DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: ***Lots 2-A, 2-B, 2-C & 2-D –Lands of Della Sanchez,,***
ZONE MAP/DRG. FILE # J-12/13
DRB#:NA EPC#: NA WORK ORDER#: NA

LEGAL DESCRIPTION: Lot 2 Lands of Della P. Sanchez
CITY ADDRESS: 230 Tohatchi Trail NW

ENGINEERING FIRM: GUY JACKSON & ASSOCIATES, LLC CONTACT: GUY JACKSON, PE
ADDRESS: 10522 FLORENCE AVE. NE PHONE: 235-1426
CITY, STATE: Albuquerque, NM ZIP CODE: 87122

OWNER: Melcor Zamora CONTACT: Guy Jackson
ADDRESS: 2000 Eastridge Dr. NE PHONE: 505-294-3737
CITY, STATE: ABQ, NM ZIP CODE: 63069

ARCHITECT: NA CONTACT: NA
ADDRESS: NA PHONE: NA
CITY, STATE: NA ZIP CODE: NA

SURVEYOR: High Mesa Consulting Group. CONTACT: Chuck Cala
ADDRESS: 6010 Midway Park NE PHONE: 345-4250
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87109

CONTRACTOR: TBD CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
X_____ DRAINAGE PLAN 1st SUBMITTAL
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
X_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER/ARCHITECT CERT (TCL)
_____ ENGINEER/ARCHITECT CERT (DRB S.P.)
_____ ENGINEER/ARCHITECT CERT (AA)
_____ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
X_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
_____ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:
X_____ YES
_____ NO
_____ COPY PROVIDED

SUBMITTED BY: GUY JACKSON, PE DATE: 7-23-12

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

GUY JACKSON
AND ASSOCIATES, LLC
CIVIL ENGINEERING

July 23, 2012

Shahab Biazar, PE
Senior Engineer, Planning Department
Hydrology
Development & Building Services
PO Box 1293
Albuquerque, New Mexico 87103

Re: Lots 2-A, 2-B, 2-C & 2-D –Lands of Della Sanchez, Albuquerque, NM (Zone Atlas Map J-12/13). DRB Project # 1007971

Dear Shahab:
Attached for Preliminary Plat approval are the following:

- One (1) drainage information sheet
- One (1) copy of the master drainage & grading plan
- One (1) copy of the drainage calculations/spreadsheet

Please review the following responses to your comments received July 18, 2012.
Comment 1) Please identify any offsite flows entering the proposed drainage basins. It appears that flows may enter the property from Tracts A & B, Lot 1, Lot 7 as well as Lots 8-A & 8-B.
Response: I spoke with Chuck Cala PS (High Mesa Consulting Group) and he explained that obtaining access to the rear and side yards of the adjacent properties was not in crew's best interest, because of dogs and undesirable access conditions. He also mentioned that the topography on these adjacent properties appears to be virtually flat and that the grades at the property lines on the east and south were "mounded at the fence lines". I visited the site on 7/19/2012 and attest to his opinion. I did however, review the AGIS contours that were available for the adjacent sites and created "potential offsite basins" that include all of the basins that you referenced (*Tracts A & B, Lot 1, Lot 7 as well as Lots 8-A & 8-B.*) I also included a portion of the MRGCD ROW to the north to their fence line that does appear to drain into the subject property. With this said, I have revised the grading & drainage master plan and calculations to indicate these potential offsite basins.

Comment 2): Include the existing and proposed spot elevations labels in the legend.
Response: Concur -these have been added as requested.

Comment 3) Top of curb, flowlines and proposed spot elevations are not visible on the plan. Please enlarge the text size.
Response: Concur –The texts of these elements were enlarged as requested.

Comment 4) Add the legal description on the plan.
Response: Concur –The description has been added to the plan as required.

Comment 5) Show the elevations for the existing contours.
Response: Concur –the elevations have been shown on the existing contours. Note that all of the existing contours within the property are at the elevation of 4958.

Finally, I'm in hopes of getting on the DRB agenda for next week (8/1/12). If at all possible, would you please consider reviewing this before the end of Tuesday (7/24) so that I can make the application by noon on 7/24? Anything you can do would be greatly appreciated.
Note that I'm submitting these materials via e-mail and will follow up with an official re-submittal on Monday morning (7/23/12).

Please contact me if you have any questions or comments.
Sincerely,

GUY JACKSON & ASSOCIATES, LLC

Guy C. Jackson, PE
President
10522 Florence Ave. NE
Albuquerque, NM 87122
505-235-1426

Drainage Summary

Project: Zamora Subdivision
Project Numbe:
Date: 07/20/12
By: GJA

Site Location

Precipitation Zone 2 Per Table A-1 COA DPM Section 22.2

Existing summary

Basin Name		Basin1	Off Lot 7	Off Lot 8,9	Off Lot 1 TA&B	Off MRGCD	TOTAL
Soil Treatment (acres)							
Area "A"		0.32792	0.00	0.00	0.00	0.33873	0.67
Area "B"		0.00	0.00	0.00	0.00	0.00	0.00
Area "C"		1.31168	0.01676	0.02393	0.047521	0.00	1.40
Area "D"		0.00	0.01676	0.02393	0.047521	0.00	0.09
	TOTAL	1.63960	0.03352	0.04786	0.095042	0.33873	2.15
Excess Runoff (acre-feet)							
100yr. 6hr.		0.14	0.00	0.006	0.013	0.015	0.18
10yr. 6hr.		0.06	0.00	0.00	0.01	0.00	0.08
2yr. 6hr.		0.02	0.00	0.00	0.00	0.00	0.02
100yr. 24hr.		0.14	0.005	0.007	0.014	0.015	0.18
	TOTAL	0.35	0.01	0.02	0.04	0.03	0.46
Peak Discharge (cfs)							
100 yr.		4.63	0.13	0.19	0.37	0.53	5.85
10yr.		2.37	0.08	0.12	0.23	0.13	2.92
2yr.		0.79	0.04	0.06	0.12	0.00	1.00
	TOTAL	7.78	0.25	0.36	0.72	0.66	9.78

Proposed summary

Basin Name		Basin2ADev	Basin2BDev	Basin2CDev	Basin2DDev	BasinOFF	TOTAL
Soil Treatment (acres)							
Area "A"		0.0172167	0.00	0.130850	0.046028	0.00	0.19
Area "B"		0.00	0.00	0.00	0.00	0.00	0.00
Area "C"		0.31346	0.36213	0.3663	0.399721	0.00	1.44
Area "D"		0.07136	0.08133	0.04340	0.104921	0.0733	0.37
	TOTAL	0.40204	0.44346	0.54055	0.55067	0.0733	2.01
Excess Runoff (acre-feet)							
100yr. 6hr.		0.04	0.05	0.05	0.06	0.01	0.21
10yr. 6hr.		0.02	0.02	0.02	0.03	0.01	0.11
2yr. 6hr.		0.01	0.01	0.01	0.01	0.00	0.04
100yr. 24hr.		0.05	0.05	0.05	0.06	0.02	0.22
	TOTAL	0.12	0.13	0.13	0.16	0.04	0.58
Peak Discharge (cfs)							
100yr		1.35	1.52	1.56	1.82	0.34	6.59
10yr.		0.77	0.87	0.81	1.03	0.23	3.71
2yr.		0.32	0.37	0.30	0.43	0.14	1.56
	TOTAL	2.43	2.76	2.67	3.29	0.71	11.86

GJA,LLC

Civil Engineering

PROJECT Zamora Subdivision
PROJECT NO.
DATE 07/20/12
BY GJA

DPM Section 22.2 - Hydrology

Part A-Watersheds less than 40 acres.
January, 1993

INSTRUCTIONS

* Spread sheet requires three input areas (dark cells):
  - Location
  - >A.1 Precipitation Zone
  - >A.3 Land Treaments
* Values from the tables are automatically placed using "if" statements.
* Table values should be checked for correctness for each use.

SUMMARY

Location	Basin1	Off Lot 7	Off Lot 1	Off MRGCD TOTAL	TOTALS	
Precipitation Zone	2	2	2	2	2	
Land Area	1.64	0.03	0.10	0.34	2.15	acres
Excess Precipitation Volume						
>>> 100-year 6-hour (design)	0.14	0.00	0.01	0.01	0.18	**acre-ft.**
10-year 6-hour	0.06	0.00	0.01	0.00	0.08	acre-ft.
2-year 6-hour	0.02	0.00	0.00	0.00	0.02	acre-ft.
100-year 24-hour	0.14	0.01	0.01	0.01	0.18	acre-ft.
Peak Discharge Rates (DPM)						
>>> Q100 (design)	4.63	0.13	0.37	0.53	5.85	**cfs**
Q10	2.37	0.08	0.23	0.13	2.92	cfs
Q2	0.79	0.04	0.12	0.00	1.00	cfs

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INPUT AND CALCULATIONS

	LOCATION	Basin1	Off Lot 7	Off Lot 1	Off MRGCD		
>A.1	PRECIPITATION ZONE (from Table A-1)	2	2	2	2	2	
>A.2	DEPTHS (from Table A-2)					TOTALS	
	100-YEAR STORM (P60)	2.01	2.01	2.01	2.01	2.01	inches
	100-YEAR STORM (P360)	2.35	2.35	2.35	2.35	2.35	inches
	100-YEAR STORM (P1440)	2.75	2.75	2.75	2.75	2.75	inches
	10-YEAR (P360) (Calculated: P360*RPF10)	1.57	1.57	1.57	1.57	1.57	inches
	2-YEAR (P360) (Calculated: P360*RPF2)	1.02	1.02	1.02	1.02	1.02	inches
>A.3	**LAND TREATMENTS (AI)**						
	Treatment A	0.33	0.00	0.00	0.34	0.67	acres
	Treatment B	0.00	0.00	0.00	0.00	0.00	acres
	Treatment C	1.31	0.02	0.05	0.00	1.40	acres
	Treatment D	0.00	0.02	0.05	0.00	0.09	acres
	Total Area	1.64	0.03	0.10	0.34	2.16	acres
>A.4	**ABSTRACTIONS**	**See A.5**	**See A.5**	**See A.5**	**See A.5**	**See A.5**	

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INPUT AND CALCULATIONS (CONT)

>A.5 EXCESS PRECIPITATION 6 HOUR AND 24 HOUR (EI)

from Table A-8

					TOTALS	
100-year 6-hour						
Treatment A	0.53	0.53	0.53	0.53	0.53	inches
Treatment B	0.78	0.78	0.78	0.78	0.78	inches
Treatment C	1.13	1.13	1.13	1.13	1.13	inches
Treatment D	2.12	2.12	2.12	2.12	2.12	inches
WEIGHTED E (Sum EI*AI/A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	inches
VOLUME V100:6h (E*A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	acre-ft.
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ft^3
10-year 6-hour						
Treatment A	0.13	0.13	0.13	0.13	0.13	inches
Treatment B	0.28	0.28	0.28	0.28	0.28	inches
Treatment C	0.52	0.52	0.52	0.52	0.52	inches
Treatment D	1.34	1.34	1.34	1.34	1.34	inches
WEIGHTED E (Sum EI*AI/A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	inches
VOLUME V10:6h (E*A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	acre-ft.
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ft^3
2-year 6-hour						
Treatment A	0.00	0.00	0.00	0.00	0.00	inches
Treatment B	0.02	0.02	0.02	0.02	0.02	inches
Treatment C	0.15	0.15	0.15	0.15	0.15	inches
Treatment D	0.79	0.79	0.79	0.79	0.79	inches
WEIGHTED E (Sum EI*AI/A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	inches
VOLUME V2:6h (E*A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	acre-ft.
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ft^3
100-year 24-hour						
VOLUME V100:24h (V100-6h+Ad*P1440-P360)/12)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	acre-ft.
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ft^3

CALCULATIONS FOLLOW

A/16

INPUT AND CALCULATIONS (CON'T)

>A.6 **PEAK DISCHARGE RATE FOR SMALL WATERSHEDS (QI)**
from Table A-9

					TOTALS	
100-year						
Treatment A	1.56	1.56	1.56	1.56	1.56	cfs/acre
Treatment B	2.28	2.28	2.28	2.28	2.28	cfs/acre
Treatment C	3.14	3.14	3.14	3.14	3.14	cfs/acre
Treatment D	4.70	4.70	4.70	4.70	4.70	cfs/acre
Q100 (Sum QI*AI)	4.83	0.13	0.37	0.03	5.86	cfs
10-year						
Treatment A	0.38	0.38	0.38	0.38	0.38	cfs/acre
Treatment B	0.95	0.95	0.95	0.95	0.95	cfs/acre
Treatment C	1.71	1.71	1.71	1.71	1.71	cfs/acre
Treatment D	3.14	3.14	3.14	3.14	3.14	cfs/acre
Q10 (Sum QI*AI)	2.37	0.08	0.23	0.13	2.92	cfs
2-year						
Treatment A	0.00	0.00	0.00	0.00	0.00	cfs/acre
Treatment B	0.08	0.08	0.08	0.08	0.08	cfs/acre
Treatment C	0.60	0.60	0.60	0.60	0.60	cfs/acre
Treatment D	1.86	1.86	1.86	1.86	1.86	cfs/acre
Q2 (Sum QI*AI)	0.79	0.04	0.12	0.00	1.00	cfs

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GJA,LLC

Civil Engineering

PROJECT Zamora Subdivision
PROJECT NO.
DATE 07/20/12
BY GJA

DPM Section 22.2 - Hydrology

Part A-Watersheds less than 40 acres.
January, 1993

INSTRUCTIONS

* Spread sheet requires three input areas (dark cells):
  - Location
  - >A.1 Precipitation Zone
  - >A.3 Land Treaments
* Values from the tables are automatically placed using "if" statements.
* Table values should be checked for correctness for each use.

SUMMARY

Location	LOT 2A Basin2ADev	LOT 2B Basin2BDev	LOT 2C Basin2CDev	LOT 2D Basin2DDev	HAMMERHEAD @ TOMAHAWK I BasinOFF	TOTALS	
Precipitation Zone	2	2	2	2	2	2	
Land Area	0.40	0.44	0.54	0.55	0.07	2.01	acres
Excess Precipitation Volume							
>>> 100-year 6-hour (design) V360 =	0.0429	0.0485	0.0479	0.0582	0.01	0.21	acre-ft.
10-year 6-hour	0.02	0.02	0.02	0.03	0.01	0.11	acre-ft.
2-year 6-hour	0.01	0.01	0.01	0.01	0.00	0.04	acre-ft.
100-year 24-hour	0.05	0.05	0.05	0.06	0.02	0.22	acre-ft.
Peak Discharge Rates (DPM)							
>>> Q100 (design)	1.35	1.52	1.56	1.82	0.34	6.59	cfs
Q10	0.77	0.87	0.81	1.03	0.23	3.71	cfs
Q2	0.32	0.37	0.30	0.43	0.14	1.56	cfs

CALCULATIONS FOLLOW

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INPUT AND CALCULATIONS

LOCATION	Basin2ADev	Basin2BDev	Basin2CDev	Basin2DDev	BasinOFF		
>A.1 PRECIPITATION ZONE (from Table A-1)	2	2	2	2	2	2	
						TOTALS	
>A.2 DEPTHS (from Table A-2)							
100-YEAR STORM (P60)	2.01	2.01	2.01	2.01	2.01	2.01	inches
100-YEAR STORM (P360)	2.35	2.35	2.35	2.35	2.35	2.35	inches
100-YEAR STORM (P1440)	2.75	2.75	2.75	2.75	2.75	2.75	inches
10-YEAR (P360) (Calculated: P360*RPF10)	1.57	1.57	1.57	1.57	1.57	1.57	inches
2-YEAR (P360) (Calculated: P360*RPF2)	1.02	1.02	1.02	1.02	1.02	1.02	inches
>A.3 LAND TREATMENTS (Ai)						TOTALS	
Treatment A	0.02	0.00	0.13	0.05	0.00	0.19	acres
Treatment B	0.00	0.00	0.00	0.00	0.00	0.00	acres
Treatment C	0.31	0.36	0.37	0.40	0.00	1.44	acres
Treatment D	0.07	0.08	0.04	0.10	0.07	0.37	acres
Total Area	0.40	0.44	0.54	0.55	0.07	2.01	acres
>A.4 ABSTRACTIONS	See A.5	See A.5	See A.5	See A.5	See A.5	See A.5	

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INPUT AND CALCULATIONS (CONT'D)

>A.5 EXCESS PRECIPITATION 6 HOUR AND 24 HOUR (Ei) from Table A-8						TOTALS	
100-year 6-hour							
Treatment A	0.53	0.53	0.53	0.53	0.53	0.53	inches
Treatment B	0.78	0.78	0.78	0.78	0.78	0.78	inches
Treatment C	1.13	1.13	1.13	1.13	1.13	1.13	inches
Treatment D	2.12	2.12	2.12	2.12	2.12	2.12	inches
WEIGHTED E (Sum Ei*Ai/A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	inches
VOLUME V100:6h (E*A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	acre-ft.
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ft^3
10-year 6-hour							
Treatment A	0.13	0.13	0.13	0.13	0.13	0.13	inches
Treatment B	0.28	0.28	0.28	0.28	0.28	0.28	inches
Treatment C	0.52	0.52	0.52	0.52	0.52	0.52	inches
Treatment D	1.34	1.34	1.34	1.34	1.34	1.34	inches
WEIGHTED E (Sum Ei*Ai/A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	inches
VOLUME V10:6h (E*A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	acre-ft.
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ft^3
2-year 6-hour							
Treatment A	0.00	0.00	0.00	0.00	0.00	0.00	inches
Treatment B	0.02	0.02	0.02	0.02	0.02	0.02	inches
Treatment C	0.15	0.15	0.15	0.15	0.15	0.15	inches
Treatment D	0.79	0.79	0.79	0.79	0.79	0.79	inches
WEIGHTED E (Sum Ei*Ai/A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	inches
VOLUME V2:6h (E*A)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	acre-ft.
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ft^3
100-year 24-hour VOLUME V100:24h (V100-6h+Ad*P1440-P360)/12)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	acre-ft.
	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	ft^3

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INPUT AND CALCULATIONS (CON'T)

>A.6 **PEAK DISCHARGE RATE FOR SMALL WATERSHEDS (Qi)**

from Table A-9

						TOTALS	
100-year							
Treatment A	1.56	1.56	1.56	1.56	1.56	1.56	cfs/acre
Treatment B	2.28	2.28	2.28	2.28	2.28	2.28	cfs/acre
Treatment C	3.14	3.14	3.14	3.14	3.14	3.14	cfs/acre
Treatment D	4.70	4.70	4.70	4.70	4.70	4.70	cfs/acre
Q100 (Sum Qi*Ai)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	cfs
10-year							
Treatment A	0.38	0.38	0.38	0.38	0.38	0.38	cfs/acre
Treatment B	0.95	0.95	0.95	0.95	0.95	0.95	cfs/acre
Treatment C	1.71	1.71	1.71	1.71	1.71	1.71	cfs/acre
Treatment D	3.14	3.14	3.14	3.14	3.14	3.14	cfs/acre
Q10 (Sum Qi*Ai)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	cfs
2-year							
Treatment A	0.00	0.00	0.00	0.00	0.00	0.00	cfs/acre
Treatment B	0.08	0.08	0.08	0.08	0.08	0.08	cfs/acre
Treatment C	0.60	0.60	0.60	0.60	0.60	0.60	cfs/acre
Treatment D	1.86	1.86	1.86	1.86	1.86	1.86	cfs/acre
Q2 (Sum Qi*Ai)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	cfs

9/16

WHPacific

NAME OF PROJECT / CALCULATION: ZAMORA SUBDIVISION

SHEET NO. OF 10/16

COMPUTED BY: | CHECKED BY: | JOB/TASK NO. | DATE: 7/13/12

IDENTIFY/ADDRESS THESE ELEMENTS: 1.0 SUBJECT | 2.0 PURPOSE | 3.0 REFERENCES | 4.0 ASSUMPTIONS | 5.0 CRITERIA / REQUIREMENTS | 6.0 SKETCHES | 7.0 CALCULATIONS | 8.0 CONCLUSIONS | 9.0 ATTACHMENTS

REVISION # | SUPERSEDES CALC TITLE | CHECKED BY: | DATED:

HYDROLOGY

A_{TOTAL} 1.6396 AC

ZA_{TOT}: 0.41104 AC

$-ZA_{(HAMMERHEAD)}$: 0.0597A

ZA_{NET}: 0.35134 AC

ZB_{TOT}: 0.40924AC

$-ZB_{(HAMMERHEAD)}$: 0.0136 AC

ZB_{NET} 0.39564AC

UNDEVELOPED CONDITION:

A_{TOT} = 1.6396 AC

20%A: 0.32792A

80%C: 1.31168AC

1.6396 AC ✓

DEVELOPED CONDITION:

HAMMERHEAD:

A_{TOT}: 0.0733AC

A(LOT 2A): 2600# = .0597AC (81%)

A(LOT 2B): 593# = 0.0136AC (19%)

.0733AC ✓

FROM SPREADSHEET:

$ZA_{Q(81\%)}$ = 0.28cfs

$ZA_{\#(81\%)}$ = 353cf

$ZB_{Q(19\%)}$ = 0.06cfs

$ZB_{\#(19\%)}$ = 83cf

	ZA_{TOT} 0.35134	ZB_{TOT} 0.39564AC	ZC_{TOT} 0.40972AC	ZD_{TOT} 0.40964AC
IMP	−0.0546 (2377#/IMP)	−0.0574AC (2500#/PAD)	−0.0434AC (1890#/PAD)	−.0574AC (2500#/PAD)
	0.2967AC	0.3382AC	0.3663AC	0.3522AC
% IMP	15.54% (16%D)	14.51% (15%D)	10.59% (10%D)	14.01% (14%D)
% PERV	84.45% (84%C)	85.59% (85%C)	89.4% (90%C)	85.98% (86%C)

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NAME OF PROJECT / CALCULATION

COMPUTED BY: | CHECKED BY: | JOB/TASK NO. | DATE: 7/21/12

SHEET NO. 11/16 OF

1.0 SUBJECT | 2.0 PURPOSE | 3.0 REFERENCES | 4.0 ASSUMPTIONS | 5.0 CRITERIA / REQUIREMENTS

6.0 SKETCHES | 7.0 CALCULATIONS | 8.0 CONCLUSIONS | 9.0 ATTACHMENTS

IDENTIFY/ADDRESS THESE ELEMENTS

REVISION # | SUPERSEDES CALC TITLE | CHECKED BY: | DATED:

OFFSITE BASINS	AREA(#)	AREA(AC)	LAND TREATMENT C	LAND TREATMENT D
LOT 7	1460	0.03352	0.01676 (50%)	0.01676 (50%)
LOT 8A & 9A	2085	0.04 7865	0.02 393 (50%)	0.02393 (50%)
LOT 1, TRACTS A & B	4140	0.09504	0.09752 1 (50%)	0.09752 1 (50%)
MRGCD	7050 (1) 5700 (2) 2005 (3) 14,755	0.33873	0.33873 (100%)	0%

DEVELOPED OFFSITE BASIN ADDS

BASIN	A	B	C	D
BASIN 2A DEV			.2967	.0546
ADD MRGCD (1)	.0172176			
ADD LOT 7			.01676	.01676
TOTAL:	0.0172167		0.31346	0.07136
BASIN 2B DEV			.3382	.0574
ADD LOTS 8A & 9A			.02393	.02393
TOTAL:			0.36213	0.08133

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NAME OF PROJECT / CALCULATION			SHEET NO. OF 12/16
COMPUTED BY:	CHECKED BY:	JOB/TASK NO.	DATE: 7/21/12

IDENTIFY/ADDRESS THESE ELEMENTS	1.0 SUBJECT	2.0 PURPOSE	3.0 REFERENCES	4.0 ASSUMPTIONS	5.0 CRITERIA / REQUIREMENTS
	6.0 SKETCHES	7.0 CALCULATIONS	8.0 CONCLUSIONS	9.0 ATTACHMENTS	

REVISION #	SUPERSEDES CALC TITLE	CHECKED BY:	DATED:

DEVELOPED OFFSITE BASIN ADDS

BASIN	A	B	C	D
BASIN 22DEV		.3663	.0434	
ADD MR(ALD (2)	0.13085			
TOTAL:	0.13085	0.3663	0.0434	
BASIN 2D DEV		.3522	.0574	
ADD MR(ALD(3)	0.046028			
ADD LOT 1, TRACT B		.047521	.047521	
TOTAL:	0.046028	0.399721	0.104921	

BASIN OFF(TOHATCH1) 0.0733

NO ADDS

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NAME OF PROJECT / CALCULATION			SHEET NO.
ZAMOLA SUBDIVISION			OF 13/16
COMPUTED BY: GCJ	CHECKED BY:	JOB/TASK NO.	DATE: 7/21/12

IDENTIFY/ADDRESS THESE ELEMENTS	1.0 SUBJECT	2.0 PURPOSE	3.0 REFERENCES	4.0 ASSUMPTIONS	5.0 CRITERIA / REQUIREMENTS
	6.0 SKETCHES	7.0 CALCULATIONS	8.0 CONCLUSIONS	9.0 ATTACHMENTS	

REVISION #	SUPERSEDES CALC TITLE	CHECKED BY:	DATED:

100YR-10DAY STORM (REVISED 7/21/12) ZONE ATLAS J-12/13

(C-9) PG C-7 DPM 22.2

$P_{10} = 10.0 - (24.9/(P_{1440})^{1.4})$

$= 10 - 24.9/3.81$

$= 3.47"$

P_{1440} (24HR) $= 2.6$ in (Figure C-3) 22.2

P_{360} (6HR) $= 2.2$ in (Figure C-2) 22.2

$V_{10DAY} = V_{360} + [A_D * (P_{10} - P_{360}) / 12 \text{ in/ft}]$ A-9, Pg A-8 22.2

LOT 2A:

$V_{10} = 0.0429 \text{ AC-FT} + [0.07136 (3.47 - 2.2) / 12 \text{ in/ft}]$ (1.27)

$= 0.0429 + 0.00755 = 0.05052 \text{ AC-FT}$

$= 2,198 \text{ CF}$

LOT 2B:

$V_{10} = 0.0485 \text{ AC-FT} + [0.08133 (3.47 - 2.2) / 12 \text{ in/ft}]$

$= 0.0485 + 0.008607 = 0.057107 \text{ AC-FT}$

$= 2,488 \text{ CF}$

LOT 2C:

$V_{10} = 0.0479 \text{ AC-FT} + [0.04340 (3.47 - 2.2) / 12 \text{ in/ft}]$

$= 0.0479 + 0.004593 = 0.052493 \text{ AC-FT}$

$= 2,287 \text{ CF}$

LOT 2D:

$V_{10} = 0.0582 \text{ AC-FT} + [0.104921 (3.47 - 2.2) / 12 \text{ in/ft}]$

$= 0.0582 + 0.011104 = 0.069304 \text{ AC-FT}$

$= 3,019 \text{ CF}$

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NAME OF PROJECT / CALCULATION			SHEET NO.
ZAMORA SUBDIVISION			OF 14/16
COMPUTED BY:	CHECKED BY:	JOB/TASK NO.	DATE: 7/12/17

IDENTIFY/ADDRESS THESE ELEMENTS	1.0 SUBJECT	2.0 PURPOSE	3.0 REFERENCES	4.0 ASSUMPTIONS	5.0 CRITERIA / REQUIREMENTS
	6.0 SKETCHES	7.0 CALCULATIONS	8.0 CONCLUSIONS	9.0 ATTACHMENTS	

REVISION #	SUPERSEDES CALC TITLE	CHECKED BY:	DATED:

POND CALCS

LOT 2A

WEST POND:

EL	AREA	VOL	ΣVOL
955	138	0	0
956	331	234.5	234.5
957	581	456	690

$V_1 = \frac{1}{2}(A_1+A_2)h = \frac{1}{2}(138+331)(1) = 234.5$

$V_2 = \frac{1}{2}(A_1+A_2)h = \frac{1}{2}(331+581)1' = 456\,CF$

TOT VOL PROVIDED: 690.5 CF

EAST POND:

EL	AREA	VOL	ΣVOL
55.5	686	0	0
56.5	1095	890.5	890.5
57.5	1557	1326	2216.5

$V_1 = \frac{1}{2}(686+1095)1' = 890.5$

$V_2 = \frac{1}{2}(1095+1557)(1) = 1326\,CF$

TOTAL VOL PROVIDED: 2216.5 CF

GRAND TOTAL VOL PROVIDED: 2907 CF

VOL REQ: ~~1875 CF~~ 2198 CF

100yr-10-DAY

VOL PROVIDED > VOL REQUIRED ✓

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NAME OF PROJECT / CALCULATION			SHEET NO.
ZAMORA SUBDIVISION			OF 15/16
COMPUTED BY:	CHECKED BY:	JOB/TASK NO.	DATE: 7/12/12

IDENTIFY/ADDRESS THESE ELEMENTS	1.0 SUBJECT	2.0 PURPOSE	3.0 REFERENCES	4.0 ASSUMPTIONS	5.0 CRITERIA / REQUIREMENTS
	6.0 SKETCHES	7.0 CALCULATIONS	8.0 CONCLUSIONS	9.0 ATTACHMENTS	

REVISION #	SUPERSEDES CALC TITLE	CHECKED BY:	DATED:

LOT 2B

ELEV	AREA	VOL	ΣVOL
55.5	~~780~~ 1152	0	0
56.5	~~1152~~ 1579	~~966~~	~~966~~
57.5	~~1579~~ 2061	~~1365.5~~	~~2331.5~~

$V_1 = \frac{1}{2}(\frac{1152+1579}{780+1152})(1') =$ ~~966~~ 1366 CF

$V_2 = \frac{1}{2}(\frac{1579+2061}{1579+1152})(1) =$ ~~1365.5~~ 1820 CF

TOTAL VOL PROVIDED: ~~2331.5~~ 3186 CF, VOL REQ: ~~2106 FT3~~ 2488 (100yr-10day)

VOL PROVIDED > VOL REQ ✓

LOT 2C

WEST

ELEV	AREA	VOL	ΣVOL
55.5	138	0	0
56.5	331	234.5	234.5
57.5	581	456	690.5

$V_1 = \frac{1}{2}(138+331)1' =$ 234.5

$V_2 = \frac{1}{2}(331+581)2 =$ 456

$V_{TOT} =$ 690.5 CF

EAST

ELEV	AREA	VOL	ΣVOL
55.5	464	0	0
56.5	760	612	612
57.5	1112		

$V_1 = \frac{1}{2}(464+760)1' = 612$

$V_2 = \frac{1}{2}(760+1112)1' = 936$

$V_{TOT} = 1548$ CF

VOL PROVIDED > VOL REQUIRED ✓

$V_{TOT\ PROVIDED} = 690.5 + 1548 = 2238.5$ CF, V_{REQ}: ~~2077~~ 2287 CF (100-yr-10day)

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NAME OF PROJECT / CALCULATION			SHEET NO.
ZAMORA SUBDIVISION			OF 16/16
COMPUTED BY:	CHECKED BY:	JOB/TASK NO.	DATE: 7/12/12

IDENTIFY/ADDRESS THESE ELEMENTS	1.0 SUBJECT	2.0 PURPOSE	3.0 REFERENCES	4.0 ASSUMPTIONS	5.0 CRITERIA / REQUIREMENTS
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REVISION #	SUPERSEDES CALC TITLE	CHECKED BY:	DATED:

LOT 2D

ELEV	AREA	VOL	ΣVOL
55.5	971	0	0
56.5	1388	1179.5	1179.5
57.5	1862	1625	2804.5

$\forall_1 = \frac{1}{2}(971 + 1388)1' = 1179.5$

$\forall_2 = \frac{1}{2}(1388 + 1862)1' = 1625$

$\forall_{TOT\ PROVIDED}$: 2804.5CF V_{REQ}: 2178CF ✓
100yr-10day

LOT 2D (REVISED)

ELEV	AREA	VOL	ΣVOL
55.5	1388		
56.5	1862		
57.5	2392		

$\forall_1 = \frac{1}{2}(1388 + 1862)1' = 1625CF$

$\forall_2 = \frac{1}{2}(1862 + 2392)1' = 2127CF$

$\forall_{TOT\ PROVIDED}$: 3752CF

V_{REQ}: 3,019CF

100yr-10day

VOL PROVIDED > VOL REQUIRED ✓

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