Designing a Native Plant Garden

Deryn Davidson, CSU Extension, Boulder County

Colorado State University Extension

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Gaillardia aristata, blanket flower

- Counties throughout state
- Summer field classes
- To find a program near you: http://conativeplantmaster.org
- CO native plant database http://coloradoplants.jeffco.us

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What We'll Cover Today

- What is a native plant?
  - Why use them in our landscapes?!
- Basics of Design
  - Elements and principles
- How to apply those to native gardens
- Native plant combinations
- Finishing touches
- Q & A

Cleome serrulata, Rky. Mtn. bee plant

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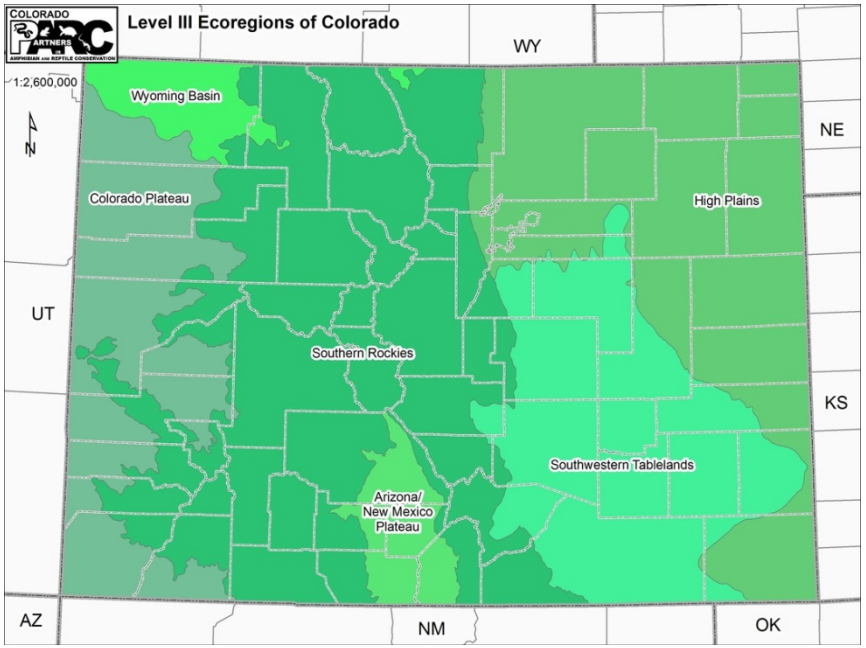
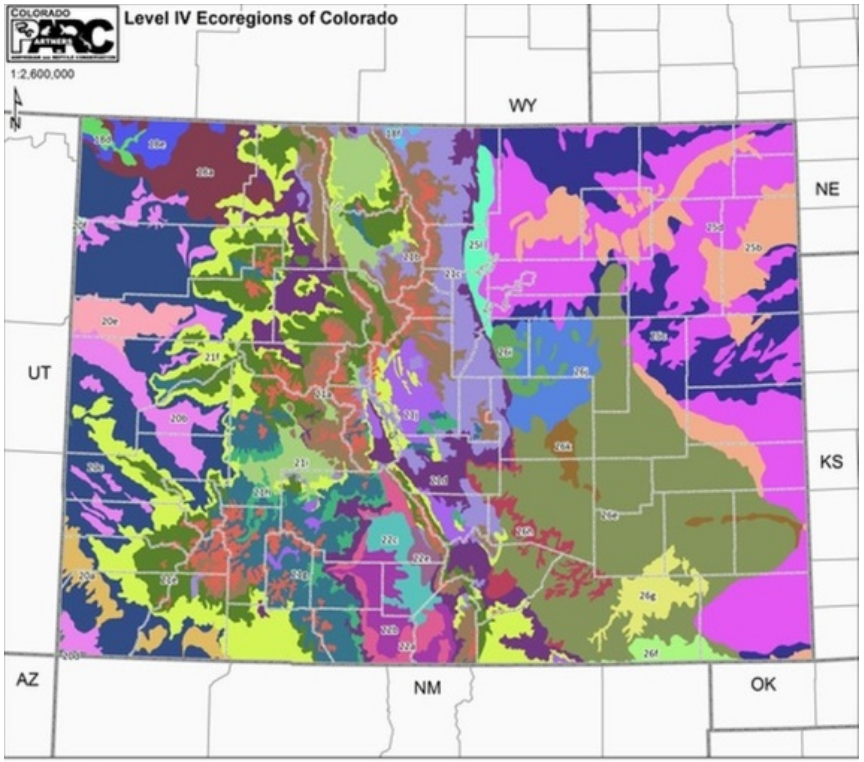
What is a native plant??

- “species that occur naturally in a particular region, state, ecosystem, and habitat without direct or indirect human actions”
  - CONPS, Federal Native Plant Conservation Committee
- “species that has been in place since the advent of European Colonists in North America”





- Landscapes are Part of a Larger Eco-Region
- Eco-regions denote areas with general similarities

Ecoregion Level IV

- 18a Rolling Sagebrush Steppe
- 18d Foothill Shrublands and Low Mountains
- 18e Salt Desert Shrub Basins
- 18f Laramie Basin
- 20a Monticello-Cortez Uplands
- 20b Shale Deserts and Sedimentary Basins
- 20c Semiarid Benchlands and Canyonlands
- 20d Arid Canyonlands
- 20e Escarpments
- 20f Uinta Basin Floor
- 21a Alpine Zone
- 21b Crystalline Subalpine Forests
- 21c Crystalline Mid-Elevation Forests
- 21d Foothill Shrublands
- 21e Sedimentary Subalpine Forests
- 21f Sedimentary Mid-Elevation Forests
- 21g Volcanic Subalpine Forests
- 21h Volcanic Mid-Elevation Forests
- 21i Sagebrush Parks
- 21j Grassland Parks
- 22a San Luis Shrublands and Hills
- 22b San Luis Alluvial Flats and Wetlands
- 22c Salt Flats
- 22e Sand Dunes and Sand Sheets
- 25b Rolling Sand Plains
- 25c Moderate Relief Plains
- 25d Flat to Rolling Plains
- 25l Front Range Fans
- 26e Piedmont Plains and Tablelands
- 26f Mesa de Maya/Black Mesa
- 26g Purgatoire Hills and Canyons
- 26h Pinyon-Juniper Woodlands and Savannas
- 26i Pine-Oak Woodlands
- 26j Foothill Grasslands
- 26k Sandsheets

Why native?

Working with/for nature uses fewer resources

- Up to 60% of municipal fresh water used by households in western U.S. is used for landscape
- Still use water, but potentially less
- Design to use less potable water

Promote/provide pollinator habitat

- If you build it, they WILL come

Chamerion angustifolium, fireweed

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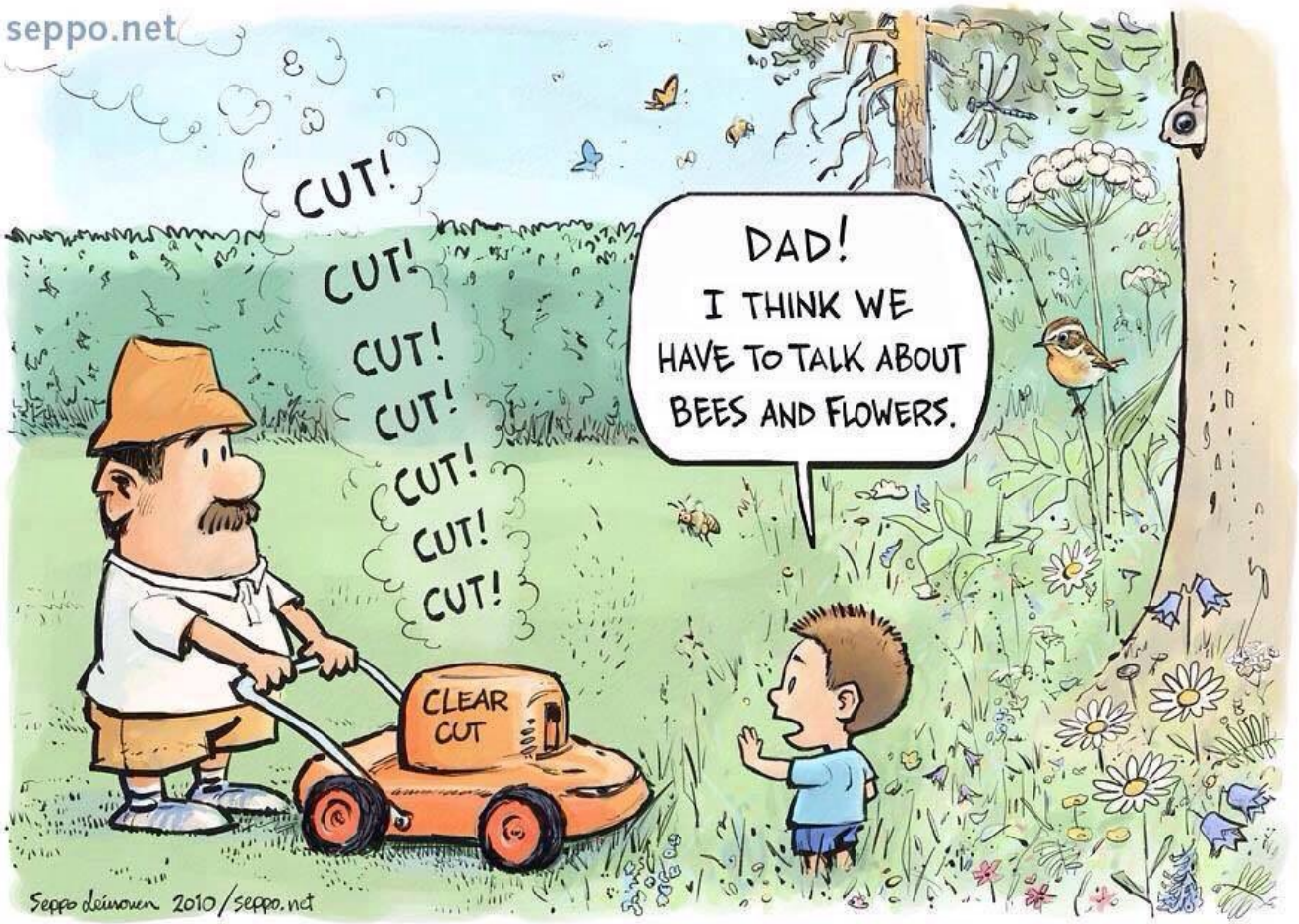
Why native?



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Genius loci

Spirit of place – a location's distinctive atmosphere

"Wherever I go in America, I like it when the land speaks its own language in its own regional accent. Texas should look like Texas, and Mississippi like Mississippi."

– Lady Bird Johnson

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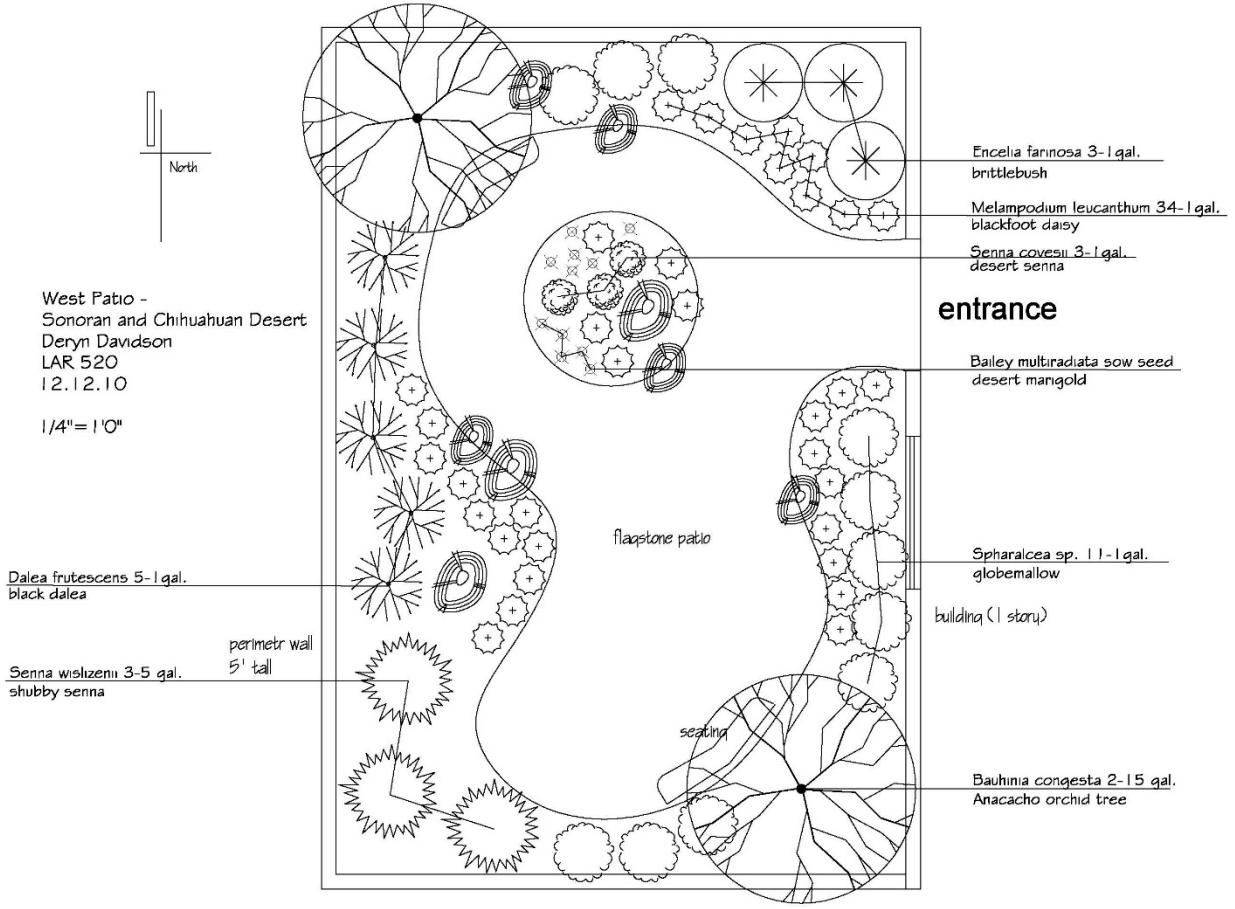
Design Process

- To **plan** and make **decisions** about something for a specific purpose
- How we create our outdoor spaces
  - Plant choices
  - Hardscape
  - Irrigation
- DYI or Pro



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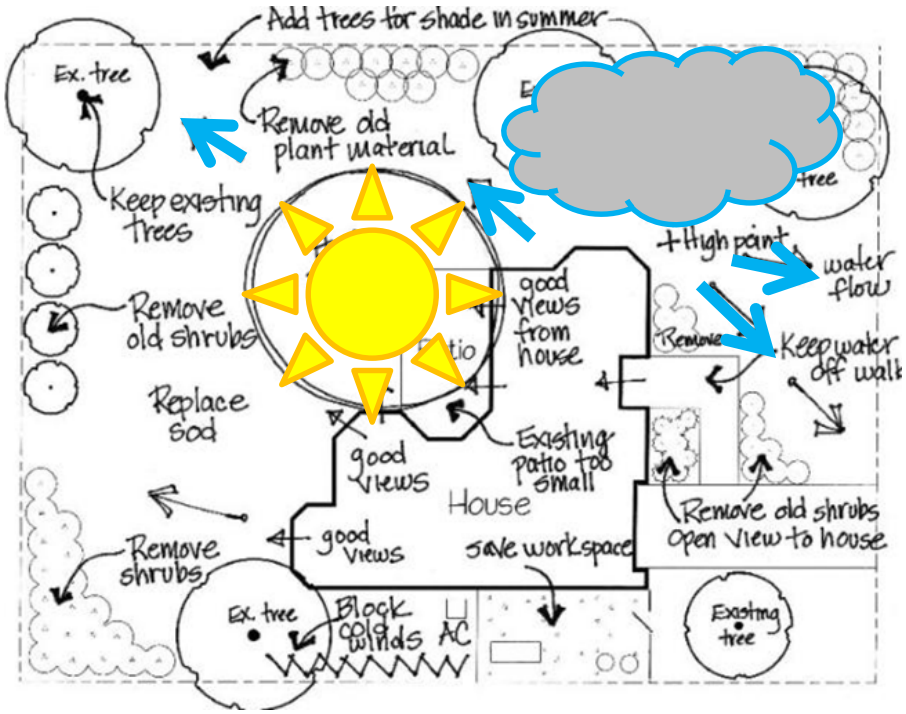
Site Analysis (What are You Working With?)

- Sketch it out!
- Topography (high/low)
- Exposure
- Soil type (test)
  - Often no amending
  - Heavy clay: use plants that tolerate clay or build berms or raised beds 8-24” high
- Recipe for amending 70% clay soils:
  - 10% wood-based compost
  - 20% small aggregate or crusher fines
  - Incorporate well



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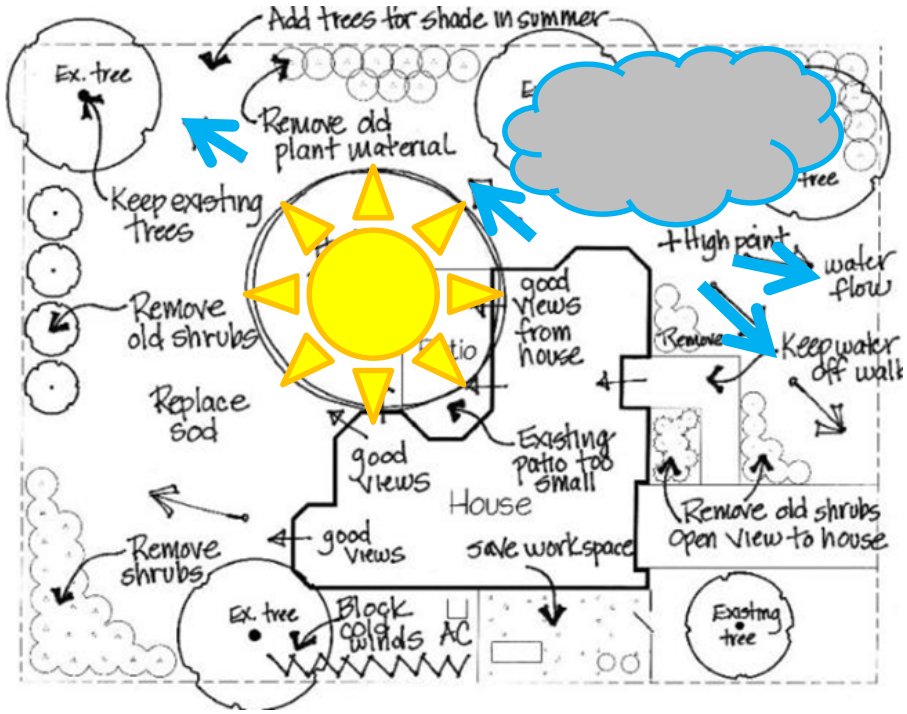
Site Analysis (What are You Working With?)

- Find microclimates
- Determine use areas (goals of space)
  - Kids
  - Dogs
  - BBQ
  - Habitat
- Traffic flow



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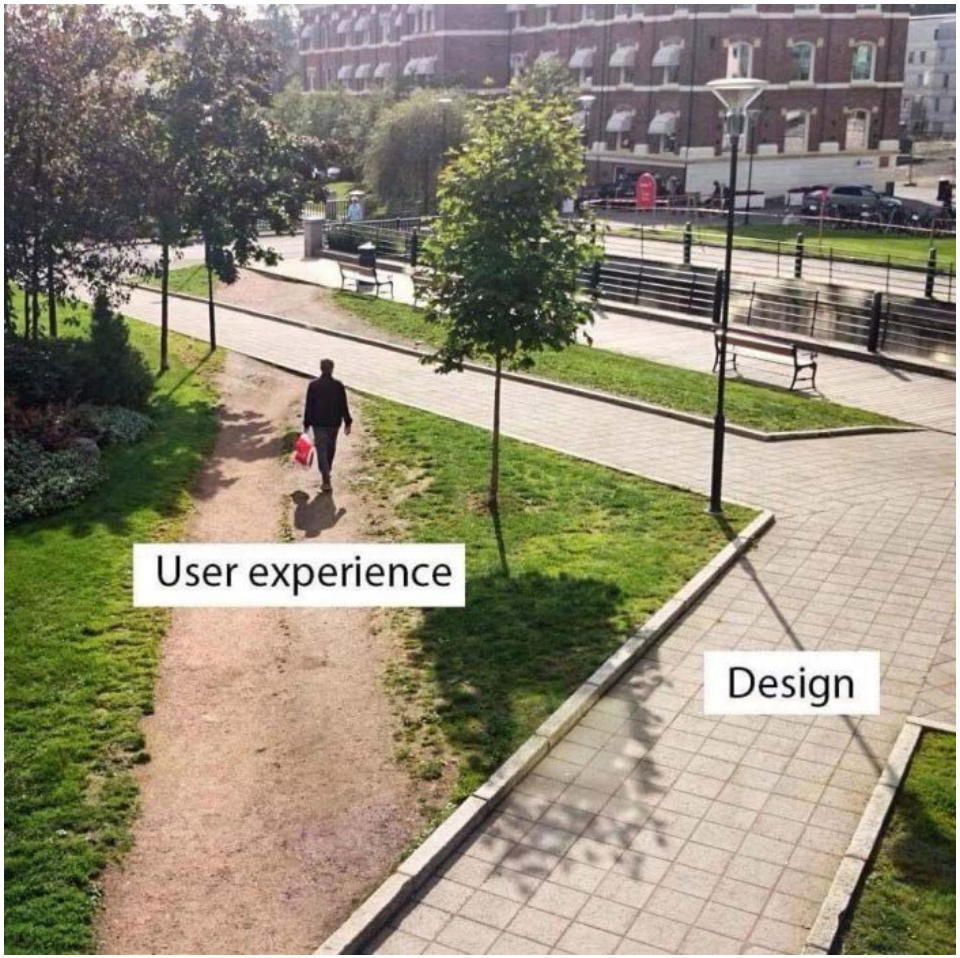
Site Analysis



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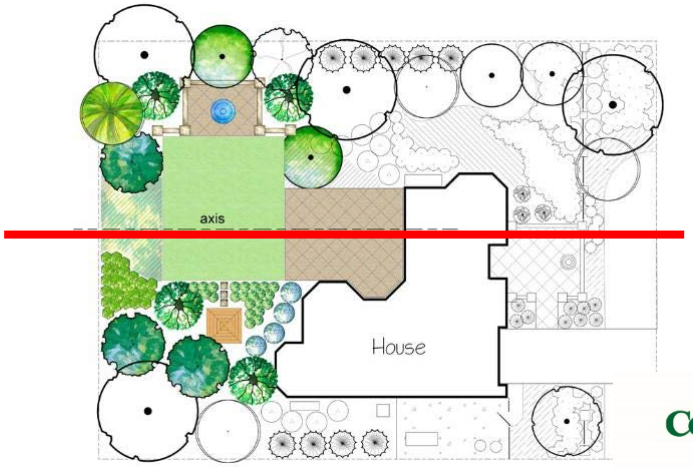
Principles of Design

Beauty is in the eye of the beholder, however…

- Fundamental concepts of composition
- Guidelines used to arrange elements
  - Order
  - Unity
  - Scale/Proportion
  - Repetition



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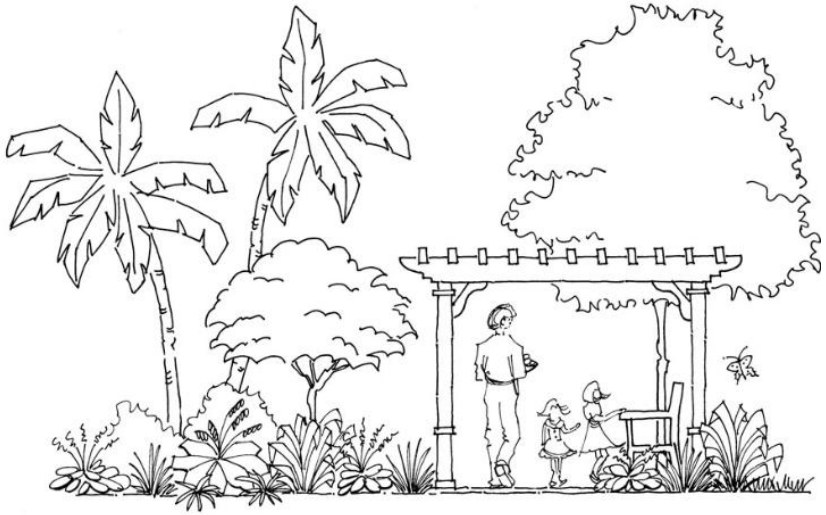

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Elements of Design

Visual Descriptors

- Line – directs the eye
- Form
- Texture
- Color
- Smell
- Sound

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- Form – skeleton of space
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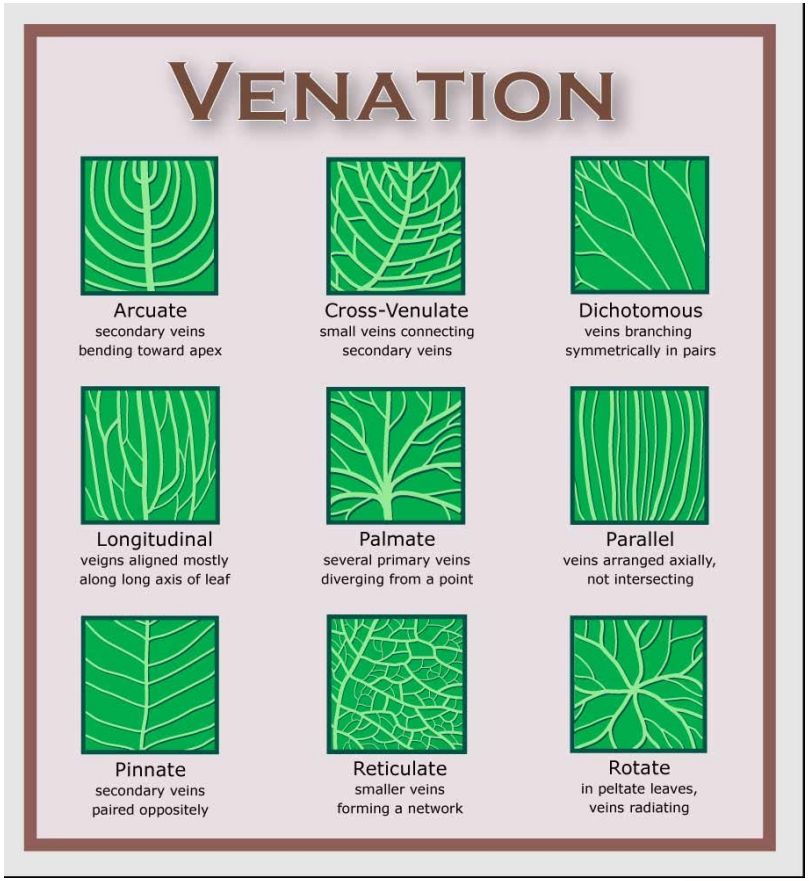
Elements of Design

Visual Descriptors

- Line
- Form
- Texture – how course or fine a surface is. Variety, interest.
- Color
- Smell
- Sound



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Elements of Design

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- Line
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- Color – the fun stuff!
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Affects: Spatial perception, light quality, balance, emotion

Created by Jeni Webber

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Elements of Design

Visual Descriptors

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- Color – the fun stuff!
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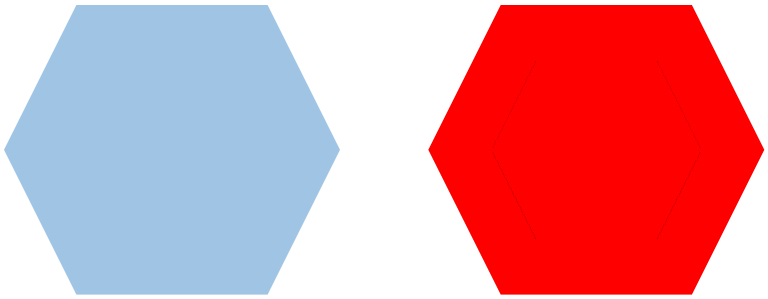
Warm colors are exciting, perceived as being closer making a space feel smaller.

Cool colors are calming, perceived as being farther away making a space feel larger.



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Berlandiera lyrata

Oreocarya virgata

Schizachyrium scoparium

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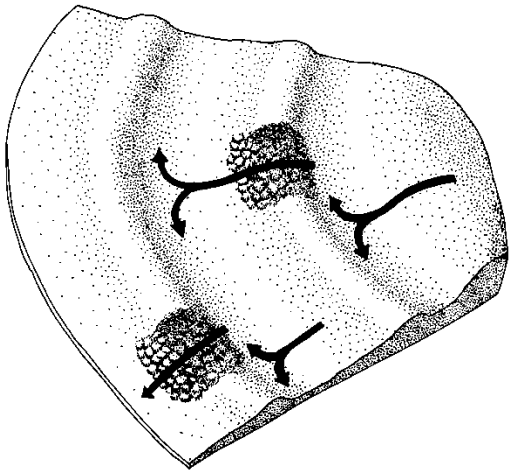
Designing for Water Retention/Detention

- Passive water harvesting = divert water overland to vegetated areas for *immediate* use
- “Slow it, spread it, sink it”
- Integrated into landscape
  - Gutters and downspouts
  - Swales
  - Berms (microbasins)
  - Bioinfiltration Gardens
- *All of these can work together!!*

Passive Rain Water Collection

- Passive = divert water overland to vegetated areas for *immediate* use
- “Slow it, spread it, sink it”
- Integrated into landscape
  - Swales – *spreads* horizontally on contours
  - Berms (microbasins)
  - Bioinfiltration Gardens



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Passive Rain Water Collection

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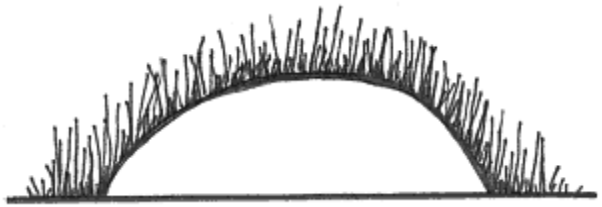
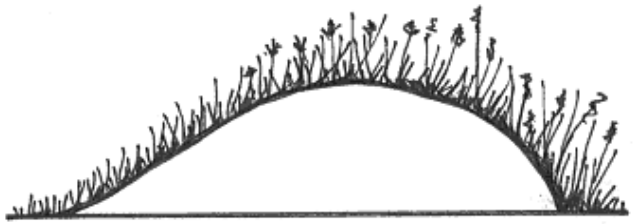
  - Bioinfiltration Gardens





Transition between existing grade and slope of berm should be gradual. Appear as natural part of landscape.

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Passive Rain Water Collection

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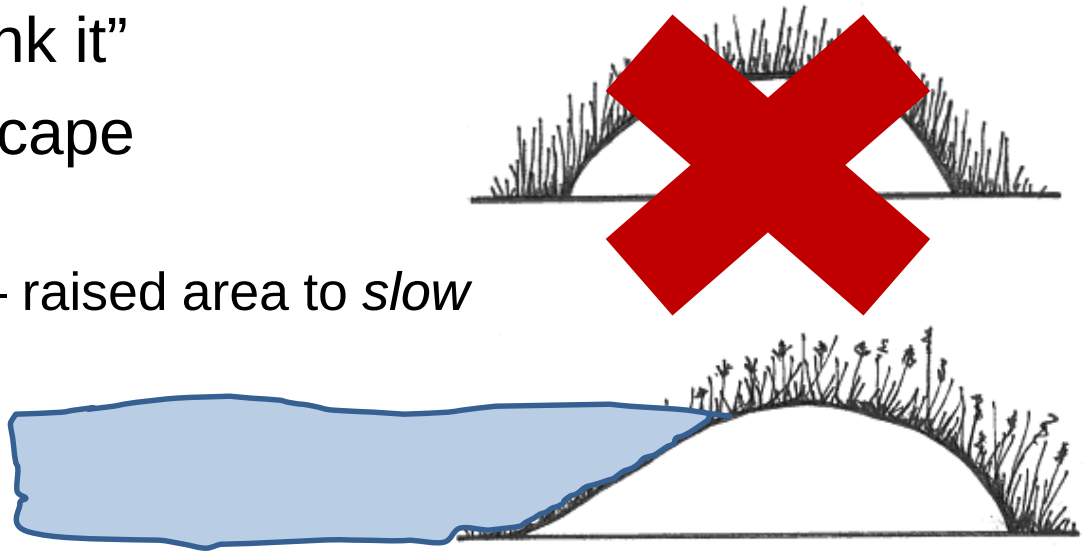

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Passive Rain Water Collection

- Passive = divert water overland to vegetated areas for *immediate* use
- “Spread it, slow it, sink it”
- Integrated into landscape
  - Swales
  - Berms (microbasins)
  - Bioinfiltration Gardens – *spreads, slows AND sinks*

Bioinfiltration Gardens = Rain Gardens!

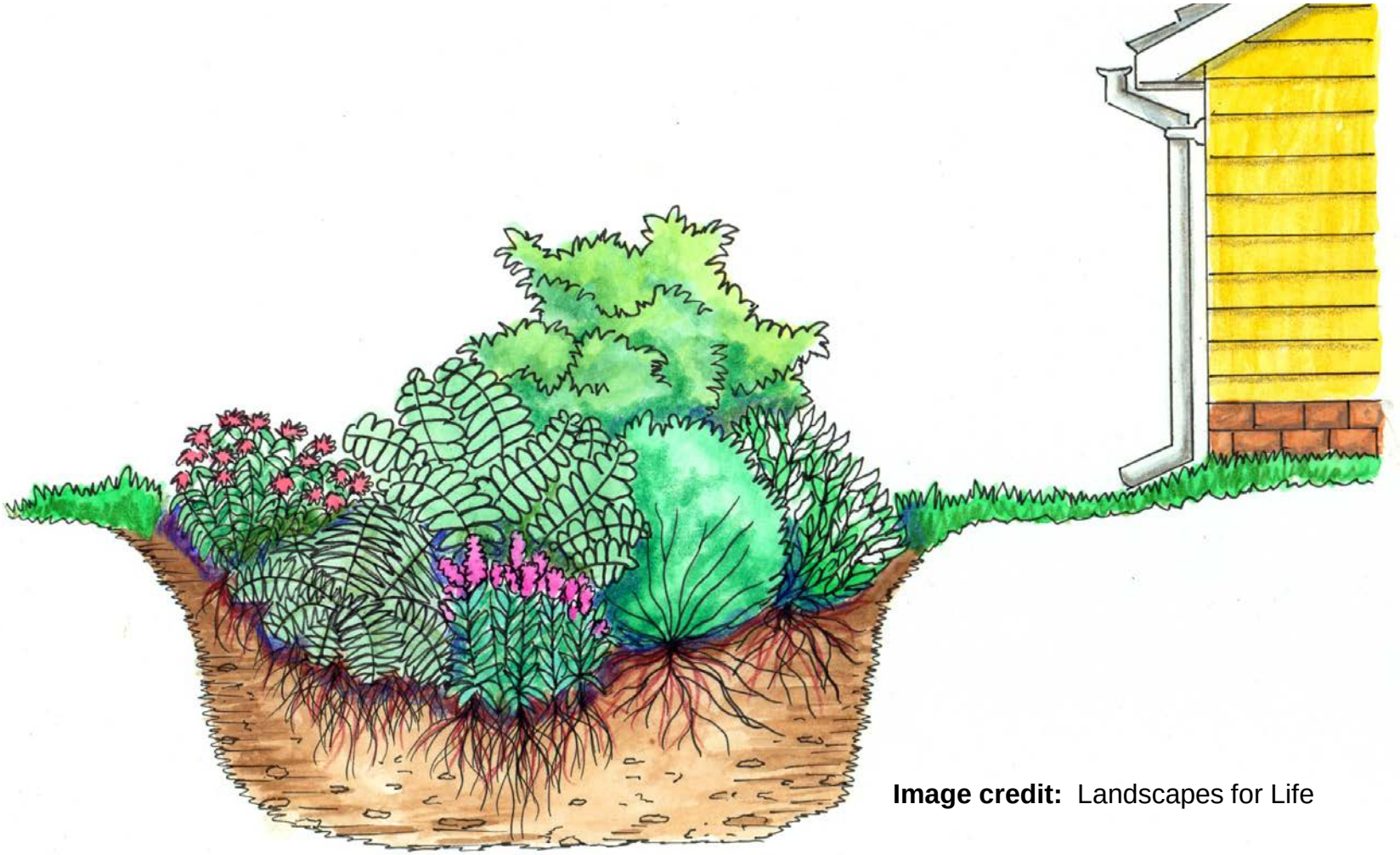

Image credit: Landscapes for Life

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Permeable Pavers

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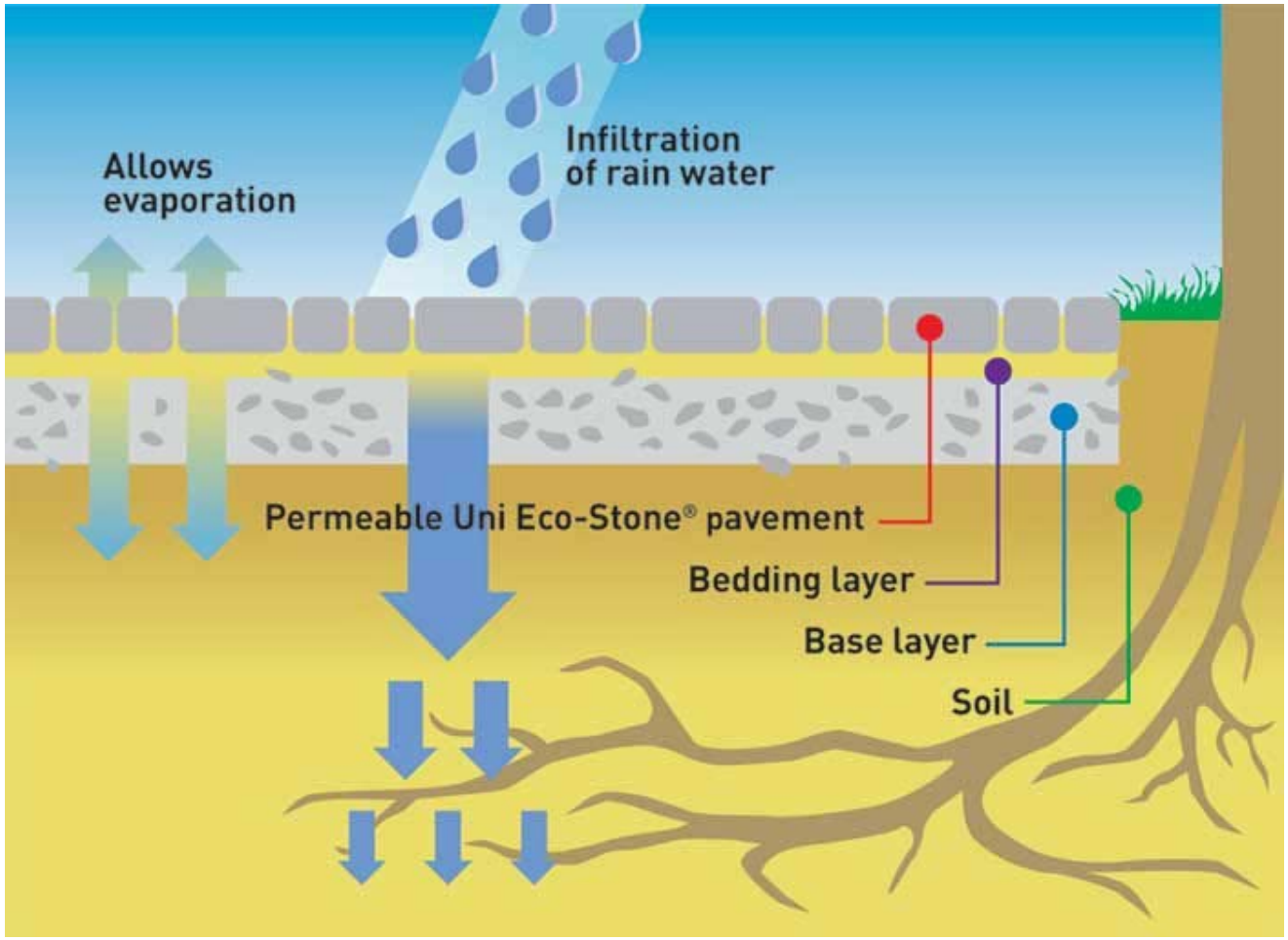
Permeable Pavers



How to Use Native Plants

- Abstraction of nature
- Can be naturalistic or formal

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Chinese and Japanese – represent nature

Renaissance Planting Design c1600

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- Baroque Planting Design c1700
- Picturesque Planting Design c1800
- Gardenesque Planting Design c1820
- Arts and Crafts Planting Design c1900
- Abstract Planting Design c1950

Naturalistic Planting Design c1990…

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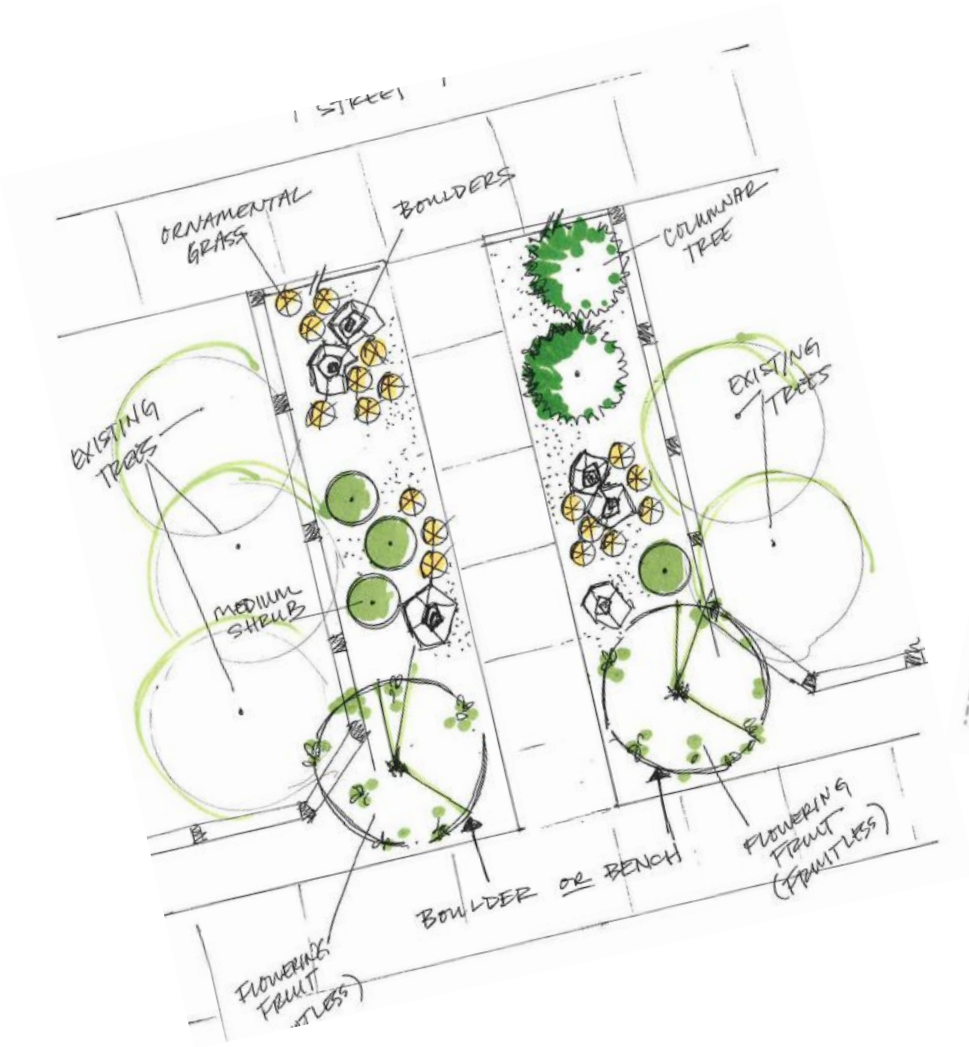
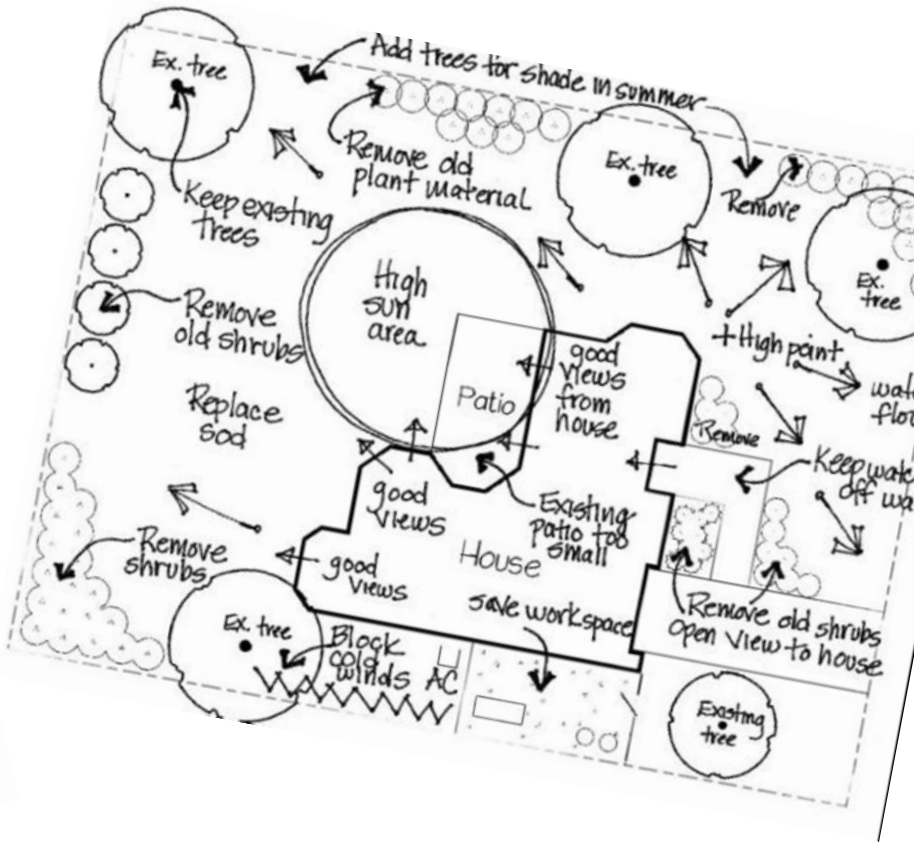
Sketch, sketch, sketch!





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Plants!!!

- Natives can be **incorporated** into an existing landscape
- It's **not** all or nothing

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Plants!!!

- What actually grows together (naturally)
- You can plant what looks good together
- Plant things with like needs together

Blanket flower
Blue flax
Cinquefoil
Pentsemon
Yarrow
Nodding onion
Wild geranium

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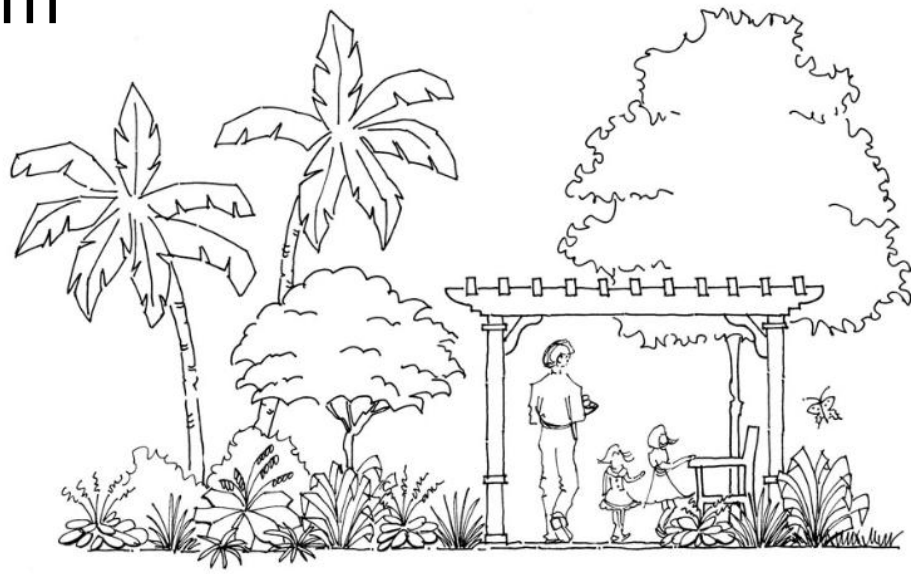
Microclimates

- Same sun/shade requirements
- Layers of plants create microclimate for next layer down
- Plant in blocks/masses to create shade for plant root system



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Microclimates

- Berms
- Rocks
- Walls
- Structures

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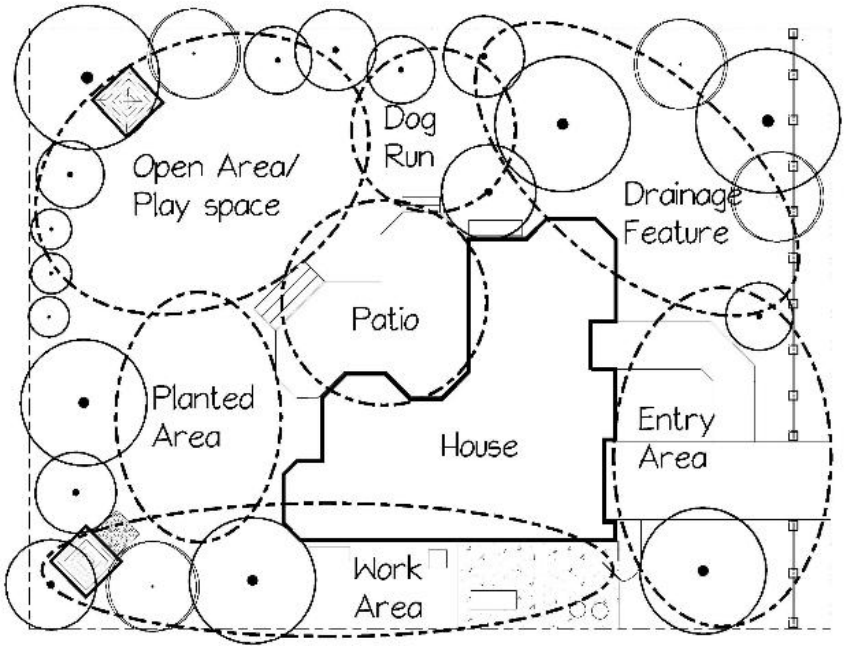
Hydrozones

- Irrigation done by area, not by plant
- *Grouping plants with similar water needs together and irrigating appropriately*
  - Water according to the plant's need, rather than water everything equally
  - Efficiency, less water consumption



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Planting Plan

- Seasonal interest
  - Bloom time
- Color
- Texture
- Water needs
- Exposure
- Size
- Function
  - Noise
  - Screen
  - Food
- Structure
- Maintenance

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Eriogonum umbellatum, sulphur flower
Artemisia ludoviciana, prairie sage

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Penstemon strictus, Rky. Mtn. penstemon
Hymonoxys hoopesii, sneezeweed
Abies concolor cultivar, white fir
Pinus aristata, bristlecone pine

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Rudbeckia hirta, black/brown-eyed Susan
Penstemon

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Geum triflorum, Rky. Prairie smoke
Cornus sericea, red twig dogwood

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Achnatherum hymenoides, Indian rice grass
Mirabilis multiflora, desert four o'clock
Oenothera macrocarpa, evening primrose

Schizachyrium scoparium, little bluestem
Bouteloua gracilis, blue grama

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Cerocarpus montanus,
mountain mahongany

Mohonia freemontii,
Freemont mahonia

Prunus virginiana,
chokecherry

Ptelea trifoliata,
Wafer-ash

Rhus trilobata,
Three-lobed sumac

Forestiera neomexicana,
New Mexico privet

Juniperus scopulorum,
Rky. Mtn. juniper

Picea pungens,
Blue spruce

Finishing Touches - Mulch

Grass Clippings

Bark

Pine needles

Straw

Wood Chips

Gravel

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Finishing Touches - Mulch

bark

pole shavings

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Finishing Touches - Mulch

Squeegee, pea gravel, ¾” gravel, rocks

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Finishing Touches - Mulch

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Garden Art and Whimsy

- Include a human element
- Lets neighbors know it intentional!
- It’s fun!!

Designing a Native Plant Garden

- Site analysis
  - What are you working with?
- Principles and elements of design
- Sketch it out!!
- Simple earthworks
- Choose your plant palette
- Be creative and have fun!!

Aquilegia caerulea, Rky. Mtn. columbine

http://conativeplantmaster.org

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