RECOVERY AND RESILIENCY PARTNERSHIP PROJECTS

CITY OF PARKER SUSTAINABILITY

Please visit www.R2P2.skeo.com to comment on these preliminary concepts!

Issues / Background

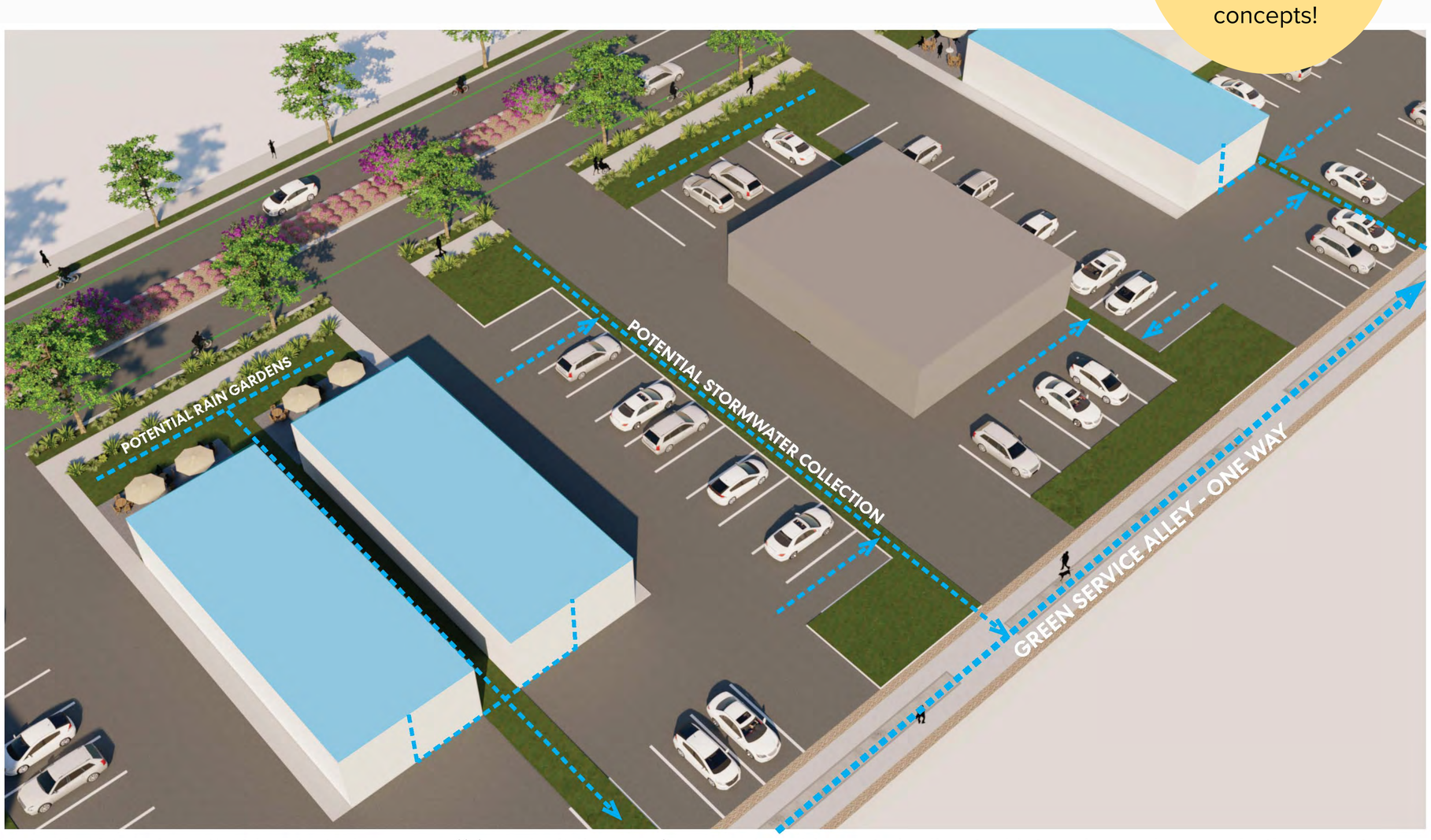
Parker's coastal location increases its vulnerability to major storm events. Traditional stormwater infrastructure (drains and pipes) can be overwhelmed by large water volume. In new development such as the East End Gateway and the Local Business District, integrating additional stormwater management tools that include nature-based features is critical to bolster the city's resiliency in typical and major storm events.

Design Concept: District Stormwater Approach

One approach to manage stormwater on redevelopment parcels along the Business 98 corridor is to create a district wide system that will slow and capture stormwater across multiple properties. Stormwater capture also provides re-use opportunities, such as water that can be used for irrigation.

The design will capture stormwater from areas along Highway 98 and from parking lots on individual lots through a series of natural drainage features (rain gardens, pervious pavements, infiltration areas).

This stormwater will be captured in cisterns or underground chambers for reuse. The district system design will also allow for larger amounts of stormwater to be captured, reducing overall initial capital costs and site specific stormwater infrastructure costs, and it allows for future developments to connect directly into the larger district system.



Note the blue lines that illustrate how runoff from building rooftops and parking lots is directed into rain gardens and other planted features that are designed to capture and infiltrate stormwater across the properties.

Examples of stormwater features such as planted swales and retention basins integrated in development

Benefits of district approach based on case studies:

Cost efficiency potential:

Compared to site-by site stormwater management: at least 15% less expensive (reference: Towerside, an 8-acre development).

Cost same or less than traditional, underground site-by-site stormwater management (reference: Ford site 122 acres).

Serves as a catalyst for development by having a plug-and-play system to ease development.

Land efficiency potential:

10-20% (estimated) savings in land encumbrance by having larger, district systems.

A district approach can enable the city to remove all stormwater from parcels by placing larger district systems on outlots (a plot of undeveloped land, sometimes without access to public roads, designated by a developer on a plat for future construction or noted for its unsuitability to be designated a full lot).

Community opportunities and benefits:

Potential to increase public realm and incorporate passive recreation such as trails.

Reuse water for watering landscaping.

Habitat potential for pollinators and other wildlife.

Beautification using drought tolerant native plants, rocks and other low maintenance natural features.

Sustainability and Resiliency Strategies

The design options address specific challenges by integrating best practices to address stormwater while providing amenities to improve public spaces and biking and walking safety. Each design option integrates one or more of the tools described on this page to help manage the volume, flow and/or treatment of stormwater. The icons are included on the concept design plans to indicate the tools used.

VEGETATED SWALES (BIOSWALES)

Vegetated swales, sometimes referred to as bioswales, are broad, shallow channels designed to convey and infiltrate stormwater runoff. Swales reduce stormwater volume and improve water quality through infiltration and vegetative filtering. Swales can be planted with grasses, perennials, shrubs and trees to increase aesthetic and habitat value.

RAINWATER STORAGE

Capture systems collect and store stormwater for specific purposes, such as irrigation, and often can hold water for a significant period of time.

PERVIOUS PAVEMENT

Pervious concrete and asphalt have proven viable alternatives to reduce stormwater runoff volume, rate, and pollutants.

WETLAND RETENTION

Enhancing existing wetlands can provide stormwater detention, improved water quality, increased habitat and new recreational amenities.

WATERWAY RESTORATION

Vegetated buffers on either side of a waterway enhance watershed health by moderating water runoff quantities and improving water quality. The vegetation can intercept, absorb, and infiltrate surface runoff to help moderate the peak runoff rates during rain events, which reduces erosion and sedimentation of the channel.

POLLINATOR GARDENS

Many types of plants, including fruit and vegetable crops, depend on animals (such as butterflies, bees and birds) for pollination. Using pollinator-friendly plants can also help support these important species.

NATIVE PLANTINGS

Incorporating vegetation into the landscape is a stormwater management technique that mimics natural drainage. Vegetated areas intercept and infiltrate rainfall to decrease stormwater volumes and can also remove pollutants.

HEALTH & WELLNESS

Increasing opportunities for health and wellness can strengthen a community's resilience by increasing wellbeing and community ties through exercise and social interactions. In addition, recreation amenities can bolster economic recovery as recreational tourism grows in popularity.

ALTERNATIVE TRANSPORTATION

Providing infrastructure for safe travel by foot, bicycle and paddle boat can reduce vehicular traffic and encourage healthier lifestyles.

RESILIENCY

Many sustainability features are part of larger design strategies to increase resilience in storm events, such as slowing stormwater runoff by collecting and detaining water temporarily to reduce damage. Designs also include strategies to increase resilience by creating places and spaces that support economic development, such as greenways and commercial opportunities to attract visitors and boost employment. Design tools and strategies to support economic recovery and build resilience for future storm events are highlighted within each design concept.

The Recovery and Resiliency Partnership Projects (R2P2) technical assistance is provided by the U.S. Federal Emergency Management Agency (FEMA) Integrated Recovery Coordination (IRC) field operations in partnership with regional, state, and federal agencies to support communities as they recover from Hurricane Michael.