

013

VARIANCE REQUEST DOCUMENT

FOR

HOMESTEAD OAKS
3226 WEST SLAUGHTER LANE
AUSTIN, TEXAS 78748

PREPARED FOR:

FC SW HOUSING, L.P.
3036 SOUTH FIRST STREET SUITE 200
AUSTIN, TEXAS 78704

PREPARED BY:



13276 RESEARCH BOULEVARD
SUITE 208
AUSTIN, TEXAS 78750
(512) 506-9335
Texas P.E. Firm No. F-43

June, 2014

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EXHIBIT 1

ENVIRONMENTAL BOARD VARIANCE APPLICATION

June 4, 2014



ENVIRONMENTAL BOARD VARIANCE APPLICATION TEMPLATE

May 16, 2014

Department Director
City of Austin
Watershed Protection & Development Review Department
P.O. Box 1088
Austin, Texas 78767

Re: City File No: SP-2013-0435C.SH
Homestead Oaks
Construction In WQTZ Variance

Dear Director:

On behalf of the owner of the above referenced subdivision, we wish respectfully request a variance from the following provision of the *Land Development Code*:

25-8-482 Water Quality Transition Zone Development

This section of this provision prohibits development within the Water Quality Transition Zone. The proposed development will ultimately consist of one large apartment building that will contain 140 units, plus accessory uses including a learning center and a leasing office. Associated improvements will include demolition of existing buildings, grading, utility improvements, parking areas, sidewalks and other amenities. The project lies entirely within the Barton Springs Zone and is over the Edwards Aquifer Recharge Zone. The property occupies a peninsula of sorts between two tributaries of Slaughter Creek, both of which contain classified floodplains. The entire south frontage along Slaughter Lane is encumbered by a water quality transition zone (WQTZ). This is the only access point to the site. As such, the access driveway for the site will therefore cross the WQTZ. The magnitude of the construction within the WQTZ is the minimum required to construct these improvements. We believe that the variance is appropriate and justified. Our reasoning is outlined in the attached document for your review. Your favorable consideration and support of our request would be appreciated.

If you have any questions, please feel free to call.

Very truly yours,

Axiom Engineers Inc.

A handwritten signature in black ink, appearing to read "Alan D. Rhames".

Alan D. Rhames, P.E.

PROJECT DESCRIPTION

Applicant Contact Information

Name of Applicant	FC SW Housing LP
Street Address	3036 South First Street
City State ZIP Code	Austin, Texas 78704
Work Phone	512-217-0429
E-Mail Address	sunshine.mathon@Foundcom.org

Variance Case Information

Case Name	Homestead Oaks
Case Number	SP-2013-0435C.SH
Address or Location	3226 Slaughter Lane
Environmental Reviewer Name	Jim Dymkowski
Applicable Ordinance	Current - SOS
Watershed Name	Slaughter Creek – Barton Springs Zone
Watershed Classification	<input type="checkbox"/> Urban <input type="checkbox"/> Suburban <input type="checkbox"/> Water Supply Suburban <input type="checkbox"/> Water Supply Rural <input checked="" type="checkbox"/> Barton Springs Zone
Edwards Aquifer Recharge Zone	<input checked="" type="checkbox"/> Barton Springs Segment <input type="checkbox"/> Northern Edwards Segment <input type="checkbox"/> Not in Edwards Aquifer Zones
Edwards Aquifer Contributing Zone	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Distance to Nearest Classified Waterway	Two minor waterways cross the property.
Water and Waste Water service to be provided by	City of Austin
Request	The variance request is as follows (Cite code references:

	Section 25-8-482 (A) Development is prohibited in a water quality transition zone that lies over the Edwards Aquifer recharge zone except for: (1) development described in Article 7, Division 1 (<i>Critical Water Quality Zone Restrictions</i>); and (2) minor drainage facilities or water quality controls that comply with Section 25-8-364 (<i>Floodplain Modification</i>) and the floodplain modification criteria of the Environmental Criteria Manual.	
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Impervious cover	Existing	Proposed
square footage:	<u>35,431</u>	<u>137,388</u>
acreage:	<u>0.813</u>	<u>3.154</u>
percentage:	<u>3.79% NSA</u>	<u>14.72% NSA</u>
Provide general description of the property (slope range, elevation range, summary of vegetation / trees, summary of the geology, CWOZ, WQTZ, CEFs, floodplain, heritage trees, any other notable or outstanding characteristics of the property)	<p>Homestead Oaks is a proposed multifamily residential project located in southwest Austin on Slaughter Lane. The project will occupy approximately 29.4 acres of land, about eight of which will actually be used for development. The property is currently zoned MF-4-CO. The project lies entirely within the Barton Springs Zone and is over the Edwards Aquifer Recharge Zone. The project lies in the Slaughter Creek (SOS) watershed.</p> <p>The property occupies a peninsula of sorts between two tributaries of Slaughter Creek, both of which contain classified floodplains (minor waterways). The entire south frontage along Slaughter Lane is encumbered by a water quality transition zone (WQTZ). The access driveway for the site will therefore cross the WQTZ. No development is proposed in the critical water quality zone except for a creek crossing for a wastewater line near the northeast corner of the property.</p> <p>The soil profile on the site is more or less in a natural condition and consists of thin layers of silty clay overlying limestone and marl. There are no known recharge features on the site.</p> <p>The site contains approximately five hundred trees including seventy-three heritage trees. Sixty-seven trees are proposed to be removed. The topography of the property slopes generally from north to south from a high point (~772 feet) located near the northwest property corner. Slopes are typically mild to moderate except for the creek bank areas (which are not being disturbed). The low point on the site is about 736 feet at the entrance to the roadway culvert near the southeast property corner. Vegetation consists of scattered a variety of native and introduced species. The tree distribution is dominated by Live Oaks but also includes Elm, Hackberry, Cedar Elm and Chinaberry.</p>	

Clearly indicate in what way the proposed project does not comply with current Code (include maps and exhibits)	It is not possible to access the main body of the property without crossing the water quality transition zone (WQITZ). Two tributaries of Slaughter Creek (both classified as minor waterways) cross the property near its southern boundary. The WQITZ of these two waterways intersect, effectively forming a large single transition zone along the Slaughter Lane frontage. It is not possible to access the site without crossing the WQITZ. The location of the proposed driveway is such that it minimizes the distance of WQITZ that will be crossed (about 125 feet). A residential driveway has existed at this location for years.
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FINDINGS OF FACT

As required in LDC Section 25-8-41, in order to grant a variance the Land Use Commission must make the following findings of fact:

Include an explanation with each applicable finding of fact.

Project: Homestead Oaks – SP-2013-0435C.SH

Ordinance: 25-8-482(A) – Water Quality Transition Zone Restrictions

A. Land Use Commission variance determinations from Chapter 25-8-41 of the City Code:

1. The requirement will deprive the applicant of a privilege or the safety of property given to owners of other similarly situated property with approximately contemporaneous development.

YES The property contains 21.43 acres of land in the Uplands Zone (out of 29.4 acres total). If a permit cannot be obtained to install a driveway over the water quality transition zone, no portion of the property can be developed. The two waterways that cross the property block access from the east and west and the zoning on the property prohibits development on the north part of the tract. For this reason the only feasible driveway access to the site is from Slaughter Lane on the south. Failure to grant the variance would therefore deprive the owner use of the property.

2. The variance:

- a) Is not based on a condition caused by the method chosen by the applicant to develop the property, unless the development method provides greater overall environmental protection than is achievable without the variance;

YES The property has been in its current configuration for decades. The development of surrounding property is such that the only feasible driveway access to the site is from Slaughter Lane to the south. The current and prior owners are not responsible for the development of the surrounding property or the current road network and therefore did not create the current surrounding land configuration.

b) Is the minimum change necessary to avoid the deprivation of a privilege given to other property owners and to allow a reasonable use of the property;

YES The only feasible way to provide vehicle access to the property is from Slaughter Lane. The proposed driveway location is such that it minimizes the distance of crossing of the water quality transition zone that is necessary; thereby minimizing disturbance of the transition zone to the smallest amount possible. The proposed driveway is in the same general location as a residential driveway that existed for decades.

c) Does not create a significant probability of harmful environmental consequences; and

YES The proposed driveway location is such that it minimizes the distance of crossing of the water quality transition zone that is necessary; thereby minimizing disturbance of the transition zone to the smallest amount possible. The proposed driveway is in the same general location as a residential driveway that existed for decades. In addition, both waterways are confined to concrete box culverts at the Slaughter Lane crossing and neither can therefore reasonably be considered to be in a natural condition.

3. Development with the variance will result in water quality that is at least equal to the water quality achievable without the variance.

YES The variance will allow a driveway that provides the shortest crossing of the transition zone possible. All other possible driveway locations would either cross a larger length of the transition zone or would also require crossing of the critical water quality zone as well. Either of these scenarios would result in more disturbance, degrading water quality. Other options (not actually available due to zoning) to access the site from the northwest, north or northeast would require a much longer access drive resulting on more

impervious cover allocated to the driveway which would result in a net decrease in water quality.

B. Additional Land Use Commission variance determinations for a requirement of Section 25-8-393 (Water Quality Transition Zone), Section 25-8-423 (Water Quality Transition Zone), Section 25-8-453 (Water Quality Transition Zone), or Article 7, Division 1 (Critical Water Quality Zone Restrictions):

1. The criteria for granting a variance in Section A are met;

YES
Granting the variance will allow for reasonable use of the property similar to surrounding properties. The variance requested represents the minimum departure from the code necessary to allow access to the site. All other options for accessing the site would likely result in decreased water quality relative to the option proposed.

2. The requirement for which a variance is requested prevents a reasonable, economic use of the entire property; and

YES
The site is being developed to provide affordable housing by a non-profit entity. The property is being developed in compliance with the SOS ordinance and applicable zoning restrictions. No additional density is being requested, only permission to physically access the site with a driveway.

3. The variance is the minimum change necessary to allow a reasonable, economic use of the entire property.

YES
The variance will allow a driveway that provides the shortest crossing of the transition zone possible. All other possible driveway locations would either cross a larger length of the transition zone or would also require crossing of the critical water quality zone as well. Either of these scenarios would result in more disturbance, degrading water quality. Other options (not actually available due to zoning) to access the site from the northwest, north or northeast would require a much longer access drive resulting on more impervious cover allocated to the driveway which would result in a net decrease in water quality.

**Variance approval requires all above affirmative findings.

Exhibits for Board Backup and/or Presentation

Please attach and paginate.

- Aerial photos of the site (backup and presentation)
- Site photos (backup and presentation)
- Aerial photos of the vicinity (backup and presentation)
- Context Map—A map illustrating the subject property in relation to developments in the vicinity to include nearby major streets and waterways (backup and presentation)
- Topographic Map - A topographic map is recommended if a significant grade change on the subject site exists or if there is a significant difference in grade in relation to adjacent properties. (backup and presentation)
- For cut/fill variances, a plan sheet showing areas and depth of cut/fill with topographic elevations. (backup and presentation)
- Site plan showing existing conditions if development exists currently on the property (presentation only)
- Proposed Site Plan- full size electronic or at least legible 11x17 showing proposed development, include tree survey if required as part of site or subdivision plan (backup and presentation)
- Environmental Map – A map that shows pertinent features including Floodplain, CWOZ, WQTZ, CEFFs, Setbacks, Recharge Zone, etc. (backup and presentation)
- An Environmental Assessment pursuant to ECM 1.3.0 (if required by 25-8-121) (backup only)
- Applicant’s variance request letter (backup only)

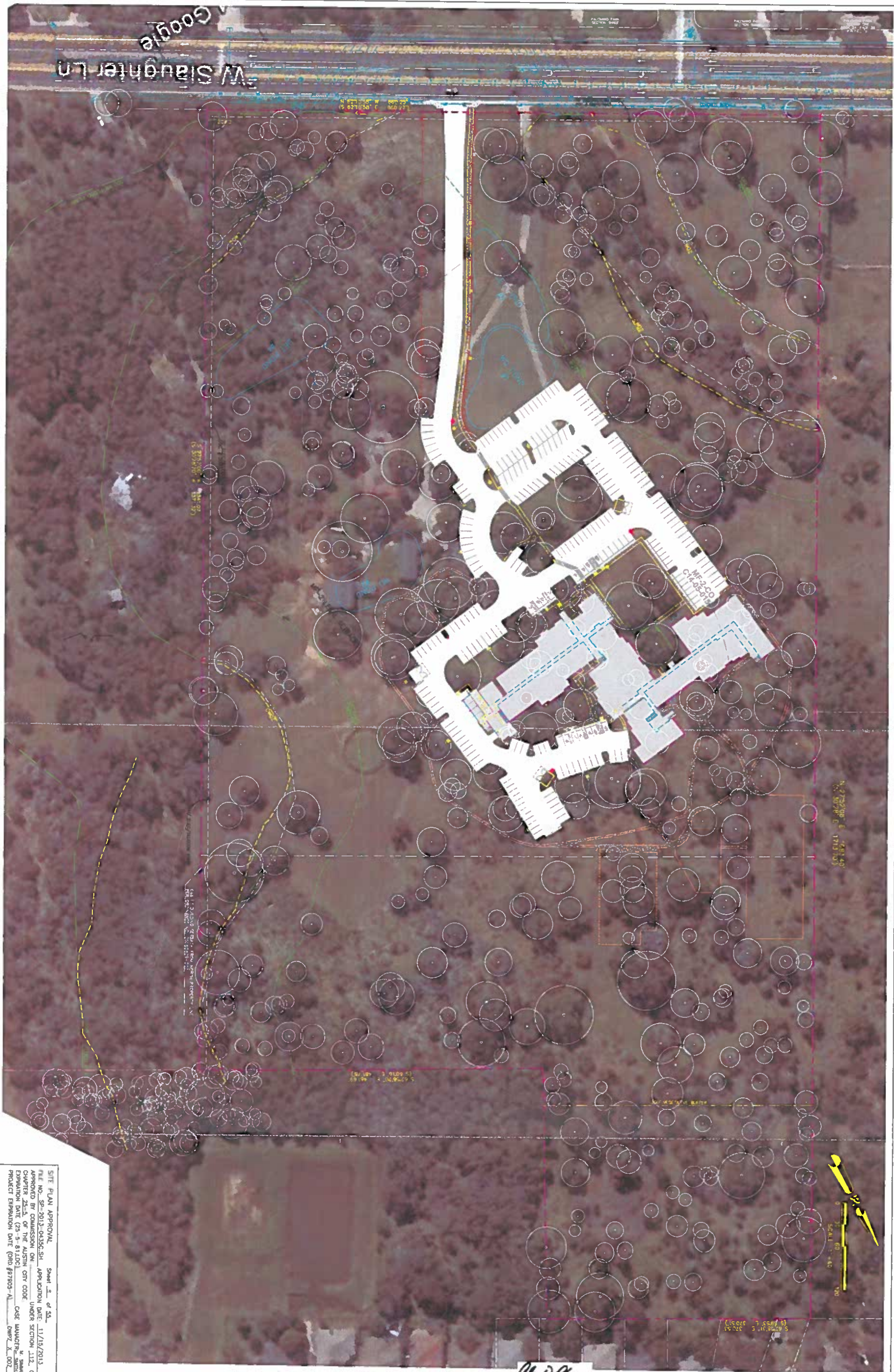
EXHIBIT 2

AERIAL PHOTO OF SURROUNDING AREA



EXHIBIT 3

AERIAL PHOTO WITH DEVELOPMENT OVERLAY



SITE PLAN APPROVAL Sheet 2 of 25
FILE NO. SP-2013-0435C-SH APPLICATION DATE: 11/15/2013
APPROVED BY COMMISSION ON: 11/15/2013
CHAPTER 255.5, OF THE AUSTIN CITY CODE
EXPIRATION DATE (25.5-81.100) CASE NUMBER: 2013-0435C-SH
PROJECT EXPIRATION DATE (2013-0435C-SH) DWPZ X-002

Directed: Planning and Development Review Department
RECEIVED FOR REVIEW: 11/15/2013
Rev. 1: Correction 1: 11/15/2013
Rev. 2: Correction 2: 11/15/2013
Rev. 3: Correction 3: 11/15/2013

Printed plan must be recorded by the Project Expiration Date. If applicable, subsequent plan amendments must be recorded by the Project Expiration Date. If applicable, subsequent plan amendments must be recorded by the Project Expiration Date.

HOMESTEAD OAKS
3226 WEST SLAUGHTER LANE
Austin, Texas 78748
AERIAL OVERLAY OF SITE

DESIGNED: ADR
APPROVED: ADR
FILE: ESAT EXHIBIT 2
JOB NO.: 255-02
DATE: MAY 2014
SHEET: EXHIBIT

AXIOM
Engineers, Inc.

13276 Research Blvd Ste 208
Austin, Texas 78750
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www.axiomtexas.com
Texas P.E. Firm No. F-43

NO.		DATE	REVISION	APPROVED
05/30/14				

EXHIBIT 4

VARIANCE ENCUMBRANCE EXHIBIT

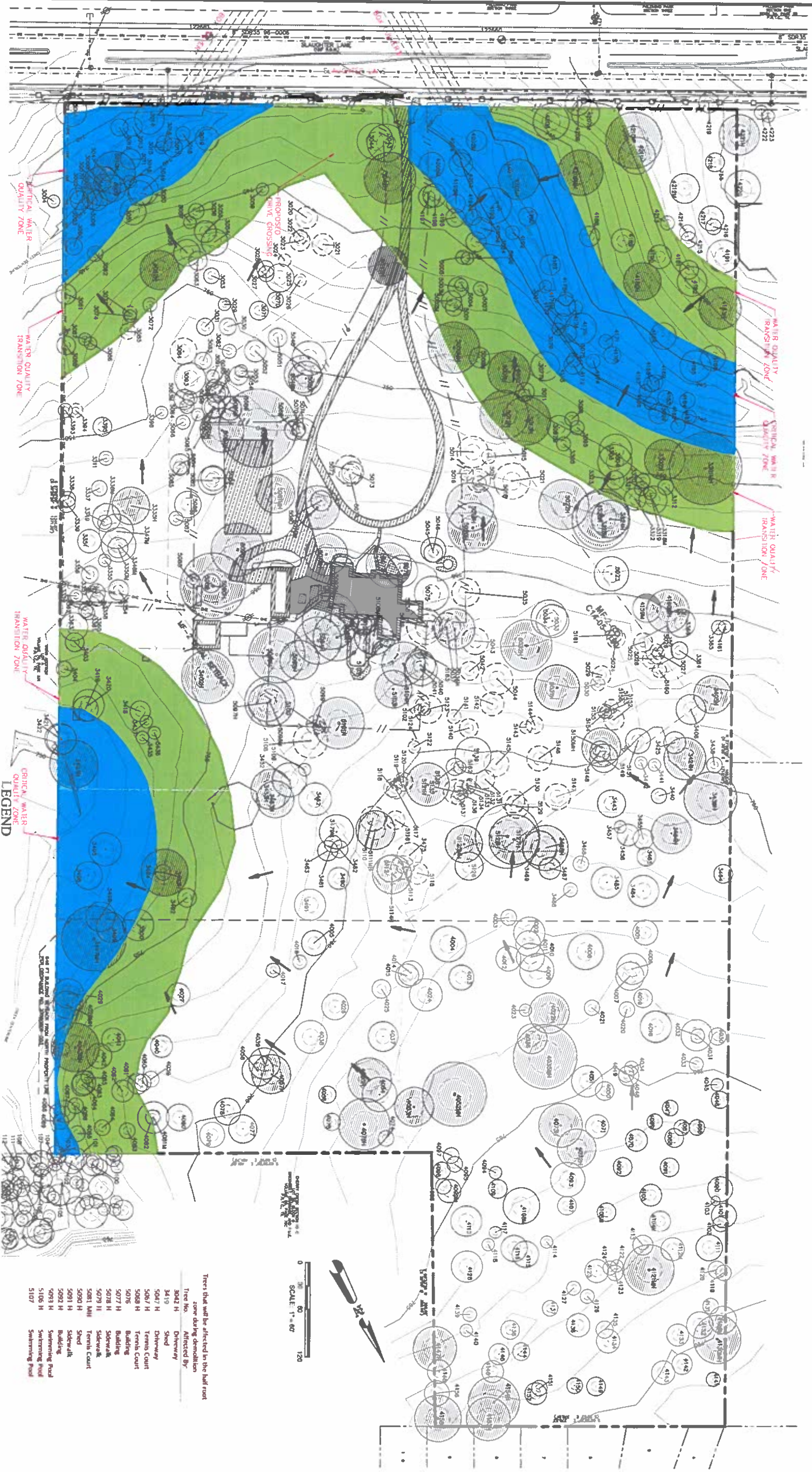
2

EXHIBIT 5

TOPOGRAPHIC MAP WITH GRADING PLAN

EXHIBIT 6

EXISTING CONDITIONS MAP



LEGEND

- | | | | |
|------------------------|---------------------------------|---|---------------------|
| — SS — SS — SS — | EXISTING STORM SEWER | ▨ | CONCRETE DEMOLITION |
| — G — G — G — | EXISTING GAS LINE | ▨ | ASPHALT DEMOLITION |
| — W — W — W — | EXISTING WATER LINE | ▨ | LANDSCAPE COVER |
| — EW — EW — EW — | EXISTING WASTEWATER LINE | ▨ | TREES TO REMAIN |
| — OE — OE — OE — | EXISTING OVERHEAD ELECTRIC LINE | ○ | TREE TO BE REMOVED |
| LIMITS OF CONSTRUCTION | | ● | HERITAGE TREE |
| SILT FENCE | | | |
| MULCH SOCK | | | |
| BARBED WIRE FENCE | | | |
| WOOD FENCE | | | |
| FIRE HYDRANT | | | |
| STORM SEWER MANHOLE | | | |
| POWER POLE | | | |
| WATER METER | | | |
| WASTE WATER MANHOLE | | | |

Trees that will be affected in the half root zone during demolition

Tree No.	Affected By
3042 H	Driveway
3419	Shed
5047 H	Driveway
5067 H	Tennis Court
5068 H	Tennis Court
5076	Building
5077 H	Building
5078 H	Sidewalk
5079 H	Sidewalk
5081 H	Tennis Court
5090 H	Shed
5091 H	Sidewalk
5092 H	Building
5093 H	Swimming Pool
5100 H	Swimming Pool
5107	Swimming Pool

SITE PLAN APPROVAL Sheet 1 of 12
FILE NO. SP-2013-04350-SL APPLICATION DATE: 11/15/2013
APPROVED BY COMMISSION ONE UNDER SECTION 112 OF
CHAPTER 25-A OF THE AUSTIN CITY CODE CASE NUMBER: 2013-04350-SL
PROJECT EXPIRATION DATE (090/87706-A) DMP2 X 002

HOMESTEAD OAKS
3226 WEST SLAUGHTER LANE
Austin, Texas 78748
EXISTING CONDITIONS MAP



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Texas P.E. Firm No. F-43



NO.	DATE	REVISION	APP'D

Director, Planning and Development Review Department
RELEASED FOR GENERAL COMPLIANCE ZONING MAP 4-02
Rev. 1
Rev. 2
Rev. 3
Plotted plans must be recorded by the Project Expiration Date. If applicable, Subsequent Site
Plan which do not comply with the Code remains at the time of filing, and all required
Building Permit and/or notices of construction (if a building permit is not required), must
also be approved prior to the Project Expiration Date.

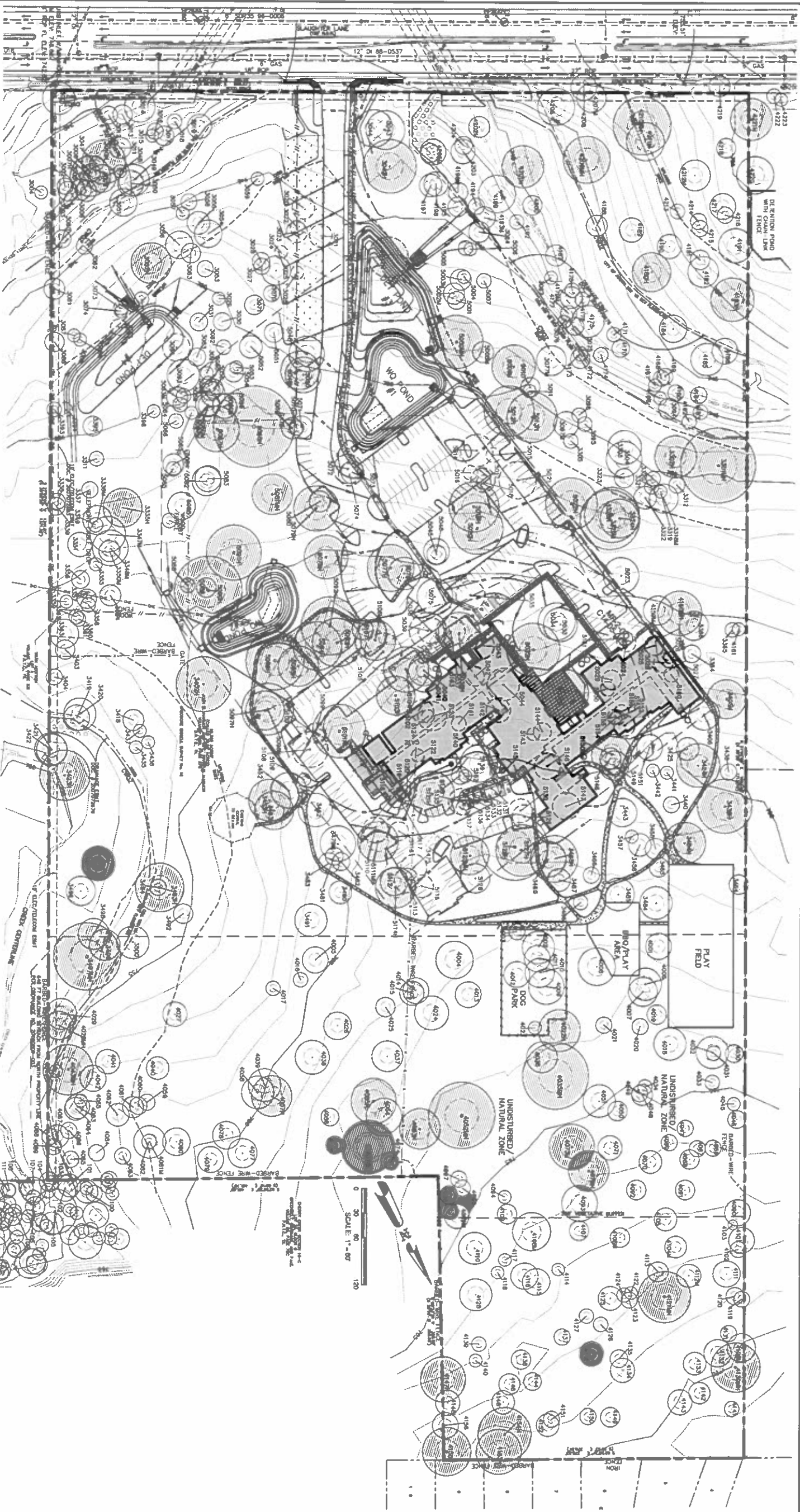
DESIGNED: M2
DRAWN: M2
CHECKED: E28-0203
DATE: MAY 2014
SHEET 6 OF 66

EXHIBIT 7

OVERALL SITE PLAN

EXHIBIT 8

ENVIRONMENTAL MAP



NOTE: NO CRITICAL ENVIRONMENTAL FEATURES WERE IDENTIFIED ON THE SITE.
NOTE: THE ENTIRE SITE OVERLIES THE EDWARDS AQUIFER RECHARGE ZONE.

SITE PLAN APPROVAL Sheet 4 of 55
FILE NO. SP-2013-0356-SH APPLICATION DATE 11/18/2013
APPROVED BY COMMISSION ON 11/18/2013
CHAPTER 26.01 OF THE AUSTIN CITY CODE UNDER SECTION 11.2 OF
DEPOSITION DATE (20-5-81.00) CASE: 11/18/2013
PROJECT EXPIRATION DATE (080.87700-4) DWG: X.007

Director, Planning and Development Review Department
RECEIVED FOR GENERAL COMPLAINT ZONING, LP-4-50
Rev. 1 Correction 1
Rev. 2 Correction 2
Rev. 3 Correction 3
Please note that this map is not a final map. It is a preliminary map. It is not to be used for any purpose other than for informational purposes. It is not to be used for any purpose other than for informational purposes. It is not to be used for any purpose other than for informational purposes.

HOMESTEAD OAKS
3226 WEST SLAUGHTER LANE
Austin, Texas 78748
ENVIRONMENTAL MAP



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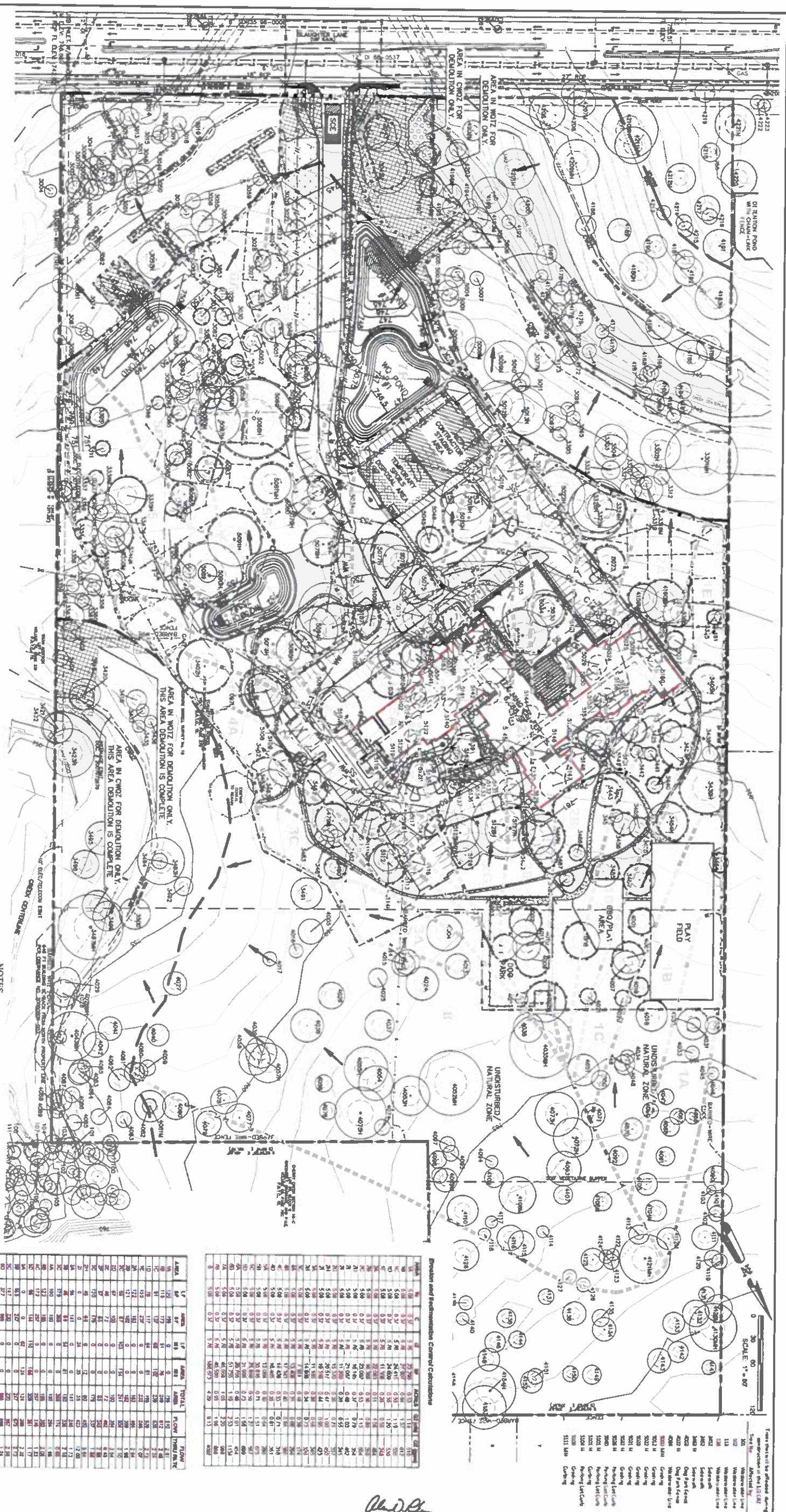


NO.	DATE	REVISION	APP'D

DESIGNED BY: JCT
APPROVED BY: JCT
FILED/REVIEWED BY: JCT
JOB NO.: 230-02
DATE: MAY 2014
SHEET: 4 OF 55

EXHIBIT 9

EROSION/SEDIMENTATION CONTROL PLAN



LEGEND

- LOC — LOC — LOC — LIMITS OF CONSTRUCTION
- LOC — LOC — LOC — SILT FENCE
- LOC — LOC — LOC — MULCH SOCK
- LOC — LOC — LOC — TREE PROTECTION
- LOC — LOC — LOC — INLET PROTECTION
- LOC — LOC — LOC — ROCK BERM
- LOC — LOC — LOC — DRAINAGE ARROW
- LOC — LOC — LOC — WATER QUALITY
- LOC — LOC — LOC — DETENTION
- LOC — LOC — LOC — DRAINAGE AREA BOUNDARY
- LOC — LOC — LOC — DRAINAGE AREA NUMBER
- LOC — LOC — LOC — STABILIZED CONSTRUCTION ENTRANCE
- LOC — LOC — LOC — CONTRACTOR STAGING AREA
- LOC — LOC — LOC — TEMPORARY SPOILS DISPOSAL AREA
- LOC — LOC — LOC — LIMITS OF CONSTRUCTION WITHIN WOITZ
- LOC — LOC — LOC — LIMITS OF CONSTRUCTION WITHIN CMOZ
- LOC — LOC — LOC — CONCRETE WASH AREA
- LOC — LOC — LOC — TREE TO REMAIN
- LOC — LOC — LOC — TREE TO BE REMOVED
- LOC — LOC — LOC — HERITAGE TREE

NOTES

1. SEE SHEET 2 FOR EROSION CONTROL NOTES, SEQUENCE OF CONSTRUCTION AND TREE PROTECTION NOTES.
2. THE TOTAL AREA WITHIN THE LIMITS OF CONSTRUCTION IS 14.66 ACRES.
3. TOPOGRAPHY SOURCE: CITY OF AUSTIN
4. INLET PROTECTION SHALL BE PROVIDED FOR ALL EXISTING INLETS AS INDICATED, SEE DETAIL SHEET.
5. THE ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS AS PER LOC 25-9-103.
6. LIMITS OF CONSTRUCTION ARE SHOWN ON ADJACENT OR SURROUNDING PROPERTIES FOR PURPOSES OF PROPERTY BOUNDARIES.
7. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING AS PER ECA 1.4.2(1), OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
8. CONTRACTOR SHALL INSTALL STABILIZED CONSTRUCTION ENTRANCE OVER THE EXISTING PAVEMENT ONLY. IF DISTURBED BY THE CITY OF AUSTIN ENVIRONMENTAL INSPECTOR TO DO SO.
9. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREAS NEED TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATING MATTING.
10. THE CONTRACTOR WILL CLEAN UP SPOILS THAT MIGRATE ONTO THE ROADS A MINIMUM OF ONCE DAILY.
11. FOR OFFSITE UTILITY CONSTRUCTION, PERPENDICULAR EROSION CONTROLS MUST BE INSTALLED EVERY 30 FEET AS THE TRENCH IS BACKFILLED.
12. CONTRACTOR SHALL MAINTAIN THE DRAINAGE SYSTEM TO ENSURE PERFORMANCE. IF THE DRAINAGE SYSTEM IS NOT PERFORMING, THE CONTRACTOR MUST IMMEDIATELY MAKE THE NECESSARY MODIFICATIONS FOLLOWING THE ENVIRONMENTAL INSPECTOR'S DIRECTION TO ENSURE ADEQUATE SYSTEM PERFORMANCE.
13. CONTRACTOR SHALL INSTALL TURNBACKS AND J-HOOKS PER SILT FENCE ECA FIGURE 1.4.5.3.3 DETAILS ON CIVIL DETAIL SHEET 5 (SHEET 31).
14. BASIN DRAINAGE SWIMMERS SHALL BE UTILIZED DURING CONSTRUCTION IN ALL PONDS. SEE DETAIL SHEET 5 (SHEET 31).
15. THE TREE SURVEY WAS DONE ON FEBRUARY 7, 2013.
16. SEE SHEETS 53 AND 54 FOR DETAILED EROSION CONTROL PLANS.

Erosion and Sedimentation Control Calculations									
Area	Area	Area	Area	Area	Area	Area	Area	Area	Area
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
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541	542	543	544	545	546	547	548	549	550
551	552	553	554	555	556	557	558	559	560
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571	572	573	574	575	576	577	578	579	580
581	582	583	584	585	586	587	588	589	590
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611	612	613	614	615	616	617	618	619	620
621	622	623	624	625	626	627	628	629	630
631	632	633	634	635	636	637	638	639	640
641	642	643	644	645	646	647	648	649	650
651	652	653	654	655	656	657	658	659	660
661	662	663	664	665	666	667	668	669	670
671	672	673	674	675	676	677	678	679	680
681	682	683	684	685	686	687	688	689	690
691	692	693	694	695	696	697	698	699	700
701	702	703	704	705	706	707	708	709	710
711	712	713	714	715	716	717	718	719	720
721	722	723	724	725	726	727	728	729	730
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EXHIBIT 10

GEOLOGIC REPORT

James W. Sansom, Jr., P.G.

Consulting Geologist

Licensed Geologist, State of Texas No. 29
Certified Professional Geologist, AIPG
3495 County Road 258
Liberty Hill, Texas 78642
512/515-0916
FAX 512/515-0916

July 31, 2013

Mr. Steve Johnson, P.E.
Holt Engineering, Inc.
2220 Barton Skyway
Austin, Texas 78704

Dear Mr. Johnson:

This is my report on the proposed Homestead Apartments to be built at 3226 W. Slaughter Lane in southwest Austin, Texas on an approximate 29.4 acre tract of land. The report addresses the components of the Hydrogeologic Report outlined in the City of Austin's Land Development Code, Subchapter A: Water Quality, Article 3: Environmental Assessment, Chapter §25-8-122.

A reconnaissance was made of the subject site on July 12, 18, and 26, 2013. The reconnaissance consisted of walking the subject site. The site at the time of the reconnaissance had a residence and some out-buildings located near the center of the tract. Most of the front one-half and a portion of the rear had been cleared and well maintained. Thick vegetation covered the southeast corner and a larger portion of the northern part of the tract.

Speck and Tarrant soils occur on site. They have been mapped by the Soil Conservation Service. Speck soils occur over approximately 90 percent of the site. Tarrant soils, that occupy the remaining less than 10 percent of the site, occur along its front in an intermittent drainage. Speck soils are shallow (14" to 18"), reddish-brown stony clay loam that have chert pebbles and limestone cobbles 2" to 10" that cover 30 to 50 percent of the ground surface. Tarrant soils are shallow to very shallow (4" to 14"), stony clays that have limestone cobbles that cover 25 to 85 percent of the ground surface.

The Edwards formation crops out over almost the entire subject site. A fault has been mapped and is shown in a report published by the Bureau of Economic Geology crosses the north end of the site that faults Edwards formation on the east against the Georgetown formation on the west. Its alignment is southwest to northeast. This fault was not apparent during the reconnaissance of the site. The Edwards formation is a thin to thick bedded limestone, dolomite, and dolomitic limestone that is hard to soft, fossiliferous, in places cherty, and commonly has solution features such as caves, sinkholes, dissolution along faults, and honeycomb. In the Austin area it is up to 350 feet

thick. The Georgetown formation ranges in thickness from 40 to 100 feet and is a fossiliferous nodular fine-grained limestone, marly limestone, and marl.

Topographically the site is relatively flat and slopes gently from north to south. There are intermittent drainages on its southwest corner and two along its east and southeast side that all drain to the south. All three of these drainages have 100 year floodplains, water quality transition zones (WQTZ), and critical water quality zones (CWQZ) designated on the Site Geologic Map. In the drainage located on the site's southwest corner numerous limestone cobbles and boulders have been placed within the drainage area possibly to slow down the flow of run-off along the drainage and dispose of large boulders from the site.

No Critical Environmental Feature (CEF) was identified on the site that meets the criteria in the City of Austin rules. Two Non-Karst Closed Depressions and a water well that meet TCEQ criteria were identified on site. The Closed Depressions are of little significance as recharge features in that they are filled with soil and leaves, are small in size, and have small catchment areas. The water well is no longer being utilized by the landowner and the developer plans to plug it. Eighteen geotechnical core holes were drilled on site for pavement, buildings, and detention ponds engineering design criteria. All of these holes were visited and confirmed that they are plugged. Attached is a spreadsheet listing the holes with their GPS coordinates.

The one fault mentioned previously is shown on the Geologic Site Map. A Site Geologic Map and a Location and Geologic Map are attached.

Sincerely,



James W. Sansom, Jr., P.G.

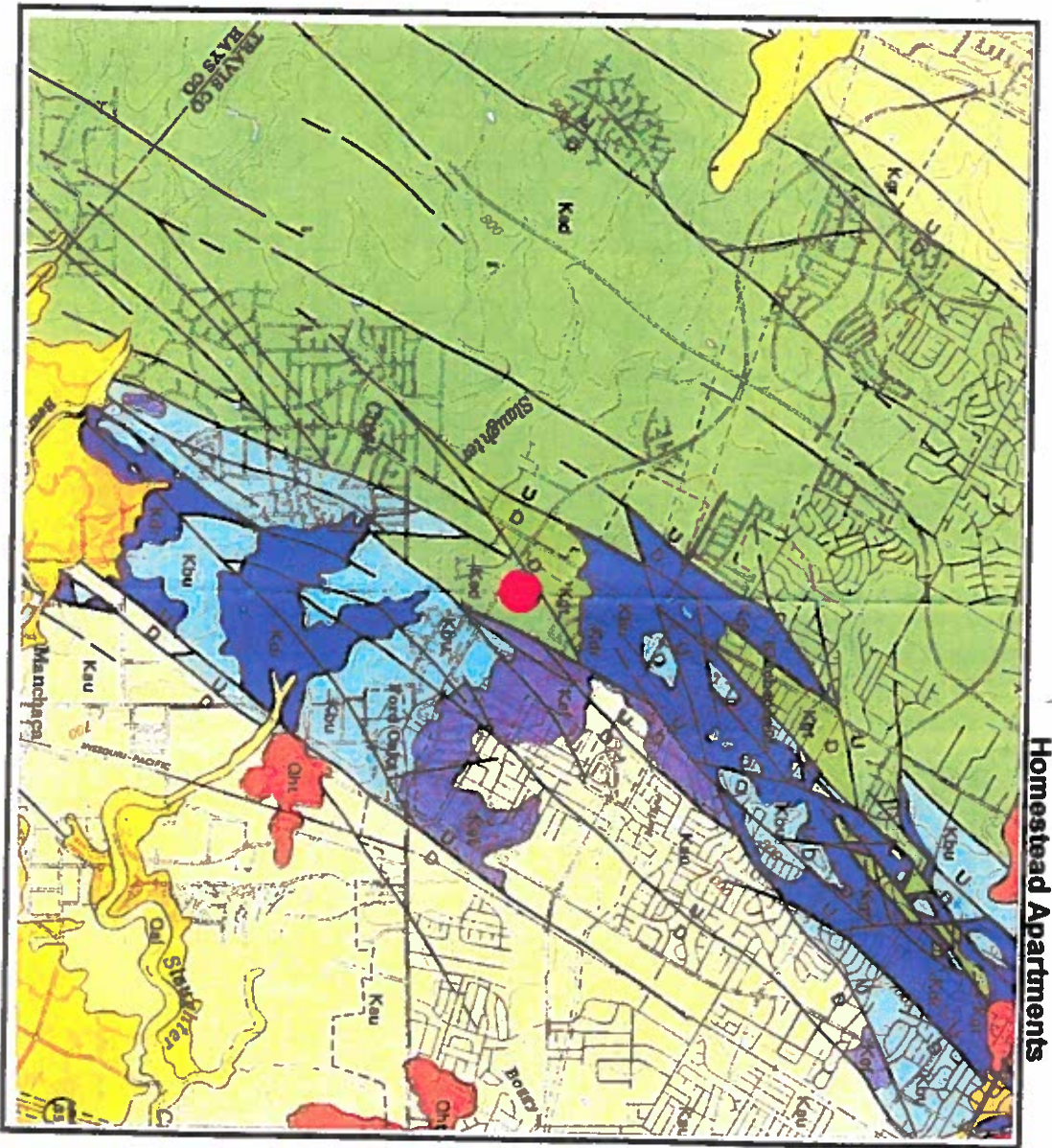


References:

Werchan, Lowther, and Ramey, 1974, *Soil Survey of Travis County, Texas*, Soil Conservation Service, U. S. Department of Agriculture.

Gamer and Young, 1976, *Environmental Geology of the Austin Area: An Aid to Urban Planning*, Bureau of Economic Geology Report of Investigations No. 86.

Brune and Duffin, 1983, *Occurrence, Availability, and Quality of Ground Water in Travis County, Texas*, Texas Department of Water Resources, Report 276.



LOCATION AND GEOLOGIC MAP OF SITE AREA

- | | | | |
|-----|----------------------------|-----|----------------|
| Qal | Alluvium | Kbu | Buda fm. |
| Qtt | Tributary terrace deposits | Kdr | Del Rio fm. |
| Qht | High terrace deposits | Kgt | Georgetown fm. |
| Kau | Austin Group | Ked | Edwards fm. |
| Kef | Eagle Ford fm. | Kgr | Glen Rose fm. |
- Site : ●
- Faults: U = upthrown side,
D = downthrown side,
dashed where inferred.
- Scale: 1 inch = 1 mile
- U
D

Map Source: Garner & Young, 1976, "Environmental Geology of the Austin Area: An Aid to Urban Planning," Bureau of Economic Geology Report of Investigations No. 86.

Homestead Apartments	Hole	Latitude	Longitude
GPS locations for Geo-	Numbers	North (degrees)	West (degrees)
technical holes drilled:	P-1	30 10' 51.8"	97 50' 39.5"
P holes for pavement,	P-2	30 10' 53.7"	97 50' 37.1"
B holes for buildings,	P-3	30 10' 55.1"	97 50' 37.4"
DP holes for detention	P-4	30 10' 56.2"	97 50' 38.5"
ponds.	P-5	30 10' 58.5"	97 50' 39.5"
	P-6	30 10' 57.6"	97 50' 38.7"
Map Datum used:	P-7	30 10' 56.5"	97 50' 37.0"
NAD27CONUS	P-8	30 10' 58.3"	97 50' 34.7"
	P-9	30 11' 00.2"	97 50' 35.2"
	B-1	30 11' 00.3"	97 50' 40.1"
	B-2	30 10' 59.9"	97 50' 38.5"
	B-3	30 10' 58.5"	97 50' 37.7"
	B-4	30 10' 59.6"	97 50' 37.6"
	B-5	30 11' 00.4"	97 50' 37.7"
	B-6	30 10' 59.0"	97 50' 36.8"
	B-7	30 10' 59.1"	97 50' 35.5"
	DB-1	30 10' 54.6"	97 50' 34.8"
	DB-2	30 10' 54.0"	97 50' 34.5"

SITE GEOLOGIC MAP

Homestead Apartments

Explanation:

Site Boundary

Sensitive Feature

S-1

Geologic Features:

Georgetown Formation Outcrop

Kgt

Edwards Formation Outcrop

Ked

Faults (dashed where inferred)

U
D

U, upthrown side

D, downthrown side

Geotechnical Holes

(Pavement, buildings, detention ponds)

P -, B -, DP -

Soil Series:

Speck soils occurrence

SSC

Tarrant soils occurrence

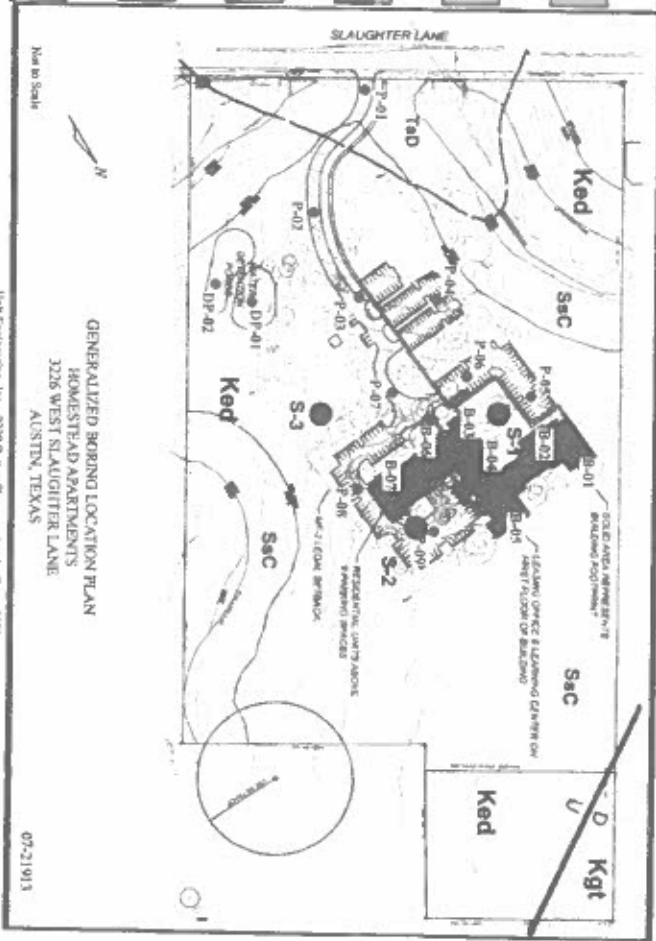
TaD

Soil Series contact

Geologic Map Source: Garner and Young, 1976, "Environmental Geology of the Austin Area: An Aid to Urban Planning," Bureau of Economic Geology Report of Investigations No. 86.

Scale:

1 inch = +/- 180 feet



Site Geologic Map
Homestead Apartments



EXHIBIT 11

ENVIRONMENTAL RESOURCE INVENTORY



Environmental Services, Inc.

6 February 2014

Environmental Resource Inventory
City of Austin Land Development Code (Section 25-8-121)
Compliance Report

RE: 3226 Slaughter Lane, Austin, Travis County, Texas
HJN 130202 EA

1.0 INTRODUCTION

This report provides the results of an environmental resource inventory conducted by Horizon Environmental Services, Inc. (Horizon) on the above referenced site (Appendix A, Figure 1). Horizon conducted the field reconnaissance on 9 September 2013 and 4 February 2014. Horizon spent a minimum of 10 person-hours in the field evaluating the site and surrounding area, and completed the assessment process by conducting a review of existing literature.

2.0 ENVIRONMENTAL SETTING

2.1 LAND USE

Current land use on the subject site is single-family residential (SFR) with associated amenities including swimming pool, tennis court, guest house, barn and dog kennels. The following land uses border the subject site:

- North: SFR
- South: Slaughter Lane and SFR beyond
- East: Rural SFR and commercial beyond
- West: Wooded rangeland and commercial beyond

2.2 VEGETATION

The subject site is situated within the Edwards Plateau and Blackland Prairie vegetational areas of Texas (Gould, 1975). Vegetation is characterized as plateau live oak (*Quercus fusiformis*), little bluestem (*Schizachyrium scoparium*), bermudagrass (*Cynodon dactylon*), silver bluestem (*Bothriochloa saccharoides*), Texas persimmon (*Diospyros texana*), Texas pricklypear (*Opuntia engelmannii*), Cedar elm (*Ulmus crassifolia*), other assorted native grasses and ornamental species near the SFR structure.

2.3 TOPOGRAPHY AND SURFACE WATER

This site is within the Slaughter Creek Watershed, as classified by the City of Austin (COA, 2012a). Topographically, the site ranges from approximately 740 to 770 feet above mean sea level (USGS, 1988). Drainage on the subject site occurs primarily by overland sheet flow in a north-to-south direction toward a tributary of Slaughter Creek. None of the subject site is within the 100-year floodplain (FEMA, 2008).

2.4 SOILS

Soils mapped within the subject site include the following:

TABLE 1 – SOILS

SOIL NAME	SOIL TYPE	SOIL DEPTH (FEET)	UNDERLYING MATERIAL	PERMEABILITY	AVAILABLE WATER CAPACITY	SHRINK-SWELL CAPACITY
Speck stony clay loam, 1-5% slopes (SSC)	stony clay	0 to 1.7	residuum weathered from limestone	well drained	very low	moderate
Tarrant soils, 5-8% slopes (TaD)	very stony clay	0 to 1	residuum weathered from limestone	well drained	very low	low

Source: NRCS, 2013a and 2013b

2.5 EDWARDS AQUIFER ZONE

The subject site is found within the Edwards Aquifer Recharge Zone as mapped by the City of Austin Watershed Regulation Areas Map (COA, 2008) and the Texas Commission on Environmental Quality (TCEQ) Recharge Zone Boundary Maps (TCEQ, 2013).

The Recharge Zone is known as the area where the stratigraphic units constituting the Edwards Aquifer are exposed at the surface and where water may filter into the aquifer through permeable features such as cracks, fissures, caves, and other openings in these layers. The Recharge Zone includes other geologic formations in proximity to the Edwards Aquifer where caves, sinkholes, faults, fractures, or other permeable features may create a potential for recharge of surface waters into the Edwards Aquifer (TCEQ, 1999).

2.6 GEOLOGY

A review of existing literature shows the site is underlain by the Edwards Limestone (Ked) (UT-BEG, 1995). The Edwards Limestone is a thinly to massively bedded, hard to soft, cherty, fossiliferous, fine-grained limestone and dolomite that commonly have red clay and calcite associated with solution features, such as caves and collapsed zones. The Edwards Limestone is known to form caves and voids and is further described as:

Limestone, dolomite, and chert; limestone aphanitic to fine grained, massive to thin bedded, hard, brittle, in part rudistid biostromes, much milloolid biospirifer; dolomite fine to very fine grained, porous, medium gray to grayish brown; chert, nodules and plates common, varies in amount from bed to bed, some intervals free of chert, mostly white to light gray; in zone of weathering considerably recrystallized, "honeycombed," and cavernous forming an aquifer; forms flat areas and plateaus bordered by scarps; thickness 60 to 350 feet, thins northward (UT-BEG, 1995).

2.7 WATER WELLS

A review of the records of the Texas Water Development Board (TWDB) revealed no documented water wells on or within 150 feet from the subject site (TWDB, 2013). One water well was observed on the subject site near the SFR during Horizon's site reconnaissance.

The results of this assessment do not preclude the existence of additional undocumented/abandoned wells. If a water well or casing is encountered during construction, work should be halted near the feature until the TCEQ is contacted.

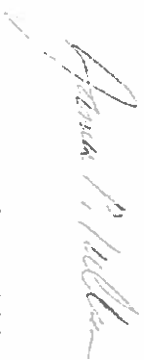
3.0 CRITICAL ENVIRONMENTAL FEATURES

The City of Austin definition of a critical environmental feature (CEF) includes caves, sinkholes, springs, wetlands, bluffs, canyon rimrock, water wells within the Edwards Aquifer, and significant recharge features located over the Edwards Aquifer Recharge Zone. One water well was identified which would be classified as a potential CEF as defined by the City of Austin due to the location within the Edwards Aquifer Recharge Zone. The location of this water well is shown on Figure 1 and is also provided in the CEF table. No other CEFs were found on or within 150 feet from the subject property.

For Horizon Environmental Services, Inc.



Shannon Dorsey
Principal



James Killian
Registered Professional Geologist

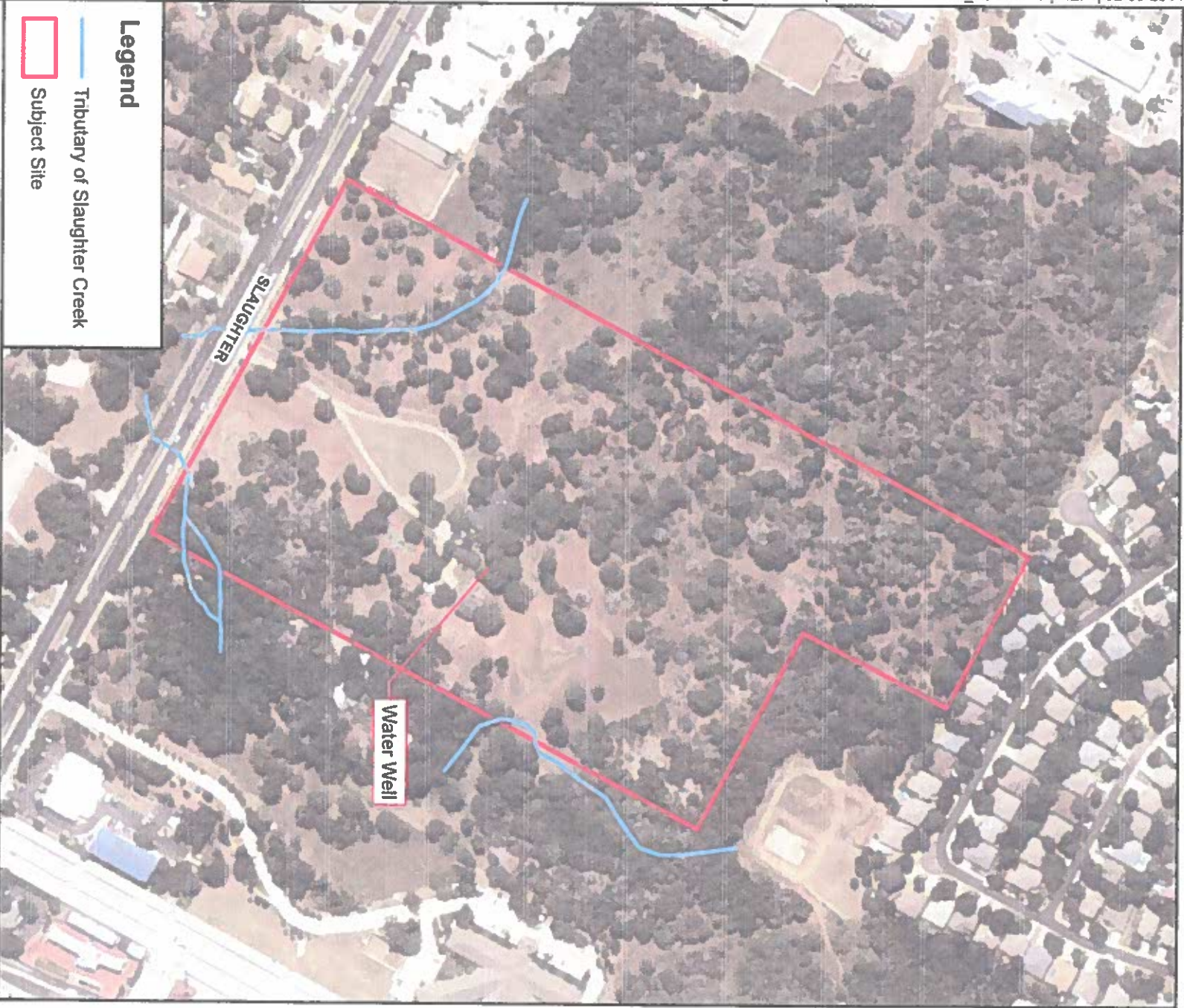


(USGS) US Geological Survey. 7.5-minute series topographic maps, Oak Hill Texas, quadrangle. 1988.



(UT-BEG) University of Texas Bureau of Economic Geology, C.V. Proctor, Jr., T.E. Brown, J.H. McGowen, N.B. Waechter, and V.E. Barnes. *Geologic Atlas of Texas*, Austin Sheet, Francis Luther Whitney Memorial Edition. 1974; revised 1995.

Veni, George, and Associates. *Endangered Cave Species Karst Zone Map*, Oak Hill quadrangle. George Veni and Associates. Austin, Texas. 1991.

APPENDIX A
FIGURE



Legend

-  Tributary of Slaughter Creek
-  Subject Site

MAP SOURCE: USDA, 2012.

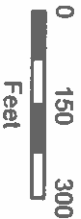


FIGURE 1

AERIAL MAP
3226 SLAUGHTER LANE
AUSTIN,
TRAVIS COUNTY, TEXAS

APPENDIX B

SITE PHOTOGRAPHS



PHOTO 1
View of northern portion of the
subject site



PHOTO 2
View of southerly adjacent SFR
development and Slaughter Lane



PHOTO 3
View of driveway access to SFR



PHOTO 4
View of on-site SFR structure



PHOTO 5
View of on-site barn structure



PHOTO 6
View of on-site water well

APPENDIX C

CEF WORKSHEET

