





# Table of Contents

## **Table of Contents | 2**

Purpose Statement

Application

Sustainable Design Framework

## **District Overview and Purpose | 3**

Municipal Water and Sewer

Street Hierarchy

## **Design Principles | 9**

Allowable Uses

Buildings

Parking

Electric Vehicles

Screening

Landscape Standards

Parks, Trails and Open Space

Stormwater Management

## **Implementation | 22**



# District Overview and Purpose

## Purpose Statement

The purpose of the Northeast District Design Guidelines is to establish standards for this gateway to Corcoran. The area offers opportunities for expanded tax base, jobs and retail and service businesses to serve the existing and new residents in Corcoran and surrounding communities. The newly constructed Dayton Interchange and the planned Highway 610 extension provide a once in a lifetime opportunity to develop the area in a manner that reflects the unique Corcoran character as described in the Comprehensive Plan. The standards will ensure quality site design that will result in attractive business and residential development.

The district will allow development consistent with the primary zoning district and provide additional regulations and performance standards to accomplish the following goals:

1. To allow for master planning and development of housing, employment and service uses through the use of unified developments that share common architectural schemes, landscape and site plan design, connected streets and pedestrian routes and green spaces.
2. To incentivize the development of high-quality industrial and business developments that will provide employment opportunities in Corcoran.
3. To encourage the use of sustainable, environmentally-friendly building and site development techniques.
4. To develop a transportation system that supports vehicles, bicyclists and pedestrians.
5. To promote master planned developments to increase the efficiency of infrastructure design.
6. To implement the land use goals of the 2040 Comprehensive Plan.

## Application

The format and content are specifically tailored for use as a supplement to the Zoning Ordinance. All provisions of the Zoning Ordinance shall apply to parcels in the Northeast District and these standards shall be in addition to those provisions. Where there is a conflict, the more restrictive provisions shall apply.

## Sustainable Design Framework

The vision of the Northeast Design Standards is to encourage sustainable development that meets the public demand and requires the responsible use of resources without unacceptable social, economic, or environmental consequences. These guidelines are intended to provide a framework for meeting that goal.

**LEGEND**

**Land Use Classification**

**Retail Uses**

- Commercial
- Mixed Use
- Business Park

**Residential Uses**

- High Density Residential
- Medium Density Residential
- Mixed Residential
- Low Density Residential
- Existing Residential

**Public**

- Public / Semi-Public
- Parks / Open Space

**Agriculture**

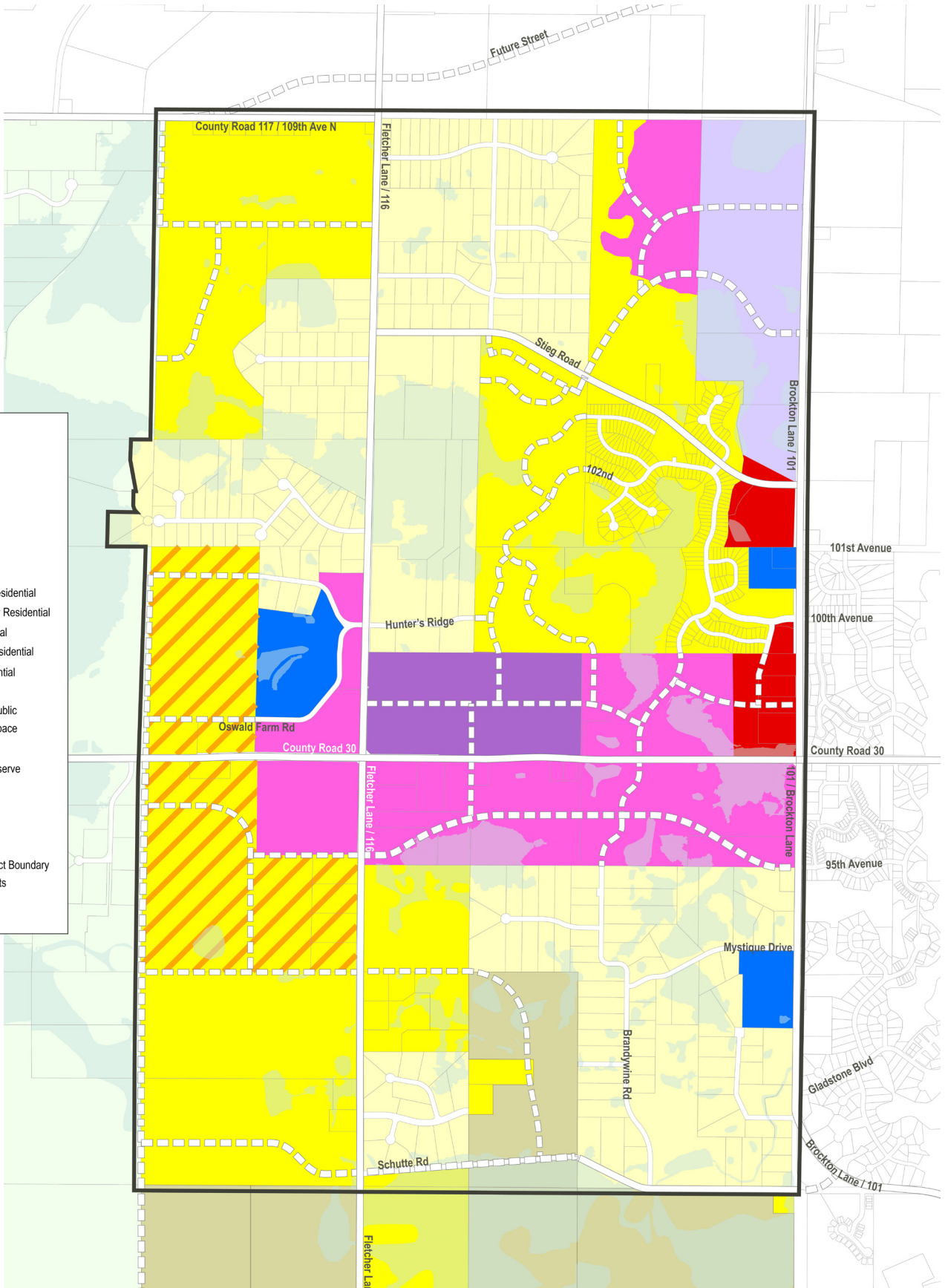
- Agricultural Preserve

**Industrial**

- Light Industrial

**Other**

- Northeast District Boundary
- Proposed Streets
- Wetland



Northeast District Land Use Map



**LEGEND**

**District Boundaries**  
 — Northeast District Boundary

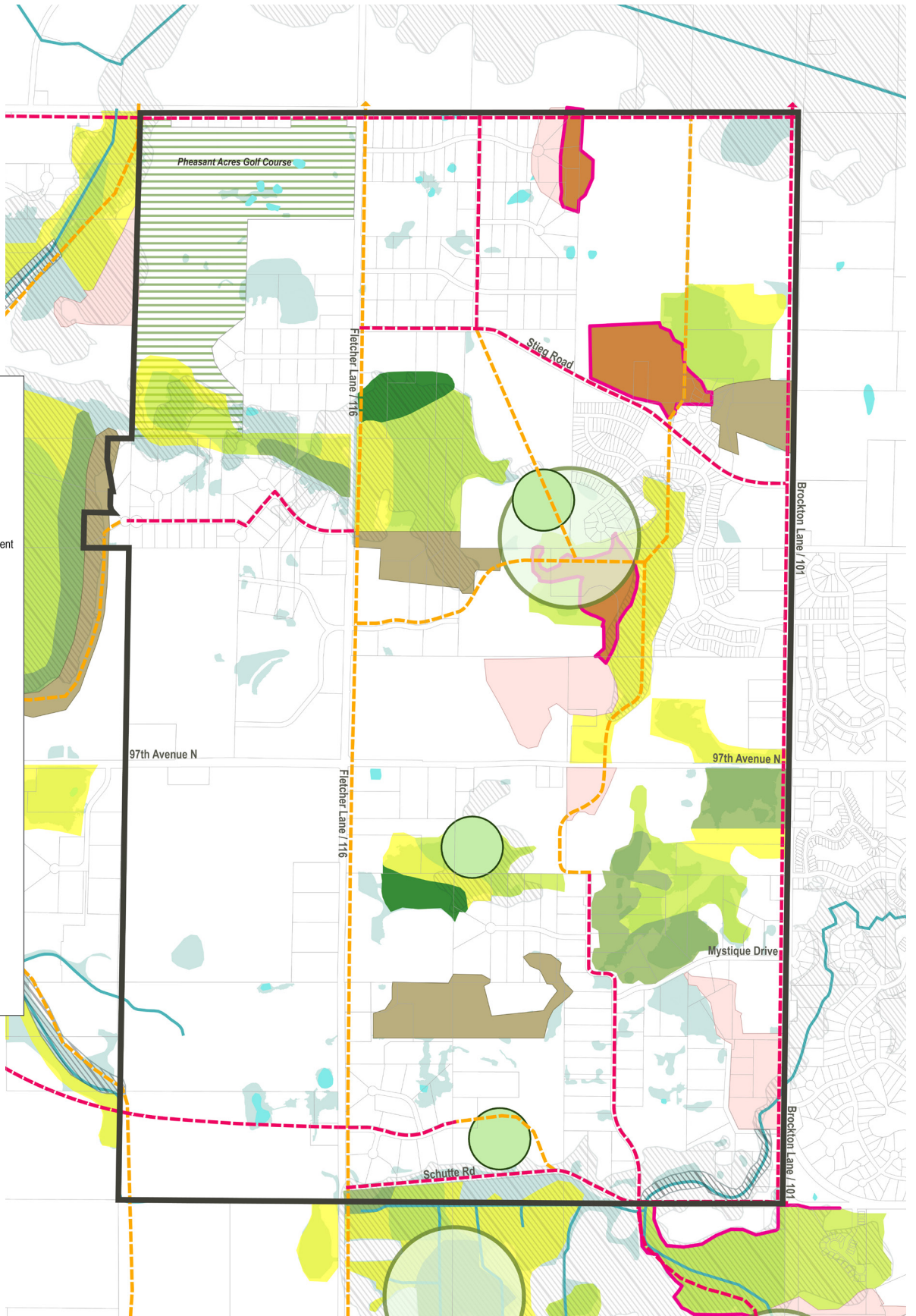
**Important Features**  
 ▨ Floodplain  
 — Watercourse  
 — High Quality Natural Environment

**Upland Plant Communities**  
 ■ Maple / Basswood Forest  
 ■ Disturbed Woodland  
 ■ Savanna / Pasture

**Wetland Communities**  
 ■ Wet Prairie  
 ■ Emergent  
 ■ Shrub  
 ■ Floodplain Forest  
 ■ Open Water  
 ■ Wetland

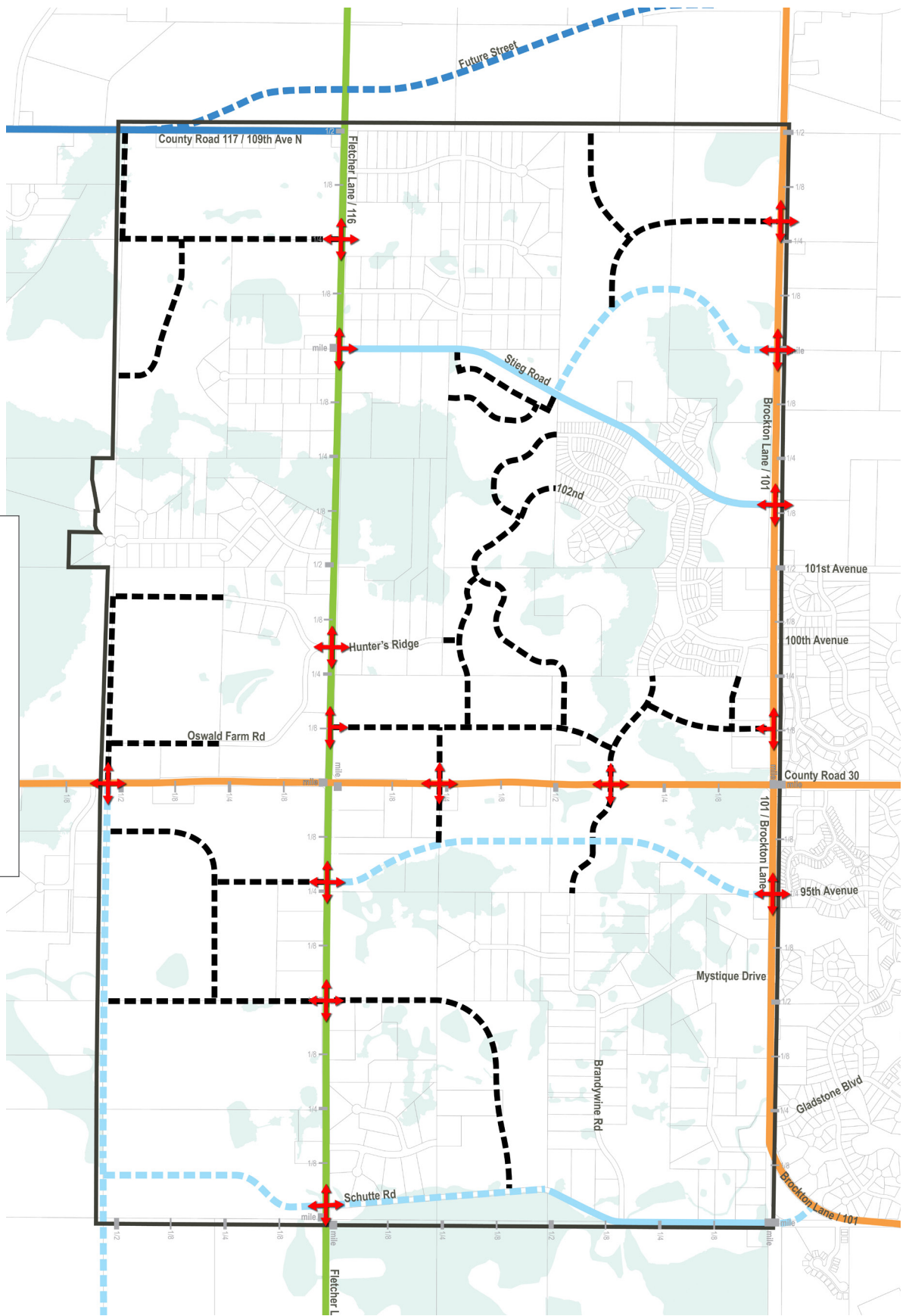
**Parks**  
 ○ NP / Neighborhood Park  
 ○ OSP / Nature Park  
 ▨ Golf Course

**City of Corcoran Proposed Trails**  
 — Off Road Trail  
 — On Road Trail



**Northeast District Analysis Map**





**LEGEND**

**Future Roadway Functional Classification**

- A Minor Reliever
- A Minor Expander
- A Minor Connector
- - - Proposed A Minor Connector
- Minor Collector
- - - Proposed Minor Collector
- - - Local Street

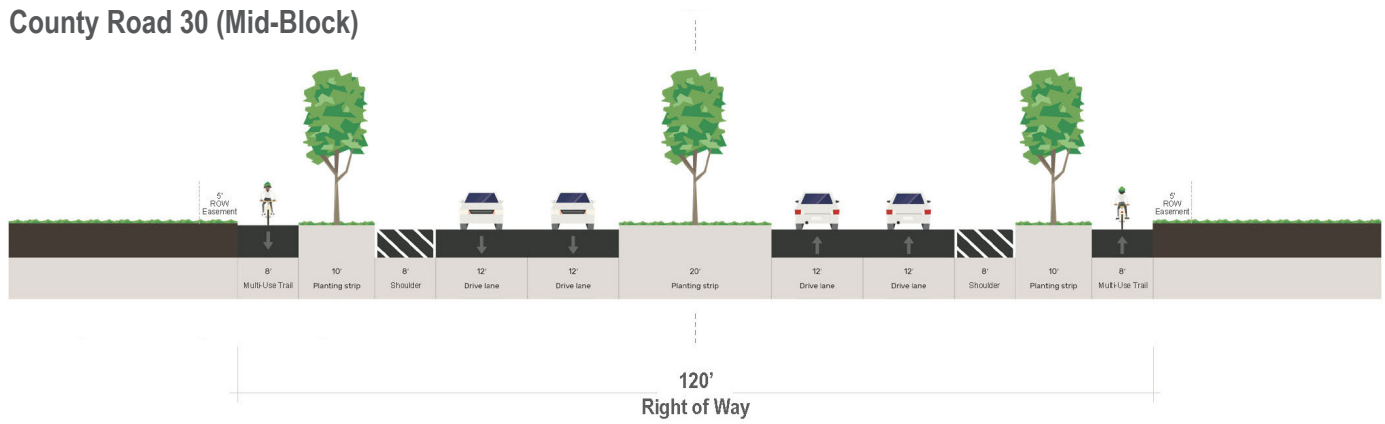
**Other**

- + Intersection
- Northeast District Boundary

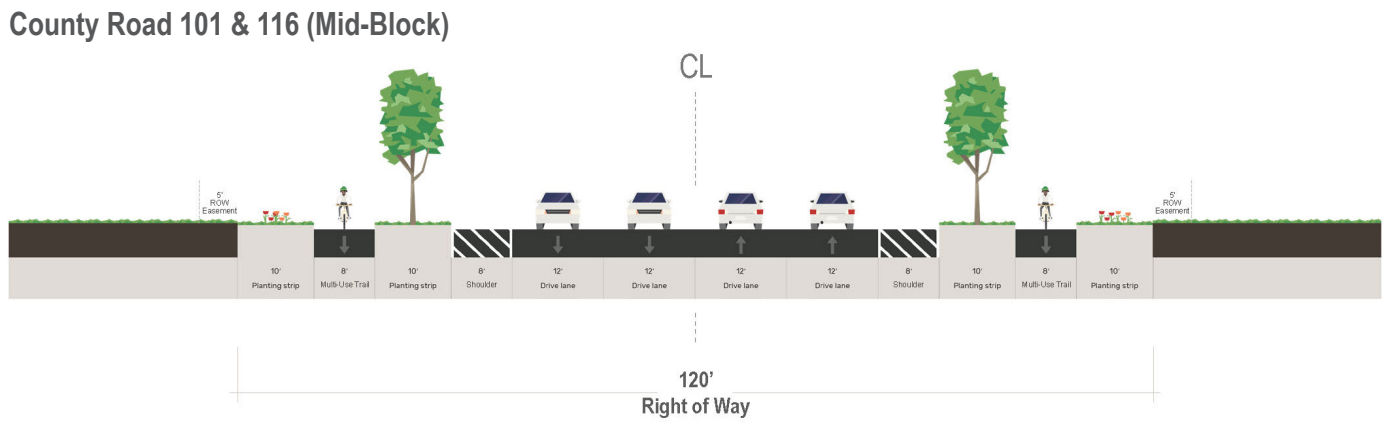
Northeast District Street Classification Map



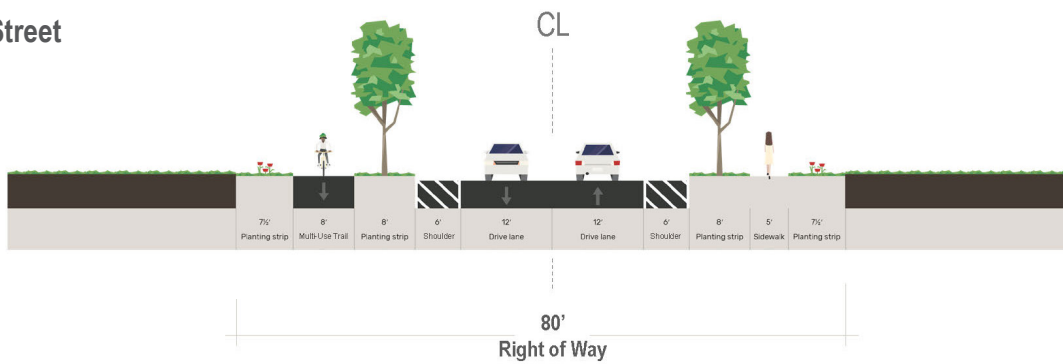
### County Road 30 (Mid-Block)



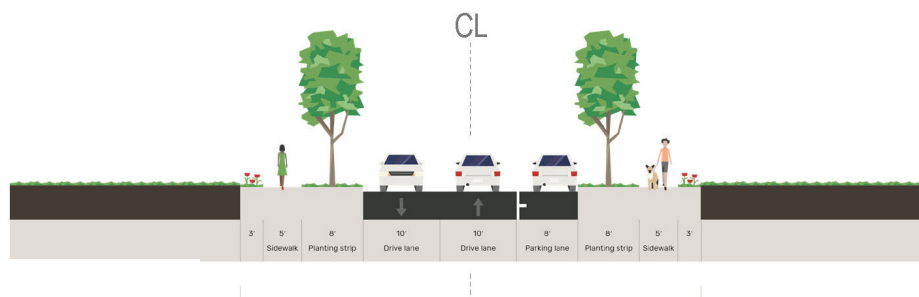
### County Road 101 & 116 (Mid-Block)



### Collector Street



### Local Street





# Design Principles

The Northeast District should continue to provide a mix of residential, commercial, office and industrial uses as described in the Comprehensive Plan and Zoning Ordinance. The Design Guidelines for the district shall be the same as those described in the Zoning Ordinance for the zoning district in which the development is located and these Design Standards will provide an additional layer of standards.

## Allowable Uses

The Northeast District is a gateway to Corcoran and the uses in non-residential areas should be developed with new light industrial, office-industrial, high tech and professional services businesses to provide quality employment and wages.

To accomplish this goal, land uses in the Northeast District shall be all uses allowed in the underlying zoning district, except that the following uses are prohibited in the Northeast District, except those uses legally established prior to May 26, 2022:

1. Contractors operations
2. Equipment rental
3. Lumber yards/building material sales.
4. Mini Storage/Self Storage Facilities.
5. Motor Vehicle, Boat or Equipment Repair
6. Motor Vehicle, Boat or Equipment Sales

## Buildings

New development site and building design should provide a visual cue that you are in Corcoran. The use of regional building materials and native plants for all development is encouraged. Development in this district should be thoughtfully designed to reflect Corcoran's rural character. The use of natural materials (such as wood siding, brick and stone) is encouraged. Buildings shall have architectural details, features and patterns to provide visual interest.

All structures shall comply with the building standards in Section 1060.050 and the additional standards in this section.

Single family detached homes shall comply with the Design Requirements in Section 1040.040, Subd. 8.

Attached homes shall comply with the Design Requirements in Section 1040.060, Subd. 9.



Properties in the Mixed Use, Commercial, Business Park and Industrial district shall comply with the following:

Exterior surface materials of buildings shall be installed and maintained in accordance with the adopted building code and the manufacturer's specifications and shall be subject to the regulations listed below. Products listed as "integral colored" shall continue its surface color consistently through the depth of the product as opposed to being colored, painted, or stained on the surface only.



*Class I materials: Single Family*



*Class I materials: Multifamily Apartment*



*Class I materials: Commercial / Mixed Use*



*Class I materials: Industrial*

Materials shall be divided into class I, class II and class III categories as follows:

**Class I.** The following materials are considered class 1 materials as specified:

1. Brick
2. Marble, granite, or other natural stone
3. Integral colored cast stone (the stone is colored consistently through)
4. Textured cement stucco
5. Architectural wall cladding (Nichiha, Equitone and similar brands) Material must be through colored and at least 5/8 inches thick.
6. Copper
7. Porcelain
8. Glass
9. Other materials of similar quality as approved by the City Council??

**Class II.** The following materials are considered class II materials as specified:

1. Exposed aggregate concrete panels
2. Burnished concrete block
3. Integral colored split face (rock face) and exposed aggregate concrete block
4. Cast-in-place concrete
5. Insulated exterior wall panels (E.I.F.S., Drivit and similar brands)
6. Fiber-reinforced cement board siding with a minimum thickness of 1/4 inch
7. Prefinished metal.
8. Integral colored concrete panels other than smooth finished.
9. Other materials of similar quality as approved by the City Council??



Class I materials: Commercial



Class I materials: Office / Warehouse



Class I materials: Commercial / Office



Class I materials: Commercial / Retail

**Class III.** The following materials are considered class III materials as specified:

1. Unpainted or surface painted concrete block (scored or unscored)
2. Unpainted or surface painted plain or ribbed concrete panels
3. Unfinished or surface painted metal
4. Smooth finished concrete panels
5. Brick, stone, or integral colored material which has been painted
6. Other materials of similar quality as approved by the City Council??

At least 60% of each building face visible from off the site must be of class I materials except as permitted by this section:

For buildings in the I-1 districts which are not located on a County Road or adjacent to or across from any residentially zoned property, class I materials may be reduced to a minimum of 25 percent provided that the architecture and site plan shall meet the following minimum criteria to be considered superior quality:

1. The exposed height of the building wall shall not exceed 15 feet.
2. The number of required plant units shall be increased by 20 percent or the size of 20 percent of the overstory trees installed shall be increased to 3 1/2 caliper inches.
3. A minimum of ten percent of the building facade must be windows or glass spandrels.

Not more than 10% of each building face visible from off the site may be of class III materials. Portions of buildings not visible from off the site may be constructed of greater percentages of class II or class III materials if the structure otherwise conforms to all city ordinances. The mixture of building materials must be compatible and integrated.

Large uninterrupted building elevations are not permitted. No wall may have an uninterrupted length exceeding 80 feet without including at least two of the following: changes in plane; changes in color, texture, materials or masonry pattern; windows; or an equivalent element that breaks up the elevation.



## Parking

Parking shall comply with the standards in Section 1060.060 of the ordinance and the additional standards in this section.

Bicycle racks shall be provided for all multi-family and non-residential uses and may be placed near the entrance if a minimum 5-foot wide pedestrian access to the building entrance is maintained. Bicycle parking may occupy a maximum of two required parking stalls without requiring additional parking.

Parking bays shall have landscape islands at each end of the parking bay, and bays in excess of 15 spaces in length shall be divided by intermediate islands. Trees shall be located in the islands to shade the parking lot to reduce the heat island effect. These landscape islands shall provide at least 360 square feet of area for planting trees, shrubs and/or groundcovers. Intermediate landscape islands shall provide at least 180 square feet of planting area.

A landscape buffer shall be provided between all parking areas and the public sidewalk. The buffer shall consist of shade trees, low shrubs or perennial flowers and a decorative fence or masonry wall. Plantings and parking lot screen walls or fences shall be no less than three feet and no more than four feet in height to allow views into and out of parking areas

Parking lots should incorporate stormwater management into the parking lot as an amenity feature. These features when appropriately designed can be used to meet the landscape island requirements.

Any lighting used to illuminate an off-street parking area shall be so arranged as to reflect glare away from adjoining property, adjacent residential uses and public rights-of-way and be in compliance with Section 1060.040 of this Chapter.



*Bike Parking*



*Parking Lot Islands*



*Parking Lot Screening*



*Parking Lot Stormwater*

## Electric Vehicles

All new developments are encouraged to provide parking and services for electric vehicles, to expedite the establishment of a convenient, cost-effective electric vehicle infrastructure.

All new parking structures or lots with at least 100 parking spaces shall provide services for electric vehicles (EV) as required below.

1. Multiple-family residential land uses shall have 5% of required parking as Level 1 stations for resident parking, and one Level 2 station for guest parking. At least one handicapped accessible parking space shall have access to an electric vehicle charging station (EVCS).
2. Non-residential land uses with parking spaces available for use by the general public shall have at least 1% of required parking as Level 2 stations with a minimum of two spaces served by Level 2 charging, with at least one station adjacent to an accessible parking space. In non-residential zoned districts, DC charging stations may be installed to satisfy the EVCS requirements described above on a one-for-one basis.

Notwithstanding the requirements of subsections a above, all new or reconstructed motor fuel stations as defined in Section 36-142(d)(20) shall be required to install at least one additional Level 2 charging station. A DC charging station may be installed to meet this requirement.

In addition to the number of required EVCSs, the following accommodations shall be required for the anticipated future growth in market demand for electric vehicles:

1. Multiple-Family Residential Land Uses: all new, expanded and reconstructed parking areas shall provide the electrical capacity necessary to accommodate the future hardwire installation of Level 2 EVCSs for a minimum of 10% of required parking spaces.
2. Non-Residential Land Uses: all new, expanded and reconstructed parking areas shall provide the electrical capacity necessary to accommodate the future hardwire installation of Level 2 or DC EVCSs for a minimum of 10% of required parking spaces.

These requirements may be revised upward or downward by the City Council as part of an application for a conditional use permit or planned unit development based on verifiable information pertaining to parking.





## Screening

In addition to the standards in Section 1060.030, the additional standards in this section are intended to preserve the rural character of Corcoran while allowing new development to bring jobs and homes to the community.

No loading docks or overhead doors shall be visible from County Roads or residential property.

The visual impact of rooftop equipment shall be minimized using one of the following methods:

1. A parapet wall.
2. A fence the height of which extends at least one foot above the top of the rooftop equipment and incorporates the architectural features of the building.
3. The rooftop equipment shall be painted to match the roof or the sky, whichever is most effective.

Utility service structures (such as utility meters, utility lines, transformers, aboveground tanks); refuse and recycling handling; loading docks; maintenance structures; and other ancillary equipment must be inside a building or be entirely screened from off-site views utilizing a privacy fence or wall that is at least six feet in height. A chain link fence with slats shall not be accepted as screening.

All utility services shall be underground except as provided in Section 1060 of the Zoning Ordinance.

## Landscape Standards

Site design and landscaping should be designed to work with the existing topography of the area, wooded areas, wetlands and natural viewsheds and corridors. Sustainability, in terms of the landscape, is the ability of plant species to maintain healthy growth with minimal human assistance. Selecting plants suited for a specific condition is key to their sustainability over time. Benefits of utilizing sustainable plant species include less time spent towards maintenance, less maintenance costs, and positive contributions to the larger environment and its ability to perpetuate itself.

Development landscaping shall include a full complement of overstory, ornamental and evergreen trees, shrubbery and ground covers which are hardy and appropriate for the locations in which they are planted and provide year-long color and interest. Development in the Northeast District shall select from the following list of preferred trees and shrubs that suit unique conditions and environments found in Corcoran. The following plant materials shall be used in the Northeast District:



Site Design and Landscaping



Site Design and Street Trees



Conservation Development

| Coniferous Trees          | Common Name            |
|---------------------------|------------------------|
| Abies balsamea            | Balsam Fir             |
| Abies concolor            | White Fir              |
| Abies fraseri             | Fraser Fir             |
| Juniperus virginiana      | Red Cedar              |
| Larix laricina            | American Larch         |
| Picea abies               | Norway Spruce          |
| Picea glauca              | White Spruce           |
| Picea glauca var. densata | Black Hills Spruce     |
| Picea mariana             | Black Spruce           |
| Pinus banksiana           | Jack Pine              |
| Pinus ponderosa           | Ponderosa Pine         |
| Pinus resinosa            | Red Pine (Norway Pine) |
| Pinus strobus             | Eastern White Pine     |
| Pinus sylvestris          | Scots Pine             |



| <b>Deciduous Trees</b>               | <b>Common Name</b>  |
|--------------------------------------|---|
| Acer x freemanii                     | Freeman's Maple   |
| Acer x freemanii 'Sienna'            | Sienna Glen Maple   |
| Acer rubrum                          | Red Maple   |
| Acer saccharum                       | Sugar Maple   |
| Aesculus glabra                      | Ohio Buckeye  |
| Betula nigra 'Cully'                 | Heritage River Birch  |
| Betula papyrifera                    | Paper Birch   |
| Betula populifolia                   | Grey Birch  |
| Carpinus caroliniana                 | American Hornbeam   |
| Carya ovata                          | Shagbark Hickory  |
| Carya cordiformis                    | Bitternut Hickory   |
| Catalpa speciosa                     | Northern Catalpa  |
| Celtis occidentalis                  | Common Hackberry  |
| Cercis canadensis                    | Eastern Redbud  |
| Crataegus crus-galli var. inermis    | Thornless Cockspur Hawthorne  |
| Crataegus mollis                     | Downy Hawthorne   |
| Ginkgo biloba                        | Ginkgo (male only)  |
| Gleditsia tricanthos var. inermis    | Thornless Honeylocust   |
| Gymnocladus dioicus                  | Kentucky Coffeetree (male only), 'Espresso', 'Stately Manor'  |
| Malus spp.                           | Crabapple, 'Adams', 'Calocarpa', 'David', 'Donald Wyman', 'Dolgo', 'Harvest Gold', 'Prairifire', 'Professor Sprenger' |
| Malus ioensis                        | Prairie Crabapple   |
| Ostrya virginiana                    | Ironwood  |
| Phellodendron amurense 'His Majesty' | Corktree 'His Majesty'  |
| Populus tremuloides                  | Quaking Aspen   |
| Prunus serotina                      | Black Cherry  |
| Prunus virginiana                    | Chokecherry   |
| Quercus alba                         | White Oak   |
| Quercus bicolor                      | Swamp White Oak   |
| Quercus ellipsoidalis                | Northern Pin Oak  |
| Quercus macrocarpa                   | Burr Oak  |
| Quercus rubra                        | Red Oak   |
| Quercus velutina                     | Black Oak   |
| Salix alba                           | Weeping Willow  |
| Salix nigra                          | Black Willow  |
| Sorbus americana                     | American Mountain Ash   |
| Sorbus decora                        | Showy Mountain Ash  |
| Tilia americana                      | American Linden (Basswood)  |
| Tilia americana 'Redmond'            | Redmond Linden  |
| Tilia cordata                        | Littleleaf Linden, 'Morden', 'Shamrock', 'Norlin'   |
| Ulmus americana 'Princeton'          | Princeton Elm   |
| Ulmus americana 'Valley Forge'       | Valley Forge Elm  |
| Ulmus pumila 'New Horizon'           | New Horizon Elm   |
| Ulmus wilsoniana 'Patriot'           | Patriot Elm   |



*Celtis occidentalis* / Hackberry Tree



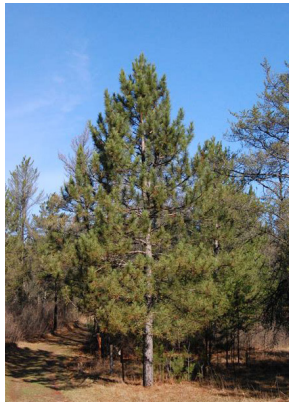
*Gleditsia tricanthos* / Honeylocust



*Quercus alba* / White Oak



*Picea mariana* / Black Spruce



*Pinus resinosa* / Red Pine



*Prunus virginiana* / Chokecherry Tree

| Shrubs  | Common Name                 |
|---|-----------------------------|
| <i>Alnus incana</i>                           | Speckled Alder              |
| <i>Amelanchier alnifolia</i> 'Regent'         | Regent Serviceberry         |
| <i>Amelanchier interior</i>                   | Inland Serviceberry         |
| <i>Aronia melanocarpa</i> var. <i>elata</i>   | Glossy Black Chokeberry     |
| <i>Betula pumila</i>                          | Bog Birch                   |
| <i>Cornus alternifolia</i>                    | Pagoda Dogwood              |
| <i>Cornus amomum</i>                          | Silky Dogwood               |
| <i>Cornus racemose</i>                        | Gray Dogwood                |
| <i>Cornus rugosa</i>                          | Round-leaved Dogwood        |
| <i>Cornus sericea</i>                         | Red-osier Dogwood           |
| <i>Corylus americana</i>                      | American Hazelnut           |
| <i>Corylus cornuta</i>                        | Beaked Hazelnut             |
| <i>Crataegus chrysoarpa</i>                   | Fireberry Hawthorn          |
| <i>Crataegus macrosperma</i>                  | Large-seeded Hawthorn       |
| <i>Diervilla lonicera</i>                     | Bush Honeysuckle            |
| <i>Euonymus atropurpureus</i>                 | Easter Wahoo                |
| <i>Ilex verticillata</i>                      | Winterberry                 |
| <i>Juniperus communis</i>                     | Common Juniper              |
| <i>Physocarpus opulifolius</i>                | Ninebark                    |
| <i>Ribes americanum</i>                       | Wild Black Currant          |
| <i>Ribes aureum</i>                           | Golden Currant              |
| <i>Ribes cynosbati</i>                        | Prickly Gooseberry          |
| <i>Ribes missouriense</i>                     | Missouri Gooseberry         |
| <i>Rosa blanda</i>                            | Smooth Wild Rose            |
| <i>Salix bebbiana</i>                         | Bebb's Willow               |
| <i>Salix discolor</i>                         | Pussy Willow                |
| <i>Salix pedicellaris</i>                     | Bog Willow                  |
| <i>Sambucus canadensis</i>                    | Common Elderberry           |
| <i>Sambucus racemose</i>                      | Red-berried Elder           |
| <i>Staphylea trifolia</i>                     | Bladdernut                  |
| <i>Symphoricarpos albus</i>                   | Snowberry                   |
| <i>Symphoricarpos occidentalis</i>            | Wolfberry                   |
| <i>Viburnum dentatum</i>                      | Arrowwood Viburnum          |
| <i>Viburnum lentago</i>                       | Nannyberry                  |
| <i>Viburnum opulus</i> var. <i>Americanum</i> | American Highbush Cranberry |



## Ground Cover

All land area not occupied by buildings, parking, driveways, sidewalks or other hard surfaces shall be sodded or mulched and landscaped with approved ground cover, flowers, shrubbery and trees. Traditional lawns of mown Kentucky bluegrass are the most common groundcover in the area and have their place in new development. However, they are not conducive to sustainable practices desired in the Northeast District as they require large amounts of water and maintenance. Alternatives to traditional lawns are available and appropriate as part of a sustainable environment.

Native prairie plantings and bee lawns are viable options to traditional lawns in Corcoran. The plant composition of these alternatives are widely varied and can be tailored to suit specific conditions and aesthetics. The overriding concept is that they provide habitat, food and shelter for a variety of animals, birds and insects and they are sustainable with minimal intervention. An overlooked benefit of prairies and bee lawns is that they visually change with the seasons, providing a changing view throughout the year. The City supports the use of these ground covers when a maintenance plan is provided for review and approval by the City.

## Landscaping Options

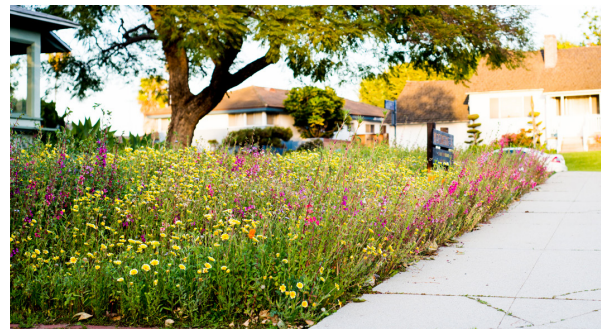
The City encourages the use of special design features such as xeriscaping; rain gardens/bioretention systems; landscaping with native species; green rooftops; heat island reduction; and aesthetic design. All new development must include two of the following alternative landscape options:

**Xeriscaping:** Xeriscaping is landscaping which uses plants that have low water requirements, making them able to withstand extended periods of drought. Xeriscaping landscapes are a conscious attempt to develop plantings which are compatible with the environment and make a conscious effort to minimize use of water.

**Rain Gardens/Bioretention Systems:** Bioretention systems can be described as shallow, landscaped depressions commonly located in parking lot islands or within areas that receive stormwater runoff. For credit under this section, the rain garden/bioretention system shall be above ground and a visible part of the green or landscaped area. Stormwater flows into the bioretention area, ponds on the surface, and gradually infiltrates into the soil bed. Pollutants are removed by a number of processes including absorption, filtration, volatilization, ion exchange, and decomposition. Filtered runoff can either be allowed to infiltrate into the surrounding soil (functioning as an infiltration basin or rainwater garden), or discharged to the storm sewer or directly to receiving waters (functioning like a surface



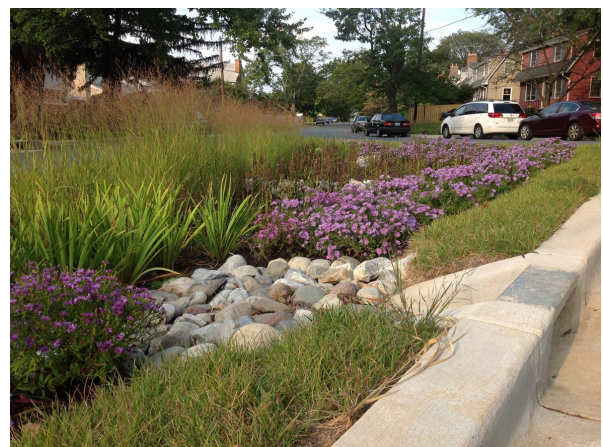
Pollinator Lawn



Pollinator Lawn



Xeriscape



Rain Garden / Bioretention



filter). The use of under drain systems are discouraged unless where infiltration is prohibited by the water resources management plan. Runoff from larger storms is generally diverted past the area to the storm drainage system.

**Landscaping With Native Species:** Fifty percent (50%) of the plantings used in the landscape plan shall be of native plant communities approved by City staff. These plant communities include:

1. Upland deciduous forest: Oak forest, maple basswood forest, white pine hardwood forest, black ash swamp, and tamarack swamp.
2. Brush prairie: Dry oak savannah, oak woodland-brushland.
3. Oak openings and barrens: Dry oak savannah, oak forest.

**Green Rooftops:** Green rooftops are veneers of living vegetation installed atop buildings, from small garages to large industrial structures. Green rooftops help manage stormwater by mimicking a variety of hydrologic processes normally associated with open space. Plants capture rainwater on their foliage and absorb it in their root zone, encouraging evapotranspiration and preventing much stormwater from ever entering runoff streams. What water does leave the roof is slowed and kept cooler, a benefit for downstream water bodies. Green roofs are especially effective in controlling intense, short duration storms and have been shown to reduce cumulative annual runoff by fifty percent (50%) in temperate climates.

**Aesthetic Design:** Sites shall be designed to include three (3) of the following: public art, fountains, plazas, perennial beds, entrance landscaping, or other amenities reviewed and approved by the Development Review Committee (DRC).

Gateway signage is desired at the County Road 101 at the north Corcoran border and at the County Road 101/ County Road 30 intersection. Developers of property at those intersections will work with the City install this gateway signage and related landscaping. This would satisfy part of the aesthetic design requirement for those properties.

**Alternative Energy:** New developments may use solar energy systems (SES) to support the development. Building Integrated SES and Building or Roof Mounted SES is encouraged in the Northeast District as allowed by Section 1060.110 of the Zoning Ordinance. While the Ordinance does not currently allow wind energy conversion systems (WECS) as an allowed use, the City shall consider the amending the Zoning Ordinance to allow small WECS as an accessory use.



*Native Species*



*Green Roof*



*Entry Design*



*Alternative Energy*



## Parks, Trails and Open Space

There are two existing parks in the northeast district: the Community Park and the Neighborhood Park. Both parks were dedicated to the City as part of the Bellwether development and are open to the public. Parking lots are planned in the northwest corner of the neighborhood park and southwest corner of the open space park. The Parks and Trails plan adopted in the 2040 Comprehensive Plan anticipates a second Neighborhood Park south of County Road 30.

The City parks will connect to homes and businesses through a series of trails and sidewalks. On- and off-road trails are planned along all County roads. The City plans a number of on- and off-road trails throughout the district. Additionally, Three Rivers Park District plans for the Diamond Lake Regional trail to connect through the Northeast District, including a connection to the Community Park.

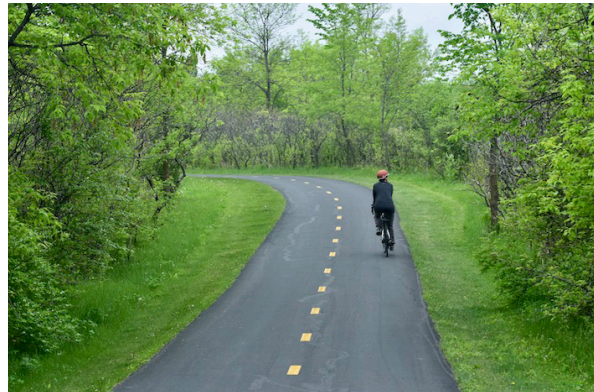
As development occurs open space will transition to homes and businesses. In order to ensure that opportunities to gather outside, maintain viewsheds and retain some of the character of Corcoran's rural beginnings, all non-residential properties with principal buildings in excess of 100,000 square feet of floor area shall be required to have a public plaza space.

The public plaza space shall include benches, bike racks trash receptacles, lighting fixtures and other amenities to create a welcoming space for tenants of the building and members of the public. These plaza spaces should be visible from the public street.

Multi-family residential developments shall be required to provide landscaped private open space for their residents. This open space shall be designed and landscaped for outdoor recreation.



*Outdoor Recreation Space*



*Trails*



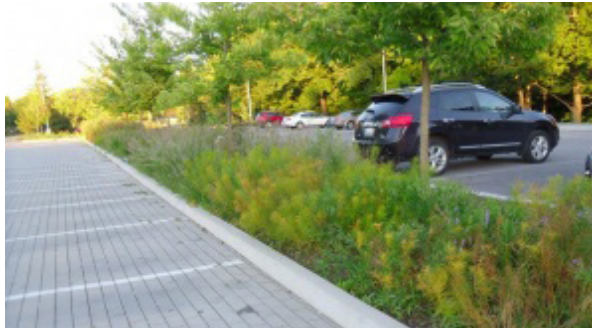
*Landscaping*



*Public Space Design*



*Placeholder for Walkable  
Destinations Map*



*Pervious Pavers*



*Silva Cells*



*Underground Stormwater*



*Green Roof*

## Stormwater Management

Water features and drainage systems are essential components of development in the district. A mix of ponds, fountains and other water elements provide focal amenities and year round activities within the framework of an environmentally responsible, visually pleasing strategy to manage stormwater. Each site has a responsibility to utilize best management practices (BMP) to pretreat run-off, reduce erosion and encourage infiltration in compliance with City and Elm Creek Watershed Management Commission standards. Water and landscape should be utilized within multipurpose areas that accommodate both active and passive recreational use – the following examples illustrate only a few of many possibilities:

1. Pervious pavements, underground storage and other creative techniques should be used to meet BMP standards, particularly in areas where more density is expected.
2. Stormwater reuse
3. Green architecture, expressed through green roofs, gray water recycling and other techniques should be included to reduce the impact of new development on stormwater systems.
4. Water feature design should include both formal elements (such as reflecting pools or fountains) and natural/informal forms (such as ponds or fountains) and should explore creative ways to integrate wet landscapes with active, urban spaces.

The City and the watershed are working to reduce chloride in our water system. All multifamily and non-residential developments are required to provide a Chloride Management Plan. Studies (see MCES publication regarding Nine Mile Creek, March 2021) show that chloride (or salt) found in surface waters and shallow aquifers has been increasing over the past 20 years. One source of the river's chloride is the salt applied to our streets, parking lots, driveways and sidewalks in the winter and results in peak chloride values between March and May. Due to the chloride's toxicity on the environment, watershed organizations and regulatory agencies have increased their focus on the urban sources and some watersheds are implementing practices for reducing salt applications. Rush Creek (the receiving water for the Northeast District) is at high risk for being impaired according to State's data base. Chloride Management Plans will be regulated under the City's MS 4 permit.



# Implementation

The design guidelines will be administered by staff as part of the development review process. Staff will incorporate design review to ensure compliance with the design guidelines as a standard step in the development review process.

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