# Landscaping is GOOD!



#### YOU GUYS ARE COOL!



#### Landscaping provides significant benefits to Cities and Regions

Landscapes alter the environment in which we live by moderating climate, improving air quality, conserving water, and creating wildlife habitat.











## IT'S HOT OUT HERE!!!



Temperature in the vicinity of trees is cooler than that away from trees. The larger the tree, the greater the cooling. By using trees in cities, we are able to moderate the heat-island effect caused by pavement and buildings in commercial areas.



The downward fall of rain, sleet, and hail is initially absorbed or deflected by trees, which provides some protection for people, pets, and buildings. Landscaping intercepts water, stores some of it, and reduces storm runoff and the possibility of flooding.



Air quality can be improved through the use of trees, shrubs, and turf. Leaves filter the air we breathe by removing dust and other particulates. Rain then washes the pollutants to the ground. Leaves absorb carbon dioxide from the air to form carbohydrates that are used in the plant's structure and function. In this process, leaves also absorb other air pollutants—such as ozone, carbon monoxide, and sulfur dioxide—and give off oxygen.



Landscapes improve aesthetics and quality of life. They create positive impressions



## Landscapes create habitat for wildlife







## "Landscaping is not native to Cheyenne"



#### "Landscaping is not native to Cheyenne"





## "Landscaping requires maintenance"



#### "Landscaping requires maintenance"



## "Landscaping won't survive here"



## "Landscaping won't survive here"

- Use better construction techniques
- Use more hardy and native plant materials
- Incorporate soil improvement methods
- Utilize good planting methods
- Provide better maintenance practices

#### "Landscaping uses too much water"



"Communities across the country are starting to face challenges in maintaining healthy and affordable water supplies; that's why it's more important than ever to use our water wisely and not waste it. In addition, it takes large amounts of energy to produce and transport clean water and to process waste water." EPA

## "Landscaping uses too much water"

- Encourage the use of native and drought tolerant grasses, shrubs and trees.
- Use less turf type grasses.
- Use drip irrigation whenever possible.
- Carefully design and place irrigation systems.



## "Landscaping is too expensive"



"Landscaping is too expensive"

REALITY CHECK! What is the cost of landscaping compared to the total cost of a development project? 2-3% usually.

## "Tree roots cause sewer pipes to break and foundations to crack"



## "Tree roots cause sewer pipes to break and foundations to crack"

- Is this REALLY true?
- Chose the right species of trees.
- Respect utility separation distances.
- Carefully design and place irrigation systems.
- Don't place turf grass and associated irrigation systems near building foundations.





## Anatomy of Tree Roots





## "Landscaping is problematic near water and sewer lines, gas lines and near fire hydrants"

3. Utilities: Locate underground utilities and perform work in a manner to avoid damage. Hand excavate as required. Maintain stakes until removal is approved. Adjustments to tree locations based on these separations shall be done in the field. Utility separation shall be as follows;

- 3.1. 10 feet between trees and water and/or sewer lines.
- 3.2. 4 feet between trees and gas lines.
- 3.3. 10 feet between trees and fire hydrants.



"Landscaping is a problem for water and sewer lines, gas lines and near fire hydrants"

#### LINE ITEM PROPOSAL

#### PLANT MATERIAL

1	2.5" cal. Capitol Pear	\$550.00	*	
1	2.5" cal. Little Leaf Linden	\$562.50	*	
1	5 Gallon Ivory Halo Dogwood	\$47.50		
3	5 Gallon Coral Beauty Cotoneaster	\$150.00		
3	5 Gallon Isanti Dogwood	\$120.00		
3	2 Gallon Carol Mackie Daphne	\$191.25		
7	5 Gallon Emerald and Gold Euonymus	\$332.50		
7	5 Gallon Red Carpet Roses	\$332.50		
6	5 Gallon Annabele Hydrangea	\$360.00		
3	5 Gallon Compact Grape Holly	\$201.60		
3	7 Gallon Elegans Spruce	\$432.00		
1	7 Gallon Dwf Alberta Spruce	\$237.60		
2	7 Gallon Dwf Globe Spruce	\$408.00		
4	7 Gallon Mesa Verde Spruce	\$672.00		
9	5 Gallon Red Meidiland Rose	\$356.40		
12	5 Gallon Hancock Coralberry	\$360.00		
1	5 Gallon Fairy Queen Spirea	\$32.40		
5	5 Gallon Spreading Yew	\$312.00		
3	5 Gallon Burkwood Viburnum	\$115.20		
16	1 Gallon Perennials	\$230.40	*	
20	Flats 2 1/4" Perennials	\$1,536.00		
5	1 Gallon Vines	\$96.00	*	
3	5 Gallon Grasses	\$151.20		
PLANT MATERIAL				\$7,787.05

#### **OTHER MATERIALS**

Balance			\$17,200.09
TOTAL CO	DST FOR JOB		\$17,200.09
OTHER MATERIAL TOTAL		\$9,413.04	
MOBILIZATION, DELIVERIES & CLEAN-UP		\$172.00	
MULCH	24 c.y. premium redwood mulch	\$2,352.00	
IRRIGATIC	N retrofit existing sprinkler add drip zone	\$1,770.00	Actual \$820 labor \$950 parts
PATIOS	145 s.f. cathedral gray flagstone 70 s.f. tightly fit patio 75 s.f. loosely fit steppers	\$2,504.54	
FINAL GRADE & SOIL PREP \$712.0 8 c.y. premium compost			
DEMOLITI	ON roundup existing turf and removal	\$800.00	
EDGING	300 l.f. trex, bend a board edging	\$1,102.50	



#### PLANS AND SPECIFICATIONS

#### LANDSCAPE SPECIFICA FIONS

ATERIALS Env An

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- In dry mean bols un existing invercebble. Underlay with landscape fabric, she Detail, this page) Page rock a matry scienting in access drowe on plan. Underlay with landscape fabric, d March Arnau that man where excited, new Texast mean micht, DNI NOL matrixity with Emissione -ahir. Much shuf he shared al appresentate
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- moon failing lping: Use III gauge galvanized steel edging with rolled edge for all areas designated on plan. Install per monufacturers specifications (See Detail, Site
- Fee Stakes Lee 6 wooden atakes and tie with soft ny on tree scrap. (Remove ataking after tree (1) year.) (See Detail Sheet LS-03)
- Contractor Costilizations: The orginal shall be before any an experienced isnuscence Contractor Leving not less than 5 years successing experience in landstrate puttient of similar size and scape as this project Indication proves to indications and sequely the provin-tion of the provincient of the p
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- Provide smooth, flowing and aesthetically plateing transitions from all new landscare areas to existing landscare areas.
- Eper completion of work, clean actio entitheets and site paying from debris and dirt accumulation-
- Warranty Period: Contractor shall previde a written guarantee for all work performed and all plant material installed for a period of one year after final acceptance of work. Guaranteed plants will be replaced with equal size and species
- ner is responsible for all centrils becausing to proceed with work. GRADING AND SOIL PREPARATION
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- Boulders shall be in a range of sizes from a to 2 som each and arranged according to the plan to the extent possible. Set boulders according to detail shept LS (3).
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- Auto-fill mechanism shall be installed and tied to pressurized mainline of irrigation system
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- to provide idequate socier. Stakes and Guyo: Coord nate with planting datails.
- Dish out top of backfill around trees placed in grass areas to allow for mulching
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DRIVEWAY ENTRY OFF PRAIRIE AVENUE

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November 2015

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- 15. Water new lown one sufficiently to thoroughly motions soil and in such a meaner as to world groutor. Commence watering on the day of installation and continue as needed.
- IRRIGATION: Contractor shall content of soil contactor inclusion

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High Plains Design, LLC

and Landscape Architecture

REVISIONS

and Use Planning, Site Design

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LANDSCAPE PLAN 1406 Prairie Avenue ne Laramie County Wyo

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#### PLANS AND SPECIFICATIONS



#### PLANS FOR REVIEW



#### **Performance Standards**

#### $CITY\,$ - plant material

"The applicant, landowner or successors in interest shall be responsible for the regular and normal maintenance of all landscaping elements in good condition as originally approved."

"Plant material which exhibits evidence of insects, pests, disease and/or damage shall be appropriately treated and all dead plant material shall be removed and replaced with living plant material. Trees, shrubs and other plant materials (including grasses) which expire during the growing season shall be replaced within 30 days. Trees, shrubs and other plant materials (including grasses) which expire during their dormant season shall be replaced by July 1<sup>st</sup> of each year."

#### **Performance Standards**

 $CITY\,$  - Seeded Areas

"Seeded landscape areas shall have no bare areas larger than one square foot after germination. Ground cover that dies within the growing season must be replaced within 30 days. Ground cover that dies after the growing season shall be replaced by the following June 1st"

#### **Performance Standards**

#### SWPPP's

No allowance for Certificate of Occupancy prior to "Final Stabilization"

**Final Stabilization Means:** all soil disturbing activities at the site have been completed and a uniform perennial vegetative cover with a density of 70% of the typical or native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures. Final stabilization using vegetation must be accomplished using plants or seed mixtures of forbs, grasses and/or woody vegetation that are adapted to the conditions of the site.

#### **Termination of Permit –**

- Final stabilization has been achieved on all parts of the site.
- All temporary synthetic and structural erosion and sediment controls (e.g. silt fence, temporary rock check dams) have been removed.

#### WATER REQUIREMENTS FOR NEWLY PLANTED TREES.

10. Newly planted trees and shrubs require additional irrigation for 2-3 years. Particularly in the first year. Provide 13-15 gallons of water per week for trees and 5-10 gallons per week for shrubs, ornamental grasses and perennials during the first growing season, applied across the entire the root system. Provide additional watering during dry winters.

NEW TREES AND SHRUBS PLANTED IN ESTABLISHED LANDSCAPES WILL REQUIRE MORE IRRIGATION THAN THE SURROUNDING LANDSCAPE. MAKE CONSIDERATION FOR INCREASED IRRIGATION FOR NEW PLANTS BY INCREASING IRRIGATION TIMES OR HAND WATERING!!!!



#### **INSTALLATION OF SOIL AMENDMENTS**

- 2. Soil Amendment: Soil prep with well composted and screened dairy compost or equivalent. For shrub and tree areas, apply at 1" depth. For turf and perennial areas, apply at 2" depth. Only organic materials may be used, such as compost that is low in salts (below 3 mmhos/cm). Sphagnum peat and compost made from purely plant sources are low in salts and are good choices for amending Colorado and Wyoming soils.
- 3. Amendments shall be tilled a minimum of six inches deep forming a uniform mix. Any sticks, stones or other debris brought to the surface during tilling that is one inch or more in any dimension shall be removed.
- 4. Entire site area to receive plantings shall be prepared per above noted soil amendment and tilling and graded to final grade prior to installation of any plant material.

#### **INSTALLATION OF EDGING**





Rock/Mulch interface, looks more natural, no edging is necessary Rock/Wood Mulch with edging Does not resemble nature, not necessary.

#### **INSTALLATION OF EDGING**



- 1. For rock areas, trim finish grade elevations adjacent to paved areas, back of curb o edging to 3 inch below finished grade. (See detail Sheet LS-3)
- 2. For turf areas, trim finish grade elevations adjacent to paved areas, back of curb or edging to 1 inch below finished grade. (See detail Sheet LS-3)
- 3. For mulch areas, trim finish grade elevations adjacent to paved areas, back of curb or edging to 2 inch below finished grade (See detail Sheet LS-3)



#### **INSTALLATION OF SPECIMEN BOULDERS**





Harvested Moss Rock Boulders

River Boulders



NOT Specimen Boulders!!!!



Local Granite Boulders



#### SPECIMEN BOULDERS:

- 1. Specimen boulders shall be (harvested moss rock, local granite, river boulders).
- 2. Boulders shall be in a range of sizes from 1/2 to 2 1/2 ton each and arranged according to the plan to the extent possible. Set boulders according to detail, shee LS-03.

#### **INSTALLATION OF DRY STREAM BEDS**



#### **BE ARTISTIC!!!**



DRY STREAM BED - PERSPECTIVE VIEW

NTS

DRY STREAM BED :

Dig shallow, meandering stream in a naturalistic way for areas shown on plan. (Use river cobble and river rock in varying sizes per Detail, this sheet).

#### **INSTALLATION OF DRY STREAM BEDS**



Leave this to the engineers, NOT a natural looking river bed......

#### **INSTALLATION OF PLANT MATERIAL**



#### DECIDUOUS TREES

1. STAKE TREES USING WOODEN POSTS WIRED (SLIGHTLY TAUT). WITH NYLON STRAPS. SET POSTS VERTICALLY PLUMB. NO RUBBER HOSES.

2. USE WOODEN STAKES OR METAL "T" POSTS WITH PROTECTIVE RUBBER CAP.

3. WRAP TREES TO FIRST BRANCH IN THE FALL. IF PLANTED IN THE SPRING, DO NOT WRAP.

-4. SET TREE ON COMPACTED SUBGRADE WITH TOP OF ROOTBALL 0" TO 4" ABOVE LOWEST ADJACENT GRADE DEPENDING ON SOIL TYPE.
ROOT FLARE MUST ALWAYS REMAIN VISIBLE.
REMOVE TOP 3/4 OF WIRE BASKET, BURLAP AND ALL TWINE.
REMOVE ALL ROOTS CIRCLING THE ROOT FLARE AS THESE MAY GIRDLE THE TREE OVER TIME.

NTS

5. WOOD MULCH (3" DEPTH). DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK, 30" DIA. MULCH RING IN LAWN AREAS.

6. 6" - 8" DEPTH AMENDED SOIL

7. BACKFILL PIT WITH EXCAVATED SOIL FOOT PRESSURE SO THAT ROOTBALL DOES NOT SHIFT TAMP SOIL AROUND ROOTBALL BASE FIRMLY WITH



#### **INSTALLATION OF ROOT BOUND TREES**

Step 2 - Remove defects.

Cut here.



Five structural (large) roots shown in black. Remove structural root (white) wrapping root collar.



Six structural roots shown in black. Remove roots (white) growing over root collar by cutting them just before they make an abrupt turn.



Cut structural root just before it makes abrupt turn. Pruning cut should be made tangent (parallel) to the trunk.



Cut structural roots just before they make abrupt turn by cutting tangent (parallel) to the trunk (two cuts shown).

#### **INSTALLATION OF ROOT BOUND TREES**

#### **BEFORE SHAVING**

#### SHAVING PROCESS

#### SHAVING COMPLETE



#### Notes:

1- Shaving to be conducted using a sharp blade or hand saw eliminating no more than needed to remove all roots on the periphery of root ball.

2- Shaving can be performed just prior to planting or after placing in the hole.

URBAN TREE FOUNDATION© 2014 OPEN SOURCE FREE TO USE

ROOT BALL SHAVING CONTAINER DETAIL

#### **INSTALLATION OF LANDSCAPE FABRIC**









#### EVIDENCED ALL SUMMER LONG????



#### **PROPER PRUNING FOR SHRUBS**



This plant, pictured before pruning, needs to have all weak and dead stems removed.



Same shrub after removal of weak and interfering wood and base sucker growth.



Results of proper pruning are graceful, vigorous growth with distinctive shape.



Cutting at the dotted line is the usual course taken by those who prune shrubs.



The same plant after bad pruning, as indicated above. The sucker growth remains.



Results: the lovely natural shape of the shrub is lost, and bloom will be sparse.

# PROPER PRUNING FOR FORMAL HEDGES Correct Incorrect Figure 11. Proper Hedge Pruning

Landscapes alter the environment in which we live by moderating climate, improving air quality, conserving water, and creating wildlife habitat.











#### SELL IT BY DOING IT RIGHT!!!



Work with nature and NOT against it.

- Use less water.
- Use less chemical fertilizers. (Compost)
- Use more native plants.
- Mimic natural systems.
- Use local materials when possible.

A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise. ---- The Land Ethic Carefully considered, artfully designed and properly constructed landscapes, whether they are yours or your competitors, should matter to everyone in the industry. Overall good results make landscaping appear to be a good idea to everyone. This good perception is good for everyone's bottom line!



# Questions? Comments?



HIGH PLAINS DESIGN LLC LANDSCAPE ARCHITECTURE CHEYENNE WY (307) 286-7978