ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"	RFP-380/20
	DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION	

Spec Code	Specification Description
GS0100	DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION



#### DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION

# Contents

SUMMA	RY CODING STRUCTURE (example)	4
1.	Introduction	6
1.1	Abstract	6
1.2	General	6
2.	Drawing sizes	9
3.	Title blocks layouts	.10
3.1	General	.10
3.2	Category (a) - Conceptual, preliminary and general final design drawings and	
	documents	. 10
3.3	Category (b) - Detailed final design, construction and as-built drawings and	
	documents	. 13
3.4	Other guidelines	. 15
4.	Numbering system –document identification number	.17
4.1	Field 1 (one number) - Metro Line Number	. 18
4.2	Field 2 (one letter) – Type of Structure	. 18
4.3	Field 3, (two numbers or one letter and one number) Geographical Location	. 19
4.4	Field 4 (two letters) – General Category or Document Originator	.26
4.5	Field 5 (three digits) – Sub-Category of work	.26
4.6	Field 6 (one letter) – Phase of work or type of document	.49
4.7	Field 7 (three numbers) - Number	. 50
4.8	Field 8 (one letter or number) – Revision	. 55
5.	Scales	. 56
5.1	General	. 56
5.2	Structural and civil layouts and details	. 56
5.3	Architectural layout and details	.57
5.4	Rolling stock	.57
5.5	Electromechanical installations layouts and details	. 57
5.6	Presentation of half size drawings	. 57
6.	Line work and graphical conventions	. 59
6.1	Lines	. 59
6.2	Dimensions	. 59
6.3	Levels	. 59
6.4	Particular Line Conventions	.60
7.	Autocad Applications	.62
7.1	General rules	.62
7.2	Autocad layers names and characteristics	.63
8.	Presentation of Calculations & Reports	.65
9.	Project Work Breakdown structure and E/M Equipment Codification	.66
9.1	General	.66
9.2	Coding principles	.66
9.3	Field 9: Location – Room/Area number or construction phase code	.68
9.4	Field 10 – Work breakdown and description of E/M item/component	.70
9.5	Field 11 - Item / component serial number	.81
10.	Contract amendments	.82

ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA" DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION	RFP-380/20
11. V	arious disciplines symbols	

11. 12.

ATTIKO METRO S.A. SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA" DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION
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# SUMMARY CODING STRUCTURE (example)



ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"	RFP-380/20
	DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION	

- Field 10 : Work breakdown for civil/architectural works or description of E/M systems item-component (see chapter 9.4)
- Field 11 : Index number of the item or document (see chapters 9.5 and 10)



#### DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION

# 1. Introduction

#### 1.1 Abstract

The present document covers three different needs and functionalities.

- The first one is the Drawing Office Manual (DOM) which describes the numbering system to be used in all technical documents and drawings produced on all ATTIKO METRO S.A. technical projects, and the Thessaloniki Metro project in particular. Additionally it provides necessary information and guidelines in producing drawings (scales, sizes, title blocks, layer names, standard symbols etc).
- The second function provides a full work breakdown structure for the projects, covering Telecommunications, Low Voltage and Control systems, for use in Project control, costing and monitoring, as well as in contractual documents related to the implementation of the projects.
- The third function as based on a sub section of the work breakdown covers specifically the codification and numbering system for the Electromechanical equipment to be installed.

The various lists in the present document are not exhaustive and may be complemented by consultants or contractors according to need, upon the approval of AM.

#### 1.2 General

The Drawing Office Manual (D.O.M.) which is the main basis for all above mentioned three functions is dedicated to drawings and technical documents produced during the design and construction of the Thessaloniki Metro project. All drawings and technical documents in the above context should comply with the present manual.

A map of Thessaloniki with the Base Project metro lines and the extensions is attached for reference overleaf. Possible future transfer stations shall be located close to certain metro stations and coded in relation to them.

The fundamental guideline in preparing this manual is to conserve the existing numbering and formatting of all ATTIKO METRO projects to the degree possible.

The present document describes the following:

Rules for the drawing sizes

(chapter 2)

• Title blocks layouts for the drawings and technical documents (chapter 3)

TIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA" DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION	RFP-380/20
	Numbering system for drawings and technical documents	(chapter 4)
	Scales for drawings	(chapter 5)
	Line work and graphical conventions	(chapter 6)
	Autocad applications	(chapter 7)
	Presentation of calculations & reports	(chapter 8)
	Project Work Breakdown structure and E/M	
	Equipment Codification	(chapter 9)
	Contract amendments	(chapter 10)
	Various disciplines symbols and standard details	(chapter 11)

The line work and graphical conventions, the lettering and fonts used for texts in the drawings, the symbols for every discipline and subsystem and the AUTOCAD structure (line types, layers etc) should comply with the relevant EN ISO standards:

➢ ISO 128

AT

> EN ISO 5455, 5456, 3098, 7519





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## 2. Drawing sizes

The following drawing sizes are to be used, which conform to the international paper size (A series):

- **A4** [210 mm x 297 mm]
- **A3** [297 mm x 420 mm]
- **A2** [420 mm x 594 mm]
- **A1** [594 mm x 840 mm]
- **A0** [841 mm x 1189 mm]

A separate drawing format is defined for certain cases of alignment, interlocking and other drawings. Every effort should be made to keep these separate formats as a multiple of a basic format.

According to DIN 476 the "multiplied" paper sizes are:

- **2A0** [1189 mm x 1682 mm] and
- **4A0** [1682 mm x 2378 mm]

and should be used wherever possible.

Each drawing shall have a title block placed in the lower right corner of the drawing, with the drawing's longest dimension in the landscape.

Please refer to Chapter 3 in order to identify the appropriate title block. All drawings shall be folded in such a way that the whole of the title block is visible.

For all drawing sizes the margins shall be according to DIN 823 & 824. Typically the left margin shall not be less than 25 mm in order to allow binding, while all other margins shall not be less than 10 mm.



# 3. Title blocks layouts

#### 3.1 General

ATTIKO METRO S.A. shall provide title blocks in digital form. Consultants, Contractors and other involved parties should follow the guidelines listed below in their preparation.

There are two different title block layouts:

- **Category (a)** Conceptual, preliminary and general final design drawings and documents.
- **Category (b)** Detailed final design, construction and as-built drawings and documents.

Their contents are described below.

# 3.2 Category (a) - Conceptual, preliminary and general final design drawings and documents

Under category (a) drawings and documents title blocks, of which an example is shown overleaf, should contain the following:

- **1.** Thessaloniki Metro Logo
- 2. Title "Thessaloniki Metro" in Greek and English
- 3. Title of the Project in Greek and English
- **4.** Title of the Contract in Greek and English including the Contract number.
- 5. Drawing / Document issuing company name (ATTIKO METRO S.A. / Consultant / Contractor) and logo (optional). When tendering, an ATTIKO METRO S.A. acceptance signature / stamp shall be placed on the title block.
- 6. Zone reserved for:
  - Revision letter / number
  - Date of drawing / document production
  - Initials of originator- designer
  - Initials of checker
  - Name and signature of approver

• Short description of revision

Six revisions (A-F) are to be allowed for in the title block. If more revisions are required then lines shall be added accordingly.

- 7. Title of the drawing/document in Greek and English
- 8. Drawing / Document number (14 digits)
- 9. Contractor's or Consultant's reference number
- **10.** Scale of drawing
- **11.** Sheet/page number and total number of sheets/pages
- **12.** Language ("GR" Greek, "EN" English, "GR-EN" both Greek and English)
- **13.** File name of drawing / document. It is recommended that the drawing number is used as a filename.
- **14.** ATTIKO METRO S.A. acceptance stamp, signature and date when drawings/documents are prepared for tender.



DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION RFP-380/20



#### DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION

# 3.3 Category (b) - Detailed final design, construction and as-built drawings and documents

For drawings/documents under category (b), in addition to the items listed above for category (a) the following should be included in the title block as well:

- **15.** Authorised signatories from the Contractor
- **16.** Zone reserved for approval codes (1, 2, 3) by ATTIKO METRO S.A., and Contractor responsibility statement. The approval codes are:
  - > Approved
  - Revise and Resubmit
  - No Review Required
- **17.** Zone reserved for ATTIKO METRO S.A. reviewing engineer's name, signature and date as well as authorized approver's name, signature and date. On the same zone the ATTIKO METRO S.A. stamp (in red colour) shall be placed upon approval.

If the Contractors select to place a stamp / logo of their design consultants / offices or companies on the title block, the box specified for item (9) may be used alternatively.

An example of such a title block is shown overleaf.

For the case of Telecommunications, Low Voltage and Control systems of the extension of the Thessaloniki Metro to Kalamaria in particular, since the Contractor is performing both the General Final Design (GFD) as well as the Detailed Final Design (DFD), and as these shall always require approval from ATTIKO METRO S.A., all the reports, drawings, technical documents etc produced by the Contractor in the context of the present Contract shall use the title block of Category (b).



DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION RFP-380/20

1. 🗆 ΕΓΚΡΙΝΕΤΑΙ. Εργασίες μπορούν να εκτελεσθούν / APPROVED. Works may proceed.										
ΕΓΚΡΙΝΕΤΑΙ ΟΠΩΣ ΣΗΜΕΙΩΝΕΤΑΙ. Εργασίες μπορούν να εκτελεοθούν / APPROVED AS NOTED. Works may proceed.										
2. LI ELIKPINE LAL ΜΕ ΠΑΡΑΤΗΡΗΣΕΙΣ. Εργασίες μπορούν να εκτελεστούν εφόσον ενσωματωθούν οι παρατηρήσεις. Απαιτείται επανυποβολή APPROVED WITH COMMENTS. Works may proceed after incorporation of the comments. Resubmission required.										
3. ΔΑΝΑΘΕΩΡΗΣΗ ΚΑΙ ΕΠΑΝΥΠΟΒΟΛΗ. Δεν μπορούν να εκτελεοδούν εργασίες. REVISE AND RESUBMIT. Works should not proceed.										
4. ΔΕΝ ΑΠΑΙΤΕΙΤΑΙ ΕΛΕΓΧΟΣ. Εργασίες μπορούν να εκτελεοθούν. REVIEW NOT REQUIRED. Works may proceed.										
ΑΔΕΊΑ ΕΦΑΡΜΟΓΉΣ ΣΧΈΔΙΟΥ ΔΕΝ ΑΠΑΛΛΑΣΣΕΙ ΤΟΝ ΑΝΑΔΟΧΟ ΑΠΟ ΤΙΣ ΕΥΘΎΝΕΣ ΤΟΥ ΠΟΥ ΑΠΟΡΡΕΟΎΝ ΑΠΟ ΤΗ ΣΥΜΒΑΣΗ ΟΥΤΕ ΑΠΟΤΕΛΕΙ ΑΠΟΔΟΧΗ ΤΗΣ ΕΠΑΡΚΕΊΑΣ ΚΑΙ ΑΚΡΙΒΕΊΑΣ ΤΗΣ ΜΕΛΕΤΗΣ.										
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			$\smile$	(4)EPFO / PF	ROJECT: RFP-194	/09				
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#### DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION

#### 3.4 Other guidelines

- 1. If a Category (a) or (b) drawing/document is for information only then the text "**FOR INFORMATION ONLY**" should be inserted in the area allocated for the authorised signatories.
- Category (b) construction drawings should be stamped "CONSTRUCTION DRAWINGS" in red colour over field 6 (title block revisions).
- 3. Category (b) as built drawings should be stamped "AS BUILT" in red colour over field 6 (title block revisions).
- 4. Drawings of sizes A4 or A3, usually used in reports and forming parts of larger documents or submissions, should have a smaller title block containing as a minimum items 5, 6, 7, 8, 10 and 11 reduced in size and arranged accordingly. An example is shown overleaf.
- 5. In A0 or A1 drawings, sizes of letters should be such that no letters smaller than 3 mm are in the title block (so that they appear no less than 1.5 mm in half-size reduced drawings).
- 6. Revised drawings should be marked with clouds to indicate the changes in relation to the previous revision, followed by the revision letter. The revision letter should be enclosed in a triangle ( $\Delta$ ) and should always remain on the drawing. In each following revision only the new modifications should be clouded.
- 7. In text documents, the filename and page number should be printed as a minimum on the footer of the document.
- 8. When hand written notes or calculations are submitted in A4 or A3 sizes, the title block must be included (see item 4 above) in these pages with the sheet or page number clearly identified.
- 9. Tunnel trackwork and E/M systems drawings shall always show track 1 as the lower track on the drawing independently of the direction of chainage.



RFP-380/20

#### DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION

					-		
			,				
C						 Document	4 digit numbe
В					TITLE	Document	- aigit numbe
A						Scale	1 :
	Contraction of the second seco	D to	0.	-			



# 4. Numbering system –document identification number

There is a 14-character identification code for coding every drawing and technical document. This code provides information on the geographical location, the type of structure or system it is referring to, the main category of the document, the technical or other sub category of work, the phase of work as well as a serial number and revision.

RFP-380/20

The identification code is divided into 8 fields and the structure is as follows:

(example identification code)

	1	S	0 3	3 C	W	4	0	3	В	1	0	3	Α
Field:	 1	2	3		4		5		6		7		8
١	Where	:											
<ul> <li>Fields 1 – 3</li> <li>Field 4</li> <li>Field 5</li> <li>Field 6</li> <li>Fields 7 – 8</li> <li>denote the geographical location</li> <li>indicates the general category of work</li> <li>category of work</li> <li>shows the phase of work or the type of documer</li> </ul>													
	In par	ticular	:										
F	Field 1	I, (one	e numb	er)			:	: Metro line number					
F	Field 2	<b>2</b> , (one	e letter)	)			:	: Type of structure					
F	Field 3	<b>3</b> , (two	numb	ers or o	one le	tter &	one	e nui	mber):	Geo	grap	hical	locat
F	-ield 4	<b>1</b> , (two	letters	;)			:	Ger	neral d	ateg	ory o	f wor	ĸ
F	Field {	<b>5</b> , (thre	e num	bers)			: Sub - category of work						
F	Field 6, (one letter)						: Phase of work or type of docume						
F	Field 7, (three numbers)							: Drawing serial number					
F	Field 8	<b>3</b> , (one	eletter	or one	numt	ber)	:	Rev	vision				

The above fields and their contents are specified in the following pages.



#### DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION

## 4.1 Field 1 (one number) - Metro Line Number

1				
-				

- 0 General purpose System wide
- 1 Line 1 Base project line New Railway Station to Pylea Depot and extensions to Stavroupoli, Kalamaria, Evosmos, Airport.

#### 4.2 Field 2 (one letter) – Type of Structure

<b>C</b>			

- A Access tunnel / structure for depot or other lines
- B Control centre
- **C** Connection tunnel / structure
- **D** Depot
- **E** Elevated and at grade structures
- **G** General purpose system wide quality plans documents
- H Shaft
- I Shaft (if second shaft in same inter station)
- K Building
- **M** Station ventilation or multiple uses shaft before station (in the outbound direction)
- **N** Station ventilation or multiple uses shaft after station (in the outbound direction)
- **O** Stabling facility or  $2^{nd}$  depot on the same line
- R Recess
- **S** Station
- T Tunnel
- **X** Transfer station
- **Y** Other structure
- **Z** Special structure

Reserved letters "F", "J" and "V" may be used for non-identified structures or for multiple similar structures in the same interstation. For example "J" may identify a third shaft in the same interstation, "V" may identify a second recess in the same tunnel section.



DRAWING OFFICE MANUAL, PROJECT WORK BREAKDOWN STRUCTURE AND EQUIPMENT CODIFICATION

# 4.3 Field 3, (two numbers or one letter and one number) Geographical Location

			0 1					
--	--	--	-----	--	--	--	--	--

## 4.3.1 Base Project

In the Base Project, the numbering of the structures is described as follows:

- Line 1 station numbering starts from New Railway station (eg New Railway station code is "0 1"), and proceeds in an ascending manner through line 1 and ends at Nea Elvetia (eg Nea Elvetia station code is "1 3").
- Numbering for tunnel sections, shafts and other structures -as a general rule starts at the beginning of the line in numbered sections up to the next station. For example the tunnel from the start shaft to New Railway station is coded "0 1", the tunnel from New Railway station to Dimokratias station is coded "0 2" etc.
- System wide documents and items irrespective of geographical location anywhere in the metro network are coded "0 0".
- For general workflow and quality plan documents, the first 4 digits of the 14 digit code are "1 G 0 0 ".
- For General Purpose documents and items irrespective of geographical location, the first 4 digits of the 14 digit code are "1 G 0 0".

Examples for the first 4 digits of the code number are shown below:

General item	:1G00
Dimokratias station	:1S02
Tunnel New Railway station to Dimokratias station	:1T02

The chart overleaf shows the geographical location codes (first 4 digits) of the Base Project.





 Patrikiou station
 Voulgari station
 Nea Elvetia station
 Pylea depot (1DG0)

 Stations
 1511
 1512
 1513
 1513

 Stations
 1511
 1112
 1113
 1113
 1114

 Unnels
 1111
 1112
 1113
 1013
 1144

 Other structures - tunnels
 12
 1113
 1014
 1014
 1000





# 4.3.2 Extension Projects

- System wide items and items irrespective of geographical location in the metro network shall be coded "0 0".
- For general workflow and quality plan documents the first 4 digits shall be "1 G 0 0".
- For General Purpose documents and items irrespective of geographical location in <u>all</u> the Extensions, the first 4 digits of the 14 digit code shall be "1 G E 0 ".

In accordance to all extension projects planned up to year 2020, numbering for field 3 shall be as follows:

For the <u>first character</u>:

LINE	DESCRIPTION	USE	FOR
1 (*)	Western extension along Monastiriou street to Kordelio	W	Western
1	Northern extension to Stavroupoli	Ν	North
1	Eastern extension to Kalamaria	Е	Eastern
1	Eastern extension from Kalamaria to Airport	А	Airport

(\*) Line 1 is also applicable for the whole of the Base Project of Thessaloniki Metro and its extensions of the main line or its branches.

For the second character, use an ascending number starting with "1" as follows:

- Station numbers will start with "1" for the first station, "2" for the second station etc, starting from the point closest to the Base Project line, ie the first station in the extension to Kalamaria (ie Nomarhia station) shall have a number of "1" etc.
- For tunnel sections, shafts, recesses and other structures, "1" is given to all items from the extension start point up to the first station, "2" is given to all items between the first and second stations, "3" is given to all items between the second and third stations etc.
- System wide items and other items of the particular extension are coded "0".
- Depot connection tunnels/tracks shall be numbered similarly to the interstation they connect to.



Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

For General Purpose documents and items irrespective of geographical location <u>in a specific extension</u>, the first 4 digits of the 14-digit code shall use the above-mentioned letter codes for field 3, and shall be:

- "1 G W 0 ", for the Line 1, western extension to Kordelio
- "1 G E 0 ", for the Line 2, eastern extension to Kalamaria
- "1 G N 0 ", for the Line 2, northern extension to Stavroupoli
- "1 G A 0 ", for the Line 2 extension to the airport etc

Theoretical examples for the first 4 digits of the code number are shown below:

For line 1, to Kordelio

General item 1st station Tunnel New Railway station to 1st extension station	: 1 G W 0 : 1 S W 1 : 1 T W 1
For line 2 Eastern extension to Kalamaria	
General or system wide item KALAMARIA station NEA KRINI station Tunnel section between	: 1 G E 0 : 1 S E 2 : 1 S E 4
ARETSOU station – NEA KRINI station	: 1 T E 4

Mikra depot connection tunnel: 1 A E 6Intershaft (in 25<sup>th</sup> Martiou station – Nomarchia station section): 1 H E 1Recess between KALAMARIA station – ARETSOU station: 1 R E 3End shaft: 1 H E 6

A schematic diagram follows with the coding of structures in the Kalamaria extension.









\*Patrikiou Station renamed to 25<sup>th</sup> Martiou Station



**Structure and Equipment Codification** 

#### 4.3.3 Depot

The depot notation for field 3 is as follows:

All depot - general	:00
Main Workshop	: M W
Running Shed	: R S
Stabling Shed	: S S
Wheel Lathe	: W L
Washing Plant	: W P
Electrical Substation (Power Supply Substation)	: E S
Track Equipment Workshop	: T E
<ul> <li>Inflammable Materials stores / fuel stations</li> </ul>	:   F
• Garages (long vehicles, special vehicles) - Bunker	: G B
Traverser	: T R
Guard houses	: G H
Signalling Tower	: S T
Sand Drying Plant	: S D
Test Pit	: T P
Heating Plant	: H P
Electromechanical Workshop	: E M
Administration building	: A B
<ul> <li>Parking (for staff and visitors)</li> </ul>	: P A

It is reminded that the first 2 digits (fields 1, 2) for the depots in the network, shall be:

•	Pylea	Depot	(Stabling,	Maintenanc	e, Overhaul)	: 1 D

• Mikra depot / stabling (Stabling, Maintenance) : 1 O

Examples for the first 4 digits of the code number:

•	Pylea depot Washing Plant	: 1 D W P
•	Mikra depot Running Shed	:10RS

#### 4.3.4 Transfer stations

As transfer stations are usually close to a metro station, they shall be numbered as their respective metro station.

Examples for the first 4 digits of the code number:

- New Railway transfer station : 1 X 0 1
- Nea Elvetia transfer station : 1 X 1 3



## 4.3.5 Other structures, Buildings etc

Other structures, buildings shall be numbered as their closest metro station.

Example for the first 4 digits of the code number:

• Typical building near Dimokratias station : 1 K 0 2

#### 4.3.6 Rolling Stock

•

In particular for rolling stock, characters 3 & 4 of the 14-digit code should designate the family-series of trains, as follows:

Base Project rolling stock

Extensions rolling stock

:" 0 0 " :" S 2 " (series 2)

Service Trains

:" S T"

#### 4.4 Field 4 (two letters) – General Category or Document Originator

				C W				
--	--	--	--	-----	--	--	--	--

The following drawing / document originators or producers are foreseen:

•	AR	Architectural
•	CW	Civil Works
•	GE	General
•	LV	Low Voltage
•	PS	Power Supply – Electromechanical
•	PW	Pre-Works
•	RS	Rolling Stock
•	TW	Trackwork
•	WS	Depot (Workshop) Equipment

All designs, technical documents and drawings of all levels (ACD, GFD, DFD) as made by the various designers, consultants, contractors or by ATTIKO METRO S.A., shall be classified under the respective subject category such as "AR", "CW", "GE", "PS", "PW", "LV", "TW" and "WS", while "RS" will cover the rolling stock.

#### 4.5 Field 5 (three digits) – Sub-Category of work

		221		



#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

The field 5 depends on field 4, as follows:

For field 4 coded as **GE (General)** the following codes shall be used:

- 110 GENERAL LAYOUT TOWN PLANNING PROJECT MAPS
- 112 LAND USE DATA / MAPS
- 114 POPULATION DENSITY AND EMPLOYMENT DATA / MAPS
- 116 ROAD NETWORKS AND ROAD TYPES DATA / MAPS
- 118 PUBLIC TRANSPORTATION SYSTEMS DATA / MAPS
- 120 PUBLIC TRANSPORTATION NETWORKS RIDERSHIPS / LOADS
- 122 ROAD NETWORKS TRAFFIC LOADS DATA / MAPS
- 130 AERIAL / SATELLITE PHOTOGRAPHS
- 132 PROJECT PHOTOGRAPHS
- 150 ENVIRONMENTAL
- 221 COORDINATION
- 270 HEALTH AND SAFETY
- 290 QUALITY ASSURANCE / MANAGEMENT PLAN
- 291 QUALITY CONTROL / PROGRAM PLAN
- 294 PROJECT MANAGEMENT
- 295 INTERFACE MANAGEMENT
- 296 RAMS
- 297 RISK MANAGEMENT
- 298 EXECUTION TRACING FILE
- 299 DRAWINGS LISTS OR CHARTS
- 400 PROJECT OPERATION
- 410 OPERATIONAL ANALYSIS CHARACTERISTICS
- 420 DEPOT OPERATIONAL ANALYSIS CHARACTERISTICS
- 430 EMERGENCY OPERATIONS
- 440 MAINTENANCE OPERATIONS
- 450 OPERATION RULES AND REGULATIONS (RULEBOOKS)
- 460 OPERATOR COMPANY STRUCTURING AND REGULATIONS
- 500 TRAINING
- 540 MANUFACTURERS TRAINING
- 550 OPERATIONS TRAINING
- 560 MAINTENANCE TRAINING
- 590 MANAGEMENT TRAINING
- 960 TIME SCHEDULES

Numbers 221 - 299 (shown in **Bold** above may be used with any field 4 (AR, CW, GE, LV, PS, PW, RS, TW, WS).



#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

For field 4 coded as **AR (Architectural)**, Field 5 shall be coded as follows:

- 386 REINSTATEMENT LANDSCAPING
- 419 ARCHITECTURAL GENERAL GENERAL LAYOUT
- 420 MASONRY WALLS
- 421 ARCHITECTURAL FINISHES
- 423 METALLIC ELEMENTS AND PANELS, METAL JOINERY
- 424 WOOD ELEMENTS AND WOOD WORKS
- 425 GLASS PANELS, GLASS STRUCTURES AND SUPPORTS
- 426 FALSE CEILINGS
- 427 MISCELLANEOUS AND SPECIAL ARCHITECTURAL ELEMENTS
- 428 DOORS, DOOR CASES AND KEYING
- 430 FURNITURE
- 442 SANITARY EQUIPMENT AND FIXTURES
- 450 SIGNAGE
- 460 ART IN STATIONS AND OTHER PUBLIC AREAS

For field 4 coded as CW (Civil Works), Field 5 shall be coded as follows:

- 180 GEOTECHNICAL EVALUATION
- 203 HORIZONTAL AND VERTICAL ALIGNMENT
- 208 TUNNELLING EQUIPMENT (eg TBM, EPB, OFS etc)
- 210 CIVIL WORKS LAYOUT (stations, tunnels, shafts, depots etc.)
- 225 TUNNELS / LINES GEOMETRY AND CROSS SECTIONS
- 300 ROAD WORKS
- 386 TRAFFIC REINSTATEMENT
- 395 EXCAVATIONS & TEMPORARY STRUCTURAL WORKS Cut & Cover
- 396 EXCAVATIONS & STRUCTURAL WORKS TBM
- 397 EXCAVATIONS & TEMPORARY STRUCTURAL WORKS NATM
- 398 EXCAVATIONS & TEMPORARY STRUCTURAL WORKS Cover & Cut
- 399 TEMPORARY DRAINAGE, PUMPING AND DEWATERING, FLOOD PROTECTION
- 400 OTHER EARTHWORKS
- 401 GROUND IMPROVEMENT MEASURES (pilot tunnels, pressure grouting, micropiling, tubes a manchettes etc)
- 402 WATERPROOFING
- 403 CONCRETE STRUCTURES FORMWORK
- 404 CONCRETE STRUCTURES REINFORCEMENT
- 405 EMBEDDED ITEMS (eg PIPES)
- 406 STEEL STRUCTURES
- 407 PRECAST CONCRETE STRUCTURES AND SEGMENTS



#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

- 408 DIAPHRAGM WALLS
- 409 PERMANENT PILES
- 410 SHOTCRETE PERMANENT STRUCTURES
- 415 GEOMECHANICAL MONITORING

For field 4 coded as **PW (Preparatory / Parallel Works)**, Field 5 shall be coded as follows:

- 100 DEMOLITIONS
- 150 EXPROPRIATIONS TEMPORARY OCCUPATIONS
- 180 GEOLOGICAL INFORMATION SURVEY
- 190 PUBLIC UTILITIES INFORMATION SURVEY
- 192 INFORMATION SURVEY ON THIRD PARTIES / OTHER STRUCTURES
- 195 ARCHAEOLOGY
- 202 SITE INSTALLATIONS
- 205 TOPOGRAPHICAL SURVEYS
- 310 TRAFFIC DIVERSIONS
- 320 PUBLIC UTILITIES NETWORKS AND DIVERSIONS

(EYDAP)

(EYDAP)

(OTE)

(MUNICIPALITIES)

(DKEO)

(ILPAP)

(OSE)

(PPC/DEDDHE)

(PPC/DEDDHE)

(DEPA - DEFA)

- 321 SEWAGE AND SANITARY SYSTEM
- 322 DRINKING AND INDUSTRIAL USE WATER
- 323 ELECTRICITY MV AND H.V.
- 324 ELECTRICITY L.V.
- 325 TELEPHONES
- 326 GAS PIPES/WORKS
- 327 STREET LIGHTING
- 328 ELECTRICAL TRAFFIC SIGNS
- 329 TROLLEY BUS LINES
- 330 MAIN LINE TRAIN UTILITIES
- 331 MOBILE TELEPHONES LINES
- 385 INVENTORY OF EXISTING FEATURES

For field 4 coded as TW (Track work), Field 5 shall be coded as follows:

- 700 TRACKWORK GENERAL
- 710 BALLASTED TRACKS
- 720 SPECIAL TRACKS
- 730 CONCRETED TRACKS
- 735 FLOATING SLAB
- 740 DIRECT FIXATION TRACKS



"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"	RFP-380/20
Drawing Office Manual, Project Work Breakdown	

#### Prawing Office Manual, Project Work Breakdown Structure and Equipment Codification

- 750 CONCRETE SLEEPERS
- 751 RAILS
- 752 BUFFER STOPS
- 753 FISHPLATES
- 754 FISHBOLTS
- 755 GUARD RAIL SUPPORT
- 756 BALLAST (includes BLANKET LAYER)
- 757 WOODEN SLEEPERS
- 759 LATERAL END PLATES
- 760 ANTI-CREEPERS
- 761 FASTENING SYSTEM (INDIRECT FIXATION)
- 762 TURNOUTS CROSSINGS
- 763 WELDING
- 764 OHIO BRASS
- 765 INSULATED JOINTS
- 766 FASTENERS FOR SPECIAL TRACKS
- 767 RUBBER BOOTS
- 768 SIGNS AND MARKERS
- 770 FASTENING SYSTEM (DIRECT FIXATION)
- 771 INVERT CONCRETE
- 772 TRACKBED CONCRETE
- 773 TUNNEL WALKWAYS
- 780 STRAY CURRENT GRID IN TUNNELS
- 790 NOISE AND VIBRATION CONTROL

For field 4 coded as **PS (Power Supply - Electromechanical)**, Field 5 shall be coded as follows:

- 000 POWER SUPPLY GENERAL
- 050 POWER SUPPLY EMBEDDED SLEEVES
- 060 POWER SUPPLY LAYOUT
- 090 POWER SUPPLY ELECTROMAGNETIC COMPATIBILITY (EMC)
- 221 POWER SUPPLY COORDINATION
- 100 TRACTION POWER GENERAL
- 105 TRACTION POWER EQUIPMENT
- 110 RECTIFIER TRANSFORMER
- 120 RECTIFIER
- 122 RS AUXILIARY TRANSFORMER
- 123 BATTERY CHARGERS & DC CABINETS (for RS, 25 KV, LAS)
- 124 110V DC SYSTEM
- 130 750V DC CABLES
- 134 750V DC CABLE TRAYS AND SUPPORTS
- 135 SLEEVES FOR 750V DC CABLES IN TUNNELS
- 140 THIRD RAIL & AUXILARIES (covers, ramps, supports, connections, expansions, weldings etc)
- 146 STINGER SYSTEM COMPONENTS AND FITTINGS

ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA	RFP-380/20
	Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification	
1: 1: 1: 1: 1: 1:	<ul> <li>50 DC SWITCHGEARS</li> <li>54 STINGER SWITCHBOARD</li> <li>55 STRAY CURRENTS CABINETS</li> <li>60 TRACTION CIRCUIT REMOVAL (TCR)</li> <li>70 EMERGENCY CUT-OFF</li> </ul>	
21 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	<ul> <li>PRCS (POWER REMOTE CONTROL SYSTEM)</li> <li>PRCS OCC EQUIPMENT, HARDWARE, WORKSTA</li> <li>POWER SUPPLY MIMIC PANEL - MOSAIC TYPE</li> <li>TCI (TELE-CONTROL INTERFACE)</li> <li>PRCS SOFTWARE</li> <li>PRCS LOCAL EQUIPMENT</li> <li>CONTROL AND MONITORING SYSTEM IN SMR RE</li> <li>CONTROL AND MONITORING SYSTEM IN DEPOT</li> <li>REMOTE TERMINAL UNITS (RTUS)</li> </ul>	TIONS & AUXIL. DOM
2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2: 2	<ul> <li>BACS (BUILDING AUTOMATION CONTROL SYSTE</li> <li>BACS OCC EQUIPMENT AND HARDWARE</li> <li>BACS OCC WORKSTATIONS PLUS AUXILIARIES</li> <li>BACS - SOFTWARE</li> <li>BACS - LOCAL EQUIPMENT IN STATIONS, SHAFT</li> <li>BACS - LOCAL COMPUTER PLUS AUXILIARIES IN</li> <li>FIREMAN'S BOX</li> <li>BACS - CONTROL CABLES</li> </ul>	ΞΜ) S AND DEPOT SMR
22 22 23 24 24 24	8025 KV AC SYSTEM- NOT8125 KV AC SYSTEM TRANSFORMERS- NOT8225 KV AC SWITCHGEAR- NOT8325 KV AC CABLES- NOT8425 KV AC CABLE TRAYS, SUPPORTS AND AUXILIARIES- NOT	APPLICABLE APPLICABLE APPLICABLE APPLICABLE
3) 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	<ul> <li>POWER SUPPLY AND DISTRIBUTION</li> <li>MEDIUM VOLTAGE - 20 KV</li> <li>20 KV SWITCHGEARS</li> <li>20 KV CABLE TRAYS</li> <li>20 KV CABLES (UNIPOLAR, UNARMOURED ETC)</li> <li>LAS EQUIPMENT</li> <li>LAS TRANSFORMERS</li> <li>MAIN LAS LV SWITCHBOARDS</li> <li>LV SUB-DISTRIBUTION SWITCHBOARDS</li> <li>POWER SUPPLY COMPENSATION SYSTEM</li> <li>POWER SUPPLY AND DISTRIBUTION CABLES</li> <li>PS CABLE TRAYS (EXCEPT 750V DC)</li> </ul>	
4) 4) 4)	00 LIGHTING 05 LIGHTING SWITCHBOARDS 07 LIGHTING UPS	

ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA" Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification	RFP-380
40 40 41 41 41 41 42 43 43 43	<ul> <li>8 LIGHTING SWITCHES &amp; SOCKETS</li> <li>9 LIGHTING CABLE TRAYS</li> <li>0 LIGHTING CABLES</li> <li>1 LIGHTING SUPPORTS AND FIXINGS</li> <li>2 LIGHTING FIXTURES AND ELEMENTS (INDOORS - A</li> <li>5 LIGHTING SYSTEM JUNCTION BOXES</li> <li>3 SAFETY LIGHTS</li> <li>0 OUTDOORS LIGHTING (INCLUDING STATIONS AND</li> <li>1 LIGHTING POLES</li> <li>2 TUNNEL SOCKETS</li> </ul>	LL TYPES) DEPOT)
52 52 52	<ul> <li>EARTHING AND CORROSION PROTECTION</li> <li>EARTHING GROUND LOOP</li> <li>EARTHING CABLES AND BUSBARS</li> </ul>	
52 53 53 53 53 53	<ul> <li>LIGHTNING PROTECTION</li> <li>DRAINAGE - SEWAGE - PUMPING SYSTEMS</li> <li>PUMPING EQUIPMENT</li> <li>DRAINAGE PIPING</li> <li>PUMPING PIPING</li> <li>PUMPING SWITCHBOARDS</li> </ul>	
54 54 54	0 WATER SUPPLY AND DISTRIBUTION 1 WATER SUPPLY PIPING AND AUXILIARIES 5 IRRIGATION NETWORKS	
60 61 61 61 61 62 62 62 62 62 62 62 62 62 62 62 62 62	<ul> <li>FIRE PROTECTION SYSTEM</li> <li>FIRE DETECTION SYSTEM</li> <li>FIRE DETECTORS</li> <li>FIRE ALARM PANEL</li> <li>FIRE DETECTION CABLING AND CONDUITS</li> <li>FIRE FIGHTING SYSTEMS</li> <li>AUTOMATIC EXTINGUISHING SYSTEM</li> <li>INERGEN NOZZLES, VALVES AND PIPE-NETWORK</li> <li>INERGEN DISTRIBUTION MANIFOLD</li> <li>INERGEN CYLINDERS</li> <li>FIRE FIGHTING WATER SUPPLY VALVES</li> <li>FIRE FIGHTING PIPING</li> <li>FIRE HOSE CABINETS</li> <li>WATER SPRINKLER SYSTEMS</li> </ul>	

RFP-380/20

- 631 SPRINKLER EQUIPMENT (PUMPS ETC)
- 632 SPRINKLER PIPING
- 633 SPRINKLER UNITS
- 634 PORTABLE FIRE EXTINGUISHERS
- 640 FIRE COMPARTMENTATION
- 645 WATER MIST SYSTEMS

ATTIKO METRO S A	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"
MITIKO MDIKO D.M.	Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification
7( 72	00 ESCALATORS 20 TRAVELATORS – MOVING CORRIDORS
7 7 7	<ul> <li>COMPRESSED AIR SYSTEMS</li> <li>COMPRESSED AIR SYSTEMS EQUIPMENT (COMPRESSOR ETC)</li> <li>COMPRESSED AIR SYSTEMS PIPING</li> </ul>
80 81 82	00 LIFTS 10 LIFT GLASS HOUSE 20 GOODS LIFTS
8: 8: 8:	50 NATURAL GAS INSTALLATIONS 51 NATURAL GAS EQUIPMENT 52 NATURAL GAS PIPING
9( 9) 9) 9) 9) 9) 9) 9) 9) 9) 9) 9) 9) 9)	<ul> <li>VENTILATION AND HVAC SYSTEMS - GENERAL</li> <li>TUNNEL VENTILATION</li> <li>LARGE SIZE AXIAL FANS (eg TUNNEL, UPE/OTE)</li> <li>FANS (OTHER THAN LARGE SIZE AXIAL FANS)</li> <li>FAN SUPPORTS AND SUPPORTING STRUCTURES</li> <li>DUCTWORK, DUCTWORK SUPPORTS AND ACCESSORIES</li> <li>DAMPERS (ALL TYPES)</li> <li>GRILLES &amp; LOUVERS</li> <li>SOUND ATTENUATORS</li> <li>AIR FILTERS</li> <li>JET FANS</li> <li>HVAC (HEATING, VENTILATION AND AIR CONDITIONING)</li> <li>CLOSED CONTROL A/C UNITS</li> <li>FAN COIL UNITS</li> <li>FAN COIL UNITS</li> <li>CHILLED WATER AND HEAT PUMP UNITS</li> <li>CHILLED WATER AND/OR REFRIGERANT PIPING, INSULATION AND AID EITTINGS</li> </ul>
92 93 93	<ul> <li>AND FITTINGS</li> <li>28 CHILLED WATER AUXILIARIES (EXPANSION TANK, WATER TREATMENT ETC)</li> <li>31 VENTILATION SWITCHBOARDS</li> <li>33 AUXILIARY CONTROL EQUIPMENT (PRESSURE SENSORS, TEMPERATURE SENSORS, TEMP</li></ul>
94 94 95 95 95 95 95 95 96	<ul> <li>1 EMPERATURE SENSORS, THERMOSTATS ETC)</li> <li>40 ROLLER SHUTTER DAMPERS</li> <li>41 ROLLER SHUTTER DOORS IN STATIONS</li> <li>50 HEATING WATER PRODUCTION (DEPOT)</li> <li>51 BOILERS AND BURNERS</li> <li>52 FUEL OIL TANK</li> <li>54 PUMPS, VALVES AND ACCESSORIES</li> <li>56 PIPING, INSULATION AND FITTINGS</li> <li>59 AUXILIARIES (EXPANSION TANK, WATER TREATMENT etc)</li> <li>65 AIR HEATERS – INDUSTRIAL TYPE FAN-COILS (DEPOT)</li> </ul>



- Structure and Equipment Codification
- 980 ROOF MOUNTED FANS (DEPOT)

For field 4 coded as LV (Low Voltage), Field 5 shall be coded as follows:

000	LOW VOLTAGE - GENERAL
050	LOW VOLTAGE - EMBEDDED SLEEVES
060	LOW VOLTAGE - LAYOUT
070	LOW VOLTAGE - CABLE TRAYS
080	SMR (STATION MASTER ROOM) SYSTEMS - GENERAL
090	LOW VOLTAGE - ELECTROMAGNETIC COMPATIBILITY (EMC)
221	LOW VOLTAGE - COORDINATION
100 110 111 112 113 114 115 120 121 122 123 130 131	TELECOMMUNICATION SYSTEM PABX CENTRAL MAIN PABX PABX/RSU - DEPOT PABX - STATION PABX - MAINTENANCE CONSOLE DIRECT LINE PABX JISRAIL OCC JISRAIL CABINET OCC JISRAIL CABINET OCC JISRAIL MAINTENANCE PRINTER JISRAIL STATION CABINET MAIN POWER SUPPLY TELECOM SYSTEMS UPS
140 141 142 143 145 150 151 152 153 154 155 160 161 162 163 164 185 166	DIGITAL TRANSMISSION SYSTEM OPTICAL DIGITAL LINE TERMINAL OPTICAL DISTRIBUTION FRAME COPPER DIGITAL LINE TERMINAL FIBRE OPTIC TRANSMISSION SYSTEM CABLE DISTRIBUTION SYSTEM COPPER MAIN DISTRIBUTION FRAME CONNECTION CABLES IN TECHNICAL ROOMS DISTRIBUTION CABLES IN STATIONS POWER/EARTHING CABLES JUMPER CABLE IN TECHNICAL ROOM TERMINALS MULTICHANNEL VOICE RECORDER 12 BUTTONS DTMF AUTOMATIC TELEPHONE DTMF TELEPHONE WITH EXTENDED FEATURES DIRECT CALL TELEPHONE SET (LOCAL) PASSENGER ALARM TELEPHONE SET
167	KEY LOCKED BOXES FOR PUBLIC AREA
168	TRACTION CIRCUIT REMOVAL TELEPHONE SET

170 RADIO

ATTIKO METRO S.A.	"E CON THE: <b>Dr</b>	RFP-380/20	
	171 172 173 174 175 176 177 178 179 180 181 182 200 210 220 230 231 232 232	Structure and Equipment Codification         BASE STATIONS         NETWORK MANAGEMENT CABINET         TRACKSIDE EQUIPMENT         DEPOT EQUIPMENT         TRAIN RADIO EQUIPMENT (UHF)         HAND-HELD PORTABLE RADIO SET / BATTERY         BATTERY CHARGER FOR POLICE RADIO SETS         CABLE - LCX - RADIO ANTENNAS         SPARES AND TOOLS         VOICE RECORDERS         STATION REPEATER         OCC EQUIPMENT         TELECOMMUNICATION TRUNK CABLE         COPPER CABLES         UNIVERSAL JOINTING CLOSURES, SPLICES AND FOR COPPER CABLE         JOINTING SLEEVES FOR OPTICAL FIBRE CABLE         INTEGRATED CENTRAL COMMUNICATIONS CONT	SLEEVES
	300 310 311 312 313 314 315 316 333 340 342 343 350	PUBLIC ADDRESS SYSTEM (PA) STATION PA SYSTEM STATION RACK STATION MASTER PA CALL STATION STATION ANNOUNCEMENT POINT (SAP) FALSE CEILING LOUDSPEAKER DIRECTIONAL LOUDSPEAKER MICROPHONES STATION ANNOUNCEMENT POINT (SAP) CONTROL CENTER PA SYSTEM INFORMATION PASSENGERS PA CALL STATION AUTOMATIC ANNOUNCER CABLES	
	400 410 411 412 413 414 420 421 423 430 431	CCTV SYSTEM CAMERAS FIXED DOME LENSES PROTECTIVE HOUSING MONITORS MONITOR UNITS PROTECTIVE HOUSING VIDEO RACK CROSSBAR SYSTEM	

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	432 433 436 440 441 450 451 452 455 456 475 480 475 480 475 480 510 511 512 521 522 531 532 531 532 533 600 601 603 610 611	Structure and Equipment Codification TRANSMISSION SYSTEM MAINS POWER SUPPLY CONTROL PANEL UPS FOR OCC ACCESSORIES OUTDOOR INDOOR CABLING SYSTEM VIDEO COAX CABLE OPTICAL FIBRE PIG TAILS CONTROL CABLES POWER CABLES EARTHING LINES CABLES DISTRIBUTION SYSTEM SAFETY AND SECURITY SYSTEM ACCESS CONTROL INTRUSION DETECTION DOOR INTERFACES SECURITY SYSTEM CASH COUNTING CABLES AND CABLE ROUTING SECURITY CENTRAL MANAGEMENT SYSTEM MASTER CLOCK CENTRAL MASTER CLOCK LINE CLOCK SYSTEM MASTER CLOCK LINE CENTRAL MASTER CLOCK LINE CENTRAL MASTER CLOCK DEPOT GPS TIME SIGNAL RECEIVER SLAVE CLOCKS DIGITAL CLOCKS CABLING NETWORK INDOORS CABLES SWITCHES (MAINTENANCE AND OTHERS) SIGNALLING ATC SYSTEM ATC SYSTEM POWER DISTRIBUTION ATC SYSTEM – Reserved for future use LINE SIGNALLING POINT MACHINE	
	612 613 614 615 616	SIGNALS WAY-SIGNS LOCAL CONTROL PANELS- MOZAIC TYPE ATP TRACK CIRCUIT (CODED)	
ATTIKO METRO S.A.	CO THI	DESIGN, PROCUREMENT, INSTALLATION AND MMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE ESSALONIKI METRO EXTENSION TO KALAMARIA"	RFP-
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	D	rawing Office Manual, Project Work Breakdown	
		Structure and Equipment Codification	
	617 618 619 620 621 622 623 625 630 631	TRACK CIRCUIT (AC) BUTTONS AUTOMATIC TRAIN CONTROL SYSTEM (ZUB); OUTDOO CABLES OUTDOOR MAIN CABLES OUTDOOR TAIL CABLES IN DOOR CABLES SIGNALLING FIBRE OPTIC CABLES TRAIN IDENTIFICATION INDOOR	OR ONLY

- 632 OUT DOOR
- 635 ATO
- 636 IN DOOR
- 637 OUT DOOR
- 638 CENTRAL
- 640 TRAIN BORNE
- 641 ATP / ATO
- 642 PTI
- 643 ACCESSORIES
- 644 TRAIN CONSOLE
- PRG Interlocking for Base Project stations, with the general code (fields 1, 2, 3) of "1 G 0 0"
- 650 INTERLOCKING
- 651 RELAYS
- 652 TIMER
- 653 TRANSFORMERS
- 654 ANNEX EQUIPMENT
- 655 INTERLOCKING LOGIC CIRCUITS (PRG)
- 656 RACKS
- 657 INTERLOCKING PLATES
- 658 UPS
- PRG Electronic Interlocking for extensions stations, with the general code (fields 1, 2, 3) of "1 G E 0"
- 650 ELECTRONIC INTERLOCKING FOR METRO EXTENSIONS
- 651 INTERLOCKING COMPUTERS
- 652 ELECTRONIC ELEMENTS INTERLOCKING
- 653 SERVICE AND DIAGNOSTIC PC
- 654 OPERATIONAL SYSTEMS / WORKSTATIONS
- 655 OPTICAL LINK MODULES
- 656 CABINETS
- 657 INTERLOCKING BOARDS
- 658 POWER PLANT
- 661 STATION RCS
- 662 CENTRAL RCS

ATTIKO METRO S.A.	"I COI THE <b>D</b> I	DESIGN, PROCUREMENT, INSTALLATION AND MMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE SSALONIKI METRO EXTENSION TO KALAMARIA" rawing Office Manual, Project Work Breakdown Structure and Equipment Codification	RFP-380/20
	663 664 670 671 672 673 674 675 676	SMR OCC ATS SYSTEM DUAL MICROCOMPUTER SYSTEM MIMIC PANEL TI DISPLAY UNIT OCC POWER PLANT - UPS ATS SIMULATOR OCC LARGE SCREEN DISPLAYS	
	680 681 682 683 690 691 692 693 694	SPARES AND TOOLS SPARE SIGNALLING SPARE ATS SYSTEM SPECIAL TOOLS OTHERS EMERGENCY PLUNGERS (PROVISIONAL) TCR LEVEL CROSSING - DEPOT OUTDOOR CABLE DISTRIBUTION EQUIPMENT	
	700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 720 721	FARE COLLECTION TVC ATIM REMOTE CONTROL ELECTRICAL EQUIPMENT CABINET COIN SORTER SPARES TICKET OFFICE MACHINE CASH COUNTING EQUIPMENT PASSENGER COUNTING SYSTEM STATION CONTROL UNIT (SCU) COMPUTER UPS TICKET GATES CARD ISSUING TERMINALS PORTABLE TICKET READERS ADD FARE TERMINALS CENTRAL AUDIT TERMINALS SMART CARDS MANAGEMENT CENTRE POWER SUPPLY CABLES	
	910 911 912 913 914 915	PASSENGER INFORMATION SYSTEM (PIS) PIS DISPLAY PANELS LOCAL CONTROL UNITS CENTRAL CONTROL UNITS PIS CABLING PIS LOGIC - CIRCUIT DIAGRAMS	



"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"	RFP-380/20
Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification	

- 930 MOBILE TELEPHONE FACILITIES
- 940 INFORMATION TECHNOLOGY INFRASTRUCTURE (MIS)
- 943 INTERNET FACILITIES
- 950 PLATFORM SCREEN DOORS (PSD)
- 951 PSD SYSTEM MECHANICAL ELEMENTS / COMPONENTS
- 952 PLATFORM END DOORS
- 953 PSD POWER SUPPLY SYSTEMS
- 954 PSD CONTROL SYSTEMS INTERLOCKING
- 955 PSD CABLING ROUTING

For field 4 code RS (Rolling Stock),

#### 1. GENERAL

The present numbering system has been made up according to the Project Handbook and illustrate the configuration system for the Rolling stock.

#### 2. NUMBERING

All documents can be identified with a combination of 14 letters and numbers.



From left to right the numbers and letters represent the following:

- Filed 1: Geographical sector
  - Field 2: Location
- Field 3: Subgroup denomination
- Field 4: Main system group
- Field 5: Document numbering
- Field 6: Revision Index

#### Example:

The following example is the number of this document, the numbering system:

0	G	S	3	R	S	0	0	0	С	1	0	0	Α
•	Field	1:	" (	<b>)</b> " (s	vsten	ו wide	e)						
•	Filed	2:	" (	G " (0	Genera	al Pur	pose)						
٠	Field	3:	"	RS " (	Rollin	ig sto	ck)						

ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"	RFP-380/20
	Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification	

- **Field 4**: Two digits for the main system group as indicated in DIN 25002
- Field 5: Numbering for documents:

The first two digits indicate the main system group of the Rolling stock and the following three digits represent up to three steps of subsystems.

For the drawings and electric circuit diagrams the first three digits for sub-systems followed by two digits for the count of documents in the subgroups.

Other documents: One digit, which is the same with the first digit of the subsystem number, followed by a phase letter. Then two digits, which are the same with the last two digits of the system number. In the end comes one digit for the count of the documents.

• Field 6: Indicates the state of revision of the document A, B, C...

#### 2.1 Field 1: Geographical sector

Metro Line number:

- **Code: 0** General project System wide
- **Code: 1** Line 1 Base project line New Railway Station to Pylea Depot and extensions to Stavroupoli, Kalamaria, Evosmos, Airport.

#### 2.2 Field 2: Location

|--|--|

Depot geographical sector

- D.O.O All depot
- D.R.S Running shed
- D.S.S Stabling shed
- D.T.E Track equipment work shop
- G.S.1 General purpose Series I trains
- G.S.T General purpose Service trains

#### 2.3 Field 3: Subgroup denomination

			•				
		R	S				
			-				



### Structure and Equipment Codification

• RS Rolling stock

#### 2.4 Field 4: Main system group

|--|

#### Numbering for main systems (X X) is according to DIN 25002

Code	Description
00	Technical documents and super coordinated documents
01	Complete Train
02	Running gear: Wheels, axle bearings and suspension system
03	Under frame
04	Motor bogies
05	Automatic couplers
07	Block brake
09	Air brake and pneumatic equipment
10	Stairs, treads, handles, signs, hand rods
11	Painting, lettering
19	Car body
20	Equipment for car body
21	Completion of driver's cab
22	Doors in driver's cab
23	Windows and ventilation of driver's cab
25	Equipment in driver's cabin
27	Lighting
45	Parts of propulsion system
47	Driver's stand
53	Sanding device
61	Circuit breaker
62	Reactor combination
64	Line capacitor, rectifier, chopper and resistor unit
65	Electrical control devices
66	Motors, generators
67	Air compressor
68	Ventilators
69	Measuring instruments



#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

71	Traction control unit (TCU)
72	Batteries
76	Arrangement and location of electrical equipment
80	Diesel engine
83	Gear
84	Cooling devices
86	Hydraulic equipment
87	Arrangement of diesel engine, alternator and traction motors
89	Fuel tank
90	Electrical circuit diagrams and part list

#### 2.5 Field 5: Document numbering

|--|

#### **Phase letters**

•

The phase-letters have the following meaning:

- F: Calculations
- G: Technical specifications
- I: Test procedure documentation
- K: List, bill of material illustrated parts catalogs
- **O**: Main circuit diagram
- **P**: Time schedules
- Q: Quality system documentation
- R: Reports, test reports etc
- U: Procedures
- V: Training documentation
  - **X**: Operating and maintenance manual documentation
- Z: Others

To indicate the linkage between a drawing and a corresponding descriptive document (e.g. calculation, technical specification) the numbers will be given as in the following example:

•	. (	) G S	1 R	S 03	5 <b>– 1</b>	000	0	"Un	der fr	ame	com	plete"		_
0	G	S	1	R	S	0	3	1	0	0	0	0	Α	
							•	" •						
•	<u> </u>	GS	1 R	<u>S 03</u>	5 - 1 H	- 00	0	<u>"Ca</u>	Iculat	on ui	nder	fram	e″	
0	G	S	1	R	S	0	3	1	F	0	0	0	Α	
•	. (	) G S	1 R	S 03	- 1 0	G 00	0	"Te	chnica	al spe	ecific	ation	unde	r frame'
0	G	S	1	R	S	0	3	1	G	0	0	0	Α	



#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

#### 2.6 Field 6: Revision index



The last letter of the number code indicates the revision index (A, B, C...) of the document.

For field 4 = **WS (Depot-Workshop Equipment)**, the field 5 is coded as follows:

#### For Pylea Depot

- 000 WORKSHOP EQUIPMENT GENERAL
- 001 ELECTRICAL INDUCTION, BEARING HEATING
- 002 BATTERY CHARGER FOR TVE AREA
- 003 BATTERY CHARGER, EMU
- 004 BATTERY CHARGER, LOCOMOTIVE STARTING
- 005 BATTERY CHARGERS, ROAD MOTOR VEHICLE
- 006 BATTERY ELECTRIC Vehicles, FORK LIFT, GP
- 007 BATTERY ELECTRIC VEHICLE FORK LIFT HIGH REACH
- 008 BATTERY ELECTRIC Vehicles, PALLET TRUCK
- 009 BATTERY ELECTRIC VEHICLE TOW TRUCK WITH JIB
- 010 BENDING AND FOLDING MACHINE
- 011 BIN, REFUSE
- 012 BIN, SCRAP METAL
- 013 BIN, STORAGE
- 014 BOGGIE, ACCOMMODATION
- 015 BOGGIE CLEANING PLANT
- 016 BOGIE DEFLECTION TEST RIG
- 017 BORING MACHINE
- 018 CLEANING BOOTH FOR ELECTRICAL MACHINE FRAME
- 019 CLEANING EQUIPMENT, ABRASION
- 020 CLEANING EQUIPMENT, AIR FILTER
- 021 CLEANING EQUIPMENT, BEARING
- 022 CLEANING EQUIPMENT, EMU'S AND WORKSHOPS
- 023 CLEANING EQUIPMENT, SMALL PARTS
- 024 CLEANING EQUIPMENT, SODA BATH
- 026 COMMUTATOR UNDERCUTTING 8-BEVELLING MACHINE
- 027 COMPRESSORS, AIR SUPPLY, DEPOT
- 028 CRADLE, EMU AIR FILTER
- 029 CRADLE, M.A. SET ROTOR FOR BAKING OVEN
- 030 CRADLES, TRACTION MOTOR ARMATURE, FOR BAKING OVEN
- 031 JIB CRANE
- 032 CRANE, OVERHEAD TRAVELLING E & M WORKSHOP
- 033 CRANE, OVERHEAD TRAVELLING WHEEL & AXLE SHOP
- 035 CRANE, OVERHEAD TRAVELLING BOGIE SHOP

ATTIKO METRO S.A.	" СО ТНІ <b>D</b>	DESIGN, PROCUREMENT, INSTALLATION AND MMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE ESSALONIKI METRO EXTENSION TO KALAMARIA" Prawing Office Manual, Project Work Breakdown Structure and Equipment Codification	RFP-380/20
	036	CRANE, OVERHEAD TRAVELING MACHINE SHOP	& TM AREA
	037		
	038	CRANE, ROAD MOBILE	
	039		
	040	DRILLING MACHINE, HEAVY DOTT FEDESTAL	
	042	DYNAMIC BALANCING MACHINE	
	043	EMU DIAGNOSTIC TEST EQUIPMENT	
	044	EXTRACTOR SET, WHEEL BEARINGS	
	045	FIXTURE FOR SLING STOWAGE	
	046	GAUGES AND TEST EQUIPMENT	
	047 048		
	040	GRINDING MACHINE, BUBEACE	
	050	GRINDING MACHINE, TOOL AND CUTTER,	
	051	GUILLOTINES, GENERAL PURPOSE	
	052	FORK LIFT	
	053	LADDERS, GENERAL PURPOSE	
	054	LATHE, COMMUTATOR	
	055	LATHES, GENERAL PURPOSE, MEDIUM	
	057	LATHE, GENERAL PURPOSE, WHEELS & AXLES	
	058	GIFTING FIXTURE, TRACTION MOTOR ARMATURI	Ξ
	059	LIFTING JACKS (CONTROL UNIT)	
	060	LIFTING TABLE. TROLLEY MOUNTED	
	061		
	062	OVEN PINION HEATING	
	065	PAINTING FACILITIES	
	066	PRESSES, AUTO COUPLER	
	067	PRESSES, GENERAL PURPOSE	
	068	PRESSES, HAND, GENERAL PURPOSE	
	069 070	PRESS, WHEEL Shear Machine	
	070	RACKING	
	072	RACK, M.A. SET ROTOR STORAGE	
	073	RACKS, TRACTION MOTOR ARMATURE STORAGE	Ξ
	074	RAIL CRACK DETECTOR	
	075	SAND DRYING SYSTEM	
	076 077		
	078	SHAPING MACHINE	
	079	SKIP, REFUSE	
	080	SLING, BOGIE LIFTING	
	081	SLINGS, GENERAL PURPOSE	
	082		
	084	SLING, TRACTION MOTOR ARMATURE LIFTING	

ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"					
	D	rawing Office Manual, Project Work Breakdown Structure and Equipment Codification				
	085 086 087 088 090 092 093 094 095 097 098 097 101 102 103 104 105 106 107 108 109 110 111 113 114 115 116 117 123 124 126 127 128 130 131 132	Structure and Equipment Codification SLING, TRACTION MOTOR LIFTING SLING, TRADION MOTOR MANIPULATOR LIFTING STAIRCASES, EMU ACCESS, MOBILE, HIGH STAIRCASES, EMU ACCESS, MOBILE, LOW STANDS, TRACTION MOTOR ARMATURE TEST BENCH, AUXILIARY MACHINE TEST BENCH, COMPRESSOR TEST BENCH, COMPRESSOR TEST BENCH, COMPRESSOR TEST BENCH, COMPRESSOR TEST BENCH, SPRING, UNIVERSAL TEST BENCH, SPRING, UNIVERSAL TEST EQUIPMENT, NON-DESTRUCTIVE TOOLS SET, GENERAL USE TOOLS PERSONAL, MECHANICAL FITTER TOOLS PERSONAL, MECHANICAL FITTER TOOLS PERSONAL, ELECTRICIANS / ELECTRICAL TOOLS PERSONAL, ELECTRICIANS / ELECTRICAL TOOLS PERSONAL, CAPPENTERS TOOLS PERSONAL, COPPERSMITHS TOOLS PERSONAL, COPPERSMITHS TOOLS PERSONAL, CARPENTERS TOOLS PERSONAL, CARPENTERS TOOLS PERSONAL, SERVICEMEN / SEMI-SKILLEE TOOLS PERSONAL, CARPENTERS TOOLS PERSONAL, SERVICEMEN / SEMI-SKILLEE TOOLS PERSONAL, SERVICEMEN / SEMI-SKILLEE TOOLS PERSONAL, SERVICEMEN / SEMI-SKILLEE TOOLS PERSONAL, SERVICEMEN / SEMI-SKILLEE TOOLS PERSONAL, CARPENTERS TOOLS PERSONAL, SERVICEMEN / SEMI-SKILLEE TOOLS PERSONAL, SERVICEMEN / SEMI-SKILLEE TOULEY, BATTERY TRANSPORTATION TROLLEY, BATTERY TRANSPORTATION TROLLEY, GENERAL PURPOSE, TOWABLE TURNTABLE. BOGIE TYRE CULTING MACHINE YEHICLE, ROAD, AMBULANCE RE-RAILING EQUIPMENT VEHICLE, ROAD, AMBULANCE RE-RAILING EQUIPMENT VEHICLE, ROAD, ANE TE, COVERED VEHICLE, ROAD, ANE TE, COVERED VEHICLE, ROAD, TELECOMMS/INCIDENT VEHICLE, ROAD, VANETTE, OPEN WASHING PLANT, EMU WELDING EQUIPMENT ELECTRIC ARC WELDING EQUIPMENT ELECTRIC ARC	NT FITTERS ORDING ACHMENT			
	134 137	WHEEL LATHE, UNDERFLOOR WORK BENCH, CARPENTRY				

ATTIKO METRO S.A.	" CO THE <b>D</b>	DESIGN, PROCUREMENT, INSTALLATION AND MMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE ESSALONIKI METRO EXTENSION TO KALAMARIA" rawing Office Manual, Project Work Breakdown Structure and Equipment Codification	RFP-380/20
	138 139 140 141 142 143 144 145 146 147 149 150 151 152 153	WORK BENCH, ELECTRIC MOTOR & CONTROL G WORK BENCH, ELECTRIC ARC WELDING WORK BENCH, METAL WORK WORK BENCH, MECHANICAL SUB-ASSEMBLY AN REPAIR WORK BENCH, MECHANICAL FITTING WORK CUPBOARD WORK STAND, BOGIE FRAME WORK STAND, CAR BODY UNDERFRAME DUST EXTRACTION PLANT DIESEL-ELECTRIC LOCOMOTIVE SERVICE WAGON - WELL SERVICE WAGON - BALLAST HOPPER SERVICE WAGON - FLAT 12M SERVICE WAGON - FLAT 18M SERVICE WAGON - WORKSHOP	EAR REPAIR D PARTS
	301 302 303 304 305 306 307 308 309 310 311 312 313 314 319 320 321 322 323 324 325 326 327 328 329 330 332 333 334 335 339	SURFACE PLATE SWAGE BLOCK FORGE VISE ANVIL PUNCH/SHEAR FOR STEEL SHEETS AND PROFIL BENDING ROUND MACHINES FOR STEEL SHEETS SHEAR FOR STEEL PROFILES ECKHOLD HAMMER FRAME STAND FOR WORKS ON CAR DOORS BOGIE LIFTING PLANT PAINTING SET SHOCK ABSORBER TEST BOGIE LIFTING PLANT BOGIE FRAME SQUARING TEST PLATFORM TEST BENCH INCL. MOBILE RECTIFIER TEST BENCH FOR ANALOG AND DIGITAL COMPO SEWING MACHINE JOINERS BENCH MULTIWORKS MACHINE CIRCULAR SAW TIMBER SIZER GRINDING WORKS, TIMBER AND PLASTICS SURFACE PLATE BENDING ROUND MACHINE PROFILES TEST BENCH, AC/DC PAINTING AREA TEST CABIN, RADIO AND TELEPHONE EQUIPMEN TEST CABIN, TELECOM. EQUIPMENT AIR LANCE TAMPING TOOLS CONCRETE MIXER	ES NENTS

ATTIKO METRO S.A.	"E CON THE Dr	DESIGN, PROCUREMENT, INSTALLATION AND MMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE SSALONIKI METRO EXTENSION TO KALAMARIA" rawing Office Manual, Project Work Breakdown Structure and Equipment Codification	RFP-380/20
	340 343 344 345 346 347 348 350 351 352 353 354 358 401 402 403 404 405 408 409 410 443 532 533	DRILLING MACHINE HANDLING CRADLE CONVERTERS, COMPRESSO TEST + CONTROL BENCH, RELAYS + TIME DELAY TEST BENCH AUTOM. VIGILANCE BLOCK TEST BENCH AUTOM. VIGILANCE BLOCK TEST BENCH MAGNET VALVE + DOOR PUSH BUT TEST BENCH CONTACTORS TEST BENCH LOAD SENSING VALVES TEST BENCH, INTERPHONE SYSTEM MOTOR ROTATING SUPPORT WITH ACCESSORIE ADJUSTMENT DEVICE CURRENT COLLECT MEDIUM VOLTAGE SUPPLY, LABORATORY WASTE OIL TANK OIL SUPPLY STATION BATTERY GLEANING TABLE ELECTRIC WORKSHOPS, WORK BENCH TRANSPORTATION VEHICLES, WORK BENCH M-AREA, WORK BENCH SIGNALLING AND TELECOM. WORKSHOP, WORK WORK BENCH, ELECTRIC WORKSHOP, WORK BE DEPOSIT TABLE, CA-AREA DEPOSIT TABLES DATA RECORD READING SET FOR RS DRIVING SIMULATOR CONTROL PANEL	R ( RELAYS TON ES
600 601 602 603 604 605	GEI BAT BAT BAT BAT BAT	For Kalamaria Depot/Stabling NERAL TERY CHARGER, BATTERY ELECTRIC VEHICLE TERY CHARGER, EMU TERY CHARGER, SERVICE LOCOMOTIVE TERY CHARGER, ROAD MOTOR VEHICLE TERY ELECTRIC VEHICLE, BOGIE TRANSPORTER	NES
607 608 609 610 611 612 613 614 615	BAT BAT BAT BAT BAT BAT CLE CLE COI	TERY ELECTRIC VEHICLE, FORK LIFT, G.P. 5 TON TERY ELECTRIC VEHICLE, FORK LIFT, G.P. 5 TON TERY ELECTRIC VEHICLE, LIFT PLATFORM TRUC TERY ELECTRIC VEHICLE, OPERATOR-DOWN TU TERY ELECTRIC VEHICLE, POWERED WALKIE ST TERY ELECTRIC VEHICLE, SHUNTING TRACTOR GIE LIFTING PLANT EANING EQUIPMENT, AIR FILTER EANING EQUIPMENT, SMALL PARTS MPRESSOR, AIR SUPPLY	NES K RRET TRUCK ACKER
617	CR	ADLE, EMU AIR FILTER	

ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA" Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification	RFP-380/20					
610		0					
010							
019	CRANE, OVERHEAD TRAVELLING COVERED BOGIE A	REA					
620							
021							
622							
623							
624	FIXTURE FOR SLING STOWAGE						
625	FRAME STAND FOR CAR DOORS, MOBILE						
626							
627	GRINDING MACHINE, DUUBLE ENDED PEDESTAL						
628	LADDER, GENERAL PURPOSE						
629	LATHE, GENERAL PURPUSE, SMALL						
630	LIFTING FIXTURE, ACTRACTION MOTOR ARMATURE						
031	LIFTING JACKS FOR EMUS, SERVICE LOCOMOTIVES	AND SERVICE					
620							
002							
033							
034	MEASUREMENT EQUIPMENT, BRAKE PAD THICKNESS	5					
030							
030							
037							
030	DVEN, DRTING OF TRACTION WOTORS ARWATURES						
039 640							
040 641	PRESS, GENERAL FORFOSE DACKING SYSTEM MAIN STODE						
642	RACKING SYSTEM, MAIN STOKE						
643	RACK AC TRACTION MOTOR ARMATURE						
644							
645	RAIL REPLACEMENT AND TRACK MAINTENANCE FOL						
646	RE-RAILING FOLIPMENT						
647	SAND REFILLING SYSTEM MOBILE						
648	SCAFFOLD TOWER MOBILE						
649	SERVICE WAGON, WORKSHOP						
650	SLING, BOGIE LIFTING						
651	SLING, GENERAL PURPOSE						
652	SLING, TRACTION MOTOR LIFTING AND TRACTION M	OTOR					
	ARMATURE LIFTING						
653	SLING. WHEELSET LIFTING						
654	STAIRCASE, EMU ACCESS, HIGH, MOBILE						
655	STAIRCASE, EMU ACCESS, HIGH, FIXED						
656	STAIRCASE, EMU ACCESS, LOW, MOBILE						
657	STAND AC TRACTION MOTORS						
658	TEST AND MAINTENANCE/OVERHAUL EQUIPMENT, A MOTORS	C TRACTION					
659	TEST AND MAINTENANCE/OVERHAUL EQUIPMENT, A CONDITIONING	IR					
660	TEST BENCH, ANALOGUE DIGITAL EQUIPMENT						
661	TEST BENCH AC/DC, INCLUDING MOBILE RECTIFIER						

ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA" Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification	RFP-380/20
000	TEAT DENOLU DANITOODADUO (ODTION)	
662	TEST BENCH, PANTOGRAPHS (OPTION)	
663		
664		ING
665		
000		
000 667		
668	TROLLET, BATTERT TRANSFORTATION TROLLEY GENERAL DURDOSE TOWARIE	
000	TUDNITARI E ROCIE	
670		
671		
672	VEHICLE ROAD VANETTE COVERED	
673	VEHICLE ROAD VANETTE OPEN	
674	WASHING PLANT FMLL	
675		
676	WELDING SHOP ANCILLARY FOLIPMENT	
677	WEI DING EQUIPMENT ELECTRIC ARC	
678	WORK BENCH	
679	WORK CUPBOARD	
680	WORK STAND, BOGIE FRAME	

#### 4.6 Field 6 (one letter) – Phase of work or type of document

- A Concept or Advanced Concept Design ACD or GFD1
- B Preliminary or General Final Design GFD2
- C Detailed Final Design DFD
- D Technical Deviation
- E Field Changes
- F Calculations
- G Specifications
- H Contract Amendment Additional Works or Reduction of Scope
- I Test Procedures, Test and Inspection Plans, Test Documentation, excluding Test Reports.
- J Costing
- K Lists, Bill of Quantities, Spare parts
- L Certifications and Payments
- M Method statement of Construction
- N New Conceptual Design (NCD)
- O Installation manuals/drawings/details
- P Time schedules

METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"	RFP-380/20
	Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification	

- Q Quality Assurance / Quality Control, MSSs, Manuals, Safety, Organization, Staffing, Organization Charts, Work Directions, RAMS
- R Reports (Technical, Monthly, Jobsite, Safety), Test Reports
- S Surveys Investigations (topography, geotechnical)
- T Detailed Design Diagrams (circuit connection single line)
- U Procedures (Management, Operation, Packing etc)
- V Training (Reports, Methods, Program)
- W Non Conformance Report (NCR)
- X Documentation on Operation & Maintenance (Manuals, Instructions, Drawings, Data)
- Y Standard Details
- Z Repairs

#### 4.7 Field 7 (three numbers) - Number

			3	0	2	

#### 1. General Use numbering

- 1 100 General Layouts
- 101 200 Plan views
- 201 300 Elevations
- 301 400 Cross Sections
- 401 500 Longitudinal sections
- 501 700 Reserved for Civil Works Standard Details (see below)
- 701 900 Free
- 901 999 Report

#### 2. Civil Works standard details numbering

Numbering of all civil works Standard Details in the DFD (Detailed Final Design) level by who ever originator produced (such as for field 4 = AR, CW etc.) is as follows:

(first 2 digits refer to category, while third digit is "0" for the cover sheet and  $1,2,3,\ldots$  etc for the drawings)

	Field 6		Field 7
Y	Standard Details	510-519	General requirements
		520-529	Site Works
		530-539	Concrete
		540-549	Masonry
		550-559	Metals

## ATTIKO METRO S.A.

"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"

RFP-380/20

#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

560-56	39 Wood & Plastics
570-5	79 Thermal and Moisture protection
580-58	39 Doors and Windows
590-59	99 Finishes
600-60	09 Specialties
610-6	19 Equipment
620-62	29 Furnishings
630-63	39 Special Construction
640-64	19 Conveying Systems
650-65	59 Mechanical
660-66	39 Electrical

### 3. Power Supply, Trackwork and Depot (Workshop) Equipment numbering

Covering ventilation, air conditioning, traction power, power supply and distribution, 20 KV, earthing, pumping, lighting, lifts, escalators, fire protection, trackwork and depot equipment) is as follows:

	Field 6		Field 7
С	Detailed Final Design –	100-199	Detailed Layout drawings (in accordance
	DFD		with the architectural layout if possible)
		200-399	Detailed Design Drawings - components
		400-499	Cable Routing in Tunnels and Depot
		500-599	Room Layout and Cable Routing Drawings
			in stations
		600-999	To be defined
F	Calculations	100-299	Calculations
		300-999	To be defined
G	Specifications	100-199	System Specifications
		200-299	Data Sheets
		300-300	Specification of Software
		300-999	To be defined
Ι	Test procedures – Test and	100-199	Schedule of number and type of tests
	Inspection plans		
		200-299	Factory Acceptance Test procedures
		300-399	Test Schedule
		400-499	Test Plan
		500-599	Test Reports FAT
		600-699	PSAT/SAT/SIT/SPT Test Procedure
		700-799	reserved
		800-899	Test Reports PSAT/SAT/SIT/SPT
		900-999	To be defined
K	Lists, Bill of Quantities, Spare parts	100-199	List of Supply



RFP-380/20

#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

		200-299	List of Spare Parts		
		300-999	To be defined		
0	Installation	100-199	Equipment Installation		
	manuals/drawings/details				
		200-299	Installation Manuals		
		300-399	Installation Instructions		
		400-499	Installation Drawings		
		500-599	Installation Procedure		
		600-999	To be defined		
Р	Time Schedule	100-199	Provisional Time Schedule		
		200-299	Time Schedule		
		300-999	To be defined		
Q	Quality Assurance /	100-199	Quality Control Procedures		
	Quality Control, MSS's,				
	Manuals				
		200-299	Quality Assurance Documents		
		300-399	Quality Manual		
		400-499	Reserved		
		500-599	Material Submittal Sheet		
		600-699	Quality Control File		
		700-799	Quality Plan, Project Quality Program		
		800-999	To be defined		
R	Reports	100-499	Design Reports		
		500-599	Monthly reports		
		600-699	Functional Analysis		
		700-799	Design Principles		
		800-899	Safety Reports / EMC Reports		
		900-999	Interfaces / EMC Reports		
		See right	Test Reports with numbering that		
		column	corresponds to the numbering of the		
			related Test Procedure		
Τ	Detailed Design Diagrams	100-199	Connection Diagrams		
	(circuit – connection –				
	single line)				
		200-299	Single Line Diagrams		
		300-399	Circuit Diagrams		
	<b>7</b>	400-999	To be defined		
V	Training	100-199	Training Schedule		
		200-299	Training Methods		
		300-399	Training Program		
		400-499	Training Manual		
		500-599	Training reports		
		600-999	To be defined		
X	Documentation	100-199	Preliminary O&M Manuals		
		200-299	Operating Instructions		
		300-399	Final O&M Manuals		

## ATTIKO METRO S.A.

#### "DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"

#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

		400-499	Technical Records			
		500-599	Maintenance Drawings			
		600-699	Maintenance Instruction			
		700-799	To be defined			
		800-899	Operational Documents			
		900-999	Software Manuals			
Y	Standard Details	100-999	As appropriate			
Ζ	Various, Others	100-199	Submittal List			
		200-299	Codification			
		300-699	To be defined			
		700-799	Product Breakdown			
		800-999	To be defined			

#### 4 Low Voltage numbering

(Covering Signalling, ATP, ATS, ATO, Telecommunications, CCTV, P.A., Clocks systems, other LV systems) is as follows:

	Field 6		Field 7			
С	Detailed Final Design –	100-199	Detailed Layout drawings (in accordance			
	DFD		with the architectural layout if possible)			
		200-299	Book of Circuits (BOC), Detailed Design			
			drawings			
		300-399	Layout Plans			
		400-499	Cable Routing in Tunnels and Depot			
		500-599	Room Layout and Cable Routing			
			Drawings in stations			
		600-999	To be defined			
F	Calculations	100-199	ATP – Headway Calculations			
		200-299	Other calculations			
		300-999	To be defined			
G	Specifications	100-199	System Specifications			
		200-299	Data Sheets			
		300-300	Specification of Software			
		300-999	To be defined			
Ι	Test procedures – Test and	100-199	Schedule of number and type of tests			
	Inspection plans					
		200-299	Factory Acceptance Test procedures			
		300-399	Test Schedule			
		400-499	Test Plan			
		500-599	Test Reports FAT			
		600-699	PSAT/SAT/SIT/SPT Test Procedure			
		700-799	reserved			
		800-999				
K	Lists, Bill of Quantities,	100-199	List of Supply			
	Spare parts					



#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

		200-299	List of Spare Parts	
		300-999	To be defined	
0	Installation	100-199	Equipment Installation	
	manuals/drawings/details			
		200-299	Installation Manuals	
		300-399	Installation Instructions	
		400-499	Installation Drawings	
		500-599	Installation Procedure	
		600-999	To be defined	
Р	Time Schedule	100-199	Provisional Time Schedule	
		200-299	Time Schedule	
		300-999	To be defined	
Q	Quality Assurance /	100-199	Quality Control Procedures	
	Quality Control, MSS's,			
	Manuals			
		200-299	Quality Assurance Documents	
		300-399	Quality Manual	
		400-499	Reserved	
		500-599	Material Submittal Sheet	
		600-699	Quality Control File	
		700-799	Quality Plan, Project Quality Program	
		800-999	To be defined	
R	Reports	100-499	Design Reports	
		500-599	Monthly reports	
		600-699	Functional Analysis	
		700-799	Design Principles	
		800-899	Safety Reports / EMC Reports	
		900-999	Interfaces / EMC Reports	
		See right	Test Reports with numbering that	
		column	corresponds to the numbering of the	
			related Test Procedure	
T	Detailed Design Diagrams	100-199	Connection Diagrams	
	(circuit – connection –			
	single line)	000 000		
		200-299	Single Line Diagrams	
		300-399		
17	<b>T</b> • • •	400-999	Training Only a duly	
V	Iraining	100-199	Training Schedule	
		200-299		
		300-399	I raining Program	
		400-499		
		500-599	I raining reports	
		600-999		
X	Documentation	100-199		
		200-299		
		300-399	Final O&M Manuals	

# ATTIKO METRO S.A.

#### "DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"

#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

		400-499	Technical Records		
		500-599	Maintenance Drawings		
		600-699	Maintenance Instruction		
		700-799	To be defined		
		800-899	Operational Documents		
		900-999	Software Manuals		
Y	Standard Details	100-999	As appropriate		
Ζ	Various, Others	100-199	Submittal List		
		200-299	Codification		
		300-699	To be defined		
		700-799	Product Breakdown		
		800-999	To be defined		

#### 4.8 Field 8 (one letter or number) – Revision

			С

A, B, C... for design. The first revision (first issue) always starts with A

1, 2, 3... for as-built drawings



#### 5. Scales

#### 5.1 General

- 5.1.1 The following shall be used as a guide to the scales to be used in the various forms of detailing.
- 5.1.2 Plans, elevations and sections relating to the same area shall, where possible, be to the same scale, exceptions being longitudinal profiles where exaggerated vertical scales may clarify the detail.

#### 5.2 Structural and civil layouts and details

5.2.1 For stations, shafts, recesses:

•	Site plans	1:1000	or	1:500
•	Key plans	1:1000 or out o	or f sca	1:500 ale
•	General arrangement, plan views	1:200	or or	1:100 1:50
•	Sections	1:100	or or	1:50 1:25
•	Details	1:50	or	1:20
•	Reinstatement	1:200		

#### 5.2.2 For alignment, tunnels, tracks:

Horizontal alignments, general plans and elevations	1:1000 or 1:500
Longitudinal profiles	1:100 or 1: 50
Sections	1:100 or 1:50
• Details	1:20 or 1:25
Bi-rail track diagrams	1:200
Depot bi-rail track diagrams	1:200



#### 5.3 Architectural layout and details

Site plans	1:1000 or 1:500
Key plans	1:1000 or 1:500 or out of scale
<ul> <li>Plan views and elevations</li> </ul>	1:100 or 1:50
<ul> <li>Longitudinal and cross sections</li> </ul>	1:100 or 1:50
<ul> <li>Cross sections for stations</li> </ul>	1:100 or 1:50
<ul> <li>Enlarged plans, elevations and sections, details</li> </ul>	1:1 or 1:2 or 1:5 or 1:10 or 1:20

#### 5.4 Rolling stock

DIN ISO 5455 / item 5 has to be taken into consideration. In general the following scales can be applied for Rolling Stock:

1:100, 1:50, 1:20, 1:10, 1:5, 1:2, 1:1, 2:1

#### 5.5 Electromechanical installations layouts and details

a) Coordination drawings (plans, sections)	1: 100 or 1:50
b) Specific drawings and details	1: 50 or 1:20

#### 5.6 Presentation of half size drawings

For better use of A0 and A1 drawings, the same drawings may be printed in full size and half size. In order to avoid confusion, these drawings must be exactly the same.

Consequently:

- The numbering will be the same
- The scales written on the drawings will be the same
- A message (preferably in red colour) will be stamped on the title block of the half size mentioning: "Reduced to half size". (This stamp can be made through CAD).

ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA"	RFP-380/20
	Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification	

• Also, all lettering should be such that no letters smaller than 1.5 mm appear in the drawings.



#### 6. Line work and graphical conventions

#### 6.1 Lines

- Non CAD lines shall generally be drawn using guides. Freehand line work shall be kept to a minimum and reserved for sketches impressions or representations of naturally occurring features, trees and the like.
- For general purposes, line thickness shall be restricted to the range 0,25mm to 1,4mm.

#### 6.2 Dimensions

- All dimensions shall be in meters or in millimetres
- All dimensions shall be placed in such a way that they may be viewed from the bottom or the right hand side of the drawings.
- Dimensions and dimension lines shall be placed close to the items being dimensioned and clear of other details, hatching, toning etc. Dimensions shall be placed above the dimension line and not through it, as illustrated in the following example.



#### 6.3 Levels

- For levels, the units shall be meters above the level.
- Where levels refer to different situations, the differentiation, if necessary, shall be made by prefixing the number by an abbreviation. The following standard abbreviations shall be used:

$\succ$	GL	existing ground level
$\triangleright$	FGL	finished ground level

SFL structural floor level



FFL finished floor level.

#### 6.4 Particular Line Conventions

• On a drawing where an elevation, plan etc. has to be continued in another drawing, the division shall be defined by match lines which shall be at exactly the same location in both cases. The match lines shall be such that the drawings may be cut up and the two or more portions joined have to give a complete view.

Where a section of works has to be detailed in two or more drawings, reference to the continuation drawings shall be made at the match line.

- Hidden lines, where necessary, shall be shown thus: " \_\_\_\_\_"
- Break lines shall be shown thus:
  - In solid section



In circular section



BOTTOM



For other symbols and graphical conventions, please refer to the standards.

RFP-380/20



#### 7. Autocad Applications

#### 7.1 General rules

The following rules shall apply in the production of drawings using Autocad

#### All drawings

- The system of topographical coordinates used by ATTIKO METRO for all the metro projects in Thessaloniki is the "ΣΑΜΘ" system, specifically established for these metro projects. All drawings containing or related to a topographical reference, should be developed on the above coordinate systems.
- The UCS (Universal Coordinate System) parameter in Autocad should be entered as "World".
- The subject drawing (e.g. Station, Tunnel, Parking etc.) should remain at the proper topographical location and alignment position. Movement or rotation of the subject is not allowed.
- The title block plus drawing frame and the general notes and legends of the drawing should be in the Autocad "Layout" mode, in the layer "Board"; the title block of the drawings shall be an external reference file (XREF), common for all drawings, except for the information which is particular for each drawing (eg title, scale, date etc).
- All drawings must be bilingual, in the title block, the legends and in all notes and explanations on the drawings.

#### Architectural drawings

- The topographical background drawing should be an external reference file (XREF), and all its properties must be as defined in the respective Autocad layer.
- The "Standard" type of fonts should not be used for text.
- The Autocad parameter controlling the line width (LTSCALE) must be set to (1).
- The Autocad parameter controlling the plot scale (PLTSCALE) must be set to (0).
- All lines shall be drawn and shall have the properties as defined in the respective layer they belong to.



#### Electromechanical drawings

• The architectural or other general layout background drawings, on which the eletromechanical drawings are developed, shall be an external reference file (XREF), and all its layers should be set at "Colour 8" implying a lighter grey background colour.

#### Other civil design drawings

• The topographical background drawing should be an external reference file (XREF) and all properties must be as defined in the respective Autocad layer.

#### 7.2 Autocad layers names and characteristics

The Autocad layer names shall need to be used by everyone producing drawings for the ATTIKO METRO S.A. Projects so that drawing compatibility may be ensured and drawing coordination may be facilitated.

The basic concept on layer names is that they shall comprise of three components. The first and the second shall not be separated, while the second and the third shall be separated by a hyphen (-), as follows:

- (a) The first one shall be a 2-digit letter denoting the category of work according to the list of numbers for Field 4 of chapter 4.4 - Category of Work (eg AR, CW, PS, LV etc)
- (b) The second one shall be a 3-digit number denoting the sub-category or discipline of work according to the list of numbers for Field 5 of chapter 4.5 -Sub-category of Work (eg 221, 900 etc)
- (c) The third component is <u>O P T I O N A L</u>, and is aimed in clarifying further the contents of a layer if necessary. If entered, it shall specify in more detail the specific item which is drawn. No specific rules exist for these names, but common sense should be exercised in naming the layers, with relation to their function.

### The guidelines for selecting the layer names must be followed for at least the first two components (a) and (b).

The two following tables 7.2.1 and 7.2.2 show example layer names with: (a) only the first two parts and (b) with all three parts of the layer name.

Table 7.2.1 Example Categories / Disciplines for Autocad layer names

LAYER NAME	CATEGORY / DISCIPLINE
CW203	Tunnel alignment



#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

AR419	Architectural – general layout
PS600	Fire protection
PW180	Preparatory Works - Geological - Geotechnical
LV000	Low Voltage - general
PS530	Piping / Plumbing / Pumping
PS221	Power Supply Coordination
CW403	Civil Works - Formwork
PW205	Preparatory Works - Topographical
TW700	Trackwork- General
PW320	Preparatory Works - Public Utilities
PS900	Ventilation – HVAC
WS675	Workshop equipment - Wheel Lathe

Table 7.2.2 Example Categories / Disciplines for Autocad layers with optional full description

LAYER NAME	CATEGORY / DISCIPLINE	DRAWN ELEMENTS
AR421-TILES	Architectural finishes	Tiles
CW403-BEAMS	Civil Works - Formwork	Beams
PS412-TUB	Power Supply - Lighting	Tubular lighting fixtures
PW180-DRILL	Pre-Works - Geological	Geological drilling locations
PS915-FD	Ventilation - Dampers	Fire Dampers

The following is also to be noted:

- If the drawn element is specified satisfactorily by the first 5 letters/digits of the layer name, no additional explanation will be necessary. For example a layer name « PS380-CABLETRAYS » need not be used because PS380 is denoting in any case the Power Supply cable trays.
- For electromechanical items, for the third part of the layer name, the acronyms of equipment codification as listed in chapter 10 of the present document may be used if necessary (eg « PS912-FD » for fire dampers).
- There are a number of layers, which may be common to several categories, or may be used independently of category. These relate to the Axis, Frames, Legends, Text, Keyplans, Dimensions, Symbols etc. and should be used with a comprehensible acronym (eg AXIS, FRAME, LEGEND, TEXT, KEYPLAN, DIMENSION, SYMBOL etc).
- AM has a list of layer names for each discipline, which is compatible with the above coding and also contains the properties of the layers used (line types, line color etc.) This list is at the disposal of anyone interested.



#### 8. **Presentation of Calculations & Reports**

- All written Technical Documents (Calculations and Reports) shall include a title block in accordance with Chapter 3, and filled in accordance with Chapter 4.
- A modification sheet shall also be included every time there is a modification of a document.
- Related Drawings, Sketches, Technical Notes or Calculations shall be always cross-referenced.
- All pages shall be numbered and shall exhibit the complete coding of the documents to which they belong.
- Written technical documents shall be A4 format but may include A3 attachments.
- Regarding revisions:
  - Only the modified page changes index.
  - The modified pages are identified with their revision in the modification sheet.
  - The revision is marked in margin, suitably clouded with the revision number in triangle, as per Chapter 3 paragraph 3.2.
  - Title block should also be modified in sections 6 and 10 (Chapter 3 paragraph 3.2).



RFP-380/20

#### 9. Project Work Breakdown structure and E/M Equipment Codification

#### 9.1 General

The multi-character identification code for coding the drawings and documents for the Project shall also be used in order to provide a comprehensive method for the project breakdown structure. This shall be used for project control purposes, costing and monitoring of the Project, while in the cases of electromechanical and railway systems and works the coding shall cover comprehensively the equipment codification.

The multi-character identification code for coding all the Civil Works (including preliminary works, Civil Works and Architectural works) is described below. The Contractor shall use this codification for providing the necessary work breakdown structure for the Project and identify all the preliminary works, civil works and architectural works.

In parallel, the Contractor shall use this codification for all the E/M equipment on the drawings, on the equipment lists, on the spare parts lists, and on the equipments themselves when installed in the Project.

When equipment is installed in a specific room (eg a fan, a fire detector, a switchboard, a pump etc) only the necessary parts of the coding shall need to be displayed ON the equipment, ie fields [1], [2] and [3] as shown below shall not be necessary to be displayed.

#### 9.2 Coding principles

The full identification code used for the project breakdown structure shall comprise of seven fields for all Civil, Architectural, Electromechanical etc works. An additional eighth field shall be used only for numbering the E/M equipment. New numbers are given to the new fields in order to mix them up with the fields of the drawing numbers.

(CW)

Two typical examples are shown below, showing the coding structure:

0 2 CW 3 S 9 5 -4.0 2 2 1 1 -\_| |\_\_\_\_| |\_\_\_ 5 3 Field: (the hyphens "-" are shown above only to discriminate the coding components) Example (above): • Line 1, Dimokratias station (1S02),

(example identification code for Civil Works)

Civil Works

ATTIKO METRO S.A.			"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA" Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification							<b>∨</b> Ą"	RFP-380/20			
	(exam	• T • C • E	Tempora Complete Excavatio	ry supp e struct ons tion coo	oorts – ure (sta le for E	C&C ation)	nech	(395) (4.0) (221) nanical	worl	ks)				
	1	S	0 2	P S	9	00	-	3.7	-	S	W B	-	1/2	
Field:	 1	2	3	4		5	_	9		I	10		 11	
	(the h	ypher	ns "-" are	e showi	n above	e only t	o dis	scrimina	ate t	he c	coding	comp	oonents)	
	Exam	ple (a	ibove):											
		<ul> <li>Line 1, Dimokratias station (1S02),</li> <li>Power Supply (PS)</li> <li>Ventilation category (900)</li> <li>Future cooling room (3.7)</li> <li>Switchboard (SWB)</li> <li>One item out of two (1/2)</li> </ul>												
	For al	l case	es, the fi	elds are	e identi	fied as	follo	ows:						
		≻ F	ields 1	-5:	As de contair geogra sub–ca	fined ing the phical itegory	in e me loca <sup>-</sup> of w	chapter tro line tion, the vork	r 4 e nur e ge	of nbe nera	the r, the al cate	prese type c egory e	ent documer of structure, th of work and th	it, ie ie
		> F	ield 9	:	Locatio defined	on - Ro 1 in 9.3	om belo	/ Area ow)	num	nber	or co	nstruo	ction phase (a	as
		▶ F	ield 10	:	Descrij archite	otion ctural v	code vork	e of E s item (	Ξ/M (as c	ite defir	m-con ned in	npone 9.4 be	ent, or civil elow).	/
		▶ F	ield 11	:	E/M Ite of suc defined	em / co h item l in 9.5	ompo s / belo	onent ir compo ow).	ndex onen	c nu its i	mber n the	over f spec	otal or numbo cified area (a	ər AS
	The a	bove	code fie	lds (9 -	11) an	d their	con	tents ai	re sp	beci	fied in	the fo	bllowing pages	3.



#### 9.3 Field 9: Location – Room/Area number or construction phase code

Field 9 identifies the room/area number code with numbers & separator.

	- 3.7	
--	-------	--

(the hyphens "-" are shown above only to discriminate the coding components)

The following description, within brackets numbers, indicates the designated room/area number:

	Public Areas	(1.0)
• • • • • • •	Station accesses Public passageways - subways Escalators and stairs Concourse ATIM room Platforms Public WC Kiosk or shops Corridors PSN lifts areas	<ul> <li>(1.1)</li> <li>(1.2)</li> <li>(1.3)</li> <li>(1.4)</li> <li>(1.5)</li> <li>(1.6)</li> <li>(1.7)</li> <li>(1.8)</li> <li>(1.9)</li> <li>(1.10)</li> </ul>
	Staff Areas	(2.0)
• • • • •	Ticket office Station Master Room (SMR) Staff rest room Staff locker room Staff WC Corridor or passage to staff areas Cleaners room Store room	(2.2) (2.3) (2.4) (2.5) (2.6) (2.7) (2.8) (2.9)
	Technical Areas:	(3.0)
• • •	Station Technical Rooms Tunnels Recesses Shafts technical rooms	
And •	in particular the following rooms: Ventilation rooms Lighting and Auxiliary Substation (LAS) and	(3.1a,b)
•	Switchgear rooms	(3.2 - 3.3)

ATTIKO METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA" Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification	RFP-380/20
Th	<ul> <li>Signalling and Telecommunications rooms</li> <li>Pump room and sump</li> <li>Future cooling plant room</li> <li>Battery room</li> <li>Rectifier Substation (RS) room</li> <li>PPC (DEDDHE) room</li> <li>Blast shaft opening</li> <li>Technical room air intake and exhaust (1</li> <li>Fire Fighting room</li> <li>UPS Room</li> <li>Fire Brigade – water supply room</li> <li>Spare rooms</li> <li>Corridors and passages to technical rooms</li> <li>Switchboard / switchgear room in shafts</li> <li>Platform screen doors room</li> </ul>	(3.4 s, t) (3.5 - 3.6) (3.7) (3.8) (3.9) (3.10) (3.11) 3.11a - 3.11b) (3.13) (3.17) (3.18) (3.19) (3.20) (3.22) (3.23) rawings & reports.
>	A more collective breakdown of the <u>rooms/areas coveri</u> level of structures or per structure entity is also provided	ng also works per below:
	For complete structures	(4.0)
	<ul> <li>Foundation level</li> <li>Level - 1</li> <li>Level - 2</li> <li>Level - 3</li> <li>Level - xxxx (consecutive underground levels)</li> </ul>	(4.10) (4.11) (4.12) (4.13) (4.1xxxx)
	<ul> <li>Street Level</li> <li>Level + 1</li> <li>Level + 2</li> <li>Level + 3</li> <li>Level + xxxx (consecutive overground levels)</li> </ul>	(4.20) (4.21) (4.22) (4.23) (4.2xxxx)
	<ul> <li>Retaining and side walls</li> <li>Columns</li> <li>Staircases</li> <li>Ramps</li> <li>Tunnels</li> <li>Etc</li> </ul>	(4.31) (4.32) (4.33) (4.34) (4.35) (4.3xxxx)
>	Regarding the <u>construction phasing</u> , applicable mainly t selected sub-categories, the following breakdown may a	o Civil Works and Iso be used:

Phase A		(5.1)
	Phase A	Phase A

METRO S.A.	"DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA" Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification	RFP-380/20
	<ul> <li>Phase B</li> <li>Phase C</li> </ul>	(5.2)

•	Phase C	(5.3)
•	Phase D	(5.4)
•	Phase xxxx	(5.xxxx)

- For <u>tunnels</u> there is no specific need for further coding, as they are covered by field 2.
- > For Quality Control and Quality Assurance works:

•	Laboratory	(6.1)	)
	5	· · ·	

- Supporting worksite for concreting and reinforcement works (6.2)
- Suppliers areas (6.3)

#### 9.4 Field 10 – Work breakdown and description of E/M item/component

Filed 10, is aimed for the more detailed work and subject identification and provides the work breakdown, on one hand of the Civil and Architectural works and on the other hand of the E/M equipment codification by identifying the E/M item or component.

The two cases shall be dealt separately:

#### 9.4.1 Architectural, Civil and Preliminary works

Field 10 is the one indicated below:

(the hyphens "-" are shown above only to discriminate the coding components)

For the various categories of fields 4 and 5, field 10 shall be as follows:

For Architectural works (Field 4 = AR), and for various values of Field 5, where necessary, Field 10 shall take the following codes:

FIELD 5	FIELD 10	WORK ITEM
386	101	PLANTING SOIL
	102	PLANTS - TREES
	103	PAVING STONES
	104	CEMENT TILES
	105	REINSTATEMENT - BLINDING CONCRETE
	106	SPECIAL ITEMS
420	111	MASONRY WALLS
	112	PLASTERING WORKS
421	121	FLOOR GRANITES
	122	FLOOR CERAMIC TILES



RFP-380/20

#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

	123	PVC ELEVATED (FALSE) FLOOR
	124	SECONDARY CONCRETE ON FLOORS
	125	FLOOR PAINTING
	126	WALL GRANITES
	127	WALL MARBLES
	128	WALL POROUS STONE
	129	WALL CERAMIC TILES
	130	STAINLESS STEEL WALL LINING
	131	WALL CLADDING ENAMEL PANELS
	132	WALL COATINGS
	133	WALL GYPSUM BOARDS
	134	CEILING COATINGS
	135	CEILING TILES
	136	SKIRTING
	137	INDUSTRIAL FLOOR
423	141	BALUSTRADES
	142	SEATS
	143	VENTILATION SHAFT GRILLES
	144	SHAFT COVERS
	145	MANHOLES
	146	GUTTERS - SPOUTS
	147	LADDER + CAGE
424	151	BENCHES
	152	CABINETS
425	161	INDOOR GLASS PANELS
	162	OUTDOOR GLASS PANELS
	163	FRAMES
	164	LIGHTING DOME
426	171	MINERAL FIBER PANELS
	172	METAL PANELS
	173	PERFORATED METAL PANELS
	174	STAINLESS STEEL PANELS
	175	FALSE CEILING FRAME
	176	STEEL VERTICAL ELEMENTS (OPEN TYPE)
	177	GYPSUM BOARDS
	178	STEEL WIRE MESH
428	181	DOORS - FRAMES
	182	KEYS
430	191	DESK
	192	TABLE
	193	CHAIRS
450	201	EXTERIOR STATION SIGNAGE (E.G. METRO
		SIGN)
	202	GENERAL SIGNAGE



For the Civil Works (Field 4 = CW), and for various values of Field 5, where necessary, Field 10 shall take the following codes:

FIELD 5	FIELD 10	WORK ITEM
300	210	CURBS
	211	ASPHALT WORKS
	212	HORIZONTAL SIGNAGE
	213	VERTICAL SIGNAGE
	214	3A GRADED MATERIAL
395	221	EXCAVATION
	222	BORED PILES (TOTAL)
	223	BORED PILES - CONCRETE
	224	BORED PILES – REINFORCEMENT
	225	CAP BEAM (TOTAL)
	226	CAP BEAM – CONCRETE
	227	CAP BEAM – REINFORCEMENT
	228	PRESTRESSED ANCHORS
	229	SHOTCRETE
	230	STRUCTURAL MESH – REINFORCEMENT
	231	STRUTS
	232	FIBER SHOTCRETE
	233	DRAINAGE HOLES
396	241	SHOTCRETE
	242	FIBER SHOTCRETE
	243	EXCAVATION + DISPOSAL
397	251	EXCAVATION
	252	FOREPOLING BEAMS
	253	LATTICE GIRDERS
	254	STEEL FRAMES
	255	SHOTCRETE
	256	FIBER SHOTCRETE
	257	GLASS NAILS
	258	METAL ANCHORS
	259	STRUCTURAL MESH & REINFORCEMENT
	260	DRAINAGE HOLES
398	261	EXCAVATION
	262	BORED PILES (TOTAL)
	263	BORED PILES – CONCRETE
	264	BORED PILES – REINFORCEMENT
	265	DIAPHRAGM WALLS (TOTAL)
	266	DIAPHRAGM WALLS – CONCRETE
	267	PRESTRESSED ANCHORS
	268	SHOTCRETE
	269	FIBER SHOTCRETE
	270	STRUCTURAL MESH – REINFORCEMENT
400	271	GENERAL EXCAVATIONS


	272	CONFIGURATION OF SLOPES
	273	BACKFILLING
401	281	SOLDIER PILES (JET GROUTING)
	282	TAM - JET GROUTING (TUBE A MANCHETTE)
	283	JET GROUTING
402	291	PVC MEMBRANES
	292	BENTONITE MEMBRANE (VOLTEX)
	293	WATERSTOPS
	294	ASPHALT COATINGS
403	301	REINFORCED CONCRETE
	302	NON-REINFORCED CONCRETE
404	311	STRUCTURAL MESH
	312	STEEL REINFORCEMENT
406	321	CANOPIES
	322	PEDESTRIAN BRIDGE
	323	FENCING
407	331	PRECAST ELEMENTS (GENERAL)
	332	TBM SEGMENTS
	333	PRECAST SHAFTS
	334	PRECAST PIPES
408	341	DIAPHRAGM WALLS (TOTAL)
	342	DIAPHRAGM WALLS - CONCRETE
	343	DIAPHRAGM WALLS – REINFORCEMENT
409	351	PERMANENT PILES (TOTAL)
	352	PERMANENT PILES - CONCRETE
	353	PERMANENT PILES - REINFORCEMENT
410	361	SHOTCRETE
	362	SHOTCRETE - REINFORCEMENT
415	371	INSTRUMENTATION INSTALLATION
	372	MEASUREMENTS AND MONITORING

For the Preliminary Works (Field 4 = **PW**), and for various values of Field 5, where necessary, Field 10 shall take the following codes:

FIELD 5	FIELD 10	WORK ITEM
310	210	CURBS
	211	ASPHALT WORKS
	212	HORIZONTAL SIGNAGE
	213	VERTICAL SIGNAGE
	214	3A GRADED MATERIAL
320	321	TRENCHES/PITS DIGGING AND REINSTATEMENT
	322	INSTALLATION AND CONNECTIONS OF UTILITIES



#### rawing Office Manual, Project Work Breakdown Structure and Equipment Codification

For general items (field 4 = **GE**) regarding Quality Assurance and Quality Control:

290	101	LABORATORY TESTS – ISSUING OF RESULTS
291	102	PRODUCTION – CONSTRUCTION OF MATERIAL

#### 9.4.2 Electromechanical and Railway systems works

Field 10 is the one indicated below:

						-		-	S W B	-	
--	--	--	--	--	--	---	--	---	-------	---	--

(the hyphens "-" are shown above only to discriminate the coding components)

The following acronyms indicate the field 10 - codes of the E/M items / components for each discipline. The lists are not exhaustive.

FIELD 4	FIELD 5	FIELD 10 - CODES	EQUIPMENT DESIGNATION
		POWI	ER DISTRIBUTION – TRACTION POWER
		AIS	AUTOMATIC ISOLATING SWITCH
PS	Between	BCH	BATTERY CHARGER AND BATTERIES (110V DC)
	000 - 380	CB	CIRCUIT BREAKER
		DCSW	750V DC SWITCHBOARD
		GDD	GROUND DETECTING DEVICE
		LBS	LOAD BREAK SWITCH
		LVC	LOW VOLTAGE CABINET (400V AC)
		MCP	MIMIC CONTROL PANEL (IN SMR)
		MVP	MEDIUM VOLTAGE PANEL
		MVS	MEDIUM VOLTAGE SWITCHGEAR
		NIS	NEGATIVE ISOLATING SWITCH
		PFC	POWER FACTOR CORRECTION
		PLC	PROGRAMMABLE LOGIC CONTROLLER
		PSCB	PROTECTIVE SECTION CIRCUIT BREAKER
		RCCB	REMOTE CONTROLLED CIRCUIT BREAKER
		RCIS	REMOTE CONTROLLED ISOLATING SWITCH
		RD	RECTIFIER
		RTU	REMOTE TERMINAL UNIT
		SCB	SUPPLY CIRCUIT BREAKER
		SCD	SHORT CIRCUIT DEVICE
		ST	STINGER



		SWB	MAIN LOW VOLTAGE SWITCHBOARD (400V AC)
		EPB	EMERGENCY PUSH-BUTTON
		Т	RECTIFIER TRANSFORMER
		TX	TRANSFORMER (20/0.4kV)
			LIGHTING
		LDB	LIGHTING DISTRIBUTION BOX
PS	Between	LDSB	LIGHTING DISTRIBUTION SECONDARY BOARD
	400 - 445	LIGEL	EMERGENCY LIGHT FITTING
		LIGNL	NORMAL LIGHT FITTING
		LJ	LIGHTING JUNCTION BOX
		LN	NORMAL LIGHTING PANEL
		LU	EMERGENCY LIGHTING PANEL
		MLN	MAIN NORMAL LIGHTING PANEL
		MLU	MAIN EMERGENCY LIGHTING PANEL
		PB	PUSH BUTON
		SIG	SAFETY LIGHT FITTING
		SO	SOCKET OUTLET
		SW	SWITCH
			EARTHING
	Rotwoon	EB	EARTHING BUS-BAR
PS	Between 520 - 525	SCC	
	520 - 525	SEB	SECONDARY EARTHING BUS-BAR
			DRAINAGE - SEWAGE – PUMPS
		APC	DRAINAGE - SEWAGE – PUMPS AUXILLIARY PUMP CONNECTION
PS	Between	APC BCV	DRAINAGE - SEWAGE – PUMPS AUXILLIARY PUMP CONNECTION BALL CHECK VALVE
PS	Between 530 - 535	APC BCV CI	DRAINAGE - SEWAGE – PUMPS AUXILLIARY PUMP CONNECTION BALL CHECK VALVE CAST IRON PIPE
PS	Between 530 - 535	APC BCV CI CO	DRAINAGE - SEWAGE – PUMPS AUXILLIARY PUMP CONNECTION BALL CHECK VALVE CAST IRON PIPE CLEAN OUT
PS	Between 530 - 535	APC BCV CI CO DRP	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMP
PS	Between 530 - 535	APC BCV CI CO DRP DRV	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVE
PS	Between 530 - 535	APC BCV CI CO DRP DRV FLD	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVEFLOOR DRAIN
PS	Between 530 - 535	APC BCV CI CO DRP DRV FLD FLD	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVEFLOOR DRAINFLOOR LINEAR GUTTER
PS	Between 530 - 535	APC BCV CI CO DRP DRV FLD FLG GS	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVEFLOOR DRAINFLOOR LINEAR GUTTERGALVANISED STEEL PIPE
PS	Between 530 - 535	APC BCV CI CO DRP DRV FLD FLG GS GV	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVEFLOOR DRAINFLOOR LINEAR GUTTERGALVANISED STEEL PIPEGATE VALVE
PS	Between 530 - 535	APC BCV CI CO DRP DRV FLD FLG GS GV IR	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVEFLOOR DRAINFLOOR LINEAR GUTTERGALVANISED STEEL PIPEGATE VALVEINSIDE RAFTWORE COREED
PS	Between 530 - 535	APC BCV CI CO DRP DRV FLD FLG GS GV IR ISC	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVEFLOOR DRAINFLOOR LINEAR GUTTERGALVANISED STEEL PIPEGATE VALVEINSIDE RAFTINSIDE SCREEDNOIDE OLAD
PS	Between 530 - 535	APC BCV CI CO DRP DRV FLD FLG GS GV IR ISC ISL	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVEFLOOR DRAINFLOOR LINEAR GUTTERGALVANISED STEEL PIPEGATE VALVEINSIDE RAFTINSIDE SCREEDINSIDE SLAB
PS	Between 530 - 535	APC BCV CI CO DRP DRV FLD FLG GS GV IR ISC ISL LE	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVEFLOOR DRAINFLOOR LINEAR GUTTERGALVANISED STEEL PIPEGATE VALVEINSIDE RAFTINSIDE SCREEDINSIDE SLABLEVEL ELECTRODES
PS	Between 530 - 535	APC BCV CI CO DRP DRV FLD FLG GS GV IR ISC ISL LE MH	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVEFLOOR DRAINFLOOR LINEAR GUTTERGALVANISED STEEL PIPEGATE VALVEINSIDE RAFTINSIDE SCREEDINSIDE SLABLEVEL ELECTRODESMANHOLE
PS	Between 530 - 535	APC BCV CI CO DRP DRV FLD FLG GS GV IR ISC ISL LE MH MR	DRAINAGE - SEWAGE – PUMPSAUXILLIARY PUMP CONNECTIONBALL CHECK VALVECAST IRON PIPECLEAN OUTDRAINAGE PUMPDRAIN VALVEFLOOR DRAINFLOOR LINEAR GUTTERGALVANISED STEEL PIPEGATE VALVEINSIDE RAFTINSIDE SCREEDINSIDE SLABLEVEL ELECTRODESMANHOLEMONORAIL



		OWS	OIL / WATER SEPARATOR	
		PCP	PUMP CONTROL PANEL	
		PE	POLYETHYLENE PIPE	
		PP	POLYPROPYLENE PIPE	
		PVC	PVC PIPE	
		SEP	SEWAGE PUMP	
		UR	UNDER RAFT	
		US	UNDER SLAB	
		WATER SUPPLY		
		BS	BUCKET SINK	
PS	Between	BV	BALL VALVE	
	540 - 545	CU	COPPER PIPE	
		CV	CHECK VALVE	
		CWMF	COLD WATER MANIFOLD	
		EWH	ELECTRIC WATER HEATER	
		FV	WC FLUSH VALVE	
		GS	GALVANISED STEEL PIPE	
		HB	HOSE BIB	
		HWMF	HOT WATER MANIFOLD	
		ISC	INSIDE SCREED	
		ISL	INSIDE SLAB	
		IW	INSIDE WALL	
		KS	KITCHEN SINK	
		MV	MIXING VALVE	
		PE	POLYETHYLENE PIPE	
		PG	PRESSURE GAUGE	
		PP	POLYPROPYLENE PIPE	
		PRV	PRESSURE REDUCING VALVE	
		PWF	PORTABLE WATER FILTER	
		RGV	RUBBER WEDGE GATE VALVE	
		SHB	SHOWER BASIN	
		STN	WATER FILTER STRAINER	
		UR	WALL URINAL	
		WAB	WASH BASIN	
		WC	WATER CLOSET	
		WHR	WATER HAMMER ARRESTOR	
		WTM	WATER METER	
			FIRE PROTECTION	
		ACT	ACTUATOR	
PS	Between	AGV	FIRE FIGHTING ANGULAR GLOBE VALVE	
	600 - 645	Al	ALARM INDICATOR (REPEATER)	
		ALV	ALARM VALVE	



RFP-380/20

ARV	AIR RELEASE VALVE
В	FIRE ALARM BEACON
BFV	BUTTERFLY VALVE
BRA	BREATHING APPARATUS
BV	BALL VALVE
CFH	CONNECTION FLEXIBLE HOSE
COMF	CO2 GAS MANIFOLD
COSC	CO2 STEEL CYLINDER
COSP	CO2 SUPPLY PIPE
CV	CHECK VALVE
DSP	DRY STAND PIPE
DV	DELUGE VALVE
DRV	DRAIN VALVE
ECU	EMERGENCY CONSOLIDATED UNIT
FAM	FIRE ALARM MANAGEMENT
FAP	FIRE ALARM PANEL
FDC	SIAMEZE FIRE HOSE CONNECTION
FE-C	FIRE EXTINGUISHER - CARBON DIOXIDE
FE-P	FIRE EXTINGUISHER - DRY POWDER
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FPS	FIRE FIGHTING PUMPING STATION
FS	FLOW SWITCH
FSH	FIRE SPRINKLER HEAD
FTC	FIRE TOOL CABINET
FWT	FIRE FIGHTING WATER TANK
Н	ALARM HORN
HDD	HEAT DIFFERENTIAL DETECTOR
IAP	INTRUSION ALARM PANEL
IGMF	INERGEN GAS MANIFOLD
IRD	INERGEN NOZZLE
ISC	INERGEN STEEL CYLINDER
ISP	INERGEN SUPPLY PIPE
LSD	LINEAR SMOKE DETECTOR
LSP	LUMINUS SIGN POST (INERGEN)
MC	MAGNETIC CONTACT
MCP	MANUAL CALL POINT
MCPI	MANUAL CALL POINT INERGEN
OSD	OPTICAL SMOKE DETECTOR
PE	POLYETHELENE PIPE
PG	PRESSURE GAUGE
PNV	PNEUMATIC VALVE
PRV	PRESSURE REDUCING VALVE
RGV	RUBBER WEDGE GATE VALVE
STZ	STORZ COUPLING
TRP	TRANSPONDER



RFP-380/20

I	1 1	WME	WATER MANIFOLD
		WSD	
	+		
			ESCALATORS
PS	Between	ECP	ESCALATOR CONTROL PANEL
	700 - 720	ESC	ESCALATOR
			LIFTS
		HLM	HYDRAULIC LIFT MACHINE
PS	Between	HLP	HYDRAULIC LIFTING PLATFORM
	800 - 820	LCP	LIFT CONTROL PANEL
		LGH	LIFT GLASS HOUSE
			LIFT
			NATURAL GAS
	Between 850 - 855	CU	COPPER PIPE
PS		GBFV	GAS BUTTERFLY VALVE
		GBV	GAS BALL BALVE
		GFI	GAS FILTER
		GM	GAS METER
		GS	GALVANISED STEEL PIPE
		PE	POLYETHYLENE PIPE
		PG	PRESSURE GAUGE
		SAV	SAFETY SHUT-OFF VALVE
		SBV	SAFETY BLOW-OFF VALVE
		SGV	SOLENOID GAS VALVE
		TAS	THERMAL SHUT-OFF DEVICE
		VI	VIBRATION ISOLATOR, BELLOWS
			TUNNEL VENTILATION
		BSF	BLAST SHAFT FAN
PS	Between	DAC	INSULATED FUTURE A/C AIRDUCT
	900 - 980	DOT	FIRE RATED OTE AIRDUCT
		DUP	UPE AIRDUCT
		JF	JET FAN
		MFD	MOTORISED FIRE RATED DAMPER
		MR	MONORAIL
		SAT	SOUND ATTENUATOR – TUNNEL SIDE
		SAS	SOUND ATTENUATOR – STREET LEVEL SIDE
		SSAF	STATION SUPPLY AIR FAN



RFP-380/20

SWB	ELECTRICAL SWITCHBOARD
UPE/OTE	STATION EXHAUST FAN
	HVAC FANS
EXF-AT	FAN SECTION - ATIM EXHAUST
EXF-E2	ELECTRICAL ROOM AUXILLIARY EXHAUST FAN
EXF-ER,	ELECTRICAL ROOM MAIN EXHAUST FAN
EXF-LM	FAN SECTION - LIFT MACHINE ROOM EXHAUST
EXF-P	FAN SECTION - PUMP ROOM EXHAUST
EXF-REC	FAN SECTION - TUNNEL ELECTRICAL RECESS
EXF-SR	FAN SECTION - STAFF ROOM EXHAUST
EXF-SWB	FAN SECTION - ELECTRICAL SWB ROOM
EXF-T	FAN SECTION - TOILET EXHAUST
EXF-TR	FAN SECTION - TECHNICAL ROOM EXHAUST
SAF	SUPPLY AIR FAN
SAF-LM	FAN SECTION - EXTERNAL LIFT SHAFT SUPPLY
SAF-SC	FAN SECTION - STAIRCASE EMERGENCY
	SUPPLY
	VARIOUS HVAC EQUIPMENT
ACR	AIR CURTAINS
ACU	AIR CONDITIONING UNIT
AD	ACCESS DOOR
AEL	AIR EXHAUST LOUVER
AF	MAIN AIR FILTER
AFD	AUTOMATIC FILLING DEVICE
AH	AIR HEATERS
AHU	AIR HANDLING UNIT
AP	AUTOMATIC AIR PURGE
ASL	
BFP	BACK FLOW PREVENTER
BFV	
BLV	
BPV	BY-PASS VALVE (3 WAY)
BT	BUFFER TANK
BV	BALL VALVE
C/CE	FIRE DAMPER POSITION INDICATION SWITCH
CCU /CON	CLOSE CONTROL UNIT, CONDENSER
COV	LOUVER COVER
CV	CHECK VALVE
CW	CHILLED WATER UNIT
DA	DAMPER ACTUATOR
DST	STAFF ROOMS AIR DUCTS
DTE	TECHNICAL ROOMS AIR DUCTS



RFP-380/20

DG DOOR GRILLE			
DP	PUMP ROOM EXHAUST DUCT		
DPS	DIFFERENTIAL PRESSURE SWITCH		
DSA	SUPPLY AIR DUCT		
DT	TOILET EXHAUST DUCT		
DU	DOOR UNDERCUT		
DV	DISC VALVE		
DRV	DRAIN VALVE		
EAG	EXHAUST AIR GRILLE		
EFCG	EXHAUST FALSE CEILING GRILLE		
ET	EXPANSION TANK		
FCU	FAN COIL UNIT		
FD	FIRE DAMPER MECHANISM		
FDETM	ELECTROTHERMAL FIRE DAMPER CURTAIN		
FDTM	THERMAL FIRE DAMPER CURTAIN		
FJ	FLEXIBLE JOINT		
FP	FLEXIBLE PIPE		
GD	GRAVITY DAMPER		
HDL	HEAVY DUTY LOUVER		
HP	HEAT PUMP		
HWB, BU	HOT WATER BOILER, BURNER		
MD	MOTORISED DAMPER		
MFD	MOTORISED FIRE RATED DAMPER		
MS	MAINTENANCE SWITCH		
PFI	PRE-FILTER AND MAIN FILTER		
PG	PRESSURE GAUGE		
PRV	PRESSURE RELIEF VALVE		
RLP	REFRIGERANT LIQUID PIPE		
RSD	ROLLER SHUTTER DAMPER / DOOR		
RSP	REFRIGERANT SUCTION PIPE		
SA	SOUND ATTENUATOR		
SAG	SUPPLY AIR GRILLE		
SD	SHUTTER DAMPER		
SFCG	SUPPLY FALSE CEILING GRILLE		
SFFG	SUPPLY FALSE FLOOR GRILLE		
SSG	SPECIAL SUPPLY GRILLE		
STN	WATER FILTER, STRAINER		
SU	DIRECT EXPANSION SPLIT TYPE AIR TO AIR HEAT PUMP UNIT		
SAA	SACRIFICIAL ANODE		
TAG	TRANSFER AIR GRILLE		
TH	THERMOMETER		
TSA	TEMPERATURE SENSOR AMBIENT		
TSR	TEMPERATURE SENSOR ROOM		
TSP	TEMPERATURE SENSOR PLATFORM		
TS	TEMPERATURE SENSOR		



#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

		VD	VOLUME DAMPER	
		VI	VIBRATION ISOLATOR, BELLOWS	
		WM	WIRE MESH	
		WP	WATER PUMP	
		WT	WATER TREATMENT UNIT	
			TELECOM - LV	
		CCTV	CLOSED CIRCUIT TV	
LV	Between	DLT	DIRECT LINE TELEPHONE	
	000 - 960	EBTS	ENHANCED BASE TRANSCEIVER SYSTEM	
		MDF	MAIN DISTRIBUTION FRAME	
		ODF	OPTICAL DISTRIBUTION FRAME	
		OTN	OPEN TRANSPORT NETWORK	
		PA	PUBLIC ADDRESS	
		PABX	PRIVATE AUTOMATIC BRANCH EXCHANGE	
		PTZ	PAN, TILT AND ZOOM (CAMERA)	
		TETRA	TRANS EUROPEAN TRUNKED RADIO	
		UPS	UNINTERRUPTED POWER SUPPLY	
		OPERATION CONTROL CENTRE (OCC)		
		WST	WORKSTATION (PC/IT/VDU)	
LV	Between	PRI	PRINTER	
	000 - 960	MMP	MOSAIC MIMIC PANEL	
		TCI	TELE-CONTROL INTERFACE	

#### 9.5 Field 11 - Item / component serial number

Field 11 identifies the number of E/M items or components in a specified area as designated by field 9 (eg room 3.7), over the total number of such items / components in that area. The above is written with two numbers, separated by a "/".

					١		-		-	1/2
--	--	--	--	--	---	--	---	--	---	-----

(the hyphens "-" are shown above only to discriminate the coding components)



#### Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

### **10.** Contract amendments

The above described coding system shall also cover and monitor the following Project procedures related to changes in the Project at various phases (refer to field 6 in par 4.6):

- D Technical Deviation
- E Field Changes
- H Contract Amendment Additional Works or Reduction of Scope
- W Non Conformance Report (NCR)
- Z Repairs

This shall be performed through the existing coding numbering as for the drawings and the Project work breakdown structure, using existing fields as follows:

(example identification code for a Field Change)

	1	S	0	2	A R	4	2	1	Ε	2.3	123	001
			1		1							
Field:	1	2	[;	3	4	_	5		6	9	10	. <u> </u>   11
Where	e:											
•	Field	1 :	Line	num	ber						(see ch	apter 4.1)
•	Field	2 :	Туре	e of s	tructure						(see ch	apter 4.2)
•	Field	3:	Geog	grapl	hical loca	ation					(see ch	apter 4.3)
•	Field -	4 :	Gene	eralo	category	of wo	ork				(see ch	apter 4.4)
•	Field	5:	Sub	- cat	egory of	work					(see ch	apter 4.5)
•	Field	6 :	Phas	se of	work or	the tv	be of	do	cumen	t	(see ch	apter 4.6)
•	Field	9 :	Roor	m/are	ea numb	er	•				(see ch	apter 9.3)
•	Field	10 :	Worl	k bre	eakdown	for c	ivil / a	arch	itectur	al works	or descrip	otion of E/N
			item	-com	ponent f	or E/I	VI & ra	ailw	ay sys	tems	(see ch	apter 9.4)
•	Field	11 :	Index	x nur	mber of t	he do	cume	ent				

For the above example, the coding refers to:

- Line 2, DIMOKRATIAS station (1S02),
- Architectural (AR)
- Architectural Finishes (421)
- Field change (E)
- Station Master Room (2.3)
- False Floor (123)

Each one of the above documents (D, E, H, W, Z) shall have a standard format to be followed. These standard forms are attached in the following pages (see chapt.12).



# "DESIGN, PROCUREMENT, INSTALLATION AND COMMISSIONING OF TELECOMMUNICATIONS, LOW VOLTAGE AND CONTROL SYSTEMS IN THE THESSALONIKI METRO EXTENSION TO KALAMARIA" Drawing Office Manual, Project Work Breakdown Structure and Equipment Codification

## 11. Various disciplines symbols

Symbols from various disciplines as:

- o General
- o Architectural
- Topographical
- o Structural
- Electrical
- o Mechanical

need to be used in the production of drawings. A list of these standardised symbols is available from AM for anyone interested. All designers and contractors are encouraged to use them.



## 12. Standard Forms

The standard forms for

- Non Conformance Reports (NCRs)
- Field Changes
- Technical Deviations

are attached in the following pages. They should be used in all such cases during the execution of the projects. The code numbers for these documents should be filled in.

	<b>ΑΝΑΦ</b> Μη συμβατότητα των Τεχνικ	ΟΟΡΑ ΜΗ ΣΥΙ ών, των Υλικών ή τ	<b>ΜΜΟΡΦΩΣΗΣ (ΝC</b> του Εξοπλισμού με τις προ	<b>R)</b> διαγραφές ή τα σχέδια.
ATTIKO METPO A.E.	Εργοτάξ	10	A	νάδοχος
Αρ. Σύμβασης Α/Α ΝCF	ΝCR Β΄Έργου Είδος Τα	οποθεσία Περκ	οχή Αρ. Πρωτοκόλ	Δου
ΙΙΤΛΟς				
<u>Τοποθεσία / Περιγραφή / Ταυτότ</u> αντικειμένου	τητα μη συμμορφούμενου	1 AH 2 E/	<u>Αφορά σε:</u> κατάλληλο Υλικό \αττωματική Εργασία με:	Ο Επιβλέπων Μηχανικός Υπογραφή: / /20
Προδιαγραφές, Σχέδια κ.α., που	<u>παραβιάσθηκαν</u>	2.1 Or E/ 2.2 ET E/	υσιώδες \άττωμα τουσιώδες ιάπωμα	Προθεσμία απάντησης / /20
<u>Περιγραφή μη συμμόρφωσης &amp;</u>	Αίτια			Παρελήφθη από την Ανάδοχο Υπογραφή:
Το πρωτότυπο στην Ανάδοχο για ι	συμπλήρωση του παρακάτω πλαισ	ίου.		/ /20
Προτεινόμενη ρύθμιση			Χρήση ως έχει Επανεπεξεργασία	Προτάθηκε από την Ανάδοχο Υπογραφή:
Πρόταση για αποφυγή επανάληι	ψης της μη συμμόρφωσης		Απόρριψη Τυποποιημένες Επιδιορθώσεις	/ /20
			Άλλες Επιδιορθώσεις	
Σχετική Α.Μ.Σ. Αναδόχου Παρακαλώ, το πρωτότυπο να επισ	ποαφεί στον Επιβλέποντα Μηχανικ	ró.		
Εξέταση της πρότασης:			ΑΠΟΔΕΚΤΗ	Ο Επιβλέπων Μηχανικός Υπογραφή:
			ΜΗ ΑΠΟΔΕΚΤΗ	/ /20 Προθεσμία Αποκατάστασης
				/ /20
Το πρωτότυπο στη Διευθύνουσα Ν	<i>Υπηρεσία, εφόσον η πρόταση</i> γίνει	αποδεκτή.		Για την Α Μ
Έγκριση πρότασης Αναδόχου	NAI	охі		Υπογραφή:
Το πρωτότυπο στον Επιβλέποντα	Μηχανικό για επιβεβαίωση αποκατ	τάστασης.		/ /20
Επί τόπου επιβεβαίωση αποκατ	άστασης ΝΑΙ	охі		Ο Επιβλέπων Μηχανικός Υπογραφή:
Το ποιωτότυπο στου Διουθώνουσα	νπροεσία			/ /20
Έγκριση αποκατάστασης – Κλεί	σιμο ΑΜΣ ΝΑΙ	охі		Κλείσιμο για την Α.Μ. Υπογραφή:
Η πρωτότυπη κλεισμένη ΑΜΣ στο	αρχείο. Αντίνραφα στους: Ανάδον	ο. Υπεύθυνο Διασφ	άλισης Ποιότητας.	/ /20
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	2 3 4	5 6	9 10	11

ATTIKO METPO A.E.	ENTYRO ERI TORO (FIELD CHAN	<b>Υ ΑΛΛΑΓΩΝ</b> IGES)		J/V	
	Αριθμος Αναφοράς/Ημερομηνία:	I			
Αἰτηση από Εργοτἁ	<b>ξιο</b> (Request from Site):		<b>a/a</b> (s/n): _	/	
<b>Παραλήπτης</b> (Recipi	ent): (CATEGORY A) AM (AM)	(CATEGORIES B & C) K/Ξ	(JV)	LOCATION CODE	SERIAL No
Τοποθεσία (Locatio	n)				

Περιγραφή Εργασίας	
(Activity Description)	
Κωδικός Σχεδίων (Dwgs N	0)

	<b>1</b> °	ΜΕΡΟΣ:	Απαιτούμ	ενη Διευ	<b>κρίνιση /</b>	Οδηγία / Instru	<b>α / Πρότας</b> ction / Modi	<b>ση τρο</b>	nonoiŋ Reque	ι <b>σης</b> (0 st (fille	υμπληρά d in by o	overal ar	יסו א סר י)	ιγητή)	
						/ Insulu		ncauor	Reque			nginatur			
					<u> </u>										
Συνημμέν	/а апо	Κ/Ε (Σκι	αριφήματ	α, Μεθοδ	ολογίες,	кλп) -	Attachmen	ts from	K/E (SI	ketches	, Method	Statem	ents, e	etc):	
NAI (YES)			ριθμός επι	συναπτό	μενων σε	ελίδων	(No of attac	hed pa	ges):				0	<b>XI</b> (NO)	
<b>DNOMA</b> (Name)							<b>ҮПОГРАФ</b> (Signature)	H				HM/I (Date	NIA )		
оıvonoir	ηση αρ	οχικού ε	<b>ут</b> іпоц (	Notificati	on of init	ial Forr	n): AM		DIP						
				2° M	ΕΡΟΣ: Απ	άντησι	ουμπληρα	ύνεται	από παρ	οαλήπτι	ו)				
					2 <sup>nd</sup> PAR	I: Resp	onse (filled	in by re	ecipient	)					
Συνημμέν	/а апо̀	Παραλή	πτη (Απάν	τηση Με	<b>λετ</b> ητή, κ	<b>(λπ)</b> - A	ttachments	from R	ecipient	(Reply	r from De	esianer. e	etc):		
NAT (VEC	, –			awanto		-):500		bod pa	doc):						
			ρισμος επι	oovanio	μενων Οε			H	ges).			HM/I	NIA		
(Name)							(Signature)					(Date	)		
λπάντησ	η δόθι	ηκε από	(Respons	e given t	ру): <b>К/</b> Е	(JV)		AN	<b>1</b> (AM)	п					
Απαιτούν	ται συ	μπληρωμ	ιατικά στο	οιχεία από	ͻ K/E;				<b>NAI</b> (Y)	<b>––</b> ES)			οχι	(NO)	
Are supple	mentar	y element	s required	from K/E?									(	/	
λοκλήρω	ση ενε	ργειών (	συμπληρών	етаі апо і	ταραλήπτη	ן) <b>-</b> Com	pletion of a	ctions (	(filled in	by rec	ipient)	. 🗆			
													Ŷ	πογραφή (S	Signature)
					Notificati	ion of c	amplatad	Eorm)			חזח				
		ιοκλιμα	υμενου εί		(Notificati		ompieteu	ronn)	. AM		DIP				
		·	· · · · ·						1						
1	2	3	<u> </u>	5	<u> </u>	<u>م</u>	10	11							
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	<b>ΑΙΤΗΜ</b> όμθιαΑ	<b>Α ΤΕΧΝΙΚΗΣ ΠΑΡΕΙ</b> ός Αναφοράς/Ημερομηνία:	<b>ΚΚΛΙΣΗΣ/ΑΠ</b>	ΟΚΛΙΣΗΣ		J/V	
Αίτηση από (Requ Παραλήπτης (Reci	est from): pient): <i>(CATE</i>	<i>GORY A)</i> <b>AM</b> (AM)	a/c (CATEGORIES I	I (s/n): B & C) K/E (JV)	/	LOCATION CODE	SERIAL No
<b>Τοποθεσία</b> (Locat	ion)						
Περιγραφή Εργα (Activity Description Κωδικός Σχεδίων	<b>σίας</b> n) <b>v</b> (Dwgs No)	1					
1° Mi	E <b>POΣ</b> : Απαιτοι 1 <sup>st</sup> PART:	<b>ύμενη Διευκρίνιση / Οδηγ</b> Required Explanation / Instr	<b>ria / Πρόταση τρο</b> ruction / Modification	<b>ποποίησης</b> (συμ n Request (filled i	uπληρώνετ in by origin	αι από εισηγητή) ator)	
		2° ΜΕΡΟΣ: Δεν επηρεά	<b>ίζονται</b> (συμπληρώ	νεται από εισηγητ	гή)		

	2 <sup>nd</sup> PART:	: No influence to	(filled in by origin	inator)		
Ασφάλεια 🗆	Αντοχή 🗆	Απόδοση 🗆	Ev	ναλλαξιμότητα 🗆	Λειτουργικότητα	
Safety	Strength	Performance	Int	iterchangeability	Functionality	
Διάρκεια Ζωής 🗆	Ευφάνιση 🗆	Βάρος 🗆	Συ	υντήρηση 🗆		
Life Time	Appearance	Weight	Ma	aintenance		
	3° ΜΕΡΟΣ: Δεν	επηρεάζονται	(συμπληρώνεται α	από εισηγητή)		
	3 <sup>rd</sup> PART:	No influence to	(filled in by origin	nator)		
Χρονοδιάγραμμα 🗆			Κόστος 🗆			
Timetable			Cost			
Συνημμένα από Κ/Ε (Σκα	αριφήματα, Μεθοδολογίες	<b>, κλπ)</b> - Attach	ments from K/E (	(Sketches, Method Sta	tements, etc):	
	ριθμός επισυναπτόμενων α	<b>σελίδων</b> (No of	attached pages):		<b>0XI</b> (NO)	
ONOMA		ΥΠΟΓ	РАФН	Н	M/NIA	
(Name)		(Signa	ture)	]) [	Date)	

**Κοινοποίηση αρχικού εντύπου** (Notification of initial Form): AM DIP DIP

			4° N	<b>1EPOΣ: Απ</b> 4 <sup>th</sup> PART	<b>άντηση</b> (συ Γ: Response	μπληρώνε (filled in b	гаі апо́ парс y recipient)	ιλήπτη)			
Συνημμέ	να από Παρ	οαλήπτη (Α	ιπάντηση Μ	ελετητή, κ	λπ) - Attach	nments fror	n Recipient (	Reply from	Designer, etc	:):	
NAI (YES	<b>7</b>	Αριθμός	ς επισυναπτ	όμενων σε	<b>λίδων</b> (No	of attached	l pages):			<b>OXI</b> (NO)	
ONOMA (Name)		:			<b>YПC</b> (Siai	)ГРАФН nature)			HM/NI (Date)	A	
					. (- 5	<b>/</b>	-		. ( )		
Απάντησ	ση δόθηκε	<b>апо</b> ́ (Resp	oonse given	by): <b>K/</b> Ξ	(JV)		<b>AM</b> (AM)				
<b>Απαιτούν</b> Are supple	<b>νται συμπλ</b> ι ementary ele	<b>ηρωματικά</b> ments requi	<b>στοιχεία αι</b> ired from K/F	⊓ <b>ò K/E;</b> ≅?			NAI (YES	5)	<i>0</i> .	<b>XI</b> (NO)	
λοκλήρω	οση ενερνει	<b>ών</b> (συμπλr	ιοώνεται από	ο παραλήπτη	) - Completi	on of actio	ns (filled in t	ov recipient)	Π		
		··· (···		· · · · ·	, <b>F</b>			·/ ···· · ·		<b>Υπονοα</b> φή (S	(ianatura)
										Πογραφη (Ο	ignature)
							. <b>г</b>				ignature)
οινοποί	ηση ολοκ/	ληρωμένο	υ εντύπου	(Notificati	on of com	pleted For	m): AM 🕻		IP 🔲	πογραφη (ο	ignature)
οινοποίι	ηση ολοκ/	ληρωμένο	υ εντύπου	(Notificati	on of comp	pleted For	m): AM 🕻	ם <b>ב</b>	ip 🔲 7	, noypuşı (c	ignature)