

FORMWORK
ENGINEERING
SOLUTIONS
EXPERTISE
SERVICE

Alsina





Alsina is an international leading company specializing in the design, manufacture, sale and rental of formwork that is in charge of its own engineering systems development for the implementation of concrete structures.

With over 65 years of experience, Alsina is known for its customer-oriented service and its constant investment in research and development over the years, offering efficient solutions for concrete structures that help our customers to improve the efficiency and safety of their projects through a committed and proximity service in the global market, by innovating and investing in people as a fundamental component of the business.

From its headquarters in Barcelona, with ISO 9001:2015 Certification, the Alsina Group is expanding its working methodology at its centers all around the world, dedicated to the sale and rental of concrete formwork equipment.





#### **REFERENCE IN HOUSING**

One of the biggest keys to the company expansion in the recent years is the export of new building systems that have proven effective for over 40 years in Spain. Mecanoconcept: a mechanized slab formwork system that effectively enables saving time in construction process. Nowadays Alsina is working to introduce the Mecanoconcept system worldwide.



#### **CIVIL ENGINEERING**

The Alsina Group has a active presence in Civil Works and transportation projects. The construction of roads, bridges, underpasses, overpasses, tunnels in a mine, etc. Also in Industrial Engineering (energy processing plants, processing plants, etc.) and Maritime Engineering (construction of ports, dikes, dams, etc.).



#### **HYDRAULIC PROJECTS**

Alsina is the leading company in supplying formwork systems for the implementation of water projects. More than 500-implemented projects in the recent years support our ability to do this type of project: desalination, water treatment plants, reservoirs, etc. We also offer engineering and calculation processes in order to optimize our range of formwork systems.

"We provide solutions for concrete structures." Together, we move forward.

## **ALISPLY WALLS**

A recoverable formwork system for concrete walls, designed to be crane-handled. Alisply Walls consist of a reinforced galvanized steel frame lined with 9/16" thick phenolic plywood.



- The Manual Clamp can be connected to any point along the frame. It's unique shape joins and lines up forms, and allows off-setting panels in certain applications such as slopped walls.
- Alisply is available in 10 different widths for each of 2 different heights.
- Alisply's Lifting Bracket for crane operation is easy to place, and includes a safety lock.
- Due to tie locations in the Alisply forms, both sides of the wall may be off-set as well if required by jobsite conditions. Alisply ties are not allocated through the frame but through the plywood, allowing angle settings.
- Alisply walers allow big form sets to be moved together.
- Phenolic plywood face provides an excellent concrete finish.
- 3 different brace sizes, 9'-10", 6'-6" and 29'-6" to accommodate any stack-up configuration.

## System with a manual clamp. No need for a hammer.



The joint and alignment system of the panels is made using the GR-2 Alisply Clamp. Its design allows you to join and align the panels with only one hand. Alisply Adjustable Clamps may also be used, which allow you to incorporate extensions wide between panels.



The Alisply Wall System, along with its accessories, is designed for quick and easy assembly. The support of the 5 <sup>7/8</sup>" (15 cm) framework facilitates assembly and alignment of the panels.



Alisply Walls, with a phenolic resin-coated plywood formwork surface, provide a fair-faced concrete finish. Also, it allows for the defining of the texture of the concrete through the positioning of chamfer strips or other components that easily adhere to the lining.

#### **Manual Clamp**

3 clamps 9'-10 1/8" in height

#### 2 Tie Bars

2 tie bars 9'-10 1/8" in height

#### **Metallic Frame**

5 <sup>7/8</sup> wide facilitates assembly and support





# **ALISPLY CIRCULAR**

Formwork system for circular walls designed for crane handling. Alisply Circular consists of a galvanized steel frame and phenolic plywood formwork surface.



Alsina's Alisply Circular forms ship flat, for best accommodation of truck loads and on-site storage.



Just a template and a common wrench are required for radius adjustment. Reinforced system with end tensors ensures correct radius curving in the panel.



Alsiply Circular forms adjust to any radius (min. 8 ft) by an easy operation which can be performed on site and as many times as required by the project conditions. Built-in turnbuckles make changing radius an easy and quick operation.



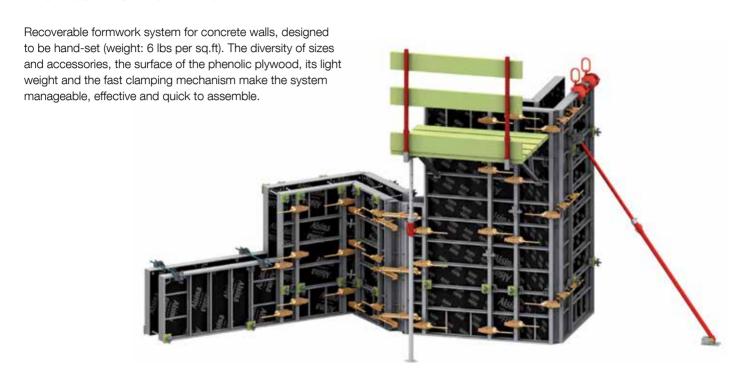
# Pre-assembled circle can be connected to the straight wall with a clamp.

- Pre-assembled and extra flat module.
- Vertical and horizontal connection with clamps.
- Threads protected from knocks and concrete.
- Accessories and joints compatible with Alisply Walls.
- Unique reinforcement system for the end jamb.
- Radius change without the need to disassemble the wall.
- Template does not require trestles.Optional supplemental offsetting components integrated with the panel.
- Alisply manual clamp for panel connection makes Alisply walls and Alisply Circular walls totally compatible.
- It offers the possibility of an class-B concrete finish thanks to the use of its phenolic plywood formwork surface and the design of the panel and accessories.
- Compatible with climbing systems for an easy and fast execution of high circular walls.



# | ALISPLY-M WALL (HANDSET)

# Light and reusable manual wall formwork.





Really lightweight system, ideal for projects that do not contemplate using a crane. Nevertheless, thanks to the wide range of system accessories, large screens can be mounted, using a crane for handling and positioning.

Designed for a fast and easy assembly. The frame support makes it easier to assemble and align the panels. The Alisply-M wall Clip makes joins possible anywhere on the frame, and aligns the panels as well.

Due to the great variety of modules and accessories, any kind of wall can be erected, and also allow for polygonal walls.

With its modules diversity, it is easy to solve the corners on the most common type of walls. The Outside Corner Angle is used to join together two standard panels of the appropriate width, according to the wall thickness. This type of solution makes the most of the material, because it limits the number of specific parts. The different inner corner measurements provide an easy solution for matching perpendicular walls.

- It is a very lightweight system, ideal for projects that do not include the use of a crane.
   Nevertheless, thanks to system accessories, large screens can be mounted, using a crane for lifting and positioning.
- The Alisply Manual system and its accessories are designed for fast and easy assembly.
- Due to the large variety of modules and accessories, any kind of wall can be erected.
- The Alisply Manual Clamp joins, aligns and strengthens the panels in one single operation, without needing any tools.
- The Walkway Bracket is an essential element for the operator's safety while pouring the concrete.
- The Alisply Manual System has a retractable corner with a design that facilitates stripping operations.



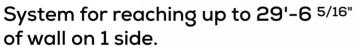




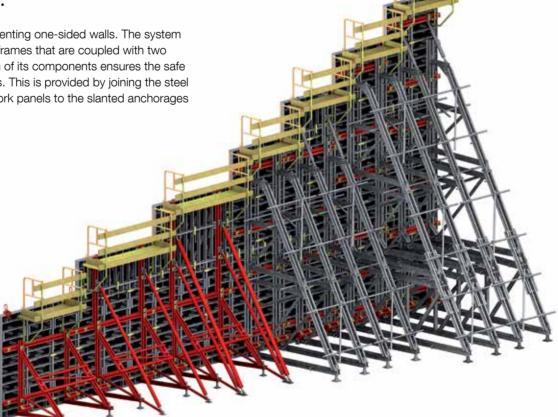




# ONE SIDED WALLS



Support structure for implementing one-sided walls. The system consists of reinforced brace frames that are coupled with two horizontal walers. The design of its components ensures the safe transfer of the concrete loads. This is provided by joining the steel brace frames and the formwork panels to the slanted anchorages on the ground.



#### ONE SIDED WALL 9'-10 1/8" IN HEIGHT

- Allowed pressure of 1253.1 psf.
- Good weight / features ratio.
- Joining brace between easy positioning.
- Maximum height 10'-10" and 14'-1 <sup>1/4</sup>" / 17'-4 <sup>5/8</sup>" with filler.
- Movable together with the wall formwork.
- Rear base jack with height regulator.
- Compatible with Alisply Walkway bracket.



#### ONE SIDED WALL 19'-8 1/4" IN HEIGHT

- Admissible pressure up to 1253.1 psf (up to 22'-11 1/2").
- Easy assembly between brace frames.
- Optimal design for its stacking on site.
- Movable together with the formwork system.
- It has several lifting points for the crane, depending on the different loads.
- Front support for better positioning of the panel on the floor.
- Adjustable rear base jack.
- Compatible with Alisply Walkway Bracket.



#### ONE SIDED WALL 29'-6 5/16" IN HEIGHT

- Admissible pressure variable depending on the foundation trench and the height of up to 1250 psf.
- Easy assembly between brace frames.
- Adjustable rear base jack.
- Adjustable front support: it allows the fitting of the formwork to the ground, preventing the concrete grout from leaking.
- Several lifting points for the crane, depending on the different loads.
- Optimal design for its stacking on site.





# C160 CLIMBING SYSTEM

With the C-160 Climbing Platform system, it is possible to build shear-walls and walls using climbing cycles with pouring heights up to 13'-1 <sup>1/2</sup>" while ensuring total safety for workers. The assembly of the climbing platform and its safety platform can be carried out on the ground, before positioning it on the wall, or by placing the brackets onto the anchorage rings and assembling the platform later.



# C240 CLIMBING SYSTEM

With the C240 Climbing Platform system, it is possible to build shear-walls and walls using climbing cycles with pouring heights up to  $19'-8^{1/4}$ " while ensuring total safety for workers. It can be positioned using M-24 tie bars or using Steel Cones.



# INTERIOR CLIMBING SYSTEM

# For joint movement of climbing and formwork systems.

Designed for safe performance of: interior climbing systems in hollow pier formwork, elevator shaft formwork moreover and all types of hollow structures with multiple sections.

- Enables carrying out a wide variety of regular interior sections.
- Multiform beams makes it possible to offer an optimum solution for each section without the need to manufacture customised elements.
- Fast and easy pin-based assembly that does not require tools.
- The anchoring systems allow the platform to be automatically raised and secured at a higher level by simply pulling the platform with the crane.
   Neither the climbing platform nor the support need to be disassembled.
- Climbing on the inside of hollow structures means that formworking material is supported from within without a need for using ground-based scaffolding or bracing elements.
- Amounts of material and labour savings.
- Climbing system with the toggle support or cast-in anchor.





## | SELF-SPANNING

Modular formwork system for the execution of caps. Designed for maximum versatility using standard parts. It can fit to most of the structures found in the execution of bridges and roads. It can be used for the execution of columns, walls, or caps.



- Standard panels from 4' x 4' to 12' x 8'.
- Universal rail makes it possible to place a many accessories during the execution of the project.
- Easy connection between panels thanks to its conical bolts, which also allow selfaligning of the panels.
- During the execution of the caps, it is not necessary to pass bars through.
- The panels can work with section reduction, and it is possible to carry out a multitude of sections without needing to add any additional part.
- Hinged system enables fast soffit stripping and interchange between structures without having to dismantle the system.

# Universal solution for the construction of road structures.

The Self-Spanning System has 16 panels sizes with heights up to 10' and lenghts up to 12'.

Multi-hole double channels that allows for one single panel size to fit in different cap widhts (soffit and bulkhead).

Thanks to several multi-hole double channels, accessories can be connected anywhere, as needed. Multiform aligner waler, walkway brackets, hinged corners.

The Self-Spanning system can be used as a heavy gang wall form system by crossing some ties. Alsina can provide all accesories making this a great solution for walls at your heavy civil projects.

Panels have been designed to work as column panels as well. Even panels can be cycled from column forms to pier cap forms.



Placing brackets is easy and quick with our thru-bolts system. Alsina Engineering Department will provide the torque needed on the anchor bolts.

#### FORM PLACING ON TOP OF BRACKETS

With one single crane movement, form is placed on top of the brackets.

#### **ALIGNMNENT, SOFFIT CLOSING AND POURING**

Once the form is on top of the brackets it is time to align side forms and close soffit panels. After working on final adjustments it is time to pour concrete.

#### **STRIPPING**

Once concrete strength has been reached, soffit needs to be opened and stripping can be made in one single crane movement.















## H33 TRUSS

# Fast and reliable system to solve large spans for bridges solutions.

The H33 Truss it is a reliable system designed to solve large spans for bridges solutions. It also allows to develop different applications as gangways and pier cap and other structural solutions. The assembling is very fast to do it, bracing normally in pairs two trusses with elements that ensure the distance between then in some widths. Thanks to their extraordinal rigidity, the assembling can be moved from one to another position.

- Modular system with different lengths up to 30m of spans.
- Different bracing widths to the fit to the required solution (0.4 – 0.7 -0.92 -1.65).
- Counter bow system for ensuring flats results.
- Up to 8' height pieces easy to be packed and shipped.
- Easy and fast assembling with few components.
- Bending moment of 150Tn/m of capacity.
- Complete and integrated safety system.
- Galvanized to ensure a large life span and worst place conditions.



## TC360 HEAVY DUTY TOWER

Efficient and versatile system for shoring civil works structures.

Modular shoring system with a high load capacity designed mainly for shoring civil works structures. The main advantage of the system is that it shares many pieces from the MF system that makes the system extremely versatile. It can solve almost any solution without especial pieces only sharing standard pieces. All the solutions contains the MF beam. Combining the different lengths with all the accessories, allows the system the capacity to solve as mentioned previously.



Up to 300 Kips depending of the height and the configuration according to the horizontals loads.



Thanks to several multi-hole double channels, accessories can be connected anywhere, as needed.



Thanks to the Hydraulic stripping system, the stripping for can be done easy and fast.

## **| ALUPILAR**

## The manual system for columns.

Alupilar is a handset and adjustable column system. One single panel allows multiple size configurations in 2" increments. Each panels has a wedge and pin mechanism built-in to connect, allowing no loose parts during assembly and providing with a cost-effective performance.

The design of the frame incorporates the quick assembly to reduction system. The frame is made of duraluminium (structural aluminium) painted with white epoxy and a phenolic plywood lining that gives it a higher quality concrete finish. A hammer is all that's needed to assemble and dismantle the system.











For better finishing the edge of the column, use the Alsina chamfer strip. Also prevents the grout of the concrete from leaking out. This accessory adheres to the panel using a spring especially designed for this purpose.

It does not have to be nailed in and therefore avoids damaging the phenolic surface. The use of the removable Alsina chamfer strip greatly improves the stripping of the column.



- Panel made of duraluminium.
- Weight of the Alupilar panel: 4 psf.
- Painted in white polyester.
- Maximum pressure allowance: 1,660 psf.
- Plywood formwork surface 1/2" thick.
- Inter-panel connecting elements integrated in the frame.
- Light: 4 lbs/sq.ft.
- Quick; easy assembly, built in parts.
- Plywood face and PVC Chamfer provide a great finish.



## **ALISPLY UNIVERSAL**

Alisply Universal is based on the Alisply Panel, but with the following modifications: it uses reinforced cross beams with 15 holes for adjustment and allows the system to solve multiple configurations on site, such as columns or bulkheads.



The phenolic plywood formwork surface provides multiple advantages compared to metal surfaces: lower weight, higher concrete finish quality, an increase in its endurance and greater resistance.



Designed for adjusting the formwork to exact dimensions. Allows greater adaptability, with less parts in wall bulkheads, beginnings and overlaps.



Designed from the basis of the Alisply Wall panel with a steel frame painted with polyester paint, properly reinforced in order to obtain adjustment on all four sides.



- Frame built with high resistance steel.
- Painted with red polyester paint.
- Weight: 10,85 psf.
- The system is able to withstand pressures up to 2100 psf.
- Phenolic plywood formwork surface.
- Exposed concrete finish with phenolic plywood lining.
- The design of the steel frame makes Alisply Universal one of the most resistant column systems in the market.
- Ideal system for creating large sections up to 48"
- Easy connection by common parts to adjust required column size.

# Column formwork system with greater adaptability.

The system has a wide range of components and accessories like lifting bracket for use with a crane, walkway bracket and work platform, chamfer with fins for column edge finish, and a range of aligners.

Alisply Universal is widely used in large section columns, specially for large buildings with shieled columns.





## | TRIPLE-HINGED CORNER

The ideal solution for pits and elevator shafts.

The Triple-hinged corner developed by Alsina is the current and cost-effective way to form elevator and staircase cores and shafts. With this part it is possible to form and strip shafts and move the complete set easily and quickly to the next stage.



The Triple-Hinged Corner system is easy to use and simplifies forming and stripping. Preassembled thread protected turnbuckles simplify the forming and stripping process.



The Triple-Hinged Corner is manufactured in heights of 3'-3  $^{3/8}$ " and 9'-10  $^{1/8}$ " and is entirely compatible with the Alisply Walls System.



Its simple design and efficiency optimizes budgets considerably in cases where the hinged corner is used.



## **A-LITE POST-SHORE**

# A lightweight prop for heavy loads.

The A-lite Post-shore is Alsina's telescopic prop. It is made of aluminium and is both lightweight and strong. It can be used as an independent support post-shore, or as part of a loading tower. The so-called bracing frame accessory has been designed to brace the A-Lite post-shores, and safely and quickly assemble independent loading towers.

- High load capacity in relation to its lightness.
- It offers considerable time savings when assembling and disassembling a system.
- Its design and accessories make it possible to work in complete safety without the need for a crane.
- High productivity on site.
- Made of aluminium.
- Enables formwork for load towers thanks to the brace frame
- Includes a safety feature to prevent the post-shore shank from working loose from the thread.





## **ALUFLEX**

Innovative slab formwork system with a mixed structure of wooden and aluminium beams. It incorporates mechanized elements to increase productivity in this type of systems. The Aluflex system only uses three basic elements (Aluminium support girder with multiple U sections, HT-20 wood beam and prop) Aluflex is the ideal solution for the most cost-effective production of concrete slabs.



- Easy, fast and simple mechanical assembly system optimizes performance.
- Flexible and versatile system adapts to various work configurations.
- Braced system, when beams are secured in their corresponding housing, they cannot slip.
- Gaps / positioners in the aluminium beam for housing secondary wood, avoiding tipping.
- Sturdy components: Support girder made of high resistance aluminium.
- Compatible with any formworking surface- wood or phenolic panels.
- Allows the board/phenolic board to be nailed to the beam.
- Ideal system for large slabs and for heights greater than one floor, minimising the number of postshores.

# Flexible and lightweight slab system.



Made up of three basic elements: Beam, HT-20 wood beam and post-shore. This is in addition to the multiple support possibilities, such as post-shores and scaffolding.



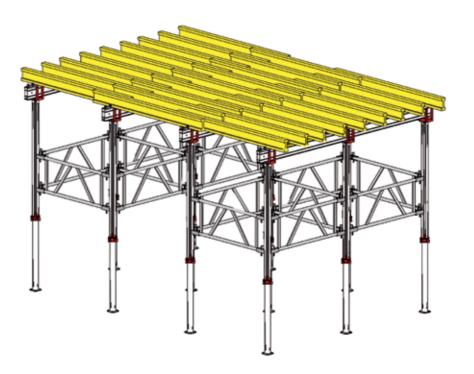
The aluminium girder is designed to support and reposition the wood beams according to the slab load. It saves having to measure distances and fix the wood beam, and means a quicker assembly.



The Aluminium girder and the HT-20 wood beam, are provided with the Guardrail accessory to protect the formworker when assembling the system.

The wood beam U-head allows the stringers to overlap for best accomodation to existing conditions.

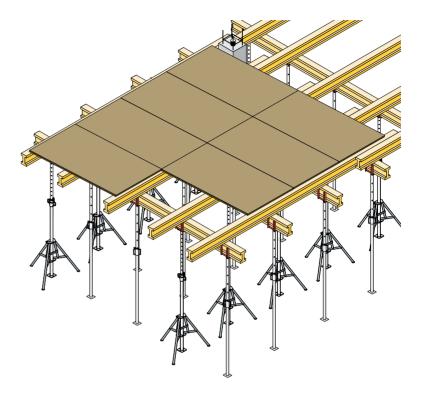
Aluflex system may include safety handrails in both directions. The same guardrail bracket is compatible with aluminium girder and wood joist.



# **VISTAFORM**

# Perfect finish adapted to irregular shapes.

Traditional formwork system for exposed slabs composed of structural wood beams, supported by support elements such as props or shoring systems. Both systems are height adjustable. The system allows the distribution of the beams and the shoring in accordance with the weight of the slab to form. It also simplifies the interface with walls and hanging joists as it supports overlap of the wood beams with respect to each other.











Vistaform allows the distribution of the beams and the shoring in accordance with the weight of the slab to form. The use of the formwork beam brings versatility to the project, facilitating the meeting with walls and hanging joists.

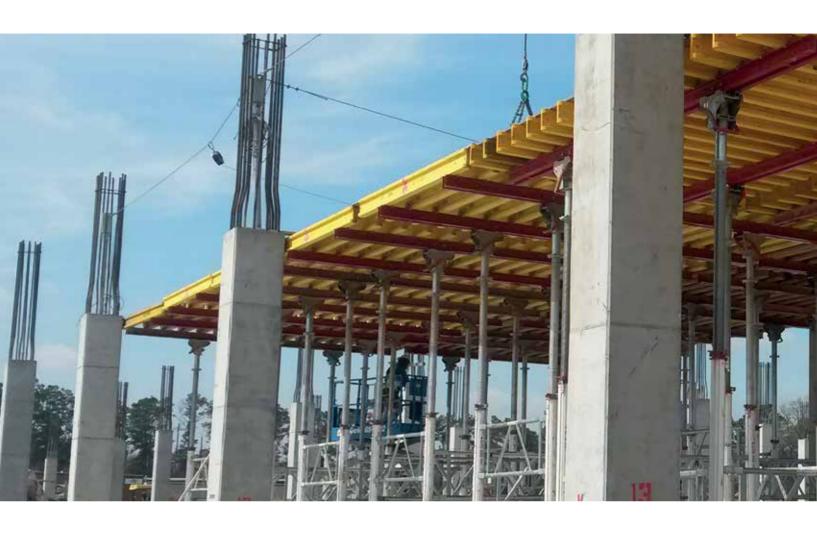
The system can use different forming surfaces, depending on the concrete finish requirements of the project. For an architectural finish, use phenolic resin-coated plywood boards, a surface that provides excellent quality, with the minimum amount of joints and large surfaces without marking the concrete.

#### **CD35 POST SHORE**

- Maximum length: 11'-5 <sup>13/16</sup>.
- Minimum length: 6'-6 <sup>3/4</sup>.
- Safe working load: 7.17 kips.
- · Low self-weight.
- Long service life ensured by full galvanization.
- Post shores always have the same working load at any extension.
- It allows the execution of grids up to 7'x6'.
- Large adjustment range of 4 <sup>1/8</sup>".



- Vistaform is a fast, simple and easily-assembled system.
- A flexible system that adapts to various work configurations.
- Solid, manageable wooden beams; multiple uses possible.
- The HT Beam, made of solid wood, offers great strength and durability.
- The Vistaform system can be supported using the Alsina Prop family.
- The Vistaform system can also be supported using the Alsina Shoring System family as long as the height of the slab exceeds 19'-8 1/4" or the load too high.



# | MULTIFORM TABLE

Pre-assembled table for higher speed and production.

Highly versatile horizontal formwork system adaptable to a great variety of shapes for the execution of slabs. It is a modular system which, through the combination of the metal beam and the wooden beam, provides a compact and stable table. The versatility in uses along with the shoring possibilities adapts the system to all situations.











- Availability of multiple measurements thanks to the sizes of its components.
- High productivity on site and with "in situ" assembly thanks to the ease of anchoring between the elements.
- Different shoring possibilities depending on load and height: shoring system, post-shore with folding or fixed head, prop with brace frame.
- It incorporates safety elements to protect workers on site.
- Cantilever tables for the slab edge.
- Possibility to choose the quality of the lining based on need.
- Long service life: The vast majority of its pieces are treated with epoxy paint, while the other parts are zinc plated.
- Includes a swivel post-shore head allowing a collapsed lift and move when required by project conditions.
- The hydraulic trolley is designed to facilitate table stripping as well as rolling to the next stage within the same level.
- Self-balanced C-hook allows table crane-lifts in a safe way.

# **| OUTSTANDING PROJECTS**

SH288 Highway (Houston, TX)



River X Project (Fort Lauderdale, FL)



Paseo de la Riviera Hotel & residential (Miami, FL)





The Blue apartments (Miami, FL)



Walcrest reservoir (Dallas, TX)



249 Tollway mainlanes (Houston, TX)



Atlantic Sapphire Salmon Facility (Miami, FL)



St. John's Plaza (Miami, FL)



Apopka WWTP (Orlando, FL)