DW1 & 2 Existing Conditions 100-Year Discharge Summary Table

DW#	River Station	Discharges (cfs)			
		Hydrologic Modeling	Flow reduction due to breakout	Flow Additional due to Break in*	HEC-RAS Model Discharge
DW#1	1.866	359	0	0	359
	1.754	555	0	0	555
	1.362	884	0	0	884
	1.264	1,007	0	0	1,007
	0.726	1,488	0	0	1,488
	0.623	1,963	0	0	1,963
DW#2	5.188	683	0	0	683
	7.532	75	0	0	75
	7.212	146	0	0	146
	7.077	159	0	0	159

LEGEND

- EXISTING 100-YEAR FLOODPLAIN LIMITS
- SHALLOW SHEET FLOODING AREA
- BREAKOUT FLOW
- FEMA EFFECTIVE FLOODWAY
- FEMA EFFECTIVE FLOODPLAIN BOUNDARY
- STREAMLINE
- 0.40 — 2931.34 HEC-RAS CROSS-SECTION WITH 1.0% ANNUAL CHANCE FLOOD HAZARD, WATER SURFACE ELEVATION (NAVD88)
- 2924 SANTA CRUZ FEMA BASE FLOOD ELEVATIONS (NAVD88)
- FLOW ARROW

LEGEND CONTINUED

- 1.0% ANNUAL CHANCE FLOOD HAZARD
- SHALLOW SHEET FLOODING AREA

NOTES

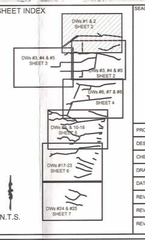
1. HORIZONTAL PROJECTION IS ARIZONA CENTRAL STATE PLANE, NORTH AMERICAN DATUM OF 1983-92(HARN)
2. WATER SURFACE ELEVATIONS ARE PROVIDED ON NAVD88 VERTICAL DATUM.
3. DIGITAL FIRM MAPPING REFERENCE: PANELS 0419C3465L, 0419C3935L, 04019C3955L.
4. DATA SOURCE:
   AERIAL PHOTOGRAPHY: PIMA ASSOCIATION OF GOVERNMENTS (PAG) 2008.
   TOPOGRAPHY: (PAG) 2008 LIDAR DATA. 2-FOOT INTERVAL CONTOURS SHOWN ON THIS WORK MAP WERE GENERATED FROM PAG'S 2008 LIDAR DATA.

PIMA COUNTY
FLOOD CONTROL

SCALE: 1" = 200'

CMG DRAINAGE ENGINEERING, INC.
3555 N. Mountain Ave. Tucson, Arizona 85719
Phone (520) 882-4344 Fax (520) 888-1421

SHEET INDEX



SEAL:

PROJECT NO.:	13-008
DESIGN:	JKW
CHECKED:	JKW
DRAWN:	BJK
DATE:	12/06/2013
REV. DATE:	04/24/2014
REV. DATE:	06/04/2014
REV. DATE:	06/25/2014

GREEN VALLEY DRAINAGEWAYS
BASIN MGT. STUDY

PIMA COUNTY, ARIZONA

FIGURE 5:
HYDRAULIC WORK MAP
DRAINAGEWAYS
#1 & 2
FLOODPLAIN LIMITS

SHEET 1 OF 7

plotted by jwilson on Jun 25, 2014 at 4:17pm
J:\projects\13-008 Green Valley Drainageways Basin Mgt Study\Drawings\Figure 5 Hydraulic Work Map DW 1 & 2 Floodplain Limits.dwg

DW#3, 4, &5 Existing Conditions 100-Year Discharge Summary Table					
DW#	River Station	Discharges (cfs) Hydrologic Modeling	Flow reduction due to breakout	Flow Additional due to Break in*	HEC-RAS Model Discharge
DW#5	5.169	147	0	0	147
	1.352	473	0	0	473
	0.7	1,134	0	0	1,134
	0.321	1,134	0	254	1,388
DW#4	1.588	252	0	0	252
	1.177	793	0	0	793
	0.543	1,007	0	0	1,007
	0.104**	1,981	384	254	1,851
DW#3	3.336	339	0	0	339
	1.72	437	0	0	437
	1.13	830	0	0	830
	0.723	2,832	0	254	3,086
	0.71	2,832	910	638	2,560
	0.646	2,849	910	638	2,577

*254 cfs from DW#6 drains to DW#5 @ River Station 0.321.

**384 cfs overtops I-19 South Bound @ the drainageway segment along I-19.

PIMA COUNTY
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SCALE: 1" = 200'

LEGEND

- EXISTING 100-YEAR FLOODPLAIN LIMITS
- SHALLOW SHEET FLOODING AREA
- BREAKOUT FLOW
- FEMA EFFECTIVE FLOODWAY
- FEMA EFFECTIVE FLOODPLAIN BOUNDARY
- STREAMLINE
- 0.40 — 2931.34 HEC-RAS CROSS-SECTION WITH 1.0% ANNUAL CHANCE FLOOD HAZARD, WATER SURFACE ELEVATION (NAVD88)
- 2924 SANTA CRUZ FEMA BASE FLOOD ELEVATIONS (NAVD88)
- FLOW ARROW

LEGEND CONTINUED

- 1.0% ANNUAL CHANCE FLOOD HAZARD
- SHALLOW SHEET FLOODING AREA

NOTES

1. HORIZONTAL PROJECTION IS ARIZONA CENTRAL STATE PLANE, NORTH AMERICAN DATUM OF 1983-92(HARN)
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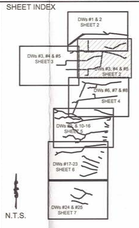

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GREEN VALLEY DRAINAGEWAYS
BASIN MGT. STUDY

PIMA COUNTY, ARIZONA

FIGURE 5:
HYDRAULIC
WORK MAP
DRAINAGEWAYS
#3, 4 & 5

SHEET 2 OF 7

drawing number: 13-008 fig 5 sheet 2.dwg Layout: sheet 2 Date: 6/25/2014 2:17:17 PM User: JKW

PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.
3555 N. Mountain Ave. Tucson, Arizona 85719
Phone (520) 882-4244 Fax (520) 888-1421

SCALE: 1" = 200'

LEGEND

- EXISTING 100-YEAR FLOODPLAIN LIMITS
- SHALLOW SHEET FLOODING AREA
- BREAKOUT FLOW
- FEMA EFFECTIVE FLOODWAY
- FEMA EFFECTIVE FLOODPLAIN BOUNDARY
- STREAMLINE
- 0.40 — 2931.34 — HEC-RAS CROSS-SECTION WITH 1.0% ANNUAL CHANCE FLOOD HAZARD, WATER SURFACE ELEVATION (NAVD88)
- 2924 — SANTA CRUZ FEMA BASE FLOOD ELEVATIONS (NAVD88)
- FLOW ARROW

LEGEND CONTINUED

- 1.0% ANNUAL CHANCE FLOOD HAZARD
- SHALLOW SHEET FLOODING AREA

NOTES

1. HORIZONTAL PROJECTION IS ARIZONA CENTRAL STATE PLANE, NORTH AMERICAN DATUM OF 1983-92(HARN)
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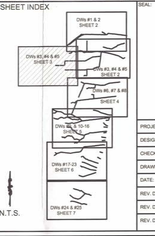

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GREEN VALLEY DRAINAGEWAYS BASIN MGT. STUDY

PIMA COUNTY, ARIZONA

FIGURE 5: HYDRAULIC WORK MAP DRAINAGEWAYS #3, 4 & 5

Plotted: 06/25/2014 10:05 AM By: Jeffrey Kramer
File Name: P:\13008\Engineering\Basin Study\Drawings\Figure 5 Work Map Drainageways 3, 4 & 5.dwg

MATCH TO SHEET 2

MATCH TO SHEET 3

DESERT BELL DR

DRAINAGEWAY #6, TRIB 2
REACH 1
CROSS-SECTIONS: 6.013-6.094

CP-6E
Q100=1052 CFS

CP-6D
DRAINAGEWAY #6
REACH 2
Q100=2781 CFS

BREAKOUT FLOW
(LESS THAN 100 CFS)

DRAINAGEWAY #6
REACH 2
CROSS-SECTIONS: 0.074-1.053

CP-6G
Q100=1952 CFS

4-10' X 8' RCBC
QCUL=2781 CFS
ROADWAY IS NOT OVERTOPPING

DRAINAGEWAY #6, TRIB 1
REACH 1
CROSS-SECTIONS 4.007-4.342

CP-6J
Q100=217 CFS

CP-6K
Q100=22 CFS

BREAKOUT
FLOW- (± 254 CFS)
(MAXIMUM BREAKOUT
FLOW DEPTH-1.6')

Q100=2763 CFS

CP-6B
Q100=3017 CFS

(MAXIMUM BREAKOUT
FLOW DEPTH-1.0')

BREAKOUT FLOW
(LESS THAN 100 CFS)

Q100=2325 CFS

6-10' X 5' RCBC
QCUL=2734 CFS
QWEIR=29 CFS

BREAKOUT
FLOW=(±438 CFS)

4-10' X 4' RCBC
QCUL=2325 CFS
QWEIR=438 CFS

ALLEY DRAINS TO DW#5

INTERSTATE 19

ABREGO DR

EL VALLE

PASEO CHUPAROSAS

DRAINAGEWAY #6
REACH 1
CROSS-SECTIONS: 0.026-0.715

SHALLOW SHEET
FLOODING AREA

SHALLOW SHEET
FLOODING AREA

PEDESTRIAN
BRIDGE

2763 CFS
(INCLUDING 438 CFS BREAKOUT FLOW
AT ABREGO DR.)

CP-6A
DRAINAGEWAY #6
REACH 1
CROSS-SECTIONS: 0.026-0.715

Q100=1952 CFS

CP-6I
Q100=524 CFS

DRAINAGEWAY #6
REACH 2
CROSS-SECTIONS:
1.068-1.486

DRAINAGEWAY #7
REACH 2
CROSS-SECTIONS:
0.064-1.135

BRIDGE

DRAINAGEWAY #7, TRIB 1
REACH 5
CROSS-SECTIONS: 4.009-4.165

Q100=293 CFS

CP-7D
Q100=293 CFS

BREAKOUT FLOW
(LESS THAN 100 CFS)

CP-7E
Q100=66 CFS

5-10' X 5' RCBC
QCUL=936 CFS
ROADWAY IS NOT OVERTOPPING

CP-7C
Q100=
388 CFS

Q100=1251CFS

6-10' X 6' RCBC (NORTHBOUND)
QCUL =1251 CFS
ROADWAY IS NOT OVERTOPPING

6-10' X 6' RCBC (SOUTHBOUND)
QCUL =1251 CFS
ROADWAY IS NOT OVERTOPPING

Q100=1736 CFS

5-10' X 5' RCBC
QCUL=1251 CFS
ROADWAY IS NOT OVERTOPPING

GOLF
BRIDGE

CONSERVATIVELY
ASSUMED 50%
OF 1135 CFS 568
CFS) DRAINS
BACK TO DW #7

DRAINAGEWAY #7
REACH 1
CROSS-SECTIONS: 0.002-0.62

GOLF BRIDGE

Q100=936 CFS

CP-7H
Q100=614 CFS

2-10' X 4' RCBC
QCUL=614 CFS
ROADWAY IS NOT OVERTOPPING

DRAINAGEWAY #7
REACH 3
CROSS-SECTIONS:
1.154-1.366

Q100=614 CFS

739 CFS

1135 CFS

ESPERANZA BLVD

Q100=235 CFS

3-48"X36" ACMP
QCUL=235 CFS
QWEIR=324 CFS
DRAINS EAST ON ESPERANZA BLVD

I-19
BREAKOUT FLOW
FROM DW #8 - 396 CFS

LOS ARCOS

1-6' X 4' RCBC
QCUL=171 CFS
QWEIR=396 CFS

Q100=
190 CFS

LA SOLEDAD

2-5' X 3' ACMPs
QCUL=190 CFS
NO ROADWAY OVERTOPPING

CP-8D
Q100=567 CFS

Q100=
171 CFS

Q100=
192 CFS

2-4.5' X 3' ACMP
QCUL=191 CFS
QWEIR=1 CFS

Q100=
201 CFS

DW#9 FLOODPLAIN

CP-8A
DRAINAGEWAY #8
REACH 1
CROSS-SECTIONS 0.00-0.5092
PORTIONS OF
FLOODPLAIN FOR DW#8
IS CONTAINED IN THE
FLOODPLAIN FOR DW#9

AREA PROTECTED BY
UNSTABILIZED BERMS

SHALLOW SHEET
FLOODING AREA

DRAINAGEWAY #7, TRIB 2
REACH 7
CROSS-SECTIONS: 7.034-7.412

CP-7J
Q100=559 CFS

DW#9 FLOODPLAIN

2814
2817
2818
2821
2824
2826
2829
2830
2832

DW#6 Existing Conditions 100-Year Discharge Summary Table

River Station	Q100 (cfs) Hydrologic Modeling	Flow reduction due to breakout	Flow Additional due to Break in*	HEC-RAS Model Discharge
6.094	1,052	0	0	1,052
4.342	217	0	0	217
1.486	524	0	0	524
1.258	1,952	0	0	1,952
1.053	2,781	0	0	2,781
0.715	3,017	0	0	3,017
0.678	3,017	254	0	2,763*
0.584	3,017	692	0	2,325*
0.152	3,017	692	438	2,763*

*Breakout flow at River Station 0.678 (254 cfs) was taken out by lateral structure in HEC-RAS.

DW#7 Existing Conditions 100-Year Discharge Summary Table

River Station	Q100 (cfs) Hydrologic Modeling	Flow reduction due to breakout	Flow Additional due to Break in*	HEC-RAS Model Discharge
0.288	1,492	324	568	1,736
0.620	1,575	324	0	1,251
1.135	1,260	324	0	936
1.366	614	0	0	614
4.053	388	0	0	388
4.165	293	0	0	293
7.059	559	324	0	235
7.412	559	0	0	559

DW#8 Existing Conditions 100-Year Discharge Summary Table

River Station	Q100 (cfs) Hydrologic Modeling	Flow reduction due to breakout	Flow Additional due to Break in*	HEC-RAS Model Discharge
0.2701	597	396	0	201
0.3777	588	396	0	192
0.4465	586	396	0	190
0.4621	567	396	0	171
0.5092	567	0	0	567

PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.
3555 N. Mountain Ave. Tucson, Arizona 85719
Phone (520) 882-4244 Fax (520) 888-1421

SCALE: 1" = 200'

LEGEND

- EXISTING 100-YEAR FLOODPLAIN LIMITS
- SHALLOW SHEET FLOODING AREA
- BREAKOUT FLOW
- FEMA EFFECTIVE FLOODWAY
- FEMA EFFECTIVE FLOODPLAIN BOUNDARY
- STREAMLINE
- 0.40 — 2931.34 — HEC-RAS CROSS-SECTION WITH 1.0% ANNUAL CHANCE FLOOD HAZARD, WATER SURFACE ELEVATION (NAVD88)
- 2924 — SANTA CRUZ FEMA BASE FLOOD ELEVATIONS (NAVD88)
- FLOW ARROW

LEGEND CONTINUED

- 1.0% ANNUAL CHANCE FLOOD HAZARD
- SHALLOW SHEET FLOODING AREA

NOTES

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3. DIGITAL FIRM MAPPING REFERENCE: PANELS 0419C3465L, 0419C3935L, 0401 9C3955L.
4. DATA SOURCE:
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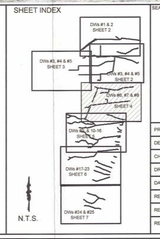

N.T.S.

SEAL

PROJECT NO.:	13-008
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GREEN VALLEY DRAINAGEWAYS
BASIN MGT. STUDY

PIMA COUNTY, ARIZONA

FIGURE 5:
HYDRAULIC
WORK MAP
DRAINAGEWAYS
#6, 7 & 8

SHEET 4 OF 7

DRAWING: G:\Projects\Green Valley\Drawings\Basin Mgt Study\Figure 5 (Sheet 4 of 7).dwg LAYOUT: 11x17 LAST SAVED BY: JKW PLOTTED: 6/25/2014 10:54:15 AM

CP-9D
Q100=2630 CFS

3-9'X4' RCBC (NORTH)
4-10'X5' RCBC (SOUTH)
QCUL= 938 CFS (NORTH)
QCUL= 2233 CFS (SOUTH)
QWEIR=285 CFS

MATCH TO SHEET 4

CP-9E
Q100=
1356 CFS

DRAINAGEWAY #9
REACH 3
CROSS-SECTIONS: 0.948-1.751

3-9'X4' RCBC (NORTH)
4-10'X5' RCBC (SOUTH)
QCUL= 858 CFS (NORTH)
QCUL= 1347 CFS (SOUTH)
QWEIR=1251 CFS

DRAINAGEWAY #9
REACH 3
CROSS-SECTIONS: 0.948-1.751

DRAINAGEWAY #9, TRIB1
REACH 2
CROSS-SECTIONS: 7.012-7.38

Q100=337 CFS

80 CFS
BREAKOUT

2-42" RCP
QCUL= 178 CFS
QWEIR=159 CFS

4-30" CMP
QCUL= 179 CFS
QWEIR=158 CFS

CP-9C
DRAINAGEWAY #9
REACH 2
CROSS-SECTIONS: 0.879-0.915
Q100=3456 CFS

CP-9F
Q100=337 CFS

4-36" CMP
QCUL= 166 CFS
QWEIR=177 CFS

SHALLOW SHEET
FLOODING AREA

CP-9B
Q100=3473 CFS

18 CFS
BREAKOUT

18 CFS
BREAKOUT

6-10'X5' RCBC (SOUTHBOUND)
QCUL= 3120 CFS
QWEIR=353 CFS

DRAINAGEWAY #9
REACH 1
CROSS-SECTIONS: 0.053-0.832

Q100=
3430 CFS

391 CFS
BREAKOUT

391 CFS
BREAKOUT

6-10'X5' RCBC (NORTHBOUND)
QCUL= 3062 CFS
QWEIR=411 CFS

5-10'X5' RCBC
QCUL= 2692 CFS
QWEIR=781 CFS

AREA PROTECTED BY
UNSTABILIZED BERMS

SHALLOW SHEET
FLOODING AREA

AREA PROTECTED BY
UNSTABILIZED BERMS

SHALLOW SHEET
FLOODING AREA

CP-9A
DRAINAGEWAY #9
REACH 1
CROSS-SECTIONS: 0.053-0.832

CP-10A
DRAINAGEWAY #10
REACH 1
CROSS-SECTIONS:
0.004-01.148

FLOODPLAIN FOR
DW#10 IS FULLY
CONTAINED IN THE
FLOODPLAIN FOR
DW#9

Q100=235 CFS

Q100=353 CFS

DRAINAGEWAY #9, 9TRIB
REACH 3
CROSS-SECTIONS: 9.033-9.515

3-36"X24" ACMP
QCUL= 83 CFS
QWEIR=290 CFS

CP-9G
Q100=353 CFS

4-12'X10' RCBC
QCUL= 3456 CFS
ROADWAY IS NOT OVERTOPPING

Q100=1253 CFS

DRAINAGEWAY #13
REACH 2
CROSS-SECTIONS: 0.681-1.275

DRAINAGEWAY #13
REACH 1
CROSS-SECTIONS:
0.015-0.664

Q100=264 CFS

CP-11A
DRAINAGEWAY #11
REACH 1
CROSS-SECTIONS:
0.002-0.166

CP-12A
DRAINAGEWAY #12
REACH 1
CROSS-SECTIONS:
0.002-0.095
A PORTION OF
FLOODPLAIN FOR
DW#12 IS CONTAINED
IN THE FLOODPLAIN
FOR DW#13

SANTA CRUZ
WESTERN CHANNEL

9 CFS
BREAKOUT

Q100=2162 CFS

5-10'X5' RCBC
QCUL= 2038 CFS
QWEIR=166 CFS

5 CFS
BREAKOUT

CP-13B
Q100=2204 CFS

4-8'X6' RCBC
QCUL= 1162 CFS
QWEIR=71 CFS

Q100=2204 CFS

OVERBANK AREAS PROTECTED
BY UNSTABILIZED BERMS

SHALLOW SHEET FLOODING
AREA

CP-13A
DRAINAGEWAY #13
REACH 1
CROSS-SECTIONS:
0.015-0.664

Q100=147 CFS

CP-14A
DRAINAGEWAY #14
REACH 1
CROSS-SECTIONS:
0.012-0.085

FLOODPLAIN FOR
DW#14 IS FULLY
CONTAINED IN THE
FLOODPLAIN FOR
DW#13

5 CFS
BREAKOUT

9 CFS
BREAKOUT

4-10'X6' RCBC
QCUL= 1770 CFS
QWEIR=434 CFS

Q100=161 CFS

CP-15A
DRAINAGEWAY #15
REACH 1
CROSS-SECTIONS:
0.001-0.105

FLOODPLAIN FOR
DW#15 IS FULLY
CONTAINED IN THE
FLOODPLAIN FOR
DW#13

Q100=438 CFS

DRAINAGEWAY #13, TRIB1
REACH 2
CROSS-SECTIONS: 5.260-5.833

CP-13C
Q100=1285 CFS

CP-13I
Q100=438 CFS

CP-13H
Q100=994 CFS

CP-13G
DRAINAGEWAY #13, TRIB1
REACH 1
CROSS-SECTIONS: 5.039-5.223

3-10'X6' RCBC
QCUL=694 CFS
ROADWAY IS NOT OVERTOPPING

CP-13J
Q100=638 CFS

Q100=638 CFS

Q100=412 CFS

CP-16A
DRAINAGEWAY #16
REACH 1
CROSS-SECTIONS:
0.009-0.112

MATCH TO SHEET 6

CONTINENTAL RD

LA SOLEDAD

ABREGO DR

LOS ARCOS

PLACITA

SOSSA

LAS MANZANAS

VISTA DEL RINO

LA HUERTA

CAMINO HOLGADO

CAMINO DEL PORTILLO

CAMINO DEL POSO

CAMINO DEL DESIERTO

CAMINO DEL NORTE

LA CAÑADA DR

VISTA HERMOSA

SANTA CRUZ RIVER

2835

2839

2841

2844

2847

2853

SANTA CRUZ
WEST CHANNEL

PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.
3555 N. Mountain Ave. Tucson, Arizona 85719
Phone (520) 882-4344 Fax (520) 888-1421

SCALE: 1" = 200'

LEGEND

- EXISTING 100-YEAR FLOODPLAIN LIMITS
- SHALLOW SHEET FLOODING AREA
- BREAKOUT FLOW
- 100-YEAR FLOODPLAIN LIMITS FOR SANTA CRUZ WESTERN CHANNEL TRIBUTARY FLOWS
- FEMA EFFECTIVE FLOODWAY
- FEMA EFFECTIVE FLOODPLAIN BOUNDARY
- STREAMLINE
- 0.40 — 2931.34 HEC-RAS CROSS-SECTION WITH 1.0% ANNUAL CHANCE FLOOD HAZARD, WATER SURFACE ELEVATION (NAVD88)
- 2924 SANTA CRUZ FEMA BASE FLOOD ELEVATIONS (NAVD88)
- FLOW ARROW

LEGEND CONTINUED

- 1.0% ANNUAL CHANCE FLOOD HAZARD
- SHALLOW SHEET FLOODING AREA

NOTES

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4. DATA SOURCE:
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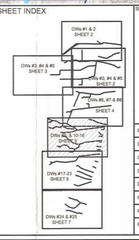
SHEET INDEX



SEAL:

PROJECT NO.:	13-008
DESIGN:	JKW
CHECKED:	JKW
DRAWN:	BJK
DATE:	04/24/2014
REV. DATE:	06/04/2014
REV. DATE:	06/25/2014
REV. DATE:	

GREEN VALLEY DRAINAGEWAYS
BASIN MGT. STUDY

PIMA COUNTY, ARIZONA

FIGURE 5:
HYDRAULIC
WORK
MAP
DRAINAGEWAYS
#9, 10 - 16

SHEET 5 OF 7

MATCH TO SHEET 5

MATCH TO SHEET 7

DRAINAGEWAY #17,
REACH 2
CROSS-SECTIONS:1.514-1.56

CP-17D
Q100=284 CFS

CP-17E
Q100=712 CFS

CP-17C
Q100=1110 CFS

DRAINAGEWAY #17, TRIB1
REACH 1
CROSS-SECTIONS: 17.021-17.089

DRAINAGEWAY #17,
REACH 1
CROSS-SECTIONS: 0.025-1.5

CAMINO DEL SOL

CP-17B
Q100=1241 CFS
(WITHOUT BREAKOUT)

WEIR FLOW-407 CFS

5-6'X4' ACMP
QCUL= 948 CFS
QWEIR=68 CFS

5-6'X4' ACMP
QCUL= 1002 CFS
QWEIR=14 CFS

84 CFS
BREAKOUT

290 CFS

290 CFS
BREAKOUT

Q100=1281 CFS
(WITHOUT BREAKOUT)
874 WITH BREAKOUTS

5-10' X 5' RCBC
QCUL= 874 CFS
ROAD IS NOT OVERTOPPING

CONTINENTAL RD

5-60" CMP
QCUL= 834 CFS
ROADWAY IS NOT OVERTOPPING

OVERBANK AREAS PROTECTED
BY UNSTABILIZED BERMS

SHALLOW SHEET FLOODING
AREA

BRIDGE

SANTA CRUZ
WEST CHANNEL

DRAINAGEWAY #18
REACH 1
CROSS-SECTIONS: 0.024-0.071
FLOODPLAIN FOR
DW#18 IS FULLY
CONTAINED IN THE
FLOODPLAIN FOR
SANTA CRUZ WEST
CHANNEL

Q100=
202 CFS

Q100=
215 CFS

INTERSTATE 19

LA CANADA DR

CP-20C
Q100=509 CFS

DRAINAGEWAY #20
1 - 8' X 6' RCBC
QCUL=521 CFS
QWEIR=128 CFS

CP-20B
Q100=649 CFS

CP-21B
Q100=203 CFS

DRAINAGE WAY #21 1 -10' X 4' RCBC
QCUL=203 CFS
ROADWAY IS NOT OVERTOPPING

CP-22B
Q100=236 CFS

DRAINAGEWAY #22
2-42" CMP
QCUL=236 CFS
ROADWAY IS NOT OVERTOPPING

MISSION TWIN BUTTES RD

DRAINAGEWAY #23
1-10' X 8' RCBC
QCUL=1044 CFS
ROADWAY IS NOT OVERTOPPING

CP-23B
Q100=1044 CFS

DRAINAGEWAY #23
3 - 16' X 4' CONARCH
QCUL=1019 CFS
QWEIR=619 CFS
NO ALL WEATHER ACCESS

ARROWHEAD DR

DRAINAGEWAY #19
REACH 1
CROSS-SECTIONS: 0.016-0.088

DRAINAGEWAY #20
REACH 1
CROSS-SECTIONS: 0.025-0.56
CP-20A
Q100=739 CFS

DRAINAGEWAY #21
REACH 1
CROSS-SECTIONS: 0.013-0.458
CP-21A
Q100=382 CFS

DRAINAGEWAY #22
REACH 1
CROSS-SECTIONS: 0.027-0.483
CP-22A
Q100=503 CFS

DRAINAGEWAY #23
REACH 1
CROSS-SECTIONS: 0.023-0.515
CP-23A
Q100=1638 CFS

BRONCO WEST CHANNEL

PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.
3555 N. Mountain Ave. Tucson, Arizona 85719
Phone (520) 882-4344 Fax (520) 888-1421

SCALE: 1" = 200'

LEGEND

- EXISTING 100-YEAR FLOODPLAIN LIMITS
- SHALLOW SHEET FLOODING AREA
- BREAKOUT FLOW
- 100-YEAR FLOODPLAIN LIMITS FOR SANTA CRUZ WESTERN CHANNEL TRIBUTARY FLOWS
- FEMA EFFECTIVE FLOODWAY
- FEMA EFFECTIVE FLOODPLAIN BOUNDARY
- STREAMLINE
- 0.40 — 2931.34 — HEC-RAS CROSS-SECTION WITH 1.0% ANNUAL CHANCE FLOOD HAZARD, WATER SURFACE ELEVATION (NAVD88)
- 2924 — SANTA CRUZ FEMA BASE FLOOD ELEVATIONS (NAVD88)
- FLOW ARROW

LEGEND CONTINUED

- 1.0% ANNUAL CHANCE FLOOD HAZARD
- SHALLOW SHEET FLOODING AREA

NOTES

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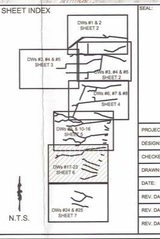

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GREEN VALLEY DRAINAGEWAYS
BASIN MGT. STUDY

PIMA COUNTY, ARIZONA

FIGURE 5:
HYDRAULIC
WORK
MAP
DRAINAGEWAYS
#17-23

SHEET 6 OF 7

Plotted: Jun 25, 2014 - 2:47pm By: Jeffrey Wong
G:\Projects\13-008 Green Valley Drainageways\Drawings\Figure 5 Hydraulic Work Map DW#17-23.dwg

MATCH TO SHEET 6

DRAINAGEWAY #24
REACH 2
CROSS-SECTIONS: 0.194-0.566
CP-24B
Q100=793 CFS

2-10' X 4' RCBC (SOUTHBOUND)
QCUL= 767 CFS
ROAD IS NOT OVERTOPPING

CP-24C
Q100=767 CFS

2-10' X 4' RCBC (NORTHBOUND)
QCUL= 767 CFS
ROAD IS NOT OVERTOPPING

DRAINAGEWAY #24 TRIB
REACH 1
CROSS-SECTIONS: 3.02-3.547
CP-24D
Q100=907 CFS

DESERT RIDGE DR

CP-24E
Q100=815 CFS

1-72" RCP (SOUTHBOUND)
QCUL= 574 CFS
QWEIR= 239 CFS

1-10' X 4' RCBC (NORTHBOUND)
QCUL= 512 CFS
QWEIR= 303 CFS
Q100=907 CFS

2-16' X 5' CONARCH
QCUL= 1273 CFS
QWEIR= 364 CFS

DRAINAGEWAY #24
REACH 1
CROSS-SECTIONS: 0.029-0.172
CP-24A
Q100=1637 CFS

DRAINAGEWAY #25
REACH 1
CROSS SECTION 0.044-0.488
Q100=1164 CFS

1-66" CMP (SOUTHBOUND)
QCUL=456 CFS
QWEIR=507 CFS

CP-25B
Q100=963 CFS

2-48" CMP (NORTHBOUND)
QCUL=305 CFS
QWEIR=658 CFS

DRAINAGEWAY #26
1-18'X4' CONARCH
QCUL=371 CFS
QWEIR=592 CFS
NO ALL WEATHER ACCESS

INTERSTATE 19

ABREGO DR

CAMINO ENCANTO

CAMINO DEL SOL

2873
2876
2878
2881
2884
2888
2891
2894

PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.
3555 N. Mountain Ave. Tucson, Arizona 85719
Phone (520) 882-4244 Fax (520) 888-1421

N

0' 200' 400'
SCALE: 1" = 200'

LEGEND

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- SHALLOW SHEET FLOODING AREA
- BREAKOUT FLOW
- FEMA EFFECTIVE FLOODWAY
- FEMA EFFECTIVE FLOODPLAIN BOUNDARY
- STREAMLINE
- 0.40 — 2931.34 HEC-RAS CROSS-SECTION WITH 1.0% ANNUAL CHANCE FLOOD HAZARD, WATER SURFACE ELEVATION (NAVD88)
- 2924 SANTA CRUZ FEMA BASE FLOOD ELEVATIONS (NAVD88)
- FLOW ARROW

LEGEND CONTINUED

- 1.0% ANNUAL CHANCE FLOOD HAZARD
- SHALLOW SHEET FLOODING AREA

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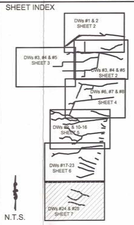

N.T.S.

SEAL:

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DRAWN:	BJK
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REV. DATE:	06/04/2014
REV. DATE:	06/25/2014

GREEN VALLEY DRAINAGEWAYS BASIN MGT. STUDY

PIMA COUNTY, ARIZONA

FIGURE 5: HYDRAULIC WORK MAP DRAINAGEWAYS #24 & 25

SHEET 7 OF 7

Plotted by: jkwood on Jun 25, 2014 10:00am
I:\PROJECTS\13-008 GV Basin Mgt Study\Drawings\Figure 5 Hydraulic Work Map.dwg