
PROJECT OPERATOR

:

MYTILINEOS S.A.

ELECTRIC ENERGY & NATURAL



GAS BUSINESS SECTOR

TYPE OF ACTIVITY

:

ELECTRICITY TRANSMISSION LINE OF 400 kV FOR THE CONNECTION OF AGIOS NIKOLAOS HIGH VOLTAGE SUBSTATION WITH DISTOMO HIGH VOLTAGE SUBSTATION, IN REGIONAL UNIT OF VIOTIA

PROJECT SITE

:

LOCATION "AGIOS NIKOLAOS" - OUTSIDE URBAN DESIGN REGION OF DISTOMO - MUNICIPALITY UNIT (MU) OF DISTOMO – MUNICIPALITY OF DISTOMO - ARAHOVA - ANTIKYRA & OUTSIDE URBAN DESIGN REGION OF KYRIAKI - MUNICIPALITY UNIT (MU) OF KYRIAKI – MUNICIPALITY OF LEVADEA, REGIONAL UNIT OF VIOTIA

**ENVIRONMENTAL STUDY FOR THE AMENDMENT OF
THE ENVIRONMENTAL TERMS APPROVAL (ETA) DECISION 142429/12.07.2021 OF
THE DIRECTORATE OF ENVIRONMENT AND SPATIAL DESIGN OF CENTRAL GREECE**

Environmental Study

Engineer:



SAMARAS & ASSOCIATES S.A.
CONSULTING ENGINEERS

T H E S S A L O N I K I , A U G U S T 2 0 2 1

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PROJECT OPERATOR	ENVIRONMENTAL STUDY ENGINEER

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1 INTRODUCTION

PROJECT OPERATOR : MYTILINEOS S.A.
ELECTRIC ENERGY & NATURAL GAS BUSINESS SECTOR

TYPE OF ACTIVITY : ELECTRICITY TRANSMISSION LINE OF 400 kV FOR THE CONNECTION OF
AGIOS NIKOLAOS HIGH VOLTAGE SUBSTATION WITH DISTOMO HIGH
VOLTAGE SUBSTATION, IN REGIONAL UNIT OF VIOTIA

PROJECT SITE : LOCATION "AGIOS NIKOLAOS" - OUTSIDE URBAN DESIGN REGION OF
DISTOMO - MUNICIPALITY OF DISTOMO - ARAHOVA - ANTIKYRA & OUTSIDE
URBAN DESIGN REGION OF KYRIAKI - MUNICIPALITY OF LEVADEA,
REGIONAL UNIT OF VIOTIA

1.1 PROJECT TITLE

The present Environmental Study is being submitted, for the purpose of amending the **Environmental Terms Approval (ETA) Decision no. 142429/12.07.2021 (SAA: ΨΗΔ40P10-ΜΩΗ)** of the Department of Environment and Spatial Design of Central Greece and it concerns the project titled "**Electricity Transmission Line of 400 kv for the Connection of Agios Nikolaos High Voltage Substation (HVS) with Distomo High Voltage Substation (HVS)**" in the Municipalities of Levadea and Distomo – Arahova – Antikyra, in the Regional Unit of Viotia.

1.2 TYPE AND SIZE OF THE PROJECT

The 400kV transmission line (T.L.) of electricity under study connecting Agios Nikolaos HVS and Distomo HVS, with a total length of about 14km, starts from Agios Nikolaos HVS (High Voltage P/S - within the existing facilities of Mytilineos S.A.) and is completed in Distomo HVS, as shown in the following satellite imaging extract. The projects proposed in this Environmental Impact Study concern the following:

- Construction of a new 400kV high voltage electricity Transmission Line (T.L.), with a total length of about 14km.
- Construction of forty-two (42) new High Voltage pylons.
- Construction of a forest road, with a total length of about 8.800m¹, to serve the construction and operation needs of the new electricity transmission line.

¹ In the ETA Decision that is in effect, it is mistakenly stated that the total length of the new forest road is 8.700m. The total length of the new road is 8.800m, as is stated in the additional data that accompany the approved Environmental Impact Assessment

- Configuration of a plot for development of cable systems, below the terminal pylon (P42) of the T.L., with an area of 1.265m².
- Execution of works – addition of equipment to connect the development plot of cable systems with the Agios Nikolaos HVS.
- Connection of the new T.L. to the Distomo HVS (connection of the terminal pylon of the T.L. to the terminal wall, of the available gateway, at the Distomo HVS).

The suggested modifications of the present study concern the following:

- ⊙ A small change in the routing of the 400kV T.L. in two sections close to the HVS of Distomo, with the length of the line in these sections being increased from 1.720m to 1.780m
- ⊙ Elimination of three (3) pylons (Π2, Π6 and Π7) and construction of five (5) new pylons (Π2N, Π2N1, Π6N, Π7N και Π7N1)
- ⊙ Increase of the total number of pylons from 42 to 44, without actually increasing the total length of the T.L. (from 14,0 km to 14,06 km).
- ⊙ Elimination of two (2) road sections (ROAD 4 & ROAD 5), with a total length of 315m and construction of three (3) new road sections (ROAD 1A, ROAD 4A & ROAD 5A), with a total length of 675m.

Study, which was submitted to the environmental authority, after a small displacing of the routing of the T.L., as was prompted by the Central Archaeological Council.



Figure 1.1: Extract of satellite imaging (google earth). Depicted are the already environmentally licensed 400kV T.L. which will remain (green line), the already environmentally licensed 400kV T.L. which will be eliminated (orange line) and the suggested modification of the T/L's routing (red line). The yellow frames include the sections of the T.L. that will be modified. More details are shown in the following figures.

Details of Section 1 of the T.L. of electric energy which is being modified are shown in the following Figure. More specifically, the environmentally licensed T.L. and the respective pylon (Π2) that are being eliminated, are depicted with an orange line and an orange square. Meanwhile, the suggested new routing of the T.L. and the respective pylons (Π2N and Π2N1) are depicted with a red line and red squares. The environmentally licensed T.L. and the respective pylons that will be kept, are depicted with a green line and green squares. Finally, the environmentally licensed road "ROAD 1 – ROAD 1" that leads to the pylon Π3 is depicted with a green line, and the new road "ROAD 2 – ROAD 2" which is being constructed to lead to the pylon Π2N1, is depicted with a yellow line.

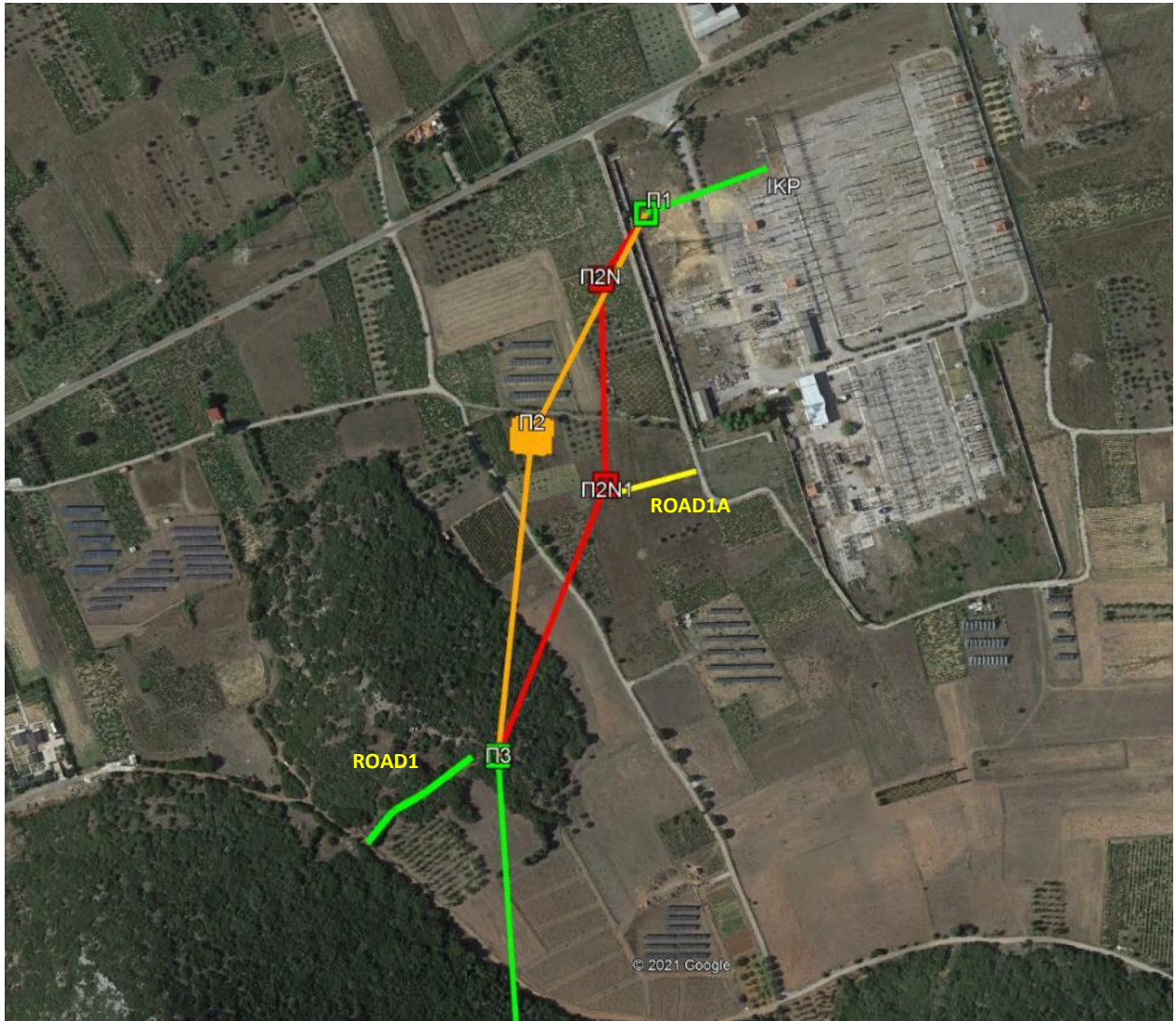
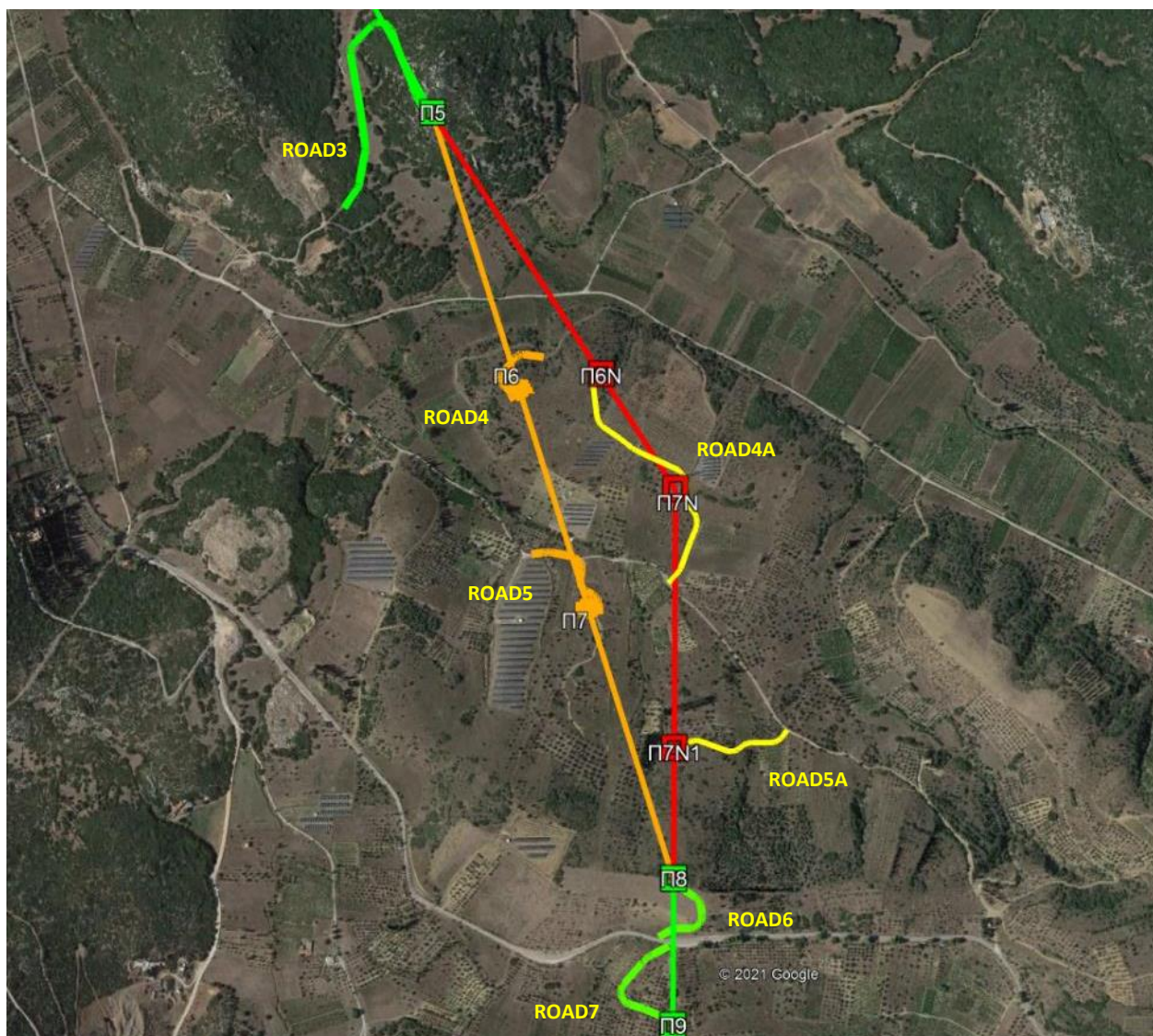


Figure 1.2: Details of section 1 of the T.L. which is being modified. The environmentally licensed parts that are being eliminated are depicted with orange color, the environmentally licensed parts that will be kept are depicted with green color and the suggested modifications are depicted with red and yellow color.

Details of Section 2 of the T.L. of electric energy which is being modified are shown in the following Figure. More specifically, the environmentally licensed T.L., the respective pylons (Π6 & Π7) and the roads "ROAD 4 & ROAD 5 – ROAD 4 & ROAD 5" that are being eliminated, are depicted with an orange line and an orange square. Meanwhile, the suggested new routing of the T.L. and the respective pylons (Π6N και Π7N & Π7N1) are depicted with a red line and red squares. The environmentally licensed T.L., the respective pylons and the roads that will be kept, are depicted with a green line and green squares. Finally, the new road "ROAD 4A – ROAD 4A" which is being constructed to lead to the pylons Π6N, Π7N and Π7N1, as well as the new road "ROAD 5A – ROAD 5A", which leads to pylon "Π7N1", are depicted with yellow lines.

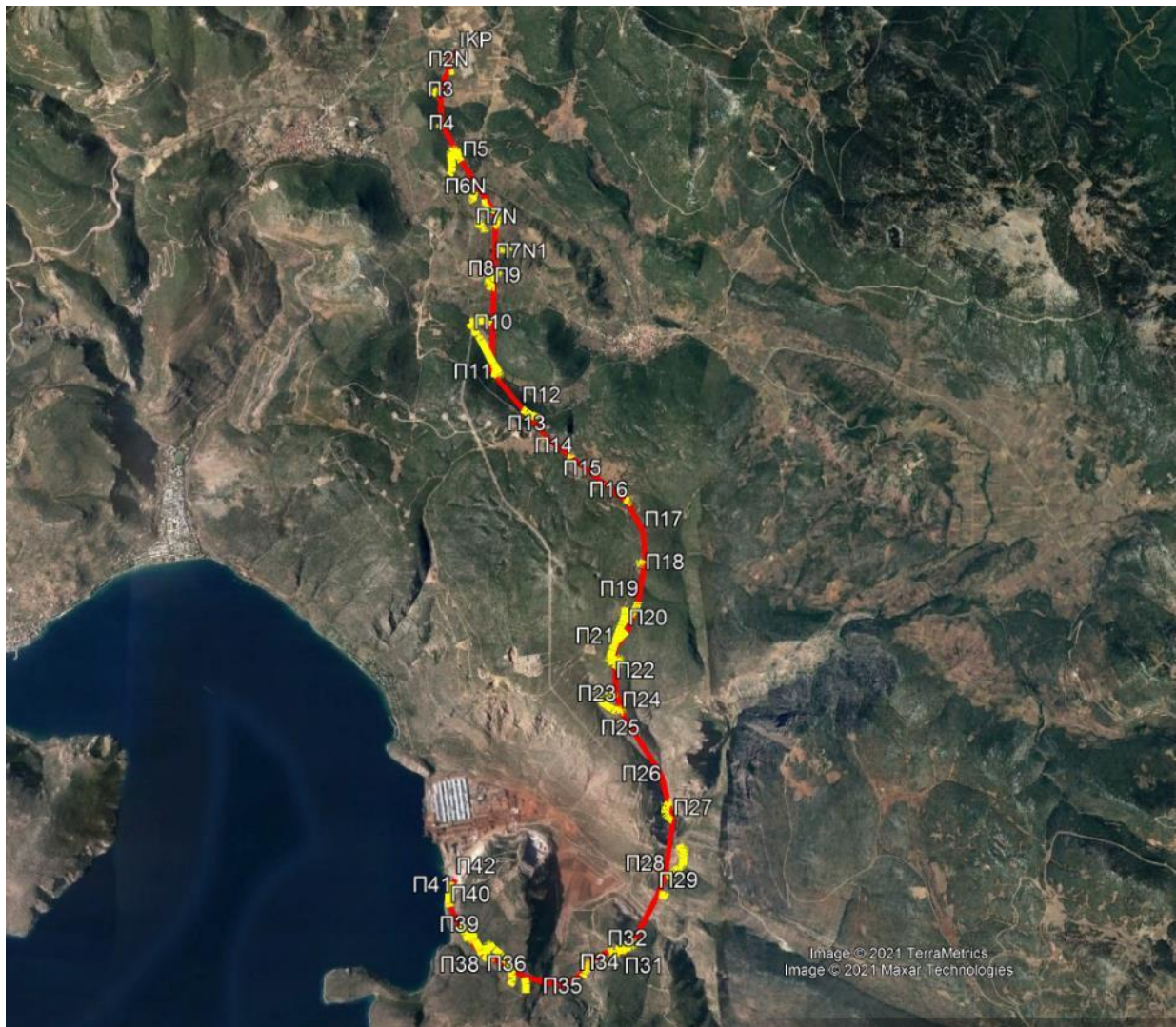


Σχήμα 1.3: Details of section 2 of the T.L. which is being modified. The environmentally licensed parts that are being eliminated are depicted with orange color, the environmentally licensed parts that will be kept are depicted with green color and the suggested modifications are depicted with red and yellow color.

Based on the above and taking the suggested modifications into consideration, the environmentally licensed project is formed as such:

- Construction of new 400kV High Voltage Electricity Transmission Line (T.L.), **with a total length of 14,06km.**
- Construction of **forty four (44) new high voltage pylons.**
- Construction and improvement of new roadworks, with a total length of around 9.160m, to serve the needs of the construction and operation of the new T.L. **Out of the total length, 7.294,61 m are located in areas characterized as forest areas, according to the approved study of forest roads.**

- Configuration of development plot of the cable systems, below the terminal pylon (Π42) of the T.L., with an area of 1.265m².
- Carrying out of works – addition of equipment for the connection of the development plot of the cable systems to the HVS of Agios Nikolaos.
- Connection of the new T.L. to the HVS of Distomo (connection of the terminal pylon to the terminal wall, of the available gate, at the HVS of Distomo).



Σχήμα 1.4: Extract of satellite imaging, where the project is depicted, as it is formed after the required modifications. The final routing of the T.L. is depicted with a red line, while the road sections are depicted with yellow lines.

In the context of the present Environmental Study, it is specified that the surplus of materials that will be produced during the construction phase of the project and are unable to be used in the refilling work,

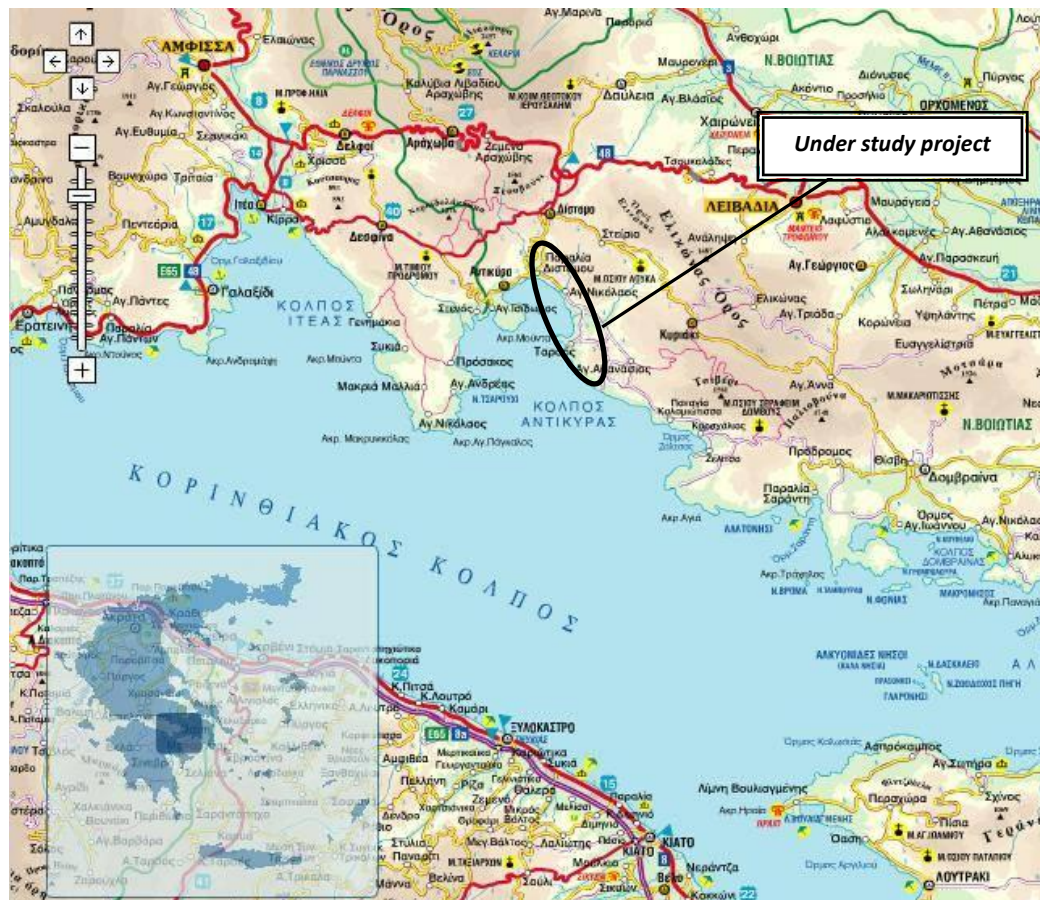
before their final disposal, will be temporarily deposited in the limestone quarry of the factory "Aluminium of Greece", which belongs to the Metallurgy Business Unit of Mytilineos S.A. and has been inactive since 2012. The ability to temporarily deposit of Construction and Demolition (C & D) Waste, which result from the construction works of Mytilineos S.A., is derived from the no. YPEN/DIPA/89799/5885/18.09.2020 E.T.A. Decision (Saa: 6ΤΔΣ4653Π8-37Π), which concerns the operation of the metallurgic factory of the company "MYTILINEOS S.A. – METALLURGY BUSINESS UNIT – FACTORY ALUMINIUM OF GREECE", former "ALUMINION S.A.", and its accompanying activities, as well as from the Environmental Study that accompanies the aforementioned E.T.A.

Finally, it is worth mentioning that with the present Environmental Study, it is requested that the term "redirection of section of T.L." be reworded, as it has been mistakenly added. The new title of the project is formed as such: **"ELECTRICITY TRANSMISSION LINE OF 400 kV FOR THE CONNECTION OF AGIOS NIKOLAOS HIGH VOLTAGE SUBSTATION WITH DISTOMO HIGH VOLTAGE SUBSTATION, IN REGIONAL UNIT OF VIOTIA"**.

1.3 GEOGRAPHICAL POSITION AND ADMINISTRATIVE AFFILIATION

1.3.1 Site

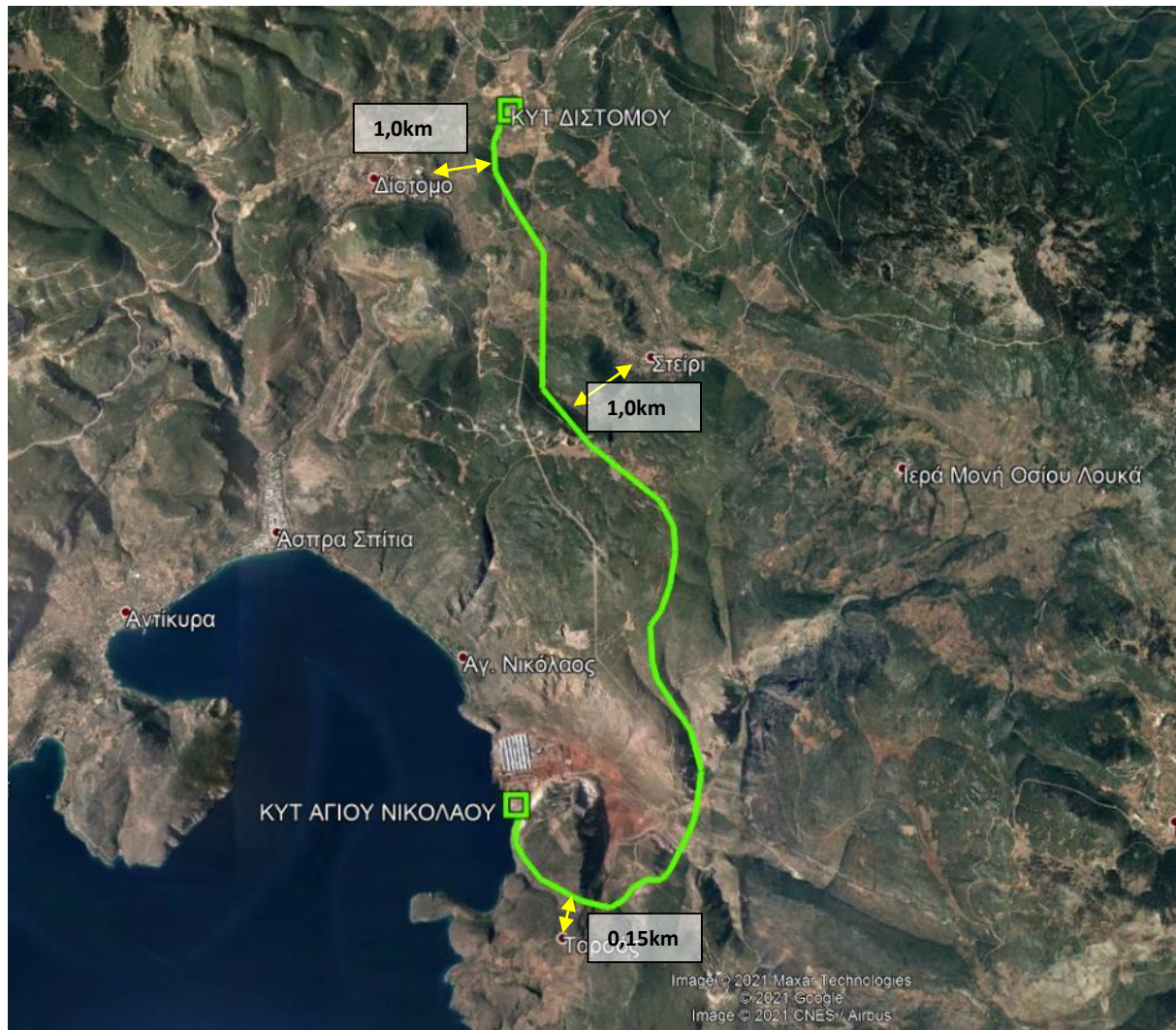
The study project is located on the north coast of the Corinthian Gulf and, more specifically, in the bay of Antikyra, between the extensions of the mountains Parnassos and Elikos, and extends to the west of the settlement of Distomo as shown in Figure 1.5.



Σχήμα 1.5: Geographic location of the project.

The nearest settlements to the under study T.L. are:

- Tarsos, located at a distance of about 150m south of the project study. The settlement of Tarsos was established by No. 3149/16.11.1987 Decision of the Prefect of Viotia (Government Gazette 1187/D/14.12.1987).
- Steiri is located about 1.000m east of the project study. The settlement of Steiri was institutionalized with the No. 3354/27.07.1986 Decision of the Prefect of Viotia (Government Gazette 926/D/06.10.1986).
- Distomo, located at a distance of about 1.000m west of the project study. The settlement of Distomo was established by No. 36642/20.06.1972 Decision of the Prefect of Viotia (Government Gazette 156/D/07.07.1972).



Σχήμα 1.6: Satellite imaging extract (google earth), where the T.L. (taking the suggested modification into consideration) and the nearest demarcated settlements are depicted.

1.3.2 Administrative Affiliation

The study project belongs administratively to the Region of Central Greece, to the Regional Unit (R.U.) of Viotia, to the Municipalities of Levadea and Distomo – Arahova – Antikyra (as formed by Law 3582/2010) and, more specifically, to the Municipal Units (M.U.) of Kyriaki and Distomo, respectively.

1.3.3 Geographic Coordinates

Within the framework of the present Environmental Study it is requested that the routing of the existing and environmentally licensed High Voltage Transmission Line, which connects the existing HVS of Agios Nikolaos with the HVS of Distomo.

More specifically, as has already been mentioned, two (2) sections of total length 1.720m of the existing and environmentally licensed T.L., as well as three (3) pylons (Π2, Π6 και Π7), are being eliminated, and a

new T.L. of a total length of 1.780m and five (5) new High Voltage pylons (Π2N, Π2N1, Π6N, Π7N και Π7N1) are being constructed.

The following table shows the geographical coordinates of the pylons of the 400kV High Voltage Transmission Line under study, in the Greek Geodetic Reference System 1987 (GGRS '87) and in the World Geodetic System WGS '84. **The coordinates of the new suggested pylons are written in bold text.**

Table 1.1: Coordinates of the pylons of the T.L., based on the requested modification, in GGRS '87 and WGS '84.

S/N	GGRS '87		WGS '84	
	X (m)	Y (m)	φ (°)	λ (°)
SCAFFOLDING	385280,033	4254960,755	38ο 26' 17,39	22ο 41' 14,04
Π1	385188,969	4254929,034	38ο 26' 16,32	22ο 41' 10,30
Π2N	385154,590	4254881,001	38ο 26' 14,75	22ο 41' 08,91
Π2N1	385154,481	4254728,154	38ο 26' 09,80	22ο 41' 09,00
Π3	385069,571	4254529,026	38ο 26' 3,29	22ο 41' 5,61
Π4	385087,470	4254130,000	38ο 25' 50,36	22ο 41' 6,59
Π5	385329,340	4253676,500	38ο 25' 35,76	22ο 41' 16,83
Π6N	385602,380	4253243,633	38ο 25' 21,85	22ο 41' 28,34
Π7N	385720,413	4253056,509	38ο 25' 15,84	22ο 41' 33,31
Π7N1	385713,919	4252642,574	38ο 25' 02,41	22ο 41' 33,29
Π8	385710,694	4252436,999	38ο 24' 55,73	22ο 41' 33,28
Π9	385707,103	4252208,105	38ο 24' 48,30	22ο 41' 33,26
Π10	385700,985	4251818,125	38ο 24' 35,65	22ο 41' 33,24
Π11	385692,190	4251257,500	38ο 24' 17,46	22ο 41' 33,20
Π12	386035,640	4250841,691	38ο 24' 4,13	22ο 41' 47,60
Π13	386304,870	4250515,740	38ο 23' 53,69	22ο 41' 58,89
Π14	386613,053	4250264,003	38ο 23' 45,66	22ο 42' 11,74
Π15	386930,583	4250004,630	38ο 23' 37,39	22ο 42' 24,97
Π16	387222,169	4249766,449	38ο 23' 29,80	22ο 42' 37,13
Π17	387400,531	4249429,949	38ο 23' 18,96	22ο 42' 44,67
Π18	387421,205	4249099,605	38ο 23' 08,26	22ο 42' 45,71
Π19	387345,550	4248667,373	38ο 22' 54,20	22ο 42' 42,85
Π20	387228,882	4248341,638	38ο 22' 43,59	22ο 42' 38,22
Π16	387173,750	4249806,000	38ο 23' 31,06	22ο 42' 35,11
Π17	387202,987	4249435,743	38ο 23' 19,06	22ο 42' 36,53
Π18	387227,783	4249121,720	38ο 23' 8,89	22ο 42' 37,73
Π19	387264,440	4248657,500	38ο 22' 53,85	22ο 42' 39,51

S/N	GGRS '87		WGS '84	
	X (m)	Y (m)	ϕ (°)	λ (°)
Π20	387171,251	4248393,462	38o 22' 45,24	22o 42' 35,82
Π21	387083,030	4248143,498	38o 22' 37,09	22o 42' 32,33
Π22	387094,087	4247908,760	38o 22' 29,49	22o 42' 32,92
Π23	387103,995	4247681,841	38o 22' 22,13	22o 42' 33,46
Π24	387166,063	4247443,000	38o 22' 14,41	22o 42' 36,16
Π25	387363,499	4247138,299	38o 22' 4,62	22o 42' 44,46
Π26	387597,551	4246777,166	38o 21' 53,01	22o 42' 54,31
Π27	387730,082	4246268,516	38o 21' 36,57	22o 43' 0,07
Π28	387639,609	4245672,927	38o 21' 17,21	22o 42' 56,68
Π29	387568,024	4245491,850	38o 21' 11,30	22o 42' 53,84
Π30	387316,306	4245010,152	38o 20' 55,57	22o 42' 43,74
Π31	387196,250	4244873,420	38o 20' 51,08	22o 42' 38,88
Π32	387015,780	4244882,930	38o 20' 51,30	22o 42' 31,44
Π33	386844,060	4244799,410	38o 20' 48,52	22o 42' 24,41
Π34	386715,994	4244635,334	38o 20' 43,14	22o 42' 19,23
Π35	386529,860	4244527,647	38o 20' 39,56	22o 42' 11,63
Π36	386142,902	4244627,561	38o 20' 42,62	22o 41' 55,63
Π37	385957,659	4244729,189	38o 20' 45,84	22o 41' 47,95
Π38	385631,526	4244908,517	38o 20' 51,50	22o 41' 34,41
Π39	385406,084	4245194,306	38o 21' 0,67	22o 41' 24,96
Π40	385311,054	4245373,533	38o 21' 6,44	22o 41' 20,94
Π41	385324,934	4245618,455	38o 21' 14,39	22o 41' 21,37
Π42	385365,005	4245675,007	38o 21' 16,24	22o 41' 22,98

The following Table shows the geographic coordinates of the entirety of the road sections (beginning, middle and end), which are being constructed to serve the constructional needs of the T.L., in the Greek Geodetic Reference System 1987 (GGRS '87) and in the World Geodetic System WGS '84. **The coordinates of the new road sections are written in bold text.**

Table 1.2: Coordinates of the entirety of the road sections (beginning, middle and end) that are being constructed, in GGRS '87 and WGS84.

ROADS	S/N	GGRS '87		WGS '84	
		X (m)	Y (m)	ϕ (°)	λ (°)
ROAD 1A	Beginning	385222,1	4254737,1	38o 26' 10,12	22o 41' 11,78
	Middle	385194,1	4254730,2	38o 26' 9,88	22o 41' 10,63
	End	385166,1	4254723,3	38o 26' 9,64	22o 41' 9,48

ROADS	S/N	GGRS '87		WGS '84	
		X (m)	Y (m)	ϕ (°)	λ (°)
ROAD 1	Beginning	384970,7	4254466,9	38o 26' 1,23	22o 41' 1,57
	Middle	385008,9	4254499,8	38o 26' 2,31	22o 41' 3,13
	End	385050,2	4254528,9	38o 26' 3,28	22o 41' 4,82
ROAD 2	Beginning	385071,6	4254077,0	38o 25' 48,63	22o 41' 5,96
	Middle	385076,7	4254107,2	38o 25' 49,61	22o 41' 6,16
	End	385069,0	4254136,4	38o 25' 50,55	22o 41' 5,82
ROAD 3	Beginning	385184,5	4253522,6	38o 25' 30,70	22o 41' 10,95
	Middle	385196,8	4253767,5	38o 25' 38,65	22o 41' 11,31
	End	385316,1	4253683,4	38o 25' 35,98	22o 41' 16,28
ROAD 4A	Beginning	385707,2	4252906,9	38o 25' 10,98	22o 41' 32,86
	Middle	385716,3	4253092,6	38o 25' 17,01	22o 41' 33,12
	End	385587,4	4253238,6	38o 25' 21,68	22o 41' 27,72
ROAD 5A	Beginning	385894,7	4252670,4	38o 25' 03,39	22o 41' 40,72
	Middle	385813,9	4252639,7	38o 25' 02,36	22o 41' 37,41
	End	385727,7	4252645,6	38o 25' 02,51	22o 41' 33,85
ROAD 6	Beginning	385685,9	4252347,5	38o 24' 52,81	22o 41' 32,31
	Middle	385755,0	4252377,6	38o 24' 53,82	22o 41' 35,14
	End	385755,0	4252423,5	38o 24' 55,31	22o 41' 35,11
ROAD 7	Beginning	385702,2	4252334,6	38o 24' 52,40	22o 41' 32,99
	Middle	385625,5	4252261,7	38o 24' 50,00	22o 41' 29,87
	End	385719,6	4252222,3	38o 24' 48,77	22o 41' 33,77
ROAD 8	Beginning	385447,7	4251818,2	38o 24' 35,54	22o 41' 22,80
	Middle	385568,2	4251842,3	38o 24' 36,38	22o 41' 27,75
	End	385687,5	4251814,8	38o 24' 35,54	22o 41' 32,68
ROAD 9	Beginning	385443,5	4251821,3	38o 24' 35,64	22o 41' 22,62
	Middle	385647,5	4251468,5	38o 24' 24,29	22o 41' 31,24
	End	385692,2	4251242,6	38o 24' 16,98	22o 41' 33,21
ROAD 10	Beginning	386239,7	4250727,6	38o 24' 0,53	22o 41' 56,08
	Middle	386133,9	4250764,3	38o 24' 1,67	22o 41' 51,70
	End	386040,7	4250827,7	38o 24' 3,68	22o 41' 47,82
ROAD 11	Beginning	386265,7	4250468,5	38o 23' 52,14	22o 41' 57,30
	Middle	386280,5	4250487,4	38o 23' 52,76	22o 41' 57,90
	End	386295,9	4250506,9	38o 23' 53,39	22o 41' 58,52
ROAD 12	Beginning	386556,2	4250298,7	38o 23' 46,76	22o 42' 9,37
	Middle	386582,7	4250289,8	38o 23' 46,48	22o 42' 10,47
	End	386601,4	4250269,5	38o 23' 45,83	22o 42' 11,25
ROAD 13	Beginning	386909,6	4249969,9	38o 23' 36,26	22o 42' 24,13

ROADS	S/N	GGRS '87		WGS '84	
		X (m)	Y (m)	ϕ (°)	λ (°)
	Middle	386929,5	4249978,0	38o 23' 36,53	22o 42' 24,94
	End	386942,1	4249995,1	38o 23' 37,09	22o 42' 25,45
ROAD 16	Beginning	387326,4	4249085,1	38o 23' 07,74	22o 42' 41,82
	Middle	387379,0	4249076,8	38o 23' 07,50	22o 42' 43,99
	End	387411,1	4249116,1	38o 23' 08,79	22o 42' 45,29
ROAD 17	Beginning	387198,5	4248600,4	38o 22o 51,97	22o 42' 36,83
	Middle	387064,7	4248146,7	38o 22o 37,19	22o 42' 31,57
	End	387093,7	4247921,6	38o 22o 29,90	22o 42' 32,90
ROAD 17B	Beginning	387181,4	4248445,0	38o 22' 46,92	22o 42' 36,21
	Middle	387279,4	4248536,3	38o 22' 49,92	22o 42' 40,19
	End	387340,4	4248655,2	38o 22' 53,81	22o 42' 42,64
ROAD 17Γ	Beginning	387086,1	4248206,6	38o 22' 39,14	22o 42' 32,42
	Middle	387151,9	4248270,8	38o 22' 41,25	22o 42' 35,09
	End	387217,6	4248334,9	38o 22' 43,63	22o 42' 37,67
ROAD 18	Beginning	386990,7	4247664,1	38o 22o 21,50	22o 42' 28,80
	Middle	387065,0	4247654,3	38o 22o 21,22	22o 42' 31,87
	End	387050,0	4247619,0	38o 22o 20,07	22o 42' 31,27
ROAD 19	Beginning	386873,4	4247639,7	38o 22o 20,66	22o 42' 23,98
	Middle	387028,4	4247509,5	38o 22o 16,51	22o 42' 30,45
	End	387148,3	4247452,5	38o 22o 14,71	22o 42' 35,42
ROAD 20	Beginning	387714,1	4246476,4	38o 21' 43,31	22o 42' 59,29
	Middle	387645,8	4246376,3	38o 21' 40,03	22o 42' 56,53
	End	387721,1	4246274,4	38o 21' 36,76	22o 42' 59,69
ROAD 21	Beginning	387801,2	4246012,1	38o 21' 28,28	22o 43' 3,14
	Middle	387838,7	4245864,4	38o 21' 23,51	22o 43' 4,77
	End	387650,9	4245675,7	38o 21' 17,31	22o 42' 57,14
ROAD 22	Beginning	387578,9	4245487,2	38o 21' 11,16	22o 42' 54,29
	Middle	387626,2	4245478,0	38o 21' 10,88	22o 42' 56,24
	End	387668,5	4245456,9	38o 21' 10,22	22o 42' 57,99
ROAD 23	Beginning	387289,3	4245005,8	38o 20' 55,41	22o 42' 42,63
	Middle	387276,4	4244925,7	38o 20' 52,81	22o 42' 42,15
	End	387187,6	4244891,0	38o 20' 51,64	22o 42' 38,51
ROAD 24	Beginning	387181,7	4244859,6	38o 20' 50,62	22o 42' 38,29
	Middle	387188,9	4244966,8	38o 20' 54,10	22o 42' 38,52
	End	387103,2	4244844,3	38o 20' 50,09	22o 42' 35,06
ROAD 25	Beginning	387097,2	4244847,0	38o 20' 50,18	22o 42' 34,81
	Middle	387083,3	4244889,4	38o 20' 51,54	22o 42' 34,22

ROADS	S/N	GGRS '87		WGS '84	
		X (m)	Y (m)	ϕ (°)	λ (°)
	End	387031,6	4244880,7	38o 20' 51,24	22o 42' 32,09
ROAD 26	Beginning	386749,8	4244624,6	38o 20' 42,80	22o 42' 20,63
	Middle	386795,6	4244704,7	38o 20' 45,42	22o 42' 22,47
	End	386839,0	4244786,6	38o 20' 48,10	22o 42' 24,21
ROAD 27	Beginning	386141,8	4244463,1	38o 20' 37,29	22o 41' 55,69
	Middle	386139,8	4244543,9	38o 20' 39,91	22o 41' 55,56
	End	386126,0	4244623,0	38o 20' 42,47	22o 41' 54,94
ROAD 28	Beginning	385965,2	4244547,1	38o 20' 39,93	22o 41' 48,36
	Middle	385701,9	4244843,2	38o 20' 49,42	22o 41' 37,35
	End	385410,2	4245180,5	38o 21' 0,22	22o 41' 25,13
ROAD 29	Beginning	385308,9	4245649,3	38o 21' 15,38	22o 41' 20,69
	Middle	385292,2	4245516,2	38o 21' 11,06	22o 41' 20,08
	End	385303,5	4245383,2	38o 21' 6,75	22o 41' 20,62

1.4 CLASSIFICATION OF THE PROJECT

According to No. DIPA/oik37674/10.08.2016 (Government Gazette 2471/B/2016) as applicable, the study project belongs to the 11th Project Group "Energy, Fuel and Chemical Transport" and concerns "Air power transmission lines with these accompanying installations (super-high voltage substations and centers)" (S/N 10).

An accompanying project is the construction of sections of road, which belong in the 1st Project Group "Land and air transport projects" and concerns a "Forest Road" (S/N 11).

The environmental classification of the project is as follows:

Table 1.3: Classification of the project under study, in accordance with No. DIPA/oik37674/10.08.2016, as applicable.

Project Group	S/N	Type of project - activity	Subcategory A1	Subcategory A2	Category B	Remarks
11 th	10	Overhead power transmission lines with these accompanying installations (super-high voltage substations and centers)	T ≥ 150kV and L >15km	50 ≤ T ≤ 450 and L ≤ 15km		T: operating voltage of the transmission line L: length of the transmission line
1 st	11	Forest Road			The entirety	

On the basis of the above table, the following are indicated:

- the operating voltage of the under study power transmission line is T=400kV
- the length of the new electricity transmission line, amounts to about 14km
- to serve the construction needs of the new pillars, the opening of road construction is required

On the basis of the above and in accordance with par. 5 of Article 1 of Law 4014/2011, a project or activity involving individual projects or activities is classified in the subcategory of the individual project or activity with the most significant impact on the environment and therefore in the highest subcategory. The project study is therefore classified in **subcategory A2**. According to the Statistical Coding of Economic Activities (NACE CODE, 2008) the activity is classified in Section D "electric reference, physical gas, steam and climate control" with Code **35.12-0 "Electricity Transmission"**.

The activity in question is not subject to the provisions of the Ministerial Decision (M.D.) 172058/2016 (Government Gazette 354B/2016) laying down measures and conditions for dealing with risks from large-scale accidents in installations or units; in view of the existence of dangerous substances, in compliance with the provisions of Directive 2003/105/EC "amending Council Directive 96/82/EC on the treatment of the risks of major accidents related to dangerous substances" of the European Parliament and of the Council of 16 December 2003". However, in this study the required chapters have been added (Chapters 5.6 & 7.13), as stated in Decision 1915 (Government Gazette 304/B'/02-02-2018).

1.5 PROJECT OPERATOR

MYTILINEOS S.A.

Electricity & Natural Gas Business Sector

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1.6 ENVIRONMENTAL STUDY ENGINEER

SAMARAS & ASSOCIATES S.A. – CONSULTING ENGINEERS

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2 SUMMARIZED DESCRIPTION OF THE LICENSED PROJECT

The present chapter contains a detailed description of the environmentally licensed project titled: "400 kV electricity Transmission Line (T.L.) for the connection of the HVS of Agios Nikolaos with the HVS of Distomo", according to the **no. 142429/12.07.2021 in effect Environmental Terms Approval (ETA) Decision** (Saa: ΨΗΔ4ΟΡ10-ΜΩΗ) of the Directorate of Environment and Spatial Design of Central Greece.

2.1 DESCRIPTION OF LICENSED PROJECT

2.1.1 General

The environmentally licensed project concerns the construction and operation of a **new Electricity Transmission Line of 400 kv for the Connection of Agios Nikolaos High Voltage Substation (HVS) with Distomo High Voltage Substation (HVS)**, as part of the connection of a 826MW New Power Station to the HVS of Agios Nikolaos.

More specifically, the existing HVS of Agios Nikolaos already serves the Power Station with a rated capacity of 444,48MW. The new power station with a rated capacity of 826MW is also planned to be connected to the Agios Nikolaos HVS.

The 400 kV electricity Transmission Line (T.L.) that is being studied, has a total length of around 14km and it starts at the Agios Nikolaos HVS (High Voltage Substation – within the existing facilities of Mytilineos S.A.) and ends at the Distomo HVS. The environmentally licensed projects concern the following:

- Construction of a new Transmission Line (T.L.) of 400kV high voltage electricity, total length of about 14km.
- Construction of forty-two (42) new High Voltage pylons.
- Construction of a forest road, with a total length of about 8.800m, to serve the needs of the construction and operation of the new T.L.
- Configuration of development plot of the cable systems, below the terminal pylon (Π42) of the T.L., with an area of 1.265m².
- Carrying out of works – addition of equipment for the connection of the development plot of the cable systems to the HVS of Agios Nikolaos.
- Connection of the new T.L. to the HVS of Distomo (connection of the terminal pylon to the terminal scaffolding, of the available gate, at the HVS of Distomo).

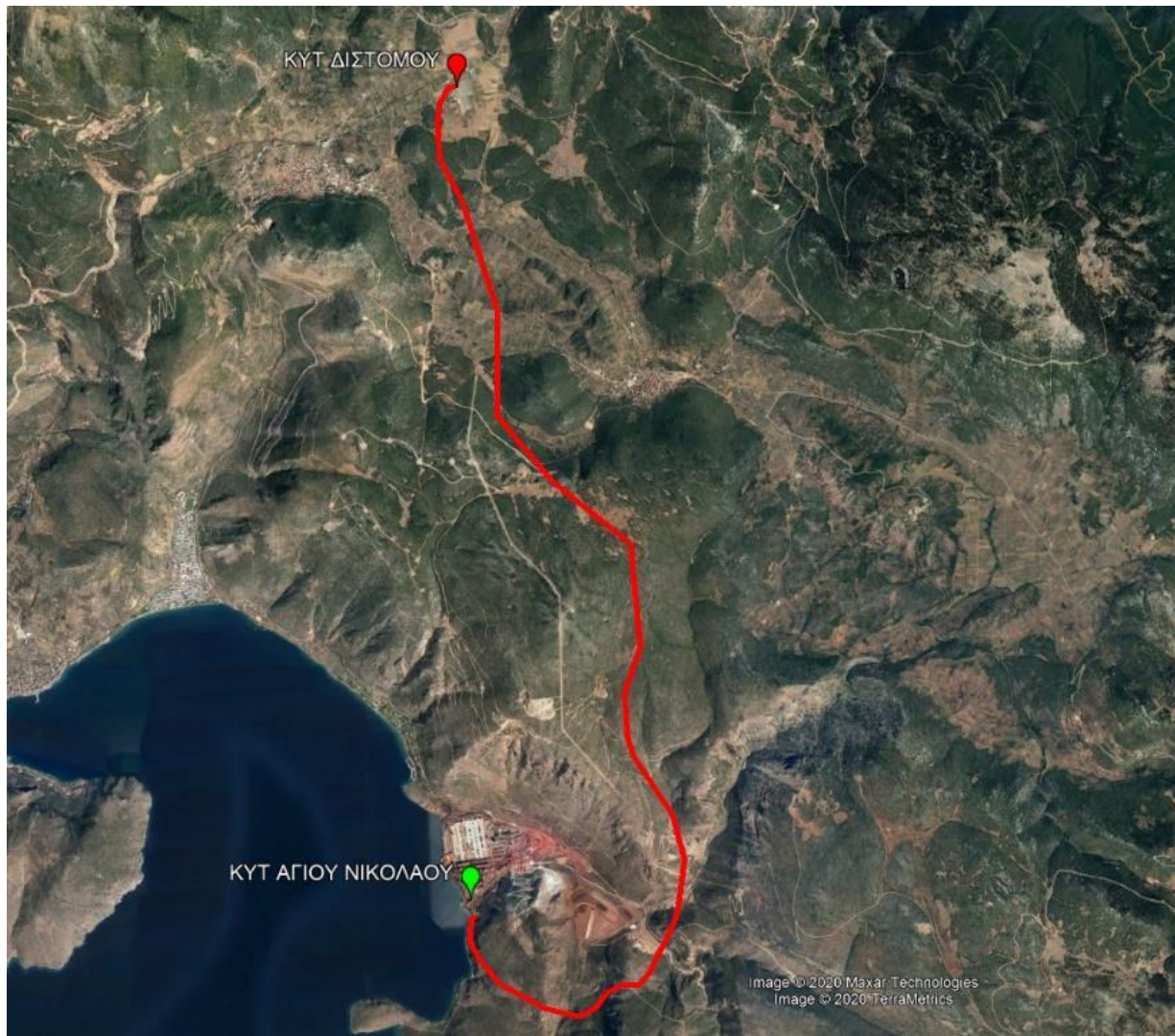


Figure 2.1: Extract of satellite imaging (google earth). The environmentally licensed T.L. is depicted with a red line, while the sites of the HVS of Agios Nikolaos and Distomo are also depicted.

2.1.2 Electricity Transmission Lines

The environmentally licensed Electricity Transmission Line has a total length of about 14km and will be constructed according to the specifications for overhead transmission lines and the pylon foundation plans provided by the Independent Power Transmission Operator (IPTO). It is going to contain forty two (42) new simple circuit pylons of Series "7".

Just like all overhead Transmission Lines, aluminum pipes will be used, as they have very high electric conductivity, low weight and low cost. Aluminum ducts are generally long-circuited. They consist, in other words, of many clones, which are helicoidally surrounded in successive layers, so as to form a conductor that resembles a wire rope. Successive layer clones are rotated in opposite directions to prevent their unwrapping and to achieve a coincidence of the outer radius of one layer with the inner radius of the next

layer. The long-circuited conductors are more flexible than the monoclons of equal diameter, so they are more flexible and subject to less stresses. They also have the advantage of being safer in mechanical breakage.

2.1.3 Types of towers

Forty-two (42) new towers (pylons) of the "7" Series will be erected for the 14km power transmission line under study. The "7" Series towers are a simple circuit in a horizontal phase layout, with two (2) peaks and two (2) protective ducts.

The towers will be constructed from angular sheets of construction steel of the type of open floor, Electric Furnace or E.F. High strength steel qualities are used. For the stands, main bridge elements and main foundation elements cross sections of a thickness not less than 3mm are used. Metric high strength screws of a minimum diameter of 12mm and a maximum of four screw diameters are used for each type of tower. The suspension height from the ground for a normal height tower is 20,65m for towers of type S, R, T and G. All horizontal sections of the towers are square. The meshes of the sides of the towers are symmetrical.

All types of towers have horizontal frames:

- On the lower surfaces of the bridges
- At the top of the legs
- At the slope change points of the stands

It should be noted that the pylons of series "7" are the ones that can carry a triple conductor ACSR CARDINAL 954000 CM and as such the Thermal Limit of the Transmission Line used by the pylons of series "7" amounts, under nominal conditions, to 2000 MVA and under adverse conditions to 1600 MVA.

2.1.4 Foundations – Pylon construction squares

Each tower is based on four (4) independent concrete foundations. The steel stems of the foundations (extensions of the uprights of the strands) are surrounded by the concrete of the foundation which is reinforced, if necessary, by reinforcement of concrete. The strains will be of varying lengths, depending on the type of foundation used. However, their lengths and corresponding theoretical weights are determined by the Independent Power Transmission Operator (IPTO S.A.). The following types of foundations are used: rock anchorage, footing type for varying ground stress, stake type, etc. Each tower will be accompanied by four ground rods, one for each foundation. These are steel, hot plated, 2cm in diameter and 2.0m long and are connected each to each foundation, to the corresponding foundation stem, at the bottom of the base, and to a suitable screw, via a single-circuit steel plated hot conductor in order to achieve a good electrical connection of the rod to the tower. For additional grounding, where necessary, a single-stage 1cm diameter

steel ground conductor connected to the tower at the first screw above the ground may be used. It takes four such screws of sufficient length for each tower (one for each leg).

For the assembly and installation needs of the pylons, it is necessary to have an appropriate surface area (square) with dimensions mainly $25\text{m} \times 25\text{m} = 625\text{m}^2$, while some squares located in difficult positions with regard to the topography of the area, are selected with dimensions of $20\text{m} \times 20\text{m} = 400\text{m}^2$, sizes sufficient to place the superstructure in the optimal position.

A total of forty-two (42) new squares are planned, of which thirty-one (31) squares will have dimensions of $25\text{m} \times 25\text{m} = 625\text{m}^2$ and eleven (11) squares will be formed with dimensions of $20\text{m} \times 20\text{m} = 400\text{m}^2$. Therefore, the total area of occupation of the squares amounts to 23.775m^2 ($11 \times 400\text{m}^2 + 31 \times 625\text{m}^2$).

2.1.5 Configuration of new road construction

In order to meet the construction and operation needs of the new electricity transmission line, the construction of a new forest road, with a total length of about 8.800m, is required. The proposed and environmentally licensed road sections are presented in the following satellite imagery extract.

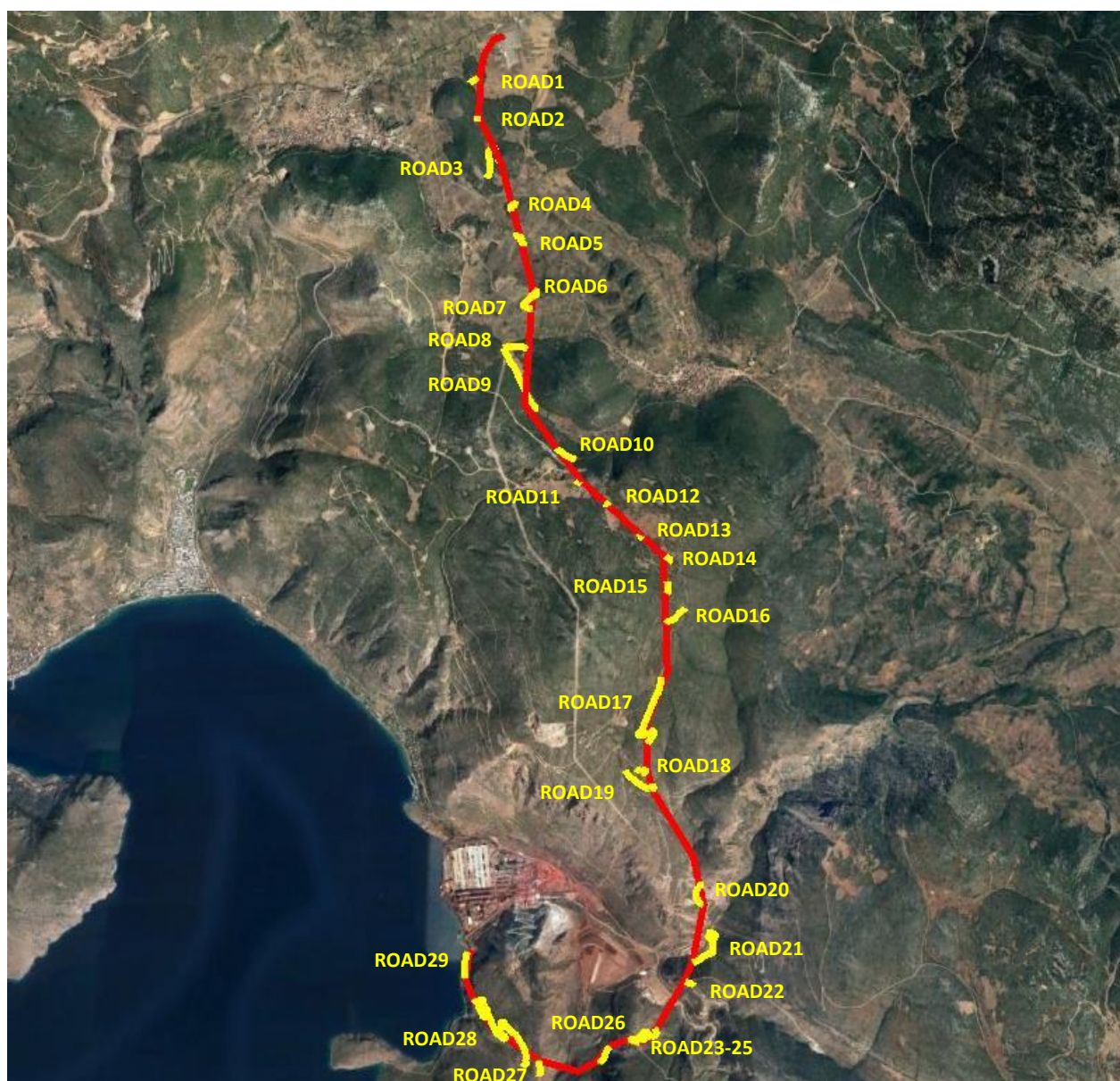


Figure 2.2: A google earth extract, showing the new electricity T.L. with a red line, while yellow lines show the access roads that will be opened to serve the construction and operation needs of the new line.

In the following table, the environmentally licensed road sections are presented, as well as the length and the width of each road section.

Table 2.2: Length and width of each road section

ROAD	LENGTH (m)	WIDTH (m)
ROAD 1	105,00	5,00
ROAD 2	65,00	5,00
ROAD 3	510,00	5,00

ROAD	LENGTH (m)	WIDTH (m)
ROAD 4	135,00	4,00
ROAD 5	180,00	4,00
ROAD 6	145,00	4,00
ROAD 7	220,00	4,00
ROAD 8	250,00	4,00
ROAD 9	820,00	5,00
ROAD 10	225,00	5,00
ROAD 11	50,00	5,00
ROAD 12	60,00	5,00
ROAD 13	45,00	5,00
ROAD 16	110,00	5,00
ROAD 17	960,00	5,00
ROAD 17B	270,00	5,00
ROAD 17Γ	180,00	5,00
ROAD 18	160,00	5,00
ROAD 19	410,00	4,00
ROAD 20	265,00	4,00
ROAD 21	610,00	4,00
ROAD 22	100,00	4,00
ROAD 23	215,00	4,00
ROAD 24	305,00	5,00
ROAD 25	105,00	5,00
ROAD 26	190,00	5,00
ROAD 27	165,00	5,00
ROAD 28	1.675,00	5,00
ROAD 29	270,00	4,00
Sum	8.800,00	-

2.1.6 Configuration of cable system development plot

The connection of the new electricity (T.L.) with the Agios Nikolaos HVS requires the development of a plot of cable systems, below the terminal pillar (Π42) of the T.L., with an area of 1.265m².

This plot is planned for the construction of the necessary fencing, the installation of grounding and the construction of nine (9) outdoor equipment suspension bases.



Σχήμα 2.3: Extract of satellite imaging (google earth), indicating the boundary of the cable system development plot with its peaks.

2.1.7 Execution of works – addition of equipment for the connection of the development plot of cable systems with the HVS of Agios Nikolaos

In order to connect the development plot of the cable systems with the high voltage Substation of Agios Nikolaos, the following tasks and addition of equipment are required:

- opening of underground channels for the underground routing of high voltage cables from the Agios Nikolaos HVS up to the cable system development plot, with a total length of about 200m
- installation of High Voltage cable supports on the support wall of the new 826MW unit, with a total length of approximately 175m and
- installation and termination of a double circuit high voltage cables, from the Agios Nikolaos HVS up to the cable system development plot, with a total length of about 430m.

2.1.8 Connection of the new electricity transmission line to the Distomo HVS

For the interconnection of the new (T.L.) 400kV with the Distomo HVS, equipment is provided which will be installed within the licensed (with the No. 5119/149.08.2009 Environmental Terms Approval) and in operation Distomo HVS, without extending it to a neighboring plot, while the relevant terminal scaffolding is already licensed and constructed.

As such, for the interconnection of the new electricity Transmission Line, the connection of the terminal pylon to the available gate and, more specifically, to the terminal scaffolding, is required.

2.1.9 Overall assessment of the occupied surface area of the soil

The projects proposed by this Environmental impact assessment concern the following:

- the construction of forty-two (42) new towers (pillars), of which thirty-one (31) squares will have dimensions of $25\text{m} \times 25\text{m} = 625\text{m}^2$ and eleven (11) squares will be formed with dimensions of $20\text{m} \times 20\text{m} = 400\text{m}^2$. Therefore, the total area of occupation of the squares amounts to 23.775m^2 ($11 \times 400\text{m}^2 + 31 \times 625\text{m}^2$).
- the development plot of the cable systems, below the terminal pillar (P42) of (T.L.) electricity, area 1.265m^2 .
- construction of a new forest road - to serve the construction needs of the new transmission line - with a total length of about 8.800m. The area of occupation of the new roads amounts to approximately 73.259m^2 .

Based on the above, the proposed projects will have a total area of occupation of (in forest and non-forest areas): $23.775\text{m}^2 + 1.265\text{m}^2 + 73.259\text{m}^2 = \mathbf{98.299\text{m}^2}$

The new section of the 400kV Power Transmission Line will require an easement zone of 50m (25m on either side of the line routing at the intervention points) and with a total area of $\mathbf{700.500\text{m}^2}$.

2.1.10 Overall assessment and management of land works

For the construction of the proposed project, namely from the configuration of the squares for the installation of the pylons, the construction of the new forest roads and the foundation works of the pylons, land works are planned, such as excavations and fillings.

More specifically, for the construction works of the proposed project, excavations that amount to 111.154m^3 are necessary, of which 21.304m^3 will be used for the necessary fillings. Therefore, the surplus of excavation materials to be managed amounts to 89.850m^3 .

The surplus of materials that will result during the construction phase and are unable to be used as filling, will be deposited in an environmentally licensed deposition site or a landfill or in areas where other projects are in progress, which have approved environmental terms and for which the aforementioned materials can be used. Other solutions include inactive quarries or alternative management systems.

In any case, the current legislation must be taken into consideration, namely the Ministerial Decision 36259/1757/E103/2010 "Measures, terms and programs for alternative management of excavation, construction and demolition waste" (Government Gazette 1312/B'/2010).

2.2 HISTORIC DEVELOPMENT OF THE PROJECT

In the framework of the environmental licensing of the project, namely the **no. 142429/12.07.2021 Environmental Terms Approval (ETA) Decision (SAA: ΨΗΔ40P10-ΜΩΗ)**, the following actions have taken place:

- ⊙ With the no. **160671/06.08.2021 document of the Forestry Directorate of the Regional Unit of Viotia**, the **forest road design study** was approved, for the construction of the electricity Transmission Line for the connection of the Agios Nikolaos HVS with the Distomo HVS. The road study contains the construction and improvement of roads with a total length of 8.800m, of which 7.294,61m are within forest areas.
- ⊙ With the no. **163193/10.08.2021 document of the Forestry Directorate of the Regional Unit of Viotia**, the **restoration study** for the spaces disturbed by the construction of the electricity Transmission Line for the connection of the Agios Nikolaos HVS with the Distomo HVS.
- ⊙ With the no. **163901/11.08.2021 document of the Forestry Directorate of the Regional Unit of Viotia**, an **Informational Act** was published, which concerns the intervention within forest areas for the installation of the electricity Transmission Line for the connection of the Agios Nikolaos HVS with the Distomo HVS.
- ⊙ With the no. **172628/25.08.2021 document of the Forestry Directorate of the Regional Unit of Viotia**, the **Reforestation Study** was approved, in the framework of the construction and installation of the electricity Transmission Line for the connection of the Agios Nikolaos HVS with the Distomo HVS.

Presently, an application (no. 169645/19.08.2021) has been submitted to the Forestry Administration of Levadea, for the issuing of an **Installation Protocol** for the licensed project.

3 DESCRIPTION OF PROPOSED MODIFICATION

The present Environmental Study is being submitted, for the purpose of amending the **Environmental Terms Approval (ETA) Decision no. 142429/12.07.2021 (SAA: ΨΗΔ40P10-ΜΩΗ)** of the Department of Environment and Spatial Design of Central Greece and it concerns the project titled "**Electricity Transmission Line of 400 kv for the Connection of Agios Nikolaos High Voltage Substation (HVS) with Distomo High Voltage Substation (HVS)**" in the Municipalities of Levadea and Distomo – Arahova – Antikyra, in the Regional Unit of Viotia.

The suggested modifications of the present study concern the following:

- ⊗ A small change in the routing of the 400kV T.L. in two sections close to the HVS of Distomo, with the length of the line in these sections being increased from 1.720m to 1.780m
- ⊗ Elimination of three (3) pylons (Π2, Π6 and Π7) and construction of five (5) new pylons (Π2N, Π2N1, Π6N, Π7N και Π7N1)
- ⊗ Increase of the total number of pylons from 42 to 44, without actually increasing the total length of the T.L. (from 14,0 km to 14,06 km).
- ⊗ Elimination of two (2) road sections (ROAD 4 & ROAD 5), with a total length of 315m and construction of three (3) new road sections (ROAD 1A, ROAD 4A & ROAD 5A), with a total length of 675m.

At this point it is stressed that the entirety of the new modifications will take place in areas that are not regulated by Forestry Legislation. The entirety of the proposed modifications, based on the posted Forestry Map, will take place in areas characterized as AA (Areas of other form – coverage in older aerial photos / Areas of other form – coverage in recent aerial photos and inspections).

Based on the above and taking the suggested modifications into consideration, the environmentally licensed project is formed as such:

- Construction of new 400kV High Voltage Electricity Transmission Line (T.L.), **with a total length of 14,06km.**
- Construction of **forty four (44) new high voltage pylons.**
- Construction and improvement of new roadworks, with a total length of around 9.160m, to serve the needs of the construction and operation of the new T.L. **Out of the total length, 7.294,61 m are located in areas characterized as forest areas, according to the approved study of forest roads.**

- Configuration of development plot of the cable systems, below the terminal pylon (Π42) of the T.L., with an area of 1.265m².
- Carrying out of works – addition of equipment for the connection of the development plot of the cable systems to the HVS of Agios Nikolaos.
- Connection of the new T.L. to the HVS of Distomo (connection of the terminal pylon to the terminal wall, of the available gate, at the HVS of Distomo).

In the context of the present Environmental Study, it is specified that the surplus of materials that will be produced during the construction phase of the project and are unable to be used in the refilling work, before their final disposal, will be temporarily deposited in the limestone quarry of the factory "Aluminium of Greece", which belongs to the Metallurgy Business Unit of Mytilineos S.A. and has been inactive since 2012.

Finally, it is worth mentioning that with the present Environmental Study, it is requested that the term "redirection of section of T.L." be reworded, as it has been mistakenly added. The new title of the project is formed as such: **"Electricity Transmission Line of 400 kv for the Connection of Agios Nikolaos High Voltage Substation (HVS) with Distomo High Voltage Substation (HVS), in the Municipalities of Levadea and Distomo – Arahova – Antikyra of the Regional Unit of Viotia"**.

A technical description of the project, as it is formed taking the proposed modifications into consideration, is included in the following Chapters. **Changes to the environmentally licensed project are written in bold lettering.**

3.1 ELECTRICITY TRANSMISSION LINES

The environmentally licensed electricity transmission line, taking into consideration the proposed modifications, has a total length of **about 14,06km** and will be constructed according to the specifications for overhead transmission lines and the pylon foundation plans provided by the Independent Power Transmission Operator (IPTO). It is going to contain **forty four (44)** new simple circuit pylons of Series "7".

Just like all overhead Transmission Lines, aluminum pipes will be used, as they have very high electric conductivity, low weight and low cost. Aluminum ducts are generally long-circuited. They consist, in other words, of many clones, which are helicoidally surrounded in successive layers, so as to form a conductor that resembles a wire rope. Successive layer clones are rotated in opposite directions to prevent their unwrapping and to achieve a coincidence of the outer radius of one layer with the inner radius of the next

layer. The long-circuited conductors are more flexible than the monoclons of equal diameter, so they are more flexible and subject to less stresses. They also have the advantage of being safer in mechanical breakage.

The following table shows the geographical coordinates of the pylons of the 400kV High Voltage Transmission Line under study, in the Greek Geodetic Reference System 1987 (GGRS '87) and in the World Geodetic System WGS '84.

Πίνακας 3.1: Coordinates of the pylons of the T.L., based on the requested modification, in GGRS '87 and WGS84.

S/N	GGRS '87		WGS '84	
	X (m)	Y (m)	ϕ (°)	λ (°)
SCAFFOLDING	385280,033	4254960,755	38o 26' 17,39	22o 41' 14,04
Π1	385188,969	4254929,034	38o 26' 16,32	22o 41' 10,30
Π2N	385154,590	4254881,001	38o 26' 14,75	22o 41' 08,91
Π2N1	385154,481	4254728,154	38o 26' 09,80	22o 41' 09,00
Π3	385069,571	4254529,026	38o 26' 3,29	22o 41' 5,61
Π4	385087,470	4254130,000	38o 25' 50,36	22o 41' 6,59
Π5	385329,340	4253676,500	38o 25' 35,76	22o 41' 16,83
Π6N	385602,380	4253243,633	38o 25' 21,85	22o 41' 28,34
Π7N	385720,413	4253056,509	38o 25' 15,84	22o 41' 33,31
Π7N1	385713,919	4252642,574	38o 25' 02,41	22o 41' 33,29
Π8	385710,694	4252436,999	38o 24' 55,73	22o 41' 33,28
Π9	385707,103	4252208,105	38o 24' 48,30	22o 41' 33,26
Π10	385700,985	4251818,125	38o 24' 35,65	22o 41' 33,24
Π11	385692,190	4251257,500	38o 24' 17,46	22o 41' 33,20
Π12	386035,640	4250841,691	38o 24' 4,13	22o 41' 47,60
Π13	386304,870	4250515,740	38o 23' 53,69	22o 41' 58,89
Π14	386613,053	4250264,003	38o 23' 45,66	22o 42' 11,74
Π15	386930,583	4250004,630	38o 23' 37,39	22o 42' 24,97
Π16	387222,169	4249766,449	38o 23' 29,80	22o 42' 37,13
Π17	387400,531	4249429,949	38o 23' 18,96	22o 42' 44,67
Π18	387421,205	4249099,605	38o 23' 08,26	22o 42' 45,71
Π19	387345,550	4248667,373	38o 22' 54,20	22o 42' 42,85
Π20	387228,882	4248341,638	38o 22' 43,59	22o 42' 38,22
Π16	387173,750	4249806,000	38o 23' 31,06	22o 42' 35,11
Π17	387202,987	4249435,743	38o 23' 19,06	22o 42' 36,53
Π18	387227,783	4249121,720	38o 23' 8,89	22o 42' 37,73
Π19	387264,440	4248657,500	38o 22' 53,85	22o 42' 39,51

S/N	GGRS '87		WGS '84	
	X (m)	Y (m)	ϕ (°)	λ (°)
Π20	387171,251	4248393,462	38ο 22' 45,24	22ο 42' 35,82
Π21	387083,030	4248143,498	38ο 22' 37,09	22ο 42' 32,33
Π22	387094,087	4247908,760	38ο 22' 29,49	22ο 42' 32,92
Π23	387103,995	4247681,841	38ο 22' 22,13	22ο 42' 33,46
Π24	387166,063	4247443,000	38ο 22' 14,41	22ο 42' 36,16
Π25	387363,499	4247138,299	38ο 22' 4,62	22ο 42' 44,46
Π26	387597,551	4246777,166	38ο 21' 53,01	22ο 42' 54,31
Π27	387730,082	4246268,516	38ο 21' 36,57	22ο 43' 0,07
Π28	387639,609	4245672,927	38ο 21' 17,21	22ο 42' 56,68
Π29	387568,024	4245491,850	38ο 21' 11,30	22ο 42' 53,84
Π30	387316,306	4245010,152	38ο 20' 55,57	22ο 42' 43,74
Π31	387196,250	4244873,420	38ο 20' 51,08	22ο 42' 38,88
Π32	387015,780	4244882,930	38ο 20' 51,30	22ο 42' 31,44
Π33	386844,060	4244799,410	38ο 20' 48,52	22ο 42' 24,41
Π34	386715,994	4244635,334	38ο 20' 43,14	22ο 42' 19,23
Π35	386529,860	4244527,647	38ο 20' 39,56	22ο 42' 11,63
Π36	386142,902	4244627,561	38ο 20' 42,62	22ο 41' 55,63
Π37	385957,659	4244729,189	38ο 20' 45,84	22ο 41' 47,95
Π38	385631,526	4244908,517	38ο 20' 51,50	22ο 41' 34,41
Π39	385406,084	4245194,306	38ο 21' 0,67	22ο 41' 24,96
Π40	385311,054	4245373,533	38ο 21' 6,44	22ο 41' 20,94
Π41	385324,934	4245618,455	38ο 21' 14,39	22ο 41' 21,37
Π42	385365,005	4245675,007	38ο 21' 16,24	22ο 41' 22,98

3.2 TYPES OF TOWERS

Forty-four (44) new towers (pylons) of the "7" Series will be erected for the **14,06km power transmission line** under study. The "7" Series towers are a simple circuit in a horizontal phase layout, with two (2) peaks and two (2) protective ducts.

The towers will be constructed from angular sheets of construction steel of the type of open floor, Electric Furnace or E.F. High strength steel qualities are used. For the stands, main bridge elements and main foundation elements cross sections of a thickness not less than 3mm are used. Metric high strength screws of a minimum diameter of 12mm and a maximum of four screw diameters are used for each type of tower. The suspension height from the ground for a normal height tower is 20,65m for towers of type S, R, T and G. All horizontal sections of the towers are square. The meshes of the sides of the towers are symmetrical.

All types of towers have horizontal frames:

- On the lower surfaces of the bridges
- At the top of the legs
- At the slope change points of the stands

It should be noted that the pylons of series "7" are the ones that can carry a triple conductor ACSR CARDINAL 954000 CM and as such the Thermal Limit of the Transmission Line used by the pylons of series "7" amounts, under nominal conditions, to 2000 MVA and under adverse conditions to 1600 MVA.

3.3 FOUNDATIONS – PYLON CONSTRUCTION SQUARES

Each tower is based on four (4) independent concrete foundations. The steel stems of the foundations (extensions of the uprights of the strands) are surrounded by the concrete of the foundation which is reinforced, if necessary, by reinforcement of concrete. The strains will be of varying lengths, depending on the type of foundation used. However, their lengths and corresponding theoretical weights are determined by the Independent Power Transmission Operator (IPTO S.A.). The following types of foundations are used: rock anchorage, footing type for varying ground stress, stake type, etc. Each tower will be accompanied by four ground rods, one for each foundation. These are steel, hot plated, 2cm in diameter and 2.0m long and are connected each to each foundation, to the corresponding foundation stem, at the bottom of the base, and to a suitable screw, via a single-circuit steel plated hot conductor in order to achieve a good electrical connection of the rod to the tower. For additional grounding, where necessary, a single-stage 1cm diameter steel ground conductor connected to the tower at the first screw above the ground may be used. It takes four such screws of sufficient length for each tower (one for each leg).

For the assembly and installation needs of the pylons, it is necessary to have an appropriate surface area (square) with dimensions mainly $25\text{m} \times 25\text{m} = 625\text{m}^2$, while some squares located in difficult positions with regard to the topography of the area, are selected with dimensions of $20\text{m} \times 20\text{m} = 400\text{m}^2$, sizes sufficient to place the superstructure in the optimal position.

A total of **forty-four (44) new squares** are planned, of which **thirty-three (33)** squares will have dimensions of $25\text{m} \times 25\text{m} = 625\text{m}^2$ and eleven (11) squares will be formed with dimensions of $20\text{m} \times 20\text{m} = 400\text{m}^2$. Therefore, the total area of occupation of the squares amounts to **25.025m^2** ($11 \times 400\text{m}^2 + 33 \times 625\text{m}^2$).

The present modification application does not include any new pylon squares within forest areas.

3.4 CONFIGURATION OF NEW ROAD CONSTRUCTION

In order to meet the construction and operation needs of the new electricity transmission line, the construction of a new forest road, with a total length of about 9.160m, to serve the needs of the construction and operation of the new T.L. **Out of the total length, 7.294,61 m are located in areas characterized as forest areas, according to the approved study of forest roads.**

The present application does not include any new road sections within forest areas.

The proposed and environmentally licensed road sections are depicted in the following satellite imaging extract.

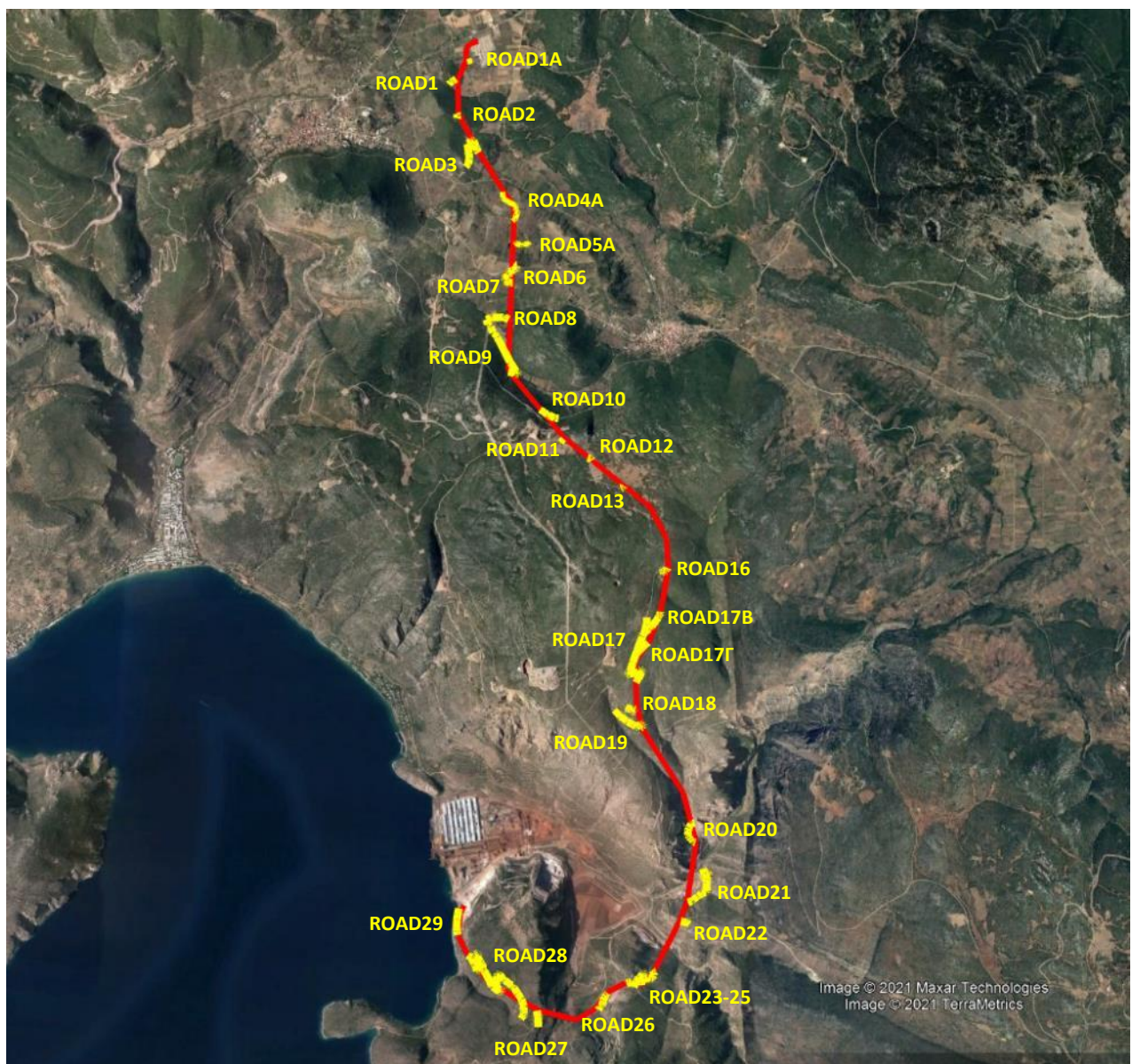


Figure 3.1: A google earth extract, showing the new electricity T.L. with a red line, while yellow lines show the access roads that will be opened to serve the construction and operation needs of the new line.

The following Table shows the geographic coordinates of the entirety of the road sections (beginning, middle and end), which are being constructed to serve the constructional needs of the T.L., in the Greek Geodetic Reference System 1987 (GGRS '87) and in the World Geodetic System WGS '84. The proposed modifications have been taken into consideration.

Table 3.3: Coordinates of the entirety of the road sections (beginning, middle and end) that are being constructed, in GGRS '87 and WGS84.

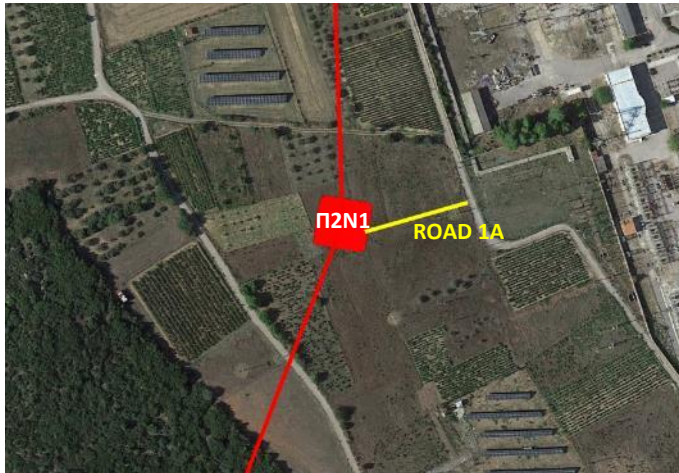
ROADS	A/A	GGRS '87		WGS '84	
		X (m)	Y (m)	ϕ (°)	λ (°)
ROAD 1A	Start	385222,1	4254737,1	38° 26' 10,12	22° 41' 11,78
	Middle	385194,1	4254730,2	38° 26' 9,88	22° 41' 10,63
	End	385166,1	4254723,3	38° 26' 9,64	22° 41' 9,48
ROAD 1	Start	384970,7	4254466,9	38° 26' 1,23	22° 41' 1,57
	Middle	385008,9	4254499,8	38° 26' 2,31	22° 41' 3,13
	End	385050,2	4254528,9	38° 26' 3,28	22° 41' 4,82
ROAD 2	Start	385071,6	4254077,0	38° 25' 48,63	22° 41' 5,96
	Middle	385076,7	4254107,2	38° 25' 49,61	22° 41' 6,16
	End	385069,0	4254136,4	38° 25' 50,55	22° 41' 5,82
ROAD 3	Start	385184,5	4253522,6	38° 25' 30,70	22° 41' 10,95
	Middle	385196,8	4253767,5	38° 25' 38,65	22° 41' 11,31
	End	385316,1	4253683,4	38° 25' 35,98	22° 41' 16,28
ROAD 4A	Start	385707,2	4252906,9	38° 25' 10,98	22° 41' 32,86
	Middle	385716,3	4253092,6	38° 25' 17,01	22° 41' 33,12
	End	385587,4	4253238,6	38° 25' 21,68	22° 41' 27,72
ROAD 5A	Start	385894,7	4252670,4	38° 25' 03,39	22° 41' 40,72
	Middle	385813,9	4252639,7	38° 25' 02,36	22° 41' 37,41
	End	385727,7	4252645,6	38° 25' 02,51	22° 41' 33,85
ROAD 6	Start	385685,9	4252347,5	38° 24' 52,81	22° 41' 32,31
	Middle	385755,0	4252377,6	38° 24' 53,82	22° 41' 35,14
	End	385755,0	4252423,5	38° 24' 55,31	22° 41' 35,11
ROAD 7	Start	385702,2	4252334,6	38° 24' 52,40	22° 41' 32,99
	Middle	385625,5	4252261,7	38° 24' 50,00	22° 41' 29,87
	End	385719,6	4252222,3	38° 24' 48,77	22° 41' 33,77
ROAD 8	Start	385447,7	4251818,2	38° 24' 35,54	22° 41' 22,80
	Middle	385568,2	4251842,3	38° 24' 36,38	22° 41' 27,75
	End	385687,5	4251814,8	38° 24' 35,54	22° 41' 32,68
ROAD 9	Start	385443,5	4251821,3	38° 24' 35,64	22° 41' 22,62

ROADS	A/A	GGRS '87		WGS '84	
		X (m)	Y (m)	ϕ (°)	λ (°)
	Middle	385647,5	4251468,5	38o 24' 24,29	22o 41' 31,24
	End	385692,2	4251242,6	38o 24' 16,98	22o 41' 33,21
ROAD 10	Start	386239,7	4250727,6	38o 24' 0,53	22o 41' 56,08
	Middle	386133,9	4250764,3	38o 24' 1,67	22o 41' 51,70
	End	386040,7	4250827,7	38o 24' 3,68	22o 41' 47,82
ROAD 11	Start	386265,7	4250468,5	38o 23' 52,14	22o 41' 57,30
	Middle	386280,5	4250487,4	38o 23' 52,76	22o 41' 57,90
	End	386295,9	4250506,9	38o 23' 53,39	22o 41' 58,52
ROAD 12	Start	386556,2	4250298,7	38o 23' 46,76	22o 42' 9,37
	Middle	386582,7	4250289,8	38o 23' 46,48	22o 42' 10,47
	End	386601,4	4250269,5	38o 23' 45,83	22o 42' 11,25
ROAD 13	Start	386909,6	4249969,9	38o 23' 36,26	22o 42' 24,13
	Middle	386929,5	4249978,0	38o 23' 36,53	22o 42' 24,94
	End	386942,1	4249995,1	38o 23' 37,09	22o 42' 25,45
ROAD 16	Start	387326,4	4249085,1	38o 23' 07,74	22o 42' 41,82
	Middle	387379,0	4249076,8	38o 23' 07,50	22o 42' 43,99
	End	387411,1	4249116,1	38o 23' 08,79	22o 42' 45,29
ROAD 17	Start	387198,5	4248600,4	38o 22o 51,97	22o 42' 36,83
	Middle	387064,7	4248146,7	38o 22o 37,19	22o 42' 31,57
	End	387093,7	4247921,6	38o 22o 29,90	22o 42' 32,90
ROAD 17B	Start	387181,4	4248445,0	38o 22' 46,92	22o 42' 36,21
	Middle	387279,4	4248536,3	38o 22' 49,92	22o 42' 40,19
	End	387340,4	4248655,2	38o 22' 53,81	22o 42' 42,64
ROAD 17Γ	Start	387086,1	4248206,6	38o 22' 39,14	22o 42' 32,42
	Middle	387151,9	4248270,8	38o 22' 41,25	22o 42' 35,09
	End	387217,6	4248334,9	38o 22' 43,63	22o 42' 37,67
ROAD 18	Start	386990,7	4247664,1	38o 22o 21,50	22o 42' 28,80
	Middle	387065,0	4247654,3	38o 22o 21,22	22o 42' 31,87
	End	387050,0	4247619,0	38o 22o 20,07	22o 42' 31,27
ROAD 19	Start	386873,4	4247639,7	38o 22o 20,66	22o 42' 23,98
	Middle	387028,4	4247509,5	38o 22o 16,51	22o 42' 30,45
	End	387148,3	4247452,5	38o 22o 14,71	22o 42' 35,42
ROAD 20	Start	387714,1	4246476,4	38o 21' 43,31	22o 42' 59,29
	Middle	387645,8	4246376,3	38o 21' 40,03	22o 42' 56,53
	End	387721,1	4246274,4	38o 21' 36,76	22o 42' 59,69
ROAD 21	Start	387801,2	4246012,1	38o 21' 28,28	22o 43' 3,14
	Middle	387838,7	4245864,4	38o 21' 23,51	22o 43' 4,77

ROADS	A/A	GGRS '87		WGS '84	
		X (m)	Y (m)	ϕ (°)	λ (°)
	End	387650,9	4245675,7	38o 21' 17,31	22o 42' 57,14
ROAD 22	Start	387578,9	4245487,2	38o 21' 11,16	22o 42' 54,29
	Middle	387626,2	4245478,0	38o 21' 10,88	22o 42' 56,24
	End	387668,5	4245456,9	38o 21' 10,22	22o 42' 57,99
ROAD 23	Start	387289,3	4245005,8	38o 20' 55,41	22o 42' 42,63
	Middle	387276,4	4244925,7	38o 20' 52,81	22o 42' 42,15
	End	387187,6	4244891,0	38o 20' 51,64	22o 42' 38,51
ROAD 24	Start	387181,7	4244859,6	38o 20' 50,62	22o 42' 38,29
	Middle	387188,9	4244966,8	38o 20' 54,10	22o 42' 38,52
	End	387103,2	4244844,3	38o 20' 50,09	22o 42' 35,06
ROAD 25	Start	387097,2	4244847,0	38o 20' 50,18	22o 42' 34,81
	Middle	387083,3	4244889,4	38o 20' 51,54	22o 42' 34,22
	End	387031,6	4244880,7	38o 20' 51,24	22o 42' 32,09
ROAD 26	Start	386749,8	4244624,6	38o 20' 42,80	22o 42' 20,63
	Middle	386795,6	4244704,7	38o 20' 45,42	22o 42' 22,47
	End	386839,0	4244786,6	38o 20' 48,10	22o 42' 24,21
ROAD 27	Start	386141,8	4244463,1	38o 20' 37,29	22o 41' 55,69
	Middle	386139,8	4244543,9	38o 20' 39,91	22o 41' 55,56
	End	386126,0	4244623,0	38o 20' 42,47	22o 41' 54,94
ROAD 28	Start	385965,2	4244547,1	38o 20' 39,93	22o 41' 48,36
	Middle	385701,9	4244843,2	38o 20' 49,42	22o 41' 37,35
	End	385410,2	4245180,5	38o 21' 0,22	22o 41' 25,13
ROAD 29	Start	385308,9	4245649,3	38o 21' 15,38	22o 41' 20,69
	Middle	385292,2	4245516,2	38o 21' 11,06	22o 41' 20,08
	End	385303,5	4245383,2	38o 21' 6,75	22o 41' 20,62

Next, a short description is presented of the new road sections (**ROAD 1A, ROAD 4A & ROAD 5A**) that are being constructed with the purpose of serving the construction and operation needs of the new pylons.

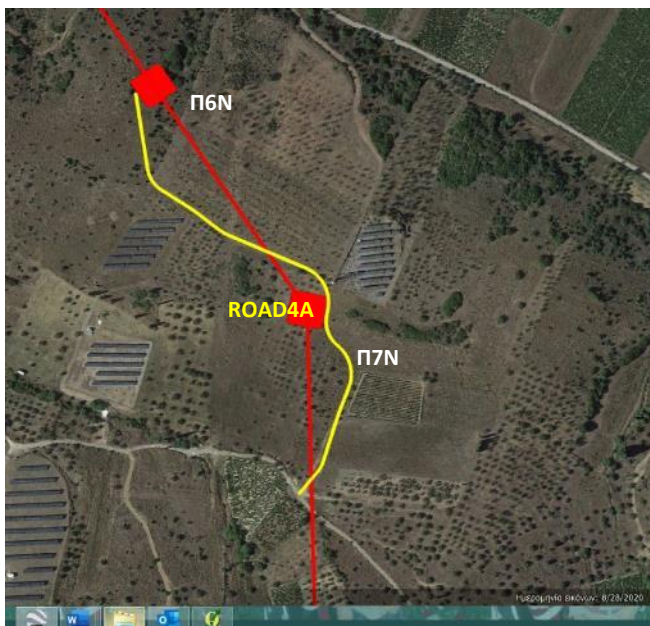
Road 1A



Road 1A follows a course from its junction with the existing asphalt road, circumferential to the Distomo HVS to the south and until the Π2N1 square, through a short course and in contact with the existing ground. Concerning its geometric characteristics, its lengthwise slopes are mild. The width of the road is 5m.

Figure 3.2: Road 1A.

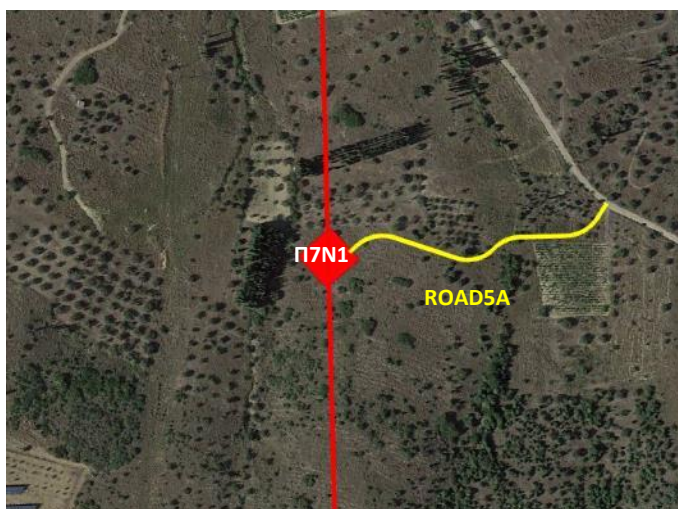
Road 4A



Road 4A follows a course from its junction with the existing dirt road to the south until the Π7N square and it generally follows an embankment. After its course parallel to the Π7N square, it turns to the left and follows a course towards the west, up until its highest point at an altitude of about 433m. After that, it turns right and follows a course to the north and after 80m meets the Π6N square. Concerning its geometric characteristics, its lengthwise slopes are medium to big. The width of the road is 5m.

Figure 3.3: Road 4A.

Road 5A



Road 5A follows a course from its junction with the existing dirt road to the east until the Π7N1 square, generally following an embankment. The road follows the boundaries of the existing plots and follows the form of the ground, between the contour lines 432-434. At the cross section Δ3 the construction of a Ø600 drainpipe is proposed. Concerning its geometric characteristics, its lengthwise slopes are mild up to 5%. The width of the road is 5m.

Figure 3.4: Road 5A.

The environmentally licensed road sections and the length and width of each one, taking into consideration the proposed modifications, are presented in the following table

Table 3.4: Width and Length of each road section.

ROAD	LENGTH (m)	WIDTH (m)
ROAD 1A	60,00	5,00
ROAD 1	105,00	5,00
ROAD 2	65,00	5,00
ROAD 3	510,00	5,00
ROAD 4A	430,00	5,00
ROAD 5A	185,00	5,00
ROAD 6	145,00	4,00
ROAD 7	220,00	4,00
ROAD 8	250,00	4,00
ROAD 9	820,00	5,00
ROAD 10	225,00	5,00
ROAD 11	50,00	5,00
ROAD 12	60,00	5,00
ROAD 13	45,00	5,00
ROAD 16	110,00	5,00
ROAD 17	960,00	5,00
ROAD 17B	270,00	5,00

ROAD	LENGTH (m)	WIDTH (m)
ROAD 17Γ	180,00	5,00
ROAD 18	160,00	5,00
ROAD 19	410,00	4,00
ROAD 20	265,00	4,00
ROAD 21	610,00	4,00
ROAD 22	100,00	4,00
ROAD 23	215,00	4,00
ROAD 24	305,00	5,00
ROAD 25	105,00	5,00
ROAD 26	190,00	5,00
ROAD 27	165,00	5,00
ROAD 28	1.675,00	5,00
ROAD 29	270,00	4,00
Sum	9.160,00	-

3.5 CONFIGURATION OF CABLE SYSTEM DEVELOPMENT PLOT

The modifications proposed in the present study do not concern the cable system development plot. All that is mentioned in chapter 2.1.6, in the approved Environmental Impact Assessment, as well as the Environmental Terms Approval Decision which is in effect, is still applicable.

3.6 EXECUTION OF WORKS – ADDITION OF EQUIPMENT FOR THE CONNECTION OF THE DEVELOPMENT PLOT OF CABLE SYSTEMS WITH THE HVS OF AGIOS NIKOLAOS

The modifications proposed in the present study do not concern the connection of the development plot with the Agios Nikolaos HVS. All that is mentioned in chapter 2.1.7, in the approved Environmental Impact Assessment, as well as the Environmental Terms Approval Decision which is in effect, is still applicable.

3.7 CONNECTION OF THE NEW ELECTRICITY TRANSMISSION LINE TO THE DISTOMO HVS

The modifications proposed in the present study do not concern the connection of the new electricity transmission line to the Distomo HVS. All that is mentioned in chapter 2.1.8, in the approved Environmental Impact Assessment, as well as the Environmental Terms Approval Decision which is in effect, is still applicable.

3.8 OVERALL ASSESSMENT OF THE OCCUPIED SURFACE AREA OF THE SOIL

The projects proposed by this Environmental impact assessment concern the following:

- The construction of **forty-four (44)** new towers (pillars), of which **thirty-three (33)** squares will have dimensions of $25\text{m} \times 25\text{m} = 625\text{m}^2$ and eleven (11) squares will be formed with dimensions of $20\text{m} \times 20\text{m} = 400\text{m}^2$. Therefore, the total area of occupation of the squares amounts to **25.025m²** ($11 \times 400\text{m}^2 + 33 \times 625\text{m}^2$).
- The development plot of the cable systems, below the terminal pillar (P42) of (T.L.) electricity, area **1.265m²**.
- Construction of a new forest road - to serve the construction needs of the new transmission line - with a total length of about **9.160m**. The area of occupation of the new roads amounts to approximately **75.945m²**.

Table 3.5: Area occupied by each road section.

ROADS	LENGTH (m)	WIDTH (m)	AREA OCCUPIED (m ²)
ROAD 1A	60	5	341
ROAD 1	105	5	671
ROAD 2	65	5	376
ROAD 3	510	5	3.710,00
ROAD 4A	430	4	2.621,00
ROAD 5A	185	4	1.116,00
ROAD 6	145	4	687
ROAD 7	220	4	1.549,00
ROAD 8	250	4	1.622,00
ROAD 9	820	5	6.825,00
ROAD 10	225	5	2.297,00
ROAD 11	50	5	325
ROAD 12	60	5	338
ROAD 13	45	5	249
ROAD 16	110	5	817
ROAD 17	960	5	7.713,00
ROAD 17B	270	5	2.079,00
ROAD 17Γ	180	5	1.490,00
ROAD 18	160	5	1.457,00
ROAD 19	410	4	3.691,00
ROAD 20	265	4	2.467,00

ROADS	LENGTH (m)	WIDTH (m)	AREA OCCUPIED (m ²)
ROAD 21	610	4	5.316,00
ROAD 22	100	4	1.442,00
ROAD 23	215	4	2.057,00
ROAD 24	305	5	2.725,00
ROAD 25	105	5	749
ROAD 26	190	5	1.500,00
ROAD 27	165	5	1.050,00
ROAD 28	1.675,00	5	15.987,00
ROAD 29	270	4	2.228,00
SUM	9.160,00	-	75.495,00

Based on the above, the proposed projects will occupy a total area of:

$$25.025\text{m}^2 + 1.265\text{m}^2 + 75.495\text{m}^2 = 101.785\text{m}^2$$

For the new section of the 400kV electricity Transmission Line, an easement zone of 50m (25m on each side of the line routing) and of a total area of **703.500m²**.

3.9 OVERALL ASSESSMENT AND MANAGEMENT OF LAND WORKS

For the construction of the proposed project, namely from the configuration of the squares for the installation of the pylons, the construction of the new forest roads and the foundation works of the pylons, land works are planned, such as excavations and fillings, which are presented in detail in the following table.

Table 3.6: Table of land works for the proposed project.

TYPE OF WORK	EXCAVATIONS (m ³)	FILLINGS (m ³)	SURPLUS (m ³)
Π1	0	0	0
Π2N	86	1	85
Π2N1	6	33	-27
Π3	234	60	174
Π4	298	81	217
Π5	908	59	849
Π6N	603	5	598

TYPE OF WORK	EXCAVATIONS (m ³)	FILLINGS (m ³)	SURPLUS (m ³)
Π7N	495	3	492
Π7N1	278	11	267
Π8	203	227	-24
Π9	355	13	342
Π10	327	163	164
Π11	823	416	407
Π12	1.238	10	1.228
Π13	246	31	215
Π14	135	114	21
Π15	190	166	24
Π16	144	90	54
Π17	249	96	153
Π18	253	160	93
Π19	243	199	44
Π20	228	69	159
Π21	663	110	553
Π22	225	196	29
Π23	301	13	288
Π24	604	557	47
Π25	203	268	-65
Π26	587	79	508
Π27	1.740	57	1.683
Π28	686	33	653
Π29	238	283	-45
Π30	2.589	0	2.589
Π31	535	46	489
Π32	410	120	290
Π33	660	147	513
Π34	1.884	0	1.884
Π35	808	62	746
Π36	471	26	445
Π37	368	62	306
Π38	408	65	343
Π39	807	53	754
Π40	884	17	867
Π41	517	52	465
Π42	6	156	-150

TYPE OF WORK	EXCAVATIONS (m ³)	FILLINGS (m ³)	SURPLUS (m ³)
ROAD 1A	137	40	97
ROAD 1	305	149	156
ROAD 2	310	15	295
ROAD 3	2.746	1.006	1.740
ROAD 4A	1.347	385	962
ROAD 5A	512	154	358
ROAD 6	305	38	267
ROAD 7	729	287	442
ROAD 8	730	479	251
ROAD 9	5.757	1.539	4.218
ROAD 10	3.293	372	2.921
ROAD 11	345	9	336
ROAD 12	131	49	82
ROAD 13	148	7	141
ROAD 16	824	288	536
ROAD 17	7.772	1.236	6.536
ROAD 17B	1.610	164	1.446
ROAD 17Γ	1.106	198	908
ROAD 18	1.708	69	1.639
ROAD 19	3.548	1.557	1.991
ROAD 20	3.315	362	2.953
ROAD 21	9.875	1.499	8.376
ROAD 22	1.578	2.245	-667
ROAD 23	1.667	670	997
ROAD 24	2.500	561	1.939
ROAD 25	347	101	246
ROAD 26	2.147	80	2.067
ROAD 27	513	133	380
ROAD 28	28.672	3.346	25.326
ROAD 29	6.212	58	6.154
PYLON FOUNDATIONS	352	0	336
SUM	113.677	21.505	92.172

More specifically, for the construction works of the proposed project, excavations that amount to **113.677m³** are necessary, of which **21.505m³** will be used for the necessary fillings. Therefore, the surplus of excavation materials to be managed amounts to **92.172m³**.

In the framework of the present Environmental Study it is specified that **the surplus of materials that will be produced during the construction phase of the project and are unable to be used in the refilling work, before their final disposal, will be temporarily deposited in the limestone quarry of the factory "Aluminium of Greece", which belongs to the Metallurgy Business Unit of Mytilineos S.A. and has been inactive since 2012.**

The ability to temporarily deposit of Construction and Demolition (C & D) Waste, which result from the construction works of Mytilineos S.A., is derived from the no. YPEN/DIPA/89799/5885/18.09.2020 E.T.A. Decision (Saa: 6ΤΔΣ4653Π8-37Π), which concerns the operation of the metallurgic factory of the company "MYTILINEOS S.A. – METALLURGY BUSINESS UNIT – FACTORY ALUMINIUM OF GREECE", former "ALUMINION S.A.", and its accompanying activities, as well as from the Environmental Study that accompanies the aforementioned E.T.A.

More specifically, an unchanged extract from the approved Environmental Impact Assessment is presented, based on which the no. YPEN/ΔΙΠΑ/89799/5885/18.09.2020 ETA of the factory of Aluminium of Greece and its accompanying projects was issued.

"At this point it should be noted that the under study quarry has been inactive since 2012 for financial reasons. Said inactivity is stated to the Mine Inspection. However, the utilization of the existing quarry is still desirable and it is a potential operational activity of the project operator and, for that reason, its method of utilization, as well as the Plan of Excavation Waste Management (Ministerial Decision 39624/2209/E103/2009 – Government Gazette 2076/B/25.09.2009) are included in the present study and are attached in the appendix.

Nevertheless, in the framework of rational management and utilization of the quarry for the period during which it is inactive, the project operator is able to proceed to temporarily store and process waste that results from excavations, constructions and demolitions of its projects.

More specifically, in the two formed squares of the quarry – 157,00 and 195,00 m – it is possible for excavation and construction to be temporarily stored, which will result during the actualization of construction work of Mytilineos S.A. at the under study area. Aside from temporary storage, the excavation, demolition and construction waste will be able, if it is deemed necessary, to be processed at the quarry, in order for them to then be disposed for the reformation needs of the surroundings and for the restoration works of the solid waste disposal site of the company".

In any case, any additional surplus of materials that will result during the construction phase and are unable to be used as filling, will be deposited in an environmentally licensed deposition site or a landfill or in areas where other projects are in progress, which have approved environmental terms and for which the aforementioned materials can be used. Other solutions include inactive quarries or alternative management systems.

In any case, the current legislation must be taken into consideration, namely the Ministerial Decision 36259/1757/E103/2010 "Measures, terms and programs for alternative management of excavation, construction and demolition waste" (Government Gazette 1312/B'/2010).

3.10 ALTERNATIVE SOLUTIONS

In the framework of the present Environmental Study no alternative solutions were examined, as far as the displacement of the electricity transmission line is concerned. The proposed modifications, because of their nature and scale, are a univocal solution, taking into consideration the following criteria:

- Satisfactory distance from existing photovoltaic systems of the area.
- Circumvention of interference in areas that are regulated by forestry legislation.
- Modification of the environmentally licensed electricity transmission line in the smallest scale possible.

■ "Zero" alternative solution

The modification proposed with the present study is being actualized with the goal to change the routing of the transmission line, in order for it not to pass through existing installed photovoltaic stations of the area and to avoid ownership problems in relation to the determination of the easement zone.

Taking the above into consideration, the "zero" solution, namely the routing of the electricity transmission line staying the same, is rejected.

4 COMPATIBILITY OF THE PROPOSED MODIFICATION WITH INSTITUTIONALIZED COMMITMENTS AND LIMITATIONS

As previously stated, the present Environmental Study is being submitted, for the purpose of modifying the Environmental Terms Approval (ETA) Decision no. 142429/12.07.2021 (Saa: ΨΗΔ4ΟΡ10-ΜΩΗ).

The suggested modifications of the present study concern the following:

- ⊙ A small change in the routing of the 400kV T.L. in two sections close to the HVS of Distomo, with the length of the line in these sections being increased from 1.720m to 1.780m
- ⊙ Elimination of three (3) pylons (Π2, Π6 and Π7) and construction of five (5) new pylons (Π2N, Π2N1, Π6N, Π7N και Π7N1)
- ⊙ Increase of the total number of pylons from 42 to 44, without actually increasing the total length of the T.L. (from 14,0 km to 14,06 km).
- ⊙ Elimination of two (2) road sections (ROAD 4 & ROAD 5), with a total length of 315m and construction of three (3) new road sections (ROAD 1A, ROAD 4A & ROAD 5A), with a total length of 675m.

At this point, it is noted that in the Environmental Impact Assessment Study that was carried out in December of 2020 and based on which the no. 142429/12.07.2021 ETA Decision was issued, in which the compatibility of the project was examined with the entirety of the institutionalized spatial and urban commitments of the area.

More specifically, the project's compatibility with the following was examined:

- Institutionalized settlement boundaries and approved urban plans
- Boundaries of the national system of protected areas of Law 3937/2011
- Forests, forest areas and reforestation areas
- Facilities of social infrastructure and public service
- Areas of archaeological importance
- General Framework of Spatial Planning and Sustainable Development
- Regional Framework of Spatial Planning and Sustainable Development of the Region of Central Greece
- The General Urban Plan of the Municipal Unit of Distomo
- The General Urban Plan of the Municipal Unit of Kyriaki
- Plan for the Management of river basins of the water district of Eastern Central Greece
- River basin flood risk management plan of the water district of Eastern Central Greece

Since the ETA Decision for the project was issued in July of 2021 (and the corresponding Environmental Impact Assessment Study was submitted in December of 2020), it is noted that no changes of the institutional framework that regulates the area have taken place, nor of the spatial and urban regulations of the area. Based on this and taking into consideration that the proposed modifications concern a small displacement of sections of the transmission line, with a total length of about 1.720m, while the displacement itself takes place about 200m to the east from the original position, the examination of the project's compatibility is not necessary, aside from forest areas.

4.1 FORESTS, FOREST AREAS AND REFORESTATION AREAS

With the no. 33842/19.02.2021 document of the Directorate of Forestry of the Regional Unit of Viotia, the forest map for all the communities (74 communities), of all the municipalities of the Regional Unit of Viotia was posted, as well as an invitation for objections to be submitted.

As shown in the following figures, which concern the posting of the forest map of the R.U. of Viotia, the entirety of the proposed modifications, namely the five (5) new pylons and the three (3) new road sections, are not located within forest areas.

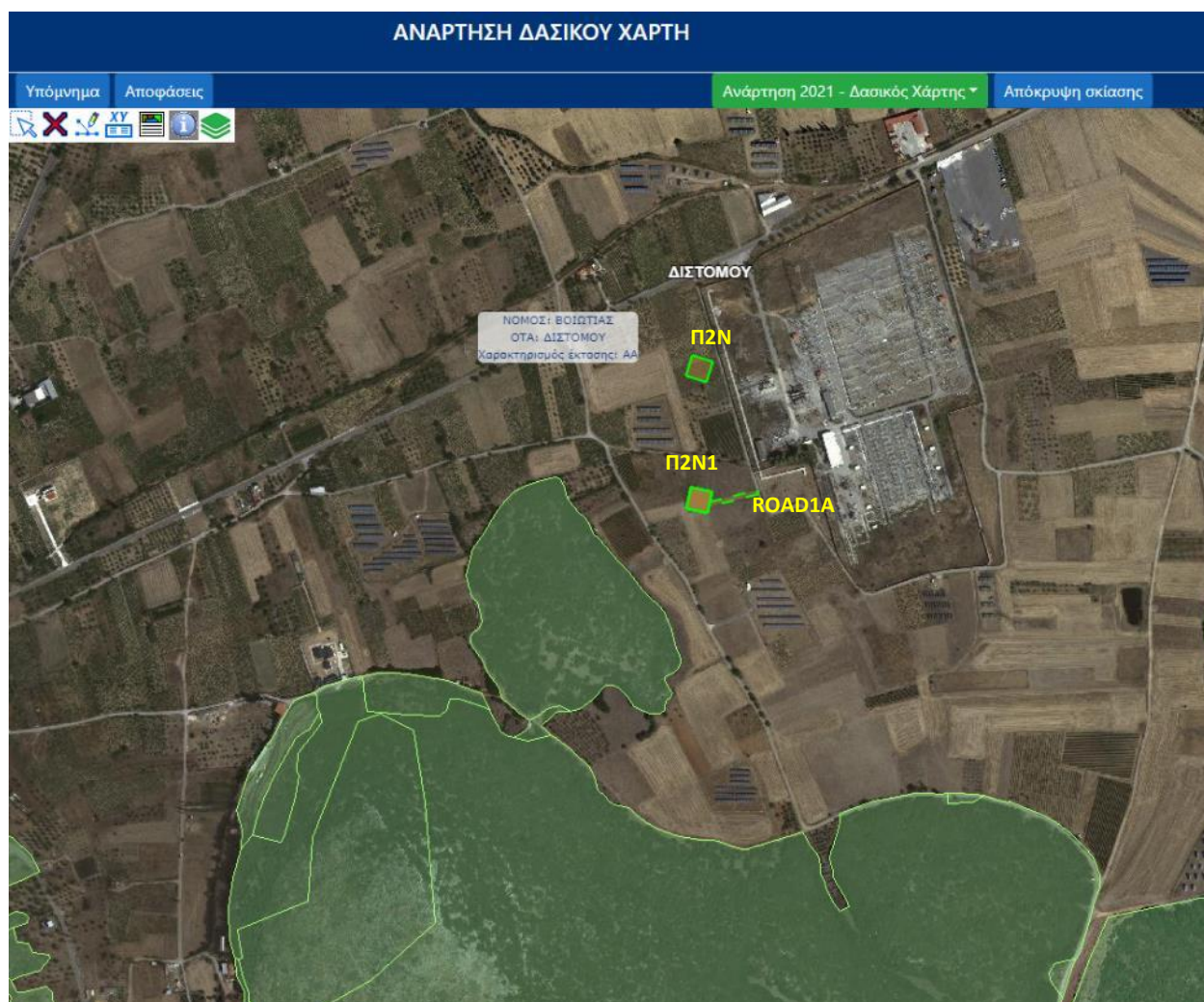


Figure 4.1: Depiction of new pylons Π2N and Π2N1, as well as the new road section ROAD 1A on the posted forest map, where it is seen that they are not within areas regulated by forestry legislation.

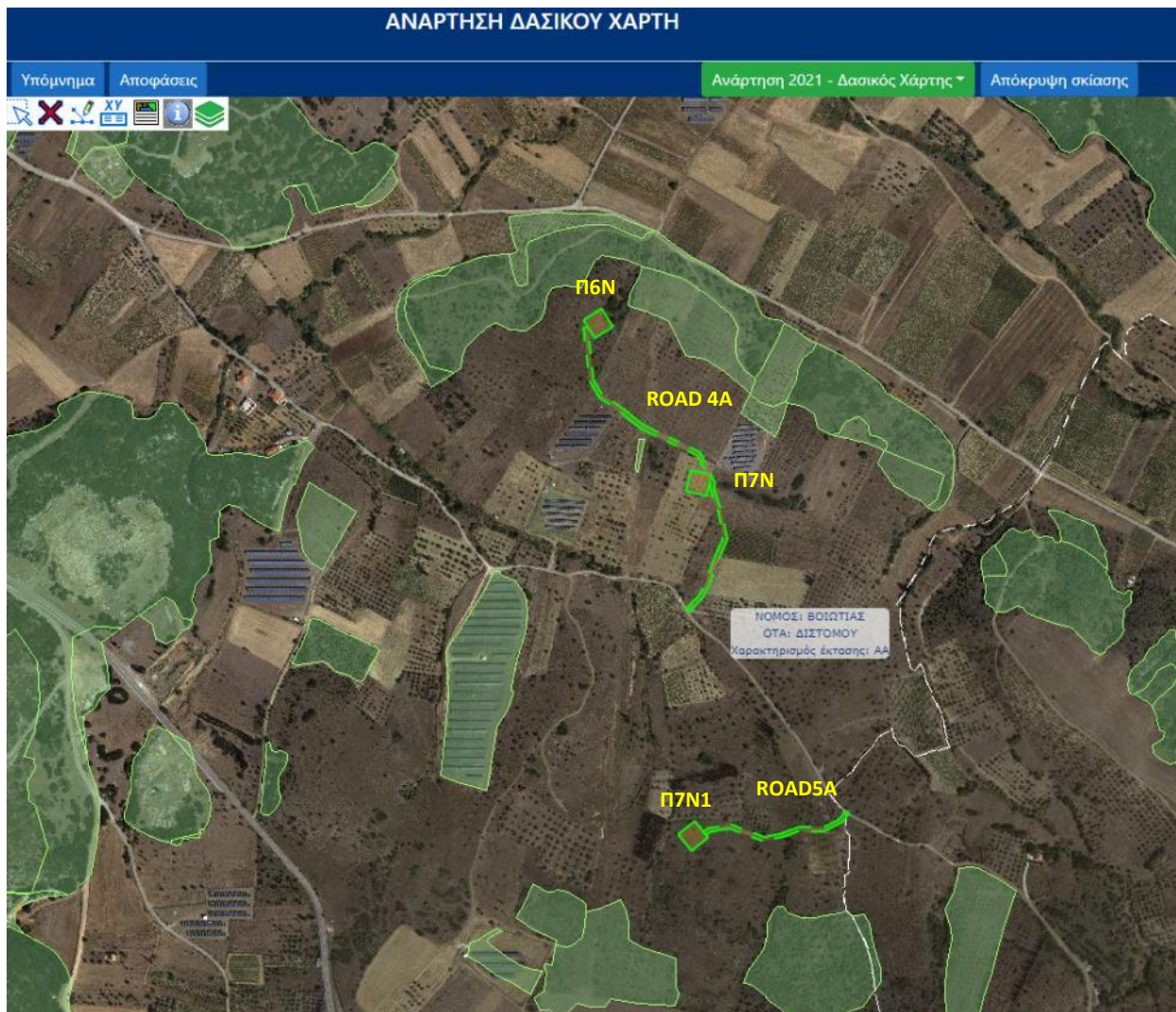


Figure 4.2: Depiction of new pylons Π6N, Π7N and Π7N1, as well as the new road sections ROAD 4A and ROAD 4B on the posted forest map, where it is seen that they are not within areas regulated by forestry legislation.

Based on the above, the proposed modifications are not within areas that are regulated by forestry legislation. The entirety of the proposed modifications, based on the posted Forestry Map, will take place in areas characterized as “AA” (Areas of other form – coverage in older aerial photos / Areas of other form – coverage in recent aerial photos and inspections).

4.2 MODIFICATIONS THAT HAVE TAKEN PLACE REGARDING INSTITUTIONALIZED EMISSION STANDARDS / INSTITUTIONALIZED REGULATORY ORDINANCES

Since the ETA Decision for the project was issued in July of 2021 (and the corresponding Environmental Impact Assessment Study was submitted in December of 2020), it is noted that no changes of the institutionalized emission standards or the institutionalized regulatory ordinances have taken place, nor have new ordinances been issued regarding the construction and operation of the project.

4.3 SUBSTANTIATION OF THE COMPATIBILITY OF THE PROPOSED MODIFICATION WITH THE INSTITUTIONALIZED COMMITMENTS OF THE AREA

Consequently, a summary of the compatibility of the requested modification with the institutionalized commitments is presented in the following table.

Commitments Environmentally Licensed Project	Land use	Protected Areas	Forests, Forest areas	Spatial regulations	Institutionalized emission standards / Institutionalized regulatory Ordinances
Construction of five (5) new pylons to replace the three (3) environmentally licensed ones	✓	✓	✓	✓	✓
Construction of three (3) new road sections, with a total length of 675m, to replace the two (2) environmentally licensed ones, with a total length of 315m	✓	✓	✓	✓	✓

5 RESULTS OF MONITORING AND INSPECTIONS

5.1 CONCLUSIONS OF INITIAL ENVIRONMENTAL MONITORING PROGRAM

The environmental monitoring program of the environmentally licensed project, is determined through the terms of Chapter Δ.3 of no. 142429/12.07.2021 Environmental Terms Approval Decision (SAA: ΨΗΔ4ΟΡ10-ΜΩΗ).

The modifications proposed with the present study concern a small displacement of sections of the transmission line, with a total length of about 1.720m, while the displacement itself takes place about 200m to the east from the original position and, as such, any modification or redesign of the environmental monitoring program is not necessary. Furthermore, given that the construction work of the project has not yet started, there are no results of monitoring.

5.2 CONCLUSIONS OF REGULAR AND EMERGENCY ENVIRONMENTAL INSPECTIONS

For the duration that the to be amended ETA Decision is in effect (July 2021 – today), **no regular or emergency environmental inspections have taken place.**

6 ESTIMATION AND EVALUATION OF THE ENVIRONMENTAL IMPACTS

The present Environmental Study is being submitted, for the purpose of amending the Environmental Terms Approval (ETA) Decision no. 142429/12.07.2021 (SAA: ΨΗΔ4OP10-ΜΩΗ) of the Environment and Spatial Planning Directorate of Central Greece and it concerns the project titled: "Electricity Transmission Line of 400 kv for the Connection of Agios Nikolaos High Voltage Substation (HVS) with Distomo High Voltage Substation (HVS)", in the Municipalities of Levadea and Distomo – Arahova – Antikyra, of the Regional Unit of Viotia.

The suggested modifications of the present study concern the following:

- ⊙ A small change in the routing of the 400kV T.L. in two sections close to the HVS of Distomo, with the length of the line in these sections being increased from 1.720m to 1.780m
- ⊙ Elimination of three (3) pylons (Π2, Π6 and Π7) and construction of five (5) new pylons (Π2N, Π2N1, Π6N, Π7N και Π7N1)
- ⊙ Increase of the total number of pylons from 42 to 44, without actually increasing the total length of the T.L. (from 14,0 km to 14,06 km).
- ⊙ Elimination of two (2) road sections (ROAD 4 & ROAD 5), with a total length of 315m and construction of three (3) new road sections (ROAD 1A, ROAD 4A & ROAD 5A), with a total length of 675m.

The aforementioned modifications are not capable of causing additional environmental impacts on the different environmental parameters that were examined in the Environmental Impact Assessment study that was carried out in December of 2020 and based on which the no. 142429/12.07.2021 ETA Decision was issued. More specifically, the actualization of the modifications proposed with the present Environmental Study do not affect the climatological and bioclimatic characteristics, the morphologic and landscape characteristics, the geologic, tectonic and edaphological characteristics, the natural and anthropogenic environment of the area. Additionally, there are no modifications of the social and financial impacts, the impacts on technical infrastructure, the quality of air, the impacts caused by noise, the impacts on water, as well as the impacts caused by electromagnetic fields.

Finally, it is noted that the impacts of the project's construction and operation on the individual environmental parameters, have been evaluated during the environmental licensing process of the project and are analyzed in the approved EIA and the in effect ETA Decision (no. 142429/12.07.2021). More specifically, in Chapter Δ.2 of the ETA Decision, the terms that will be complied with during the construction of the project are analyzed, and they are not modified by the proposed modifications. Respectively, in

Chapter Δ.3 of the ETA Decision, the terms that will be complied with during the operation of the project are analyzed, and they are not modified by the proposed modifications.

In conclusion, because of the nature of the proposed project, there will be no change of the environmental impacts in comparison to those that were examined and evaluated for the initial environmentally licensed project. As such, in the current chapter no expected environmental impacts resulting from the modification of the project will be described, estimated and evaluated.

7 COUNTERMEASURES OF POSSIBLE IMPACTS

7.1 SUGGESTIONS, TERMS, MEASURES FOR THE MITIGATION OF POSSIBLE IMPACTS

Based on what is mentioned in chapter 6 of the present study and given that the proposed modifications cannot cause any alteration of the environmental impacts compared to those that were examined and evaluated for the initial environmentally licensed project, respectively no terms, measures and limitations of impact mitigation will be proposed.

7.2 MONITORING PROGRAM

The environmental monitoring program of the environmentally licensed project, is determined through the terms of Chapter Δ.3 of the no. 142429/12.07.2021 ETA Decision (SAA: ΨΗΔ4ΟΡ10-ΜΩΗ).

The modifications proposed with the present study concern a small displacement of sections of the transmission line, with a total length of about 1.720m, while the displacement itself takes place about 200m to the east from the original position and, as such, any modification or redesign of the environmental monitoring program is not necessary.

THESSALONIKI, AUGUST 2021

PROJECT OPERATOR	ENVIRONMENTAL STUDY ENGINEER

8 CODIFICATION OF RESULTS AND PROPOSALS FOR THE AMENDMENT OF THE ETA DECISION

In the present chapter the suggestions for the amendment of the terms and limitations of no. 142429/12.07.2021 Environmental Terms Approval (ETA) Decision are presented.

The SUBJECT of the Environmental Terms Approval Decision will be replaced as such:

"Electricity Transmission Line of 400 kv for the Connection of Agios Nikolaos High Voltage Substation (HVS) with Distomo High Voltage Substation (HVS), in the Municipalities of Levadea and Distomo – Arahova – Antikyra, in the Regional Unit of Viotia"

In chapter A. DESCRIPTION OF THE PROJECT, in paragraph A.1) Type and size of the project, the following should be replaced:

The projects proposed in the present study concern the following:

- Construction of new 400kV High Voltage Electricity Transmission Line (T.L.), with a total length of 14,06km.
- Construction of forty four (44) new high voltage pylons.
- Construction and improvement of new roadworks, with a total length of around 9.160m, to serve the needs of the construction and operation of the new T.L. Out of the total length, 7.294,61 m are located in areas characterized as forest areas, according to the approved study of forest roads.
- Configuration of development plot of the cable systems, below the terminal pylon (Π42) of the T.L., with an area of 1.265m².
- Carrying out of works – addition of equipment for the connection of the development plot of the cable systems to the HVS of Agios Nikolaos.
- Connection of the new T.L. to the HVS of Distomo (connection of the terminal pylon to the terminal wall, of the available gate, at the HVS of Distomo).

In chapter Στο κεφάλαιο A. DESCRIPTION OF THE PROJECT, in paragraph A.3) Coordinates of the project and the site of intervention, the following should be replaced:

S/N	GGRS '87	
	X (m)	Y (m)
SCAFFOLDING	385280,033	4254960,755

S/N	GGRS '87	
	X (m)	Y (m)
Π1	385188,969	4254929,034
Π2N	385154,590	4254881,001
Π2N1	385154,481	4254728,154
Π3	385069,571	4254529,026
Π4	385087,470	4254130,000
Π5	385329,340	4253676,500
Π6N	385602,380	4253243,633
Π7N	385720,413	4253056,509
Π7N1	385713,919	4252642,574
Π8	385710,694	4252436,999
Π9	385707,103	4252208,105
Π10	385700,985	4251818,125
Π11	385692,190	4251257,500
Π12	386035,640	4250841,691
Π13	386304,870	4250515,740
Π14	386613,053	4250264,003
Π15	386930,583	4250004,630
Π16	387222,169	4249766,449
Π17	387400,531	4249429,949
Π18	387421,205	4249099,605
Π19	387345,550	4248667,373
Π20	387228,882	4248341,638
Π16	387173,750	4249806,000
Π17	387202,987	4249435,743
Π18	387227,783	4249121,720
Π19	387264,440	4248657,500
Π20	387171,251	4248393,462
Π21	387083,030	4248143,498
Π22	387094,087	4247908,760
Π23	387103,995	4247681,841
Π24	387166,063	4247443,000
Π25	387363,499	4247138,299
Π26	387597,551	4246777,166
Π27	387730,082	4246268,516
Π28	387639,609	4245672,927
Π29	387568,024	4245491,850
Π30	387316,306	4245010,152

S/N	GGRS '87	
	X (m)	Y (m)
Π31	387196,250	4244873,420
Π32	387015,780	4244882,930
Π33	386844,060	4244799,410
Π34	386715,994	4244635,334
Π35	386529,860	4244527,647
Π36	386142,902	4244627,561
Π37	385957,659	4244729,189
Π38	385631,526	4244908,517
Π39	385406,084	4245194,306
Π40	385311,054	4245373,533
Π41	385324,934	4245618,455
Π42	385365,005	4245675,007

BIBLIOGRAPHY

- Vavizos G. & Zannakis K., 1998, "Ecological theory and practice in environmental studies", Papazisi Publications, Athens.
- Vavizos G. & Mertzanis A., 2002, "Environment - Environmental Impact Studies", Papasotiriou Publications, Athens.

LEGISLATION

- Law 998/79 (Government Gazette 289/A/1979), "Protection of Forests - Forest Areas".
- Law 1650/86 (Government Gazette 160/A/18-10-86), "For the protection of the environment". JOINT MINISTERIAL DECISION (JMD) 37393/2028/2003 (FEK 1418/B/01-10-2003), "Measures and conditions for noise emissions to the environment from equipment for outdoor use".
- P.D. 82/2004 (Government Gazette 64/A/02-03-04), "Replacement of 98012/2001/1996 joint ministerial decision "Determination of measures and conditions for the management of waste oils" (B'40)" Measures, conditions and program for the alternative management of Lubricating Oil Waste".
- M.S. 9272/471/2007, (Government Gazette 286/B/2-3-2007), "Amendment of Article 8 of No. 37393/2028/2003 JMD, in compliance with the provisions of Council Directive 2005/88/EC "amending Directive 2000/14/EC on the approximation of the laws of the Member States relating to the emission of noise into the environment from equipment for outdoor use" of 14 December 2005.
- Ministerial decision 6876/4871 (Government Gazette 128/A/3.7.2008), "Approval of the General Framework for Spatial Planning and Sustainable Development".
- Law 3852/2010 (Government Gazette 87/A/7-6-2010), "New Architecture of Self-Government and Decentralized Administration – Kallikrates Program".
- Decision- 36259/1757/E103 (Government Gazette 1312/B/24-08-2010), "Measures, conditions and program for the alternative management of waste from excavations, constructions and demolitions (waste from excavations, construction and demolition)".
- Law 3937/2011 (Government Gazette 60/A/31-03-2011), "Conservation of Biodiversity and Other Provisions".
- Law 4014/2011 (Government Gazette 209/A/21-09-2011), "Environmental licensing of projects and activities, regulation of arbitrariness in connection with the creation of an environmental balance and other provisions of responsibility of the Ministry of the Environment".
- P.S. service/GPAPK/DBMA/TAXMAE/85715/20176/2942/288/20-8-2012 (Government Gazette 287/AAP/13.9.2012) "Determination of Zones A of Absolute Protection and Delimitation of Zone II protection of the Monastery of St. Luke, Regional Unit of Viotia.
- Law 4042/2012 (Government Gazette 24/A/13-2-2012) "Criminal protection of the environment – Harmonization with Directive 2008/99/EC – Framework for the production and management of waste – Harmonization with Directive 2008/98/EC – Regulation of matters of the Ministry of environment, energy and climate change".
- It's a decision. 170225 (Government Gazette 135/B/27-01-2014) "Specialization of the contents of environmental licensing dossiers for projects and activities of category A of the decision of the Minister of the Environment, Energy and Climate Change with No. 1958-2012 (B 21) as applicable, in accordance with Article 11 of Law 4014/2011 (A 209), as well as any other relevant details".
- Law 4280/2014 (Government Gazette 159/A/08.08.2017), "Environmental upgrading and urban planning – Sustainable development of settlements Forest legislation regulations and other provisions".
- Decision- 3529/149006 (Government Gazette 273/A.A.P./12.12.2016) "Approval of the General Urban Plan (G.U.P.) of the Community of Kyriaki, Municipality of Levadea".

- Decision- 3124/128532 (Government Gazette 432/A.A.P./31.12.2012) "Approval of the General Urban Plan (G.U.P.) of Municipal Unity (MU) Distomo , Municipality of Distomo - Arachova - Antikyra "
- Decision- 37674/2016 (Government Gazette 2471/B/10.08.2016) "Amendment and codification of Ministerial Decision 1958/2012 - Classification of public and private works and activities into categories and subcategories in accordance with Article 1(4) of Law No. 4014/21.9.2011 (Government Gazette 209/A/2011) as amended and in force".
- Decision- 902/2017 (Government Gazette 4673/B/29.12.2017), "Approval of the 1st Review of the River Basin Management Plan of the Water District of Eastern Central Greece and the corresponding Strategic Environmental impact assessment".
- Decision 50743/2017 (Government Gazette 4432/B/15.12.2017) "Revision of a national list of areas of the European Natura 2000 Ecological Network".
- Decision- 1915/2018 (Government Gazette 304/B/02.02.2018), "Amendment of Nos. 48963/2012 (B' 2703) JMD, No. 167563/ 2013 (B' 964) JMD and No. 170225/2014 (B' 135) Ministerial Decision, adopted by delegation of Law 4014/2011 (A' 209), in compliance with Directive 2014/52/EU "amending Directive 2011/92/EU on the assessment of the impact of certain public and private projects on the environment" of the European Parliament and of the Council of 16 April 2014".
- Decision 2307/2018 (Government Gazette 439/B/14.02.2018) "Amendment of No 439/B/14.02.2018) regional development directorates/oik 37674/ 27-7-2016 GG: 2471/B/10-8-2016) decision of the Minister of the Environment, Energy and Climate Change "Classification of public and private projects and activities into categories and subcategories, in accordance with Article 1(4) of Act 4014/21.09.2011 (A' 209)', as regards the classification of certain projects and activities of the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th and 12th Groups".
- Decision- RIS/GR special secretariat for water(SSW)/41375/328/2018 (Government Gazette 2682/B/06.07.2018) "Approval of the River Basin Flood Risk Management Plan of the Eastern Central Greece Water District (EL07) and the corresponding Strategic Environmental impact assessment".