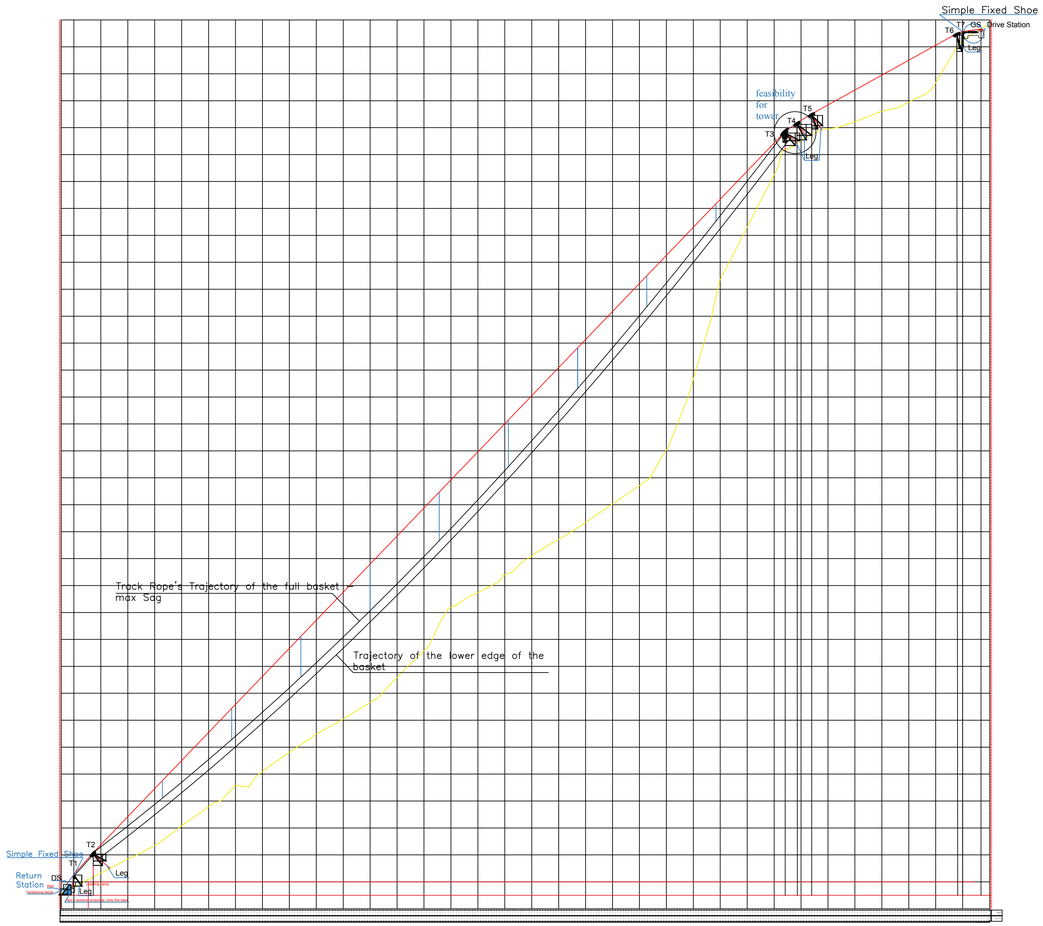

			ROPEWAY DUGAR				
7-St1		**28.11.2019**	L-Section Calculation				
DESIGN DATA							
1. Horisontal distances							
1.1. Between the anchor points of the track rope, m							337,44
1.2. Between the supporting points of the rope near to the anchor points, m							
2. Vertical distance							
2.1. Between the anchor points of the track rope, m							314,74
2.2. Between the supporting points of the rope near to the anchor points, m							
3. Carriage - number of wheels							2x4
3.1. Trolley weight,kg							250
3.2. Hiost beam weight, kg		Bucket					350
3.3. Weight of Carriage & Bucked assembly, kg						Q_1=	600
3.4. Playload, kg						Q_2=	2500
3.5. Total Weight, kg						Q=	3100
4. Track rope - number / diameter, mm						1	32
4.1. Construction - spiral strand				Seale	Steel core		6x19(12+6+6F/1)
4.2. Grade, N/mm^2							1770
4.3. Metal section, mm^2						F_T=	475
4.4. Calculated breaking strength of the rope, kN						T_T=	841
4.5. Real breaking strength of the rope, kN	α=				0,9	T'_T=	757
4.6. Linear mass of the rope, kg / m						q_T=	4,27
5. Hauling rope - Diameter, mm							18
5.1. Construction				Seale	Fiber Core		6x19(9+9+1)
5.2. Grade, N/mm^2							1770
5.3. Metal section, mm^2						F_Z=	123
5.4. Linear mass of the rope, kg / m						q_Z=	1,13
5.5. Calculated breaking strength of the rope, kN						T_Z=	218
5.6. Real breaking strength of the rope, kN					0,85	T'_Z=	185
6. Hoist Rope - Diameter, mm							0
6.1. Construction - 6x36 (1+7+7+7+14)=216 телове и Faber cord							
6.2. Grade, N/mm^2							
6.3. Metal section, mm^2							
6.4. Linear mass of the rope, kg / m							0
6.5. Calculated breaking force of the rope, kN							
6.6. Actual breaking force of the rope, кN					0,85		
7. Friction coefficient							
7.1. Average along the trace							0,16
7.2. For calculation of the loading of the towers							0,20
7.3. For the moving of the Carriage and for turn back wheel Φ1600							0,01
7.4. For the hauling rope on the rollers of the towers							0,015
7.5. For the hoisting rope on the rollers in the hanger and hook							0,02

FORSES IN THE ROPES							
8. Maximum permissible tension in the track rope - $T_{Tmax}=T'_T/n$, kN			252,2	>	248,05	Maximum force in the Track rope	
8.1. Factor of safety		n=	3,0	<	3,05	Minimum safety factor	
8.2. Modulus of elasticity of the rope, kN/mm^2		E_k=	160				
8.3. Coefficient of linear elongation of steel		ε=	0,000011				
9. Maximum permissible tension in the hauling rope - $T_{Zmax}=T'_Z/n$, kN			46,3	>	40,9	Maximum force in the Hauling rope	
9.1. Factor of safety			4,0	<	4,52	Minimum safety factor	
9.2. Accepted minimum force in the hauling rope (600÷800)q_z , daN	678	904	1000		2,53	Maximum coefficient of adhesion Hauling rope Drive Wheel	

CLIENT: Material Ropeway Dugar

Designed by	Checked by	Approved by	Date:	Scale
Patchilov Petar	Patchilov Velitchko		02.12.2019	1:1500

BROD Patchilov

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TITLE L–profile

DRAWING NUMBER | Sheet 1

A1 594x948