



Urban maintenance / Public roads and signage

Remodelling of Avenida de La Democracia in the Puente de Vallecas district of Madrid.

Client

Madrid City Council

Cost

€1,035,514.58

Location

Madrid

Work period

2021 - 2022

Scope

The actions carried out were aimed at the renovation and adaptation of roads, pavements and pedestrian walkways on Avenida de La Democracia, located in the Puente de Vallecas district of Madrid. The works have served to restore the functionality of the road, remove architectural barriers, create a new bike lane, rearrange the road intersections and create new parking spaces, thus improving functionality in terms of mobility and road safety.



Description of the work

The work carried out has improved both road safety and the functionality of the road. A bike lane, new pavements and parking spaces have been added, modifying the cross-section of Avenida de La Democracia.

The completed cross-section consists of:

- Pavement on the odd-numbered side of the road: variable width between 2.5 and 3 m.
- 2.5 m wide one-way bike lane, plus a 1.25 m wide pedestrian walkway.
- 2.5 m wide in-line parking.
- Three-lane road with a total average width of 9.6 m.

The following actions have been carried out:

- Creation of new pavements and a new bike lane, complying with current accessibility regulations.
 - Upgrade of the existing road and renovation of its wearing course.
 - Creation of an in-line parking lane.
 - Construction of car park protection islands along the entire section of the road.
 - Improvement of the areas surrounding the EMT bus stops, with the creation of new platforms complete with bus shelters.
 - Planting of trees and the corresponding installation of a programmable drip irrigation system.
 - Renovation of the public lighting network, with new underground conduits and installation of new poles and lamps.
- Upgrade and update of traffic lights and road signs for traffic management.
 - Upgrade of the sewer system rain water collection through the construction of a new network of pipes with corresponding manholes and gutters.
 - Updating of fire hydrants in line with the new regulations in force.
 - Installation of pedestrian fences, benches, litter bins and bicycle racks along the project area.

In addition, to carry out the works, Acsa, Obras e Infraestructuras has made the following environmental improvements:

- Use of improved BC35/50 bitumen with rubber from disused tyres (in accordance with Art. 25.18 of PCTGAM) on wearing courses.
- Paving with bituminous mixes made from the material from the milling of old hot bituminous mixes, in a proportion equal to 10% of the total mass of the mix, on wearing courses, and 15% of the total mass of the mix, on lower courses (in accordance with Art. 40.63 of the PCTGAM and Art. 542 of the PG-3).
- Paving with a recycled concrete (RC) base made of recycled coarse aggregate from crushed concrete waste with a recycled coarse aggregate content of 20% by weight of the total coarse aggregate content (in accordance with EHE 08).

Main service details

Surfacing

2,183 ml Pre-cast concrete kerbs (types I, III, IV and IX).

2,697 m² 15x15 Hydraulic tile flooring + 30x30 bush hammered terrazzo tiling.

1,263 m² 20x10x6/8 cm pre-cast paving stone.

14,063 m² HMA AC22/32 + AC 16/22.

396 m² Compotrafic multilayer continuous paving.

Lighting network

1,514 ml Underground conduits.

23 units 10 m tall AE-21.1 poles with 1.5 m arm.

23 units 150 W Class I LED enclosed lamps

Traffic lights

322 ml Underground conduits.

15 units CL-TN-2400 traffic light columns

3 units 6 m traffic light poles with 1.5 m extension.

1 unit Central communications enclosure.

2 units Traffic control enclosures.

4 units Double loop vehicle detectors.

Drainage network

86 ml PVC 315/400 mm SN8 corrugated pipe.

3 units Manholes.

20 units Drainage pits.

Landscaping and irrigation network

41 units 16-18 cm Celtis australis.

2 units Irrigation phases with single-station timer

798 ml Secondary irrigation network conduits.

51 units Integral dripline rings.

Network of hydrants

1 unit DN100 mm hydrant.

Signage

3,206 ml Longitudinal road marking with white acrylic paint.

1,090 m² zebra crossings/symbols with white thermoplastic paint.

52 units Level 2 reflective signs.

22 H-75 markers.

1 unit European system information post, 1 section.

1 unit European system information post, 5 sections.

Street furniture

8 units MU-51 bike racks.

15 units Cibeles 50 L polyethylene litter bins.

24 units MU-54 recycled rubber bollards.

7 units MU-16 benches.

113 ml MU-46A Sol high fence

13 units MU-35 J aluminium bollard.