ESTAÇÃO DE TRATAMENTO DE ESGOTO
PLANTA DE LOCAÇÃO DAS UNIDADES DE TRATAMENTO
ESCALA 1:500

ITEM	DESCRIÇÃO	QUANT. 1ª ETAPA	QUANT. 2ª ETAPA	UNID.
	PAVIMENTAÇÃO			
05	SANGRIA DO CAMPO	180	-	m
06	CERCA A 07 FIOS	1.014	-	m
07	[illegible]	[illegible]	-	[illegible]
08	GRELHA PADRÃO CAERD	2	-	un
09	PORTÃO PARA VEÍCULOS PADRÃO CEMIG	1	-	un
10	BLOQUETE INTERTRAVADO EM CONCRETO	2.909	-	m²
07	MEIO-FIO EM CONCRETO	569	-	m

ESTAÇÃO DE TRATAMENTO DE ESGOTO
PLANTA DE URBANIZAÇÃO E PAISAGISMO
ESCALA 1:500

NOTAS:
01 – COTAS EM CENTÍMETRO, ELEVAÇÕES EM METRO SALVO INDICAÇÃO CONTRÁRIA

ALTERAÇÕES

TECISAN

PREFEITURA MUNICIPAL DE LEOPOLDINA – MG
LEOPOLDINA – MG

SISTEMA DE ESGOTOS SANITÁRIOS
ESTAÇÃO DE TRATAMENTO DE ESGOTO
ETE – LOCALIZAÇÃO
PLANTA DE LOCAÇÃO DAS UNIDADES
URBANIZAÇÃO E PAISAGISMO – DETALHES – LU

ENGELAGA

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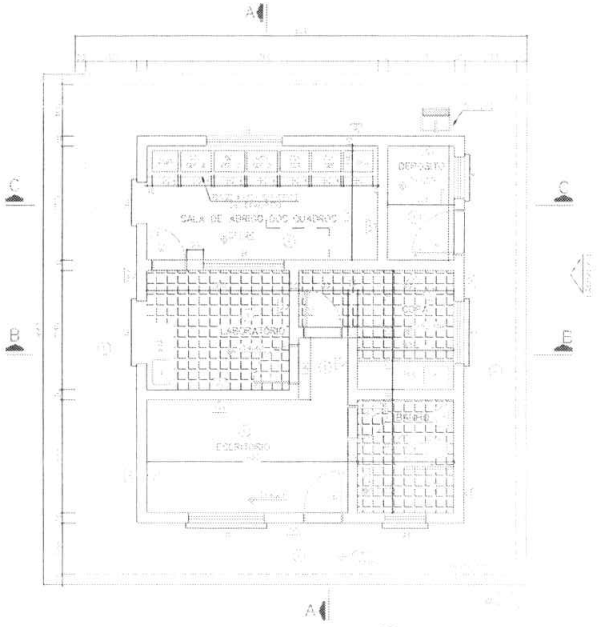
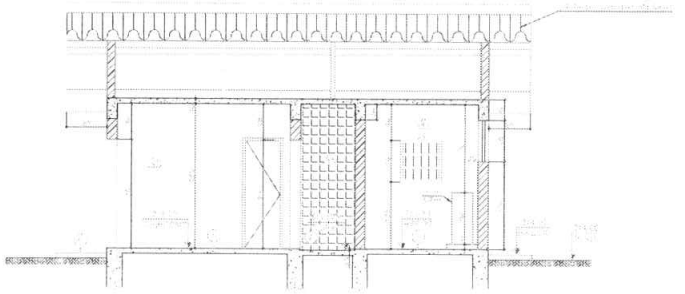
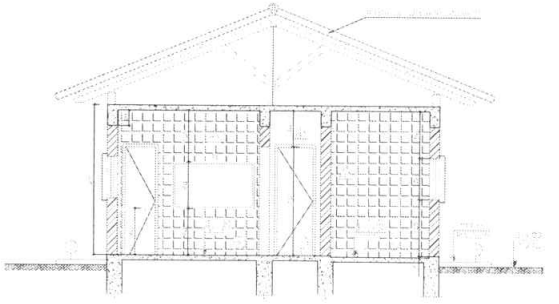
01 06



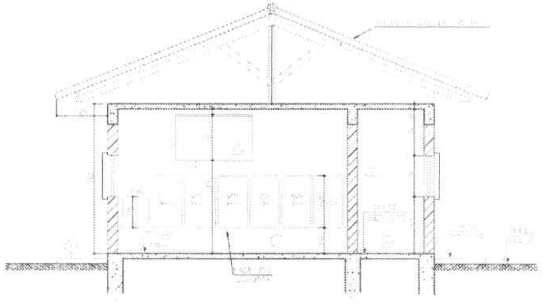
PLANTA BAIXA
ESC. 1:50



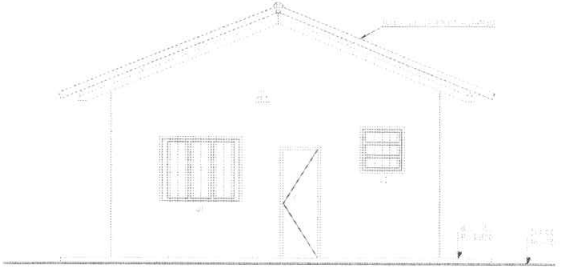
CORTE-AA
ESC. 1:50



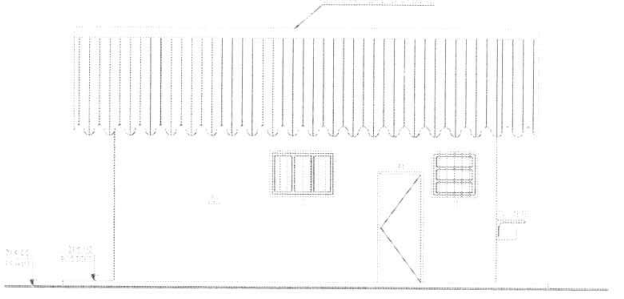
CORTE-BB
ESC. 1:50



CORTE-CC
ESC. 1:50



FACHADA-A
ESC. 1:50



FACHADA-B
ESC. 1:50

NOTAS:

1 - DATAS EM CENTIMETROS, ELEVAÇÕES EM METROS. SALVO INDICAÇÃO CONTRARIA.
2 - COMPATIBILIZAR COM A ARQUITETURA, ESTRUTURA E ESPECIALIDADES. CONFERIR DIMENSÕES EM TODAS OBRAS ANTES DE INICIAR A OBRA.
3 - OS COMPONENTES METÁLICOS DESTA OBRA DEVEM SER PINTADOS EM TODAS FACES, DEVENDO TER BOA ADERÊNCIA APROPRIADA COM.
4 - ANTES DAS ATIVIDADES DE PINTURA DEVEM SER ATENDIDAS AS NORMAS DA ABNT.
5 - PINTURA EM ESMALTE PROPRIADO PARA ESTRUTURAS DE OBRA EM 2 DEMÃOS DE COR A SER DEFINIDA.

LEGENDA:

1 - PINTURA EM ESMALTE COR
2 - ABRIGO EM CHAPA ALUMINIO
3 - ABRIGO PARA TANQUE ACIMA DO NIVEL DO TETO
4 - PINTURA LATEX COR CONHECIMENTO
5 - PINTURA ACRILICA COR CONHECIMENTO
6 - 150 x 170 - JANELA DE CORRER COM ALUMINIO ANODIZADO NATURAL - VIDRO INCOLOR 4mm
7 - 150 x 90 - JANELA DE CORRER EM ALUMINIO ANODIZADO NATURAL - VIDRO INCOLOR 4mm
8 - 30 x 90 - BASCULANTE EM ALUMINIO ANODIZADO NATURAL - VIDRO INCOLOR 4mm
9 - 140 x 90 - JANELA EM ALUMINIO ANODIZADO NATURAL - VIDRO INCOLOR 4mm
10 - 150 x 30 - JANELA EM ALUMINIO ANODIZADO NATURAL - VIDRO INCOLOR 4mm
11 - 80 x 210 - PORTA DE ABRIR EM ALUMINIO ANODIZADO NATURAL - VIDRO
12 - 70 x 210 - PORTA DE MADEIRA TIPO MAXIMOBILA
13 - 60 x 210 - PORTA DE MADEIRA TIPO MAXIMOBILA
SD01 - QUADRO GERAL DE BAIXA TENSÃO
SD14 - QUADRO DE COMANDO DE MOTORES
SD14 - QUADRO DE INTERFACE, LEITURA E SINCRONIZAÇÃO

ALTERAÇÕES

TECISAN

PREFEITURA MUNICIPAL DE LEOPOLDINA - MG
LEOPOLDINA - MG

SISTEMA DE ESGOTOS SANITARIOS
ESTAÇÃO DE TRATAMENTO DE ESGOTO
ETE - LAGOA ANAERÓBIA
CASA DE CONTROLE
PLANTA E CORTES

DESENHO

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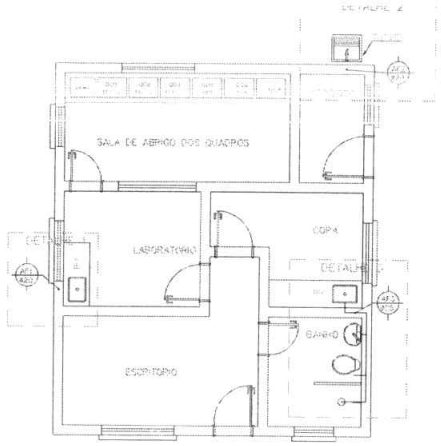
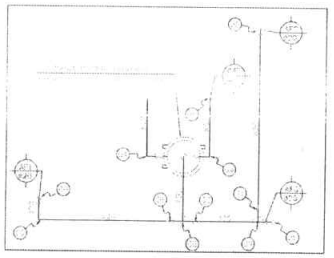
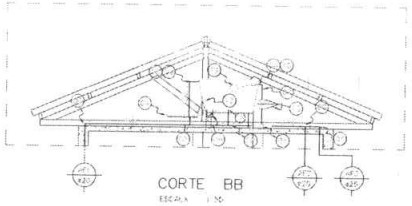
FOLHA



PLANTA BAIXA
ESCALA 1:50



PLANTA BAIXA DA COBERTURA
ESCALA 1:50



CORTE BB
ESCALA 1:50

RELAÇÃO DE MATERIAIS – ÁGUA POTÁVEL

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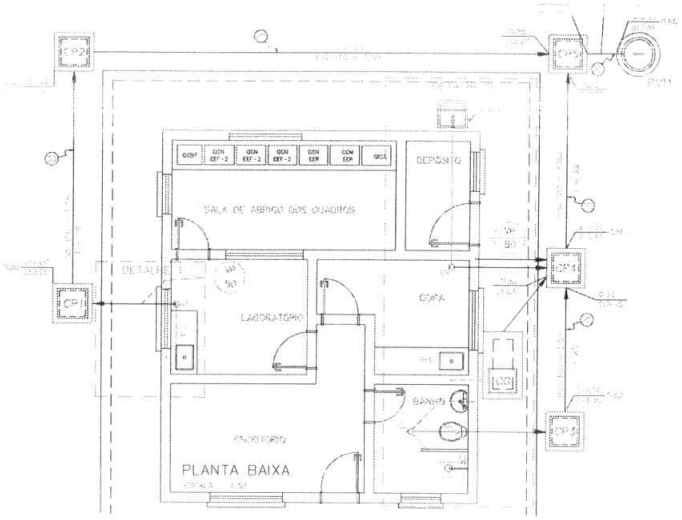
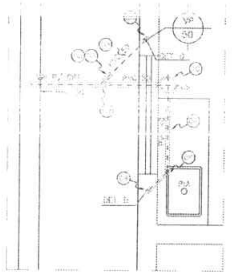


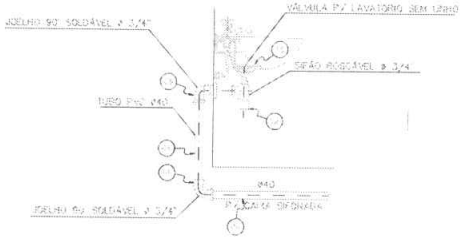


DETALHE 1

ESC: 1:25

LEGENDA

VP	VENTILAÇÃO PRIMÁRIA
VS	VASO SANITÁRIO
CH	CHUVEIRO
LV	LAVATÓRIO
RL	RALO SIFONADO
CSG	CAIXA SIFONADA COM GRELHA
P	PIA
CP	CAIXA DE PASSAGEM
CG	CAIXA DE GORDURA



LAVATÓRIO – DETALHE A

SEM ESCALA

RELAÇÃO DE MATERIAIS – ESGOTO SANITÁRIO

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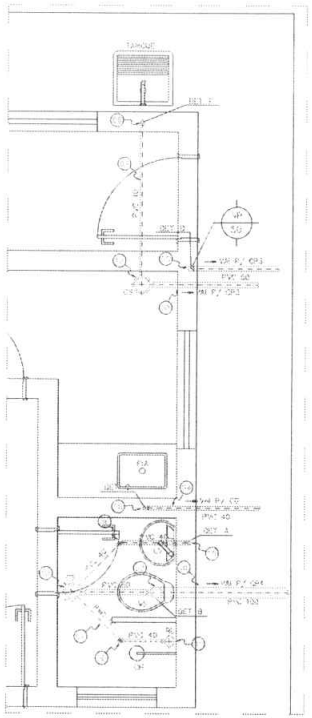
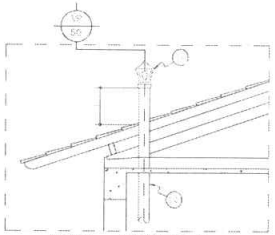


DETALHE 2

ESC: 1:25



DRENAGEM PLUVIAL				
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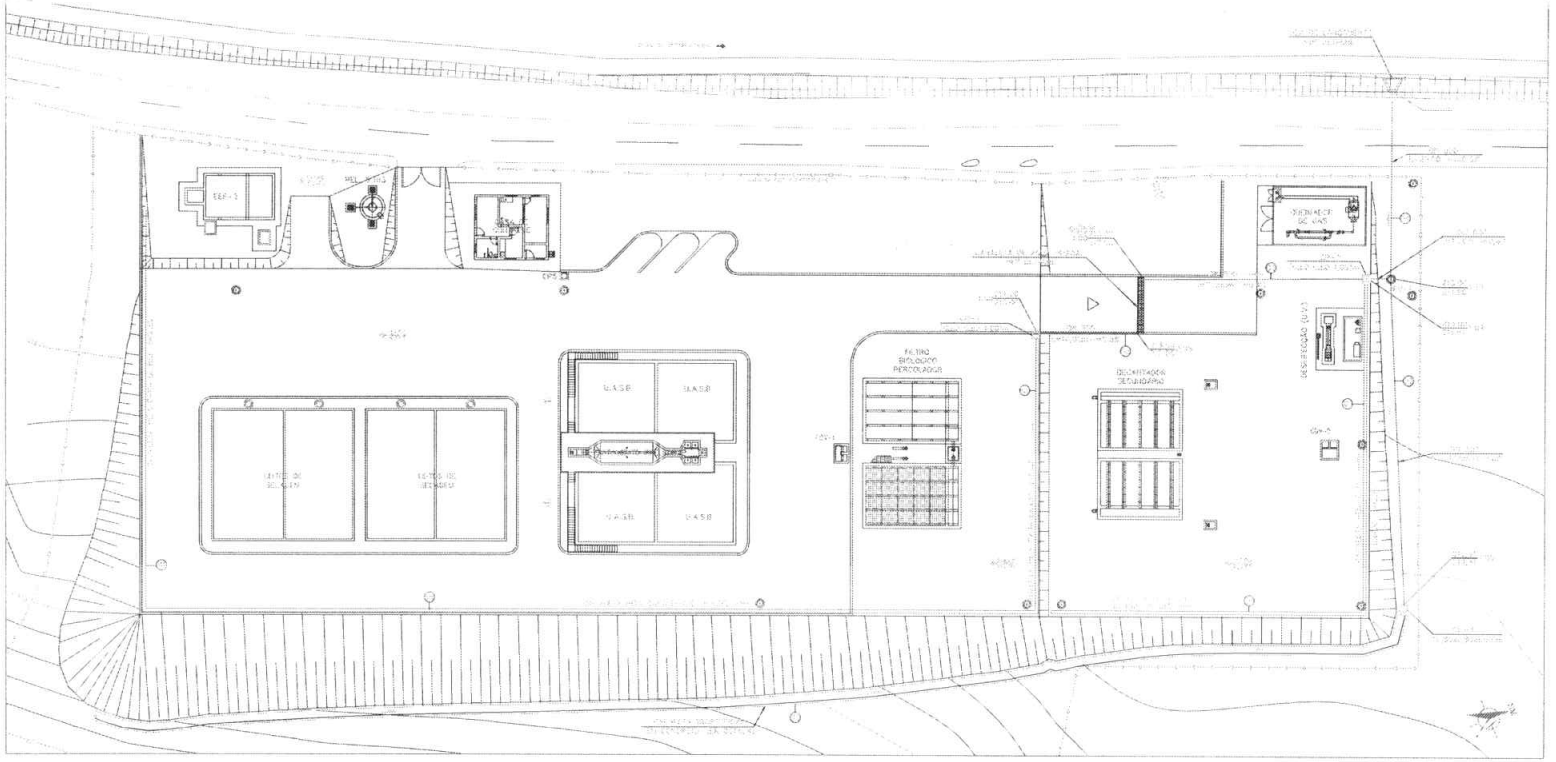
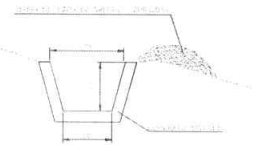
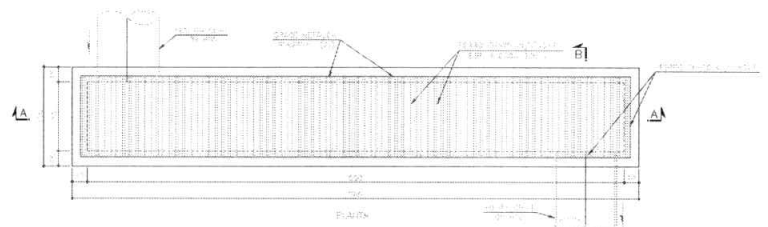


PLANTA



CANALETA TRAPEZOIDAL DE PROTEÇÃO DE PÉ DE TALUDE
CRISTA DE CORTE – SEÇÃO TÍPICA



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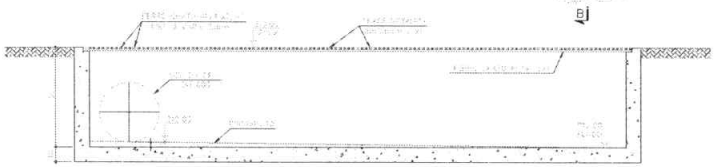
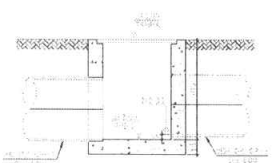
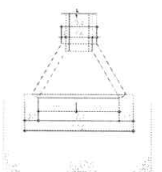


CORTE – AA

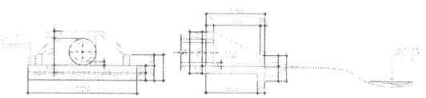


CORTE – BB

DETALHE DA CANALETA DE ÁGUA PLUVIAL



PLANTA



VISTA FRONTAL

VISTA LATERAL

VISTA LATERAL DA SOLEIRA

ALTERAÇÕES	
a	
b	
c	

NOTAS:
1 – COTAS EM CENTÍMETROS, ELEVAÇÕES EM METROS, SALVO INDICAÇÃO CONTRÁRIA.

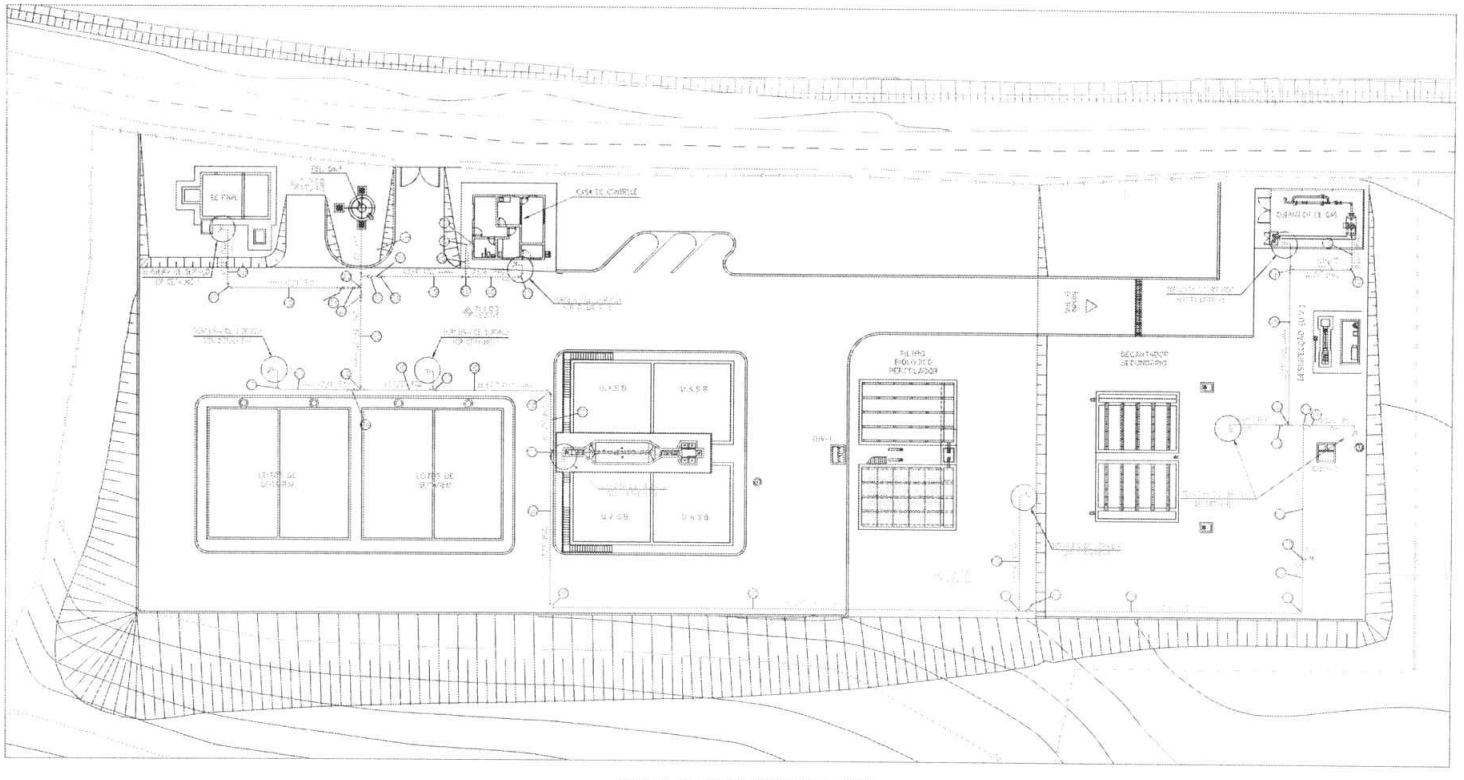
TECISAN

PREFEITURA MUNICIPAL DE LEOPOLDINA – MG
LEOPOLDINA – MG

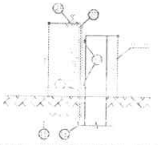
SISTEMA DE ESGOTOS SANITÁRIOS
ESTAÇÃO DE TRATAMENTO DE ESGOTO
ETE – MACAPEÁGUA
PLANTA DE DRENAGEM PLUVIAL
DETALHES – UM

PRANCHA: 9.11

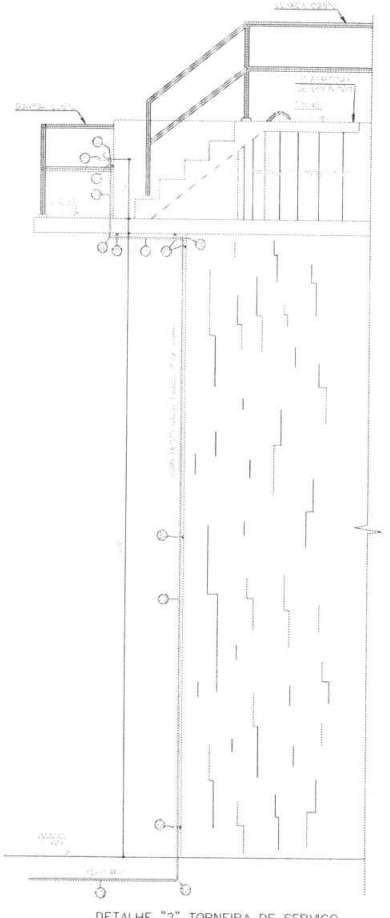
DATA: 05/09/08



PLANTA DE ABASTECIMENTO DE ÁGUA
ESCALA 1:250



DETALHE "1" TORNEIRA DE SERVIÇO
ESCALA 1:20



DETALHE "2" TORNEIRA DE SERVIÇO
ESCALA 1:20

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NOTAS:
1- COTAS EM CENTÍMETROS, ELEVAÇÕES EM METROS, SALVO INDICAÇÃO CONTRÁRIA.

ALTERAÇÕES

TECISAN

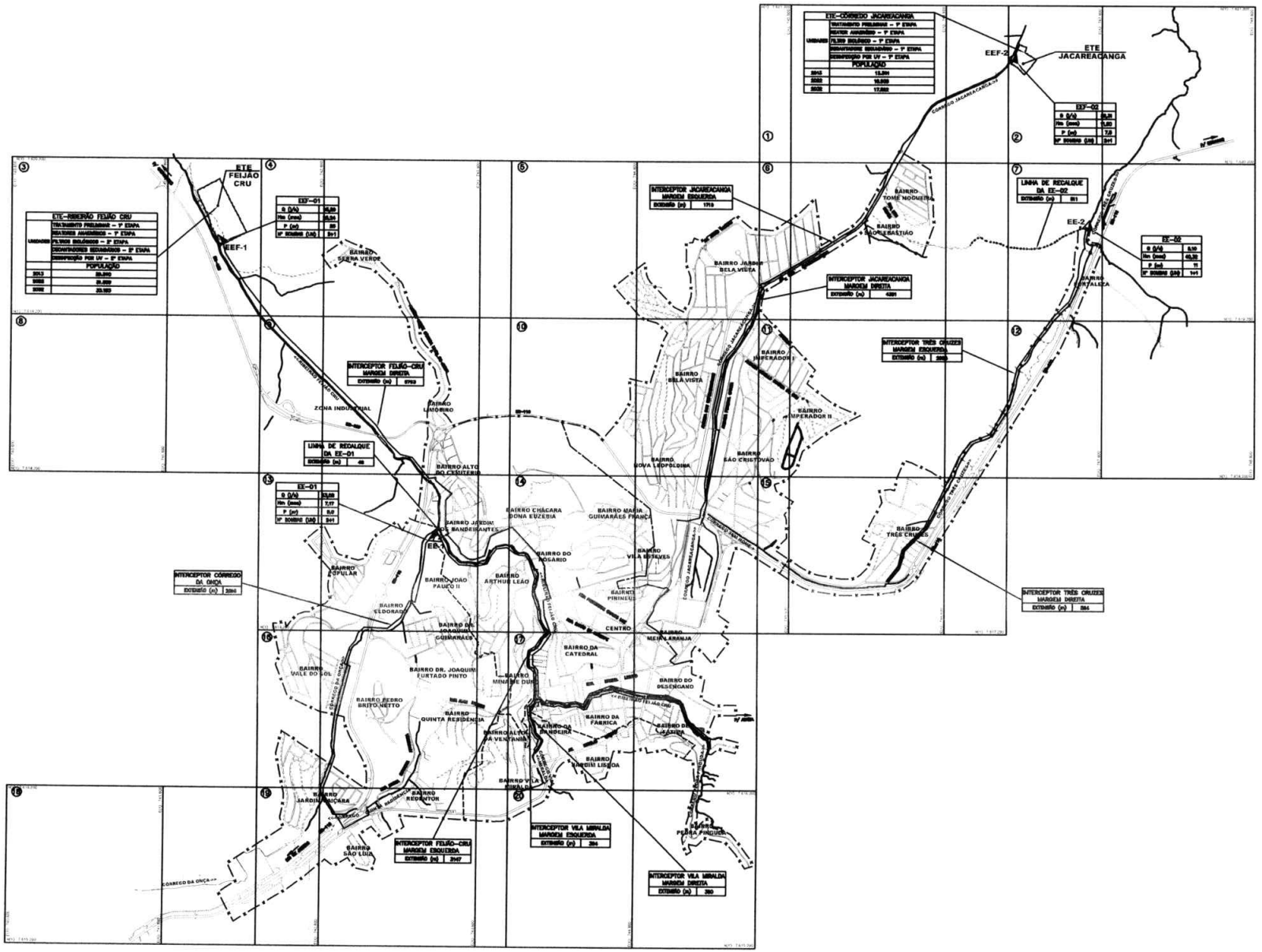
PREFEITURA MUNICIPAL DE LEOPOLDINA - MG
LEOPOLDINA - MG

SISTEMA DE ESGOTOS SANITÁRIOS
ESTAÇÃO DE TRATAMENTO DE ESGOTO
ETE - JACARÉ/CAIÇARA
PLANTA DE ABASTECIMENTO DE ÁGUA
REDE DE DISTRIBUIÇÃO DETALHES - DH

INDICADA

9/12

DATA: 08



NOTAS:

PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM).
DATUM HORIZONTAL: SAD-69.

LEGENDA:

- INTERCEPTOR PROJETADO
- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUÍDO
- ESTAÇÃO ELEVATÓRIA DE ESGOTOS PROJETADA
- LINHAS DE RECALQUE
- LIMITE DE PROJETO

ARTICULAÇÃO DAS PLANTAS

			1	2
3	4	5	6	7
8	9	10	11	12
	13	14	15	

	DATA	EXECUT.	VISTO	APROV.
a				
b				
c				

TECHNE

PREFEITURA MUNICIPAL DE LEOPOLDINA-MG

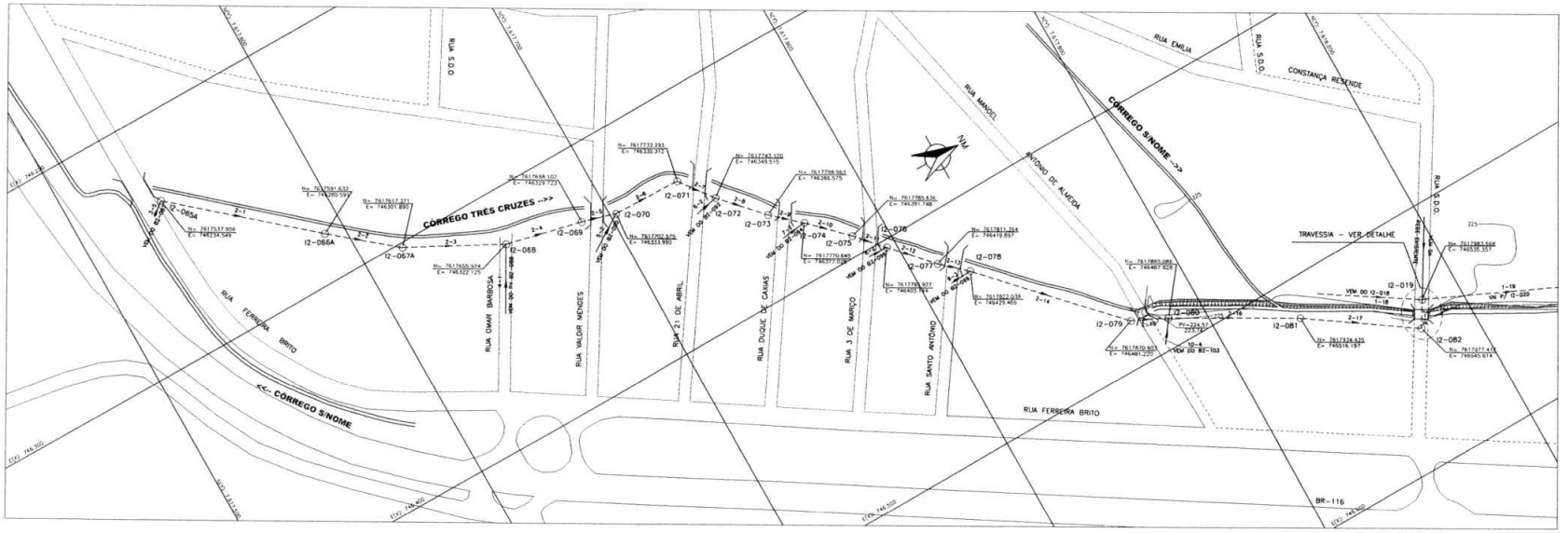
LEOPOLDINA – MG

SISTEMA DE ESGOTOS SANITÁRIOS

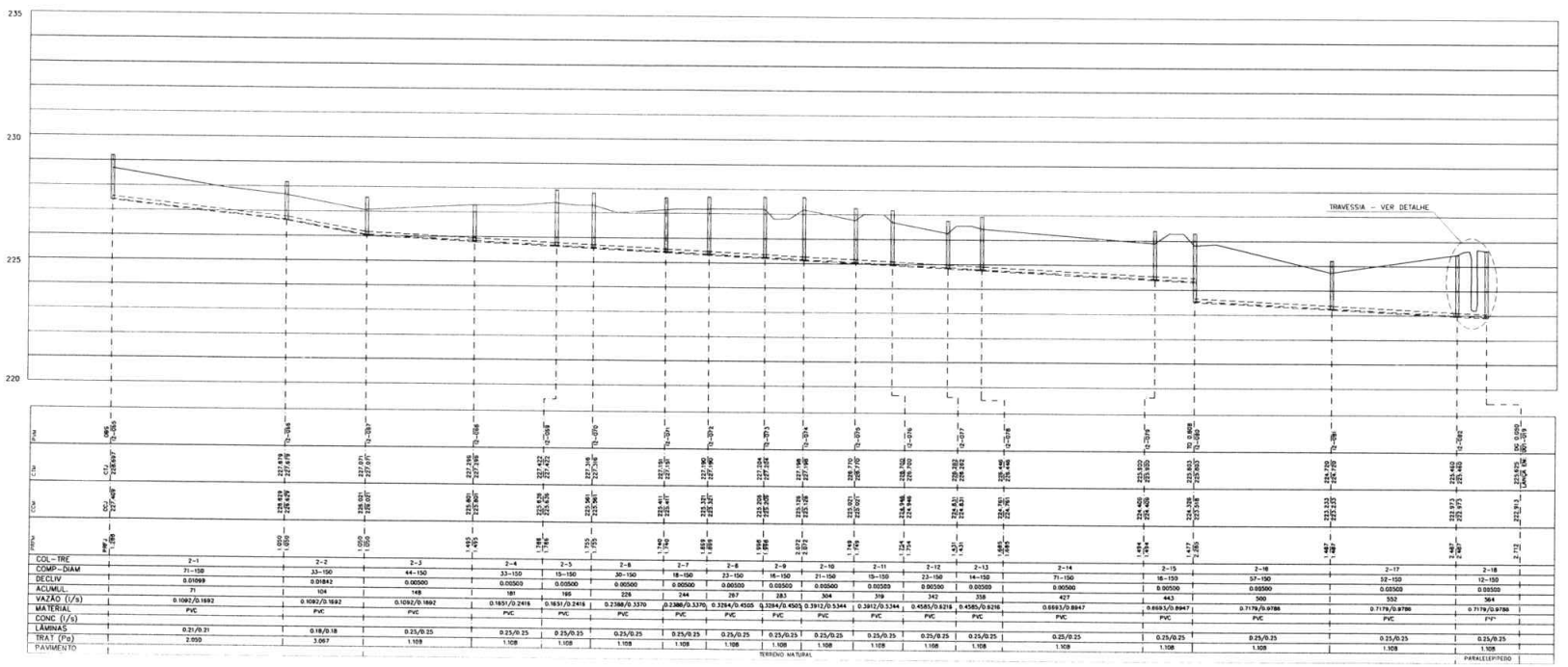
PROJETO BÁSICO

LEIAUTE DO SISTEMA

1:12500



PLANTA
ESC. 1:1000



PERFIL
ESC. H-1:1000
V-1:100

NOTAS:

1 - PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM)
DATUM HORIZONTAL: SAD-69.

2-AS CHAMINES DOS POÇOS DE VISITA LOCALIZADOS FORA DAS

LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUIDO
- INTERCEPTOR PROJETADO
- CABIÇÃO
- MURO DE ARRIMO

TECISAN TECNICA DE ENGENHARIA CIVIL E SANITARIA LTDA

FIRMA:
NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG
PROJ.

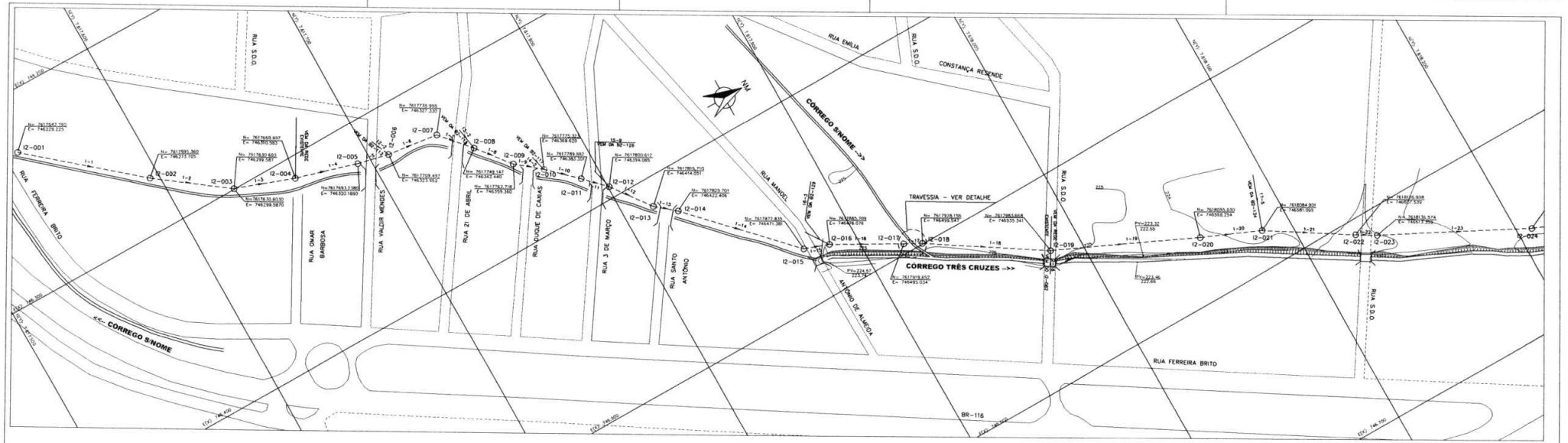
VISTO
MATR.
APROV.

PREFEITURA MUNICIPAL DE LEOPOLDINA-MG
LEOPOLDINA - MG

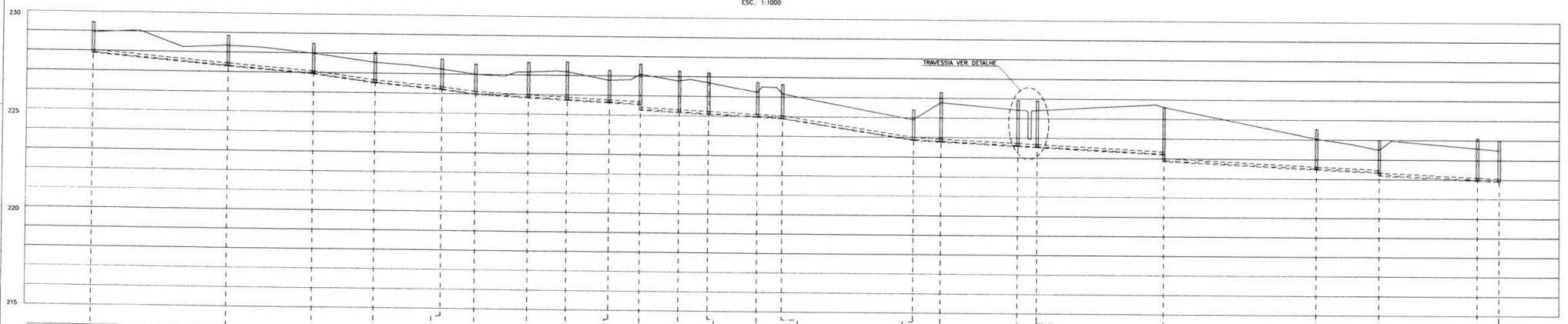
SISTEMA DE ESGOTOS SANITÁRIOS
PROJETO BÁSICO DOS INTERCEPTORES

ESCALA: INDICADA

Nº 4.1



PLANTA
ESC.: 1:1000



COL-TRE		1-1		1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12	1-13	1-14	1-15	1-16	1-17	1-18		1-19	1-20	1-21	1-22									
COMP-DIAM		89-150		44-150	32-150	34-150	17-150	27-150	20-150	22-150	16-150	20-150	15-150	25-150	13-150	68-150	14-150	39-150	10-150	68-150		79-150	33-150	30-150	11-150									
DECLIV		0.00888		0.00783	0.01338	0.00888	0.01424	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00540	0.00021	0.00000	0.00000	0.00000		0.00478	0.00479	0.00472	0.00473									
ACUMUL		89		113	145	179	196	223	243	265	281	301	316	341	354	423	436	475	485	501		530	663	713	724									
VAZÃO (l/s)		0.0677/0.1167		0.0677/0.1167	0.0677/0.1167	0.0677/0.1167	0.0677/0.1167	0.1655/0.2434	0.1655/0.2434	0.1898/0.2747	0.1898/0.2747	0.2137/0.3060	0.2137/0.3060	0.6083/1.1470	0.6083/1.1470	0.6083/1.1470	0.6083/1.1470	0.6795/1.2501	0.6795/1.2501	0.6795/1.2501		1.6088/2.5944	1.6088/2.5944	1.8232/2.9827	1.8232/2.9827									
MATERIAL		PVC		PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC		PVC	PVC	PVC	PVC									
CONC (l/s)		0.07/0.12					PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC				PVC															
LÂMINAS		0.22/0.22		0.22/0.22	0.20/0.20	0.22/0.22	0.19/0.19	0.10/0.13	0.25/0.25	0.02/0.03	0.02/0.03	0.02/0.03	0.02/0.03	0.05/0.07	0.05/0.07			0.07/0.10				0.21/0.37		0.21/0.37										
TRAT (Pa)		1.705		1.389	2.381	1.778	2.510	1.108	1.108	1.108	1.108	1.108	1.108	1.108	1.108	2.867	1.144	1.108	1.108	1.108		1.102	1.104	1.151	1.153									
PAVIMENTO														TERRENO NATURAL																				

PERFIL
ESC.: H=1:1000
V=1:100

NOTAS:

1-PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM)
DATUM HORIZONTAL: SAD-69.

2-AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0.50m

LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUIDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- PV PROJETADO
- GABIÃO
- MURO DE ARRIMO

a					
b					
c					
DATA	CAUSA	EXECUTOR	VISTO	APROV	

TECISAN TECNICA EC ENGENHARIA CIVIL E SANITARIA LTDA.

FIRMA: RT
NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG
PROJ.
RT

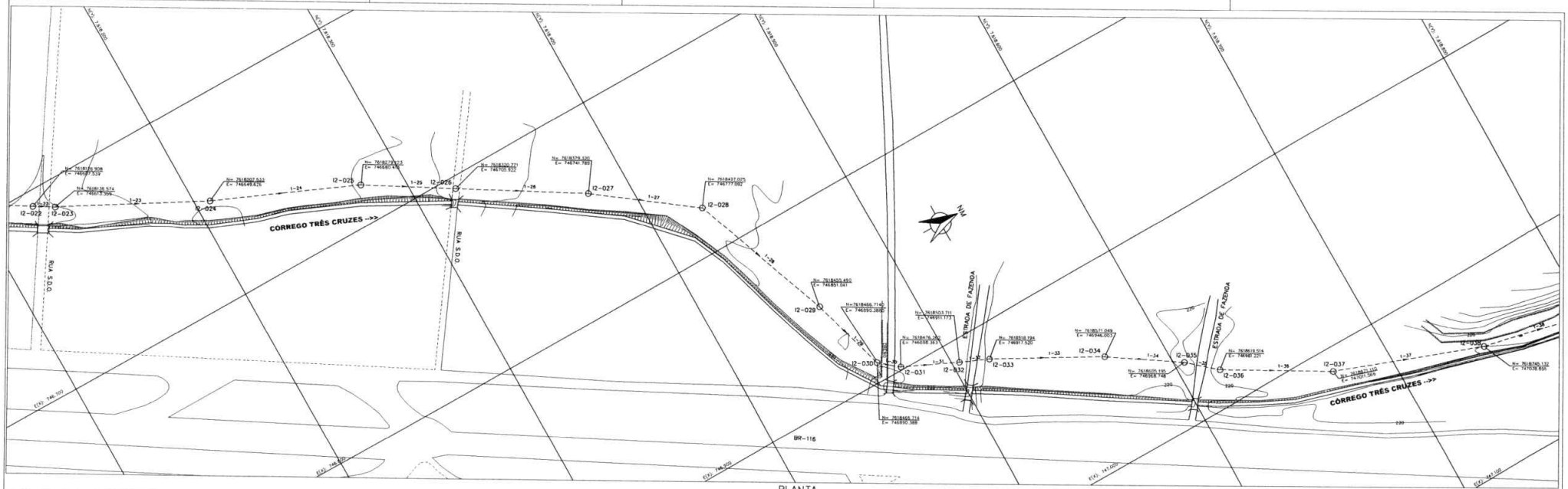
VISTO
MATR.
APROV

PREFEITURA MUNICIPAL DE LEOPOLDINA-MG
LEOPOLDINA - MG

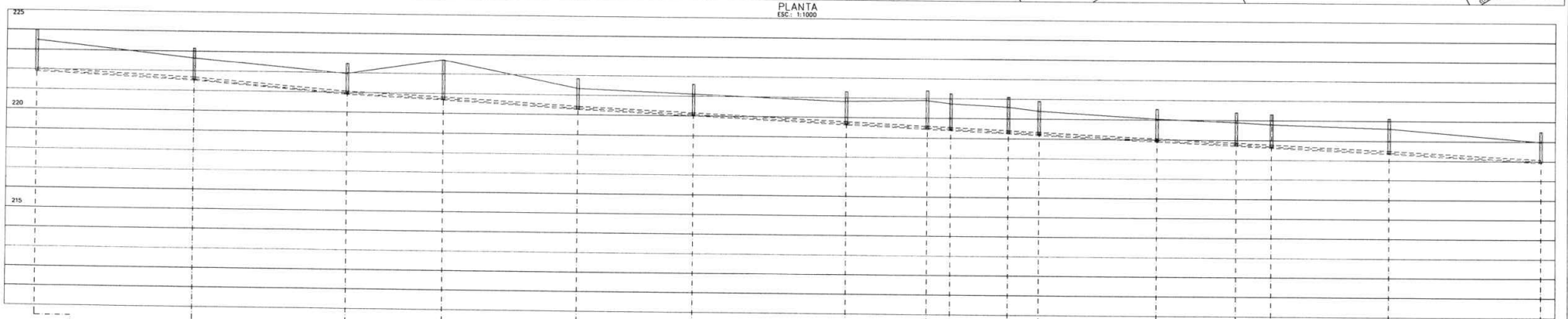
SISTEMA DE ESGOTOS SANITARIOS
PROJETO BÁSICO DOS INTERCEPTORES

ESCALA: INDICADA

Nº: 4.2



PLANTA
ESC.: 1:1000



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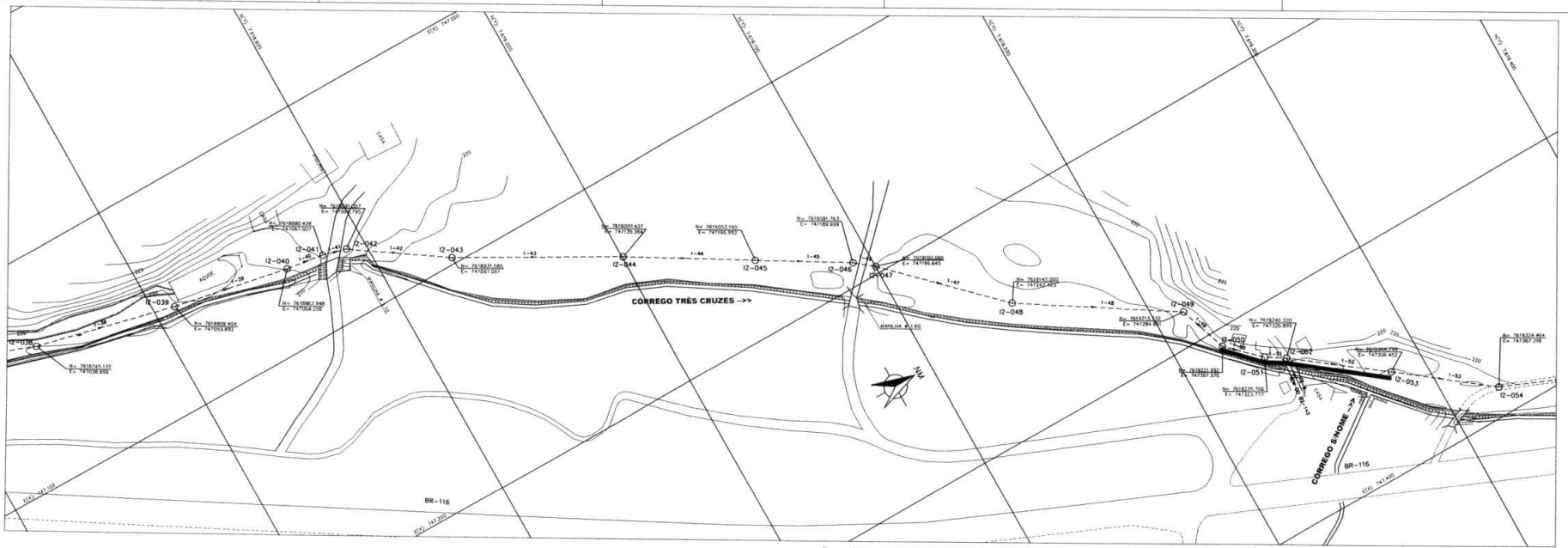

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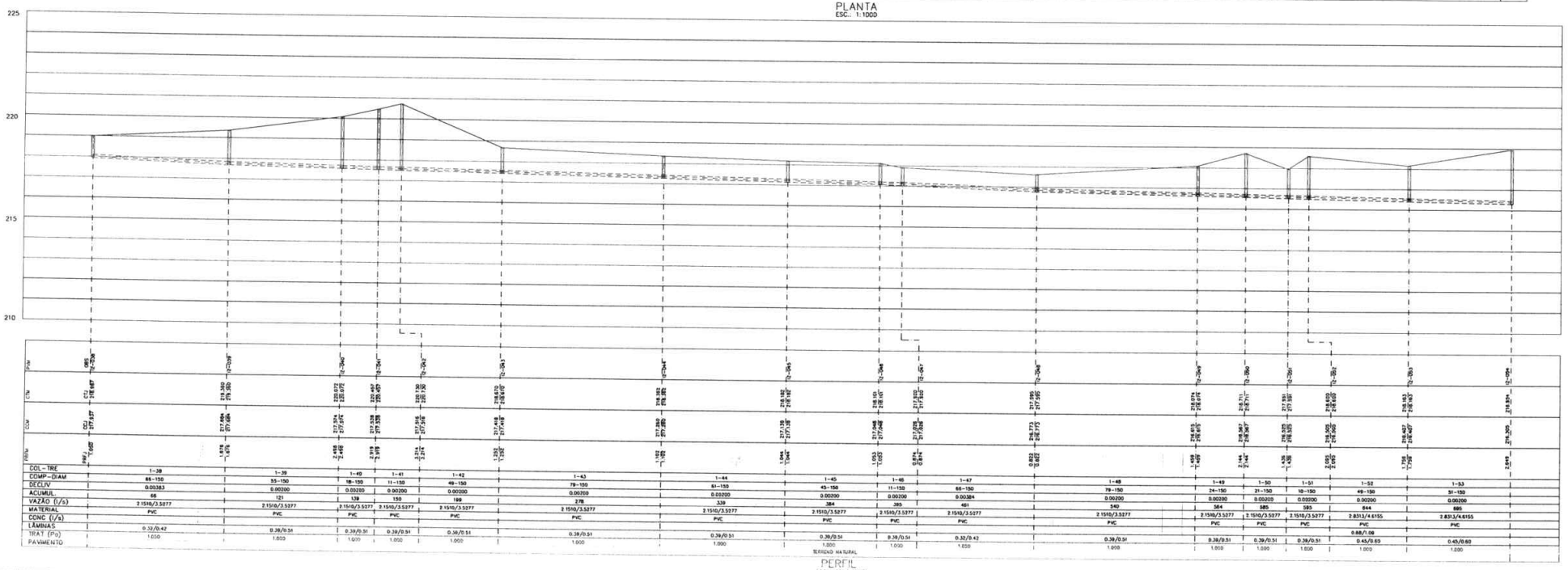
ESC.: 1:1000



PERFIL
ESC.: H=1:1000
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NOTAS:

1-PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM).
DATUM HORIZONTAL: SAD-69.

2-AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0.50m

LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUIDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- PV PROJETADO
- GABIÃO
- MURO DE ARRIMO

TECISAN TECNICA DE ENGENHARIA CIVIL E SANITARIA LTDA.

RT FIRMA:
NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG
RNP:
DT

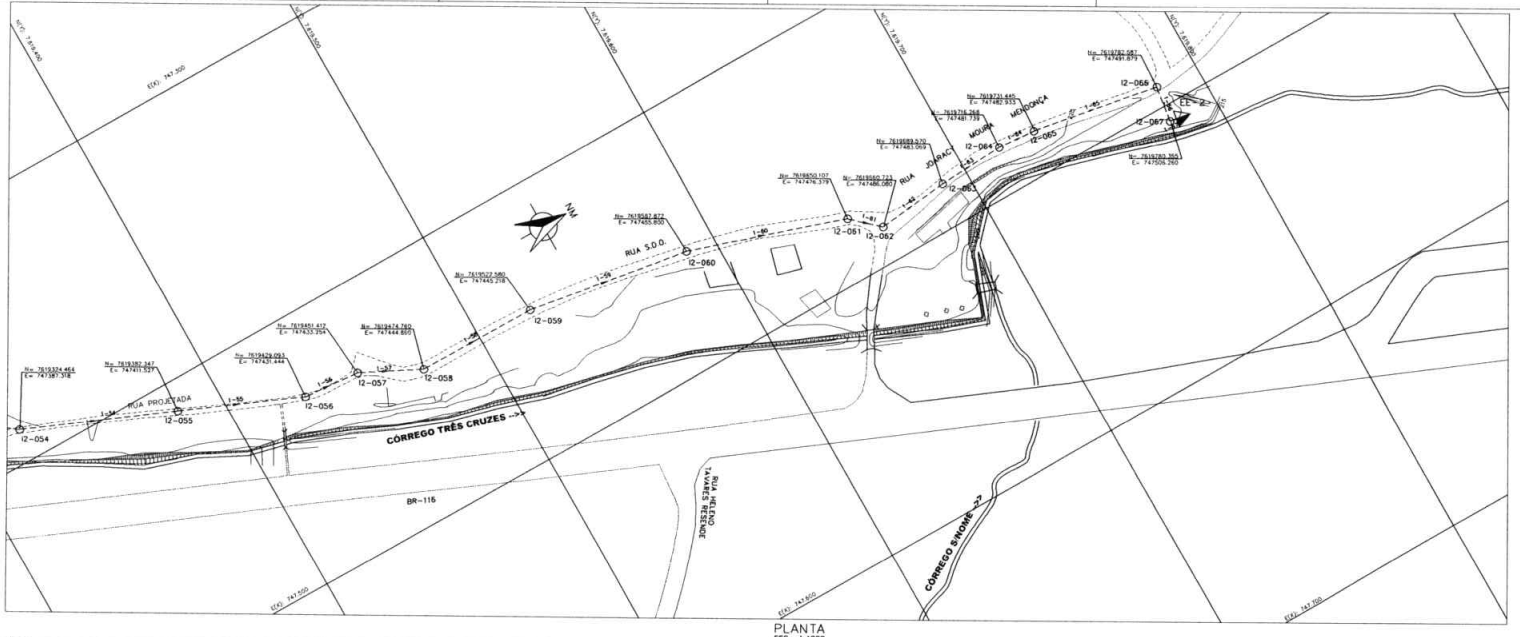
VISTO
MATR.
ARRUV.

PREFEITURA MUNICIPAL DE LEOPOLDINA-MG
LEOPOLDINA – MG

SISTEMA DE ESGOTOS SANITARIOS
PROJETO BÁSICO DOS INTERCEPTORES

ESCALA: INDICADA

Nº: 4.4



PLANTA
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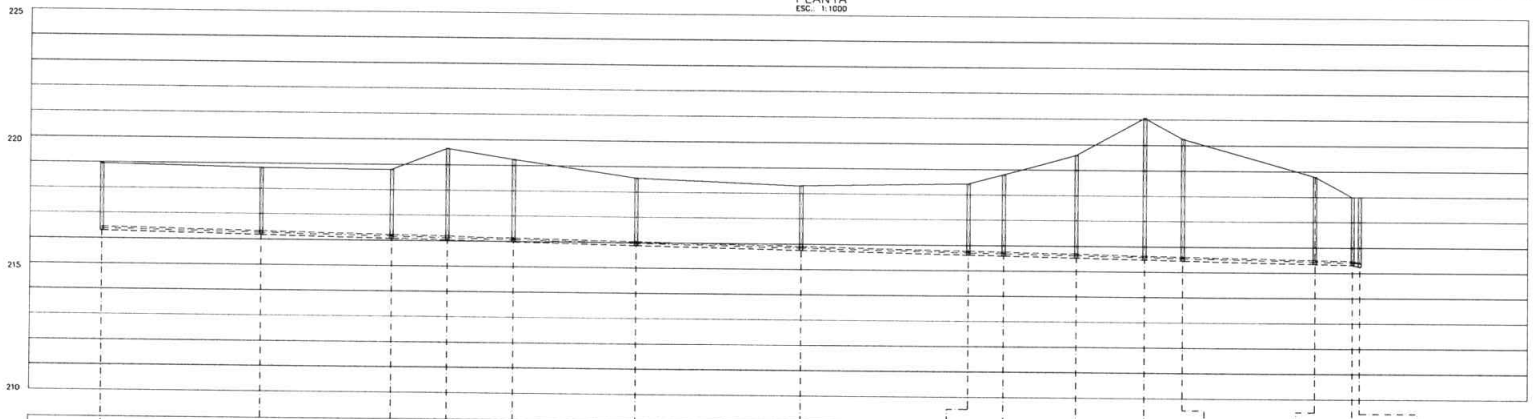

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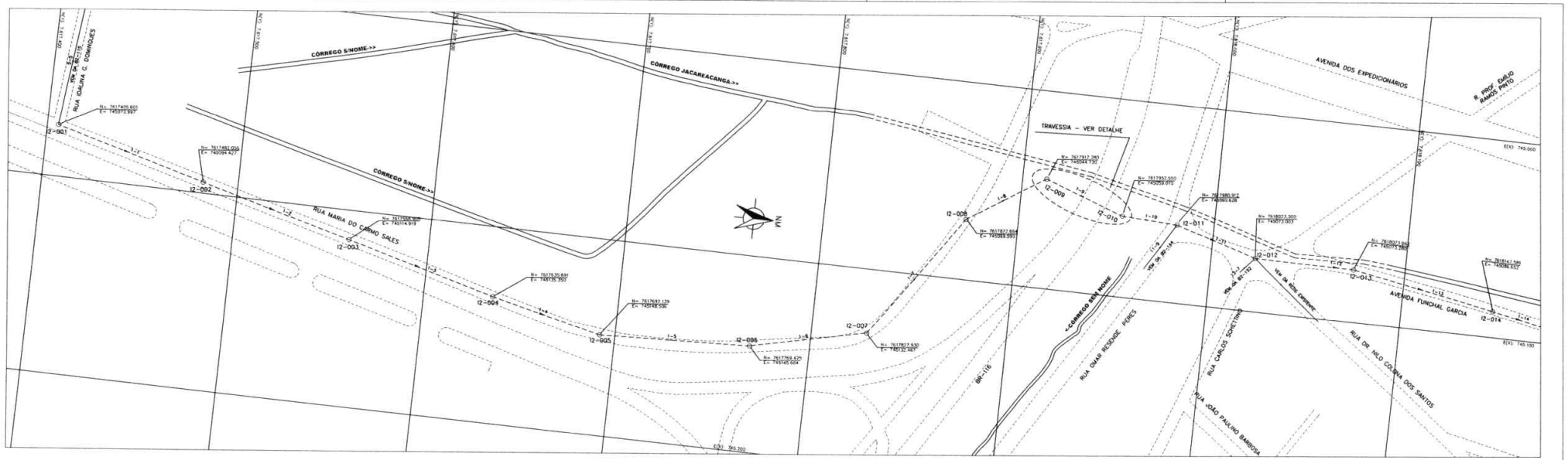

PLANTA
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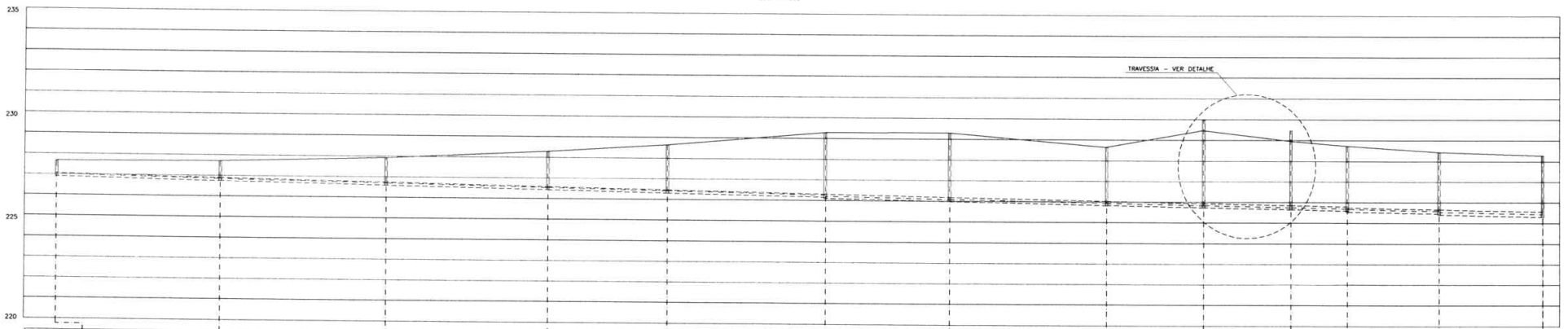


COL-TRE	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12
COMP-DIAM	79-150	80-150	79-150	58-150	77-150	60-200	77-200	47-200	43-200	28-200	44-200	51-250
DECLIV	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200
ACUMUL	79	159	238	296	373	433	510	557	600	628	672	723
VAZÃO (l/s)	5.1672/5.8464	5.1672/5.8464	5.1672/5.8464	5.1672/5.8464	5.1672/5.8464	6.7773/7.5587	6.7773/7.5587	6.7773/7.5587	6.7773/7.5587	6.7773/7.5587	9.2183/10.6512	12.5430/14.5572
MATERIAL	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC
CONC (l/s)	5.17/5.85					1.61/1.71					2.44/3.09	3.32/3.91
LÂMINAS	0.65/0.71	0.65/0.71	0.65/0.71	0.65/0.71	0.65/0.71	0.48/0.51	0.48/0.51	0.48/0.51	0.48/0.51	0.48/0.51	0.57/0.63	0.48/0.53
TRAT (Pa)	0.865	0.865	0.865	0.865	0.865	0.971	0.971	0.971	0.971	0.971	1.086	1.223
PAVIMENTO					ASFALTO				TERRENO NATURAL			

PERFIL
ESC.: H=1:1000
V=1:100

NOTAS:

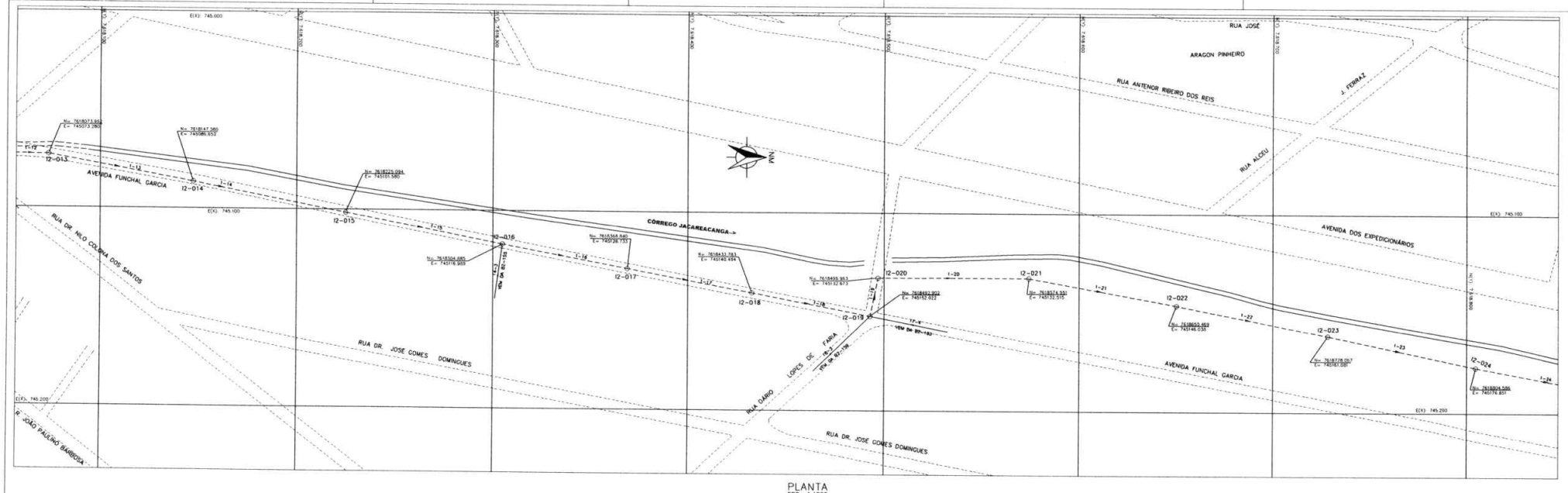
1-PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM)
DATUM HORIZONTAL: SAD-69.

2-AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0.50m

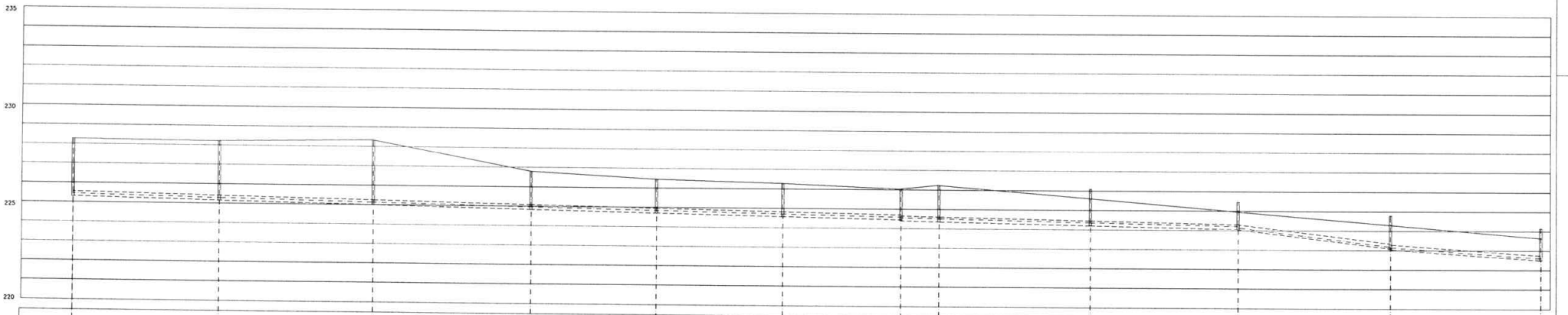
LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUIDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- PV PROJETADO
- GABIÃO
- MURO DE ARRIMO

TECISA MECÂNICA DE ENGENHARIA CIVIL E SANITÁRIA LTDA.		PREFEITURA MUNICIPAL DE LEOPOLDINA-MG LEOPOLDINA - MG		ESCALA	INDICADA
RT FIRMA:	VISTO:	SISTEMA DE ESGOTOS SANITARIOS PROJETO BÁSICO DOS INTERCEPTORES		Nº	4.6
RT NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG	MATR.				
RT PROJ.	ARROV.				



PLANTA
ESC.: 1:1000



COL – TRE	1-13	1-14	1-15	1-16	1-17	1-18	1-19	1-20	1-21	1-22	1-23
COMP – DIAM	79-250	79-250	81-250	65-250	65-250	61-250	20-250	78-250	77-250	79-250	78-250
DECLIV	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200	0.00200	0.01205	0.00704
ACUMUL	798	877	958	1023	1088	1149	1169	1247	1324	1403	1481
MATERIAL	12.5430/14.5572	12.5430/14.5572	12.5430/14.5572	13.3217/15.4720	13.3217/15.4720	13.3217/15.4720	16.5416/19.3300	16.5416/19.3300	16.5416/19.3300	16.5416/19.3300	16.5416/19.3300
CONC (I/s)	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC
LAMINAS	0.48/0.53	0.48/0.53	0.48/0.53	0.78/0.91			3.22/3.86				
TRAT (Pg)	1.223	1.223	1.223	0.50/0.55	0.50/0.55	0.50/0.55	0.57/0.63	0.57/0.63	0.57/0.63	0.34/0.37	0.40/0.43
PAVIMENTO			ASFALTO	1.251	1.251	1.251	1.353	1.353	1.353	5.740	3.746
							PARALELEPIPEDO			TERRENO NATURAL	

PERFIL
ESC.: HOR. 1:1000
VERT. 1:100

NOTAS:

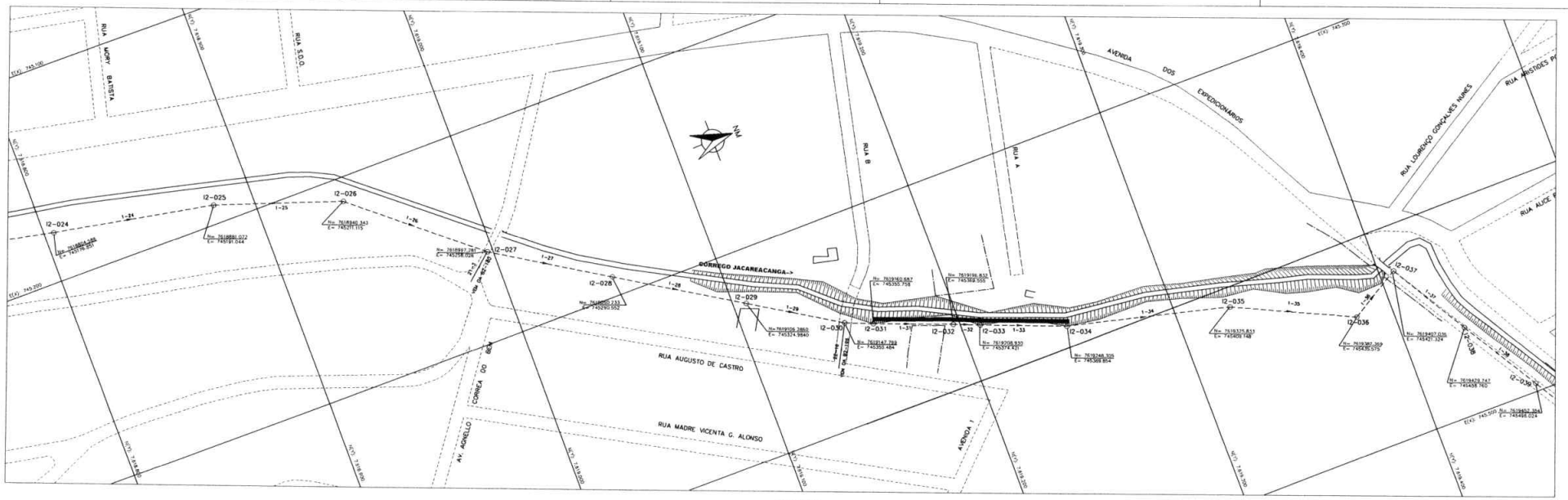
1-PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM)
DATUM HORIZONTAL: SAD-69.

2-AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0.50m

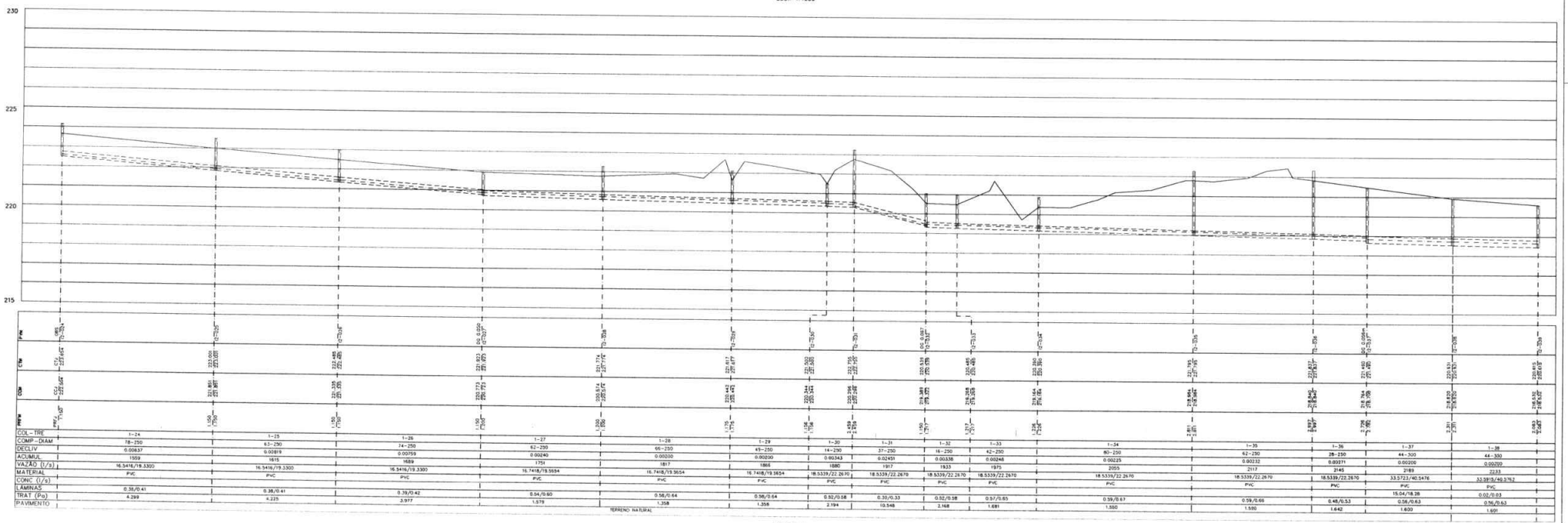
LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUIDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- GABIÃO
- MURO DE ARRIMO

TECISA ENGENHARIA CIVIL E SANITÁRIA LTDA.	PREFEITURA MUNICIPAL DE LEOPOLDINA-MG	ESCALA	INDICADA
FIRMA:	LEOPOLDINA – MG		
NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG	SISTEMA DE ESGOTOS SANITÁRIOS	Nº	4.7
	PROJETO BÁSICO DOS INTERCEPTORES		



PLANTA
ESC.: 1:1000



PERFIL
ESC.: H=1:1000
V=1:100

NOTAS:

1-PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM).
DATUM HORIZONTAL: SAD-69.

2-AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0.50m

LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUIDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- GABIÃO
- MURO DE ARRIMO

TECISA TECNICA DE ENGENHARIA CIVIL E SANITÁRIA LTDA.

FIRMA:
RT NOME: MARCO AURÉLIO LUDOLF GOMES - CREA 6.118/D-MG
PROJ.
RT

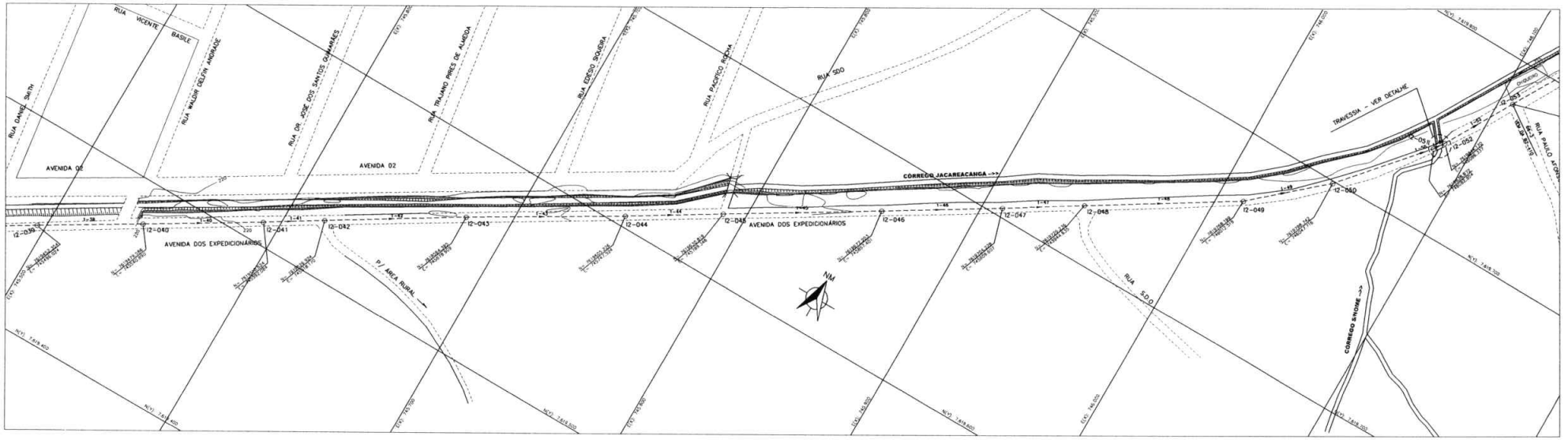
VISTO
MATR.
APROV.

PREFEITURA MUNICIPAL DE LEOPOLDINA-MG
LEOPOLDINA – MG

SISTEMA DE ESGOTOS SANITÁRIOS
PROJETO BÁSICO DOS INTERCEPTORES

ESCALA: INDICADA

Nº: 4.8



PLANTA
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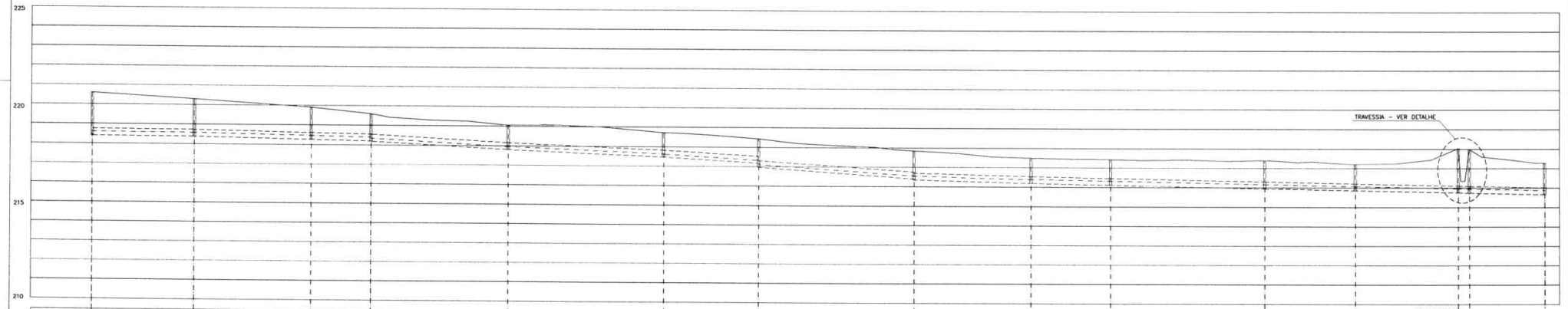


PVM	PMV 2.463		1.873 2.717		1.410 1.470	1.394 1.404		1.350 1.750		1.320 1.448		1.450 1.550		1.330 1.530		1.445 1.448		1.341 1.341	1.288 2.288	1.360 2.148		1.574 1.574	
CTM	CIJ 220.678		219.300 220.300		219.618 219.618	219.600 219.600		219.060 219.060		218.730 218.730		218.460 218.460		217.865 217.865		217.320 217.320		217.042 217.042		217.140 217.140		217.189 217.189		218.040 218.040	218.000 218.000		217.234 217.234
CON	CIJ 218.342		218.428 218.428		218.308 218.308	218.148 218.148		217.610 217.610		217.480 217.480		217.180 216.171		216.410 216.410		216.184 216.184		216.117 216.117		215.903 215.903		215.808 215.808		215.793 215.793	215.740 215.740		215.660 215.660
COL-TRE	1-39		1-40		1-41	1-42		1-43		1-44		1-45		1-46		1-47		1-48		1-49		1-50		1-51	1-52		
COMP-DIAM	52-300		60-300		31-300	71-350		83-350		46-350		80-350		81-350		41-350		80-350		47-350		53-350		6-350	40-350		
DECLIV	0.00200		0.00200		0.00200	0.00544		0.00413		0.00592		0.00701		0.00261		0.00260		0.00200		0.00200		0.00200		0.00200	0.00200		
ACUMUL	2285		2345		2376	2447		2527		2576		2656		2717		2758		2836		2885		2938		2944	2984		
VAZÃO (l/s)	33.5815/40.5762		33.9128/40.6078		33.6128/40.6078	33.6347/40.6394		33.6492/40.6518		33.6748/40.6995		35.9515/44.0960		35.9515/44.0960		35.9515/44.0960		36.1181/44.3286		36.1181/44.3286		36.3570/44.6510		36.3570/44.6510	36.3570/44.6510		
MATERIAL	PVC		PVC		PVC	PVC		PVC		PVC		PVC		PVC		PVC		PVC		PVC		PVC		PVP	PVC		
CONC (l/s)			0.02/0.03			0.02/0.03		0.02/0.02		0.03/0.04								0.16/0.23				0.25/0.32					
LÂMINAS	0.56/0.63		0.56/0.63		0.56/0.63	0.38/0.42		0.41/0.46		0.38/0.42		0.37/0.42		0.49/0.50		0.53/0.60		0.53/0.60		0.53/0.60		0.53/0.61		0.53/0.61	0.53/0.61		
TRAT (Po)	1.601		1.601		1.601	4.053		3.176		4.234		4.975		2.253		1.814		1.817		1.817		1.822		1.822	1.822		
PAVIMENTO												ASFALTO															

PERFIL
ESC.: H=1:1000
V=1:100

NOTAS:

1-PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM)
DATUM HORIZONTAL: SAD-69.

2-AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0.50m

LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUÍDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- PV PROJETADO
- GABIÃO
- MURO DE ARRIMO

a				
b				
c				
	DATA	ESCRITO	VISTO	APROV

MATO A1

TECISAN TECNICA DE ENGENHARIA CIVIL E SANITÁRIA LTDA.

FIRMA:
RT
NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG
PROJ.
RT

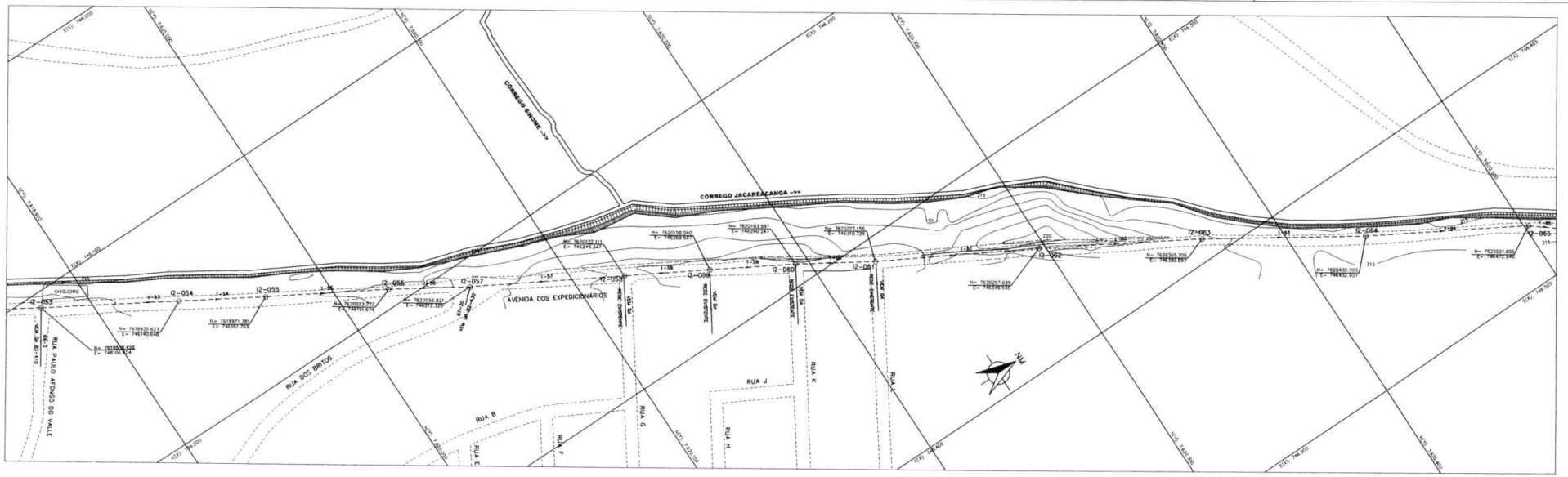
VISTO
MATR.
APROV

PREFEITURA MUNICIPAL DE LEOPOLDINA-MG
LEOPOLDINA - MG

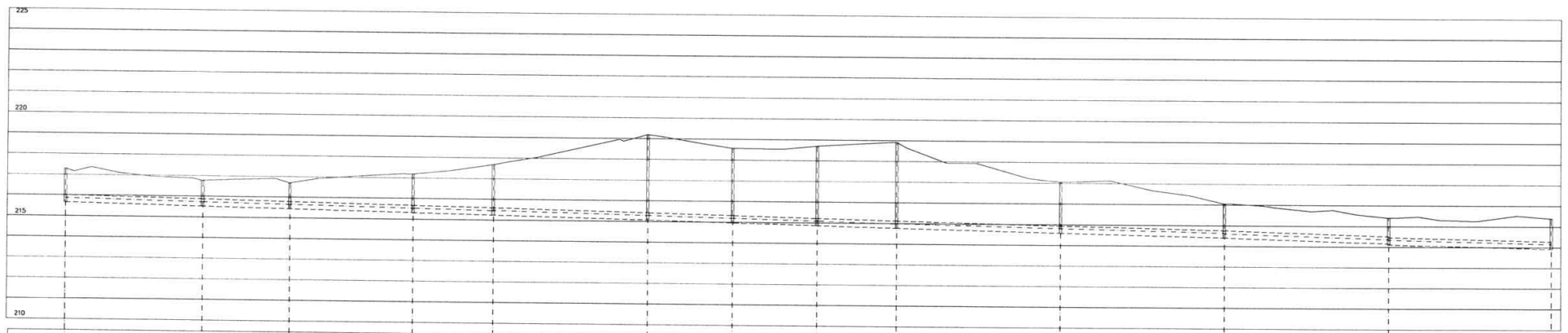
SISTEMA DE ESGOTOS SANITÁRIOS
PROJETO BÁSICO DOS INTERCEPTORES
BACIA DO CORREGO JACAREACANGA

ESCALA
INDICADA

Nº
4.9



PLANTA
ESC.: 1:1000



PM	I2-053	I2-054	I2-055	I2-056	I2-057	I2-058	I2-059	I2-060	I2-061	I2-062	I2-063	I2-064	I2-065
CTN	217,544 / 217,544	218,770 / 218,770	218,100 / 218,100	217,193 / 217,193	217,685 / 217,685	216,350 / 216,350	216,570 / 216,570	218,700 / 218,700	218,622 / 218,622	217,050 / 217,050	216,050 / 216,050	215,410 / 215,410	214,400 / 214,400
CCN	215,500 / 215,500	215,500 / 215,500	215,148 / 215,148	215,316 / 215,316	215,338 / 215,338	215,048 / 215,048	214,669 / 214,669	214,964 / 214,964	214,789 / 214,789	214,586 / 214,586	214,426 / 214,426	214,160 / 214,160	213,930
PRNZ	1,842 / 1,842	1,250 / 1,250	1,394 / 1,394	1,876 / 1,876	2,447 / 2,447	1,32 / 1,32	1,604 / 1,604	1,836 / 1,836	1,158 / 1,158	2,464 / 2,464	1,624 / 1,624	1,250 / 1,250	1,470
COL – TRE	1–53	1–54	1–55	1–56	1–57	1–58	1–59	1–60	1–61	1–62	1–63	1–64	
COMP – DIAM	66–350	42–300	60–350	39–350	75–350	41–350	41–350	59–350	80–350	80–350	80–350	80–350	
DECLIV	0.00212	0.00200	0.00200	0.00200	0.00227	0.00249	0.00249	0.00251	0.00225	0.00225	0.00308	0.00225	
ACUMUL	3050	3092	3152	3191	3265	3307	3348	3387	3467	3547	3627	3707	
VAZÃO (l/s)	36.5613/44.9027	36.8217/45.2399	36.8217/45.2399	36.8217/45.2399	42.3005/50.8936	43.0041/51.8049	43.0041/51.8049	43.0041/51.8049	43.3534/52.2573	43.3534/52.2573	43.3534/52.2573	43.3534/52.2573	
MATERIAL	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	
CONC (l/s)		0.26/0.34			5.48/5.65	0.70/0.81			0.35/0.45				
LÂMINAS	0.53/0.60	0.54/0.61	0.54/0.61	0.54/0.61	0.56/0.64	0.55/0.62	0.55/0.62	0.55/0.62	0.57/0.65	0.57/0.65	0.52/0.58	0.57/0.65	
TRAT (Pa)	1.914	1.830	1.830	1.830	2.133	2.316	2.316	2.331	2.136	2.136	2.765	2.136	
PAVIMENTO	ASFALTO												

PERFIL
ESC.: H=1:1000
V=1:100

NOTAS:

1–PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM)
DATUM HORIZONTAL: SAD–69.

2–AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0.50m

LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUÍDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- PV PROJETADO
- GABIÃO
- MURO DE ARRIMO

MATO A1	DATA	ESTÁGIO	VISTO	APROV
a				
b				
c				

TECISAL TECNICA DE ENGENHARIA CIVIL E SANITÁRIA LTDA.

CREA-MG

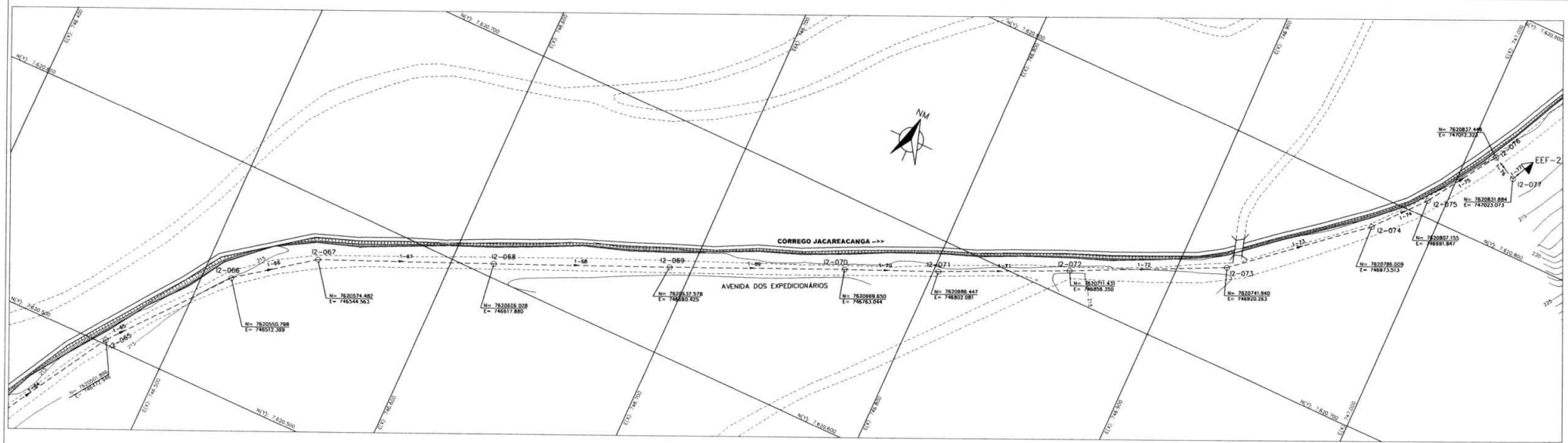
FIRMA:
NOME: MARCO AURÉLIO LUDOLF GOMES–CREA 6.118/D–MG
RESP.:
VISTO
MATR.
APROV

PREFEITURA MUNICIPAL DE LEOPOLDINA–MG
LEOPOLDINA – MG

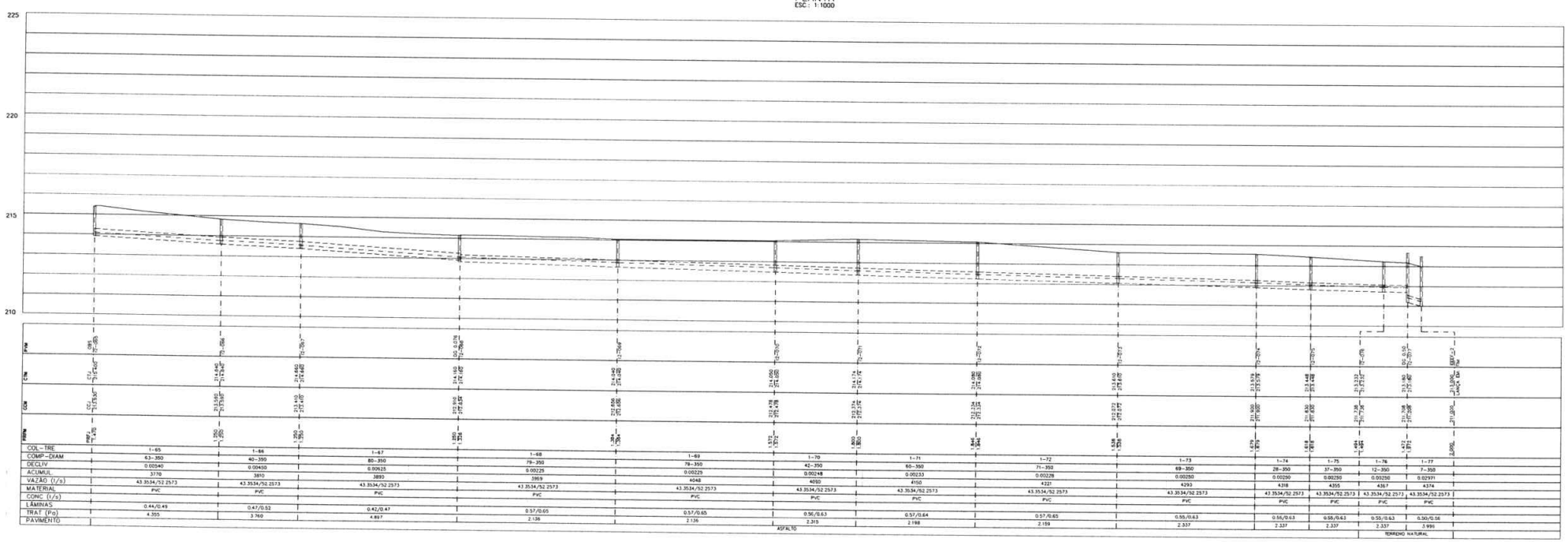
SISTEMA DE ESGOTOS SANITÁRIOS
PROJETO BÁSICO DOS INTERCEPTORES

ESCALA: INDICADA

Nº 4.10



PLANTA
ESC: 1:1000



PERFIL
ESC: H=1:1000
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NOTAS:

1-PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM)
DATUM HORIZONTAL: SAD-69.

2-AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0.50m

LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUIDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- PV PROJETADO
- GABIÃO
- MURO DE ARRIMO

a			
b			
c			
DATA	REVISÃO	VISTO	APROV

TECISAL TÉCNICA DE ENGENHARIA CIVIL E SANITÁRIA LTDA.

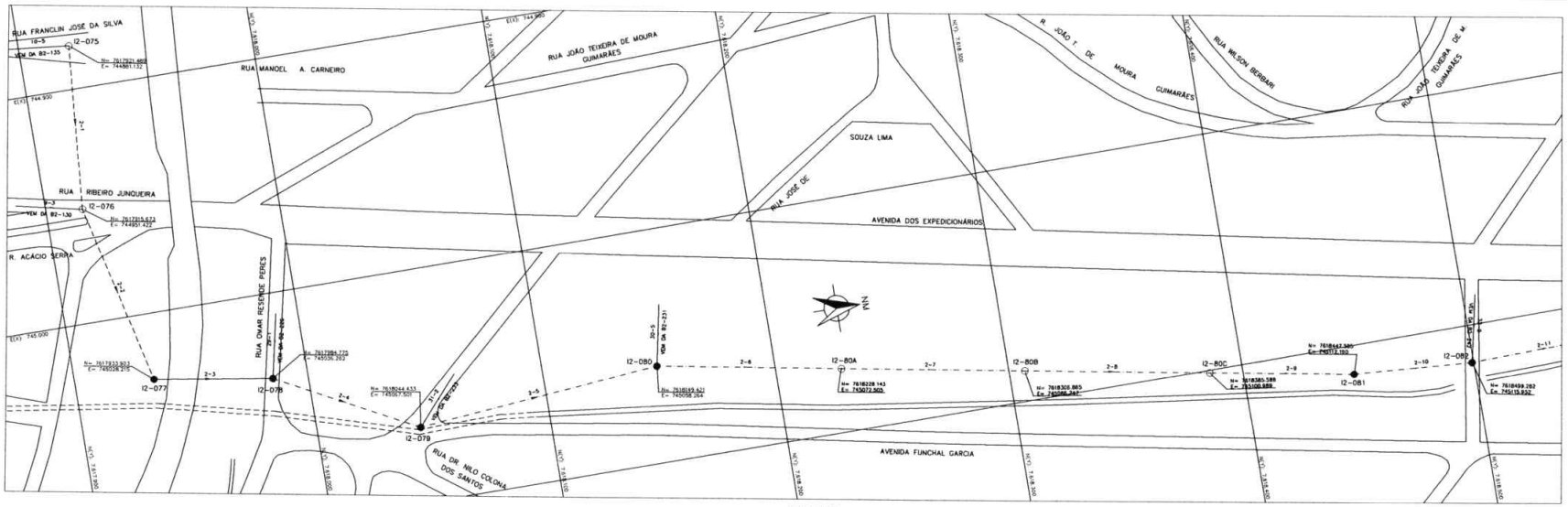
FIRMA
NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG
MATR.
RESP.
VISTO
APROV

PREFEITURA MUNICIPAL DE LEOPOLDINA-MG
LEOPOLDINA – MG

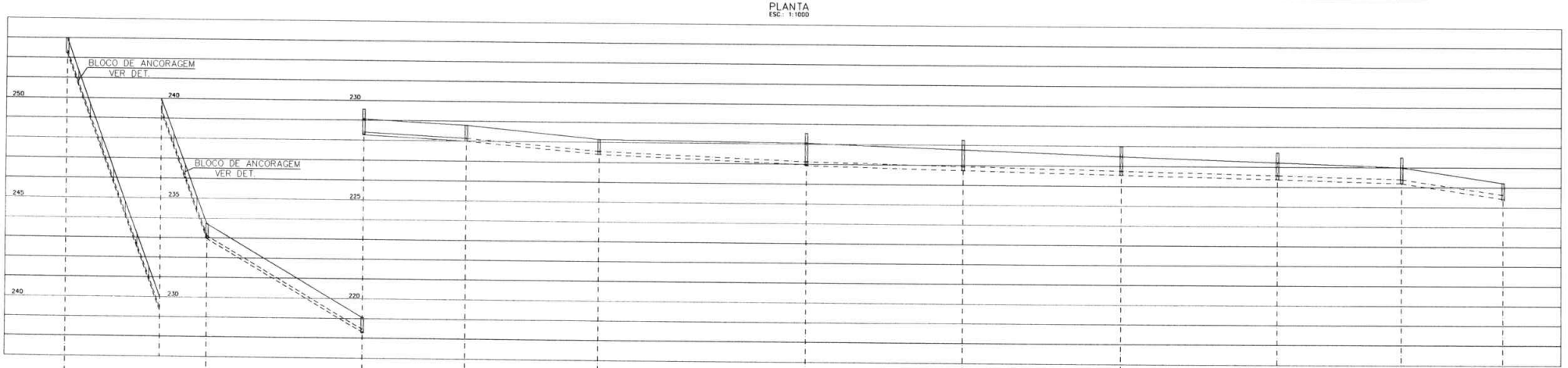
SISTEMA DE ESGOTOS SANITARIOS
PROJETO BÁSICO DOS INTERCEPTORES

ESCALA: INDICADA

Nº 4.11



PLANTA
ESC.: 1:1000



	2-1	2-2	2-3	2-4	2-5	2-6	2-7	2-8	2-9	2-10
COL-TRE										
COMP-DIAM	71-150	79-150	52-150	87-150	105-150	80-200	80-200	80-200	83-200	52-200
DECLIV	0.27137	0.05893	0.00068	0.00893	0.00408	0.00229	0.00229	0.00229	0.00278	0.01477
ACUMUL	71	150	202	269	374	454	534	614	677	729
VAZÃO (l/s)	1.4203/1.8989	1.7034/2.2315	1.7034/2.2315	1.8042/2.3499	1.8879/2.4482	8.4739/7.8359	8.4739/7.8359	8.4739/7.8359	9.4739/7.8359	9.4739/7.8359
MATERIAL	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC
CONC (l/s)	1.42/1.90	0.28/0.33	0.10/0.12	0.24/0.27	0.08/0.10	4.59/5.20				
LÂMINAS	0.10/0.11	0.15/0.17	0.27/0.31	0.30/0.34	0.39/0.34	0.45/0.50	0.45/0.50	0.45/0.50	0.42/0.47	0.27/0.30
TRAT (Pa)	24.723	8.018	1.185	1.890	1.042	1.083	1.083	1.083	1.242	4.852
PAVIMENTO	TERRENO NATURAL									

PERFIL
ESC.: Horizontal 1:1000
Vertical 1:100

NOTAS:

1-PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM)
DATUM HORIZONTAL: SAD-69.

2-AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0.50m

LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUÍDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- PV PROJETADO
- GABIÃO
- MURO DE ARRIMO

MATO A				
a				
b				
c				
	Data	Motivo	Visto	Assinatura

TECISAN TÉCNICA DE ENGENHARIA CIVIL E SANITÁRIA LTDA.

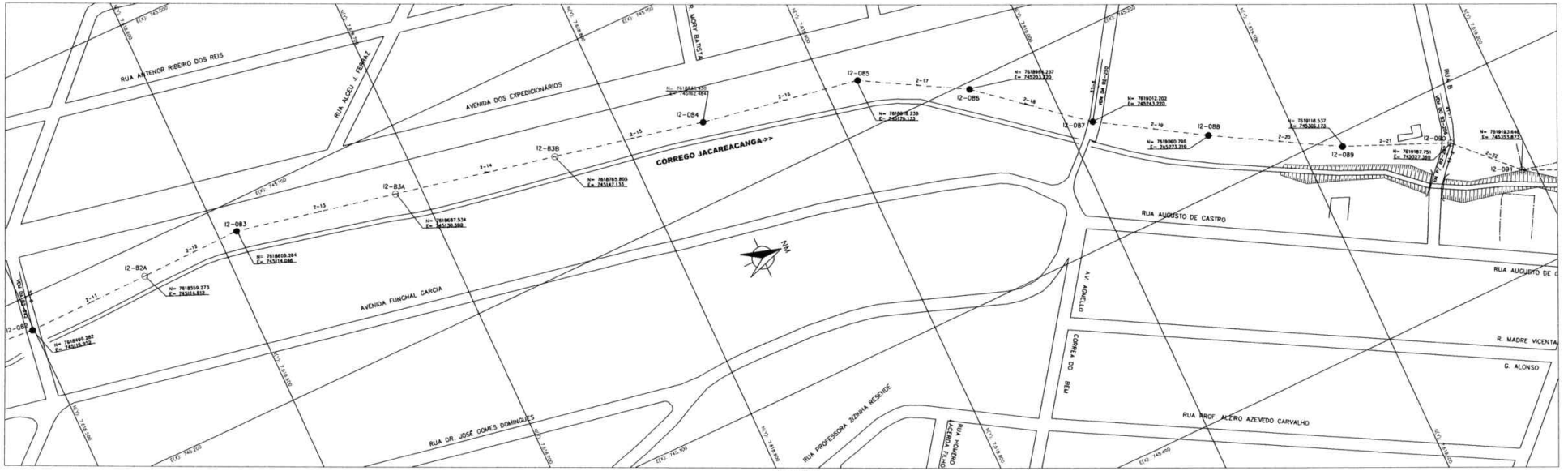
RT: FORMA
NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG
PROJ.
RT:
VISTO
MATR.
APROV.

PREFEITURA MUNICIPAL DE LEOPOLDINA-MG
LEOPOLDINA – MG

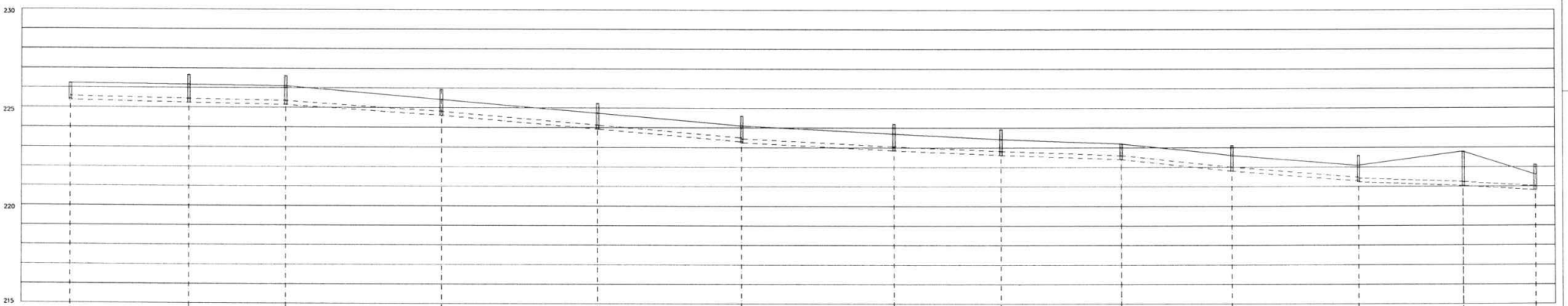
SISTEMA DE ESGOTOS SANITÁRIOS
PROJETO BÁSICO DOS INTERCEPTORES

ESCALA: INDICADA

Nº: 4.12



PLANTA
ESC.: 1:1000



COL-TRE	2-11	2-12	2-13	2-14	2-15	2-16	2-17	2-18	2-19		2-21	2-22
COMP-DIAM	60-200	50-200	80-200	80-200	74-200	78-200	55-200	82-200	57-200	66-200	54-200	37-200
DECLIV	0.00200	0.00300	0.00664	0.00854	0.00657	0.00506	0.00418	0.00355	0.01032	0.00792	0.00381	0.00811
ACUMUL	789	839	918	999	1073	1152	1207	1269	1326	1392	1446	1483
VAZÃO (l/s)	10.7082/12.8104	10.7082/12.8104	10.7082/12.8104	10.7082/12.8104	10.7082/12.8104	10.7082/12.8104	10.7082/12.8104	10.7082/12.8104	14.8791/18.0439	14.8791/18.0439	14.8791/18.0439	14.9555/18.1724
MATERIAL	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC
CONC (l/s)	4.23/4.97								4.17/5.23			0.09/0.13
LÂMINAS	0.63/0.72	0.63/0.72	0.44/0.49	0.41/0.45	0.41/0.45	0.48/0.53	0.50/0.56	0.53/0.59	0.47/0.52	0.51/0.57	0.65/0.75	0.55/0.62
TRAT (Pa)	1.140	1.140	3.049	3.729	3.740	2.449	2.099	1.836	4.943	3.989	2.079	3.233
PAVIMENTO	TERRENO NATURAL											

PERFIL
ESC.: H-1:1000
V-1:100

NOTAS:

1-PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM).
DATUM HORIZONTAL: SAD-69.

2-AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0,50m

LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUÍDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- GABIÃO
- MURO DE ARRIMO

TECISAT MECÁNICA DE ENGENHARIA CIVIL E SANEAMENTO LTDA.

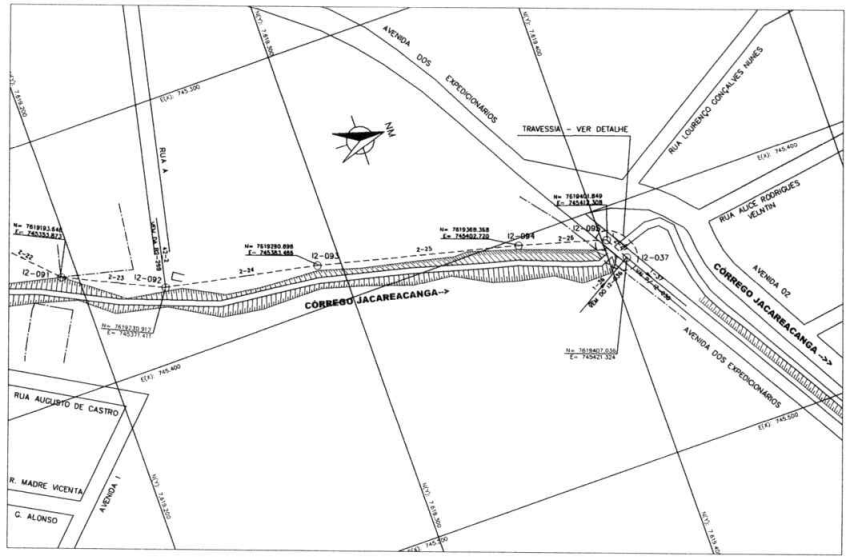
FIRMA:
NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG
RESP.
VISTO
MATR.
APROV

PREFEITURA MUNICIPAL DE LEOPOLDINA-MG
LEOPOLDINA - MG

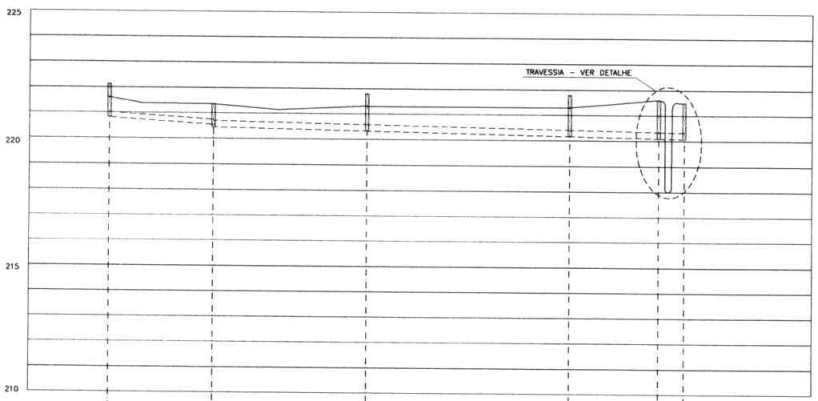
SISTEMA DE ESGOTOS SANITÁRIOS
PROJETO BÁSICO DOS INTERCEPTORES

ESCALA: INDICADA

Nº 4.13



PLANTA
ESC.: 1:1000



FNV	12-097	D=0.150m 12-092	12-093	12-094	12-095	12-037	29 12-037
CTN	221.618 221.618	221.350 221.350	221.300 221.300	221.290 221.290	221.100 221.100	221.040 221.040	221.040 221.040
COM	220.618 220.618	220.100 220.100	220.128 220.128	220.148 220.148	220.198 220.198	220.198 220.198	220.198 220.198
PREV	0.000 0.000	0.000 0.000	0.172 0.172	-1.122 -1.122	-1.107 -1.107	-1.475	

COL-TRE	2-23	2-24	2-25	2-26	2-27	
COMP-DIAM	41-200	81-250	80-250	35-250	10-250	
DECLIV	0.00854	0.00200	0.00200	0.00200	0.00200	
ACUMUL	1524	1585	1655	1700	1710	
VAZÃO (l/s)	14.9658/18.1724	15.0226/18.2571	15.0226/18.2571	15.0226/18.2571	15.0226/18.2571	
MATERIAL	PVC	PVC	PVC	PVC	PVC	
CONC (l/s)		0.08/0.08				
LÂMINAS	0.54/0.81	0.54/0.81	0.54/0.81	0.54/0.81	0.54/0.81	
TRAT (Pa)	3.419	1.307	1.307	1.307	1.307	
PAVIMENTO	TERRENO NATURAL					

PERFIL
ESC.: H=1:1000

a				
b				
c				
	DATA	CARGO	VISTO	APROV

NOTAS:

1-PROJEÇÃO UNIVERSAL TRANSVERSA DE MERCATOR (UTM).
DATUM HORIZONTAL: SAU-69.

2-AS CHAMINÉS DOS POÇOS DE VISITA LOCALIZADOS FORA DAS VIAS DEVERÃO TER SUA ALTURA ACRESCIDA DE 0,50m

LEGENDA:

- INTERCEPTOR EXISTENTE APROVEITADO
- INTERCEPTOR EXISTENTE SUBSTITUIDO
- INTERCEPTOR PROJETADO
- PV EXISTENTE
- GABIÃO
- MURO DE ARRIMO

TECISA ENGENHARIA CIVIL E SANITÁRIA LTDA.

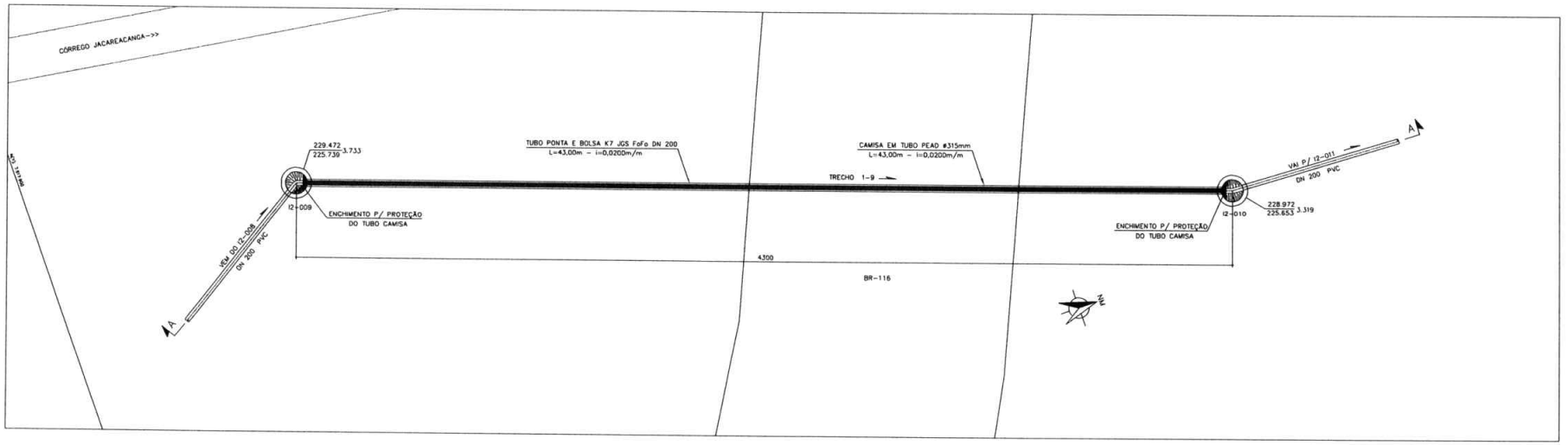
RT: NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG
RT:

PREFEITURA MUNICIPAL DE LEOPOLDINA-MG
LEOPOLDINA - MG

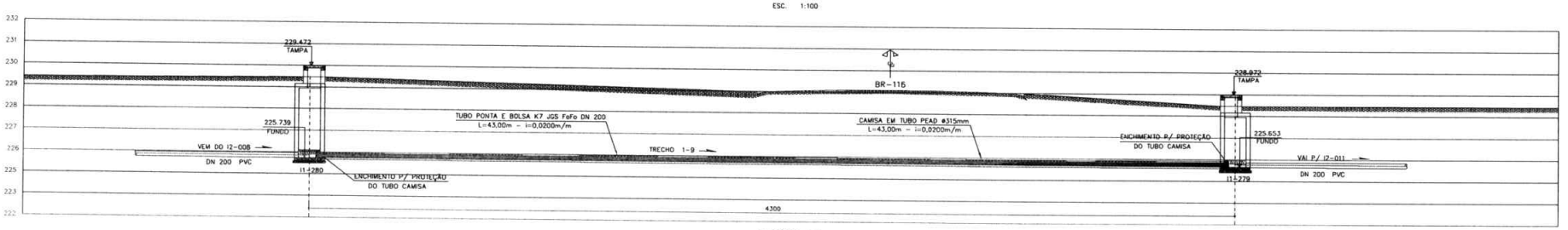
SISTEMA DE ESGOTOS SANITÁRIOS
PROJETO BÁSICO DOS INTERCEPTORES

ESCALA: INDICADA

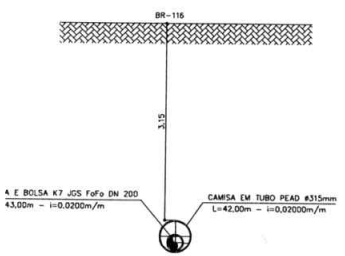
Nº: 4.14



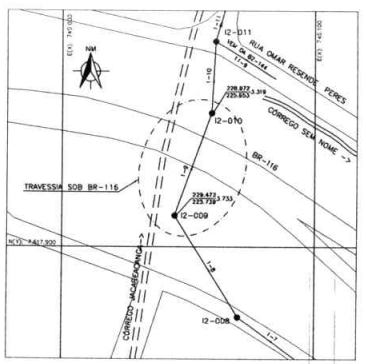
PLANTA
ESC. 1:100



SEÇÃO-AA
ESC. 1:100



SEÇÃO TRANSVERSAL DA PISTA
SEM ESC.

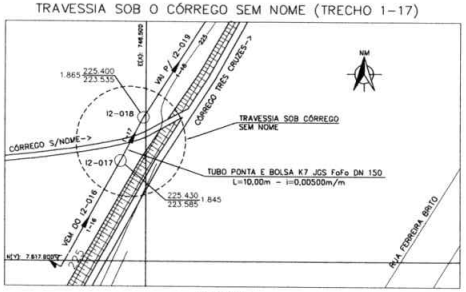


PLANTA DE SITUAÇÃO
ESC. 1:1000

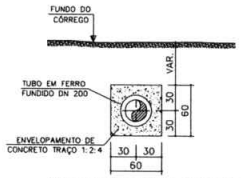
NOTAS:
1) COTAS EM CENTÍMETROS, ELEVAÇÕES EM METRO, SALVO INDICAÇÃO CONTRÁRIA.

TECISA TÉCNICA DE ENGENHARIA CIVIL E SANITÁRIA LTDA.		PREFEITURA MUNICIPAL DE LEOPOLDINA-MG LEOPOLDINA – MG	ESCALA	INDICADA
FIRMA:	VISTO	SISTEMA DE ESGOTOS SANITÁRIOS PROJETO BÁSICO DOS INTERCEPTORES	Nº	4.15
NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG	MATR.			
RAZÃO	APROV.			

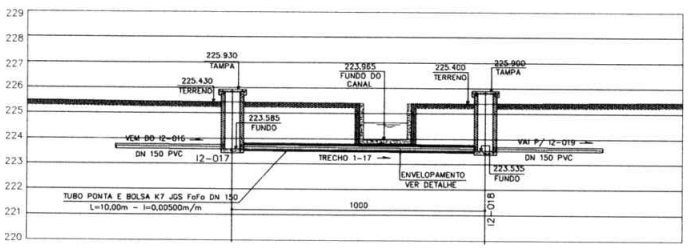
TRAVESSIA SOB O CÓRREGO SEM NOME (TRECHO 1-17)



PLANTA
ESC. 1:500

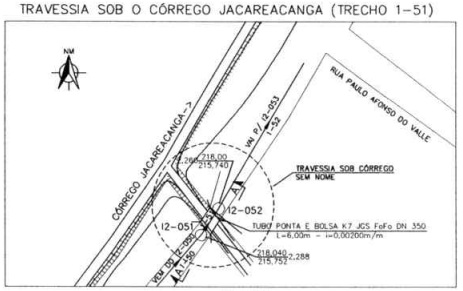


DETALHE DO ENVELOPAMENTO
ESC. 1:20

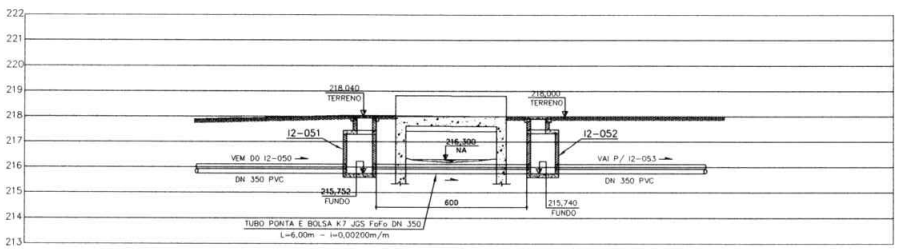


SEÇÃO-AA
ESC. 1:100

TRAVESSIA SOB O CÓRREGO JACAREACANGA (TRECHO 1-51)

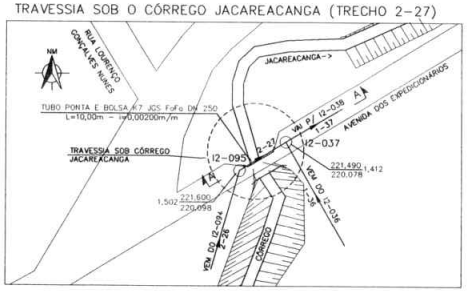


PLANTA
ESC. 1:500

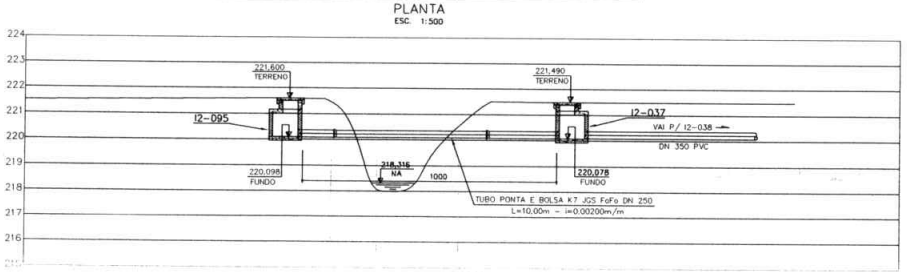


SEÇÃO-AA
ESC. 1:100

TRAVESSIA SOB O CÓRREGO JACAREACANGA (TRECHO 2-27)

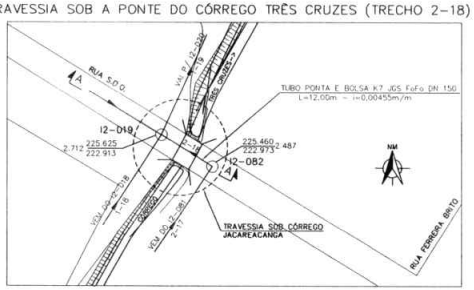


PLANTA
ESC. 1:500

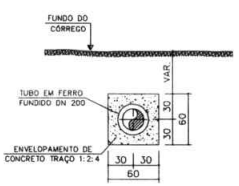


SEÇÃO-AA
ESC. 1:100

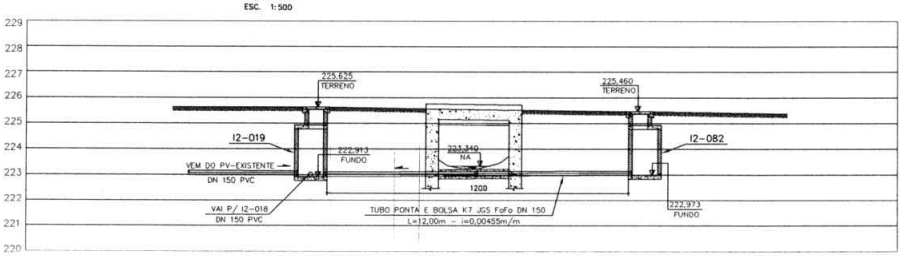
TRAVESSIA SOB A PONTE DO CÓRREGO TRÊS CRUZES (TRECHO 2-18)



PLANTA
ESC. 1:500



DETALHE DO ENVELOPAMENTO
ESC. 1:20



SEÇÃO-AA
ESC. 1:100

NOTAS:
1) COTAS EM CENTÍMETROS, ELEVAÇÕES EM METRO, SALVO INDICAÇÃO CONTRÁRIA.

a				
b				
c				

MATO AI

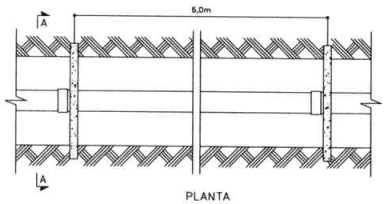
TECISAT TÉCNICA DE ENGENHARIA CIVIL E SANITÁRIA LTDA.

RT FIRMA: NOME: MARCO AURÉLIO LUDOLF GOMES-CREA 6.118/D-MG	VISTO MATR.	PREFEITURA MUNICIPAL DE LEOPOLDINA-MG LEOPOLDINA – MG
RT PROJ.	APROV	SISTEMA DE ESGOTOS SANITÁRIOS PROJETO BÁSICO DOS INTERCEPTORES

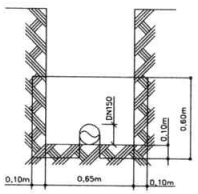
ESCALA: INDICADA

Nº: 4.16

DETALHE DOS BLOCOS DE ANCORAGEM PARA TRECHOS COM DECLIVIDADE > A 20%

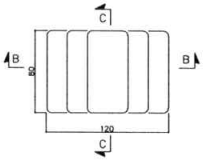


PLANTA
SEM ESC.



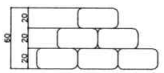
CORTE – AA
SEM ESC.

ENSECADEIRA – DETALHE



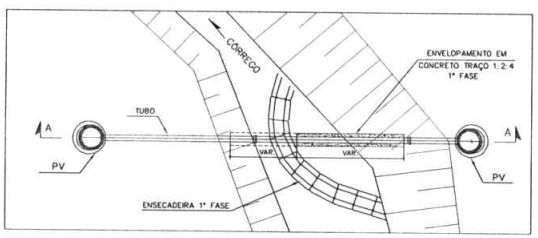
PLANTA
ESC. 1:25

CORTE – CC
ESC. 1:25

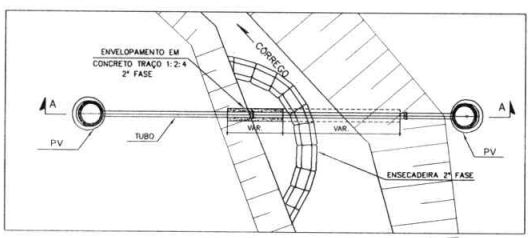


CORTE – BB
ESC. 1:25

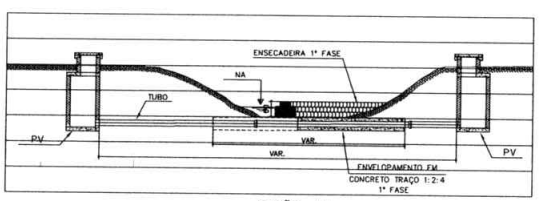
DETALHE CONSTRUTIVO DA ENSECADEIRA (TÍPICO)



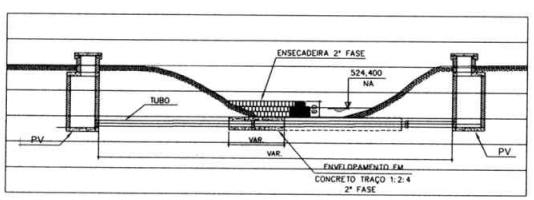
PLANTA
ESC. 1:100



PLANTA
ESC. 1:100



SEÇÃO – AA
ESC. 1:100



SEÇÃO – AA
ESC. 1:100

MÉTODO CONSTRUTIVO

1ª ETAPA

1 – CONSTRUÇÃO DAS ENSECADEIRAS EM SOLO CIMENTO.
2 – ENSECAR ÁREA DE TRABALHO.
3 – AJUSTAR FUNDO DE VALA COM USO APENAS DE BRITA.
4 – ASSENTAMENTO DO PRIMEIRO TUBO, PROTEGER O FLANGE PARA ESPERA DO SEGUNDO TUBO E RECONSTITUIÇ
DEIXANDO 20cm ANTES DO FLANGE.

ETAPA INTERMEDIÁRIA

5 – COLOCAÇÃO DA ENSECADEIRA INTERMEDIÁRIA.
6 – ABERTURA DAS ENSECADEIRAS DE PRIMEIRA ETAPA PARA PASSAGEM DO FLUXO D'ÁGUA.
7 – CONSTRUÇÃO DAS ENSECADEIRAS DE SEGUNDA ETAPA PARA OBSTRUÇÃO DO FLUXO D'ÁGUA.

2ª ETAPA

8 – ENSECAR ÁREA DE TRABALHO.
9 – DEMOLIÇÃO DO FUNDO DO CANAL E ESCAVAÇÃO DA VALA PARA ASSENTAMENTO DO SEGUNDO TI
10 – AJUSTAR FUNDO DE VALA COM USO APENAS DE BRITA.
11 – ASSENTAMENTO DO SEGUNDO TUBO, RECONSTITUIÇÃO DO FUNDO DO CANAL.
12 – RETIRADA DAS ENSECADEIRAS.

OBS.: AS OBRAS DEVERÃO SER EXECUTADAS NO PERIODO DE ESTIAGEM

NOTAS:
1) COTAS EM CENTIMETROS, ELEVAÇÕES EM METRO, SALVO INDICAÇÃO CONTRÁRIA.

a				
b				
c				
	DATA	ENTIDADE	VISTO	CREA

TECISAN TECNICA EM ENGENHARIA CIVIL E SANITARIA LTDA.

FIRMA: NOME: MARCO AURÉLIO LUDOLF DOMITS-CREA 6.118/D-MG
PROJ.:
VISTO
MATR.
APROV.

PREFEITURA MUNICIPAL DE LEOPOLDINA – MG
LEOPOLDINA – MG

SISTEMA DE ESGOTOS SANITÁRIOS
PROJETO BÁSICO DOS INTERCEPTORES

ESCALA: INDICADA

Nº: 4.17