

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

December 19, 2025

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

**RE: Nobis Rehab Hospital
1100 Woodward Place NE
Grading and Drainage Plan
Engineer's Stamp Date: 10/16/25
Hydrology File: J15D053
Case # HYDR-2025-00428**

Dear Mr. Bohannon:

Based upon the information provided in your submittal received 12/02/2025, the Grading & Drainage Plans are approved for Building Permit, and Grading Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

PRIOR TO CERTIFICATE OF OCCUPANCY:

1. Engineer's Certification, per the DPM Part 6-14 (F): *Engineer's Certification Checklist For Non-Subdivision* is required.
2. Prior to the backfill of the underground detention system, please compose an Engineer Certification letter for the underground detention system with construction photos. This letter must be included in the Grading & Drainage submittal for Permanent Release of Occupancy.

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.

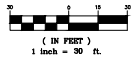
If you have any questions, please contact me at 505-924-3314 or amontoya@cabq.gov.

Sincerely,

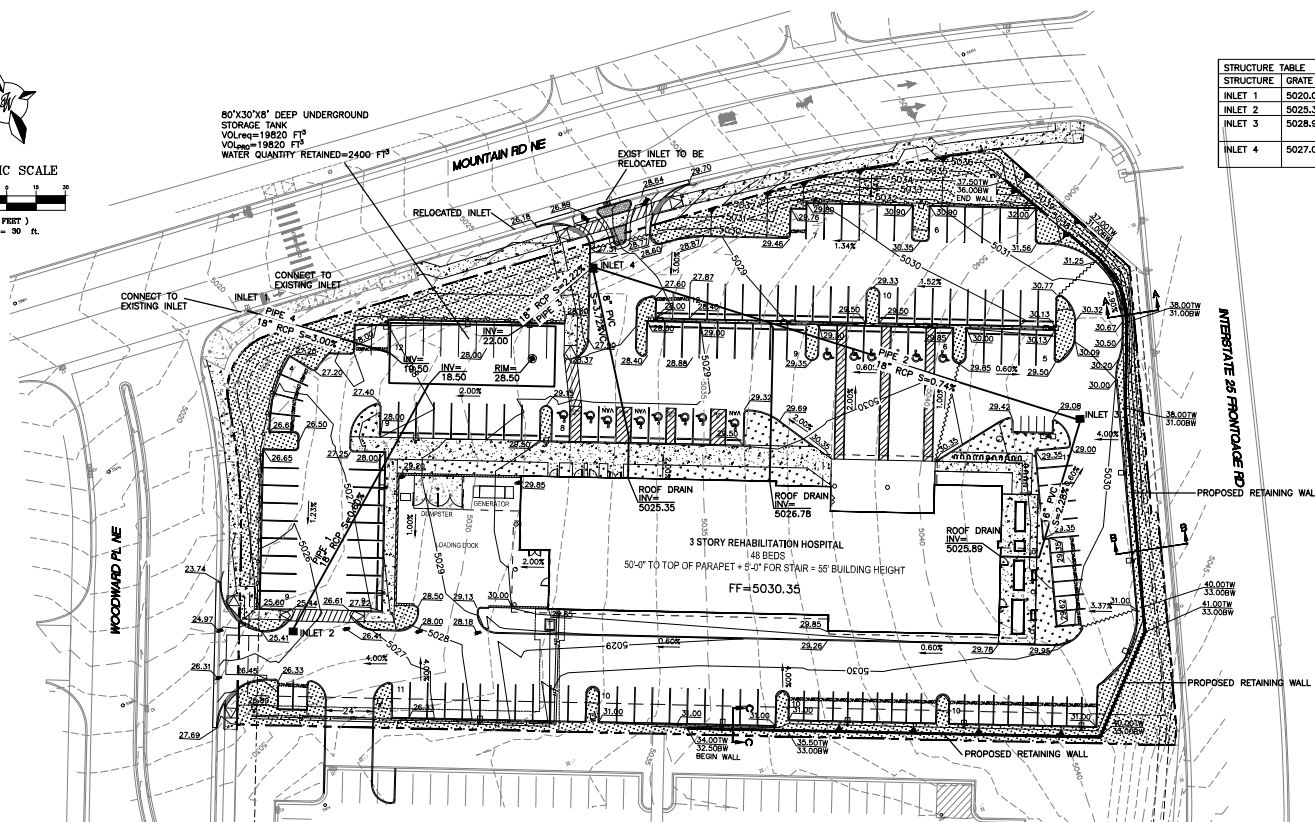
Anthony Montoya, Jr., P.E. CFM
Senior Engineer, Hydrology
Planning Department, Development Review Services



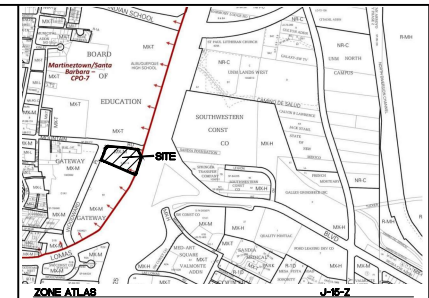
GRAPHIC SCALE



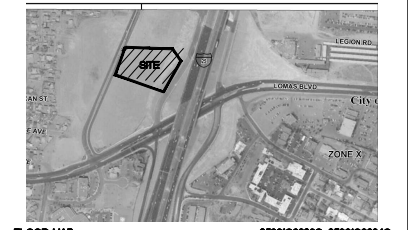
80'X30'X8' DEEP UNDERGROUND STORAGE TANK
 VOLUME=19820 FT³
 VOLUME=19820 FT³
 WATER QUANTITY RETAINED=2400 FT³



STRUCTURE	GRATE	INVERT
INLET 1	5020.00	5017.00
INLET 2	5025.30	5021.30
INLET 3	5028.90	5024.90 IN
INLET 4	5027.05	5023.00 IN 5029.90 OUT



ZONE ATLAS

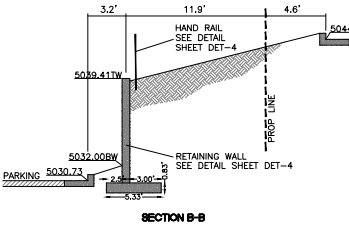
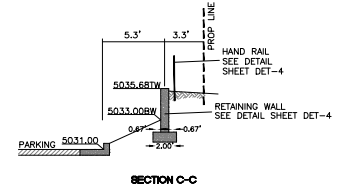
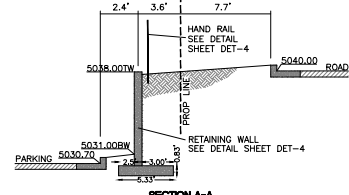


FLOOD MAP

9500C0382G, 9500C0384G

- 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 INTERNAL STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 UPDATE #8 INCLUDING:
 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. ALL SLOPES NOT STABILIZED AT THE END OF THE PROJECT SHALL BE STABILIZED IN ACCORDANCE WITH COA SPECS OR 3" GRAVEL.



LEGEND

- CURB & GUTTER
- - - BOUNDARY LINE
- - - EASEMENT
- - - CENTERLINE
- - - RIGHT-OF-WAY
- ▭ BUILDING
- ▭ SIDEWALK
- - - EXISTING CURB & GUTTER
- - - EXISTING BOUNDARY LINE
- ▨ LANDSCAPING
- ▨ GRADE BREAK
- ▨ PROPOSED STORM SEWER
- ▨ DROP INLET

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APPROVAL	NAME	DATE
INSPECTOR		

City of Albuquerque
 Planning Department
 Development Review Services
HYDROLOGICAL SECTION
APPROVED
 12/19/2025
 J15D053

ENGINEER'S SEAL

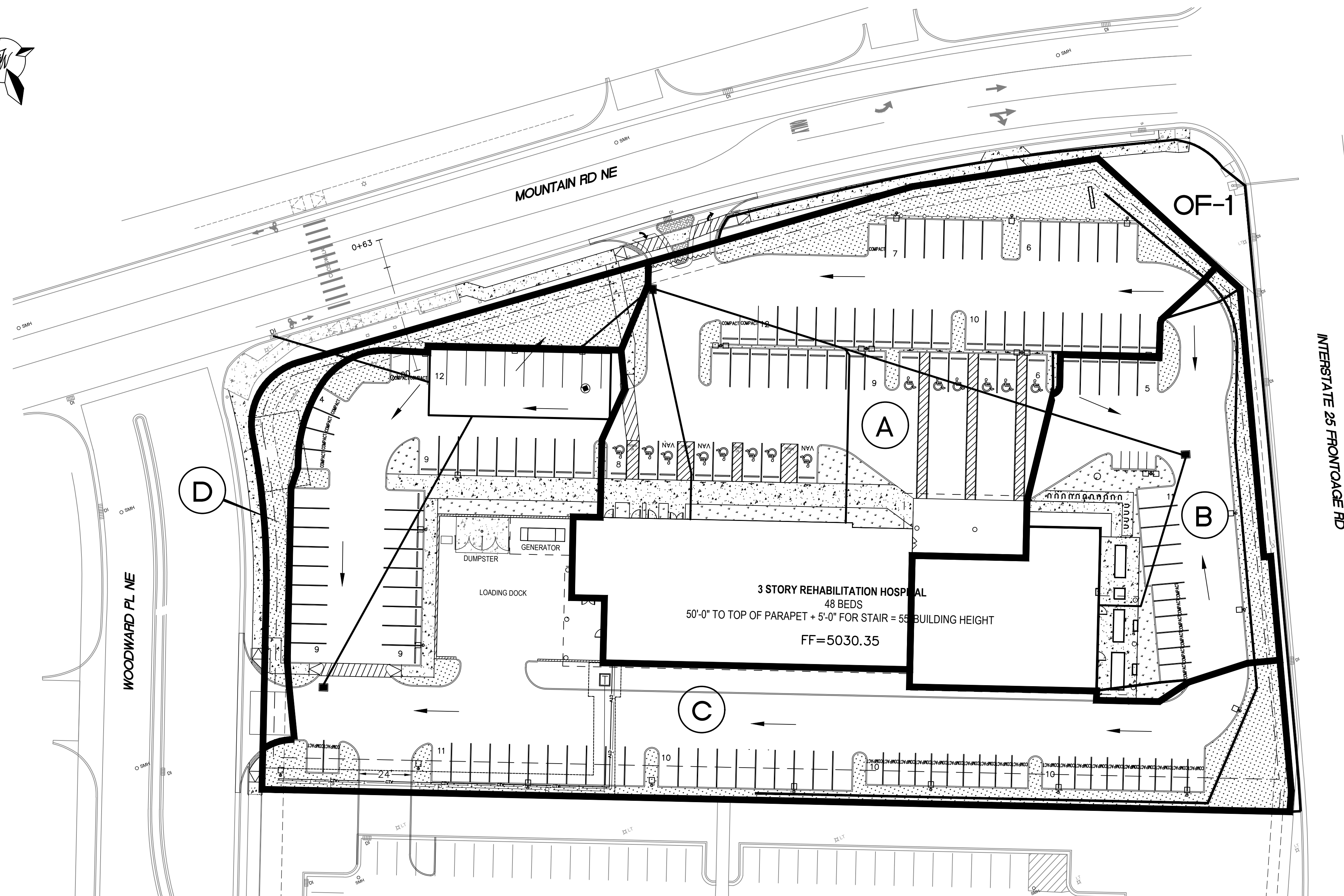
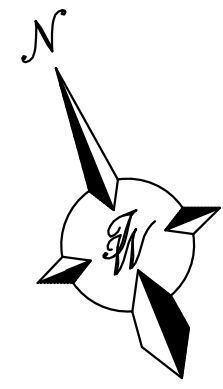
 RONALD R. BOHANNAN
 P.E. #7868

NOBIS REHAB HOSPITAL
100 WOODWARD PL.
GRADING PLAN

TERESA NESEY, LLC
 5571 MIDWAY PARK PL. NE
 ALBUQUERQUE, NEW MEXICO 87109
 (505) 858-3100
 www.teresezey.com

DRAWN BY	DATE	DRAWING	SHEET #	JOB #
pm	10-16-25		GR-1	2023123

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.



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

Volume = $Ab * D + 0.5 * C * D^2$
 $C = (At - Ab) / Dt$

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
 $Q = CA \text{ SQRT}(2gH)$

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				Treatment B				Treatment C				Treatment D				100-Year			10-Year		
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (in)	Volume (ac-ft)	Flow cfs	Weighted E (in)	Volume (ac-ft)	Flow cfs								
OF-1	5,065	0.12	0%	0	0%	0.00	100%	0.12	0%	0.00	1.030	0.010	0.35	0.480	0.005	0.18								
A	44,804	1.03	0%	0	14%	0.14	0%	0.00	86%	0.88	2.116	0.181	4.18	1.341	0.115	2.53								
B	20,855	0.48	0%	0	13%	0.06	0%	0.00	87%	0.42	2.131	0.085	1.95	1.353	0.054	1.19								
C	48,464	1.11	0%	0	19%	0.21	0%	0.00	81%	0.90	2.039	0.189	4.41	1.280	0.119	2.64								
D	5,464	0.13	0%	0	93%	0.12	0%	0.00	7%	0.01	0.907	0.009	0.31	0.385	0.004	0.13								
											2.21			0.455			10.86							

Equations:

Weighted E = $E_a * A_a + E_b * A_b + E_c * A_c + E_d * A_d / (\text{Total Area})$

Volume = Weighted D * Total Area

Flow = $Q_a * A_a + Q_b * A_b + Q_c * A_c + Q_d * A_d$

Water Quality Calculation: $0.26'' \times 2.21 \text{ ac} = 2,086 \text{ cubic feet (0.048 ac-ft)}$

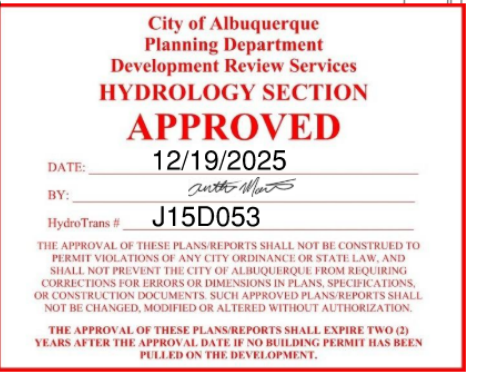
Excess Precipitation, E (inches)			Peak Discharge (cfs/acre)		
Zone 2	100-Year	10-Year	Zone 2	100-Year	10-Year
E _a	0.62	0.15	Q _a	1.71	0.41
E _b	0.8	0.3	Q _b	2.36	0.95
E _c	1.03	0.48	Q _c	3.05	1.59
E _d	2.33	1.51	Q _d	4.34	2.71

Pipe Capacity

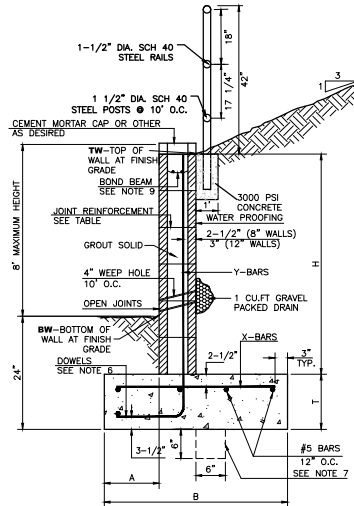
Pipe	D (in)	Slope (%)	Area (ft ²)	R	Q Provided (cfs)	Q Required (cfs)	Velocity (ft/s)
1	18	0.60	1.77	0.375	8.16	4.41	2.50
2	18	0.74	1.77	0.375	9.06	1.95	1.10
3	18	2.22	1.77	0.375	15.69	6.48	3.67
4	18	3.00	1.77	0.375	18.24	4.78	2.70

Manning's Equation:
 $Q = 1.49/n * A * R^{2/3} * S^{1/2}$

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



	NOBIS REHAB HOSPITAL 1100 WOODWARD PL.	DRAWN BY pm
	GRADING PLAN BASIN MAP	DATE 10-26-25
	SHEET # GR-2	DRAWING
RONALD R. BOHANNAN P.E. #7868	JOB # 2023123	



RETAINING WALL DETAIL
NTS

8 INCH REINFORCED CONCRETE MASONRY WALL

H	A	B	T	Y-BARS	X-BARS
ft.-in.	in.	ft.-in.	in.		
2'-0"	8"	2'-0"	9"	#4 @32" O.C.	#4 @24" O.C.
2'-6"	8"	2'-0"	9"	#4 @32" O.C.	#4 @24" O.C.
3'-4"	8"	2'-4"	9"	#4 @32" O.C.	#4 @24" O.C.
4'-0"	10"	2'-8"	9"	#4 @32" O.C.	#4 @24" O.C.
4'-6"	12"	3'-4"	10"	#5 @32" O.C.	#4 @18" O.C.
5'-4"	14"	3'-10"	10"	#6 @16" O.C.	#4 @18" O.C.
6'-0"	16"	4'-8"	12"	#6 @ 8" O.C.	#4 @12" O.C.

12 INCH REINFORCED CONCRETE MASONRY WALL

H	A	B	T	Y-BARS	X-BARS
ft.-in.	in.	ft.-in.	in.		
5'-4"	14"	3'-8"	10"	#6 @18" O.C.	#4 @24" O.C.
6'-0"	15"	4'-2"	12"	#4 @16" O.C.	#4 @18" O.C.
6'-8"	16"	4'-6"	12"	#6 @24" O.C.	#5 @18" O.C.
7'-4"	18"	4'-10"	12"	#6 @16" O.C.	#5 @18" O.C.
8'-0"	20"	5'-4"	12"	#7 @18" O.C.	#6 @12" O.C.
8'-8"	20"	5'-8"	12"	#7 @16" O.C.	#6 @12" O.C.

GENERAL NOTES:

1. ALL CONCRETE IS TO BE 4000 PSI @ 28 DAYS.
2. MINIMUM COMPACTION UNDER FOOTINGS IS TO BE 95% PER ASTM D 1557 FOR A DEPTH OF 12" MOISTURE CONTENT IS TO BE ± 2.0%.
3. BACK FILL AGAINST WALLS IS TO BE HAND-PLACED AND COMPACTED.
4. ALL BARS ARE TO BE GRADE 60, ASTM 615.
5. TRUSS TYPE DUR-O-WALL EVERY OTHER COURSE.
6. DOWELS SHALL BE AT LEAST EQUAL IN SIZE AND SPACING TO Y-BARS, SHALL PROJECT A MINIMUM OF 30 BAR DIA. INTO THE FILLED BLOCK CORES, AND SHALL EXTEND TO THE TIE OF THE FOOTING.
7. PROVIDE KEY FOR 8" AND 12" WALLS WHERE H EXCEEDS 6'-0"
8. USE EITHER EXPANSION JOINTS ON 20' CENTERS OR PILASTERS EVERY 16'.
9. BOND BEAM, 1-#4 BARS FOR WALLS UNDER 3'-4", 2-#4 BARS FOR WALLS UNDER 5'-4", 2-#5 BARS FOR WALLS OVER 5'-4".

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 12/19/2025
BY: [Signature]
J15D053
THE APPROVAL OF THESE PLANS AND PERMITS SHALL NOT BE CONSIDERED TO PRESENT THE CITY OF ALBUQUERQUE AS ENDORSING THE DESIGN AND SHALL NOT PRESENT THE CITY OF ALBUQUERQUE AS BEING RESPONSIBLE FOR THE DESIGN OR CONSTRUCTION OF ANY AND ALL STRUCTURES. ALL CONSTRUCTION DOCUMENTS, SUCH AS PERMITS AND PERMITS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT THE APPROVAL OF THE CITY OF ALBUQUERQUE. THE APPROVAL OF THESE PLANS AND PERMITS SHALL EXPIRE THIRTY (30) DAYS AFTER THE APPROVAL DATE IF NO BUILDING PERMIT HAS BEEN FILED BY THE CITY OF ALBUQUERQUE.

	NOBIS REHAB HOSPITAL 1100 WOODWARD PL.	DRAWN BY pm
	CONSTRUCTION DETAILS	DATE 10-16-25
	TERRA WEST, LLC 5571 MIDWAY PARK PL. NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.terrawestllc.com	DRAWING
10-16-25 RONALD R. BOHANNAN P.E. #7868		SHEET # DET-4
		JOB # 2023123