Construction of

220 kV Loop in Loop out Paliastomi- into Ozurgeti Substation and

110 kV Double Circuit (D/C) Overhead Line from Ozurgeti Substation to Zoti HPP

Foundation Drawings of Tower Type "12A-LA"

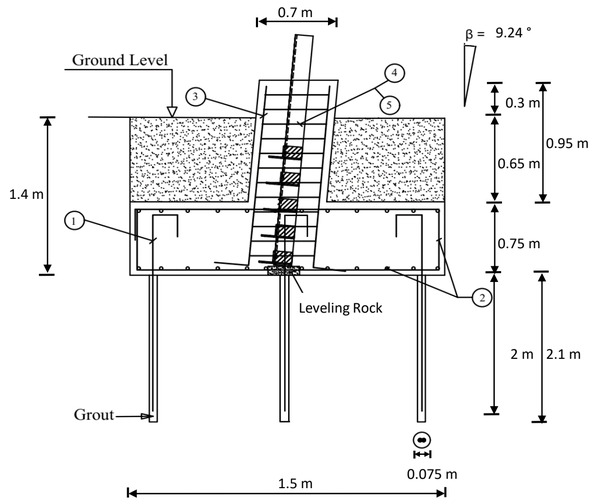
(for all soil types)

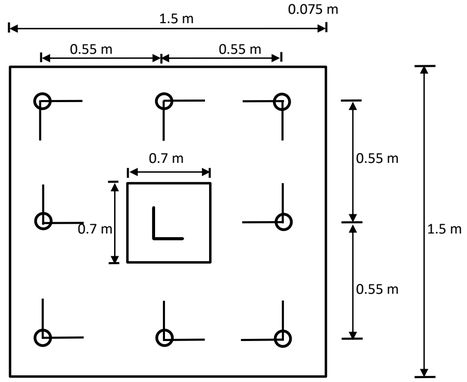
1	26/10/2022	Revised as per Consultant Comments	D. Nezamolmolki	H.O.Bulut	K. Karagoz
0	21/07/22	First Submission	D. Nezamolmolki	H.O.Bulut	K. Karagoz
Rev. No.	Date	Description	Designed by	Checked by	Approved by

Employer Logo and Business Name	Project Name
GEORGIAN STATE ELECTROSYSTEM 2 Baratashvili Street Tbilisi 0105 Georgia	Open Programme Extension of the Transmission Network II BMZ No. 2015 68 286
Engineer logo and business name	Contract Identification Number
Fichtner GmbH & Co. KG Sarweystrasse 3 70191 Stuttgart / Germany	KfW/DSI/OHL-TD-Lot 2
Contractor logo and business name	Document Number
MITAS Energy & Metal Construction Inc. Eski Güvercinlik Yolu No: 113 Gazi 06560 Ankara / Turkey	7145A07-EG-FND-DWG-0608_01

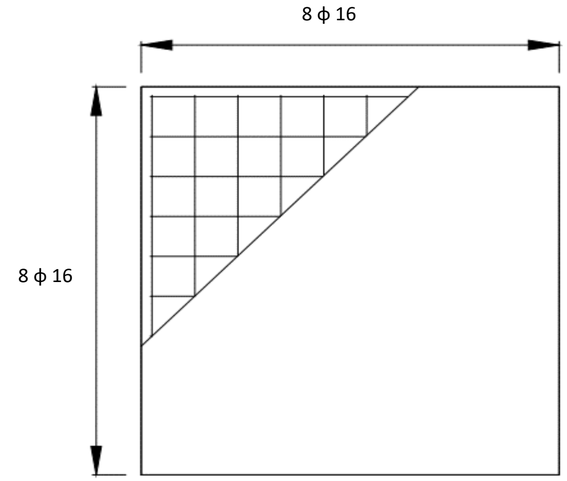
Document Title	Scale	Sheet of Sheets
Foundation Drawings of Tower Type "12A-LA" **(for all soil types)**	**n.a.**	Page 1 of 10

Soil Type:	Type 1-Sound Rock
Foundation Type:	Rock Anchor
Tower Type:	12A-LA



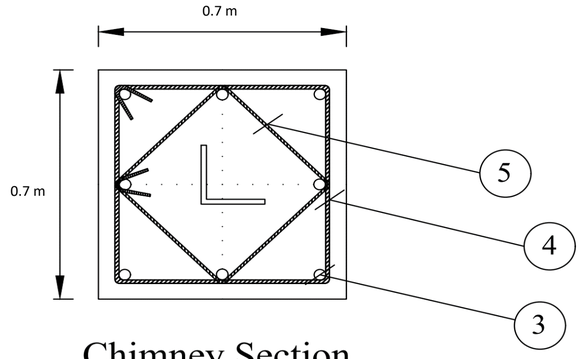


Mark	Pattern	Length (cm)	Diameter (mm)	Unit Weight (kg)	QTY	Total Weight
1	265, 30, 20	315	20	7.78	16	124.5
2	35, 135, 60	425	16	6.72	16	107.5
3	155, 40	195	20	4.82	8	38.5
4	58, 58	251	8	0.992	12	12.2
5	40	182	8	0.72	12	8.9
				SUM		291.6



Pad Rebars

* The foundation is in direct contact with undisturbed soil.



Chimney Section

Dimensions (m)

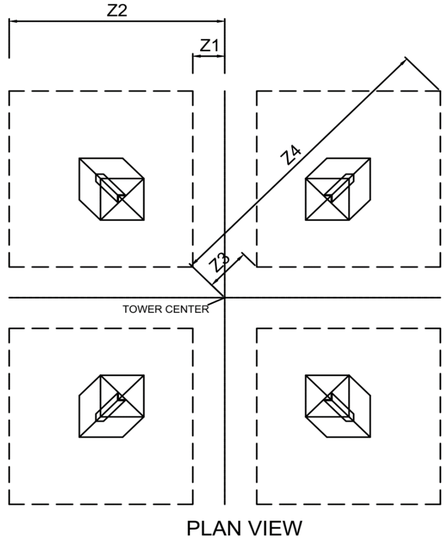
Width of Pad	bp =	1.50
Height of Pad	hp =	0.75
Width of Chimney	bc =	0.70
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	0.65
Total Height of Chimney	hc =	0.95
No. of Anchor Hole Rows	n =	3
No. of Anchor in one hole	m =	2
Total No. of Anchor Holes	i =	8
Distance of Anchor Rows	C =	0.550
Embeded Length of Anchors in Ground	L =	2.00
Anchor Hole Diameter (Minimum Value)	Dh =	0.075
Anchor Hole Length	Lh =	2.10
Depth of Pad	H =	1.40

Quantities

Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	2.15	8.61
Excavation (Rock)	m3	3.15	12.60
Backfill	m3	1.00	3.99
Formwork	m2	2.66	10.64
Grout	m3	0.07	0.30
Drilling	m3	0.07	0.30
Reinforcement	kg	292	1166

Material Specifications

Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Grout and Steel Bond Stress	2.00	Mpa
Grout and Rock Bond Stress	0.90	Mpa
Concrete and Rebar Bond Stress	2.30	Mpa
Soil Density	2.55	ton/m3
Bearing Capacity of Soils	10.19	kg/cm2



PLAN VIEW

NOTES :
1- Concrete Class : C20/25
2- Steel Reinforcement Class : S500
3- Concrete Cover : 75 mm
4- Soil Layer Shall Be Compacted To Maintain Soil Density.
5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
6- In case of high soil resistance, filling shall be done using soil with low resistance.
7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions
8- Expanding Grout to be used as per Technical Specification or Manufacturer Instruction.

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	2818	4318	3985	6106
	-1.5	3062	4562	4330	6451
	+0	3306	4806	4675	6796
	+1.5	3550	5050	5020	7142
	+3	3794	5294	5365	7487
	+4.5	4038	5538	5711	7832
	+6	4282	5782	6056	8177
BE+0	-3	3306	4806	4675	6796
	-1.5	3550	5050	5020	7142
	+0	3794	5294	5365	7487
	+1.5	4038	5538	5711	7832
	+3	4282	5782	6056	8177
	+4.5	4526	6026	6401	8522
	+6	4770	6270	6746	8867
BE+3	-3	3794	5294	5365	7487
	-1.5	4038	5538	5711	7832
	+0	4282	5782	6056	8177
	+1.5	4526	6026	6401	8522
	+3	4770	6270	6746	8867
	+4.5	5014	6514	7091	9212
	+6	5258	6758	7436	9558
BE+6	-3	4282	5782	6056	8177
	-1.5	4526	6026	6401	8522
	+0	4770	6270	6746	8867
	+1.5	5014	6514	7091	9212
	+3	5258	6758	7436	9558
	+4.5	5502	7002	7781	9903
	+6	5746	7246	8126	10248
BE+9	-3	4770	6270	6746	8867
	-1.5	5014	6514	7091	9212
	+0	5258	6758	7436	9558
	+1.5	5502	7002	7781	9903
	+3	5746	7246	8126	10248
	+4.5	5990	7490	8472	10593
	+6	6234	7734	8817	10938

* All dimensions and quantities shall be checked prior to construction

REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
1	Revised as per Consultant Comments	26.10.22	D.Nz
0	First Submission	21.07.22	D.Nz

PROJECT NAME / პროექტის დასახელება:
Open Programme Extension of the Transmission Network II
BMZ No. 2015 68 286
Contract Identification No. KfW/DSI/OHL-TD-Lot 2

EMPLOYER / დამკვეთი:
JSC Georgian State Electrosystem (GSE)
Baratashvili Street, Tbilisi, Georgia, 0105
info@gse.com.ge

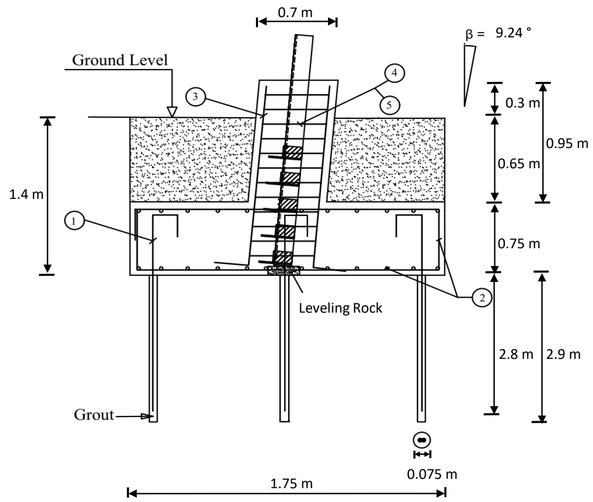
ENGINEER / ინჟინერი :
Fichtner GmbH & Co. KG
Sarweystrasse 370191 Stuttgart / Germany
info@fichtner.de

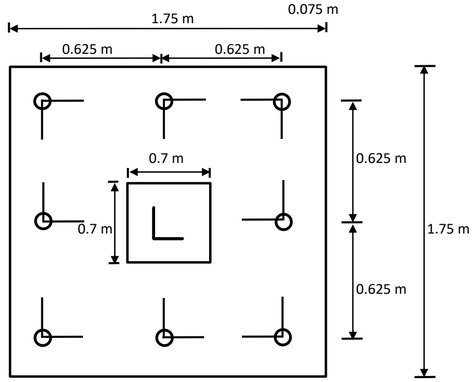
CONTRACTOR / კონტრაქტორი :
Mitas Energy and Metal Constuction Inc.
Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey
info@mitastower.com

APPROVAL AREA / მეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	'' 12A-LA ''	
DRAWN BY / შემსრულებელი:	D. Nezamolmolki	Soil Type 1-Sound Rock	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Rock Anchor Foundation	

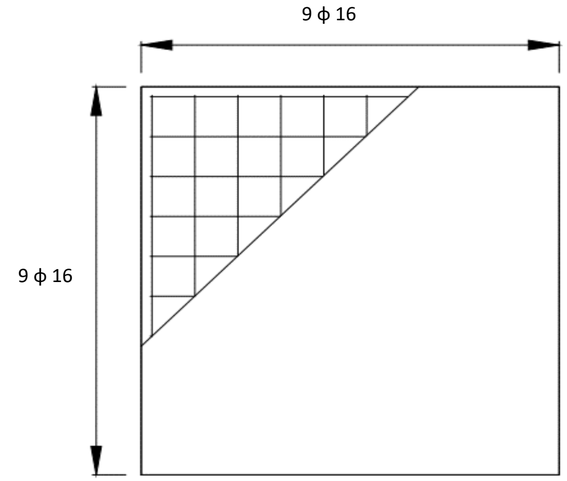
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0608_01	1	2 of 10

Soil Type:	Type 2-Deleterious Rock
Foundation Type:	Rock Anchor
Tower Type:	12A-LA



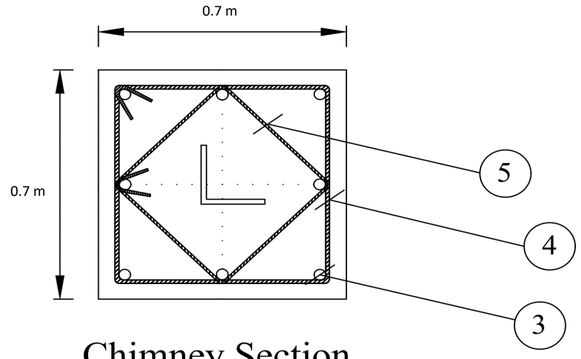


Mark	Pattern	Length (cm)	Diameter (mm)	Unit Weight (kg)	QTY	Total Weight
1	345, 30, 20	395	20	9.76	16	156.1
2	35, 160, 60	475	16	7.51	18	135.1
3	155, 40	195	20	4.82	8	38.5
4	58, 58	251	8	0.992	12	12.2
5	40	182	8	0.72	12	8.9
				SUM		350.9



Pad Rebars

* The foundation is in direct contact with undisturbed soil.

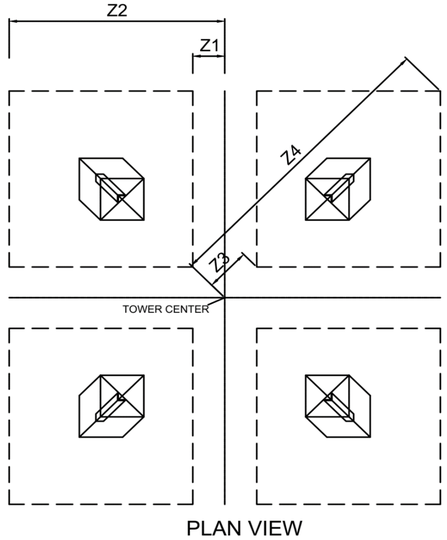


Chimney Section

Dimensions (m)		
Width of Pad	bp =	1.75
Height of Pad	hp =	0.75
Width of Chimney	bc =	0.70
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	0.65
Total Height of Chimney	hc =	0.95
No. of Anchor Hole Rows	n =	3
No. of Anchor in one hole	m =	2
Total No. of Anchor Holes	i =	8
Distance of Anchor Rows	C =	0.625
Embeded Length of Anchors in Ground	L =	2.80
Anchor Hole Diameter (Minimum Value)	Dh =	0.075
Anchor Hole Length	Lh =	2.90
Depth of Pad	H =	1.40

Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	2.76	11.05
Excavation (Rock)	m3	4.29	17.15
Backfill	m3	1.53	6.10
Formwork	m2	2.66	10.64
Grout	m3	0.10	0.41
Drilling	m3	0.10	0.41
Reinforcement	kg	351	1404

Material Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Grout and Steel Bond Stress	2.00	Mpa
Grout and Rock Bond Stress	0.60	Mpa
Concrete and Rebar Bond Stress	2.30	Mpa
Soil Density	2.04	ton/m3
Bearing Capacity of Soils	5.10	kg/cm2



PLAN VIEW

NOTES :
1- Concrete Class : C20/25
2- Steel Reinforcement Class : S500
3- Concrete Cover : 75 mm
4- Soil Layer Shall Be Compacted To Maintain Soil Density.
5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
6- In case of high soil resistance, filling shall be done using soil with low resistance.
7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions
8- Expanding Grout to be used as per Technical Specification or Manufacturer Instruction.

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	-3	2693	4443	3808	6283
	-1.5	2937	4687	4153	6628
	+0	3181	4931	4498	6973
	+1.5	3425	5175	4844	7318
	+3	3669	5419	5189	7664
	+4.5	3913	5663	5534	8009
	+6	4157	5907	5879	8354
BE+0	-3	3181	4931	4498	6973
	-1.5	3425	5175	4844	7318
	+0	3669	5419	5189	7664
	+1.5	3913	5663	5534	8009
	+3	4157	5907	5879	8354
	+4.5	4401	6151	6224	8699
	+6	4645	6395	6569	9044
BE+3	-3	3669	5419	5189	7664
	-1.5	3913	5663	5534	8009
	+0	4157	5907	5879	8354
	+1.5	4401	6151	6224	8699
	+3	4645	6395	6569	9044
	+4.5	4889	6639	6914	9389
	+6	5133	6883	7259	9734
BE+6	-3	4157	5907	5879	8354
	-1.5	4401	6151	6224	8699
	+0	4645	6395	6569	9044
	+1.5	4889	6639	6914	9389
	+3	5133	6883	7259	9734
	+4.5	5377	7127	7605	10079
	+6	5621	7371	7950	10425
BE+9	-3	4645	6395	6569	9044
	-1.5	4889	6639	6914	9389
	+0	5133	6883	7259	9734
	+1.5	5377	7127	7605	10079
	+3	5621	7371	7950	10425
	+4.5	5865	7615	8295	10770
	+6	6109	7859	8640	11115

* All dimensions and quantities shall be checked prior to construction

REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ
1	Revised as per Consultant Comments	26.10.22	D.Nz
0	First Submission	21.07.22	D.Nz

PROJECT NAME / პროექტის დასახელება:
Open Programme Extension of the Transmission Network II
BMZ No. 2015 68 286
Contract Identification No. KfW/DSI/OHL-TD-Lot 2

EMPLOYER / დამკვეთი:
JSC Georgian State Electrosystem (GSE)
Baratashvili Street, Tbilisi, Georgia, 0105
info@gse.com.ge

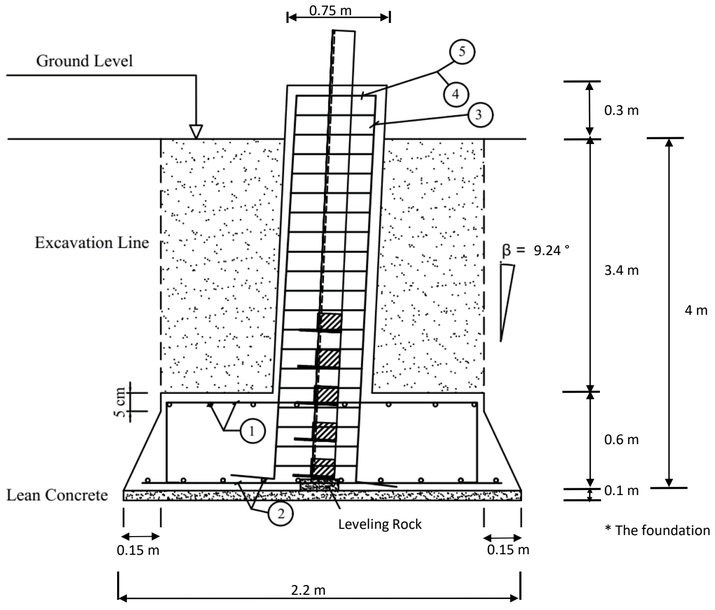
ENGINEER / ინჟინერი :
Fichtner GmbH & Co. KG
Sarweystrasse 370191 Stuttgart / Germany
info@fichtner.de

CONTRACTOR / კონტრაქტორი :
Mitas Energy and Metal Constuction Inc.
Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey
info@mitastower.com

APPROVAL AREA / მეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	'' 12A-LA ''	
DRAWN BY / შემსრულებელი:	D. Nezamolmolki	Soil Type 2-Deleterious Rock	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Rock Anchor Foundation	

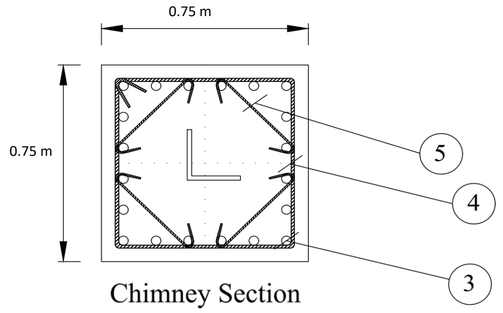
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0608_01	1	3 of 10

Soil Type:	Type 2-Deleterious Rock
Foundation Type:	Semi-Auger
Tower Type:	12A-LA

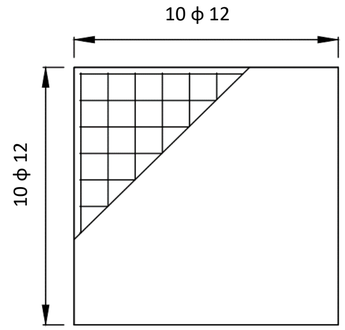


* The foundation is in direct contact with undisturbed soil.

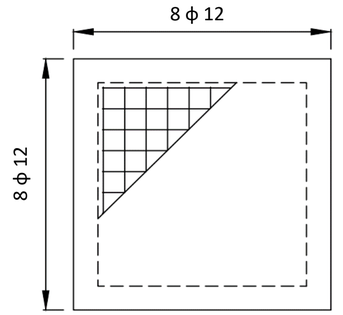
Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1	175, 45, 15	295	12	2.62	16	41.9
2	205	205	12	1.82	20	36.4
3	40, 415	455	16	7.19	20	143.8
4	62, 62	270	8	1.06	29	30.9
5	35	50	8	0.20	116	22.9
					SUM	275.9



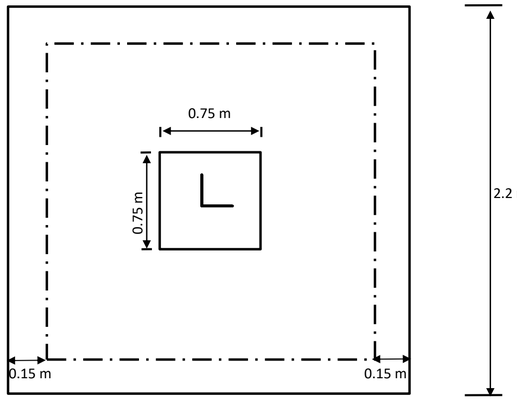
Chimney Section

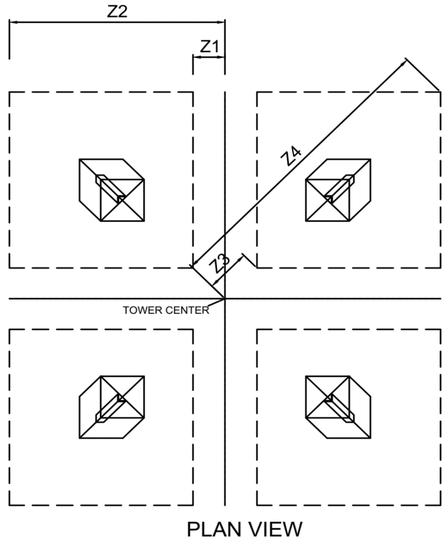


Bottom of Pad



Top of Pad





PLAN VIEW

Dimensions (m)		
Width of Pad	bp =	2.20
Height of Pad	hp =	0.60
Width of Chimney	bc =	0.75
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	3.40
Depth of Pad	H =	4.00

Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	4.6	18.4
Excavation	m3	14.8	59.2
Backfill	m3	10.2	40.8
Lean Concrete	m3	0.5	1.9
Formwork	m2	11.1	44.4
Reinforcement	kg	275.9	1103.5

Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natual Soil Density	2.04	ton/m3
Backfill Density	2.04	ton/m3
Bearing Capacity of Soils	5.10	kg/cm2

NOTES :
1- Concrete Class : C20/25
2- Steel Reinforcement Class : S500
3- Concrete Cover : 75 mm
4- Soil Layer Shall Be Compacted To Maintain Soil Density.
5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
6- In case of high soil resistance, filling shall be done using soil with low resistance.
7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	**-3**	3040	4940	4300	6987
	-1.5	3285	5185	4645	7332
	+0	3529	5429	4990	7677
	+1.5	3773	5673	5335	8022
	+3	4017	5917	5680	8367
	+4.5	4261	6161	6026	8713
	+6	4505	6405	6371	9058
BE+0	**-3**	3529	5429	4990	7677
	-1.5	3773	5673	5335	8022
	+0	4017	5917	5680	8367
	+1.5	4261	6161	6026	8713
	+3	4505	6405	6371	9058
	+4.5	4749	6649	6716	9403
	+6	4993	6893	7061	9748
BE+3	**-3**	4017	5917	5680	8367
	-1.5	4261	6161	6026	8713
	+0	4505	6405	6371	9058
	+1.5	4749	6649	6716	9403
	+3	4993	6893	7061	9748
	+4.5	5237	7137	7406	10093
	+6	5481	7381	7751	10438
BE+6	**-3**	4505	6405	6371	9058
	-1.5	4749	6649	6716	9403
	+0	4993	6893	7061	9748
	+1.5	5237	7137	7406	10093
	+3	5481	7381	7751	10438
	+4.5	5725	7625	8096	10783
	+6	5969	7869	8441	11128
BE+9	**-3**	4993	6893	7061	9748
	-1.5	5237	7137	7406	10093
	+0	5481	7381	7751	10438
	+1.5	5725	7625	8096	10783
	+3	5969	7869	8441	11128
	+4.5	6213	8113	8787	11474
	+6	6457	8357	9132	11819

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	26.10.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ

PROJECT NAME / პროექტის დასახელება:
Open Programme Extension of the Transmission Network II
BMZ No. 2015 68 286
Contract Identification No. KfW/DSI/OHL-TD-Lot 2

EMPLOYER / დამკვეთი:
JSC Georgian State Electrosystem (GSE)
Baratashvili Street, Tbilisi, Georgia, 0105
info@gse.com.ge

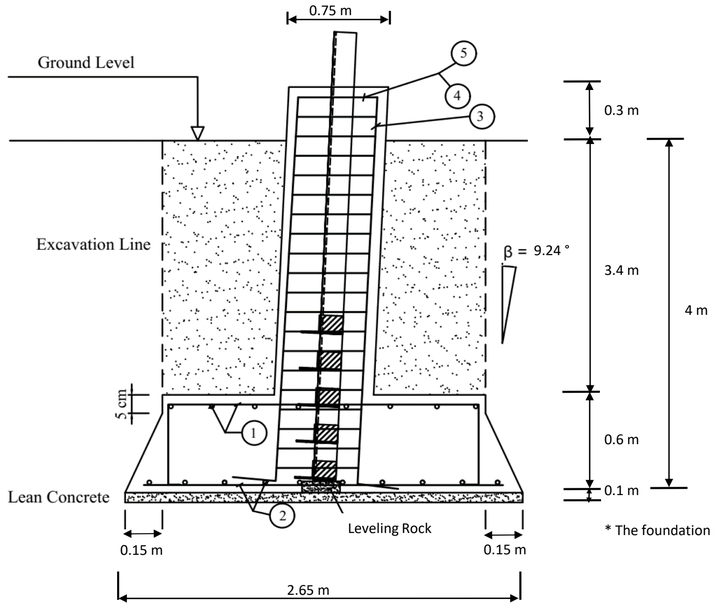
ENGINEER / ინჟინერი :
Fichtner GmbH & Co. KG
Sarweystrasse 370191 Stuttgart / Germany
info@fichtner.de

CONTRACTOR / კონტრაქტორი :
Mitas Energy and Metal Constuction Inc.
Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey
info@mitastower.com

APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	'' 12A-LA ''	
DRAWN BY / შემსრულებელი:	D. Nezamolmolki	Soil Type 2-Deleterious Rock	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Semi-Auger Foundation	

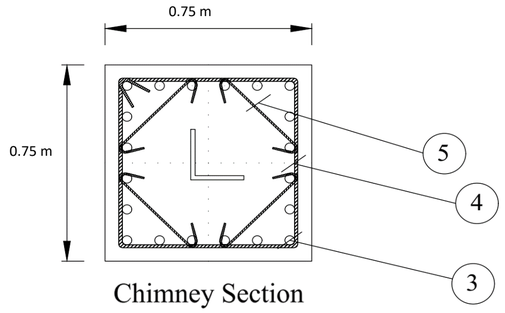
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0608_01	1	4 of 10

Soil Type:	Type 3-Good Soil
Foundation Type:	Semi-Auger
Tower Type:	12A-LA

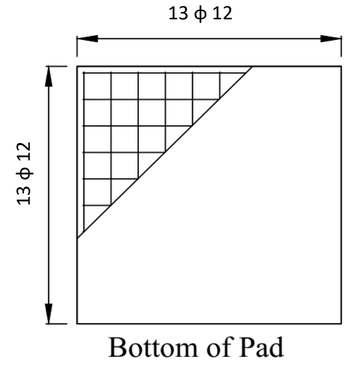


* The foundation is in direct contact with undisturbed soil.

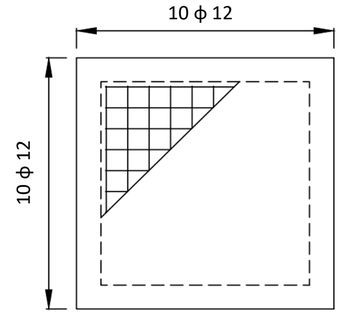
Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1	220, 45, 15	340	12	3.02	20	60.4
2	250	250	12	2.22	26	57.7
3	40, 415	455	16	7.19	20	143.8
4	62, 62	270	8	1.06	29	30.9
5	35	50	8	0.20	116	22.9
					SUM	315.7



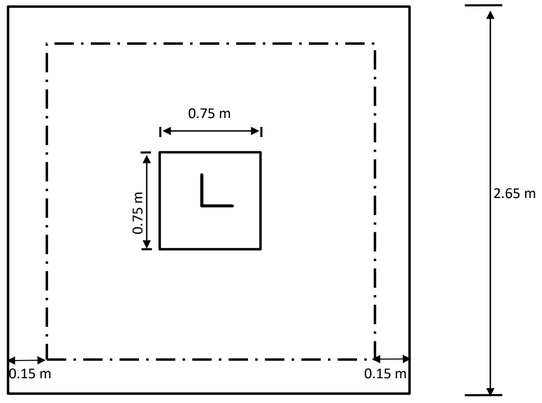
Chimney Section

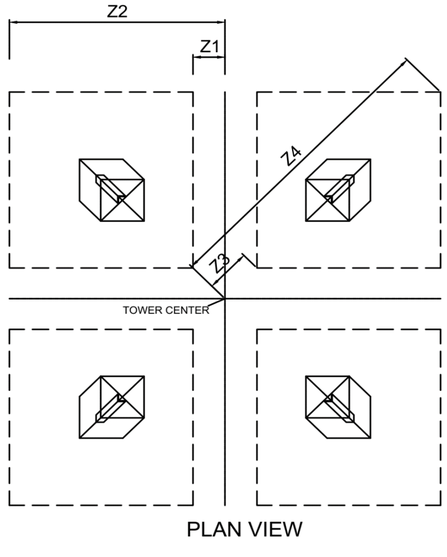


Bottom of Pad



Top of Pad





PLAN VIEW

Dimensions (m)

Width of Pad	bp =	2.65
Height of Pad	hp =	0.60
Width of Chimney	bc =	0.75
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	3.40
Depth of Pad	H =	4.00

Quantities

Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	5.8	23.3
Excavation	m3	22.6	90.6
Backfill	m3	16.8	67.2
Lean Concrete	m3	0.7	2.8
Formwork	m2	11.1	44.4
Reinforcement	kg	315.7	1262.6

Material and Soil Specifications

Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natual Soil Density	1.73	ton/m3
Backfill Density	1.73	ton/m3
Bearing Capacity of Soils	3.06	kg/cm2

NOTES :
1- Concrete Class : C20/25
2- Steel Reinforcement Class : S500
3- Concrete Cover : 75 mm
4- Soil Layer Shall Be Compacted To Maintain Soil Density.
5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
6- In case of high soil resistance, filling shall be done using soil with low resistance.
7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	**-3**	2815	5165	3982	7305
	-1.5	3060	5410	4327	7650
	+0	3304	5654	4672	7995
	+1.5	3548	5898	5017	8341
	+3	3792	6142	5362	8686
	+4.5	4036	6386	5707	9031
	+6	4280	6630	6052	9376
BE+0	**-3**	3304	5654	4672	7995
	-1.5	3548	5898	5017	8341
	+0	3792	6142	5362	8686
	+1.5	4036	6386	5707	9031
	+3	4280	6630	6052	9376
	+4.5	4524	6874	6398	9721
	+6	4768	7118	6743	10066
BE+3	**-3**	3792	6142	5362	8686
	-1.5	4036	6386	5707	9031
	+0	4280	6630	6052	9376
	+1.5	4524	6874	6398	9721
	+3	4768	7118	6743	10066
	+4.5	5012	7362	7088	10411
	+6	5256	7606	7433	10756
BE+6	**-3**	4280	6630	6052	9376
	-1.5	4524	6874	6398	9721
	+0	4768	7118	6743	10066
	+1.5	5012	7362	7088	10411
	+3	5256	7606	7433	10756
	+4.5	5500	7850	7778	11102
	+6	5744	8094	8123	11447
BE+9	**-3**	4768	7118	6743	10066
	-1.5	5012	7362	7088	10411
	+0	5256	7606	7433	10756
	+1.5	5500	7850	7778	11102
	+3	5744	8094	8123	11447
	+4.5	5988	8338	8468	11792
	+6	6232	8582	8814	12137

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	26.10.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ

PROJECT NAME / პროექტის დასახელება:
Open Programme Extension of the Transmission Network II
BMZ No. 2015 68 286
Contract Identification No. KfW/DSI/OHL-TD-Lot 2

EMPLOYER / დამკვეთი:
JSC Georgian State Electrosystem (GSE)
Baratashvili Street, Tbilisi, Georgia, 0105
info@gse.com.ge

ENGINEER / ინჟინერი :
Fichtner GmbH & Co. KG
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CONTRACTOR / კონტრაქტორი :
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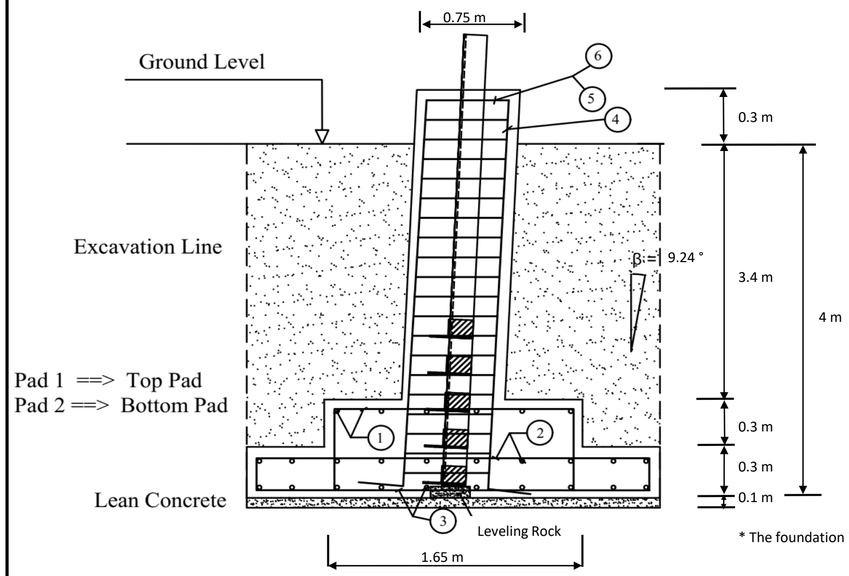
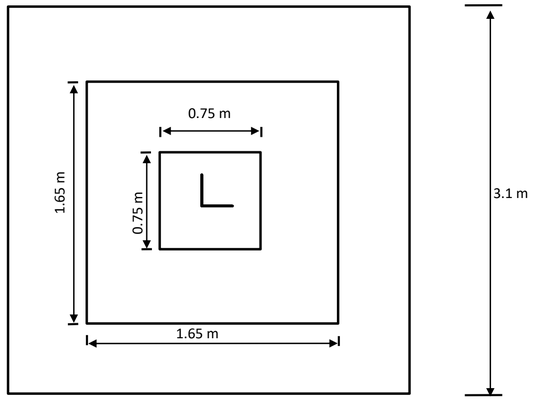
info@mitastower.com

APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	'' 12A-LA ''	
DRAWN BY / შემსრულებელი:	D. Nezamolmolki	Soil Type 3-Good Soil	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Semi-Auger Foundation	

SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0608_01	1	5 of 10

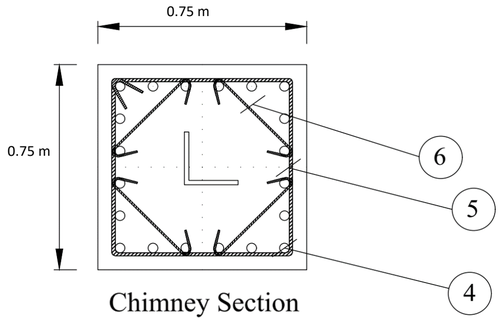
Soil Type:	Type 3-Good Soil
Foundation Type:	Pad & Chimney
Tower Type:	12A-LA



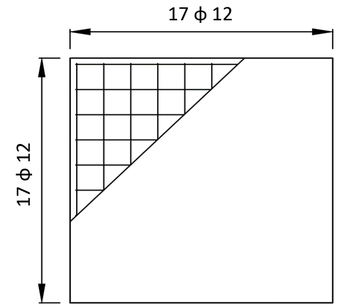


Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1	150, 45, 15	270	16	4.27	14	59.7
2	295, 15, 15	355	12	3.15	26	82.0
3	295	295	12	2.62	34	89.1
4	40, 415	455	16	7.19	20	143.8
5	62, 62	270	8	1.06	29	30.9
6	35	50	8	0.20	116	22.9
					SUM	428.3

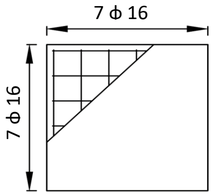
* The foundation is in direct contact with undisturbed soil.



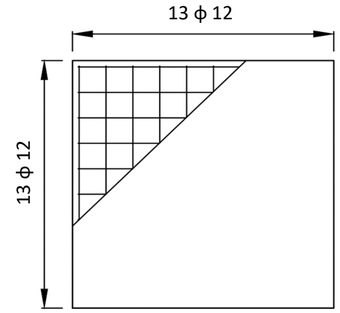
Chimney Section



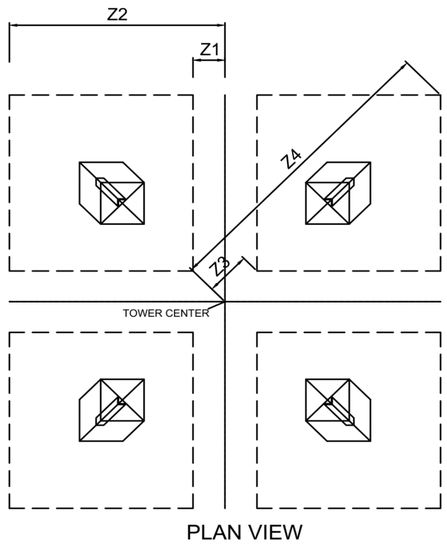
Bottom of Pad 2



Top of Pad 1



Top of Pad 2



PLAN VIEW

Dimensions (m)

Width of Pad1	bp1 =	1.65
Width of Pad2	bp2 =	3.10
Height of Pad1	hp1 =	0.30
Height of Pad2	hp2 =	0.30
Width of Chimney	bc =	0.75
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	3.40
Depth of Pad	H =	4.00

Quantities

Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	5.8	23.1
Excavation	m3	39.4	157.6
Backfill	m3	33.6	134.5
Lean Concrete	m3	1.0	3.8
Formwork	m2	13.1	52.3
Reinforcement	kg	428.3	1713.2

Material and Soil Specifications

Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natual Soil Density	1.73	ton/m3
Backfill Density	1.73	ton/m3
Bearing Capacity of Soils	3.06	kg/cm2

NOTES :
1- Concrete Class : C20/25
2- Steel Reinforcement Class : S500
3- Concrete Cover : 75 mm
4- Soil Layer Shall Be Compacted To Maintain Soil Density.
5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
6- In case of high soil resistance, filling shall be done using soil with low resistance.
7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	**-3**	2440	5540	3451	7835
	-1.5	2685	5785	3797	8181
	+0	2929	6029	4142	8526
	+1.5	3173	6273	4487	8871
	+3	3417	6517	4832	9216
	+4.5	3661	6761	5177	9561
	+6	3905	7005	5522	9906
BE+0	**-3**	2929	6029	4142	8526
	-1.5	3173	6273	4487	8871
	+0	3417	6517	4832	9216
	+1.5	3661	6761	5177	9561
	+3	3905	7005	5522	9906
	+4.5	4149	7249	5867	10251
	+6	4393	7493	6212	10597
BE+3	**-3**	3417	6517	4832	9216
	-1.5	3661	6761	5177	9561
	+0	3905	7005	5522	9906
	+1.5	4149	7249	5867	10251
	+3	4393	7493	6212	10597
	+4.5	4637	7737	6558	10942
	+6	4881	7981	6903	11287
BE+6	**-3**	3905	7005	5522	9906
	-1.5	4149	7249	5867	10251
	+0	4393	7493	6212	10597
	+1.5	4637	7737	6558	10942
	+3	4881	7981	6903	11287
	+4.5	5125	8225	7248	11632
	+6	5369	8469	7593	11977
BE+9	**-3**	4393	7493	6212	10597
	-1.5	4637	7737	6558	10942
	+0	4881	7981	6903	11287
	+1.5	5125	8225	7248	11632
	+3	5369	8469	7593	11977
	+4.5	5613	8713	7938	12322
	+6	5857	8957	8283	12667

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	26.10.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ

PROJECT NAME / პროექტის დასახელება:
Open Programme Extension of the Transmission Network II
BMZ No. 2015 68 286
Contract Identification No. KfW/DSI/OHL-TD-Lot 2

EMPLOYER / დამკვეთი:
JSC Georgian State Electrosystem (GSE)
Baratashvili Street, Tbilisi, Georgia, 0105
info@gse.com.ge

ENGINEER / ინჟინერი :
Fichtner GmbH & Co. KG
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CONTRACTOR / კონტრაქტორი :
Mitas Energy and Metal Constuction Inc.
Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey
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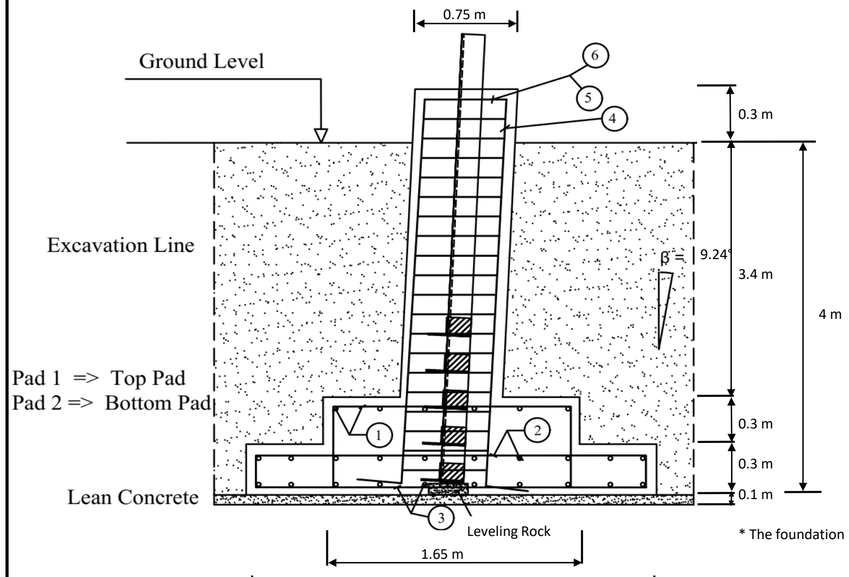
APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	'' 12A-LA ''	
DRAWN BY / შემსრულებელი:	D. Nezamolmolki	Soil Type 3-Good Soil	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Pad & Chimney Foundation	

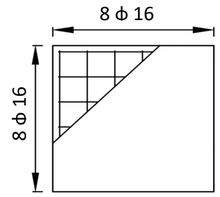
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0608_01	1	6 of 10

Soil Type:	Type 4-Normal Soil-Dry
Foundation Type:	Pad & Chimney
Tower Type:	12A-LA

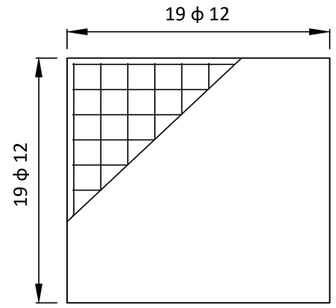


* The foundation is cast inside formwork.

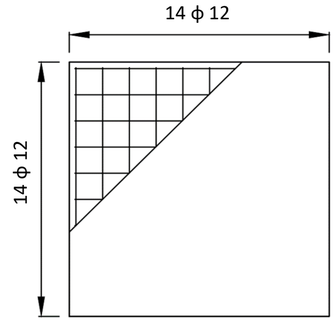
Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1	150, 45, 15	270	16	4.27	16	68.3
2	320, 15, 15	380	12	3.37	28	94.5
3	320	320	12	2.84	38	108.0
4	40, 415	455	16	7.19	20	143.8
5	62, 62	270	8	1.06	29	30.9
6	35	50	8	0.20	116	22.9
					SUM	468.3



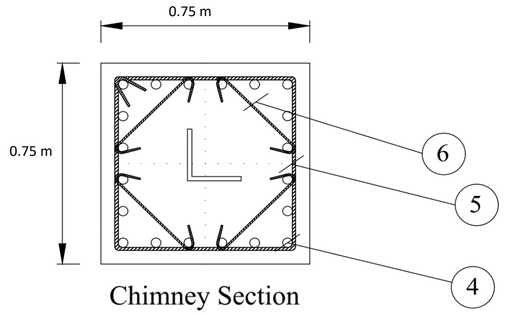
Top of Pad 1



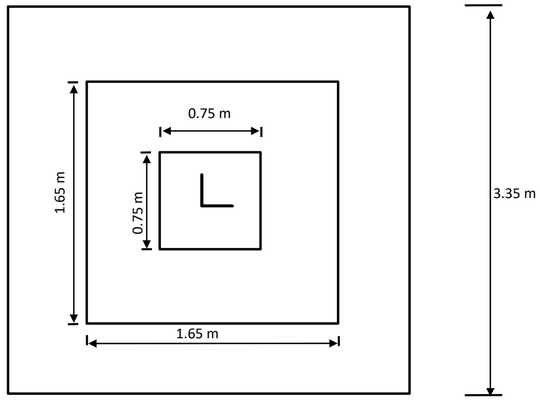
Bottom of Pad 2

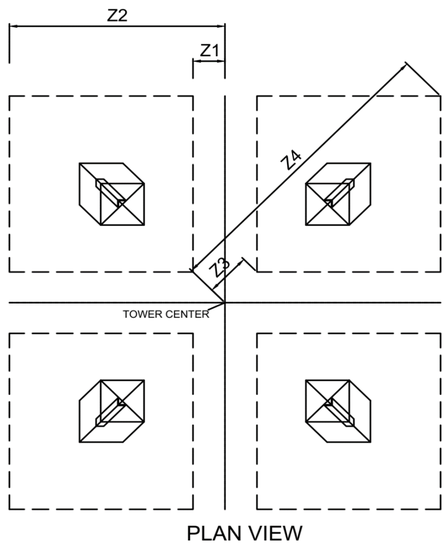


Top of Pad 2



Chimney Section





PLAN VIEW

Dimensions (m)		
Width of Pad1	bp1 =	1.65
Width of Pad2	bp2 =	3.35
Height of Pad1	hp1 =	0.30
Height of Pad2	hp2 =	0.30
Width of Chimney	bc =	0.75
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	3.40
Depth of Pad	H =	4.00

Quantities			
Item	**Volumes**		
	Unit	**Per Leg**	**Per Tower**
Concrete	m3	6.3	25.1
Excavation	m3	77.6	310.3
Backfill	m3	71.3	285.3
Lean Concrete	m3	1.6	6.2
Formwork	m2	17.1	68.4
Reinforcement	kg	468.3	1873.1

Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natual Soil Density	1.83	ton/m3
Backfill Density	1.83	ton/m3
Bearing Capacity of Soils	2.04	kg/cm2

NOTES :
1- Concrete Class : C20/25
2- Steel Reinforcement Class : S500
3- Concrete Cover : 75 mm
4- Soil Layer Shall Be Compacted To Maintain Soil Density.
5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
6- In case of high soil resistance, filling shall be done using soil with low resistance.
7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	**-3**	2315	5665	3275	8012
	-1.5	2560	5910	3620	8357
	+0	2804	6154	3965	8703
	+1.5	3048	6398	4310	9048
	+3	3292	6642	4655	9393
	+4.5	3536	6886	5000	9738
	+6	3780	7130	5345	10083
BE+0	**-3**	2804	6154	3965	8703
	-1.5	3048	6398	4310	9048
	+0	3292	6642	4655	9393
	+1.5	3536	6886	5000	9738
	+3	3780	7130	5345	10083
	+4.5	4024	7374	5691	10428
	+6	4268	7618	6036	10773
BE+3	**-3**	3292	6642	4655	9393
	-1.5	3536	6886	5000	9738
	+0	3780	7130	5345	10083
	+1.5	4024	7374	5691	10428
	+3	4268	7618	6036	10773
	+4.5	4512	7862	6381	11118
	+6	4756	8106	6726	11464
BE+6	**-3**	3780	7130	5345	10083
	-1.5	4024	7374	5691	10428
	+0	4268	7618	6036	10773
	+1.5	4512	7862	6381	11118
	+3	4756	8106	6726	11464
	+4.5	5000	8350	7071	11809
	+6	5244	8594	7416	12154
BE+9	**-3**	4268	7618	6036	10773
	-1.5	4512	7862	6381	11118
	+0	4756	8106	6726	11464
	+1.5	5000	8350	7071	11809
	+3	5244	8594	7416	12154
	+4.5	5488	8838	7761	12499
	+6	5732	9082	8106	12844

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	26.10.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ

PROJECT NAME / პროექტის დასახელება:
Open Programme Extension of the Transmission Network II
BMZ No. 2015 68 286
Contract Identification No. KfW/DSI/OHL-TD-Lot 2

EMPLOYER / დამკვეთი:
JSC Georgian State Electrosystem (GSE)
Baratashvili Street, Tbilisi, Georgia, 0105
info@gse.com.ge

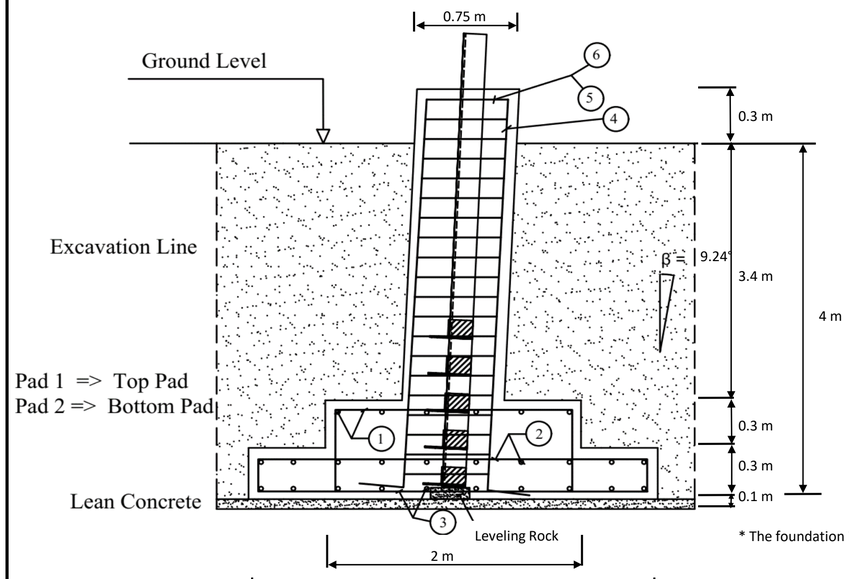
ENGINEER / ინჟინერი :
Fichtner GmbH & Co. KG
Sarweystrasse 370191 Stuttgart / Germany
info@fichtner.de

CONTRACTOR / კონტრაქტორი :
Mitas Energy and Metal Constuction Inc.
Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey
info@mitastower.com

APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	'' 12A-LA ''	
DRAWN BY / შემსრულებელი:	D. Nezamolmolki	Soil Type 4-Normal Soil-Dry	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Pad & Chimney Foundation	

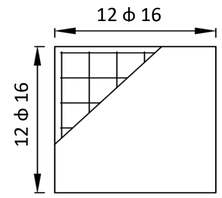
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0608_01	1	7 of 10

Soil Type:	Type 4-Normal Soil-Submerge
Foundation Type:	Pad & Chimney
Tower Type:	12A-LA

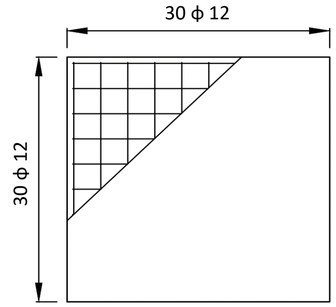


* The foundation is cast inside formwork.

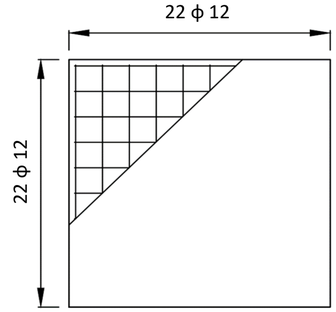
Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1	185, 45, 15	305	16	4.82	24	115.7
2	435, 15, 15	495	12	4.40	44	193.4
3	435	435	12	3.86	60	231.8
4	40, 415	455	16	7.19	20	143.8
5	62, 62	270	8	1.06	29	30.9
6	35	50	8	0.20	116	22.9
					SUM	738.4



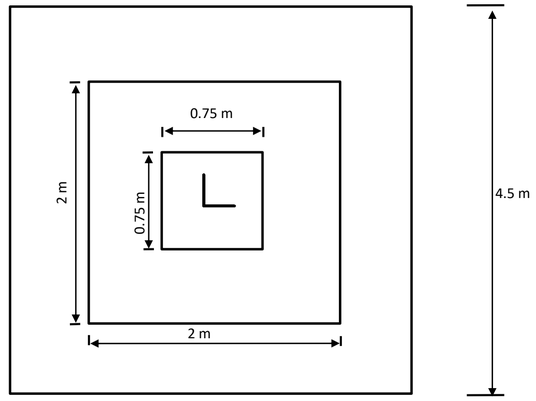
Top of Pad 1

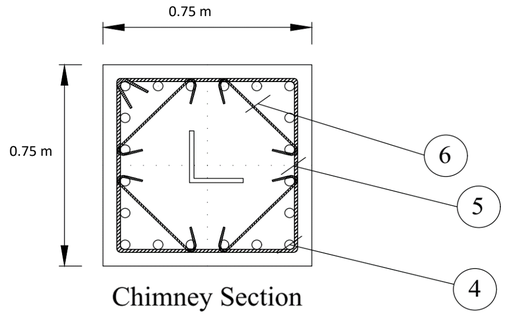


Bottom of Pad 2

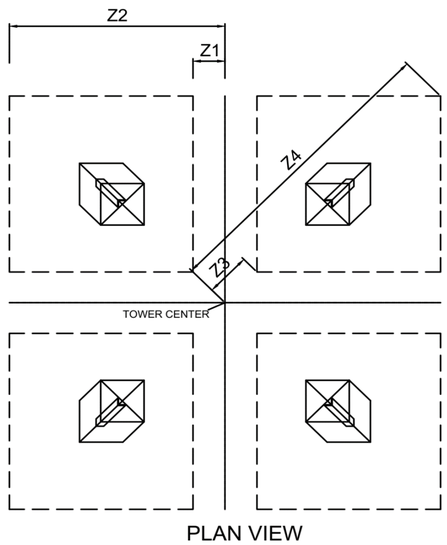


Top of Pad 2





Chimney Section



PLAN VIEW

Dimensions (m)		
Width of Pad1	bp1 =	2.00
Width of Pad2	bp2 =	4.50
Height of Pad1	hp1 =	0.30
Height of Pad2	hp2 =	0.30
Width of Chimney	bc =	0.75
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	3.40
Depth of Pad	H =	4.00

Quantities			
Item	**Volumes**		
	Unit	**Per Leg**	**Per Tower**
Concrete	m3	9.4	37.4
Excavation	m3	124.0	496.1
Backfill	m3	114.7	458.7
Lean Concrete	m3	2.6	10.4
Formwork	m2	18.9	75.6
Reinforcement	kg	738.4	2953.5

Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natual Soil Density	1.02	ton/m3
Backfill Density	1.02	ton/m3
Bearing Capacity of Soils	2.04	kg/cm2

NOTES :
1- Concrete Class : C20/25
2- Steel Reinforcement Class : S500
3- Concrete Cover : 75 mm
4- Soil Layer Shall Be Compacted To Maintain Soil Density.
5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
6- In case of high soil resistance, filling shall be done using soil with low resistance.
7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	**-3**	1740	6240	2461	8825
	-1.5	1985	6485	2807	9171
	+0	2229	6729	3152	9516
	+1.5	2473	6973	3497	9861
	+3	2717	7217	3842	10206
	+4.5	2961	7461	4187	10551
	+6	3205	7705	4532	10896
BE+0	**-3**	2229	6729	3152	9516
	-1.5	2473	6973	3497	9861
	+0	2717	7217	3842	10206
	+1.5	2961	7461	4187	10551
	+3	3205	7705	4532	10896
	+4.5	3449	7949	4877	11241
	+6	3693	8193	5222	11586
BE+3	**-3**	2717	7217	3842	10206
	-1.5	2961	7461	4187	10551
	+0	3205	7705	4532	10896
	+1.5	3449	7949	4877	11241
	+3	3693	8193	5222	11586
	+4.5	3937	8437	5568	11932
	+6	4181	8681	5913	12277
BE+6	**-3**	3205	7705	4532	10896
	-1.5	3449	7949	4877	11241
	+0	3693	8193	5222	11586
	+1.5	3937	8437	5568	11932
	+3	4181	8681	5913	12277
	+4.5	4425	8925	6258	12622
	+6	4669	9169	6603	12967
BE+9	**-3**	3693	8193	5222	11586
	-1.5	3937	8437	5568	11932
	+0	4181	8681	5913	12277
	+1.5	4425	8925	6258	12622
	+3	4669	9169	6603	12967
	+4.5	4913	9413	6948	13312
	+6	5157	9657	7293	13657

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	26.10.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ

PROJECT NAME / პროექტის დასახელება:
Open Programme Extension of the Transmission Network II
BMZ No. 2015 68 286
Contract Identification No. KfW/DSI/OHL-TD-Lot 2

EMPLOYER / დამკვეთი:
JSC Georgian State Electrosystem (GSE)
Baratashvili Street, Tbilisi, Georgia, 0105
info@gse.com.ge

ENGINEER / ინჟინერი :
Fichtner GmbH & Co. KG
Sarweystrasse 370191 Stuttgart / Germany
info@fichtner.de

CONTRACTOR / კონტრაქტორი :
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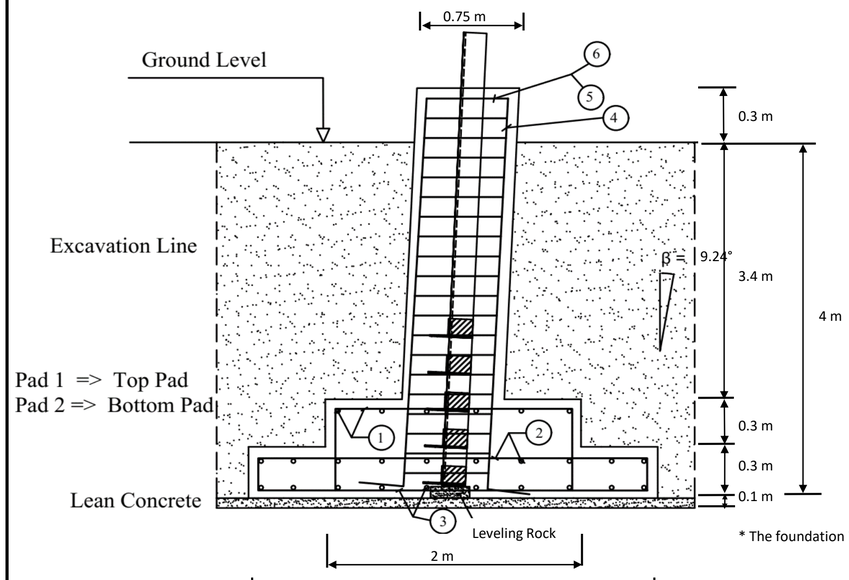
Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey
info@mitastower.com

APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	'' 12A-LA ''	
DRAWN BY / შემსრულებელი:	D. Nezamolmolki	Soil Type 4-Normal Soil-Submerge	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Pad & Chimney Foundation	

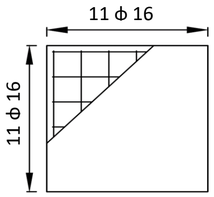
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0608_01	1	8 of 10

Soil Type:	Type 5-Poor Soil-Dry
Foundation Type:	Pad & Chimney
Tower Type:	12A-LA

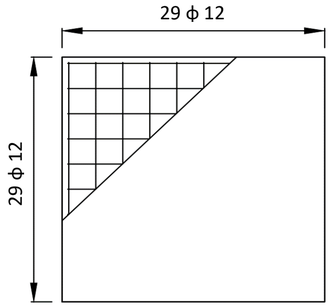


* The foundation is cast inside formwork.

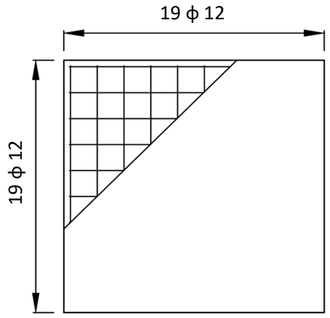
Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1	185, 45, 15	305	16	4.82	22	106.0
2	415, 15, 15	475	12	4.22	38	160.3
3	415	415	12	3.69	58	213.7
4	40, 415	455	16	7.19	20	143.8
5	62, 62	270	8	1.06	29	30.9
6	35	50	8	0.20	116	22.9
					SUM	677.6



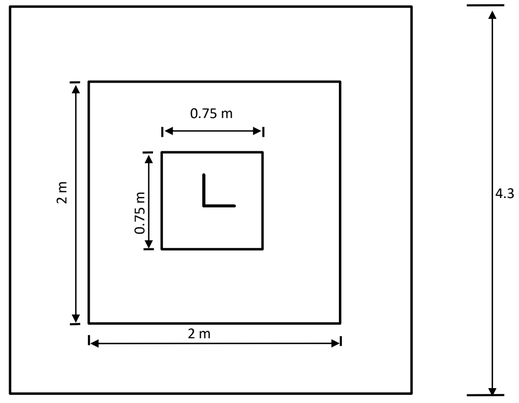
Top of Pad 1

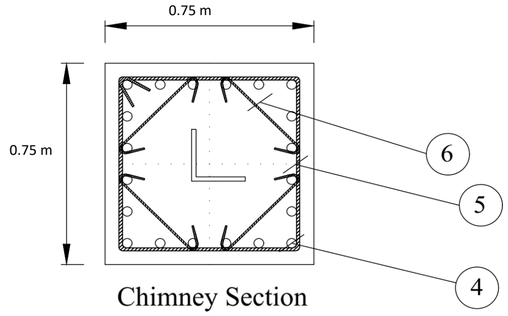


Bottom of Pad 2

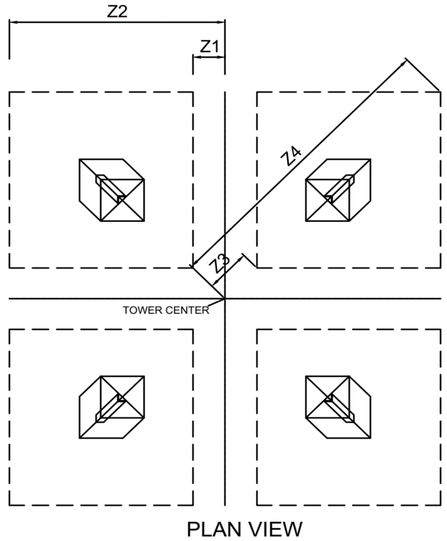


Top of Pad 2





Chimney Section



PLAN VIEW

Dimensions (m)		
Width of Pad1	bp1 =	2.00
Width of Pad2	bp2 =	4.30
Height of Pad1	hp1 =	0.30
Height of Pad2	hp2 =	0.30
Width of Chimney	bc =	0.75
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	3.40
Depth of Pad	H =	4.00

Quantities			
Item	Volumes		
	Unit	Per Leg	Per Tower
Concrete	m3	8.8	35.3
Excavation	m3	115.2	460.7
Backfill	m3	106.3	425.4
Lean Concrete	m3	2.4	9.6
Formwork	m2	18.7	74.6
Reinforcement	kg	677.6	2710.4

Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natual Soil Density	1.63	ton/m3
Backfill Density	1.63	ton/m3
Bearing Capacity of Soils	1.53	kg/cm2

NOTES :
1- Concrete Class : C20/25
2- Steel Reinforcement Class : S500
3- Concrete Cover : 75 mm
4- Soil Layer Shall Be Compacted To Maintain Soil Density.
5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
6- In case of high soil resistance, filling shall be done using soil with low resistance.
7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	**-3**	1840	6140	2603	8684
	-1.5	2085	6385	2948	9029
	+0	2329	6629	3293	9374
	+1.5	2573	6873	3638	9719
	+3	2817	7117	3983	10065
	+4.5	3061	7361	4328	10410
	+6	3305	7605	4674	10755
BE+0	**-3**	2329	6629	3293	9374
	-1.5	2573	6873	3638	9719
	+0	2817	7117	3983	10065
	+1.5	3061	7361	4328	10410
	+3	3305	7605	4674	10755
	+4.5	3549	7849	5019	11100
	+6	3793	8093	5364	11445
BE+3	**-3**	2817	7117	3983	10065
	-1.5	3061	7361	4328	10410
	+0	3305	7605	4674	10755
	+1.5	3549	7849	5019	11100
	+3	3793	8093	5364	11445
	+4.5	4037	8337	5709	11790
	+6	4281	8581	6054	12135
BE+6	**-3**	3305	7605	4674	10755
	-1.5	3549	7849	5019	11100
	+0	3793	8093	5364	11445
	+1.5	4037	8337	5709	11790
	+3	4281	8581	6054	12135
	+4.5	4525	8825	6399	12480
	+6	4769	9069	6744	12826
BE+9	**-3**	3793	8093	5364	11445
	-1.5	4037	8337	5709	11790
	+0	4281	8581	6054	12135
	+1.5	4525	8825	6399	12480
	+3	4769	9069	6744	12826
	+4.5	5013	9313	7090	13171
	+6	5257	9557	7435	13516

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	26.10.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ

PROJECT NAME / პროექტის დასახელება:
Open Programme Extension of the Transmission Network II
BMZ No. 2015 68 286
Contract Identification No. KfW/DSI/OHL-TD-Lot 2

EMPLOYER / დამკვეთი:
JSC Georgian State Electrosystem (GSE)
Baratashvili Street, Tbilisi, Georgia, 0105
info@gse.com.ge

ENGINEER / ინჟინერი :
Fichtner GmbH & Co. KG
Sarweystrasse 370191 Stuttgart / Germany
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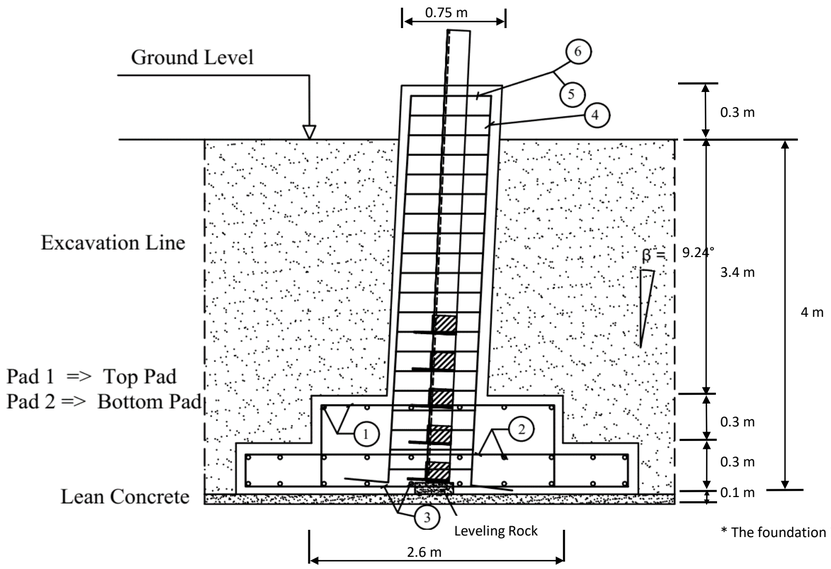
CONTRACTOR / კონტრაქტორი :
Mitas Energy and Metal Constuction Inc.
Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey
info@mitastower.com

APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	'' 12A-LA ''	
DRAWN BY / შემსრულებელი:	D. Nezamolmolki	Soil Type 5-Poor Soil-Dry	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Pad & Chimney Foundation	

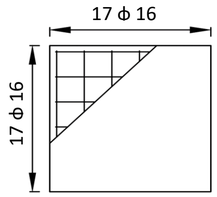
SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0608_01	1	9 of 10

Soil Type:	Type 5-Poor Soil-Submerge
Foundation Type:	Pad & Chimney
Tower Type:	12A-LA

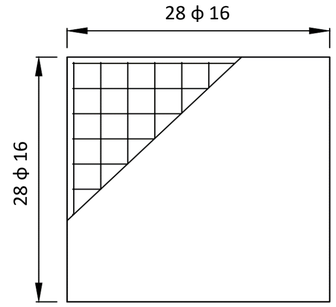


* The foundation is cast inside formwork.

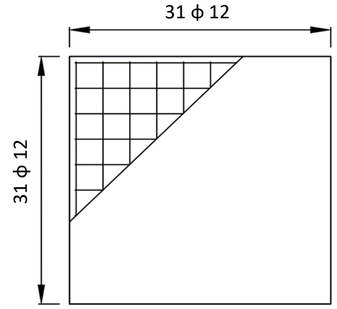
Mark	Pattern	Length cm	Diameter mm	Unit Weight (kg)	QTY	Total Weight (kg)
1	245, 45, 15	365	16	5.77	34	196.1
2	615, 15, 15	675	12	5.99	62	371.6
3	615	615	16	9.72	56	544.2
4	40, 415	455	16	7.19	20	143.8
5	62, 62	270	8	1.06	29	30.9
6	35	50	8	0.20	116	22.9
					SUM	1309.4



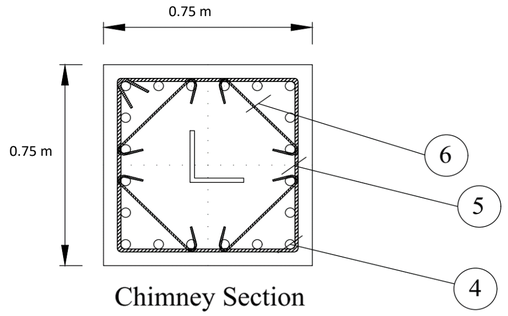
Top of Pad 1



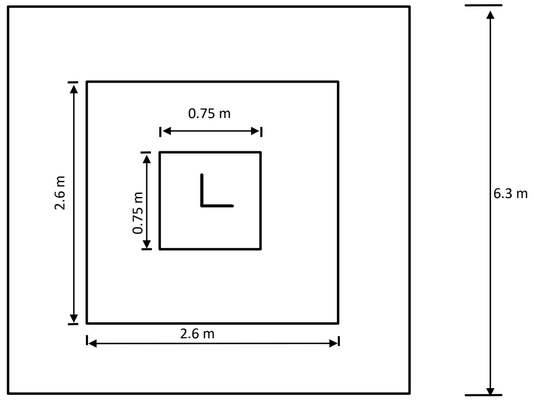
Bottom of Pad 2

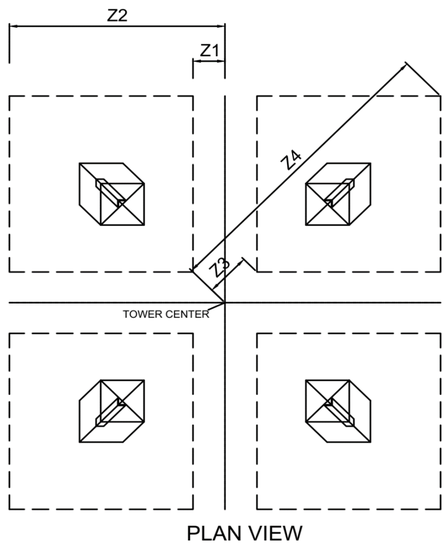


Top of Pad 2



Chimney Section





PLAN VIEW

Dimensions (m)		
Width of Pad1	bp1 =	2.60
Width of Pad2	bp2 =	6.30
Height of Pad1	hp1 =	0.30
Height of Pad2	hp2 =	0.30
Width of Chimney	bc =	0.75
Height of Chimney above ground level	hc1 =	0.30
Height of Chimney under ground level	hc2 =	3.40
Depth of Pad	H =	4.00

Quantities			
Item	**Volumes**		
	Unit	**Per Leg**	**Per Tower**
Concrete	m3	16.0	64.1
Excavation	m3	218.5	874.0
Backfill	m3	202.5	809.9
Formwork	m2	21.8	87.1
Reinforcement	kg	1309.4	5237.6

Material and Soil Specifications		
Characteristic Compressive Strength of Concrete	20	Mpa
Characteristic Strength of Steel Rebar	500	Mpa
Natual Soil Density	0.82	ton/m3
Backfill Density	0.82	ton/m3
Bearing Capacity of Soils	0.82	kg/cm2

NOTES :
1- Concrete Class : C20/25
2- Steel Reinforcement Class : S500
3- Concrete Cover : 75 mm
4- Soil Layer Shall Be Compacted To Maintain Soil Density.
5- Sulphate resistant concrete shall be used in case of aggressive soil conditions.
6- In case of high soil resistance, filling shall be done using soil with low resistance.
7- Concrete surface shall be covered with bitumen in case of aggressive soil conditions

BODY	LEG EXTENSIONS	Z1	Z2	Z3	Z4
		mm	mm	mm	mm
BE-3	**-3**	840	7140	1189	10098
	-1.5	1085	7385	1534	10443
	+0	1329	7629	1879	10789
	+1.5	1573	7873	2224	11134
	+3	1817	8117	2569	11479
	+4.5	2061	8361	2914	11824
	+6	2305	8605	3259	12169
BE+0	**-3**	1329	7629	1879	10789
	-1.5	1573	7873	2224	11134
	+0	1817	8117	2569	11479
	+1.5	2061	8361	2914	11824
	+3	2305	8605	3259	12169
	+4.5	2549	8849	3605	12514
	+6	2793	9093	3950	12859
BE+3	**-3**	1817	8117	2569	11479
	-1.5	2061	8361	2914	11824
	+0	2305	8605	3259	12169
	+1.5	2549	8849	3605	12514
	+3	2793	9093	3950	12859
	+4.5	3037	9337	4295	13204
	+6	3281	9581	4640	13550
BE+6	**-3**	2305	8605	3259	12169
	-1.5	2549	8849	3605	12514
	+0	2793	9093	3950	12859
	+1.5	3037	9337	4295	13204
	+3	3281	9581	4640	13550
	+4.5	3525	9825	4985	13895
	+6	3769	10069	5330	14240
BE+9	**-3**	2793	9093	3950	12859
	-1.5	3037	9337	4295	13204
	+0	3281	9581	4640	13550
	+1.5	3525	9825	4985	13895
	+3	3769	10069	5330	14240
	+4.5	4013	10313	5675	14585
	+6	4257	10557	6020	14930

* All dimensions and quantities shall be checked prior to construction

1	Revised as per Consultant Comments	26.10.22	D.Nz
0	First Submission	21.07.22	D.Nz
REV./ რედაქცია	DESCRIPTION/ აღწერილობა	DATE/ თარიღი	BY/ ვის მიერ

PROJECT NAME / პროექტის დასახელება:
Open Programme Extension of the Transmission Network II
BMZ No. 2015 68 286
Contract Identification No. KfW/DSI/OHL-TD-Lot 2

EMPLOYER / დამკვეთი:
JSC Georgian State Electrosystem (GSE)
Baratashvili Street, Tbilisi, Georgia, 0105
info@gse.com.ge

ENGINEER / ინჟინერი :
Fichtner GmbH & Co. KG
Sarweystrasse 370191 Stuttgart / Germany
info@fichtner.de

CONTRACTOR / კონტრაქტორი :
Mitas Energy and Metal Constuction Inc.
Eski Güvercinlik Yolu No: 113 - Gazi Ankara / Turkey
info@mitastower.com

APPROVAL AREA / შეთანხმებულია		STATUS / სტატუსი AP ☐ AC ☐ NA ☐	STAMP / ბეჭედი:
REVIEWED BY / განხილულია:			
DATE OF REVIEW / განხილვის თარიღი:			
APPROVED BY / დამტკიცებულია:	K.KARAGOZ		
CHECKED BY / შემოწმებულია:	H.O.BULUT	Foundation Drawings of Tower Type	
DESIGNED BY / ავტორი:	D. Nezamolmolki	'' 12A-LA ''	
DRAWN BY / შემსრულებელი:	D. Nezamolmolki	Soil Type 5-Poor Soil-Submerge	
DATE OF ISSUE / გამოცემის თარიღი:	21.07.22	Pad & Chimney Foundation	

SCALE/ მასშტაბი	DOC NO./ დოკუმენტის ნომერი	REV./ რედაქცია	PAGE/ გვერდი
N.A.	7145A07-EG-FND-DWG-0608_01	1	10 of 10