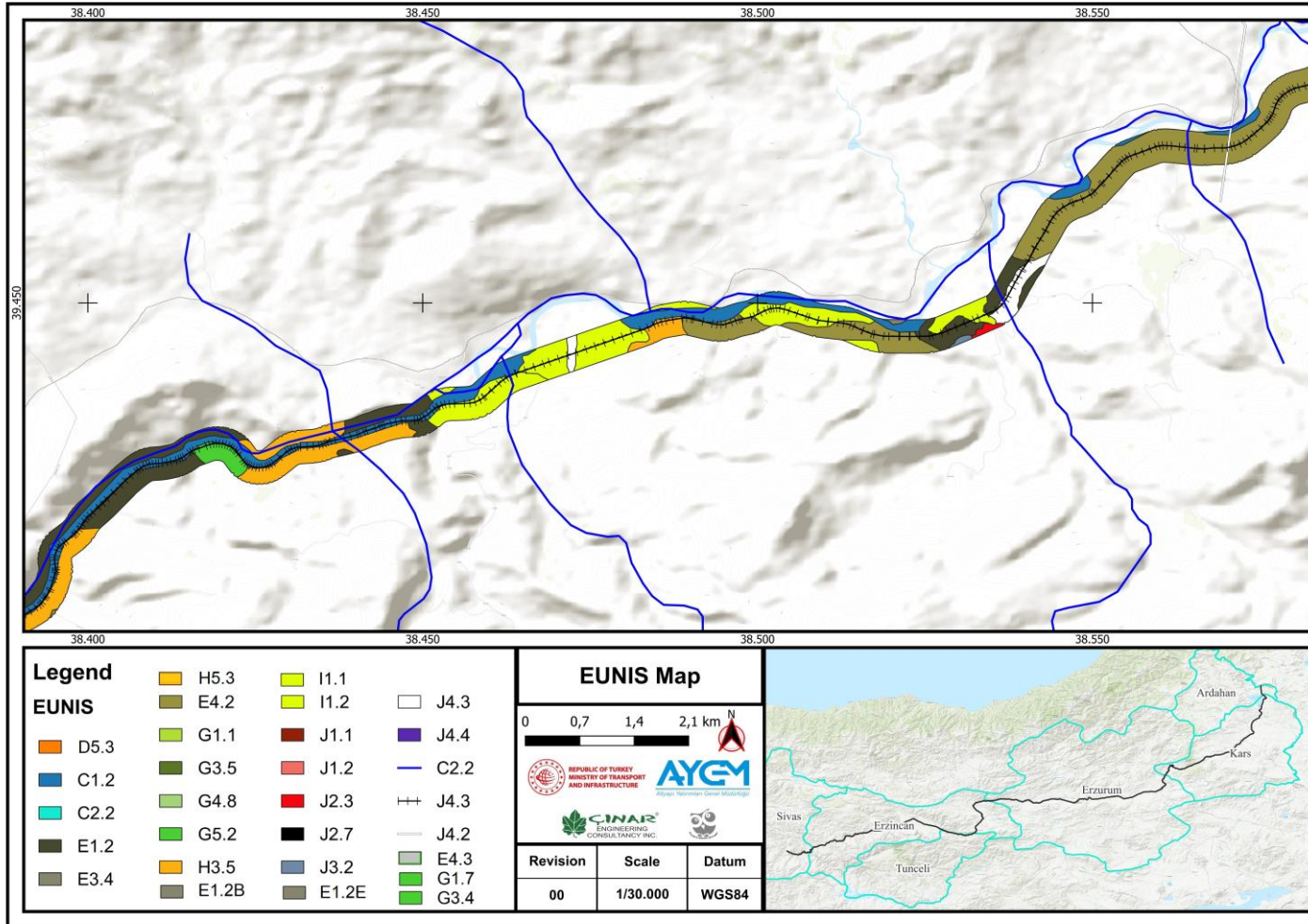
## APPENDIX-2: EUNIS Habitats



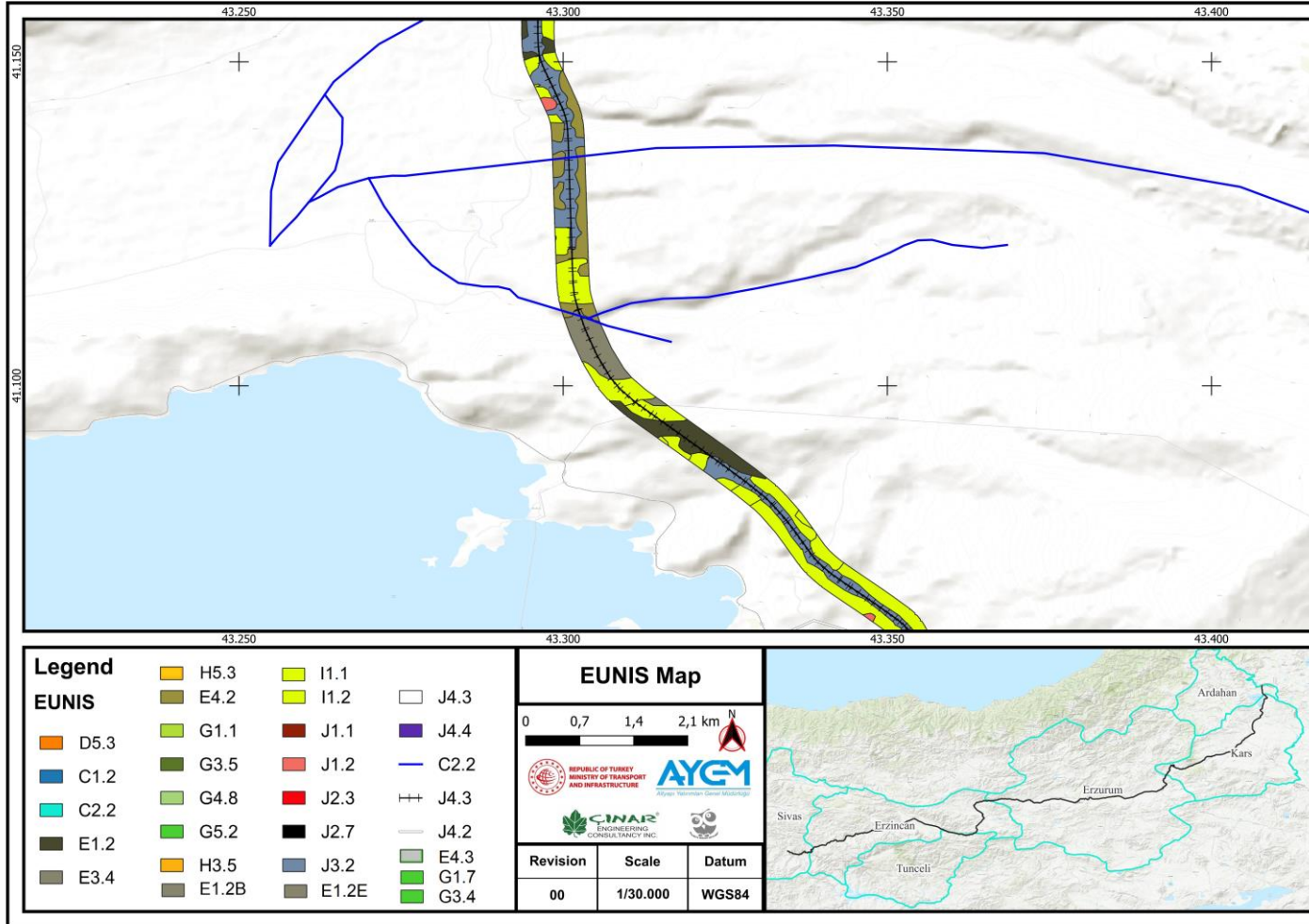




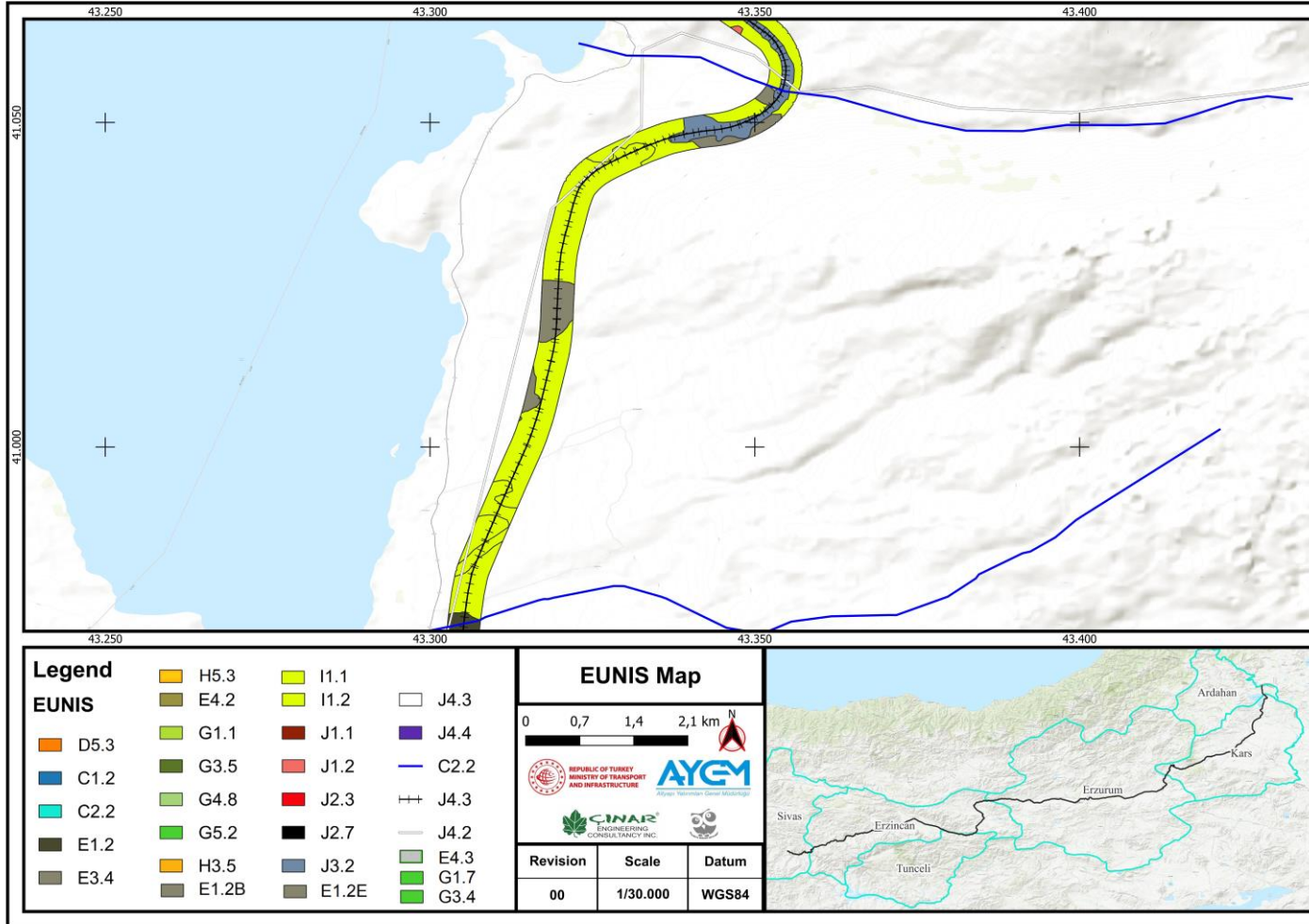




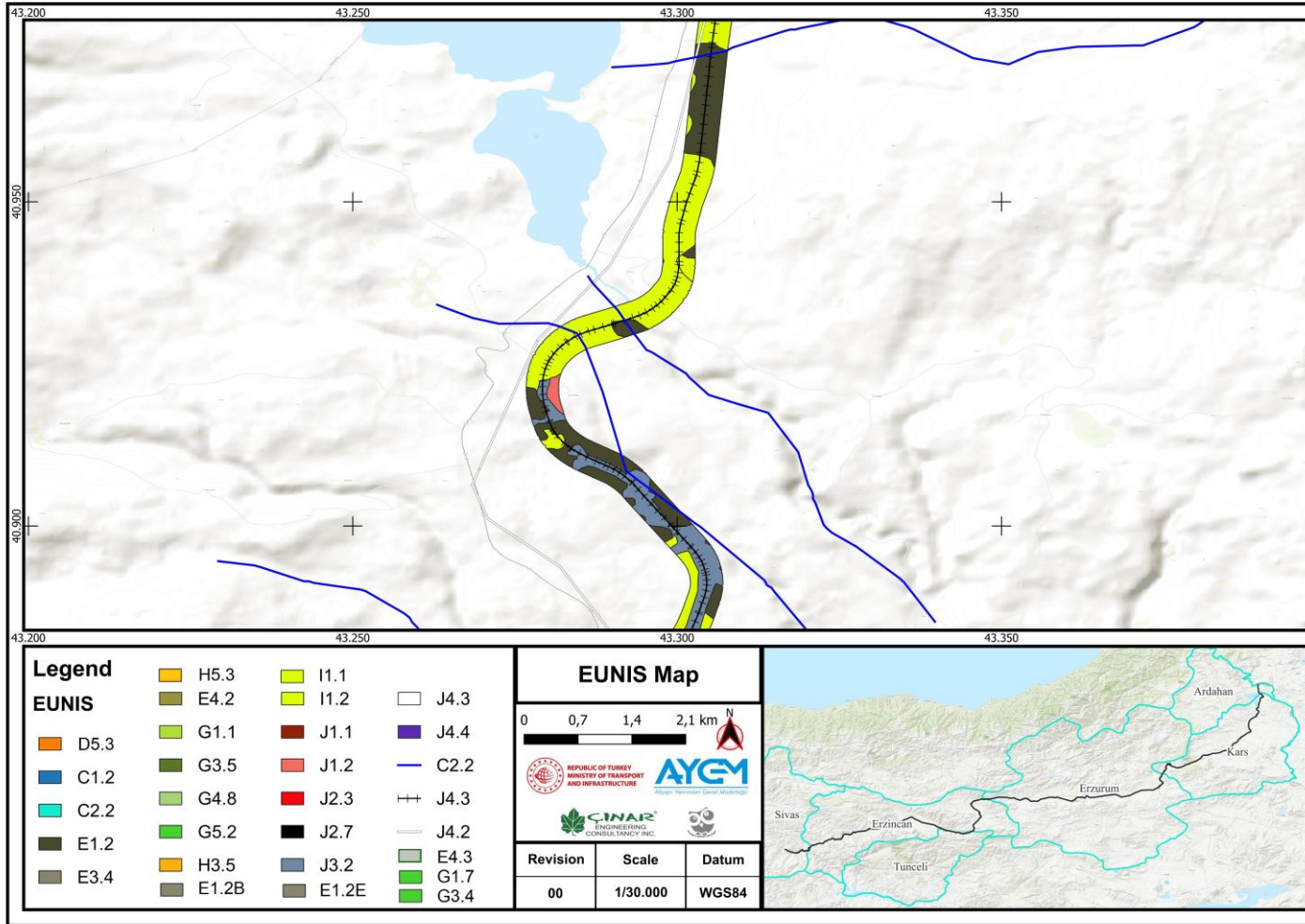




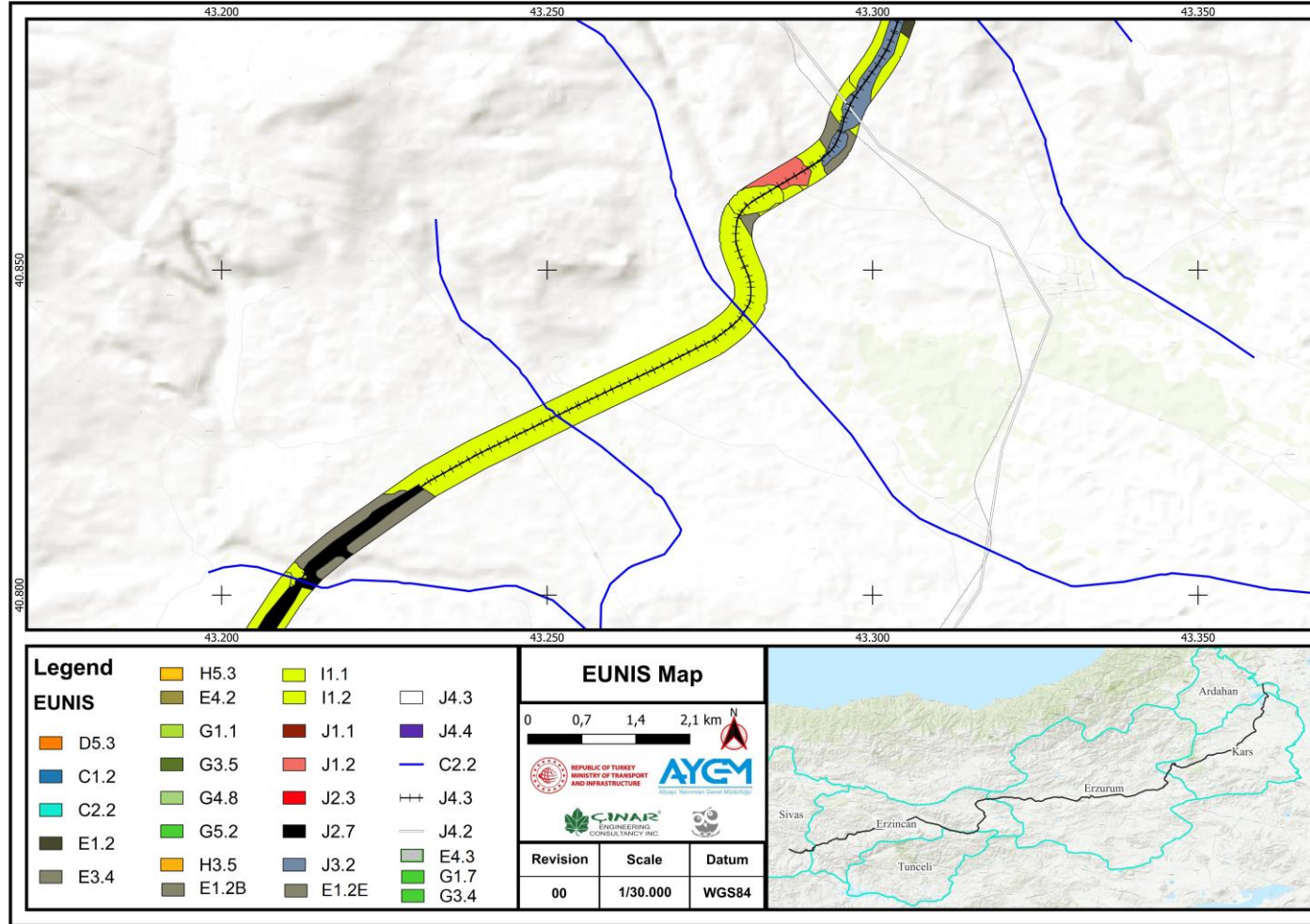


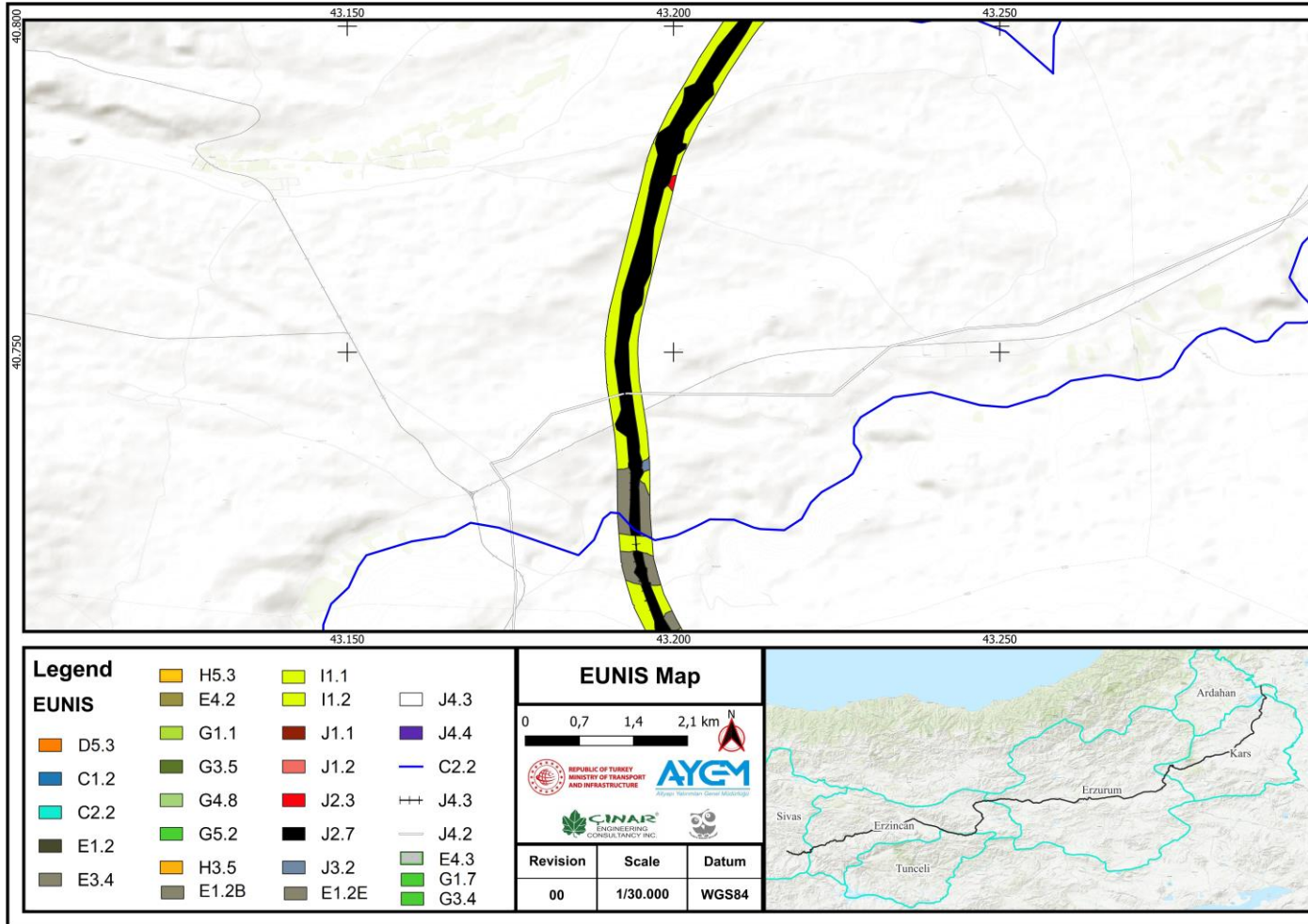




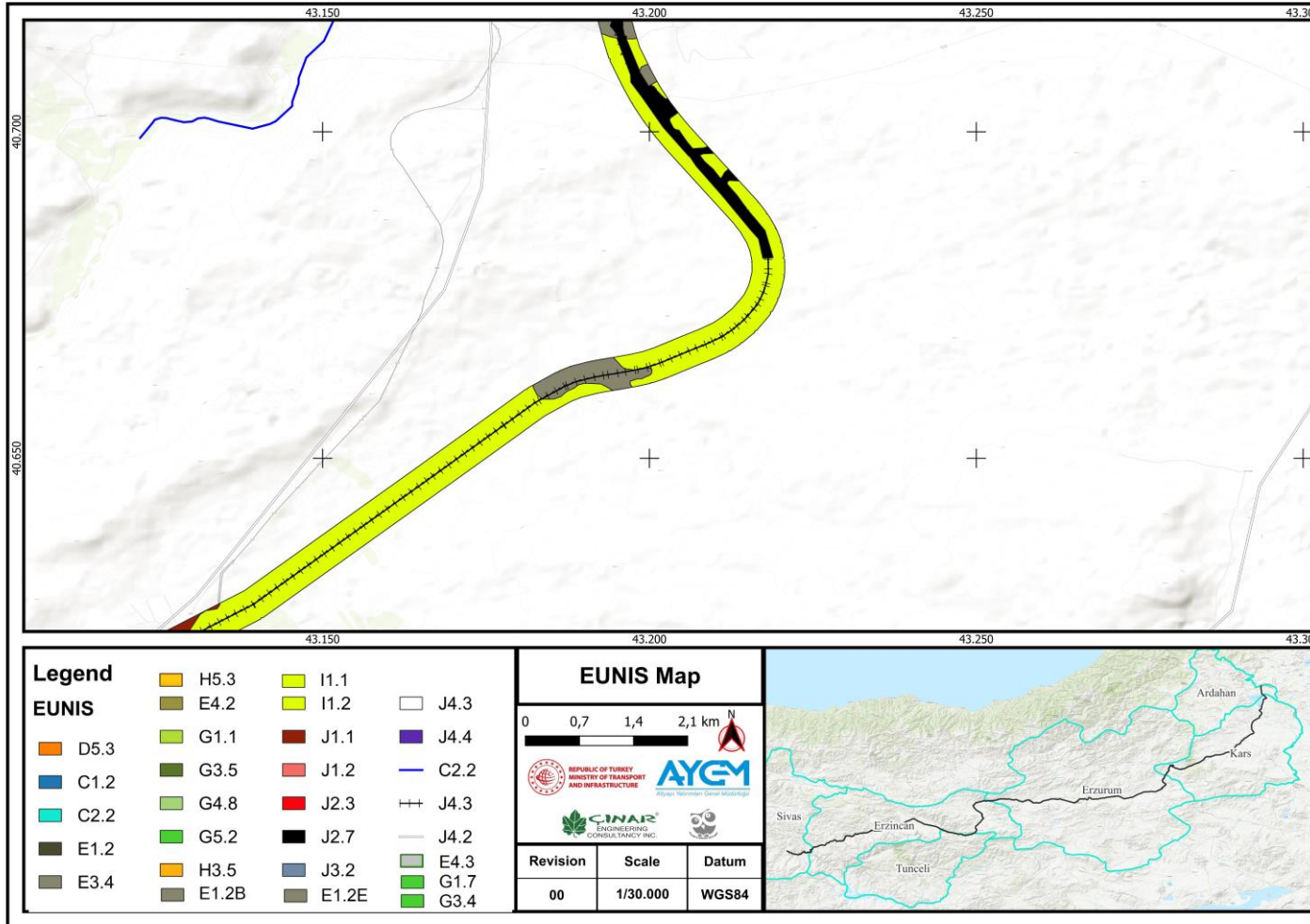


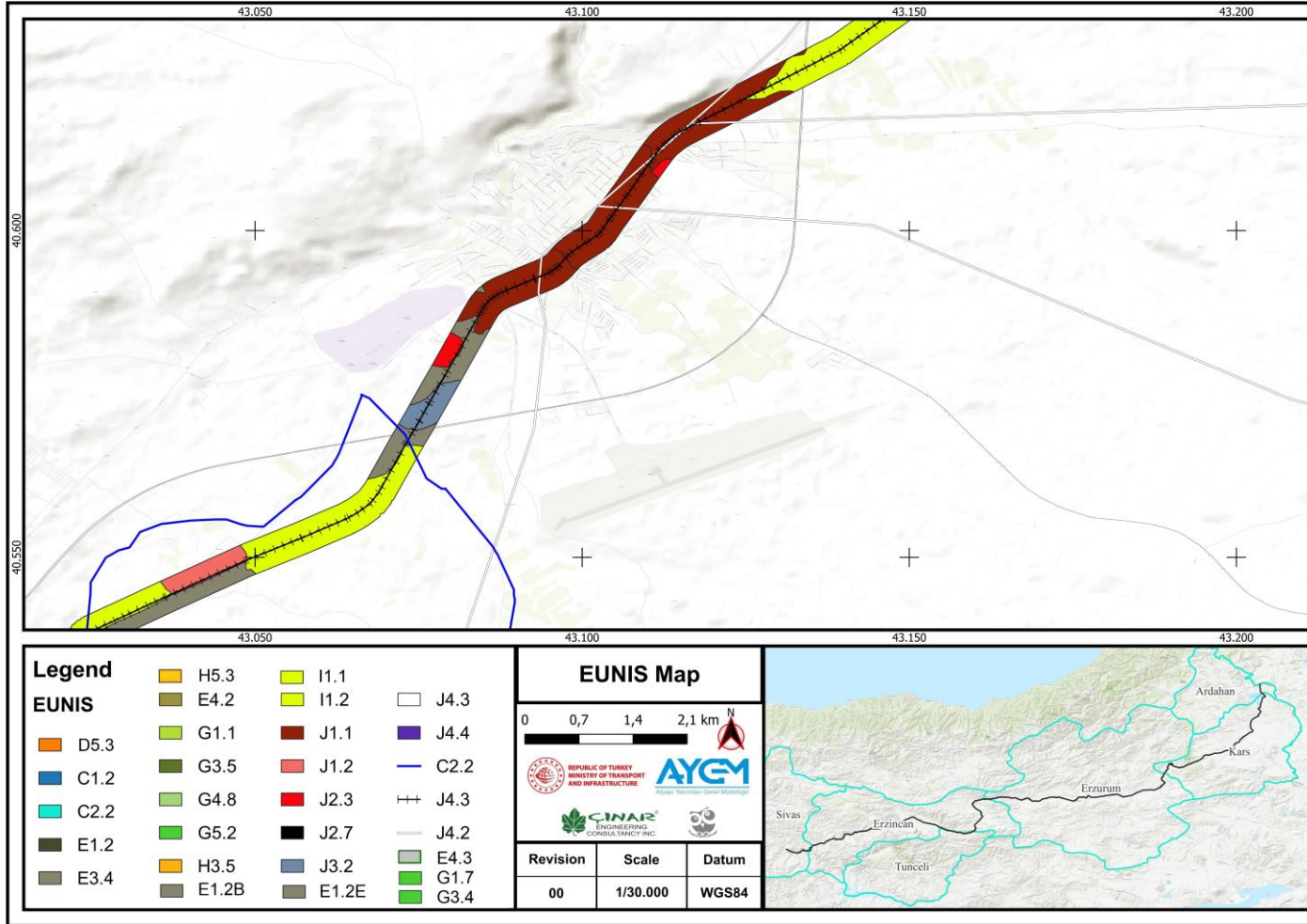




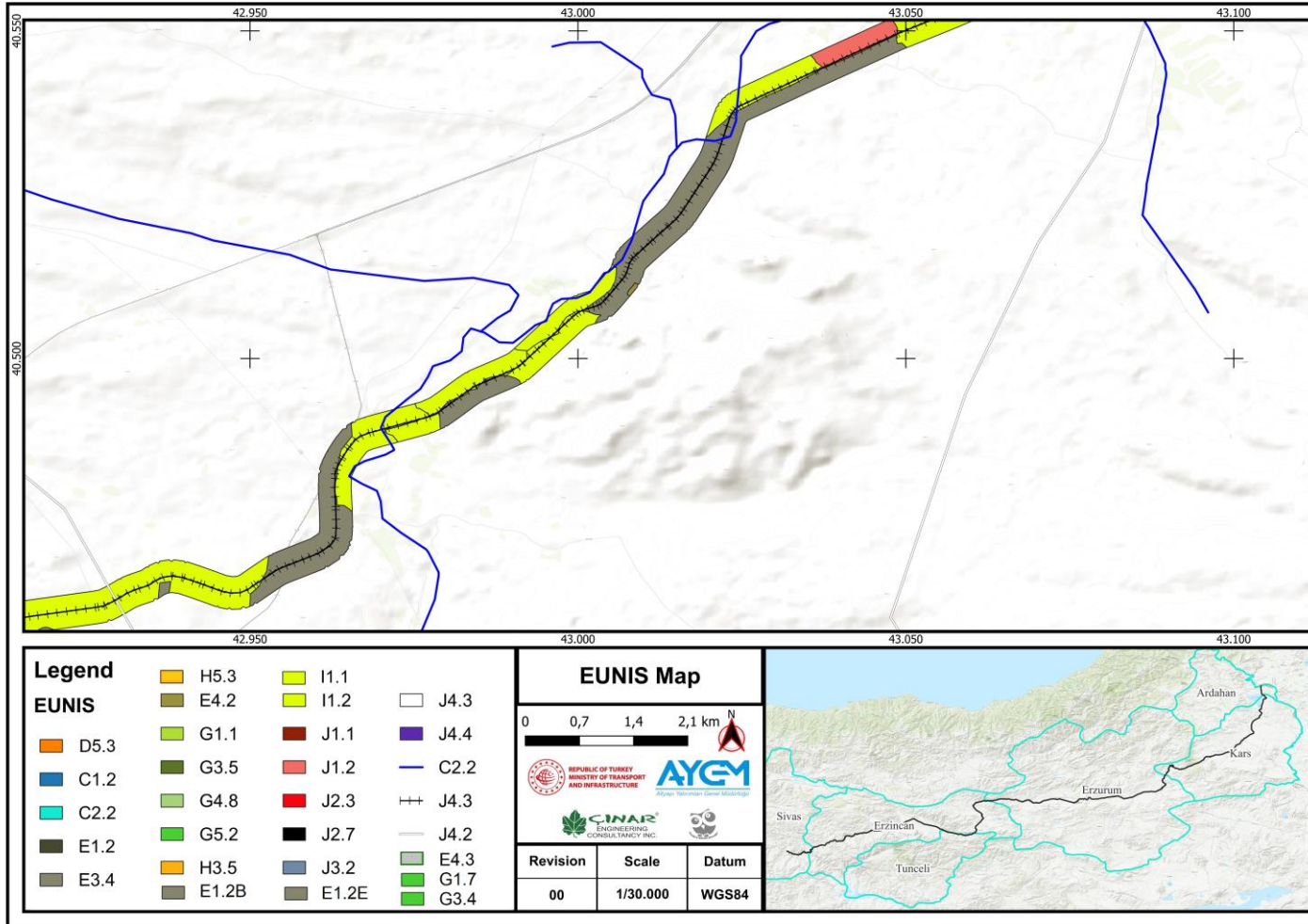


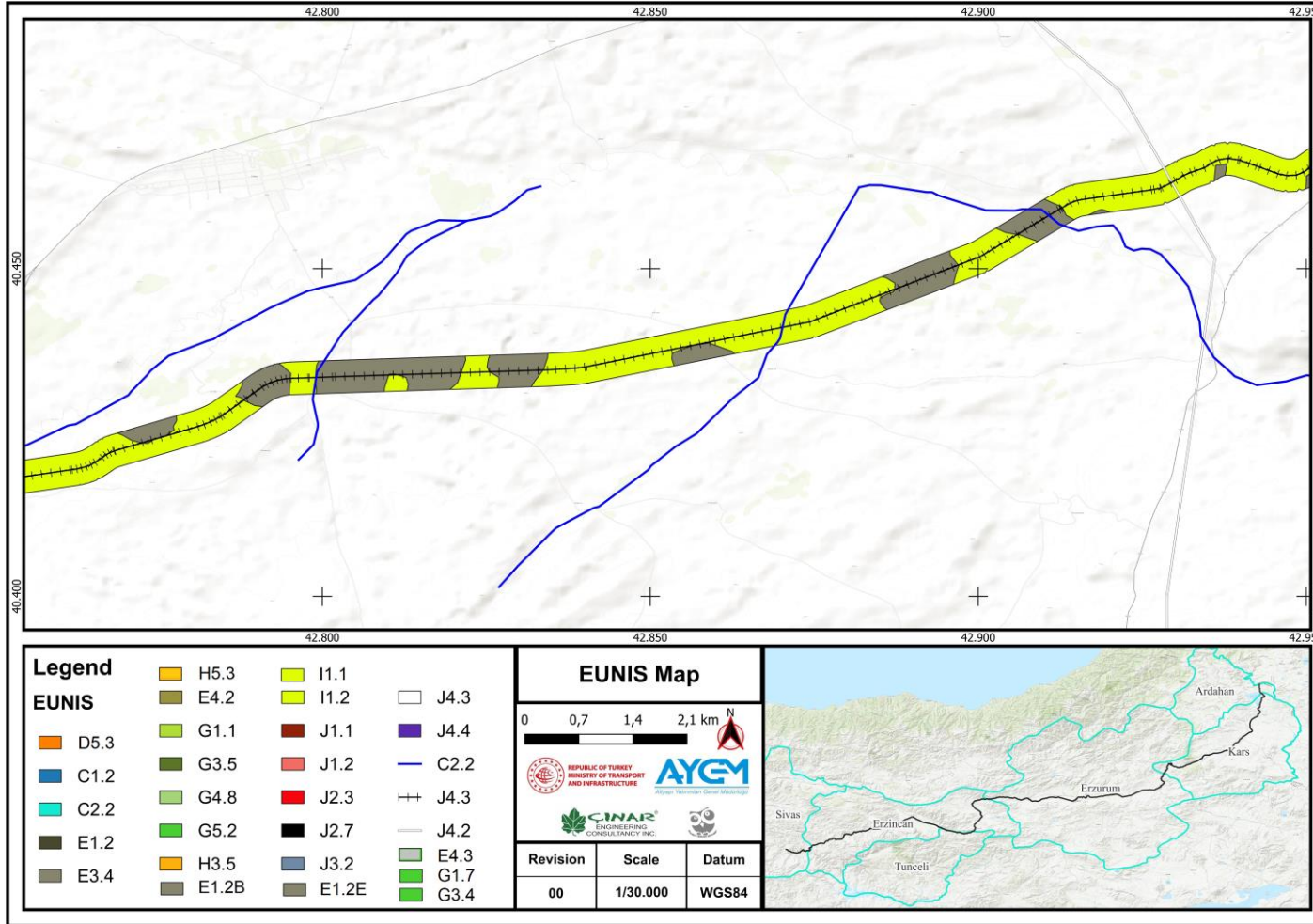




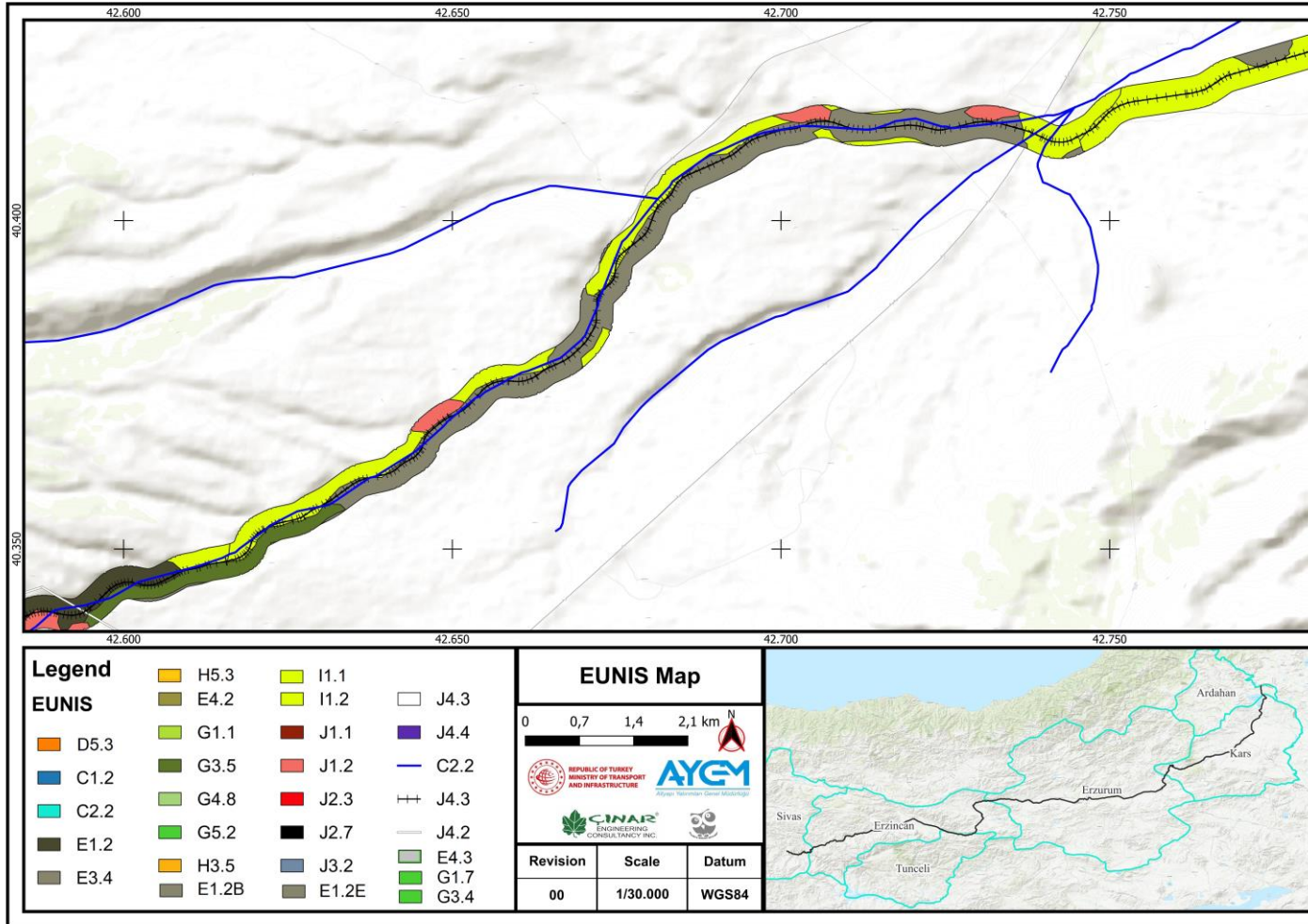


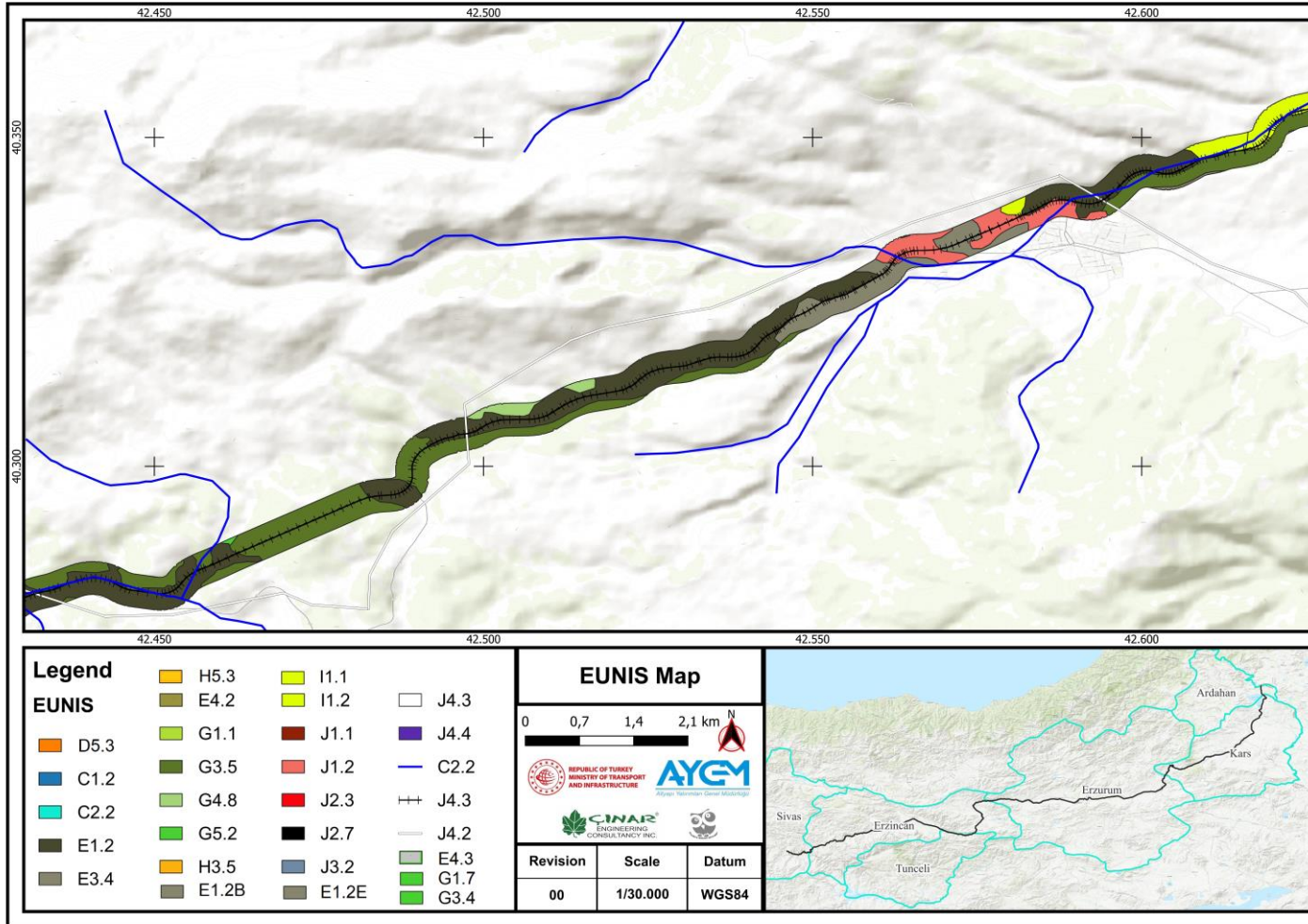




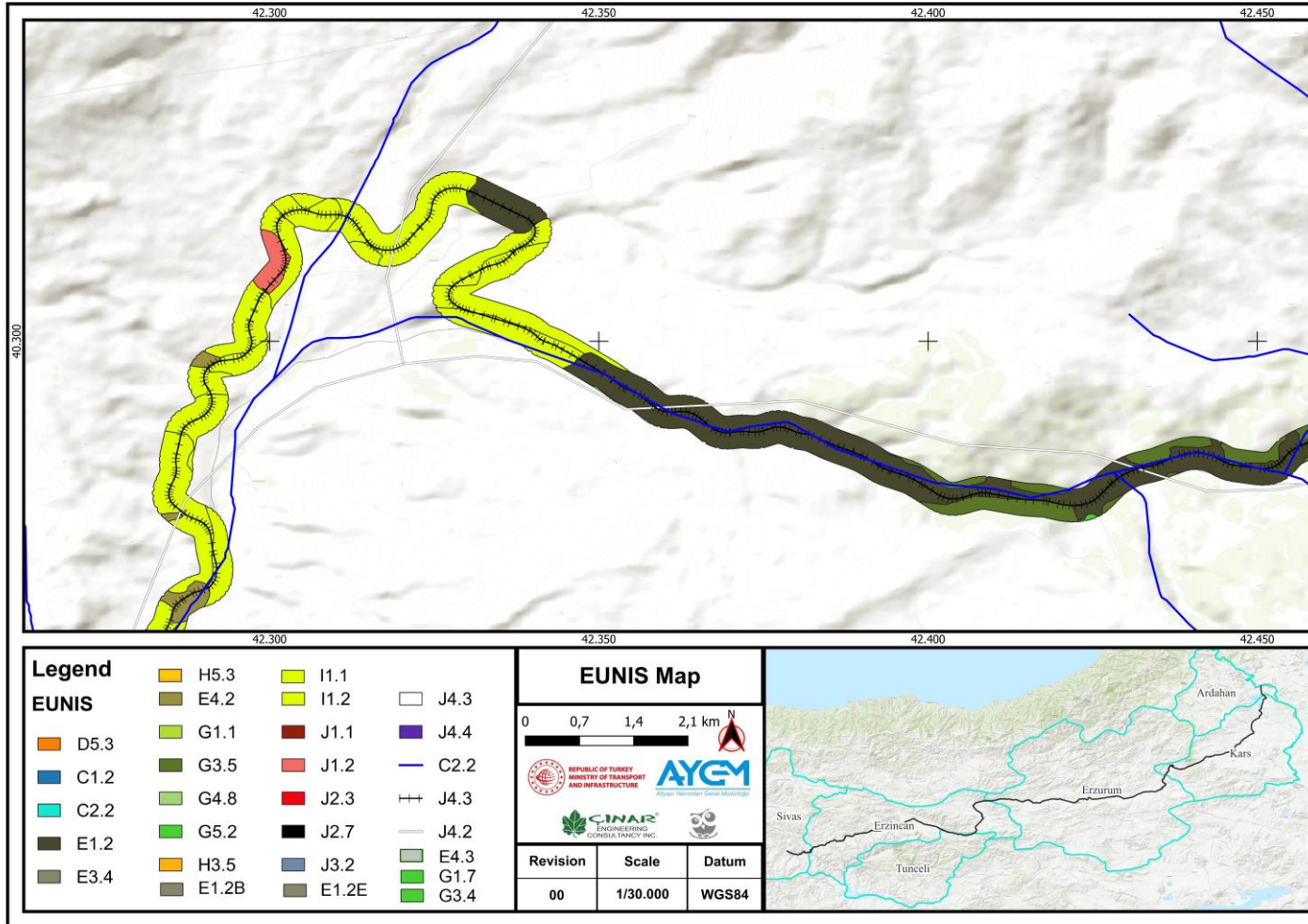


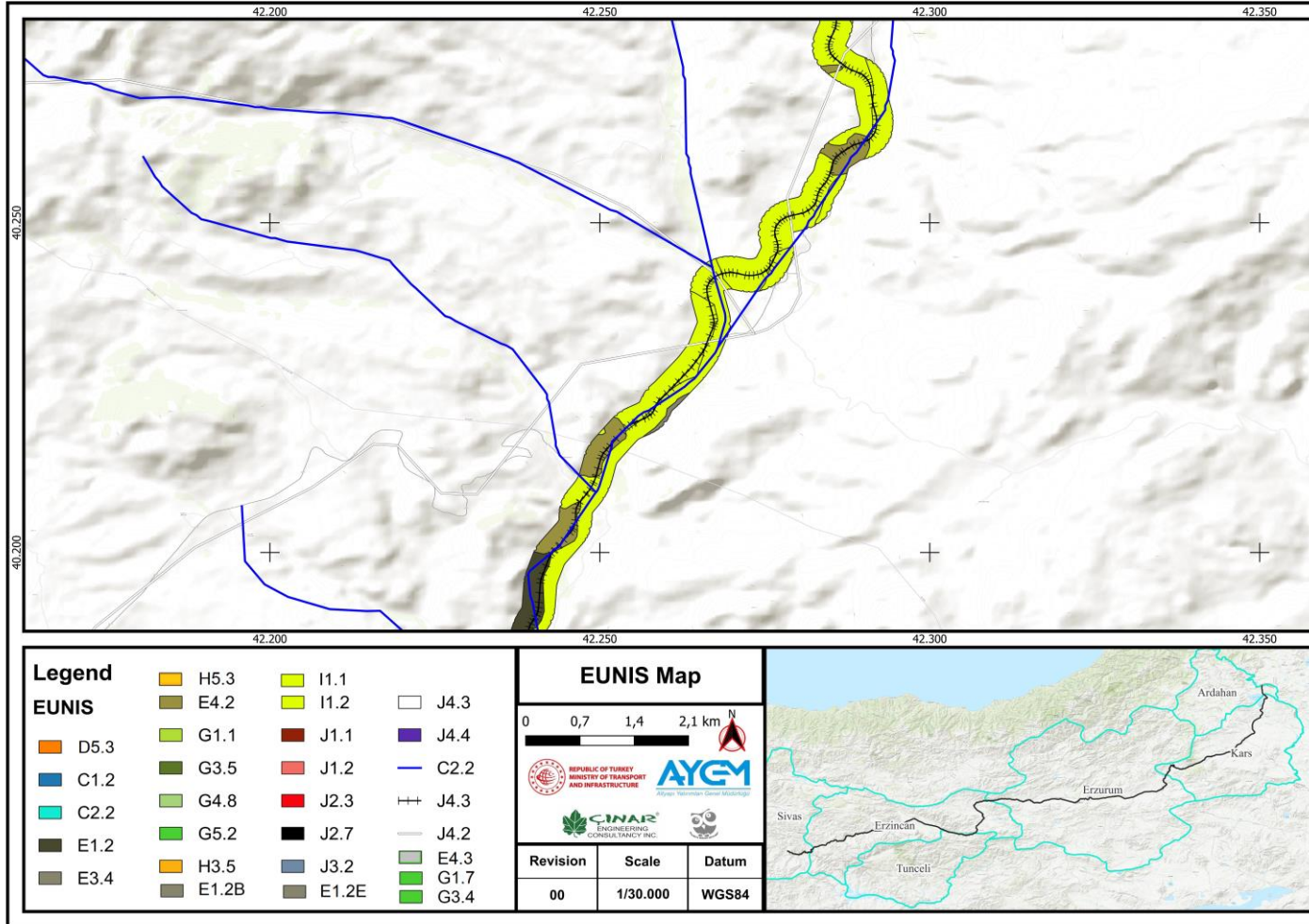




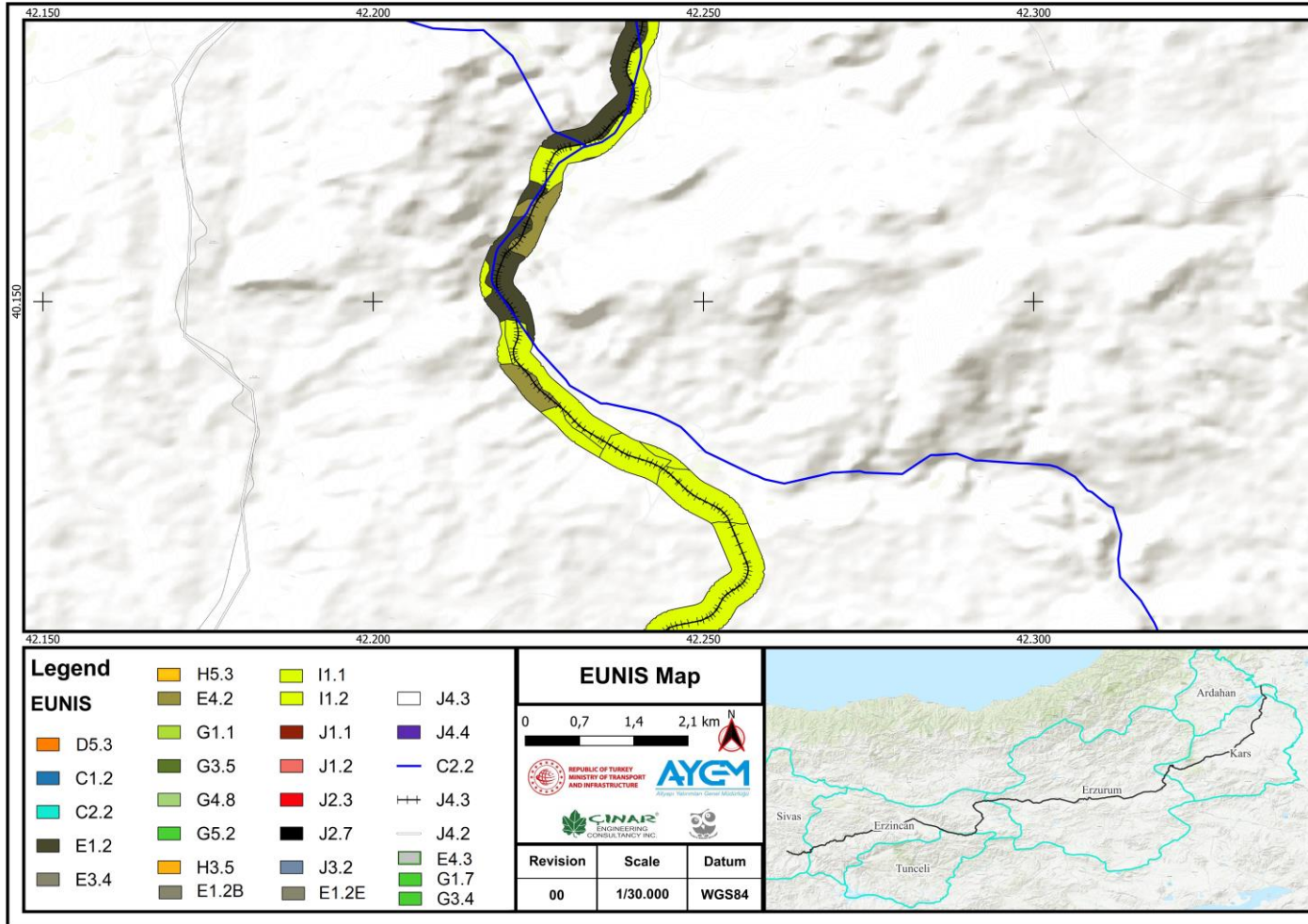


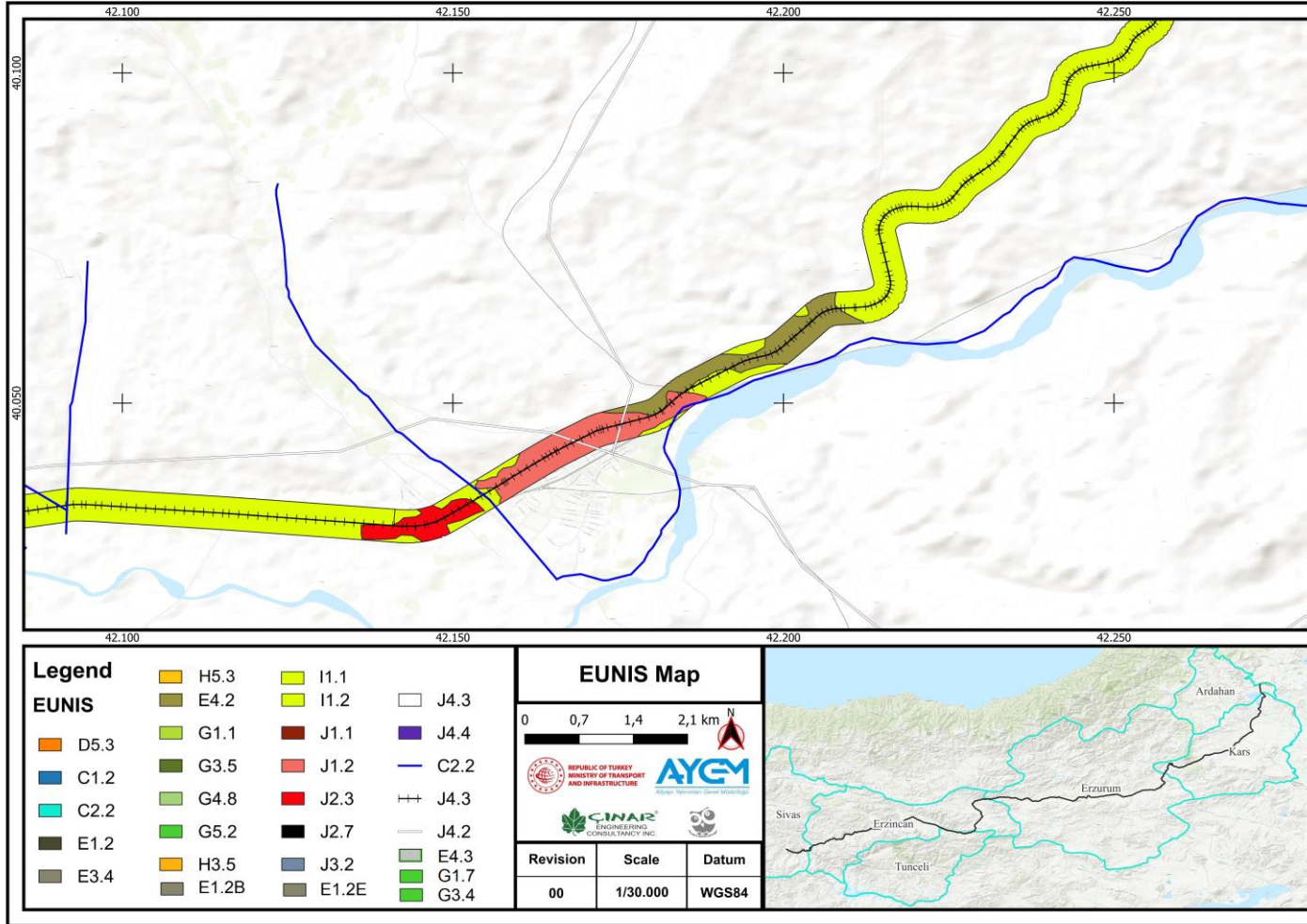




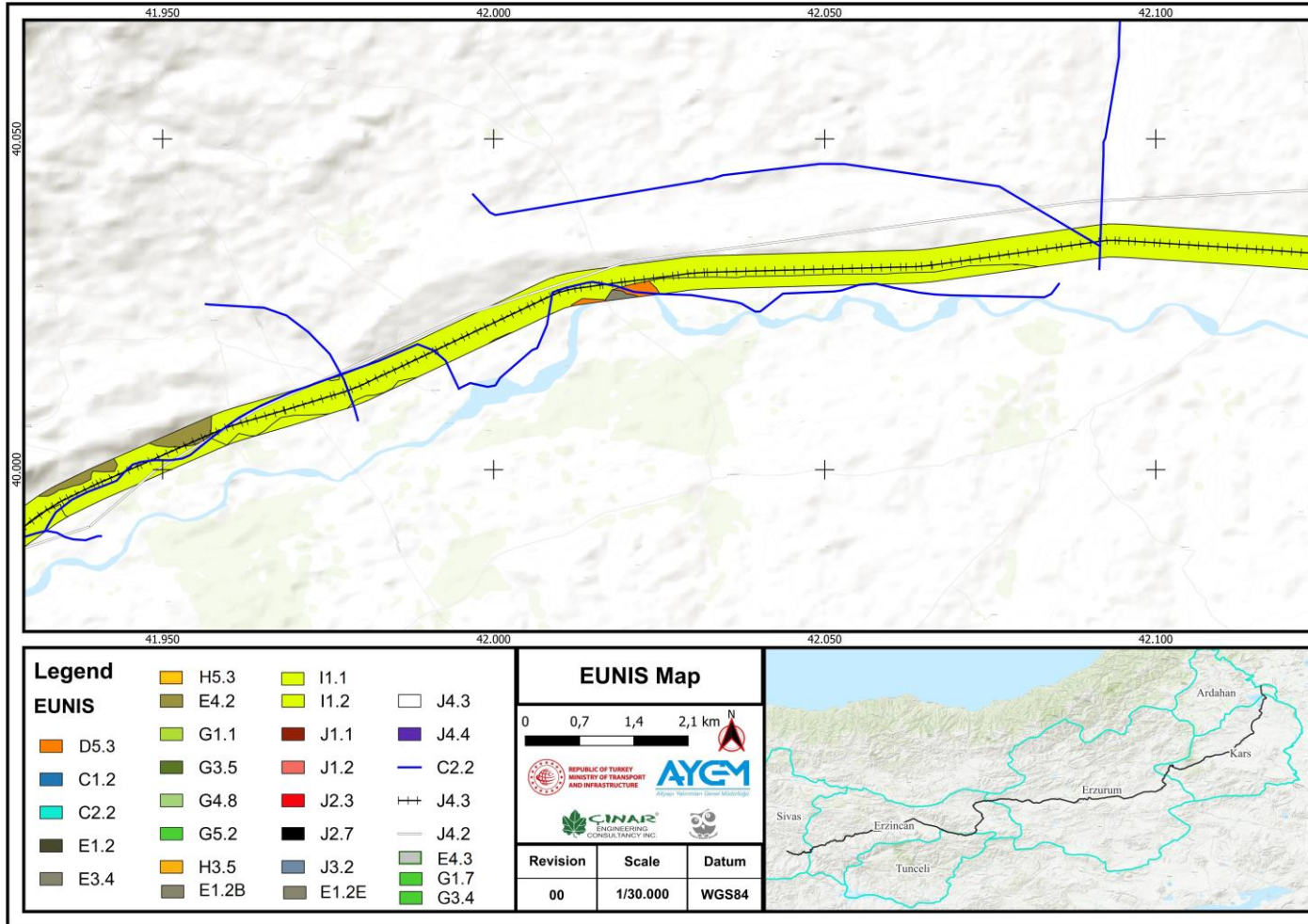


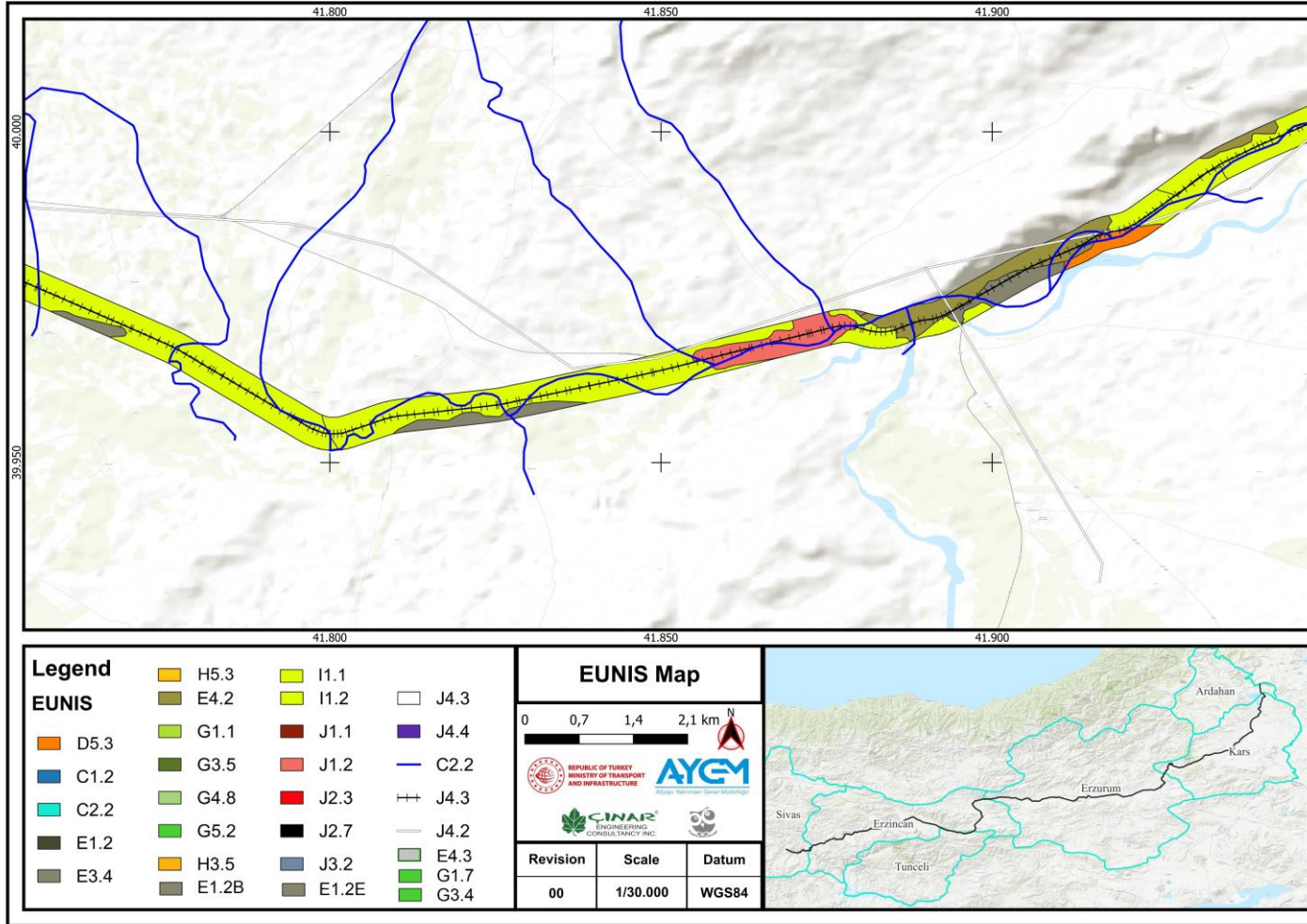




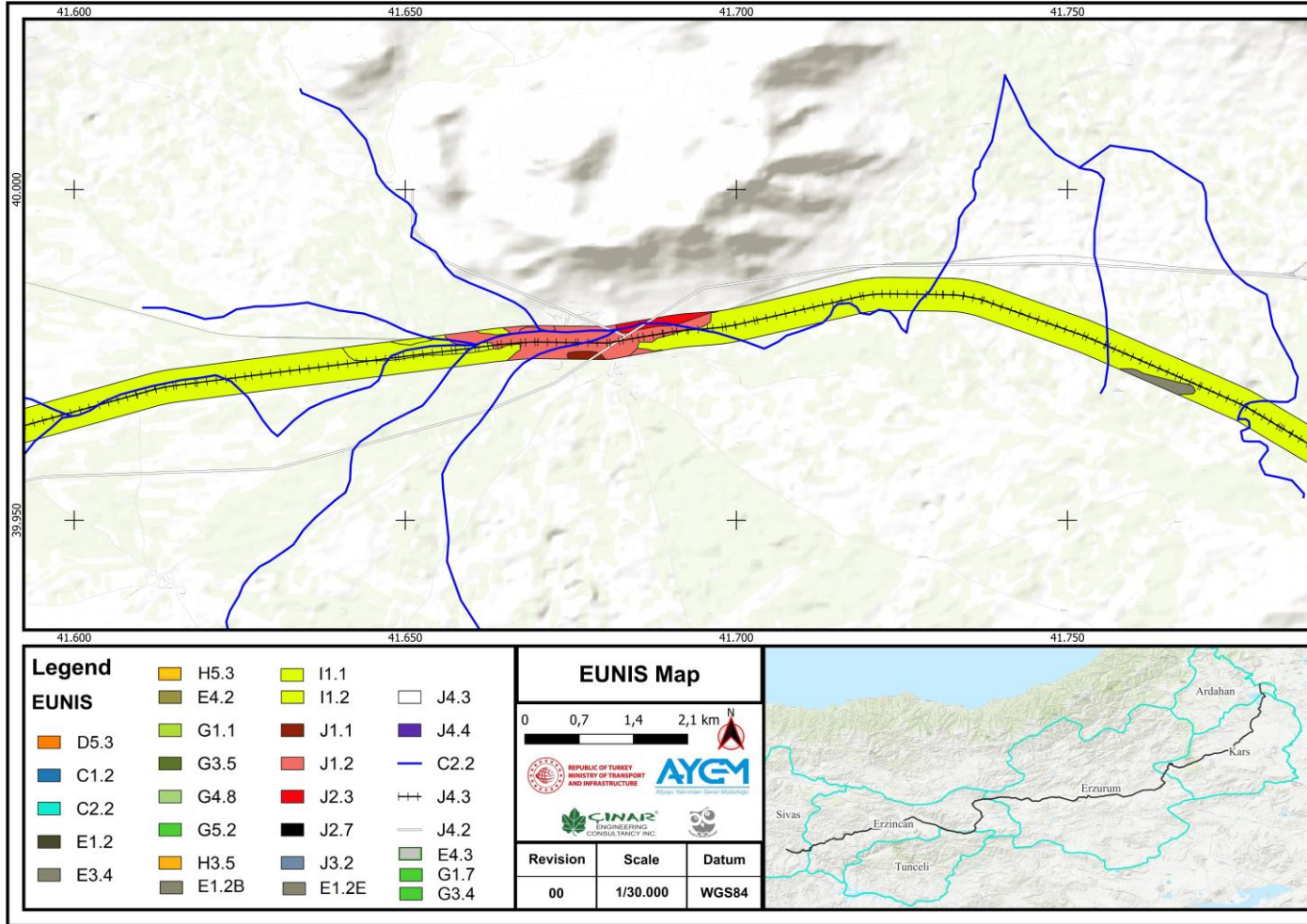


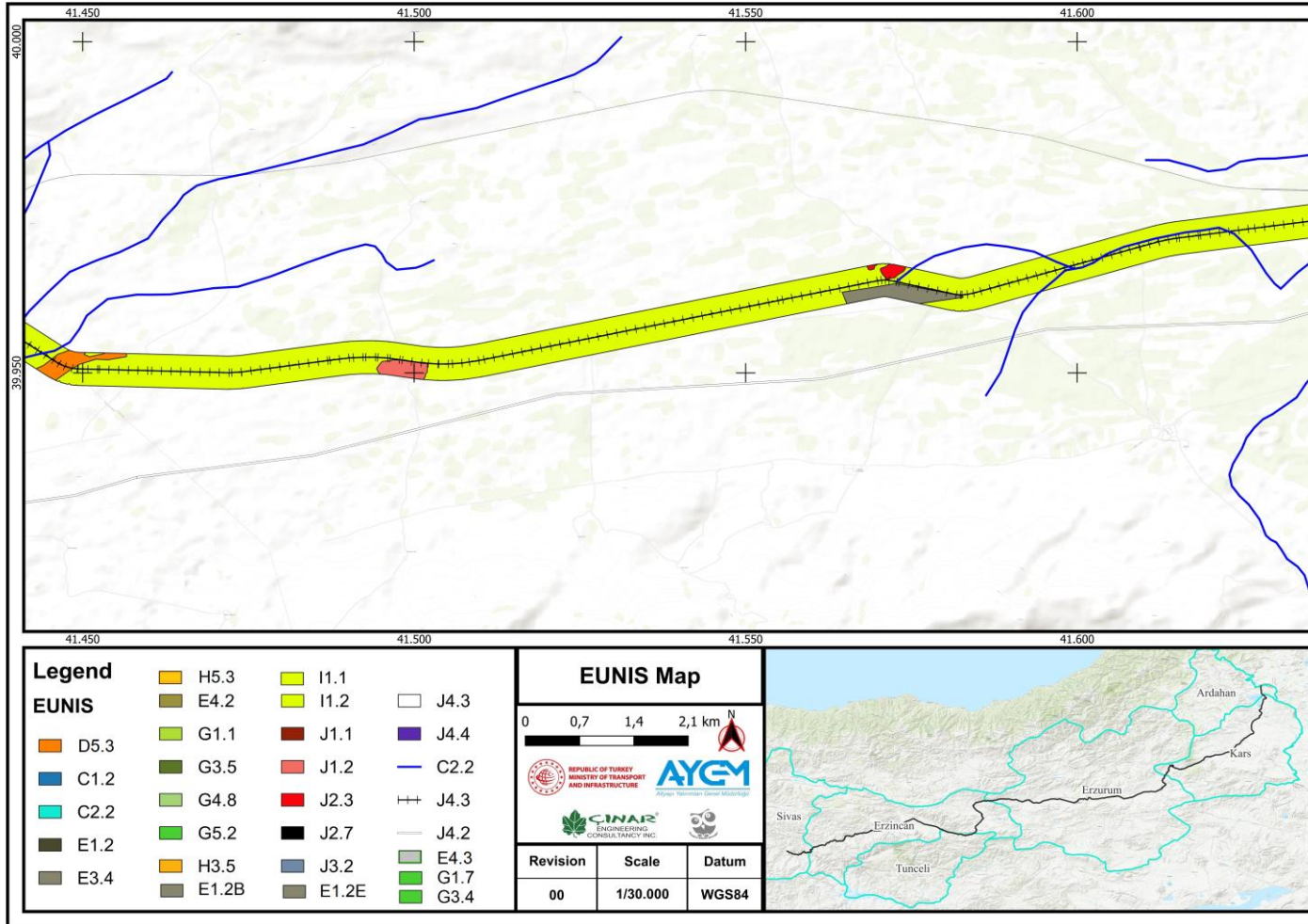




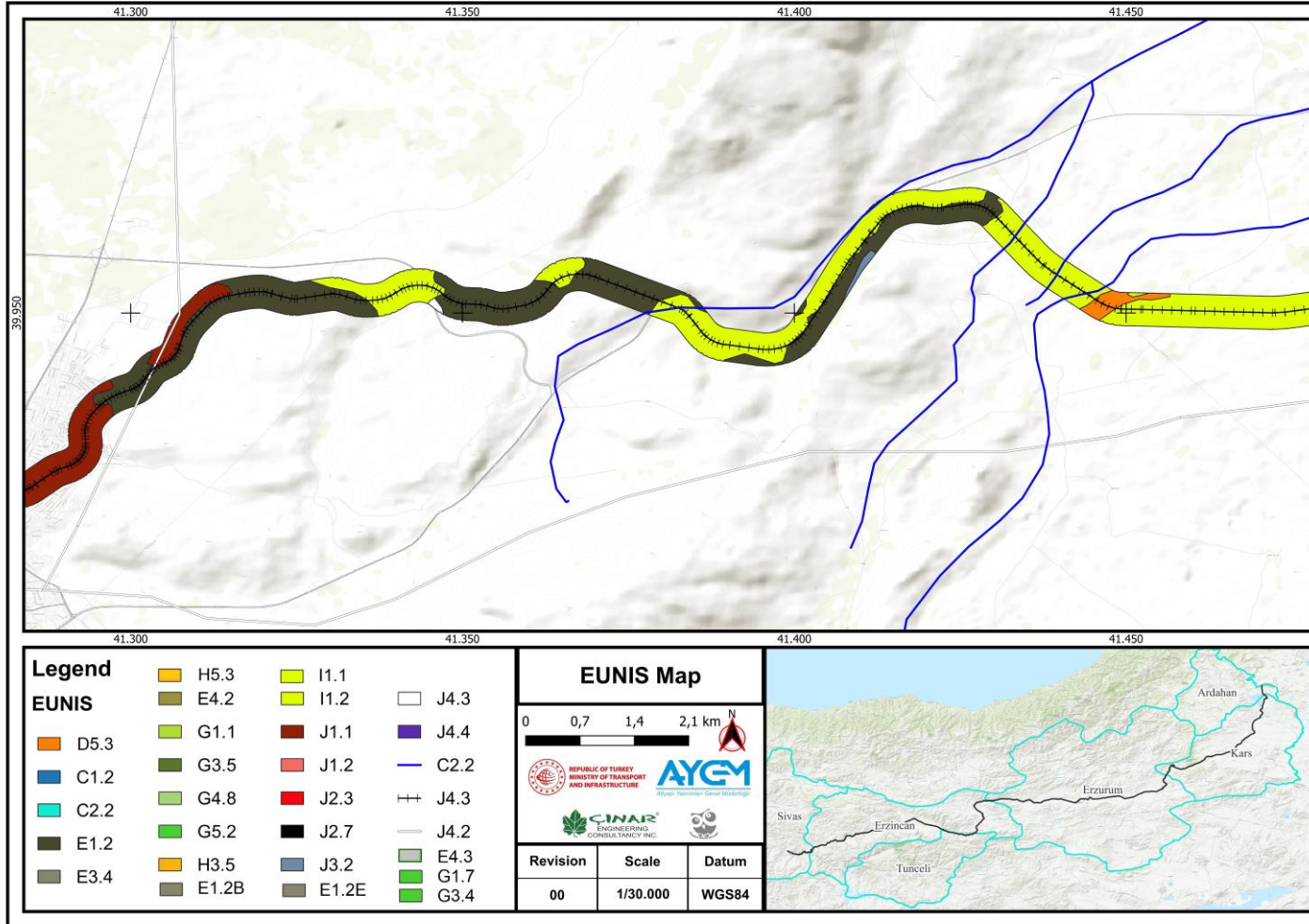


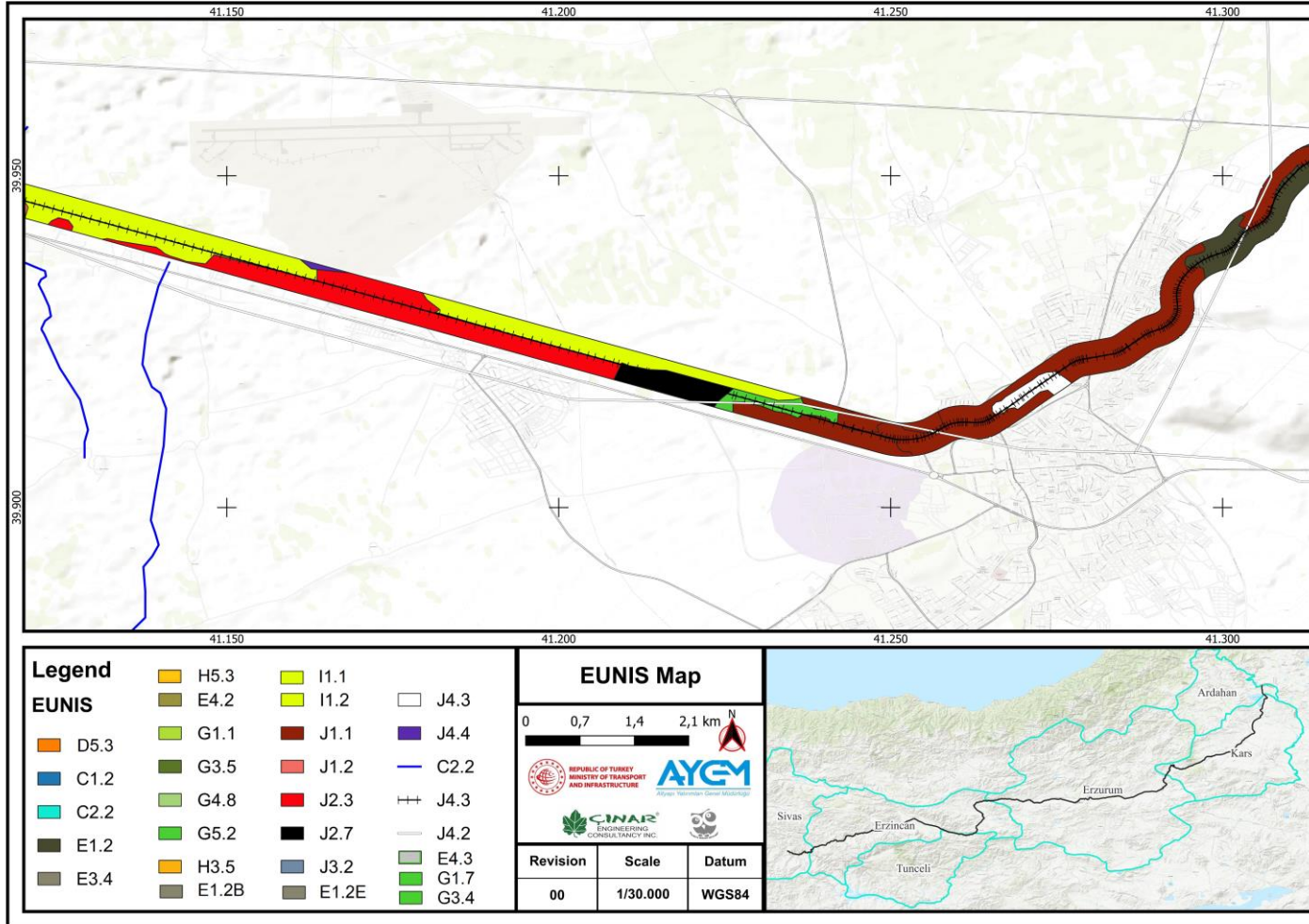




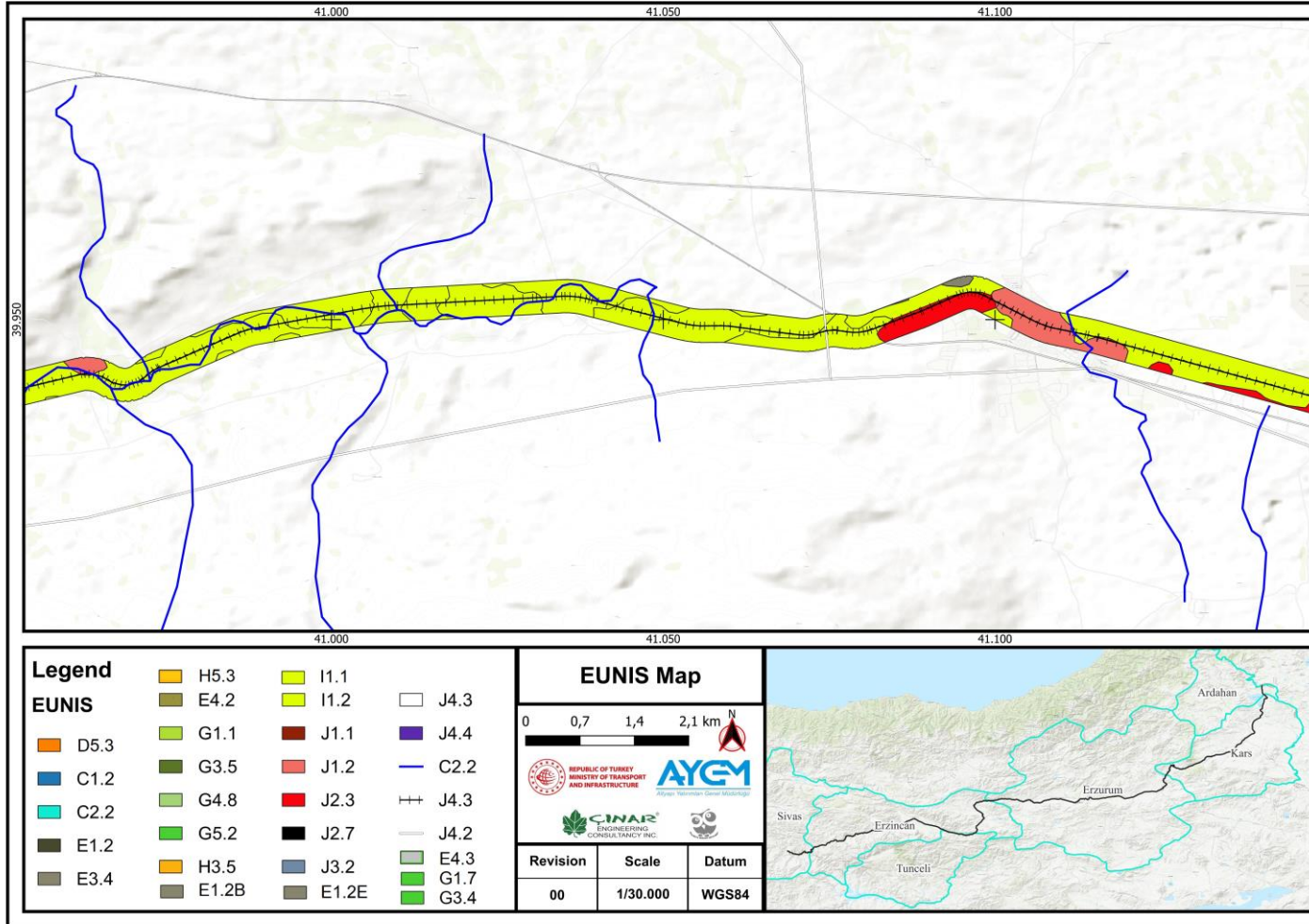


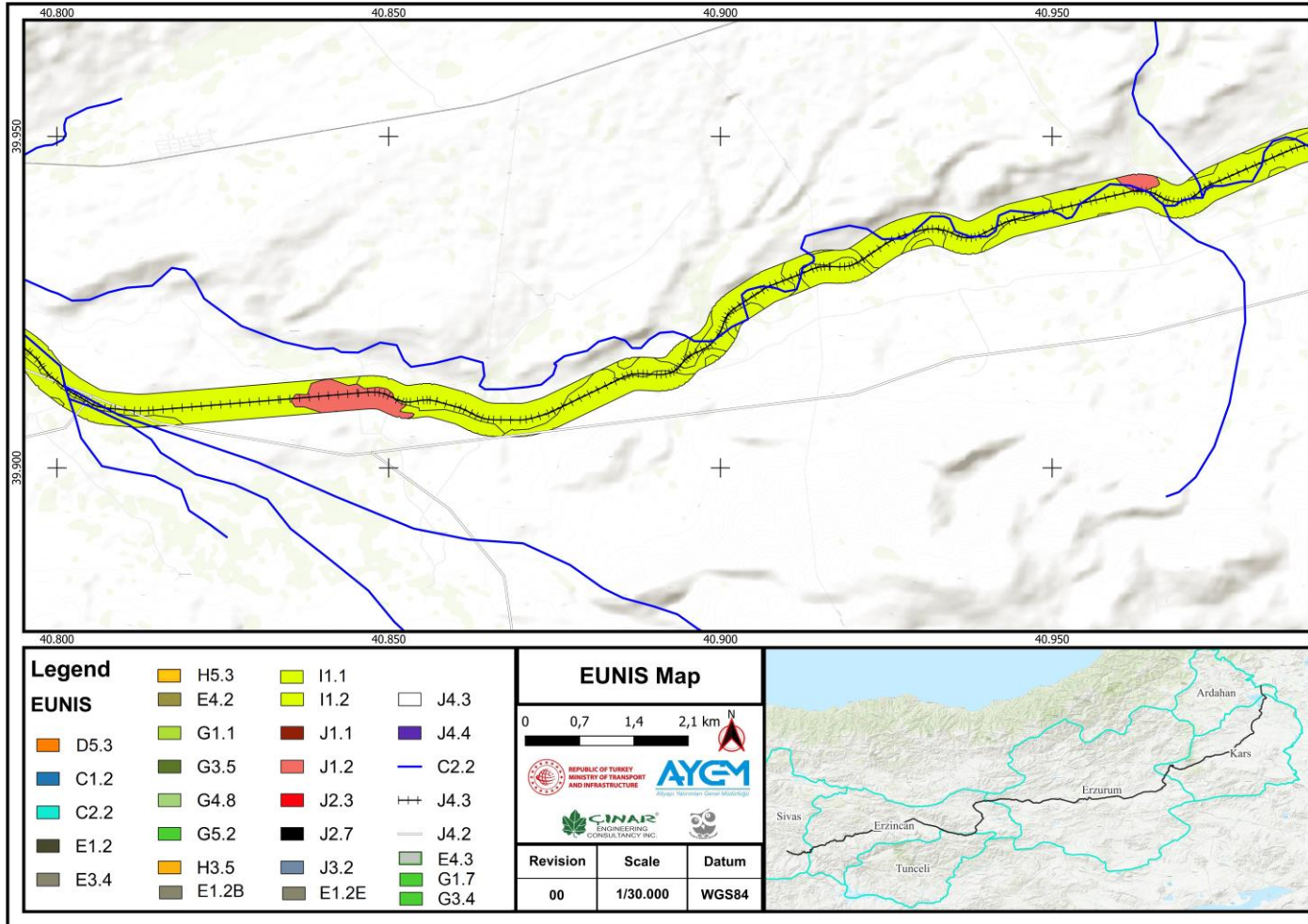












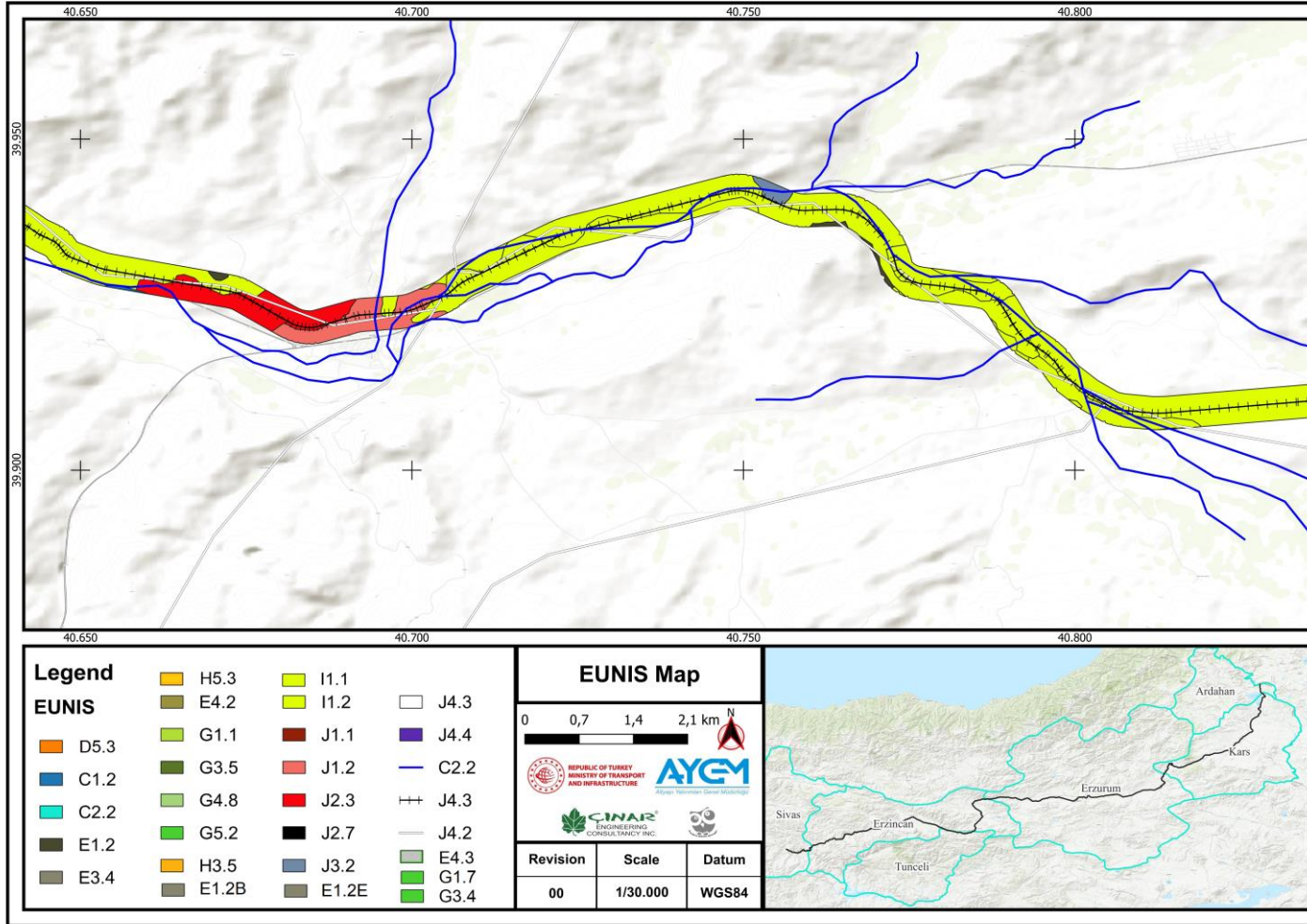
EUNIS Map

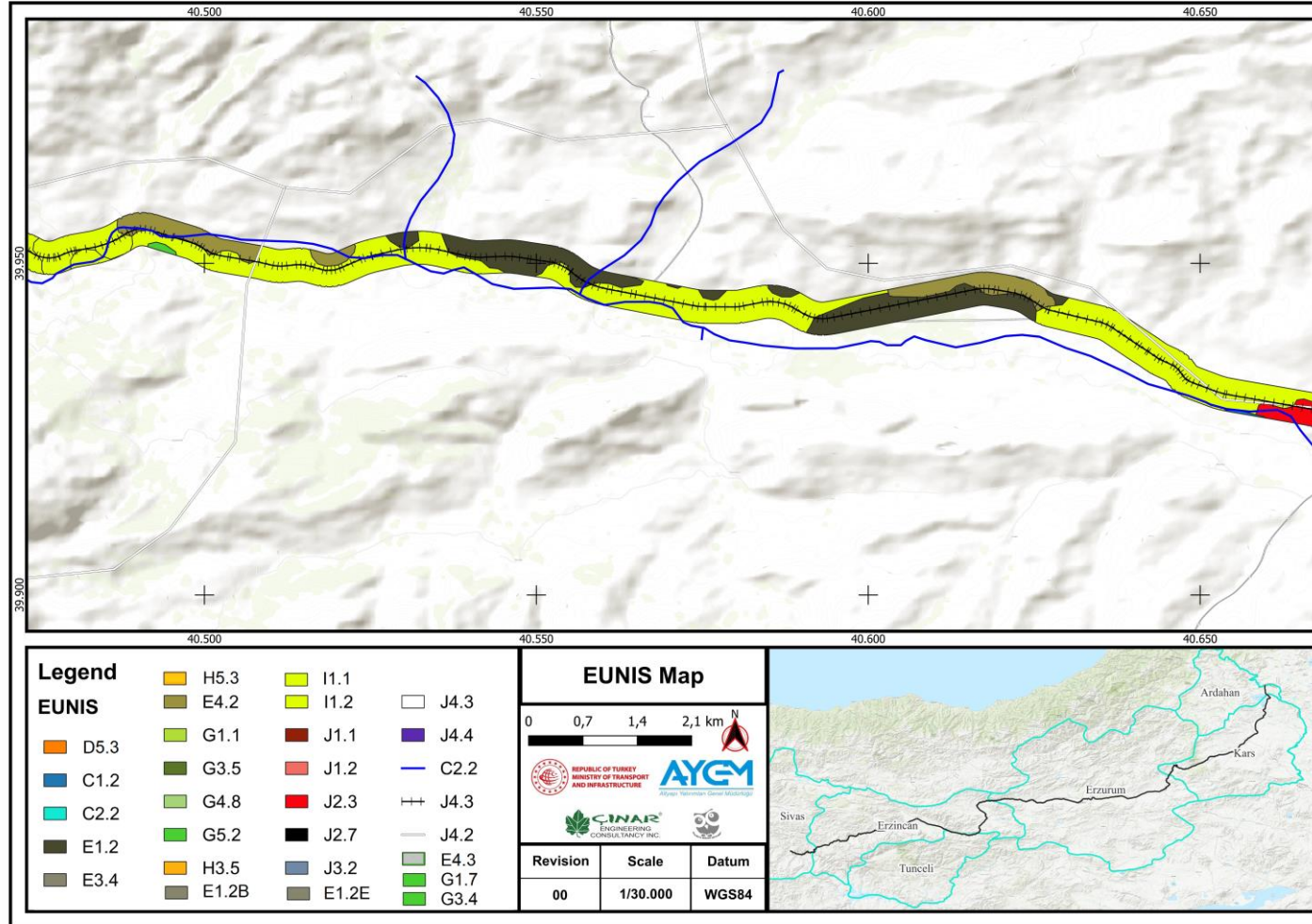


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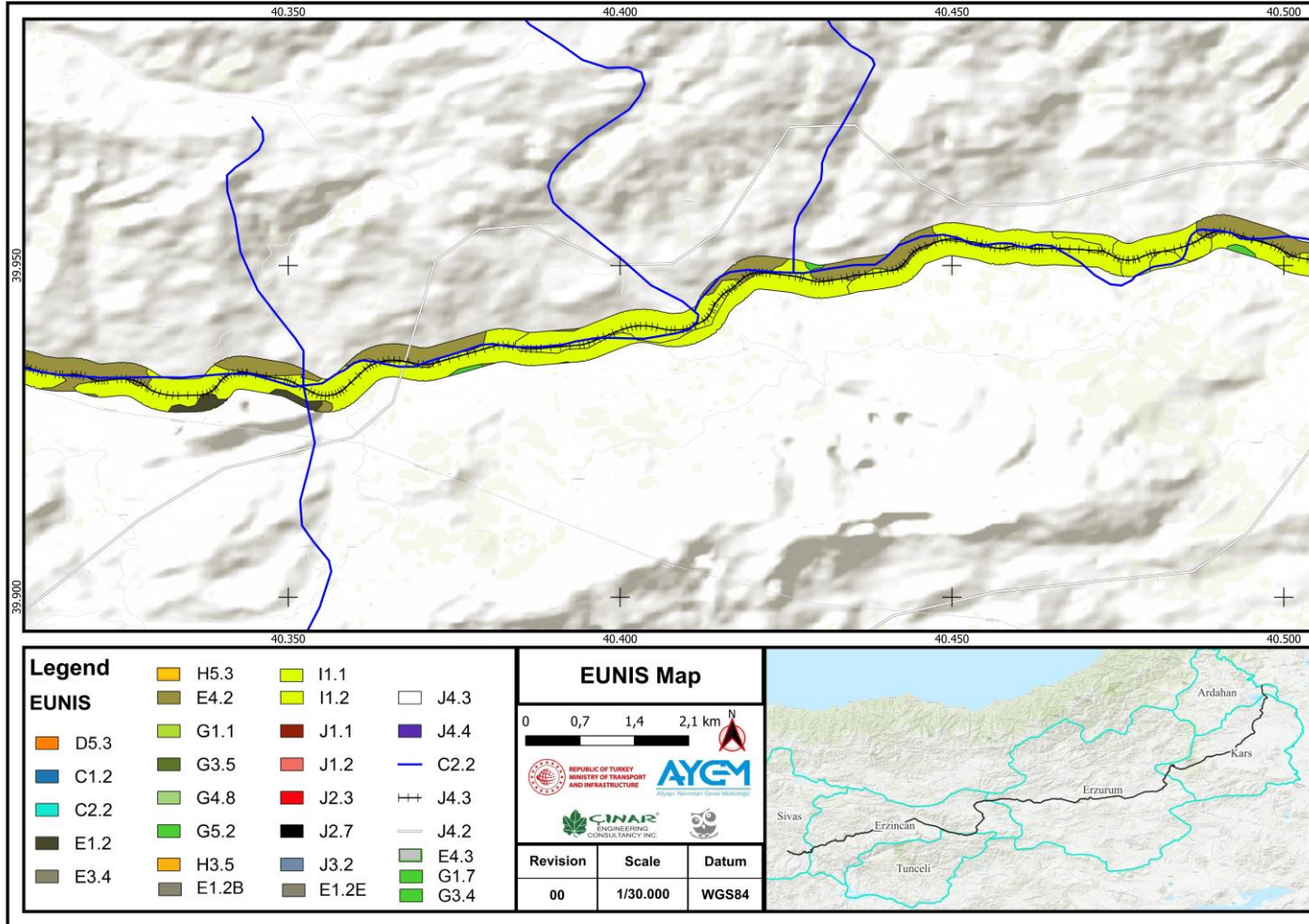


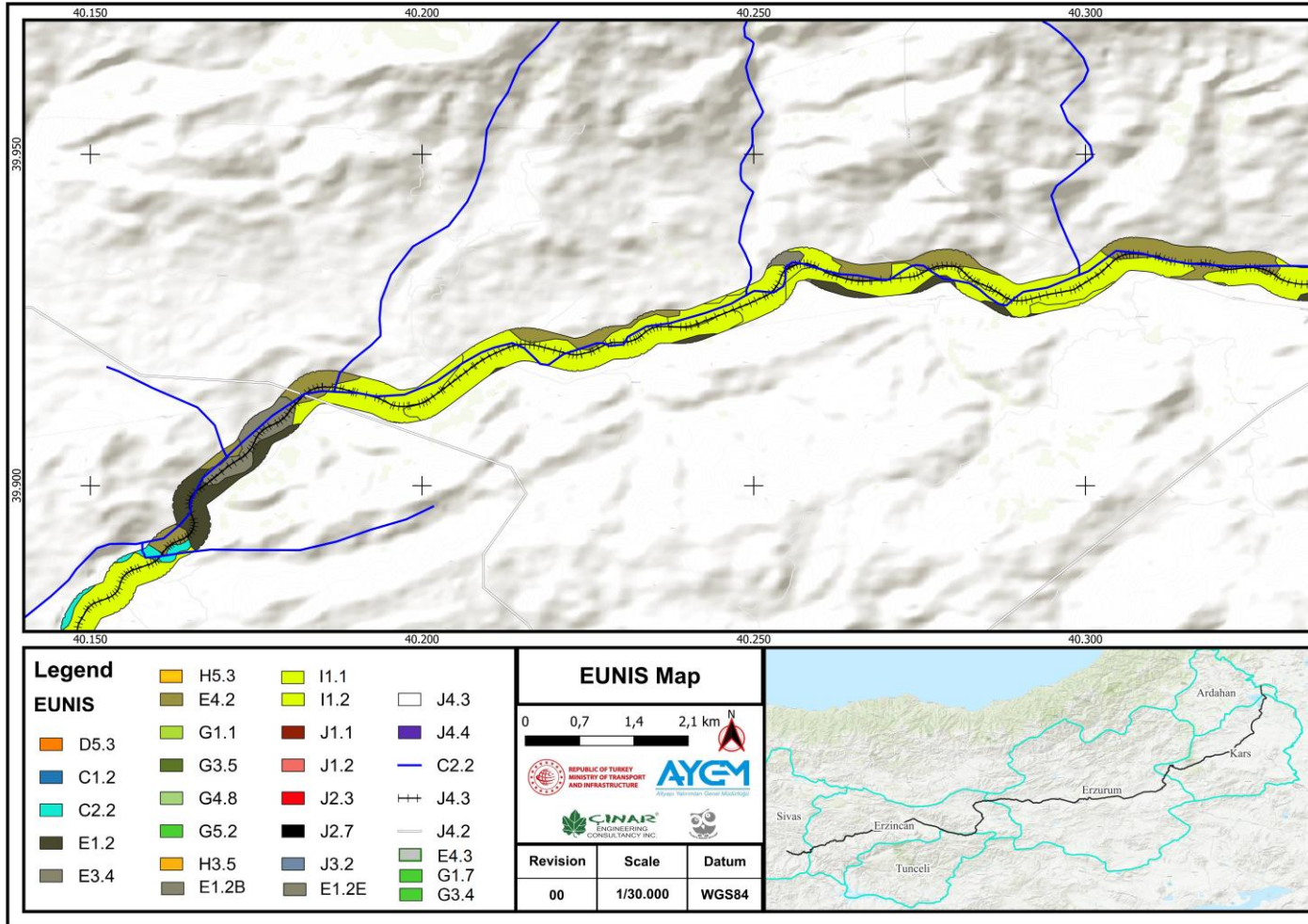




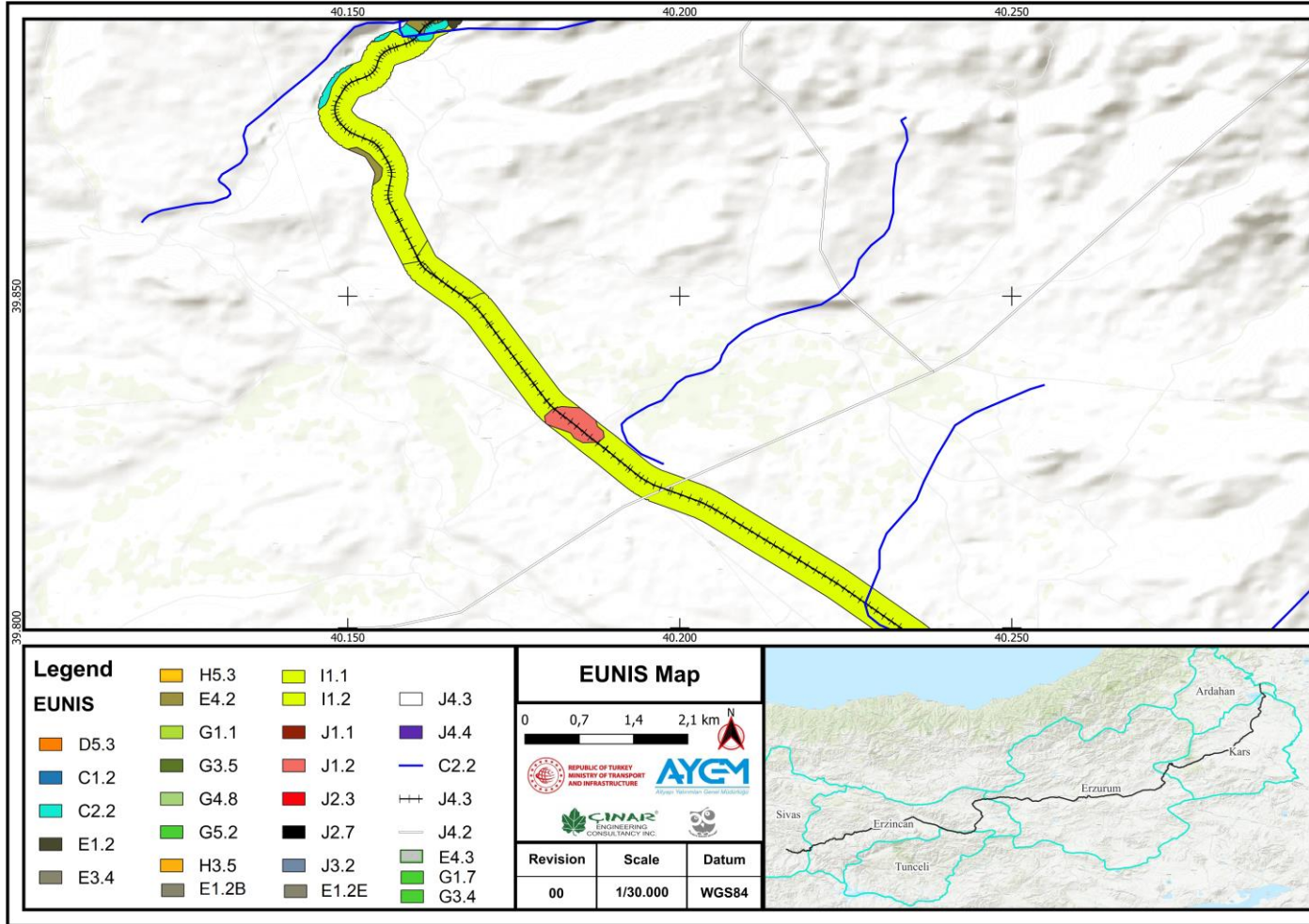


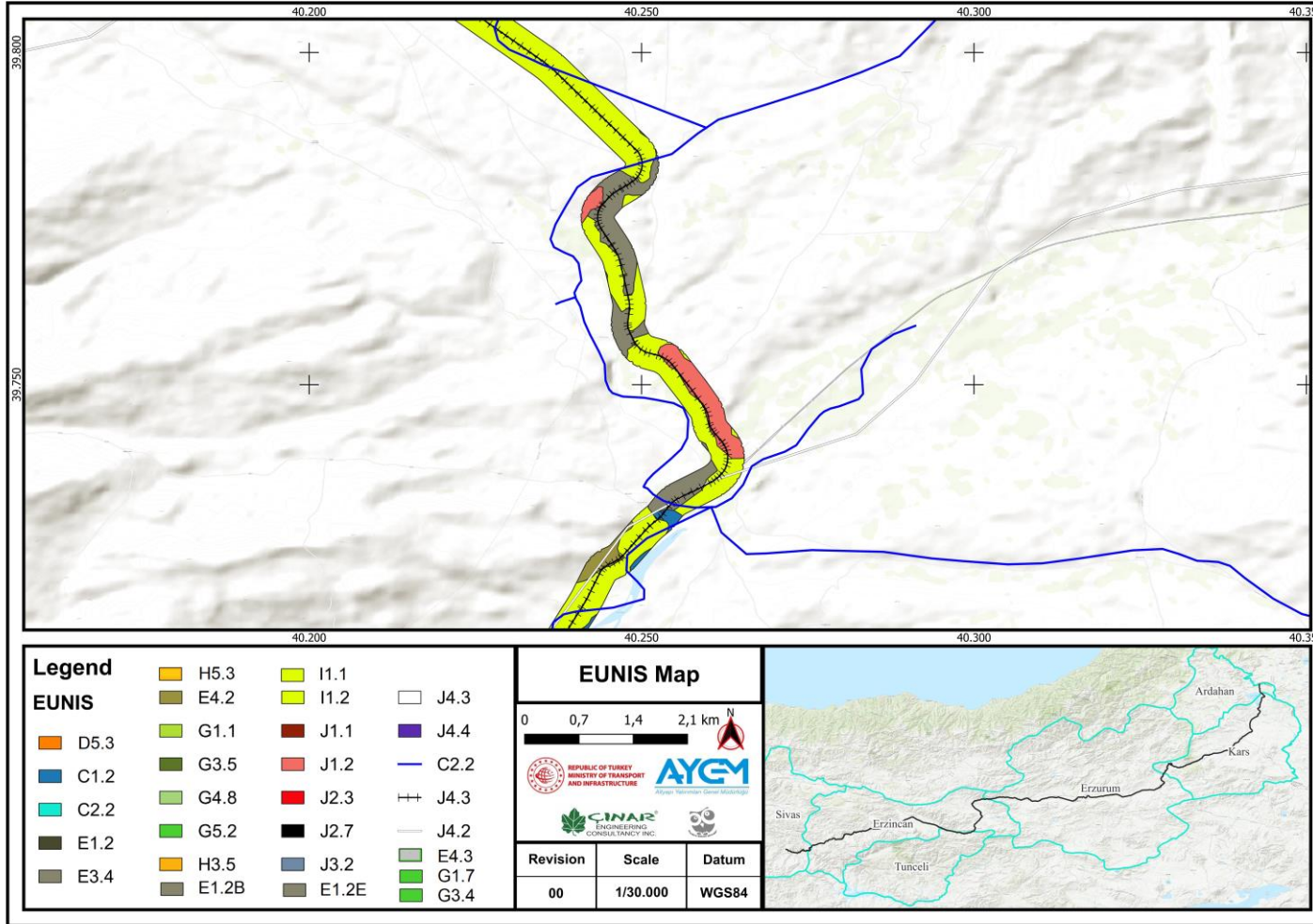




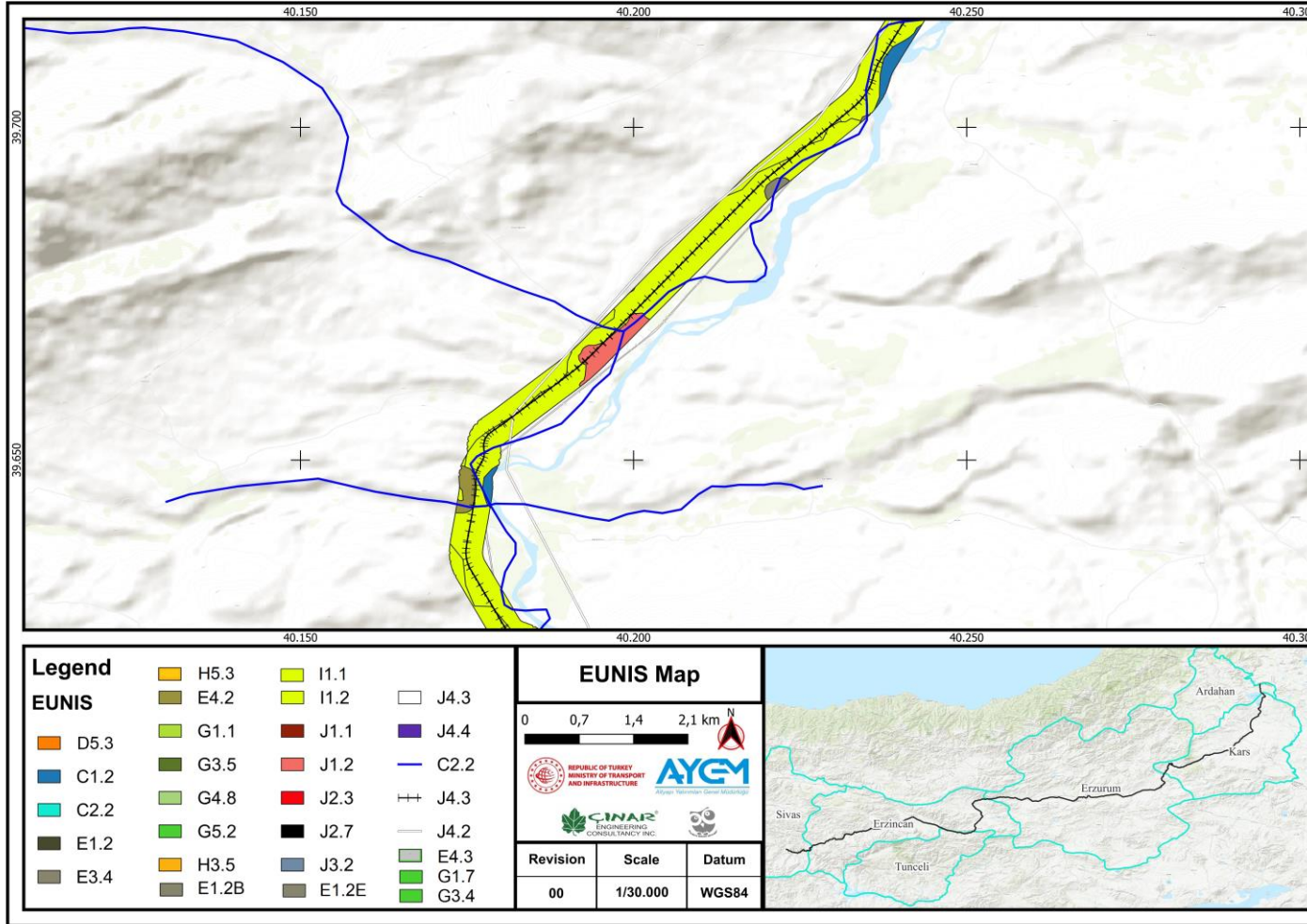


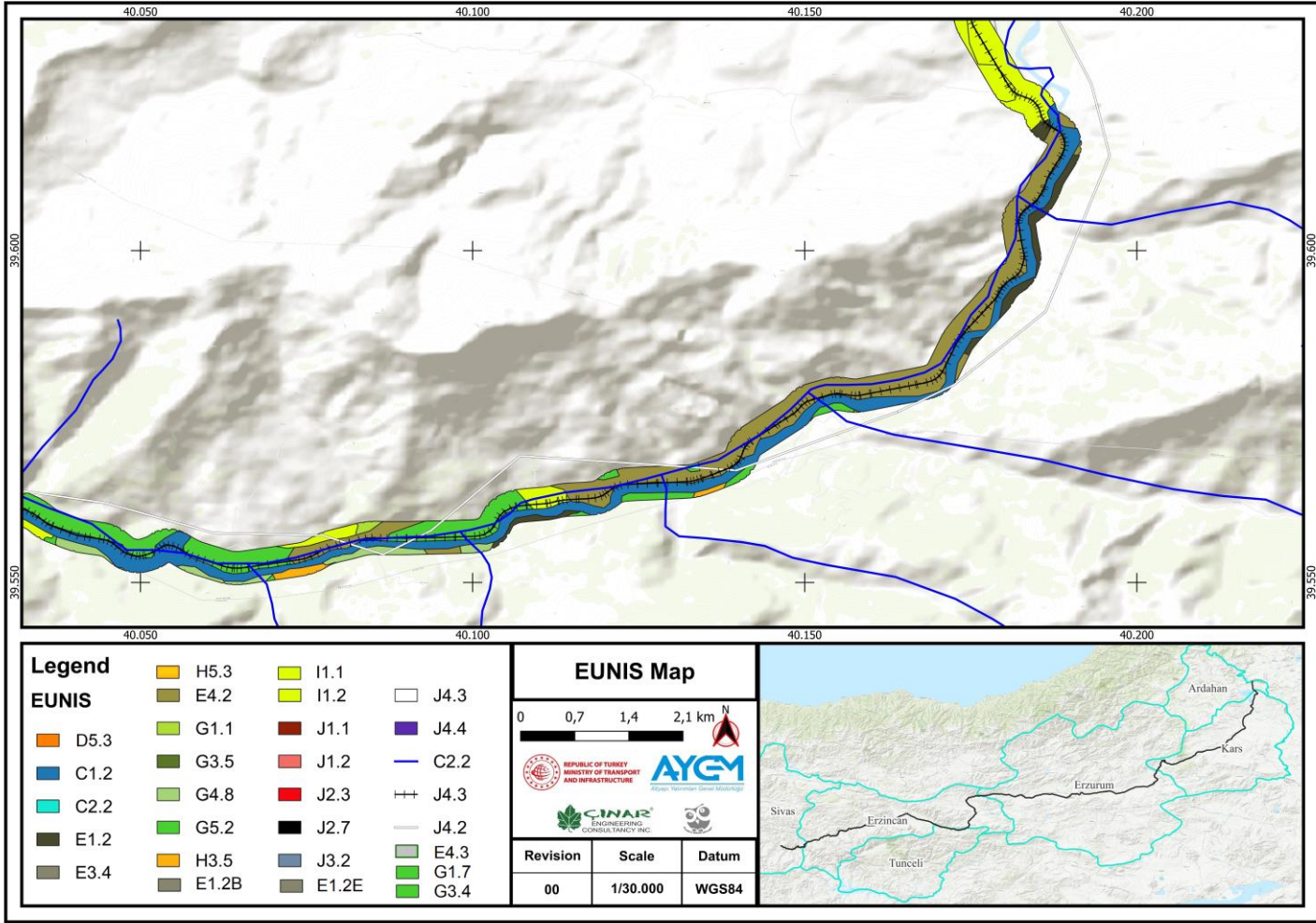




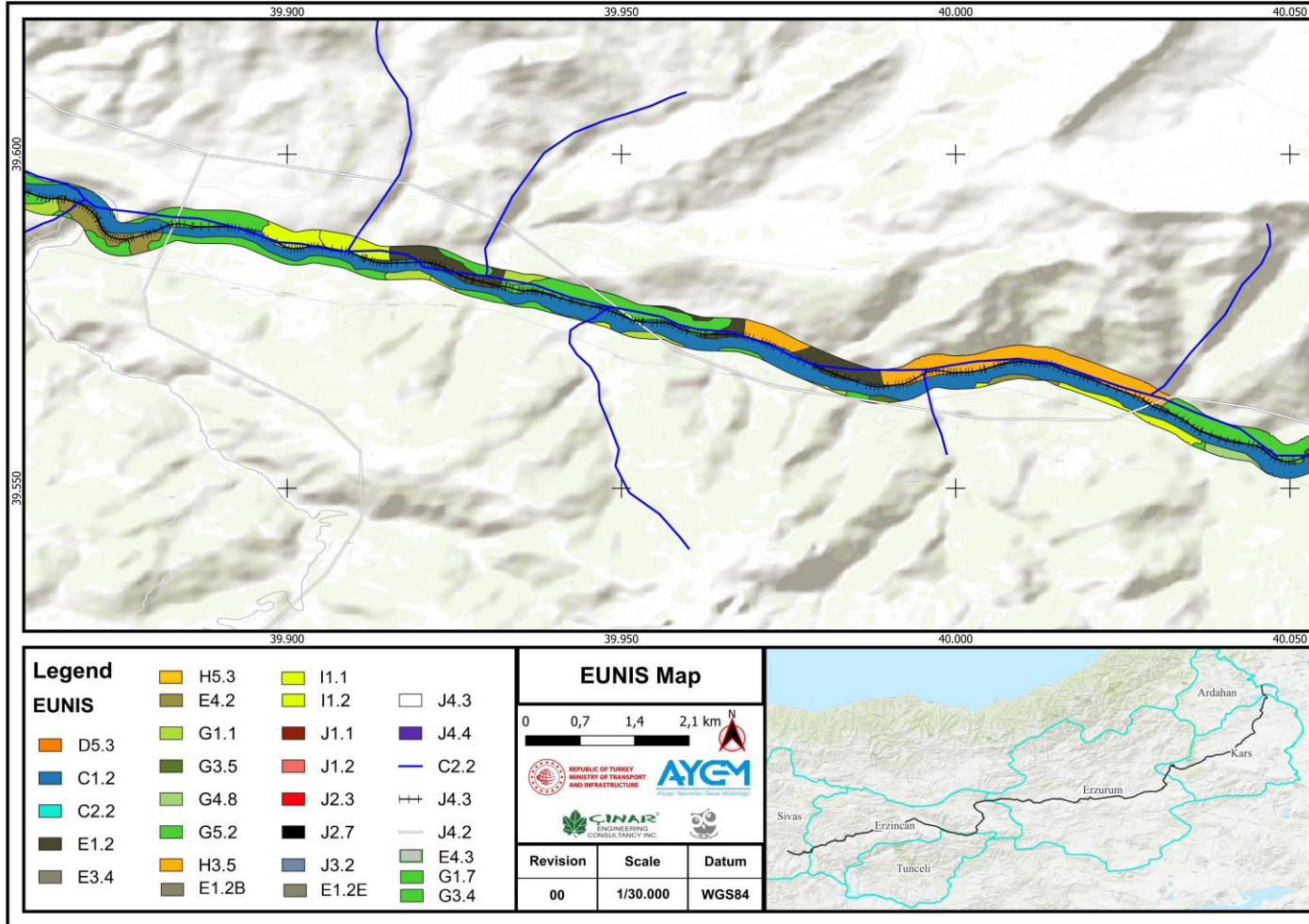


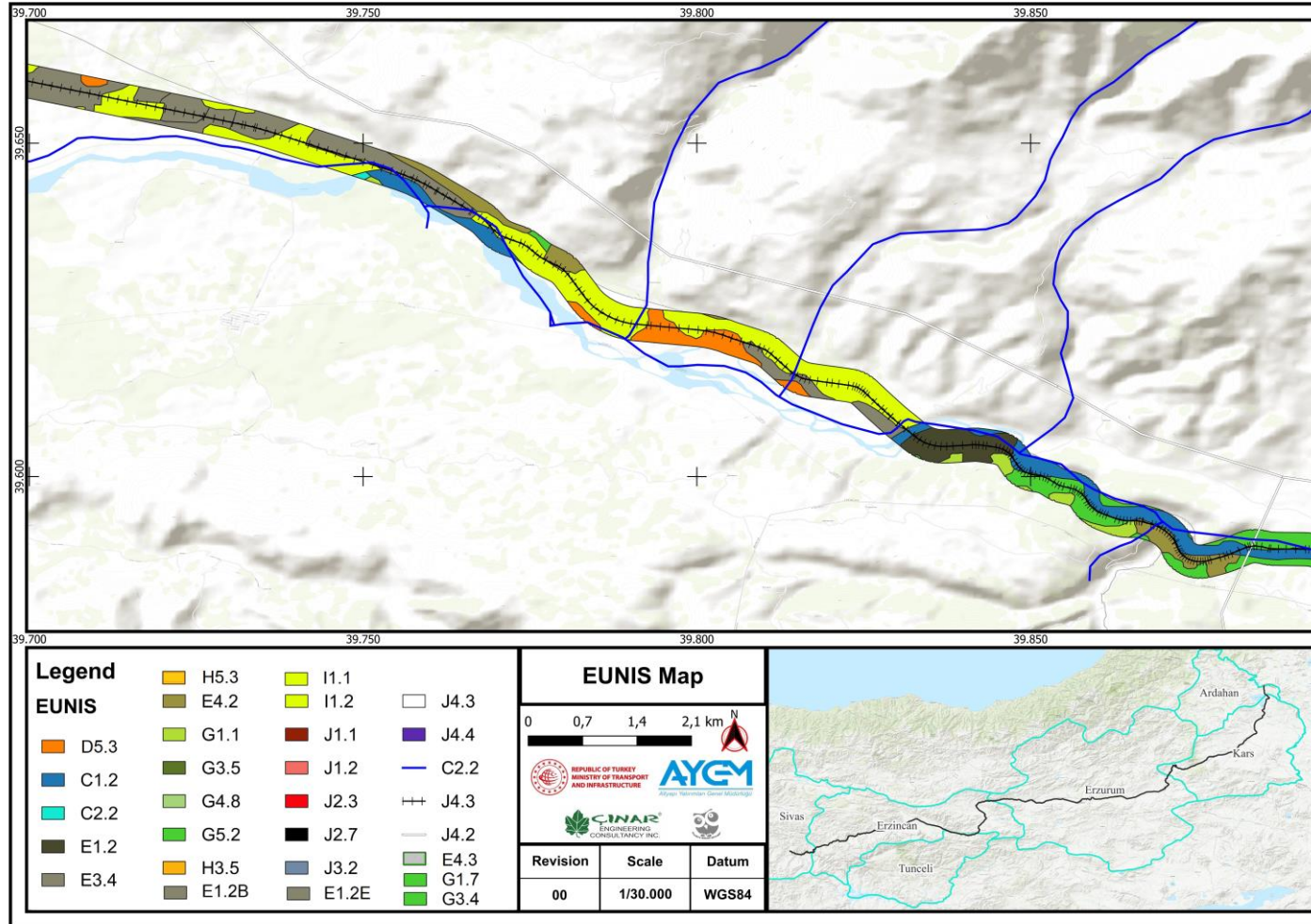




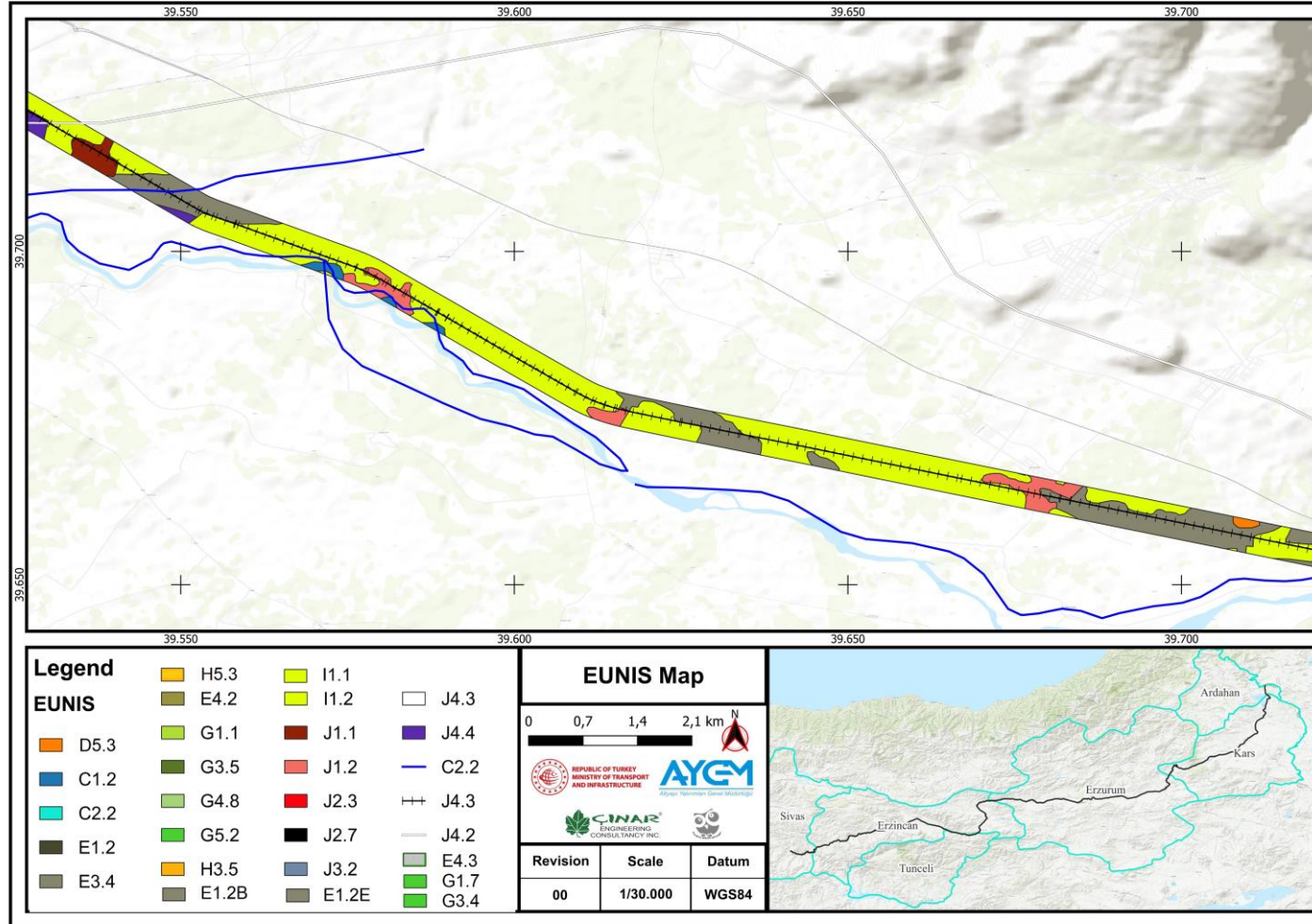


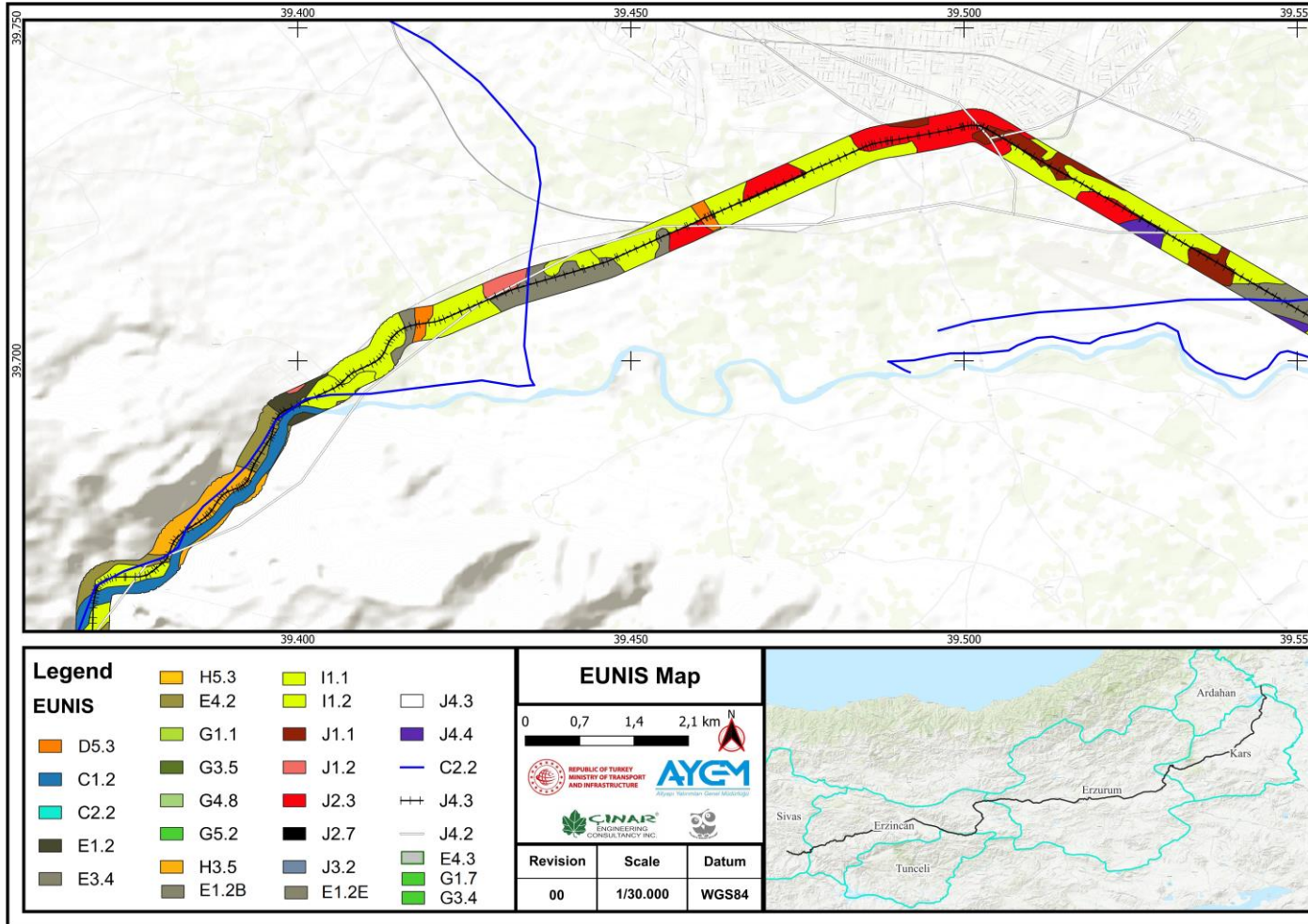




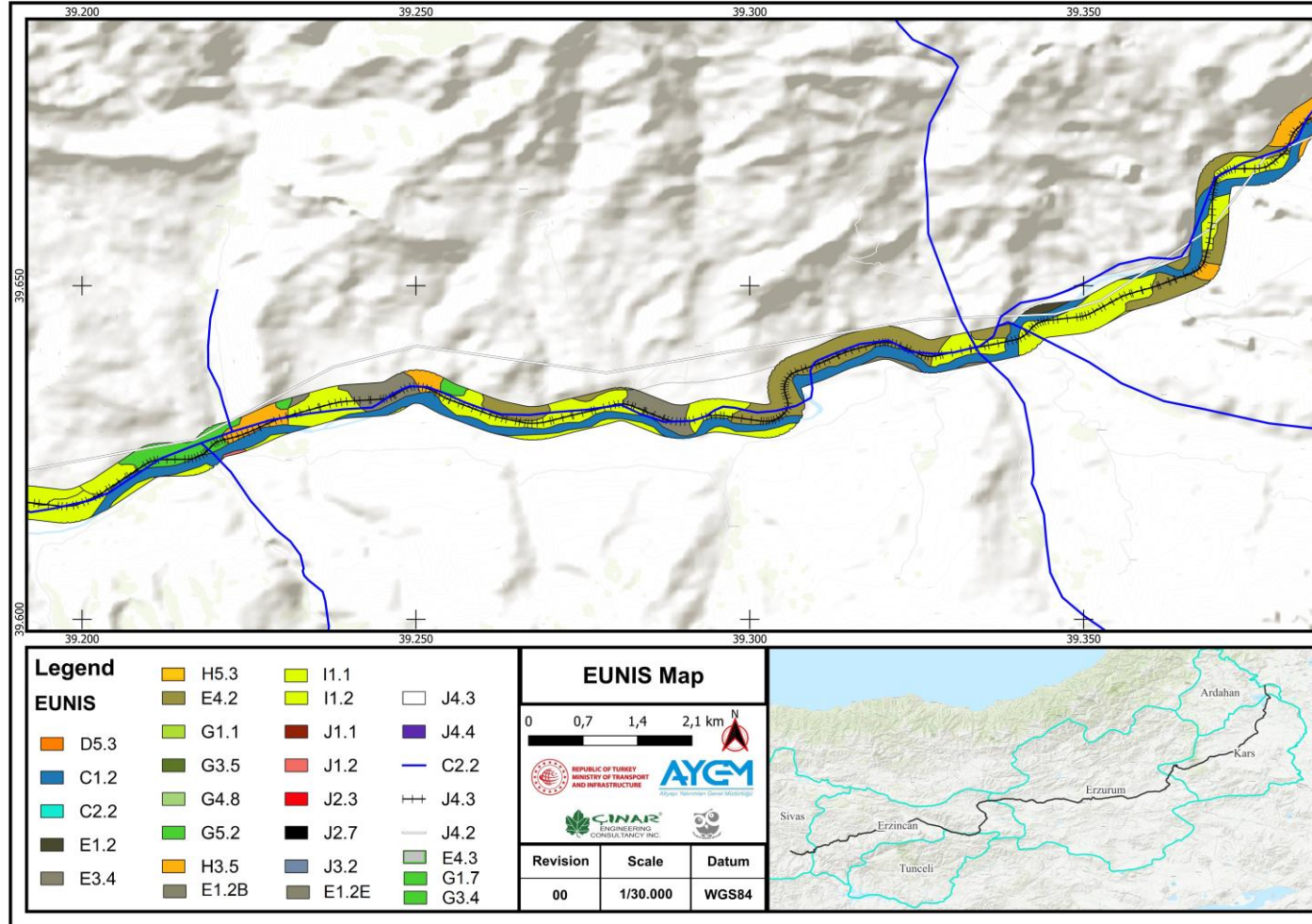


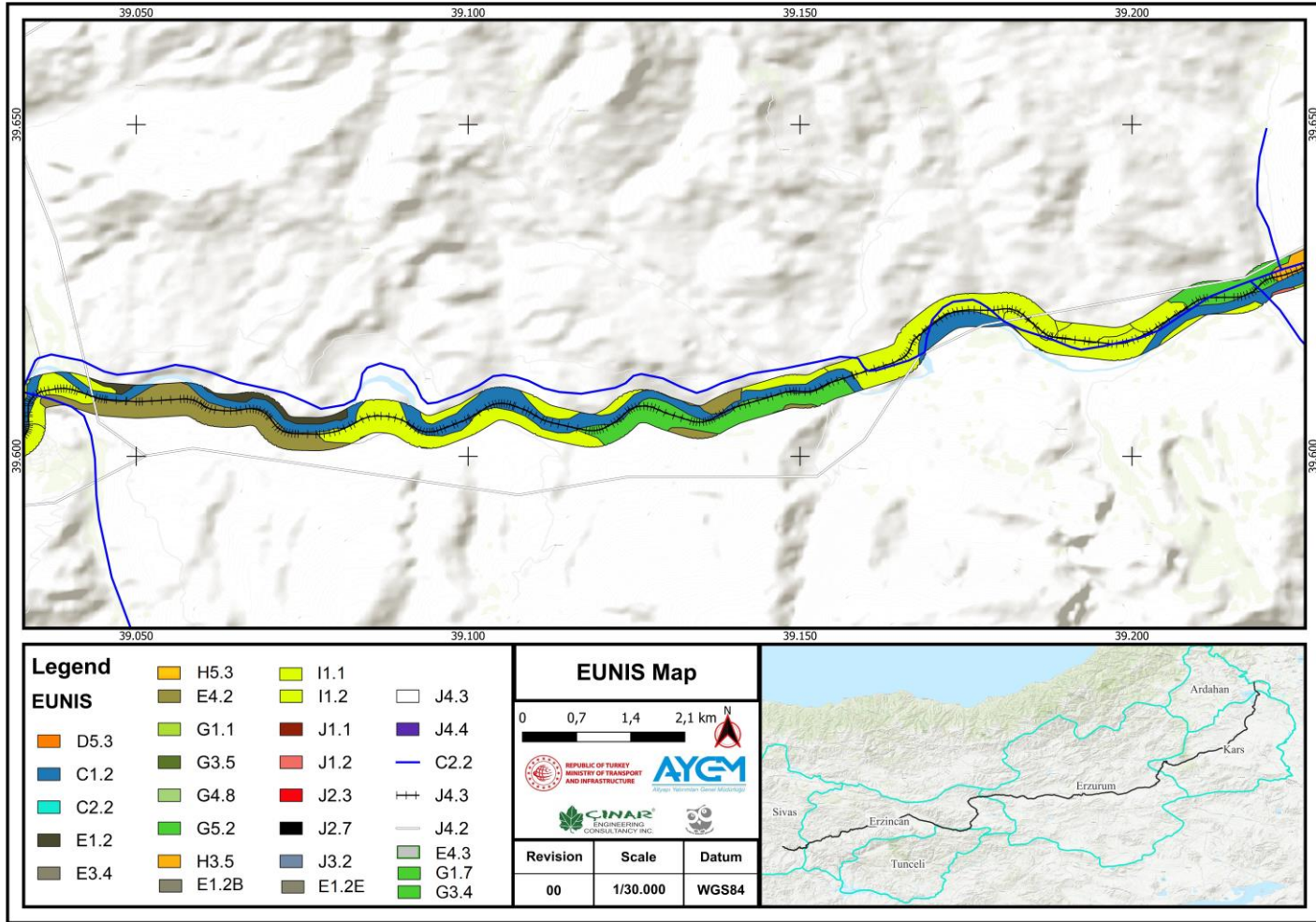




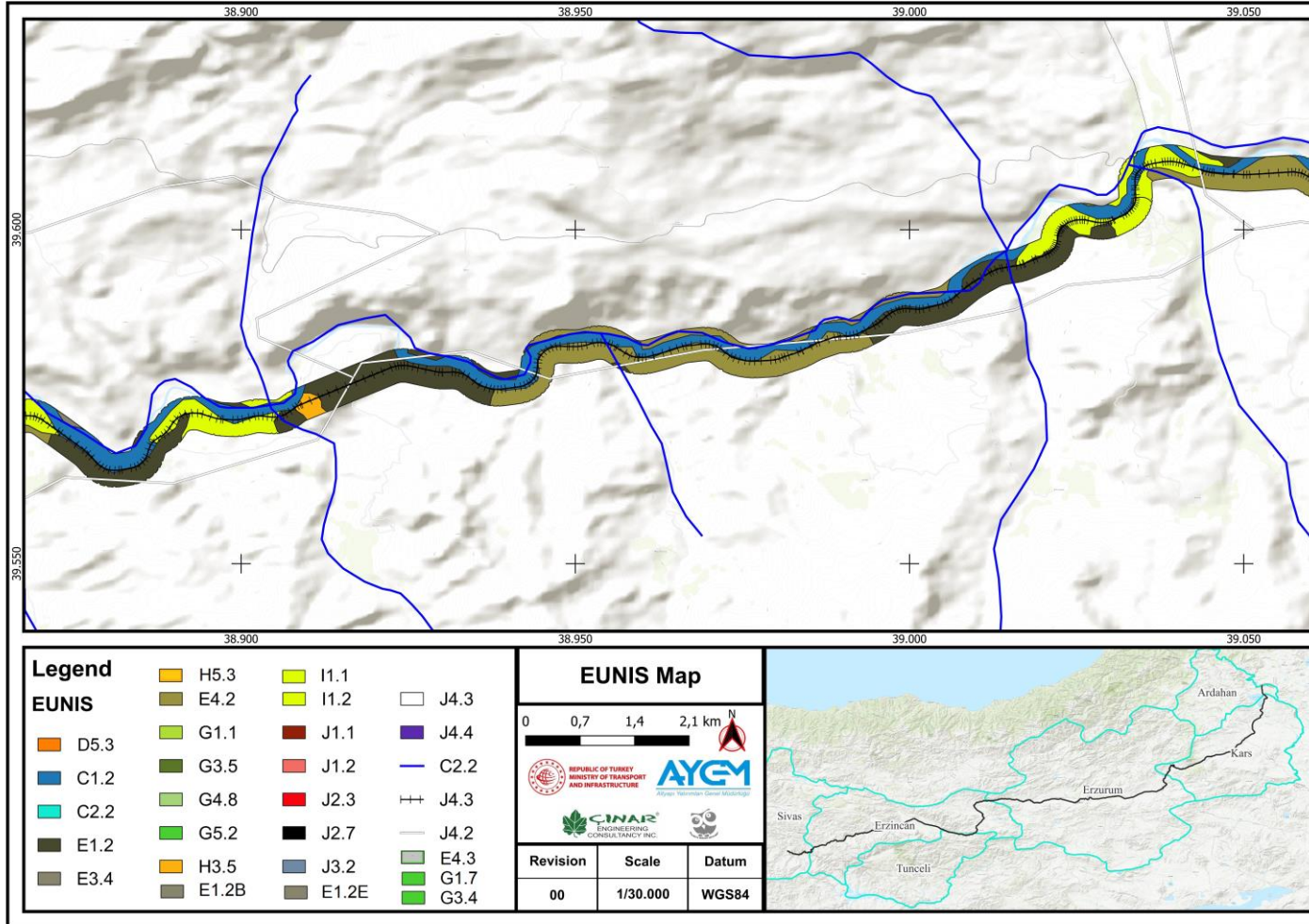


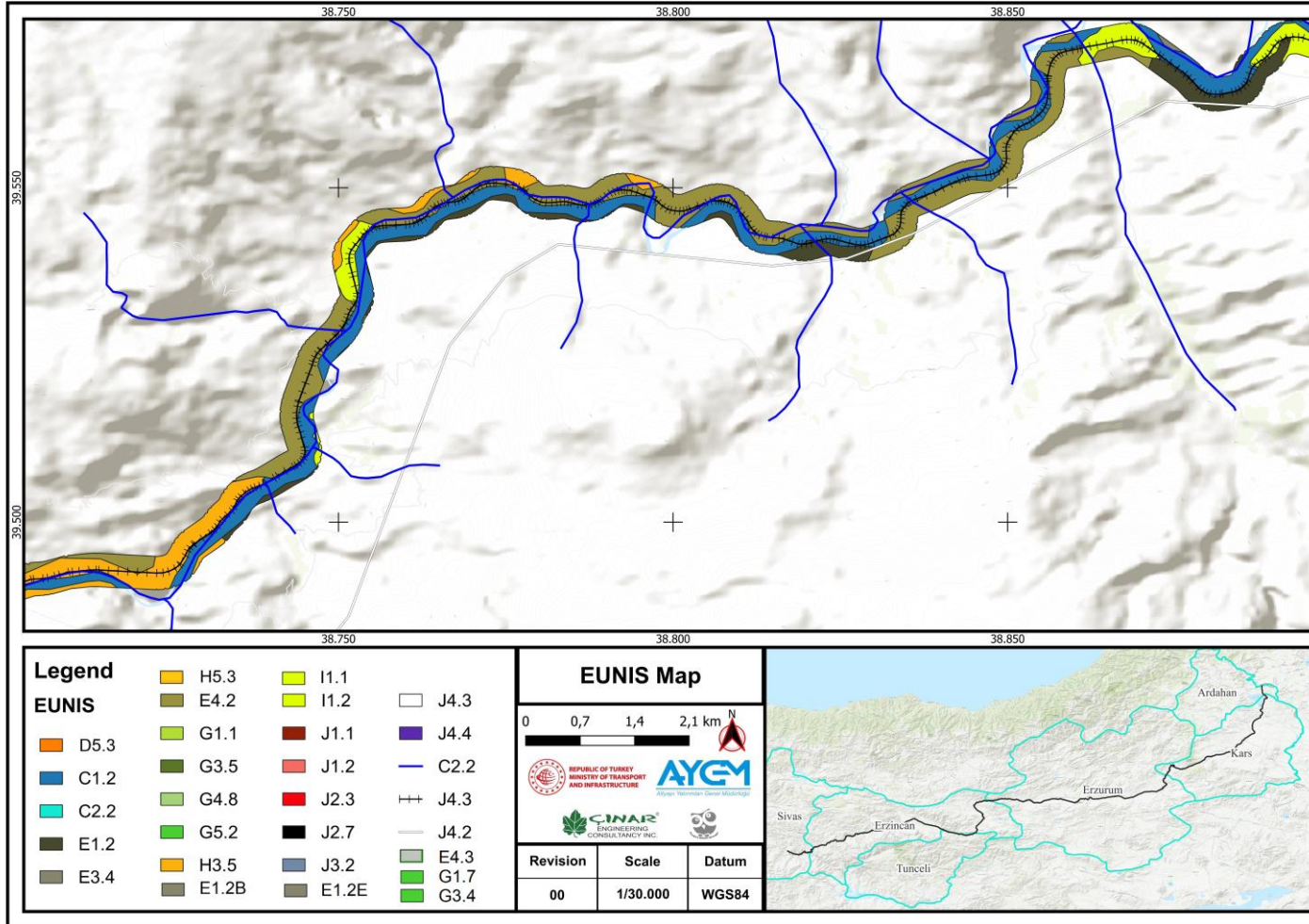




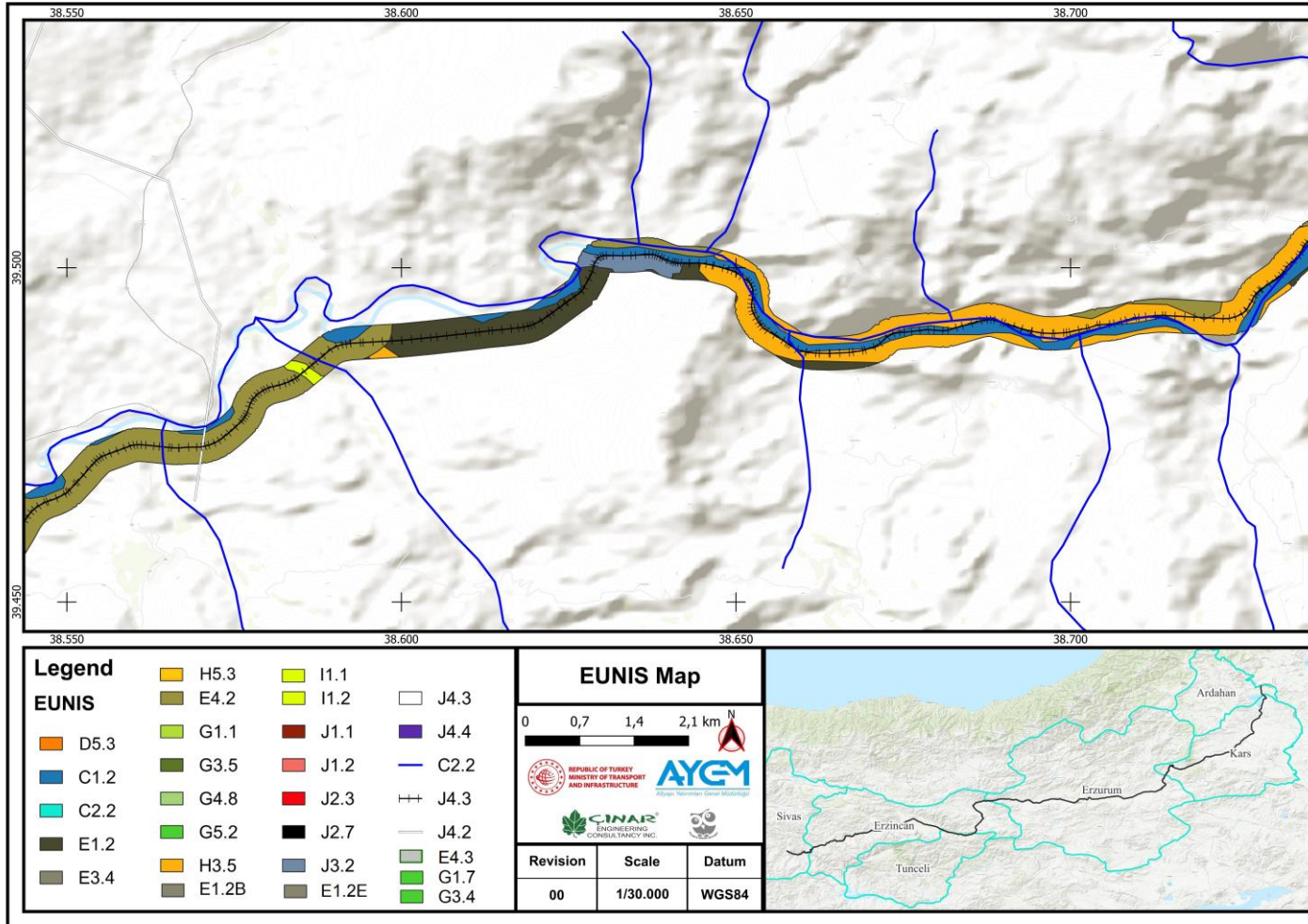


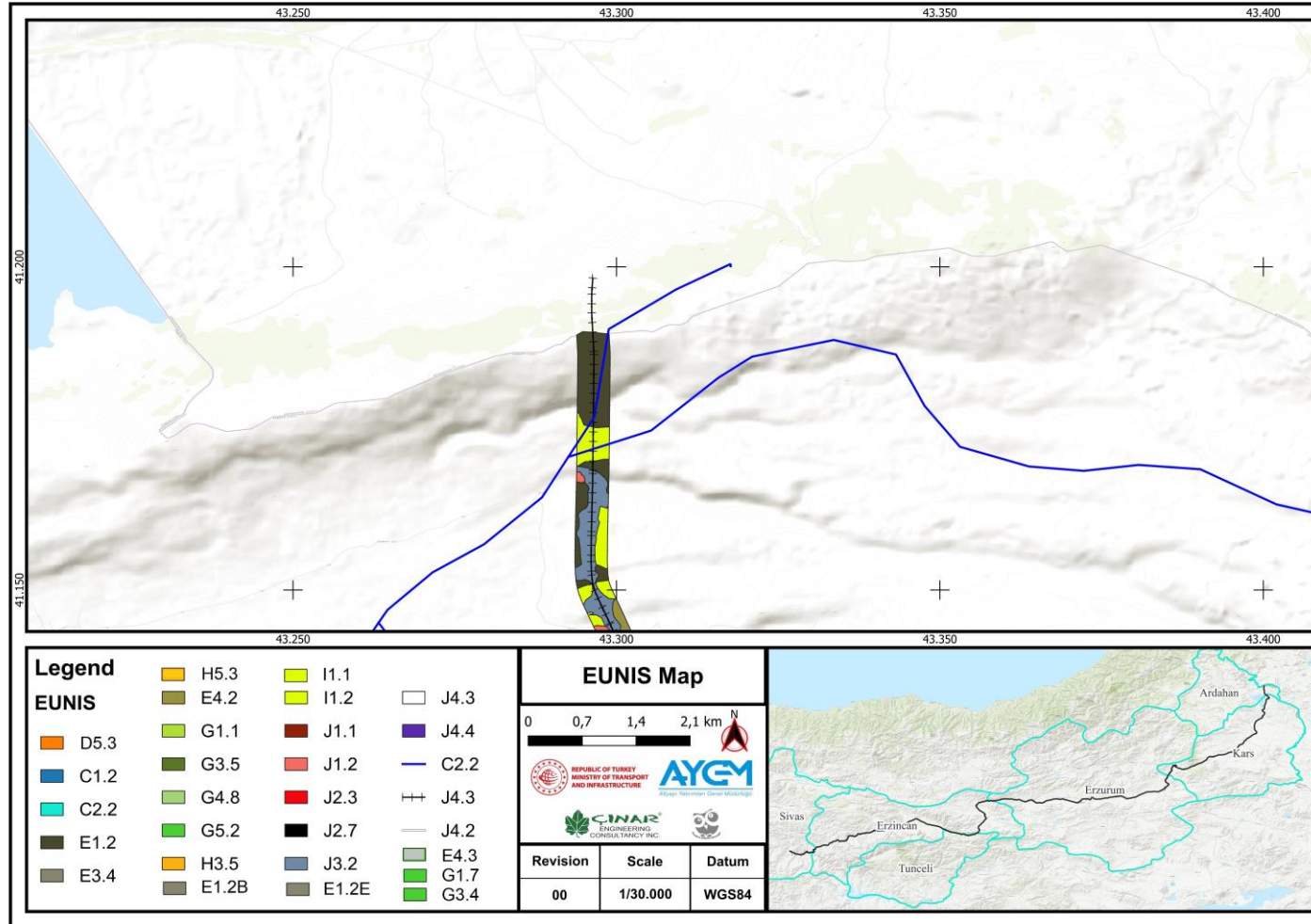














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## APPENDIX-3: Tentative Table of Contents for The Integrated Vegetation Management Plan (IVMP)

<b>INTEGRATED VEGETATION MANAGEMENT PLAN (IVMP) FOR DIVRIĞI-ERZINCAN-ERZURUM-KARS-GEORGIA BORDER (BTK) RAILWAY CORRIDOR REHABILITATION PROJECT</b>	
<b>TABLE OF CONTENTS</b>	
<b>1. Introduction</b>	
1.1. Project Specifications	
1.2. Environmental Setting	
1.3. Purpose and Objectives	
1.4. Structure of the IVMP	
<b>2. Scope</b>	
2.1. Project Standards	
2.2. Geographic Boundaries and RoW Components	
2.3. Term of the IVMP	
2.4. Roles and Responsibilities	
2.5. Stakeholder Engagement	
<b>3. Vegetation Management</b>	
3.1. Prevention	
3.2. Vegetation Identification	
3.3. Vegetation Monitoring	
3.4. Vegetation Tolerance Thresholds	
3.5. Vegetation Treatment Options (Chemical, Mechanical, and Manual Methods)	
<b>4. IVM Procedures for Railway Components</b>	
4.1. Railbed	
4.2. Bridges, Culverts, and Water Crossings	
4.3. Priority Habitats	
4.4. Railway Shoulder	
<b>5. Herbicide Management</b>	
5.1. Transport and Application Methods	
5.2. Accidents and Spills	
5.3. Training	
<b>6. Monitoring and Evaluation</b>	

**APPENDIX-4: Monitoring and Evaluation Program**

Item	Phase	Action	Relevant Standard	Resources	Timeline and Frequency	Reporting	Timeline and Frequency
MO-1	Pre-Construction Phase	<b>Invertebrate Species Identification</b> (Invertebrate surveys should be performed at At Divriği Hills Important Nature Area, Esence (Keşiş Mountains) Important Nature Area, and Kop Mountains Important Plant Area in vegetation period (April-August) once.)	WB ESS6	Specialized contractor(s)	Before construction and once.	Annually	Before Construction starts
MO-2	Pre-Construction Phase	<b>Herpetofauna Species Identification</b> (Amphibian and Reptile surveys should be performed at Esence (Keşiş Mountains) Important Nature Area and Kop Mountains Important Plant Area in vegetation period (April-August) once.)	WB ESS6	Specialized contractor(s)	Before construction and once.	Annually	Before Construction starts
MO-3	Pre-Construction Phase	<b>Bird Species Identification</b> (Bird surveys should be performed at Ekşisu Reedbeds Wetland of National Importance, Erzurum Marshes Wetland of Local Importance, Çıldır Lake Wetland of National Importance, and Esence (Keşiş Mountains) Important Nature Area in migration and breeding periods for 5 days monthly.)	WB ESS6	Specialized contractor(s)	Before construction and once.	Annually	Before Construction starts
MO-4	Pre-Construction Phase	<b>Mammal Species Identification</b> (Mammal surveys should be performed at Esence (Keşiş Mountains) Important Nature Area in active period of mammals (April-September) once.)	WB ESS6	Specialized contractor(s)	Before construction and once.	Annually	Before Construction starts
MO-5	Land Preparation and Construction Phase	<b>Personal Training</b> (The Project personnel will be informed on the sensitivity of natural habitats and species, conservation priorities, and also nesting areas that will be identified through pre-construction surveys. Any direct impact on plant and animal species will be prevented. Trainings will be organized for the Project personnel to inform them about the biodiversity and sensitivity of endemic species.)	WB ESS6	Specialized contractor(s)	Before construction and once.	Training records	Before Construction starts
MO-6	Land Preparation and Construction Phase	<b>Critical Habitat Monitoring</b> (Endemic species seeds will be collected and seeds will be delivered to the Türkiye Gene Bank. These surveys will be performed with a Botanist Specialist between May and September. No Project related activities will be carried out in the Critical Habitats.)	WB ESS6	Specialized contractor(s)	Before construction between May and September monthly.	Annually	Before Construction starts and During Construction



Item	Phase	Action	Relevant Standard	Resources	Timeline and Frequency	Reporting	Timeline and Frequency
		<p style="text-align: center;"><b>Wildlife Passages</b></p> <p>(In line with the characteristics of the target species, it will be decided in consultation with experts whether passages planned within the scope of the Project would be sufficient for wildlife. Where necessary, in order to ensure no net loss in populations of fauna species new structures will also be considered in areas that are identified to be significant for animal passages. Passages that will also enable human and cattle passage and provide access to grazelands will be identified through consultations within the scope of the Stakeholder Engagement Plan (SEP). To minimize animal mortality, locations along the route where animal passage will be prevented and methods that will be used to prevent passage of target species (fencing, sound signals, chemical repellents, lights and reflectors, etc.) will also be identified.)</p>					
MO-7	Land Preparation and Construction Phase		WB ESS6	Specialized contractor(s)	Before construction after Fauna surveys.	Annually	Before Construction starts
		<p style="text-align: center;"><b>Invasive alien species</b></p> <p>(Vehicles and equipment entering the site will be checked for invasive alien species. If identified, necessary measures will be taken in line with the Project standards to eradicate the species. Instead of using herbicides, which would destroy the natural vegetation and enable introduction of invasive alien species, different vegetation management methods will be considered as appropriate spatially and temporally. During the land preparation and construction phase biodiversity monitoring studies, potential for presence of invasive alien species in the area will also be monitored)</p>					
MO-8	Land Preparation and Construction Phase		WB ESS6	Specialized contractor(s)	Before construction and once.	Annually	During Construction starts
		<p style="text-align: center;"><b>Indirect impacts (dust, air emissions, noise, waste, and impacts on water and soil quality)</b></p> <p>(To control dust emissions, vegetation clearance will only be undertaken in pre-determined activity areas, and habitats will be rehabilitated upon completion of construction activities. All related dust suppression measures will be taken to ensure prevention of indirect impacts on biodiversity features. On-site speed limits will be enforced to avoid direct mortality of animals. There will be no direct discharge into water resources. Project-related wastes will be collected at designated waste storage areas, and periodically removed from work areas. Solid wastes and wastewater that will result from land preparation and construction activities of the Project will be managed through implementation of the related management plans (Pollution Prevention and Waste Management Plan, etc..))</p>					
MO-9	Land Preparation and Construction Phase		WB ESS6	Specialized contractor(s)	Seasonal	Annually	During Construction

Item	Phase	Action	Relevant Standard	Resources	Timeline and Frequency	Reporting	Timeline and Frequency
MO-10	Operation Phase	<p style="text-align: center;"><b>Invasive alien species</b></p> <p>(To avoid development of alien species along the railway route, natural plants will be used in restoration, and regular maintenance will continue throughout the operation phase. To take necessary measures against the risk of invasive alien species being transferred by the trains, there will be periodical controls and if identified, necessary measures will be taken in line with the Project standards to avoid spread of invasive alien species.)</p>	WB ESS6	Specialized contractor(s)	Once in Operation Phase.	Annually	During Operation for the first Year once.