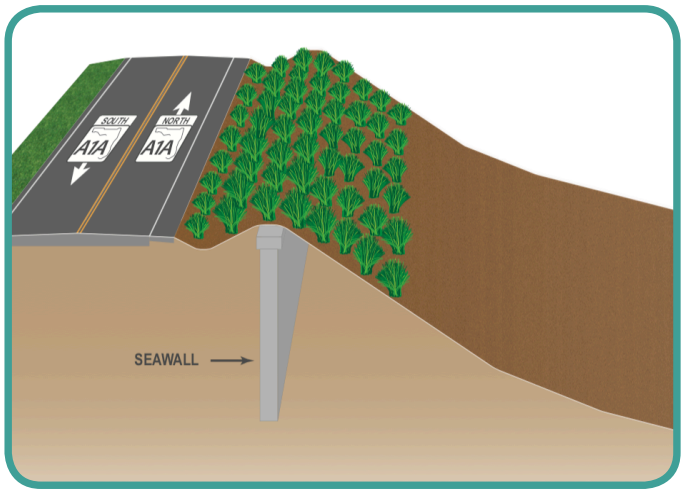
Building the Secant Wall
in Flagler Beach

Financial Project ID: 440557-7



The Florida Department of Transportation is constructing a buried seawall to protect a portion of State Road (S.R.) A1A in Flagler County. The seawall will be a secant wall, which is comprised of reinforced and unreinforced columns at alternating depths. This flyer contains a basic overview of the construction process.

Step 1: Clearing the dune and bringing in extra sand to level and widen the dune. This creates a platform for the drilling process.

Step 2: Constructing a guide wall using a steel form placed in a trench about 3 feet deep.

Concrete is poured around the outside of the form to create the drilling template. A softer material called flowable fill is poured into the middle for stabilization.

Step 1

Step 2

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Step 3: Drilling the columns, called cased continuous flight auger cast piles (CCFA). This step uses a highly specialized drilling rig that was built specifically for this project.

The auger is rotated clockwise as it lifts out, which pushes the soil up the auger. Once the drill has reached its specified depth, concrete is pumped into the hole through the middle of the drill. As the concrete flows in, the dirt and sand are pushed up and collected in sleeves secured over the drill. The dirt and sand are then loaded into trucks and removed from the site.

Step 4: The longer columns are reinforced using fiberglass cages. Once the concrete is pumped in, the cages are set. Spacers are used to keep the cage centered. A single fiberglass rod is placed in the shorter columns to protect against cracking as the concrete expands and contracts.

Step 5: The last step will be to construct a concrete cap over the piles, and then cover the wall with sand and dune plantings.

Step 3

Step 4

Step 5