

7 LOCAL ORDINANCE IMPLEMENTATION

Rethinking Parking Lots

In coastal Louisiana parking lots are typically an afterthought. Big box retail and office or apartment complexes add them as a cost of doing business, and most communities lack any the rules and standards necessary to mitigate their impact.

Parking lots are often built with too much impervious surface, provide little to no landscaping and no stormwater management devices. As a result, most create a “heat island” during the summer, and stormwater runoff is allowed to pick up pollutants (oil, brake dust, other contaminants) before being dumped into a nearby drainage canal or, at best, an expensive and land consuming stormwater pond. This approach increases flooding and further deteriorates the quality of the watershed.

The Coastal Toolkit helps communities think differently about parking lots. It provides the tools necessary to integrate landscaping and stormwater management into a parking lot -- turning it from single use “amenity” (car storage) into a multifunctional stormwater management device and community asset. The following pages detail how an example parking lot might have developed differently under the Coastal Toolkit.

Perimeter Planting Area Stormwater Detention Pond



CH7-40: The parking lot of this big box is typical of new parking lots built throughout coastal Louisiana. There is limited landscaping and nominal stormwater management measures. This is an example of a good result for a community with no rules for how parking lots and stormwater should be managed.



CH7-41: Large trees along the right-of-way were successfully preserved in a stormwater facility.



CH7-42: Stormwater facilities under construction.

Example Lot

The coastal Louisiana parking lot seen in this example (CH7-40) is typical. While sparsely landscaped, the lot is a reasonable size, and the developer kept the large trees at the perimeter of the site, incorporating a swale to help manage stormwater runoff. The parking lot also contains a small stormwater detention device that is used before dumping the stormwater into the adjacent canal. However, the typical lot can be vastly improved.

It is important to note that this is the parking lot that the community received with no adopted rules or regulations. Big box developers will provide the nominal level of landscaping and stormwater management outlined in the Coastal Toolkit if the community has the rules in place that ask for it. These types of investments enhance the value of the community and promote economic development.



CH7-43: An illustrative example of how the parking lot might be transformed with the application of conventional landscaping and stormwater management approaches.

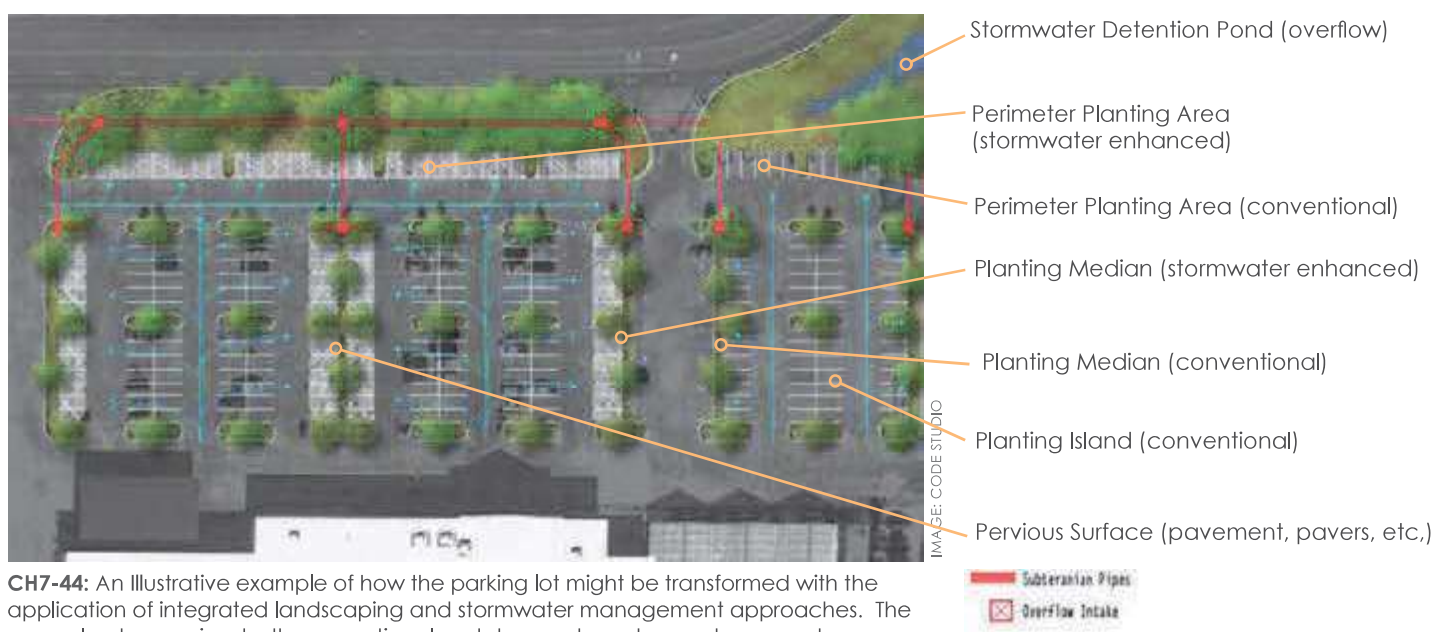
Two Approaches

Under the Coastal Toolkit, the parking lot could be built in one of two ways. The image above outlines what the conventional approach might look like. The conventional approach uses separate landscaping and stormwater management systems. By not taking advantage of the landscaping as a stormwater tool, the conventional approach typically requires larger stormwater management system—larger pipes, a bigger stormwater pond—and is typically more expensive.

The image below provides an example of how the enhanced stormwater approach might be designed. While this approach requires more planning on the front end, the integration of

landscaping and stormwater management can result in the developer saving money on stormwater management devices, and turning what is otherwise buried infrastructure into a visible, and valuable landscaping feature.

Both approaches rely on three planting areas: Perimeter Planting Area, Planting Medians and Planting Islands to frame the parking lots. The Coastal Toolkit also provides for administrative approval of equivalent alternatives. So if a developer’s creativity or the conditions of a site require a different equivalent layout or design, then it can be approved by staff with minimal reporting requirements to the permitting body.



CH7-44: An illustrative example of how the parking lot might be transformed with the application of integrated landscaping and stormwater management approaches. The example above mixes both conventional and stormwater enhanced approaches.

7 LOCAL ORDINANCE IMPLEMENTATION



IMAGE: CODE STUDIO

CH7-45: An illustrative example of how the parking lot might be transformed with the application of integrated landscaping and stormwater management approaches.

- Subterranean Pipes
- Inlets/Sand Filters

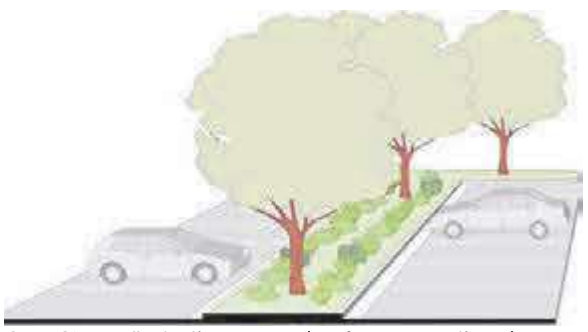


IMAGE: CODE STUDIO

CH7-46: An illustrative example of a conventional planting median as required by the Coastal Toolkit.

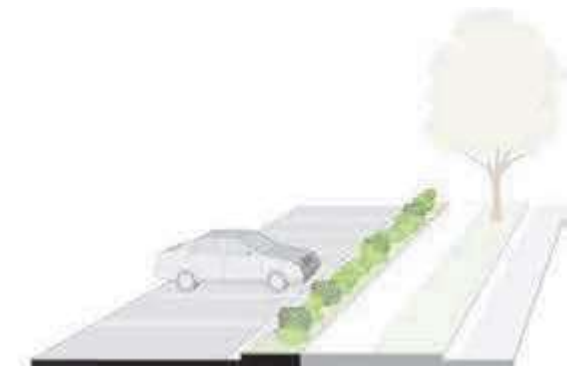


IMAGE: CODE STUDIO

CH7-47: An illustrative example of a conventional perimeter planting area as required by the Coastal Toolkit.

Conventional Parking Lot

The conventional approach to parking lots is to disconnect the landscaping from the stormwater management. This means isolated systems for both. Landscaping is often curbed and is installed above the grade of the parking surface, making it of little use as a stormwater management device.

Stormwater from the parking surface and the roofs of buildings is captured through intakes and diverted through underground concrete pipes to a stormwater storage pond or dumped directly into nearby water bodies. The rainwater runoff carries suspended solids and other pollutants, and most communities are required to pre-filter the water using engineered sand filters or other devices.

While the conventional approach is capable of meeting the performance standards for water quality and landscaping, it can be an expensive solution.



IMAGE: CODE STUDIO

CH7-48: This image provides an example of how the required perimeter planting area might be designed and constructed to integrate the landscaping and stormwater management together.

— Subterranean Pipes
 ☒ Overflow Intake

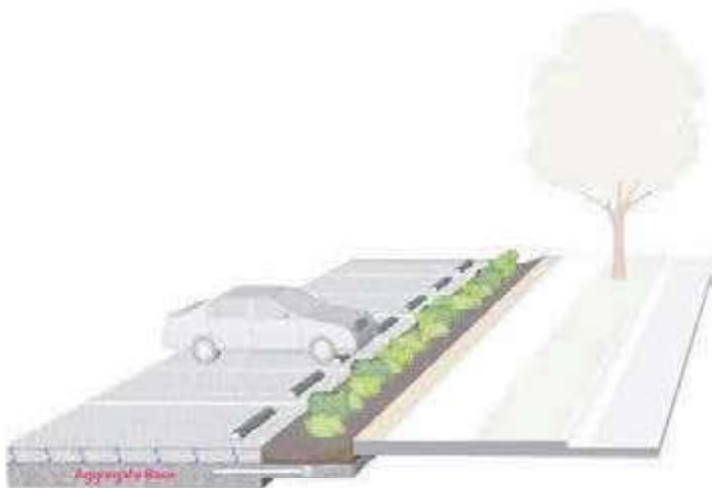


IMAGE: CODE STUDIO

CH7-49: An illustrative example of a stormwater enhanced perimeter planting area as outlined by the Coastal Toolkit. Depressed planting area, disconnected curbing, pervious pavement and overflow system.

Stormwater Enhanced Parking Lot - Perimeter Planting Area

The perimeter planting area can be designed as a stormwater management device by depressing the landscape area and replacing the typical curb with wheel stops or curbs with gaps that allow rainwater in. Most landscaped areas will need to use amended soils and will need an overflow device to manage heavier rainfalls. Plantings are typically drought and water tolerant grasses and shrubs that help with infiltration and transpiration of the water and assist in the removal of pollutants and suspended solids from the parking area. An optional approach is to install pervious pavement, pavers or other porous material adjacent to the planting area to allow further infiltration.

7 LOCAL ORDINANCE IMPLEMENTATION



IMAGE: CODE STUDIO

CH7-50: This image provides an example of how the required planting median area might be designed and constructed to integrate the landscaping and stormwater management together.

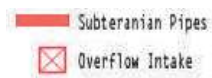


IMAGE: CODE STUDIO

CH7-51: An illustrative example of a stormwater enhanced planting median area as outlined by the Coastal Toolkit. This example shows two optional stormwater management devices where pervious pavement or pavers are placed on top of an aggregate fill or cistern storage system.

Stormwater Enhanced Parking Lot - Planting Median Area

The Coastal Toolkit calls for periodic landscaped medians to be installed every six parking rows. The medians break up the pavement and provide an opportunity to infiltrate stormwater runoff.

Many of the principles discussed in the perimeter planting area apply. Depress the planting areas, disconnect the curbs and install an overflow mechanism. Under the stormwater enhanced approach trees are optional. This is to promote the growth of shrubs and grasses to help with water infiltration.

Pervious pavement or pavers can be used adjacent to the median to help with infiltration. Further, the median can be graded to help channel the water to the desired location while filtering and storing some of it along the way.