CITY OF ALBUQUERQUE

Planning Department Alan Varela, Director



Mayor Timothy M. Keller

April 18, 2022

	Ali Fakih, P.E. Sustainability Engineering Group, LLC 8280 E. Gelding Drive, Suite 101 Scottsdale, AZ 85260	
	RE:	Whataburger 6100 Alameda Blvd NE Grading Plan and Drainage Report Engineer's Stamp Date: 04/18/22 Hydrology File: C18D068B
	Dear N	Mr. Fakih:
PO Box 1293 Albuquerque	Based upon the information provided in your submittal received 04/05/2022, the Grading & Drainage Plan is approved for Building Permit and for action by the DRB on Site Plan for Building Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter.	
1 1	<u>PRIO</u>	R TO CERTIFICATE OF OCCUPANCY:
NM 87103	1. Engineer's Certification, per the DPM Part 6-14 (F): <i>Engineer's Certification Checklist For Non-Subdivision</i> is required.	
www.cabq.gov	As a rewithin (ESC) Storm any ea	eminder, if the project total area of disturbance (including the staging area and any work the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the water Quality Engineer (Doug Hughes, PE, <u>jhughes@cabq.gov</u> , 924-3420) 14 days prior to orth disturbance.

If you have any questions, please contact me at 924-3995 or <u>rbrissette@cabq.gov</u>.

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM Senior Engineer, Hydrology Planning Department



City of Albuquerque

Planning Department Development & Building Services Division DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 10/2018)

Project Title:	_Building Permi	t #: Hydrology File #:	
DRB#:	EPC#:	Work Order#:	
Legal Description:			
City Address:			
Applicant:		Contact:	
Address:			
Phone#:	Fax#:	E-mail:	
Other Contact:		Contact:	
Address:			
Phone#:	Fax#:	E-mail:	
TYPE OF DEVELOPMENT: PLAT (# 0	of lots) RES	SIDENCE DRB SITE ADMIN SITE	
IS THIS A RESUBMITTAL? Yes	No		
DEPARTMENT:TRAFFIC/TRANSPORT	TATION	HYDROLOGY/DRAINAGE	
Check all that Apply:		TYPE OF APPROVAL/ACCEPTANCE SOUGHT: BUILDING PERMIT APPROVAL	
TYPE OF SUBMITTAL: ENGINEER/ARCHITECT CERTIFICATION PAD CERTIFICATION CONCEPTUAL G & D PLAN GRADING PLAN DRAINAGE MASTER PLAN DRAINAGE REPORT FLOODPLAIN DEVELOPMENT PERMIT APPLIC ELEVATION CERTIFICATE CLOMR/LOMR TRAFFIC CIRCULATION LAYOUT (TCL) TRAFFIC IMPACT STUDY (TIS) OTHER (SPECIFY) PRE-DESIGN MEETING?		 BUILDING PERMIT APPROVAL CERTIFICATE OF OCCUPANCY PRELIMINARY PLAT APPROVAL SITE PLAN FOR SUB'D APPROVAL SITE PLAN FOR BLDG. PERMIT APPROVAL FINAL PLAT APPROVAL SIA/ RELEASE OF FINANCIAL GUARANTEE FOUNDATION PERMIT APPROVAL GRADING PERMIT APPROVAL SO-19 APPROVAL PAVING PERMIT APPROVAL GRADING/ PAD CERTIFICATION WORK ORDER APPROVAL CLOMR/LOMR FLOODPLAIN DEVELOPMENT PERMIT OTHER (SPECIFY) 	
DATE SUBMITTED:	By:		
COA STAFF:	ELECTRONIC SUI	BMITTAL RECEIVED:	

FEE PAID:

FINAL DRAINAGE REPORT

WHATABURGER

6100 ALAMEDA BLVD NE ALBUQUERQUE, NM.

Prepared For:

CA Development, LLC 300 Concord Plaza San Antonio, Texas 78216

Prepared by:





EXPIRATION DATE: 12-31-2022 SIGNATURE DATE: 03-29-2022

Sustainability Engineering Group

8280 E. Gelding Drive, Suite 101 Scottsdale, AZ 85260 480.588.7226 www.azSEG.com

Project Number: 210907

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ubmittal Date: March 29,	2022 City of Albuquerque Planning Department Development Review Services HYDROLOGY SECTION
	APPROVED DATE: 04/18/22 BY: Renee C.Brissette HydroTrans # C18D068B
	THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM REQUIRING CORRECTION, OR ERROR OR DIMENSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS SHALL NOT BE CHANGED, MODIFED OR ALTERED WITHOUT AUTHORIZATION.



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1. INTRODUCTION

This Drainage Report represents the storm water analysis for Whataburger at the SEC of Alameda Blvd. & San Pedro Ave., a restaurant proposed in Albuquerque, New Mexico. The purpose of this report is to provide the hydrologic and hydraulic analyses, required by the City of Albuquerque, to support the proposed site plan for said development. This report includes discussions and calculations defining the storm water management concepts for the collection and conveyance necessary to comply with the drainage requirements of the City of Albuquerque and Bernalillo County. Preparation of this report has been done in accordance with the requirements of the City of Albuquerque Development Process Manual.

2. LOCATION AND PROJECT DESCRIPTION

2.1 LOCATION:

The subject property's subdivision name is described as Lot-1A, Block 29, Tract A, Unit B North Albuquerque Arces, which consists of a parcel of land located in a portion of Section 13, Township 11 North, Range 3 East of Bernalillo County, New Mexico. Total net property area is 1.00 acres.

- Parcel ID: UPC: 101806428134810229
- Address: 6100 Alameda Blvd NE, Albuquerque, New Mexico.

Refer to **FIGURE 1** - **Vicinity Map** for the project's location with respect to major cross streets.

2.2 EXISTING AND PROPOSED DEVELOPMENTS SURROUNDING THE SITE:

The site is bound as follows:

- South: M&A Automotive LLC, Southwest Rovers, Beca Automotive Specialists, Peter's Automobile Service; Zoning is NR-BP
- West: Across San Pedro Dr., Meineke Car Care Center, Kameyab Imports Inc; Zoning is MX-M
- North: Across Alameda Blvd., Reserve Apartments; Zoning is R-MH
- East: Tin Can Alley ABQ, Phở Kup, Nitro Fog Creamery & Squeezed Juice Bar, Michael Thomas Coffee Roaster; Zoning is NR-BP

2.3 EXISTING SITE DESCRIPTION:

The existing site is partially developed. The southern portion of the property includes a parking lot with landscape islands while the north area remains undeveloped with an existing drainage pond, dirt piles and storage container. Drainage structures, sewer and water lines, and dry utilities such as power, gas and electricity exist within the site. Lot elevation drop from 1,238' at the east property line to about 1,232' at the west property line.

Refer to **FIGURE 2** attached for an aerial of the site.



2.4 PROPOSED SITE DEVELOPMENT:

The project will consist in the demolition of most of the existing south parking lot and the construction of a fast food restaurant (2,999 sf) with a drive-thru, parking area, and designated landscape.

Refer to Appendix III for Grading and Drainage Plan.

2.5 FLOOD HAZARD ZONE:

FIRM Map Number 35001C0137H dated August 16, 2012 indicates this site is designated as Zone "X. As such, it is defined as areas determined to be outside of the 0.2% annual chance floodplain.

Refer to **FIGURE 3** for the FIRM.

3. EXISTING DRAINAGE CONDITIONS

3.1 OFF-SITE DRAINAGE PATTERNS:

North:

Half the street drainage from Alameda Blvd NE flows towards the site and is intercepted by existing curb and gutter within the right-of-way. Flows are then conveyed to three existing curb inlets (EX-CB-1, EX-CB-2 and EX-CB-3) located along Alameda Blvd NE off the property limits. The area between the existing public detached sidewalk and the curb line also drains towards these catch basins. As such, no off-site flows affect the site from this direction.

East:

The site borders the parking lot from restaurant development Tin Can Alley to the east. Per topographic information, on-site drainage area EX-3 discharges off-site into catch basin EX-CB-4. This catch basin also captures the run-off associated to a portion of the existing east parking lot. Therefore, no off-site flows affect the site from this direction. West:

The property is bound by San Pedro Dr. NE to the west, where stormwater flows to the west side of the street and is conveyed north by the existing curb & gutter. All run-off from this direction is directed away from the site.

South:

A fence separates the site from the south's neighbor property. Obtained topographic information on this area is limited but indicates that the south property manages their run-off on-site.

As such, no off-site flows affect the site from this direction.

3.2 ON-SITE DRAINAGE:

The north undeveloped area of the property drains through overland flow from east to west (EX-1). These flows are stored in temporary retention basin, EX-BASIN-A, which also receives flows captured by EX-CB-5 via an 8" PVC storm drain that discharges into the basin. Total provided volume by this basin is 3,495 CF. The parking area at the south drains with similar drainage patterns, where run-off sheetflows through the asphalt pavement from east to west before being



captured by existing catch basin EX-CB-5 at the southwest corner of the property. EX-3 discharges off-site to EX-CB-4, the latter is connected to curb inlet EX-CB-3 at Alameda Blvd. by a storm drain pipe that runs across the property.

Refer to Existing Conditions Drainage Area Map in Appendix II.

4. PROPOSED STORM WATER MANAGEMENT

4.1 DESIGN INTENT:

On-site drainage will be handled within paved areas through overland flow, curb & gutter and catch basins. Existing temporary basin, EX-BASIN-A, will be filled and project flows will ultimately be directed to the existing public storm drain system in San Pedro Dr. NE.

Refer to Grading and Drainage Plans in Appendix III.

4.2 DESIGN STORM REQUIREMENTS:

The storm water system will be designed in accordance with City of Albuquerque Development Process Manual, Chapter 6: Drainage, Flood Control and Erosion Control.

4.3 LAND CHARACTERSITICS AND HYDROLOGIC ANALYSIS:

Per section 6-1(A) City of Albuquerque Development Process Manual, hydrologic calculations can be performed using a simplified procedure based on the Rational Method and initial abstraction/uniform infiltration precipitation losses. This procedure is considered valid for watersheds up to 40 acres and smaller, which is the case of the project's site.

Precipitation:

The subject property is located in Precipitation Zone 3 in Figure 6.1 of the manual, the general location is between San Mateo and Eubank, North of Interstate 40; and between San Mateo and the East boundary of Range 4 East, South of Interstate 40. Precipitation depth and intensity values for this zone are as shown in Table 6.2. Refer to **Appendix II** for an excerpt of this table.

Land Treatments:

Land treatments within the site are classified as type C (CN=86) and D (CN=98) from Table 6.3 of the manual, referring to land with minimal vegetation/vacant lots and impervious areas respectively.

Abstractions:

The initial abstraction depth is the precipitation threshold that must be exceeded before direct run-off begins. Since most of the site consists of impervious surfaces, lower abstraction values are expected for the project area. As such, no abstraction values will be considered to achieve conservative results.



Infiltration:

No infiltration values will be considered for the hydrologic analysis due to the proposed project's land treatment (composed of mainly impervious surfaces) and the small size of the site (1.00 acre). This will also yield a conservative output in the expected peak flow calculations.

Peak Discharge Calculations:

Peak discharges for the site are computed following the peak discharges shown in Table 6.8 per Section 6-1(A)(5), multiplying each of the provided flows for each land treatment by the associated area within the project.

 $Q_P = Q_{PA}A_A + Q_{PB}A_B + Q_{PC}A_C + Q_{PD}A_D \ \dots$

The total peak flow for each drainage area is the sum of all the individual peak flows per treatment land, the subject property was considered to have only C and D land treatments. Standard peak flows for the 100-year event are provided by the Development Process Manual summarized below:

Table 6.2.14 Peak Discharge				
100-year Peak Discharge (cfs/acre)				
Land Treatment	С	D		
Zone 3	3.17	4.49		

A summary of the peak flow calculations for the existing and proposed conditions is shown below for the 100-year storm event:

EXISTING PEAK FLOW CALCULATIONS					
AREA ID	Land Treatment C (Area)	Qc (cfs/ac)	Land Treatment D (Area)	Qd (cfs/ac)	Qp (cfs)
EX-1	0.43	3.17	0.00	4.49	1.36
EX-2	0.00	3.17	0.52	4.49	2.33
EX-3	0.00	3.17	0.05	4.49	0.23

PROPOSED PEAK FLOW CALCULATIONS					
AREA ID	Land Treatment C (Area)	Qc (cfs/ac)	Land Treatment D (Area)	Qd (cfs/ac)	Qp (cfs)
DA-1	0.10	3.17	0.20	4.49	1.20
DA-2	0.03	3.17	0.33	4.49	1.56
DA-3	0.04	3.17	0.17	4.49	0.91
DA-4	0.00	3.17	0.06	4.49	0.25
DA-B1	0.00	3.17	0.08	4.49	0.35

Refer to the Proposed Condition Drainage Area Map and Calculations in Appendix II.



4.4 DOWNSTREAM CAPACITY AND STORMWATER DISCHARGE

On-site flows will be ultimately directed to the existing 48" RCP public storm drain pipe in San Pedro Dr NE. Temporary retention basin EX-BASIN-A will be filled, re-routing its flows to the public storm drain via a new storm pipe system. Connection to the off-site public storm line has been already approved as shown in the plan *City Hydrology Section per Grading & Drainage Plan: Mixed Use Development at Alameda and San Pedro Lot 1-A.* An 8' storm manhole is proposed above the 48" public storm drain, connecting to a new public storm inlet located along San Pedro Dr NE's east curb and right next to the project's site. A private 18" will connect the public storm inlet with an on-site manhole to which the proposed on-site drains will discharge to.

Estimated peak flow by this approved plan to the public storm drain is 3.8 cfs. At proposed conditions, the estimated peak flow of the project towards this outfall includes drainage areas DA-1, DA-2, DA-3 and DA-B1 and totals 4.01 cfs for the 100-year event (as shown in section 4.3). This is a 0.21 cfs increase in comparison with the approved plan, however, the previous calculations by this plan considered less area draining towards this outfall. The current proposal shows less flows draining east of the property to EX-CB-4. Per the provided topographic information, all the existing storm drains ultimately connect at the intersection of San Pedro Dr NE. and Alameda Blvd NE, as such, the 0.21 cfs difference will be re-routed via EX-CB-4 but will ultimately drain to the same public storm drain system, for which downstream capacity has been already verified through the plan *City Hydrology Section per Grading & Drainage Plan: Mixed Use Development at Alameda and San Pedro Lot 1-A.* Therefore, there is no direct increase in the flows routed to the public system.

Refer to **Appendix IV** for *City Hydrology Section per Grading & Drainage Plan: Mixed Use Development at Alameda and San Pedro Lot 1-A.*

4.5 PIPE CAPACITY CALCULATIONS:

The proposed on-site drainage system consists of 18" pipes conveying run-off flows from proposed catch basins to the manhole directing flows to the off-site storm drains. Full flow capacity of the proposed drain with the least slope was verified in Flowmaster: a 18" pipe at 0.50% has a maximum Q of 7.43 cfs at full flow capacity. Since this maximum flow exceeds the maximum peak discharge of the project site, the proposed 18" pipes can adequately drain the 100-yr storm event.

Refer to Appendix II for Pipe Capacity Calculations and Hydraulic Grade Profiles

4.6 STORM DRAIN INLET CALCULATIONS

Nyloplast 2'x2' catch basins are proposed in the parking lot areas and drive-thru to capture onsite storm run-off. A Nyloplast 2'x2' catch basin can convey a flow of 3.30 cfs, while considering a clogging factor of 0.50. The proposed catch basin inlets can adequately convey runoff for the 100year event, Q_{10} = **1.56 cfs (DA-2)**.



5. FLOOD SAFETY

5.1 FINISHED FLOOR ELEVATIONS

Despite the project being outside a flood zone, the proposed finished floor elevation is set at least one foot above the lot ultimate outfall.

6. CONCLUSIONS

6.1 OVERALL PROJECT:

- 1. The finish floor elevations will be designed a minimum of 12" above the lot outfall.
- 2. Downstream capacity of the public system is adequate to convey the project discharges.
- 3. Storm inlets have sufficient capacity to capture expected project peak flows for the 100year storm event.

6.2 PROJECT PHASING:

This project will be constructed in a single phase.

7. REFERENCES

1. City of Albuquerque Development Process Manual, *Chapter 6: Drainage, Flood Control And Erosion Control*; Dated July 2018.





$\langle 1 \rangle$	MATCH EXISTING
$\langle 2 \rangle$	CONSTRUCT 6" I
(2A)	CONSTRUCT 6"
$\langle 3 \rangle$	CONSTRUCT ADA
(3B)	CONSTRUCT DEL
$\langle 4 \rangle$	FURNISH AND IN DET. 14/C3.20
5	FURNISH AND IN PLAN.
(5A)	FURNISH AND IN PLAN.
6	FURNISH AND IN
$\langle 7 \rangle$	CONSTRUCT HEA
$\langle 8 \rangle$	FURNISH AND IN
(9)	CONSTRUCT CON
(10)	CONSTRUCT PAV STALLS AND 2%
(11)	CONSTRUCT CON
(12)	CAUTION! PROTE
(13)	PAVING TRANSITIO
(14)	TRANSITION TO E
(15)	SAWCUT, REMOVI
(16)	CONSTRUCT 3' (
(17)	TURN DOWN SID
(18)	TURN DOWN SID
(19)	5' CURB TRANSI
Exis The With Piles Pow Line The Con	TING CONDITIONS EXISTING SITE IS LANDSCAPE ISLA S AND STORAGE ER, GAS AND ELL TO ABOUT 1,232 PROJECT WILL C STRUCTION OF A
LANE	SCAPE.

NOTICE TO CONTRACTOR (SPECIAL ORDER 19 ~ "SO-19")

- SERVICES DIVISION.

- BACKFILL COMPACTION SHALL BE 95%.

,		
	R	NE EAGLE ROCK AVE
	PEDRO D	NE OAKLAND AVE
	NE SAN	NE ALAMEDA BLV
		NE SIGNAL AVE
		NE WILSHIRE AVE
H		VICINITY MAP

S/T/R

13 11N 3E

SCALE 1:800

NOR

GRADING CONSTRUCTION KEY NOTES

G GRADE; CONTRACTOR TO VERIFY IN FIELD ALL GRADES PRIOR TO ACTIVITIES AND CONTACT ENGINEER IN CASE OF ANY DISCREPANCIES.

HEADER CURB PER COA STD. DET. 2415C

VERTICAL CURB AND GUTTER PER COA STD DWG 2415-A.

A RAMP. PER SITE PLANS.

IVERY RAMP PER DET. 2/C3.10.

NSTALL NYLOPLAST DRAIN BASIN WITH 30" RISER AND 2'X3' STEEL GRATE PER

ISTALL HDPE DOUBLE WALL PIPE, CLASS 100; LENGTH, SIZE AND SLOPE PER

ISTALL REINFORCED CLASS III CONCRETE PIPE, LENGTH, SIZE AND SLOPE PER

ISTALL 30" NYLOPLAST DRAIN BASIN WITH SOLID LID. PER DET. 13/C3.12.

AVY DUTY PAVEMENT PER DETAIL 5/C3.10.

ISTALL 4' MANHOLE PER COA DETAIL 2208.

NCRETE SIDEWALK PER COA STD DWG 2430. WIDTH PER PLAN.

VEMENT WITH 2% MAXIMUM SLOPE IN ANY DIRECTION AT ACCESSIBLE PARKING MAXIMUM CROSS SLOPE AT ADA ACCESSIBLE ROUTE.

NCRETE PAVEMENT PER DETAIL 6/C3.10.

ECT EXISTING GAS AND POWER UTILITIES.

ION PER DET. 7/C3.10.

EXISTING PAVEMENT PER DET. 1/C3.10.

/E AND REPLACE EXISTING PAVEMENT.

CURB OPENING. PER DET. 3/C3.10.

DEWALK. PER DET. 9/C3.10.

DEWALK. PER DET. 16/C3.11.

SITION FROM 6" TO 0" REVEAL.

AND PROPOSED DEVELOPMENT:

PARTIALLY DEVELOPED. THE SOUTHERN PORTION OF THE PROPERTY INCLUDES A PARKING LOT ANDS WHILE THE NORTH AREA REMAINS UNDEVELOPED WITH AN EXISTING DRAINAGE POND, DIRT CONTAINER. DRAINAGE STRUCTURES, SEWER AND WATER LINES, AND DRY UTILITIES SUCH AS ECTRICITY EXIST WITHIN THE SITE. LOT ELEVATION DROP FROM 1,238' AT THE EAST PROPERTY 32' AT THE WEST PROPERTY LINE.

CONSIST IN THE DEMOLITION OF MOST OF THE EXISTING SOUTH PARKING LOT AND THE FAST FOOD RESTAURANT (2,999 SF) WITH A DRIVE-THRU, PARKING AREA, AND DESIGNATED

PRIVATE DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

1. BUILD SIDEWALK CULVERT PER COA STD DWG 2236. WORK IS PERMITTED AND INSPECTED BY DMD CONSTRUCTION

AN EXCAVATION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.

4. PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL, DIAL "811" [OR (505) 260-1990] FOR THE LOCATION OF EXISTING UTILITIES.

PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

MAINTENANCE OF THE FACILITY SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY BEING SERVED. WORK ON ARTERIAL STREETS MAY BE REQUIRED ON A 24-HOUR BASIS. FOR EXCAVATION AND BARRICADING INSPECTIONS, CONTACT DMD CONSTRUCTION SERVICES DIVISION.









GRADING CONSTRUCTION KEY NOTES

1 MATCH EXISTING GRADE; CONTRACTOR TO VERIFY IN FIELD ALL GRADES PRIOR TO CONSTRUCTION ACTIVITIES AND CONTACT ENGINEER IN CASE OF ANY DISCREPANCIES.

(2) REMOVE AND REPLACE EXISTING SIDEWALK AS REQUIRED FOR UTILITY CONSTRUCTION. REMOVE TO NEAREST JOINT.

3 FURNISH AND INSTALL REINFORCED CLASS III CONCRETE PIPE, LENGTH, SIZE AND SLOPE PER

TUD

PLAN

 $\langle 4 \rangle$ connect pipe to existing public storm inlet.

 $\left< 5 \right>$ EXISTING PUBLIC 8' DIA MANHOLE

 $\overline{6}$ CONSTRUCT MOUNTABLE MEDIAN CURB PER COA STD. DWG 2415A.

INVERT ELEVATIONS TO BE VERIFIED IN FIELD.





0



SECTION A-A C3.00 HORIZONTAL SCALE: 1" = 20'VERTICAL SCALE: 1" = 2'

SECTION B-B C3.00 HORIZONTAL SCALE: 1" = 20' VERTICAL SCALE: 1" = 2'

2