



Town of Castle Rock | ColoradoScape Guidelines

June 17, 2022

NORRIS DESIGN

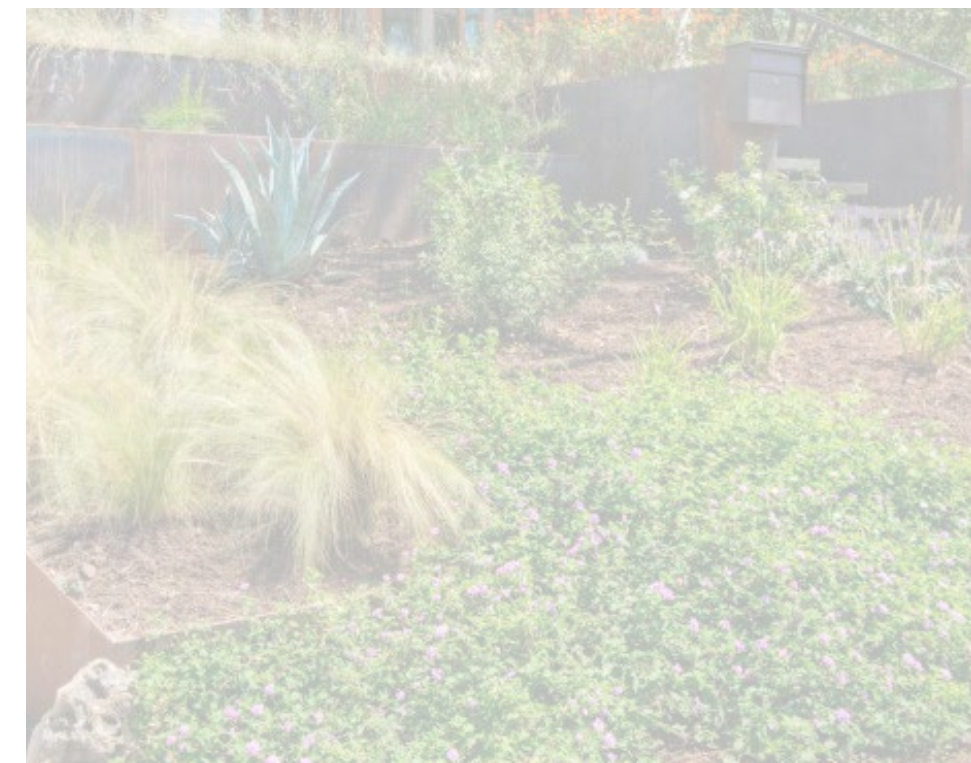


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01 Introduction

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.



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.

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.

Planting and irrigation plans shall include the following:

- » Scale, 1"=10'0" recommended
- » Planting Plan Layout
- » List of all plant species and quantities
- » Irrigation methods and locations
- » Edging and mulch type





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 medium 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 zero water. Artificial turf may require some water for cleaning and cooling.

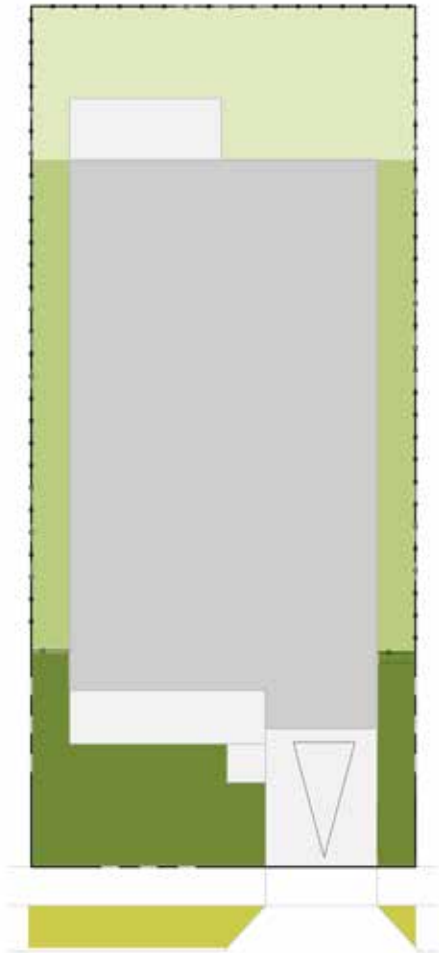
The water use portion of this study is intended to estimate the annual water use of current residential landscape scenarios and compare their water use to proposed lot typicals that utilize sustainable native plant species in lieu of turf.



Lot Definitions

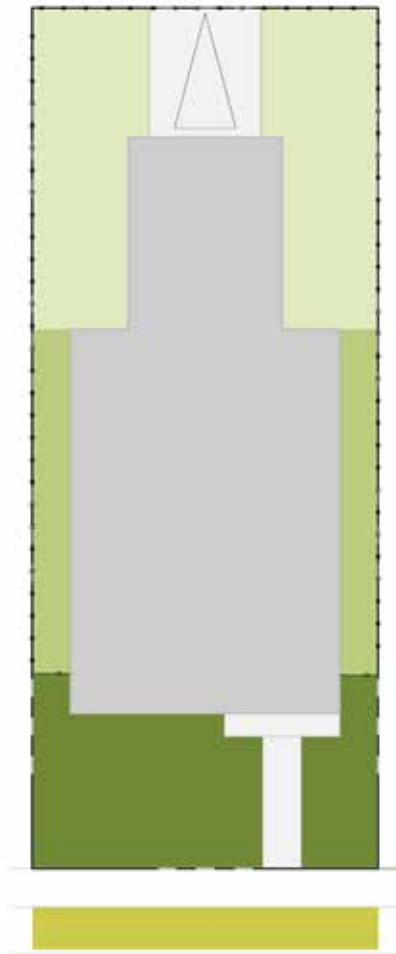
Lot 1

- Single-family
- Front-loaded garage



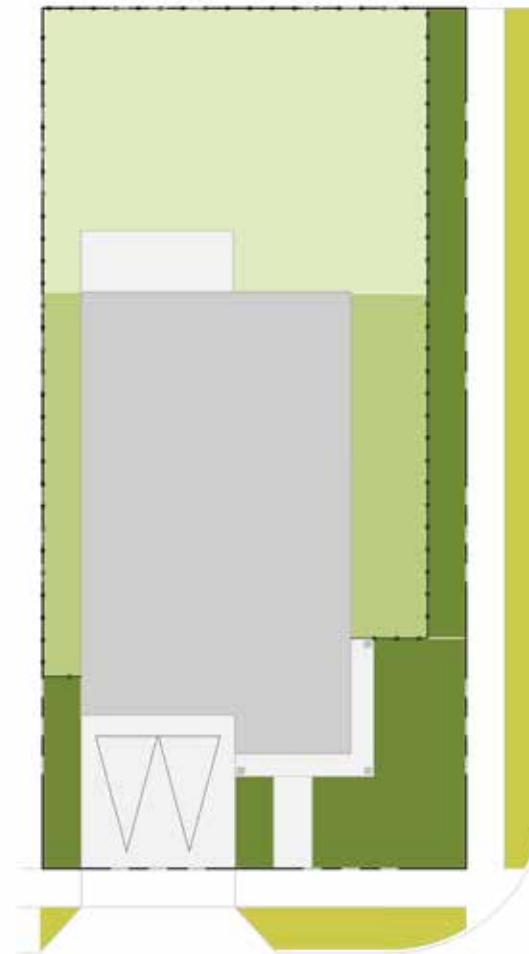
Lot 2

- Single-family or Townhome
- Alley-loaded garage



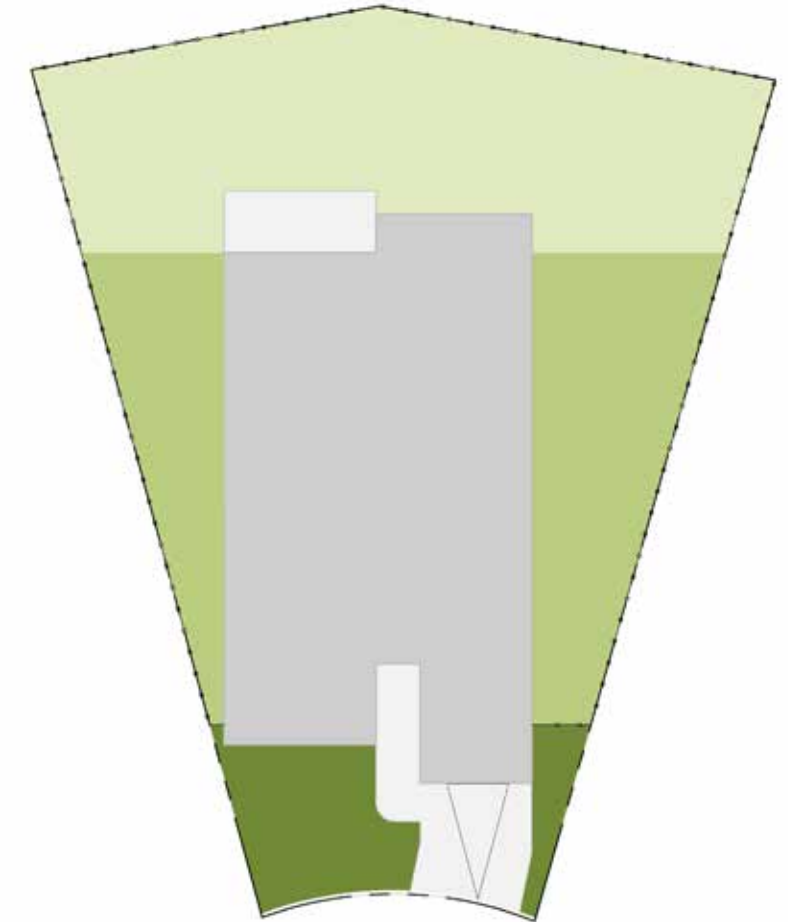
Lot 3

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



Lot 4

- Cul-de-sac
- Front-loaded garage

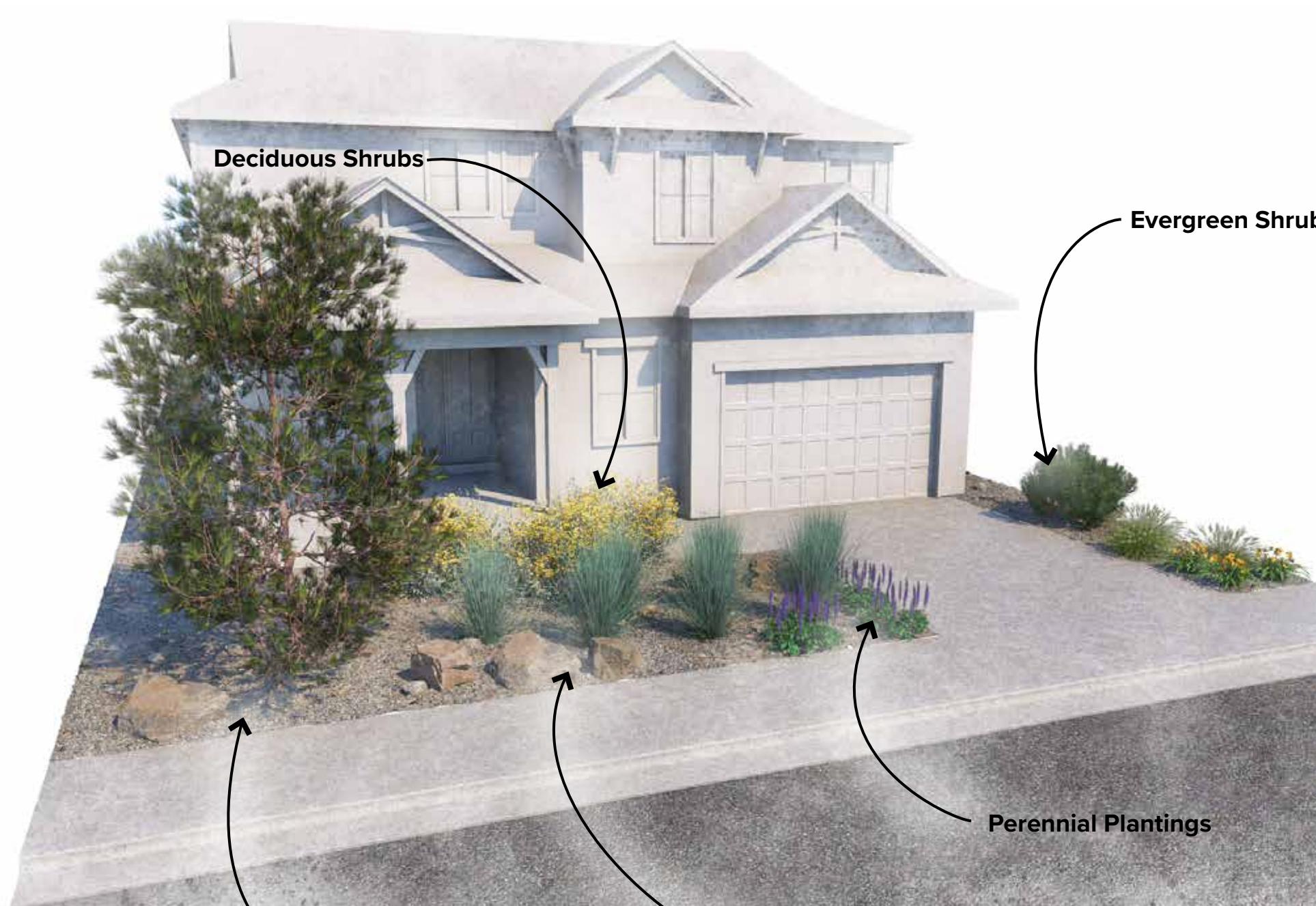


Legend

- Front Landscape
- Side Landscape
- Rear Landscape
- Tree Lawn

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

Lot 1



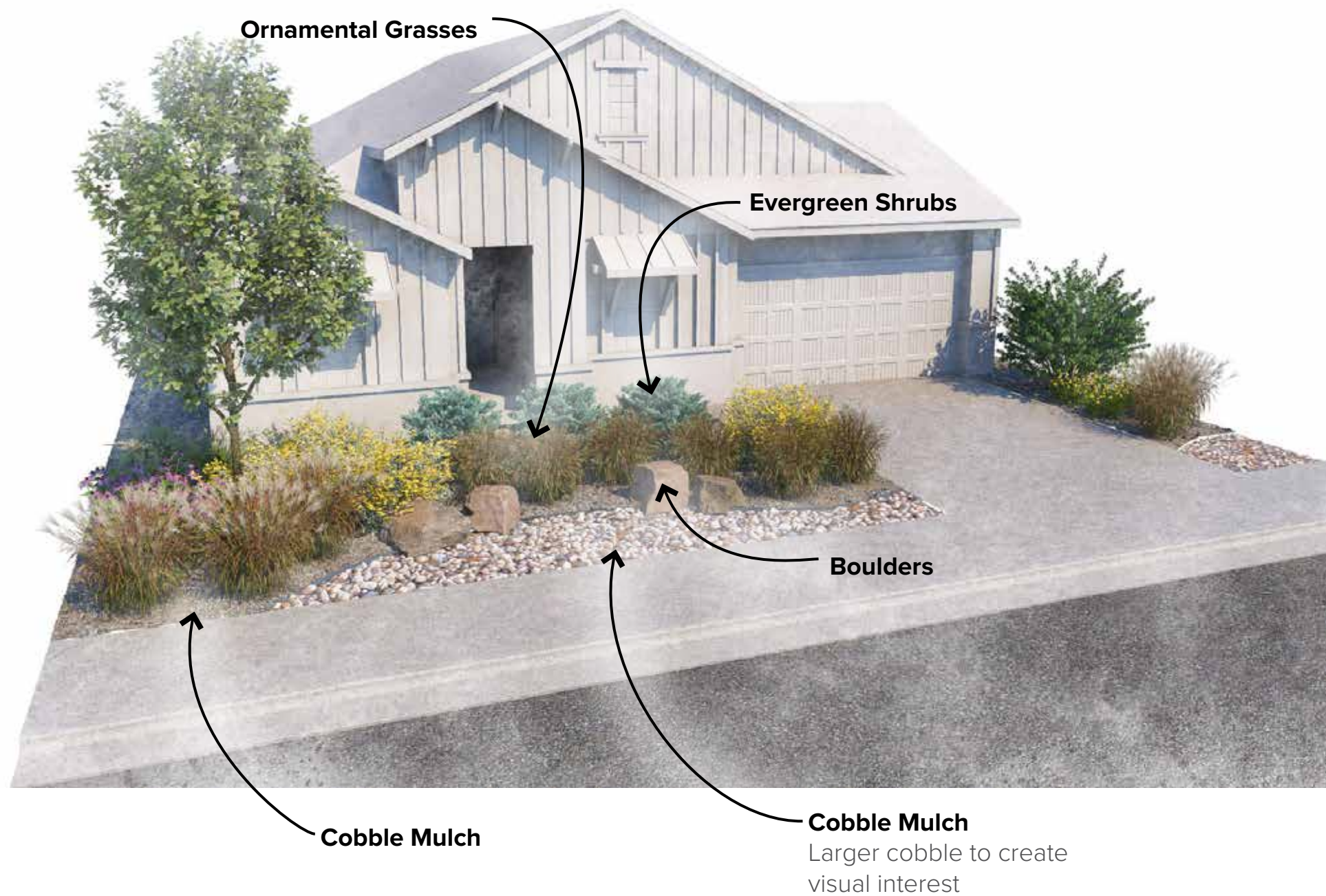
Cobble Mulch
Replace traditional bluegrass/sod

Boulders
Use for visual interest



Item	Quantity
Deciduous Tree	0
Evergreen Tree	1
Evergreen Shrubs	1
Deciduous Shrubs	3
Ornamental Grasses	10
Perennials	6
Boulders	4

Lot 2



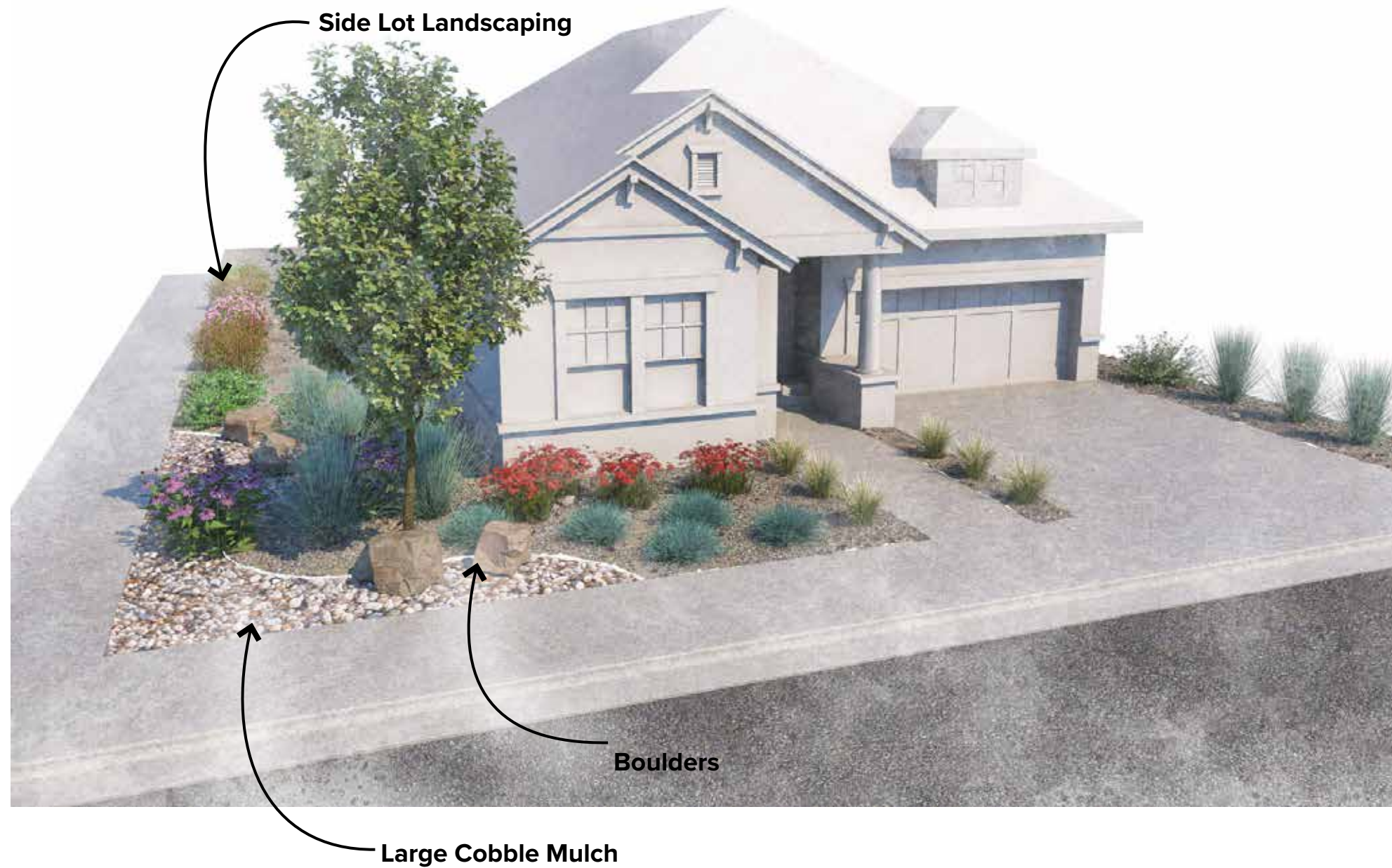
Item	Quantity
Deciduous Tree	1
Evergreen Tree	0
Evergreen Shrubs	4
Deciduous Shrubs	5
Ornamental Grasses	14
Perennials	6
Boulders	6

Lot 3



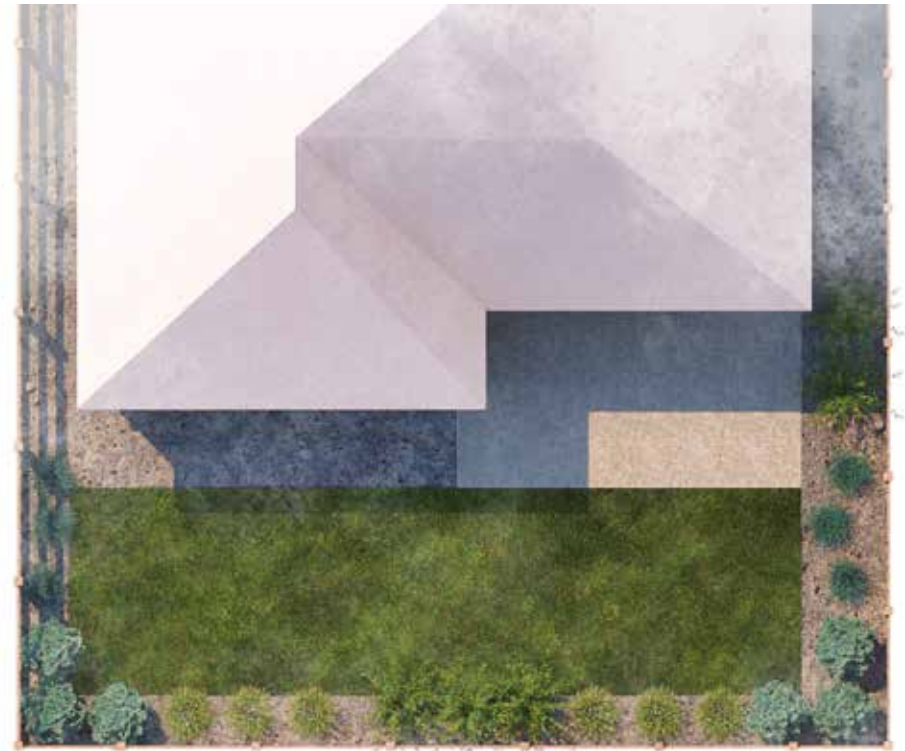
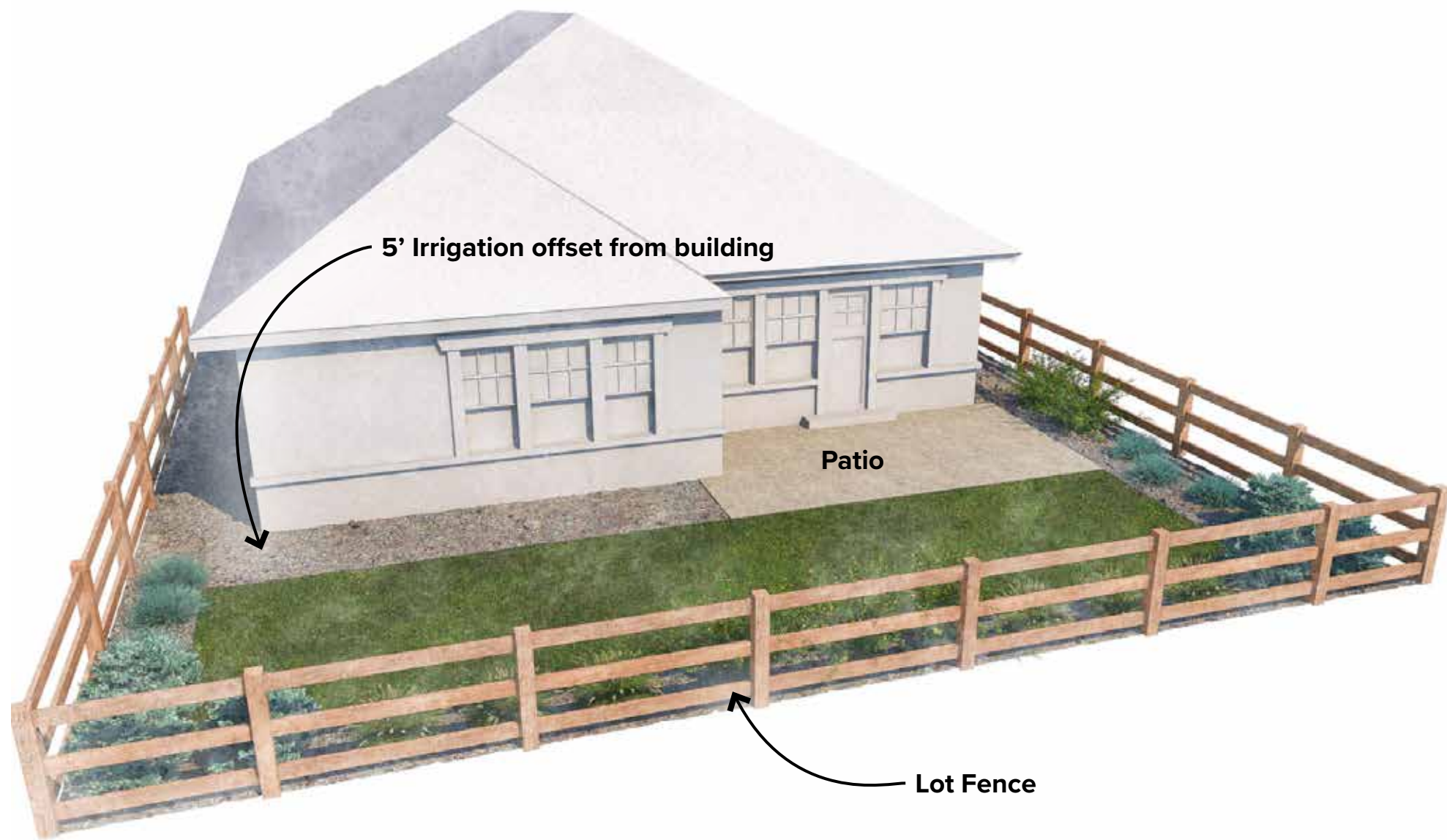
Item	Quantity
Deciduous Tree	1
Evergreen Tree	0
Evergreen Shrubs	0
Deciduous Shrubs	9
Ornamental Grasses	16
Perennials	8
Boulders	0

Lot 4 - Corner Lot



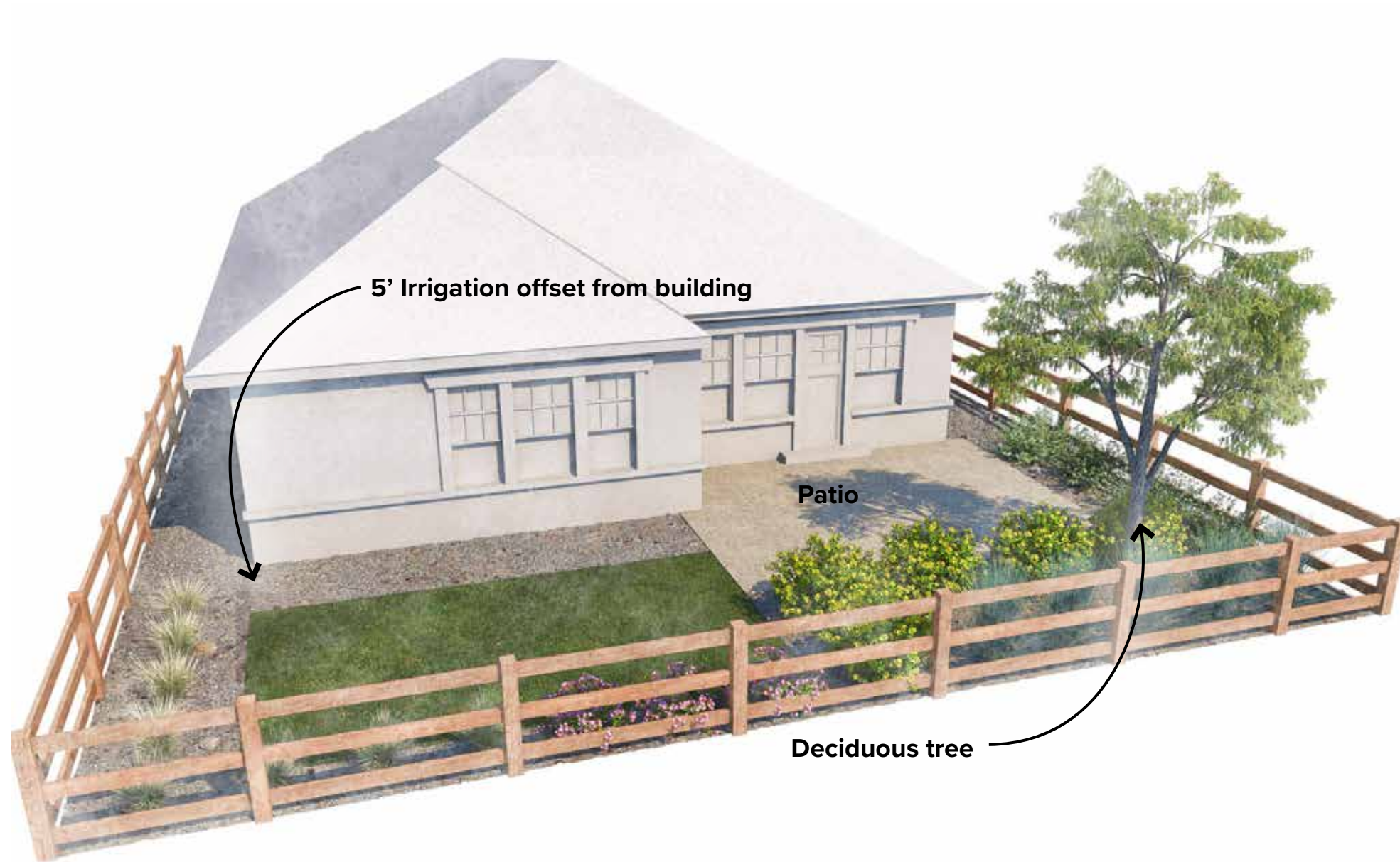
Item	Quantity
Deciduous Tree	1
Evergreen Tree	0
Evergreen Shrubs	6
Deciduous Shrubs	4
Ornamental Grasses	21
Perennials	9
Boulders	4

Rear Yards - 500 SF Lawn



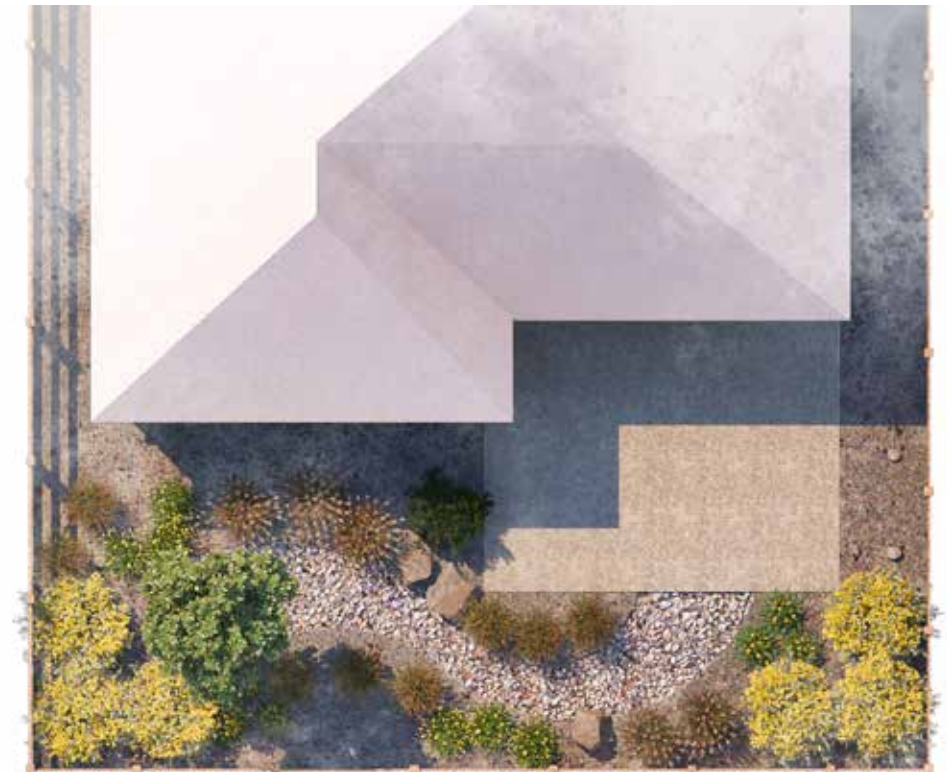
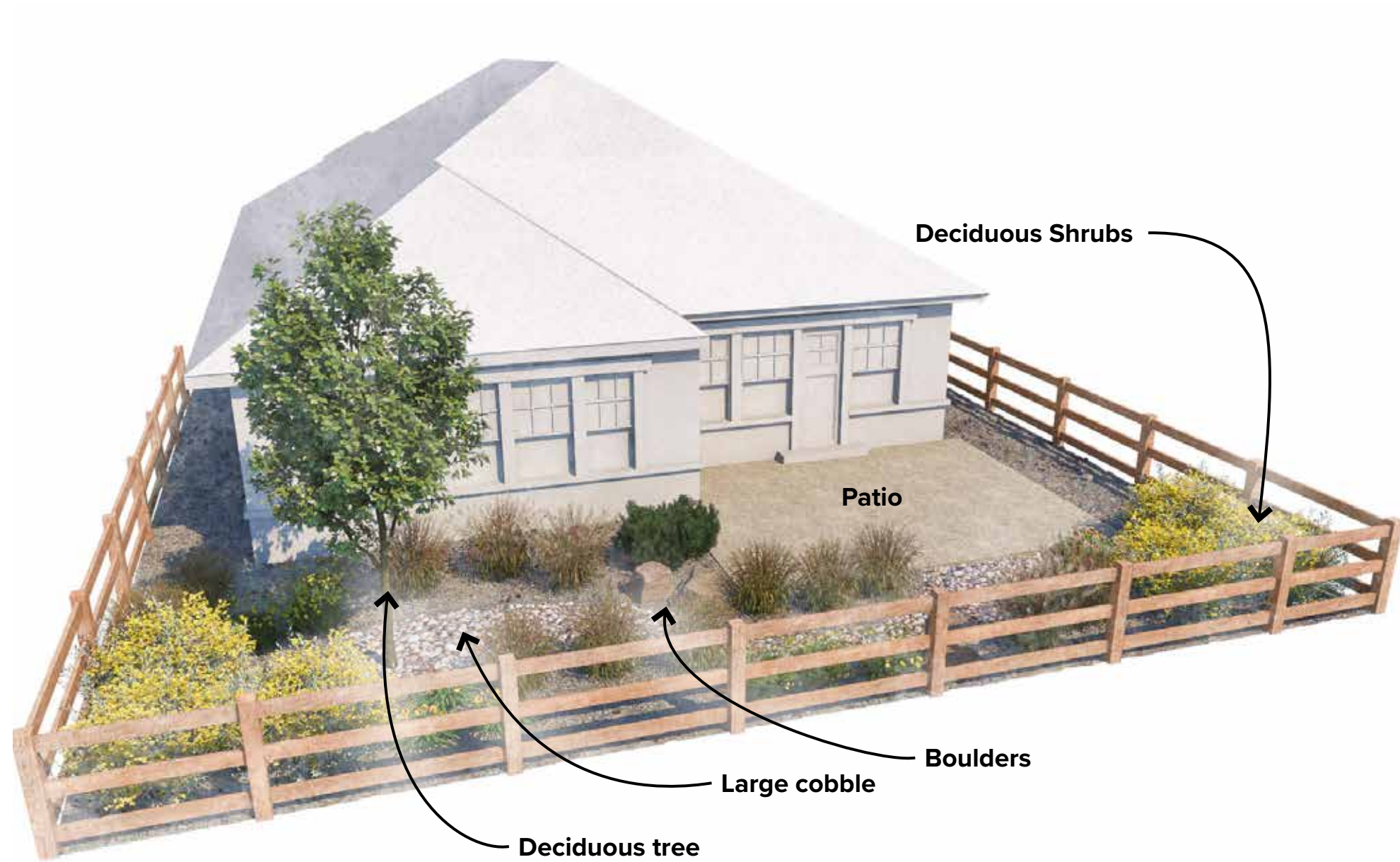
Item	Quantity
Deciduous Tree	0
Evergreen Tree	0
Evergreen Shrubs	6
Deciduous Shrubs	5
Ornamental Grasses	12
Perennials	0
Boulders	0

Rear Yards - 250 SF Lawn 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	0

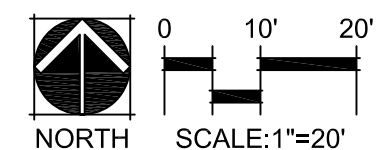
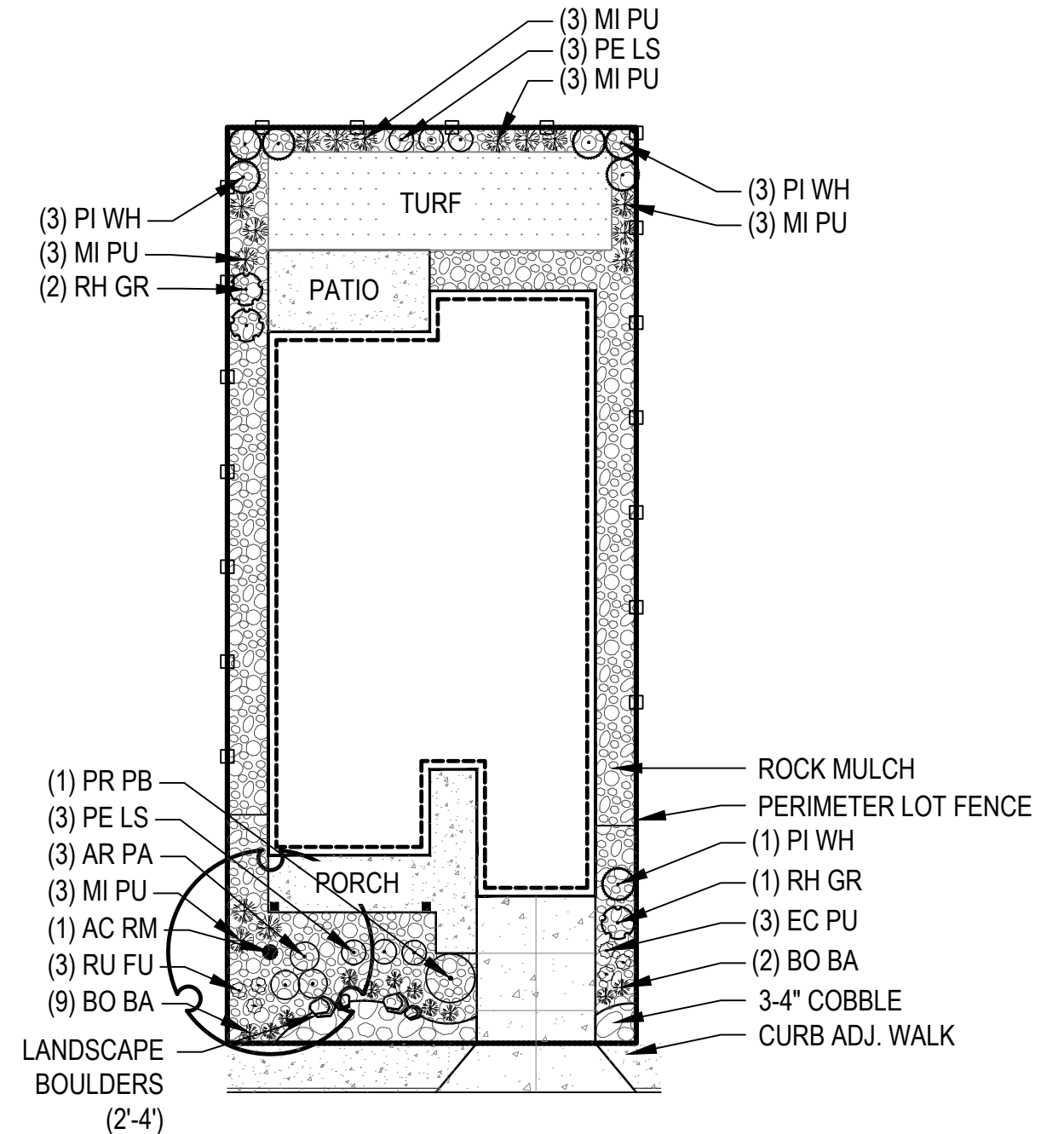
Landscape Plan Example

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

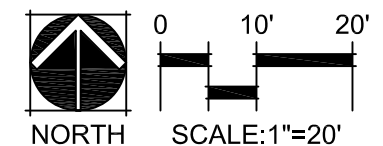
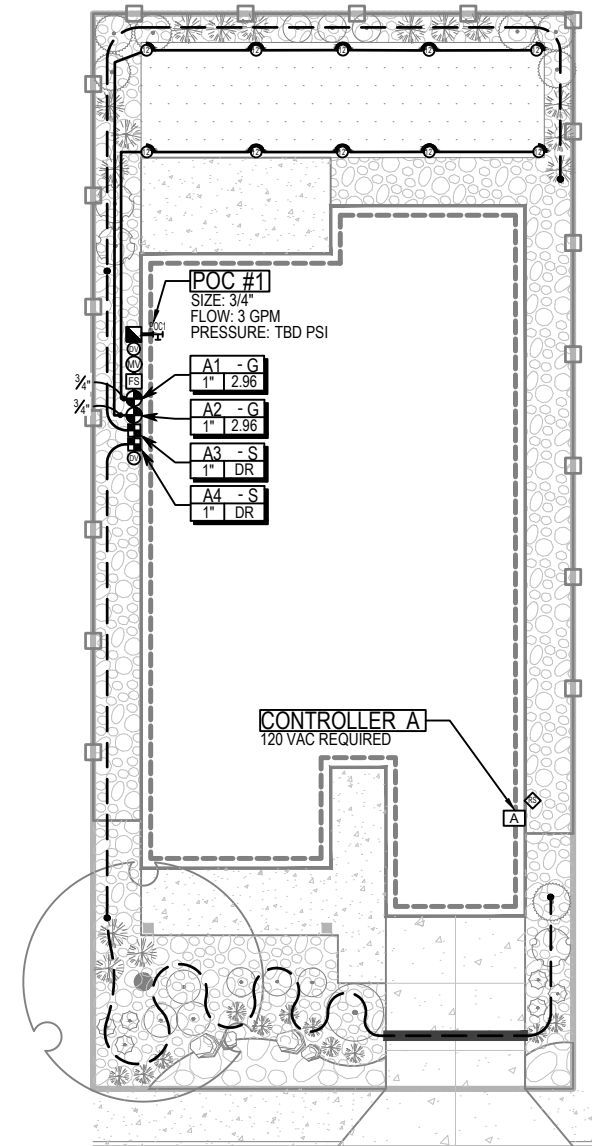


Irrigation Plan Example

IRRIGATION GENERAL NOTES

- THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL THE IMPROVEMENTS SHOWN ON THE PLANS.
- THE CONTRACTOR SHALL COORDINATE AS NECESSARY WITH THE GENERAL CONTRACTOR AND OWNER'S REPRESENTATIVE FOR SUCCESSFUL COMPLETION OF THIS WORK.
- ALL IRRIGATION EQUIPMENT IS TO BE AS SPECIFIED OR APPROVED EQUAL PER THE DISCRETION OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR ASSUMES ALL LIABILITY ASSOCIATED WITH THE MODIFICATION OF THE IRRIGATION SYSTEM DESIGN WITHOUT NOTIFYING THE OWNER'S REPRESENTATIVE.
- 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 AND 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.
- 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.
- 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.
- THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND PAYING FOR CERTIFICATION OF THE BACKFLOW PREVENTER BY A STATE CERTIFIED INSPECTOR. THE CONTRACTOR SHALL PROVIDE CERTIFICATES TO OWNER'S REPRESENTATIVE PRIOR TO PROJECT ACCEPTANCE.
- 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.
- ALL IRRIGATION DISTRIBUTION LINES AND EQUIPMENT INCLUDING BUT NOT LIMITED TO, MAINLINE, LATERALS, SPRAY HEADS, DRIP EMITTERS SHALL BE KEPT A MINIMUM DISTANCE OF 6' 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.
- 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.
- CONTRACTOR SHALL FINE TUNE AND ADJUST NOZZLE DIRECTION AND RADIUS TO REDUCE OVERSPRAY ONTO PAVING OR HARD SURFACES.
- THIS IRRIGATION SYSTEM HAS BEEN DESIGNED TO OPERATE DURING A THREE (3) NIGHT PER WEEK, EIGHT (8) HOUR PER NIGHT WATERING WINDOW. DRIP IRRIGATION ZONES MAY BE ALLOWED TO RUN ON A SEPARATE SCHEDULE FROM THIS WATER WINDOW DEPENDING JURISDICTION. LANDSCAPE ESTABLISHMENT WILL REQUIRE INCREASED IRRIGATION WATER FOR DURATION OF THE ESTABLISHMENT PERIOD AND MAY REQUIRE TWICE THE AMOUNT OF WATER AS ESTABLISHED PLANT MATERIAL. THE CONTRACTOR SHALL COORDINATE WATERING SCHEDULES AND APPLICATION RATES WITH THE OWNER'S REPRESENTATIVE PRIOR TO FINAL ACCEPTANCE.
- 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/BUEGRASS BLEND TURF 1.75" PER WEEK PEAK SEASON
 - TREE, SHRUB, AND PERENNIAL PLANT MATERIAL 1.00" PER WEEK PEAK SEASON
 - NATIVE DROUGHT TOLERANT SEED MIX 0.75" PER WEEK PEAK SEASON
- 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 BACKFLOW ASSY. ELEVATION) 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
	VALVE/STATION NUMBER ZONE DESIGNATION: S (SHRUBS), G (TURF)	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. Flow sensors and master valves are recommended to be installed on the irrigation mainline piping. 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 below 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.



Plant Palette



Common Hackberry
Celtis occidentalis



Japanese Pagoda Tree
Styphnolobium japonicum



Sunburst Honeylocust
Gleditsia t.i. 'Sunburst'



Chinkapin Oak
Quercus muehlenbergii



Northern Red Oak
Quercus rubra

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
Deciduous Canopy Trees																					
<i>Catalpa speciosa</i>	Catalpa	40-60'	30-50'	Low	X			White			X	X									
<i>Celtis occidentalis</i>	Common Hackberry	50-60'	40-50'	Low	X																
<i>Gleditsia t.i. 'Imperial'</i>	Imperial Honeylocust	30-40'	30-40'	Low	X																
<i>Gleditsia t.i. 'Shademaster'</i>	Shademaster Honeylocust	40-50'	30-40'	Low	X																
<i>Gleditsia t.i. 'Skyline'</i>	Skyline Honeylocust	40-50'	30-40'	Low	X																
<i>Gleditsia t.i. 'Sunburst' *</i>	Sunburst Honeylocust *	30-35'	30-35'	Low	X			Bright yellow-green leaves													
<i>Gymnocladus dioica 'Espresso'</i>	Espresso Kentucky Coffee-tree	50-60'	40-50'	Low	X																
<i>Quercus bicolor</i>	Swamp White Oak	40-60'	40-60'	Low	X	X															
<i>Quercus 'Crimson Spire' *</i>	Crimson Spire Oak *	40-60'	15-20'	Med	X																
<i>Quercus macrocarpa</i>	Bur Oak	50-80'	50-80'	Med	X																
<i>Quercus muehlenbergii *</i>	Chinkapin Oak *	35-50'	35-50'	Low	X																
<i>Quercus rubra</i>	Northern red oak	40-60'	40-60'	Med	X																
<i>Quercus 'Streetspire' *</i>	Streetspire Oak *	35-45'	12-14'	Med	X																
<i>Styphnolobium japonicum</i>	Japanese Pagoda Tree	35-50'	35-50'	Med	X	X		Creamy white					X	X							



Big Bluestem
Andropogon gerardii

Little Bluestem
Schizachyrium scoparium

Indiangrass
Sorghastrum nutans

Prairie Dropseed
Sporobolus heterolepis

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

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
Ornamental Grass																					
<i>Andropogon gerardii</i>	Big Bluestem	4-6'	2-3'	Low	X			Purple				X	X	X							X
<i>Bouteloua curtipendula</i>	Sideoats Grama	8-24"	8-12"	Low	X									X							X
<i>Bouteloua gracilis</i>	Blue Grama Grass	1-2'	1-2'	Very Low	X							X	X	X	X	X	X				X
<i>Bouteloua g. 'Blonde Ambition'</i>	Blonde Ambition Grama Grass	2-3'	1-2'	Very Low	X			Light tan				X	X	X	X	X	X				X
<i>Chasmanthium latifolium</i> *	Northern Sea Oats *	2-3'	18-24"	Med	X	X	X	Green-tan					X								X
<i>Miscanthus sinensis purpurascens</i>	Purple Flame Grass	3-4'	2-3'	Med	X	X		Bronze-silvery white					X	X							X
<i>Miscanthus sinensis zebrinus</i>	Zebra Grass	6-8'	4-6'	Med	X	X		Silvery-white					X	X							X
<i>Schizachyrium scoparium</i>	Little Bluestem	varies	varies	Low	X			varies						X	X	X	X				X
<i>Sorghastrum nutans</i>	Indiangrass	3-5'	3-4'	Sun	X			Tan						X	X	X	X				X
<i>Sorghastrum nutans</i> 'Indian Steel'	Indian Steel Indiangrass	5-7'	2-3'	Low	X			Tan				X	X	X							X
<i>Sorghastrum nutans</i> 'Thin Man'	Thin Man Indiangrass	5-7'	2-3'	Low	X			Yellow				X	X	X							
<i>Sporobolus heterolepis</i>	Prairie Dropseed	24-30"	18-24"	Low	X			Gray-green				X	X	X	X	X	X				X
<i>Sporobolus wrightii</i> *	Giant Sacaton *	3-6'	2-3'	Low	X			Tan				X	X	X							X



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 'Vicar 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 plumbaginoides	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 Hummingbird 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-orange				X	X	X	X	X	X				
Geranium	Cranesbill	12-18"	1-2'	Med	X	X	X	Violet-blue			X	X	X								
Geum triflorum	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

Project Location: Castle Rock, CO

Client Name: Town of Castle Rock

Date Updated: 5/17/2022



NORRIS DESIGN

Planning | Landscape Architecture | Branding

Area Name	Spray	Drip / Low Flow	Rotor / Rotary	Spray	Drip / Low Flow	Estimated Annual Water Use (Gal)	% of Water Use of Bold Baseline
	Manicured Turf (SF)	Trees & Shrubs (SF)	Native Seed (SF)	Hybrid Turf (SF)	Annuals / Color (SF)		
Front Yard - Type 1 - Coloradoscape	0.00	435.60	0.00	0.00	0.00	2,484	19%
Front Yard - Type 2 - Coloradoscape	0.00	566.28	0.00	0.00	0.00	3,229	24%
Front Yard - Type 3 - Coloradoscape	0.00	609.84	0.00	0.00	0.00	3,477	26%
Front Yard - Type 4 Side Yard - Coloradoscape	0.00	696.96	0.00	0.00	0.00	3,974	30%
Front Yard - Cul-de-sac - Coloradoscape	0.00	522.72	0.00	0.00	0.00	2,981	22%
Rear Yard - Coloradoscape	0.00	566.28	0.00	0.00	0.00	3,229	26%
Rear Yard - 250 SF Sod	0.00	609.84	0.00	250.00	0.00	9,256	74%
Rear Yard - 250 SF Artificial Turf	0.00	609.84	0.00	0.00	0.00	3,477	28%
Rear Yard - 500 SF Sod Baseline	0.00	174.24	0.00	500.00	0.00	12,550	100%
Front Yard w/ 500 SF Sod Baseline	0.00	206.00	0.00	530.00	0.00	13,425	100%

% of Water Use

