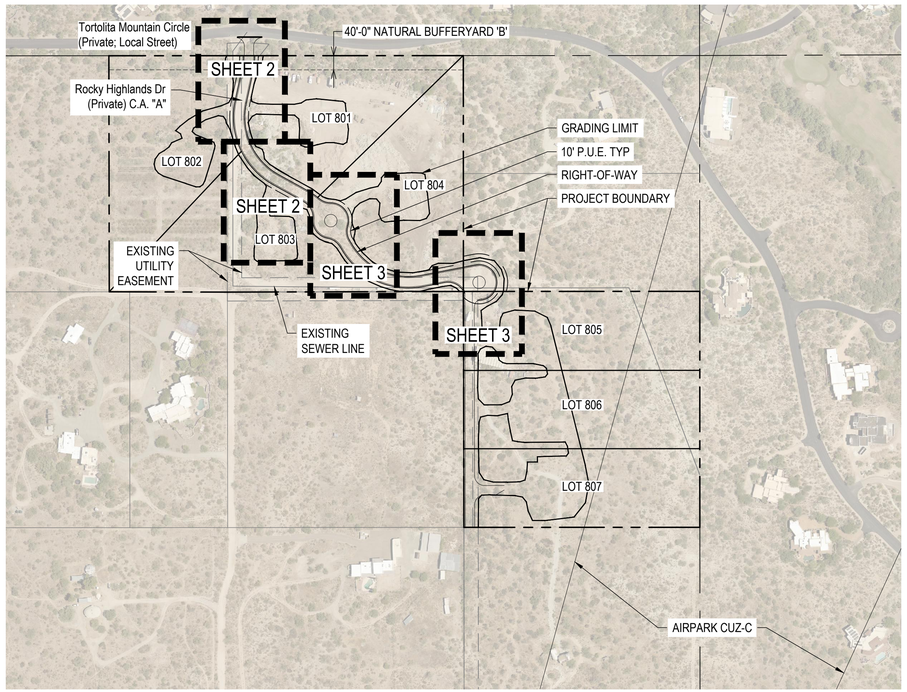
CONCEPTUAL LANDSCAPE PLANS
STONE CANYON PHASE IX, LOTS 801-807
2100964



PROJECT OVERVIEW

200 100 0 200

1" = 200'-0"

TRANSPLANT NOTE

The following quantities of plants were designated as 'Transplant on Site' on the approved Native Plant Preservation Plan and are reflected in the Landscape Plan.

PLANT SCHEDULE - TRANSPLANTS

TREES & SHRUBS

SYMBOL	BOTANICAL NAME COMMON NAME	QTY
	Celtis pallida Desert Hackberry	16
	Olneya tesota Ironwood	2
	Parkinsonia florida Blue Palo Verde	9
	Parkinsonia microphylla Foothill Palo Verde	29
	Prosopis velutina Velvet Mesquite	3
	Sengalia greggii Catclaw acacia	11

SUCCULENTS

SYMBOL	BOTANICAL NAME COMMON NAME	QTY
	Carnegiea gigantea Saguaro	6
	Ferocactus wislizeni Fishhook Barrel	20
	Fouquieria splendens Ocotillo	1

LANDSCAPE - MITIGATION FOR SIGNIFICANT VEGETATION

Mitigation plantings for Significant Vegetation are reflected in the Landscape Plan. Per the SRI, the following mitigation is required and has been incorporated:

- Trees:
  Parkinsonia florida, 36" Box: 8EA
  Prosopis velutina, 36" Box: 10 EA
- Understory Plants (selected from the Supplemental Plant List, Addendum C of the TOV Zoning Code): 90

SIGNIFICANT VEGETATION MITIGATION

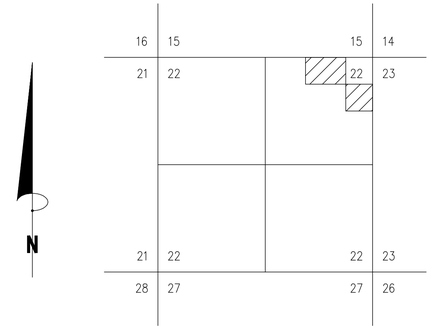
Required mitigation is per Table 27-1 and % Significant Vegetation disturbance. 43 Significant Trees were inventoried; 24 are designated for removal. Six of the 24 trees are noted as untransplantable due to health. Percentage of viable Significant Vegetation to be removed from site (measured as the square footage of the ground cover area) is 49%.

Species	QTY of Viable SV to be Removed	Mitigation Ratio	Replacement Trees (48" Box)	Replacement Trees (36" Box)	Understory Plants Required
Carnegiea gigantea (Saguaro)	0	1:1	0	0	0
Parkinsonia florida (Blue Palo Verde)	8	1:1	0	8	40
Parkinsonia microphylla (Foothill Palo Verde)	0	1:1	0	0	0
Prosopis velutina (Velvet Mesquite)	10	1:1	0	10	50
TOTAL MITIGATION REQUIRED			**0**	**18**	**90**

Mitigation planting shall be shown on the Landscape Plan. Under-story plants shall be selected from the Supplemental Native Plant List, Addendum C, and shall either be transplanted from on-site or nursery plants.

LANDSCAPE GENERAL NOTES

1. Gross area of development is 24.97 acres.
2. Total acres of graded area: 6.43 acres
3. Total acres of undisturbed area: 18.54 acres
4. Total amount of open space required and provided: N/A
5. Landscape Bufferyards:
   North: 40' Natural Desert Bufferyard
   East, South and West: No Bufferyard Required
6. Landscape to conform to Oro Valley Landscape Code.
7. Mitigation of surveyed plants in the Native Plan Preservation Plan will be incorporate in the landscape design.
8. Assurances for landscaping and re-vegetation bonds must be posted prior to issuance of grading permits.
9. Property owner shall maintain buffer yard plantings to ensure unobstructed visibility to motorists. All shrubs, accents, and groundcovers shall not exceed thirty (30") inches in height within site visibility triangles. Trees within site visibility triangles will be maintained to ensure that branches/foliage is not below a height of six (6') feet.
10. In the event of abandonment of the site after grading/disturbance of natural areas, disturbed areas shall be re-vegetated with a non-irrigated hydro seed mix from OVZCR Addendum D: Approved revegetation seed mix.
11. All plant material shall meet the minimum standards contained in the current editions of the Arizona Nursery Association's Growers Committee Recommended Tree Specifications and the American Association of Nurserymen as to size, condition and appearance.
12. Property owner is responsible for maintaining the temporary irrigation system as long as necessary in order to transition plants over to natural sources. Any plant materials that die in transition, for any reason, shall be replaced in accordance with Sec. 27.6.E.4., Maintenance.
13. Any spaded or boxed tree transplanted on site that dies due to neglect or lack of maintenance shall be replaced with the same size and species of the original salvaged tree, as required by the approved salvage and mitigation plan.
14. The limits of grading shall be staked in the field, in accordance with Section 27.6.B.7.c.ii of the Zoning Code. Disturbance outside the approved grading limits shall not be permitted.
15. The developer shall replace removed or damaged plant materials with like size and species, and shall maintain and guarantee (in accordance with Section 26.6.C and I) the replacement of plant materials for a period of three (3) years.
16. No salvage of plants regulated by the Endangered Species Act and/or the Arizona Native Plant Law may occur without the issuance of the appropriate permit by the State Department of Agriculture.
17. Landscape materials shall not obstruct sight distances or vehicle turning movements.
18. Landscaped areas that are susceptible to damage by pedestrian or auto traffic shall be protected by appropriate curbs, tree guards or other devices.
19. Landscape shall be designed to minimize sediment, sand and gravel being carried into the streets from storm water or other runoff.
20. Landscape plan enables adequate plant spacing to ensure survivability at plant maturity.
21. Deep rooted vegetation and trees shall not be planted closer than 7.5' from a public water line. Exceptions for alternative design solutions such as root barriers shall be considered on a case by case basis.
21. Curb-way consisting of inorganic groundcover or plants not to exceed type 2 water use shall be provided between curb and all sidewalks.
22. All landscaped areas to be finished with either seed mix or a 2" minimum depth inorganic groundcover .
23. The Contractor shall obtain all necessary and or required permits required to install the work on the approved Plans.
24. Work shall be in accordance with the requirements of the Town of Oro Valley Code.
25. The Contractor shall be appropriately licensed as required by the State of Arizona.
26. Existing Utilities: Utilities may exist which are not known and not shown on Plans. The Contractor shall take precautionary measures to protect all utilities on site. Prior to excavating, the Contractor shall verify the location of underground utilities. A minimum of two days prior to excavating, the Contractor shall request identification of underground utilities by calling Blue Stake at 811.
27. Required building setbacks: 50 feet from abutting residential districts and 20 feet from abutting commercial districts.



LOCATION MAP

A PORTION OF LAND LOCATED IN THE NORTHEAST QUARTER OF SECTION 22, TOWNSHIP 11 SOUTH, RANGE 13 EAST, OF THE GILA AND SALT RIVER MERIDIAN, PIMA COUNTY, ARIZONA. ASSESSOR PARCEL NUMBERS (APN) 219-16-005A, 219-16-003A & 219-16-0020

SHEET INDEX

OWNER

STONE CANYON GOLF, LLC
7077 E. MARILYN ROAD, SUITE 142, BLDG 5
SCOTTSDALE, AZ 85254

ATTENTION: ROGER NELSON
PHONE: 520-219-1500
EMAIL: RGNELSON7@GMAIL.COM

DEVELOPER

STONE CANYON GOLF, LLC
7077 E. MARILYN ROAD, SUITE 142, BLDG 5
SCOTTSDALE, AZ 85254

ATTENTION: ROGER NELSON
PHONE: 520-219-1500
EMAIL: RGNELSON7@GMAIL.COM

LANDSCAPE ARCHITECT

WILDER LANDSCAPE ARCHITECTS
2738 E. ADAMS STREET
TUCSON, AZ 85716
PHONE: 520-320-3936
ATTENTION: JENNIFER PATTON, PLA
JENNIFER@WILDERLA.COM

APPROVAL

PLANNING & ZONING ADMINISTRATOR _____ DATE _____

WILDER
Landscape Architects
2738 East Adams Street
Tucson, Arizona 85716
Jennifer Patton, 520-320-3936
jennifer@wilderla.com

REGISTERED LANDSCAPE ARCHITECT 30915 JENNIFER PATTON ARIZONA U.S.A. EXPIRES 6/30/2022

Date: December 29, 2021
Designed By: Wilder Team; Checked By: JP

REVISIONS:
Rev. # Date Description

LANDSCAPE COVER SHEET

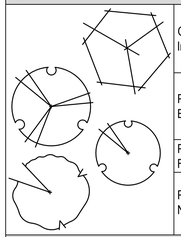
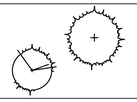
Stone Canyon Phase IX, Lots 801-807

A Portion of the Northeast Quarter of Section 22, T11S, R13E, G & S.R.M.
Town of Oro Valley, Pima County, Arizona

ORO VALLEY CASE #: 2100964, 2100997
REF CASE #:

L1
SHEET 1 OF 8

PLANT MATERIAL SCHEDULE

SYMBOL	BOTANICAL NAME COMMON NAME	SIZE	QTY	MIN. H / CALIPER	WATER NEED	ANNUAL MATURE USE (GAL) PER PLANT	ANNUAL WATER USE (GAL) TOTAL	MONTHLY WATER USE (GAL) TOTAL
Trees								
	Olneya tesota Ironwood	Transplant from Site	2	N/A	1	2,741	5,482	457
	Parkinsonia florida Blue Palo Verde	36" Box Transplant from Site	8 9	8'/1.75" N/A	2	5,702	96,934	8,078
	Parkinsonia microphylla Foothill Palo Verde	Transplant from Site	29	N/A	1	1,754	50,866	4,239
	Prosopis velutina Native Velvet Mesquite	36" Box Transplant from Site	10 3	8'/1.75" N/A	2	5,702	74,126	6,177
Shrubs								
	Ambrosia deltoidea** Triangle-leaf Bursage	5 Gal	14		1	39	546	46
	Calliandra eriophylla** Native Fairy Duster	5 Gal	13		1	70	910	76
	Celtis pallida Desert Hackberry	Transplant from Site	16		1 - 2	634	10,144	845
	Encelia farinosa** Brittlebush	5 Gal	9		1 - 2	632	5,688	474
	Senegalia greggii Catclaw Acacia	Transplant from Site	11		1 - 2	1,754	19,294	1,608
	Vachellia constricta** Whitethorn Acacia	5 Gal	8		1	1,754	14,032	1,169
	Ziziphus obtusifolia** Graythorn	5 Gal	15		1	281	4,215	351
Succulents								
	Carnegiea gigantea Saguaro	Transplant from Site	6		1	2,741	16,446	1,371
	Cylindropuntia leptocaulis Christmas Cholla	5 Gal	16		1	158	2,528	211
	Cylindropuntia versicolor Staghorn Cholla	5 Gal	15		1	158	2,370	198
	Ferocactus wislizeni Fishhook Barrel	5 Gal	20		1	10	200	17
	Fouquieria splendens Ocotillo	Transplant from Site	1		1	158	158	13
Total Water Use at Maturity							303,939	25,328

**Species listed in Supplemental Protected Native Plant List (Under-story), used toward mitigation requirements.

SEED MIX

To be used within all areas to be seeded as shown on Plans

Scientific Name	Common Name	PLS/ Acre
Shrubs		**5.00**
Ambrosia deltoidea	Triangle-leaf Bursage	1.00
Calliandra eriophylla	Fairy Duster	1.00
Encelia farinosa	Brittlebush	1.00
Ericameria laricifolia	Turpentine bush	1.00
Larrea tridentata	Creosote	1.00
Small Perennials		**5.00**
Bahia absinthifolia	Desert Bahia	0.50
Baileya multiradiata	Desert marigold	0.50
Glandularia gooddingii	Goodding's verbena	0.50
Isocoma tenuisecta	Burroweed	0.50
Psilostrophe cooperi	Paper Flower	0.50
Sphaeralcia ambigua	Globemallow	1.00
Senna covesii	Desert senna	1.00
Zinnia acerosa	Desert zinnia	0.50
Perennial Grasses		**5.00**
Bouteloua curtipendula	Sideoats grama	0.50
Bouteloua rothrockii	Rothrock grama	0.50
Dasyochloa pulchella	Fluffgrass	1.00
Digitaria californica	Arizona Cottontop	1.00
Muhlenbergia porteri	Bush Muhly	1.00
Sporobolus cryptandrus	Sand dropseed	1.00
Annual Herbs and Grasses		**5.00**
Datura discolor	Sacred Datura	0.50
Erigeron divergens	Spreading Fleabane	0.50
Kallstroemia grandiflora	Arizona poppy	0.50
Lesquerella gordonii	Bladderpod	0.50
Lupinus sparsiflorus	Lupine	1.00
Pectis papposa	Chinchweed	0.50
Penstemon parryi	Penstemon, Parry	1.00
Proboscidea parviflora	Devil's Claw	0.50
TOTAL		**20.00**

HYDROSEED

HYDROSEED SHALL BE APPLIED TO ALL DISTURBED SITE AREAS NOT OTHERWISE IMPROVED. AREAS TO BE HYDROSEEDED SHALL BE ROUGHENED / FURROWED PRIOR TO SEEDING. REFER TO SOIL FURROWING DETAIL AND SEEDING SPECIFICATIONS. HYDROSEED APPLICATION SHALL BE TIMED TO MAXIMIZE AVAILABILITY OF RAINFALL.

LANDSCAPE WATER PLAN

YEAR 3 : 100% ADWR. Continue to increase irrigation water use as needed as plants mature up to, but not exceeding, 100% ADWR value by end of year.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12036	14457	22458	29178	39354	41302	35284	33705	29617	21686	13615	11247

Average monthly water use = 25328 **Total (100% ADWR) = 303,939**

YEAR 4 : 75% ADWR. Begin gradually decreasing irrigation to buffer, median, and ROW areas in order to reach zero irrigation in those areas by end of year 5.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
9027	10843	16844	21884	29516	30976	26463	25279	22212	16265	10211	8435

Average monthly water use = 18996 **Total (75% ADWR) = 227,954**

YEAR 5 : 50% ADWR. Continue decreasing irrigation to buffer, median, and ROW areas. By end of year 5, irrigation to buffer, median, and ROW areas must be zero, and total amount of water used at site must meet 50% of ADWR maturity value.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
6018	7229	11229	14589	19677	20651	17642	16852	14808	10843	6808	5623

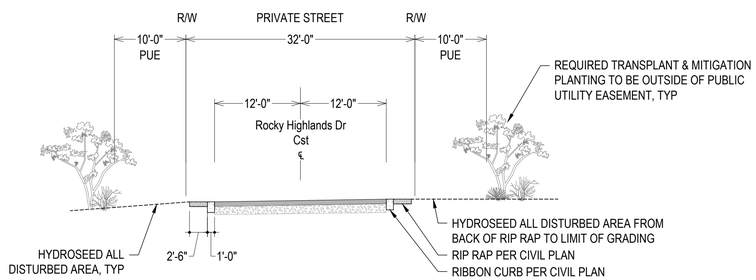
Average monthly water use = 12664 **Total (50% ADWR) = 151,970**

IRRIGATION CONTROL SCHEDULE

Year	Month	Day Schedule	Frequency	Run Time (Minutes)	Total (Gal)
3	Dec, Jan	M	1	60	23,283
	Feb, Nov	M, Th	1	60	28,073
	Mar, Oct	M, W, F	1	60	44,144
	Apr, Aug, Sep	M, W, F, S	1	60	92,499
	May, Jun, Jul	M, W, Th, F, S	1	60	115,940
				Year 3 Total	303,939
4	Dec, Jan, Feb	M	1	60	28,305
	Mar, Oct, Nov	M, Th	1	60	43,320
	Apr, May, Jul - Sep	M, W, F	1	60	125,353
	Jun	M, W, F, S	1	60	30,976
				Year 4 Total	227,954
5	Nov, Dec, Jan, Feb	M	1	60	25,678
	Mar, Apr, Aug - Oct	M, Th	1	60	68,322
	May, Jun, Jul	M, W, F	1	60	57,970
				Year 5 Total	151,970

GROUNDCOVER, BASIN & BOULDER SCHEDULE

SYMBOL	ITEM	QTY	SIZE / COLOR / SUPPLIER	NOTES / DETAIL
Not Shown	Seed Mix	38,000 SF	Per Seed Mix, This Sheet Seed & Hydroseed Applicator: Jim Lochner, Grasslands Reclamation & Seeding, 520-869-1697	Detail 1, Sheet L5 and Seeding Specifications, Sheet L8
	Basin, Water Harvesting	SF	8" Average Depth; 3:1 Max Side Slope	Detail 2, Sheet L5
	Boulder, From Site	2': 2 EA 3': 6 EA 4': 8 EA	Surface Select, From Site	Detail 3, Sheet L5



1 TYPICAL SECTION - LANDSCAPED ROADWAY

Scale: 1" = 10'

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

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2738 East Adams Street
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Jennifer Patton, 520-320-3936
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REGISTERED LANDSCAPE ARCHITECT
50915
JENNIFER PATTON
ARIZONA U.S.A.
EXPIRES 6/30/2024

Date: December 29, 2021
Designed By: Wilder Team; Checked By: JP

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LANDSCAPE SCHEDULES

Stone Canyon Phase IX, Lots 801-807

A Portion of the Northeast Quarter of Section 22, T11S, R13E, G & S.R.M.
Town of Oro Valley, Pima County, Arizona

ORO VALLEY CASE #: 2100964, 2100997
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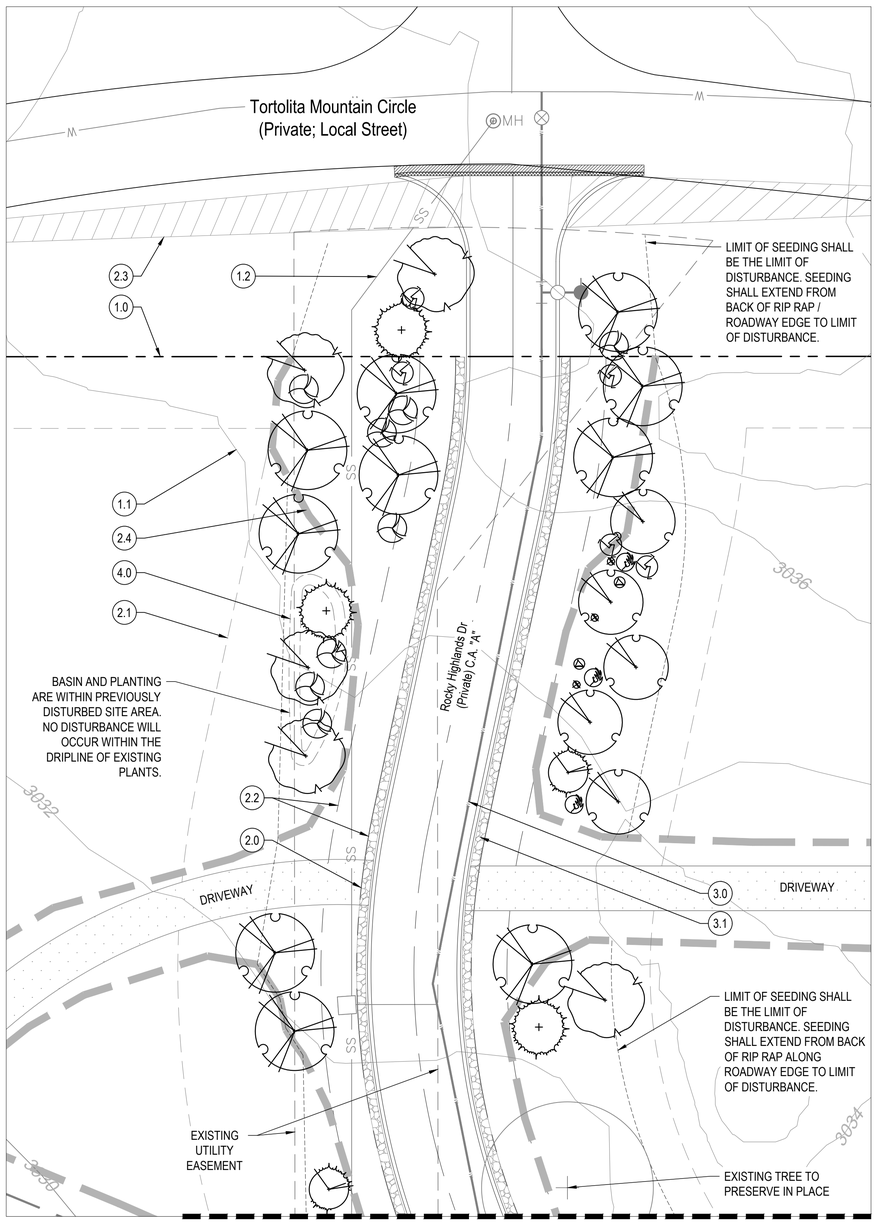
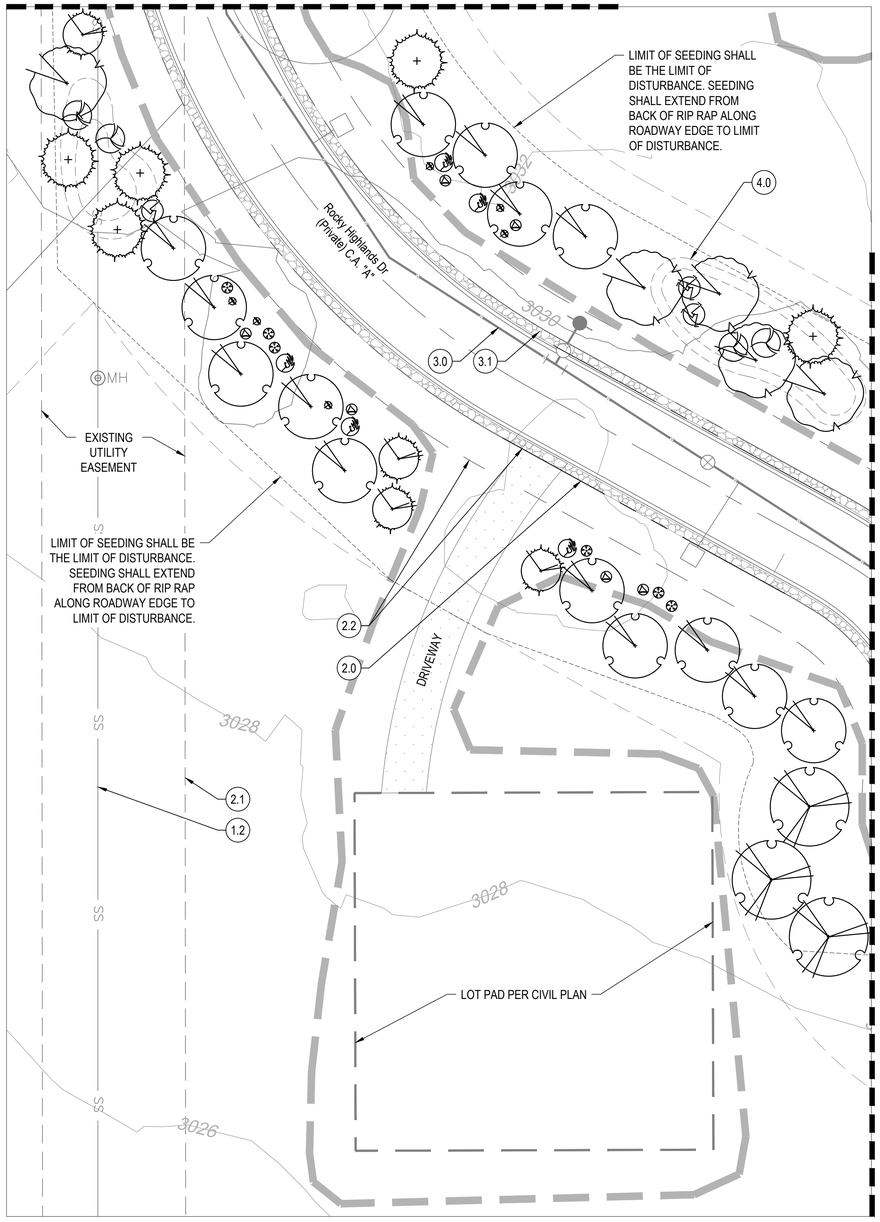
L2
SHEET 2 OF 8



MATCHLINE - REFER TO TOP RIGHT

MATCHLINE - REFER TO BOTTOM LEFT



MATCHLINE - REFER TO SHEET L4

KEYNOTES

1.0 Property Boundary
1.1 Existing 1' Contour
1.2 Existing Sewer Line

2.0 Right of Way
2.1 Lot Setback
2.2 Public Utility Easement
2.3 Sight Visibility Triangle
2.4 Limit of Grading - CSP

3.0 Proposed Water Line, refer to Civil Plan
3.1 RipRap, per Civil Plan

4.0 Basin, Water Harvesting

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2. HYDROSEED SHALL BE APPLIED TO ALL DISTURBED SITE AREAS NOT OTHERWISE IMPROVED. AREAS TO BE HYDROSEEDED SHALL BE ROUGHENED / FURROWED PRIOR TO SEEDING. REFER TO SOIL FURROWING DETAIL AND SEEDING SPECIFICATIONS.
3. PLANTING IS SHOWN OUTSIDE OF THE CSP LIMIT OF GRADING IN AREAS WHERE THE SITE HAS BEEN PREVIOUSLY DISTURBED AND IS VOID OF VEGETATION. NO DISTURBANCE WILL OCCUR WITHIN THE DRIPLINE OF EXISTING PLANTS.
4. PLANTING SETBACKS FROM EXISTING SEWER LINE: TREES (TRUNK) SHALL BE 10' MINIMUM FROM SEWER LINE. SHRUBS MAY BE PLANTED WITHIN 3' OF SEWER LINES. NO VEGETATION SHALL BE PLANTED WITHIN 5' OF A SEWER ACCESS HOLE. TREES SHALL BE PLANTED SO THAT THE MATURE CANOPY DOES NOT OVERHANG THE SEWER ACCESS HOLE.

LANDSCAPE PLAN
20 10 0 20
1" = 20'-0"

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GROUNDCOVER, BASIN & BOULDER SCHEDULE

SYMBOL	ITEM	KEYNOTE
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	Boulder, From Site	4.1

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50915
JENNIFER PATTON
ARIZONA, U.S.A.
EXPIRES: 6/30/2022

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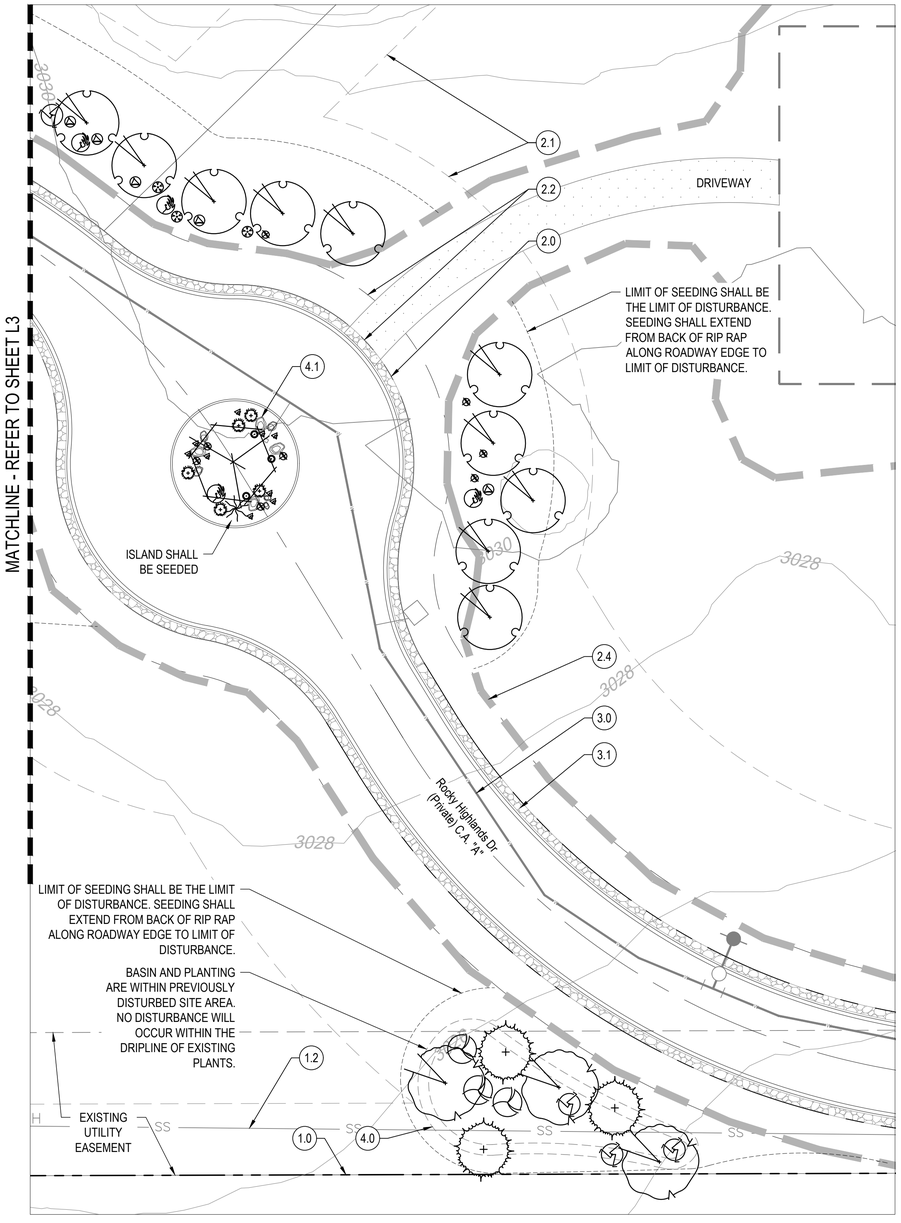
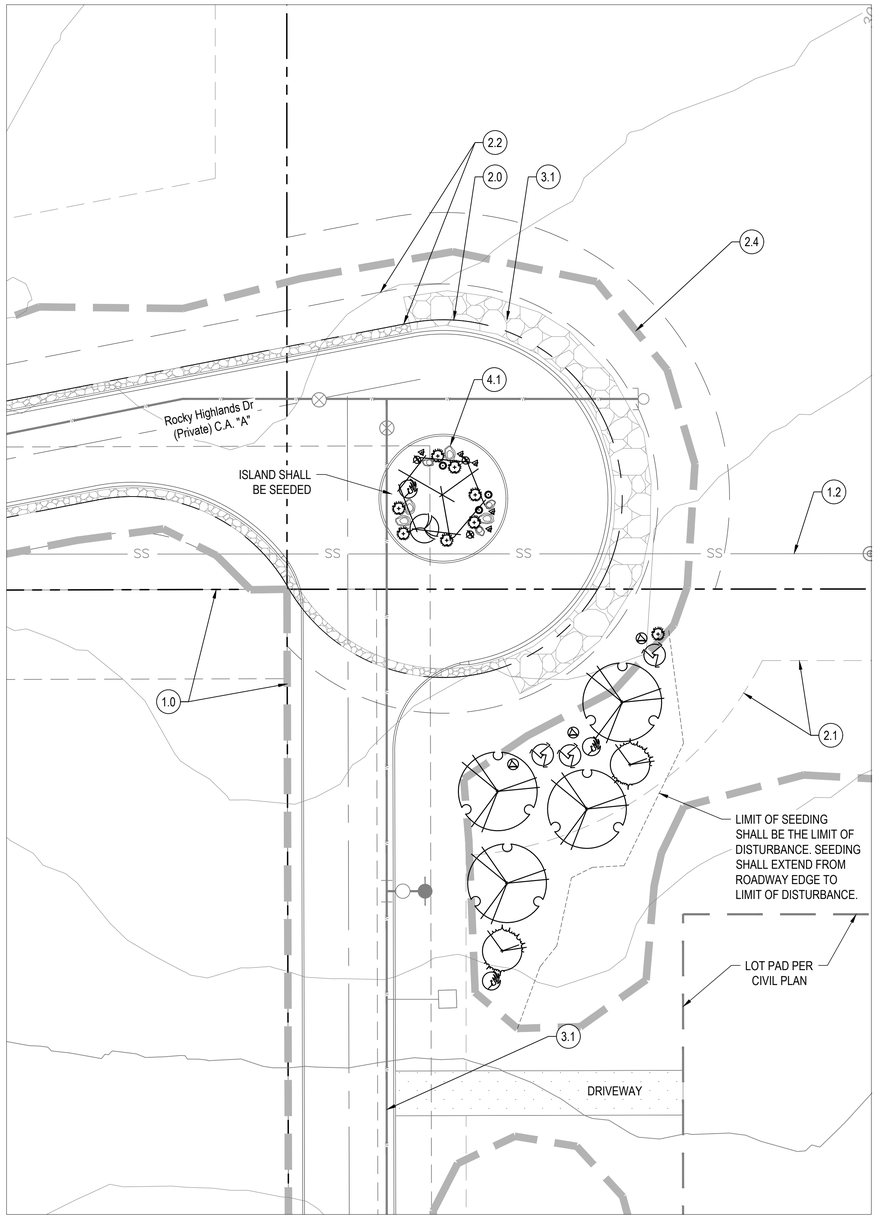
L3
SHEET 3 OF 8





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REGISTERED LANDSCAPE ARCHITECT 50915 JENNIFER PATTON ARIZONA U.S.A. EXPIRES 6/30/2022

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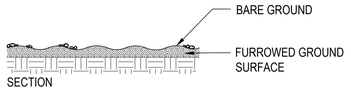
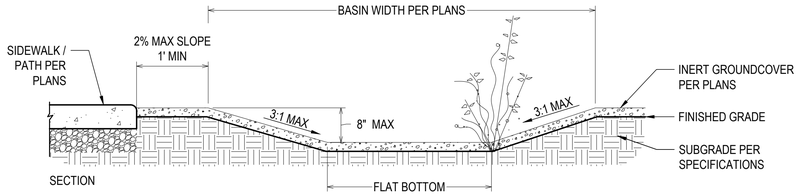
L4
SHEET 4 OF 8



NOTES:
1. Ground surface to be furrowed along contour prior to seeding and after completion of all work in the area.
2. Depth and spacing of furrows per Specifications.
3. Intent of furrows is to slow stormwater runoff, and aid in seed germination.
4. Seeding to be applied after planting and irrigation is complete.

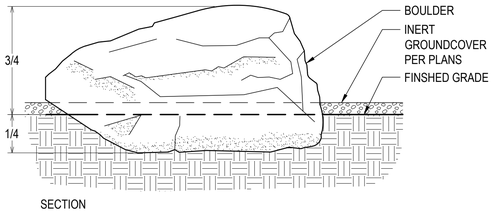
1 SOIL FURROWING (TO BE USED WITH SEEDING)

NTS



2 WATER HARVESTING BASIN

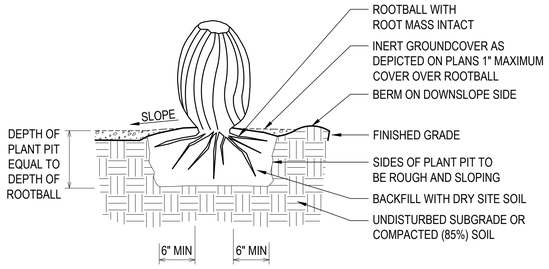
NTS



NOTES:
1. Set boulder with ¼ of boulder below finished grade.
2. Set boulder firmly to prevent rocking. Hand compact soil around edge of boulder.
3. Place inert groundcover (per Plans and Specifications) after setting boulder.
4. Boulders with weathered surface shall be placed with weathered surface exposed.

3 BOULDER PLACEMENT

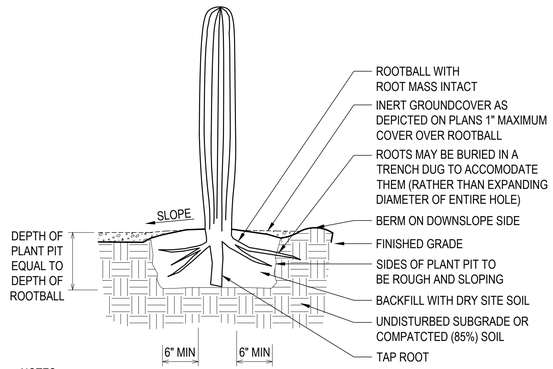
NTS



NOTES:
1. Barrel placement must match original orientation. North side of barrel to be marked prior to salvage.
2. Excavate roots at minimum 6" around barrel.
3. Damaged roots should be trimmed with sharp and sterile knives / pruners. Dust roots with a fungicide and Agri-Mycin 17.
4. Barrel to be replanted at same depth as originally growing.
5. Barrel shall be supported as it is lowered into planting hole. Backfill and tamp to avoid root damage.
6. Slope backfill away from barrel. Do not create a berm at base of plant.
7. Provide berm on downslope side of barrel to capitalize on site flows.

4 BARREL TRANSPLANTING

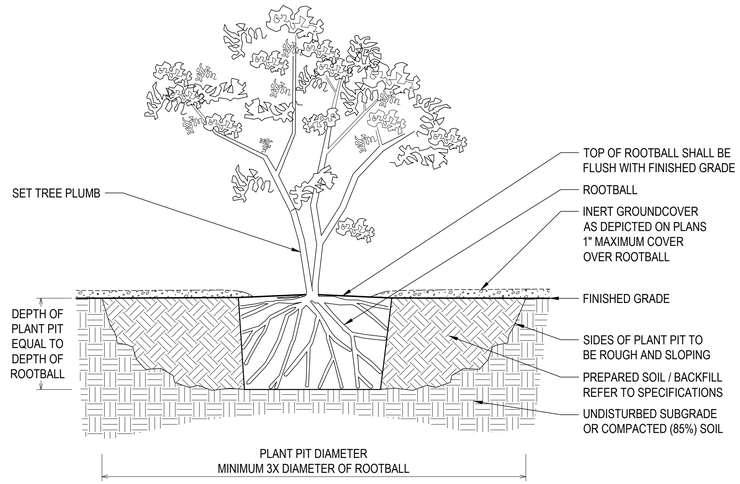
NTS



NOTES:
1. Approximately two weeks prior to transplanting, water saguaro to a minimum depth of 12". If saguaro is fully hydrated from recent rainfall, this step is not necessary.
2. Saguaro placement must match original orientation. North side of saguaro to be marked prior to salvage.
3. Excavation of roots:
   3.1 Cacti less than 2' tall, remove entire root mass.
   3.2 Cacti 2.5' - 6' tall, remove as much root mass as possible, retain minimum 1' radius from stem of root material.
4. Roots shall be cut with sharp and sterile knives / pruners. Damaged roots should be trimmed. Dust roots with a fungicide and Agri-Mycin 17.
5. Saguaro to be replanted at same depth as originally growing.
6. Saguaro shall be supported as it is lowered into planting hole (if saguaro is lowered without support, tap root is likely to be crushed).
7. Slope backfill away from saguaro. Do not create a berm at base of plant.
8. Saguaros growing under trees / in shade shall be provided with 30% shade cloth throughout the first summer season.
9. Provide berm on downslope side of saguaro to capitalize on site flows.

5 SAGUARO TRANSPLANTING

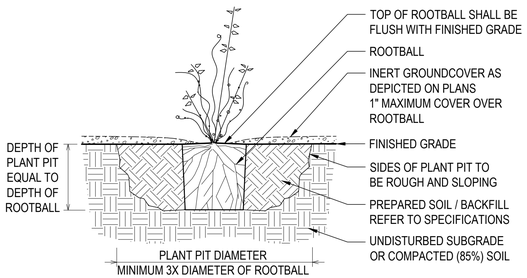
NTS



NOTES:
1. No plants shall be staked except at direction of Owner's Representative.
2. Test drainage of planting pit prior to planting. Provide drainage chimneys / overexcavation as required by specifications.
3. Remove any trash / debris prior to placing prepared soil / backfill in planting pit.

6 TREE PLANTING

NTS



NOTES:
1. No plants shall be pruned except at direction of Owner's Representative.
2. Test drainage of planting pit prior to planting. Provide drainage chimneys / overexcavation as required by specifications.
3. Remove any trash / debris prior to placing prepared soil / backfill in planting pit.

7 SHRUB PLANTING

NTS

WILDER
Landscape Architects
2738 East Adams Street
Tucson, Arizona 85716
Jennifer Patton, 520-320-3936
jennifer@wilderla.com

REGISTERED LANDSCAPE ARCHITECT 30915 JENNIFER PATTON ARIZONA, U.S.A. Signed 12-29-2021 EXPIRES 6/30/2022

Date: December 29, 2021
Designed By: Wilder Team; Checked By: JP

REVISIONS:

Rev. #	Date	Description

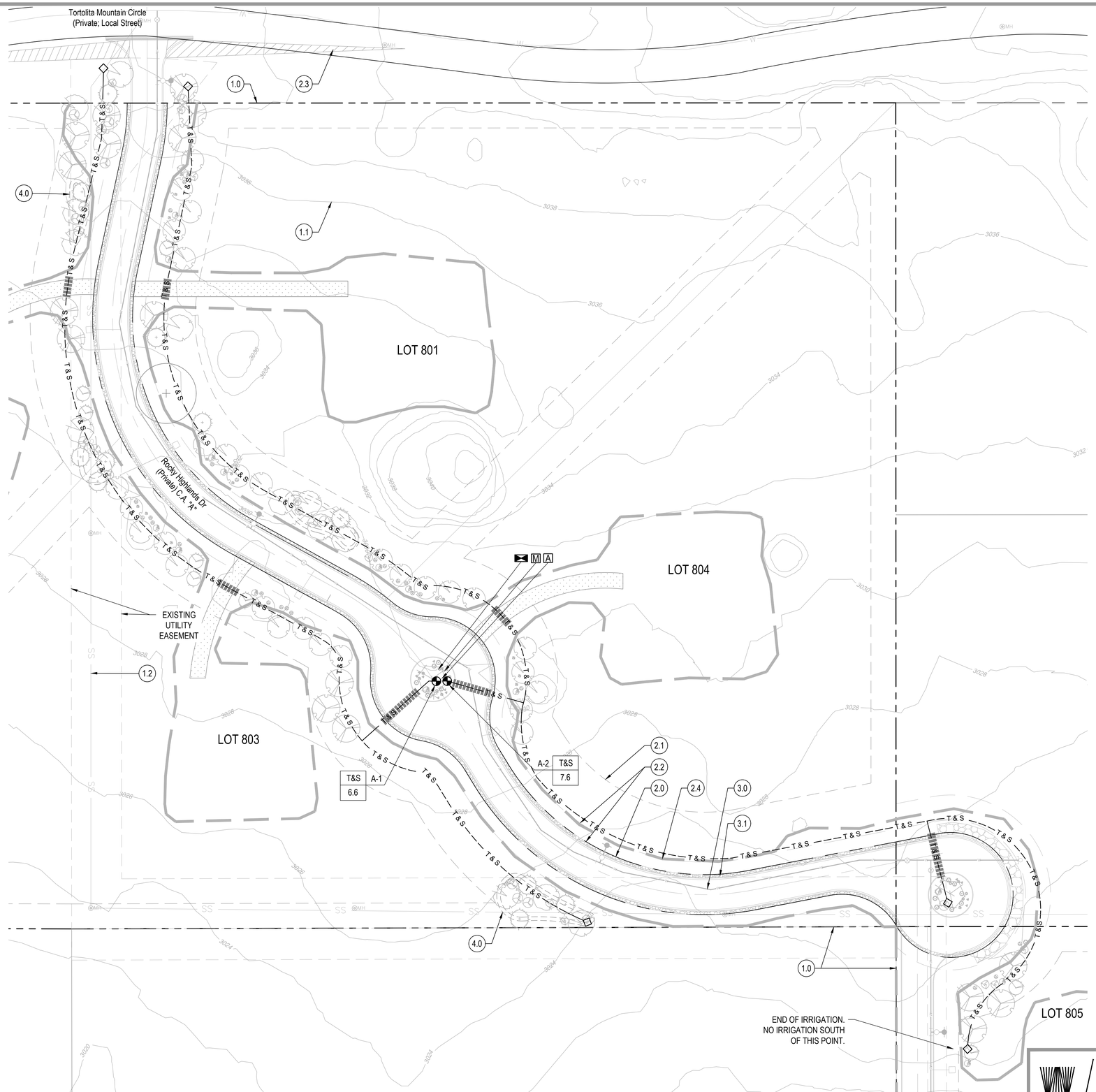
LANDSCAPE DETAILS

Stone Canyon Phase IX, Lots 801-807

A Portion of the Northeast Quarter of Section 22, T11S, R13E, G & S.R.M.
Town of Oro Valley, Pima County, Arizona

ORO VALLEY CASE #: 2100964, 2100997
REF CASE #:

L5
SHEET 5 OF 8



IRRIGATION PLAN

40 20 0 40

1" = 40'-0"

IRRIGATION SYSTEM DESCRIPTION

A new, temporary irrigation system will be installed to irrigate the transplant and supplemental plantings per the Landscape Plan.

The new irrigation system is designed for potable water use, and the point of connection shall be as noted on Plan. The irrigation system is designed to operate at 50 PSI at the backflow preventer.

The Irrigation Plan is schematic. For clarity of Plans, irrigation lines / components may be shown within hardscape areas / areas to remain undisturbed. All irrigation lines / components are to be located within the Project Limits, and within non-paved and undisturbed areas wherever possible.

The Landscape Water Plan, Irrigation Control Schedule, and Annual Water Use noted in the Plant Schedule (refer to Sheet L2) are provided per the requirements of TOV Zoning Code Section 27.6.D.2 and 27.6.D.3. Per code, the gallons listed reflect the Arizona Department of Water Resources (ADWR) estimated water usage for mature plants. The numbers reflect the maximum amount of water that may be applied on an annual basis. The landscape contractor is responsible for providing the appropriate amount of irrigation based on the actual water requirements of the plants.

IRRIGATION SCHEDULE

SYMBOL	ITEM	MANUFACTURER / MODEL	SIZE	QTY	NOTES
M	Water Meter	Per Civil Plans	5/8"	N/A	
	Reduced Pressure Backflow Prevention Assembly	Febco 825Y	1"	1 EA	Refer to Detail 1, L7. Guardshack COR-1, tan insulating blanket.
A	Irrigation Controller 'A'	Hunter Node-200	N/A	1 EA	Requires DC latching solenoid
	Zone Control Valve with Filter and Pressure Regulator; DC Solenoid	Hunter: ICZ-101LF-40 Hunter: 458200 DC Solenoid	1"	2 EA 2 EA	Refer to Detail 2, Sheet L7
Not Shown	Emitters	Rain Bird .XB or Multi-outlet XB Trees: 2 GPH (Red) Large Shrubs: 1 GPH (Black) Small Shrubs: .5 GPH (Blue)	N/A	N/A	Refer to Details 4, 5, 7 & 8, Sheet L7 Note: Punch tool (ML-3) available from http://amleo.com to be used to insert emitters directly into HDPE pipe.
Not Shown	Valve Boxes: Zone Valve Flush End Cap	Model: Carson 1220, Tan, Lockable Cover Carson 708, Tan		2 EA 5 EA	All valve boxes to have 4" layer of fractured, screened rock below valves and be wrapped with geotextile.
◇——	Lateral End Cap Assembly		N/A	5 EA	Refer to Detail 6, Sheet L7
Not Shown	Main Line, Sch 40 PVC		1"	10 LF	Refer to Detail 3, Sheet L7
– – – T & S –	Lateral Line (Tree & Shrub), HDPE	Blu-Lock SIDR 15 / BLP-100-CL-3X	1"	2400 LF	Refer to Detail 3, Sheet L7
	Sleeve, Sch 40 PVC		4"	175 LF	Refer to Detail 9, Sheet L7

EMITTER SCHEDULE

PLANT TYPE	# OF OUTLETS	GPH PER OUTLET	NOTES
Tree	6 EA	2	
Large Shrub	3 EA 1 EA	1 1	Desert Hackberry, Catclaw Acacia Graythorn, Whitethorn Acacia
Small Shrub	1 EA	.5	Brittlebush, Bursage, Fairy Duster
Cacti	N/A	N/A	Hand water cacti to establish.

VALVE CALLOUT

Controller Station ID → A-1 | T&S ← Valve Description | GPM ← Valve Flow (GPM)

IRRIGATION GENERAL NOTES

1. Irrigation and/or watering plans shall meet the minimum standards of the American Society of Irrigation Consultants.
2. The property owner is responsible for maintaining the temporary system as long as necessary in order to transition plants over to natural sources. Any plant materials that die in transition, for any reason, shall be replaced in accordance with Sec. 27.6.E.4., Maintenance.
3. Irrigation systems connected to potable water mains (public or private) shall be equipped with backflow preventers.
4. The annual water use for a project shall not exceed the annual landscape water plan.
5. Irrigation meter readings shall be used to determine compliance with the landscape water plan. Non-compliance is subject to penalties under Oro Valley Town Code.
6. Meter readings shall be taken, at a minimum, on an annual basis. Monthly readings may be required, at the discretion of the Planning and Zoning Administrator, in order to address non-compliance with the Water Plan.
7. An initial meter reading shall be taken prior to the issuance of the certificate of occupancy and recorded for reference as part of the water plan.
8. Irrigation water shall not leave the landscaped areas and flow onto roads, parking areas or sidewalks.

KEYNOTES

1.0 Property Boundary
1.1 Existing 1' Contour
1.2 Existing Sewer Line

2.0 Right of Way
2.1 Lot Setback
2.2 Public Utility Easement
2.3 Sight Visibility Triangle
2.4 Limit of Grading - CSP

3.0 Proposed Water Line, refer to Civil Plan
3.1 RipRap, per Civil Plan

4.0 Basin, Water Harvesting

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Tucson, Arizona 85716
Jennifer Patton, 520-320-3936
jennifer@wilderla.com

REGISTERED LANDSCAPE ARCHITECT
50915
JENNIFER PATTON
ARIZONA U.S.A.
EXPIRES 6/30/2022

Date: December 29, 2021
Designed By: Wilder Team; Checked By: JP

REVISIONS:
Rev. # Date Description

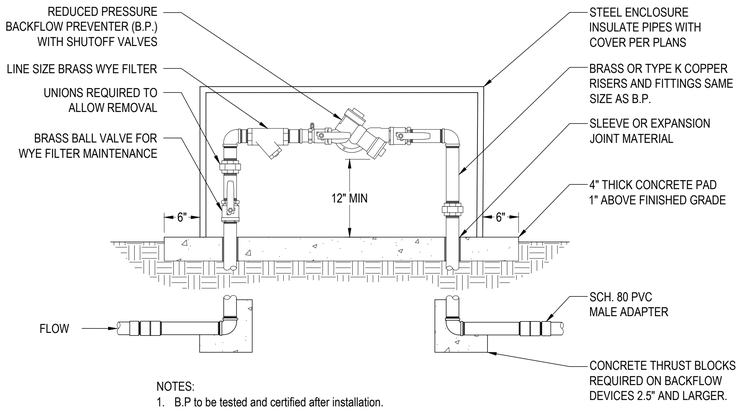
A Portion of the Northeast Quarter of Section 22, T11S, R13E, G & S.R.M.
Town of Oro Valley, Pima County, Arizona

IRRIGATION PLAN

Stone Canyon Phase IX, Lots 801-807

ORO VALLEY CASE #: 2100964, 2100997
REF CASE #:

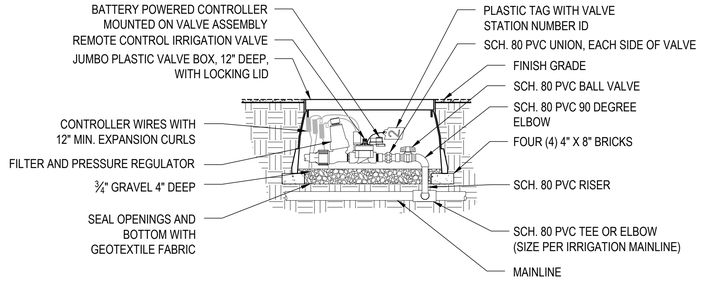
L6
SHEET 6 OF 8



NOTES:
1. B.P to be tested and certified after installation.

1 REDUCED PRESSURE BACKFLOW PREVENTER

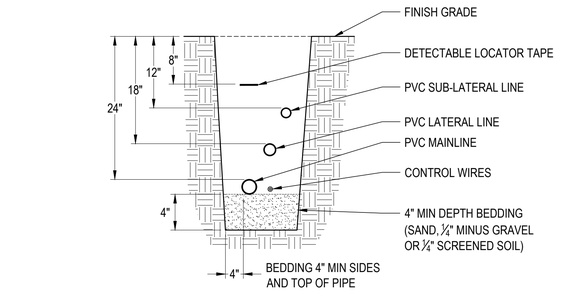
NTS



NOTES:
1. Locate valve boxes away from pedestrian / vehicular traffic, and align with nearest hardscape.
2. Ensure water flows away from top of valve box.
3. Bundle and tape wire every 10'. Seal wire splices immediately with water tight wire sealers. Do not allow wire ends to contact any water.

2 REMOTE CONTROL VALVE WITH BATTERY CONTROLLER

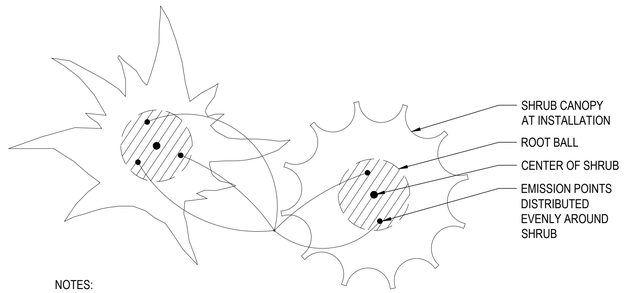
NTS



NOTES:
1. All pipes and wires shall be installed in accordance with local code and Manufacturer's specifications.
2. No pipes shall be installed parallel to, and directly over, another pipe.
3. All pipe and or wires placed under paving shall be sleeved.
4. Minimum clearance for crossing pipes is 3".
5. Place Control Wires within Mainline trench, to the side of the Mainline. Control Wires shall be taped and bundled every 10'. Control Wires shall be placed in dedicated sleeve when under paved area.
6. Detectable Locator Tape shall be placed the length of the Mainline.
7. Backfill shall be free of rocks greater than 1" diameter, and all debris. Backfill shall be placed in 6" lifts, and compacted to match density of adjacent soil.

3 IRRIGATION TRENCHING

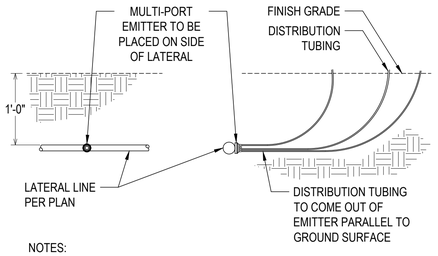
NTS



NOTES:
1. Detail illustrates one each 6-emitter outlet providing two emission points on one shrub, and three emission points on the second shrub. Refer to the Plant Emitter Schedule for required number of emission points per plant.
2. Emission point of emitters shall not be placed at the base of the plant stem. Emission points shall be a minimum of 3" away from plant stem.
3. Detail applies to level sites. For slopes, emitters shall be placed on uphill side of shrub.

4 MULTI-OUTLET EMITTER PLACEMENT LAYOUT - SHRUBS

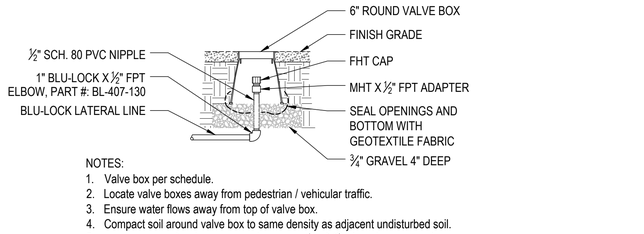
NTS



NOTES:
1. Refer to Emitter Placement detail for location of emitters around plant.

5 MULTI-OUTLET EMITTER, DIRECT BURIAL

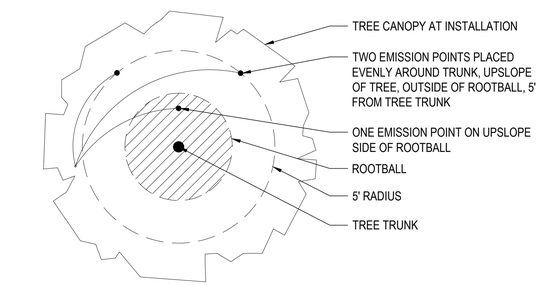
NTS



NOTES:
1. Valve box per schedule.
2. Locate valve boxes away from pedestrian / vehicular traffic.
3. Ensure water flows away from top of valve box.
4. Compact soil around valve box to same density as adjacent undisturbed soil.
5. Use non-lubricating thread sealant designed for PVC. Do not use sealant on hose threads.
6. 3" minimum clear between top of gravel and cap.

6 FLUSH END CAP - BLU-LOCK

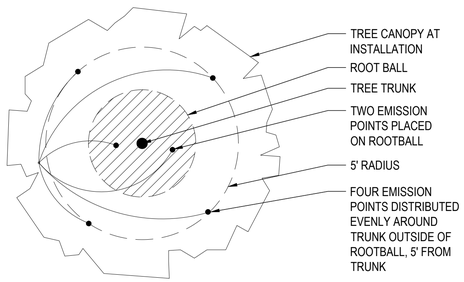
NTS



NOTES:
1. Detail illustrates 3-emission points from one multi-outlet emitter.
2. Emission points shall not be placed at the base of the plant trunk. Emission points shall be a minimum of 4" away from plant trunk / stem.
3. Detail applies to slopes. For level sites, emission points shall be evenly distributed around tree.

7 MULTI-OUTLET EMITTER PLACEMENT LAYOUT - TREES, 3-EMITTER

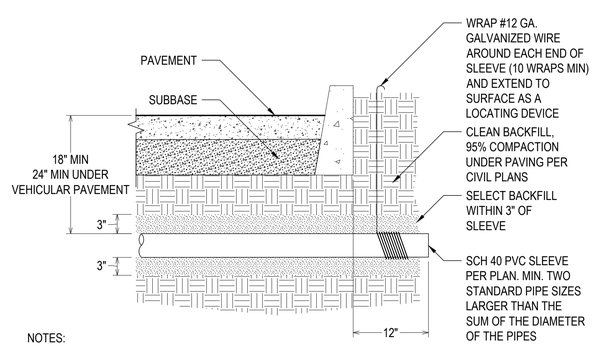
NTS



NOTES:
1. Detail illustrates one each 6-emitter outlet.
2. Emission point of emitters shall not be placed at the base of the plant trunk. Emission points shall be a minimum of 3" away from plant trunk / stem.
3. Detail applies to level sites. For slopes, four emitters shall be placed on uphill side of tree.

8 MULTI-OUTLET EMITTER PLACEMENT LAYOUT - TREES, 6-EMITTER

NTS



NOTES:
1. All sleeves shall be schedule 40 PVC.
2. Do not install control wires and lateral or main line pipes in the same sleeve.
3. Backfill within 3" of sleeve shall be free of rocks greater than 1/4" diameter. If rock cannot be screened from excavated soil, provide clean sand bedding.

9 SLEEVING

NTS

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

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CERTIFIED LANDSCAPE ARCHITECT
50915
JENNIFER PATTON
ARIZONA, U.S.A.
EXPIRES 6/30/2022

Date: December 29, 2021
Designed By: Wilder Team; Checked By: JP

REVISIONS:

Rev. #	Date	Description

IRRIGATION DETAILS

Stone Canyon Phase IX, Lots 801-807

A Portion of the Northeast Quarter of Section 22, T11S, R13E, G & S.R.M.
Town of Oro Valley, Pima County, Arizona

ORO VALLEY CASE #: 2100964, 2100997
REF CASE #:

L7
SHEET 7 OF 8

SALVAGE SPECIFICATIONS: SAGUARO & BARREL

SECTION 1: GENERAL

1. Native cacti to be salvaged are as shown on the native Plant Inventory Plans. Contractor shall furnish all items, including those of a minor nature, necessary to complete the work.
2. Salvage shall be in conformance with Jurisdictional specifications as well as the requirements of these specifications.
3. Access for Plant Salvage shall be from within the approved grading limits. Vehicular access from areas outside the approved grading limits is prohibited.
4. All plants designated as Preserve-in-Place and all areas to remain undisturbed shall be protected during the native plant salvage work.

SECTION 2: PRODUCTS

Not Used

SECTION 3: EXECUTION

1. General:
   - 1.1. Salvage will be in conformance with Salvage Details included with the Project Plans.
2. Preparation Prior to Salvage:
   - 2.1. Cacti shall be hydrated prior to excavation. Approximately two weeks prior to transplanting, water cactus to a minimum depth of 12". If cactus is fully hydrated from recent rainfall (0.5" or greater within two-week period prior to salvage), this step is not necessary. Irrigation may be done with in-line drip emitter tubing. Tubing placement is dependent on height of cactus, typical is 2' - 4' from base of plant.
   - 2.2. Mark north side of cactus prior to salvage. Cactus placement must match original orientation.
   - 2.3. For saguaros, place a reference mark 1' above existing soil level (this mark can also serve as the north orientation mark). This mark shall be 1' above new soil level after planting. Cacti are to be replanted at same depth as originally growing.
3. Salvage - Excavation
   - 3.1. Excavation of roots:
     - 3.1.1. Cacti less than 2' tall, remove entire root mass.
     - 3.1.2. Cacti 2.5' - 6' tall, remove as much root mass as possible, retain minimum 18" radius from stem of root material.
     - 3.1.3. Saguaros taller than 6', excavation to be a minimum of 2' radius from outside of stem. Roots 3" and greater in diameter shall be cut no shorter than 24" minimum; roots 1" - 3" diameter shall be a minimum of 12" long; roots less than 1" in diameter shall be a minimum of 3" long.
     - 3.1.4. Excavate minimum 18" of taproot on saguaros.
   - 3.2. Roots shall be cut with sharp and sterile knives / pruners. Damaged roots should be trimmed. Dust roots with a fungicide and Agri-Mycin 17.
4. Re-Planting
   - 4.1. Density of saguaros after transplanting and general conditions (slope, aspect, shade) should be similar to pre-salvage conditions.
   - 4.2. Test drainage of planting pit prior to planting. Soil shall drain within 8 hours. Provide drainage chimneys / overexcavation as required.
   - 4.3. Remove any trash / debris prior to placing prepared soil / backfill in planting pit.
   - 4.4. Cactus shall be supported as it is lowered into planting hole (if saguaro is lowered without support, tap root is likely to be crushed).
   - 4.5. Backfill and tamp to avoid damage to tap root.
   - 4.6. Slope backfill away from cacti. Do not create a berm that would hold water against trunk.
5. Shade and Staking
   - 5.1. Saguaros greater than 14' in height must be staked. Staking may be necessary for saguaros 6' and greater in height. Refer to Saguaro Staking detail.
   - 5.2. Cacti growing under trees / in shade, and all saguaros under 3' in height, shall be provided with 30% shade cloth throughout the first summer season.
6. Irrigation

   Provide supplemental irrigation for at least two years after transplanting. The frequency of irrigation is dependent on season, temperature and rainfall; one month is the maximum interval between irrigations. During drought conditions or periods of low rainfall, extending supplemental irrigation beyond two years is recommended.

SUCCESS OF TRANSPLANT

Per Best Management Practices for Saguaro Translocation and Replanting, AZ Game and Fish Department, Jan 2019, success of transplant can be determined after one or two years. "Record an initial diameter at breast height (DBH) after transplant using a large sliding caliper. After the first or second year, 10 days after an irrigation or rainfall event of > .25", re-measure DBH. A definitive increase in DBH indicates functioning roots and a successful transplant. Other success indicators are new arms or spines and growth at top of saguaro."

PLANTING SPECIFICATIONS

SECTION 1: GENERAL

1. Contractor shall furnish and install material specified or shown on the drawings. This shall include all items of a minor nature necessary to complete the installation.
2. Plant Material Availability: The Contractor shall submit to the General Contractor within 30 calendar days after the award of contract, submit written confirmation from nursery or grower that the plant material shown on the project plans has been secured in all required varieties and quantities.
3. Substitution of Materials: No substitution of the required material will be allowed unless evidence is submitted documenting that the Contractor has made a diligent effort to obtain the required material from commercial nurseries and growers within a 150-mile radius of the project site, and that the required material will not become available prior to the time of installation.
4. Contractor's superintendent: The Contractor's superintendent shall be satisfactory to the General Contractor. The Contractor's superintendent shall not be changed, except with the consent of the General Contractor. The Contractor's superintendent shall be authorized to represent the Contractor.
5. Warranty: Warrant the following plants, for the warranty period indicated, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, or incidents that are beyond Contractor's control.
   - 5.1. Warranty Period for Trees, Shrubs, and cacti/succulents: One year from date of Final Acceptance.
   - 5.2. Dead or unhealthy plants shall be removed and replaced within 14 calendar days.
   - 5.3. Replacement plants shall be of the same species and size as originally specified.
6. Maintenance Instructions: Prior to expiration of required maintenance period, prepare typewritten instructions for the plant material. Instructions shall consist of recommended procedures to be established by Owner for maintenance of exterior plants during a calendar year.
7. Damage: The Contractor shall be responsible for damages to structures, utilities, sidewalks, pavements, other facilities, and existing plants caused by planting operations. Damage shall be repaired at the Contractor's expense in a manner satisfactory to the Owner's Representative.

SECTION 2: PRODUCTS

1. Plant Material
   - 1.1. Provide quality, size, genus, species, and variety of exterior plants indicated on the project plans, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock." Provide healthy, vigorous stock, densely foliated when in leaf and free of disease, pests, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.
   - 1.2. Label at least one plant of each variety, size, and caliper with a securely attached, waterproof tag bearing legible designation of complete botanical and common names. Tags shall remain attached to plants until reviewed and accepted by Owner's Representative.
2. Prepared Soil
   - 2.1. Prepared soil material for backfill shall consist of existing soil (trash and weed-free native site soil, with all rocks over 2" in diameter removed).

SECTION 3: EXECUTION

1. Examination & Preparation:
   - 1.1. Fine-grading of all basins / recessed planting areas shown on plans, as well as irrigation system, per plan, shall be complete and approved by Owner's Representative prior to planting.
   - 1.2. Basin grading and planting shall be performed only when moisture content of soil is conducive to such work. Saturated / wet soil shall not be worked.
   - 1.3. Stake locations of all plant material for acceptance by Owner's Representative prior to planting.
   - 1.4. Prior to planting, remove any trash/debris from planting pits. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area. If contamination is present in soil within a planting area, remove the soil and contamination as directed by Owner's Representative and replace with new planting soil.
2. Plant Pit Excavation:
   - 2.1. Prepare planting pits as shown on Project Details.
   - 2.2. Fill planting pit with water and allow to drain. Pit must drain at a rate of 6" per hour or faster. Notify Owner's Representative if pits do not drain as required.
3. Plant Delivery:
   - 3.1. Deliver plants after preparations for planting have been completed and install immediately. If planting is delayed more than 3 hours after delivery, set plants in shade, protect from weather and mechanical damage, and keep roots moist.
   - 3.1. Do not remove container-grown stock from containers or cut sides of containers before time of planting.
   - 3.2. Irrigate plants stored on-site to maintain root systems in a moist condition.
4. Plant Installation:
   - 4.1. Do not use plants if root ball is cracked or broken before or during installation operations.
   - 4.2. Place backfill around root ball in 6-inch layers, tamping to settle and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of prepared soil. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of prepared soil.
   - 4.3. No plants shall be staked or guyed except at the direction of the Owner's Representative.
5. Maintenance: Contractor shall provide maintenance of all plant material until job acceptance by the Owner.
6. Cleanup & Disposal: Cleanup shall be made as each portion of work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be swept or washed down, and any damage sustained to the work of others shall be repaired to the original conditions acceptable to the Owner's Representative.

IRRIGATION SPECIFICATIONS

SECTION 1: GENERAL

1. Contractor shall furnish and install material and equipment pertaining to the irrigation system herein specified or shown on the drawings. This shall include all items of a minor nature necessary to complete the installation.
2. Examinations of Drawings and Premises: Prior to submitting a bid, the Contractor shall carefully study the drawings and shall make a careful examination of the premises and any existing work. He/She shall determine in advance the methods of installing and connecting the system, the means to be provided for getting the equipment into place, and shall make himself/herself thoroughly familiar with all of the requirements of the contract. By the act of submitting a proposal for the work required and included in the contract, the Contractor shall be deemed to have made such study and examination, and to be familiar with and accept all conditions of the site.
3. Contractor's superintendent: The Contractor's superintendent shall be satisfactory to the General Contractor. The Contractor's superintendent shall not be changed, except with the consent of the General Contractor. The Contractor's superintendent shall be authorized to represent the Contractor.
4. The Contractor shall give all necessary notices, obtain all permits and pay all costs in connection with his work, file with all governmental departments having jurisdiction, obtain all required certificates of inspection for his work and deliver to the Owner's Representative before request of acceptance and final payment for the work. The Contractor shall comply with all laws, rules and regulations of all authorities having jurisdiction over premises.
5. Warranty & Maintenance: The irrigation system shall be guaranteed by the contractor to be free of defects in workmanship and materials for a period of one year from acceptance by owner.
6. Damage: The contractor shall be responsible for damages to the grounds, hardscape, traffic curbs, roadways, piping systems, utilities, electrical systems and their equipment and contents caused by leaks in the piping systems being installed or having been installed by him, or caused by negligence. The Contractor shall repair, at his own expense, all damage so caused. All repair work shall be done in a manner satisfactory to the Owner's Representative.
7. Record Drawings:
   - 7.1. Prior to Final Acceptance of work, Contractor shall provide a "Redline" record set of drawings showing dimensioned locations and depths for irrigation system.
   - 7.3. Record all changes which are made from the Contract Drawings, including changes in the pressure and non- pressure lines.
   - 7.4. Locate all dimensions from two permanent points (buildings, monuments, sidewalks, curbs or pavements).
8. Operating and Maintenance Instructions: At completion of the work, prepare complete operating and maintenance instructions for the irrigation system. Data shall be typewritten and enclosed in a suitable folder and submitted to the owner for approval. All information needed to properly operate and maintain all items, including scheduling information, parts lists, etc., will be part of the instructions.

SECTION 2: PRODUCTS

1. Submittals: The Contractor shall submit to the General Contractor two (2) copies of shop drawings or manufacturer's "cut sheet" for each type of pipe, controller, valves, valve boxes, wire, conduit, fittings and all other types of fixtures and equipment that are specified on the Project Plans. The submittal shall include the manufacturer's name, model number, equipment capacity and manufacturer's installation recommendation, if applicable, for each proposed item.
2. Substitution of Materials: This irrigation system has been designed around the irrigation components herein stated and as shown on the plans. Any substitutions will be allowed only by written order signed by the Owner's Representative.
3. Protection: Protect all materials from damage during construction and storage. PVC pipe and fittings shall be protected form direct sunlight.
4. Emitters: The emitter system is shown in a schematic manner. Specific emitters and locations are not shown on the plan and are subject to field adjustment. The ends of all laterals shall have a hose end flush cap.
5. Sleeving: Provide sleeves as shown and as required. All lateral line, emitter line, and control wire shall be in sleeves under all paved surfaces. Minimum size shall be two pipe sizes larger than the pipe being sleeved. Additionally, all main line piping under vehicular paving, and under structural walls shall be placed in sleeves. Sleeves under roadways shall be provided by others. Contractor shall field verify their location.
6. Pipe Installation & Crossings: No pipes shall be installed parallel and directly over another line. Minimum clearance for pipes crossing to be 3".

SECTION 3: EXECUTION

1. Site Conditions:
   - 1.1. Design Pressure: This irrigation system has been designed to operate with a minimum static inlet water pressure as shown on the drawings. Irrigation contractor shall verify water pressure on-site prior to beginning work. If discrepancy exists between water pressure tested on-site and that noted on plan, contractor shall immediately notify Owner's Representative.
   - 1.2. Existing Conditions: The Contractor shall not install the irrigation system per plans when it is evident that site conditions (such as obstructions, grade differences, or differences in location / shape of planted areas) may not have been accounted for in the original design. In such instances, the Contractor shall notify the Owner's Representative when the discrepancy is discovered. If notification is not performed, the Contractor shall assume responsibility for the installation and resultant need of any subsequent revisions.
   - 1.3. Existing Utilities - Location and Elevations: The Contractor shall examine the site and verify to his/her own satisfaction the locations and elevations of all utilities and availability of utilities and services required. The Contractor shall inform him/her self as to their relation to the work and the submission of bids shall be deemed as evidence thereof. At least two working days prior to excavation, Contractor shall request markout of underground utilities by calling BlueStake at 811. The Contractor shall repair at his/her own expense, and to the satisfaction of the General Contractor, any damage to any utility shown or not shown on the plans.
   - 1.4. Should utilities not shown on the plans be found during excavations, Contractor shall promptly notify General Contractor for instructions as to further action. Contractor shall make necessary adjustments in the layout as may be required to connect to existing stubouts, should any such stubouts not be located exactly as shown and as may be required to work around existing work, at no increase in cost to the Owner. All such work will be recorded on record drawings and turned over to the General Contractor prior to final acceptance.
2. Layout: Prior to installation, the Contractor shall stake out the location of valves, controllers, main line routing, pressure regulators and backflow preventer. All layout shall be approved by Owner's Representative prior to installation. Relocation of irrigation equipment as a result of the Contractor's failure to stake location and receive Owner's Representative's approval shall be at the Contractor's expense.
3. Excavation & Backfill:
   - 3.1. Refer to Details for required burial depth of pipe and sleeving.
   - 3.2. Trenches shall be dug straight, and pipe shall be supported continuously on bottom of trench. Lay pipe to an even grade. Trenching excavation shall follow layout indicated on drawings and as noted. If the bottom of a pipe trench excavation is found to consist of rock, caliche, or any other material that, by reason of its hardness, cannot be excavated to give a uniform bearing surface, said rock or other material shall be removed for at least 3 inches below the specified trench depth, and be refilled to specified trench depth with sand or similar material thoroughly tamped into place.
   - 3.3. Trenches shall not be backfilled until all required tests are performed. Trenches shall be carefully backfilled in 6" lifts with the excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand, or other approved materials, free from clods of earth or stones larger than one inch (1") in diameter. Backfill shall be compacted in landscaped areas to a dry density equal to adjacent undisturbed soil in planting areas. Backfill will conform to adjacent grades without dips, sunken areas, humps or other surface irregularities. Backfilling shall not be performed while trenches or backfill material is in a wet or muddy condition.
   - 3.4. Flooding of trenches will be permitted only with approval of the Owner's Representative.
   - 3.5. If settlement occurs and subsequent adjustments in pipe, valves, planting, or other construction are necessary, the Contractor shall make all required adjustments without cost to the Owner.
   - 3.6. Trenching and Backfilling Under Paving: Trenches located under areas where paving, asphaltic concrete or concrete will be installed shall be backfilled with sand (a layer 6 inches below the pipe and 3 inches above the pipe) and compacted in layers to 90% compaction, using manual or mechanical tamping devices. All trenches shall be left flush with the adjoining grade. The irrigation Contractor shall set in place, cap, and pressure test all piping under paving prior to the paving work.
4. Flushing of System: All lines to be completely flushed prior to installation of emitters and prior to backfill. After all new lateral pipe lines and risers are in place and connected, all necessary diversion work has been completed, and prior to installation of emitters, the control valves shall be opened and a full head of water used to flush out the system. Emitters shall be installed only after flushing of the system has been accomplished to the complete satisfaction of the Owner's Representative.
5. Testing of Irrigation System: The Contractor shall request the presence of the Owner's Representative at least 48 hours in advance of testing. Test all pressure lines under hydrostatic pressure of 100 lbs per square inch and prove water tight. All HDPE lateral line pipe shall be tested prior to insertion of emitters at working line pressures with couplings exposed and swing joints and other outlets capped. Sustain pressure in lines for not less than two hours. All hydrostatic tests shall be made only in the presence of Owner's Representative. No pipe shall be backfilled until it has been inspected, tested and approved in writing. Contractor shall furnish necessary test equipment.
6. Maintenance: Contractor shall provide job maintenance of all irrigation and shall continue until job acceptance by the Owner. Maintain all system components and assure proper watering of all plants. Repair any leaks and replace any defective components. After all landscape and irrigation operations are complete and in conformance with the contract documents, the owner shall grant final job acceptance.
7. Cleanup & Disposal: Cleanup shall be made as each portion of work progresses. Refuse and excess dirt shall be removed from the site, all walks and paving shall be swept or washed down, and any damage sustained to the work of others shall be repaired to the original conditions acceptable to the Owner's Representative.

SEEDING SPECIFICATIONS

SECTION 1: GENERAL

1. Seeding shall be performed where indicated on the project plans and in conformance with the requirements of these specifications. Contractor shall furnish all items, including those of a minor nature, necessary to complete the installation.
2. Damage: The Contractor shall be responsible for damages to structures, utilities, sidewalks, pavements, other facilities, and existing plants caused by seeding operations. Damage shall be repaired at the Contractor's expense in a manner satisfactory to the Owner's Representative.

SECTION 2: PRODUCTS

1. Seed
   - 1.1. Provide seed as specified on Plans. No substitution of species will be allowed unless evidence, showing that the specified materials are not reasonably available during the contract period, is submitted, in writing, by the contractor to the Engineer. The substitution of species shall be made only with the written approval of the Engineer, prior to making said substitution.
   - 1.2. The seed shall be delivered to the project site in standard, sealed, undamaged containers. Each container shall be labeled in conformance with Arizona Revised Statues and the U.S. Department of Agriculture rules and regulations under the Federal Seed Act. Labels shall indicate the variety of strain of seed, the percentage of germination, purity and weed content, and the date of analysis which shall not be more than nine months prior to the delivery date.
2. Hydroseed Mix:
   - 2.1. Hydroseed slurry mix shall be comprised of the following:
     - 2.1.1. Cellulose mulch, 800 lbs/acre
     - 2.1.2. Tackifier, 80 lbs/active ingredient/acre. The tacking agent shall contain a plantago organic mucilard base with the active ingredient comprising 70 percent to 80 percent of the agent. The properties of the tacking agent shall not be adversely affected by the addition of fertilizers or other additives to the slurry mix.
     - 2.1.3. Starter Fertilizer, Ammonium Phosphate, 16-20-0, 100 lbs/acre. Fertilizer shall be a commercially produced, peleted, granular form derived from inorganic sources. Chemical fertilizer shall be furnished in standard containers with the name, weight, and analysis of the contents clearly marked. Chemical fertilizer shall be State inspected to meet 16-20-0 percentages where the first number represents the minimum percent of soluble nitrogen, the second number represents the minimum percent of available phosphoric acid, and the third number represents the minimum percent of water soluble potash.

SECTION 3: EXECUTION

1. General:
   - 1.1. Seeding operations shall not be performed when wind would prevent uniform application of materials or would carry seeding materials into areas not designated to be seeded.
   - 1.2. Equipment and methods of distributing seeding materials shall be such as to provide an even and uniform application of the seed, mulch and/or other materials in conformance with the specified rates.
2. Preparation Prior to Seeding:
   - 2.1. All areas to be seeded shall be prepared with ridges and furrows on contour to assist in retarding erosion and favoring germination of seed. Furrows from tillage shall be no more than 12 inches apart.
   - 2.2. Cut slopes flatter than 3:1 (horizontal to vertical) shall be tilled a minimum of 8 inches in depth, and fill slopes flatter than 3:1 shall be tilled to a six inch minimum depth. Any areas which could potentially be affected by underground utilities, shall be tilled to a minimum 6 inches in depth, and left in a roughened condition as they are constructed. Tillage may require passing the equipment over the area several times to provide thorough soil cultivation.
   - 2.3. No work shall be done when the moisture content of the soil is unfavorable to tillage.
   - 2.4. All soil to be seeded shall be left in a friable roughened condition free of clods or large stones over four inches in any dimension, and other foreign material that would interfere with the seeding operation. Exposed stones larger than four inches shall be removed and disposed of in an approved manner prior to grading and seeding.
3. Hydroseeding:
   - 3.1. All machines used for hydroseeding shall be capable of continuous agitation of the slurry mixture during the seeding operation. Pump pressure shall maintain a continuous non-fluctuating spray. The sprayer shall deliver a uniform application of hydroseed.
   - 3.2. Hydroseed deposited on adjacent trees and shrubs, walkways, on structures and on any areas where seeding is not specified shall be removed.
   - 3.3. Care shall be taken during the seeding operations to prevent damage to existing trees and shrubs in the seeding area.
   - 3.4. Preservation of Seeded Areas. The contractor shall protect seeded areas from damage by traffic or construction equipment. Surfaces eroded or otherwise damaged following seeding shall be repaired by re-grading and reseeding as directed by the Owner.

WILDER
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Date: December 29, 2021
Designed By: Wilder Team; Checked By: JP

REVISIONS:

Rev. #	Date	Description

LANDSCAPE SPECIFICATIONS

Stone Canyon Phase IX, Lots 801-807

A Portion of the Northeast Quarter of Section 22, T11S, R13E, G & S.R.M.
Town of Oro Valley, Pima County, Arizona

ORO VALLEY CASE #: 2100964, 2100997
REF CASE #:

L8
SHEET 8 OF 8