

7-4. Basic Design Drawings

Table A-9 List of Drawings

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G-1 ~ G-5	Drawings of auxiliary related facilities and safety facilities	5

UNITED REPUBLIC OF TANZANIA



TENDER DOCUMENTS

FOR

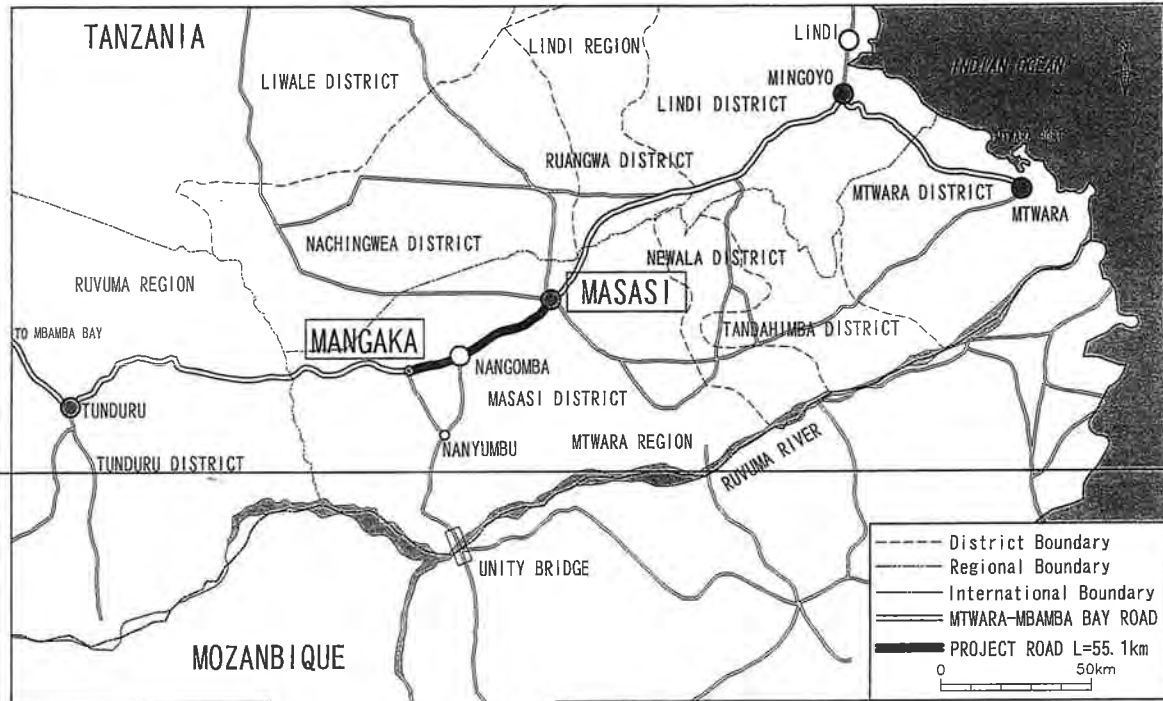
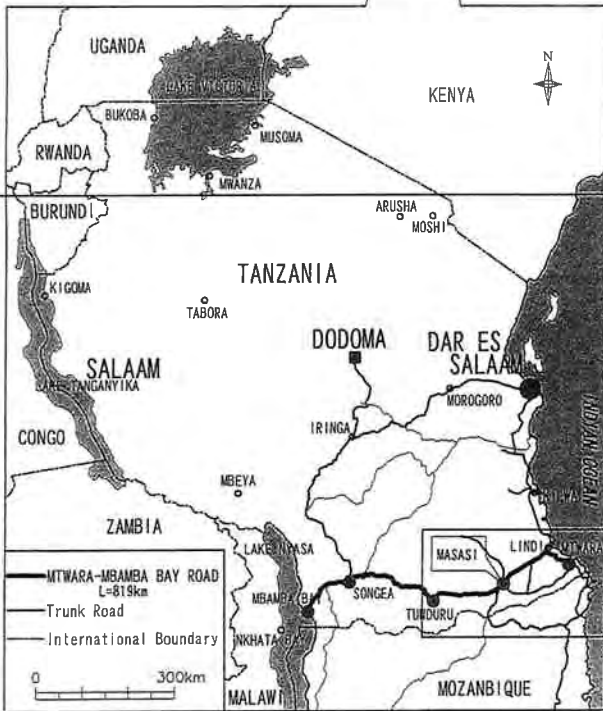
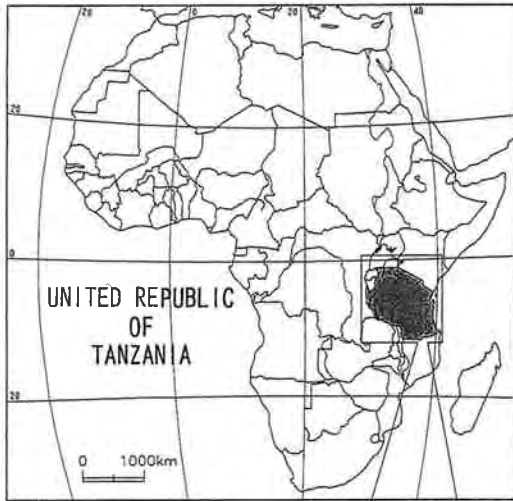
THE PROJECT

FOR

UPGRADING MASASI-MANGAKA ROAD

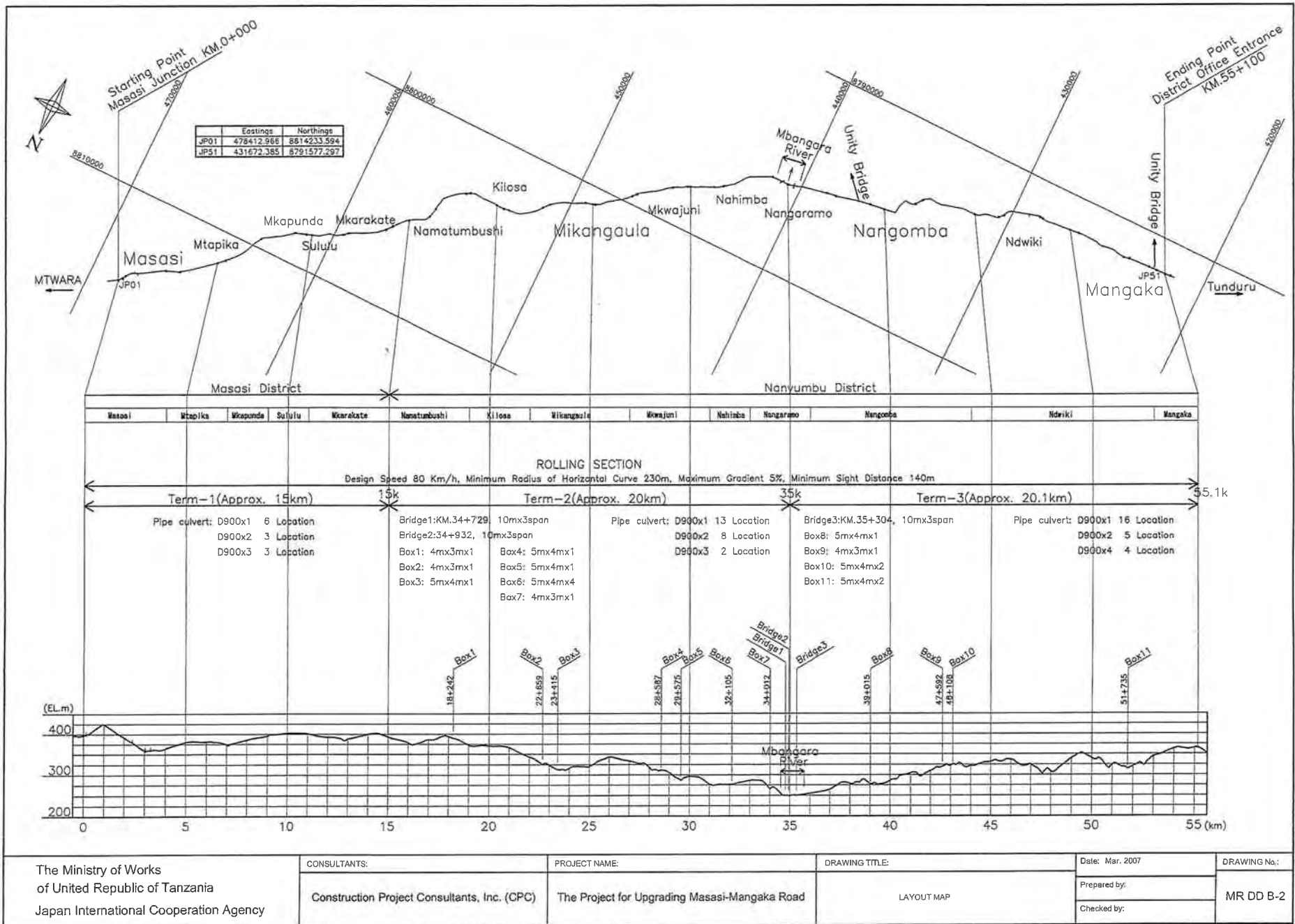
MARCH, 2007

CONSTRUCTION PROJECT CONSULTANTS, INC. (CPC)



- - - District Boundary
 - - - Regional Boundary
 - - - International Boundary
 = = = MTWARA-MBAMBA BAY ROAD
— PROJECT ROAD L=55.1km
 0 50km

<ul style="list-style-type: none"> ● The Ministry of Infrastructure Development of United Republic of Tanzania ● Japan International Cooperation Agency 	CONSULTANTS:	PROJECT NAME:	DRAWING TITLE:	Date: Mar. 2007	DRAWING No.:
	Construction Project Consultants, Inc. (CPC)	The Project for Upgrading Masasi-Mangaka Road	PROJECT LOCATION MAP	Prepared by:	MR DD B-1
			SCALE AS SHOWN	Checked by:	



The Ministry of Works
of United Republic of Tanzania
Japan International Cooperation Agency

CONSULTANTS:
Construction Project Consultants, Inc. (CPC)

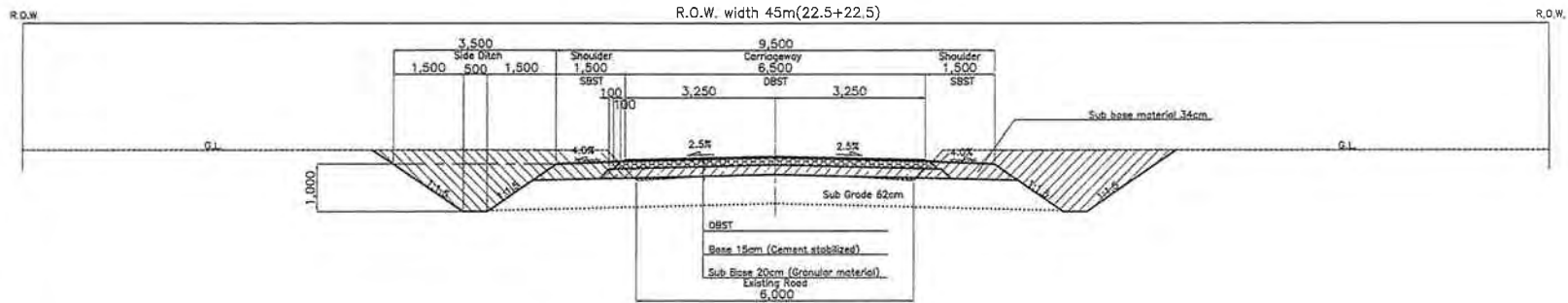
PROJECT NAME:
The Project for Upgrading Masasi-Mangaka Road

DRAWING TITLE:
LAYOUT MAP

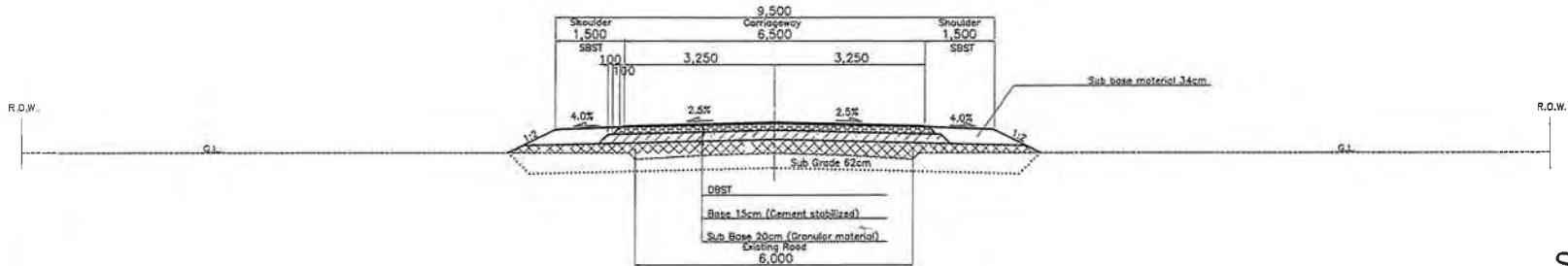
Date: Mar. 2007
Prepared by:
Checked by:

DRAWING No.:
MR DD B-2

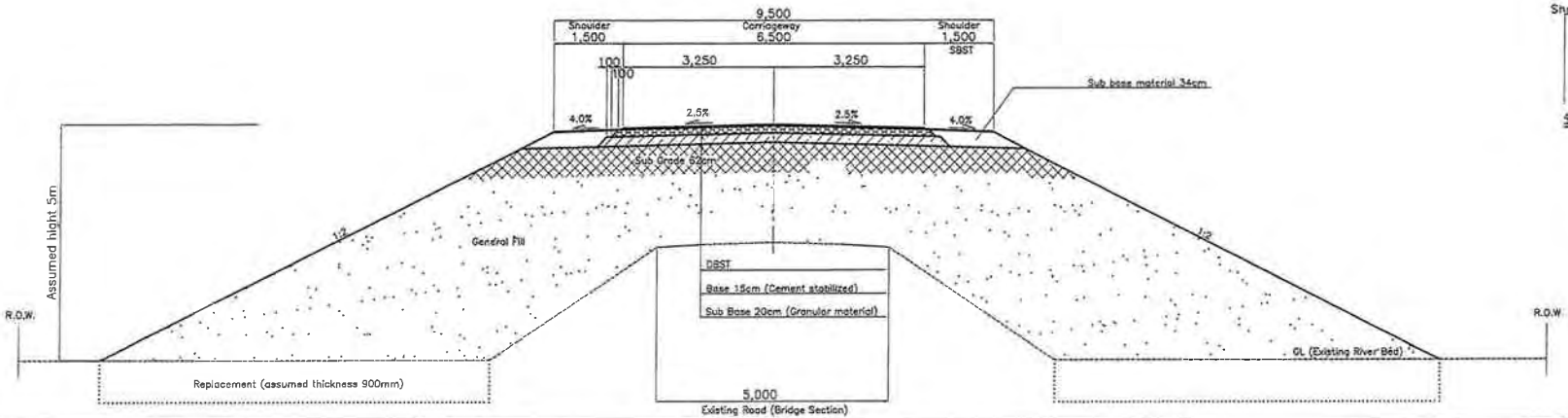
TYPICAL CROSS SECTION EXCAVATION SECTION



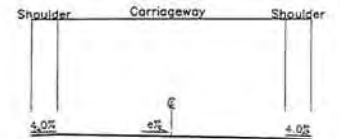
EMBANKMENT SECTION



HIGH EMBANKMENT SECTION (at Mbangara River)



SUPERELEVATION



Superelevation e (%)	Radius R (m)
0.06	135 - 330
0.05	330 - 420
0.04	420 - 560
0.03	560 - 800
0.025	800 - 3000

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CONSULTANTS:

Construction Project Consultants, Inc. (CPC)

PROJECT NAME:

The Project for Upgrading Masasi-Mangaka Road

DRAWING TITLE:

TYPICAL CROSS SECTION

SCALE 1:100

Date: Mar. 2007

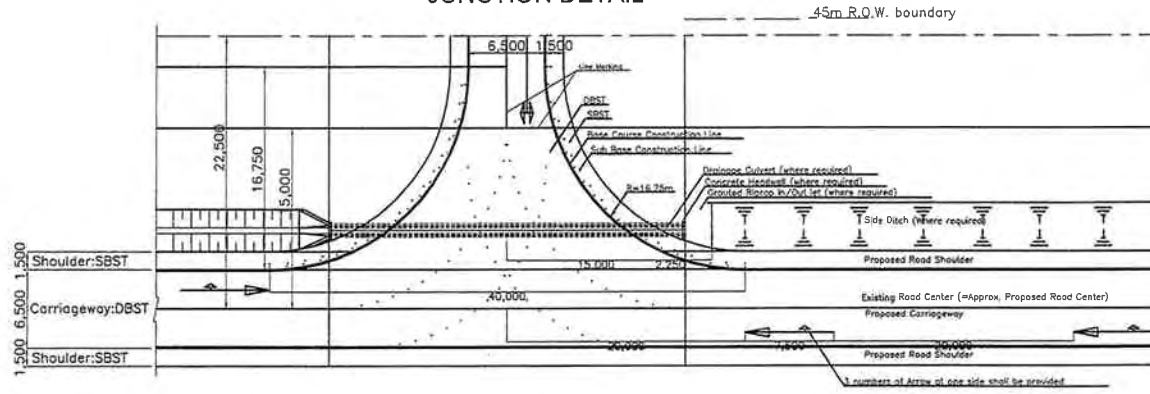
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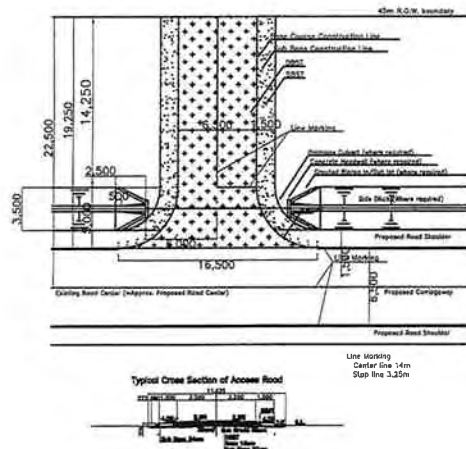
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MR DD C-1

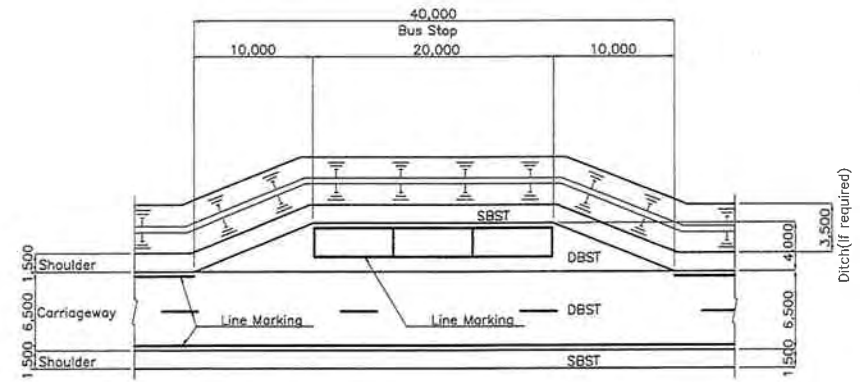
JUNCTION DETAIL



ACCESS ROAD DETAIL

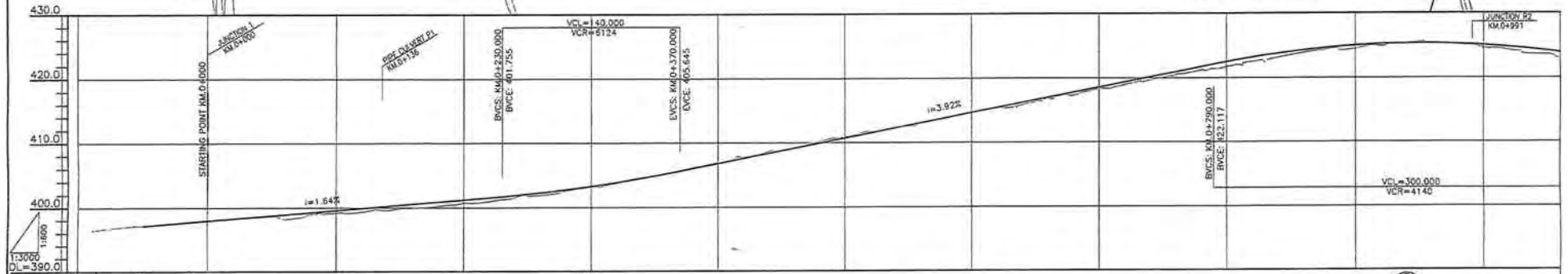
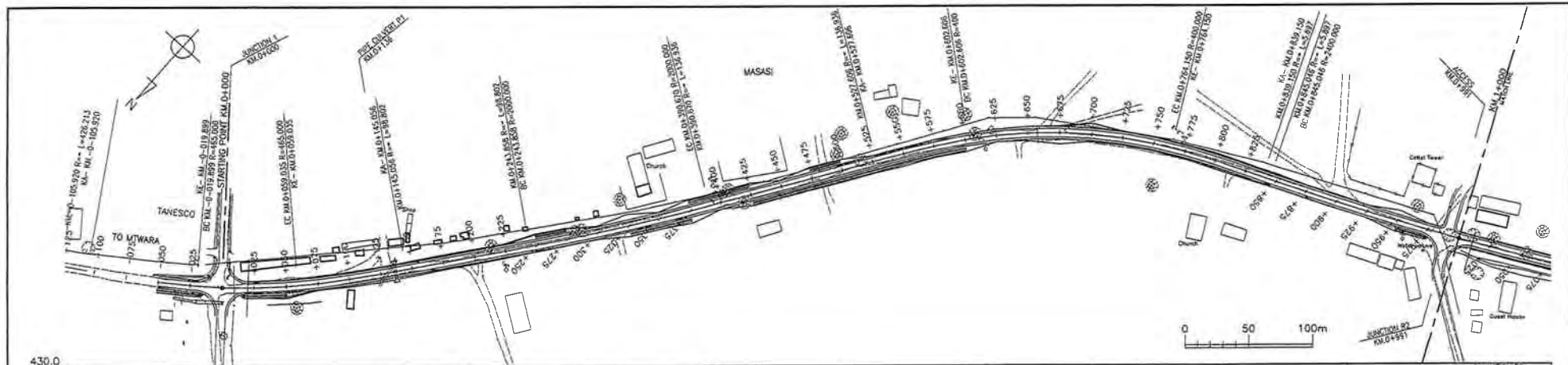


BUS STOP



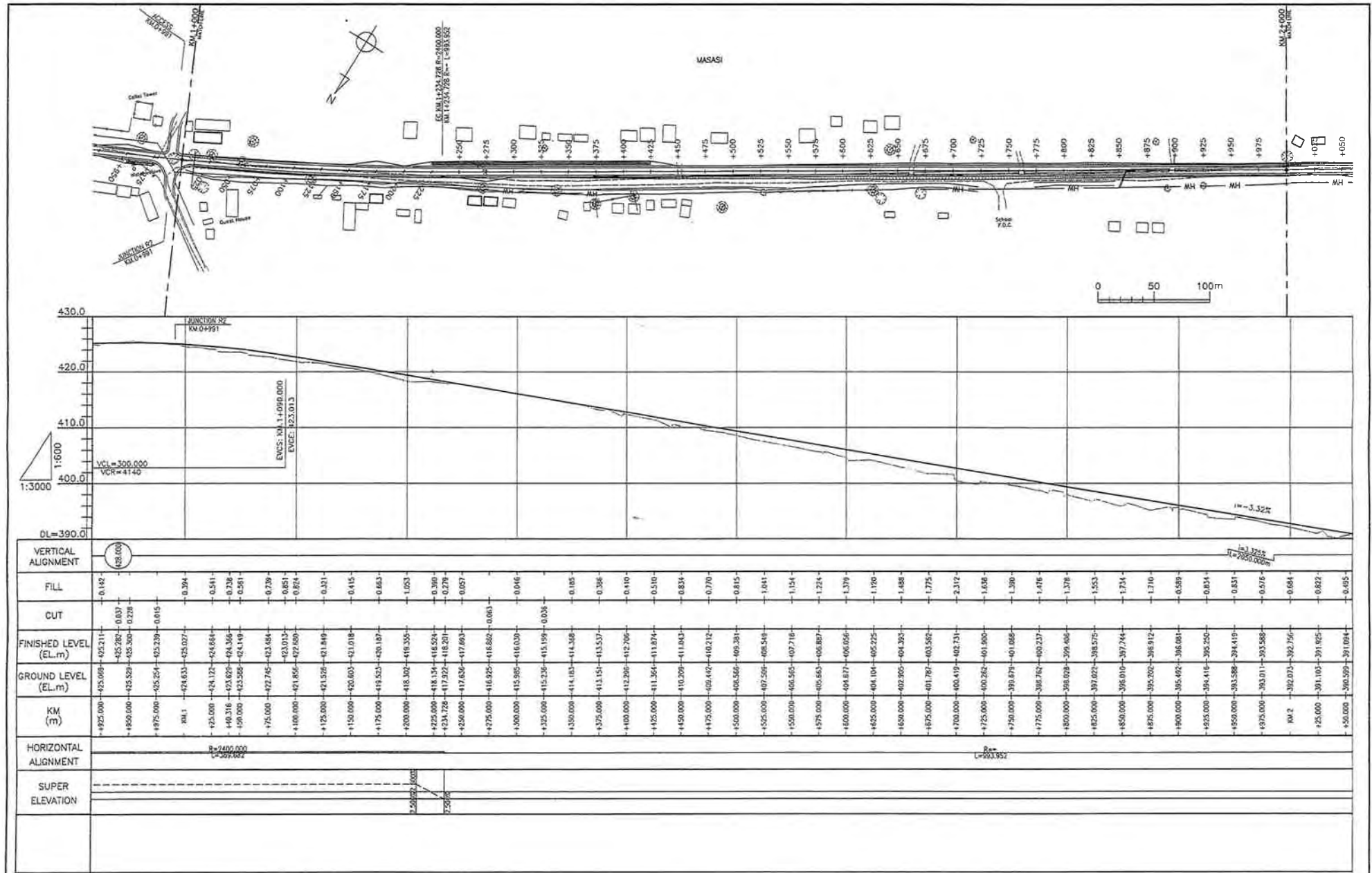
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CONSULTANTS:	PROJECT NAME:	DRAWING TITLE:	Date: Mar. 2007	DRAWING No.:			
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						Checked by:	

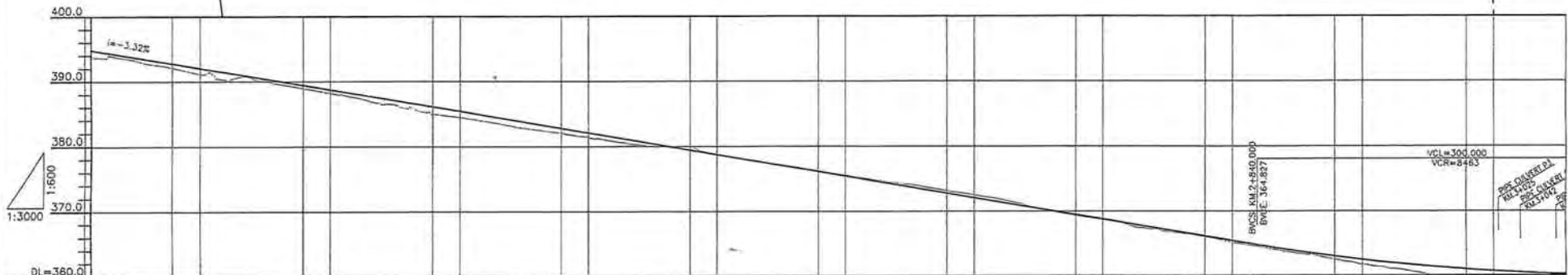
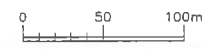
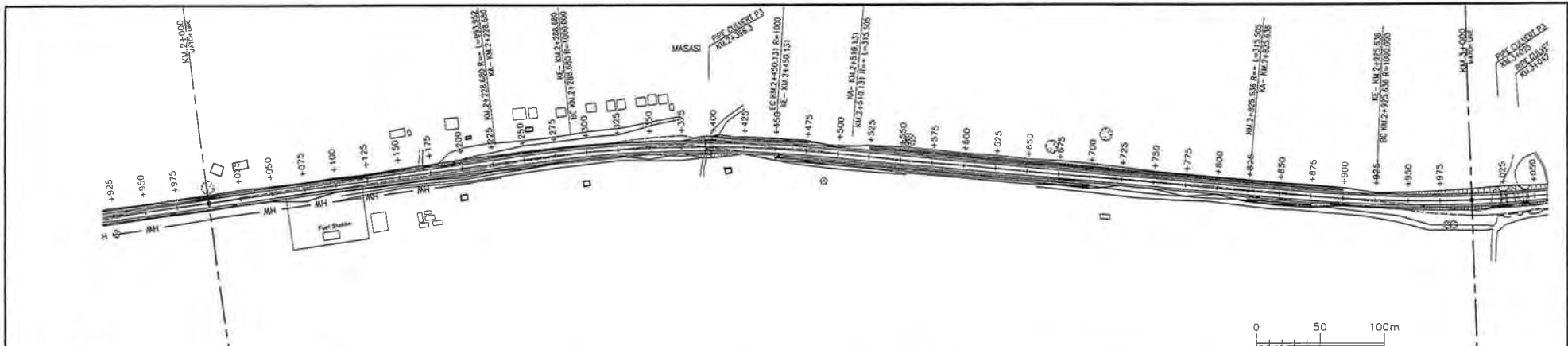


VERTICAL ALIGNMENT	i = 1.64%		i = 3.92%		i = 0.00%	
FILL	0.000	0.000	0.000	0.000	0.000	0.000
CUT	0.000	0.000	0.000	0.000	0.000	0.000
FINISHED LEVEL (EL.m)	397.196	397.196	397.196	397.196	397.196	397.196
GROUND LEVEL (EL.m)	397.196	397.196	397.196	397.196	397.196	397.196
KM (m)	75.000	80.000	85.000	90.000	95.000	100.000
HORIZONTAL ALIGNMENT	R=1000.000		R=1000.000		R=1000.000	
SUPER ELEVATION	2.50%		2.50%		2.50%	

<ul style="list-style-type: none"> The Ministry of Infrastructure Development of United Republic of Tanzania Japan International Cooperation Agency 	CONSULTANTS:	PROJECT NAME:	DRAWING TITLE:	Date: Mar. 2007	DRAWING No.:
	Construction Project Consultants, Inc. (CPC)	The Project for Upgrading Masasi-Mangaka Road	PLAN & PROFILE(1/56)	Prepared by:	MR DD E-1
				Checked by:	



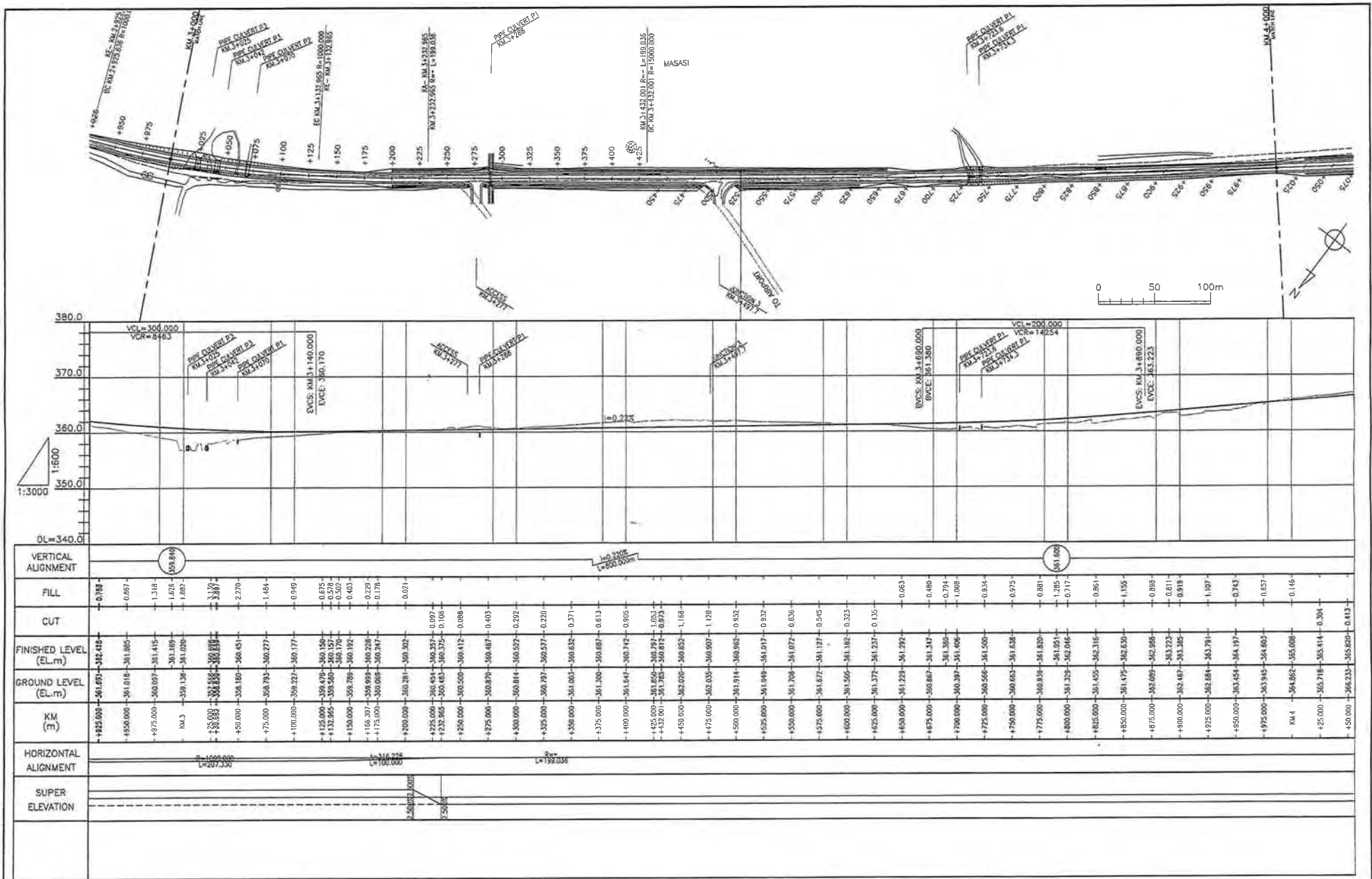
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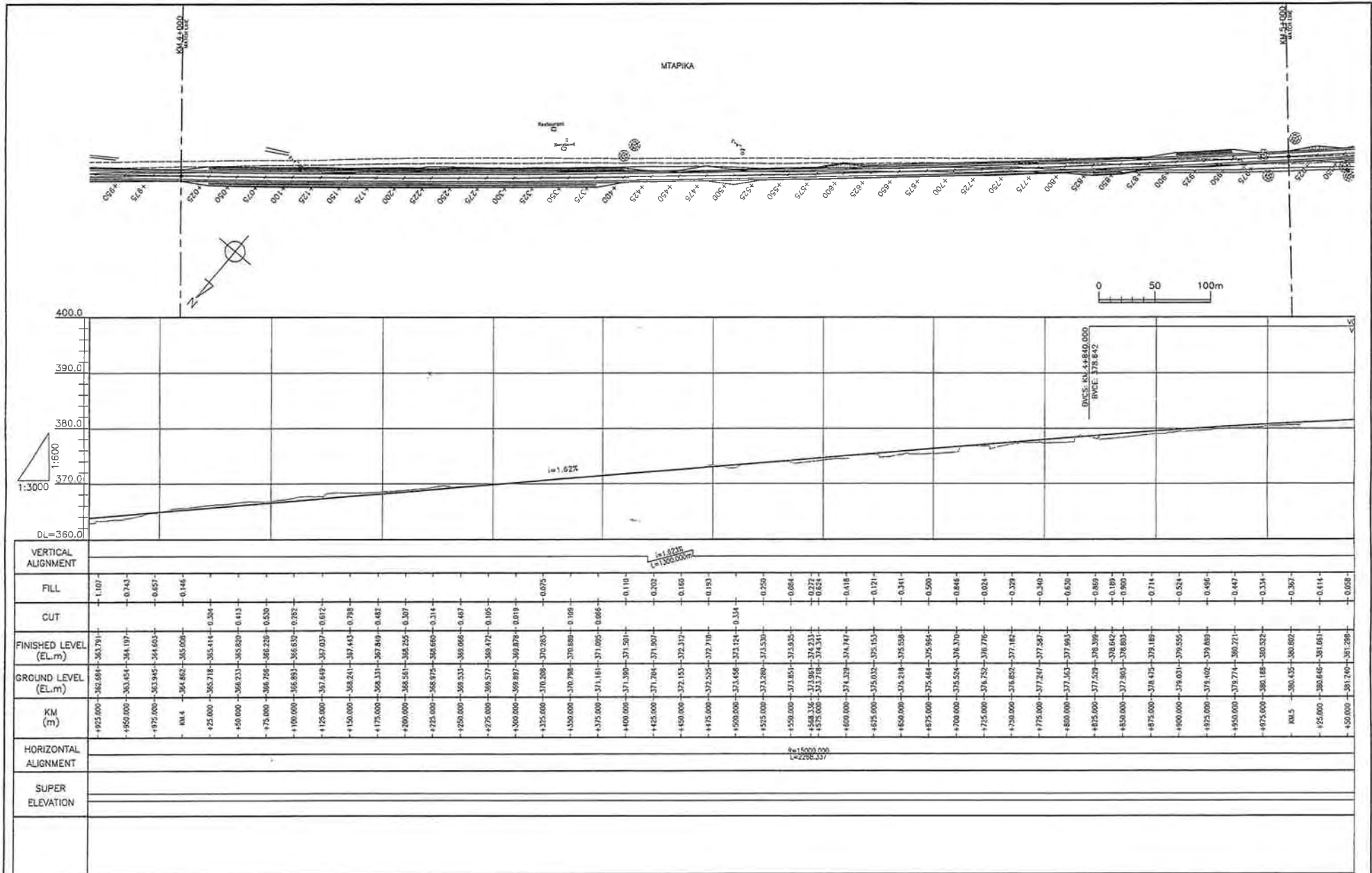
VERTICAL ALIGNMENT	FILL	CUT	FINISHED LEVEL (EL.m)	GROUND LEVEL (EL.m)	KM (m)	HORIZONTAL ALIGNMENT	SUPER ELEVATION
	0.834		382.250	381.416	+925.000		
	0.831		384.119	381.528	+950.000		
	0.576		385.568	383.011	+975.000		
	0.884		387.755	382.071	+1000.000		
	0.822		391.525	381.100	+1025.000		
	0.695		391.094	380.599	+1050.000		
	0.705		390.263	380.267	+1075.000		
	0.516		388.031	388.915	+1100.000		
	0.544		388.600	388.057	+1125.000		
	0.717		387.759	387.052	+1150.000		
	0.864		386.538	385.974	+1175.000		
	1.143		386.107	384.954	+1200.000		
	0.838		385.755	384.211	+1225.000		
	0.804		384.444	383.540	+1250.000		
	0.845		383.825	382.876	+1275.000		
	0.929		383.613	382.884	+1300.000		
	0.857		383.158	382.321	+1325.000		
	0.731		382.782	382.050	+1350.000		
	0.752		381.350	381.189	+1375.000		
	0.611		381.119	380.200	+1400.000		
	0.818		380.888	379.916	+1425.000		
	0.533		379.657	379.592	+1450.000		
	0.844		378.626	378.382	+1475.000		
	0.699		377.798	377.786	+1500.000		
	0.818		377.653	377.120	+1525.000		
	0.124		376.124	376.258	+1550.000		
	0.153		375.785	375.948	+1575.000		
	0.206		375.301	375.566	+1600.000		
	0.249		374.685	374.719	+1625.000		
	0.388		373.838	374.027	+1650.000		
	0.392		372.807	373.189	+1675.000		
	0.429		371.916	372.605	+1700.000		
	0.349		371.165	371.684	+1725.000		
	0.008		370.313	370.320	+1750.000		
	0.157		369.482	369.330	+1775.000		
	0.047		368.651	368.604	+1800.000		
	0.317		367.820	367.448	+1825.000		
	0.268		366.988	366.722	+1850.000		
	0.178		366.157	365.881	+1875.000		
	0.274		365.326	365.691	+1900.000		
	0.240		364.495	364.241	+1925.000		
	0.259		363.726	363.415	+1950.000		
	0.301		363.250	362.881	+1975.000		
	0.507		363.095	362.515	+2000.000		
	0.708		362.445	361.691	+2025.000		
	0.887		361.805	361.018	+2050.000		
	1.318		361.115	360.091	+2075.000		
	1.882		361.000	359.138	+2100.000		
	2.270		360.888	358.666	+2125.000		
			360.451	358.180	+2150.000		

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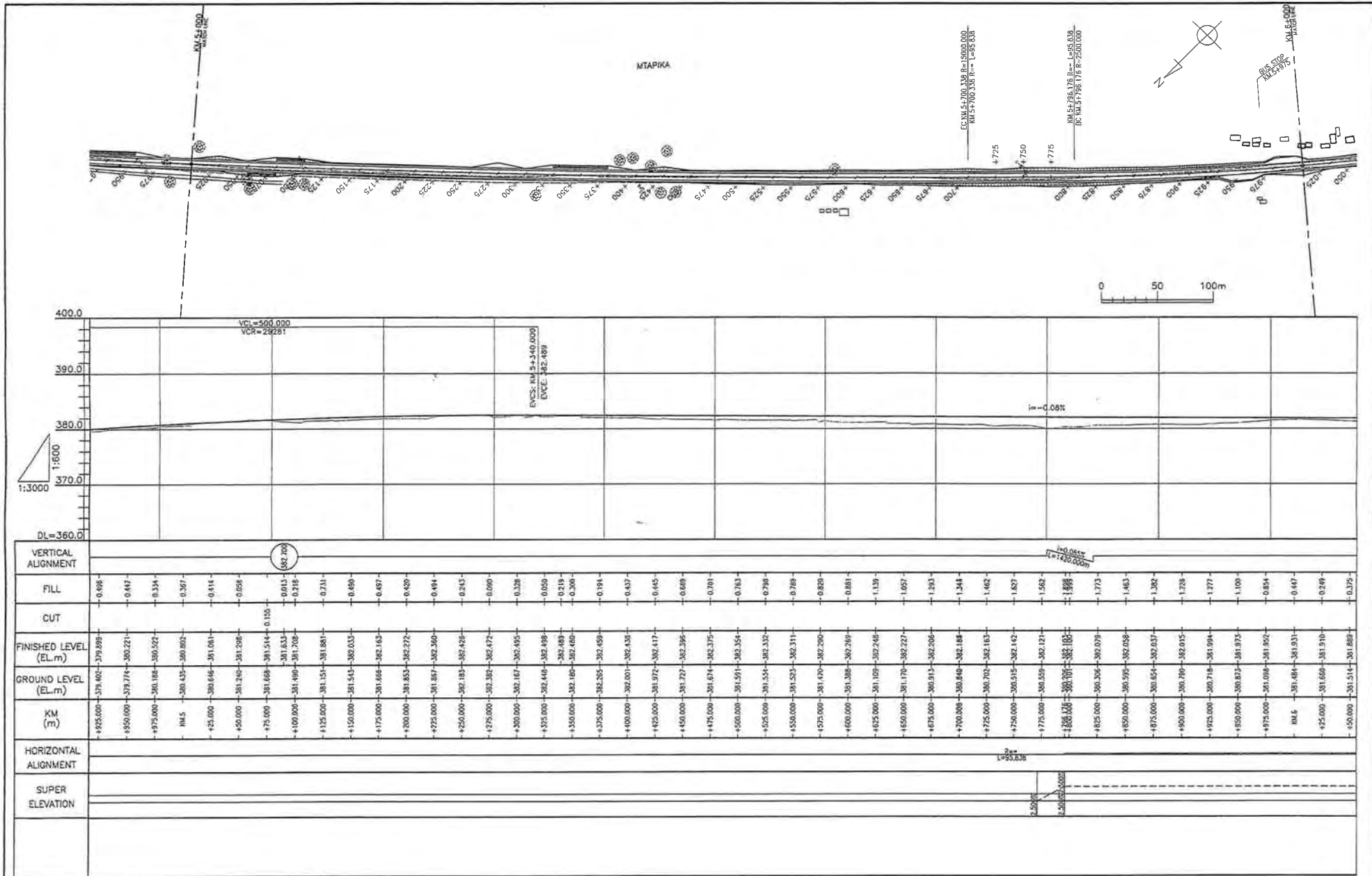
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Construction Project Consultants, Inc. (CPC)	The Project for Upgrading Masasi-Mangaka Road	PLAN & PROFILE(3/56)	Prepared by:	MR DD E-3
			Checked by:	



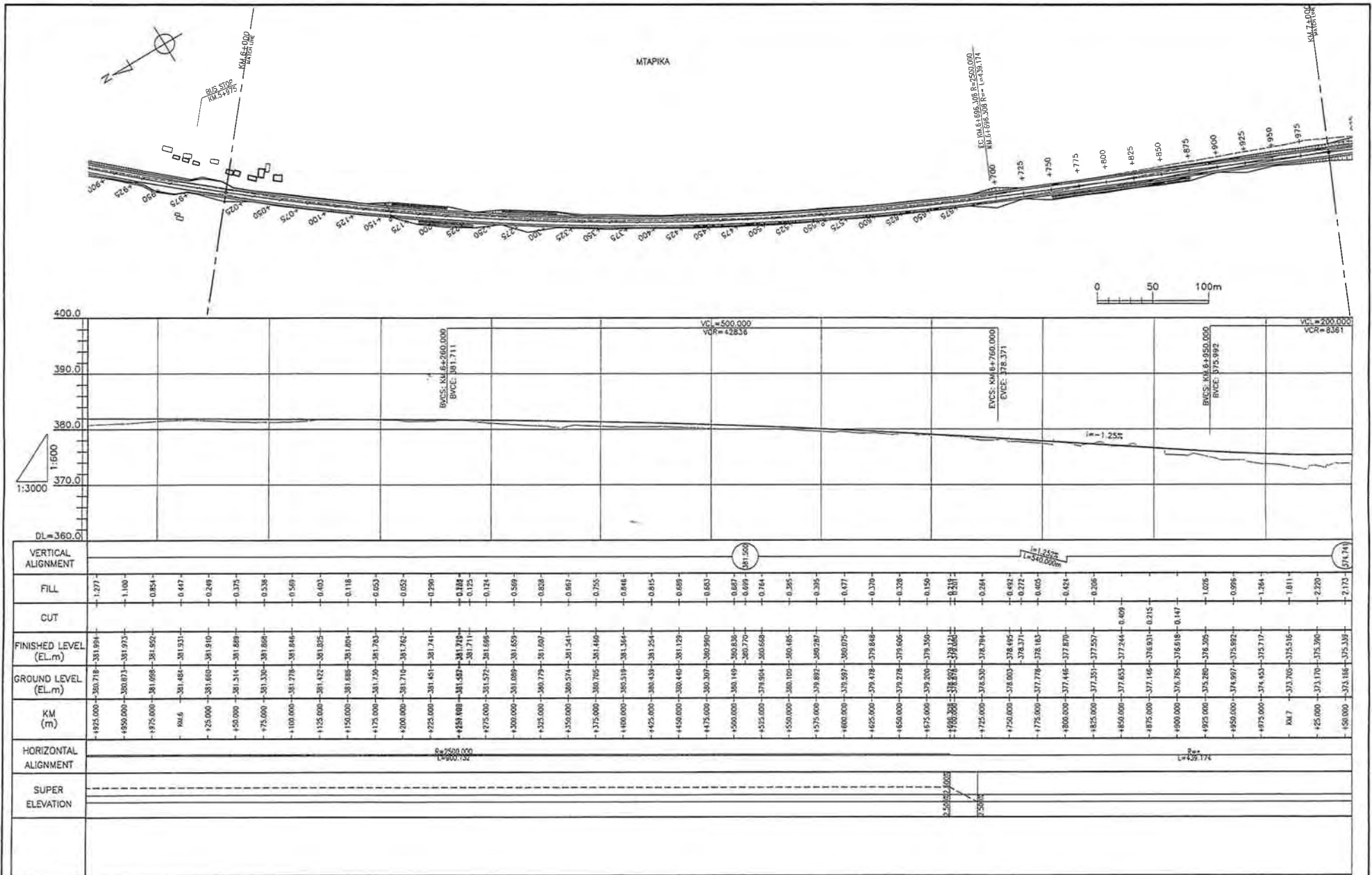
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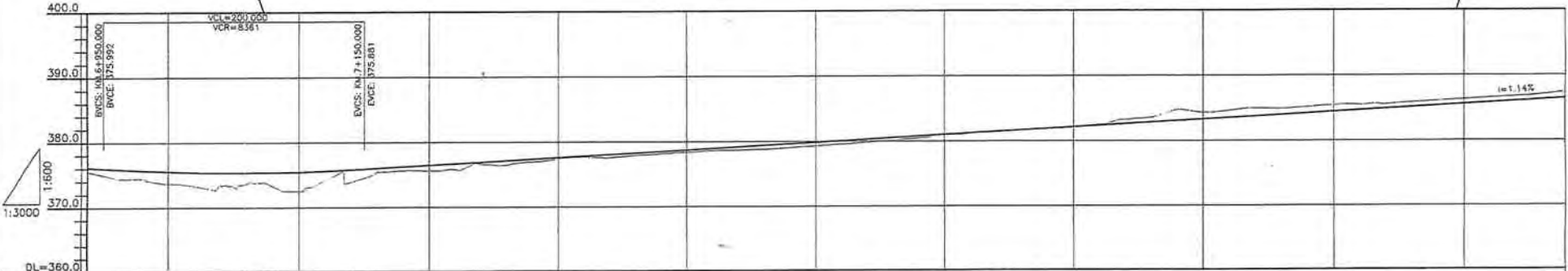
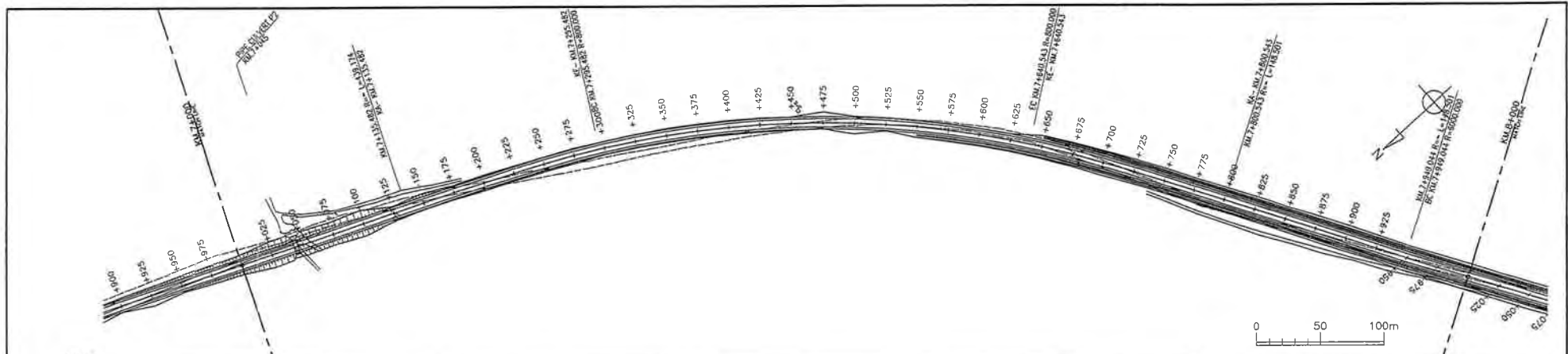
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<ul style="list-style-type: none"> The Ministry of Infrastructure Development of United Republic of Tanzania Japan International Cooperation Agency 	CONSULTANTS:	PROJECT NAME:	DRAWING TITLE:	Date: Mar. 2007	DRAWING No.:
	Construction Project Consultants, Inc. (CPC)	The Project for Upgrading Masasi-Mangaka Road	PLAN & PROFILE(6/56)	Prepared by:	MR DD E-6
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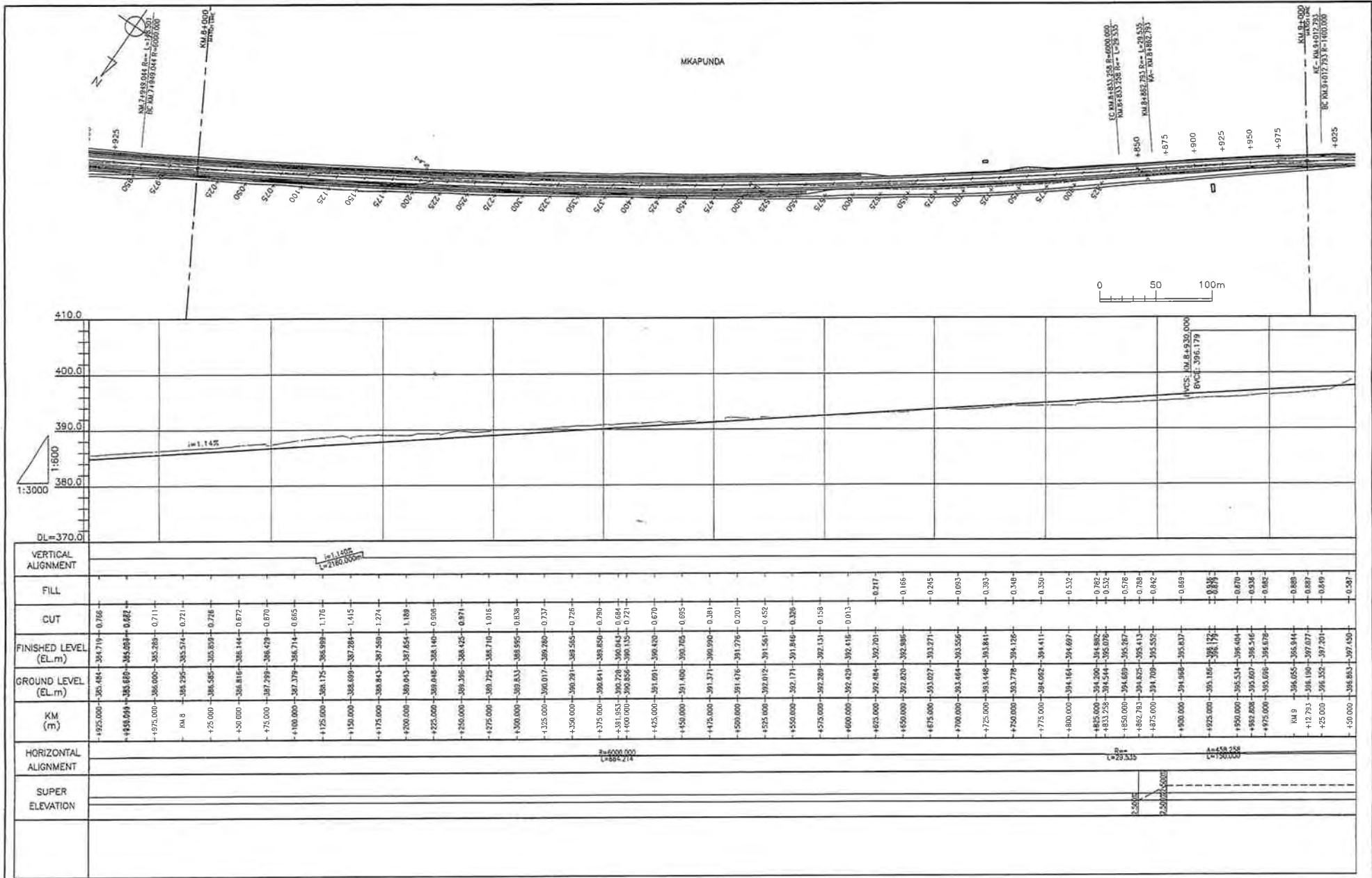
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	Construction Project Consultants, Inc. (CPC)	The Project for Upgrading Masasi-Mangaka Road	PLAN & PROFILE(7/56)	Prepared by:	MR DD E-7
				Checked by:	



VERTICAL ALIGNMENT	FILL	CUT	FINISHED LEVEL (EL.m)	GROUND LEVEL (EL.m)	KM (m)	HORIZONTAL ALIGNMENT	SUPER ELEVATION
	1.028		375.380	375.380	495.000	174	
	0.986		374.997	374.997	4950.000		
	1.284		375.717	374.433	4975.000		
	1.811		375.518	373.700	4975.000		
	2.220		375.390	371.170	425.000		
	2.173		375.339	373.186	450.000		
	1.588		375.382	373.794	475.000		
	2.910		375.460	372.551	4100.000		
	0.869		375.033	374.674	4125.000		
	2.640		375.728	373.084	4135.000		
	1.337		375.881	374.544	4150.000		
	0.805		376.166	375.361	4175.000		
	0.807		376.451	375.589	4200.000		
	0.947		376.736	375.794	4225.000		
	0.515		376.832	376.587	4242.205		
	0.580		377.021	376.461	4250.000		
	0.406		377.206	376.606	4275.000		
	0.264		377.827	377.612	4325.000		
	0.434		378.382	377.728	4350.000		
	0.302		378.447	378.655	4375.000		
	0.338		378.723	378.394	4400.000		
	0.371		379.017	378.646	4425.000		
	0.551		379.307	378.751	4450.000		
	0.589		379.817	379.516	4500.000		
	0.525		380.157	379.633	4535.000		
	0.465		380.442	379.977	4550.000		
	0.314		380.727	380.414	4575.000		
	0.105		381.017	380.907	4600.000		
	0.049		381.298	381.249	4625.000		
	0.141		381.475	381.334	4640.543		
	0.051		381.583	381.532	4650.000		
	0.022		381.868	381.696	4675.000		
	0.026		382.054	382.123	4693.927		
	0.026		382.153	382.262	4700.000		
	0.119		382.438	382.567	4725.000		
	0.675		382.723	383.398	4750.000		
	1.469		383.098	384.477	4775.000		
	1.028		383.290	384.318	4800.000		
	1.158		383.576	384.736	4825.000		
	1.053		383.863	384.917	4850.000		
	0.920		384.148	385.069	4875.000		
	0.888		384.433	385.427	4900.000		
	0.756		384.718	385.484	4925.000		
	0.827		385.003	385.807	4950.000		
	0.711		385.289	386.000	4975.000		
	0.721		385.574	386.295	5000.000		
	0.726		385.859	386.585	5025.000		
	0.672		386.144	386.816	5050.000		

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CONSULTANTS: Construction Project Consultants, Inc. (CPC)	PROJECT NAME: The Project for Upgrading Masasi-Mangaka Road	DRAWING TITLE: PLAN & PROFILE(8/56)	Date: Mar, 2007	DRAWING No.: MR DD E-8
			Prepared by:	
			Checked by:	



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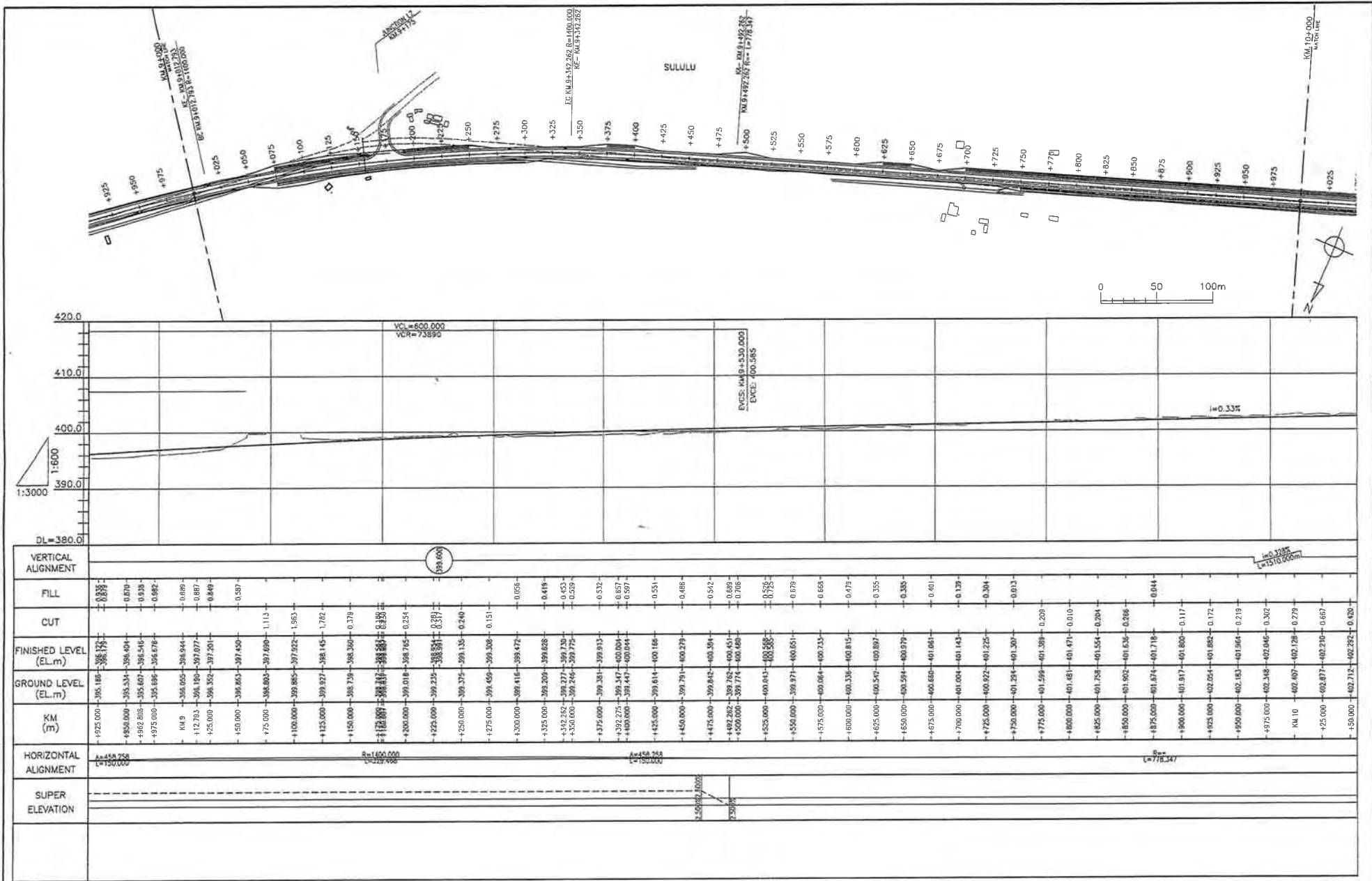
CONSULTANTS:
Construction Project Consultants, Inc. (CPC)

PROJECT NAME:
The Project for Upgrading Masasi-Mangaka Road

DRAWING TITLE:
PLAN & PROFILE(9/56)

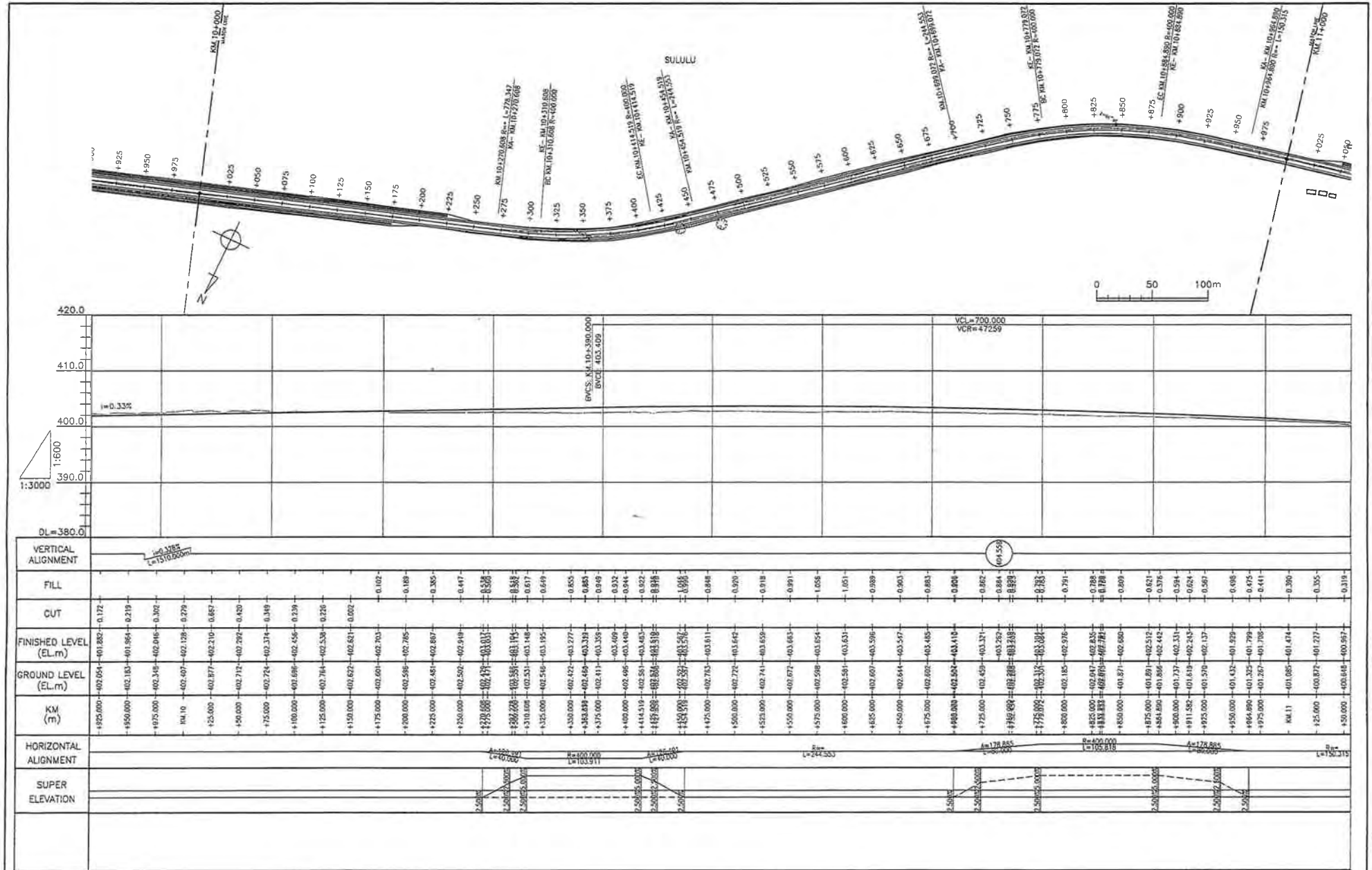
Date: Mar. 2007
Prepared by:
Checked by:

DRAWING No.:
MR DD E-9



KM (m)	GROUND LEVEL (EL.m)	FINISHED LEVEL (EL.m)	CUT	FILL	HORIZONTAL ALIGNMENT
+125.000	+395.186	+398.133		0.888	R=1300.000
+130.000	+395.534	+396.404		0.870	
+135.000	+395.607	+396.546		0.938	
+140.000	+395.696	+396.678		0.982	
+145.000	+396.052	+396.944		0.889	
+150.000	+396.190	+397.077		0.887	
+155.000	+396.332	+397.201		0.849	
+160.000	+396.603	+397.450		0.850	
+165.000	+396.800	+397.690	1.113		
+170.000	+396.885	+397.822	1.963		
+175.000	+396.927	+398.145	1.782		
+180.000	+398.300	+398.300	0.719		
+185.000	+398.381	+398.381	0.830		R=1000.000
+190.000	+398.215	+398.591	0.376		
+195.000	+398.375	+398.135	0.240		
+200.000	+399.018	+398.765	0.254		
+205.000	+399.235	+398.591	0.376		
+210.000	+399.246	+399.775	0.529		
+215.000	+399.381	+399.913	0.532		
+220.000	+398.347	+400.000	0.657		
+225.000	+399.441	+400.044	0.607		
+230.000	+399.611	+400.166	0.551		
+235.000	+399.791	+400.279	0.488		
+240.000	+399.842	+400.394	0.542		
+245.000	+399.782	+400.450	0.669		
+250.000	+399.774	+400.460	0.706		
+255.000	+400.043	+400.588	0.525		
+260.000	+399.971	+400.651	0.679		
+265.000	+400.084	+400.733	0.688		
+270.000	+400.338	+400.815	0.479		
+275.000	+400.549	+400.897	0.355		
+280.000	+400.594	+400.979	0.385		
+285.000	+400.660	+401.061	0.401		
+290.000	+401.004	+401.143	0.139		
+295.000	+400.922	+401.225	0.304		
+300.000	+401.254	+401.300	0.013		
+305.000	+401.598	+401.389	0.209		
+310.000	+401.481	+401.471	0.010		
+315.000	+401.758	+401.554	0.204		
+320.000	+401.902	+401.636	0.268		
+325.000	+401.674	+401.718	0.044		
+330.000	+401.917	+401.800	0.117		
+335.000	+402.254	+401.882	0.172		
+340.000	+402.183	+401.964	0.219		
+345.000	+402.348	+402.046	0.302		
+350.000	+402.407	+402.128	0.279		
+355.000	+402.871	+402.210	0.663		
+360.000	+402.712	+402.282	0.400		

<ul style="list-style-type: none"> The Ministry of Infrastructure Development of United Republic of Tanzania Japan International Cooperation Agency 	CONSULTANTS:	PROJECT NAME:	DRAWING TITLE:	Date: Mar. 2007	DRAWING No.:
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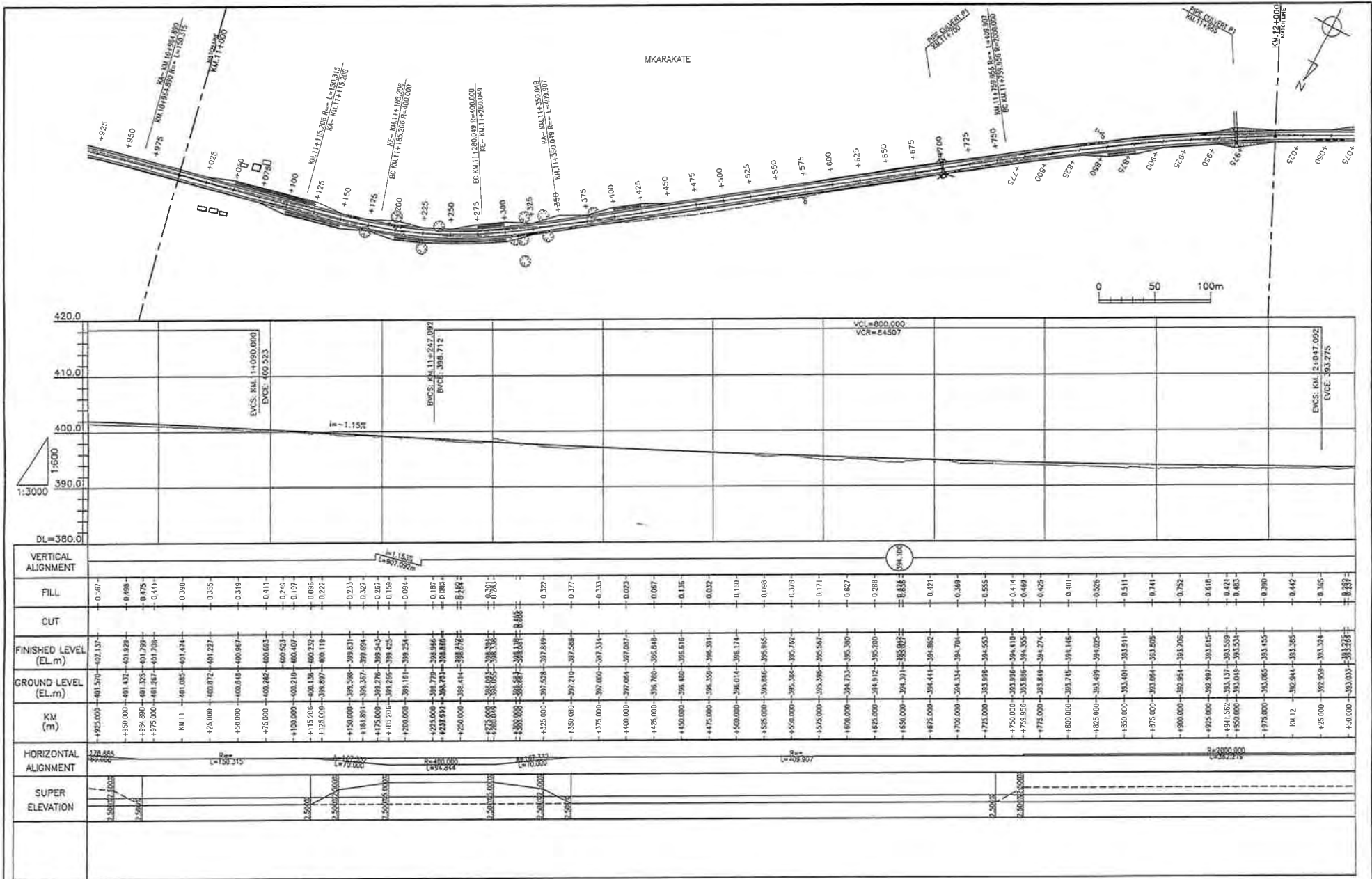
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Construction Project Consultants, Inc. (CPC)

PROJECT NAME:
The Project for Upgrading Masasi-Mangaka Road

DRAWING TITLE:
PLAN & PROFILE(11/56)

Date: Mar. 2007
Prepared by:
Checked by:

DRAWING No.:
MR DD E-11



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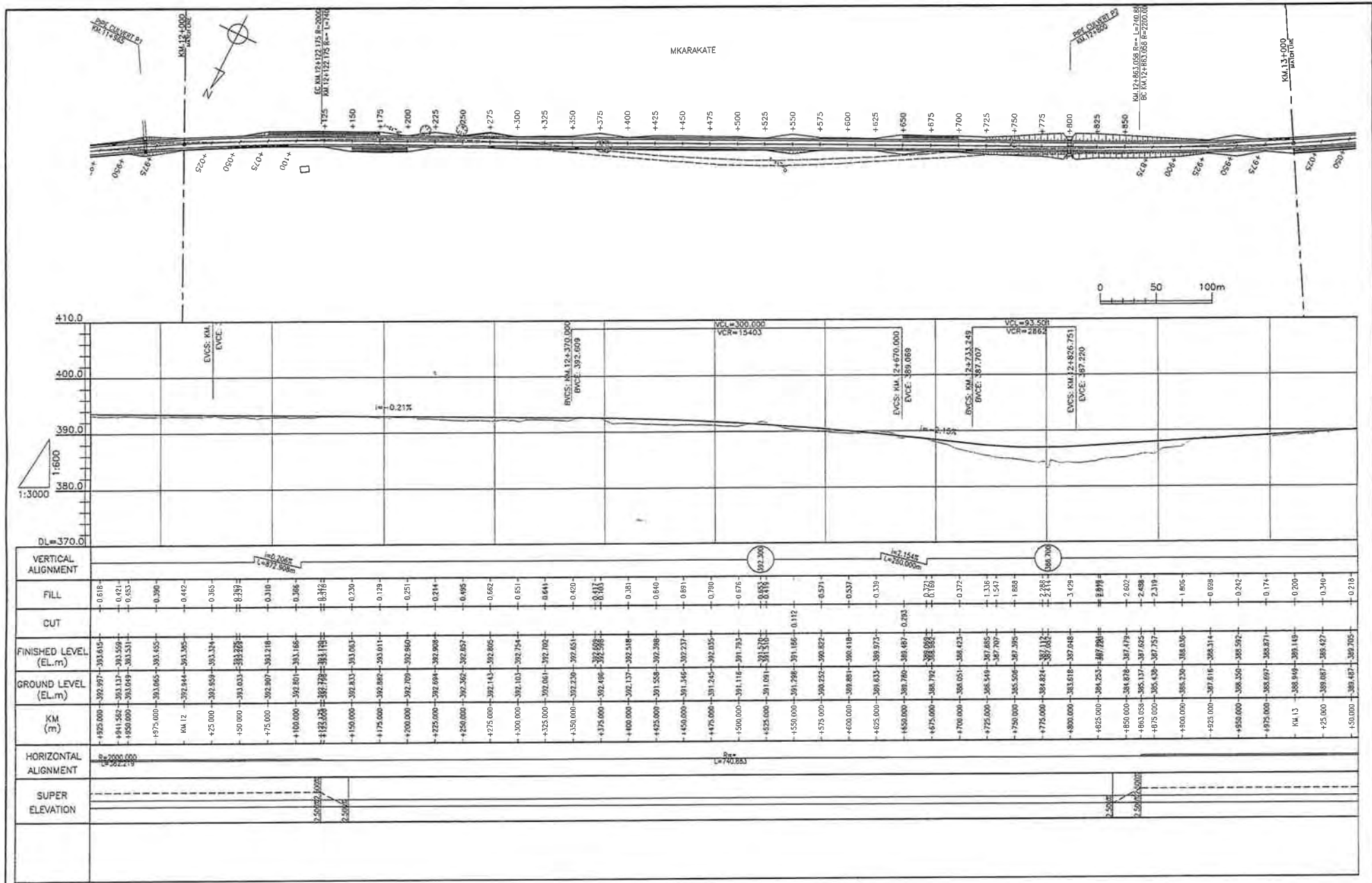
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 Construction Project Consultants, Inc. (CPC)

PROJECT NAME:
 The Project for Upgrading Masasi-Mangaka Road

DRAWING TITLE:
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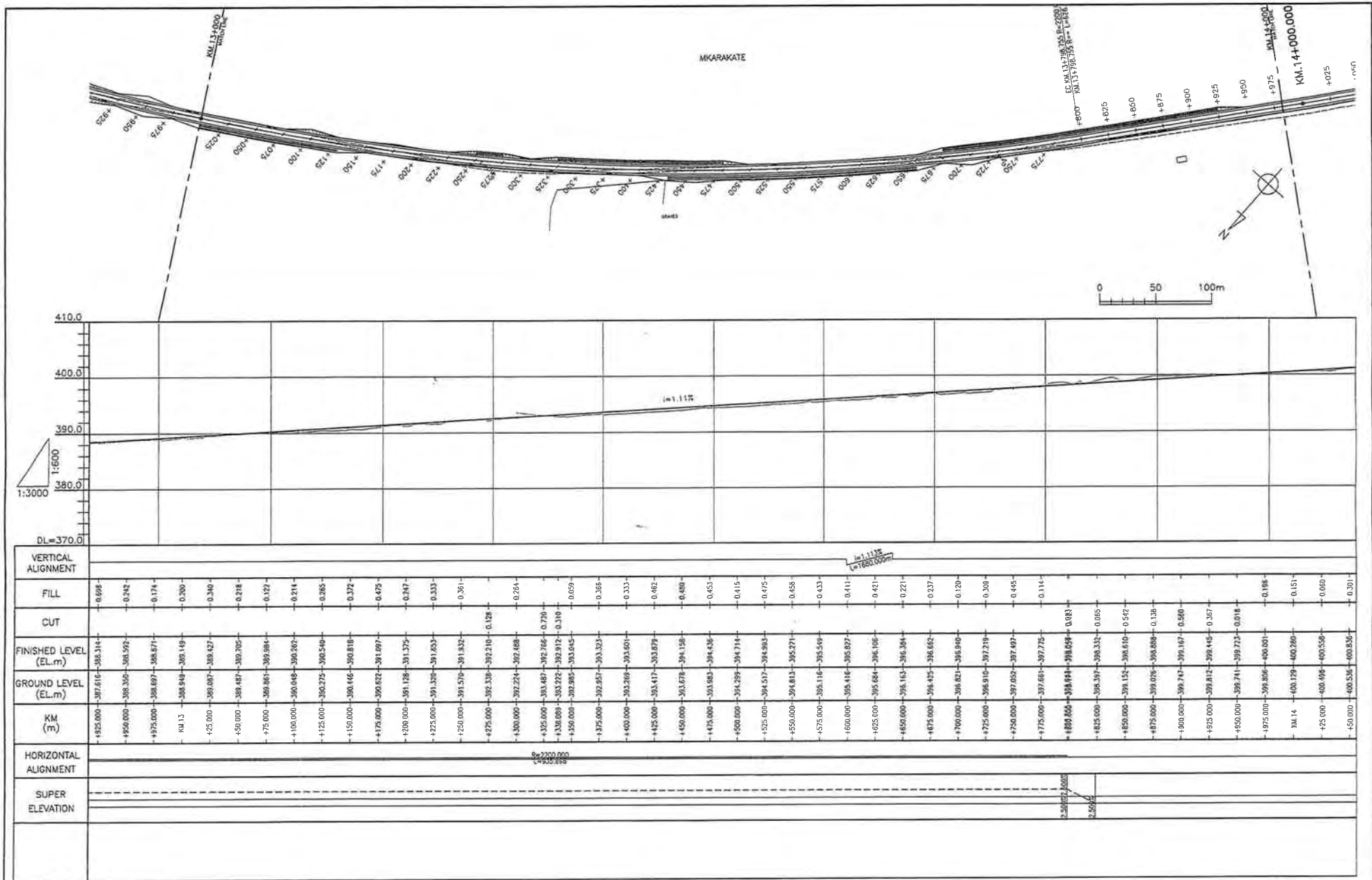
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 Checked by:

DRAWING No.:
 MR DD E-12

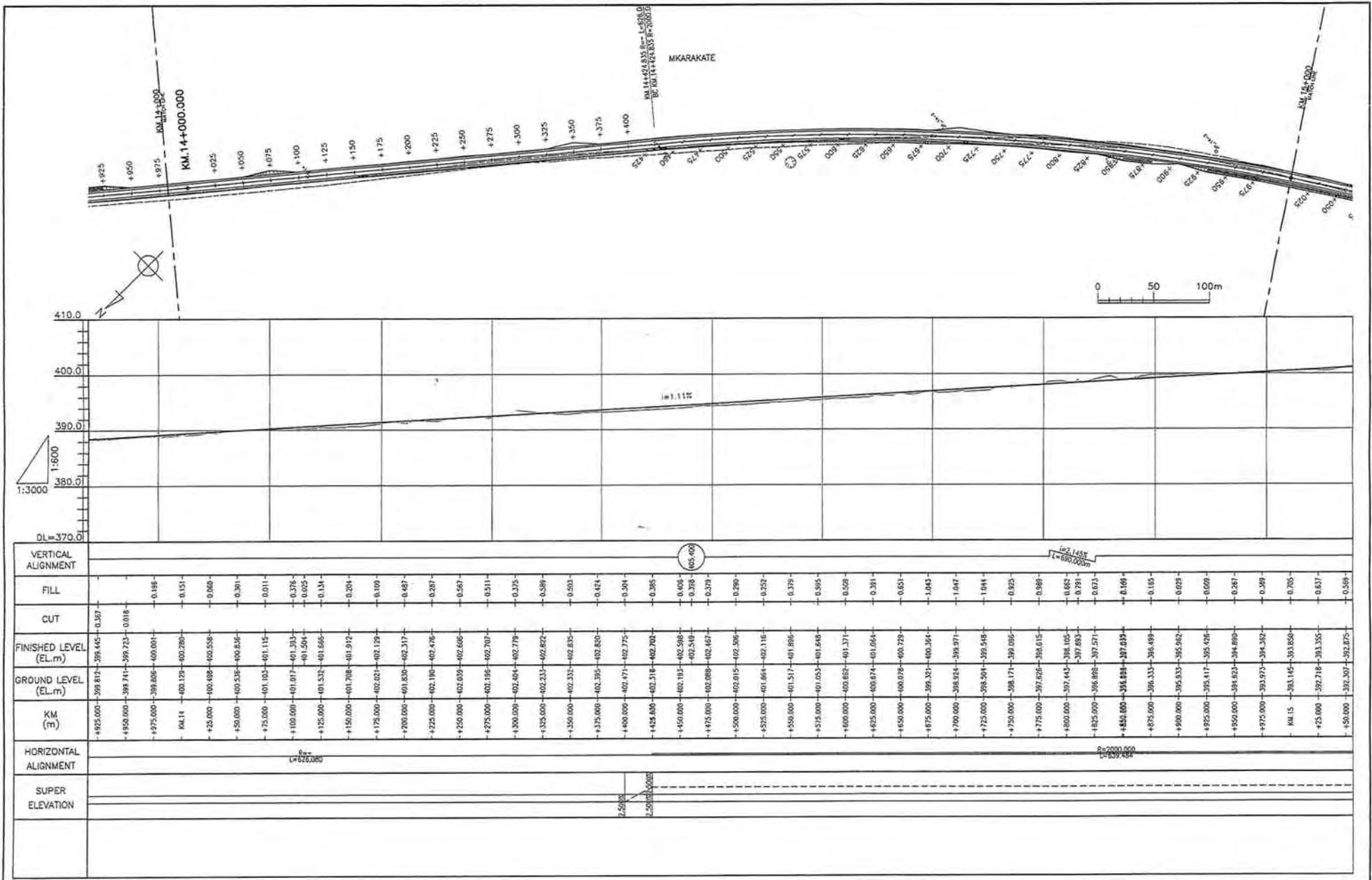


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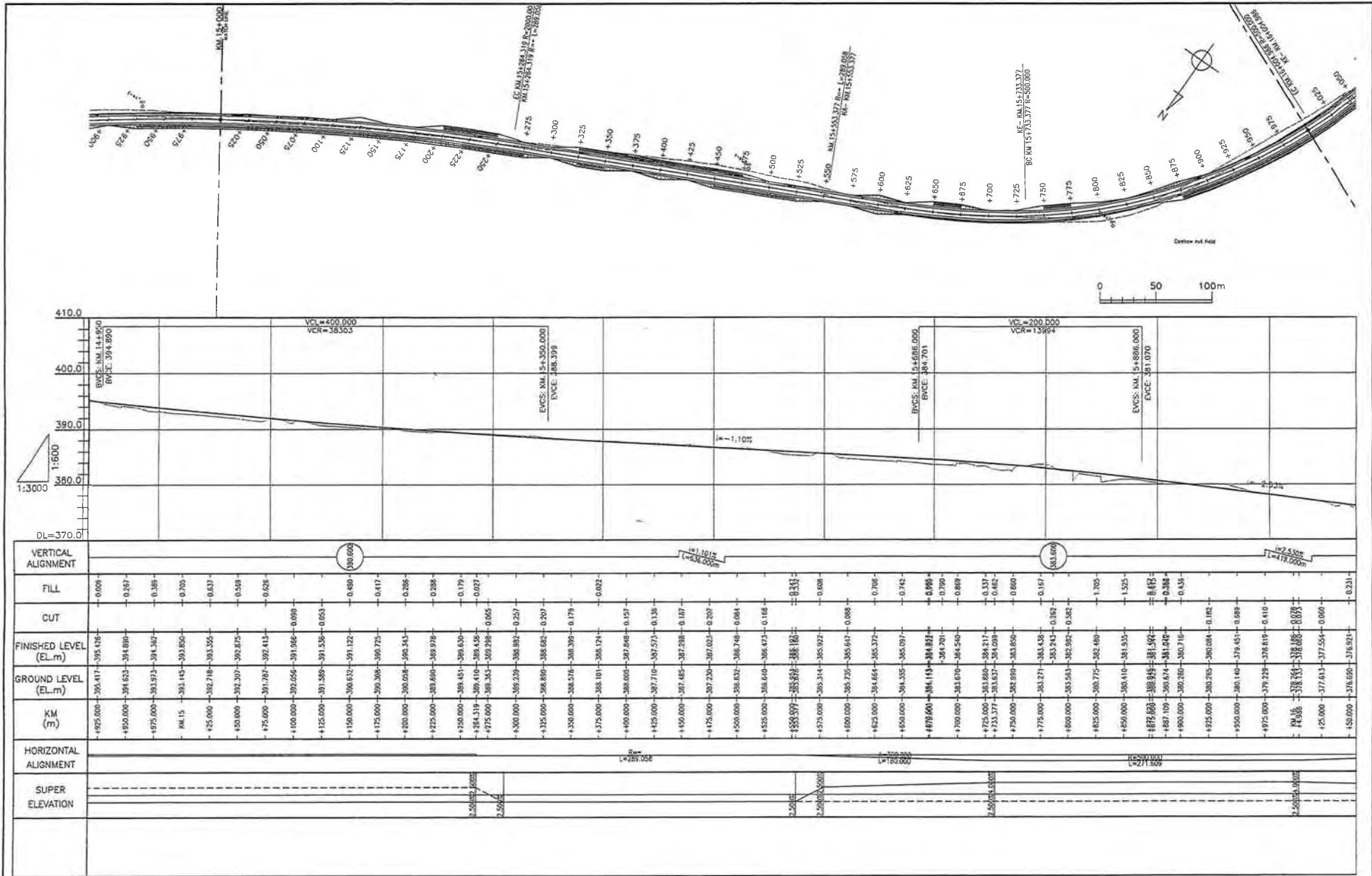
CONSULTANTS: Construction Project Consultants, Inc. (CPC)	PROJECT NAME: The Project for Upgrading Masasi-Mangaka Road	DRAWING TITLE: PLAN & PROFILE(13/56)	Date: Mar, 2007	DRAWING No.: MR DD E-13
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			Checked by:	



<ul style="list-style-type: none"> The Ministry of Infrastructure Development of United Republic of Tanzania Japan International Cooperation Agency 	CONSULTANTS:	PROJECT NAME:	DRAWING TITLE:	Date: Mar. 2007	DRAWING No.:
	Construction Project Consultants, Inc. (CPC)	The Project for Upgrading Masasi-Mangaka Road	PLAN & PROFILE(14/56)	Prepared by:	MR DD E-14
				Checked by:	



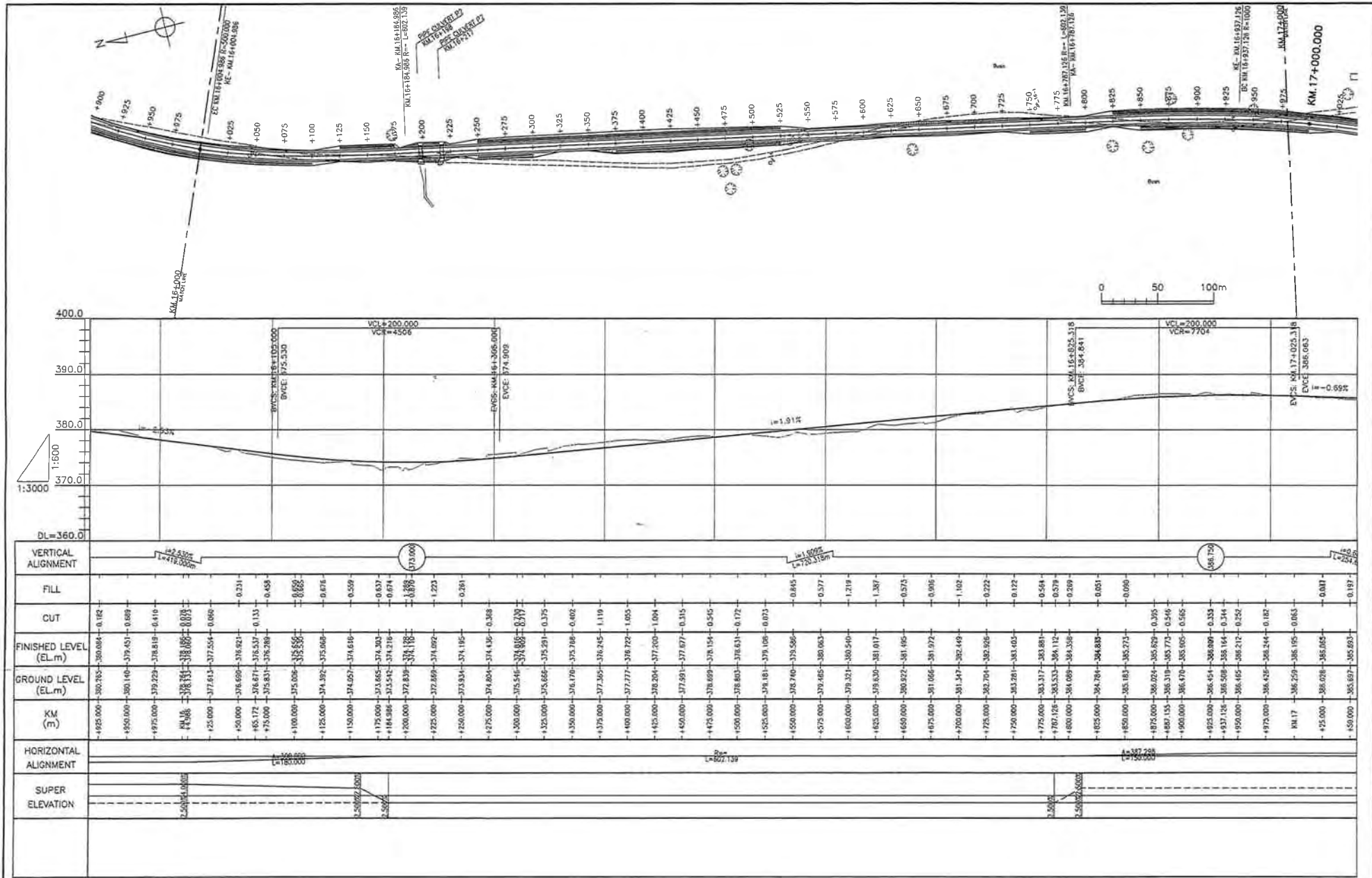
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	Construction Project Consultants, Inc. (CPC)	The Project for Upgrading Masasi-Mangaka Road	PLAN & PROFILE(15/56)	Prepared by:	MR DD E-15
				Checked by:	



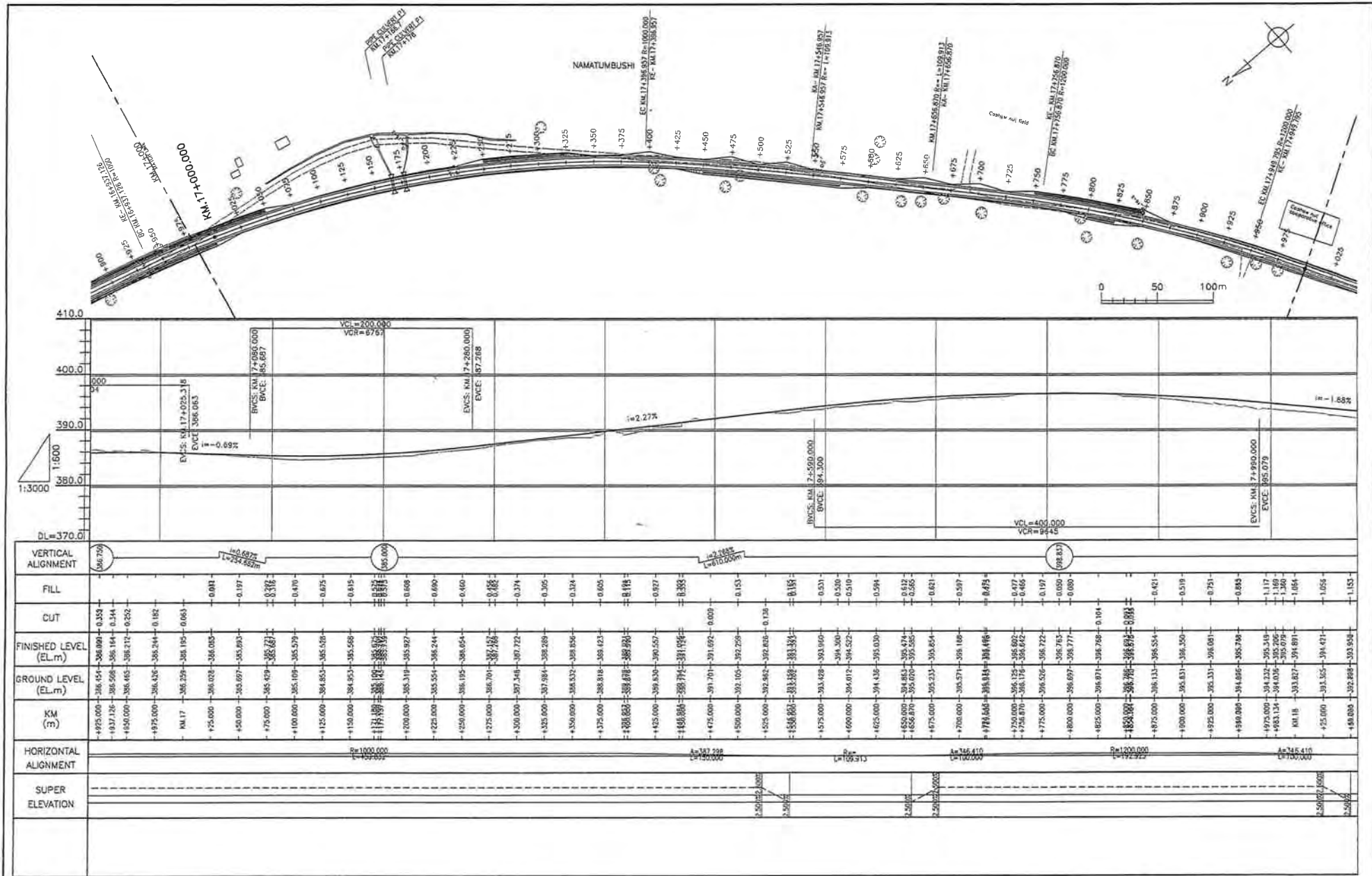
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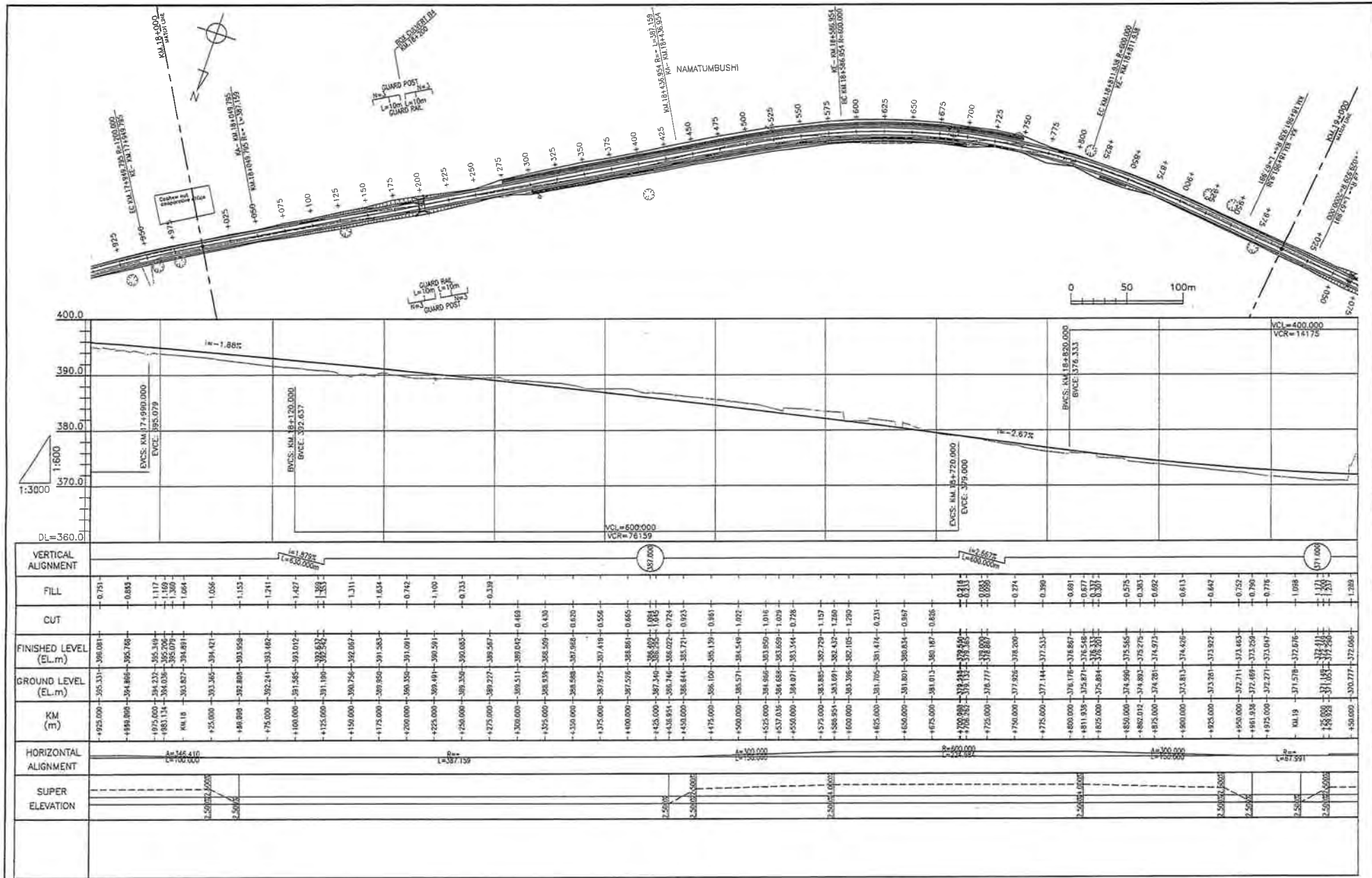
CONSULTANTS:	PROJECT NAME:	DRAWING TITLE:	Date: Mar, 2007	DRAWING No.:
Construction Project Consultants, Inc. (CPC)	The Project for Upgrading Masasi-Mangaka Road	PLAN & PROFILE(16/56)	Prepared by:	MR DD E-16
			Checked by:	

VERTICAL ALIGNMENT	FILL	CUT	FINISHED LEVEL (EL.m)	GROUND LEVEL (EL.m)	KM (m)	HORIZONTAL ALIGNMENT	SUPER ELEVATION
	0.000		395.417	395.417	+925.000		
	0.061		394.890	394.890	+950.000		
	0.381		394.362	394.362	+975.000		
	0.700		393.835	393.835	+1000.000		
	0.837		393.308	393.308	+1025.000		
	0.559		392.781	392.781	+1050.000		
	0.624		392.254	392.254	+1075.000		
	0.689		391.727	391.727	+1100.000		
	0.411		391.200	391.200	+1125.000		
	0.288		390.673	390.673	+1150.000		
	0.288		389.978	389.978	+1225.000		
	0.179		389.650	389.650	+1250.000		
	0.027		389.458	389.458	+1284.319		
	0.005		389.298	389.298	+1275.000		
	0.257		389.893	389.893	+1300.000		
	0.207		388.682	388.682	+1325.000		
	0.178		388.308	388.308	+1350.000		
	0.027		388.124	388.124	+1375.000		
	0.197		387.848	387.848	+1400.000		
	0.138		387.571	387.571	+1425.000		
	0.187		387.288	387.288	+1450.000		
	0.207		387.003	387.003	+1475.000		
	0.084		386.748	386.748	+1500.000		
	0.118		386.473	386.473	+1525.000		
	0.333		386.188	386.188	+1550.000		
	0.688		385.972	385.972	+1575.000		
	0.888		385.617	385.617	+1600.000		
	0.708		385.372	385.372	+1625.000		
	0.743		385.097	385.097	+1650.000		
	0.900		384.831	384.831	+1675.000		
	0.889		384.540	384.540	+1700.000		
	0.337		384.217	384.217	+1725.000		
	0.462		384.038	384.038	+1753.377		
	0.800		383.850	383.850	+1750.000		
	0.157		383.438	383.438	+1775.000		
	0.381		382.943	382.943	+1800.000		
	0.582		382.590	382.590	+1825.000		
	1.700		382.480	382.480	+1825.000		
	1.520		381.935	381.935	+1850.000		
	0.875		381.490	381.490	+1875.000		
	0.288		381.148	381.148	+1897.105		
	0.438		380.716	380.716	+1900.000		
	0.118		380.084	380.084	+1925.000		
	0.888		379.451	379.451	+1950.000		
	0.910		378.819	378.819	+1975.000		
	0.075		378.686	378.686	+1986.000		
	0.060		377.554	377.554	+195.000		
	0.231		376.921	376.921	+150.000		



<ul style="list-style-type: none"> The Ministry of Infrastructure Development of United Republic of Tanzania Japan International Cooperation Agency 	CONSULTANTS:	PROJECT NAME:	DRAWING TITLE:	Date: Mar, 2007	DRAWING No.:
	Construction Project Consultants, Inc. (CPC)	The Project for Upgrading Masasi-Mangaka Road	PLAN & PROFILE(17/56)	Prepared by:	MR DD E-17
				Checked by:	





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- Japan International Cooperation Agency

CONSULTANTS:
Construction Project Consultants, Inc. (CPC)

PROJECT NAME:
The Project for Upgrading Masasi-Mangaka Road

DRAWING TITLE:
PLAN & PROFILE(19/56)

Date: Mar. 2007
Prepared by:
Checked by:

DRAWING No.:
MR DD E-19