

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

December 28, 2020

Thomas C. David, Jr., P.E.
Pan American Engineers
1717 Jackson Street
Alexandria, LA 71301

**RE: Murphy Express – Montgomery Blvd.
9700 Montgomery Blvd. NE
Grading and Drainage Plan
Engineer's Stamp Date: 10/01/20
Hydrology File: G21D032**

Dear Mr. David:

Based upon the information provided in your submittal received 10/16/2020, the Grading & Drainage Plan is approved for Building Permit.

PO Box 1293

Please attach the approved stamped Grading & Drainage plans in the construction sets for Building Permit processing along with a copy of this letter. Prior to approval in support of Permanent Release of Occupancy by Hydrology, Engineer Certification per the DPM checklist will be required.

Albuquerque

NM 87103

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.

www.cabq.gov

The Payment in Lieu payment of \$ **5,576.00** must be paid prior to Permanent Release of Occupancy approval. Please use the attached City of Albuquerque Treasury Deposit form. The Owner needs to bring three copies of this form to the cashier on the Building Permits side of the ground floor and pay the fee. Once paid, please provide Hydrology with one of the copies showing the receipt.

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

Sincerely,

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

October 16, 2020



**PAN AMERICAN
ENGINEERS, LLC**

Consulting Professional
Engineers and Land Surveyors

City of Albuquerque
Planning Department
Plaza Del Sol Building
600 2nd Street, NW
Suite 201
Albuquerque, New Mexico 87102

Attention: Hydrology Department

Re: **Hydrology/DTIS Submittal
BP-2020-39419**
Murphy Express
9700 Montgomery Blvd.
Albuquerque, New Mexico
PAE Job No. 11604

To Whom It May Concern:

Regarding the above referenced project, enclosed herewith are the following documents for review and approval.

1. Drainage Transportation Information Sheet
2. Two copies of the Site Grading Plan
3. Site Drainage Calculations

This information has also been submitted electronically to PLNDRS@cabq.gov.

Please review the attached for approval at your earliest convenience.

If you have any questions or require additional information, please feel free to contact our office for assistance.

Yours very truly,

PAN AMERICAN ENGINEERS, LLC

Ron D. Bordelon, Jr.

RDBJr/jmg
Enclosures



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: Murphy Express (Montgomery Blvd) **Building Permit #:** BP-2020-39419 **Hydrology File #:** _____
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: Lot 1-A of American Bank of Commerce
City Address: 9700 Montgomery Blvd. Albuquerque, New Mexico 87154

Applicant: Pan American Engineers, LLC. **Contact:** Ron Bordelon
Address: 1717 Jackson Street Alexandria, Louisiana 71301
Phone#: (318) 473-2100 **Fax#:** (318) 473-2275 **E-mail:** ron@paealex.com
Owner: Murphy Oil USA, Inc. **Contact:** Terry Rigdon
Address: 200 Peach Street El Dorado, Arkansas 717301
Phone#: (870) 866-7457 **Fax#:** N/A **E-mail:** terry.rigdon@murphyusa.com

TYPE OF SUBMITTAL: _____ PLAT (____ # OF LOTS) _____ RESIDENCE ☒ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL?: _____ Yes ☒ No

DEPARTMENT: _____ TRAFFIC/ TRANSPORTATION ☒ HYDROLOGY/ DRAINAGE

Check all that Apply:

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?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☒ 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: 10/16/2020 **By:** Ron Bordelon

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

**PAN AMERICAN ENGINEERS**

ALEXANDRIA • LOUISIANA
318-473-2100 FAX 318-473-2275

Job No.

11604

Design by:

ADM

Date:

10/15/2020

Checked by:

TCD

Page of

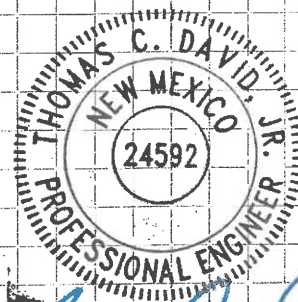
1/3

Murphy Express
9700 Montgomery Blvd.
Albuquerque, NM

Drainage Calc

Assumptions:

- Zone 4
- DPM § 6-2(A) Controls
- 100 YR Storm Event



Thomas C. David, Jr.
10.15.2020

① EXISTING CONDITIONSLand Treatment : $C = 0.14 \text{ Acres}$ ✓ $D = 0.77 \text{ Acres}$ ✓

$$Q_p = Q_{pA} A_a + Q_{pB} A_b + \dots$$

$$\begin{aligned} Q_{pC} &= 3.41 \text{ CFS/ACRE} \\ A_C &= 0.14 \text{ ACRE} \end{aligned}$$

$$\begin{aligned} &\text{ } > Q_{pC} A_C = 0.48 \text{ CFS} \quad \checkmark \end{aligned}$$

$$\begin{aligned} Q_{pD} &= 4.78 \text{ CFS/ACRE} \\ A_D &= 0.77 \text{ ACRE} \end{aligned}$$

$$\begin{aligned} &\text{ } > Q_{pD} A_D = 3.68 \text{ CFS} \quad \checkmark \end{aligned}$$

$$Q_p = 0.48 + 3.68 = \boxed{4.16 \text{ CFS}} \quad \checkmark$$

**PAN AMERICAN ENGINEERS**

ALEXANDRIA • LOUISIANA
318-473-2100 FAX 318-473-2275

Job No.

Design by:

Date:

Checked by:

TJD

Page of

2/3

② Proposed Conditions

Land Treatment: C = 0.16 Acre ✓

D = 0.75 Acre

$$\begin{aligned} Q_{pc} &= 3.41 \text{ CFS/ACRE} \\ A_C &= 0.16 \text{ ACRE} \end{aligned}$$

$$Q_{pc} A_C = 0.55 \text{ CFS} \quad \checkmark$$

$$\begin{aligned} Q_{pd} &= 4.78 \text{ CFS/ACRE} \\ A_D &= 0.75 \text{ ACRE} \end{aligned}$$

$$Q_{pd} A_D = 3.59 \text{ CFS} \quad \checkmark$$

$$Q_p = 0.55 + 3.59 = \boxed{4.14 \text{ CFS}}$$

③ SUMMARY

EXISTING (4.16 CFS) > PROPOSED (4.14 CFS) ✓

TJD

**PAN AMERICAN ENGINEERS**

ALEXANDRIA • LOUISIANA
318-473-2100 FAX 318-473-2275

Job No.

Design by:

Date:

Checked by:

TCD

Page of

3/3

④ SWQ Volume Calcs ✓

Req'd SWQ Volume = 0.26" * Imp. Area of Site

= 0.26" * 0.75 Acre = 0.016 Acre-Ft

= 697 CF ✓

Payment -in- Lien

697 CF * \$8/CF = \$5,576 ✓

ARTICLE 6-2 HYDROLOGY

The primary method for hydrology calculations in the DPM since the update in 1993 has been the Arid-lands Hydrologic Model (AHYMO), and it continues to be the basis for hydrology calculations in this Article. Other methods described in this Article are calibrated to produce results close to the AHYMO method.

Part 6-2(A) Procedure for 40-Acre and Smaller Basins is calibrated to exactly match AHYMO. In 1993, AHYMO replaced a Rational Method that had been derived from the Soil Conservation Service (SCS) Curve Number method. One version of the SCS Curve Number method is being allowed with the DPM update 2020 because its results closely match AHYMO's results.

The methods in the 1993 DPM were based on precipitation data from the National Oceanic and Atmospheric Agency (NOAA) Atlas 2, which has been superseded by NOAA Atlas 14. Atlas 14 Volume 1, Version 1 was published in 2001; Volume 4 was published in 2006; and Version 5, the most current version, was published in 2011. Atlas 14 precipitation data can be accessed via the NOAA website: <https://hdsc.nws.noaa.gov/hdsc/pfds>. More revisions are expected as new data are collected. AHYMO-93 and AHYMO-97 used the precipitation distributions from NOAA Atlas 2. AHYMO-S4, released in 2009, uses precipitation distribution based on NOAA Atlas 14. The methods, graphs, and tables that follow will be used by City staff to review and evaluate development plans and drainage management plans, including 2 basic methods of analysis.

1. Part 6-2(A) describes a simplified procedure for smaller watersheds based on the Rational Method and initial abstraction/uniform infiltration precipitation losses. The procedure is applicable to watersheds up to 40 acres in size, and the procedure may be used for certain larger watersheds, with some limitations.
2. Part 6-2(C) describes 2-unit hydro graph procedures that are accomplished using computer programs. One method is the AHYMO method, and the other method is the SCS Curve Number method. The AHYMO-S4 program is used for the AHYMO method, and TR-20 and HEC-HMS are two of the programs that can be used for the SCS Curve Number method and the Atlas 14 precipitation distribution. These procedures are applicable for small and large watersheds.

Part 6-2(D) describes the computation of time of concentration, lag time, and time to peak that are used in Part 6-2(A) and Part 6-2(C).

Part 6-2(F) contains a list of definitions of symbols used in this chapter and a bibliography.

Part 6-2(A) Procedure for 40-Acre and Smaller Basins

A simplified procedure for projects with basins smaller than 40 acres has been developed based on initial abstraction/uniform infiltration precipitation losses and Rational Method procedures. For this procedure, the portion of Bernalillo County within City limits has been divided into 4 precipitation zones, as shown in Figure 6.2.3.

Section 6-2(A)(1) Precipitation Zones

Albuquerque's 4 precipitation zones are indicated in TABLE 6.2.7 and on FIGURE 6.2.3 and the corresponding precipitation values are in TABLE 6.2.8. When modeling the storm, the standard practice is to set the peak intensity 1.5 hours into the storm when using AHYMO losses and 12 hours into the storm when using the SCS Curve Number losses, which must use NOAA Atlas 14 precipitation distributions, must not smooth the distribution, and must not use the SCS precipitation distribution. The storm duration must be 24 hours, and the calculation increment should be set to 5 minutes for the distribution used with the SCS Curve Number method. The unit hydrograph time increment must be 0.01 hours or less. NOAA Atlas 14 can be used for several other frequency events, and it can be used to obtain a more precise precipitation depth for a particular location than the precipitation depths listed in TABLE 6.2.8.

TABLE 6.2.7 Precipitation Zones

Zone	Location
1	West of the Rio Grande
2	Between the Rio Grande and San Mateo
3	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
4	East of Eubank, North of Interstate 40 and East of the East boundary of Range 4 East, South of Interstate 40
	Not including the Cibola National Forest

FIGURE 6.2.3 Precipitation Zones

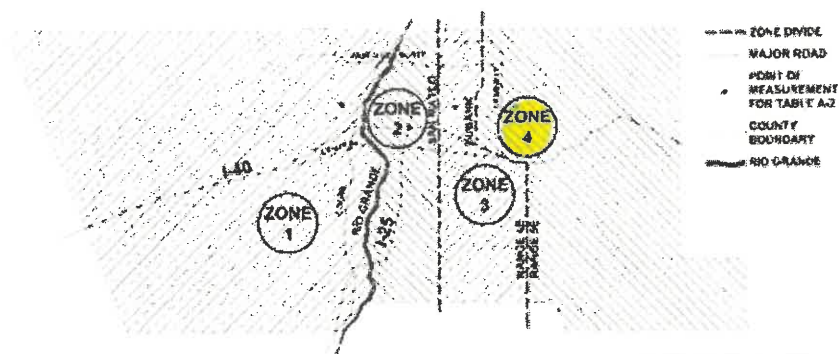


TABLE 6.2.8 Precipitation for Zones 1-4

Partial Duration		500 year		100 year		10 year		2 year	
		Depth (in)	Intensity in/hr	Depth (in)	Intensity in/hr	Depth (in)	Intensity in/hr	Depth (in)	Intensity in/hr
ZONE 1									
5	min.	0.701	8.41	0.538	6.46	0.335	4.02	0.207	2.48
10	min.	1.070	6.42	0.819	4.91	0.511	3.07	0.315	1.89
12	min.	-	5.96	-	4.58	-	2.85	-	1.76
15	min.	1.320	5.28	1.020	4.08	0.633	2.53	0.390	1.56
30	min.	1.780	3.56	1.370	2.74	0.852	1.70	0.525	1.05
60	min.	2.200	2.20	1.690	1.69	1.060	1.06	0.650	0.65
2	hr.	2.530	1.27	1.920	0.96	1.190	0.60	0.746	0.37
3	hr.	2.760	0.92	2.000	0.67	1.250	0.42	0.800	0.27
6	hr.	2.780	0.46	2.170	0.36	1.400	0.23	0.920	0.15
24	hr.	3.090	0.13	2.490	0.10	1.680	0.07	1.160	0.05
4	day	3.780	0.04	3.120	0.03	2.190	0.02	1.560	0.02
10	day	4.680	0.02	3.900	0.02	2.760	0.01	1.970	0.01
Zone 2									
5	min.	0.731	8.77	0.565	6.78	0.355	4.26	0.220	2.64
10	min.	1.110	6.66	0.860	5.16	0.540	3.24	0.335	2.01
12	min.	-	6.20	-	4.81	-	3.01	-	1.87
15	min.	1.380	5.52	1.070	4.28	0.669	2.68	0.415	1.66
30	min.	1.860	3.72	1.440	2.88	0.901	1.80	0.559	1.12
60	min.	2.300	2.30	1.780	1.78	1.120	1.12	0.692	0.69
2	hr.	2.660	1.33	2.030	1.02	1.260	0.63	0.797	0.40
3	hr.	2.730	0.91	2.100	0.70	1.320	0.44	0.844	0.28
6	hr.	2.980	0.50	2.290	0.38	1.480	0.25	0.977	0.16

Section 6-2(A)(2) Land Treatments

All land areas are described by one of four basic land treatments or by a combination of the four land treatments. Land treatments are provided in [TABLE 6.2.9](#).

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 land areas contain a mix of land treatments. To determine appropriate treatment percentages for a specific area, the land percentages in [TABLE 6.2.10](#) may be used based on specific land use and for treatment D.

TABLE 6.2.10 Percent Treatment D (Impervious)

Land Use	Percent
Commercial*	90
Single Family Residential N=units/acre, N≤6	$7*[(N^2) + (5N)]^{0.5}$
Multiple Unit Residential	
Detached*	60
Attached*	70
Industrial	
Light*	70
Heavy*	80
Parks, Cemeteries	7
Playgrounds	13
Schools	50
Collector & Arterial Streets	90

[TABLE 6.2.10](#) does not provide areal percentages for land treatments A, B, and C. Use of [TABLE 6.2.10](#) will require additional analysis to determine the appropriate areal percentages of these land treatments.

Section 6-2(A)(5) Peak Discharge Rate for Small Watersheds

The peak discharge rate is given in TABLE 6.2.14 for small watersheds, less than or equal to 40 acres, where the time of concentration is assumed to be 12 minutes.

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

To determine the peak rate of discharge,

1. Determine the area in each treatment, A_A , A_B , A_C , A_D
2. Multiply the peak rate for each treatment by the respective areas and sum to compute the total Q_p .

EQUATION 6.6
$$\text{Total } Q_p = Q_{PA} A_A + Q_{PB} A_B + Q_{PC} A_C + Q_{PD} A_D$$

EXAMPLE 3

Find 100-year Q_p for 14 acres in zone 1. The four land treatments are 3 acres in treatment A, 5 acres in treatment B, 2 acres in treatment C and 4 acres in treatment D

$$\text{Total } Q_p = (1.54 * 3) + (2.16 * 5) + (2.87 * 2) + (4.12 * 4) = 37.64 \text{ cfs}$$

ARTICLE 6.12 STORMWATER QUALITY AND LOW-IMPACT DEVELOPMENT

All new development and redevelopment projects shall apply best Management Practices (BMPs) to manage the stormwater quality volume (SWQV) by management on-site, or payment-in-lieu, or private off-site mitigation. BMPs remove pollutants from SWQV by first capturing the volume of the area draining to them, then either infiltrate the volume into the soil, or is reuse the volume for irrigation, or treat the volume by extended filtration, or some combination thereof. Where practical, stormwater volumes in excess of the SWQV should bypass the BMP rather than being allowed to pass thru the BMP to prevent pollutants from being washed downstream. The BMP bypass shall be designed for the peak 100-year flow rate.

The stormwater quality volume new development sites are required to manage is the runoff from a 0.62 inch storm. The stormwater quality volume redevelopment sites are required to manage is the runoff from a 0.48 inch storm. A site is defined as a redevelopment site if the land was occupied by an artificial surface or by any structure intended for human occupation, including structures intended for commercial enterprise.

The methodology used in the U.S. Environmental Protection Agency (EPA) Report, Estimating Predevelopment Hydrology in the Middle Rio Grande Watershed, New Mexico, TetraTech, April 2014, EPA Publication Number 832-R-14-007, yields runoff values of 0.42 inches for the 90th percentile storm and using the same methodology but generated from HEC-HMS, 0.26 inches for the 80th percentile storm.

To calculate the required SWQV, multiply the impervious area draining to the BMP by 0.42 inches for new development sites and 0.26 inches for redevelopment sites. The calculations of both the required and the provided volume of each BMP must be shown on the Grading and Drainage Plan. Each BMP should be labeled on the Grading and Drainage Plan with the required SWQV and associated water surface elevation and the 100-year water surface elevation. Landscaping of surface BMPs is also required to be noted on the Grading and Drainage Plan.

For single-family subdivisions, stormwater quality ponds will not be allowed on individual lots. Instead, a centralized stormwater quality pond for the entire subdivision must be constructed for all impervious areas to include the houses, patios, sidewalks, driveways, and public or private streets, or a payment-in-lieu can be paid. The following equation can be used to determine the amount of impervious area for single-family subdivisions:

$$\text{EQUATION 6.62 Impervious percentage} = 7 \cdot \sqrt[3]{((N \cdot N) = (5 \cdot N))}$$

where:

N = units/acre

For all developments, a combination of on-site/off-site ponding and payment-in-lieu is allowed.

- vii. A waiver to State water law or acquisition of water rights would be required in order to implement management on site.
2. The basis for requesting payment-in-lieu or private off-site mitigation is to be clearly demonstrated on the drainage plan.

Section 6-12(C)(1) Payment-in-lieu

In new development and redevelopment cases where the SWQV cannot be met through either management on-site or private off-site mitigation and that qualify for a waiver per ~~Part 6-12(C)~~, payment-in-lieu is required for the difference between the amount of SWQV met and the total required, except in two areas. Payment in lieu that would be otherwise owed is waived for new development or redevelopment in either of the following areas: (1) Metropolitan Redevelopment Areas or (2) within City limits as of 1959.

Metropolitan Redevelopment Areas are shown on the City's Advanced Map Viewer, which is available here: <https://www.cabq.gov/gis/advanced-map-viewer>.

If a site does not qualify for a waiver of management on-site, then the developer may elect payment-in-lieu of providing the required management on-site.

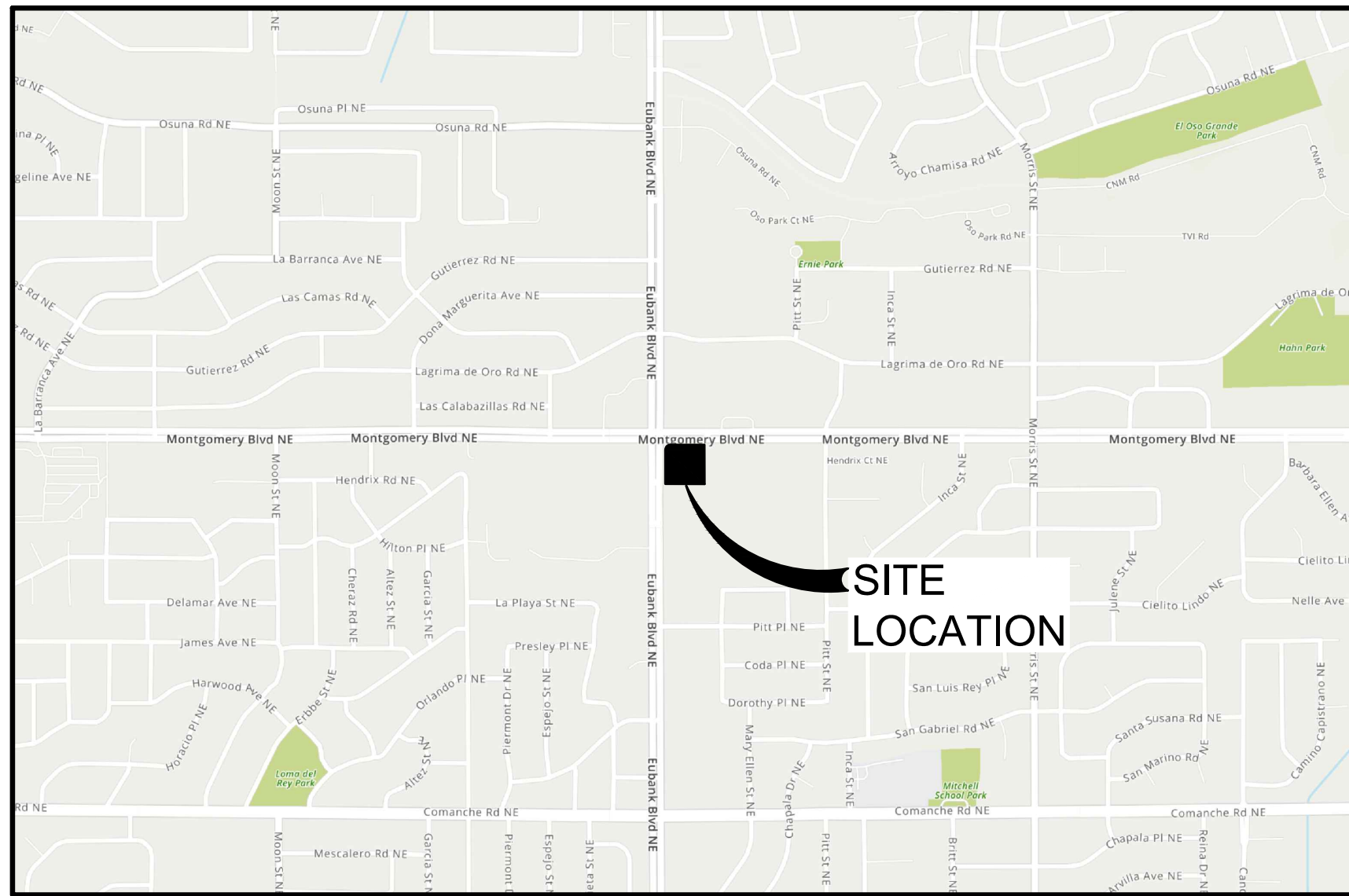
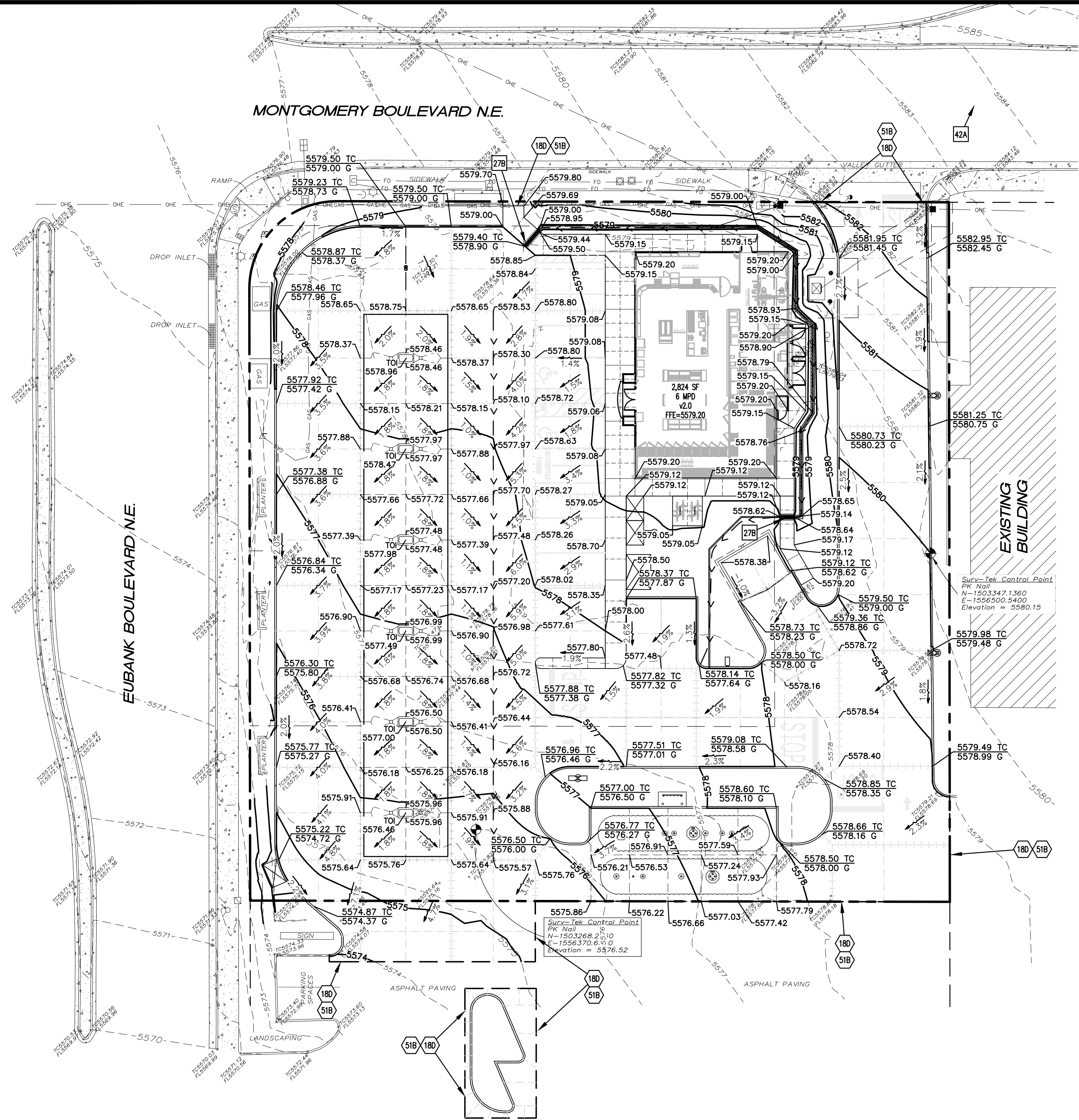
The amount of payment-in-lieu is \$6/cubic foot of impervious area for detached single-family residential projects and \$8/cubic foot of impervious for all other projects.

The total required SWQV calculation must be included on the Grading and Drainage Plan along with calculation of the portion of the SWQV for which payment-in-lieu is requested. Payment shall be made at the following steps in the City's review/decision process:

1. Multi-family Development: prior to the issuance of a Building Permit.
2. Commercial Development: prior to the issuance of a Building Permit.
3. Single-family Subdivision: prior to recording the Final Plat and prior to issuance of a work order.

Section 6-12(C)(2) Annual Adjustment of Fee

The fees shall be adjusted upward on every July 1 by multiplying the rates in effect on the prior July 1 by 100% of the percentage increase in the Consumer Price Index (CPI) for the 12-month period ending the preceding April. The fees shall remain the same in the event the CPI indicates a decrease. If the index ceases to be published on a monthly basis, the adjustment shall be based on the CPI for the most recent 12-month period. The CPI to be used shall be the Consumer Price Index – All Urban Consumers as published by the U.S. Department of Labor for the Albuquerque Metropolitan area.



VICINITY MAP
N.T.S.

BM
PK NAIL
ELEVATION=5580.15

BM
PK NAIL
ELEVATION=5576.52

ALL CASTINGS SHALL BE COATED
WITH BLACK ASPHALTIC VARNISH.

MURPHY OIL USA, INC. HAS ELECTED
TO NOT PROVIDE THE REQUIRED
"STORMWATER QUALITY VOLUME" OF
697 CUBIC FEET BUT INSTEAD WILL PAY
THE "PAYMENT IN LIEU" OF \$5,576.

LEGAL DESCRIPTION

As listed within the Title Commitment prepared for this property by Old Republic National Title Insurance Company, Commitment 2005786, commitment date July 16, 2020.

A certain tract of land situate within Section 4, Township 10 North, Range 4 East, of the New Mexico Principal Meridian, Bernalillo County, New Mexico, being and comprising "Lot 1-A" as such lot is shown and so designated on the Plat of American Bank of Commerce Lot 1-A, filed in the office of the County Clerk of Bernalillo County, New Mexico, on March 5, 1979, Vol. C14, Folio 131, and being more particularly described as follows:

Beginning at the northeast corner of the tract herein described, whence A.C.S. Monument "M-1A" bears N 44° 49' 12" E, 73.42 feet and running; thence,

S 00° 35' 49" W, 200.00 feet to the southeast corner (a found #4 rebar in asphalt); thence,

N 89° 13' 41" W, 200.00 feet to the southwest corner (a found #5 rebar) and being a point on the easterly right-of-way of Eubank Blvd NE; thence, following said right-of-way,

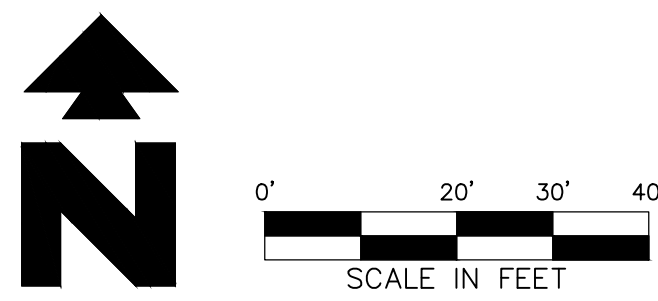
N 00° 35' 49" E, 174.92 feet to a point of curvature; thence, leaving the easterly right-of-way of Eubank Blvd NE

Northeasterly, 39.35 feet along the arc of a curve bearing to the right, said arc having a radius of 25.00 feet and a delta of 90° 10' 34" to a point of tangency, being a point on the southerly right-of-way of Montgomery Blvd NE, and following said right-of-way

S 89° 13' 41" E, 174.92 feet to the northeast corner and point of beginning of the tract herein described.

FLOOD ZONE DETERMINATION

The subject property (as shown hereon) appears to lie within Zone "X" (areas determined to be outside 0.2% annual chance floodplain) in accordance with the National Flood Insurance Program Rate Map No. 35001C0143G, Effective Date 9-26-2008.



EXISTING	
	Storm Drain Manhole
	Sanitary Sewer Manhole
	Sanitary Sewer Line
	Storm Drain Line
	Storm Drain Inlet
	Underground Electric Line
	Underground Communications Line
	Underground Gas Line
	Underground Water Line
	Sanitary Sewer Clean-out
	Water Meter
	Water Valve
	Hydrant
	Cable Pedestal
	Electric Pedestal
	Utility Vault
	Telephone Pedestal
	Utility Box
	Fiber Optic Box
	Light Pole
	Bollard
	Concrete Symbol
	Raised Truncated Dome Mat
	Control Point

PROPOSED	
	BOUNDARY LINE
	GRADE BREAK
	CONTOUR ELEVATIONS
	SWALE/FLOW DIRECTION
	SPOT ELEVATIONS:
	XX.XX TC = TOP OF CURB
	XX.XX TOI = TOP OF ISLAND
	XX.XX = FINISHED GRADE
	DRAINAGE SLOPE AND DIRECTION
	CONSTRUCTION FENCE (SEE DETAIL SHEETS)
	PROPOSED STORM PIPE

GENERAL GRADING NOTES

- PRIOR TO INSTALLATION OF STORM OR SANITARY SEWER, WATER MAIN, OR ANY OTHER UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY, AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSING AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS OR REQUIRED DEVIATIONS FROM THE PLAN PRIOR TO CONSTRUCTION. NOTIFICATION SHALL BE MADE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION, THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION.
- SMOOTH AND AREAS COVERED BY CONSTRUCTION SHALL BE GRADED TO MATCH EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.
- REFER TO GEOTECHNICAL REPORT FOR SPECIFIC SITE SOIL CONDITIONS AND CONSIDERATIONS.
- CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED TO ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS REQUIRED BY OSHA.
- ALL HDPE PIPE IN SANDY OR HIGHLY EROSION, OR EXPANSIVE SOILS SHALL BE N-12 WT IB (OR EQUIVALENT WITH SMOOTH INTERIOR AND ANNULAR EXTERIOR CORRUGATIONS. 4"-48" PIPE SHALL MEET ASTM F2648 (OR AASHTO M252 TYPE S) REQUIREMENTS AND SHALL HAVE A MINIMUM MANNINGS "n" DESIGN VALUE OF 0.012. JOINTS SHALL BE WATERTIGHT ACCORDING TO ASTM D3212 (OR AASHTO M252, M294) REQUIREMENTS. GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477. JOINT PERFORMANCE, FITTINGS, MATERIAL PROPERTIES AND INSTALLATION SHALL BE DONE PER THE COMPLETE ADS SPECIFICATION FOR ADS N-12 WT IB PIPE FOUND IN THE ADS, INC. DRAINAGE HANDBOOK, LATEST EDITION.
- ALL OTHER HDPE PIPE SHALL BE N-12 ST IB (OR EQUIVALENT WITH SMOOTH INTERIOR AND ANNULAR EXTERIOR CORRUGATIONS. 4"-48" SHALL MEET ASTM F2648 (OR AASHTO M252 TYPE S OR SP) REQUIREMENTS AND SHALL HAVE A MINIMUM MANNINGS "n" DESIGN VALUE OF 0.012. JOINT PERFORMANCE, FITTINGS, MATERIAL PROPERTIES AND INSTALLATION SHALL BE DONE PER THE COMPLETE ADS SPECIFICATIONS FOR ADS N-12 ST IB PIPE FOUND IN THE ADS, INC. HAND BOOK, LATEST EDITION.
- IF USING HDPE PERFORATED PIPE FOR SUBSURFACE DRAINAGE AND DETENTION/RETENTION SYSTEMS, THE PERFORATION SHALL MEET THE AASHTO CLASS II STANDARD PERFORATION PATTERN REQUIREMENTS.
- ALL STORM SEWER LINES 18"-54" DIAMETER ARE TO BE REINFORCED CONCRETE PIPE ACCORDING TO ASTM C-76 TYPE III UNLESS OTHERWISE INDICATED.
- CORRUGATED METAL PIPE, WHERE SPECIFICALLY SPECIFIED ON PLAN, SHALL BE TYPE II OF AASHTO M 36 GALVANIZED WITH TYPE 3 JOINTS.
- CONTRACTOR SHALL ESTABLISH GRADES OF FINISH PAVEMENT TO ENSURE PROPER (POSITIVE) DRAINAGE AND PREVENT PUDDING OF WATER, SPECIALLY IN PEDESTRIAN WALKWAYS. UNPAVED AREAS OF SITE SHALL ALSO BE GRADED FOR POSITIVE DRAINAGE. CONSULT ENGINEER SHOULD THEIR BE CONFLICTS WITH CRITICAL GRADES SHOWN HEREON.

GRADING NOTES

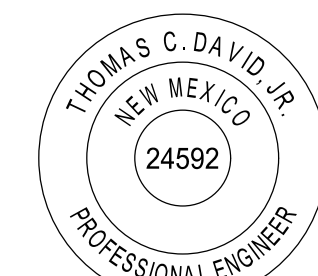
18D MATCH EXISTING PAVEMENT ELEVATIONS
51B LIMITS OF SAWCUT AND PAVEMENT REMOVAL

GRADING DETAILS

27B SIDEWALK TRENCH DRAIN
28A STORM SEWER TRENCH & BEDDING
42A FRENCH DRAIN

SHEET NO.

C-3



10/1/20
Amos C. Blum, Jr.

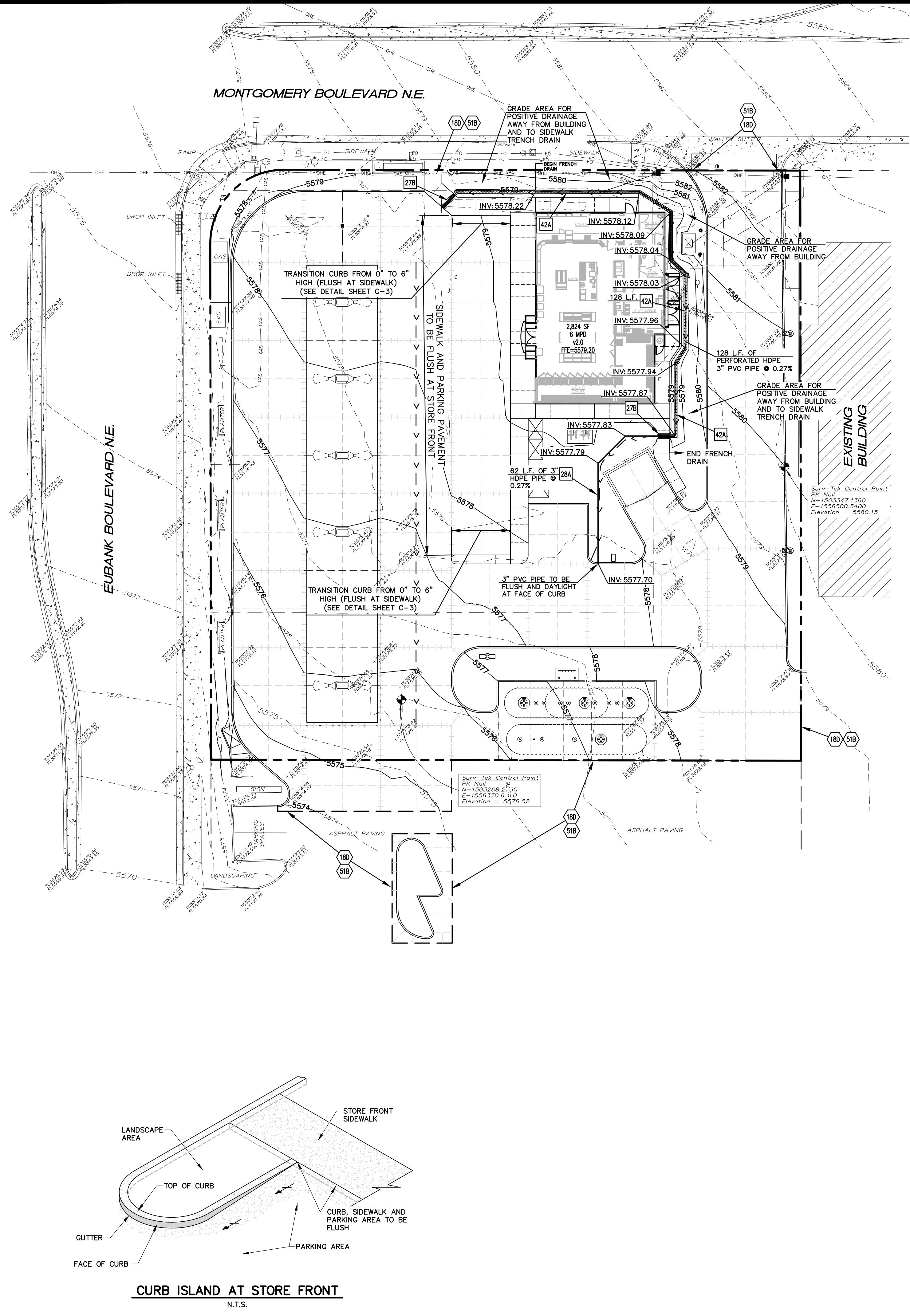
GRADING PLAN
MURPHY EXPRESS
9700 MONTGOMERY BLVD.
ALBUQUERQUE
NEW MEXICO

PAN AMERICAN ENGINEERS, LLC
1717 JACKSON STREET
ALEXANDRIA, LA. 71301
(337) 478-2100
CONTACT: RON BORDELON

MURPHY OIL USA, INC.

200 PEACH STREET
EL DORADO, AR 71730

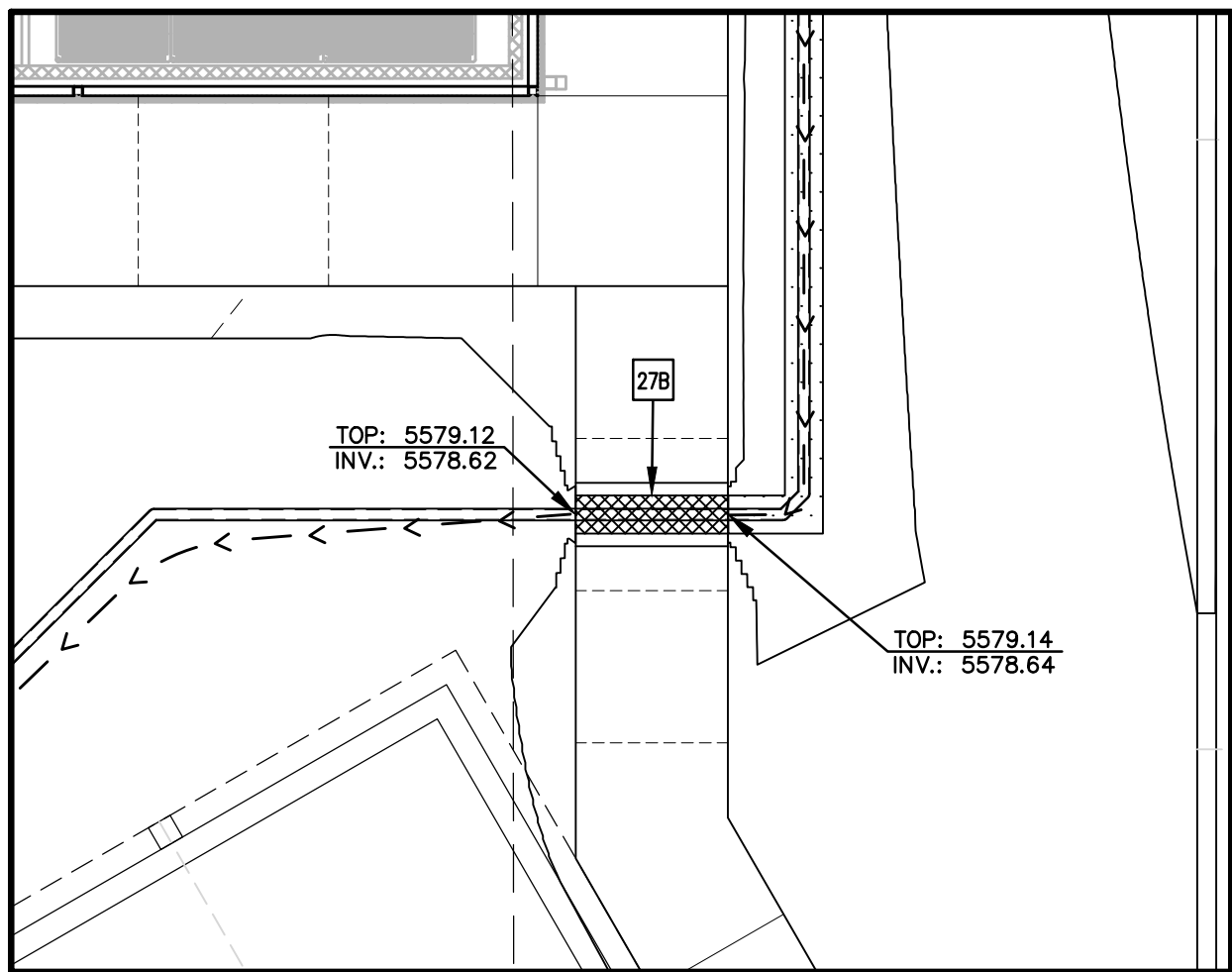
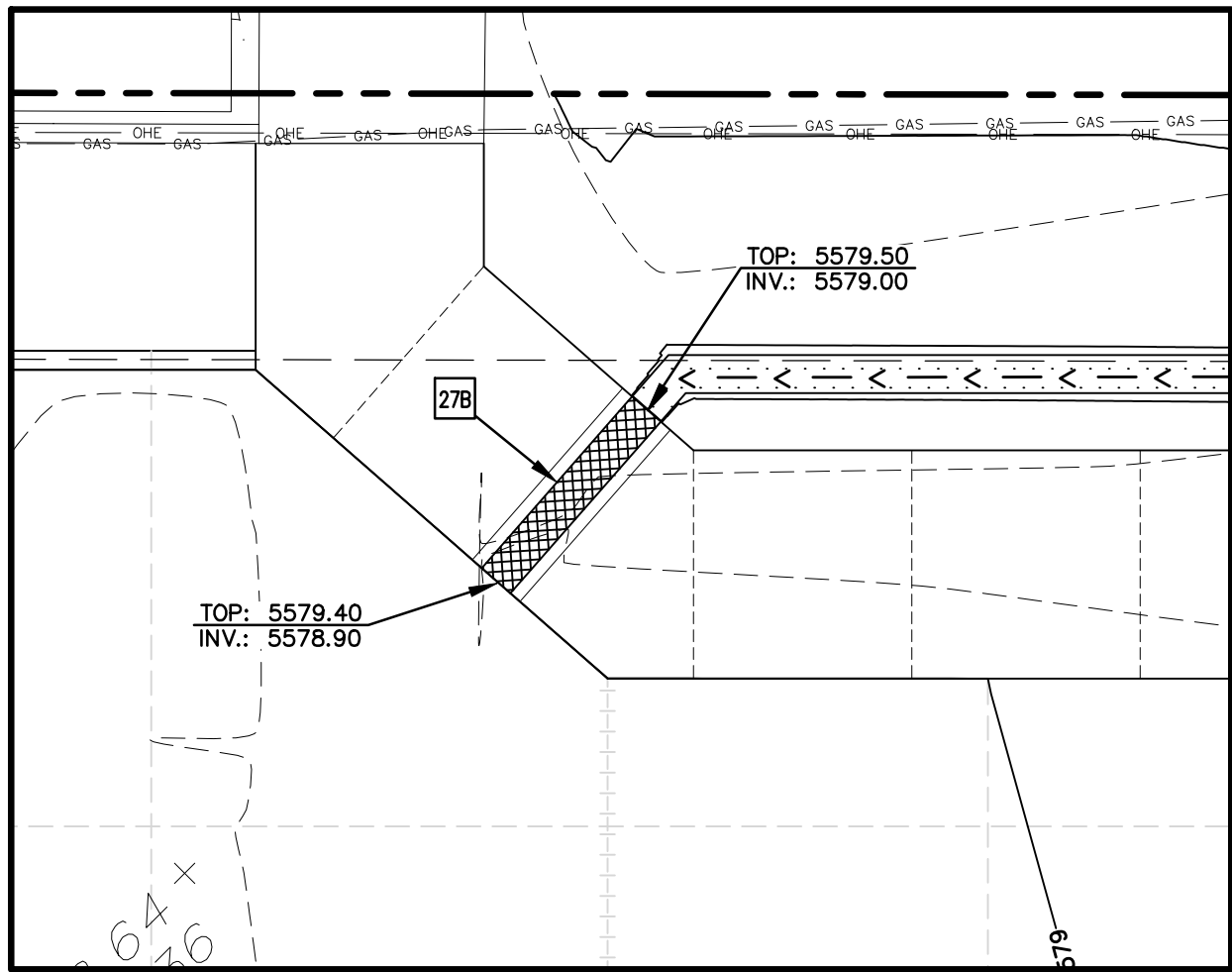
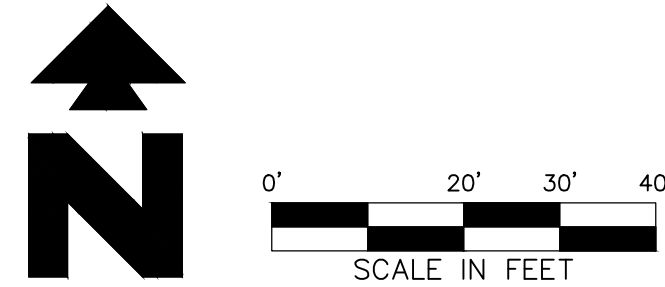




BM
PK NAIL
ELEVATION=5580.15

BM
PK NAIL
ELEVATION=5576.52

ALL CASTINGS SHALL BE COATED
WITH BLACK ASPHALTIC VARNISH.



EXISTING	
	Storm Drain Manhole
	Sanitary Sewer Manhole
	Storm Drain Line
	Storm Drain Inlet
	Undergroud Electric line
	Undergroud Communications Line
	Undergroud Gas Line
	Undergroud Water Line
	Sanitary Sewer Clean-out
	Water Meter
	Water Valve
	Hydrant
	Cable Pedestal
	Electric Pedestal
	Utility Vault
	Telephone Pedestal
	Utility Box
	Fiber Optic Box
	Light Pole
	Bolland
	Concrete Symbol
	Raised Truncated Dome Mat
	Control Point
PROPOSED	
	BOUNDARY LINE
	GRADE BREAK
	CONTOUR ELEVATIONS
	SWALE/FLOW DIRECTION
	SPOT ELEVATIONS: XX.XX TC = TOP OF CURB XX.XX G = GUTTER XX.XX TOI = TOP OF ISLAND XX.XX = FINISHED GRADE
	DRAINAGE SLOPE AND DIRECTION
	CONSTRUCTION FENCE (SEE DETAIL SHEETS)
	PROPOSED STORM PIPE

- GENERAL GRADING NOTES**
- PRIOR TO INSTALLATION OF STORM OR SANITARY SEWER, WATER MAIN, OR ANY OTHER UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY, AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSING AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS OR REQUIRED DEVIATIONS FROM THE PLAN PRIOR TO CONSTRUCTION. NOTIFICATION SHALL BE MADE A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. THE ENGINEER AND ITS CLIENTS SHALL BE HELD HARMLESS IN THE EVENT THAT THE CONTRACTOR FAILS TO MAKE SUCH NOTIFICATION.
 - ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND GROUND COVER ESTABLISHED. EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.
 - REFER TO GEOTECHNICAL REPORT FOR SPECIFIC SITE SOIL CONDITIONS AND CONSIDERATIONS.
 - CONTRACTOR SHALL COMPLY COMPLETELY WITH THE LATEST STANDARDS OF OSHA DIRECTIVES OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR SHALL USE SUPPORT SYSTEMS, SLOPING, BENCHING AND OTHER MEANS OF PROTECTION. THIS IS TO INCLUDE, BUT NOT LIMITED FOR ACCESS AND EGRESS FROM ALL EXCAVATION AND TRENCHING. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH PERFORMANCE CRITERIA AS REQUIRED BY OSHA.
 - ALL HDPE PIPE IN SANDY OR HIGHLY EROSION, OR EXPANSIVE SOILS SHALL BE N-12 WT IB (OR EQUIVALENT WITH SMOOTH INTERIOR AND ANNULAR EXTERIOR CORRUGATIONS. 4"-48" PIPE SHALL MEET ASTM F2648 (OR AASHTO M252 TYPE S) REQUIREMENTS AND SHALL HAVE A MINIMUM MANNINGS "n" DESIGN VALUE OF 0.012. JOINTS SHALL BE WATERTIGHT ACCORDING TO ASTM D3212 (OR AASHTO M252, M294) REQUIREMENTS. GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477. JOINT PERFORMANCE, FITTINGS, MATERIAL PROPERTIES AND INSTALLATION SHALL BE DONE PER THE COMPLETE ADS SPECIFICATION FOR ADS N-12 WE IB PIPE FOUND IN THE ADS, INC. DRAINAGE HANDBOOK, LATEST EDITION.
 - ALL OTHER HDPE PIPE SHALL BE N-12 ST IB (OR EQUIVALENT WITH SMOOTH INTERIOR AND ANNULAR EXTERIOR CORRUGATIONS. 4"-48" SHALL MEET ASTM F2648 (OR AASHTO M252 TYPE S OR SP) REQUIREMENTS AND SHALL HAVE A MINIMUM MANNINGS "n" DESIGN VALUE OF 0.012. JOINT PERFORMANCE, FITTINGS, MATERIAL PROPERTIES AND INSTALLATION SHALL BE DONE PER THE COMPLETE ADS SPECIFICATIONS FOR ADS N-12 ST IB PIPE FOUND IN THE ADS, INC. HAND BOOK, LATEST EDITION.
 - IF USING HDPE PERFORATED PIPE FOR SUBSURFACE DRAINAGE AND DETENTION/RETENTION SYSTEMS, THE PERFORATION SHALL MEET THE AASHTO CLASS II STANDARD PERFORATION PATTERN REQUIREMENTS.
 - ALL STORM SEWER LINES 18"-54" DIAMETER ARE TO BE REINFORCED CONCRETE PIPE ACCORDING TO ASTM C-76 TYPE III UNLESS OTHERWISE INDICATED.
 - CORRUGATED METAL PIPE, WHERE SPECIFICALLY SPECIFIED ON PLAN, SHALL BE TYPE II OF AASHTO M 36 GALVANIZED WITH TYPE 3 JOINTS.
 - CONTRACTOR SHALL ESTABLISH GRADES OF FINISH PAVEMENT TO ENSURE PROPER (POSITIVE) DRAINAGE AND PREVENT PUDDLING OF WATER, SPECIALLY IN PEDESTRIAN WALKWAYS. UNPAVED AREAS OF SITE SHALL ALSO BE GRADED FOR POSITIVE DRAINAGE. CONSULT ENGINEER SHOULD THEIR BE CONFLICTS WITH CRITICAL GRADES SHOWN HEREON.

GRADING NOTES	
18D MATCH EXISTING PAVEMENT ELEVATIONS	
51B LIMITS OF SAWCUT AND PAVEMENT REMOVAL	
GRADING DETAILS	
27B SIDEWALK TRENCH DRAIN	
28A STORM SEWER TRENCH & BEDDING	
42A FRENCH DRAIN	

SHEET NO.

C-3.1

THOMAS C. DAVID JR.
NEW MEXICO
24592
PROFESSIONAL ENGINEER
10/17/20
[Signature]

GRADING PLAN
MURPHY EXPRESS
9700 MONTGOMERY BLVD.
ALBUQUERQUE NEW MEXICO

PAN AMERICAN ENGINEERS, LLC
1717 JACKSON STREET
ALEXANDRIA, LA. 71301
(338) 478-5100
CONTACT: RON BORDELON

MURPHY OIL USA, INC.

MURPHY USA

200 PEACH STREET
EL DORADO, AR 71730