

**“KARAHIDIR GROVE RECREATION AREA”
TECHNICAL SPECIFICATIONS FOR CONSTRUCTION WORK**

- 1) The work to be done includes the construction of a running path, bicycle path, parking lot, children's playground, tennis court and basketball court in Karahidir Grove.
- 2) All application map works, infrastructure and ground leveling in the project area will be carried out and delivered by Kırklareli Municipality.

3) Parking lot construction:

- 3.1) The curb will be made of concrete material 15x30x70 cm in size.
- 3.2) In the curb lining work to be done, a 300-dose concrete cushion with a thickness of at least 5 cm or 10 cm will be made under the curb while laying the curb. The joint between each curb will not exceed 2 cm and the joint will be made with 400-dose concrete. The unit of measurement will be calculated in meters. All kinds of sand, cement, machinery, etc. to be used in curb setting work will belong to the contractor company.
- 3.3) The places where low (slanted) curbs are required will be determined by the Municipality and will be constructed by lowering the elevation.

3.4) Parking Lot Backfill:

In the parking lot; the supply and laying of the parking lot filling will belong to the contractor company. Filling will be made with crushed stone crushed stone material number 1-3. The suitability of the filling material will be noted by the municipality control authority with a report. Unsuitable filling material will not be used. After filling, it will be compacted with a compactor.

4) Running and Bicycle Path Construction:

- 4.1) The curb will be made of concrete material 10x20x50 cm in size.
- 4.2) In the curb lining work to be done, a 300-dose concrete cushion with a thickness of at least 5 cm or 10 cm will be made under the curb while laying the curb. The joint between each curb will not exceed 2 cm and the joint will be made with 400-dose concrete. The unit of measurement will be calculated in meters. All kinds of sand, cement, machinery, etc. to be used in curb setting work will belong to the contractor company.
- 4.3) The places where low (slanted) curbs are required will be determined by the Municipality and will be constructed by lowering the elevation.
- 4.4) The supply and laying of the filling for the construction of the bicycle and running path will belong to the contractor. The filling shall be made with at least 13 cm thick sub-base material. The suitability of the filling material will be noted by the municipality control officer with a report. Unsuitable filling material will not be used. After the filling is done, it will be compacted with a compactor.
- 4.5) In the construction of bicycle and jogging paths, after the filling material is laid, 4 mm thick steel mesh with a mesh size of 15x15 cm will be laid and the joints will be connected with wire. After the steel mesh, min. 7cm thick C-30 type ready-mixed concrete will be used for helicopter concrete. All kinds of supply and laying of materials will belong to the contractor company. The conformity of the concrete will be recorded by the municipality control authority. Unsuitable concrete material will not be used.

BASKETBALL COURT TECHNICAL SPECIFICATIONS

5) Basketball Court:

5.1) Concrete Flooring: The area enclosed by the concrete beam installed by the administration will be leveled by laying 5 cm (16-22 mm) No. 2 crushed stone. After leveling, C30/37 ready-mixed concrete (12-15 cm) reinforced with Q188/188 ribbed steel mesh will be poured onto the leveled crushed stone and leveled. A 0.5% (five percent) slope will be given to the concrete towards the long edge. After the concrete is poured and reaches a walkable consistency, a helicopter trowel will be applied. After the concrete work is completed, an undulation test will be conducted by the administration. Additionally, before proceeding with the acrylic coating application, the flatness of the concrete will be checked by pouring water and monitoring for runoff and pooling. In areas with undulations, high areas will be trimmed, and low areas will be filled with acrylic repair mortar. During the undulation test, the area will be scanned lengthwise and widthwise, and undulations exceeding 3 mm will not be permitted under a 3-meter leveling tool. If the undulation test is successful, acrylic coating manufacturing will begin.

5.2) Steel Pipe and Wire Mesh Application: After the substructure is completed, 4m high (60x2mm) pipes are vertically welded to (076x3mm) pipes anchored to the concrete foundation. Three rows (top, middle, and bottom) of (060x2mm) pipes are horizontally welded to the uprights. (060x2mm) pipes are diagonally welded to the corners, short and long sides. For lighting, a total of 4 (076x3mm) pipes, 5m high, are welded to the structure along the long sides of the area in a ladder-like fashion. A hinged door made of (060x2mm) pipe is installed at the desired location on the structure. All steel structures are painted with a special synthetic resin metal anti-rust paint (Pearl Green) that combines the properties of a rust-preventive protective topcoat and a glossy finish.

The wire mesh surrounding the field is 4 m high, 3.5 mm thick, with a 40x40 mm mesh size, and made of hot-dip galvanized PVC-coated spiral wire mesh. The wire mesh is stretched and connections are made. Two rows of 5 mm steel cable are stretched around the field. The stretched steel cables are then secured with clamps.

BASKETBALL COURT PIPE PROFILE QUANTITY

Vertical Pipes	Piece	Length	Totally	Unit	4-meter vertical pipes (5 meters including an additional 1 meter remaining underground)
	36	5	180	meter	

Horizontal pipes	Piece	Length	Totally	Unit	3 rows of horizontal pipes (across the width and length of the field)
	3	32,65	97,95	meter	
	3	32,65	97,95	meter	
	3	17,24	51,72	meter	
	3	17,24	51,72	meter	
	Totally Horizontal		299,34	meter	

Horizontal diagonal pipes	Piece	Length	Totally	Unit	Diagonal connection at the junctions of the long and short sides.
	4	8,42	33,66	meter	

Lighting pipes	Piece	Length	Totally	Unit	A total of 4 lighting pipes, each 5 meters high, will be installed along the long sides of the field.
	4	5	20	meter	

Lighting pole stairs	Length	distance range	Step	Unit	Number of steps on a single staircase (Length/Spacing)
	5	0,4	12,5	Piece	
	Piece	Step	Totally	Unit	4 stairs and number of steps
	4	12,5	50	Piece	
	Step	Length	Totally	Unit	The length of the steps on the 4 stairs
	50	0,6	30	meter	

Hinged door	Piece	Length	Totally	Unit	1.00 x 2.00 meter hinged door (with intermediate frame)
	3	1	3	meter	
	2	2	4	meter	
	Total length		7	meter	

Basketball Court Pipe Measurement	Vertical pipes		180	meter
	Horizontal pipes		299,34	
	Horizontal diagonal pipes		33,66	
	Lighting pipes		20	
	Lighting pole stairs		30	
	Hinged door		7	
	Totally		570	

5.4) Acrylic Floor Coating Application:

- Identified pooling areas will be filled with acrylic repair mortar to obtain a smooth surface throughout the site. An epoxy-based primer (200 gr/m²) will be applied to the leveled concrete surface.
- A single layer of acrylic-based "resurfacer" will be applied to the primed surface. This layer is made by adding 25% - 35% clean water (drinking water) to 450 gr/m² of net acrylic material in a 1:1 ratio.
- The "resurfacer" layer will be covered with 4 layers of coarse-grained "cushion" (450 gr/m² per layer) and 3 layers of fine-grained "cushion" (400 gr/m² per layer). Depending on the weather conditions of the application site, 20% - 30% clean water (drinking water) will be

added to the net acrylic material used in each layer. • Each layer will be applied after the previous layer has dried, and each layer will be visually inspected for cracks and repaired as needed.

- Following the application of the “Cushion” layers, a special UV-resistant acrylic sports field coating will be applied in two coats with quartz sand additive (450 gr/m² per coat) and one coat without additive (300 gr/m²). Depending on the weather conditions of the application area, 20% - 25% clean water (drinking water) will be added to the clear acrylic material used in each coat. Each layer will be applied after the previous layer has dried.

- The total system thickness will be 3 mm.

- The application will be carried out in rain-free, dry weather and at a minimum air temperature of 10°C

All acrylic materials will be ITF certified.

- Field lines will be drawn with white acrylic line paint in accordance with ITF rules.

- The playing area color will be burgundy, and the outer areas will be dark green. However, if the Administration requests different colors, the contractor will comply with this request. No additional payment will be made to the contractor for color changes. • Acrylic coating surface flatness: For acrylic surfaces, the maximum flatness should be 3 mm under a 3-meter leveling guide. Any undulations exceeding 3 mm in the acrylic coating surface will be removed by the contractor.

TENNIS COURT TECHNICAL SPECIFICATIONS

6) Tennis Court:

6.1) Concrete Flooring: Within the area enclosed by the concrete beam installed by the administration, 5 cm (16-22 mm) of No. 2 crushed stone will be laid and leveled. After leveling, C30/37 ready-mixed concrete (12-15 cm) reinforced with Q188/188 ribbed steel mesh will be poured and leveled. The concrete will have a 0.5% (five percent) outward slope. After the concrete is poured and reaches a walkable consistency, a helicopter trowel will be applied. After the concrete work is completed, an undulation test will be conducted by the administration. Additionally, before proceeding with the acrylic coating application, the flatness of the concrete will be checked by pouring water and monitoring for runoff and pooling. In areas with undulations, high areas will be trimmed, and low areas will be filled with acrylic repair mortar. During the undulation test, the area will be surveyed lengthwise and widthwise, and undulations exceeding 3 mm will not be permitted under a 3-meter leveling tool. If the undulation test is successful, acrylic coating manufacturing will begin.

6.2) Steel Pipes and Wire Mesh Application: After the substructure is completed, 4m high (60x2mm) pipes are vertically welded to (076x3mm) pipes anchored to the concrete foundation. Three rows (top, middle, and bottom) of (060x2mm) pipes are horizontally welded to the uprights. (060x2mm) pipes are diagonally welded to the corners, short and long sides. For lighting, a total of 4 (076x3mm) pipes, 5m high, are welded to the structure along the long sides of the field in a ladder-like fashion. A hinged gate made of (060x2mm) pipe is made at the desired location on the structure. All steel structures are painted with a special metal anti-rust paint (Pearl Green) that combines the properties of a rust-preventive protective topcoat and a glossy finish.

The wire mesh surrounding the field is 4 m high, 3.5 mm thick, with a 40x40 mm mesh size, and made of hot-dip galvanized PVC-coated spiral wire mesh. The wire mesh is stretched and connections are made. Two rows of 5 mm steel cable are stretched around the field. The stretched steel cables are then secured with clamps.

TENNIS COURT PIPE PROFILE QUANTITY

Vertical Pipes	Piece	Length	Totally	Unit	4-meter vertical pipes (5 meters including the 1-meter extension remaining underground)
	36	5	180	meter	

Horizontal pipes	Piece	Length	Totally	Unit	3 rows of horizontal pipes (across the width and length of the field)
	3	37	111	Meter	
	3	37	111	Meter	
	3	19	57	Meter	
	3	19	57	Meter	
Totally Horizontal			336	meter	

Horizontal diagonal pipes	Piece	length	Totally	Unit	Diagonal connection at the junctions of the long and short sides.
	4	6,75	27	meter	

Lighting pipes	Piece	Length	Totally	Unit	A total of 4 lighting poles, each 5 meters high, will be installed along the long sides of the field.
	4	5	20	meter	

Lighting pole stairs	Length	Distance range	Step	Unit	Number of steps on a single staircase (Length/Spacing)
	5	0,4	12,5	Piece	
	Piece	Step	Totally	Unit	4 stairs and number of steps
	4	12,5	50	Piece	
	Step	Length	Totally	Unit	The length of the steps on the 4 stairs
	50	0,6	30	meter	

Hinged door	Piece	Length	Totally	Unit	1.00 x 2.00 meter hinged door (with intermediate frame)
	3	1	3	Meter	
	2	2	4	Meter	
	Totally Length		7	meter	

Tennis Court Pipe Measurement	Vertical pipes		180	meter
	Horizontal pipes		336	
	Horizontal diagonal pipes		27	
	Lighting pipes		20	
	Lighting pole stairs		30	
	Hinged door		7	
	Toplam		600	

6.5) Acrylic Floor Coating Application:

- Identified pooling areas will be filled with acrylic repair mortar to obtain a smooth surface throughout the site. An epoxy-based primer (200 gr/m²) will be applied to the leveled concrete surface.
- A single layer of acrylic-based "resurfacer" will be applied to the primed surface. This layer is made by adding 25% - 35% clean water (drinking water) to 450 gr/m² of net acrylic material in a 1:1 ratio.
- The "resurfacer" layer will be covered with 4 layers of coarse-grained "cushion" (450 gr/m² per layer) and 3 layers of fine-grained "cushion" (400 gr/m² per layer). Depending on the weather conditions of the application site, 20% - 30% clean water (drinking water) will be

added to the net acrylic material used in each layer. • Each layer will be applied after the previous layer has dried, and each layer will be visually inspected for cracks and repaired as needed.

- Following the application of the “Cushion” layers, a special UV-resistant acrylic sports field coating will be applied in two coats with quartz sand additive (450 gr/m² per coat) and one coat without additive (300 gr/m²). Depending on the weather conditions of the application area, 20% - 25% clean water (drinking water) will be added to the clear acrylic material used in each coat. Each layer will be applied after the previous layer has dried.

- The total system thickness will be 3 mm.

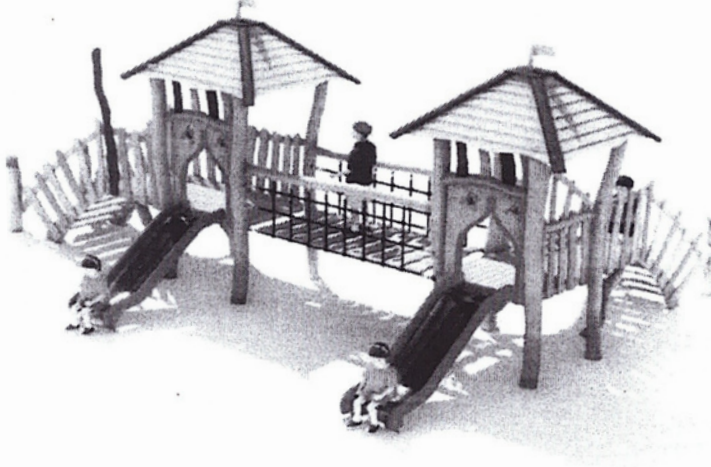
- The application will be carried out in rain-free, dry weather and at a minimum air temperature of 10°C.

All acrylic materials will be ITF certified.

- Field lines will be drawn with white acrylic line paint in accordance with ITF rules.

- The playing area color will be burgundy, and the outer areas will be dark green. However, if the Administration requests different colors, the contractor will comply with this request. No additional payment will be made to the contractor for color changes. • Acrylic coating surface flatness: For acrylic surfaces, the maximum flatness should be 3 mm under a 3-meter leveling guide. Any undulations exceeding 3 mm in the acrylic coating surface will be removed by the contractor.

7) Children's Playground:



Material List:

- 2 stainless metal 1 meter flat slides
- 1 wooden rope bridge
- 4 wooden square platforms
- 2 wooden roofs
- 2 pieces 0-100 cm wooden stairs

Teknik Detaylar:

The main carrier poles used in the product will be made of acacia (*Robinia Pseudoacacia*) tree, which is known for its durability and durability with a minimum diameter of Ø 120 mm. Acacia (*Robinia Pseudoacacia*) according to EN 350-2, which includes European Wood and Wood products durability norms, will be classified in 1-2. The Acacia tree will show durability in open areas without the need for any chemical protection. Optionally, a wood surface protector will be used. The wood preservative to be used will be

environmentally friendly, water-based, weather resistant. The application will be transparent in color or in color tones to be determined by the administration. In order to increase the natural and aesthetic appearance, logs that are not straight, wavy, of the same size and form will be used for the bearing poles. The product must be produced in accordance with EN 1176 1...7 Rules and the model-based EN 1176 Certificate for each product must be submitted to the administration. On the document, there must be pictures taken in such a way that it is clear that the certified product is produced from acacia wood. Fasteners such as bolts, nuts and studs shall be made of stainless steel. No galvanized or black material shall be used in any way. Materials made of acacia wood may have cracks within the limits of EN 1176 general safety requirements, of a nature and size that do not affect the durability of the wood material.

Wooden Square Roof:

Product min. 20 mm. It will be formed by combining the slats with a thickness of 20 mm with the insulation printing method. The wood to be used in the slats will be made of Acacia (*Robinia Pseudoacacia*) tree, which is known for its durability and strength. The slats will be min. 150-160 cm. lengths will be determined gradually. The widths of the slats to be used will not be of the same width and natural sloping timbers will be used, especially to increase the natural appearance. The keels to which Acacia slats will be attached will be made of Lareks (*Larix decidua*) wood. The roof will be painted in the colors determined by the administration.

Wooden Square Platform:

The square platform to be manufactured from Lareks (*Larix decidua*) species coniferous wood will be minimum 100x100 cm in size. The carcass section of the wooden platform will be manufactured by fixing the slats of Lareks (*Larix decidua*) species coniferous wood with a minimum size of 4x9 cm. The slats that will form the section to be stepped on the carcass formed from Lareks (*Larix decidua*) species coniferous wood will be made of wooden slats with minimum 2x9 cm dimensions and will be fixed to the channels opened in the wooden carcass. The slats to be used in the stepping section will be cut in a wavy shape to increase the natural and aesthetic appearance and will be fixed by considering the safety dimensions specified in TS EN 1176-1 standards. There will be support slats under the stepping section. Wooden slats will be painted with natural teak oils and natural paints. The platform will be fixed to the carrier poles with metal connection equipment.

Wooden Platform Railing:

The railings of the platforms seen at the tower entrances in the product; consisting of wooden slats, min. 20 mm wall thickness and acacia trees in different shapes will be manufactured by processing. Wooden slats; from the top to the main carrier poles min. Ø80 mm diameter acacia logs will be fixed to the main bearing poles from the top and to the platform from the bottom.

Entering Stairs:

Stair carrier poles made of acacia wood min. Ø 80 mm. It will be 110 cm long from the log with a thickness of 80 mm. Steps; acacia wood will be manufactured from

acacia wood min 20 x 75 x 4 cm slats; min. 4x22 cm thick 140 cm long acacia wood will be fixed to the sides of the steps.

Stair side railings min. 2 cm thick and 12-15 cm wide slats with different slopes, Ø10 cm diameter acacia tree will be cut in half and fixed to handrails of min. 140 cm length. In order to increase the natural and aesthetic appearance, slats that are not straight, wavy, of the same size and form will be used in the railings.

Rope wooden bridge:

The thick rope bridge will be manufactured with a minimum length of 2500 mm as specified in the technical drawing. In order for users to walk on it, the slats will be made of Lareks wood with a minimum width of 16 cm and a thickness of 4 cm. The steps should be fixed with a minimum 16 mm thick steel cored polypropylene rope. The handrails that the users will hold on to ensure their balance will be made of acacia trees with minimum Ø80 mm dimensions and will be fixed to the main carrier poles with the help of metal connection apparatus. The widths of the slats to be used will not be of the same dimensions and natural sloping timbers will be used, especially to increase the natural appearance..

1 Meter Stainless Slide:

1 meter stainless slide will be cut from AISI 304 quality stainless sheet metal with a minimum wall thickness of 1.5 mm in CNC laser machine and will be manufactured as a monolith by bending in the dimensions specified in the technical drawings. The side surfaces of the stainless slide will be manufactured by cutting the panels made of birch wood with a minimum wall thickness of 30 mm and high water resistance on CNC router machine. For the connection of the side surfaces of the stainless steel slide, connection slides suitable for the form of the slide cut by CNC laser machine from AISI 304 quality stainless steel sheet with a minimum wall thickness of 4 mm will be welded to the side faces of the 1.5 mm slide sheet. Slide side surfaces manufactured from water plywood will be fixed to the slide sheet with M8x40 mm sized camber head bolts.

Slide Rail:

Slide board handrail min. 8 cm diameter acacia tree will be cut in half and 90 cm in length and will be fixed to the handrail from the top and to the platform from the bottom with metal fasteners to the carrier poles. The railing will be cut from min.10mm water plywood.

Features of Polyester Yarn Braided Steel Wire Rope

- The thickness of the steel wire rope braided with polyester yarn should be 16 mm.
- It shall consist of 6 galvanized steel wire ropes braided with polyester yarn and twisted into rope core.
- The rope core shall be formed by braiding 1 galvanized steel wire rope with polyester yarn on the outside.
- The weight of 16 mm rope will be 350 g/m.
- The breaking load of the ropes shall be 4 tons for 16 mm.
- Ropes shall be ultraviolet stabilized and non-flammable.

- It shall not contain toxic substances in its content and dye. Steel ropes braided with polyester yarn shall be manufactured in special rope knitting machines. The ropes knitted with the machine will be knitted with a special knitting shape so that even in case of disassembly, disassembly will not work.

Aluminum 16 slotted connection:

It will be manufactured from aluminum by casting technique. The slotted connection shall be manufactured to be minimum 77 mm in length, minimum Ø26 mm in dimensions and minimum 75 gr in weight.

Plastic One Piece 16 "+" connection:

It will be produced from PA6 plastic material by injection mold technique. It will be manufactured in Ø36x54 mm dimensions. It will contain a hole for 1 M4 screw for fixing the ropes.

Product Floor Connection:

The main carrier poles of the product will be fixed by burying a minimum of 40 cm of the carrier poles under the soil, taking into account the ground where the product will be installed and the request of the administration. Or it will be fixed to the ground with the help of metal lugs manufactured by welding Ø168 industrial pipes with a minimum wall thickness of 6 mm to the bases of the carrier feet in the product. Metal shoes will be fixed to the ground with minimum 1 M10x90 mm steel pull dowels for each foot.

8) Solar Led Panel

In the project area, 6 solar paneled lightings will be used in the basketball court, 6 in the tennis court and 3 in the area where the children's play group is located. Panels will have 200W power, 6500K light color, lumen 300 lm/w, 45°, 60°, 90° beam angles. IP 65 IP rating. Led type is 3030 SMD power led. Body material is electrostatic powder coated extruded aluminum housing, carbon fiber lens. At least 3 years warranty will be requested.