

Picture of the month



The Magic Box.

Contract Awards

- Penitentiary in Álava

Other contract awards

- 107 single-family and semi-detached homes in Rivas Vaciamadrid, Madrid, for Área Norte.
- 131 homes in southern Móstoles.
- Library, multipurpose room and car park in the Centro area of San Juan Despi, Barcelona, for the San Juan Despi City Council, for €11.9 million.
- International Centre of Economic and Social Studies in Majadahonda, Madrid, for Caja Madrid.
- M&S has signed on to improve National Route 3 from San Francisco de Heredia to San Joaquín de Flores in Costa Rica, for €17.8 million.

Current events

- Plaza de Callao, Madrid, remodelling work begins
- The Hotel Balneario Las Arenas, Valencia's first five-star de luxe hotel
- FCC's Gran Vía and Plaza Europa construction and development project earned the 2009 Construmat Award
- New show at LABoral: The Past in the Present

ALPINE

- Enlargement of Austria's western railway line for 123.9 million euro
- Construction of Poland's stadiums for the 2012 European Football Championship games
- Two tunnels for the German railway company for 122 million euro
- Construction and improvement of several sections of road in Austria

Subsidiaries

- M&S finishes the El Guayacán-Jinotega road in Nicaragua
- Megaplas rolls out McDonald's "folded and divided" image

Finished projects

- Development work at Madrid-Barajas Airport's Southern Air Cargo Centre.
- Cabanes bypass.
- Hospital in Denia.



CSR

- FCC participates in the Equality and Reconciliation Workshop organised by Madrid Excelente
- Students in the master's degree programme in building at European University of Madrid visit the Museum of Royal Collections
- Participation in San Pablo CEU University and IABSE Spanish Group lectures
- Participation in the Mariano López Navarro Chair's sustainable construction and waste-recycling course

Events

- Justice holds open house in Barcelona
- The Minister for the Environment visits La Loteta Dam
- La Caja Mágica is open

Contributions

- Zero waste and resource use: Beyond Utopia

FCC Construcción wins the 78.5-million-euro Álava Penitentiary contract

SIEP, the state-owned company in charge of penitentiary infrastructure and equipment, has awarded FCC Construcción the 78.5-million-euro contract to build Norte I Penitentiary in Zaballa, Álava. The completion period is 22 months long.

The new centre will have 720 cells of various penitentiary classifications and a number of different buildings equipped for inmate control, monitoring, custody, administration and rehabilitation.

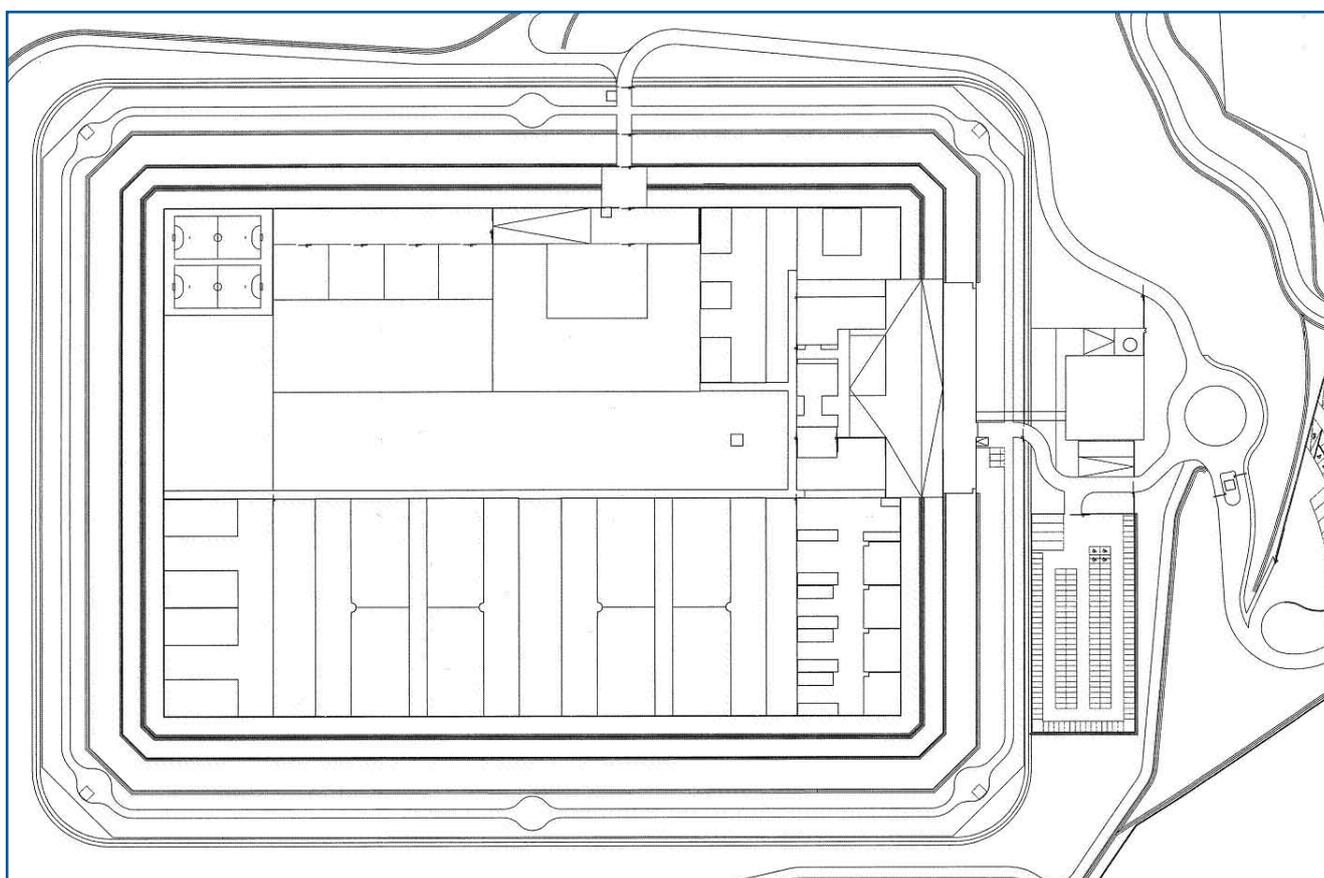
The design adheres to the idea of a penitentiary facility as a self-sufficient urban nucleus. So, the centre is a little town to itself, made up of 12 minicentres, with cultural, health, athletic and communal production services to cover all the needs of the inmates. This kind of set-up reduces the number of trips to outside community services and lends additional strength to the rehabilitation policy, which is the end goal of current penitentiary policy.

The design includes sustainability-friendly criteria, such as the use of materials whose production or manufacturing causes less pollution than

conventional materials and whose technological efficiency in operation is higher. Resources (water and power) are used more rationally and renewable energy sources are encouraged. Other necessary corrective measures for reducing the penitentiary's environmental impact will be provided through architectural adaptation to the topographical, climate and sun exposure conditions.

The new centre is designed for: improved management, with the consolidation of the residential communications building; reinforced inmate training capacity, through the allocation of more shops, training and treatment facilities; and greater capacity and compartmentalisation, through the multi-purpose module and the closed-regimen module.

FCC Construcción is thoroughly experienced at building penitentiaries. In the last ten years it has built quite a number of facilities, including Valdemoro Penitentiary and Soto del Real Penitentiary, both in Madrid; Albolote Penitentiary in Granada; Villena Penitentiary in Alicante; and a number of modules of Quatre Camins Penitentiary in la Roca del Vallés, Barcelona. It also recently build the Murcia and Granada Social Integration Centres.



Development work at Madrid-Barajas Airport's Southern Air Cargo Centre



Road air.

Last March FCC Construcción finished development work at Madrid-Barajas Airport's Southern Air Cargo Centre.

The area now developed lies south of the airport, next to the A-2 service road. These 52 hectares will accommodate eight lots for logistics warehouses slated for enlarging the Southern Air Cargo Centre.

The job's total budget came to approximately 18 million euro.

FCC improved the entrances to the Air Cargo Centre from motorway A-2, extended the airport's perimeter road on the air side, built an ecological channel to reroute the Arroyo de Rejas creek and improved the livestock trails crisscrossing the area.

The work included a total of 70,000 square metres of roads, 18,000 square metres of parking facilities, 19,000 square metres of pavements, 11,000 square metres of landscaping, 5,800 square metres of channel and 71,000 square metres of livestock trails, of which 21,700 square metres were rest areas.

In the improvement of green areas and livestock trails (the first step in building a future "green ring" around the airport), over a thousand trees and three thousand shrubs

were planted, and two hundred native specimens found on the site were transplanted.

With this enlargement of the Air Cargo Centre and enhancement of its environment, Madrid-Barajas Airport has gained a fine new infrastructure package that implements and provides a future solution for both goods access and air cargo services.

Basic Information

Job name: Development work at the Southern Air Cargo Centre. Madrid-Barajas Airport

Developer/Owner: Aeropuertos Españoles y Navegación Aérea (AENA). Ministry of Development

Designer and architectural supervisor: Joaquín Arjona García-Borreguero (AENA)

Budget (VAT not included): 14.372.682,00 €

Completion period: 16 months

Team

Deputy Head, Madrid Civil Works: Ángel Serrano Manchado

Construction manager: Alfredo Díaz Cobo/César Martínez García

Production chief: Manuel Pérez Sánchez / Jorge Ilundain Barrio

Technical Office chief: Cayetano Toledano

Administrative head: César Cruz Rodríguez

Foreman: Melchor Gil Barco

The CV-10's Cabanes bypass is now open to traffic



Aerial view of the Cabanes bypass.

The Cabanes bypass was opened to traffic on 15 April. The 11.7-kilometre-long section of road CV-10 between Pobla Tornesa and the intersection with road CV-152 (leading to Benlloch) has now been upgraded to dual carriageway format.

A standard cross-section of the dual carriageway contains two seven-metre-wide roadways separated by a 12-metre-wide central reserve. The inner verges are 1.50 metres wide, and the outer verges are 2.5 metres wide, bracketed by 0.75-metre-wide berms.

The new layout crosses other existing and planned roads. These intersections were handled by building four new junctions,

and the junction already existing at the starting point was remodelled. The section now contains:

- ▶ Junction 1, "North exit to Pobla Tornesa".
- ▶ Junction 2, "Connection with road CV-148 to Oropesa".
- ▶ Junction 3, "South exit to Cabanes and connection with road CV-148 to Oropesa and Vall d'Alba".
- ▶ Junction 4, "North exit to Cabanes".
- ▶ Junction 5, "Exits to the airport, Benlloch (CV-152) and the connection with road CV-145 to Torrelblanca".

The existing agricultural roads were also replaced, and new unpaved roads, service roads and a bicycle lane were built, running parallel to the section.

Now that the bypass is available, nine thousand vehicles will be able to avoid driving through central Cabanes. Traffic safety is better, and the town is better connected, too, as it now has two new exits, south and north. This new section of dual carriageway is a healthy improvement for road CV-10, an important corridor on which Castellón province relies heavily. This high-capacity regional road now provides the district's internal traffic with an excellent alternative to the overcrowded coastal corridor of the N-340 and toll motorway AP-7.

Team

Department head: Gerardo Cruz Serrano

Construction manager: María José Cuesta García

Technical Office chief: Rafael Medina García

Head surveyor: José Luis López Santamaría

Administrative head: Rafael Guiralt Arce

Foreman: Francisco Martínez Jaén

Hospital in Denia



Hospital in Denia (Javier Galindo's picture).

On 3 April the official ribbon was cut on the new hospital for the Marina Alta de Denia district, built by a joint venture featuring FCC Construcción, S.A.

The hospital is a modern building whose hospitalisation area holds 280 beds, 190 for general hospitalisation, 22 for obstetric hospitalisation, 36 for paediatric/newborn hospitalisation, 18 for psychiatric hospitalisation and 14 for intensive care hospitalisation. In addition there is a total of 84 beds for patients requiring special treatment in various units. There are 64 outpatient consulting rooms and 26 emergency treatment bays.

Lastly, there are areas designed to house the hospital pharmacy, the rehabilitation unit and the laboratory. The laboratory contains specific areas for biochemistry, haematology/blood bank, microbiology and pathological anatomy.

This health facility is outfitted with the latest in technology, such as systems for giving health personnel electronic access to patients' medical histories. In addition all adult and child health specialties have got house call and emergency services.

Environmentally friendly criteria were taken into careful account. Eighty percent of the building is set up to receive

natural sunlight, to improve energy efficiency. This figure is outside the reach of most conventional hospitals.

The new hospital will provide care for over 180,000 people and jobs for 758 professionals.

Basic Information

Owner: Marina Salud
Manager: Luis Fidel Campoy Domene
Architectural supervision
Team: Albert de Pineda y Jose Leon Paniagua
Engineering: J.G.
Project Manager: G.P.O.

Team

Manager: Agustín Cervera Marín
Production: Rafael Mateu Mateu, Enrique Nieto Gimeno, y José Blas Fabregues
Technical Office head: David Lamoncha Fortea
Technical Office: Santiago Bruno Romero y Pedro García Torres
Planning and Procurement: Angel J. Garcia Beses
Administrative head: Pedro Gomez Calvo
Administration: Fernando Olmeda de la Casa
Facilities chief: Juan Ruiz Guinaldo
Facilities assistant: David Fabregat Heras
General foreman: José M ^a Díaz Martínez

ALPINE to enlarge Austria's western railway line for 123.9 million euro



The section at issue runs between Ybbs and Blindenmarkt and will fill a major gap in the Trans-European railway system.

When this 11-kilometre-long section has been widened by an additional two tracks, the maximum speed can be increased from 160 km/hour to 250 km/hour. In addition, the existing tracks will be replaced to accommodate high-speed trains.

The job includes a great number of bridges and tunnels, the construction of Neumarkt Station at a new site and the expansion of the rural road system.

One of the most important tunnels in this job is Bugstalle Tunnel. ALPINE will build 1.7 of the tunnel's 2.2 kilometres using the cut-and-cover system. Plans are to install a provisional track so that rail traffic does not have to be cut off. Moreover 50,000 m² of sound barriers will be installed to avoid inconveniencing neighbours.

The West Railway is one of the main arteries for rail traffic between the eastern and western European Union.

With four tracks, this line can increase the network's service capacity by improving both passenger and freight mobility, reducing travel time and improving the connections between Paris and Bratislava.

ALPINE to build Poland's 2012 European Football Championship stadiums

The Baltic Arena in Gdansk (44,000 seats), in Posen (47,000 seats) and the National Stadium in Warsaw (55,000 seats).

ALPINE, FCC Construcción's subsidiary in Austria, has won a contract to build three football stadiums in Poland for the 2012 European Football Championship. Together the stadiums are worth 469.5 million euro.

ALPINE, working in the joint venture format, will be in charge of building the Baltic Arena in Gdansk, improving and enlarging the stadium in Posen and building Warsaw National Stadium.

The first job, the Baltic Arena, is worth 95.5 million euro and must be finished in twenty months. The stadium will be raised on a 39-hectare plot in the vicinity of the city centre. It will seat 44,000 people and have 6,500 parking spaces. Its design, by RKW Rhode

visitor parking spaces.

The National Stadium in Warsaw, which will be one of the 2012 European Football Championship venues, was awarded for 285 million euro and will be built in a 24-month completion period. Designed by the internationally renowned firm of architects J.S.K., it will occupy the same site as the old stadium, which has been partially demolished to make way for the new one. The new stadium will seat 55,000 spectators in two sets of stands and ten levels. It will have more than 60 exclusive VIP boxes seating a total of 900. It will have a press box seating 800 and, on the two bottom levels, an underground garage for 1,700 cars. The building plans also call for a shopping area, a fitness centre, restaurants and conference rooms. The structure will be reinforced concrete and will stand 70 metres



Holger Knauff Studio. Infographics about Gdansk Stadium.

kellermann Architektur+Städtebau, is reminiscent of Gdansk's typical boats. The stadium will have a translucent, airy look achieved using girders and a module that becomes more and more transparent as it rises.

Posen Stadium, designed by Sportfive in cooperation with architect Wojciech Rzyński, will be rebuilt and enlarged for 89 million euro in a 17-month completion period. At the completion of the work, which will include the construction of two new stands and a new roof, the venue will have seating for 47,000 in addition to 1,600

tall; the precast components used for the stands and trusses will also be made of reinforced concrete. It will have an impressive steel cable lattice structure that will give it a stunning look.



ALPINE to build two tunnels for the German railway company for 122 million euro

Deutsche Bahn AG, Germany's railway operator, has awarded ALPINE, FCC's Austrian subsidiary, a contract to build two railway tunnels for nearly 122 million euro.

Baumleite Tunnel

Baumleite Tunnel, 1,317 metres long, between the communities of Theuern, Truckental and Grümpen, south of Erfurt, will be built in three years and will cost 44 million euro.

This tunnel, which will be equipped with a 40-metre escape shaft, is on the new 107-kilometre railway line between Ebensfeld and Erfurt, which is part of the railway connection between Nuremberg and Berlin now in line for improvement.

Beton und Monierbau GmbH (BeMo), a fully-owned subsidiary of ALPINE Bau GmbH, will take charge of building the tunnel.

New Kaiser Wilhelm Tunnel

The two-track Kaiser Wilhelm Tunnel originally built in 1877 is going to be adapted to accommodate a single track only, in order to comply with new safety standards.

This 4,200-metre-long tunnel lies on line 3100, between Koblenz and Perl, and a single-shield TBM 10.12 metres in diameter will be used for the boring work. The existing tunnel will be refurbished and connected to the new tunnel by eight connecting structures, each 15 metres long. The construction of the second tunnel will enable the line to be kept open to traffic in future.

With a budget that comes to 80 million euro, the new tunnel will be finished by November 2011.

ALPINE to build and rehabilitate several sections of Austrian roads

Road financing company ASFINAG has awarded ALPINE, FCC's Austrian subsidiary, several road construction and rehabilitation contracts worth a total of 79 million euro.

ALPINE will be rehabilitating an 8.5-kilometre-long section of the A1, Austria's West Motorway, near Auhof and Wolfsgraaben, for 26 million euro in an 18-month completion period.

It will also be building the new entrance to the B1 Wiener Strasse to Linz, after its intersection with road B-139. The

project, which has an 18-million euro price tag, includes the construction of a 177-metre bridge and an array of noise protection measures.

ALPINE was recently awarded the contract to surface an 11-kilometre-long section of the Inkreis motorway, between Pichl and Meggenhofen, for 35 million euro. That work will be finished in December 2010.

M&S finishes the El Guayacán–Jinotega road in Nicaragua



M&S, FCC Construcción's subsidiary in Central America, has finished the 22.75-kilometre-long road between El Guayacán and Jinotega.

This is an entirely new road located in northern Nicaragua, between the departments of Matagalpa and Jinotega. The area is a big coffee producer, a mountainous zone that enjoys picturesque scenery and a cool climate.

The project, financed by a donation from the European Union, required an investment of 9.4 million euro. It arose with the objective of creating an alternative road so that drivers from Jinotega could get easily to and from Managua, Nicaragua's capital.

The road is classified as a rural secondary collector road, with a design speed of no more than 50 kilometres per hour. It has

two 3.1-metre-wide lanes of traffic plus a berm. To build it teams had to remove over 90,000 cubic metres of rock and 1,000,000 cubic metres of earth, 940,000 cubic metres of which were used to build embankments and as fill.

With its high quality standards, the new road benefits all the inhabitants of the department of Jinotega, who can now travel more comfortably, making the trip in two hours and reaching the capital in one hour.

Basic Information

Owner: Ministry of Transport and Infrastructure (MTI)

Investment: 9.4 million euro

Completion period: 23 months

Team

Construction superintendent: Alembert Espinal Vallecillo, engineer

Earth-moving resident: Oscar Benavides, engineer

Drainage resident: Giovanni Telica, engineer

Technical Office head: Jorge Pérez, engineer

Site clerk: Lawrence Estrada, licentiate

Environmental officer: Roberto Ortega, engineer

Megaplas rolls out McDonald's' "folded and divided" image

Megaplas has introduced the canopy and other image components for the new "folded and divided" restaurant concept McDonald's is using in Spain.

This restaurant concept was designed and developed by the famous French architect Philippe Avanzi, the man responsible in recent years for the innovations in the European image of McDonald's. Megaplas has worked with him before in the practical application of his designs.

The new image is being introduced exclusively in what are called "free-standing" restaurants, which are the ones that includes a McAuto drive-through lane and are located on dual carriageway service roads and in shopping complexes in the outskirts of major cities.

So far Megaplas has manufactured and installed seven restaurants with this image, in Torrent, Alicante; Ronda de Bará, Tarragona; Las Tablas, Madrid; Avenida de los Poblados, Madrid; Igualada, Barcelona; Rubí, Barcelona; and Torrevieja, Alicante.



Construction of the first "folded" McDonald's restaurant on Avenida de los Poblados, Madrid.

Justice holds open house in Barcelona



Seen in the photograph from left to right are: Maria Eugènia Alegret, chief justice of the Superior Court of Justice of Catalunya; Ramon Serra, chairman of Urbicsa; Montserrat Tura, councilwoman in charge of the regional Justice Department; José Montilla, president of Catalunya; Núria Marín, mayor of l'Hospitalet de Llobregat; and Jordi Hereu, mayor of Barcelona.

Saturday 2 May was open house at the City of Justice of Barcelona and l'Hospitalet de Llobregat. From 10 am to 2 pm and from 4 pm to 8 pm, citizens had the opportunity to familiarise themselves with the new facilities.

The authorities, led by Catalunya President José Montilla and Chief Justice of the Superior Court of Justice of Catalunya Maria Eugènia Alegret, congratulated themselves on the fine job. José Montilla said that, with the City of Justice and its modernised spaces, processes and user service mechanisms, Catalunya is resolved to give citizens more and better service.

The project, led by British architect David Chipperfield and the b720 architectural studio, has taken an investment of over 321 million euro embodied in 213,054 square metres of construction. There are eight buildings of different colours, shapes and heights, ranging up to a maximum of fourteen storeys. The four buildings comprising the Barcelona courts proper are linked by a vast atrium,

the concourse for 130 judicial investigation bodies and courts of criminal and civil law.

The judicial activities and complementary services that will be taking place in the same area will involve the presence of some 3,000 workers plus the daily visit of some 12,000 people.

The first Barcelona judicial employees will be arriving at the new facilities on 4 May, and the last move is scheduled to take place presumably on 26 October 2009.

The Government Council of Catalunya's regional government has entrusted to Urbicsa, which was created by FCC, FERROVIAL, OHL, COPISA and ENTE, the concession to build, maintain and operate the City of Justice for a 35-year period. This covers buildings D and J, which house retail space, a ground-floor shopping centre and offices for lease on the first to tenth storeys, plus the operation of the 1,600 parking spaces.



Barcelona's city of Justice.

The Minister for the Environment visits La Loteta Dam during filling tests



The minister for the Natural, Rural and Marine Environments, Elena Espinosa, and the president of Aragón, Marcelino Iglesias, visited La Loteta Dam in late March while it was undergoing its filling tests. The event was also attended by the councilman in charge of Agriculture and Foods, Gonzalo Arguilé, the councilman in charge of the Environment, Alfredo Boné, the president of the Aragón parliament, Francisco Pina, and Zaragoza Mayor Juan Alberto Belloch.

Marcelino Iglesias stressed that La Loteta dam "is a fundamental piece of construction for the city of Zaragoza, where half the population of Aragón lives, because water coming in from both the Imperial Canal and the Pyrenees lends security to our water supply and its quality."

La Loteta Dam is located on a stream, the Arroyo del Carrizal, on the right-hand bank of the Ebro River, inside the municipalities of Gallur and Boquiñeni, in the province of Zaragoza, some 44 kilometres west of the city. The basin also extends into the municipalities of Luceni, Pedrola and Magallón. The dam is reached by national road 232 (The dam is at kilometre point 283.5).

Originally, the main objective in building La Loteta Reservoir was to regulate the water flowing in from Aragón through the Imperial Canal. With the subsequent implementation of the

Quality Water Supply Plan for Zaragoza and the communities around the city, La Loteta has become a vast regulator tank for Zaragoza's water supply system, where water drawn from the Yesa Reservoir will be stored.

The dam is built of loose rock with an impermeable clay core. One of its most unique features is that La Loteta is a branch dam, one that makes no significant water contribution of its own (A 1000-year precipitation return period would raise the reservoir's level by a mere 40 millimetres). The direct consequence of this fact is that there can be no sudden flooding, so there has been no need to build a spillway, although a one-metre-high spillway has been constructed anyway as an additional safety measure.

La Loteta has already reached stage two of the filling process, and the regulator tank for supplying Zaragoza and the surrounding communities with quality water is ready. After testing Zaragoza will be able to draw on La Loteta as an alternative supply in times of need, until the work to make Yesa Reservoir, also built by FCC, taller has finished. The reservoir can hold 104.13 cubic hectometres.

La Caja Mágica Is Open

Functional, flexible, modern and unique.



In the photographs, Prime Minister José Luis Rodríguez Zapatero, regional President Esperanza Aguirre and Madrid Mayor Alberto Ruiz-Gallardón. The many other authorities attending also included the honorary chairman of the International Olympic Committee, Juan Antonio Samaranch.

Since 30 April Madrid has been able to boast of some great new athletic facilities. La Caja Mágica, designed by Dominique Perrault and built by FCC Construcción, was opened by Prime Minister José Luis Rodríguez Zapatero, regional President Esperanza Aguirre and Madrid Mayor Alberto Ruiz-Gallardón. Together they supported and boosted Madrid's candidacy for a place as an Olympic city.

The athletic complex, defined by Ruiz-Gallardón as "the best tennis facilities in Spain, in Europe and probably in most of the world", revolves around two buildings, La Caja Mágica and Tennis Indoor.

There are three stadiums that offer the special features of rock-back roofs, which can be retracted to open up the entire area of play, and an array of seating capacities that run from 12,000 seats in the biggest stadium to 3,750 and 2,600 seats in the two smaller stadiums. Because the roofs can be closed, three games can be played at the same time even if it rains. La Caja Mágica also contains a player and referee area, a press area, a restaurant area and a zone for the general public. The Tennis Indoor building includes 11 indoor courts. It's a multi-purpose building as well, with an athletic club, a gym, a spa, a restaurant and an office area, not to mention the 16 outdoor courts and the parking area.

This tennis centre offers the answer to a wide range of problems, including environmental friendliness and the need for top-level athletic facilities. Thanks to the role technology plays, the complex can respond to several different needs at the same time. On the roof of the Energy Plant, in the Tennis Indoor building, there are solar panels that power a renewable energy system. These panels heat the sanitary water and are plugged into the building's climate control system as well. The new centre's environmental commitment continues with a system of recycled water for filling the lake and

watering the landscaped areas. In addition, 12,000 trees are going to be planted, mainly black and white poplars, weeping willows, fig trees, ash trees and birch trees, as well as ivy, while rushes and reeds will be planted in the wetlands surrounding the Ecological Lake.

Another plus La Caja Mágica brings the city is its location, in the San Fermín neighbourhood of Usera. This is on the banks of the Manzanares River, in an area that used to be an environmental problem area. It's now been greened and the natural ecosystem has been restored.

La Caja Mágica's opening was scheduled for the eve of the visit by the International Olympic Committee's Evaluation Commission, so the Commission members checking out Madrid as an Olympic candidate could "see the project on paper and see the reality first hand".

La Caja Mágica have had a deluxe coming-out event. From 8 to 17 May it has been hosting the Mutua Madrileña Madrid Open, the combined tennis extravaganza that, for the first time ever in Spain, has brought together the finest players in the ATP and the finest players in the WTA.



The architect, Dominique Perrault, explains the project to authorities.

FCC participates in the Equality and Reconciliation Workshop organised by Madrid Excelente



BT Iberia Human Resources Director Laura Mendiguren; Iberdrola Reconciliation and Equality Officer María Ángeles Alcázar; FCC Industrial Relations Director Luis Suárez; Bernardo Lorenzo, managing partner in the Gesor Group; SM Human Relations Manager María Luisa Orlando.

The director-general for Women's Affairs of the Community of Madrid, María José Pérez-Cejuela, opened the event together with the managing director of the Madrid por la Excelencia Foundation, Alejandra Polacci, and the chairman of Promomadrid, Jesús Sainz.

Alejandra Polacci stressed the importance of corporate social responsibility. "There is no excellent company that does not practice CSR," she said. She also underlined the benefits reaped by companies that favour reconciliation: "They get better motivation, involvement, participation, performance and organisation of work, plus they reduce rotation, absence and stress; as a result, the company's profitability goes up".

Different companies that hold the Madrid Excelente seal of approval, including BT Iberia, FCC, Iberdrola, the Gesor Group and SM, companies that stand out for their good management of equality and reconciliation issues, shared their practical experience.

Luis Suárez, the FCC Group's Industrial Relations manager, presented FCC Construcción's equality plan, which was signed with trade unions on 19 November last and will remain in force

until 31 December 2012. This plan is an orderly set of measures aimed at achieving equal treatment and opportunities for women and men and at wiping out any trace of discrimination for reason of sex. FCC Construcción is the first company in its sector in Spain to have an equality plan and one of the few companies that have launched such a plan at all, according to a report by the Ministry of Equality. The FCC Group's Environmental Services division also signed an equality plan of its own in December last.

The closing address was given by Eva Piera, second in command at the Community of Madrid's Economy, Trade and Consumer Affairs Department. She affirmed, "Today the best way of attracting talent is to apply equality and reconciliation policies at work", and she stressed that "reconciliation is synonymous with business competitiveness", reasoning, "The companies that favour reconciliation and equality are more competitive, because their employees are more satisfied, perform better and are more productive".

Students in the master's degree programme in building at European University of Madrid visit the Museum of Royal Collections



The students on their visit.

On 2 April the students in the master's degree programme in building, refurbishment and technical control at European University of Madrid's Advanced School of Building, who have got the cooperation of the A. Camuñas Foundation, visited the site where FCC Construcción is building the Museum of Royal Collections.

The new museum, designed by architects Emilio Tuñón and Luis Moreno Mansilla, will stand in the centre of Madrid, just southwest of the Royal Palace, between the Plaza de la Armería and Almudena Cathedral. It will have a floor area of 46,000 square metres and will house a set of works of art, household goods, weapons, tapestries and other items that altogether constitutes the foremost royal collection in the world.

Department head José Antonio Bravo and construction manager Juan Carlos Villanueva gave students an in-situ explanation of how the process is going and what construction methods are being applied. Phase one ended in January with the containing walls and the preparation of the lot. The second phase of work, which is underway now, covers

the building of the structure, which is designed to be made of white concrete with marble aggregate and cement of the same colour.

This master's degree programme gives architects and engineers a solid understanding of the construction sector (job organisation, management of construction companies, their strategies and their tools). FCC Construcción also participates in European University's Executive Programme in Construction Management.



The museum's structure.

Participation in San Pablo CEU University and IABSE Spanish Group lectures



The four skyscrapers at the Real Madrid Sport City (now the "Cuatro Torres Business Area") during their construction.

The Spanish Group of the IABSE (International Association for Bridge and Structural Engineering), in cooperation with San Pablo CEU University, organised a series of lectures at the Advanced Polytechnic School.

As part of the series, Jesús Gómez Hermoso, department head at FCC Construcción's Madrid Building II bureau, contributed two lectures, "The New T4 Terminal Building at Madrid-Barajas Airport: Construction Process" and "Skyscrapers: An Approach to Construction".



Aerial view of terminal T4 at Madrid-Barajas Airport in its final stage of construction.

FCC Construcción participates in the Mariano López Navarro Chair's sustainable construction and waste-recycling course



On 1 and 2 April 2009, at the Agustín de Betancourt Building on Zaragoza University's Ebro River Campus, the second sustainable construction and waste recycling course was held, organised by the Mariano López Navarro Chair at Zaragoza University and CEDEX (the Centre of Public Works Studies and Experimentation).

The course began with an overview of national and regional legislation, followed by a presentation on how different standards (the EHE Instruction, the Technical Code for Building and PG-3 for roads) envisage sustainable construction. Afterwards the bulk of the course focused on showcasing different experiences with sustainable construction in Spain.

Javier Ainchil, FCC Construcción's technical manager in Cataluña, gave two lectures to share some practical examples

from the company with students:

- ▶ Use of CDW to build base and sub-base layers on two real paved sections: a slip road providing access to road C-35 in Vidreres, Gerona, and pavement at Gijón Harbour.
- ▶ Use of slag in road layers: slag from a solid urban waste incinerator at the Les Franqueses housing development and iron and steel slag on the road from Vidreres to Gerona.

The point was to talk about the current situation of recycling in the different areas of construction and to explain real experience using different types of waste, such as aggregate, electrical smelting-furnace slag and slag from solid urban waste incinerators, in construction.

The day's event was attended by 120 people, mainly job design and supervision technicians and professionals from construction firms, laboratories and quality control entities, construction firms and manufacturers of construction products, government agencies and students at the Ebro River Campus.

Plaza de Callao remodelling work begins

On 1 April FCC Construcción began remodelling Plaza de Callao and several surrounding streets (Calle Preciados, Calle Jacometrezo, Calle Silva, Calle San Bernardo and Cuesta de Santo Domingo). The work is being done with financing from the State Fund for Local Investment.

The area whose face is being lifted measures 22,373 square metres and lies in the Centro district of Madrid. The idea is to make the traffic flow more orderly and improve urban mobility.

The activities and general objectives called for are:

- ▶ Conversion of Calle Preciados into a pedestrian street.
- ▶ Conversion of Plaza de Callao into a pedestrian square.
- ▶ Construction of a ground-level bus transfer facility on Calle Jacometrezo.
- ▶ Widening of Calle Silva by two lanes.
- ▶ Connection (preferably for pedestrians only) between Cuesta de Santo Domingo and the system of public pedestrian spaces spanning Plaza de Isabel II, Calle Arenal and Plaza de Oriente.
- ▶ Bus stops on Calle San Bernardo, to complement the transfer facility on Calle Jacometrezo.



Altogether 14,000 square metres of granite paving stones of different types and sizes will be laid; 5,000 square metres of road will be repaved; 1,300 metres of PVC drainage pipes will be laid, complemented in Plaza de Callao with 100 metres of surface gutters; the entire public lighting system will be replaced (15,000 metres of wire and 70 lamps); 76 trees will be planted, 27 hardwoods will be transplanted and 600 metres of PE pipe irrigation facilities will be installed. To get this job done, 15,000 cubic metres of earth will have to be moved.

Basic Information

Developer/Owner: The City of Madrid

Budget (VAT included): 4,458,822

Completion period: 7 months

The Hotel Balneario Las Arenas, Valencia's first five-star de luxe hotel

The Hotel Balneario Las Arenas, built by FCC, has become the first five-star de luxe hotel in Valencia and the very first establishment in Comunidad Valenciana to be accepted as a member of the world's most exclusive club for luxury hotels, the Leading Hotels of the World.

The hotel is located on a block bordered by Avenida Eugenia Viñes, Avenida de Neptuno, the seaside promenade and Las Arenas beach. The design, by the Nebot, Alfaro and Amorrortu firm of architects, sprang from the desire to restore the splendour this area used to enjoy of old, and it was based on the architectural example set by the pavilions that once housed the old Hotel Las Arenas-Baños de Ola spa.

The complex lies on a landscaped lot of over 20,000 m² split into four well-differentiated areas, the hotel area, the events area, the sport and spa area and the garden area. The hotel has kept the old spa's collection of plant species, including specimens of palm trees, tamarinds and jacarandas more than 100 years old.



FCC's Gran Vía and Plaza Europa construction and development project earned the 2009 Construmat Award

In the civil-engineering category.



Gran Vía and Plaza de Europa.

The construction and development of the Gran Vía and Plaza Europa in L'Hospitalet was one of the big winners at the 2009 Construmat Awards given out on 22 April. The transformation of the Gran Vía and the development of the adjacent land for planned uses have made this flank of the city of Barcelona more permeable. The jury chose to give this project the award in the civil-engineering category due to the magnificent job done in organising the land, the way the solution has improved openness to traffic, the complexity of the job (which necessitated a wide variety of construction techniques), the sobriety of the solution chosen and the multidisciplinary nature of the work.

One of the most outstanding points of the job was the way the development of the Plaza Europa site was handled. The plaza is designed in the shape of two superimposed hypothetical ellipses. The point where the two figures intersect falls right

in the centre of the Gran Vía; there a landscaped plaza has been built at street level, and paths have been laid to echo the layout of the streets crossing the Gran Vía from north to south. Altogether the design calls for 60,000 m² of green areas, 25,000 m² of facilities and amenities (including hotels), 150,000 m² of offices and the construction of 1,500 homes. The plaza doubles as the gateway into the Fira de Barcelona compound.

In addition, a new station was built for the Baix Llobregat Metro system, which belongs to Ferrocarriles de la Generalitat. This station,

Amadeu Torner-Fira, will act as an intermodal transfer facility in combination with the future Amadeu Torner station on line 9 of the Metro system.



The team accepting their award.

New show at LABoral: The Past in the Present and Yours in That Which Belongs to Others

LABoral Art and Industrial Creation Centre has opened a new show, "El pasado en el presente y lo propio en lo ajeno", "The Past in the Present and Yours in That Which Belongs to Others". The show seeks to delve into how the ghosts of memory wander the present, influencing how we understand and build the here-and-now.

This show analyses how territory and memory are interrelated, how they influence each other and how they resignify each other in a two-way journey, on the basis of the work of a series of artists who work very close to the land and its social and historical connotations.

Dates: 3 April to 29 June. Galleries 1A, 1B and 1C, South Courtyard and Barrio de Cimadevilla.

For more information, see: www.laboralcentrodearte.org



Ángel de la Rubia. La fosa de Valdedios. Copyright LABoral/Enrique G. Cárdenas.

Zero waste and resource use: Beyond Utopia

Javier Ainchil. Technical Manager of FCC Construcción in Cataluña.



Lime or cement can be used to stabilise earth, making it unnecessary to remove the original earth from the site. This reduces the amount of waste created and the amount of resources that has got to be used, and so it optimises resource management.

The construction sector has put stereotypes and fads behind it and has faced up to the inherent environmental aspects of its activity with maturity, by establishing and introducing genuinely sustainable strategies.

Construction companies act during only a tiny window in the lifetime of buildings and infrastructure. Normally their involvement in the planning stage is zero, their involvement in design is limited and their involvement in operation is slight. Two of the most important ways the building stage per se has an impact are its consumption of resources and its creation of waste. Yes, construction companies stop only temporarily at one site before they move on, and yes, architect's designs are rather in the nature of prototypes. And yet these seeming constraints on what a construction company can do to reduce its impact are not true obstacles. Two clearly defined lines of action can be taken.

First, the amount of waste created can be reduced. A company can minimise surplus earth use by using what it excavates from one area to fill another; a company can reuse and recycle construction and demolition waste right at the site; and a company can come up with innovative ways of recycling that legislation does not envisage. These steps are all part of an overall scheme we call "Zero Waste". The second line of action, which is consistent with the first, is to reduce to a minimum

the consumption of virgin raw materials, whether from quarries, gravel pits or fields, by encouraging the use of waste from other activities.

FCC Construction is taking consistent action in both directions at its sites by implementing a large number of initiatives in pilot schemes as well as extensive applications. Here are some of the steps taken under the Zero Waste strategy:

- ▶ Use of soil cement and soil stabilised in situ, made from marginal materials such as hard marls, to build a new road.
- ▶ Embankments at dual carriageway construction sites, built with marginal soils (clay, gypsum) using lime stabilisation techniques or encapsulation within the embankment.
- ▶ Manufacturing of artificial graded aggregates using demolition waste from a harbour crown wall made of concrete with quartz aggregate.
- ▶ Construction of sub-base layers for roads using waste from the demolition of existing buildings (stone, ceramic or mixed waste).

Continues >>

- ▶ Use of fluid waste from EPB TBMs for filling or embankment work by means of continuous lime stabilisation.
- ▶ Soil cement made in situ using construction and demolition waste obtained from an authorised CDW manager.
- ▶ In-situ composting at a pilot section, using plant waste obtained from site clearing and cutting work and yielding soil fit for use in subsequent landscaping work.
- ▶ Pilot sections of fluid filling material (low-strength self-compacting mortar) and structural concrete made from EPB TBM waste.
- ▶ Pilot section of harbour paving using concrete reinforced with polymer fibres, where material dredged up from the harbour in an earlier stage was used as correcting sand.
- ▶ In-plant recycling of bituminous hot mixtures obtained by grinding up old roads and in-situ cold recycling with cement or emulsion according to PG4.
- ▶ Upgraded yard built using asphalt demolished and crushed in a portable plant.

These are some jobs where resources were harvested from by-products or alternative waste products:

- ▶ The sub-base level of an industrial development, built using aged slag from a solid urban waste incinerator.
- ▶ Manufacturing, spreading and compacting of a non-continuous top layer of a dual carriageway, using 50% natural fine aggregates and aggregates made by crushing iron and steel slag from an electric arc furnace.
- ▶ Base and sub-base layers made of granulated or non-granulated slag from an iron and steel blast furnace.

- ▶ Low-heat concrete for dams, made with the addition of a high amount of fly ash from a power plant.
- ▶ Manufacturing, spreading and compacting a pilot stretch of type-G20 bituminous hot mixture with the dry addition of ground disused tires.

This list of jobs, which is certainly not comprehensive, reflects the concerns and the work of hundreds of FCC Construcción teams who, over the years, have managed both to reduce waste production and to use alternative products or by-products, under conditions of quality and economic profitability, while minimising social impact. In this task they have had the support of FCC's Technical Services, particularly the Central Laboratory, as well as consultants, technical laboratories and other facilities, and universities. Their work constitutes FCC Construcción's technological heritage, and it has been included in numerous R&D&I projects.

This is a titanic task in which excellence, environmental friendliness and commitment to innovation come together within a context of cost reduction. When the work is viewed in perspective, one can see and appreciate that FCC Construcción has got a deep, sincere commitment to truly sustainable construction.



Demolition rubble will be made into aggregate for use as new raw materials.