



Town of Castle Rock | ColoradoScape Guidelines

August 30, 2022

NORRIS DESIGN

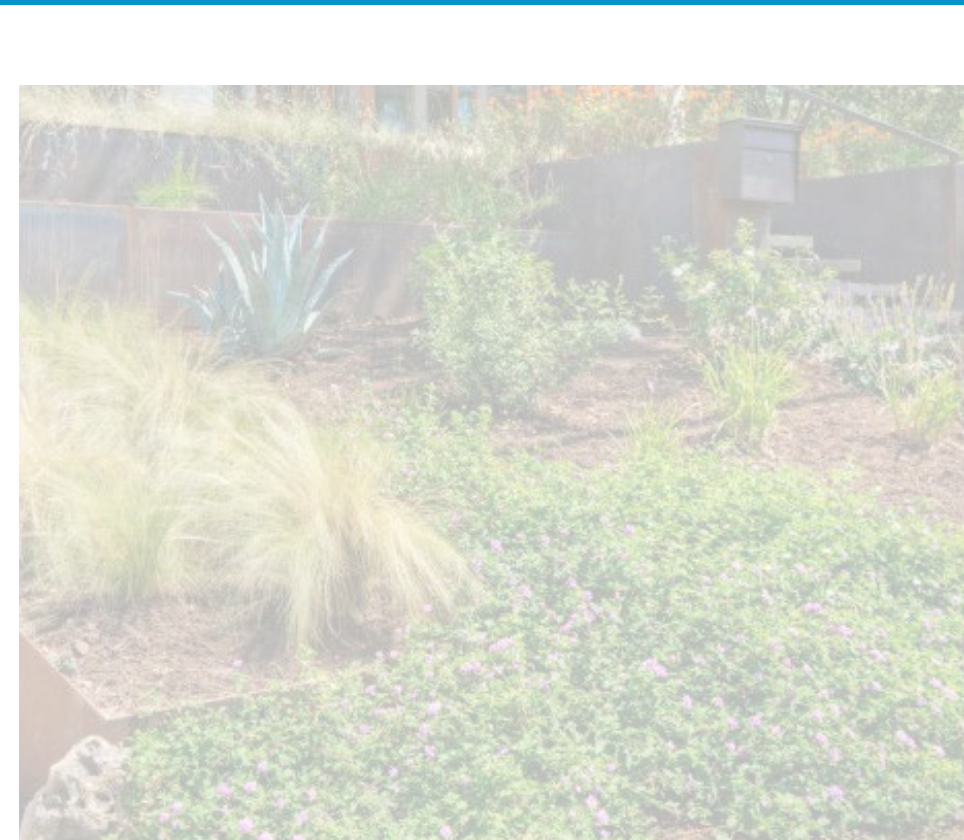
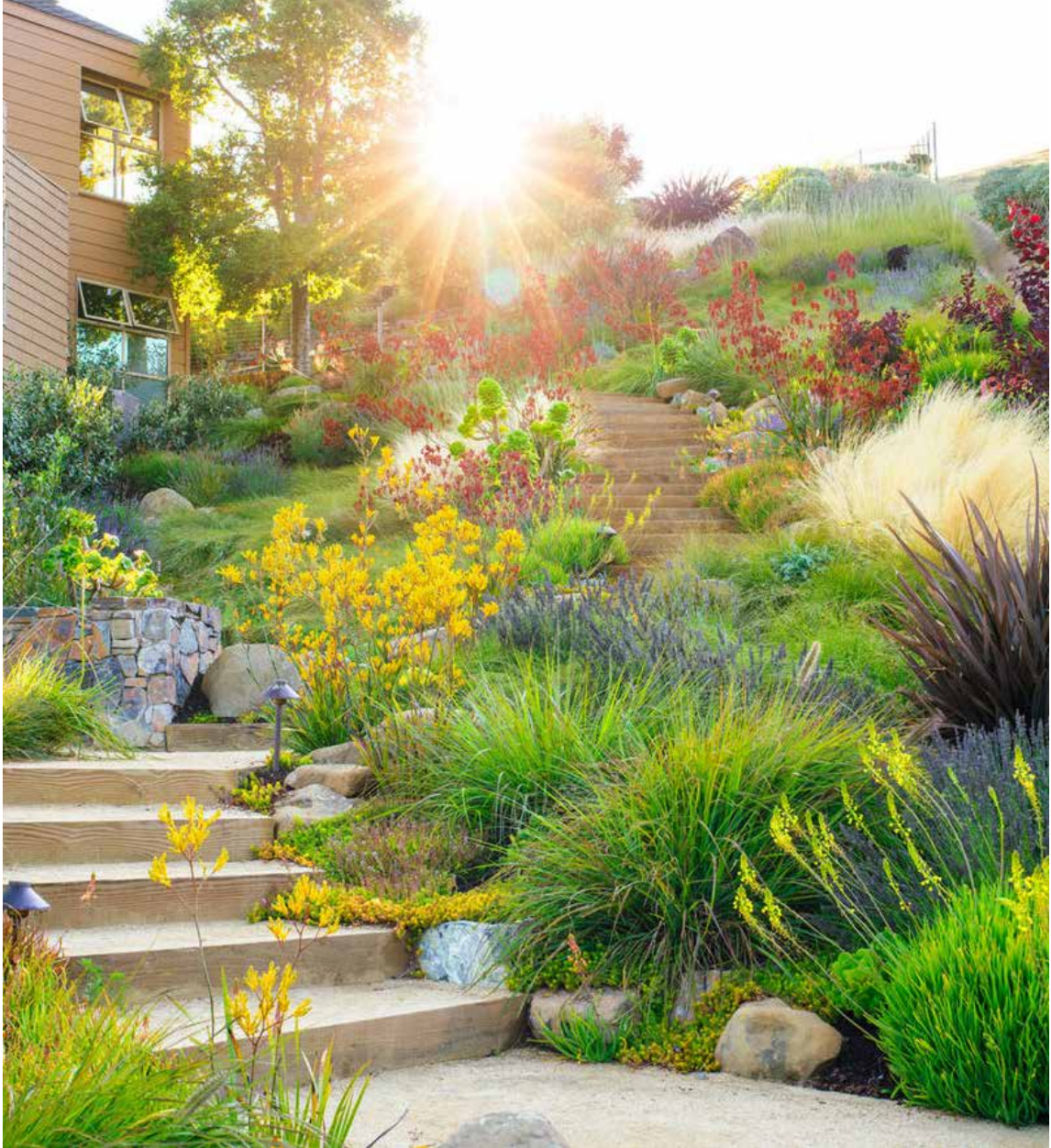


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01 Introduction

The Town of Castle Rock is striving to reduce irrigation demands for each homeowner. These designs propose solutions to help achieve that goal by reducing lawn areas.

Water Conservation Vision

The Town of Castle Rock is proposing to transform the front and rear landscapes of homes to make significant strides in reducing water usage throughout the town. The transformation happens by removing sod from the front yards, and reducing or removing sod in the rear yards. The sod reduction will be implemented at the homebuilding stage as well as renovations to existing landscapes. This will reduce irrigation demands per homeowner, therefore reducing the Town's water demand.

The goal is to reduce daily water consumption while using plantings that will liven the streetscapes and create a unique character to each home. Currently, a majority of Castle Rock homes have sod as their primary front and rear landscaping, creating high water demands for each homeowner and the town.

This document serves as a guideline for the reduction of sod in future residential landscapes. Please refer to the Town of Castle Rock Landscape and Irrigation Criteria Manual for specific design criteria and submittal requirements.



Design Review

Homes within a Home Owners Association (HOA), or a community with a Design Review Board (DRB), require owners to submit landscape and irrigation plans for approval through the appropriate party, prior to submitting plans to the Town of Castle Rock. Once approved by HOA or DRB, the homeowner shall proceed with the Town's approval process.

Please refer to the Town of Castle Rock Landscape and Irrigation Criteria Manual for specific design criteria and submittal requirements. All planting and irrigation plans must be submitted through the Town of Castle Rock Water Department and be approved prior to installation. All necessary forms can be found on the Town of Castle Rock's Water Department website (<https://crgov.com/Landscape-Forms>).





02 Lot Typicals

Typical lot designs have been created to demonstrate common lot layouts. These examples can be implemented for water-wise design solutions.

General Landscape Notes

Proposed landscaping is intended to be a waterwise solution while fostering visual interest and biodiversity within each neighborhood. Removing sod and replacing it with low to very-low water use plants shall significantly reduce the irrigation demands of each lot.

By utilizing the typical lot designs with the planting layout, plant quantities, and plant palette provided in this document, homeowners and builders can implement cost effective and water-wise landscapes for front and rear landscapes. Lot sizes will vary, so designs may need to be adapted to fit each condition. These concepts can be implemented across existing or proposed lots.

General Irrigation Notes

Irrigated turf is among the largest water users of all plant species common to Front Range landscapes. During peak season, its demand is roughly 1.75” of water per week (1.10 gallons/sf/week) in this climate. Low and very low water use shrubs and perennials use less than half of this amount of water while artificial turf uses no water. Native grass species reduce water use compared to traditional irrigated turf. Native grass species typically require maintenance to maintain a manicured appearance. Artificial turf may require some water for cleaning and cooling.

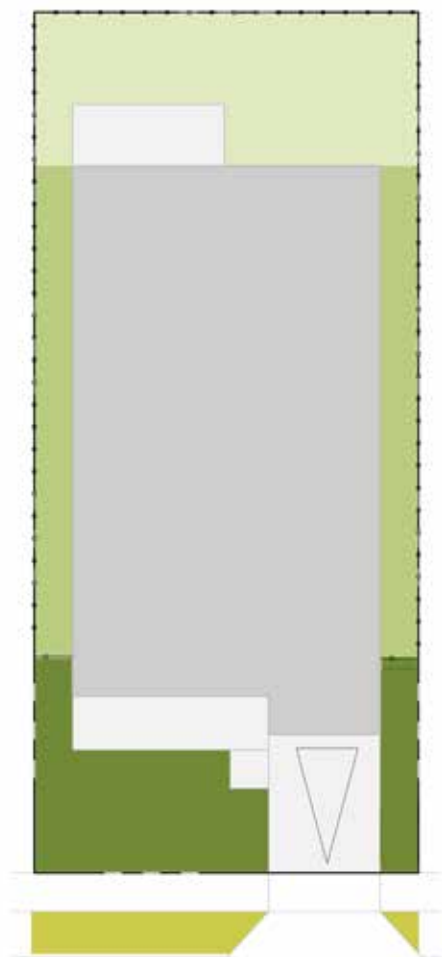
The water use portion of this study is intended to estimate the annual water use of current residential landscape scenarios and compare their water use to proposed lot typicals that utilize sustainable native plant species in lieu of irrigated turf.



Lot Typical Definitions

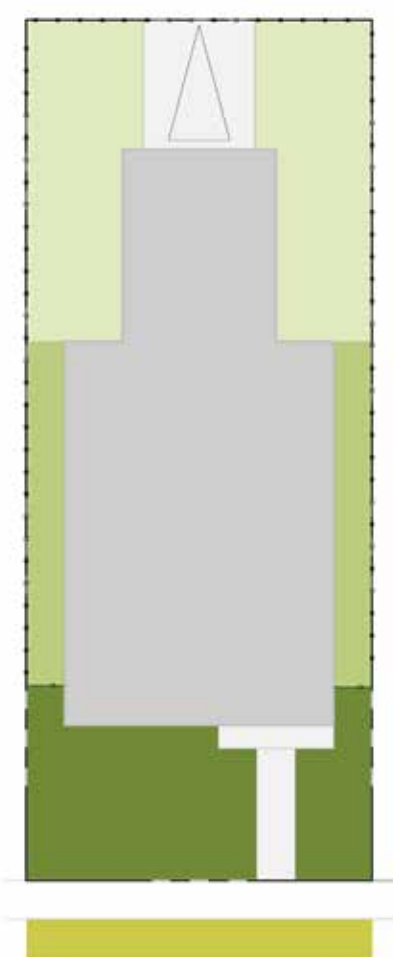
Lot 1

- Single-family
- Front-loaded garage



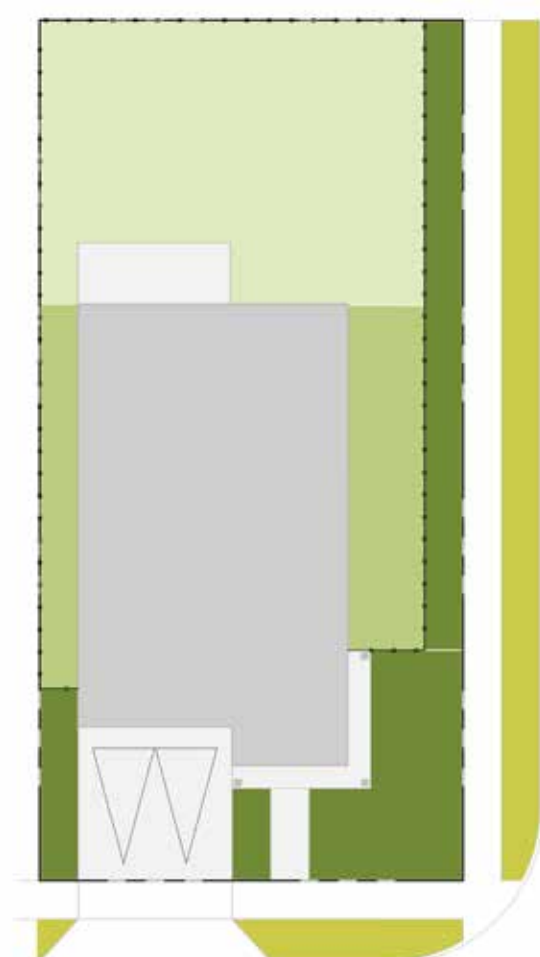
Lot 2

- Single-family or Townhome
- Alley-loaded garage



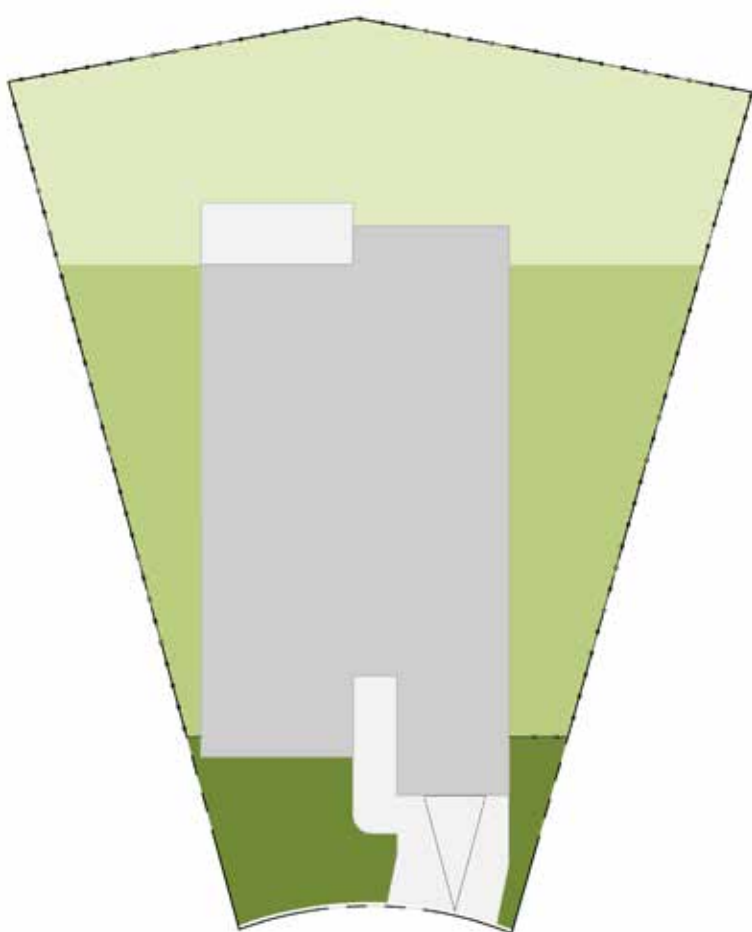
Lot 3

- Single-family
- Corner lot
- Front-loaded garage



Lot 4

- Cul-de-sac
- Front-loaded garage

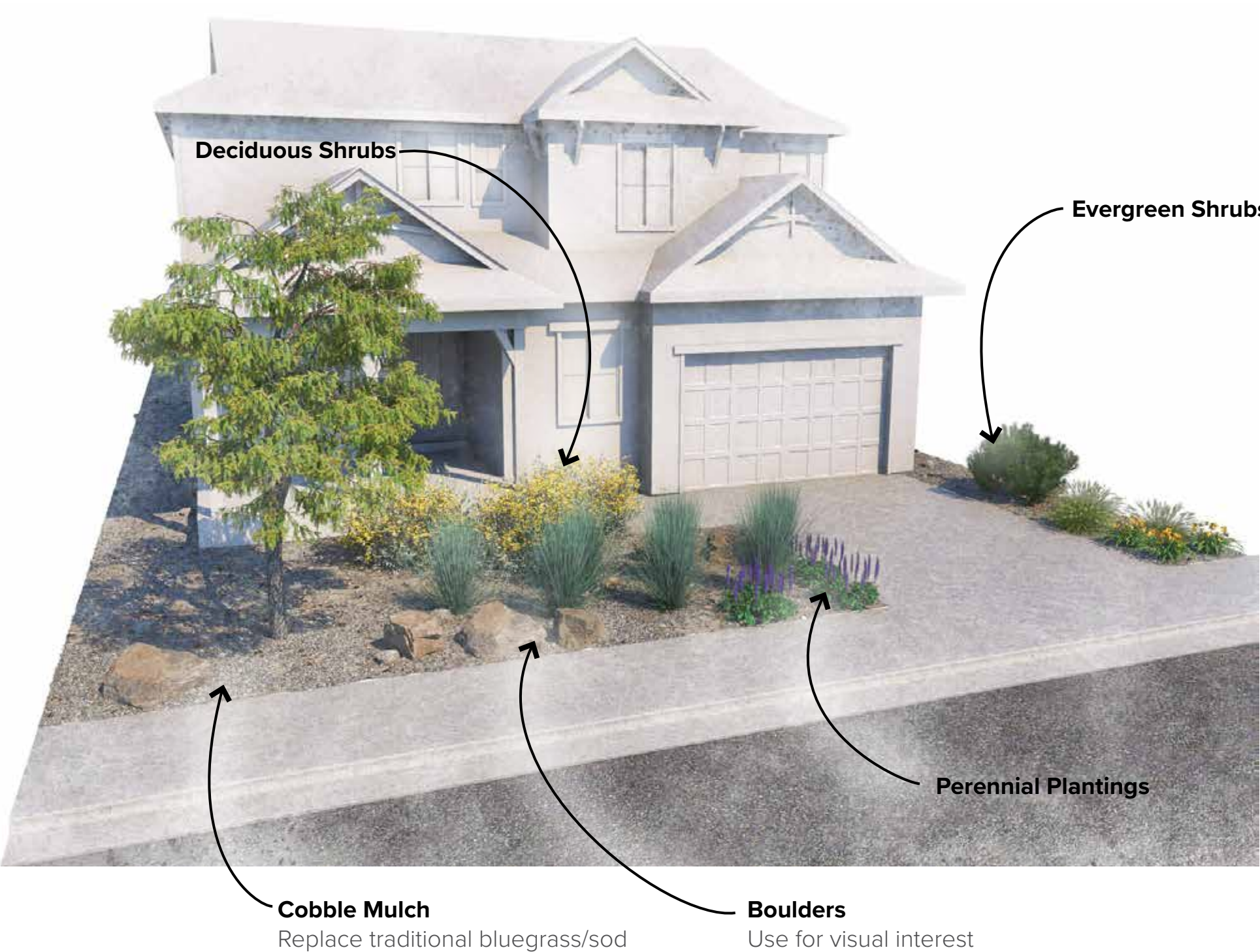


Legend

- Front Landscape
- Side Landscape
- Rear Landscape
- Street Landscape

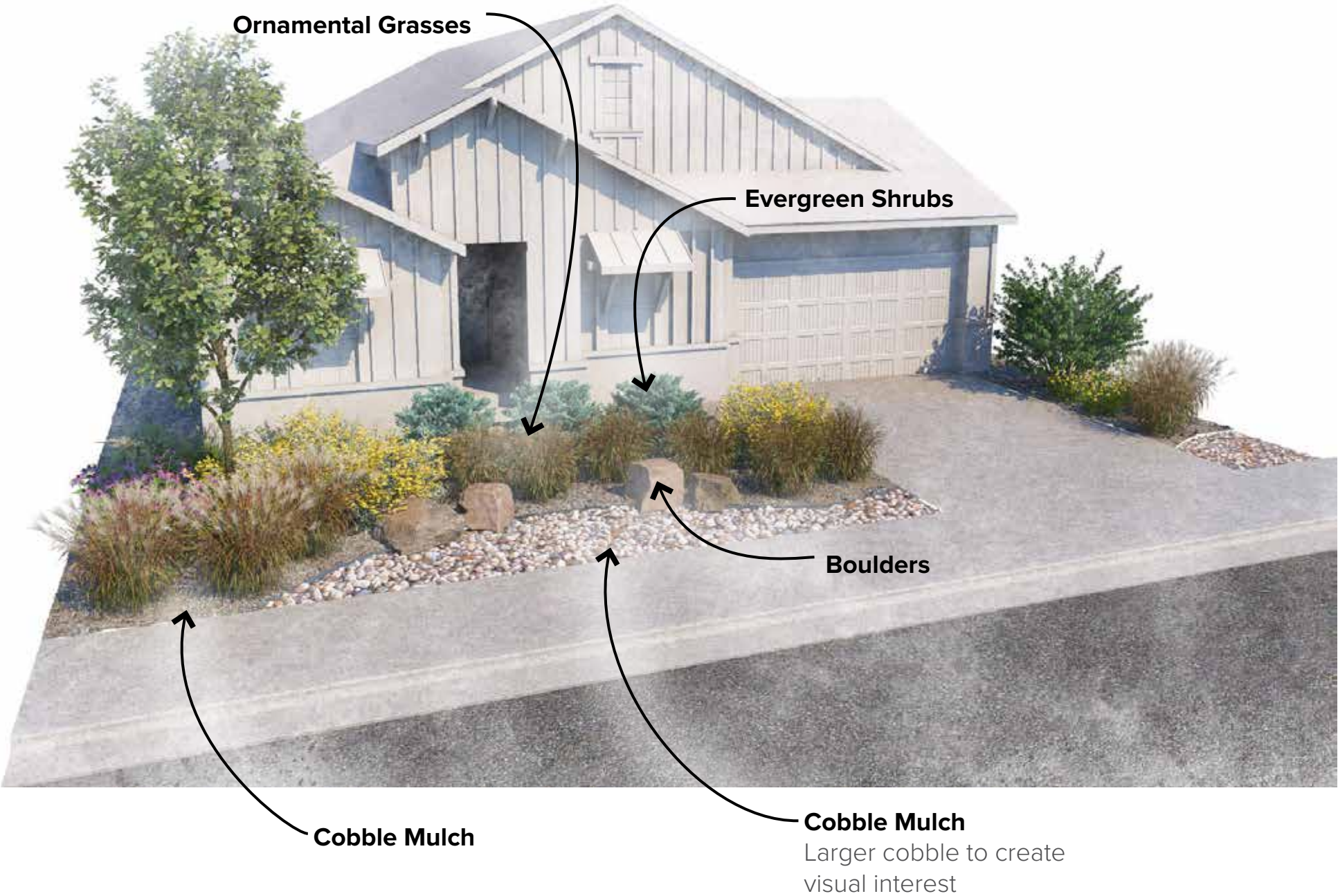
Maintenance Note: Landscape areas are to be installed by homeowner or builder and maintained by the homeowner.

Lot 1



Item	Quantity
Deciduous Tree	1
Evergreen Shrubs	1
Deciduous Shrubs	3
Ornamental Grasses	10
Perennials	6
Boulders	4

Lot 2



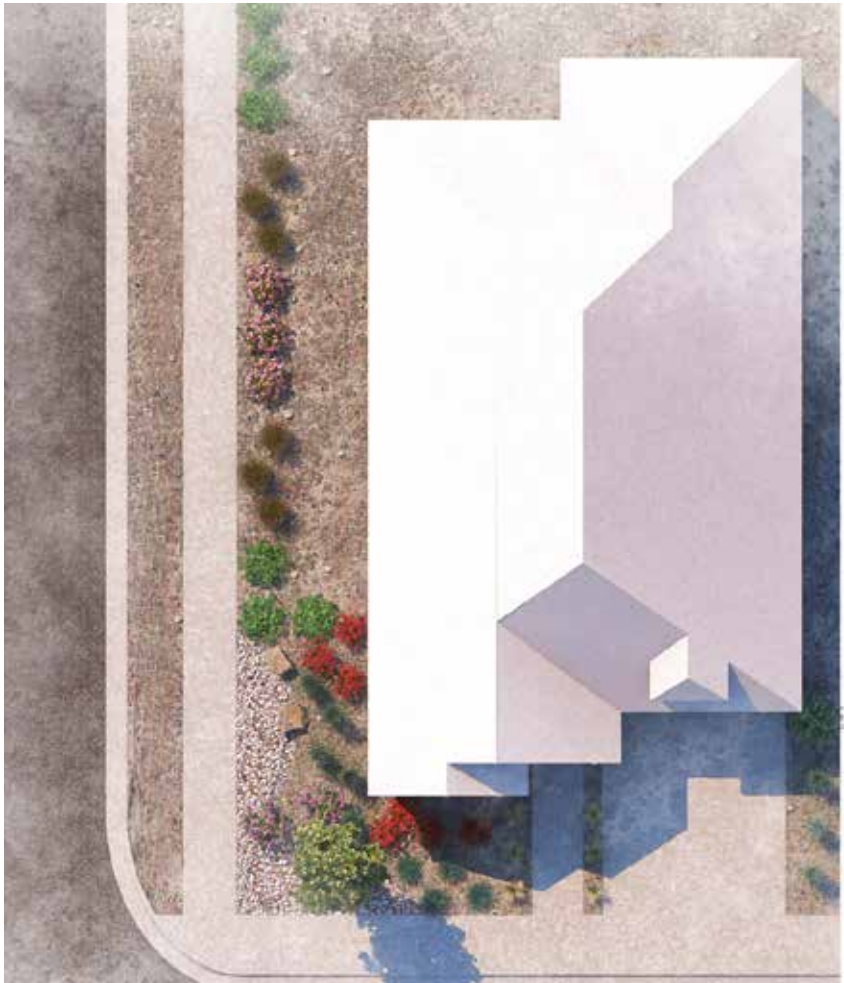
Item	Quantity
Deciduous Tree	1
Evergreen Tree	0
Evergreen Shrubs	4
Deciduous Shrubs	5
Ornamental Grasses	14
Perennials	6
Boulders	6

Lot 3



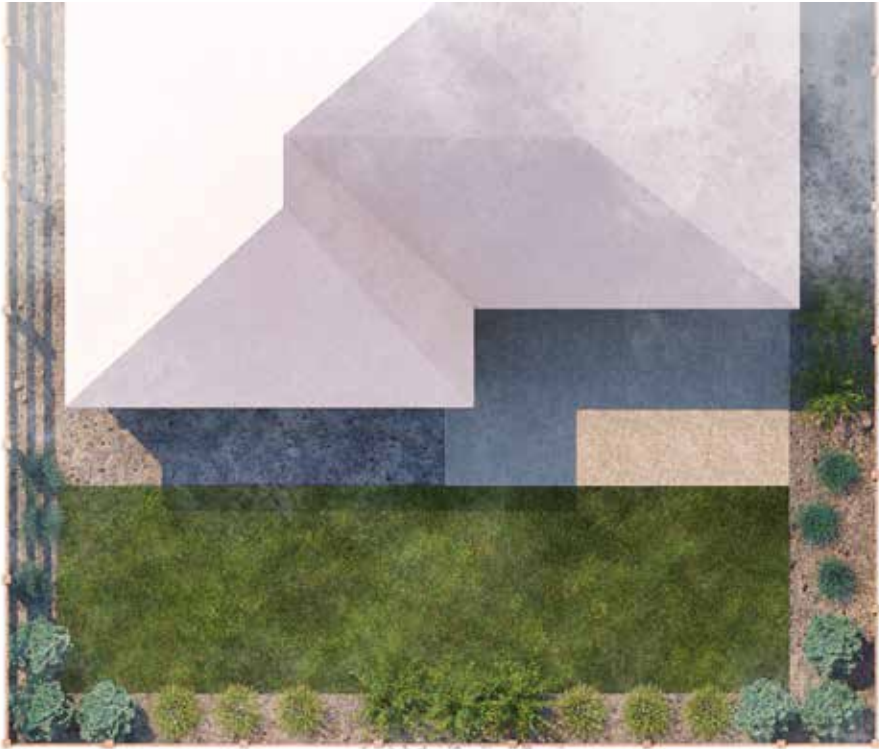
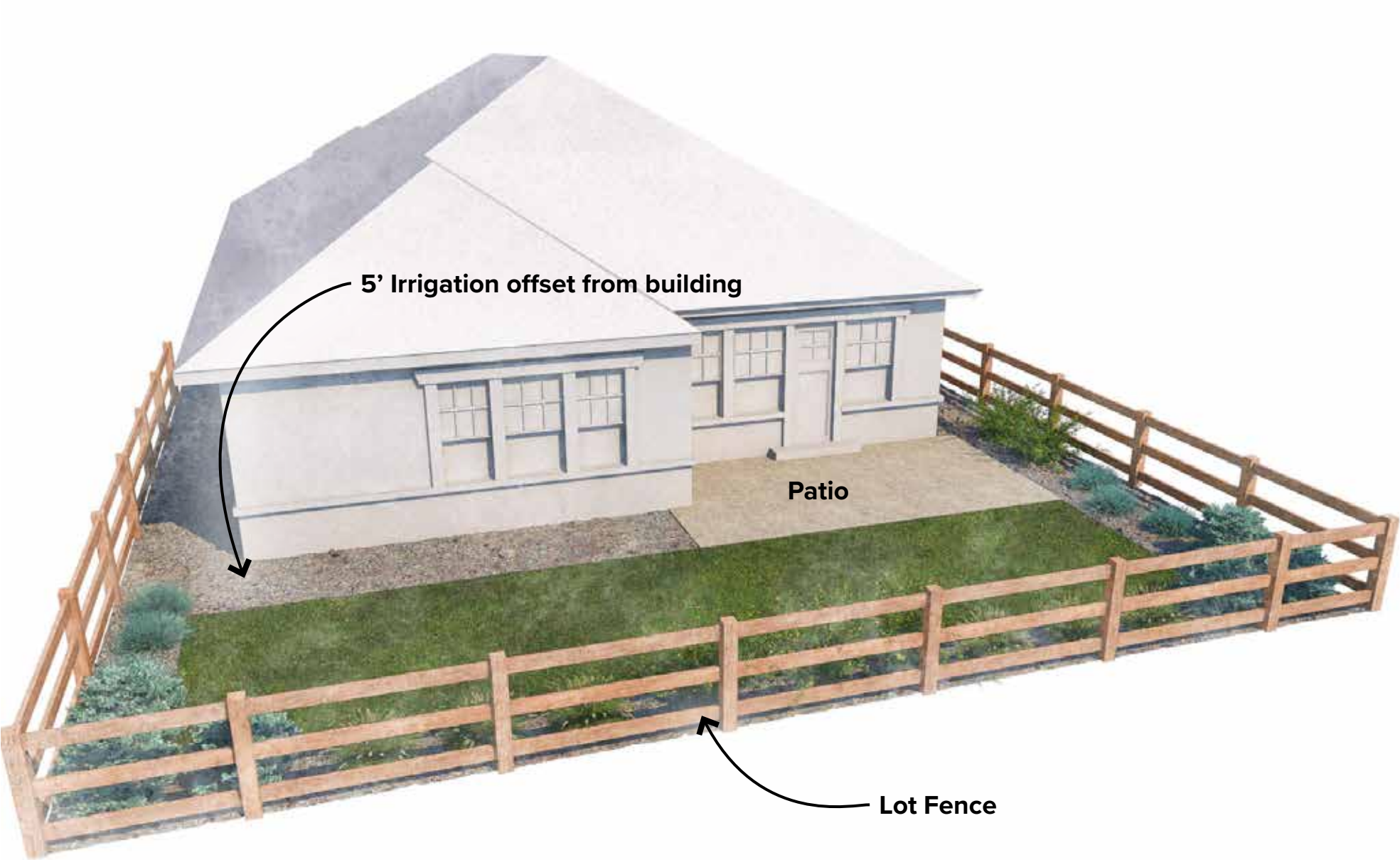
Item	Quantity
Deciduous Tree	1
Evergreen Tree	0
Evergreen Shrubs	0
Deciduous Shrubs	9
Ornamental Grasses	16
Perennials	8
Boulders	0

Lot 4 - Corner Lot



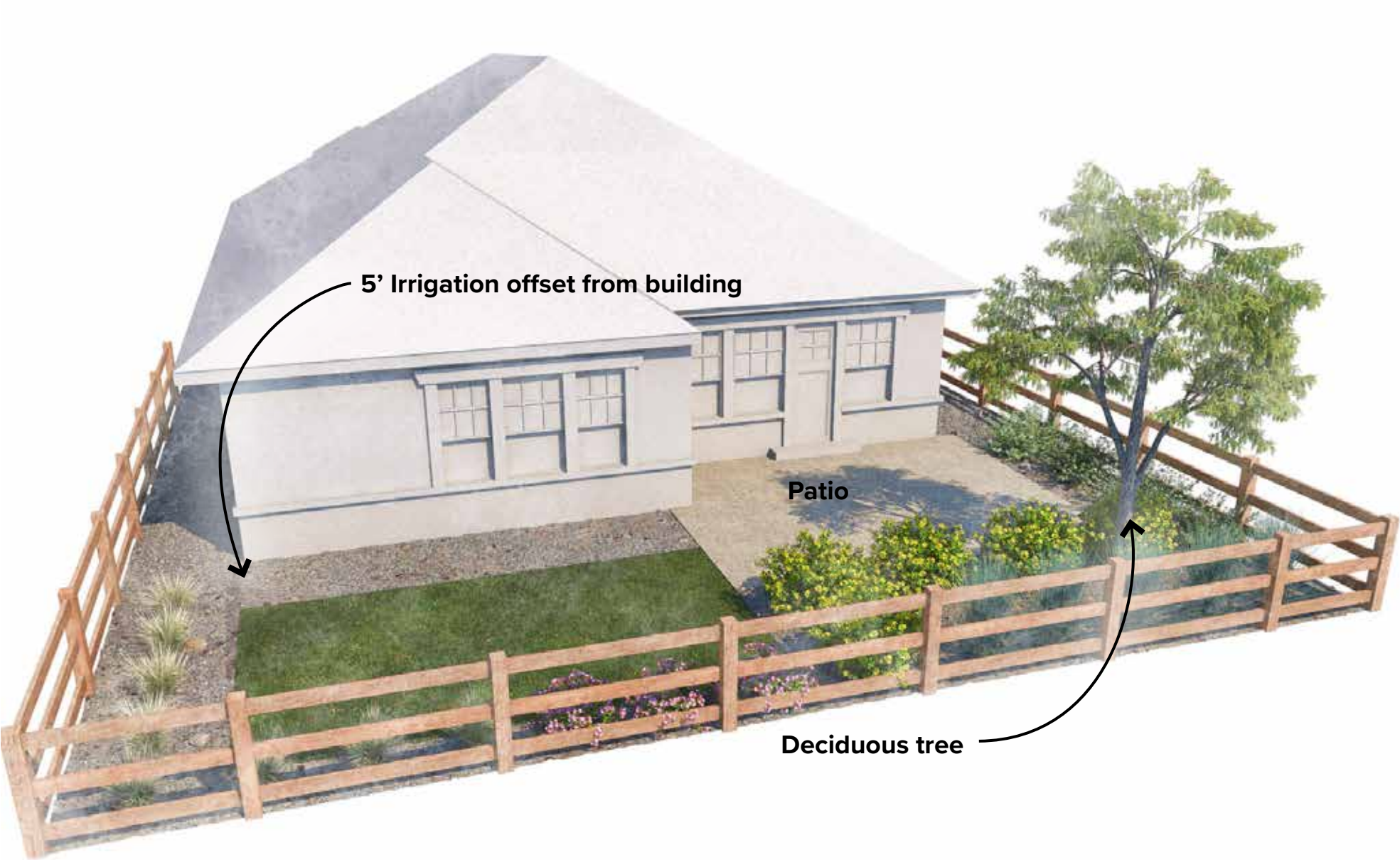
Item	Quantity
Deciduous Tree	1
Evergreen Tree	0
Evergreen Shrubs	6
Deciduous Shrubs	4
Ornamental Grasses	21
Perennials	9
Boulders	4

Rear Yards - 500 SF Turf



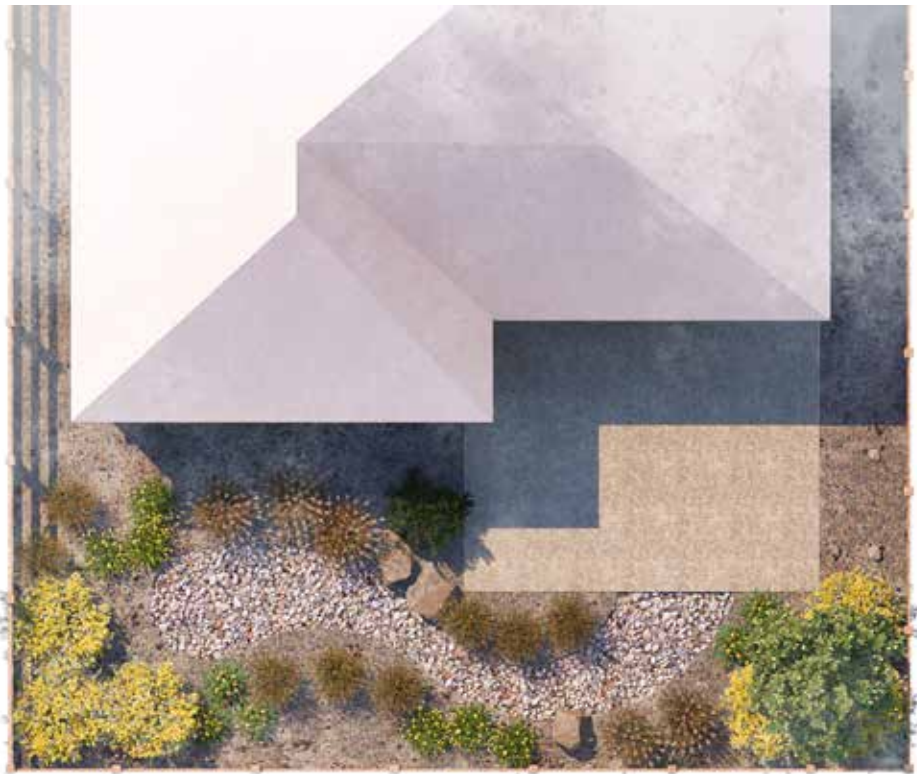
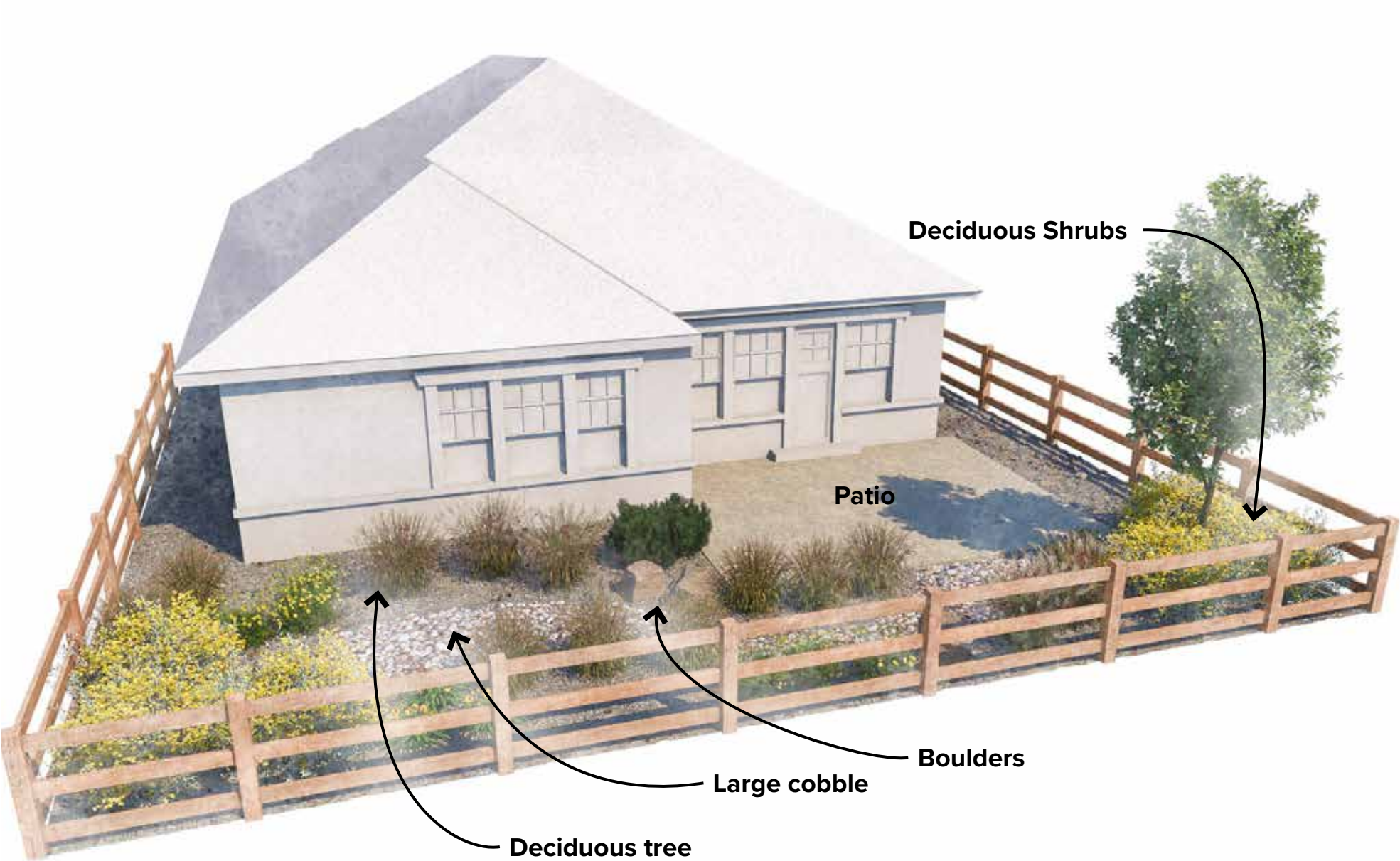
Item	Quantity
Deciduous Tree	0
Evergreen Tree	0
Evergreen Shrubs	6
Deciduous Shrubs	5
Ornamental Grasses	12
Perennials	0
Boulders	0

Rear Yards - 250 SF Turf or 250 SF Artificial Turf



Item	Quantity
Deciduous Tree	1
Evergreen Tree	0
Evergreen Shrubs	4
Deciduous Shrubs	8
Ornamental Grasses	13
Perennials	0
Boulders	0

Rear Yards - ColoradoScape



Item	Quantity
Deciduous Tree	1
Evergreen Tree	0
Evergreen Shrubs	1
Deciduous Shrubs	6
Ornamental Grasses	13
Perennials	12
Boulders	4

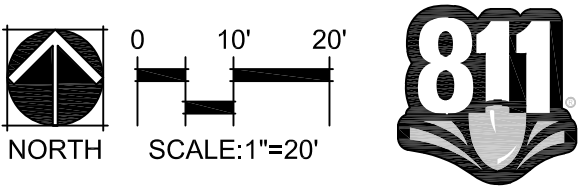
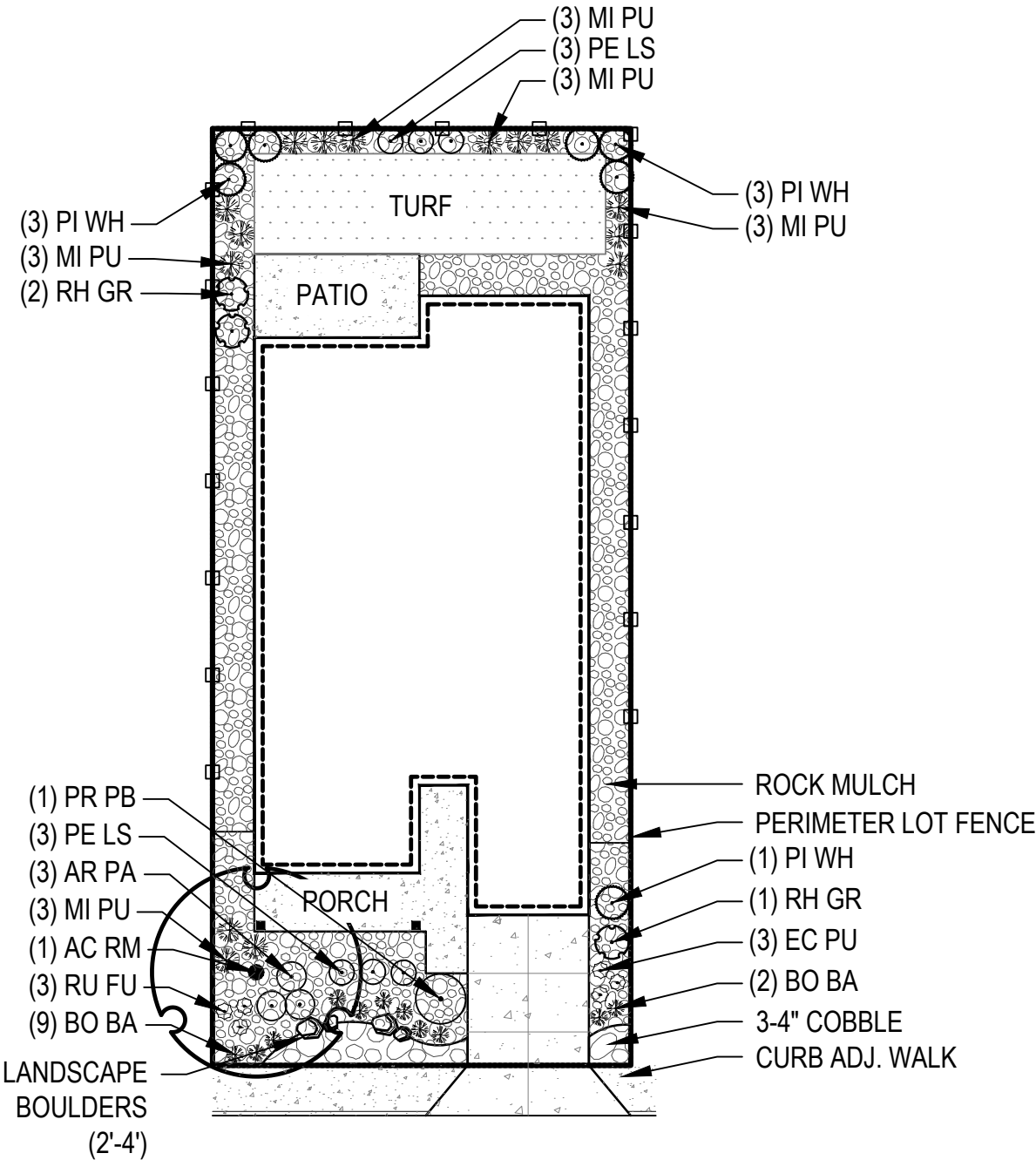
Landscape Plan Example

LANDSCAPE GENERAL NOTES

- 1. MAINTAIN FIVE (5) FOOT NO IRRIGATION ZONE AROUND PRINCIPAL STRUCTURE PER GEOTECHNICAL RECOMMENDATIONS. WHERE FRONT AND SIDE YARD SLOPES ARE 12% OR GREATER, EVERGREEN PLANT MATERIAL WITH A MINIMUM HEIGHT OF THREE (3) FEET, IS ENCOURAGED AT THE EDGE OF THE FIVE (5) FOOT NO IRRIGATION SETBACK.
- 2. ALL IRRIGATED AREAS ARE TO BE MIN. 18" FROM ALL HOUSE FLATWORK AND FOUNDATION COMPONENTS.
- 3. ALL BEDS TO BE MULCHED WITH MIN 4" OF COBBLE OR SHREDDED WOOD MULCH.
- 4. ALL LANDSCAPE AREAS TO BE TILLED TO A MIN DEPTH OF 6" AND AMENDED WITH ORGANIC MATTER WITH A MIN OF 4 CUBIC YARDS PER 1000 SF. ORGANIC MATTER TO BE COMPRISED OF PLANT MATERIAL ONLY AND CANNOT CONTAIN ANY ANIMAL OR HUMAN WASTE.
- 5. ALL LAWN AND BED AREAS TO BE SEPARATED WITH 4" ROLLED TOP STEEL EDGER.
- 6. LANDSCAPE INSPECTION IS REQUIRED AND THE GRADE WILL BE WITHIN +/- 1/10TH OF ONE INCH FINISHED GRADE AND FREE OF ROCKS AND DEBRIS LARGER THAN 3/4 OF AN INCH.
- 7. TEXAS HYBRID BLUEGRASS OR OTHER APPROVED LOW WATER TURF ARE ALLOWED. NO BLUEGRASS TURF ALLOWED.
- 8. A TOWN OF CASTLE ROCK REGISTERED LANDSCAPE PROFESSIONAL SHALL ACCOMPLISH INSTALLATION.
- 9. ALL INSTALLED PLANT MATERIAL SHALL BE APPROVED BY THE TOWN OF CASTLE ROCK, HYDROZONE 1 AND 2 ONLY.
- 10. MAX ALLOWED IRRIGATED TURF SHALL NOT EXCEED: 500 SF

PLANT SCHEDULE TYPICAL LANDSCAPE PLAN						
DECIDUOUS TREES	CODE	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	QTY
	AC RM	ACER GRANDIDENTATUM ROCKY MOUNTAIN GLOW	ROCKY MOUNTAIN GLOW MAPLE	B & B	2" CAL	1
DECIDUOUS SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	QTY
	PE LS	PEROVSKIA ATRIPLICIFOLIA 'LITTLE SPIRE' TM	LITTLE SPIRE RUSSIAN SAGE	CONT	5 GAL	6
	PR PB	PRUNUS BESSEYI PAWNEE BUTTES	CREEPING WESTERN SAND CHERRY	CONT	5 GAL	1
	RH GR	RHUS AROMATICA 'GRO-LOW'	GRO-LOW FRAGRANT SUMAC	CONT.	5 GAL.	3
EVERGREEN SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	QTY
	AR PA	ARCTOSTAPHYLOS X COLORADOENSIS 'PANCHITO'	PANCHITO MANZANITA	CONT	5 GAL	3
	PI WH	PINUS MUGO 'WHITE BUD'	WHITE BUD MUGO PINE	CONT.	5 GAL.	7
ORNAMENTAL GRASSES	CODE	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	QTY
	BO BA	BOUTELOUA GRACILIS 'BLONDE AMBITION'	BLOND AMBITION BLUE GRAMA GRASS	CONT	1 GAL	11
	MI PU	MISCANTHUS SINENSIS 'PURPURASCENS'	FLAME GRASS	CONT	1 GAL	15
PERENNIALS	CODE	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	QTY
	EC PU	ECHINACEA PURPUREA	PURPLE CONEFLOWER	CONT	1 GAL	3
	RU FU	RUDBECKIA FULGIDA 'GOLDSTURM'	BLACK-EYED SUSAN	CONT	1 GAL	3

The landscape plan example is intended to illustrate design intent for these guidelines. Please refer to the Town of Castle Rock Landscape and Irrigation Criteria Manual for specific design criteria and submittal requirements. (<https://crgov.com/Plans>)

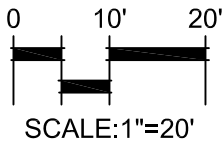
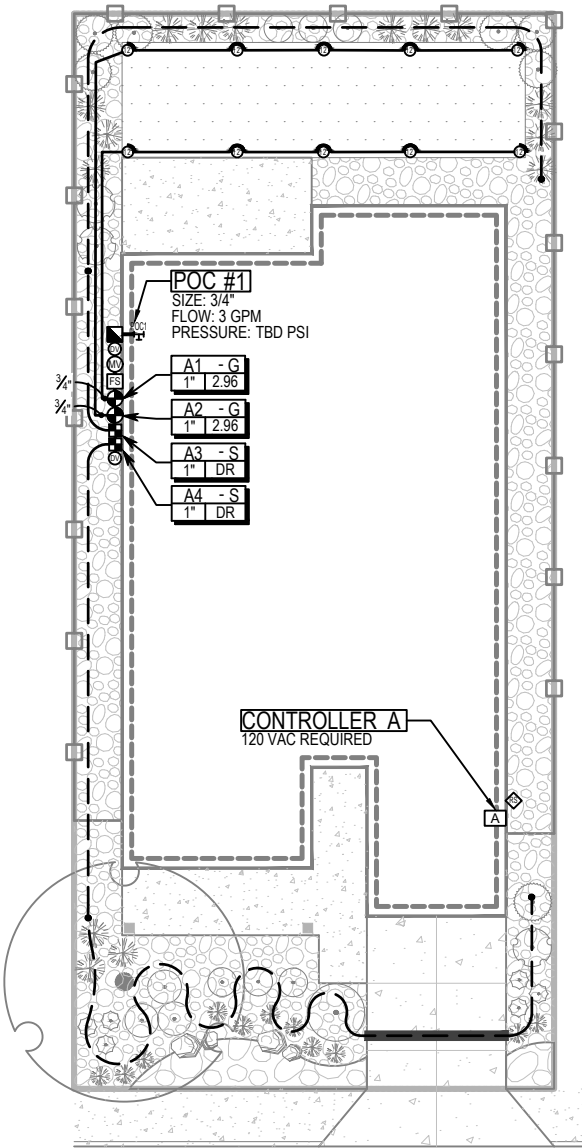


Irrigation Plan Example

IRRIGATION GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL THE IMPROVEMENTS SHOWN ON THE PLANS.
2. THE CONTRACTOR SHALL COORDINATE, AS NECESSARY, WITH THE BUILDER, GENERAL CONTRACTOR, HOME OWNER, OR OWNER'S REPRESENTATIVE, FOR SUCCESSFUL COMPLETION OF THIS WORK.
3. ALL IRRIGATION EQUIPMENT MUST MEET MINIMUM REQUIREMENTS AS OUTLINED IN THE CURRENT TOWN OF CASTLE ROCK LANDSCAPE AND IRRIGATION CRITERIA MANUAL.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONDUCT A THOROUGH SITE INSPECTION AND REVIEW OF THE PROJECT CONSTRUCTION DOCUMENTS INCLUDING BUT NOT LIMITED TO THE FOLLOWING: LANDSCAPE PLAN, UTILITY PLAN, CIVIL UTILITY PLAN, ARCHITECTURE PLAN, GRADING AND DRAINAGE PLAN AND ALL OTHER ASSOCIATED PLANS AND SPECIFICATIONS THAT AFFECT THIS WORK PRIOR TO START OF WORK. IF THE CONTRACTOR OBSERVES ANY DISCREPANCIES AMONG THE CONSTRUCTION DOCUMENTS AND THE EXISTING CONDITIONS ON SITE, IT IS THEIR RESPONSIBILITY TO CONTACT THE OWNER'S REPRESENTATIVE IMMEDIATELY.
5. THE CONTRACTOR MUST VERIFY THE LOCATION OF ALL PUBLIC AND PRIVATE UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. IF THE CONTRACTOR FAILS TO DO SO AND DAMAGES ANY UNDERGROUND UTILITIES. THE CONTRACTOR SHALL PAY FOR ANY REPAIR WORK ASSOCIATED WITH SAID DAMAGES.
6. THE CONTRACTOR SHALL CONFORM TO ALL LOCAL AND STATE REGULATIONS AND INSTALL THE IRRIGATION SYSTEM AND ITS COMPONENTS PER MANUFACTURER'S SPECIFICATIONS. THE CONTRACTOR SHALL OBTAIN AND PROVIDE PAYMENT FOR ALL PERMITS REQUIRED BY ANY LOCAL AND STATE AGENCIES AND UTILITY COMPANIES HAVING JURISDICTION OVER THIS SITE.
7. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND PAYING FOR CERTIFICATION OF THE BACKFLOW PREVENTER BY AN INSPECTOR CERTIFIED BY THE AMERICAN BACKFLOW PREVENTION ASSOCIATION (ABPA) OR THE AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE). THE CONTRACTOR SHALL PROVIDE CERTIFICATES TO OWNER'S REPRESENTATIVE PRIOR TO PROJECT ACCEPTANCE.
8. IT IS THE INTENT OF THIS DESIGN THAT ALL IRRIGATION EQUIPMENT BE INSTALLED WITHIN LANDSCAPE AREAS AND WITHIN THE PROJECT LIMITS. EQUIPMENT SHOWN OUTSIDE OF THESE LIMITS IS SHOWN FOR GRAPHIC CLARITY ONLY. IF THERE IS A QUESTION REGARDING THE LOCATION OF ANY COMPONENT OF THE IRRIGATION SYSTEM, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE OWNER'S REPRESENTATIVE. IF THE CONTRACTOR NEGLECTS TO NOTIFY THE NECESSARY PARTIES, THE CONTRACTOR SHALL PAY FOR ANY REPLACEMENT OR MODIFICATION TO ENSURE PROPER LOCATION AND OPERATION OF THE IRRIGATION SYSTEM AND ITS COMPONENTS.
9. ALL IRRIGATION DISTRIBUTION LINES AND EQUIPMENT INCLUDING BUT NOT LIMITED TO, MAINLINE, LATERALS, SPRAY HEADS, DRIP EMITTERS SHALL BE KEPT A MINIMUM DISTANCE OF 5' AWAY FROM ALL BUILDING AND WALL FOUNDATIONS, OR AS STIPULATED IN THE GEOTECHNICAL REPORT , WHICHEVER IS GREATER. EQUIPMENT MAY BE SHOWN IN THIS AREA FOR GRAPHIC CLARITY. COORDINATE ALL REQUIRED SETBACKS WITH OWNER'S REPRESENTATIVE PRIOR TO START OF WORK.
10. PLANT MATERIAL LOCATIONS TAKE PRECEDENCE OVER ROUTING OF IRRIGATION PIPING. COORDINATE INSTALLATION OF IRRIGATION EQUIPMENT SO THAT IT DOES NOT INTERFERE WITH THE PLANTING OF TREES OR OTHER LANDSCAPE MATERIAL.
11. CONTRACTOR SHALL FINE TUNE AND ADJUST NOZZLE DIRECTION AND RADIUS TO REDUCE/ELIMINATE OVERSPRAY ONTO PAVING OR HARD SURFACES.
12. ESTABLISHMENT OF NEW PLANT MATERIAL MAY REQUIRE ADDITIONAL WATER, DEPENDING ON WEATHER, FOR A SHORT PERIOD OF TIME. AFTER THE INITIAL ESTABLISHMENT PERIOD, IRRIGATION SCHEDULE MUST BE REDUCED TO REFLECT THE NEEDS OF THE LOW TO VERY LOW WATER USE PLANTS.
13. THE DESIGN IS BASED ON THE FOLLOWING PROJECTED PEAK SEASON WEEKLY APPLICATION RATES AFTER ESTABLISHMENT. THESE FIGURES WILL NEED TO BE ADJUSTED DUE TO SEASONAL CHANGES AND VARIABLE WEATHER CONDITIONS.
 - FESCUE/BLEUGRASS BLEND TURF 1.5" PER WEEK PEAK SEASON
 - TREE, SHRUB, AND PERENNIAL PLANT MATERIAL 0.75" PER WEEK PEAK SEASON
 - NATIVE DROUGHT TOLERANT SEED MIX 0.35" PER WEEK PEAK SEASON
21. THE CONTRACTOR SHALL PROVIDE A SEASONAL MAINTENANCE SCHEDULE WHICH SHALL BEGIN ON APRIL 15TH AND END ON OCTOBER 15TH TO ENSURE THE EFFICIENCY AND LONGEVITY OF THE IRRIGATION SYSTEM. THE MAINTENANCE SCHEDULE SHALL INCLUDE BUT IS NOT LIMITED TO THE FOLLOWING LIST OF BEST MANAGEMENT PRACTICES:
 - CHECK HEADS FOR COVERAGE AND LEAKAGE.
 - CHECK CONTROLLER PROGRAMMING AND ADJUST FOR SEASONAL CHANGES AS NECESSARY.
 - VERIFY THAT THE WATER SUPPLY AND PRESSURE ARE AS STATED IN THE DESIGN.
 - CERTIFY THE BACKFLOW PREVENTION DEVICE AND SUBMIT TEST RESULTS TO THE PROPERTY MANAGER.
 - PERIODICALLY VERIFY THE THE SENSORS IN THE IRRIGATION SYSTEM ARE OPERATING CORRECTLY.
 - WINTERIZATION AND SPRING START UP PROCEDURES.

IRRIGATION SCHEDULE					
SYMBOL	DESCRIPTION	MODEL NO. DESCRIPTION			
	POINT OF CONNECTION	3/4" IRRIGATION STUB-OUT			
	IRRIGATION CONTROLLER	RAIN BIRD ESP-ME3 W/ LNKWIFI MODULE 120VAC POWER REQUIRED - SEE PLANS FOR LOCATION(S)			
	RAIN SENSOR	RAIN BIRD WR2-48 REFER TO CONTROLLER NOTES			
	BACKFLOW PREVENTER	FEBCO 3/4" 765 OR 825YA (DEPENDING ON LOT ELEVATION DIFFERENCES) SEE ENCLOSURE SPECIFICATIONS BELOW			
	MANUAL DRAIN VALVE	MATCO-NORCA 1/2" 201X INSTALLED IN AEP 910L-1G2G VALVE BOX			
	MASTER VALVE	HUNTER ICV-101-G INSTALLED IN AEP 1015-1G2G VALVE BOX			
	FLOW SENSOR	FLOMEC QS100 INSTALLED IN AEP 1015-1G2G VALVE BOX			
	TURF VALVE ASSEMBLY	RAIN BIRD 100-DV INSTALLED IN AEP 1015-1G2G VALVE BOX, SIZED PER PLAN			
	DRIP VALVE ASSEMBLY	RAIN BIRD XCZ-100-FLOW INSTALLED IN AEP 1015-1G2G VALVE BOX, SIZED PER PLAN			
	TURF SPRAY (FIXED)	HUNTER PROS-06-PRS30-CV WITH TORO PRECISION NOZZLE NOZZLE PER PLAN			
	SLEEVING	CLASS 200 PVC REFER TO SLEEVING NOTES			
	SERVICE LINE	TYPE K COPPER SIZE: MATCH POC UNLESS OTHERWISE NOTED			
	PVC MAINLINE	CLASS 200 PVC BE SIZE: 1" UNLESS OTHERWISE NOTED			
	TURF LATERAL	80# NSF POLYETHYLENE SIZE: 3/4" MINIMUM UNLESS OTHERWISE NOTED			
	DRIP LATERAL	UV RESISTANT POLYETHYLENE SIZE: 3/4" MINIMUM UNLESS OTHERWISE NOTED			
	FLUSH VALVE/OPERATIONAL INDICATOR	SCH 40 BALL VALVE & HUNTER ECO INDICATOR INSTALLED IN AEP 910L-1G2G VALVE BOX			
VALVE CALLOUT		EMITTER SCHEDULE			
<div>VALVE/STATION NUMBER ZONE DESIGNATION: S (SHRUBS), G (TURF) VALVE FLOW: (GPM) VALVE SIZE</div>		PLANT TYPE	EMITTER	QTY.	TOTAL GPH
		PERENNIAL / GRASSES	0.5 GPH	TWO EACH	1.0 GPH
		DECIDUOUS SHRUBS	1.0 GPH	TWO EACH	2.0 GPH
		EVERGREEN SHRUBS	1.0 GPH	TWO EACH	2.0 GPH
		DECIDUOUS TREE	1.0 GPH	EIGHT EACH	8.0 GPH
		EVERGREEN TREE	1.0 GPH	EIGHT EACH	8.0 GPH
EMITTER NOTES					
1. ALL PLANT MATERIAL SHALL BE IRRIGATED WITH RAIN BIRD XB SERIES PRESSURE COMPENSATING EMITTERS. 2. EMITTER SCHEDULE IS FOR REFERENCE ONLY. THE CONTRACTOR SHALL ADJUST EMITTER AND NUMBER OF EMITTERS BASED ON THE NEEDS OF INDIVIDUAL PLANTS OR PLANT HYDROZONES. 3. 1/4" DISTRIBUTION TUBING NOT TO EXCEED 8' IN LENGTH. 4. RAIN BIRD DBC-025 DIFFUSER BUG CAP AND TS-025 STAKE ON ALL 1/4" DISTRIBUTION TUBING EMISSION POINTS.					





03 Landscape + Irrigation Materials

Plant species, mulch types, and irrigation methods have been selected to decrease water usage within landscapes. These selections will increase the efficiency of each landscape and bring the Town closer to their water saving goals.

Irrigation

All residential landscapes within the Town of Castle Rock shall be irrigated with an automatic underground irrigation system providing full coverage to all plant material. All irrigation systems shall be connected to a Wi-Fi enabled smart controller with a non-volatile memory and rain sensor. Plants shall be zoned (grouped) in areas with similar water requirements and aspects. Turf areas shall be irrigated separately from all plants. Turf areas can be irrigated via overhead spray with a 6" minimum height pop-up. Subsurface in-line drip irrigation shall be utilized in turf areas less than ten (10) feet in width. All trees, shrubs and perennials shall utilize point source drip or in-line drip irrigation. It is recommended that trees be zoned separately from shrubs and perennials to ensure long term viability of larger plant types. No irrigation will be permitted in areas smaller than four (4) feet in width. Contractors and property owners shall comply with the Town of Castle Rock Landscape and Irrigation Criteria Manual.

Planting Beds and Mulches

Planting beds are essential to good design and shall be densely and purposefully planted. Use plants to create visual depth, interest and to screen foundations and outside utilities. All planting is recommended to be set back at minimum five (5) feet from the building foundation. Piping downspouts by extending them underground to designated drainage areas in the yard is recommended. Mulching planting beds is necessary in Colorado to conserve moisture and to discourage weeds.

All planting areas should have a minimum of four (4) inches of rock mulch or shredded cedar mulch meeting the following standards:

- » Shredded, fibrous material capable of “knitting” together to form a mat that is wind and erosion resistant. Generally the shredded mulch or peelings are three (3) inches in length on average. Bark and wood chip mulches are not allowed.
- » With the exception of drainage areas, only ¾" river rock or crusher fines mulch will be acceptable. Mulches with artificial coloring will not be allowed.
- » Weed barrier is not required. If used, plastic weed barrier is not permitted.
- » Turf is limited to 500 SF maximum in the rear yards. High water use turf and Kentucky Bluegrass is not allowed.

Soil Preparation

For proper plant growth, Colorado soils shall be amended with organic material. A minimum of four cubic yards of organic material shall be added to topsoil per 1000 square feet of planting area. Organic material shall be aged compost; wood humus from soft, non-toxic trees. Proper amendments as specified will improve drainage and, as a result, conserve water. Plants will flourish and live longer, healthier lives. A soil analysis should be performed prior to planting for proper micro-nutrient recommendations.



The plant palette provides suggested plants for residential landscapes. Please refer to the Town of Castle Rock Landscape and Irrigation Criteria Manual for the Town of Castle Rock approved plant list. (<https://crgov.com/DocumentCenter/View/7016/Town-of-Castle-Rock-Plant-List-2019?bidId=>)

All medium hydrozone plants noted in the charts are to be limited to areas that receive at minimum filtered shade and/or will receive supplemental water (drainages, downspouts and/or sump areas). All medium hydrozone plants are to be on a designated irrigation valve; low and very low hydrozones may be combined with each other as needed.



Common Hackberry
Celtis occidentalis



Japanese Pagoda Tree
Styphnolobium japonicum



Sunburst Honeylocust
Gleditsia t.i. 'Sunburst'



Chinkapin Oak
Quercus muehlenbergii



Northern Red Oak
Quercus rubra

[illegible]



Bakeri Spruce
Picea pungens 'Bakeri'



Bristlecone Pine
Pinus aristata



Pinyon Pine
Pinus edulis



Ponderosa Pine
Pinus ponderosa



Vanderwolf's Pyramid Pine
Pinus flexilis 'Vanderwolf's Pyramid'

[illegible]



Ginnala Maple
Acer ginnala 'Flame'



Rocky Mountain Glow Maple
Acer grand. 'Rocky Mtn. Glow'



Russian Hawthorn
Crataegus ambigua



Gambel Oak
Quercus gambelii



Japanese Tree Lilac
Syringa reticulata 'Ivory Silk'

[illegible]



Nanking Cherry
Prunus tomentosa



Pawnee Buttes Sand Cherry
Prunus b. 'Pawnee Buttes'



Staghorn Sumac
Rhus typhina



Green Mound Currant
Ribes alpinum 'Green Mound'



Woods Rose
Rosa woodsii

[illegible]

[illegible]

[illegible]



Moonglow Juniper
Juniperus s. 'Moonglow'



Panchito Manzanita
Arctostaphylos panchito



Creeping Oregon Grape Holly
Mahonia repens



Slowmound Juniper
Pinus m. 'Slowmound'



Bright Edge Yucca
Yucca f. 'Bright Edge'

[illegible]

[illegible]



Big Bluestem
Andropogon gerardii



Little Bluestem
Schizachyrium scoparium



Indiangrass
Sorghastrum nutans



Prairie Dropseed
Sporobolus heterolepis



Blonde Ambition Blue Grama Grass
Bouteloua g. 'Blonde Ambition'

[illegible]



Yarrow
Achillea



Hyssop
Agastache



Blue Harebells
Campanula rotundifolia



Gazania 'Colorado Gold'
Gazania l. 'Colorado Gold'




Sedum Voodoo
Sedum

Botanic Name	Common Name	Mature Height	Mature Width	Water Usage	Sun	Filtered Shade	Full Shade	Flower Color/ Feature	Early Spring	Mid Spring	Late Spring	Early Summer	Mid Summer	Late Summer	Early Fall	Mid Fall	Late Fall	Early Winter	Mid Winter	Late Winter	Winter Interest
Perennials																					
Achillea	Yarrow	18-30"	18-36"	Low	X			Yellow, white, pastel, brick red, peach				X	X	X							
Agastache	Hyssop	varies	varies	Low	X	X		Orange, yellow, rose pink, violet blue, blue, rich pink, pink, red					X	X	X	X	X				
Alyssum saxatilis 'Goldkugel'	Basket of Gold	6-12"	12-18"	Low	X			Mustard yellow		X											
Antennaria dioica	Pussytoes	1-4"	8-12"	Low	X			Pink				X									
Aquilegia chrysantha	Yellow Columbine	23'	18-24'	Low	X	X		Yellow, white, pastel, brick red, peach			X	X									
Aquilegia coerulea	Rocky Mountain Columbine	18-24"	12-18"	Med		X	X	Blue with white			X	X									
Armeria maritima 'Splendens'	Sea Thrift	6-12"	6-12"	Med	X			Deep pink			X	X									
Armeria 'Vicor Reiter'	Victor Reiter Sea Thrift	2-4"	4-6"	Med	X			Soft pink				X									
Artemisia 'Powis Castle'	Powis Castle Artemisia	2-3'	2-3'	Low	X			Silvery foliage													
Asclepias tuberosa	Milkweed	18-36"	18-24"	Low	X			Orange, yellow					X	X							

Botanic Name	Common Name	Mature Height	Mature Width	Water Usage	Sun	Filtered Shade	Full Shade	Flower Color/ Feature	Early Spring	Mid Spring	Late Spring	Early Summer	Mid Summer	Late Summer	Early Fall	Mid Fall	Late Fall	Early Winter	Mid Winter	Late Winter	Winter Interest
Perennials Cont.																					
Aster	Aster	12-24"	12-24"	Med	X	X		Purple, light blue, red, pink, white						X	X	X	X				
Aster alpinus ‘Goliath’	Alpine Aster	6-12"	15-18"	Low	X	X		Lavender			X	X									
Baptisia australis	Blue False Indigo	3-4’	2-3’	Low	X	X		Indigo				X									
Berlandiera lyrata	Chocolate Flower	1-2’	12-18"	Low	X			Yellow				X	X	X	X	X	X				
Calamintha nepeta ssp. Nepeta	Lesser Calamint	12-18"	12-18"	Low	X			White				X	X	X	X	X	X				
Callirhoe involucrata	Prairie Wine Cups	6-12"	2-3’	Low	X			Magenta				X	X	X	X	X	X				
Campanula rotundifolia	Blue Native Harebell	6-18"	12-18"	Low	X	X	X	Light blue	X	X	X	X	X	X							
Centranthus ruber	Red Valerian	2-3’	18-24"	Low	X			Reddish-pink				X	X	X							
Cerastium tomentosum	Snow-in-Summer	6-12"	12-18"	Low	X			White			X	X									
Ceratostigma plumbaginoi-des	Plumbago	8-12"	18-24"	Low	X	X	X	Blue					X	X							
Coreopsis	Tickseed	6-24"	12-24"	Low	X			Yellow, gold, red,			X	X	X	X	X	X	X				
Delosperma	Hardy Ice Plant	1-4"	10-18"	Low	X			Rose, white, lavender, pink, yellow, red, purple				X	X	X							
Echinacea	Coneflower	varies	varies	Low	X			Varies				X	X	X							
Epilobium garrettii ‘Orange Carpet’	Orange Carpet Humming-bird Trumpet	4-6"	15-20"	Low	X			Orange						X	X	X	X				
Erigeron speciosus *	Showy Daisy *	18-24"	18-24"	Low	X			Lavender				X	X	X							
Gaillardia aristata	Native Blanketflower	18-24"	18-24"	Low	X			Yellow w/ red center					X								
Gallium odoratum	Sweet Woodruff	6-8"	8-12"	Med		X	X	White			X										
Gazania l. ‘Colorado Gold’	Colorado Gold Gazania	2-4"	8-10"	Low	X	X		Yellowish-or-ange				X	X	X	X	X	X				
Geranium	Cranesbill	12-18"	1-2’	Med	X	X	X	Violet-blue			X	X	X								
Geum trifolium	Prairie Smoke	6-12"	6-12"	Low	X	X		Creamy white			X										
Hemerocallis	Daylily	varies	varies	Low	X	X		Varies			X	X	X	X							
Knautia macedonia	Knautia	18-24"	18-24"	Low	X			Burgundy				X	X	X							
Kniphofia uvaria	Torch Lily	varies	varies	Low	X			Yellow, red, orange					X	X							

Estimated Water Use Calculations

Project Name - #: Town of Castle Rock Lot Typicals Landscape and Irrigation Study							 NORRIS DESIGN Planning Landscape Architecture Branding
Project Location: Castle Rock, CO							
Client Name: Town of Castle Rock							
Date Updated: 8/31/2022							
*Water use estimates based on irrigation season starting in April through October							
Area Name	Spray	Drip / Low Flow	Spray	Drip / Low Flow	Estimated Seasonal Water Use (Gal)	Estimated Water Use per SF (Gal/SF)	% of Water Use of Baseline
	Manicured Turf (SF)	Trees & Shrubs (SF)	Hybrid Turf (SF)	Annuals / Color (SF)			
Front Yard - Type 1 - ColoradoScape	0.00	435.60	0.00	0.00	2,484	5.70	20%
Front Yard - Type 2 - ColoradoScape	0.00	566.28	0.00	0.00	3,229	5.70	25%
Front Yard - Type 3 - ColoradoScape	0.00	609.84	0.00	0.00	3,477	5.70	27%
Front Yard - Type 4 Side Yard - ColoradoScape	0.00	696.96	0.00	0.00	3,974	5.70	31%
Front Yard - Cul-de-sac - ColoradoScape	0.00	522.72	0.00	0.00	2,981	5.70	23%
Rear Yard - ColoradoScape	0.00	566.28	0.00	0.00	3,229	5.70	26%
Rear Yard - 250 SF Sod	0.00	609.84	250.00	0.00	9,256	10.76	74%
Rear Yard - 250 SF Artificial Turf	0.00	609.84	0.00	0.00	3,477	5.70	28%
Rear Yard - 500 SF Sod Baseline	0.00	174.24	500.00	0.00	12,550	18.61	100%
Front Yard - 500 SF Sod Baseline	0.00	206.00	500.00	0.00	12,731	18.03	100%

