

PRELIMINARY GRADING AND DRAINAGE PLAN
FOR
PITCHFORK MESA FACILITY
550 WEST MCKELLIPS ROAD
MESA, ARIZONA 85201

DRAINAGE STATEMENT

THE SUBJECT SITE CONSISTS OF TWO SEPARATE LAND PARCELS COMPRISING 2.313 ACRES' NET AREA. IT IS LOCATED AT 550 W. MCKELLIPS ROAD. THE PROPERTY IS CURRENTLY DEVELOPED BUT WILL BE TOTALLY DEMOLISHED AND THEN REDEVELOPED. THE NEW FACILITY WILL CONSIST OF TWO MAIN STRUCTURES. ONE WILL BE A 31,985 SQUARE FOOT PRE-MANUFACTURED STEEL BUILDING. THE OTHER BUILDING WILL BE A CONVENTIONALLY BUILT 2,493 SQUARE FOOT RETAIL CENTER. THE PURPOSE OF THE FACILITY IS FOR MARIJUANA CULTIVATION, INFUSION, AND DISPENSING.

IT APPEARS THAT THE SITE CURRENTLY DRAINS TO MCKELLIPS ROAD AND THEN IN THE STREET WESTWARD TO THE SALT RIVER. THE NEAREST EXISTING STORMDRAIN IS 1,000 FEET EAST OF THE SITE. THE NEAREST CATCH BASIN IS LOCATED AT THE NORTHWEST CORNER OF COUNTRY CLUB DRIVE AND MCKELLIPS ROAD. WITH THE NEW CONSTRUCTION, STORMWATER FROM THE 100-YEAR, 2-HOUR STORM EVENT WILL BE RETAINED PER CITY OF MESA DESIGN GUIDELINES. ALL RETENTION FACILITIES WILL ACCOMMODATE ON-SITE FLOW ONLY. THE SITE IS NOT AFFECTED BY ANY OFF-SITE STORMWATER.

DATE STREET, A 30-FOOT INGRESS/EGRESS EASEMENT, LOCATED ON THE WEST SIDE OF THE SUBJECT PROPERTY WILL BE RESURFACED BUT NOT REGRADED. IT WILL CONTINUE TO DRAIN TO MCKELLIPS ROAD AS IT HAS HISTORICALLY. THE WEST ONE-HALF OF THE METAL ROOF OF THE CULTIVATION/INFUSION BUILDING WILL DRAIN TO DATE STREET. THEREFORE THAT PORTION OF THE ROOF TOGETHER WITH DATE STREET IS ELIMINATED FROM THE RETENTION CALCULATIONS.

RETENTION FACILITIES WILL BE SIZED USING THE FOLLOWING FORMULA AND DESIGN CRITERIA ALL TAKEN FROM THE COM "ENGINEERING AND DESIGN STANDARDS" MANUAL. THAT FORMULA IS:

VR = C (D/12) A WHERE: VR = STORMWATER VOLUME FROM A 100-YEAR, 2-HOUR STORM (2.2"/HR)
C = RUNOFF COEFFICIENT
D = DEPTH OF RAINFALL FOR THE DESIGN STORM
A = SITE AREA IN SQUARE FEET

WEIGHTED "C" VALUE CALCULATION

Table with 5 columns: SURFACE, A, X, C, CA. Rows include DESERT LANDSCAPE, ASPHALT/CONCRETE, METAL ROOF, and TOTALS.

THEREFORE: CW = 58,483/74,589 = 0.78

REQUIRED RETENTION VOLUME CALCULATION

VR = C (D/12) A = 0.78 (2.2/12) 74,589 = 10,666 CUBIC FEET OF VOLUME REQUIRED

RETENTION FACILITIES

THERE WILL BE A SINGLE EQUALIZED SURFACE RETENTION BASIN COMPRISED OF THREE INDIVIDUAL BASIN SEGMENTS. ONE IS LOCATED IN THE SOUTHWEST CORNER OF THE SITE. ANOTHER WILL BE LOCATED BETWEEN THE TWO DRIVEWAY ENTRANCES. THE THIRD WILL BE IN THE SOUTHEAST CORNER OF THE SITE. THE THREE BASINS WILL BE CONNECTED BY 12-INCH DIAMETER EQUALIZER PIPES. ALL BASIN SEGMENTS WILL HAVE THE SAME HIGH WATER ELEVATION. THE WAY THE SYSTEM WILL OPERATE IS THAT THE LARGEST AND DEEPEST BASIN SEGMENT WILL FILL FIRST, IT BEING FED BY A SYSTEM OF STORMDRAIN PIPES AND CATCH BASINS TOGETHER WITH FLOW COMING FROM THE EAST AND WEST SHALLOWER BASIN SEGMENTS. AS THE MIDDLE BASIN FILLS TO THE BOTTOM ELEVATIONS OF THE TWO CONTRIBUTING BASINS, STORMWATER WILL BACK UP INTO THOSE TWO BASINS THROUGH THE EQUALIZER PIPES.

PER THE CITY OF MESA DESIGN GUIDELINES, THE WATER DEPTH IN ANY SURFACE BASIN SHALL NOT EXCEED 3.5 FEET AND THE BASIN SIDE SLOPES SHALL NOT BE LESS THAN 4 FEET HORIZONTAL TO 1 FOOT VERTICAL. THE VOLUME OF STORAGE FOR THIS THREE SEGMENT EQUALIZED SURFACE RETENTION BASIN IS 12,535 CUBIC FEET WHICH IS 1,869 CUBIC FEET MORE THAN THE REQUIRED VOLUME OF 10,666 CUBIC FEET.

RETENTION BASIN DRY-UP

THE CITY OF MESA ALLOWS DRYWELLS AS A LAST RESORT TO AID IN THE DRY-UP OF A RETENTION BASIN. ACCORDING TO THE COM STORM DRAIN QUARTER SECTION MAP 18D THERE IS NO STORM DRAIN SYSTEM IN THE VICINITY OF THE PROJECT. THEREFORE, A DRYWELL WILL BE USED FOR POSITIVE DISPOSAL.

THE CITY GUIDELINES FOR DRYWELL DISPOSAL ARE 19,440 CUBIC FEET ALLOWED PER DRYWELL. THIS VOLUME MUST BE EVACUATED IN A 36-HOUR TIME PERIOD.

AT A PERCOLATION RATE OF 0.5 CFS, IT WILL TAKE 6 HOURS TO EVACUATE THE RETAINED STORMWATER VOLUME. AT THE DECREASED RATE OF 0.1 CFS, IT WILL TAKE 30 HOURS. EITHER WAY, THE VOLUME IS DISSIPATED IN LESS THAN THE 36-HOUR REQUIRED TIME PERIOD.

ENGINEER

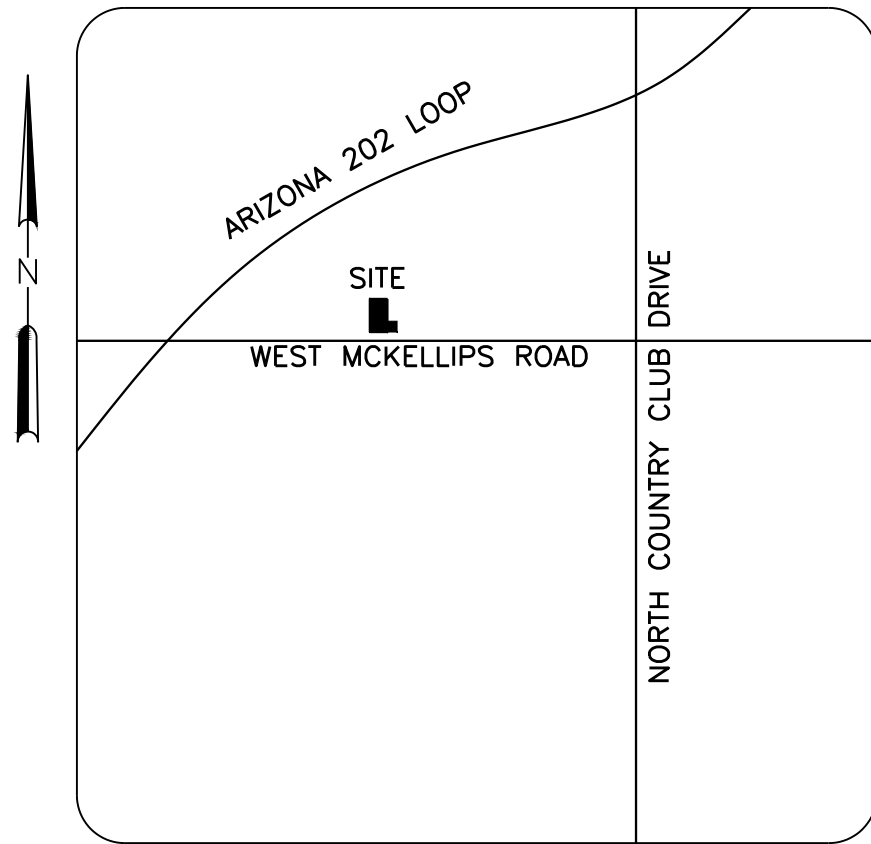
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CHANDLER, AZ 85224
480-213-1402



VICINITY MAP
(NOT TO SCALE)

LEGEND

SOME SYMBOLS MAY NOT APPEAR ON EACH SHEET

EXISTING

- PROPERTY LINE
- CENTER LINE OR MONUMENT LINE
- EASEMENT LINE
- CURB AND GUTTER
- UNDERGROUND GAS LINE
- WATER LINE
- SEWER LINE
- UNDERGROUND TELEPHONE LINE
- UNDERGROUND ELECTRIC LINE
- OVERHEAD ELECTRIC LINE
- FENCE OR WALL
- STORM DRAIN PIPE
- CABLE TV JUNCTION BOX
- TELEPHONE JUNCTION BOX
- PROPERTY CORNER: NOTHING FND./SET
- PROPERTY CORNER: FND. REBAR
- BRASS CAP
- BRASS CAP IN HANDHOLE
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- BACKFLOW PREVENTER
- IRRIGATION CONTROL VALVE
- SANITARY SEWER MANHOLE
- SEWER CLEANOUT
- GAS METER
- GAS VALVE
- ELECTRIC METER
- ELECTRIC TRANSFORMER
- STREETLIGHT
- LIGHTPOLE
- UTILITY POLE
- TRAFFIC SIGNAL BOX
- TRAFFIC SIGNAL
- TELEPHONE MANHOLE
- STORM DRAIN MANHOLE
- CATCH BASIN
- DRYWELL
- TREE
- SIGN
- EXISTING ASPHALT PAVEMENT
- EXISTING ELEVATION
- EXISTING CONTOUR ELEVATION
- EXISTING RUNOFF FLOW DIRECTION
- EXISTING GRADE

PROPOSED

- PROPERTY LINE
- RIGHT OF WAY
- CENTER LINE OR MONUMENT LINE
- EASEMENT LINE
- PROPERTY CORNER: NOTHING FND./SET
- PROPERTY CORNER: FND. REBAR
- BRASS CAP
- BRASS CAP IN HANDHOLE
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- BACKFLOW PREVENTER
- SANITARY SEWER MANHOLE
- SEWER CLEANOUT
- STORM DRAIN MANHOLE
- CATCH BASIN
- DRYWELL
- GRADE BREAK
- % DOWNWARD SLOPE
- RUNOFF FLOW DIRECTION
- RIPRAP PROTECTION
- TOP OF BANK
- PROPOSED ELEVATION
- HIGH POINT
- CONCRETE/PAVEMENT, FLUSH
- HIGH WATER LEVEL
- TOP OF CURB ELEVATION
- PAVEMENT ELEVATION
- FLOW LINE ELEVATION
- CONCRETE ELEVATION
- GROUND ELEVATION
- EDGE OF PAVEMENT ELEVATION
- TOP OF WALL ELEVATION
- TOP OF RIM ELEVATION
- FINISHED FLOOR ELEVATION
- INVERT ELEVATION
- ASPHALT PAVEMENT
- CURB DEPRESSION
- EXTRUDED/SINGLE CURB
- CURB & GUTTER
- WATER LINE
- SEWER LINE
- FIRE LINE
- FLOWLINE OR DRAINAGE SWALE
- EQUALIZER OR STORMDRAIN PIPE
- TAPPING SLEEVE AND VALVE

PROJECT INFORMATION

APNS: 135-01-002J AND 135-01-002K
NET AREA: 100,767.89 SF (2.313 AC)
ZONING: LI (LIGHT INDUSTRIAL)

PROJECT DESCRIPTION

ALL EXISTING STRUCTURES ON THE PROPERTY WILL BE COMPLETELY REMOVED. THE NEW FACILITY WILL CONSIST OF 2 MAIN STRUCTURES. ONE WILL BE A 34500 SF PRE-MANUFACTURED STEEL BUILDING. THE OTHER BUILDING WILL BE A CONVENTIONALLY BUILT 2493 SF RETAIL CENTER. THE PURPOSE OF THE FACILITY IS FOR MARIJUANA CULTIVATION, INFUSION, AND DISPENSING.

FLOOD INFORMATION

ACCORDING TO THE FLOOD INSURANCE RATE MAP 04013C2255L, DATED OCTOBER 10, 2013 THIS PROPERTY IS LOCATED IN FLOOD ZONE "X". AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD.

SHEET INDEX

PG-1 PRELIMINARY GRADING AND DRAINAGE PLAN
PG-2 PRELIMINARY GRADING AND DRAINAGE PLAN

LEGAL DESCRIPTION

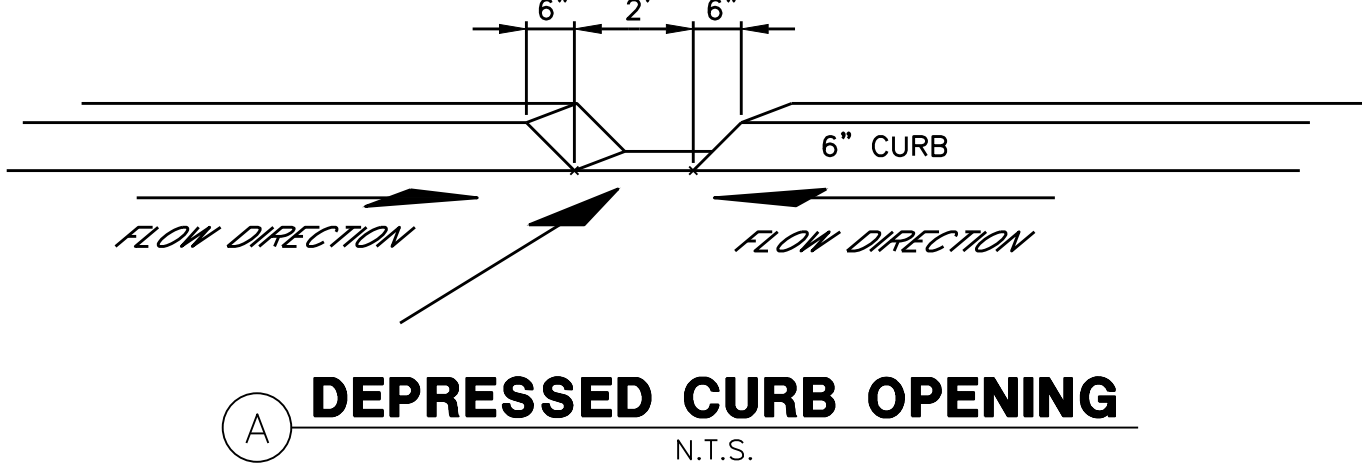
PARCEL NO. 1:

THE SOUTH 404 FEET OF THAT PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 4, TOWNSHIP 1 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

BEGINNING AT THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 4; RUNNING THENCE NORTH 89 DEGREES 11 MINUTES 10 SECONDS EAST ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER A DISTANCE OF 265.0 FEET; THENCE NORTH 0 DEGREES 13 MINUTES 40 SECONDS EAST, 699.5 FEET TO THE CENTER LINE OF SALT RIVER VALLEY WATER USERS' ASSOCIATION LATERAL; THENCE SOUTHWESTERLY, ALONG CENTER LINE OF LATERAL, 272.0 FEET, MORE OR LESS, TO A POINT 27.19 FEET EAST OF THE WEST LINE OF SAID SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER; THENCE SOUTH 0 DEGREES 13 MINUTES 40 SECONDS WEST 650.60 FEET TO THE POINT OF BEGINNING; EXCEPT ANY PORTION THEREOF LYING WITHIN THE RIGHT-OF-WAY OF THE SALT RIVER VALLEY WATER USERS' ASSOCIATION LATERAL.

PARCEL NO. 2:

THAT PORTION OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 4, TOWNSHIP 1 NORTH, RANGE 5 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 4; THENCE NORTH 89 DEGREES 11 MINUTES 10 SECONDS EAST ALONG THE SOUTH LINE OF SAID SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER A DISTANCE OF 265 FEET TO THE TRUE POINT OF BEGINNING; THENCE CONTINUING NORTH 89 DEGREES 11 MINUTES 10 SECONDS EAST, 105 FEET; THENCE NORTH 0 DEGREES 13 MINUTES 40 SECONDS EAST, 185 FEET; THENCE SOUTH 89 DEGREES 11 MINUTES 10 SECONDS WEST, 105 FEET; THENCE SOUTH 0 DEGREES 13 MINUTES 40 SECONDS WEST, 185 FEET TO THE TRUE POINT OF BEGINNING.



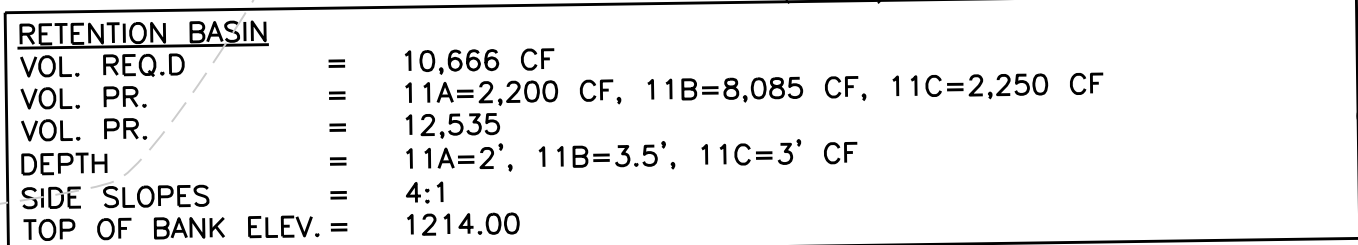
DEPRESSED CURB OPENING
N.T.S.

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JOB NO. 103-01-18
DESIGNED DCK
DRAWN LAS
COMP.
CHECKED DCK
DATE 10-25-2018



- ① EXISTING DRIVEWAY TO REMAIN.
- ② CONSTRUCT CURB OPENING PER DETAIL (A) ON SHEET C-1.
- ③ AREA TO REMAIN UNDISTURBED AND TO DRAIN AS IT HAS HISTORICALLY.
- ④ CONSTRUCT CATCH BASIN PER M.A.G. STD. DET. 535, TYPE "F".
- ⑤ INSTALL 12" HDPE SMOOTH WALL DRAIN PIPE.
- ⑥ CONSTRUCT HEADWALL PER M.A.G. STD. DET. 501-1, "U" TYPE.
- ⑦ INSTALL RIPRAP EROSION PROTECTION.
- ⑧ INSTALL 12" HDPE EQUALIZER PIPE.
- ⑨ INSTALL PRE-CHAMBER OF MAXWELL "PLUS" DRYWELL SYSTEM.
- ⑩ INSTALL DRYWELL CHAMBER OF MAXWELL "PLUS" DRYWELL SYSTEM.
- ⑪ CONSTRUCT EARTHEN RETENTION BASIN.
- ⑫ MATCH NEW IMPROVEMENT/GRADE WITH EXISTING IMPROVEMENT/GRADE.
- ⑬ CONSTRUCT SCREEN/RETAINING WALL.
- ⑭ CONSTRUCT SHALLOW SWALE.
- ⑮ EXISTING CMU WALL TO BE PROTECTED.

- 1) INSTALL FIRELINE.
- 2) INSTALL SEWERLINE.
- 3) INSTALL DOMESTIC WATERLINE.
- 4) CONNECT SEWERLINE TO EXISTING SEWER SERVICE LINE.
- 5) CONNECT DOMESTIC WATERLINE TO EXISTING WATER METER.
- 6) INSTALL SEWER CLEANOUT.
- 7) CONNECT SITE SEWER TO BUILDING STUBOUT.
- 8) CONNECT SITE WATER TO BUILDING STUBOUT.

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ARIZONA

State of Arizona

JOB NO. 103-01-18

DESIGNED DCK

DRAWN LAS

COMP.

CHECKED DCK

DATE 10-25-2018

PG-2

2 OF **2** SHEETS