

The Dry Garden

Plants and Practices for Drought Resilience

Presented by: Anne Clark
Anne Clark Design

Cheyenne's Green Industry Workshop
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Where We Garden



Pawnee Buttes Grasslands

“A drought lasting three weeks can
terrorize an eastern farmer,
a drought of five months is, to a California farmer,
a normal state of affairs...

**One does not really conquer a place like this,
One inhabits it like an occupying army
and makes at best an
uneasy truce with it”**

Marc Reisner: Cadillac Desert
Taken from Water Wise Landscaping with Trees, Shrubs and Vines:
Jim Knopf

Why Consider Native Plants?



- Adapted to our climate
- Use less water
- Take less care
- Support birds, bees & butterflies
- Blend with our natural surroundings

Characteristics of drought tolerant plants

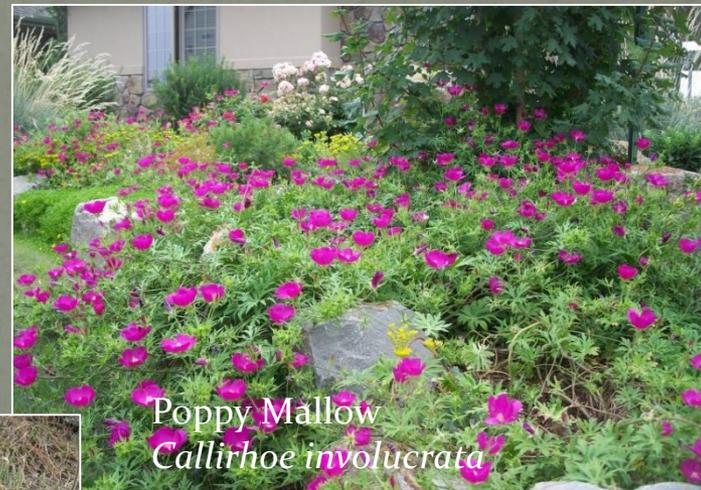


Pussytoes
Antennaria parvifolia

- Small leaves
- Silvery or shiny foliage
- Fine hairs
- Deep taproots
- Succulent foliage



Pasque Flower
Pulsatilla vulgaris



Poppy Mallow
Callirhoe involucrata



Pasque flower
Pulsatilla patens



Soils

Hydrozoning

Grouping like water plants together

VL - VERY LOW WATER

Reference plant:

Too dry for any turf (drier than Denver)

No irrigation

L - LOW WATER

Reference plant:

Buffalo grass turf (Like Denver without irrigation)

0 – 3 gals / S.F. / season

½" per 2 weeks optional

M - MODERATE WATER

Reference plant:

Turf Type Tall Fescue (1/2 the water of Bluegrass)

10 gal / S.F. / season

¾" per week

The Dry Garden - Applications

- Dry pockets
- Rule of attrition
- Under-plant existing landscape / create layers
- Examples of mixed plantings
- Remove some grass
- Re-design a section of your yard

Application - Dry Pocket



2004

Goal – stop people from driving on my grass....



Challenges and Opportunities



2011



2012

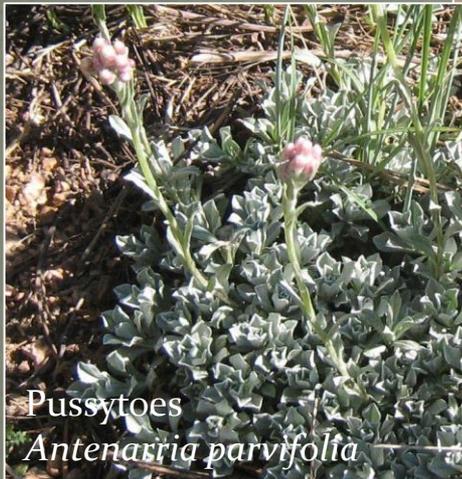
Application - Rule of Attrition



The Original Players



The Players – New Additions



Through the Seasons

Winter



Summer



Fall



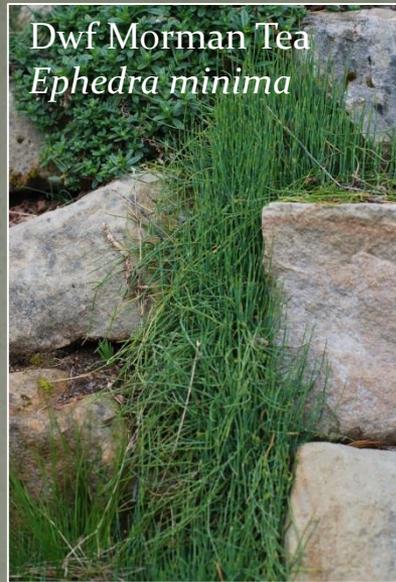


Dry Pocket The Other Side...



Personalize it...
add art accents

The Players



Application Dry Pocket



The Players



Application - Under Plant Existing Landscape



Gambel Oak
Quercus gambelii

Ponderosa Pine
Pinus ponderosa

Blue Rug Juniper
Juniperus horizontalis
'Wiltonii'

Pasque flower
Pusatilla patens

Four Winged Salt Brush

Winterfat
Krascheninnikovia lanata

Application - Under Plant Existing Landscape



Russian Hawthorn

Yucca harrimaniae

Blue Rug Juniper

Rocky Mountain Juniper spp.
Juniperus scopulorum 'Woodward'



Application - Dry Garden Bird Thicket Grouping



July 2010

The Players



The Players

Wavy Leaf Oak
Quercus undulata





Winter textures

February 2015



May 2011



October 2011

New Opportunities



Application - Mixed Border

Through the Seasons



January



April



July

Bigtooth Maple
Acer grandidentatum

Russian Hawthorn
Crataegus ambigua

Gwen's Buffalo Current
Ribes aureum

Buffalo Grass

3 Leaf Sumac
Rhus trilobata

Apache Plume
Fallugia paradoxa

Winterfat
Krascheninnikovia lanata

Columnar Blue Spruce
Picea pungens spp

September



October 2012

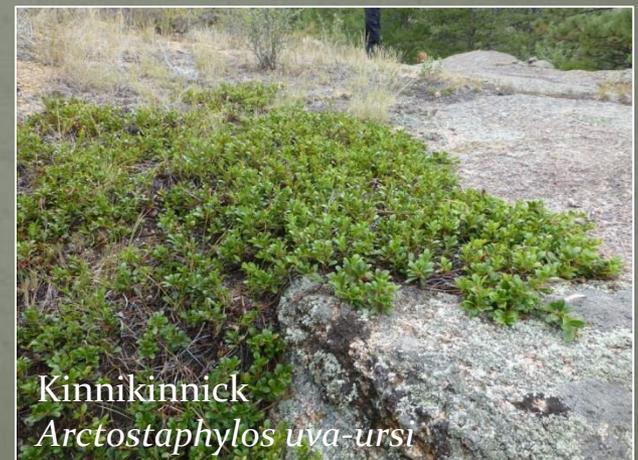
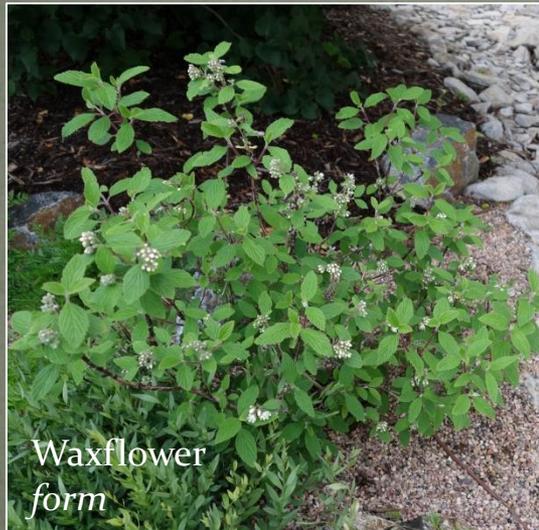
Other Garden Applications



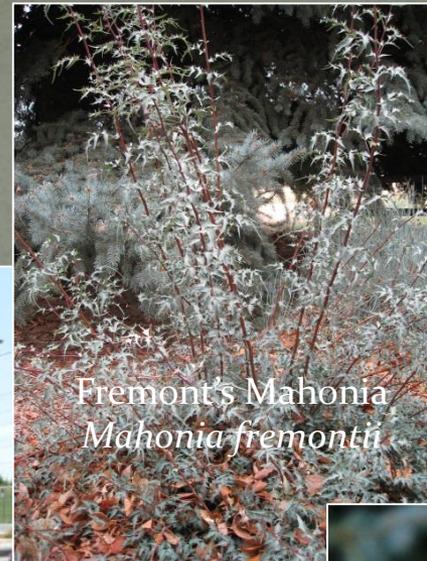
Dwarf Baby Blue Rabbitbrush
Chrysothamnus nauseosus var *nauseosus*

Creeping Oregon Grape Holly
Mahonia repens
Winter color

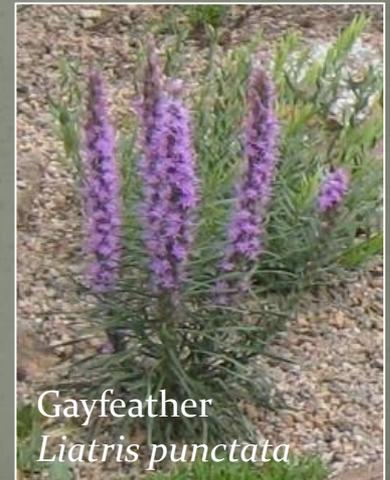
Dry Shade Shrubs



Full Sun Shrubs



Full Sun Perennials



Other Garden Applications



Cactus Garden – Kelly Grummons – coldhardycactus.com

Other Garden Applications



Dry Land Garden – Denver Botanic Gardens

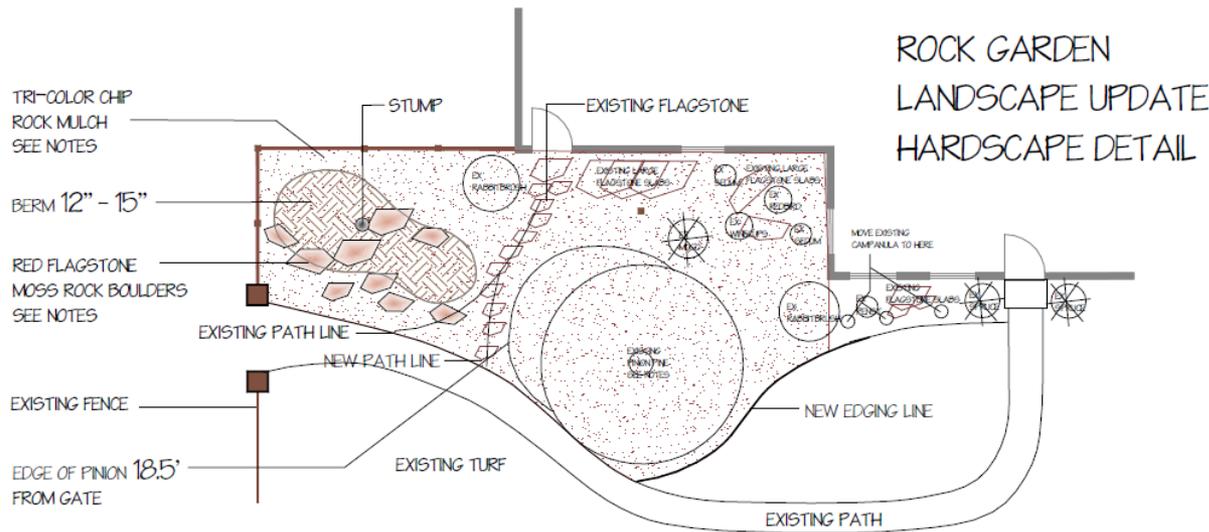
Design Application

Redesign a small section of your yard



Goals – remove some grass, integrate with natural beauty of the surrounding area, and create a rock garden

Hardscape Detail



LANDSCAPE NOTES:

- REMOVE GRASS FROM AREA FROM PINION PINE TO FENCE APPROX 450 SF
- ADJUST IRRIGATION ADD DRIP ZONE
- CHANGE EDGING LINE FOR TURF AS NOTED APPROX 21'
- SELECTIVELY PRUNE PINION PINE NEXT WINTER TO BRING BRANCHES UP OF THE GROUND AND CREATE A BONSAI LOOK
- CREATE ROCK GARDEN WITH LARGE RED FLAGSTONE SLABS ON SW CORNER OF BACK YARD. CLIENT TO SELECT BOULDERS
- BERM GENTLY 12" - 15" AND NESTLE ROCKS IN BERM
- TRI COLOR ROCK CHIP 3/8" WITH NO WEED BARRIER, RIBBON CONTRAST ROCK OF WYOMING RED SELECTIVELY AROUND PLANTS, TO BE DESIGNED IN FIELD
- ROCKS TO BE RED FLAGSTONE WITH MOSS;
3 SLABS APPROX 3/4 TON - 1 TON; APPROX 3-4' x 2' x 18" HIGH - 6 SLABS APPROX 1/4 - 1/2 TON; APPROX 2' x 1.5' x 18" HIGH
EXTRA PIECES TO CREATE CREVICES, SEE PICTURE AND EXISTING STONE
- MOVE EXISTING FLAGSTONE PATH ABOUT 5' TO THE NORTH AS INDICATED

GENERAL LANDSCAPE NOTES:

- ALL UTILITIES ARE TO BE LOCATED IN THE FIELD PRIOR TO PLANT INSTALLATION
- MAINTAIN PROPER DRAINAGE OF WATER AWAY FROM THE FOUNDATION OF HOME
- ANNE CLARK DESIGN DOES NOT ACCEPT RESPONSIBILITY FOR DAMAGE TO ANY UTILITIES KNOWN OR UNKNOWN
- FINAL RESPONSIBILITY FOR PROPER GRADING, DRAINAGE AND UTILITY LOCATES RESTS WITH THE CLIENT AND PROJECT INSTALLERS

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Landscape Plan: Bender - Haire Residence
2612 S CR 29
Loveland Colorado

Scale:
1" = 10'

Revision #: 6/28/2012
Date:

Landscape Plan

LANDSCAPE UPDATE ROCK GARDEN FINAL PLAN

LANDSCAPE NOTES:

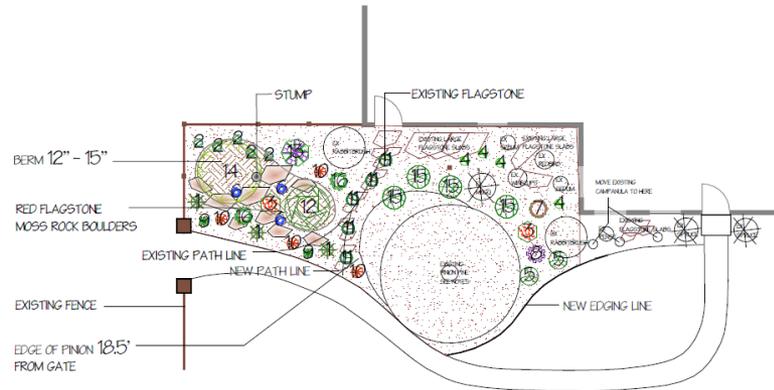
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PLANTING NOTES:

- ACTUAL PLACEMENT OF PLANTS AROUND ROCKS TO BE DESIGNED IN FIELD
- ROCK GARDEN PLANTS TO BE ADDED AFTER LAYOUT OF ROCKS
- AMMEND SOIL AROUND NEW PLANTINGS WITH A PLANTERS MIX IN A RATIO OF ONE PART SOIL CONDITIONER TO THREE PARTS SOIL
- DIG THE HOLE 1 1/2 TO 2 TIMES WIDER THAT THE SOIL BALL OR ROOT MASS, AND JUST DEEP ENOUGH TO ALLOW SETTING THE PLANT AT THE PROPER DEPTH

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LEGEND				
	COMMON NAME	BOTANICAL NAME	SIZE	QTY
FLOWER, GRASS				
1	GRASS, BLONDE AMBITION BLUE GRAMA	BOUTELOUS GRAELUS 'BLONDE AMBITION'	EACH	3
FLOWER, PERENNIAL				
2	BUCKWHEAT, KANNAH CREEK	ERIGONUM LIMBELLATUM 'KANNAH CREEK'	EACH	5
3	BUTTERFLY WEEB	ASOLEPIAS TUBEROSA	EACH	2
4	CORAL BELLS, SNOW ANGEL	HELICHERA SPP.	EACH	4
5	CORAL CANYON TWINSPLUR	DIASCIA INTERGERBIMA	EACH	2
6	GENTIAN	GENTION DAHLERICA	EACH	3
7	HYSSOP, SUNSET	AGASTACHE RUPESTRIS	EACH	1
8	LAVENDER, MUNSTEAD		EACH	1
9	FASQUE FLOWER	PULSATILLA VULGARIS	EACH	2
10	PENSTEMON, PINELEAF	PENSTEMON PINIFOLIUS	EACH	4
11	VERONICA, CRYSTAL RIVERS	VERONICA 'REAVIS'	EACH	5
SHRUB, DECIDUOUS				
12	BOULDER RASPBERRY	RUBUS DELICIOUSUS	5 GAL.	1
13	LEADPLANT, DWARF	AMORPHA NANA	1 GAL.	1
14	PEASHRUB, TIDY	CARAGANA MOPHYLLA 'TIDY'	5 GAL.	1
SHRUB, EVERGREEN BROADLEAF				
15	CREeping OREGAN GRAPE HOLLY	MAHONIA REPENS	1 GAL.	4
SHRUB, EVERGREEN CONIFER				
16	ROCK GARDEN DWF EVERGREEN ASST.		1 GAL.	2

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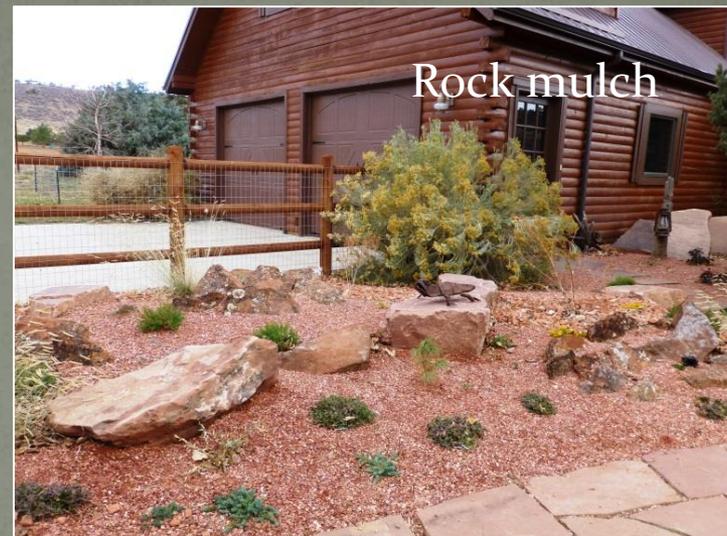


Bender - Haire Residence
2612 S CR 29
Loveland Colorado

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In Process



1 Year Later

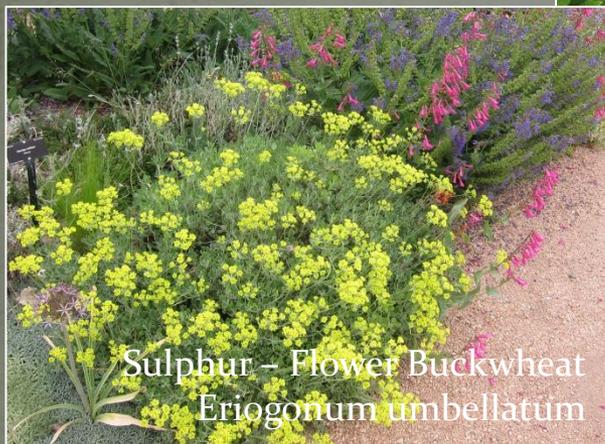


Natural area



Before

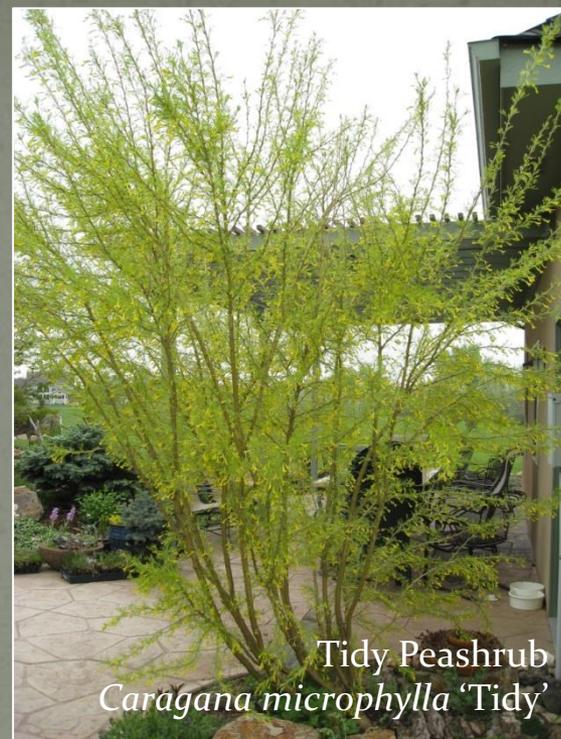
The Players



Sulphur – Flower Buckwheat
Eriogonum umbellatum



Boulder Raspberry
Rubus deliciosus



Tidy Peashrub
Caragana microphylla 'Tidy'



Blond Ambition Blue Grama Grass
Bouteloua gracilis Blonde Ambition



Blue Rabbitbrush
Chrysothamnus nauseosus

Design Application

Front Yard Renovations



Site Evaluation Pictures

Update entry

Correct Drainage

Downspout

Remove turf
Create access to back



Before



**Hardscape
Installation March
2014**



**Plant Installation
May 2014**

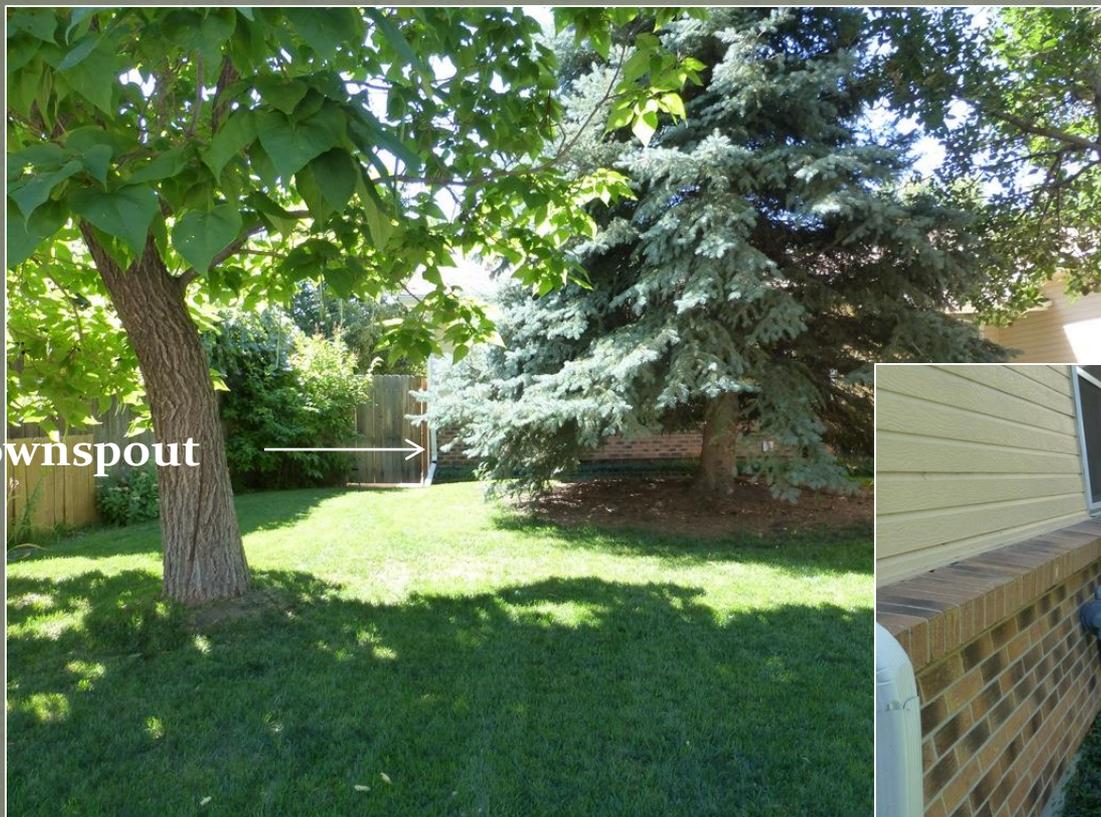


4 months later
July 2014

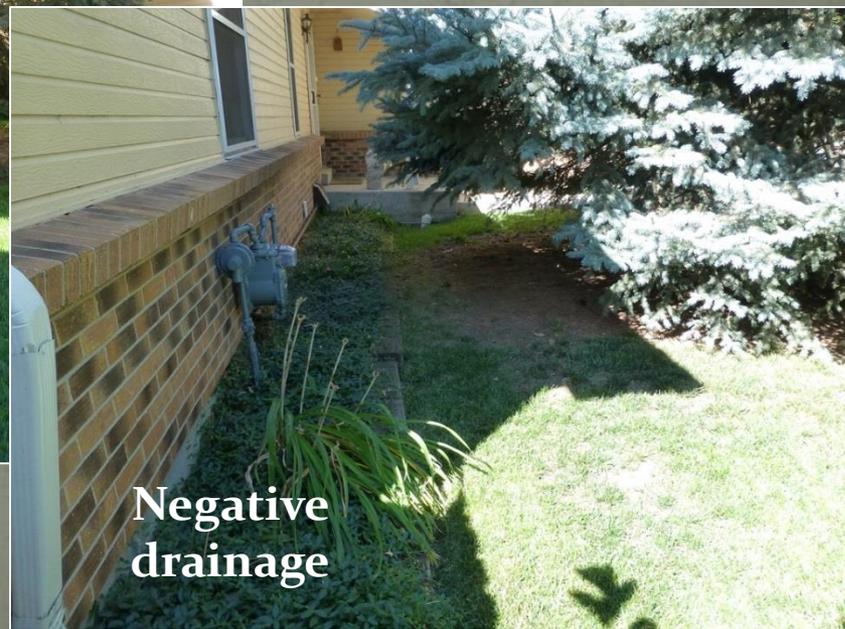


August 2014

Drainage Challenge



Downspout



Negative
drainage

Water saving techniques



Re-route downspout
To tree



Permeable pavement

Dry Creek

Mulch

Boulders

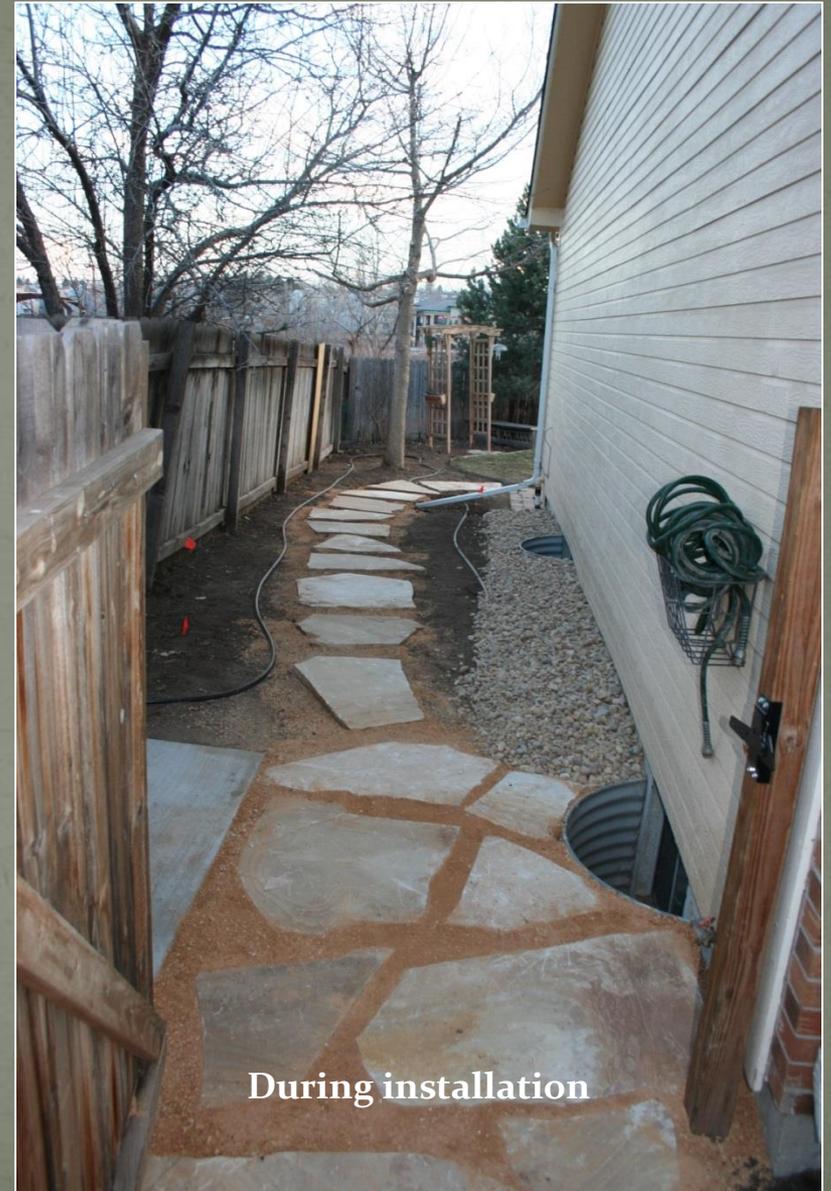
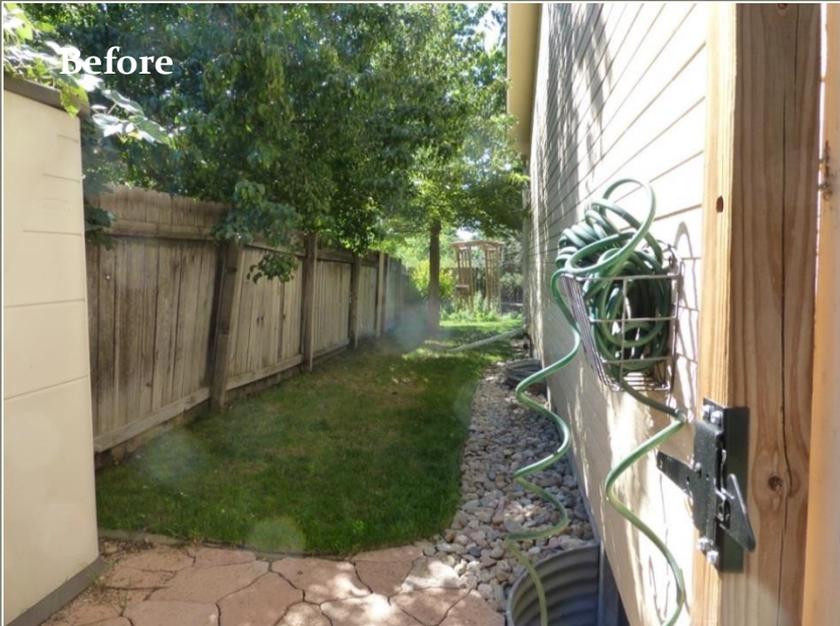


Pathway



Movement through the garden
Create access to side gate

Side Yard



Tools for Success

- Stay true to your goals... **The Dry Garden**
- **Do your homework...** good decisions are made with good information
- **Know the players...** soil, microclimates, plants
- **Be manipulative...** amend soil, divert water, use boulders & mulch
- **Insurance...** do most of the work in the front end, plan, prepare the soil, pamper a bit... water when thirsty

Native Turf Grass Options





This is our place...

Where the Deer and the Antelope Play...



June 2012



October 2011



Transitions

Warm season -vs- cool season



Early May



Late June

Effective transitions





Clark Yard Native Turf
Blue Grama Grass
'Hachita'



Un-mowed with seed heads



Mowed



Winter



May 2011

Blue Grama Grass
Rain in June
Dry July



June 2011



July 2011



The In-between Seasons

May 2014



Bouteloua curtipendula
Side Oats Grama





Prairie Junegrass

Phantom Canyon Ranches - Colorado



White River Canyon - Nebraska



Grasslands... full of tantalizing textures!