CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director

Mayor Timothy M. Keller

December 29, 2025

Aaron Barnhart, PE
Wallace Design Collective, PC
9800 Pyramid Court, Suite 350
Englewood, CO 80112

RE: Taco Bell – Snow Vista Blvd
Grading & Drainage Plan
Engineer's Stamp Date: 12/12/2025
Hydrology File: M09D012D
Case #: HYDR-2025-00419

Dear Mr. Barnhart:

Based upon the information provided in your submittal received 12/12/2025, the Grading & Drainage plan **is approved** for Grading Permit and Building Permit.

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, 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 924-3695 or tchen@cabq.gov .

Sincerely,

Tiequan Chen, P.E.
Principal Engineer, Hydrology
Planning Department, Development Review Services

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

SITE PLAN

TACO BELL - SNOW VISTA BOULEVARD
ALBUQUERQUE, NM

LOT 1D. TOWN OF ASTRICO GRANT, PROJECTED SECTION 33, TOWNSHIP 10 NORTH, RANGE 2 EAST, N.M.P.M.

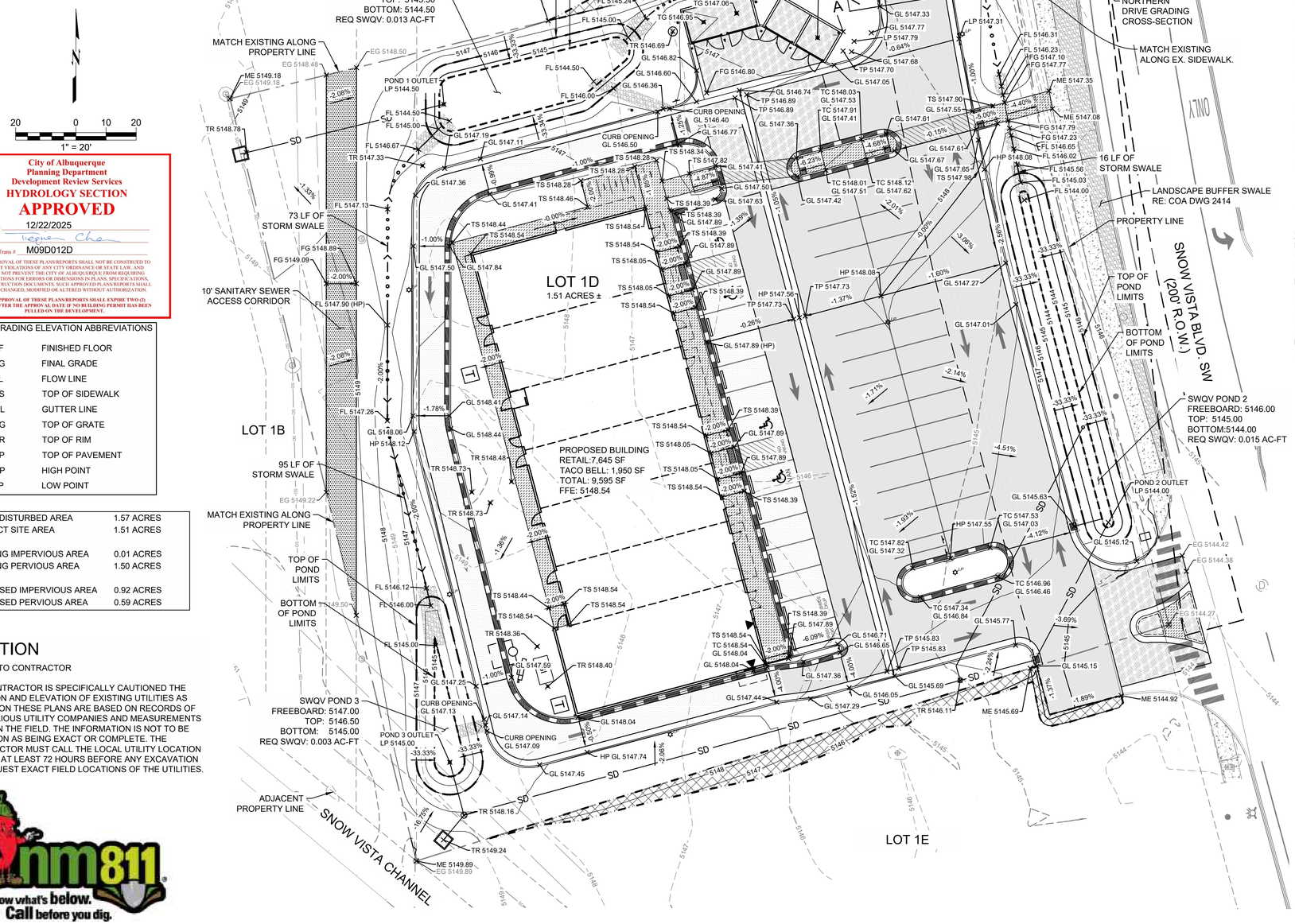
ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, DECEMBER 2021

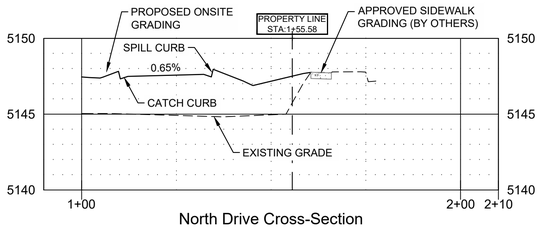
CAUTION: IF THIS SHEET IS NOT 22"x34" IT IS A REDUCED PRINT

PROPERTY DESCRIPTION
TRACT A PLAT FOR TRACT A SNOW VISTA, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT THEROF FILLED IN THE OFFICE OF THE COUNTRY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON 2022.

PROPERTY ADDRESS
1115 SNOW VISTA BLVD SW

SWQV POND LANDSCAPING NOTES:
1. EACH POND IS TO BE STABILIZED BY SEED MIX.
2. SEED MIX TO BE EQUAL TO (LLANO ESTACADO WILDFLOWER SEED MIXTURE) AS SUPPLIED BY CURTIS AND CURTIS SEED. 4500 N PRINCE STREET, CLOVIS, NM 88101. SEED MIXTURE APPLICATION TO MEET THE REQUIREMENTS OF "SECTION 1013 SLOPE STABILIZATION AND SEEDING REQUIREMENTS" PROVIDED BY THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS.
3. REFER TO THE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION.





North Drive Cross-Section

NORTHERN DRIVE - GRADING CROSS-SECTION

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

GRADING NOTES:
1. SPOT ELEVATIONS SHOWN ARE TO GUTTER FLOW LINE. ADD 0.5' FOR TOP OF CURB ELEVATIONS
2. SITE GRADING SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED & INSPECTED AND APPROVED BY LOCAL AUTHORITIES.
3. ALL CUT OR FILL SLOPES SHALL BE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.
4. EXISTING DRAINAGE STRUCTURES TO BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES ARE TO BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
5. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO REPAIR OR REPLACE THE EXISTING STRUCTURE AS NECESSARY.
6. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATER TIGHT.
7. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND STRUCTURES FOR ALL GRASSED AND PAVED AREAS.
8. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO THE SAME.
9. CONTRACTOR IS RESPONSIBLE FOR TEMPORARY ACCESS ROADS AND SHALL MAINTAIN POSITIVE DRAINAGE OF ENTIRE SITE THROUGHOUT CONSTRUCTION AND AVOID PONDING OR RUTTING. TEMPORARY DEWATERING, INCLUDING PUMPING, MAY BE REQUIRED AND SHALL BE INCLUDED IN THE SCOPE OF WORK.
10. SIDEWALKS SHALL HAVE MAX 2% CROSS SLOPE.

GRADING PLAN DESCRIPTION
EXISTING SITE GRADES GENERALLY SLOPE FROM NORTHWEST TO THE SOUTHERN CORNER OF THE OVERALL SUBDIVISION.

PROPOSED SITE GRADING SHALL TIE-IN WITH THE PROPOSED SIDEWALK FRONTAGE ALONG SNOW VISTA BLVD SW AND THE WESTERN SIDE OF THE LOT.

THE GRADING SHALL ALLOW FOR FUTURE LOT DEVELOPMENT TO THE NORTH AND SOUTH OF OUR SITE THAT FACILITATES DRAINAGE TOWARDS THE SOUTH OUTFALL, AN EXISTING 42" RCP.

LEGEND

- STANDARD DUTY ASPHALT PAVEMENT
- REINFORCED CONCRETE PAD
- CONCRETE SIDEWALK
- RIPRAP
- EXISTING CONCRETE SIDEWALK
- TRANSITIONAL GRADING SHOWN FOR GENERAL REFERENCE BASED ON ANTICIPATED OFF-SITE GRADING BY OTHERS. CONTRACTOR TO MATCH EXISTING GRADES AT PROPERTY LINE – COORDINATE WITH ADJACENT SITE DEVELOPERS. NO OFF-SITE WORK TO BE PERFORMED BY CONTRACTOR UNDER THIS PROJECT/CONTRACT.
- 6" DEPRESSED CURB AND GUTTER
- SD — STORM DRAIN
- DRAINAGE FLOW PATH
- STORM BASIN W/ LID
- CITY OF ALBUQUERQUE DRAINAGE STORM INLET TYPE "C" DWG. 2205
- SANITARY SEWER CLEANOUT

20 0 10 20
1" = 20'

City of Albuquerque
Planning Department
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 12/22/2025
BY: Irene Cho
HydroTrans # M09D012D
THE APPROVAL OF THESE PLANS/REPORTS SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM REQUIRING CORRECTIONS FOR ERRORS OR DIMENSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTION DOCUMENTS. SUCH APPROVED PLANS/REPORTS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.
THE APPROVAL OF THESE PLANS/REPORTS SHALL EXPIRE TWO (2) YEARS AFTER THE APPROVAL DATE IF NO BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

GRADING ELEVATION ABBREVIATIONS

FF	FINISHED FLOOR
FG	FINAL GRADE
FL	FLOW LINE
TS	TOP OF SIDEWALK
GL	GUTTER LINE
TG	TOP OF GRATE
TR	TOP OF RIM
TP	TOP OF PAVEMENT
HP	HIGH POINT
LP	LOW POINT

TOTAL DISTURBED AREA	1.57 ACRES
PROJECT SITE AREA	1.51 ACRES
EXISTING IMPERVIOUS AREA	0.01 ACRES
EXISTING PERVIOUS AREA	1.50 ACRES
PROPOSED IMPERVIOUS AREA	0.92 ACRES
PROPOSED PERVIOUS AREA	0.59 ACRES

CAUTION

NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THE LOCATION AND ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF THE UTILITIES.

nm811 Know what's below. Call before you dig.

wallace design collective
wallace design collective, pc
structural· civil· landscape· survey
9800 pyramid court, suite 350
englewood, co 80112
303.350.1690· 800.364.5858

COLORADO LICENSED
TAYLOR MARK BARNHART
56279
PROFESSIONAL ENGINEER
12/12/2025

TACO BELL
98TH & SAGE
1115 SNOW VISTA BLVD SW
ALBUQUERQUE, NM

REV	DESCRIPTION	DATE

DATE 12/12/2025
PROJECT NO. 2175023
SHEET NAME
GRADING PLAN
SHEET NO.
C500

PLOT:12/12/2025 1:55:53 PM ORIG SIZE:22"X34"
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SITE PLAN

TACO BELL - SNOW VISTA BOULEVARD
ALBUQUERQUE, NM

LOT 1D. TOWN OF ASTRICO GRANT, PROJECTED SECTION 33, TOWNSHIP 10 NORTH, RANGE 2 EAST, N.M.P.M.

ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, DECEMBER 2021

CAUTION: IF THIS SHEET IS NOT 22"x34" IT IS A REDUCED PRINT

VICINITY MAP
1"=400'

N

20 0 10 20
1" = 20'

SWQV POND 1
FREEBOARD: 5146.50
TOP: 5145.50
BOTTOM: 5144.50
REQ SWQV: 0.013 AC-FT
PROV SWQV: 0.013 AC-FT
SWQV WSEL: 5145.00
100-YR WSEL: 5145.29
Q100 INFLOW: 2.03 CFS
Q100 OUTFLOW: 1.60 CFS

TOP OF POND LIMITS

BOTTOM OF POND LIMITS

INLET TO BE CONNECTED TO THE SANITARY SEWER. SEE UTILITY PLAN.

POND 1 100-YR OUTLET
12" HDPE STANDPIPE TOP: 5145.00
INV OUT: 5144.21 12" HDPE
(PARTIALLY EXPOSED)

EXISTING 24" RCP

12" HDPE @ 0.50%

CONNECT TO EXISTING 24" RCP. INSTALL CONCRETE BOX.
RIM: 5148.73
INV IN (E): 5143.48 4" PVC

CURB CUT

6" PVC @ 0.90%
PROVIDE SCREEN CAPS AT EACH END

LANDSCAPE BUFFER SWALE
RE: COA DWG 2414

Snow Vista Boulevard, S.W.
(133' TO 200' PUBLIC R/W)

RETAIL
7,645 SF

TACO BELL
1,950 SF

BASIN 1D.1 AREA 0.61 AC

BASIN 1D.2a AREA 0.20 AC

BASIN 1D.2b AREA 0.39 AC

BASIN 1D.3 AREA 0.25 AC

FLOWS OFFSITE
BASIN AREA 0.06 AC

POND 2 100-YEAR OUTLET ONLY
12" HDPE STANDPIPE TOP: 5144.85
INV OUT: 5142.72 12" HDPE

TOP OF POND LIMITS

BOTTOM OF POND LIMITS

SWQV POND 2
FREEBOARD: 5146.00
TOP: 5145.00
BOTTOM:5144.00
REQ SWQV: 0.015 AC-FT
PROV SWQV: 0.015 AC-FT
SWQV WSEL: 5144.85
100-YR WSEL: 5145.18
Q100 INFLOW: 2.22 CFS
Q100 OUTFLOW: 1.94 CFS

11.24 LF OF 8" PVC @ 0.50%

154 LF OF 12" HDPE @ 1.00%

DISCHARGE TO SWQV POND 2
INV OUT(E): 5144.00 6" PVC

POND 2 SWQV OUTLET ONLY
(ORIFICE IN DOWNSTREAM INLET)
INV OUT: 5144.00 10" HDPE

INLET 1
CITY OF ALBUQUERQUE
STORM INLET SINGLE "C"
TOP OF GRATE: 5146.13
INV OUT (E): 5144.04 8" PVC
RE: COA DWG 2205

52 LF OF 10" HDPE @ 3.14%
(USED AS AN EQUILIBRIUM PIPE)

INLET 2
CITY OF ALBEQUERQUE
STORM INLET SINGLE "C"
DWG 2205
GRATE: 5145.17
INV OUT (W): 5142.37 12" HDPE
(PROVIDE 12" CAP WITH SWQV ORIFICE AT INVERT
SEE DETAIL 1 THIS SHEET)

15" NYLOPLAST DRAIN BASIN W/ SOLID COVER
TOP OF RIM:
INV IN (N):5142.25
INV IN (E): 5142.25
INV OUT (W):5142.25

197 LF OF 12" HDPE @ 0.50%

SWQV POND 3
FREEBOARD: 5147.00
TOP: 5146.50
BOTTOM: 5145.00
REQ SWQV: 0.003 AC-FT
PROV SWQV: 0.003 AC-FT
SWQV WSEL: 5146.00
100-YR WSEL: 5146.10
Q100 INFLOW: 0.69 CFS
Q100 OUTFLOW: 0.16 CFS

TOP OF POND LIMITS

BOTTOM OF POND LIMITS

POND 3 100-YR OUTLET
6" HDPE STANDPIPE TOP: 5146.00
INV OUT: 5141.75 6" HDPE

CURB CUT

EXISTING 36" RCP

18.20 LF OF 6" HDPE @ 2.00%

10.64 LF OF 15" HDPE @ 0.50%

24" Ø NYLOPLAST BASIN W/ SOLID COVER
TOP OF RIM: 5148.16
INV IN (E): 5141.39 6" HDPE
INV IN (N): 5141.39 6" HDPE
INV OUT (SW): 5141.39 15" HDPE

CONNECT TO EXISTING 24" RCP. INSTALL CONCRETE BOX.
RIM:5149.24
INV IN (NE): 5141.34 4" PVC

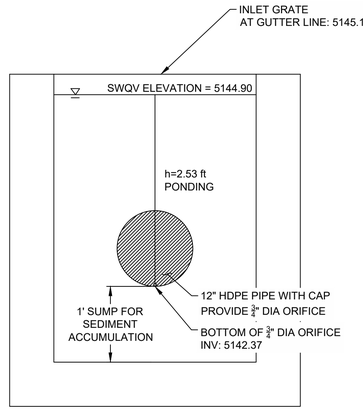
Vista Diversion Channel

LEGEND

- STANDARD DUTY ASPHALT PAVEMENT
- REINFORCED CONCRETE PAD
- CONCRETE SIDEWALK
- RIPRAP
- EXISTING CONCRETE SIDEWALK
- TRANSITIONAL GRADING SHOWN FOR GENERAL REFERENCE BASED ON ANTICIPATED OFF-SITE GRADING BY OTHERS. CONTRACTOR TO MATCH EXISTING GRADES AT PROPERTY LINE – COORDINATE WITH ADJACENT SITE DEVELOPERS. NO OFF-SITE WORK TO BE PERFORMED BY CONTRACTOR UNDER THIS PROJECT/CONTRACT.
- 6" DEPRESSED CURB AND GUTTER
- SD — STORM DRAIN
- DRAINAGE BASIN DELINEATION
- DRAINAGE FLOW PATH
- STORM BASIN W/ LID
- CITY OF ALBUQUERQUE DRAINAGE STORM INLET TYPE "C" DWG. 2205
- SANITARY SEWER CLEANOUT
- BASIN # / AREA # AC — BASIN ID / BASIN AREA
- # — DRAINAGE DESIGN POINT
- EMERGENCY OVERFLOW POINT

100-YR STORM NOTE:
POND 1, POND 2, AND POND 3 CONTAIN A STANDPIPE TO DISCHARGE THE 100-YR STORM INTO THE PRIVATE STORM INFRASTRUCTURE WITHOUT DETENTION.

EMERGENCY OVERFLOW NOTE:
EMERGENCY OVERFLOWS FROM THE PONDS WILL OCCUR IF THE 100-YR OUTLET PIPE IS CLOGGED OR FOR A STORM EXCEEDING THE 100-YR EVENT. SEE EMERGENCY OVERFLOW POINTS ON THIS PLAN.



1 - INLET 2 SWQV ORIFICE DETAIL
SCALE: N.T.S.

TOTAL DISTURBED AREA	1.58 ACRES
PROJECT SITE AREA	1.51 ACRES
EXISTING IMPERVIOUS AREA	0.01 ACRES
EXISTING PERVIOUS AREA	1.50 ACRES
PROPOSED IMPERVIOUS AREA	0.92 ACRES
PROPOSED PERVIOUS AREA	0.59 ACRES

wallace design collective

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COLORADO LICENSED
AARON MARK BARNHART
56279
PROFESSIONAL ENGINEER
12/12/2025

TACO BELL
98TH & SAGE
1115 SNOW VISTA BLVD SW
ALBUQUERQUE, NM

REV	DESCRIPTION	DATE

DATE 12/12/2025
PROJECT NO. 2175023
SHEET NAME

DRAINAGE PLAN

SHEET NO.
C501

ORIG SIZE:22"X34"
PLOT:12/12/2025 1:56:02 PM
\\denver-server\Civil\Projects\2175023 Taco Bell - ABQ - Snow Vista\Dwg\PRODUCTION\2175023 Drainage Map.dwg

CAUTION: IF THIS SHEET IS NOT 22"x34" IT IS A REDUCED PRINT

SITE PLAN

TACO BELL - SNOW VISTA BOULEVARD
ALBUQUERQUE, NM

LOT 1D. TOWN OF ASTRICO GRANT, PROJECTED SECTION 33, TOWNSHIP 10 NORTH, RANGE 2 EAST, N.M.P.M.

ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, DECEMBER 2021

Taco Bell - Snow Vista Blvd
2175023
Calculated by: JEC
Checked by:

Taco Bell - Snow Vista Blvd Percent Imperviousness Calculations

Hydrologic Soil Group: A

	Pervious(sf)	% Total Area	Impervious(sf)	Impervious (ac)	% Total Area	Total (sf)	Total (ac)
Existing	65,173	99.3	446	0.01	0.7	65,619	1.51
Proposed	25,547	38.9	40,072	0.92	61.1	65,619	1.51
Change	-39,626	-60	39,626	0.91	60.4	0	0.00

BASIN OVERALL SITE — **Total (sf)** 65619 — **Total (ac)** 1.51

	Area (sf)	Area (ac)	%Imp*	Comp %Imp	% TOTAL AREA
Landscape	25,547	0.59	7%	4%	39%
Paved	30,475	0.70	90%	63%	46%
Roof	9,597	0.22	90%	20%	15%
Total	**65,619**	**1.51**	**Site Imp.**	58%	

BASIN 1D.1 — **Total (sf)** 26457 — **Total (ac)** 0.61

	Area (sf)	Area (ac)	%Imp*	Comp %Imp	% TOTAL AREA
Landscape	10,733	0.25	7%	2%	41%
Paved	12,445	0.29	90%	26%	47%
Roof	3,279	0.08	90%	7%	12%
Total	**26,457**	**0.61**	**Site Imp.**	56%	

BASIN 1D.2a — **Total (sf)** 8531 — **Total (ac)** 0.20 — **Note: flows generated by an additional 1039 SF of offsite landscape drain to this basin**

	Area (sf)	Area (ac)	%Imp*	Comp %Imp	% TOTAL AREA
Landscape	4,488	0.10	7%	1%	53%
Paved	4,043	0.09	90%	8%	47%
Roof	0	0.00	90%	0%	0%
Total	**8,531**	**0.20**	**Site Imp.**	46%	

BASIN 1D.2b — **Total (sf)** 17133 — **Total (ac)** 0.39

	Area (sf)	Area (ac)	%Imp*	Comp %Imp	% TOTAL AREA
Landscape	2,995	0.07	7%	0%	35%
Paved	10,010	0.23	90%	21%	117%
Roof	4,128	0.09	90%	9%	48%
Total	**17,133**	**0.39**	**Site Imp.**	75%	

BASIN 1D.3 — **Total (sf)** 11076 — **Total (ac)** 0.25

	Area (sf)	Area (ac)	%Imp*	Comp %Imp	% TOTAL AREA
Landscape	7,246	0.17	7%	1%	65%
Paved	1,641	0.04	90%	3%	15%
Roof	2,190	0.05	90%	5%	20%
Total	**11,076**	**0.25**	**Site Imp.**	36%	

* Percent Treatment D (impervious) values are obtained from Table 6.2.10 of the 2020 DPM.

Taco Bell - Snow Vista Blvd
2175023
Calculated by: JEC
Checked by:

Taco Bell - Snow Vista: Runoff Calculations

Formulas and Values

Excess Precipitation (E) *(Table 6.2.13)*		
Zone 1	**10-Year (in)**	**100-Year (in)**
E_a	0.11	0.55
E_b	0.26	0.73
E_c	0.43	0.95
E_d	1.43	2.24

Peak Discharge (cfs/acre) *(Table 6.2.14)*		
Zone 1	**10-yr**	**100-yr**
Q_a	0.30	1.54
Q_b	0.81	2.16
Q_c	1.46	2.87
Q_d	2.57	4.12

Weighted E = $E_a*A_a + E_b*A_b + E_c*A_c + E_d*A_d$ / (Total Area) *Equation 6.1*

V_{360} = Weighted E * (Total Area) *Equation 6.2*

$Q_P = Q_x*A_x$

Where x = Treatment areas (A - D)

Total Q_P = Sum (Q_x*A_x) *Equation 6.6*

Existing Basin

Basin	Area (SF)	Area (Acres)	Treatment A %	Treatment A Acres	Treatment B %	Treatment B Acres	Treatment C %	Treatment C Acres	Treatment D %	Treatment D Acres	10-Year Weighted E (in)	10-Year Volume (ac-ft)	10-Year Total Q_P (cfs)	100-Year Weighted E (in)	100-Year Volume (ac-ft)	100-Year Total Q_P (cfs)
EX-1	65,619	1.51	0%	0	0%	0	99%	1.50	1%	0.01	0.65	0.08	2.21	1.44	0.18	4.34

Proposed Basin

Basin	Area (SF)	Area (Acres)	Treatment A %	Treatment A Acres	Treatment B %	Treatment B Acres	Treatment C %	Treatment C Acres	Treatment D %	Treatment D Acres	10-Year Weighted E (in)	10-Year Volume (ac-ft)	10-Year Total Q_P (cfs)	100-Year Weighted E (in)	100-Year Volume (ac-ft)	100-Year Total Q_P (cfs)
OVERALL SITE	65,619	1.51	0%	0	39%	0.59	0%	0.00	61%	0.92	1.03	0.13	2.84	1.80	0.23	5.06
1D.1	26,457	0.61	0%	0	41%	0.25	0%	0.00	59%	0.36	0.91	0.11	1.13	1.51	0.19	2.02
1D.2a	8,531	0.20	0%	0	53%	0.10	0%	0.00	47%	0.09	0.70	0.09	0.32	1.14	0.14	0.60
1D.2b	17,133	0.39	0%	0	17%	0.07	0%	0.00	83%	0.32	1.20	0.06	0.89	1.90	0.10	1.49
1D.3	11,076	0.25	0%	0	65%	0.17	0%	0.00	35%	0.09	0.54	0.07	0.36	0.90	0.11	0.72

TABLE 6.2.9 **Land Treatments**

Treatment	Land Condition
A (CN=77)	Soil uncompacted by human activity with 0 to 10% slopes. Native grasses, weeds, and shrubs in typical densities with minimal disturbance to grading, ground cover, and infiltration capacity.
B (CN=79)	Irrigated lawns, parks and golf courses with 0 to 10% slopes. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes greater than 10% and less than 20%.
C (CN=86)	Soil compacted by human activity. Minimal vegetation. Unpaved parking, roads, trails. Most vacant lots. Gravel or rock (desert landscaping). Irrigated lawns and parks with slopes greater than 10%. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes at 20%or greater. Native grass, weed and shrub areas with clay or clay loam soils, and other soils of very low permeability as classified by SCS Hydrologic Soil Group D.
D (CN=98)	Impervious areas, pavement, and roofs. Ponds, channels, and wetlands, even if seasonally dry.

Most watersheds contain a mix of land treatments. To determine proportional treatments, measure respective subareas. For large developed basins, the areal percentages in TABLE 6.2.10 may be used instead of specific measurement for treatment D.

Taco Bell - Snow Vista Blvd
2175023
Calculated by: JEC
Checked by:

Taco Bell - Snow Vista Blvd Stormwater Quality Volume Calculations

Site Imperviousness

Basin	Comp % Imp	Pervious(sf)	Impervious(sf)	Impervious (ac)	Total Area (sf)	Total Area (ac)
1D.1	56%	10,733	15,725	0.36	26,457	0.61
1D.2a	46%	4,488	4,043	0.09	8,531	0.20
1D.2b	75%	2,995	14,138	0.32	17,133	0.39
1D.3	36%	7,246	3,831	0.09	11,076	0.25
Overall Site	**58%**	**25,547**	**40,072**	**0.92**	**65,619**	**1.51**

Required SWQV (Article 6-12)

Basin	WQCV (in)	Imp. Area (acres)	Required SWQV V_{SWQV} (acre-ft)	Required SWQV V_{SWQV} (ft^3)
1D.1	0.42	0.36	0.013	550.36
1D.2a	0.42	0.09	0.003	141.50
1D.2b	0.42	0.32	0.011	494.82
1D.3	0.42	0.09	0.003	134.07
Overall Site	**0.42**	**0.92**	**0.032**	**1402.51**
				0.00

$$Required\ SWQV = \frac{WQCV}{12} \times Imp.Area$$

Provided SWQV

Pond	Contributing Basins	Required SWQV V_{SWQV} (acre-ft)	Required SWQV V_{SWQV} (ft^3)	Provided SWQV V_{SWQV} (acre-ft)	Provided SWQV V_{SWQV} (ft^3)
Pond 1	1D.1	0.013	550.36	0.041	1785.96
Pond 2	1D.2a, 1D.2b	0.015	636.32	0.021	914.76
Pond 3	1D.3	0.003	134.07	0.021	914.76
Overall Site	**1D.1, 1D.2a, 1D.2b, 1D.3**	**0.032**	**1402.51**	**0.083**	**3615.48**

Taco Bell - Snow Vista Blvd
2175023
Calculated by: JEC
Checked by:

Taco Bell - Snow Vista Blvd Allowable Release Rate

TABLE 6.2.14 **Peak Discharge**

Zone	Land Treatment A	B	C	D
100-YEAR PEAK DISCHARGE (CSF/ACRE)				
1	1.54	2.16	2.87	4.12
2	1.71	2.36	3.05	4.34
3	1.84	2.49	3.17	4.49
4	2.09	2.73	3.41	4.78
2-YEAR PEAK DISCHARGE (CSF/ACRE)				
1	0.00	0.02	0.50	1.56
2	0.00	0.08	0.61	1.66
3	0.00	0.15	0.71	1.73
4	0.00	0.28	0.87	1.88
10-YEAR PEAK DISCHARGE (CSF/ACRE)				
1	0.30	0.81	1.46	2.57
2	0.41	0.95	1.59	2.71
3	0.51	1.07	1.69	2.81
4	0.70	1.28	1.89	3.04

Land Treatment	D
2-yr Peak Discharge	1.56 cfs/acre
10-yr Peak Discharge	2.57 cfs/acre
100-yr Peak Discharge	4.12 cfs/acre
Overall Site Area	1.51 acres
Allowable 2-year Release Rate	2.35 cfs
Allowable 10-year Release Rate	3.87 cfs
Allowable 100-year Release Rate	6.21 cfs

Taco Bell - Snow Vista Blvd Water Quality Control Volume Release Rate

Overall Site Required SWQV	1402.51 ft^3	
Allowable time to release	48 hrs	6-12(B)(5)
Overall Site Allowable SWQV release rate	0.008 cfs	

	Contributing Basins	Required SWQV (CF)	Allowable time to release (hours)	Allowable release rate (cfs)	Notes
Pond 1	1D.1	550.36	48	0.003	Infiltration Only
Pond 2	1D.2a, 1D.2b	636.32	48	0.004	Infiltration + Orifice release
Pond 3	1D.3	134.07	48	0.001	Infiltration Only
Overall Site	**1D.1, 1D.2a, 1D.2b, 1D.3**	**1402.51**	**48**	**0.008**	

TB Snow Vista *Type II 6-hr Rainfall=2.17"*
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Summary for Pond 1P: Pond 1

```
Inflow Area =    0.607 ac,  0.00% Impervious,  Inflow Depth =  1.24"
Inflow   =   2.03 cfs @  2.94 hrs,  Volume=    0.063 af
Outflow  =   1.60 cfs @  3.00 hrs,  Volume=    0.050 af,  Atten= 21%,  Lag= 3.2 min
Primary  =   1.60 cfs @  3.00 hrs,  Volume=    0.050 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 5,145.29' @ 3.00 hrs   Surf.Area= 1,429 sf   Storage= 963 cf

Plug-Flow detention time= 40.1 min calculated for 0.050 af (79% of inflow)
Center-of-Mass det. time= 17.3 min ( 218.8 - 201.5 )

Volume    Invert    Avail.Storage  Storage Description
  #1     5,144.50'      1,276 cf   Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation    Surf.Area     Inc.Store      Cum.Store
  (feet)       (sq-ft)   (cubic-feet)   (cubic-feet)
 5,144.50       1,028            0              0
 5,145.00       1,264          573            573
 5,145.50       1,549          703          1,276

Device  Routing     Invert   Outlet Devices
  #1    Primary   5,145.00'  12.0" Horiz. Orifice/Grate   C= 0.600
                             Limited to weir flow at low heads

Primary OutFlow  Max=1.57 cfs @ 3.00 hrs  HW=5,145.29'  (Free Discharge)
  1=Orifice/Grate  (Weir Controls 1.57 cfs @ 1.75 fps)
```

TB Snow Vista *Type II 6-hr Rainfall=2.17"*
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Summary for Pond 2P: Pond 2

```
Inflow Area =    0.589 ac,  0.00% Impervious,  Inflow Depth =  1.47"
Inflow   =   2.22 cfs @  2.94 hrs,  Volume=    0.072 af
Outflow  =   1.94 cfs @  2.98 hrs,  Volume=    0.071 af,  Atten= 13%,  Lag= 2.1 min
Primary  =   1.94 cfs @  2.98 hrs,  Volume=    0.071 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 5,145.18' @ 2.98 hrs   Surf.Area= 1,245 sf   Storage= 945 cf

Plug-Flow detention time= 120.9 min calculated for 0.071 af (98% of inflow)
Center-of-Mass det. time= 120.3 min ( 316.9 - 196.5 )

Volume    Invert    Avail.Storage  Storage Description
  #1     5,144.00'      2,238 cf   Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation    Surf.Area     Inc.Store      Cum.Store
  (feet)       (sq-ft)   (cubic-feet)   (cubic-feet)
 5,144.00         374            0              0
 5,144.50         732          277            277
 5,145.00       1,103          459            735
 5,146.00       1,902        1,503          2,238

Device  Routing     Invert   Outlet Devices
  #1    Primary   5,144.85'  12.0" Horiz. Orifice/Grate   C= 0.600
                             Limited to weir flow at low heads
  #2    Primary   5,144.00'  0.7" Vert. Orifice/Grate   C= 0.600   Limited to weir flow at low heads

Primary OutFlow  Max=1.87 cfs @ 2.98 hrs  HW=5,145.17'  (Free Discharge)
  1=Orifice/Grate  (Weir Controls 1.85 cfs @ 1.85 fps)
  2=Orifice/Grate  (Orifice Controls 0.01 cfs @ 5.14 fps)
```

TB Snow Vista *Type II 6-hr Rainfall=2.17"*
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Summary for Pond 3P: Pond 3

```
Inflow Area =    0.254 ac,  0.00% Impervious,  Inflow Depth =  0.98"
Inflow   =   0.69 cfs @  2.95 hrs,  Volume=    0.021 af
Outflow  =   0.16 cfs @  3.09 hrs,  Volume=    0.011 af,  Atten= 78%,  Lag= 8.7 min
Primary  =   0.16 cfs @  3.09 hrs,  Volume=    0.011 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 5,146.10' @ 3.09 hrs   Surf.Area= 659 sf   Storage= 481 cf

Plug-Flow detention time= 70.8 min calculated for 0.011 af (53% of inflow)
Center-of-Mass det. time= 38.8 min ( 244.9 - 206.1 )

Volume    Invert    Avail.Storage  Storage Description
  #1     5,145.00'        792 cf   Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation    Surf.Area     Inc.Store      Cum.Store
  (feet)       (sq-ft)   (cubic-feet)   (cubic-feet)
 5,145.00         249            0              0
 5,145.50         413          166            166
 5,146.00         605          255            420
 5,146.50         881          372            792

Device  Routing     Invert   Outlet Devices
  #1    Primary   5,146.00'  6.0" Horiz. Orifice/Grate   C= 0.600   Limited to weir flow at low heads

Primary OutFlow  Max=0.15 cfs @ 3.09 hrs  HW=5,146.10'  (Free Discharge)
  1=Orifice/Grate  (Weir Controls 0.15 cfs @ 1.01 fps)
```

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COLORADO LICENSED PROFESSIONAL ENGINEER AARON MARK BARNHART 56279
12/12/2025

TACO BELL
98TH & SAGE
1115 SNOW VISTA BLVD SW
ALBUQUERQUE, NM

REV	DATE	DESCRIPTION

DATE 12/12/2025
PROJECT NO. 2175023
SHEET NAME
DRAINAGE CALCULATIONS
SHEET NO.
C502

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