FINAL RAINWATER HARVESTING PLAN for OV SELF STORAGE OV___

4.4.1 RAINWATER HARVESTING PLAN REQUIRED GENERAL NOTES:

1. Total area of all new impervious surfaces including pavements, sidewalks, hardscape areas and buildings is: 82,983 SF (1.91 acres)
2. Required rainwater harvesting (VWHgal = ΣAIS x 3,000 gal/acre): 1.91 x 3000 = 5,730 gallons
3. Total volume of rainwater harvesting provided is:
4. Rainwater harvesting measures employed for this development consist of the following:
   i. passive water harvesting basin A
   ii. passive water harvesting basin B
5. All rainwater harvesting measures shown on this plan shall be integrated into both the landscape installation as well as the site grading construction.

ADDITIONAL RAINWATER HARVESTING GENERAL NOTES:

1. Standing water for passive rainwater harvesting systems must infiltrate or dissipate within twelve (12) hours of rainfall cessation.
2. All water collected and utilized for rainwater harvesting from parking lots and streets must meet the same discharge quality as stipulated within the Town of Oro Valley Drainage Criteria Manual, Section 11.7, First Flush Requirements.
3. No passive rainwater harvesting basins shall be allowed within ten (10) feet of a building or vertical structural element greater than four (4) feet in height without special structural consideration and design approved by the Town Engineer and the Town Building and Safety Official.
4. In order to assess compliance with the water plan when applicable, the irrigation meter or meters shall be assessed, at a minimum, on an annual basis by the Oro Valley Water Utility. When a violation occurs, as determined by the Planning and Zoning Administrator, meter reading may be repeated on a monthly basis until conformance is achieved.

WATER HARVESTING SUMMARY:

1. Gross site area: 287,984 sf (5.69 acres)
2. Total impervious areas: 82,983 sf (1.91 acres)
3. Minimum volume of water harvesting: 1.91 x 3,000 gal. = 5,730 gallons (766 cu ft)
4. Passive water harvesting areas account for: 175,358 gallons (23,442 cu ft) as defined with final grading plan.
5. Plant water demand per Arizona Department of Water Resources (ADWR) is estimated: 673,915 gallons per year with trees estimated at 60% of maturity due to typical regional maintenance.
6. Estimated initial irrigation use: 673,915 gallons. This number is dependant on overall maintenance practices and care of the site. Please refer to the associated chart for water adjustments.
7. Upon plant establishment, the irrigation use maybe reduced to approximately: 336,958 gallons per year.
8. After the first year of installation, reports shall be provided to Oro Valley development services.
9. Owner shall monitor the water usage every month and adjust the irrigation system to ensure overall water use is not exceeded per the approved plans.
10. All plant material proposed within water harvesting areas are able to be inundated for short periods of time.
11. Owner shall provide independent third party irrigation audit per approved Oro Valley irrigation inspector.

WATER HARVESTING OVERVIEW:

This site is located west of Oracle Road and north of Calle Concordia. This project shall utilize passive water harvesting as a means to meet the landscape conservation code.

The landscape utilizes native and drought tolerant vegetation. Perimeter vegetation in the landscape buffer yards is native/ indigenous species currently in place and remain as such. A desert hydro-seed mix will be added for re-vegetation and to limit disturbance within the buffer yard.

The site is enhanced with moderate, native, and low water use plants placed around the building and parking area. Vegetation within the parking lots are native or low water use and provides a transition between indigenous to higher water use vegetation. Native and hybrid species are used in these transition areas.

Irrigation system is designed to reflect the goals of the landscape conservation code. Station/zones are grouped to areas of the site with emitting devises adjusted per species based on water demand. Refer to the emitter schedule on irrigation plans. Irrigation lines are all hard pipe for system durability. The perimeter irrigation will be susceptible to rodents and possible vandalism. Irrigation system is designed to address entire site including commercial development. Irrigation system maybe augmented once the commercial are is developed.

LANDSCAPE WATER REDUCTION PLAN:

Water plan shall begin at calendar year to align with meter reading and seasonal adjustments.

1. 1st year - estimated water use for the first year: 673,915 gallons, based on multiplying Tucson's monthly ETo by the plant coefficient for each plant and combining for a annual total.
2. 2nd year - continue using a 52 week watering period.
3. 3rd year - continue using a 52 week watering period.
4. 4th year - reduce watering of all stations from a 52 week period to a 28 week period while meeting the monthly water demand during that 28 week period (march thru september).
5. 5th year - reduce watering of all stations from a 28 week period to a 17 week period while meeting the monthly water demand during that 17 week period (april into august).

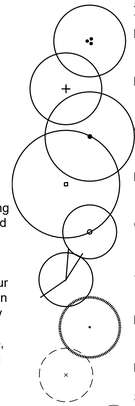
Maintenance contractor (MC) shall gather meter readings of the irrigation meter and submit with their maintenance reports to the property manager.

MC shall review water usage each month and note any line breakage, damage and repairs.

MC shall notify property manager if usage is higher than estimated after installation to allow adjustment to the proposed water schedule.

Recommend MC provide deep watering scheduling on all stations during first 3-years of establishment at once a month during growing season (March thru October.)

MC shall review most sensitive plant material for signs of duress and adjust controller watering as necessary to maintain plant material per town of Oro Valley code.



LANDSCAPE LEGEND

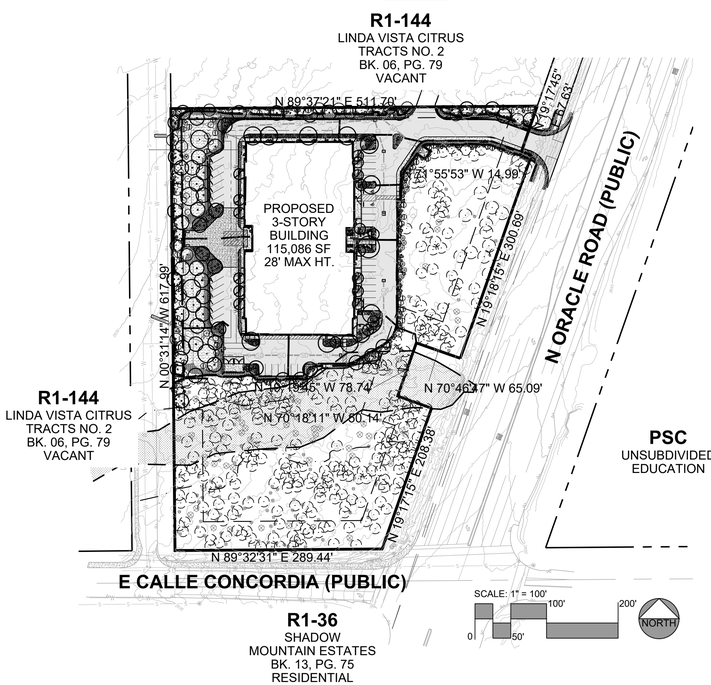
Furnish and install landscape material per plans, details and specifications. All plant material to meet ANA specifications and be of sound health and appearance.

Trees	Size	Qty
Prosopis velutina *velvet mesquite*	48" box	3
	24" box	21
Parkinsonia florida *blue paloverde*	48" box	2
	24" box	27
Celtis reticulata *netleaf hackberry*	24" box	15
	1.5" caliper	
Pistacia x 'Red Push' *red push pistache*	36" box	1
	2.5" caliper	
Caesalpinia mexicana *mexican bird of paradise*	24" box	7
	1.5" caliper	
Acacia willardiana *palo blanco*	24" box	12
	1.5" caliper	
Parkinsonia microphyllum *foothill paloverde*	48" box	3
	24" box	17
Existing tree to remain in place		

Shrubs / Ground Covers	Size	Qty
Vauquelinia californica *arizona rosewood*	5 gallon	24
Dodonea viscosa *hop seed*	5 gallon	8
Simmondsia chinensis *jojoba*	5 gallon	12
Viguiera parishii (Deltoidea) *goldeneye*	5 gallon	23
Calliandra eriophylla *native fairy duster*	5 gallon	159
Calliandra californica *baja fairy duster*	5 gallon	84
Celtis pallida *desert hackberry*	15 gallon	5
Larrea tridentata *creosote bush*	5 gallon	53
Ziziphus obtusifolia *graythorn*	15 gallon	2
Acacia greggii *catclaw acacia*	15 gallon	5
Justicia spicigera *mexican honeysuckle*	5 gallon	10
Chrysactinia mexicana *damianita daisy*	5 gallon	62
Existing shrub to remain in place		

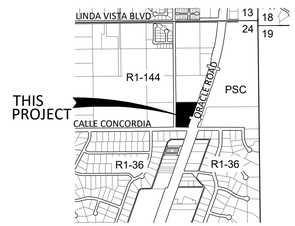
Vines	Size	Qty
Cissus trifoliata *desert grape ivy*	5 gallon	2

Cacti / Succulents	Size	Qty
Fouquieria splendens *ocotillo*	5 gallon	8
Dasylirion wheeleri *desert spoon*	5 gallon	49
Asclepias subulata *desert milkweed*	5 gallon	20
Hesperaloe furnifera *giant hesperaloe*	15 gallon	22
Euphorbia antisyphilitica *candelilla*	5 gallon	50
Ferocactus wislizenii *fishhook barrel cactus*	salvage	65
Carnegiea gigantea *saguaro*	1' spear	8
	3' spear	12
Nolina microcarpa *beargrass*	5 gallon	29
Opuntia sp. *cholla*	5 gallon	52
Cleistocactus strausii *silver torch*	15 gallon	3



1 PROJECT OVERVIEW PLAN

Scale: 1" = 100'



IN THE NE ¼ OF THE NE ¼ OF SECTION 24, T. 12 S., R. 13 E., G.&S.R.M., CITY OF TUCSON, PIMA COUNTY, ARIZONA

LOCATION MAP

NORTH

3" = 1 MILE

LINE LEGEND

PROPERTY LINE		EXISTING SIGN	
RIGHT-OF-WAY		EXISTING STREET LIGHT	
ROADWAY CENTERLINE		EXISTING FIRE HYDRANT	
OTHER PARCEL LINE		EXISTING SEWER MANHOLE	
EASEMENT LINE		EXISTING WATER VALVE	
EXISTING CONTOURS	2680 2577	EXISTING WATER METER	W
PROPOSED CONTOURS	2990	EXISTING BACKFLOW PREVENTER	BF
EXISTING CURB		EXISTING TELEPHONE PEDESTAL	T
EXISTING PAINT STRIPE		EXISTING UNKNOWN UTILITY	U
EXISTING PAVEMENT EDGE		EXISTING ELECTRIC PULL BOX	E
EXISTING CONCRETE		EXISTING TRANSFORMER	
EXISTING RIPRAP		PROPOSED SIGN	
PROPOSED CURB		PROPOSED SEWER CLEANOUT	CO
PROPOSED PAINT STRIPE		PROPOSED WATER METER	W
PROPOSED ASPHALT		ZONING DIVISION	R-2
PROPOSED CONCRETE		SIGHT VISIBILITY TRIANGLE	SVT
PROPOSED RIPRAP		RADIUS	R
PROPOSED WALL		PAVEMENT (ASPHALT)	P
PROPOSED FENCE		CONCRETE	C
EXISTING UNDERGROUND	E E	TOP OF CURB	TC
ELECTRIC		HIGH POINT	HP
EXISTING SEWER	S S	LOW POINT	LP
EXISTING WATER	W W	FINISHED FLOOR ELEVATION	FFE
EXISTING EASEMENT		RIGHT-OF-WAY	R.O.W.
PROPOSED SEWER	S S	WATER HARVESTING AREA	
PROPOSED WATER	W W	GRADING LIMITS	
PROPOSED FIRE SERVICE	F F	SIGHT VISIBILITY TRIANGLE (SVT)	
PROPOSED DRAIN PIPE		100-YEAR FLOODPLAIN LIMIT	
		EROSION HAZARD SETBACK	
		RIPARIAN HABITAT LIMIT	
		RIPARIAN HABITAT AREA	

WATER HARVESTING PLAN LEGEND

- Flow arrow
- (A) Passive rainwater harvesting basin (A-B)
- S-X Drainage sub-area watershed
- Passive rainwater harvesting basin area

DRAINAGE SUB-AREA WATERSHED TOTALS:

S-1	25,023 sf (0.57 acres)	S-6	9,067 sf (0.21 acres)
S-2	18,954 sf (0.44 acres)	S-7	6,775 sf (0.16 acres)
S-3	4,564 sf (0.11 acres)	S-8	5,835 sf (0.13 acres)
S-4	21,246 sf (0.48 acres)	S-9	19,122 sf (0.44 acres)
S-5	11,188 sf (0.26 acres)		

PASSIVE RAINWATER HARVESTING BASIN TOTALS:

(A) 5,284 sf, 3.7' max depth, 11,290 cu ft

(B) 5,897 sf, 3.7' max depth, 12,152 cu ft

SHEET INDEX

ARCHITECT
ROBERT PAGE, ARCHITECT
2201 N COUNTRY CLUB RD. SUITE #9
TUCSON, AZ 85716
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PH: (520) 629-9752
E: skip@robertpagearchitect.com

NO.	DATE	REVISION DESCRIPTION	BY

OWNER/DEVELOPER
CCN INVESTMENTS LLC
6419 N MIRAMIST WAY
TUCSON, ARIZONA 85750
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PH: (801) 558-1521
E: jthomson@btree-prop.com

SITE ADDRESS
9255 NORTH ORACLE ROAD
TUCSON, ARIZONA 85704

OV20 REF: OV1803280; OV1803281

REGISTERED LANDSCAPE ARCHITECT CERTIFICATE NO. 39813 ERIC R. BARRETT 08/20/ Date Signed ARIZONA, U.S.A.

EXPIRES 9/30/2021

ARC STUDIOS PROJECT NO: 01-18002

ARC STUDIOS
3117 E. Flower Street
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landscape architecture . urban design . environmental services . irrigation design

REGISTERED PROFESSIONAL ENGINEER 37624 KEVIN M. HALL CIVIL ARIZONA, U.S.A. Expires 06/30/2021

CYPRESS PROJECT NO: 18.046

CYPRESS CIVIL

2030 east speedway boulevard
suite #110
tucson, arizona 85719
ph: 520.499.2456
e: info@cypresscivil.com

APPROVED BY:

TOWN ENGINEER - DATE

PLANNING & ZONING ADMINISTRATOR - DATE

DATE: 08/19/20

SCALE:

C.I.: 1'

A PORTION OF LOT 52, AS RECORDED IN BOOK 6 OF MAPS AND PLATS, PG 79, BEING A PORTION OF SECTION 24, T12S, R13E, G.&S.R.M., PIMA COUNTY, ARIZONA

RAINWATER HARVESTING PLAN for OV SELF STORAGE
cover sheet

1 OF 2

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

WATER HARVESTING PLAN LEGEND

- Flow arrow
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(A)	5,284 sf 3.7' max depth 11,290 cu ft
(B)	5,897 sf 3.7' max depth 12,152 cu ft

(#) RAINWATER HARVESTING KEY NOTES

1. Property line
2. 100-year floodplain
3. Erosion hazard setback
4. Riparian habitat limit
5. Existing pavement
6. Existing sidewalk
7. Sight visibility triangle
8. Pavement - refer to civil
9. Concrete sidewalk - refer to civil
10. 6.83' screen wall - refer to architectural plans
11. 3.5' screen wall - refer to architectural plans
12. 2.5' decorative masonry wall
13. Retaining wall per separate plan and permit
14. Watershed boundary

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RAINWATER HARVESTING PLAN for OV SELF STORAGE
rainwater harvesting plan

2 OF 2

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