

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

October 15, 2024

Ronald Bohannon, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM 87109

**RE: Nobis Rehab Hospital
1100 Woodward Pl. NE
Conceptual Grading Plan
Engineer's Stamp Date: 10/03/2024
Hydrology File: J15D053**

Dear Mr. Bohannon:

PO Box 1293
Albuquerque
NM 87103
Based upon the information provided in your submittal received 10/04/2024, the Conceptual Grading Plan is preliminarily approved for action by the Development Facilitation Team (DFT) on the Site Plan for a Building Permit.

PRIOR TO BUILDING PERMIT / WORK ORDER:

1. Please submit a more detailed Grading & Drainage Plan to Hydrology for review and approval. This digital (.pdf) is emailed to PLNDRS@cabq.gov along with the Drainage Transportation Information Sheet.

www.cabq.gov
As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 505-924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 505-924-3362 or richardmartinez@cabq.gov.

Sincerely,

Richard Martinez, P.E.
Senior Engineer, Hydrology
Planning Department



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (DTIS)

Project Title: _____ Hydrology File # _____

Legal Description: _____

City Address, UPC, OR Parcel: _____

Applicant/Agent: _____ Contact: _____

Address: _____ Phone: _____

Email: _____

Applicant/Owner: _____ Contact: _____

Address: _____ Phone: _____

Email: _____

TYPE OF DEVELOPMENT: Plat (# of lots) _____ Single Family Home
All other Developments

RE-SUBMITTAL: YES NO

DEPARTMENT: TRANSPORTATION HYDROLOGY/DRAINAGE

Check all that apply under Both the Type of Submittal and the Type of Approval Sought:

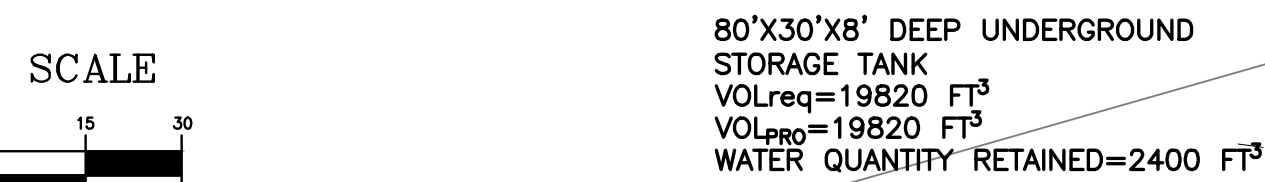
TYPE OF SUBMITTAL:

Engineering / Architect Certification
Conceptual Grading & Drainage Plan
Grading & Drainage Plan, and/or Drainage Report
Drainage Report (Work Order)
Drainage Master Plan
Conditional Letter of Map Revision (CLOMR)
Letter of Map Revision (LOMR)
Floodplain Development Permit
Traffic Circulation Layout (TCL) – Administrative
Traffic Circulation Layout (TCL) – DFT Approval
Traffic Impact Study (TIS)
Street Light Layout
OTHER (SPECIFY) _____

TYPE OF APPROVAL SOUGHT:

Pad Certification
Building Permit
Grading Permit
Paving Permit
SO-19 Permit
Foundation Permit
Certificate of Occupancy - Temp Perm
Preliminary / Final Plat
Site Plan for Building Permit - DFT
Work Order (DRC)
Release of Financial Guarantee (ROFG)
CLOMR / LOMR
Conceptual TCL - DFT
OTHER (SPECIFY) _____

DATE SUBMITTED: _____



- ## NOTICE TO CONTRACTORS

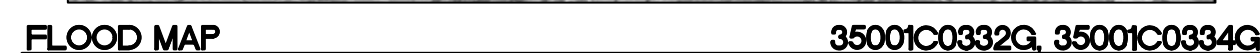
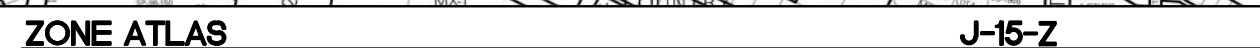
1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.
6. SLOPES NOT STABILIZED AT THE END OF THE PROJECT SHALL BE STABILIZED IN ACCORDANCE WITH COA SPECS OR 3" GRAVEL.

CAUTION

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.




STRUCTURE TABLE		
STRUCTURE	GRATE	INVERT
INLET 1	5020.00	5017.00
INLET 2	5025.30	5021.30
INLET 3	5028.90	5024.90 IN 5024.80 OUT
INLET 4	5027.05	5023.00 IN 502.90 OUT

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION

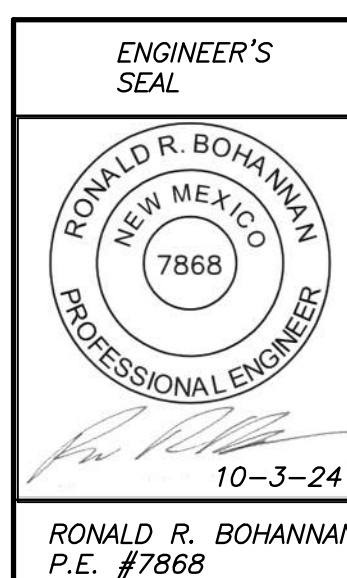
PRELIMINARY APPROVED

DATE: 10/15/2024

BY: 

HydroTrans # J15D053

THESE PLANS AND/OR REPORT ARE
CONCEPTUAL. NO INFORMATION MAY
BE NEEDED IN THEM AND SUBMITTED TO
HYDROLOGY FOR BUILDING PERMIT APPROVAL.



NOBIS REHAB HOSPITAL
1100 WOODWARD PL.

CONCEPTUAL GRADING PLAN

TIERRA WEST, LLC
5571 MIDWAY PARK PL NE
ALBUQUERQUE, NEW MEXICO 87109
(505) 858-3100
www.tierrawestllc.com

DRAWN BY
pm

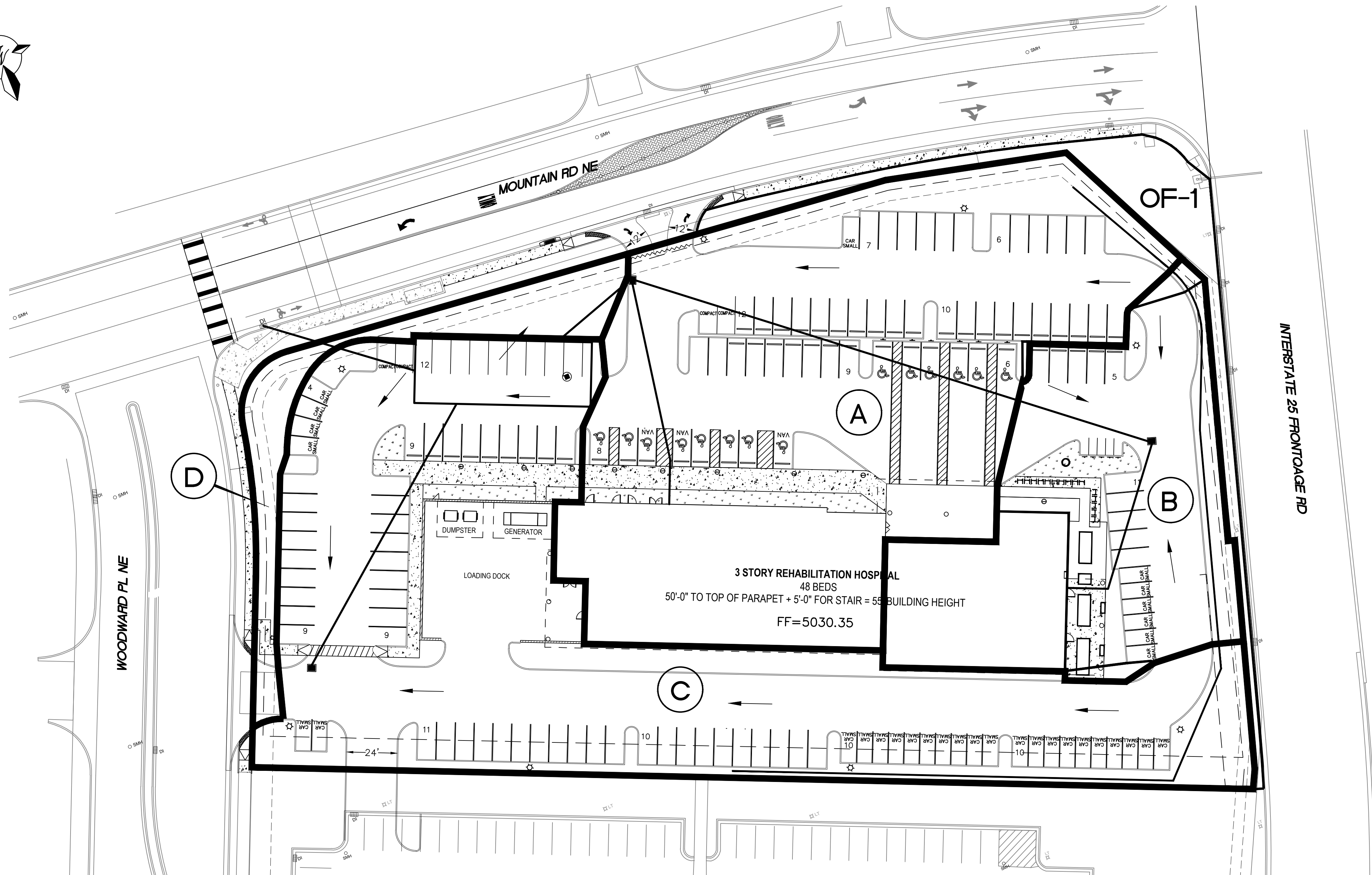
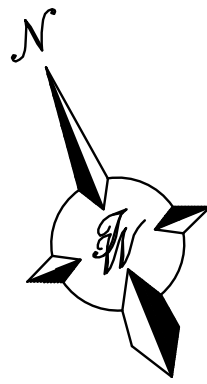
DATE
10-3-24

DRAWING
2023123-G

SHEET #

GR-1

JOB #
2023123



EXISTING DRAINAGE:

THIS SITE IS LOCATED AT THE SOUTHEAST CORNER OF WOODWARD PLACE AND MOUNTAIN ROAD. THE SITE IS BOUNDED BY A HOTEL ON THE SOUTH, BY WOODWARD PLACE ON THE EAST, MOUNTAIN ROAD ON THE NORTH AND THE INTERSTATE 25 FRONTAGE ROAD ON THE EAST CONTAINING APPROXIMATELY 2.75 ACRES. THE SITE IS CURRENTLY VACANT AND DRAINS FROM EAST TO WEST. THERE ARE MINIMAL OFFSITE FLOWS THAT ENTER THE SITE FROM THE EAST ALONG THE FRONTAGE ROAD. THE SITE IS NOT LOCATED IN A FLOOD PLAIN AS SHOWN ON FIRM MAP 35001C0334G. THE SITE CURRENTLY DISCHARGES 8.37 CFS.

PROPOSED DRAINAGE:

THE PROJECT IS LOCATED WITHIN THE GATEWAY CENTER MASTER DRAINAGE PLAN AREA AND CONSISTS OF THREE DEVELOPED BASINS WITHIN THAT PLAN AREA. BASIN A-1 CONSISTS OF MOST OF THIS PROJECT AREA AND MAY RELEASE A RESTRICTED DISCHARGE OF 2.90 CFS TO THE EXISTING STORM SEWER LOCATED IN WOODWARD PLACE. BASIN A-2 CONSISTS MAINLY OF AN OFFSITE AREA ALONG THE FRONTAGE ROAD THAT DRAINS THROUGH THE SITE AND FREELY DISCHARGES 1.44 CFS TO MOUNTAIN ROAD. BASIN A-3 IS THE SLOPE ALONG MOUNTAIN ROAD AND FREELY DISCHARGES 0.77 CFS TO THE STREET WHICH IS CAPTURED IN EXISTING DROP INLETS.

THE PROPOSED SITE IS DIVIDED INTO FOUR NEW BASINS. BASINS A, B AND C WILL DRAIN TO DROP INLETS AND BE CONVEYED TO AN UNDERGROUND DETENTION FACILITY THAT WILL DISCHARGE AT A CONTROLLED RATE TO THE EXISTING STORM SEWER IN WOODWARD PLACE. BASIN D IS A SLOPED AREA DRAINING 0.31 CFS TO WOODWARD PLACE AND MOUNTAIN ROAD. BASIN OF-1 IS THE OFF-SITE BASIN THAT WILL BE ALLOWED TO PASS THROUGH THE SITE. PER THE GATEWAY CENTER MASTER DRAINAGE PLAN THIS SITE MAY DISCHARGE A TOTAL OF 5.09 CFS TO THE EXISTING STORM SEWER. THEREFORE THE DISCHARGE FROM THE UNDERGROUND DETENTION FACILITY WILL BE LIMITED TO 4.78 CFS AS 0.31 CFS WILL SURFACE DISCHARGE TO THE STREET.

THE UNDERGROUND DETENTION FACILITY WILL RETAIN THE REQUIRED WATER QUALITY VOLUME OF 2,086 CUBIC FEET, WHICH WILL BE ALLOWED TO INFILTRATE INTO THE GROUND.

POND

Ab - Bottom Of The Pond Surface Area
At - Top Of The Pond Surface Area
D - Water Depth
Dt - Total Pond Depth
C - Change In Surface Area / Water Depth

$$\text{Volume} = \text{Ab} * \text{D} + 0.5 * \text{C} * \text{D}^2$$

$$\text{C} = (\text{At} - \text{Ab}) / \text{Dt}$$

Ab = 2,400.00
At = 2,400.00
Dt = 7.00
C = 0.00

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
5019.50	0.00	0.00	0.0000
5021.50	2.00	0.1102	2.3802
5022.50	3.00	0.1653	3.0165
5023.50	4.00	0.2204	3.5402
5024.50	5.00	0.2755	3.9958
5025.50	6.00	0.3306	4.4046
5026.50	7.00	0.3857	4.7785

Orifice Equation

$$Q = \text{CA} \sqrt{2gH}$$

C = 0.6
Diameter (in) = 8.4
Area (ft²) = 0.385
g = 32.2
H (Ft) = Depth of water above center of orifice
Q (CFS) = Flow

Weighted E Method

On-Site Basins										
Basin	Area (sf)	Area (acres)	Treatment A % (acres)	Treatment B % (acres)	Treatment C % (acres)	Treatment D % (acres)	Weighted E (in)	100-Year Volume (ac-ft)	Flow cfs	10-Year Weighted E (in)
OF-1	5,065	0.12	0%	0%	0%	0%	1.030	0.010	0.35	0.480
A	44,804	1.03	0%	14%	0%	86%	2.116	0.181	4.18	1.341
B	20,855	0.48	0%	13%	0%	87%	2.131	0.085	1.95	1.353
C	48,464	1.11	0%	19%	0%	81%	2.039	0.189	4.41	1.280
D	5,464	0.13	0%	93%	0%	7%	0.01	0.009	0.31	0.385
							2.21	0.455	10.86	0.004

Equations:

$$\text{Weighted E} = \text{Ea} * \text{Aa} + \text{Eb} * \text{Ab} + \text{Ec} * \text{Ac} + \text{Ed} * \text{Ad} / (\text{Total Area})$$

$$\text{Volume} = \text{Weighted D} * \text{Total Area}$$

$$\text{Flow} = \text{Qa} * \text{Aa} + \text{Qb} * \text{Ab} + \text{Qc} * \text{Ac} + \text{Qd} * \text{Ad}$$

Water Quality Calculation: 0.26" x 2.21 ac = 2,086 cubic feet (0.048 ac-ft)

Excess Precipitation, E (inches)		
Zone 2	100-Year	10 - Year
E _a	0.62	0.15
E _b	0.8	0.3
E _c	1.03	0.48
E _d	2.33	1.51

Peak Discharge (cfs/acre)		
Zone 2	100-Year	10 - Year
Q _a	1.71	0.41
Q _b	2.36	0.95
Q _c	3.05	1.59
Q _d	4.34	2.71

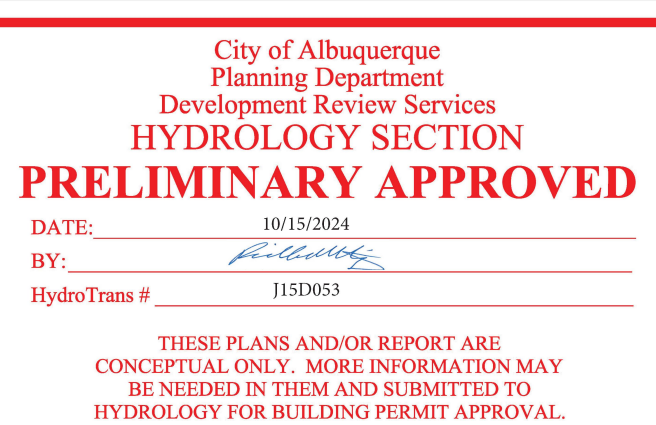
Pipe Capacity


Pipe	D (in)	Slope (%)	Area (ft ²)	R	Q Provided (cfs)	Q Required (cfs)	Velocity (ft/s)
1	18	0.60	1.77	0.375	8.16	4.41	2.50
2	18	0.74	1.77	0.375	9.06	1.95	1.10
3	18	2.22	1.77	0.375	15.69	6.48	3.67
4	18	3.00	1.77	0.375	18.24	4.78	2.70

Manning's Equation:

$$Q = 1.49/n * A * R^{2/3} * S^{1/2}$$

A = Area
R = D/4
S = Slope
n = 0.013



 RONALD R. BOHANNAN P.E. #7868	ENGINEER'S SEAL	NOBIS REHAB HOSPITAL 1100 WOODWARD PL.	DRAWN BY pm
		CONCEPTUAL GRADING PLAN	DATE 10-3-24
			DRAWING 2023123-GR
		TIERRA WEST, LLC 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrawestllc.com	SHEET # GR-2
			JOB # 2023123