

TAB 11

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Matrix Notes

- The design standards listed in this matrix implement the design themes of the Master Plan and are intended to complement and exceed the AD zone district and other code standards. Unless an adjustment has been specifically requested and granted, if a conflict should exist between any specific provisions of this matrix and any other code standards, the higher standards shall govern.
- All the photos and illustrations referenced by this matrix are representative of the level of design quality required by this Master Plan. Final designs to be submitted at the Site Plan level will not necessarily duplicate the exact illustrations, but will contain the same themes and dimensions as shown, and will be at the same or higher level of design quality, extent, and detail.
- Form G: Landscape Standards Matrix - Refer to Landscape Standards Section, see sheets 13-22 for more information.

Form G

# LANDSCAPE STANDARDS MATRIX

LANDSCAPE ITEM		BRIEF DESCRIPTION OF THE FEATURE		LOCATION OF STANDARDS IN APPLICATION PACKAGE
1.	Overall landscape concept and palette of plant materials used to carry it out.	<b>WAREHOUSE / DISTRIBUTION</b>	<b>OPEN SPACE</b>	Refer to Landscape Standards Section, see sheets 4-7 for more information.
		<p>The master plan aims to guide design principles towards a combination of naturalistic and formal planting that focus on LID best practices to minimize impact to the existing landscape and complete the tasks of the developed site. The plant palette shall carry through the entire site to create cohesive connections between locations and produce year-round interest. This site should focus on water preservation by using water-wise/xeric plants. Stormwater management should include bioswales, grassed swales, porous surfaces, and rain gardens. Limited open space is available; therefore, drainage to the natural landscape is essential while mitigating water runoff.</p> <p>Due to large infrastructure faces, views can be daunting, and plant material should hide or complement the buildings as needed. Using shade trees and maximum canopy coverage around trees and large paved areas reduces heat radiation, heat islands, energy waste, and water runoff should and should be used within the design. Plants are used to buffer buildings and visually orientate the site's users. Tree rows and large plant massings should theme the warehouse and distribution locations. Geometric linear forms, defined plant heights, large groupings of color, texture, and species protect pedestrians and infrastructure from vehicular damage and create minimal maintenance. For the resiliency of infrastructure and landscape, minimal maintenance is typically performed on these sites. Durable plants and landscape materials should be used throughout the property.</p>	<p>Detention ponds and property boundaries are the main sections of the site that contain open space and will be used to tie the warehouse/ distribution and native landscape together. Mimicking of the high plains prairie planting should be used throughout the open space and where less formal planting are needed. The use of a naturalistic theme will reduce the harsh contrast between warehouse/distribution and open space that is visually unpleasing and environmentally damaging. Plant in accordance to the natural topography, drainage, and riparian function of the site, rather than planting formally or altering the site when not necessary. The use of water-wise planting and water runoff mitigation practices are essential in the design.</p>	
2.	Landscape design at entry monumentation and key entry points.	<b>OVERALL LANDSCAPE INTENT</b>	<b>WAREHOUSE / DISTRIBUTION</b>	Refer to Landscape Standards Section, see sheets 8 for more information.
		<p>Plant material should be different in material to its surrounding landscape when establishing an entrance way, using different forms and style of planting. Landscape materials, signage, colors, and plants should create defined lines that communicate the surroundings to the users and invite them into the site. Designs should be simple and strong that have year-round interest. Since most people will be in cars or far from signs and entry points, designs should make distinguishable features from afar. Both site and building entry points should be landscaped as a visual guide to vehicles and pedestrians. These areas are included in street buffer requirement and contain a strong visual element. Plant specimens should have interest year-round and contain a mixture of shrubs, perennial and groundcovers to frame signs and entrances. Planting beds will be edged and mulched to make a clear statement on entry.</p>	<p>Monumentation can be found at intersections of the site and building primary entries. These locations should be planted with shrubs in the background and smaller shrubs, perennials, and groundcovers in the foreground. Due to the large warehouse and distribution buildings and minimum maintenance, the landscape should contain minimal perennials and groundcovers when possible. Sod should not be used within distribution/ warehouse sites. The planting should be in a formal fashion. If the entry point is about a natural landscape, there should be consideration of the transition between formal by natural using grasses, forbs, and flowering plants.</p>	

# LANDSCAPE STANDARDS MATRIX

LANDSCAPE ITEM		BRIEF DESCRIPTION OF THE FEATURE		LOCATION OF STANDARDS IN APPLICATION PACKAGE
3.	Landscape standards along E-470 or I-70	<b>OVERALL LANDSCAPE INTENT</b>	<b>OPEN SPACE</b>	Refer to Landscape Standards Section, see sheets 10 for more information.
		A planting buffer shall be provided between E-470 and the proposed site. Due to the location of the screen, plantings shall be large, shrubs and trees planted in masses, visually pleasing, and chosen appropriately based on environmental conditions. Due to limited protection, durable species should be chosen. Species should be diverse and native but limit the use of species change on a small scale.	The planting theme should be dense with large groupings of trees and shrubs, consistently planted, but avoid planting a single linear row of trees across the perimeter. Evergreen and deciduous trees should be provided in similar proportions to provide a screen in the winter. Shrubs, grasses, trees, and dry land grasses should be used within the easement. Select plants whose features are visible from afar direction.	
4.	Landscape standards along arterial and collector roads.	<b>OVERALL LANDSCAPE INTENT</b>	<b>WAREHOUSE / DISTRIBUTION</b>	Refer to Landscape Standards Section, see sheets 9 for more information.
		Landscaping along arterial street frontages will provide an attractive, safe interface for drivers, bicyclists and pedestrians. Planting such as street trees and shrub beds will be designed that are larger in scale so as to buffer views to larger distribution/warehouse buildings and parking area. Smaller scale planting are utilized to provide a safe pedestrian environment that has clear separation from higher speed vehicular traffic.	Warehouse and distribution buildings tend to be larger in scale, and may have taller wall elements. Trees and planting will be used to mitigate the visual impact of taller walls from adjacent arterial frontages. Pedestrian connections should encourage safe passage of pedestrians and cyclists from adjacent sidewalks.	
5.	Landscape standards along local roadways.	<b>OVERALL LANDSCAPE INTENT</b>	<b>WAREHOUSE / DISTRIBUTION</b>	Refer to Landscape Standards Section, see sheets 9 for more information.
		Local and internal private streets will be landscaped to emphasize safe pedestrian and vehicle passage and entrances to building front doors and parking areas. Trees will be utilized to provide shade on sidewalks and local parking areas for the employees, users, and guests of the development. Smaller planting, including turfgrass, decorative shrubs, ornamental grasses, and perennials will be designed to be drought tolerant and create a comfortable landscape and a welcoming environment.	Careful transitions will be designed to create safe and visually appealing access to the warehouse and distribution buildings from local streets. Both pedestrian and vehicle entrances alike will be positioned and landscaped in a way that allows safe and orderly access to building on the site.	
6.	Landscape standards in commercial and public gathering areas. (Tree grates & protectors, planters, flower beds, screening at parking lots, etc.)	<b>OVERALL LANDSCAPE INTENT</b>	<b>WAREHOUSE / DISTRIBUTION</b>	
		Not Applicable		
7.	Landscape standards at detention / retention ponds and water features.	<b>OVERALL LANDSCAPE INTENT</b>	<b>OPEN SPACE</b>	Refer to Landscape Standards Section, see sheets 13 for more information.
		On site will be one detention pond that sits on the low point of the site, the north east. Detention ponds are environmentally viable and can be used to help reduce the environmental impacts caused by the proposed warehouse and distribution buildings. Water wise plants should be used surrounding the pond with consideration of inundation. Plants located in higher water tables should be higher water use.  While limited on the site, open space is utilized around buildings and via the detention pond and its surrounding area. Naturalistic planting, water-wise plant material, and a diversity of species will encourage the development of sustainable ecosystems. Plant in accordance to the natural topography, drainage, and riparian function of the site rather than planting formally or altering the site when not necessary. Use plant material efficiently for locations that may be waterlogged or become waterlogged.	Species use should be diverse, plant height should look randomized, and canopy width shall cover the majority of the planting area to limit the growth of invasive weed species and limit water runoff. Native seed can be used where necessary; however, sod should not be an option. When planting large areas of native seed, mix deciduous shade trees, grasses, and shrubs along property lines and pedestrian use to create pleasing esthetics.	

# LANDSCAPE STANDARDS MATRIX

LANDSCAPE ITEM		BRIEF DESCRIPTION OF THE FEATURE		LOCATION OF STANDARDS IN APPLICATION PACKAGE
8.	Landscape buffers at parks, open space, and drainage.	<p><b>OVERALL LANDSCAPE INTENT</b></p> <p>While this development does not contain any dedicated parks, the landscaping will be enhanced at open space and drainage areas. Buffers and screening will provide an appropriate separation between uses, while maintaining a cohesive sense of place for the development.</p> <p>Native plant material and water wise landscape design will be utilized. Canopy trees will be used to provide shading and vertical scale to the landscape. Evergreen trees will provide year-round green color, massing an screening at appropriate areas. Paths and pedestrian benches will be incorporated into the design of the pond area to make it a more usable space for pedestrians.</p>	<p><b>OPEN SPACE</b></p> <p>The project contains ten percent open space, as specified in the annexation and development agreement, Annexation number 86-167 &amp; 86-168. Open space includes enhancement of the required detention pond area with park like features, such as tables, benches, trails (doubled as maintenance paths), etc. This area does not have to be clear of the 100-year flood plain, as long as it is designed to recover from events within the 24-hour period. See section 3.8 Land Dedication Criteria of the PROS manual for more information.</p>	Refer to Landscape Standards Section, see sheets 13 for more information.
9.	Special standards at residential lots. (If residential backyards border open space or parks, indicate special standards.)	<p><b>OVERALL LANDSCAPE INTENT</b></p> <p>Not Applicable</p>		
10.	Landscape integration at retaining walls.	<p><b>OVERALL LANDSCAPE INTENT</b></p> <p>To help integrate retaining walls into the landscape matrix of the development. Landscaping along and near retaining walls will provide an attractive interface to help soften and mitigate large areas of retaining wall material and help tie the walls into the surrounding landscape. Additionally, trees and shrubs near walls can also help minimize heat gain of walls, which ultimately helps curb the development's overall heat-island effect.</p> <p>Wall materials should be appropriate to blend in with the surrounding landscape and architecture. Retaining walls that are taller than 8' must be terraced, with a minimum of 4' set back within each tier. Appropriate landscaping is required within each wall terrace. No trees may be planted within 5' of wall foundations, so as to not disturb wall foundations/footings.</p> <p>Retaining walls in Detention areas shall not exceed 48" in height.</p>	<p><b>WAREHOUSE / DISTRIBUTION</b></p> <p>Choose plants wisely to provide the best scales of plant material for the wall. Tall shrubs and trees are best suited for planting designs near tall walls and shorter plant material is appropriate for shorter walls. Either the naturalistic or the formal style of planting can be utilized in plant groups along or near walls, but walls in or near natural areas should use naturalistic plant schemes, and walls in more developed spaces should use more formal planting schemes. Use larger plant groupings for longer or taller walls, and smaller plant groups near smaller walls. Take into account the visibility of the wall's location. Walls in higher traffic/higher visibility areas will need more plant material than those walls that are rarely seen.</p>	Refer to Landscape Standards Section, see sheets 14 for more information.
11.	Landscape standards at special facilities.	<p><b>OVERALL LANDSCAPE INTENT</b></p> <p>Not Applicable</p>		
12.	Buffer and setback exemptions for traditional street frontages.	<p><b>OVERALL LANDSCAPE INTENT</b></p> <p>Street frontage buffers and curbside planting (street trees and plantings) requirements shall not be combined but are expected to be both addressed within the design. Measurements start from the back of the sidewalk or public ROW when a sidewalk is not present.</p>	<p><b>WAREHOUSE / DISTRIBUTION</b></p> <p>All public street frontage designs shall have a buffer width of 25' minimum and meet the landscape requirements without using low hedges, low walls, fences, masonry walls, or landscape screens to minimize landscape requirements.</p>	Refer to Landscape Standards Section, see sheets 10 for more information.

# LANDSCAPE DESIGN STANDARDS

## LANDSCAPE CONCEPT

Aspen Business Park is located in the high plains short grass prairie, in the rain shadow of the Colorado Rocky Mountains Front Range, and just east of the Plains Conservation Center. As the location develops, both naturalistic and formal planting schemes of trees, shrubs, grasses and perennials will help integrate the development on the prairie lands while limiting ecosystem impact and promoting sustainability.

Transitioning between naturalistic plantings to formal plantings is a key design factor throughout the site to compliment the surrounding plains. While some landscaping will be used for screening unwanted views, other landscaping should compliment built features. As the neighboring properties are currently undeveloped or agricultural, creating designed transitions between the warehouse/distribution and native landscapes will benefit the ecosystem and promote sustainability, future developments, and also provide pleasing visual landscape elements.

Tree canopy cover around buildings and on streets should be maximized to reduce heat radiation, heat islands, and contain water runoff. Limited open space is available; therefore, drainage to landscaped areas is essential while mitigating water runoff. Bio-swales, grass swales, permeable paving, grass paving, and rain gardens are possible methods within potential landscape designs, for water control as needed.

Landscaping on commercial developments is often minimally maintained and invested in, therefore, planting should be carefully considered. Durable and simple groupings of plants limit maintenance needs and sustain a longer life term for plant material, and reduce costs. The plant palette shall carry through the entire site to create cohesive connections between locations and provide year-round interest. This site should focus on water conservation by using water-wise/xeric and climate adapted plants. Plant material should be used as a buffer for safety from vehicles and unwanted views, compliment/accent surrounding buildings, define entrances and unique special features, hide utilities and unwanted features. The Buckley Air Force Base lays northwest to the site across E-470; noise reduction planting should be taken into account.

The master plan aims to guide design principles towards a combination of naturalistic and formal planting that focus on LID best practices to minimize impact to the existing landscape and complete the tasks of the developed site.

- Zoning: Airport Distribution
- Placetype: Innovation Campus District x Airport Influence District

Zoning and placetype influence the direction of each property's development. Zoning ultimately controls what can be developed on the site, while placetype references what goals a development should reach based on its zoning to meet Aurora's future and present needs.

Aspen Business Park will have high volumes of pedestrian and vehicular traffic. Landscaping will help naturalize the warehouse and distribution look and offset environmental issues while incorporating people's needs within a heavy warehouse and distribution landscape.

Right of ways and landscape buffers should be dressed with large-scale plant material with year-round interest to create better aesthetics and reduce noise. Provide some views to the Plains Conservation Center, while also screening and buffering portions of E-470.



# LANDSCAPE CONCEPT

## OBJECTIVE

Aspen Business Park is located in the high plains Prairie overlooking the Colorado Rocky Mountain range and Conservation Center to the west. As the location develops, naturalistic planting and formal planting of shrubs and trees will help integrate the warehouse and distribution look on the prairie lands while limiting ecosystem impact promoting sustainability.

Transitioning from naturalistic plantings to formal planting is a key design factor throughout the site to compliment the surrounding plains. While some landscaping will be used to hide features, landscaping should compliment warehouse and distribution style features. As the neighboring properties are undeveloped or agricultural, creating transition ease between the warehouse/distribution and native landscapes will benefit the ecosystem and promote sustainability, future developments, and visual elements of landscaping.

## MASTER PLAN LAND USES

### PRIMARY

- Warehouse
- Distribution

### SECONDARY

- Institutional
- Commercial
- Open Space
- Parks

## WAREHOUSE | DISTRIBUTION

Landscaping shall focus on native planting that mirror the surrounding high-plains subtly transition between neighboring properties. Formal planting should abut buildings and be used between buildings. This connects differentiating spaces while allowing them to have their individual character.

To break up large areas of warehouse and distribution surfaces, place large-scale planting material against building faces and on streetscapes.

Different plant textures, distinguished plant heights, large groupings of plants, and planting in geometric linear forms around buildings and along streets will help visually define landscape features. A special order is created, allowing efficient and safe use of the space.

Use ornamental grasses, native flowering species, and ornamental trees planted on the perimeter of the property line to blend the space between human-made and natural features in the landscape. Limit the use of deciduous shade trees where views are located.

Planting should maintain year around visual interest and plans should mainly entail water-wise/xeric plants to minimize water usage. Refer to the "Planting Palette" section or Auroras Landscape Manual online.

Sod and synthetic turf should be used rarely or never. Substitute with native seed if possible.



## OPEN SPACE

While limited on the site, open space should be utilized around buildings and via the detention pond and its surrounding area.

Naturalistic planting, water-wise plant material, and a diversity of species will encourage the development of sustainable ecosystems. Plant in accordance to the natural topography, drainage, and riparian function of the site rather than planting formally or altering the site when not necessary. Use plant material efficiently for locations that may be waterlogged or become waterlogged.

Species use should be diverse, plant height should look randomized, and canopy width shall cover the majority of the planting area to limit the growth of invasive weed species and limit water runoff.

Native seed can be used where necessary; however, sod should not be an option.

When planting large areas of native seed, mix deciduous shade trees, grasses, and shrubs along property lines and pedestrian use to create pleasing esthetics.

# PLANTING PALETTE

## OBJECTIVE

- This Plant Palette utilizes low-water, climate adapted and native plants to aesthetically and ecologically blend with the surrounding natural short grass prairie and provide all season interest. This Plant Palette provides plants that will help accentuate architectural features, soften road and building materials, provide shade, mitigate noise and create a sense of place for users and visitors. This Plant Palette provides a diversity of choices in size, height, color, bloom time, and texture, while still adhering to the standard of low-water and climate adapted criteria.

## PLANTING GUIDELINES:

Plant material diversity must comply with the Landscape Reference Manual to the maximum extent.

Mulch trees when possible 3" in depth.

Planted shrubs with thorns shall not be planted within 8' of public walks and parking islands. Trees with thorns shall not be planted within 20' of public walks or parking islands.

## PLANT SIZE REQUIREMENTS:

Shade tree:	2" caliper
Arterial/Collector Street Trees:	2.5" caliper
Ornamental Trees:	2.5" caliper (Single stem) or 6-8' in height (multi-stem/clumping)
Evergreen Trees:	6' in height minimum
All Shrubs:	5-gallon container
Ornamental grass and perennials:	1-gallon minimum; 5-gallon for curbside landscape

## PLANT EQUIVALENCIES:

Trees and shrubs may be used intermittently to substitute where necessary within the landscape.

3 Grasses (1-gal.) OR  
3 Perennials  
= 1 Shrub (5-gal.)

1 Deciduous Shade Tree (2.5" cal.) = 12 shrubs (5 gal)  
OR 1 Ornamental tree (2" cal.) OR  
1 Evergreen tree (6' ht.)  
= 10 Shrubs (5-gal.)

1 Deciduous Shade Tree (2" cal.) OR  
1 Evergreen Tree (6' ht.)  
= 10 Shrubs (5-gal.)



### NATURALISTIC PLANTING

Consist predominately of ornamental grasses mixed with a variety of trees, shrubs and perennials. Loose, random, informal groupings of plants in odd numbers mimics the plant layout found in natural landscapes and provides a soft antidote to formal planting schemes. Use of low water plants is encouraged next to open spaces to transition visually from other areas and to encourage strong plant growth and minimize resource use. A mix of both naturalistic and formal planting can help distinguish different uses within a landscape visually and encourage cohesiveness between the buildings. Note: the use of grasses and perennials shall follow the UDO standards.

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### FORMAL PLANTING

A Formal Planting scheme's use of minimal species in large or controlled groupings can create visual cues for certain business areas and nodes, and also helps to accentuate important or unique locations or features of a landscape. Clean groupings, simple forms, geometric lines and strong colors help create a specific planting scheme while using minimal plant material and can be used in select locations throughout the landscape at Aspen Business Park.

Tab 11 - Planting Palette



### AIRPORT NOISE REDUCTION

Building, zoning and landscaping all play a role in controlling unwanted environmental and noise pollution. The use of large plant material and/or fast growing plants in the landscape helps to mitigate unwanted sound around outdoor meeting areas. Deciduous trees with rough bark help soften noise pollution. Especially when mixed with evergreens, trees and large shrubs can help absorb and deflect noise. If some areas need maximum control of noise pollution, shrubs and trees of different shapes and heights can be planted as a hedge to provide more noise blockage. Leaving minimal openings in a planted hedge will help reduce noise to the maximum.

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# PLANTING PALETTE



## DECIDUOUS CANOPY TREES

*\* must be seedless cultivars \**

- WESTERN CATALPA
- GREENSPIRE LINDEN
- SHADEMASTER HONEYLOCUST
- IMPERIAL HONEY LOCUST
- SKYLINE HONEYLOCUST
- SWAMP WHITE OAK
- BUR OAK
- ENGLISH OAK
- CHINQUAPIN OAK
- SHUMARD OAK
- URBAN PINNACLE OAK
- KENTUCKY COFFEE TREE
- WESTERN HACKBERRY
- FRONTIER ELM

## DECIDUOUS ORNAMENTAL TREES

- AUTUMN BRILLIANCE SERVICE-BERRY
- SASKATOON SERVICE BERRY
- CHANTICLEER PEAR
- SPRING SNOW CRABAPPLE
- JAPANESE TREE LILAC
- THORNLESS COCKSPUR HAWTHORN
- RUSSIAN HAWTHORN
- ROCKY MOUNTAIN GLOW MAPLE

## EVERGREEN TREES

- AUSTRIAN PINE
- BRISTLEcone PINE
- PINON PINE
- PONDEROSA PINE
- SCOTCH PINE
- SOUTHWESTERN WHITE PINE
- LIMBER PINE
- ROCKY MOUNTAIN JUNIPER

## DECIDUOUS SHRUBS

- BLUE MIST SPIREA
- CRANDALL CLOVE CURRANT
- ALPINE CURRANT
- CHEYENNE MOCKORANGE
- LITTLELEAF MOUNTAIN MAHOGANY
- COMMON MOUNTAIN MAHOGANY
- RUBY CAROUSEL JAPANESE BAR-BERRY
- CORAL CARPET ROSE
- RED MEIDLAND ROSE
- KNOCK OUT ROSE
- FINELINE BUCKTHORN
- KELSEY DOGWOOD
- LODENSE PRIVET
- RUSSIAN SAGE
- BLOOMERANG LILAC
- MISS KIM DWARF LILAC
- COMPACT PURPLE BUTTERFLY BUSH
- PAWNEE BUTTES SAND CHERRY
- THREE LEAF SUMAC
- GRO-LOW SUMAC
- FRAGRANT SUMAC
- TIGER EYES STAGHORN SUMAC
- COPPERTINA NINEBARK
- SUMMER WINE NINEBARK
- REGENT SERVICEBERRY
- MOHICAN VIBURNUM
- HANCOCK CORALBERRY
- SPANISH GOLD BROOM
- RABBITBUSH
- FERNBUSH
- NEW MEXICO PRIVET
- APACHE PLUME
- LEADPLANT

## EVERGREEN SHRUBS

- JOINT FIR BLUESTEM
- WOODWARD COLUMNAR JUNIPER
- COLOGREEN JUNIPER
- GRAY GLEAM JUNIPER
- MEDORA JUNIPER
- WICHITA BLUE JUNIPER
- ALPINE CARPET JUNIPER
- BLUE CHIP JUNIPER
- ICEE BLUE JUNIPER
- WILTON CARPET JUNIPER
- BUFFALO JUNIPER
- CALGARY CARPET JUNIPER
- CHIEFTAIN MANZANITA
- PANCHITO MANZANITA
- BIG TUNA MUGO PINE
- MOPS MUGO PINE
- WHITE BUD MUGO PINE
- RED FALSE (TEXAS) YUCCA
- BANANA YUCCA
- ADAM'S NEEDLE YUCCA
- VARIEGATED YUCCA
- SOAPWEED YUCCA
- DOLLHOUSE YUCCA
- WINTER GLOW BEAVERTAIL CACTUS

## ORNAMENTAL GRASSES

- BLONDE AMBITION GRAMA GRASS
- KARL FOERSTER FEATHER REED GRASS
- HEAVY METAL SWITCH GRASS
- DWARF FOUNTAIN GRASS
- MEXICAN FEATHER GRASS
- SWITCH GRASS
- INDIAN GRASS
- BIG BLUESTEM
- LITTLE BLUESTEM GRASS
- BLUE FESCUE
- UNDAUNTED® RUBY MUHLY GRASS
- GIANT SACATON GRASS

## PERENNIALS

- MOONBEAM COREOPSIS
- STELLA D'ORO DAYLILY
- BRIDGE'S PENSTEMON
- DESERT BEARDTONGUE
- ROCKY MOUNTAIN PENSTEMON
- MAY NIGHT SALVIA
- GOLDENROD
- SILVER SAGE
- BLACK-EYE SUSAN
- PRAIRIE CONEFLOWER
- CREEPING PHLOX
- PLUMBAGO
- PRAIRIE LODGE SUNDROPS
- ICEPLANT
- BLANKET FLOWER
- HYSSOP
- POWIS CASTLE SAGE
- YARROW
- WHIRLING BUTTERFLIES
- IRIS
- LITTLE TRUDY CATMINT
- MISSOURI EVENING PRIMROSE
- ANGELINA STONECROP
- AUTUMN JOY STONECROP
- PARTRIDGE FEATHER
- TURKISH SPEEDWELL
- BIG EARS LAMB'S EAR 'Helen von Stein'
- SILVERY HOREHOUND
- KANNAH CREEK SULPHUR FLOWER
- SANTA FE ASTER

# LANDSCAPE STANDARDS

## SITE ENTRY WAY | INTERSECTIONS

### Application | Planting Design

For the entry way and intersections, utilize plant materials and plant layouts that are different from and stand out against the surrounding landscape. Consider creating defined lines and shapes with plant material to help communicate the purpose and context of these locations to all who visit or work in the development. Planting designs should be simple and strong, and have a year around interest to continue the theme in all seasons.

Most people visiting the site will experience the landscape via their car, so consider this when designing planted areas, so designs and features are readable at that scale.



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## VIEWS

### Application | Planting Design

Most of the landscape overlooks short grass prairie to the south, east and north, with E-470 along the west side of the property.

Providing groups of plant material in compositions of varying types, textures, sizes and patterns alternating with open areas will moderate the vastness of the surrounding prairie while still providing visual gaps to admire and appreciate the views of the open plains.

E-470 should be buffered with large trees and shrubs to mitigate the visual pollution of the highway. Consider the existing planting along the highway when designing new landscapes adjacent to the highway, so as to complement and blend with what is already there.

Tab 11 - Landscape Standards

## PUBLIC ART

### Application | Planting Design

Utilize Public Art works to highlight key areas, enhance overlooked spaces, soften areas of hard materials, break-up monotonous building facades, provide landmarks for way-finding, and create a sense of place by providing visual delights for workers, visitors and people passing through the development. Site the public art for multiple viewing points and maximum effect. Consider framing the art pieces with landscape planting that do not block views and help tie the artwork into the surrounding matrix of the development. Follow all applicable city codes to ensure art works do not cause any safety issues or impediments for pedestrians, bicyclists or automobile drivers.



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Shrubs and trees should be used to create a visually pleasing curbside with a mix of deciduous and evergreen shrubs with minimal ornamental grasses to promote year-round screening.



Use wide-spreading and grouping of shrubs to cover/break up large nonliving and hardscape material areas. Avoid arbitrary species change. Rock mulch should be used in locations where strong wind can be present.

## **STREETSCAPE | CURBSIDE LANDSCAPE**

Since the proposed buildings are large industrial surfaces, plant material should be big in scale and have all year interest to break up building faces. Use colors that compliment the buildings and surrounding landscape. A mix of trees, evergreen and deciduous shrubs should be used with minimal ornamental grasses.

## **REQUIREMENTS**

- 1 Tree / 40 LF + 1 Shrub / 40 SF
- Tree set back at least 50' from the face of a stop sign.
- Curbside landscaping and street frontage buffer landscaping are both required
- All shrubs and grasses shall be a minimum 5 gallon
- No space over 120' between trees.
- No more than 40% ornamental grasses to be planted.
- Planting within sight triangles shall be a maximum of 26" tall.
- Landscape bed widths (ft.) & planting requirements:
 

3-6'	=	Shrubs + Mulch
6-10'	=	Shrubs + Mulch / Native seed
10'	=	Shrubs + Mulch / Native seed / Sod OR Only sod
- Rock mulch shall be a minimum of 2.5 inch diameter



Use native plantings in buffer locations to create a smooth transition between the property and its neighbor's property. Limit plant height around landscape lighting.



Buffers should be of various heights to limit views into the property and match the scale of the building. Use a mix of evergreen, deciduous shrubs and ornamental grasses.



Plant in a row or triangular pattern based on buffer width allowance. Provide dense planting across the entire buffer avoiding.

## **STREET FRONTAGE LANDSCAPE BUFFER**

Trees, shrubs, ornamental grasses, perennials and grass should be visually aesthetic and help reduce the monotonous buildings that are being buffered. Ornamental grasses should be limited as they are not year around and provide minimal buffer for safety. Large shade trees shall be planted along sidewalks to provide shade for pedestrians. Buffer shall not encroach on the property.

### **REQUIREMENTS**

#### **Street Frontage Buffer**

- 1 Tree + 10 Shrubs / 40 LF
- Gun Club Road | public roads - 25' minimum width
- All other internal private streets - 10' minimum width

#### **E-470**

- 1 Tree + 10 shrubs / 25 LF
- A 25' landscape buffer is required but can be reduced with additional landscape features such as fences and masonry walls.
- Outside Easement: Large deciduous shade tree, large evergreen trees (50%), shrubs planted 5' o.c.
- Inside Easement: Large trees, shrubs, dry land grasses. Trees 50% evergreen.
- Must have groupings of tree and shrubs. Shrub groupings outside tree groupings and massed. No gap larger than 45' between groups.

#### **Application | Planting Design**

- Location: measure inward from the back of the sidewalk or ROW. If no walk is provided, then measure from the property line.
- If encumbered, a reduction in buffer widths is not permitted along arterial roads (Gun Club Road).
- Most restrictive requirements must be met if requirements overlap.
- Ornamental grasses shall not be planted over 20% of plant material.
- Shrubs shall reach 3-4' in height.
- Perennials may not be used as shrub equivalents, only accents.
- Planting shall be installed on the exterior of walls and fences.



Strong grouping of plants in linear form with appropriate scale to the building.



Decorative planting at the entrance of buildings.



Water-wise planting is used in foundation plantings to prevent waterlogging next to build-



A dense and diverse planting along the perimeter.

## **BUILDING PERIMETER LANDSCAPING**

Planting around the perimeter should consist of colorful year-round water-wise plants. Perimeter planting should be a simple design for easy maintenance and longevity of plant life since the landscape is within an industrial site. However, entry points should use a blend of plants for visual attraction and signaling of building entrances. Machinery/utilities, building corners, and unwanted views should be screened with plants, preferably evergreen.

## **REQUIREMENTS**

- 1 Tree equivalent / 40 LF
- Landscape to be broken down by building face, not by its entirety
- Entrances, mechanical equipment, and featureless walls shall be planted to cover or accent the locations.

### **Application | Planting Design**

- Planting required at ROW, residential neighborhoods, public open space, or where a door is present.
- Planting within 20' of building face/within parking lot islands may count towards buffer.

## **NON-STREET PERIMETER LANDSCAPING**

The overall buffer should screen the entirety of parking lots, loading areas, and E-470 (except for wanted views) using sizeable evergreen and deciduous plants. Plants should be in groupings of at least three that create rows or are planted in a triangular form to create a massing of plants. Use plant material that is fast-growing, upright, large in size, durable in environmental conditions, and Water-wise to limit irrigation and maintenance needs.

## **REQUIREMENTS**

- Buffer reductions permitted - refer to City of Aurora UDO Table 4.7-2

### **Application | Planting Design**

- Plant material must grow 5'+ in height.
- Perennials do not count towards buffer requirements.
- Suggested planting: junipers or material that can handle snow loads and year around visual interest.



Concentrated tree planting to create a visual block and shade.



Grouping of plant material that covers the entirety of the buffer.

## **PARKING LOT ISLANDS**

Landscaping should allow movement throughout the parking lot and provide walkways where needed. All islands should provide landscaping, using large shade trees per island whenever possible. Proposed plant species should be thornless, fruitless, salt-tolerant, and can manage heavy foot traffic. The height of plants should not limit visual clearance for drivers but should grow large enough to withstand potential damage by humans, the environment, and industrial movement.

### **REQUIREMENTS**

- 1 Tree\* + 6 Shrubs / 9 X 19' island
  - 2 Trees\* + 12 SHRUBS / 9 X 38' island
- \*Ornamental trees may only be used accents but are not included in the tree requirement count
- No turf / native seed or synthetic turf on interior islands. Maximum 30% ornamental grasses



Disperse trees evenly in islands to maximize shade and limit water runoff.



Select plant material that has an appropriate size at maturity for islands.

Aspen Business Park



Planting should consist mostly of evergreen and deciduous shrubs around the perimeter that create a continuous hedge.

## **PARKING LOT LANDSCAPING**

External parking lot plant selection should contain similar tolerance levels to people and the environment as the parking lot island plants. Plant large shade trees in parking terminal islands when possible, use sizeable flowering deciduous and evergreen shrubs and provide a dense continuous buffer between land uses. Plants should have a fast growth rate, can contain openings for drainage, and should limit the use of ornamental grasses. Plants should be at least two feet offset from parking lot curbs to adjust for car bumper overhang and prevent plant damage (if no car stop is provided). The buffer may be reduced with the addition of landscape features; see UDO for more information.

### **REQUIREMENTS**

- Trees: use throughout buffer and plant to offset horizontal lines of plants in the planting bed.
- Ornamental grasses: not permitted in parking lot islands .

#### **Application | Planting Design**

- Interior and exterior parking lots must be landscaped.
- All parking rows must end with a landscaped island.
- Street/non-street buffers may be combined with parking lot buffer requirements if they overlap - determined after the first submittal by the City.
- Shrubs: 3-4' height minimum & 50% flowering species.

#### **Parking lot when landscape is not a part of the buffer:**

- A 4' wide landscape bed is required around the parking lot and berm 3-4' tall planted with evergreen and deciduous trees and shrubs - if berms are not practical choose one of the following:
  1. Low continuous hedge 3-4' tall, double row planted in a triangular pattern 3' on center.

OR

  2. Masonry wall 3-4' tall with landscaping|plants on exterior side of wall.

## OPEN SPACE LANDSCAPING

A buffer must be provided in the open space to minimize the impact of potential neighboring developments. Planting should consist of grassland species, native-seed, and xeric shrubs which compliment the surrounding native landscape. Trees and shrubs should be randomized when not part of a buffer throughout the landscape. If pathways are proposed, use landscaping beds at the entrance of pathways to transition into the native landscape and signal an entry point.

### REQUIREMENTS

- 1 Tree and 10 Shrubs / 4,000 SQ FT\*
  - \*Excludes areas in the 100 year flood plain, floodways, lakes, ponds, undisturbed marshes, wetlands, detention ponds and water quality ponds.
- Trail connections may be in the buffer for parks and open space development.
- Fences may be up to 4' in height, some exception may apply if determined by Parks, Recreation and Open Space Department determines so.



Limit the use of landscape beds and turf; native seed should cover large portions of the open space.



Planting should be native and diverse if shrubs or perennials are proposed.

Aspen Business Park



Use stormwater and water detention landscape practices such as rain gardens and bioswales to manage water.



Planting, native seed and mulch used in a fashion to promote permeability and efficacy of detention pond.



Planting mixes native and formal design, has all-season interest, and provides a buffer between uses. Planting mixes native and formal design, has all-season interest, and provides a buffer between uses.



Tree and shrub plantings shall line and remain on the outside border of the detention pond.

## DETENTION PONDS | WATER QUALITY PONDS

Landscaping should help the detention pond blend in with the surrounding landscape by using naturalized dispersal of plants and native/ water-wise plants that topography of the landscape. Use stormwater management practices to manage water movement and prevent locations that could become stagnant with water. Plantings in the pond's center should tolerate possible water inundation and be wetland native-seed otherwise. Site furnishings, plantings, and hardscape can also be included around the detention pond to make use of the open space but should not interfere with the natural process of the the dentition pond.

### REQUIREMENTS

- 1 Tree + 10 Shrubs / 4,000 SQ FT above water surface elevation
- Low impact development techniques used as best practices management
  - Examples: bioswales, grassed swales, permeable pavers, grass, rain gardens, sand filters and basins.

### Application | Planting Design

- When standard overlap, buffers may count towards each other; the most restrictive requirements should be met.
- Bottom of the pond to be planted with seed and or water-tolerant seed or plant materials that can manage water inundation.
- Wetland materials planted to the maximum extent possible.
- Areas subtracted from the total sq. ft: area within 100-year flood plain, floodways, lakes, ponds and undisturbed marshes and wetlands.



## RETAINING WALLS

Retaining walls should complement the natural landscape with the use of native colors and materials. Due to the industrial site, a limited number of people will see the retaining walls. Therefore, the walls should be limited in decoration and focus on functionality and be of reasonable cost to build. Landscaping instead should be used to decorate the surfaces of retaining walls or break up large/long surfaces of retaining walls while

## REQUIREMENTS

- Required for slopes exceeding one foot of rise in three feet of run
- Walls exceeding 30" in height require pedestrian railings or barriers.
- Retaining walls shall not exceed 8' in height.
- Areas between walls shall be landscaped: shrubs, trees, groundcovers, perennials.
- Slopes between walls shall not exceed 4:1 rise to run, and spacing between walls shall not be further than 36" apart.

### Application | Planting Design

- The style of retaining walls should be cohesive with the natural surrounding,
- Planting should consist of shrubs, ornamental grasses, and trees. Due to the large scale of warehouse and distribution buildings, avoid using perennials and groundcovers.



Trees planted at a distance from the retaining wall to promote healthy growth.



Use of appropriate mulch and planting around retaining wall for the landscape scenario.



Landscape mulch creates visual interest where planting is minimal or at a small growth size to break up large surface areas.



Use formal planting to accent the wall. Plant size creates a buffer but does not block the retaining walls face in its entirety.



**SERVICE | LOADING | STORAGE | TRASH AREA SCREENING**

Landscaping should screen the entire feature using evergreen shrubs at maximum. Due to potential plant damage by surrounding pedestrian and vehicular traffic, use durable and fast-growing plants. Leave an appropriate distance between the plant and the object being screened so there are still access points to the object.

**REQUIREMENTS**

**Application | Planting Design**

- All visible from residences, public/private streets and public open space/trails shall be screened.
- Storage area, truck loading bays, and vehicle routes shall not be in a required setback or perimeter buffer.
- Landscaping exterior side of walls or fences
- How: screens, fences, walls, and berms landscaping.
- Not permitted: chain link fences, walls over 9' height
- Fencing and walls must conform to sight triangle requirements. If within the sight triangle, fences and walls should have a 45-degree angle.
- Trash Facilities

Must be enclosed with wall or opaque fence at minimum 6' tall

Set back 12' from neighboring residential and commercial properties

Landscaping required on exterior; must be evergreen planting



Use of multi-sized plants to create interest and screen.



Dense planting around all sides of machinery.



Evergreen screen matching the scale of the trash receptacle.

**MECHANICAL EQUIPMENT SCREENING**

Similar to service/loading/storage/trash area screening, plant material should be evergreen and tolerant. Plant variety should be limited to avoid excessive maintenance needs. Any sides of equipment capable of being planted and screened should be screened. Plant material should be of appropriate size to permit access to the machinery when needed.

**REQUIREMENTS**

- Screening must consist of landscape, walls or fences when located on the ground.
- Screening is required when utilities are attached to primary building facade.

**Application | Planting Design**

- Planting material should be evergreen. Accents of deciduous, ornamental grasses and perennial may be used as accents.