

Inwestor:

**Gmina Elbląg
ul. Browarna 85
82-300 Elbląg****PROJEKT WYKONAWCZY**

" Remont dróg gminnych w m. Gronowo Górne, ulica Agatowa Nr 101027 N (w km od 0+880 koniec nawierzchni bitumicznej przy skrzyżowaniu z ul. Nefrytową do km 1+910 tj. do skrzyżowania przy drodze serwisowej drogi krajowej nr S-22) i ulica Kryształowa Nr 101025 N oraz pełnienie nadzoru autorskiego w czasie realizacji robót"

- TYCZENIE GEODEZYJNE -

Funkcja	Imię i Nazwisko	Numer uprawnień / Specjalność / Numer z Izby Inż. Budownictwa	Podpis
Projektant	<i>mgr inż. Marcin Nietupski</i>	<i>333/Gd/2002 konstrukcyjno – budowlana POM/BO/0047/03</i>	
	<i>mgr inż. Andrzej Kowalczyk</i>	<i>POM/0092/POOD/11 spec. drogowa</i>	
Sprawdzający	<i>mgr inż. Marek Szewczuk</i>	<i>23/Gd/00 konstrukcyjno – budowlana POM/BO/4461/01</i>	

ZAWARTOŚĆ PROJEKTU WYKONAWCZEGO **- Książka tyczenia -**

SPIS ZAWARTOŚCI:

- **CZĘŚĆ OPISOWA**

Tyczenie geodezyjne

Str. 3

TYCZENIE GEODEZYJNE

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Osie dróg zostały wytyczone w punktach charakterystycznych oraz w punktach rozmieszczonych co 10 m wzdłuż osi dróg (wraz z „proponowanym nawiązaniem do stanu istniejącego”).

LEGENDA DO TYCZENIA

STATION	-	Km
NORTHING	-	współrzędna punktu – N
EASTING	-	współrzędna punktu – E
Element:	-	element:
Left	-	lewy
Right	-	Prawy
Linear	-	Prosta
Tangent Direction:	-	kierunek stycznej
Tangent Length:	-	długość (L)
Circular	-	Łuk kołowy
Radius:	-	Promień
Delta:	-	kąt zwrotu stycznych
Length:	-	Długość
Tangent:	-	długość stycznej
Chord:	-	cięciwa
Middle Ordinate:	-	H (normalna do stycznej)
External:	-	Strzałka
Tangent Direction:	-	kierunek stycznej
Radial Direction:	-	kierunek promienia
Chord Direction:	-	kierunek cięciwy
Radial Direction:	-	kierunek promienia
Tangent Direction:	-	kierunek stycznej
Clothoid	-	Klotoida
Length:	-	długość
Angle:	-	kąt
Constant:	-	A
Long Chord:	-	długość cięciwy
Xs:	-	Xs
Ys:	-	Ys
Tangent Direction:	-	kierunek stycznej
Radial Direction:	-	kierunek promienia
Chord Direction:	-	kierunek cięciwy
Radial Direction:	-	kierunek promienia
Tangent Direction:	-	kierunek stycznej
Symbole punktów:		
PI (...)	-	załom, punkt przecięcia
PC (...)	-	punkt styczności prostej z łukiem, początek łuku bez klotoidy
CC (...)	-	środek okręgu
PT (...)	-	punkt styczności łuku z prostą, koniec łuku bez klotoidy
TS (...)	-	początek krzywej przejściowej, styczność z prostą
SC (...)	-	początek łuku kołowego, styczność klotoidy z łukiem
CS (...)	-	koniec łuku kołowego, styczność łuku z klotoidą
ST (...)	-	koniec krzywej przejściowej, styczność z prostą
SPI (...)	-	przecięcie się dwóch klotoid
PCC (...)	-	krzywa koszarowa w planie, punkt styczności łuków
PRC (...)	-	krzywa esowa, początek klotoid
SS (...)	-	biklotoida
POB (...)	-	początek
POE (...)	-	koniec

1. Oś ulicy Agatowej

Station	Point Type	Easting (X)	Northing (Y)	Elevation (Z)
0+000.00	POCZŻTEK	3661894.57	6063611.63	35.327
0+006.08	PŁK	3661900.63	6063612.10	35.866
0+010.00	S+O EVT	3661904.54	6063612.42	36.213
0+020.00	S+O EVT	3661914.48	6063613.46	36.994
0+030.00	S+O EVT	3661924.39	6063614.80	37.639
0+040.00	S+O EVT	3661934.26	6063616.43	38.271
0+050.00	S+O EVT	3661944.07	6063618.37	38.903
0+060.00	S+O EVT	3661953.82	6063620.60	39.535
0+070.00	S+O EVT	3661963.49	6063623.12	40.139
0+080.00	S+O EVT	3661973.09	6063625.94	40.624
0+090.00	S+O EVT	3661982.59	6063629.04	40.985
0+100.00	S+O EVT	3661992.00	6063632.44	41.220
0+110.00	S+O EVT	3662001.30	6063636.11	41.359
0+110.39	KŁK	3662001.66	6063636.26	41.364
0+113.02	PŁK	3662004.09	6063637.27	41.399
0+120.00	S+O EVT	3662010.49	6063640.04	41.491
0+130.00	S+O EVT	3662019.51	6063644.37	41.624
0+140.00	S+O EVT	3662028.32	6063649.10	41.756
0+150.00	S+O EVT	3662036.91	6063654.22	41.888
0+160.00	S+O EVT	3662045.25	6063659.73	42.021
0+168.99	KŁK	3662052.53	6063665.01	42.140
0+170.00	S+O EVT	3662053.34	6063665.61	42.153
0+178.30	PŁK	3662059.96	6063670.62	42.263
0+180.00	S+O EVT	3662061.30	6063671.66	42.286
0+190.00	S+O EVT	3662068.43	6063678.65	42.429
0+200.00	S+O EVT	3662074.12	6063686.86	42.658
0+210.00	S+O EVT	3662078.14	6063696.00	42.987
0+214.98	KŁK	3662079.48	6063700.79	43.188
0+220.00	S+O EVT	3662080.60	6063705.68	43.416
0+230.00	S+O EVT	3662082.83	6063715.43	43.945
0+240.00	S+O EVT	3662085.07	6063725.18	44.574
0+250.00	S+O EVT	3662087.30	6063734.93	45.299
0+260.00	S+O EVT	3662089.53	6063744.67	46.049
0+270.00	S+O EVT	3662091.76	6063754.42	46.799
0+278.35	PŁK	3662093.62	6063762.56	47.424

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

0+280.00	S+O EVT	3662094.00	6063764.17	47.548
0+290.00	S+O EVT	3662096.65	6063773.81	48.298
0+300.00	S+O EVT	3662099.93	6063783.25	49.048
0+310.00	S+O EVT	3662103.83	6063792.46	49.798
0+320.00	S+O EVT	3662108.31	6063801.40	50.548
0+330.00	S+O EVT	3662113.38	6063810.02	51.297
0+340.00	S+O EVT	3662118.99	6063818.29	52.047
0+344.87	KŁK	3662121.92	6063822.18	52.412
0+350.00	S+O EVT	3662125.07	6063826.23	52.795
0+360.00	S+O EVT	3662131.21	6063834.12	53.487
0+370.00	S+O EVT	3662137.35	6063842.01	54.095
0+371.84	PŁK	3662138.48	6063843.47	54.198
0+380.00	S+O EVT	3662143.39	6063849.99	54.620
0+390.00	S+O EVT	3662149.11	6063858.19	55.062
0+400.00	S+O EVT	3662154.49	6063866.61	55.420
0+410.00	S+O EVT	3662159.54	6063875.25	55.719
0+420.00	S+O EVT	3662164.24	6063884.08	56.016
0+430.00	S+O EVT	3662168.58	6063893.08	56.313
0+440.00	S+O EVT	3662172.55	6063902.26	56.610
0+445.17	KŁK	3662174.47	6063907.06	56.763
0+450.00	S+O EVT	3662176.21	6063911.57	56.907
0+460.00	S+O EVT	3662179.81	6063920.90	57.204
0+470.00	S+O EVT	3662183.41	6063930.22	57.501
0+480.00	S+O EVT	3662187.01	6063939.55	57.798
0+488.54	PŁK	3662190.09	6063947.52	58.051
0+490.00	S+O EVT	3662190.63	6063948.88	58.094
0+500.00	S+O EVT	3662194.81	6063957.96	58.391
0+510.00	S+O EVT	3662199.85	6063966.59	58.688
0+519.75	KŁK	3662205.56	6063974.48	58.978
0+520.00	S+O EVT	3662205.71	6063974.68	58.985
0+530.00	S+O EVT	3662211.95	6063982.50	59.282
0+540.00	S+O EVT	3662218.18	6063990.32	59.579
0+548.22	PŁK	3662223.31	6063996.75	59.831
0+550.00	S+O EVT	3662224.41	6063998.15	59.892
0+560.00	S+O EVT	3662230.37	6064006.17	60.296
0+570.00	S+O EVT	3662235.92	6064014.49	60.800
0+575.10	KŁK	3662238.58	6064018.84	61.096
0+580.00	S+O EVT	3662241.09	6064023.05	61.404

0+590.00	S+O EVT	3662246.20	6064031.65	62.108
0+600.00	S+O EVT	3662251.32	6064040.24	62.912
0+610.00	S+O EVT	3662256.43	6064048.83	63.806
0+620.00	S+O EVT	3662261.54	6064057.43	64.652
0+630.00	S+O EVT	3662266.66	6064066.02	65.398
0+640.00	S+O EVT	3662271.77	6064074.61	66.044
0+650.00	S+O EVT	3662276.89	6064083.20	66.590
0+655.81	PŁK	3662279.86	6064088.20	66.861
0+660.00	S+O EVT	3662281.86	6064091.88	67.036
0+670.00	S+O EVT	3662285.39	6064101.22	67.382
0+679.56	KŁK	3662287.06	6064110.62	67.619
0+680.00	S+O EVT	3662287.10	6064111.06	67.628
0+690.00	S+O EVT	3662287.94	6064121.02	67.808
0+700.00	S+O EVT	3662288.78	6064130.98	67.986
0+706.85	PŁK	3662289.36	6064137.81	68.108
0+710.00	S+O EVT	3662289.64	6064140.95	68.164
0+720.00	S+O EVT	3662290.64	6064150.90	68.342
0+730.00	S+O EVT	3662291.85	6064160.82	68.521
0+737.18	KŁK	3662292.83	6064167.94	68.649
0+740.00	S+O EVT	3662293.24	6064170.73	68.699
0+750.00	S+O EVT	3662294.68	6064180.62	68.884
0+760.00	S+O EVT	3662296.12	6064190.52	69.093
0+770.00	S+O EVT	3662297.57	6064200.41	69.328
0+780.00	S+O EVT	3662299.01	6064210.31	69.587
0+790.00	S+O EVT	3662300.45	6064220.20	69.871
0+800.00	S+O EVT	3662301.90	6064230.10	70.180
0+810.00	S+O EVT	3662303.34	6064239.99	70.514
0+820.00	S+O EVT	3662304.78	6064249.89	70.862
0+830.00	S+O EVT	3662306.23	6064259.78	71.133
0+840.00	S+O EVT	3662307.67	6064269.68	71.303
0+850.00	S+O EVT	3662309.11	6064279.58	71.373
0+860.00	S+O EVT	3662310.56	6064289.47	71.343
0+870.00	S+O EVT	3662312.00	6064299.37	71.213
0+880.00	S+O EVT	3662313.44	6064309.26	70.983
0+880.10	PŁK	3662313.46	6064309.36	70.980
0+890.00	S+O EVT	3662313.96	6064319.23	70.653
0+894.29	KŁK	3662313.59	6064323.51	70.480
0+900.00	S+O EVT	3662312.88	6064329.17	70.228

0+902.70	PŁK	3662312.54	6064331.85	70.107
0+910.00	S+O EVT	3662312.13	6064339.13	69.781
0+920.00	S+O EVT	3662313.21	6064349.06	69.334
0+928.34	KŁK	3662315.54	6064357.06	68.967
0+930.00	S+O EVT	3662316.13	6064358.61	68.901
0+940.00	S+O EVT	3662319.68	6064367.96	68.558
0+950.00	S+O EVT	3662323.23	6064377.31	68.315
0+960.00	S+O EVT	3662326.77	6064386.66	68.162
0+970.00	S+O EVT	3662330.32	6064396.01	68.023
0+980.00	S+O EVT	3662333.87	6064405.36	67.885
0+987.01	KONIEC	3662336.36	6064411.91	0.000

2. Oś ulicy Kryształowej

Station	Point Type	Easting (X)	Northing (Y)	Elevation (Z)
0+000.00	POB	3662069.99	6063680.59	42.480
0+010.00	S+O EVT	3662077.93	6063674.51	42.450
0+010.43	PC	3662078.28	6063674.25	42.449
0+015.60	PT	3662082.97	6063672.23	42.449
0+020.00	S+O EVT	3662087.32	6063671.52	42.475
0+030.00	S+O EVT	3662097.19	6063669.91	42.624
0+040.00	S+O EVT	3662107.06	6063668.31	42.828
0+050.00	S+O EVT	3662116.93	6063666.71	43.031
0+060.00	S+O EVT	3662126.80	6063665.10	43.235
0+070.00	S+O EVT	3662136.67	6063663.50	43.439
0+077.27	PC	3662143.85	6063662.33	43.625
0+080.00	S+O EVT	3662146.54	6063661.91	43.715
0+090.00	S+O EVT	3662156.48	6063660.80	44.134
0+093.87	PT	3662160.34	6063660.55	44.321
0+100.00	S+O EVT	3662166.46	6063660.22	44.618
0+110.00	S+O EVT	3662176.45	6063659.67	45.101
0+120.00	S+O EVT	3662186.43	6063659.13	45.506
0+121.33	PC	3662187.76	6063659.06	45.550
0+130.00	S+O EVT	3662196.43	6063658.86	45.785
0+140.00	S+O EVT	3662206.42	6063659.30	45.939
0+150.00	S+O EVT	3662216.35	6063660.44	45.969
0+160.00	S+O EVT	3662226.17	6063662.30	45.873
0+170.00	S+O EVT	3662235.84	6063664.85	45.653
0+180.00	S+O EVT	3662245.30	6063668.08	45.314

0+190.00	S+O EVT	3662254.51	6063671.98	44.946
0+199.70	PT	3662263.15	6063676.38	44.590
0+200.00	S+O EVT	3662263.41	6063676.53	44.579
0+210.00	S+O EVT	3662272.16	6063681.37	44.259
0+220.00	S+O EVT	3662280.91	6063686.21	44.064
0+230.00	S+O EVT	3662289.66	6063691.06	43.994
0+240.00	S+O EVT	3662298.40	6063695.90	44.048
0+240.51	PC	3662298.85	6063696.15	44.054
0+250.00	S+O EVT	3662307.41	6063700.24	44.208
0+260.00	S+O EVT	3662316.88	6063703.43	44.380
0+270.00	S+O EVT	3662326.67	6063705.41	44.553
0+280.00	S+O EVT	3662336.64	6063706.16	44.818
0+288.37	PT	3662345.00	6063705.82	45.150
0+290.00	S+O EVT	3662346.62	6063705.67	45.227
0+300.00	S+O EVT	3662356.58	6063704.74	45.778
0+310.00	S+O EVT	3662366.54	6063703.82	46.472
0+320.00	S+O EVT	3662376.49	6063702.89	47.309
0+330.00	S+O EVT	3662386.45	6063701.97	48.288
0+340.00	S+O EVT	3662396.41	6063701.04	49.402
0+350.00	S+O EVT	3662406.36	6063700.12	50.545
0+360.00	S+O EVT	3662416.32	6063699.20	51.688
0+370.00	S+O EVT	3662426.28	6063698.27	52.764
0+380.00	S+O EVT	3662436.24	6063697.35	53.715
0+390.00	S+O EVT	3662446.19	6063696.42	54.542
0+400.00	S+O EVT	3662456.15	6063695.50	55.243
0+410.00	S+O EVT	3662466.11	6063694.57	55.819
0+420.00	S+O EVT	3662476.06	6063693.65	56.326
0+430.00	S+O EVT	3662486.02	6063692.72	56.833
0+440.00	S+O EVT	3662495.98	6063691.80	57.326
0+450.00	S+O EVT	3662505.94	6063690.87	57.712
0+460.00	S+O EVT	3662515.89	6063689.95	57.973
0+470.00	S+O EVT	3662525.85	6063689.02	58.109
0+480.00	S+O EVT	3662535.81	6063688.10	58.120
0+490.00	S+O EVT	3662545.76	6063687.17	58.006
0+500.00	S+O EVT	3662555.72	6063686.25	57.767
0+507.30	PC	3662562.99	6063685.57	57.522
0+510.00	S+O EVT	3662565.68	6063685.35	57.429
0+518.25	PT	3662573.92	6063684.95	57.144

0+520.00	S+O EVT	3662575.67	6063684.91	57.088
0+527.39	PC	3662583.06	6063684.75	56.911
0+530.00	S+O EVT	3662585.67	6063684.67	56.870
0+538.83	PT	3662594.48	6063684.07	56.815
0+540.00	S+O EVT	3662595.64	6063683.96	56.818
0+550.00	S+O EVT	3662605.59	6063683.01	56.932
0+560.00	S+O EVT	3662615.55	6063682.05	57.185
0+570.00	S+O EVT	3662625.50	6063681.09	0.000
0+571.78	POE	3662627.27	6063680.92	0.000

3. Krawędź lewa ulicy Agatowej

	STATION	NORTHING	EASTING
Element: Linear			
POB ()	0+000.00	6063614.13	3661894.38
PC ()	0+006.08	6063614.59	3661900.44
Tangential Direction:	N 85°36'10" E		
Tangential Length:	6.08		
Element: Circular			
PC ()	0+006.08	6063614.59	3661900.44
PI ()	0+058.28	6063618.59	3661952.48
CC ()		6063941.13	3661875.34
PT ()	0+109.60	6063638.57	3662000.71
Radius:	327.50		
Delta:	18°06'42" Left		
Degree of Curvature (Arc):	17°29'42"		
Length:	103.53		
Tangent:	52.20		
Chord:	103.10		
Middle Ordinate:	4.08		
External:	4.13		
Tangent Direction:	N 85°36'20" E		
Radial Direction:	S 4°23'40" E		
Chord Direction:	N 76°32'59" E		
Radial Direction:	S 22°30'22" E		
Tangent Direction:	N 67°29'38" E		
Element: Linear			
PT ()	0+109.60	6063638.57	3662000.71
PC ()	0+112.23	6063639.58	3662003.14
Tangential Direction:	N 67°30'09" E		
Tangential Length:	2.63		
Element: Circular			
PC ()	0+112.23	6063639.58	3662003.13
PI ()	0+133.84	6063647.85	3662023.10
CC ()		6063840.51	3661919.88
PCC ()	0+155.31	6063659.89	3662041.04
Radius:	217.50		
Delta:	11°20'50" Left		
Degree of Curvature (Arc):	26°20'34"		
Length:	43.07		
Tangent:	21.61		
Chord:	43.00		
Middle Ordinate:	1.07		
External:	1.07		
Tangent Direction:	N 67°29'38" E		
Radial Direction:	S 22°30'22" E		
Chord Direction:	N 61°49'13" E		
Radial Direction:	S 33°51'12" E		
Tangent Direction:	N 56°08'48" E		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Element: Circular

PCC ()	0+155.31	6063659.89	3662041.04
PI ()	0+160.19	6063662.61	3662045.10
CC ()		6063742.93	3661985.33
PT ()	0+165.06	6063665.71	3662048.87
Radius:	100.00		
Delta:	5°35'22" Left		
Degree of Curvature (Arc):	57°17'45"		
Length:	9.76		
Tangent:	4.88		
Chord:	9.75		
Middle Ordinate:	0.12		
External:	0.12		
Tangent Direction:	N 56°08'48" E		
Radial Direction:	S 33°51'12" E		
Chord Direction:	N 53°21'07" E		
Radial Direction:	S 39°26'34" E		
Tangent Direction:	N 50°33'26" E		

Element: Linear

PT ()	0+165.06	6063665.71	3662048.87
PC ()	0+178.91	6063674.51	3662059.56
Tangential Direction:	N 50°33'26" E		
Tangential Length:	13.85		

Element: Circular

PC ()	0+178.91	6063674.51	3662059.56
PI ()	0+179.70	6063675.01	3662060.17
CC ()		6063712.50	3662028.30
PCC ()	0+180.49	6063675.53	3662060.77
Radius:	49.20		
Delta:	1°50'22" Left		
Degree of Curvature (Arc):	116°27'17"		
Length:	1.58		
Tangent:	0.79		
Chord:	1.58		
Middle Ordinate:	0.01		
External:	0.01		
Tangent Direction:	N 50°33'26" E		
Radial Direction:	S 39°26'34" E		
Chord Direction:	N 49°38'15" E		
Radial Direction:	S 41°16'57" E		
Tangent Direction:	N 48°43'03" E		

Element: Circular

PCC ()	0+180.49	6063675.53	3662060.77
PI ()	0+188.03	6063680.50	3662066.43
CC ()		6063678.54	3662058.13
PT ()	0+189.16	6063682.41	3662059.14
Radius:	4.00		
Delta:	124°06'20" Left		
Degree of Curvature (Arc):	1432°23'40"		
Length:	8.66		
Tangent:	7.54		
Chord:	7.07		
Middle Ordinate:	2.13		
External:	4.54		
Tangent Direction:	N 48°43'03" E		
Radial Direction:	S 41°16'57" E		
Chord Direction:	N 13°20'07" W		
Radial Direction:	N 14°36'43" E		
Tangent Direction:	N 75°23'17" W		

Element: Linear

PT ()	0+189.16	6063682.41	3662059.14
PI ()	0+193.63	6063686.73	3662060.26
Tangential Direction:	N 14°32'24" E		
Tangential Length:	4.47		

Element: Linear

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- Tyczenie geodezyjne -

PI ()	0+193.63	6063686.73	3662060.26
PC ()	0+198.02	6063685.63	3662064.51
Tangential Direction:	S 75°27'41" E		
Tangential Length:	4.40		
Element: Circular			
PC ()	0+198.02	6063685.63	3662064.51
PI ()	0+202.66	6063684.47	3662069.00
CC ()		6063691.44	3662066.02
PCC ()	0+205.92	6063688.51	3662071.26
Radius:	6.00		
Delta:	75°21'19" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	7.89		
Tangent:	4.63		
Chord:	7.33		
Middle Ordinate:	1.25		
External:	1.58		
Tangent Direction:	S 75°27'33" E		
Radial Direction:	S 14°32'27" W		
Chord Direction:	N 66°51'48" E		
Radial Direction:	S 60°48'51" E		
Tangent Direction:	N 29°11'09" E		
Element: Circular			
PCC ()	0+205.92	6063688.51	3662071.26
PI ()	0+211.67	6063693.54	3662074.07
CC ()		6063712.50	3662028.30
PT ()	0+217.38	6063699.08	3662075.64
Radius:	49.20		
Delta:	13°21'00" Left		
Degree of Curvature (Arc):	116°27'17"		
Length:	11.46		
Tangent:	5.76		
Chord:	11.44		
Middle Ordinate:	0.33		
External:	0.34		
Tangent Direction:	N 29°11'09" E		
Radial Direction:	S 60°48'51" E		
Chord Direction:	N 22°30'39" E		
Radial Direction:	S 74°09'51" E		
Tangent Direction:	N 15°50'09" E		
Element: Linear			
PT ()	0+217.38	6063699.08	3662075.64
PI ()	0+234.24	6063715.29	3662080.24
Tangential Direction:	N 15°50'09" E		
Tangential Length:	16.86		
Element: Linear			
PI ()	0+234.24	6063715.29	3662080.24
PI ()	0+266.51	6063746.75	3662087.44
Tangential Direction:	N 12°53'41" E		
Tangential Length:	32.27		
Element: Linear			
PI ()	0+266.51	6063746.75	3662087.44
PC ()	0+276.28	6063756.37	3662089.19
Tangential Direction:	N 10°18'23" E		
Tangential Length:	9.77		
Element: Circular			
PC ()	0+276.28	6063756.37	3662089.19
PI ()	0+278.65	6063758.70	3662089.61
CC ()		6063728.53	3662242.28
PRC ()	0+281.02	6063761.02	3662090.11
Radius:	155.60		
Delta:	1°44'42" Right		
Degree of Curvature (Arc):	36°49'21"		
Length:	4.74		
Tangent:	2.37		

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- Tyczenie geodezyjne -

Chord:	4.74		
Middle Ordinate:	0.02		
External:	0.02		
Tangent Direction:	N 10°18'23" E		
Radial Direction:	S 79°41'37" E		
Chord Direction:	N 11°10'45" E		
Radial Direction:	S 77°56'54" E		
Tangent Direction:	N 12°03'06" E		
Element: Circular			
PRC ()	0+281.02	6063761.02	3662090.11
PI ()	0+286.12	6063766.00	3662091.17
CC ()		6063762.27	3662084.24
PT ()	0+289.47	6063767.86	3662086.42
Radius:	6.00		
Delta:	80°42'03" Left		
Degree of Curvature(Arc):	954°55'47"		
Length:	8.45		
Tangent:	5.10		
Chord:	7.77		
Middle Ordinate:	1.43		
External:	1.87		
Tangent Direction:	N 12°03'06" E		
Radial Direction:	S 77°56'54" E		
Chord Direction:	N 28°17'56" W		
Radial Direction:	N 21°21'03" E		
Tangent Direction:	N 68°38'57" W		
Element: Linear			
PT ()	0+289.47	6063767.86	3662086.42
PI ()	0+290.46	6063768.22	3662085.50
Tangential Direction:	N 68°38'57" W		
Tangential Length:	0.99		
Element: Linear			
PI ()	0+290.46	6063768.22	3662085.50
PC ()	0+294.89	6063772.43	3662086.87
Tangential Direction:	N 18°02'13" E		
Tangential Length:	4.43		
Element: Circular			
PC ()	0+294.89	6063772.43	3662086.87
PI ()	0+300.68	6063770.86	3662092.43
CC ()		6063778.20	3662088.50
PRC ()	0+304.10	6063776.36	3662094.21
Radius:	6.00		
Delta:	87°52'56" Left		
Degree of Curvature(Arc):	954°55'47"		
Length:	9.20		
Tangent:	5.78		
Chord:	8.33		
Middle Ordinate:	1.68		
External:	2.33		
Tangent Direction:	S 74°12'53" E		
Radial Direction:	S 15°47'07" W		
Chord Direction:	N 61°50'39" E		
Radial Direction:	S 72°05'49" E		
Tangent Direction:	N 17°54'11" E		
Element: Circular			
PRC ()	0+304.10	6063776.36	3662094.21
PI ()	0+333.77	6063804.60	3662103.33
CC ()		6063728.53	3662242.28
PT ()	0+362.75	6063827.50	3662122.21
Radius:	155.60		
Delta:	21°35'49" Right		
Degree of Curvature(Arc):	36°49'21"		
Length:	58.65		
Tangent:	29.68		
Chord:	58.30		
Middle Ordinate:	2.76		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

External:	2.81		
Tangent Direction:	N 17°54'11" E		
Radial Direction:	S 72°05'49" E		
Chord Direction:	N 28°42'06" E		
Radial Direction:	S 50°30'00" E		
Tangent Direction:	N 39°30'00" E		
Element: Linear			
PT ()	0+362.75	6063827.50	3662122.21
PC ()	0+376.81	6063838.35	3662131.16
Tangential Direction:	N 39°30'00" E		
Tangential Length:	14.06		
Element: Circular			
PC ()	0+376.81	6063838.35	3662131.16
PI ()	0+381.86	6063842.25	3662134.37
CC ()		6063842.17	3662126.53
PT ()	0+385.20	6063846.08	3662131.08
Radius:	6.00		
Delta:	80°09'09" Left		
Degree of Curvature(Arc):	954°55'47"		
Length:	8.39		
Tangent:	5.05		
Chord:	7.73		
Middle Ordinate:	1.41		
External:	1.84		
Tangent Direction:	N 39°30'00" E		
Radial Direction:	S 50°30'00" E		
Chord Direction:	N 0°34'34" W		
Radial Direction:	N 49°20'51" E		
Tangent Direction:	N 40°39'09" W		
Element: Linear			
PT ()	0+385.20	6063846.08	3662131.08
PI ()	0+388.63	6063848.68	3662128.85
Tangential Direction:	N 40°39'09" W		
Tangential Length:	3.43		
Element: Linear			
PI ()	0+388.63	6063848.68	3662128.85
PI ()	0+404.38	6063860.54	3662118.48
Tangential Direction:	N 41°09'14" W		
Tangential Length:	15.75		
Element: Linear			
PI ()	0+404.38	6063860.54	3662118.48
PI ()	0+408.81	6063863.48	3662121.79
Tangential Direction:	N 48°22'04" E		
Tangential Length:	4.43		
Element: Linear			
PI ()	0+408.81	6063863.48	3662121.79
PI ()	0+424.44	6063851.71	3662132.08
Tangential Direction:	S 41°10'27" E		
Tangential Length:	15.63		
Element: Linear			
PI ()	0+424.44	6063851.71	3662132.08
PC ()	0+424.76	6063851.47	3662132.29
Tangential Direction:	S 41°00'05" E		
Tangential Length:	0.32		
Element: Circular			
PC ()	0+424.76	6063851.47	3662132.29
PI ()	0+432.32	6063845.77	3662137.25
CC ()		6063855.41	3662136.82
PCC ()	0+435.56	6063851.89	3662141.68
Radius:	6.00		
Delta:	103°06'03" Left		
Degree of Curvature(Arc):	954°55'47"		
Length:	10.80		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Tangent:	7.56		
Chord:	9.40		
Middle Ordinate:	2.27		
External:	3.65		
Tangent Direction:	S 41°00'05" E		
Radial Direction:	S 48°59'55" W		
Chord Direction:	N 87°26'54" E		
Radial Direction:	S 54°06'08" E		
Tangent Direction:	N 35°53'52" E		
Element: Circular			
PCC ()	0+435.56	6063851.89	3662141.68
PI ()	0+467.73	6063877.95	3662160.54
CC ()		6063997.31	3661940.77
PT ()	0+499.55	6063907.96	3662172.14
Radius:	248.02		
Delta:	14°46'58" Left		
Degree of Curvature (Arc):	23°06'04"		
Length:	63.99		
Tangent:	32.17		
Chord:	63.81		
Middle Ordinate:	2.06		
External:	2.08		
Tangent Direction:	N 35°53'52" E		
Radial Direction:	S 54°06'08" E		
Chord Direction:	N 28°30'24" E		
Radial Direction:	S 68°53'05" E		
Tangent Direction:	N 21°06'55" E		
Element: Linear			
PT ()	0+499.55	6063907.96	3662172.14
PC ()	0+542.92	6063948.42	3662187.76
Tangential Direction:	N 21°06'55" E		
Tangential Length:	43.37		
Element: Circular			
PC ()	0+542.92	6063948.42	3662187.76
PI ()	0+558.66	6063963.10	3662193.43
CC ()		6063910.59	3662285.71
PT ()	0+574.17	6063975.48	3662203.16
Radius:	105.00		
Delta:	17°03'19" Right		
Degree of Curvature (Arc):	54°34'03"		
Length:	31.26		
Tangent:	15.74		
Chord:	31.14		
Middle Ordinate:	1.16		
External:	1.17		
Tangent Direction:	N 21°06'55" E		
Radial Direction:	S 68°53'05" E		
Chord Direction:	N 29°38'34" E		
Radial Direction:	S 51°49'46" E		
Tangent Direction:	N 38°10'14" E		
Element: Linear			
PT ()	0+574.17	6063975.48	3662203.16
PC ()	0+585.12	6063984.09	3662209.93
Tangential Direction:	N 38°10'14" E		
Tangential Length:	10.95		
Element: Circular			
PC ()	0+585.12	6063984.09	3662209.93
PI ()	0+592.78	6063990.11	3662214.66
CC ()		6063987.80	3662205.21
PCC ()	0+596.00	6063993.27	3662207.68
Radius:	6.00		
Delta:	103°51'38" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	10.88		
Tangent:	7.66		
Chord:	9.45		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Middle Ordinate:	2.30		
External:	3.73		
Tangent Direction:	N 38°10'14" E		
Radial Direction:	S 51°49'46" E		
Chord Direction:	N 13°45'35" W		
Radial Direction:	N 24°18'35" E		
Tangent Direction:	N 65°41'25" W		
Element: Circular			
PCC ()	0+596.00	6063993.27	3662207.68
PI ()	0+596.18	6063993.34	3662207.51
CC ()		6063987.80	3662205.21
PT ()	0+596.37	6063993.41	3662207.34
Radius:	6.00		
Delta:	3°31'40" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	0.37		
Tangent:	0.18		
Chord:	0.37		
Middle Ordinate:	0.00		
External:	0.00		
Tangent Direction:	N 65°41'25" W		
Radial Direction:	N 24°18'35" E		
Chord Direction:	N 67°27'15" W		
Radial Direction:	N 20°46'55" E		
Tangent Direction:	N 69°13'05" W		
Element: Linear			
PT ()	0+596.37	6063993.41	3662207.34
PI ()	0+599.95	6063996.94	3662207.95
Tangential Direction:	N 9°54'58" E		
Tangential Length:	3.58		
Element: Linear			
PI ()	0+599.95	6063996.94	3662207.95
PI ()	0+600.95	6063996.70	3662208.93
Tangential Direction:	S 76°33'55" E		
Tangential Length:	1.00		
Element: Linear			
PI ()	0+600.95	6063996.70	3662208.93
PC ()	0+606.55	6063995.40	3662214.38
Tangential Direction:	S 76°33'55" E		
Tangential Length:	5.61		
Element: Circular			
PC ()	0+606.55	6063995.40	3662214.38
PI ()	0+610.40	6063994.51	3662218.12
CC ()		6064001.24	3662215.77
PT ()	0+613.39	6063997.53	3662220.49
Radius:	6.00		
Delta:	65°15'51" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	6.83		
Tangent:	3.84		
Chord:	6.47		
Middle Ordinate:	0.95		
External:	1.12		
Tangent Direction:	S 76°33'55" E		
Radial Direction:	S 13°26'05" W		
Chord Direction:	N 70°48'09" E		
Radial Direction:	S 51°49'46" E		
Tangent Direction:	N 38°10'14" E		
Element: Linear			
PT ()	0+613.39	6063997.53	3662220.49
PC ()	0+615.85	6063999.47	3662222.01
Tangential Direction:	N 38°10'14" E		
Tangential Length:	2.47		
Element: Circular			

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- Tyczenie geodezyjne -

PC ()	0+615.85	6063999.47	3662222.01
PI ()	0+621.78	6064004.13	3662225.68
CC ()		6064119.86	3662068.87
PCC ()	0+627.70	6064009.00	3662229.05
Radius:	194.80		
Delta:	3°29'06" Left		
Degree of Curvature(Arc):	29°24'45"		
Length:	11.85		
Tangent:	5.93		
Chord:	11.85		
Middle Ordinate:	0.09		
External:	0.09		
Tangent Direction:	N 38°10'14" E		
Radial Direction:	S 51°49'46" E		
Chord Direction:	N 36°25'41" E		
Radial Direction:	S 55°18'53" E		
Tangent Direction:	N 34°41'07" E		
Element: Circular			
PCC ()	0+627.70	6064009.00	3662229.05
PI ()	0+631.81	6064012.38	3662231.39
CC ()		6064012.42	3662224.12
PT ()	0+634.91	6064015.78	3662229.08
Radius:	6.00		
Delta:	68°49'52" Left		
Degree of Curvature(Arc):	954°55'47"		
Length:	7.21		
Tangent:	4.11		
Chord:	6.78		
Middle Ordinate:	1.05		
External:	1.27		
Tangent Direction:	N 34°41'07" E		
Radial Direction:	S 55°18'53" E		
Chord Direction:	N 0°16'12" E		
Radial Direction:	N 55°51'16" E		
Tangent Direction:	N 34°08'44" W		
Element: Linear			
PT ()	0+634.91	6064015.78	3662229.08
PC ()	0+638.84	6064019.15	3662231.11
Tangential Direction:	N 31°03'53" E		
Tangential Length:	3.93		
Element: Circular			
PC ()	0+638.84	6064019.15	3662231.11
PI ()	0+642.97	6064018.40	3662235.16
CC ()		6064025.05	3662232.20
PT ()	0+646.07	6064021.92	3662237.32
Radius:	6.00		
Delta:	68°58'51" Left		
Degree of Curvature(Arc):	954°55'47"		
Length:	7.22		
Tangent:	4.12		
Chord:	6.80		
Middle Ordinate:	1.05		
External:	1.28		
Tangent Direction:	S 79°33'03" E		
Radial Direction:	S 10°26'57" W		
Chord Direction:	N 65°57'32" E		
Radial Direction:	S 58°31'54" E		
Tangent Direction:	N 31°28'06" E		
Element: Linear			
PT ()	0+646.07	6064021.92	3662237.32
PI ()	0+659.03	6064032.98	3662244.08
Tangential Direction:	N 31°28'06" E		
Tangential Length:	12.96		
Element: Linear			
PI ()	0+659.03	6064032.98	3662244.08
PI ()	0+709.06	6064075.96	3662269.67

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- Tyczenie geodezyjne -

Tangential Direction:	N 30°45'39" E		
Tangential Length:	50.03		
Element: Linear			
PI ()	0+709.06	6064075.96	3662269.67
PC ()	0+727.13	6064091.91	3662278.17
Tangential Direction:	N 28°02'59" E		
Tangential Length:	18.07		
Element: Circular			
PC ()	0+727.13	6064091.91	3662278.17
PI ()	0+736.18	6064099.90	3662282.42
CC ()		6064115.05	3662234.75
PT ()	0+745.02	6064108.87	3662283.56
Radius:	49.20		
Delta:	20°50'17" Left		
Degree of Curvature(Arc):	116°27'17"		
Length:	17.89		
Tangent:	9.05		
Chord:	17.80		
Middle Ordinate:	0.81		
External:	0.82		
Tangent Direction:	N 28°02'59" E		
Radial Direction:	S 61°57'01" E		
Chord Direction:	N 17°37'50" E		
Radial Direction:	S 82°47'18" E		
Tangent Direction:	N 7°12'42" E		
Element: Linear			
PT ()	0+745.02	6064108.87	3662283.56
PI ()	0+765.37	6064129.06	3662286.11
Tangential Direction:	N 7°12'42" E		
Tangential Length:	20.35		
Element: Linear			
PI ()	0+765.37	6064129.06	3662286.11
PC ()	0+774.37	6064138.03	3662286.87
Tangential Direction:	N 4°50'26" E		
Tangential Length:	9.00		
Element: Circular			
PC ()	0+774.37	6064138.03	3662286.87
PI ()	0+775.10	6064138.75	3662286.93
CC ()		6064095.42	3662790.07
PRC ()	0+775.83	6064139.48	3662287.00
Radius:	505.00		
Delta:	0°09'57" Right		
Degree of Curvature(Arc):	11°20'45"		
Length:	1.46		
Tangent:	0.73		
Chord:	1.46		
Middle Ordinate:	0.00		
External:	0.00		
Tangent Direction:	N 4°50'23" E		
Radial Direction:	S 85°09'37" E		
Chord Direction:	N 4°55'22" E		
Radial Direction:	S 84°59'40" E		
Tangent Direction:	N 5°00'20" E		
Element: Circular			
PRC ()	0+775.83	6064139.48	3662287.00
PI ()	0+777.85	6064141.49	3662287.17
CC ()		6064140.00	3662281.02
PT ()	0+779.73	6064143.20	3662286.10
Radius:	6.00		
Delta:	37°12'35" Left		
Degree of Curvature(Arc):	954°55'47"		
Length:	3.90		
Tangent:	2.02		
Chord:	3.83		
Middle Ordinate:	0.31		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

	External:	0.33		
	Tangent Direction:	N 5°00'20" E		
	Radial Direction:	S 84°59'40" E		
	Chord Direction:	N 13°35'57" W		
	Radial Direction:	N 57°47'45" E		
	Tangent Direction:	N 32°12'15" W		
Element:	Linear			
	PT ()	0+779.73	6064143.20	3662286.10
	PC ()	0+788.10	6064151.51	3662287.15
	Tangential Direction:	N 7°14'27" E		
	Tangential Length:	8.37		
Element:	Circular			
	PC ()	0+788.10	6064151.51	3662287.15
	PI ()	0+789.93	6064152.90	3662288.35
	CC ()		6064155.42	3662282.61
	PRC ()	0+791.66	6064154.72	3662288.56
	Radius:	6.00		
	Delta:	34°00'11" Left		
	Degree of Curvature (Arc):	954°55'47"		
	Length:	3.56		
	Tangent:	1.83		
	Chord:	3.51		
	Middle Ordinate:	0.26		
	External:	0.27		
	Tangent Direction:	N 40°44'49" E		
	Radial Direction:	S 49°15'11" E		
	Chord Direction:	N 23°44'43" E		
	Radial Direction:	S 83°15'23" E		
	Tangent Direction:	N 6°44'37" E		
Element:	Circular			
	PRC ()	0+791.66	6064154.72	3662288.56
	PI ()	0+798.51	6064161.52	3662289.37
	CC ()		6064095.42	3662790.07
	PT ()	0+805.36	6064168.30	3662290.36
	Radius:	505.00		
	Delta:	1°33'15" Right		
	Degree of Curvature (Arc):	11°20'45"		
	Length:	13.70		
	Tangent:	6.85		
	Chord:	13.70		
	Middle Ordinate:	0.05		
	External:	0.05		
	Tangent Direction:	N 6°44'37" E		
	Radial Direction:	S 83°15'23" E		
	Chord Direction:	N 7°31'15" E		
	Radial Direction:	S 81°42'08" E		
	Tangent Direction:	N 8°17'52" E		
Element:	Linear			
	PT ()	0+805.36	6064168.30	3662290.36
	PC ()	0+874.53	6064236.75	3662300.34
	Tangential Direction:	N 8°17'52" E		
	Tangential Length:	69.17		
Element:	Circular			
	PC ()	0+874.53	6064236.75	3662300.34
	PI ()	0+876.19	6064238.39	3662300.58
	CC ()		6064237.61	3662294.40
	PT ()	0+877.78	6064239.93	3662299.94
	Radius:	6.00		
	Delta:	31°00'13" Left		
	Degree of Curvature (Arc):	954°55'47"		
	Length:	3.25		
	Tangent:	1.66		
	Chord:	3.21		
	Middle Ordinate:	0.22		
	External:	0.23		
	Tangent Direction:	N 8°17'52" E		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Radial Direction:	S 81°42'08" E		
Chord Direction:	N 7°12'15" W		
Radial Direction:	N 67°17'39" E		
Tangent Direction:	N 22°42'21" W		
Element: Linear			
PT ()	0+877.78	6064239.93	3662299.94
PC ()	0+888.93	6064250.94	3662301.71
Tangential Direction:	N 9°08'22" E		
Tangential Length:	11.15		
Element: Circular			
PC ()	0+888.93	6064250.94	3662301.71
PI ()	0+890.42	6064252.14	3662302.59
CC ()		6064254.48	3662296.86
PT ()	0+891.84	6064253.61	3662302.80
Radius:	6.00		
Delta:	27°49'00" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	2.91		
Tangent:	1.49		
Chord:	2.88		
Middle Ordinate:	0.18		
External:	0.18		
Tangent Direction:	N 36°06'52" E		
Radial Direction:	S 53°53'08" E		
Chord Direction:	N 22°12'22" E		
Radial Direction:	S 81°42'08" E		
Tangent Direction:	N 8°17'52" E		
Element: Linear			
PT ()	0+891.84	6064253.61	3662302.80
PC ()	0+948.54	6064309.72	3662310.98
Tangential Direction:	N 8°17'52" E		
Tangential Length:	56.70		
Element: Circular			
PC ()	0+948.54	6064309.72	3662310.98
PI ()	0+955.35	6064316.45	3662311.96
CC ()		6064316.93	3662261.51
PT ()	0+962.07	6064323.20	3662311.11
Radius:	50.00		
Delta:	15°29'45" Left		
Degree of Curvature (Arc):	114°35'30"		
Length:	13.52		
Tangent:	6.80		
Chord:	13.48		
Middle Ordinate:	0.46		
External:	0.46		
Tangent Direction:	N 8°17'52" E		
Radial Direction:	S 81°42'08" E		
Chord Direction:	N 0°33'00" E		
Radial Direction:	N 82°48'08" E		
Tangent Direction:	N 7°11'52" W		
Element: Linear			
PT ()	0+962.07	6064323.20	3662311.11
PC ()	0+966.78	6064327.87	3662310.52
Tangential Direction:	N 7°11'46" W		
Tangential Length:	4.71		
Element: Circular			
PC ()	0+966.78	6064327.87	3662310.52
PI ()	0+969.58	6064330.65	3662310.17
CC ()		6064327.12	3662304.57
PT ()	0+972.02	6064332.17	3662307.81
Radius:	6.00		
Delta:	50°03'12" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	5.24		
Tangent:	2.80		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Chord:	5.08		
Middle Ordinate:	0.56		
External:	0.62		
Tangent Direction:	N 7°11'46" W		
Radial Direction:	N 82°48'14" E		
Chord Direction:	N 32°13'22" W		
Radial Direction:	N 32°45'02" E		
Tangent Direction:	N 57°14'58" W		
Element: Linear			
PT ()	0+972.02	6064332.17	3662307.81
PI ()	0+974.90	6064330.19	3662305.73
Tangential Direction:	S 46°33'22" W		
Tangential Length:	2.88		
Element: Linear			
PI ()	0+974.90	6064330.19	3662305.73
PI ()	0+980.91	6064334.83	3662301.90
Tangential Direction:	N 39°27'10" W		
Tangential Length:	6.02		
Element: Linear			
PI ()	0+980.91	6064334.83	3662301.90
PI ()	0+984.45	6064338.05	3662303.36
Tangential Direction:	N 24°20'37" E		
Tangential Length:	3.53		
Element: Linear			
PI ()	0+984.45	6064338.05	3662303.36
PC ()	0+987.45	6064339.19	3662306.14
Tangential Direction:	N 67°50'03" E		
Tangential Length:	3.01		
Element: Circular			
PC ()	0+987.45	6064339.19	3662306.14
PI ()	0+991.08	6064340.55	3662309.50
CC ()		6064344.75	3662303.89
PRC ()	0+993.97	6064344.15	3662309.86
Radius:	6.00		
Delta:	62°14'40" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	6.52		
Tangent:	3.62		
Chord:	6.20		
Middle Ordinate:	0.86		
External:	1.01		
Tangent Direction:	N 67°55'48" E		
Radial Direction:	S 22°04'12" E		
Chord Direction:	N 36°48'28" E		
Radial Direction:	S 84°18'52" E		
Tangent Direction:	N 5°41'08" E		
Element: Circular			
PRC ()	0+993.97	6064344.15	3662309.86
PI ()	0+994.49	6064344.67	3662309.91
CC ()		6064338.71	3662364.59
PRC ()	0+995.00	6064345.18	3662309.97
Radius:	55.00		
Delta:	1°04'33" Right		
Degree of Curvature (Arc):	104°10'27"		
Length:	1.03		
Tangent:	0.52		
Chord:	1.03		
Middle Ordinate:	0.00		
External:	0.00		
Tangent Direction:	N 5°41'08" E		
Radial Direction:	S 84°18'52" E		
Chord Direction:	N 6°13'24" E		
Radial Direction:	S 83°14'19" E		
Tangent Direction:	N 6°45'41" E		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Element: Circular

PRC ()	0+995.00	6064345.18	3662309.97
PI ()	0+998.43	6064348.58	3662310.38
CC ()		6064345.89	3662304.01
PT ()	1+001.22	6064350.66	3662307.66
Radius:	6.00		
Delta:	59°23'35" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	6.22		
Tangent:	3.42		
Chord:	5.94		
Middle Ordinate:	0.79		
External:	0.91		
Tangent Direction:	N 6°45'41" E		
Radial Direction:	S 83°14'19" E		
Chord Direction:	N 22°56'07" W		
Radial Direction:	N 37°22'06" E		
Tangent Direction:	N 52°37'54" W		

Element: Linear

PT ()	1+001.22	6064350.66	3662307.66
PC ()	1+005.60	6064354.97	3662308.40
Tangential Direction:	N 9°50'27" E		
Tangential Length:	4.38		

Element: Circular

PC ()	1+005.60	6064354.97	3662308.40
PI ()	1+009.29	6064355.35	3662312.07
CC ()		6064360.94	3662307.78
PT ()	1+012.21	6064358.79	3662313.39
Radius:	6.00		
Delta:	63°08'44" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	6.61		
Tangent:	3.69		
Chord:	6.28		
Middle Ordinate:	0.89		
External:	1.04		
Tangent Direction:	N 84°03'25" E		
Radial Direction:	S 5°56'35" E		
Chord Direction:	N 52°29'03" E		
Radial Direction:	S 69°05'20" E		
Tangent Direction:	N 20°54'40" E		

Element: Linear

PT ()	1+012.21	6064358.79	3662313.39
PI ()	1+067.47	6064410.41	3662333.11
Tangential Direction:	N 20°54'40" E		
Tangential Length:	55.25		

Element: Linear

PI ()	1+067.47	6064410.41	3662333.11
POE ()	1+069.34	6064412.20	3662333.68
Tangential Direction:	N 17°42'39" E		
Tangential Length:	1.88		

4. Krawężł lewa ulicy Kryształowej

	STATION	NORTHING	EASTING
Element: Circular			
PC ()	0+000.00	6063686.34	3662077.59
PI ()	0+011.16	6063676.48	3662072.36
CC ()		6063682.59	3662084.66
PT ()	0+015.18	6063674.69	3662083.37
Radius:	8.00		
Delta:	108°43'38" Left		
Degree of Curvature (Arc):	716°11'50"		
Length:	15.18		
Tangent:	11.16		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Chord:	13.00		
Middle Ordinate:	3.34		
External:	5.73		
Tangent Direction:	S 27°57'38" W		
Radial Direction:	N 62°02'22" W		
Chord Direction:	S 26°24'10" E		
Radial Direction:	S 9°14'01" W		
Tangent Direction:	S 80°45'59" E		
Element: Linear			
PT ()	0+015.18	6063674.69	3662083.37
PC ()	0+076.85	6063664.80	3662144.25
Tangential Direction:	S 80°45'59" E		
Tangential Length:	61.67		
Element: Circular			
PC ()	0+076.85	6063664.80	3662144.25
PI ()	0+085.03	6063663.49	3662152.31
CC ()		6063815.32	3662168.72
PT ()	0+093.18	6063663.04	3662160.47
Radius:	152.50		
Delta:	6°08'01" Left		
Degree of Curvature (Arc):	37°34'16"		
Length:	16.33		
Tangent:	8.17		
Chord:	16.32		
Middle Ordinate:	0.22		
External:	0.22		
Tangent Direction:	S 80°45'59" E		
Radial Direction:	S 9°14'01" W		
Chord Direction:	S 83°50'00" E		
Radial Direction:	S 3°05'59" W		
Tangent Direction:	S 86°54'01" E		
Element: Linear			
PT ()	0+093.18	6063663.04	3662160.47
PI ()	0+105.65	6063662.37	3662172.92
Tangential Direction:	S 86°54'01" E		
Tangential Length:	12.47		
Element: Linear			
PI ()	0+105.65	6063662.37	3662172.92
PC ()	0+120.65	6063662.06	3662187.92
Tangential Direction:	S 88°48'38" E		
Tangential Length:	15.00		
Element: Circular			
PC ()	0+120.65	6063662.06	3662187.92
PI ()	0+160.03	6063659.93	3662227.24
CC ()		6063798.86	3662195.33
PT ()	0+197.34	6063679.01	3662261.70
Radius:	137.00		
Delta:	32°04'28" Left		
Degree of Curvature (Arc):	41°49'18"		
Length:	76.69		
Tangent:	39.38		
Chord:	75.70		
Middle Ordinate:	5.33		
External:	5.55		
Tangent Direction:	S 86°54'01" E		
Radial Direction:	S 3°05'59" W		
Chord Direction:	N 77°03'45" E		
Radial Direction:	S 28°58'29" E		
Tangent Direction:	N 61°01'31" E		
Element: Linear			
PT ()	0+197.34	6063679.01	3662261.70
PC ()	0+198.95	6063679.74	3662263.13
Tangential Direction:	N 62°56'08" E		
Tangential Length:	1.61		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
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Element: Circular				
PC ()	0+198.95	6063679.74	3662263.13
PI ()	0+201.43	6063680.86	3662265.33
CC (	)		6063685.08	3662260.40
PCC (	)	0+203.65	6063683.22	3662266.10
	Radius:	6.00		
	Delta:	44°52'22" Left		
Degree of Curvature (Arc):		954°55'47"		
	Length:	4.70		
	Tangent:	2.48		
	Chord:	4.58		
	Middle Ordinate:	0.45		
	External:	0.49		
Tangent Direction:		N 62°56'08" E		
Radial Direction:		S 27°03'52" E		
Chord Direction:		N 40°29'57" E		
Radial Direction:		S 71°56'14" E		
Tangent Direction:		N 18°03'46" E		
Element: Circular				
PCC (	)	0+203.65	6063683.22	3662266.10
PI (	)	0+207.32	6063686.71	3662267.24
CC (	)		6063685.08	3662260.40
PT (	)	0+210.24	6063689.31	3662264.65
	Radius:	6.00		
	Delta:	62°57'41" Left		
Degree of Curvature (Arc):		954°55'47"		
	Length:	6.59		
	Tangent:	3.67		
	Chord:	6.27		
	Middle Ordinate:	0.88		
	External:	1.04		
Tangent Direction:		N 18°03'46" E		
Radial Direction:		S 71°56'14" E		
Chord Direction:		N 13°25'04" W		
Radial Direction:		N 45°06'05" E		
Tangent Direction:		N 44°53'55" W		
Element: Linear				
PT (	)	0+210.24	6063689.31	3662264.65
PI (	)	0+212.92	6063691.21	3662262.76
Tangential Direction:		N 44°53'55" W		
Tangential Length:		2.68		
Element: Linear				
PI (	)	0+212.92	6063691.21	3662262.76
PI (	)	0+216.46	6063693.71	3662265.26
Tangential Direction:		N 45°06'05" E		
Tangential Length:		3.54		
Element: Linear				
PI (	)	0+216.46	6063693.71	3662265.26
PC (	)	0+224.03	6063688.35	3662270.61
Tangential Direction:		S 44°53'55" E		
Tangential Length:		7.57		
Element: Circular				
PC (	)	0+224.03	6063688.35	3662270.61
PI (	)	0+225.53	6063687.28	3662271.67
CC (	)		6063692.58	3662274.86
PCC (	)	0+226.97	6063686.84	3662273.10
	Radius:	6.00		
	Delta:	28°05'59" Left		
Degree of Curvature (Arc):		954°55'47"		
	Length:	2.94		
	Tangent:	1.50		
	Chord:	2.91		
	Middle Ordinate:	0.18		
	External:	0.19		
Tangent Direction:		S 44°53'55" E		
Radial Direction:		S 45°06'05" W		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Chord Direction:	S 58°56'54" E		
Radial Direction:	S 17°00'06" W		
Tangent Direction:	S 72°59'54" E		
Element: Circular			
PCC ()	0+226.97	6063686.84	3662273.10
PI ()	0+229.52	6063686.10	3662275.54
CC ()		6063692.58	3662274.86
PT ()	0+231.79	6063687.33	3662277.76
Radius:	6.00		
Delta:	45°58'35" Left		
Degree of Curvature(Arc):	954°55'47"		
Length:	4.81		
Tangent:	2.55		
Chord:	4.69		
Middle Ordinate:	0.48		
External:	0.52		
Tangent Direction:	S 72°59'54" E		
Radial Direction:	S 17°00'06" W		
Chord Direction:	N 84°00'49" E		
Radial Direction:	S 28°58'29" E		
Tangent Direction:	N 61°01'31" E		
Element: Linear			
PT ()	0+231.79	6063687.33	3662277.76
PC ()	0+254.50	6063698.34	3662297.64
Tangential Direction:	N 61°01'31" E		
Tangential Length:	22.72		
Element: Circular			
PC ()	0+254.50	6063698.34	3662297.64
PI ()	0+279.94	6063710.66	3662319.90
CC ()		6063626.16	3662337.60
PT ()	0+303.86	6063708.31	3662345.23
Radius:	82.50		
Delta:	34°16'51" Right		
Degree of Curvature(Arc):	69°26'58"		
Length:	49.36		
Tangent:	25.44		
Chord:	48.63		
Middle Ordinate:	3.66		
External:	3.83		
Tangent Direction:	N 61°01'31" E		
Radial Direction:	S 28°58'29" E		
Chord Direction:	N 78°09'56" E		
Radial Direction:	S 5°18'22" W		
Tangent Direction:	S 84°41'38" E		
Element: Linear			
PT ()	0+303.86	6063708.31	3662345.23
PC ()	0+320.79	6063706.74	3662362.09
Tangential Direction:	S 84°41'38" E		
Tangential Length:	16.93		
Element: Circular			
PC ()	0+320.79	6063706.74	3662362.09
PI ()	0+323.40	6063706.50	3662364.68
CC ()		6063712.72	3662362.64
PCC ()	0+325.71	6063708.23	3662366.63
Radius:	6.00		
Delta:	46°58'00" Left		
Degree of Curvature(Arc):	954°55'47"		
Length:	4.92		
Tangent:	2.61		
Chord:	4.78		
Middle Ordinate:	0.50		
External:	0.54		
Tangent Direction:	S 84°41'38" E		
Radial Direction:	S 5°18'22" W		
Chord Direction:	N 71°49'22" E		
Radial Direction:	S 41°39'38" E		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Tangent Direction:	N 48°20'22" E		
Element: Circular			
PCC ()	0+325.71	6063708.23	3662366.63
PI ()	0+327.04	6063709.12	3662367.62
CC ()		6063712.72	3662362.64
PT ()	0+328.32	6063710.33	3662368.15
Radius:	6.00		
Delta:	24°55'01" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	2.61		
Tangent:	1.33		
Chord:	2.59		
Middle Ordinate:	0.14		
External:	0.14		
Tangent Direction:	N 48°20'22" E		
Radial Direction:	S 41°39'38" E		
Chord Direction:	N 35°52'51" E		
Radial Direction:	S 66°34'39" E		
Tangent Direction:	N 23°25'21" E		
Element: Linear			
PT ()	0+328.32	6063710.33	3662368.15
PC ()	0+332.44	6063710.00	3662372.26
Tangential Direction:	S 85°27'17" E		
Tangential Length:	4.12		
Element: Circular			
PC ()	0+332.44	6063710.00	3662372.26
PI ()	0+333.74	6063708.74	3662372.53
CC ()		6063711.28	3662378.12
PCC ()	0+334.99	6063707.70	3662373.30
Radius:	6.00		
Delta:	24°18'56" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	2.55		
Tangent:	1.29		
Chord:	2.53		
Middle Ordinate:	0.13		
External:	0.14		
Tangent Direction:	S 12°15'39" E		
Radial Direction:	S 77°44'21" W		
Chord Direction:	S 24°25'08" E		
Radial Direction:	S 53°25'24" W		
Tangent Direction:	S 36°34'36" E		
Element: Circular			
PCC ()	0+334.99	6063707.70	3662373.30
PI ()	0+337.67	6063705.55	3662374.90
CC ()		6063711.28	3662378.12
PT ()	0+340.03	6063705.30	3662377.57
Radius:	6.00		
Delta:	48°07'03" Left		
Degree of Curvature (Arc):	954°55'47"		
Length:	5.04		
Tangent:	2.68		
Chord:	4.89		
Middle Ordinate:	0.52		
External:	0.57		
Tangent Direction:	S 36°34'36" E		
Radial Direction:	S 53°25'24" W		
Chord Direction:	S 60°38'07" E		
Radial Direction:	S 5°18'22" W		
Tangent Direction:	S 84°41'38" E		
Element: Linear			
PT ()	0+340.03	6063705.30	3662377.57
PC ()	0+422.79	6063697.65	3662459.97
Tangential Direction:	S 84°41'38" E		
Tangential Length:	82.76		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Element: Circular				
PC (	)	0+422.79	6063697.65	3662459.97
PI (	)	0+425.38	6063697.41	3662462.56
CC (	)		6063703.63	3662460.52
PT (	)	0+427.69	6063699.13	3662464.50
	Radius:	6.00		
	Delta:	46°48'05"	Left	
Degree of Curvature (Arc):		954°55'47"		
	Length:	4.90		
	Tangent:	2.60		
	Chord:	4.77		
	Middle Ordinate:	0.49		
	External:	0.54		
Tangent Direction:		S 84°41'38"	E	
Radial Direction:		S 5°18'22"	W	
Chord Direction:		N 71°54'19"	E	
Radial Direction:		S 41°29'43"	E	
Tangent Direction:		N 48°30'17"	E	
Element: Linear				
PT (	)	0+427.69	6063699.13	3662464.50
PC (	)	0+433.97	6063698.53	3662470.76
Tangential Direction:		S 84°28'14"	E	
Tangential Length:		6.29		
Element: Circular				
PC (	)	0+433.97	6063698.53	3662470.76
PI (	)	0+436.37	6063696.53	3662472.08
CC (	)		6063701.28	3662474.93
PT (	)	0+438.44	6063696.31	3662474.47
	Radius:	5.00		
	Delta:	51°13'09"	Left	
Degree of Curvature (Arc):		1145°54'56"		
	Length:	4.47		
	Tangent:	2.40		
	Chord:	4.32		
	Middle Ordinate:	0.49		
	External:	0.54		
Tangent Direction:		S 33°28'29"	E	
Radial Direction:		S 56°31'31"	W	
Chord Direction:		S 59°05'04"	E	
Radial Direction:		S 5°18'22"	W	
Tangent Direction:		S 84°41'38"	E	
Element: Linear				
PT (	)	0+438.44	6063696.31	3662474.47
PC (	)	0+481.14	6063692.36	3662516.98
Tangential Direction:		S 84°41'38"	E	
Tangential Length:		42.70		
Element: Circular				
PC (	)	0+481.14	6063692.36	3662516.98
PI (	)	0+483.38	6063692.15	3662519.21
CC (	)		6063697.34	3662517.44
PCC (	)	0+485.35	6063693.68	3662520.85
	Radius:	5.00		
	Delta:	48°16'16"	Left	
Degree of Curvature (Arc):		1145°54'56"		
	Length:	4.21		
	Tangent:	2.24		
	Chord:	4.09		
	Middle Ordinate:	0.44		
	External:	0.48		
Tangent Direction:		S 84°41'38"	E	
Radial Direction:		S 5°18'22"	W	
Chord Direction:		N 71°10'14"	E	
Radial Direction:		S 42°57'54"	E	
Tangent Direction:		N 47°02'06"	E	
Element: Circular				
PCC (	)	0+485.35	6063693.68	3662520.85

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

PI ()	0+486.84	6063694.69	3662521.94
CC ()		6063697.34	3662517.44
PT ()	0+488.24	6063696.13	3662522.30
Radius:	5.00		
Delta:	33°05'21" Left		
Degree of Curvature (Arc):	1145°54'56"		
Length:	2.89		
Tangent:	1.49		
Chord:	2.85		
Middle Ordinate:	0.21		
External:	0.22		
Tangent Direction:	N 47°02'06" E		
Radial Direction:	S 42°57'54" E		
Chord Direction:	N 30°29'25" E		
Radial Direction:	S 76°03'15" E		
Tangent Direction:	N 13°56'45" E		
Element: Linear			
PT ()	0+488.24	6063696.13	3662522.30
PI ()	0+492.24	6063700.01	3662523.26
Tangential Direction:	N 13°56'45" E		
Tangential Length:	3.99		
Element: Linear			
PI ()	0+492.24	6063700.01	3662523.26
PI ()	0+495.70	6063699.17	3662526.63
Tangential Direction:	S 76°03'15" E		
Tangential Length:	3.47		
Element: Linear			
PI ()	0+495.70	6063699.17	3662526.63
PC ()	0+497.65	6063697.28	3662526.16
Tangential Direction:	S 13°56'45" W		
Tangential Length:	1.95		
Element: Circular			
PC ()	0+497.65	6063697.28	3662526.16
PI ()	0+500.02	6063694.98	3662525.58
CC ()		6063696.08	3662531.01
PCC ()	0+502.08	6063693.08	3662527.00
Radius:	5.00		
Delta:	50°44'25" Left		
Degree of Curvature (Arc):	1145°54'56"		
Length:	4.43		
Tangent:	2.37		
Chord:	4.28		
Middle Ordinate:	0.48		
External:	0.53		
Tangent Direction:	S 13°56'45" W		
Radial Direction:	N 76°03'15" W		
Chord Direction:	S 11°25'27" E		
Radial Direction:	S 53°12'20" W		
Tangent Direction:	S 36°47'40" E		
Element: Circular			
PCC ()	0+502.08	6063693.08	3662527.00
PI ()	0+504.30	6063691.30	3662528.33
CC ()		6063696.08	3662531.01
PT ()	0+506.26	6063691.10	3662530.55
Radius:	5.00		
Delta:	47°53'59" Left		
Degree of Curvature (Arc):	1145°54'56"		
Length:	4.18		
Tangent:	2.22		
Chord:	4.06		
Middle Ordinate:	0.43		
External:	0.47		
Tangent Direction:	S 36°47'40" E		
Radial Direction:	S 53°12'20" W		
Chord Direction:	S 60°44'39" E		
Radial Direction:	S 5°18'22" W		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Tangent Direction:	S 84°41'38" E		
Element: Linear			
PT ()	0+506.26	6063691.10	3662530.55
PC ()	0+539.08	6063688.06	3662563.22
Tangent Direction:	S 84°41'38" E		
Tangential Length:	32.81		
Element: Circular			
PC ()	0+539.08	6063688.06	3662563.22
PI ()	0+544.27	6063687.58	3662568.39
CC ()		6063839.91	3662577.32
PT ()	0+549.45	6063687.46	3662573.58
Radius:	152.50		
Delta:	3°53'55" Left		
Degree of Curvature(Arc):	37°34'16"		
Length:	10.38		
Tangent:	5.19		
Chord:	10.37		
Middle Ordinate:	0.09		
External:	0.09		
Tangent Direction:	S 84°41'38" E		
Radial Direction:	S 5°18'22" W		
Chord Direction:	S 86°38'36" E		
Radial Direction:	S 1°24'26" W		
Tangent Direction:	S 88°35'34" E		
Element: Linear			
PT ()	0+549.45	6063687.46	3662573.58
PC ()	0+564.45	6063686.28	3662588.53
Tangent Direction:	S 85°30'48" E		
Tangential Length:	15.00		
Element: Circular			
PC ()	0+564.45	6063686.28	3662588.53
PI ()	0+567.52	6063686.11	3662591.59
CC ()		6063529.78	3662579.66
PT ()	0+570.58	6063685.82	3662594.64
Radius:	156.75		
Delta:	2°14'27" Right		
Degree of Curvature(Arc):	36°33'08"		
Length:	6.13		
Tangent:	3.07		
Chord:	6.13		
Middle Ordinate:	0.03		
External:	0.03		
Tangent Direction:	S 86°45'15" E		
Radial Direction:	S 3°14'45" W		
Chord Direction:	S 85°38'01" E		
Radial Direction:	S 5°29'12" W		
Tangent Direction:	S 84°30'48" E		
Element: Linear			
PT ()	0+570.58	6063685.82	3662594.64
PI ()	0+595.88	6063683.40	3662619.83
Tangent Direction:	S 84°30'48" E		
Tangential Length:	25.30		
Element: Linear			
PI ()	0+595.88	6063683.40	3662619.83
POE ()	0+603.53	6063682.67	3662627.44
Tangent Direction:	S 84°30'48" E		
Tangential Length:	7.64		

5. Krawędź prawa ulicy Agatowej

	STATION	NORTHING	EASTING
Element: Linear			
POB ()	0+000.00	6063609.46	3661894.74
PC ()	0+006.08	6063609.61	3661900.82

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Tangential Direction:	N 88°36'56" E		
Tangential Length:	6.08		
Element: Circular			
PC ()	0+006.08	6063609.61	3661900.82
PI ()	0+059.08	6063613.67	3661953.66
CC ()		6063941.13	3661875.34
PT ()	0+111.19	6063633.95	3662002.62
Radius:	332.50		
Delta:	18°06'42" Left		
Degree of Curvature (Arc):	17°13'55"		
Length:	105.11		
Tangent:	53.00		
Chord:	104.67		
Middle Ordinate:	4.14		
External:	4.20		
Tangent Direction:	N 85°36'20" E		
Radial Direction:	S 4°23'40" E		
Chord Direction:	N 76°32'59" E		
Radial Direction:	S 22°30'22" E		
Tangent Direction:	N 67°29'38" E		
Element: Linear			
PT ()	0+111.19	6063633.95	3662002.62
PC ()	0+113.82	6063634.96	3662005.05
Tangential Direction:	N 67°30'09" E		
Tangential Length:	2.63		
Element: Circular			
PC ()	0+113.82	6063634.96	3662005.05
PI ()	0+117.80	6063636.49	3662008.73
CC ()		6063840.51	3661919.88
PRC ()	0+121.79	6063638.14	3662012.35
Radius:	222.50		
Delta:	2°03'07" Left		
Degree of Curvature (Arc):	25°45'03"		
Length:	7.97		
Tangent:	3.98		
Chord:	7.97		
Middle Ordinate:	0.04		
External:	0.04		
Tangent Direction:	N 67°29'38" E		
Radial Direction:	S 22°30'22" E		
Chord Direction:	N 66°28'04" E		
Radial Direction:	S 24°33'29" E		
Tangent Direction:	N 65°26'31" E		
Element: Circular			
PRC ()	0+121.79	6063638.14	3662012.35
PI ()	0+123.00	6063638.64	3662013.45
CC ()		6063635.41	3662013.60
PCC ()	0+124.09	6063638.24	3662014.59
Radius:	3.00		
Delta:	43°54'08" Right		
Degree of Curvature (Arc):	1909°51'34"		
Length:	2.30		
Tangent:	1.21		
Chord:	2.24		
Middle Ordinate:	0.22		
External:	0.23		
Tangent Direction:	N 65°26'31" E		
Radial Direction:	S 24°33'29" E		
Chord Direction:	N 87°23'35" E		
Radial Direction:	S 19°20'39" W		
Tangent Direction:	S 70°39'21" E		
Element: Circular			
PCC ()	0+124.09	6063638.24	3662014.59
PI ()	0+125.98	6063637.62	3662016.38
CC ()		6063635.41	3662013.60
PT ()	0+127.46	6063635.73	3662016.58

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Radius:	3.00		
Delta:	64°29'06"	Right	
Degree of Curvature (Arc):	1909°51'34"		
Length:	3.38		
Tangent:	1.89		
Chord:	3.20		
Middle Ordinate:	0.46		
External:	0.55		
Tangent Direction:	S 70°39'21"	E	
Radial Direction:	S 19°20'39"	W	
Chord Direction:	S 38°24'48"	E	
Radial Direction:	S 83°49'45"	W	
Tangent Direction:	S 6°10'15"	E	
Element: Linear			
PT ()	0+127.46	6063635.73	3662016.58
PI ()	0+130.70	6063632.51	3662016.93
Tangential Direction:	S 6°10'15"	E	
Tangential Length:	3.24		
Element: Linear			
PI ()	0+130.70	6063632.51	3662016.93
PI ()	0+135.70	6063633.05	3662021.90
Tangential Direction:	N 83°49'45"	E	
Tangential Length:	5.00		
Element: Linear			
PI ()	0+135.70	6063633.05	3662021.90
PC ()	0+139.53	6063636.86	3662021.49
Tangential Direction:	N 6°10'15"	W	
Tangential Length:	3.83		
Element: Circular			
PC ()	0+139.53	6063636.86	3662021.49
PI ()	0+142.46	6063639.77	3662021.17
CC ()		6063637.72	3662029.44
PCC ()	0+145.14	6063642.19	3662022.81
Radius:	8.00		
Delta:	40°11'49"	Right	
Degree of Curvature (Arc):	716°11'50"		
Length:	5.61		
Tangent:	2.93		
Chord:	5.50		
Middle Ordinate:	0.49		
External:	0.52		
Tangent Direction:	N 6°10'15"	W	
Radial Direction:	N 83°49'45"	E	
Chord Direction:	N 13°55'40"	E	
Radial Direction:	S 55°58'26"	E	
Tangent Direction:	N 34°01'34"	E	
Element: Circular			
PCC ()	0+145.14	6063642.19	3662022.81
PI ()	0+147.11	6063643.82	3662023.91
CC ()		6063637.72	3662029.44
PRC ()	0+149.00	6063644.76	3662025.64
Radius:	8.00		
Delta:	27°35'35"	Right	
Degree of Curvature (Arc):	716°11'50"		
Length:	3.85		
Tangent:	1.96		
Chord:	3.82		
Middle Ordinate:	0.23		
External:	0.24		
Tangent Direction:	N 34°01'34"	E	
Radial Direction:	S 55°58'26"	E	
Chord Direction:	N 47°49'21"	E	
Radial Direction:	S 28°22'51"	E	
Tangent Direction:	N 61°37'09"	E	
Element: Circular			

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

PRC ()	0+149.00	6063644.76	3662025.64
PI ()	0+159.57	6063649.78	3662034.95
CC ()		6063840.51	3661919.88
PT ()	0+170.14	6063655.67	3662043.73
Radius:	222.50		
Delta:	5°26'37" Left		
Degree of Curvature(Arc):	25°45'03"		
Length:	21.14		
Tangent:	10.58		
Chord:	21.13		
Middle Ordinate:	0.25		
External:	0.25		
Tangent Direction:	N 61°37'09" E		
Radial Direction:	S 28°22'51" E		
Chord Direction:	N 58°53'50" E		
Radial Direction:	S 33°49'29" E		
Tangent Direction:	N 56°10'31" E		
Element: Linear			
PT ()	0+170.14	6063655.67	3662043.73
PC ()	0+188.95	6063666.15	3662059.37
Tangential Direction:	N 56°10'31" E		
Tangential Length:	18.82		
Element: Circular			
PC ()	0+188.95	6063666.15	3662059.37
PI ()	0+192.68	6063668.22	3662062.46
CC ()		6063712.50	3662028.30
PCC ()	0+196.39	6063670.69	3662065.25
Radius:	55.80		
Delta:	7°38'24" Left		
Degree of Curvature(Arc):	102°40'50"		
Length:	7.44		
Tangent:	3.73		
Chord:	7.43		
Middle Ordinate:	0.12		
External:	0.12		
Tangent Direction:	N 56°10'31" E		
Radial Direction:	S 33°49'29" E		
Chord Direction:	N 52°21'20" E		
Radial Direction:	S 41°27'52" E		
Tangent Direction:	N 48°32'08" E		
Element: Circular			
PCC ()	0+196.39	6063686.34	3662077.59
PI ()	0+205.42	6063694.32	3662081.82
CC ()		6063712.50	3662028.30
PT ()	0+214.30	6063703.22	3662083.33
Radius:	55.80		
Delta:	18°22'58" Left		
Degree of Curvature(Arc):	102°40'50"		
Length:	17.90		
Tangent:	9.03		
Chord:	17.83		
Middle Ordinate:	0.72		
External:	0.73		
Tangent Direction:	N 27°57'38" E		
Radial Direction:	S 62°02'22" E		
Chord Direction:	N 18°46'09" E		
Radial Direction:	S 80°25'20" E		
Tangent Direction:	N 9°34'40" E		
Element: Linear			
PT ()	0+214.30	6063703.22	3662083.33
PI ()	0+226.51	6063715.26	3662085.36
Tangential Direction:	N 9°34'40" E		
Tangential Length:	12.21		
Element: Linear			
PI ()	0+226.51	6063715.26	3662085.36
PC ()	0+274.46	6063762.00	3662096.06

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Tangential Direction:	N 12°53'41" E		
Tangential Length:	47.95		
Element: Circular			
PC ()	0+274.46	6063762.00	3662096.06
PI ()	0+307.70	6063794.41	3662103.48
CC ()		6063728.53	3662242.28
PT ()	0+339.89	6063820.64	3662123.89
Radius:	150.00		
Delta:	24°59'31" Right		
Degree of Curvature(Arc):	38°11'50"		
Length:	65.43		
Tangent:	33.24		
Chord:	64.91		
Middle Ordinate:	3.55		
External:	3.64		
Tangent Direction:	N 12°53'41" E		
Radial Direction:	S 77°06'19" E		
Chord Direction:	N 25°23'26" E		
Radial Direction:	S 52°06'48" E		
Tangent Direction:	N 37°53'12" E		
Element: Linear			
PT ()	0+339.89	6063820.64	3662123.89
PC ()	0+366.86	6063841.93	3662140.46
Tangential Direction:	N 37°53'12" E		
Tangential Length:	26.97		
Element: Circular			
PC ()	0+366.86	6063841.93	3662140.46
PI ()	0+404.16	6063871.37	3662163.36
CC ()		6063997.31	3661940.77
PT ()	0+440.93	6063906.16	3662176.80
Radius:	253.02		
Delta:	16°46'17" Left		
Degree of Curvature(Arc):	22°38'41"		
Length:	74.06		
Tangent:	37.30		
Chord:	73.80		
Middle Ordinate:	2.71		
External:	2.73		
Tangent Direction:	N 37°53'12" E		
Radial Direction:	S 52°06'48" E		
Chord Direction:	N 29°30'03" E		
Radial Direction:	S 68°53'05" E		
Tangent Direction:	N 21°06'55" E		
Element: Linear			
PT ()	0+440.93	6063906.16	3662176.80
PI ()	0+471.04	6063934.25	3662187.65
Tangential Direction:	N 21°06'55" E		
Tangential Length:	30.11		
Element: Linear			
PI ()	0+471.04	6063934.25	3662187.65
PC ()	0+487.02	6063949.00	3662193.81
Tangential Direction:	N 22°40'58" E		
Tangential Length:	15.98		
Element: Circular			
PC ()	0+487.02	6063949.00	3662193.81
PI ()	0+500.57	6063961.50	3662199.03
CC ()		6063910.59	3662285.71
PT ()	0+513.94	6063972.15	3662207.40
Radius:	99.60		
Delta:	15°29'15" Right		
Degree of Curvature(Arc):	57°31'33"		
Length:	26.92		
Tangent:	13.54		
Chord:	26.84		
Middle Ordinate:	0.91		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

	External:	0.92		
	Tangent Direction:	N 22°40'58" E		
	Radial Direction:	S 67°19'02" E		
	Chord Direction:	N 30°25'36" E		
	Radial Direction:	S 51°49'46" E		
	Tangent Direction:	N 38°10'14" E		
Element:	Linear			
	PT ()	0+513.94	6063972.15	3662207.40
	PC ()	0+527.22	6063982.58	3662215.61
	Tangential Direction:	N 38°10'14" E		
	Tangential Length:	13.28		
Element:	Circular			
	PC ()	0+527.22	6063982.58	3662215.61
	PI ()	0+529.97	6063984.75	3662217.31
	CC ()		6063978.87	3662220.33
	PCC ()	0+532.38	6063984.87	3662220.06
	Radius:	6.00		
	Delta:	49°16'30" Right		
	Degree of Curvature (Arc):	954°55'47"		
	Length:	5.16		
	Tangent:	2.75		
	Chord:	5.00		
	Middle Ordinate:	0.55		
	External:	0.60		
	Tangent Direction:	N 38°10'14" E		
	Radial Direction:	S 51°49'46" E		
	Chord Direction:	N 62°48'29" E		
	Radial Direction:	S 2°33'17" E		
	Tangent Direction:	N 87°26'43" E		
Element:	Circular			
	PCC ()	0+532.38	6063984.87	3662220.06
	PI ()	0+534.63	6063984.97	3662222.31
	CC ()		6063978.87	3662220.33
	PT ()	0+536.69	6063983.57	3662224.07
	Radius:	6.00		
	Delta:	41°06'51" Right		
	Degree of Curvature (Arc):	954°55'47"		
	Length:	4.31		
	Tangent:	2.25		
	Chord:	4.21		
	Middle Ordinate:	0.38		
	External:	0.41		
	Tangent Direction:	N 87°26'43" E		
	Radial Direction:	S 2°33'17" E		
	Chord Direction:	S 71°59'51" E		
	Radial Direction:	S 38°33'35" W		
	Tangent Direction:	S 51°26'25" E		
Element:	Linear			
	PT ()	0+536.69	6063983.57	3662224.07
	PI ()	0+538.59	6063982.38	3662225.55
	Tangential Direction:	S 51°26'25" E		
	Tangential Length:	1.90		
Element:	Linear			
	PI ()	0+538.59	6063982.38	3662225.55
	PI ()	0+543.59	6063986.29	3662228.67
	Tangential Direction:	N 38°33'35" E		
	Tangential Length:	5.00		
Element:	Linear			
	PI ()	0+543.59	6063986.29	3662228.67
	PC ()	0+545.60	6063987.55	3662227.09
	Tangential Direction:	N 51°26'25" W		
	Tangential Length:	2.02		
Element:	Circular			
	PC ()	0+545.60	6063987.55	3662227.09

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

PI ()	0+547.48	6063988.72	3662225.63
CC ()		6063992.24	3662230.83
PCC ()	0+549.23	6063990.51	3662225.09
Radius:	6.00		
Delta:	34°39'48" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	3.63		
Tangent:	1.87		
Chord:	3.57		
Middle Ordinate:	0.27		
External:	0.29		
Tangent Direction:	N 51°26'25" W		
Radial Direction:	N 38°33'35" E		
Chord Direction:	N 34°06'31" W		
Radial Direction:	N 73°13'23" E		
Tangent Direction:	N 16°46'37" W		
Element: Circular			
PCC ()	0+549.23	6063990.51	3662225.09
PI ()	0+552.35	6063993.50	3662224.19
CC ()		6063992.24	3662230.83
PT ()	0+554.99	6063995.95	3662226.12
Radius:	6.00		
Delta:	54°56'51" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	5.75		
Tangent:	3.12		
Chord:	5.54		
Middle Ordinate:	0.68		
External:	0.76		
Tangent Direction:	N 16°46'37" W		
Radial Direction:	N 73°13'23" E		
Chord Direction:	N 10°41'48" E		
Radial Direction:	S 51°49'46" E		
Tangent Direction:	N 38°10'14" E		
Element: Linear			
PT ()	0+554.99	6063995.95	3662226.12
PC ()	0+555.22	6063996.13	3662226.26
Tangential Direction:	N 38°10'14" E		
Tangential Length:	0.23		
Element: Circular			
PC ()	0+555.22	6063996.13	3662226.26
PI ()	0+569.66	6064007.48	3662235.18
CC ()		6064119.86	3662068.87
PT ()	0+584.04	6064019.99	3662242.38
Radius:	200.20		
Delta:	8°14'56" Left		
Degree of Curvature (Arc):	28°37'09"		
Length:	28.82		
Tangent:	14.44		
Chord:	28.80		
Middle Ordinate:	0.52		
External:	0.52		
Tangent Direction:	N 38°10'14" E		
Radial Direction:	S 51°49'46" E		
Chord Direction:	N 34°02'46" E		
Radial Direction:	S 60°04'43" E		
Tangent Direction:	N 29°55'17" E		
Element: Linear			
PT ()	0+584.04	6064019.99	3662242.38
PI ()	0+596.26	6064030.58	3662248.48
Tangential Direction:	N 29°55'17" E		
Tangential Length:	12.22		
Element: Linear			
PI ()	0+596.26	6064030.58	3662248.48
PC ()	0+661.82	6064086.92	3662282.01
Tangential Direction:	N 30°45'39" E		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Tangential Length:	65.56		
Element: Circular			
PC ()	0+661.82	6064086.92	3662282.01
PI ()	0+670.27	6064094.18	3662286.33
CC ()		6064115.05	3662234.75
PRC ()	0+678.58	6064102.40	3662288.27
Radius:	55.00		
Delta:	17°27'36" Left		
Degree of Curvature (Arc):	104°10'27"		
Length:	16.76		
Tangent:	8.45		
Chord:	16.70		
Middle Ordinate:	0.64		
External:	0.64		
Tangent Direction:	N 30°45'38" E		
Radial Direction:	S 59°14'22" E		
Chord Direction:	N 22°01'50" E		
Radial Direction:	S 76°41'58" E		
Tangent Direction:	N 13°18'02" E		
Element: Circular			
PRC ()	0+678.58	6064102.40	3662288.27
PI ()	0+680.42	6064104.18	3662288.69
CC ()		6064101.02	3662294.11
PT ()	0+682.15	6064105.43	3662290.05
Radius:	6.00		
Delta:	34°03'28" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	3.57		
Tangent:	1.84		
Chord:	3.51		
Middle Ordinate:	0.26		
External:	0.28		
Tangent Direction:	N 13°18'02" E		
Radial Direction:	S 76°41'58" E		
Chord Direction:	N 30°19'46" E		
Radial Direction:	S 42°38'30" E		
Tangent Direction:	N 47°21'30" E		
Element: Linear			
PT ()	0+682.15	6064105.43	3662290.05
PC ()	0+690.88	6064114.08	3662291.17
Tangential Direction:	N 7°24'50" E		
Tangential Length:	8.73		
Element: Circular			
PC ()	0+690.88	6064114.08	3662291.17
PI ()	0+692.97	6064115.83	3662290.01
CC ()		6064117.41	3662296.16
PT ()	0+694.91	6064117.92	3662290.19
Radius:	6.00		
Delta:	38°31'26" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	4.03		
Tangent:	2.10		
Chord:	3.96		
Middle Ordinate:	0.34		
External:	0.36		
Tangent Direction:	N 33°41'00" W		
Radial Direction:	N 56°19'00" E		
Chord Direction:	N 14°25'17" W		
Radial Direction:	S 85°09'34" E		
Tangent Direction:	N 4°50'26" E		
Element: Linear			
PT ()	0+694.91	6064117.92	3662290.19
PC ()	0+714.67	6064137.60	3662291.85
Tangential Direction:	N 4°50'26" E		
Tangential Length:	19.76		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Element: Circular			
PC ()	0+714.67	6064137.60	3662291.85
PI ()	0+729.76	6064152.64	3662293.13
CC ()		6064095.42	3662790.07
PT ()	0+744.84	6064167.58	3662295.30
	Radius:	500.00	
	Delta:	3°27'29" Right	
Degree of Curvature (Arc):	11°27'33"		
	Length:	30.18	
	Tangent:	15.09	
	Chord:	30.17	
	Middle Ordinate:	0.23	
	External:	0.23	
Tangent Direction:	N 4°50'23" E		
Radial Direction:	S 85°09'37" E		
Chord Direction:	N 6°34'08" E		
Radial Direction:	S 81°42'08" E		
Tangent Direction:	N 8°17'52" E		
Element: Linear			
PT ()	0+744.84	6064167.58	3662295.30
PC ()	0+817.69	6064239.66	3662305.82
Tangential Direction:	N 8°17'52" E		
Tangential Length:	72.85		
Element: Circular			
PC ()	0+817.69	6064239.66	3662305.82
PI ()	0+821.66	6064243.59	3662306.39
CC ()		6064238.80	3662311.75
PCC ()	0+824.70	6064244.60	3662310.23
	Radius:	6.00	
	Delta:	66°56'46" Right	
Degree of Curvature (Arc):	954°55'47"		
	Length:	7.01	
	Tangent:	3.97	
	Chord:	6.62	
	Middle Ordinate:	1.00	
	External:	1.19	
Tangent Direction:	N 8°17'52" E		
Radial Direction:	S 81°42'08" E		
Chord Direction:	N 41°46'15" E		
Radial Direction:	S 14°45'22" E		
Tangent Direction:	N 75°14'38" E		
Element: Circular			
PCC ()	0+824.70	6064244.60	3662310.23
PI ()	0+826.29	6064245.00	3662311.76
CC ()		6064238.80	3662311.75
PT ()	0+827.81	6064244.59	3662313.30
	Radius:	6.00	
	Delta:	29°39'10" Right	
Degree of Curvature (Arc):	954°55'47"		
	Length:	3.11	
	Tangent:	1.59	
	Chord:	3.07	
	Middle Ordinate:	0.20	
	External:	0.21	
Tangent Direction:	N 75°14'38" E		
Radial Direction:	S 14°45'22" E		
Chord Direction:	S 89°55'47" E		
Radial Direction:	S 14°53'48" W		
Tangent Direction:	S 75°06'12" E		
Element: Linear			
PT ()	0+827.81	6064244.59	3662313.30
PI ()	0+843.94	6064240.45	3662328.89
Tangential Direction:	S 75°06'12" E		
Tangential Length:	16.13		
Element: Linear			
PI ()	0+843.94	6064240.45	3662328.89

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

PI ()	0+847.92	6064244.29	3662329.91
Tangential Direction:	N 14°53'48" E		
Tangential Length:	3.98		
Element: Linear			
PI ()	0+847.92	6064244.29	3662329.91
PC ()	0+865.90	6064248.92	3662312.53
Tangential Direction:	N 75°06'12" W		
Tangential Length:	17.98		
Element: Circular			
PC ()	0+865.90	6064248.92	3662312.53
PI ()	0+866.68	6064249.12	3662311.78
CC ()		6064254.71	3662314.08
PCC ()	0+867.45	6064249.50	3662311.11
Radius:	6.00		
Delta:	14°44'46" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	1.54		
Tangent:	0.78		
Chord:	1.54		
Middle Ordinate:	0.05		
External:	0.05		
Tangent Direction:	N 75°06'12" W		
Radial Direction:	N 14°53'48" E		
Chord Direction:	N 67°43'49" W		
Radial Direction:	N 29°38'34" E		
Tangent Direction:	N 60°21'26" W		
Element: Circular			
PCC ()	0+867.45	6064249.50	3662311.11
PI ()	0+871.54	6064251.53	3662307.55
CC ()		6064254.71	3662314.08
PT ()	0+874.64	6064255.58	3662308.14
Radius:	6.00		
Delta:	68°39'18" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	7.19		
Tangent:	4.10		
Chord:	6.77		
Middle Ordinate:	1.05		
External:	1.27		
Tangent Direction:	N 60°21'26" W		
Radial Direction:	N 29°38'34" E		
Chord Direction:	N 26°01'47" W		
Radial Direction:	S 81°42'08" E		
Tangent Direction:	N 8°17'52" E		
Element: Linear			
PT ()	0+874.64	6064255.58	3662308.14
PC ()	0+896.51	6064277.23	3662311.30
Tangential Direction:	N 8°17'52" E		
Tangential Length:	21.88		
Element: Circular			
PC ()	0+896.51	6064277.23	3662311.30
PI ()	0+903.37	6064284.01	3662312.29
CC ()		6064248.36	3662509.20
PT ()	0+910.22	6064290.71	3662313.74
Radius:	200.00		
Delta:	3°55'35" Right		
Degree of Curvature (Arc):	28°38'52"		
Length:	13.71		
Tangent:	6.86		
Chord:	13.70		
Middle Ordinate:	0.12		
External:	0.12		
Tangent Direction:	N 8°17'52" E		
Radial Direction:	S 81°42'08" E		
Chord Direction:	N 10°15'39" E		
Radial Direction:	S 77°46'33" E		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Tangent Direction:	N 12°13'27" E		
Element: Linear			
PT ()	0+910.22	6064290.71	3662313.74
PC ()	0+924.79	6064304.95	3662316.82
Tangential Direction:	N 12°13'27" E		
Tangential Length:	14.57		
Element: Circular			
PC ()	0+924.79	6064304.95	3662316.82
PI ()	0+934.47	6064314.42	3662318.87
CC ()		6064316.93	3662261.51
PT ()	0+943.97	6064324.03	3662317.66
Radius:	56.60		
Delta:	19°25'20" Left		
Degree of Curvature (Arc):	101°13'45"		
Length:	19.19		
Tangent:	9.69		
Chord:	19.09		
Middle Ordinate:	0.81		
External:	0.82		
Tangent Direction:	N 12°13'27" E		
Radial Direction:	S 77°46'33" E		
Chord Direction:	N 2°30'47" E		
Radial Direction:	N 82°48'08" E		
Tangent Direction:	N 7°11'52" W		
Element: Linear			
PT ()	0+943.97	6064324.02	3662317.66
PC ()	0+952.66	6064332.64	3662316.57
Tangential Direction:	N 7°11'46" W		
Tangential Length:	8.69		
Element: Circular			
PC ()	0+952.66	6064332.64	3662316.57
PI ()	0+959.13	6064339.06	3662315.76
CC ()		6064338.71	3662364.59
PCC ()	0+965.53	6064345.47	3662316.66
Radius:	48.40		
Delta:	15°14'00" Right		
Degree of Curvature (Arc):	118°22'47"		
Length:	12.87		
Tangent:	6.47		
Chord:	12.83		
Middle Ordinate:	0.43		
External:	0.43		
Tangent Direction:	N 7°11'52" W		
Radial Direction:	N 82°48'08" E		
Chord Direction:	N 0°25'08" E		
Radial Direction:	S 81°57'52" E		
Tangent Direction:	N 8°02'08" E		
Element: Circular			
PCC ()	0+965.53	6064345.47	3662316.66
PI ()	0+968.58	6064348.49	3662317.09
CC ()		6064344.63	3662322.61
PCC ()	0+971.17	6064349.93	3662319.78
Radius:	6.00		
Delta:	53°52'32" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	5.64		
Tangent:	3.05		
Chord:	5.44		
Middle Ordinate:	0.65		
External:	0.73		
Tangent Direction:	N 8°02'08" E		
Radial Direction:	S 81°57'52" E		
Chord Direction:	N 34°58'23" E		
Radial Direction:	S 28°05'21" E		
Tangent Direction:	N 61°54'39" E		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Element: Circular			
PCC ()	0+971.17	6064349.93	3662319.78
PI ()	0+972.62	6064350.61	3662321.06
CC ()		6064344.63	3662322.61
PT ()	0+974.01	6064350.63	3662322.51
Radius:	6.00		
Delta:	27°10'25" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	2.85		
Tangent:	1.45		
Chord:	2.82		
Middle Ordinate:	0.17		
External:	0.17		
Tangent Direction:	N 61°54'39" E		
Radial Direction:	S 28°05'21" E		
Chord Direction:	N 75°29'52" E		
Radial Direction:	S 0°54'55" E		
Tangent Direction:	N 89°05'05" E		
Element: Linear			
PT ()	0+974.01	6064350.63	3662322.51
PI ()	0+978.86	6064355.17	3662324.23
Tangential Direction:	N 20°47'02" E		
Tangential Length:	4.85		
Element: Linear			
PI ()	0+978.86	6064354.58	3662325.84
PI ()	0+982.31	6064357.77	3662327.15
Tangential Direction:	N 22°22'39" E		
Tangential Length:	3.45		
Element: Linear			
PI ()	0+982.31	6064357.77	3662327.15
PC ()	0+983.33	6064358.10	3662326.19
Tangential Direction:	N 71°27'38" W		
Tangential Length:	1.02		
Element: Circular			
PC ()	0+983.33	6064358.10	3662326.19
PI ()	0+989.25	6064359.98	3662320.58
CC ()		6064363.79	3662328.10
PT ()	0+992.67	6064365.62	3662322.38
Radius:	6.00		
Delta:	89°12'11" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	9.34		
Tangent:	5.92		
Chord:	8.43		
Middle Ordinate:	1.73		
External:	2.43		
Tangent Direction:	N 71°27'38" W		
Radial Direction:	N 18°32'22" E		
Chord Direction:	N 26°51'32" W		
Radial Direction:	S 72°15'27" E		
Tangent Direction:	N 17°44'33" E		
Element: Linear			
PT ()	0+992.67	6064365.62	3662322.38
PC ()	1+004.66	6064377.03	3662326.04
Tangential Direction:	N 17°44'33" E		
Tangential Length:	11.99		
Element: Circular			
PC ()	1+004.66	6064377.03	3662326.04
PI ()	1+010.19	6064382.30	3662327.72
CC ()		6064316.08	3662516.52
PT ()	1+015.72	6064387.47	3662329.70
Radius:	200.00		
Delta:	3°10'07" Right		
Degree of Curvature (Arc):	28°38'52"		
Length:	11.06		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Tangent:	5.53		
Chord:	11.06		
Middle Ordinate:	0.08		
External:	0.08		
Tangent Direction:	N 17°44'33" E		
Radial Direction:	S 72°15'27" E		
Chord Direction:	N 19°19'37" E		
Radial Direction:	S 69°05'20" E		
Tangent Direction:	N 20°54'40" E		
Element: Linear			
PT ()	1+015.72	6064387.47	3662329.70
PC ()	1+019.29	6064390.81	3662330.97
Tangential Direction:	N 20°54'40" E		
Tangential Length:	3.58		
Element: Circular			
PC ()	1+019.29	6064390.77	3662330.96
PI ()	1+025.23	6064396.31	3662333.07
CC ()		6064388.63	3662336.56
PT ()	1+028.65	6064394.25	3662338.64
Radius:	6.00		
Delta:	89°20'56" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	9.36		
Tangent:	5.93		
Chord:	8.44		
Middle Ordinate:	1.73		
External:	2.44		
Tangent Direction:	N 20°54'40" E		
Radial Direction:	S 69°05'20" E		
Chord Direction:	N 65°35'08" E		
Radial Direction:	S 20°15'36" W		
Tangent Direction:	S 69°44'24" E		
Element: Linear			
PT ()	1+028.65	6064394.25	3662338.64
PI ()	1+033.10	6064392.71	3662342.81
Tangential Direction:	S 69°44'24" E		
Tangential Length:	4.45		
Element: Linear			
PI ()	1+033.10	6064392.71	3662342.81
PI ()	1+034.14	6064392.35	3662343.78
Tangential Direction:	S 69°44'24" E		
Tangential Length:	1.04		
Element: Linear			
PI ()	1+034.14	6064392.35	3662343.78
PI ()	1+036.68	6064394.56	3662345.06
Tangential Direction:	N 29°59'30" E		
Tangential Length:	2.55		
Element: Linear			
PI ()	1+036.68	6064394.56	3662345.06
PI ()	1+037.37	6064394.91	3662344.47
Tangential Direction:	N 59°24'32" W		
Tangential Length:	0.68		
Element: Linear			
PI ()	1+037.37	6064394.91	3662344.47
PC ()	1+039.97	6064396.70	3662342.58
Tangential Direction:	N 46°25'36" W		
Tangential Length:	2.60		
Element: Circular			
PC ()	1+039.97	6064396.70	3662342.58
PI ()	1+042.21	6064398.24	3662340.96
CC ()		6064398.15	3662343.96
PT ()	1+043.33	6064399.68	3662342.67
Radius:	2.00		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Delta:	96°21'17" Right		
Degree of Curvature(Arc):	2864°47'20"		
Length:	3.36		
Tangent:	2.24		
Chord:	2.98		
Middle Ordinate:	0.67		
External:	1.00		
Tangent Direction:	N 46°25'36" W		
Radial Direction:	N 43°34'24" E		
Chord Direction:	N 1°45'02" E		
Radial Direction:	S 40°04'19" E		
Tangent Direction:	N 49°55'41" E		
Element: Linear			
PT ()	1+043.33	6064399.68	3662342.67
PI ()	1+045.44	6064401.04	3662344.28
Tangential Direction:	N 49°55'41" E		
Tangential Length:	2.10		
Element: Linear			
PI ()	1+045.44	6064401.04	3662344.28
PI ()	1+048.94	6064403.71	3662342.03
Tangential Direction:	N 40°04'19" W		
Tangential Length:	3.50		
Element: Linear			
PI ()	1+048.94	6064403.71	3662342.03
PC ()	1+053.01	6064401.09	3662338.92
Tangential Direction:	S 49°55'41" W		
Tangential Length:	4.07		
Element: Circular			
PC ()	1+053.01	6064401.09	3662338.92
PI ()	1+060.73	6064396.12	3662333.00
CC ()		6064402.62	3662337.63
PT ()	1+058.28	6064403.34	3662335.76
Radius:	2.00		
Delta:	150°58'59" Right		
Degree of Curvature(Arc):	2864°47'20"		
Length:	5.27		
Tangent:	7.73		
Chord:	3.87		
Middle Ordinate:	1.50		
External:	5.98		
Tangent Direction:	S 49°55'41" W		
Radial Direction:	N 40°04'19" W		
Chord Direction:	N 54°34'49" W		
Radial Direction:	S 69°05'20" E		
Tangent Direction:	N 20°54'40" E		
Element: Linear			
PT ()	1+058.28	6064403.34	3662335.76
PI ()	1+061.31	6064406.17	3662336.84
Tangential Direction:	N 20°54'40" E		
Tangential Length:	3.04		
Element: Linear			
PI ()	1+061.31	6064406.18	3662336.84
POE ()	1+063.95	6064408.71	3662337.59
Tangential Direction:	N 16°24'37" E		
Tangential Length:	2.64		

6. Krawędź prawa ulicy Kryształowej

	STATION	NORTHING	EASTING
Element: Circular			
PC ()	0+000.00	6063670.69	3662065.25
PI ()	0+006.74	6063675.15	3662070.31
CC ()		6063663.19	3662071.87
PRC ()	0+011.86	6063672.14	3662076.34

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Radius:	10.00		
Delta:	67°58'43"	Right	
Degree of Curvature (Arc):	572°57'28"		
Length:	11.86		
Tangent:	6.74		
Chord:	11.18		
Middle Ordinate:	1.71		
External:	2.06		
Tangent Direction:	N 48°32'08"	E	
Radial Direction:	S 41°27'52"	E	
Chord Direction:	N 82°31'29"	E	
Radial Direction:	S 26°30'51"	W	
Tangent Direction:	S 63°29'09"	E	
Element: Circular			
PRC ()	0+011.86	6063672.14	3662076.34
PI ()	0+016.42	6063670.11	3662080.42
CC ()		6063698.99	3662089.73
PT ()	0+020.91	6063669.38	3662084.92
Radius:	30.00		
Delta:	17°16'50"	Left	
Degree of Curvature (Arc):	190°59'09"		
Length:	9.05		
Tangent:	4.56		
Chord:	9.01		
Middle Ordinate:	0.34		
External:	0.34		
Tangent Direction:	S 63°29'09"	E	
Radial Direction:	S 26°30'51"	W	
Chord Direction:	S 72°07'34"	E	
Radial Direction:	S 9°14'01"	W	
Tangent Direction:	S 80°45'59"	E	
Element: Linear			
PT ()	0+020.91	6063669.38	3662084.92
PC ()	0+080.21	6063659.86	3662143.45
Tangential Direction:	S 80°45'59"	E	
Tangential Length:	59.30		
Element: Circular			
PC ()	0+080.21	6063659.86	3662143.45
PI ()	0+088.65	6063658.51	3662151.78
CC ()		6063815.32	3662168.72
PT ()	0+097.07	6063658.05	3662160.20
Radius:	157.50		
Delta:	6°08'01"	Left	
Degree of Curvature (Arc):	36°22'42"		
Length:	16.86		
Tangent:	8.44		
Chord:	16.85		
Middle Ordinate:	0.23		
External:	0.23		
Tangent Direction:	S 80°45'59"	E	
Radial Direction:	S 9°14'01"	W	
Chord Direction:	S 83°50'00"	E	
Radial Direction:	S 3°05'59"	W	
Tangent Direction:	S 86°54'01"	E	
Element: Linear			
PT ()	0+097.07	6063658.05	3662160.20
PC ()	0+124.53	6063656.57	3662187.62
Tangential Direction:	S 86°54'01"	E	
Tangential Length:	27.46		
Element: Circular			
PC ()	0+124.53	6063656.57	3662187.62
PI ()	0+165.49	6063654.35	3662228.53
CC ()		6063798.86	3662195.33
PT ()	0+204.31	6063674.19	3662264.36
Radius:	142.50		
Delta:	32°04'28"	Left	

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Degree of Curvature (Arc) :	40°12'27"		
Length:	79.77		
Tangent:	40.96		
Chord:	78.73		
Middle Ordinate:	5.55		
External:	5.77		
Tangent Direction:	S 86°54'01" E		
Radial Direction:	S 3°05'59" W		
Chord Direction:	N 77°03'45" E		
Radial Direction:	S 28°58'29" E		
Tangent Direction:	N 61°01'31" E		
Element: Linear			
PT ()	0+204.31	6063674.19	3662264.36
PC ()	0+211.46	6063677.66	3662270.62
Tangential Direction:	N 61°01'31" E		
Tangential Length:	7.16		
Element: Circular			
PC ()	0+211.46	6063677.66	3662270.62
PI ()	0+215.00	6063679.37	3662273.71
CC ()		6063672.41	3662273.53
PCC ()	0+217.85	6063677.49	3662276.71
Radius:	6.00		
Delta:	61°03'36" Right		
Degree of Curvature (Arc) :	954°55'47"		
Length:	6.39		
Tangent:	3.54		
Chord:	6.10		
Middle Ordinate:	0.83		
External:	0.97		
Tangent Direction:	N 61°01'31" E		
Radial Direction:	S 28°58'29" E		
Chord Direction:	S 88°26'41" E		
Radial Direction:	S 32°05'07" W		
Tangent Direction:	S 57°54'53" E		
Element: Circular			
PCC ()	0+217.85	6063677.49	3662276.71
PI ()	0+219.40	6063676.67	3662278.02
CC ()		6063672.41	3662273.53
PT ()	0+220.88	6063675.32	3662278.77
Radius:	6.00		
Delta:	28°56'24" Right		
Degree of Curvature (Arc) :	954°55'47"		
Length:	3.03		
Tangent:	1.55		
Chord:	3.00		
Middle Ordinate:	0.19		
External:	0.20		
Tangent Direction:	S 57°54'53" E		
Radial Direction:	S 32°05'07" W		
Chord Direction:	S 43°26'41" E		
Radial Direction:	S 61°01'31" W		
Tangent Direction:	S 28°58'29" E		
Element: Linear			
PT ()	0+220.88	6063675.23	3662278.82
PC ()	0+224.39	6063676.93	3662281.89
Tangential Direction:	N 61°01'31" E		
Tangential Length:	3.50		
Element: Circular			
PC ()	0+224.39	6063677.01	3662281.84
PI ()	0+225.85	6063678.30	3662281.13
CC ()		6063679.92	3662287.09
PCC ()	0+227.26	6063679.76	3662281.09
Radius:	6.00		
Delta:	27°28'06" Right		
Degree of Curvature (Arc) :	954°55'47"		
Length:	2.88		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Tangent:	1.47		
Chord:	2.85		
Middle Ordinate:	0.17		
External:	0.18		
Tangent Direction:	N 28°58'29" W		
Radial Direction:	N 61°01'31" E		
Chord Direction:	N 15°14'26" W		
Radial Direction:	N 88°29'37" E		
Tangent Direction:	N 1°30'23" W		
Element: Circular			
PCC ()	0+227.26	6063679.76	3662281.09
PI ()	0+230.91	6063683.40	3662280.99
CC ()		6063679.92	3662287.09
PT ()	0+233.81	6063685.17	3662284.18
Radius:	6.00		
Delta:	62°31'54" Right		
Degree of Curvature (Arc):	954°55'47"		
Length:	6.55		
Tangent:	3.64		
Chord:	6.23		
Middle Ordinate:	0.87		
External:	1.02		
Tangent Direction:	N 1°30'23" W		
Radial Direction:	N 88°29'37" E		
Chord Direction:	N 29°45'34" E		
Radial Direction:	S 28°58'29" E		
Tangent Direction:	N 61°01'31" E		
Element: Linear			
PT ()	0+233.81	6063685.17	3662284.18
PI ()	0+236.98	6063686.70	3662286.95
Tangential Direction:	N 61°01'31" E		
Tangential Length:	3.17		
Element: Linear			
PI ()	0+236.98	6063686.70	3662286.95
PC ()	0+251.98	6063693.31	3662300.42
Tangential Direction:	N 63°53'28" E		
Tangential Length:	15.00		
Element: Circular			
PC ()	0+251.98	6063693.31	3662300.42
PI ()	0+275.65	6063704.77	3662321.13
CC ()		6063626.16	3662337.60
PT ()	0+297.90	6063702.58	3662344.70
Radius:	76.75		
Delta:	34°16'51" Right		
Degree of Curvature (Arc):	74°39'09"		
Length:	45.92		
Tangent:	23.67		
Chord:	45.24		
Middle Ordinate:	3.41		
External:	3.57		
Tangent Direction:	N 61°01'31" E		
Radial Direction:	S 28°58'29" E		
Chord Direction:	N 78°09'56" E		
Radial Direction:	S 5°18'22" W		
Tangent Direction:	S 84°41'38" E		
Element: Linear			
PT ()	0+297.90	6063702.58	3662344.70
PC ()	0+306.09	6063702.23	3662352.88
Tangential Direction:	S 87°33'36" E		
Tangential Length:	8.19		
Element: Circular			
PC ()	0+306.09	6063702.23	3662352.88
PI ()	0+314.24	6063701.89	3662361.03
CC ()		6063694.24	3662352.54
PT ()	0+318.81	6063693.75	3662360.52

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

	Radius:	8.00		
	Delta:	91°05'54" Right		
Degree of Curvature (Arc):		716°11'50"		
	Length:	12.72		
	Tangent:	8.15		
	Chord:	11.42		
	Middle Ordinate:	2.40		
	External:	3.42		
	Tangent Direction:	S 87°33'36" E		
	Radial Direction:	S 2°26'24" W		
	Chord Direction:	S 42°00'39" E		
	Radial Direction:	N 86°27'42" W		
	Tangent Direction:	S 3°32'18" W		
Element: Linear				
	PT ()	0+318.81	6063693.75	3662360.52
	PC ()	0+322.61	6063693.54	3662364.32
	Tangential Direction:	S 86°50'30" E		
	Tangential Length:	3.80		
Element: Circular				
	PC ()	0+322.61	6063693.54	3662364.32
	PI ()	0+330.55	6063701.44	3662365.11
	CC ()		6063692.74	3662372.28
	PT ()	0+335.12	6063700.71	3662373.02
	Radius:	8.00		
	Delta:	89°34'49" Right		
Degree of Curvature (Arc):		716°11'50"		
	Length:	12.51		
	Tangent:	7.94		
	Chord:	11.27		
	Middle Ordinate:	2.32		
	External:	3.27		
	Tangent Direction:	N 5°43'33" E		
	Radial Direction:	S 84°16'27" E		
	Chord Direction:	N 50°30'57" E		
	Radial Direction:	S 5°18'22" W		
	Tangent Direction:	S 84°41'38" E		
Element: Linear				
	PT ()	0+335.12	6063700.71	3662373.02
	PC ()	0+478.53	6063687.44	3662515.81
	Tangential Direction:	S 84°41'38" E		
	Tangential Length:	143.41		
Element: Circular				
	PC ()	0+478.53	6063687.44	3662515.81
	PI ()	0+486.82	6063686.68	3662524.07
	CC ()		6063679.48	3662515.07
	PT ()	0+491.38	6063678.46	3662523.01
	Radius:	8.00		
	Delta:	92°01'36" Right		
Degree of Curvature (Arc):		716°11'50"		
	Length:	12.85		
	Tangent:	8.29		
	Chord:	11.51		
	Middle Ordinate:	2.44		
	External:	3.52		
	Tangent Direction:	S 84°41'38" E		
	Radial Direction:	S 5°18'22" W		
	Chord Direction:	S 38°40'50" E		
	Radial Direction:	N 82°40'02" W		
	Tangent Direction:	S 7°19'58" W		
Element: Linear				
	PT ()	0+491.38	6063678.46	3662523.01
	PC ()	0+494.55	6063678.30	3662526.18
	Tangential Direction:	S 87°06'15" E		
	Tangential Length:	3.17		
Element: Circular				

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

PC ()	0+494.55	6063678.30	3662526.18
PI ()	0+502.70	6063686.43	3662526.78
CC ()		6063677.71	3662534.15
PT ()	0+507.27	6063685.67	3662534.89
Radius:	8.00		
Delta:	91°04'15" Right		
Degree of Curvature(Arc):	716°11'50"		
Length:	12.72		
Tangent:	8.15		
Chord:	11.42		
Middle Ordinate:	2.40		
External:	3.42		
Tangent Direction:	N 4°14'07" E		
Radial Direction:	S 85°45'53" E		
Chord Direction:	N 49°46'14" E		
Radial Direction:	S 5°18'22" W		
Tangent Direction:	S 84°41'38" E		
Element: Linear			
PT ()	0+507.27	6063685.67	3662534.89
PC ()	0+535.25	6063683.08	3662562.76
Tangential Direction:	S 84°41'38" E		
Tangential Length:	27.98		
Element: Circular			
PC ()	0+535.25	6063683.08	3662562.76
PI ()	0+540.67	6063682.58	3662568.15
CC ()		6063839.91	3662577.32
PT ()	0+546.08	6063682.45	3662573.57
Radius:	157.50		
Delta:	3°56'28" Left		
Degree of Curvature(Arc):	36°22'42"		
Length:	10.83		
Tangent:	5.42		
Chord:	10.83		
Middle Ordinate:	0.09		
External:	0.09		
Tangent Direction:	S 84°41'38" E		
Radial Direction:	S 5°18'22" W		
Chord Direction:	S 86°39'52" E		
Radial Direction:	S 1°21'54" W		
Tangent Direction:	S 88°38'06" E		
Element: Linear			
PT ()	0+546.08	6063682.45	3662573.57
PI ()	0+561.08	6063683.39	3662588.54
Tangential Direction:	N 86°25'55" E		
Tangential Length:	15.00		
Element: Linear			
PI ()	0+561.08	6063683.39	3662588.54
POE ()	0+599.87	6063679.68	3662627.15
Tangential Direction:	S 84°30'48" E		
Tangential Length:	38.79		

7. Krawędź prawa ulicy Kryształowej - układu docelowego

	STATION	NORTHING	EASTING
Element: Linear			
POB ()	0+000.00	6063682.46	3662573.32
PC ()	0+014.92	6063681.29	3662588.19
Tangential Direction:	S 85°30'48" E		
Tangential Length:	14.92		
Element: Circular			
PC ()	0+014.92	6063681.29	3662588.19
PI ()	0+017.92	6063681.12	3662591.18
CC ()		6063529.78	3662579.66
PT ()	0+020.91	6063680.84	3662594.17
Radius:	151.75		

Projekt wykonawczy
„Remont dróg gminnych w m. Gronowo Górne, ul. Agatowa i ul. Kryształowa”
- Tyczenie geodezyjne -

Delta:	2°15'40" Right		
Degree of Curvature(Arc):	37°45'24"		
Length:	5.99		
Tangent:	2.99		
Chord:	5.99		
Middle Ordinate:	0.03		
External:	0.03		
Tangent Direction:	S 86°46'28" E		
Radial Direction:	S 3°13'32" W		
Chord Direction:	S 85°38'38" E		
Radial Direction:	S 5°29'12" W		
Tangent Direction:	S 84°30'48" E		
Element: Linear			
PT()	0+020.91	6063680.84	3662594.17
PC()	0+051.35	6063677.93	3662624.47
Tangential Direction:	S 84°30'48" E		
Tangential Length:	30.44		
Element: Circular			
PC()	0+051.35	6063677.93	3662624.47
PI()	0+056.48	6063677.44	3662629.57
CC()		6063669.96	3662623.70
PT()	0+060.47	6063672.60	3662631.26
Radius:	8.00		
Delta:	65°16'32" Right		
Degree of Curvature(Arc):	716°11'50"		
Length:	9.11		
Tangent:	5.12		
Chord:	8.63		
Middle Ordinate:	1.26		
External:	1.50		
Tangent Direction:	S 84°30'48" E		
Radial Direction:	S 5°29'12" W		
Chord Direction:	S 51°52'32" E		
Radial Direction:	S 70°45'44" W		
Tangent Direction:	S 19°14'16" E		