

LIST OF QUALITIES

STRUCTURE

The structure of the house is designed in concrete with large spans to create spacious areas without intermediate supports, maximizing visual continuity and integration with the environment. The structure has been calculated in three dimensions, allowing the entire volume to work together, thus achieving larger spans that would be impossible with a two-dimensional calculation. This allows for an unobstructed view of the landscape without any columns or interference, leaving the line of windows completely free. Additionally, this makes the thicknesses of the edge beams optimal and much more visually proportionate.





GEOHERMAL

Villa Noon uses a geothermal system for heating, cooling and hot water (DHW), ensuring efficient and sustainable performance without visual or acoustic in architectural design. Geothermal energy is one of the renewable energy sources more stable and more efficient, as it takes advantage of the constant temperature of the subsoil to optimize energy consumption. Requires a higher initial investment in infrastructure and drilling, its long-term profitability is unquestionable, as it drastically reduces the costs of drilling. energy costs of housing. In addition, as it does not depend on fossil fuels or is not subject to fluctuations in energy prices, geothermal energy offers economic stability and a lower environmental impact, consolidating itself as an efficient energy solution and sustainable.

UNDERFLOOR HEATING

The air conditioning is based on an underfloor heating system that distributes heat in a uniform, providing superior comfort and reducing energy consumption. His Integration with geothermal energy optimizes its efficiency. This system offers an experience exceptional thermal performance, as it is a very pleasant and uniform way for the user to air conditioning throughout the house, avoiding the sudden changes in temperature characteristic of other systems such as radiators or air conditioning. By generating heat from the ground, it is achieved a feeling of constant well-being in all rooms.

AIR CONDITIONING

The house is equipped with an air conditioning system using fan coils, allowing a Individualized control in each room. This solution improves comfort and optimizes the energy efficiency as it is connected to geothermal energy. The indoor units are integrated into the architecture without being visible, maintaining the purity of the design and ensuring easy access for records and maintenance. While this configuration requires a higher initial investment compared to a system with a single unit per plant, its operation is much more efficient and offers greater thermal comfort and personalization in every space.

PHOTOVOLTAIC

The installation of photovoltaic panels allows the generation of solar energy for the self-consumption, increasing energy autonomy and reducing the environmental impact of Villa Noon. The placement of the plates has been taken into account to maximize their performance combining this efficiency with a visual study that ensures that they are not visible to the user of the villa, while maintaining the aesthetic integration of the design architectural.

REGULATIONS AND SUSTAINABILITY

Villa Noon complies with the most demanding regulations in terms of energy efficiency, incorporating the improvements of the Technical Building Code (TBC) and the European Directive 2024/1275. It's design is based on a tradition of the place seen in an innovative way and is aligned with the creation of zero-emission buildings,. In short, Villa Stern in Sotogrande represents a balance between design, technology and sustainability, offering a living experience of maximum comfort, with an impact reduced environmental and absolute integration with the natural environment.

FACILITY INTEGRATION

Technical systems, such as grilles, ducts, and air conditioning, are hidden to maintain the purity of Villa Noon's design. From the initial phases of the work, an effort has been made to integrate and visually make all the installations disappear, achieving that the house works with all the comforts and technologies without visual interference. In addition, special attention has been paid to making these facilities accessible for their registration, use and maintenance effectively without the need to have them in sight. This strategy not only improves aesthetics, but also increases acoustic comfort and space efficiency.





MATERIALITY

Villa Noon bets on natural materials, selected for their ability to reflect natural light and enhance the feeling of spaciousness. Coatings and protections that are not harmful to health have been used, such as natural stone in a 1.20 × 1.20m format, which provides visual comfort, reduces joints, and amplifies the continuity of the spaces. Natural stone is also used on the exterior, but it is treated with a special finish that reduces slipperiness. Furthermore, the stereotomy of the stone has been meticulously studied so that all alignments of the house are maintained from the interior to the exterior up to the pool, coinciding with the furniture and the window frames. This creates a precise integration down to the last detail.

The house also has all furniture designed to measure for the house. Some of them are high-pressure laminates and others are lacquered in RAL 9010, the same one that has been used for painting walls and ceilings. This generates a sense of continuity and spaciousness to the rooms. On the other hand, the kitchen has been custom-designed, optimising each of its functionalities and incorporating Gaggenau appliances and a Solid Surface worktop, guaranteeing high quality without sacrificing functionality and ease of use. These custom-made pieces of furniture incorporate sanitising and anti-fingerprint treatments, which allows the appearance of the furniture to be kept intact and always perfect without maintenance. This highly resistant and durable material does not deform or suffer changes in temperature or humidity, remaining impeccable over time.

For the furnishing of the house, warm colors have been chosen that combine with the perfection with the neutral materials of architecture. The use of materials is repeated such as Carrara marble and Noir Saint Laurent for the study table and some side tables, dark oak wood for the dining table and metals natural for some auxiliary elements.

EXTERIOR CARPENTRY

Villa Noon incorporates large glazing that offers panoramic views of the landscape of Sotogrande. These high-tech glasses feature solar control and low properties emissive, improving thermal comfort and reducing the energy impact of the home. The sliding glass sheets are large format and allow for large openings, making that the interior and exterior come together to better enjoy the climate of Sotogrande. In addition, the windows have only a vertical profile of 2 cm, which amplifies the visual relationship between the interior and exterior, emphasizing the feeling of biophilia.

VENTILATION

The double-flow ventilation system with heat recovery allows a renewal of the more efficient indoor air without thermal losses, ensuring ambient quality optimal and minimizing the carbon footprint. This system improves the quality of the air we breathe, thanks to a set of filters and regulations that remove impurities and optimize air purity, which is directly reflected in our health and the quality of the rest.





ELECTRICITY
Complete electrical installation for high electrification

Complete electrical installation for a single-family house with high electrification. The installation includes lighting circuits, general electrical outlets, electrical outlets in rooms (bathrooms, household appliances, automated rolling shutters, air conditioning equipment, ventilation, water treatment and pressure group). The distribution of all the mechanisms will be made according to the electrical plan defined in the project execution phase.

LIGHTING AND DIMMING
Indoor lighting with LED strips and dimming with screen and blackout panels

Indoor lighting with LED strip mounted on profile, cabinet partition, stair handrail or headboard. In wet areas, an IP67 format is used and in areas in contract with water, such as swimming pools or water sheets, an IP68 format is used. To guarantee the darkness of the interior spaces, a roller blind is used, made of fiberglass mesh screen fabric with a double density PVC coating. It will be fireproof, according to DB-SI, and motorized. In bedrooms, there is also a roller blind made of blackout polyester fabric, whose abrasion resistance is 30.000 cycles, pilling resistance is 4-5 degrees, light fastness is 4-5 degrees, wash fastness is 4-5 degrees, opacity is 99.5%, sound absorption is 0.6 (DB-HR). It will be flaming retardant, according to DB-SI, and motorized.

ELEVATOR
Elevator with fully customized interior cabin design

Elevator with fully customized interior cabin design. The objective is to create a continuity with the rest of the spaces and materials of the rest of the house. The access door to the interior of the cabin is hidden by another door with identical conditions to the rest, thus achieving total homogeneity of the space.

WATER EVACUATION SYSTEM

Soundproofed and fire resistant downpipes and collectors with glued joint

Soundproofed and fire-resistant downpipes and collectors with glued joint. They have a Bs0d1 fire performance (according to UNE EN 12501) and an AR soundproofing system (according to CTE). It is guaranteed to be suitable for the evacuation of all types of water, including water from household appliances. The internal surface of the pipes is perfectly smooth, non- flammable and self-extinguishing. They are resistant to impact and corrosion and cannot be attacked by chemical agents contained in wastewater. It can be installed either hanging from the structure or under floors or slabs, as well as in chambers and inside partitions.

PLUMBING

Potable water supply pipe

Potable water supply pipe, consisting of multilayer cross-linked polyethylene, aluminium and high-density cross-linked polyethylene (PE-X/Al/PE-X). It is 32 mm in diameter and 3 mm thick. It is installed inside partition walls, false ceilings or under floors with a mechanical protection layer. These pipes guarantee compliance with current state regulations and their correct operation.





KITCHEN

Kitchen designed with integrated appliances and solid surface countertops

In the kitchen, the cabinet is made of MDF wood panels, matt white lacquered, 19 mm thick. The worktop is made of solid surface, 12 mm thick. It contains the sink, which is made of the same material, the integrated hob with built-in fume extraction. This eliminates the need to place a smoke outlet to the outside. The refrigerator, microwave, dishwasher, and oven are integrated inside the cabinets.

BATHROOMS AND TOILETS

Solid surface and water-repellent gypsum plasterboard coating

In the vertical cladding of the bathrooms and toilets, there is a 12 mm thick solid surface base up to 1.05 m high and water resistant. In the shower, this material reaches in vertical a higher height, which is aligned with the mirror, with porcelainic shower tray. The rest of the height is resolved with 15mm thick waterproof laminated gypsum boards, painted with matte water-based enamel. The flooring used in the bathrooms will be the same as the rest of the house and the ceilings are water-repellent laminated gypsum boards. The furniture elements and washbasins are made of solid surface.

ROOFTOP
Non-trafficable, non-ventilated flat roof

Conventional type gravel roof, non-trafficable and non-ventilated, with a slope greater than 1%. Slopes are formed with sills, valleys, and joints. There is a layer of cellular concrete based on cement and plasticizing-aerating additives, with a regularization layer of cement mortar. The vapor barrier is a bituminous film with APP plastomer additives, LA-30-AL, applied with anionic asphalt emulsion. Thermal insulation is provided by extruded polystyrene panels (XPS panels). The waterproofing is a single-layer, adhered type, formed by a layer of bitumen modified with SBS elastomer, LBM(SBS)-40-FP. The separation layer under the protection is a polypropylene-polyethylene geotextile and the protection layer is a volume of washed white marble boulders.

FENCING
Galvanized steel sheet, lacquered in matt white

The fencing and gates are made of a steel profile structure, paneled with 3mm thick galvanized steel sheet and lacquered in matt white. The rest of the fence will be a metal structure covered by vegetation. The vehicle access gate is motorized with remote control. The pedestrian access includes a video door entry system and mailbox. These fencing elements will integrate the different installations for the connections, counters, and other functionalities which, according to the regulations, must be accessible from the public road.

SWIMMING POOL

The pool is finished with a porcelain material that imitates limestone, to achieve the maximum visual continuity of the space but guaranteeing the optimal conditions of this volume in contact with the water. It also has LED strips fit for contact with the water, which automatically light up at a set time of day. This type of lighting is known as IP68.

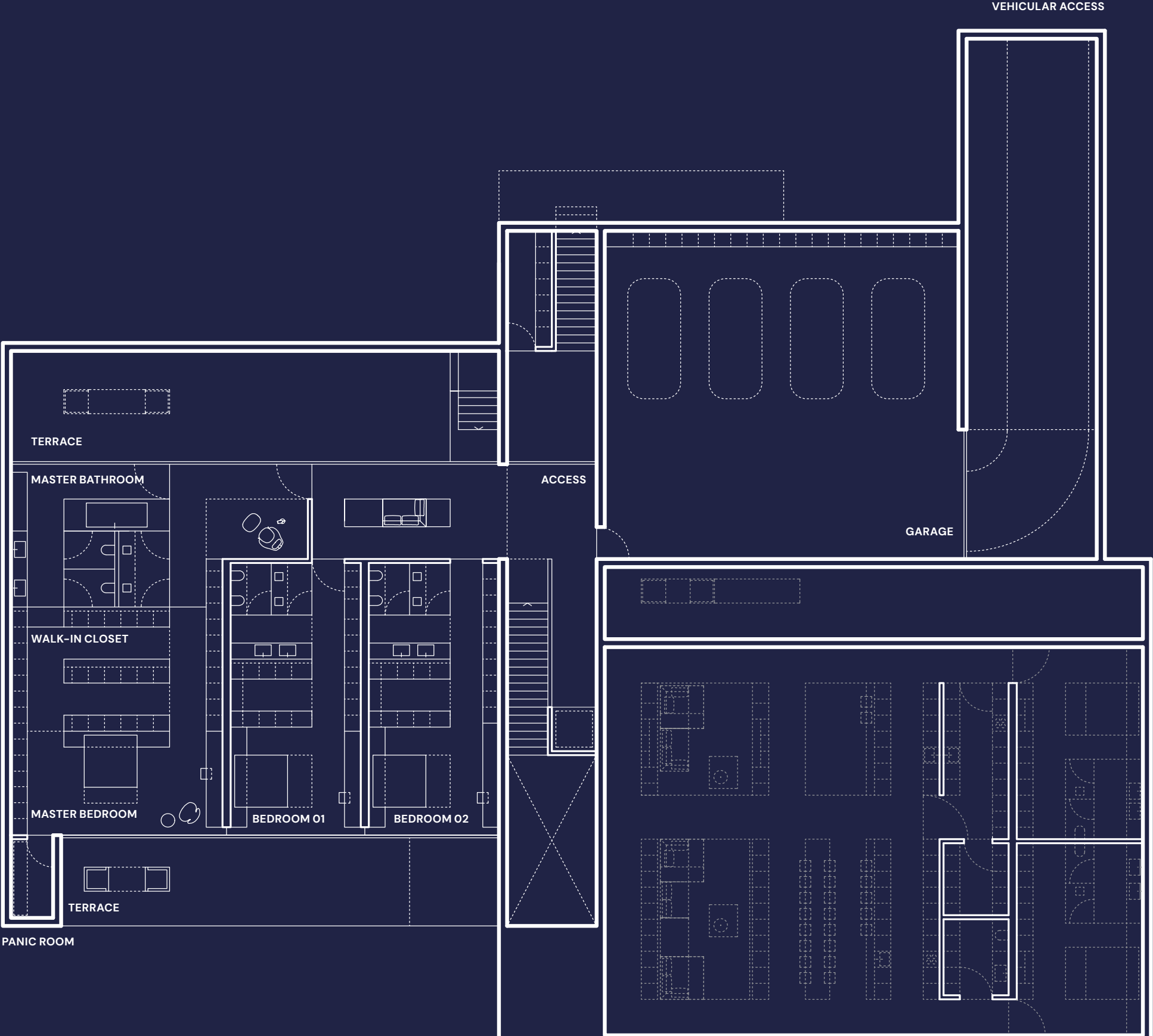
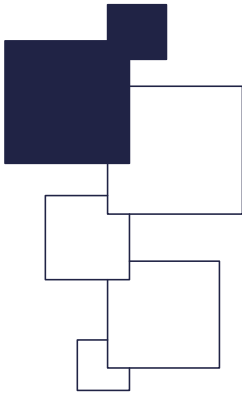


VOLUME 1 (UPPER FLOOR)
ACCESS AND NIGHT AREA

TOTAL BUILT-UP AREA
548,22 m²

TOTAL INTERIOR BUILT-UP AREA
483,67 m²

Garage	161,84 m²
Facilities	7,33 m²
Entrance hall	35,97 m²
Master bedroom	119,65 m²
Panic room	4,72 m²
Bedroom 01	49,00 m²
Bedroom 02	49,00 m²













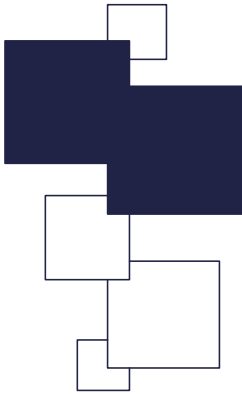


VOLUME 1 (LOWER FLOOR) & 2
WELLNES AND UTILITY AREA
LIVING AREA

TOTAL BUILT-UP AREA
820,96 m²

TOTAL INTERIOR BUILT-UP AREA
699,51 m²

Living area	213,74m²
Bedroom 03	33,68 m²
Bedroom 04	33,68 m²
Terraces	292,14 m²
Wellness & leisure area	273,43 m²
Staff area	40,86 m²







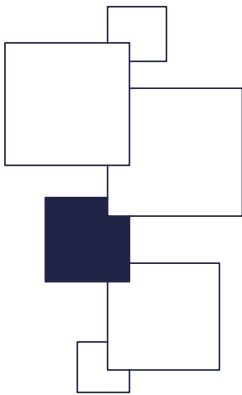




SWIMMING POOL AND TERRACE

TOTAL BUILT-UP AREA
820,96 m²

Swimming pool and water mirror 99,00m²
Open terraces 177,61m²





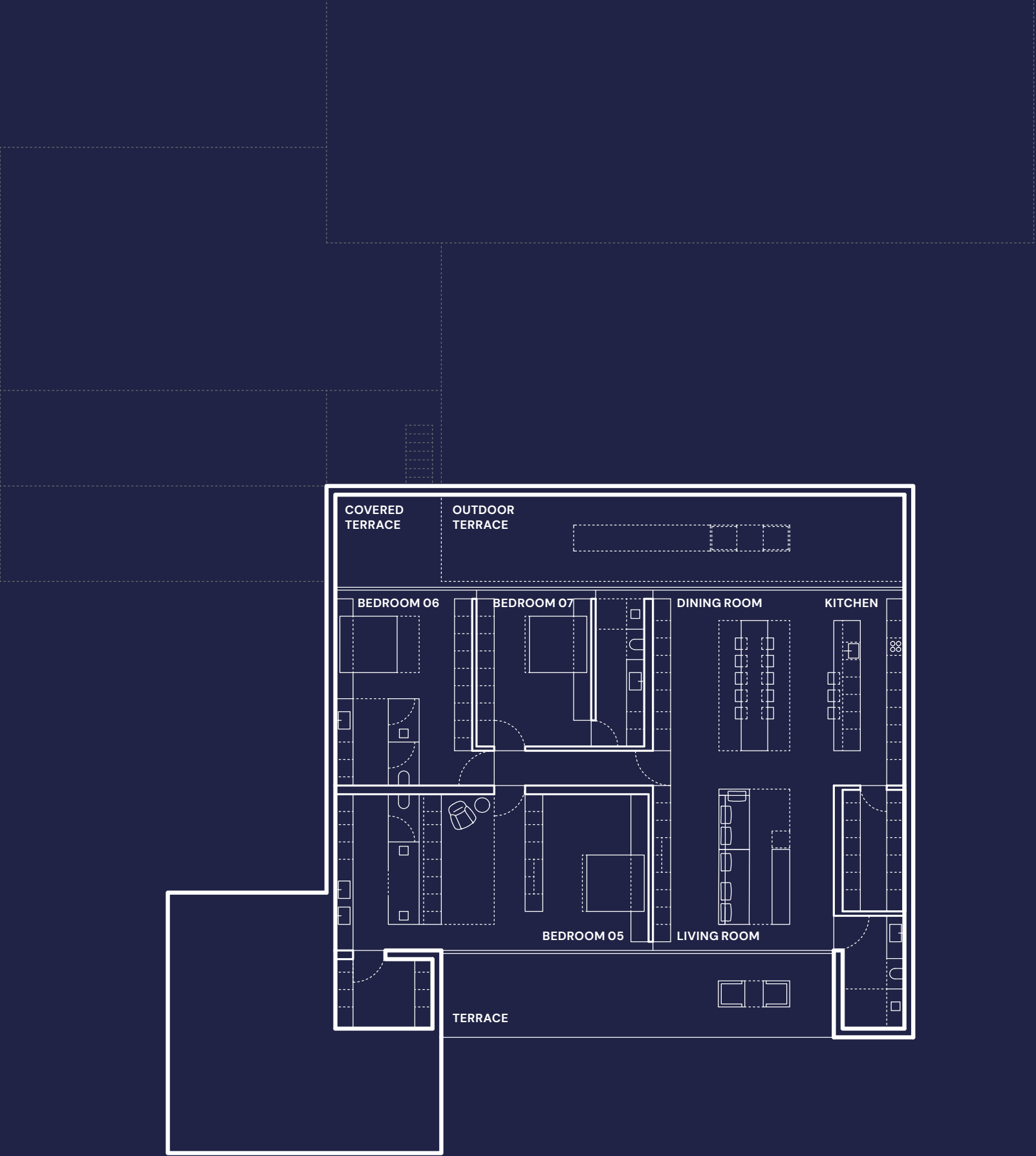
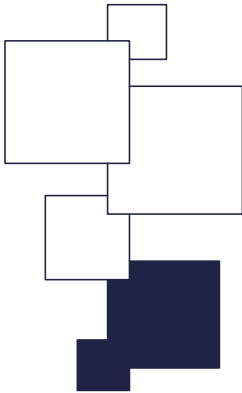


VOLUME 4
GUEST HOUSE

TOTAL BUILT-UP AREA
327,96 m²

TOTAL INTERIOR BUILT-UP AREA
271,57 m²

Living area	116,62m²
Bedroom 05	57,55m²
Bedroom 06	32,33m²
Bedroom 07	30,87m²
Terraces	100,64m²



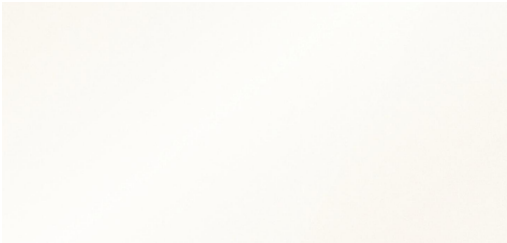






MATERIALITY

MATERIALITY



RAL 9016
Interior coating
Matt



Natural stone
Exterior floor and façade finishes
Waterproof matt sandblasted



Natural Wood
Interior wall covering
Open pore matt



ZERO ENERGY & WATER
CONSUMPTION

THE INNOVATED TRADITION

Architecture is no longer limited to supplying the functional requirements of the users who inhabit it. From Cork Oak Mansion, in collaboration with Fran Silvestre Arquitectos, there is an indisputable commitment to the environment. It is committed to sustainability through the architecture itself, which incorporates a comprehensive design in which all aspects influence.

The objective is for the architectural design from innovative tradition to guarantee watertightness, energy generation and the absence of losses to ensure that the home's consumption is zero.





ZERO ENERGY CONSUMPTION

The way to achieve maximum comfort while respecting the environment

The concept of zero energy consumption without sacrificing maximum comfort is the challenge of this villas. It consists of integrating nature and open spaces in a design and luxury home, with the objective of practically eliminating the environmental impact.

This houses use renewable energy to supply all its needs, making it an energy self-sufficient villas. All these economic and environmental benefits do not detract from the aesthetics and luxury of the villas.

To achieve this, a geothermal system with solar panels and battery accumulation generate enough energy to satisfy all the consumption of the house in one year, as well as 90,000 km of a Polestar 2-type car. All this can be achieved without sacrificing aesthetics, good materials and the greatest exclusivity.

GEOHERMAL SYSTEM

Geothermal system use the relatively constant temperature of the earth as the exchange medium instead of the outside air temperature.

Air-conditioning, sanitary hot water and underfloor heating energy production by means of a geothermal system.

PHOTOVOLTAIC SYSTEM

Photovoltaic system is a special electrical system that produces energy from a renewable and inexhaustible source: the sun

38.64 kWp grid-connected solar photovoltaic system for self-supply.

BATTERY SYSTEM

Battery system is made up of electrochemical cells which generate electrical energy at a specified voltage.

Accumulation of energy without waste for later use.

THERMAL INSULATION SYSTEM

Thermal insulation system reduces heat transfer between solid objects, fluids or gases by introducing a barrier between them.

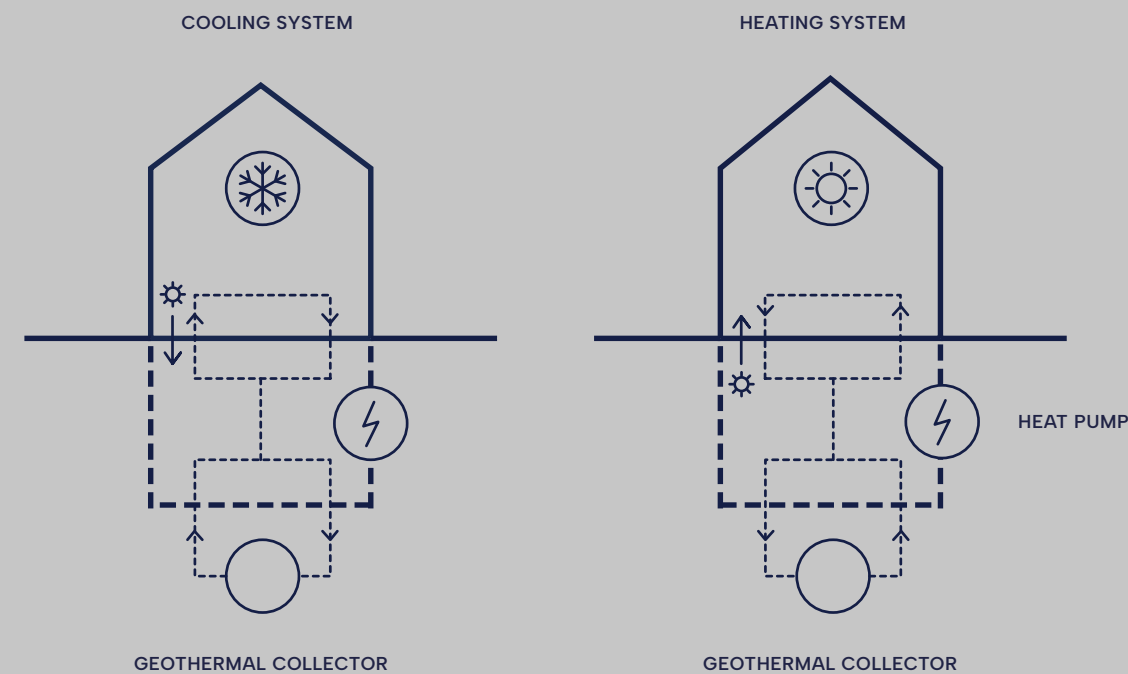
Continuous thermal envelope that guarantees temperature control and comfort of the house with no energy losses.

FIRST CLASS MATERIALS AND GOOD ORIENTATIONS

First class materials are those which are extremely good and of the highest quality.

High quality carpentry and materials are used to preevent interior-exterior heat flow. In the other hand, the correct orientation of the house ensures the use of shading, which favors the natural air conditioning of the villa.





LOW-ENTHALPY GEOTHERMAL ENERGY

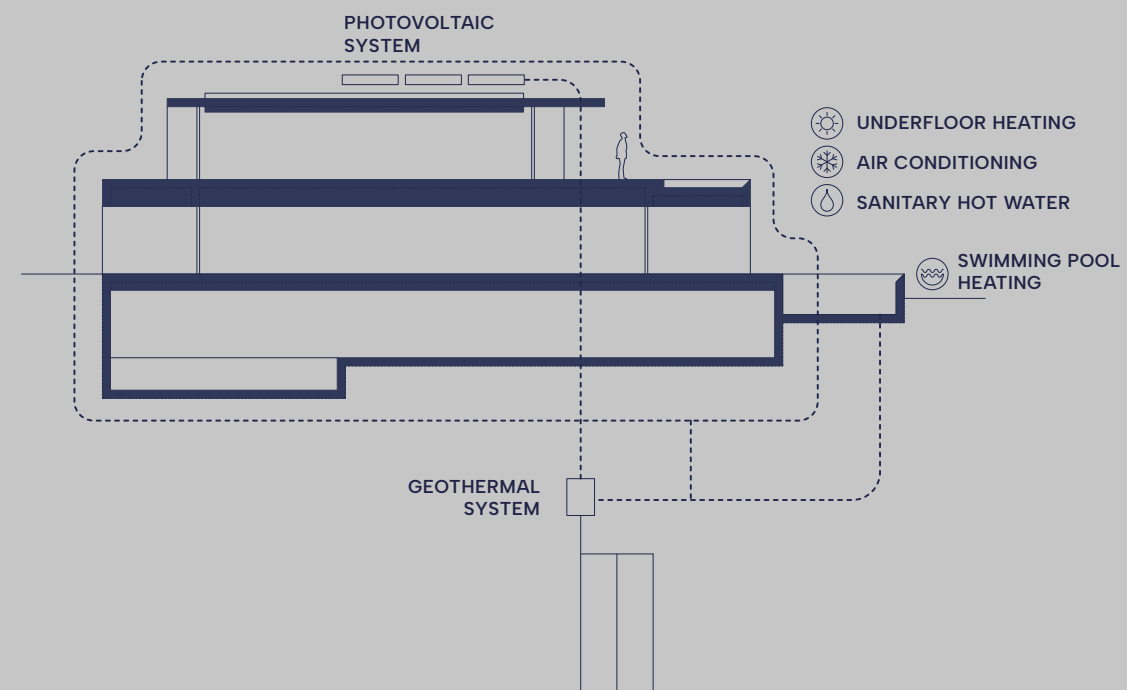
The installation can function as both a heating and cooling method. In the first case, the pump extracts energy from the ground and introduces it into the house in the form of heat. When the demand is for cooling, the machine evacuates the heat from the building and uses it to produce domestic hot water and to heat the swimming pool. Once these needs are met, the excess heat is sent to the ground.

PHOTOVOLTAIC SYSTEM

The electrical energy produced by the photovoltaic panels is an endless, renewable and non-polluting source. It contributes to sustainable development, since it consumes the daily energy produced by the sun. This energy can be used for self-consumption or be fed into the Spanish electricity grid for later compensation. During periods of low solar radiation, the energy that has been accumulated during the light periods is used. The building will be energetically self-sufficient and will obtain surplus energy to charge vehicles.

BATTERY SYSTEM

Batteries are one of the best self-sufficient systems. The energy collected in hours of non-energy use is accumulated to provide support in the necessary hours. The excess energy generated is accumulated for own use.



ENERGY SELF-SUFFICIENT VILLA

The home's two primary renewable energy sources (geothermal and solar photovoltaic) work together, making the villa an energy self-sufficient building.

UNDERFLOOR HEATING

Indoor installations for underfloor heating.

AIR CONDITIONING

Indoor installations for air-conditioning by means of ducted units.

DOMESTIC HOT WATER

The energy produced by geothermal energy can be used to heat domestic water.

HEATED POOLS

Installations for heating of indoor and outdoor swimming pools.

HYBRID SYSTEM

Hybrid system with battery storage.

WATER SAVING STRATEGIES

ZERO WATER CONSUMPTION

The way to achieve maximum water saving and respecting the environment

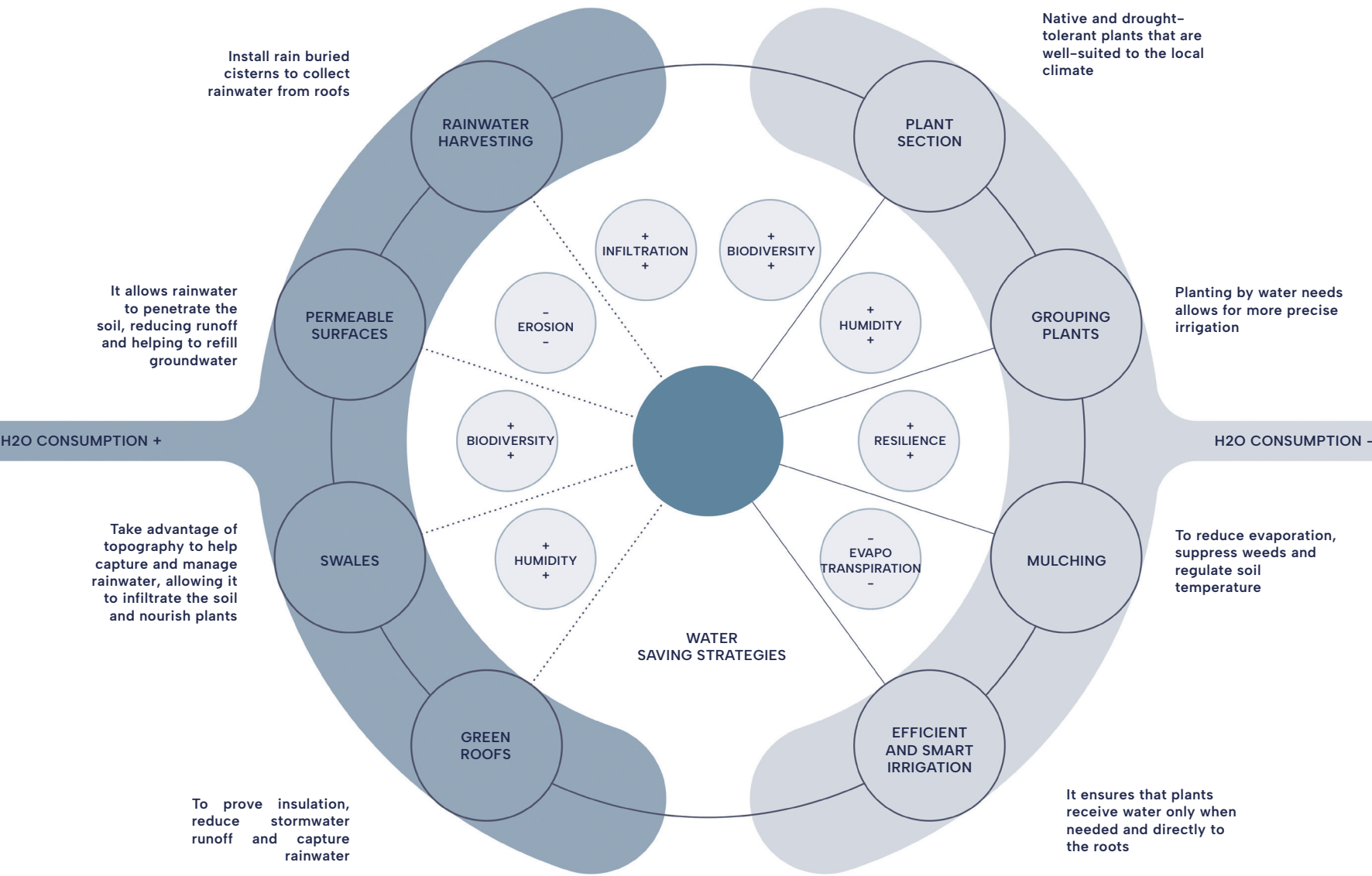
The revolution of sustainable housing is consolidated in The Fifteen with the preservation of the most precious element: WATER. After achieving total energy efficiency in Altos de Valderrama with the first luxury villa with zero external energy consumption, we go further in the most distinguished area of Sotogrande, not only in terms of indigenous landscaping with low water impact, but with a combined system of water generation for domestic use, rainwater harvesting and reuse of grey water for irrigation.

The home will achieve zero water consumption thanks to the use of three renewable water sources:

- Atmospheric water generation: 90.000 liters per year with electricity consumption from photovoltaics of 0.2 kWh per liter generated. This water is of high quality and will be used for human consumption for both drinking and cooking.
- Rainwater collection: 760.000 liters per year with average quality for non-human consumption uses in the home (cleaning, etc.).
- Reuse of gray water: Gray water from the house (approximately 700.000 liters per year) will be used for irrigation.



Before planting, the species are carefully selected in a nursery and exposed to several changing episodes of water stress to ensure a proper adaptation to an environment without any irrigation



LANDSCAPE

The strength of our Project lies within the power of the enclave and the architecture which the garden is displayed around, where it aims to function in an efficient and communicating way.

We work with drought torelant Mediterranean plants to minimise water consumption as much as possible, combining grasses with tree species such as *Olea Europaea*, *Quercus ilex* and *Ceratonia siliqua*.





Ubication **ACCESS**
Vegetation **GRASSES GARDEN**
Characteristics **0 IRRIGATION**



Ubication **RELAX GARDEN EXPERIENCE**
Vegetation **GRASSES GARDEN**
Characteristics **0 IRRIGATION**



Ubication **POOL AREA EXPERIENCE**
Vegetation **GRASSES GARDEN**
Characteristics **0 IRRIGATION**



Ubication **SEATING AREA EXPERIENCE**
Vegetation **GRASSES GARDEN**
Characteristics **0 IRRIGATION**



Ubication **WALKWAY EXPERIENCE**
Vegetation **GRASSES GARDEN**
Characteristics **0 IRRIGATION**



Ubication **VIEWPOINT-FIRE EXPERIENCE**
Vegetation **GRASSES GARDEN**
Characteristics **0 IRRIGATION**



Ubication **SENSORY EXPERIENCE**
Vegetation **GRASSES GARDEN**
Characteristics **0 IRRIGATION**



Ubication **VIEWS FROM THE HOUSE**
Vegetation **GRASSES GARDEN**
Characteristics **0 IRRIGATION**

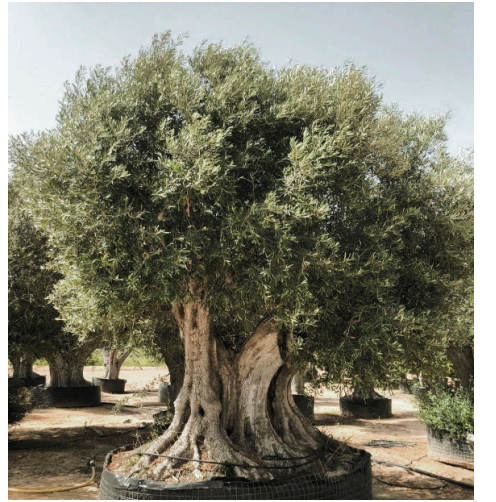


Ubication **VIEWS FROM THE HOUSE**
Vegetation **GRASSES GARDEN**
Characteristics **0 IRRIGATION**





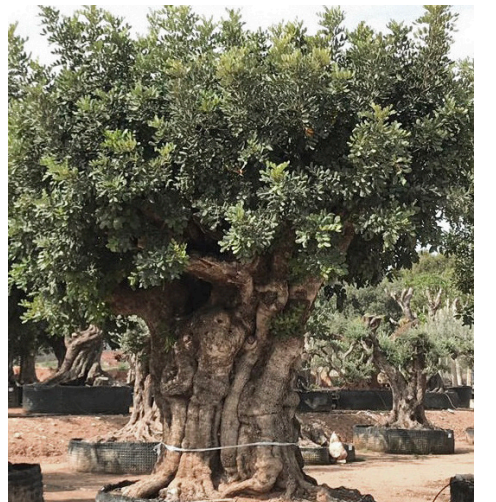
Vegetation **OLEA EUROPAEA**



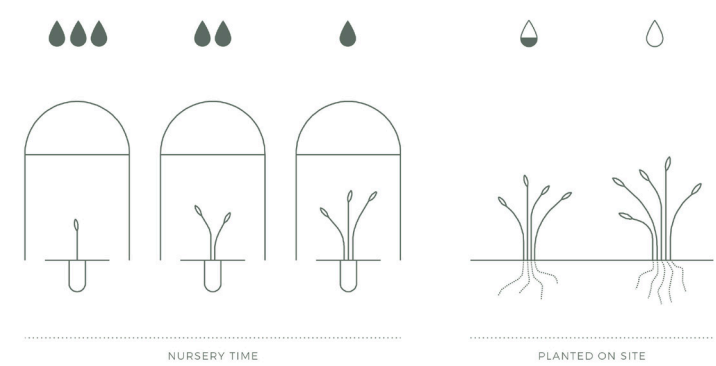
Vegetation **QUERCUS ILEX**



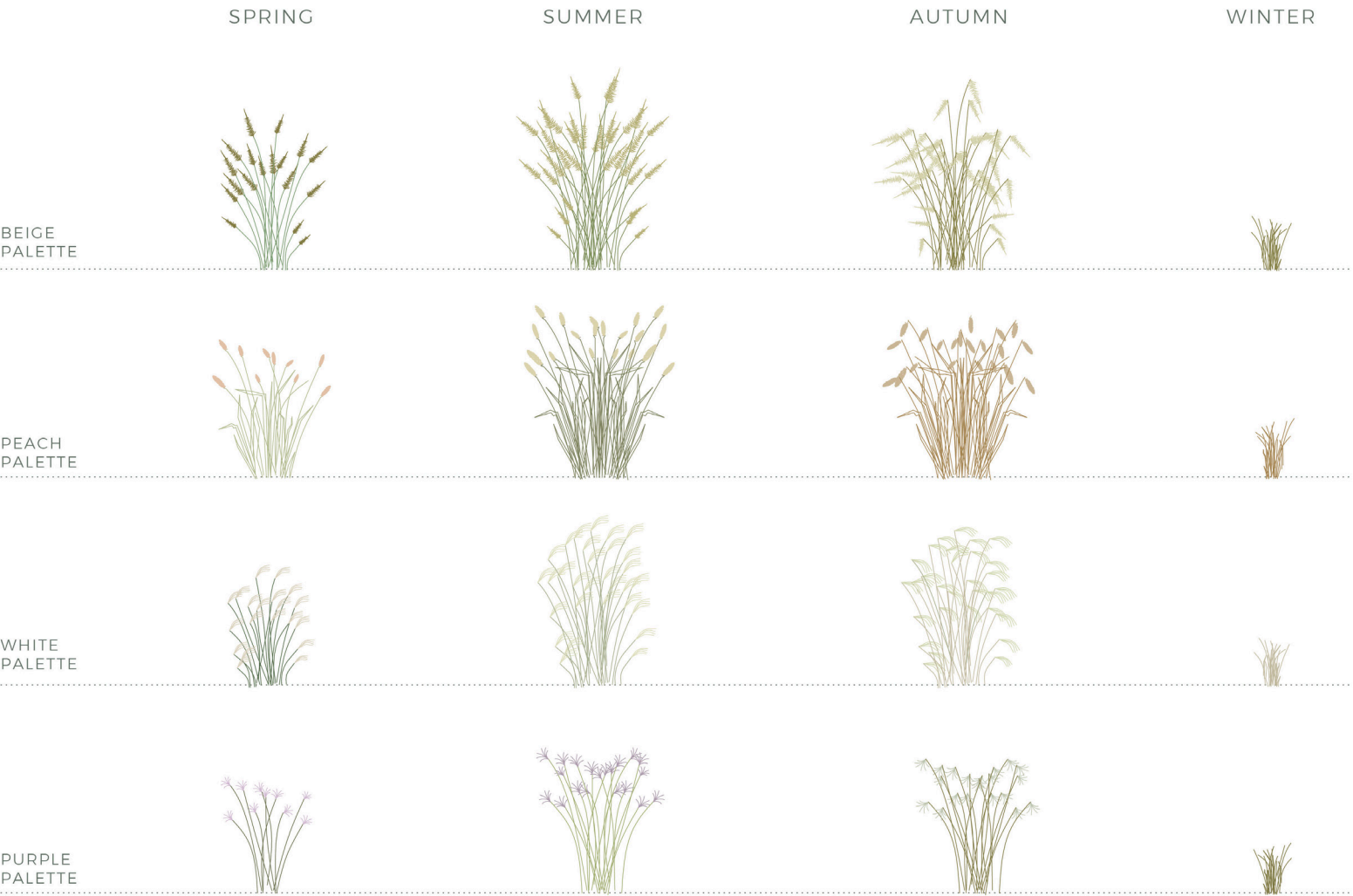
Vegetation **CERATONIA SILIQUA**



SEASONAL CHANGE



Before planting, the species are carefully selected in a nursery and exposed to several changing episodes of water stress to ensure a proper adaptation to an environment without any irrigation



VEGETATION



Vegetation **OLEA OLEASTER**
Heigh **3–12m**
Mesh **4x4**



Vegetation **PHILLYREA LATIFOLIA**
Heigh **1–3m**
Mesh **1,5x1,5**



Vegetation **LYGEUM SPARTIUM**
Heigh **0,2–0,6m**
Mesh **0,5x0,5**



Vegetation **STIPA TENACISSIMA**
Heigh **0,5–1,5m**



Vegetation **STIPA GIGANTEA**
Heigh **0,5–1,5m**