

May 18, 2021 ZAP Question and Answer Report

B-01

Commissioner Denkler

Why is the impervious cover listed as 50% for SF in the impervious cover table? Shouldn't it be 45%?

B-02

B-03 C14-2020-0151 - 8401 - 8407 South 1st Street; District 2

Commissioner Smith:

1. I understand the homeowners in the vicinity of Orr Drive and Beaver Brook Lane currently experience flooding in connection with 2-year storm events.

The applicant has proposed the following drainage improvements in connection with the proposed multifamily project.

- a. Regrade. Regrade the site along the north and east property lines and construct a retaining wall system at the perimeter to prevent water from sheet-flowing onto neighboring properties. The retaining wall system consists of a rock wall approximately 3' in height, with a 6' solid wood fence on top (total of 9' high).
- b. Reroute. Provide a drainage easement along south and east property lines to redirect and slow sheet flows that are otherwise traveling unabated across the subject property.
- c. Improve Orr Drive inlet. Rework existing inlet at Orr Drive and provide a level-spreader that will limit stormwater within the right-of-way, thereby preventing it from surging onto neighboring homeowners properties during a 100-year flood event.

- d. Overdetain. Construct a subterranean detention pond onsite that is oversized more than required by City Code to capture on-site flows, in addition to reducing current off-site peak flow rates by 10%.

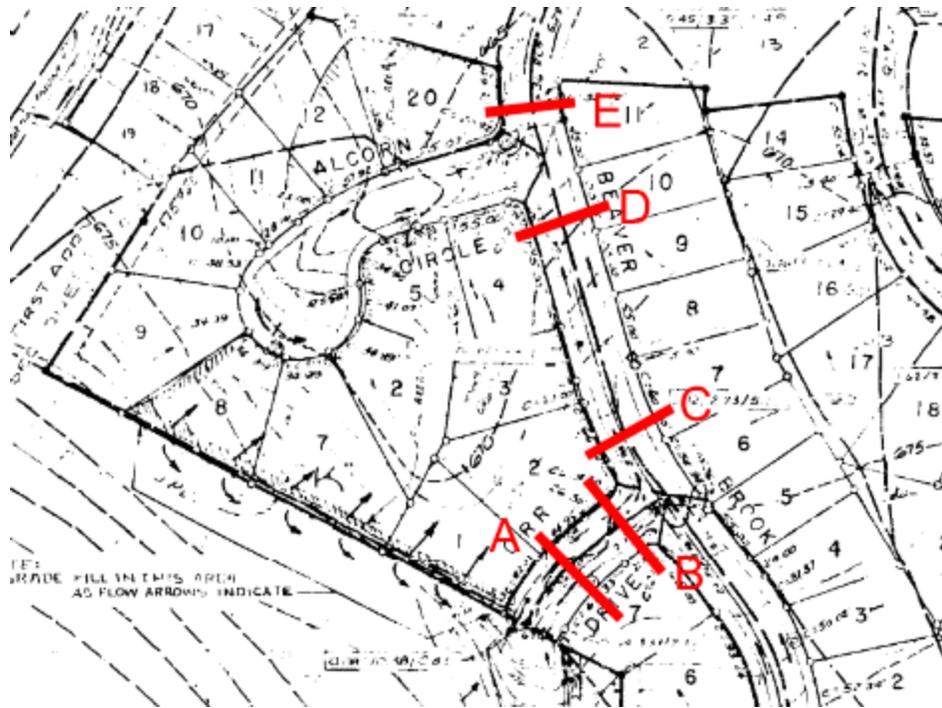
Please comment as to whether the above drainage improvements address existing drainage issues and will improve the existing drainage condition experienced by neighbors located adjacent to the Property along Orr Drive and Beaver Brook Lane.

Staff Response:

The attached drainage area map shows the drainage for the proposed site at 8401 S 1st. Currently the site drains directly into the residential houses to the north. The proposed development, which you can see highlighted on the second sheet, is currently proposing to capture all flows and release them into the right of way on Orr Drive. This will completely take drainage off of the residential lots that drains directly onto their properties. They also propose to decrease the total flow that drains through their site. However, the site proposes to increase flow at Orr Drive which would require a waiver. As part of the drainage criteria manual requirements, there should be no increase in point discharge from any point of the development. The engineer has met with a few different members of staff to discuss possible solutions and over-detaining did seem to be the most feasible option as the City doesn't have proposed upgrades in this area.

It is difficult to have a general statement to state flooding conditions will be better because flows are diverted from one location to another. As part of the waiver request, we are asking for calculations to demonstrate the flows will be contained in ROW. There is preliminary information that they have provided that demonstrates flows to be contained in the right of way. In both existing and proposed conditions there is almost a foot of water in their calculations so flooding isn't completely mitigated. The increase of flow will be from Orr Drive to just past the intersection of Beaver Brook. Just as a visual, below is an exhibit that shows the points of calculation. An increase in flow is shown for cross sections A,B and C with flows decreasing at D and E and further downstream due to their proposed over-detaining. Flows in the screenshot below are moving up the page toward cross section E. As a side note, waivers are not typically handled at the zoning stage as we review these during site plans and construction plans when construction occurs. I believe the applicants are trying to address drainage now since it is a concern to the neighborhood for this particular hearing item.

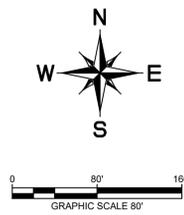
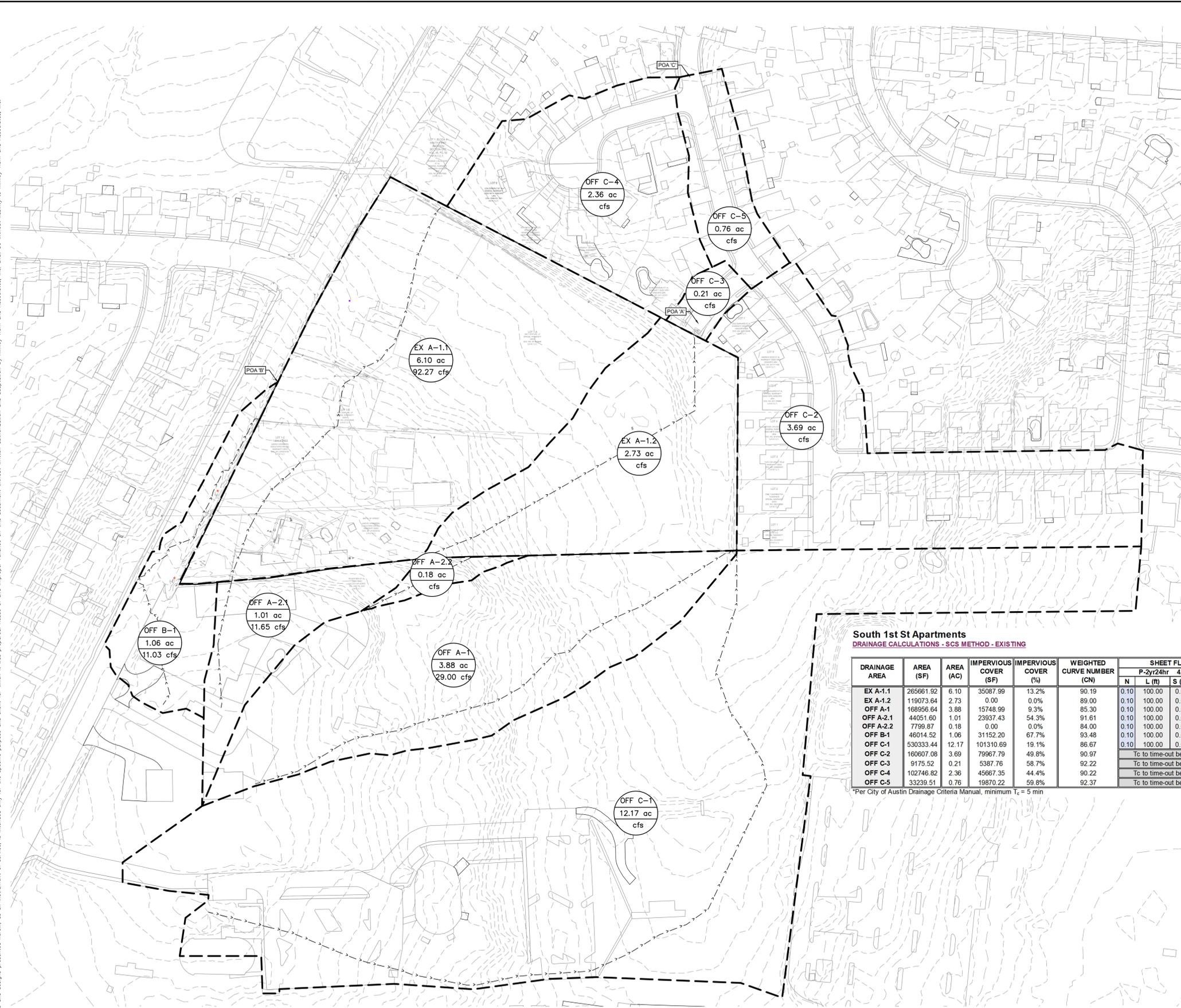
Let us know if you have any other questions or concerns.



Commissioner Denkler:

Does AFD usually allow only one entrance into a property with 290 apartment units?

Plotted By: Moez Zambos, Allison (Lemig) Date: May 04, 2021, 12:16:06pm File Path: \\K:\AUS-Civil\062289600-South 1st St Apartments\Area Map\Area Map.dwg
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LEGEND

- X-1
9.9 ac
5.5 cfs AREA DESIGNATOR
- AREA IN ACRES
- Q100 FLOW IN CFS
- PROPERTY LINE
- EXISTING STORM DRAIN LINE
- EXISTING DRAINAGE DIVIDE
- EXISTING STORM DRAIN INLET
- EXISTING STORM DRAIN MANHOLE
- EXISTING STORM DRAIN HEADWALL
- EXISTING FLOW DIRECTION
- EXISTING CONTOUR

	Q ₂	Q ₁₀	Q ₂₅	Q ₁₀₀
POA A	13.53	25.71	34.83	51.97
POA B	3.30	5.75	7.57	10.99
POA C	69.97	129.11	173.40	256.63

South 1st St Apartments
DRAINAGE CALCULATIONS - SCS METHOD - EXISTING

DRAINAGE AREA	AREA (SF)	AREA (AC)	IMPERVIOUS COVER (SF)	IMPERVIOUS COVER (%)	WEIGHTED CURVE NUMBER (CN)	SHEET FLOW				SHALLOW CONCENTRATED FLOW				TOTAL T _c * (min)	Q ₂ (cfs)	Q ₁₀ (cfs)	Q ₂₅ (cfs)	Q ₁₀₀ (cfs)
						P-2yr/24hr 4.06" IN				Unpaved Surface								
						N	L (ft)	S (ft/ft)	Tl (min)	L (ft)	V (ft/s)	S (ft/ft)	Tl (min)					
EX A-1.1	265661.92	6.10	35087.99	13.2%	90.19	0.10	100.00	0.065	3.82	631.01	3.35	0.043	3.14	7.06	18.48	33.40	44.43	65.15
EX A-1.2	119073.64	2.73	0.00	0.0%	89.00	0.10	100.00	0.074	3.73	534.75	3.29	0.042	2.70	6.43	8.12	14.89	19.90	29.29
OFF A-1	168956.64	3.88	15748.99	9.3%	85.30	0.10	100.00	0.001	20.31	887.00	3.27	0.041	4.53	24.84	7.23	13.95	19.01	28.51
OFF A-2.1	44051.60	1.01	23937.43	54.3%	91.61	0.10	100.00	0.020	6.29	110.66	3.32	0.042	0.56	6.84	3.18	5.20	6.89	10.07
OFF A-2.2	7799.87	0.18	0.00	0.0%	84.00	0.10	100.00	0.053	4.26	91.30	2.52	0.024	0.60	5.00	0.47	0.92	1.25	1.89
OFF B-1	46014.52	1.06	31152.20	67.7%	93.48	0.10	100.00	0.020	6.29	488.28	2.94	0.033	2.77	9.06	3.30	5.75	7.57	10.99
OFF C-1	530333.44	12.17	101310.69	19.1%	86.67	0.10	100.00	0.038	4.86	1409.26	2.45	0.023	9.57	14.44	28.34	53.41	72.15	107.32
OFF C-2	160607.08	3.69	79967.79	49.8%	90.97	T _c to time-out before 5 minutes under fully developed conditions				5.00	11.67	20.81	27.56	40.26				
OFF C-3	9175.52	0.21	5387.76	58.7%	92.22	T _c to time-out before 5 minutes under fully developed conditions				5.00	0.68	1.20	1.59	2.31				
OFF C-4	102746.82	2.36	45667.35	44.4%	90.22	T _c to time-out before 5 minutes under fully developed conditions				5.00	7.34	13.21	17.54	25.68				
OFF C-5	33239.51	0.76	19870.22	59.8%	92.37	T _c to time-out before 5 minutes under fully developed conditions				5.00	2.49	4.37	5.76	8.37				

*Per City of Austin Drainage Criteria Manual, minimum T_c = 5 min

BENCHMARKS

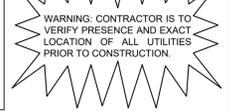
BM: 1, XXXX
ELEVATION=XXX.XX'



SITE PLAN APPROVAL SHEET OF 9
 FILE NUMBER XXXXXXXXXX APPLICATION DATE XXXX
 APPROVED BY COMMISSION ON UNDER SECTION 112 OF
 CHAPTER XXX OF THE CITY OF AUSTIN CODE.
 EXPIRATION DATE (25-5-81.LDC) CASE MANAGER XXXX
 PROJECT EXPIRATION DATE (ORD#970905-A) DWPZ DDZ

Director, Development Services Department
 RELEASED FOR GENERAL COMPLIANCE: ZONING XXXX
 Rev. 1 Correction 1
 Rev. 2 Correction 2
 Rev. 3 Correction 3

Final plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.



No.	REVISIONS	DATE	BY

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 PHONE: 512-418-7971 FAX: 512-418-1791
 WWW.KIMLEY-HORN.COM
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 TBPE Firm No. 928

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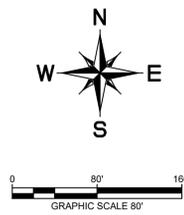
KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
064518504	APRIL 2021	AS SHOWN	TJO	TJO	AML

EXISTING DRAINAGE AREA MAP

ARBORETUM VMU
 CITY OF AUSTIN
 TRAVIS COUNTY, TEXAS

XXXXXXXXXX

Plotted By: Mccz@arbitrum.com, Allison (Lemig), Date: May 04, 2021, 12:17:10pm, File Path: K:\AUS-Civil\062289600-South 1st St Apartments\Coop\PlanSheets\C - Proposed Drainage Area Map.dwg
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LEGEND

- x-1 AREA DESIGNATOR
- 9.9 ac AREA IN ACRES
- 5.5 cfs Q100 FLOW IN CFS
- A-1 INLET NUMBER
- PROPERTY LINE
- PROPOSED STORM DRAIN LINE
- EXISTING STORM DRAIN LINE
- PROPOSED DRAINAGE DIVIDE
- PROPOSED STORM DRAIN INLET
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN HEADWALL
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		Q ₂	Q ₁₀	Q ₂₅	Q ₁₀₀
EXISTING	POA 'A'	13.53	25.71	34.83	51.97
	POA 'B'	3.30	5.75	7.57	10.99
	POA 'C'	69.97	129.11	173.40	256.63
PROPOSED	POA 'A'	30.99	55.39	74.35	107.50
	POA 'B'	3.30	5.75	7.57	10.99
	POA 'C'	65.90	119.23	159.87	234.17

South 1st St Apartments DRAINAGE CALCULATIONS - SCS METHOD - PROPOSED

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						N	L (ft)	S (ft/ft)	Tt (min)	L (ft)	V (fps)	S (ft/ft)	Tt (min)					
PR A-1	384735.56	8.83	230841.34	60.0%	90.80	Tc to time-out before 5 minutes under fully developed conditions				Tc to time-out before 5 minutes under fully developed conditions				5.00	27.84	49.76	69.95	96.39
OFF A-1	168956.64	3.88	15748.99	9.3%	85.30	0.10	100.00	0.001	20.31	887.00	3.27	0.041	4.53	24.84	7.23	13.95	19.01	28.51
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811
 Know what's below.
 Call before you dig.

WARNING: CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

KHA PROJECT 064518504
 DATE APRIL 2021
 SCALE: AS SHOWN
 DESIGNED BY: TJO
 DRAWN BY: TJO
 CHECKED BY: AMLM

XX/XX/XXXX

PROPOSED DRAINAGE AREA MAP

ARBORETUM VMU
 CITY OF AUSTIN
 TRAVIS COUNTY, TEXAS

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 TBPE Firm No. 928

SHEET NUMBER
13 OF 9

REVISIONS
 No. DATE BY

XXXXXXXXXX