Item C-03 Part 2 1 of 55

6. Provide for environmental	Yes	The updated plan as submitted includes a Park Plan, Creek Plan, a
preservation and protection	100.	Streetscape Plan, a Tree Plan, and an Open Space Plan which provide for
relating to air quality, water		environmental preservation and protection of open space and greenbelt
quality, trees, buffer zones		areas throughout the development, and pedestrian linkages that are
and greenbelt areas, critical		designed around the natural features and the existing Oaks along Executive
environmental features,		Center Drive.
soils, waterways,		
topography and the natural		The project is designed to preserve a meaningful number of the Heritage
and traditional character of		trees on the site, and the updated plan additionally preserves more than
the land.		7,000 caliper inches of trees less than 8" caliper, which could otherwise be
		removed.
		The Property currently has no water quality controls and has impervious
		cover such as surface asphalt parking areas within the Critical Water Quality
		Zone. The updated plan as submitted will provide water quality controls and
		will remove impervious cover from the Critical Water Quality Zone.
		Impervious cover will also be removed around tree critical root zones, and
		trees and landscaping will be featured and protected along the Heritage
		Trail, as shown on the exhibits to the submittal.
		The PUD designates three types of Critical Environmental Features, a
		Rimrock, Wetlands and Seep, and provides for a minimum 50-foot buffer
		from each feature. Existing surface parking lot impervious cover will be
		removed from the 50' buffer designation.
		There is approximately 2.2 acres of impervious cover within the floodplain,
		CWQZ and CEF buffers. The proposed redevelopment plan calls for a
		reduction of approximately 1.6 acres of impervious cover.
7. Provide for public	Yes.	Based on City of Austin record data, sufficient infrastructure exists on the
facilities and services that		Property, with the exception of a water line that would need to be enlarged at
are adequate to support the proposed development		the site plan phase; this would be done at the owner's expense.
including school, fire		In addition to paying a pro rata share for future traffic improvements, traffic
protection, emergency		mitigation measures also include specific improvements at nearby
service and police facilities.		intersections such as Hart Lane and Spicewood Springs Road.
corried and ponde identities.		interestation of the Lane and opioemoda opinings road.

Item C-03 Part 2 2 of 55

		The Park Plan contains 2.37 acres, which currently comprise an office building and surface parking, and will be redeveloped as a Neighborhood Park as provided in the Park Plan at the developer's cost of approximately \$1,546,500 before it is deeded to the City; this money can also be used to redevelop the Heritage Park located on Parcel 8. The Creek Plan will also have more than 5 acres of public parkland. The Heritage Trail will provide pedestrian connectivity between these two park destinations.
8. Exceed the minimum landscaping requirements of the City Code.	Yes.	The project will exceed the minimum landscaping requirements of the Code and require the utilization of native and adaptive species and non-invasive plants per the Grow Green Program. Specifically, at least 75% of the total plant material planted, exclusive of turf and land within dedicated Parkland, shall be native to Central Texas or on the Grow Green Native and Adapted Landscape Plants. An Integrated Pest Management program will be implemented following the guidelines developed by the Grow Green Program in order to limit the use of pesticides on site.
		In addition, the owner will increase the requirements set forth in Section 2.4.1(D) of the Environmental Criteria Manual related to Street Yard Trees to provide the following: •75% of the street trees planted from the Preferred Plan List, rather than 60%; •Planted street trees will be no less than 8 feet in initial height, rather than 6 feet; •Planted street trees will be no less than 3 inch caliper measured at six inches above grade, rather than 1.5 inch caliper; •No more than 30% of planted street trees will be from the same species, rather than 50%.
9. Provide for appropriate transportation and mass transit connections to areas adjacent to the PUD district and mitigation of adverse cumulative transportation impacts with sidewalks, trails and roadways.	Yes.	The project is situated in close proximity to entrance/exit point of the MoPac Expressway Managed Lane, currently under construction, allowing access into and out of the areas served by MoPac. The Imagine Austin Plan designates the adjacent Mopac/Anderson Lane intersection as a "High Capacity Transit Stop". Additionally, a Metro Rapid station is located at Anderson Lane east of Mopac, and on-street bicycle lanes are located along Spicewood Springs, Hart Lane, and Wood Hollow

Item C-03 Part 2 3 of 55

		Drive allowing direct access to the Metro Rapid Bus Station.
		Currently, Executive Center Drive does not provide bike lanes; the redevelopment plan includes on-street bicycle lanes for Executive Center Drive.
		The cross-section of the Heritage Trail along Executive Center Drive illustrates the focus on pedestrian orientation; and separated sidewalks along other portions of the streets, along with dedicated bike lanes on Executive Center Drive, reflect a high level of connectivity for bicyclists, pedestrians, and drivers. Additionally, a pedestrian walk and bridge will be built before conveyed to the City in order to provide connectivity across the creek.
		An updated TIA has been completed for the updated plan and will be reviewed by staff to determine appropriate (and proportional) transportation improvements needed in the area.
10. Prohibit gated roadways.	Yes.	No gated public roadways will be permitted within the PUD
11. Protect, enhance and preserve the areas that include structures or sites that are of architectural, historical, archaeological or cultural significance.	Not Applicable.	The property does not have any known architectural, historical or archeological areas of significance.
12. Include at least 10 acres of land, unless the property is characterized by special circumstances, including unique topographic constraints.	Yes.	The project is over 31 acres and exceeds the 10 acre requirement.

Item C-03 Part 2 4 of 55

Austin Oaks
Tier 1 & Tier 2 Compliance

Tier II Requirement	Compliance	Explanation	
Tier I - Additional PUD Requirements for a mixed use development	Compliance	Explanation	
Comply with Chapter 25-2, Subchapter E (Design Standards and Mixed Use)	Yes.	The plan substantially complies with the intent of the Commercial Design Standards and reflects alternative equivalent compliance to obtain full compliance that is responsive to the existing site conditions and incorporate and account for the environmental features. The mixed use design standards developed during the design charrette are reflected in the Land Use Plan and accompanying exhibits. In fact, the Land Use Plan and the exhibits reflect what is believed to be a superior approach to planting zones, clear zones, and building placement appropriate for the site conditions, given the existing environmental constraints and preservation of trees.	
2. Inside the Urban Roadway boundary depicted in Figure 2, Subchapter E, Chapter 25-2 (Design Standards and Mixed Use), comply with the sidewalk standards in Section 2.2.2, Subchapter E, Chapter 25-2 (Core Transit Corridor Sidewalk and Building Placement).	Yes.	The updated plan substantially complies with the intent of the Commercial Design Standards and reflects alternative equivalent compliance to obtain full compliance, as developed during the design charrette and reflected in the Land Use Plan and required by the accompanying exhibits. In fact, the Land Use Plan and the exhibits reflect what is believed to be a superior approach to planting zones, clear zones, and building placement appropriate for the site conditions, given the existing environmental constraints.	
3. Contain pedestrian oriented uses as defined in Section 25-2-691(C) (Waterfront Overlay District Uses) on the first floor of a multi-story commercial or mixed use building.	Yes.	The updated plan allows pedestrian-oriented uses on the ground floor of buildings fronting on Executive Center Drive and the pedestrian Heritage Trail, and has designated specific retail spaces fronting or combined into parking garages along Executive Center Drive and within the Mixed Use Parcel.	

5 of 55 Item C-03 Part 2

1.	Open Space – Provide open space at least 10% above the requirements of Section 2.3.1.A (Minimum Requirements). Alternatively, within the Urban Roadway boundary established in Figure 2 of Subchapter E of Chapter 25-2 (Design Standards and Mixed Use), provide for	Yes.	35% of gross site area (more than 11 acres) is proposed as open space, which is 41% more open space than required per Tier 1 regulations for residential and commercial uses (3 acres more than required). The Property is within the Urban Roadway boundary and the owner will provide bike lanes, pedestrian paths, and sidewalks throughout see Land Use Plan and Streetscape Plan. A new Exhibit L has been added to the draft ordinance, which sets forth most of the open space that will be provided throughout the Property; however, Exhibit L only shows the primary open space areas and does not include additional open space areas within the Property between buildings, parking areas and streets all of which would further increase the overall open space. Exhibit L shows a minimum of 11.01 acres of open space, which is 41% more open space than is required.
	proportional enhancements to existing or planned trails, parks, or other recreational common open space in consultation with the Director of the Parks and Recreation Department.		Exhibit G has been further revised to show that a total of 8.50 acres of Park space will be dedicated and available to the public; however, the credited parkland is 5.34 acres which is what would be required for 250 multifamily units and 100 hotel rooms (actual required amount would be 4.79 acres under the current code; under the parkland dedication requirements that applied at the time the rezoning application was filed, the parkland dedication amount is 2.125 acres). A portion of the dedicated property that is located between the 50' and 150' setback from a CEF and currently includes surface parking will be reclaimed and restored to provide an area that may be used for park improvements under Section 25-8-25 (Redevelopment provision of the Code). Moreover, the owner is also contributing \$1,546,500, which is 5x more than would be required if the owner paid a fee-in-lieu for the parkland dedication requirement under the current ordinance.
			Restoration and enhancement of the drainageways within the PUD shall be provided in accordance with the Creek Plan.
	Environment/Drainage	Yes.	Complies with current code instead of asserting entitlement to follow older code provisions by application of law or agreement.
а			Reason: Because this is an existing development with structures built in the 1970s and 1980s, the owner will redevelop pursuant to current code provision Section 25-8-25 of the City Code applied on an overall basis, which requires the level of water quality treatment prescribed by current regulations. The owner is not

Item C-03 Part 2 6 of 55

		asserting entitlement to follow older code provisions.
b	No	Provides water quality controls superior to those otherwise required by code.
		Reason: The site currently has <i>NO</i> water quality treatment facilities and currently has a considerable amount of impervious cover within the Critical Water Qaulity Zone and within CEF buffers. The redevelopment will provide water quality facilities meeting current code and remove existing surface parking within the CWQZ that would not be required under current code.
С	No	Uses green water quality controls as described in the Environmental Criteria Manual to treat at least 50 percent of the water quality volume required by code.
		Reason: The opportunity to use green water quality controls is explicitly provided for; however, the site conditions - including tree preservation and topography - make it impossible to commit to such a benchmark without full site plan engineering and substantial regrading of the site.
d	N/A	Provides water quality treatment for currently untreated, developed off-site areas of at least 10 acres in size.
		Reason: Off-site areas do not readily drain to areas of the site that would allow for capture by proposed site water quality ponds. Other environmental Tier II factors have been achieved.
е	Yes	Reduces impervious cover by five percent below the maximum otherwise allowed by code or includes off-site measures that lower overall impervious cover within the same watershed by five percent below that allowed by code.
		Reason: Impervious cover is limited to (58%) for the entire Property and is calculated on an aggregate (i.e., entire site) basis. The updated plan reduces impervious cover by more than 5% below the maximum otherwise allowed by the Code; the maximum impervious cover otherwise allowed under the current code is 66%.
		In addition, impervious cover within the portion of the PUD located within 300 feet of the existing off-site springs as shown on Exhibit C (Land Use Plan) shall be limited to 50%.

Item C-03 Part 2 7 of 55

f	N/A	Provides minimum 50-foot setback for at least 50 percent of all unclassified waterways with a drainage area of 32 acres.	
g	g No Provides volumetric flood detention as desc		
3	See Additional Benefit of laying back the creek.	Reason: The Owner has agreed to a minimum of 20,000 cubic feet of detention either by laying back a portion of the West side of the unnamed creek bank on Parcels 4 and 5, or creating a dual-use detention/parkland area within the AO	
		An updated AO Creek Plan includes the layback area.	
h	No	Provides drainage upgrades to off-site drainage infrastructure that does not meet current criteria in the Drainage or Environmental Criteria Manuals, such as storm drains and culverts that provide a public benefit.	
i	Yes	Proposes no modifications to the existing 100-year floodplain.	
j	j Yes Uses natural channel design techniques as described in Manual.		
		Reason: An Erosion Hazard Zone report has been provided which establishes that the natural channel was originally reconfigured to its current embankment condition. "Natural channel design techniques" are proposed to partially reestablish and improve the channel character.	
k	Yes	Restores riparian vegetation in existing, degraded Critical Water Quality Zone areas.	
		Reason: Construction within the CWQZ and the CEF Buffer shall include the removal of existing surface parking lots and restoration of such areas. A restoration plan for each site plan for Parcels 2, 3, 4 and 5 shall be submitted to the City for review and approval if it complies with the following: (i) Planting and seeding pursuant to the Standard Specification 609S, and (ii) Revegetation adequate to achieve a score of "Good (3)" at maturity for the following parameters of Environmental Criteria Manual Appendix X "Scoring: Zone 1 - Floodplain Helath": Gap Frequency, Soil Compaction, Structural Diversity, and Tree Demography. The identified Zone 1 Parameters shall apply to all restored areas	

Item C-03 Part 2 8 of 55

	,	Ochtember 1, 2010
		within the CWQZ and CEF buffers. The restoration plan may accommodate a trail or other permitted park improvements. Restoration of existing parking lot areas within the AO Creek Plan, and outside of the CWQZ or CEF buffer, shall be planted and gooded purposet to Standard Specification 600S
		planted and seeded pursuant to Standard Specification 609S
I	Yes	Removes existing impervious cover from the Critical Water Quality Zone.
		Reason: There is approximately 2.2 acres of impervious cover within the floodplain, CWQZ and CEF buffers. The proposed redevelopment plan calls for a reduction of approximately 1.6 acres of impervious cover.
m	Yes, as modified.	Preserves all heritage trees; preserves 75% of the caliper inches associated with native protected size trees; and preserves 75% of all of the native caliper inches.
		Reason: The owner will preserve 75% of all of the native caliper inches (1 inch or greater) and will preserve 75% of the total caliper inches of protected and heritage trees together. In addition, the updated plan preserves more than 7,000 caliper inches of trees less than 8" caliper, which could otherwise be removed.
n	No	Tree plantings use Central Texas seed stock native and with adequate soil volume.
		Reason: Given the number of trees on the site, as staff noted, it would be very difficult (if not impossible in many cases) to achieve the increased standards that the City has suggested for soil volume without damaging the critical root zone of preserved trees. In the conditions on this site, the City's suggested soil volume would necessitate root ball intrusion among the preserved trees.
0	Yes, as modified.	Provides at least a 50 percent increase in the minimum waterway and/or critical environmental feature setbacks required by code.
		Reason: Although no removal of the current impervious cover would otherwise be required under Section 25-8-25 - even in the waterway and CEF buffers there is a 95% reduction of impervious cover in the CWQZ (the only proposed impervious cover in the redevelopment plan are sidewalks to a pedestrian bridge), a 58% reduction in impervious cover within the rimrock/seep setback, and a 74% reduction of impervious cover within the wetland setback.
р	Yes	Clusters impervious cover and disturbed areas in a manner that preserves the most environmentally sensitive areas of the site that are not otherwise protected.
		Reason: One objective of the Design Charrette was to find a way to reduce

Item C-03 Part 2 9 of 55

		impervious cover and create open space (in this case 41% more open space than
		required). In order to achieve the park space, Heritage Trail, and Creek area, the redevelopment was clustered. For example, the redevelopment plan has focused the most significant redevelopment density in areas closer to MoPac frontage. In addition, areas that would otherwise be opportune for redevelopment will remain either open space or be credited as parkland; especially the more than 1 acre
		reduction of impervious cover within the CEF buffers.
		In addition, impervious cover within the portion of the PUD located within 300 feet of the existing off-site springs as shown on Exhibit C (Land Use Plan) shall be limited to 50%.
q	No.	Provides porous pavement for at least 20 percent or more of all paved areas for non-pedestrian in non-aquifer recharge areas.
r	No.	Provides porous pavement for at least 50 percent or more of all paved areas limited to pedestrian use.
		Reason: The majority of the paved areas - such as the Heritage Trail - will be dedicated to the public and will be multi-use paths and would not be appropriate for porous pavement; park trails in the Neighborhood Park and Creek area constructed by the Owner are proposed as low-maintenance concrete paving.
S	No.	Provides rainwater harvesting for landscape irrigation to serve not less than 50% of the landscaped areas.
t	No.	Directs stormwater runoff from impervious surfaces to a landscaped area at least equal to the total required landscape area.
u	Additional Benefit	Additionally, the project prohibits uses that may contribute air and water quality pollutants (e.g., Automotive Repair Services, Automotive Washing (except as accessory use to office)), which are otherwise presently permitted uses under the existing zoning and other regulations.
V	Additional Benefit	The Owner has agreed to provide a minimum of 20,000 cubic feet of detention storage prior to and as a condition precedent for the issuance of a permanent Certificate of Occupancy for the building(s) to be constructed on the last of Parcel 4 or Parcel 5 to be developed. The Owner has agreed to lay back a portion of the West side of the unnamed creek bank on Parcels 4 and 5, which will create additional flood detention within the existing "Koger" pond as simulated in the City's

10 of 55 Item C-03 Part 2

3	Community Amenities –	Yes.	hydrologic model. The expectation is that potentially up to 43,000 cubic feet of detention may be provided as a result of the creek lay back plan. The total amount of flood detention is unknown and depends on whether the firmly situated rock that lies beneath the surface deposits of soil, alluvium, rock fragments and fill can be readily removed without breaking the rock by blasting, air tool (hoe ram or jackhammer) or other destructive mechanical means. If the Owner is unable to achieve a minimum of 20,000 cubic feet of additional detention by laying back the West side of the unnamed creek bank, the Owner will create a dual-use detention/parkland area within the AO Creek Boundary on the East side of the unnamed creek bank such that at least a total of 20,000 cubic feet of detention is provided between the lay back on the West side and the detention/parkland area on the East side of the unnamed creek. Each site plan must show no-adverse impact downstream for the 2, 10, 25 and 100-year storm events down to the confluence with Shoal Creek, based on a PUD-wide analysis; however, for purposes of any drainage analysis or evaluation, the entire PUD Property will be considered a single site for the drainage analysis and such drainage analysis will utilize the existing impervious cover of the PUD Property as the underlying benchmark, which is 66% of the gross site area. The updated plan provides a minimum of 11 acres of open space. Parcel 10 will
0.	Provides community or public amenities, which may include space for community meetings, day care facilities, non-profit organizations, or other uses that fulfill an identified community need.	163.	be redeveloped as a neighborhood park as provided in the Park Plan at the developer's cost before it is deeded to the City. Parkland is distributed through the redevelopment plan to encourage community use. Additionally, a variety of multimodal connections (including proposed bus shelters) promote access to the parkland.
4.	Transportation – Provides bicycle facilities that connect to existing or planned bicycle routes or provides other multi- modal transportation	Yes.	The proposed on-site and off-site improvements for the project include enhancing pedestrian and bicycle access to and through the site, including the development of a pedestrian Heritage Trail linking Hart Lane to Wood Hollow as reflected in the Streetscape Plan and the Tree and Landscaping Plan to highlight and preserve the oak trees along most of Executive Center Drive. Dedicated on-street bike lanes will be provided along the length of Executive Center Drive to connect to existing bike lanes along Hart Lane and Wood Hollow Dr.

Item C-03 Part 2 11 of 55

			September 1, 2010
	features not required by		
	code.		The Cross-section of the "Heritage Trail" within the Streetscape Plan along Executive Center Drive illustrates the pedestrian orientation promoted within the development. In addition, separated pedestrian walks along other portions of the streets as well as the pedestrian bridge and trails shown in the Creek Plan will provide a high level of connectivity for pedestrians and bicyclists. Bus stops are designated at Wood Hollow Drive and Executive Center Drive, and Hart Lane and Executive Center Drive, subject to Capital Metro necessity and approval. The multi-modal routes promote accessibility to public destinations within the updated plan.
5.	Affordable Housing – Provides for affordable housing or participation in programs to achieve affordable housing.	Yes.	The project will comply with Planned Unit Development regulations for affordable housing. Participation will be provided with on-site units. 5% of the residential units as a Tier 2 item and 5% of the units for purposes of tier 3, for a total of 10% of the residential units to households whose income is 80 percent or below the median family income of the Austin metropolitan statistical area for ownership units and 60 percent or below the Austin metropolitan statistical area for rental units.
			Sales or leases of residential units to households in which one of the members is employed by the Austin Independent School District, so long as their income does not exceed 120 percent of the median family income of the Austin metropolitan statistical area for ownership units or rental units, as applicable, shall be considered to be affordable units for purposes of complying with the affordable housing requirements; however, not more than 50% of the total of the required number of affordable units may be such sales or leases to employees of the Austin Independent School District.

Austin Oaks PUD

Proposed Code Modifications

There are 17 modifications to Code requirements requested by the Applicant.

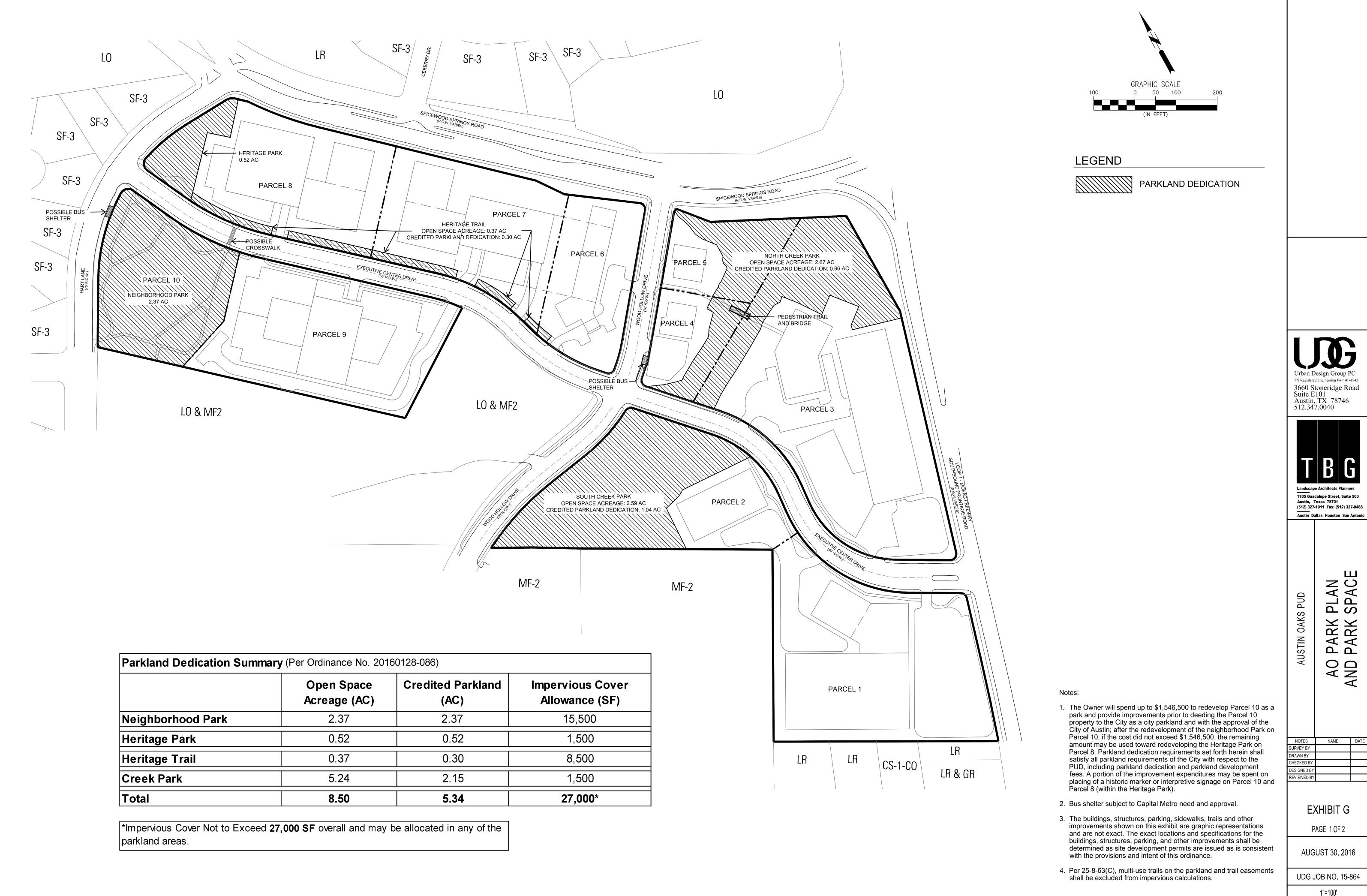
- 1. Section 25-8-25(B)(1) and (3) (Redevelopment Exception in Urban and Suburban Watersheds) are modified to apply on an overall basis;
- 2. ECM Section 2.4.3 (Buffering) is modified as to Parcel 1 and Parcel 4; the buffering requirements *are* modified to allow plants (excluding trees) used as buffering elements on Parcels 1 and 4 to be planted in a permeable landscape area at least three feet wide, rather than eight feet wide as currently required;
- 3. 25-7-32, Director Authorized to Require Erosion Hazard Zone Analysis An analysis was performed and the erosion hazard zone was identified with the PUD application. Additional analysis shall not be required for any future development applications;
- 4. 25-7-61(A)(5), Criteria for Approval of Development Applications, and Drainage Criteria Manual 1.2.2.A and D, General The analysis of additional adverse flooding impact shall be based on the PUD boundaries rather than parcel boundaries;
- 5. 25-8-641(B), Heritage Tree Removal Prohibited Thirteen heritage trees identified on the applicant's Exhibit F Tree Plan may be removed without an administrative or land use commission variance as required by current code;
- 6. *ECM Section 3.3.2.A*, *General Tree Survey Standards* The tree survey submitted with the PUD, dated November 22, 2013, may be used for 25 years instead of five years as currently required. Applications filed after November 22, 2038 will require a new tree survey.
- 7. *ECM Section 3.5.4, Mitigation Measures* Tree mitigation credit shall be granted for removing existing impervious cover from the critical root zone of preserved trees.
- 8. Section 25-6-477 (Bicycle Parking) for office, residential, and hotel uses; Reducing the required 50% of bicycle parking to be within 50 feet of entrances to 20%;
- 9. Section 25-2-1008(A)(1) (Irrigation Requirements); 8.49 acres of parkland and public space will remain undisturbed across the site to meet the 50% of total required landscaped to be undisturbed with no potable irrigation;
- 10. Section 25-2-1062 (Height Limitations and Setbacks for Small Sites); Removing Compatibility;
- 11. Section 25-2-1063 (Height Limitations and Setbacks for Large Sites); Removing Compatibility.
- 12. Section 25-2-1065 (Scale and Clustering Requirements); Massing and scale requirements related to other buildings and design criteria.
- 13. Subchapter E (*Design Standard and Mixed Use*) Section 2.2 (*Relationship of Buildings to Streets and Walkways*); Modified to keep existing trees and avoid environmental features.
- 14. Subchapter E (Design Standard and Mixed Use) Section 2.3 (Connectivity); Modified to keep existing trees and avoid environmental features.
- 15. Subchapter E (Design Standard and Mixed Use)Section 2.4 (Building Entryways); Modified to keep existing trees and avoid environmental features.
- 16. Subchapter E (Design Standard and Mixed Use) Section 3.2 (Glazing and Facade Relief Requirements) shall not apply to the AO Hotel Parcel 6 or the AO Mixed-use/Multifamily Parcel 9;

17. Subchapter E (Design Standard and Mixed Use) Article 4 (Mixed Use); Modified to keep existing trees and avoid environmental features.

Item C-03 Part 2



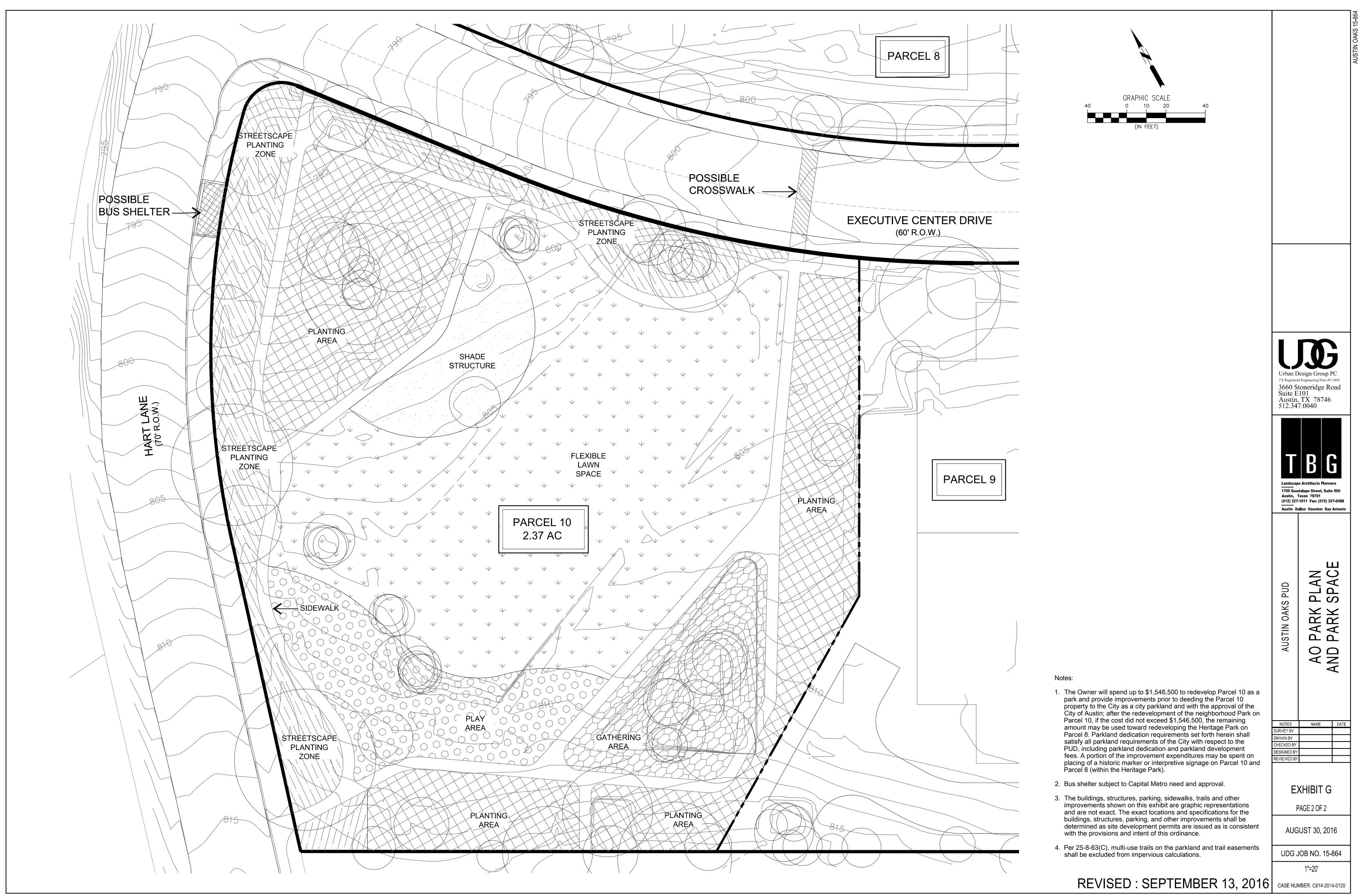
15 of 55 Item C-03 Part 2



NOTES	NAME	DATE
SURVEY BY		
DRAWN BY		
CHECKED BY		
DESIGNED BY		
REVIEWED BY		

REVISED: SEPTEMBER 13, 2016 CASE NUMBER: C814-2014-0120

Item C-03 Part 2





MEMORANDUM

TO: Jerry Rusthoven, Planning and Zoning Department Manager

FROM: Ricardo Soliz, Division Manager

Parks and Recreation Department

DATE: August 30, 2016

SUBJECT: Austin Oaks Planned Unit Development (PUD)

A PUD district provides greater design flexibility by permitting modifications of site development regulations. The code reads that the purpose of the PUD is to "preserve the natural environment, encourage high quality development and innovative design and ensure adequate public facilities and services for development within the PUD."

The Parks and Recreation Department finds that the Austin Oaks PUD is superior to traditional zoning as it pertains to parks. The following items contribute to the superiority:

The parkland being provided is 11.3% higher than required by the 2016 Parkland
Dedication ordinance and 100% of the neighborhood park acres is level and suitable for
open play.

Credited Parkland owed = 4.8 acres; Credited Parkland provided = 5.34 acres

- The Neighborhood Park will be developed by the applicant in an amount of \$1,546,500. This amount is \$5,155 per unit, 15 times more than the current \$317 per unit park-development fee required in 25-1-606. Additional funds will be spent to connect the park areas with trails.
- The plan to develop the neighborhood park will receive staff and neighborhood input and be presented to the Parks and Recreation Board for approval to ensure ample public involvement.

If you need further information, contact me at 974-9452.



TO:

Andrew Moore, Case Manager

Planning and Zoning Department

FROM: 55 Scott A. James, P.E., PTOE, Land Use Review/Transportation

Bryan Golden, Planner III

Development Services Department

DATE:

October 6, 2016

SUBJECT:

Traffic Impact Analysis for Austin Oaks PUD

Zoning Case No. C814 - 2014 - 0120

The Transportation Review Section has reviewed the Traffic Impact Analysis (TIA) for the proposed Austin Oaks Planned Unit Development, dated July 26, 2016, and offers the following comments:

The project site (31.27 acres) is located at the southwest corner of Loop 1 (Mo-Pac Expressway) and Spicewood Springs Road in north Austin. The current zoning is LO, SF-3, GR and LR, and the request is for PUD zoning. The proposal is for up to 250 apartment dwelling units, approximately 673,000 SF of general office, approximately 169,000 SF of medical-dental office, approximately 46,700 SF of restaurant and a 100 room hotel within the site.

The proposed development is to be built in phases with the planned removal of existing office space concurrent with the construction of the proposed development. Twelve (12) driveways are proposed to serve the site, ten (10) intersecting Executive Center Drive and two (2) intersecting Wood Hollow Drive. All vehicle access to the site will use the current public roadway network. No new public roads are proposed.

The table below presents the proposed changes in current and future land use:

Table 1 – Current and proposed land uses for the Austin Oaks redevelopment

Deve	Development		Existing Office		Proposed Austin Oaks Land Use			
Phase	Year	Removed	Remaining	General Office	Medical Office	Restaurant	Apartment	Hotel
Existing	2016	-	445,322 SF	•	•	-	-	-
Phase I	2018	87,837 SF	357,485 SF	215,000 SF	55,000 SF	0 SF	0	0
Phase II	2020	105,893 SF	339,429 SF	0 SF	0 SF	15,000 SF	250 DU	0
Phase III	2022	149,822 SF	295,500 SF	207,000 SF	55,000 SF	31,700 SF	0	100 Rooms
Phase IV	2024	101,770 SF	343,552 SF	250,995 SF	59,000 SF	0 SF	0	0
	Total	445,322 SF	-	672,995 SF	169,000 SF	46,700 SF	250 DU	100 Rooms

Roadways

Mo-Pac Expressway (Loop 1) is identified in the 2025 Austin Metropolitan Area Transportation Plan (AMATP) as a freeway. In the vicinity of the site, the southbound frontage road is a three-lane, undivided, one-way facility. The northbound frontage road provides access to the site via the interchanges of Far West Boulevard and Spicewood Springs Road, respectively. The posted speed limit for both frontage roads is 50 MPH.

Spicewood Springs Road is an east to west direction, major arterial. In the vicinity of the site, Spicewood Springs Road is a five-lane, median-divided facility with bike lanes on either side. The posted speed limit is 35 mph and speed data collected along Spicewood Springs Road near Hart Lane indicated the 85th percentile speed to be greater than 40 mph.

Far West Boulevard is an east to west direction major six-lane divided arterial roadway east of Hart Lane. West of Hart Lane, the roadway is classified a minor undivided arterial roadway. The posted speed limit is 35 MPH and dedicated bicycle lanes exist on both sides of the roadway.

Steck Avenue is an east to west direction minor undivided arterial roadway as described in the AMATP. Currently, it is a two-lane undivided roadway west of Loop 1 and east of Loop 1 is a two-lane roadway with a two-way-left-turn-lane (TWLTL). In the vicinity of the site, the posted speed limit is 30 MPH and dedicated bicycle lanes exist on both sides of Steck Avenue.

Executive Center Drive is presently a two lane neighborhood collector. It runs east to west and is wholly contained within the boundaries of the site.

Greystone Drive is two lane neighborhood collector, running east to west, and it is located to the south of the site.

Hart Lane is a two lane neighborhood collector with bicycle facilities. It runs north to south and borders the northwestern edge of the site.

Wood Hollow Drive is a two lane residential collector street with bicycle facilities. It runs north to south and bisects the site.

Site Trip Generation Estimates

Section 25-6-114 of the Land Development Code requires that a traffic impact analysis (TIA) be conducted for a project proposed with a zoning application if the project is anticipated to generate more than 2,000 daily trips.

Based on the ITE publication <u>Trip Generation</u>, <u>9th Edition</u>, the proposed development will generate up to 15,562 net new trips daily. As documented in the scoping agreement, reductions for internal capture and pass-by traffic were granted in the study. The following table present the estimated number of daily trips anticipated from the (re)development of the site.

Table 1 – Estimated Trip Generation for the proposed land uses (at full build out in 2024)

Land Use		Units	ITE Code	Daily Trips	AM Pe	ak Hou	r Trips	PM P	ak Hou	r Trips
cano use	Amount Units	IIE COOR	Daily Impa	In	Out	Total	In	Out	Total	
Existing General Office Building	445.322	1,000 Sq Ft	710	4,086	556	76	632	98	479	577
Existing General Office Building (To Remain)	0	1,000 Sq Ft	710	0	0	0	0	0	0	0
	Redu	ction in Existing C	ffice Trips	4,086	556	76	632	98	479	577
Apartment	250	Dwelling Unit(s)	220	1,640	25	101	126	101	54	155
Hotel	100	Room(s)	310	818	31	22	53	31	29	60
General Office Building	672.995	1,000 Sq Ft	710	5,591	774	106	880	141	691	832
Medical-Dental Office Building	169.000	1,000 Sq Ft	720	6,695	319	85	404	131	336	467
Retail/High-Turnover (Sit-Down) Restaurant	46.700	1,000 Sq Ft	932	5,938	278	227	505	276	184	460
		2024 Net	New Trips	16,596	871	465	1,336	582	815	1,397
	Internal C	apture Trip Reduc	tion (5%)	1,034	71	27	98	34	65	99
-	20	24 Trips (at Site D)riveways)	19,648	1,356	514	1,870	646	1,229	1,875
	2	024 Net New Exte	mal Trips	15,562	800	438	1,238	548	750	1,298

The applicant assigned site related trip to the existing roadway network with respect to the current traffic volumes and travel patterns. The table below presents the assumed choice of access route to and from the site:

Table 2 - Expected distribution of vehicle trips

Direction	Roadway	Site Traffic
From the north	Mo-Pac/Loop 1	25%
From the south	Hart Ln.	5%
From the south	Mo-Pac/Loop 1	25%
From the east	Anderson Ln.	20%
From the west	Spicewood Springs Rd.	20%
From the west	Far West Blvd.	5%

Data Collection

For this study, traffic counts were conducted in March 2014 when public schools were in session. The data collected was adjusted to reflect an average 2% annual growth rate. To verify this adjustment, daily volumes (using 24-Hour recording machine counts) were collected in March 2016 while public schools were in session and the prior 2014 counts were compared to the 2016 daily volumes. The results of the comparison indicate that the 2014 counts used for the analysis reflected higher volumes than those from 2016 and were within an acceptable margin of error. Table 4 below provides the results of the comparison.

Table 4 – Existing and Projected Count Comparison

Roadway	24-Hour	TMC	% Difference
Executive Center Drive	176	190	8%
Far West Blvd	4,418	5,142	16%
Hart Lane	939	1,020	9%
Spicewood Springs Road	4,174	4,791	15%
Wood Hollow Drive	1,013	1,148	13%

Traffic Analysis Methodology

The applicant reviewed the traffic operations, both existing and forecast to determine potential capacity deficiencies at the study area intersections. The results of the analyses provide the output values (as derived from the traffic simulation software) used to determine the estimated delay per vehicle during the peak periods of travel. The software applies the methodology of the Transportation Research Board/Highway Capacity Manual, which is the industry standard for the calculation of delay as experienced by individual motorists while driving.

The following table presents the HCM definitions of 'levels of service' for both *signalized and* unsignalized intersections. Within the City of Austin, LOS "D" is considered the threshold for acceptable operations for signalized intersections. For intersections where the LOS is projected at "E" or lower, mitigation should be proposed.

Level of Service	Signalized Intersection Average Total Delay (Sec/Veh)	Unsignalized Intersection Average Total Delay (Sec/Veh)
Α	≤10	≤10
В	>10 and ≤20	>10 and ≤15
С	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
· F	>80	>50

Table 5 - Summary of Level of Service as defined by Highway Capacity Manual

The following tables present a summary of the analysis performed within the TIA. Each table will include the intersection studied, the type of traffic control existing or proposed, the volume to capacity ration (V/C), the estimated delay in seconds for an individual vehicle, and the corresponding level of service category assigned. Staff from ATD and TxDOT reviewed these results in order to evaluate the likely consequences generated by the development in terms of traffic impact. Explanatory text will accompany certain key findings within a given table.

Table 6 shows the estimated delays for the current traffic conditions during the AM peak hour. The City of Austin assumes the morning peak hour traffic will occur between 7 and 9 AM during the regular workweek (Monday – Friday). The analysis below is used to estimate the current conditions without site related traffic.

	able 6 - 2016 <i>F</i>					
Required Study Area			2016 Existing Condition (AM Peak			
Intersection	Traffic Control	Approach	V/C	Delay	LOS	
Spicewood		EB	0.33	0	Α	
Springs Road	TWSC/ Signalized	WB	0.25	1.9	Α	
& Hart Lane	Olgridii2ca	NB	0.54	28.7	С	
		EB	0.46	19	В	
Spicewood		WB	0.84	18.8	В	
Springs Road & Wood	Signalized	NB	0.2	45.1	D	
Hollow Drive		SB	0.01	43.3	D	
		INT		20.8	С	
Chicaward		EB	1.45	198.6	F	
Spicewood Springs Road		WB	0.85	15.3	В	
& Loop 1	Signalized	SB	1.19	72.1	E	
SBFR		INT		91.7	F	
Spicowood	Signalized	EB	0.4	2.1	Α	
Spicewood Springs Road		WB	0.76	38.7	D	
& Loop 1		NB	1.31	99.9	F	
NBFR		INT		44.1	D	
Executive		WB	0.04	11.5	В	
Center Drive	TWSC	NB	0.16	0	Α	
& Hart Lane		SB	0.07	2.2	Α	
Executive	100	EB	0.09	17.4	В	
Center Drive	TWSC/	WB	0.07	13	В	
& Wood	AWSC	NB	0.02	1.1	Α	
Hollow Drive		SB	0.08	2.5	Α	
Executive		EB	0.02	9.4	Α	
Center Dr. & Loop 1 SBFR	TWSC	SB	0.66	0	Α	
		NB	0.435	14.3	В	
Greystone		EB	0.442	13.6	В	
Drive & Hart	AWSC	WB	0.343	14	В	
Lane		SB	0.618	18.8	В	
		INT		15.4	В	

Tab	le 6 (con't) - 20	16 AM PEAK	HOUR AN	IALYSIS RE	ESULTS
Requ	ired Study Are	a	2016 Ex	cisting Cor	ndition (AM Peak)
Intersection	Traffic Control	Approach	V/C	Delay	LOS
		NB	0.319	11.9	В
Greystone		EB	0.302	11.1	В
Drive & Wood	AWSC	WB	0.347	12.2	В
Hollow Drive		SB	0.367	12.5	В
		INT		11.8	В
Greystone	T.V.0.0	EB	0.79	56.4	E
Drive & Loop 1 SBFR	TWSC	SB	0.62	0	Α
	-	EB	0.65	34.7	С
Far West		WB	0.58	37.5	D
Boulevard &	Signalized	NB	0.8	62.9	E
Hart Lane		SB	0.89	65.6	E
		INT		46.5	D
	Signalized	EB	0.57	30.2	С
Far West		WB	0.49	29.4	С
Boulevard & Wood Hollow		NB	0.72	68.8	E
Drive		SB	0.67	45.6	D
		INT	3 - 3154 10	37.9	D
		EB	0.57	20.2	С
Far West Boulevard &	Signalized	WB	0.41	2.8	Α
Loop 1 SBFR	Signalized	SB	0.89	26.8	С
		INT	y wall	20.4	С
Far West		EB	0.42	3.3	Α
Blvd. & Loop	Signalized	NB	0.57	41	D
1 NBFR		INT		17	В
		EB	0.88	62	E
Steck Avenue & Loop 1 SBFR	Signalized	WB	0.4	5.2	A
	Signalized	SB	1.3	143.8	F
		INT		114.7	F
041 4		EB	0.61	4.1	Α
Steck Avenue & Loop 1	Signalized	WB	0.73	54.8	D
NBFR	g-10:1200	NB	2.58	610	F
		INT	, ,	203	F

Table 7 shows the estimated delays for the current traffic conditions during the PM peak hour. The City of Austin assumes the evening peak hour traffic will occur between 4 and 6 PM during the regular workweek (Monday – Friday). The analysis below is used to estimate the current conditions without site related traffic.

	Table 7 - 2016	PM PEAK HO	OUR ANAL	YSIS RESU	JLTS	
Required Study Area			2016 Existing Condition (PM Peak)			
Intersection	Traffic Control	Approach	V/C	Delay	LOS	
Spicewood		EB	0.25	0	Α	
Springs Road	TWSC/ Signalized	WB	0.34	1	Α	
& Hart Lane	Olgridiized	NB	1.01	77.4	E	
		EB	0.33	11.7	В	
Spicewood		WB	0.46	10	Α	
Springs Road & Wood	Signalized	NB	0.76	64.2	E	
Hollow Drive		SB	0.03	49.1	D	
		INT		20.3	С	
Spicewood		EB	1.1	108	F	
Springs Road	Signalized	WB	0.74	10.5	В	
& Loop 1		SB	1.09	86.1	F	
SBFR		INT	1054-31	66.4	E	
Spicewood	Signalized	EB	0.77	7.3	Α	
Springs Road		WB	0.72	34.3	C	
& Loop 1		NB	1.35	161.1	F	
NBFR		INT		50.6	D	
Executive		WB	0.23	12.3	В	
Center Drive	TWSC	NB	0.21	0	Α	
& Hart Lane		SB	0.02	0.8	Α	
Executive		EB	0.48	23.3	С	
Center Drive	TWSC/	WB	0.3	14.1	В	
& Wood	AWSC	NB	0.01	0.3	Α	
Hollow Drive		SB	0.02	0.9	Α	
Executive		EB	0.49	23.1	С	
Center Dr. & Loop 1 SBFR	TWSC	SB	0.48	0	Α	
		NB	0.525	14.6	В	
Greystone		EB	0.209	10.6	В	
Drive & Hart	AWSC	WB	0.405	12.8	В	
Lane		SB	0.309	11.3	В	
		INT		12.8	В	

Tal	ble 7 (con't) - 2	016 PM PEAK	HOUR AN	IALYSIS RI	ESULTS	
Required Study Area			2016 Existing Condition (PM Peak)			
Intersection	Traffic Control	Approach	V/C	Delay	LOS	
		NB	0.486	13.9	В	
Greystone		EB	0.2	10.8	В	
Drive & Wood	AWSC	WB	0.562	16.1	В	
Hollow Drive		SB	0.263	11.6	В	
		INT		13.9	В	
Greystone		EB	0.63	34.7	С	
Drive & Loop 1 SBFR	TWSC	SB	0.46	0	A	
		EB	0.32	18.8	В	
Far West		WB	0.32	6.3	Α	
Boulevard &	Signalized	NB	0.75	60.7	E	
Hart Lane	_	SB	0.73	60.5	E	
		INT		26.3	С	
	Signalized	EB	0.45	15.7	В	
Far West		WB	0.76	30.3	С	
Boulevard & Wood Hollow		NB	0.82	65.2	E	
Drive		SB	0.75	65.9	E	
		INT		36.6	D	
		EB	0.68	18.6	В	
Far West	0:!:	WB	0.25	3.7	Α	
Boulevard & Loop 1 SBFR	Signalized	SB	1.38	151.5	F	
		INT		78.7	E	
Far West		EB	0.93	32.2	С	
Blvd. & Loop	Signalized	NB	0,29	25.4	С	
1 NBFR	•	INT		30.8	С	
		EB	0.87	59.4	E	
Steck Avenue	Cimmelie	WB	0.31	0.7	А	
& Loop 1 SBFR	Signalized	SB	1.34	202.5	F	
		INT		132.2	F	
		EB	0.97	15.9	В	
Steck Avenue	Cianclizad	WB	0.91	56.9	E	
& Loop 1 NBFR	Signalized	NB	2.02	458.2	F	
		INT		169.8	F	

Note: where the V/C ratio is greater than 1.0, the intersection is saturated and cannot process all of the vehicles which seek to enter the service area.

Summary of existing conditions

As shown in the tables above, certain intersections already exhibit LOS at "E" or below. These analyses reflect the baseline conditions to which site traffic (and proposed mitigations) will be added. Where the V/C ratio is shown greater than 1.0, staff interprets the analysis to indicate that more vehicles seek to enter the intersection than can be served.

Traffic analysis of future conditions

The TIA proposed phasing the development and determined the necessary improvements accordingly. The applicant provided the level of analysis for each phase (years 2018, 2020, 2022, and 2024), however, the following tables present the results of the analysis for the 'no build' conditions, the 'build conditions without mitigation' and the 'build conditions with mitigation' for only the final 2024 phase year.

Table 8 shows the estimated delays for the future traffic conditions during the AM peak hour. The City of Austin assumes the morning peak hour traffic will occur between 7 and 9 AM during the regular workweek (Monday – Friday). The analysis below is used to estimate the future conditions without site related traffic.

Т	able 8 - 2024 A	M PEAK HOU				
Required Study Area			2024 No Build Condition (AM Peak)			
Intersection	Traffic Control	Approach	V/C	Delay	LOS	
		EB	0.38	0	Α	
Spicewood Springs Dood	TWSC/	WB	0.34	2.3	Α	
Springs Road & Hart Lane	Signalized	NB	0.84	53.7	, D	
	,	INT				
		EB	0.57	22.4	С	
Spicewood		WB	1	28	С	
Springs Road & Wood	Signalized	NB	0.23	45.4	D	
Hollow Drive		SB	0.01	43.3	D	
		INT		26.7	С	
Spicewood	Signalized	EB	1.78	284.1	F	
Springs Road		WB	0.99	19	В	
& Loop 1		SB	1.4	147.4	F	
SBFR		INT		150.2	F	
Spicewood	V	EB	0.46	2.4	Α	
Springs Road	Cimpolinad	WB	0.89	45.4	D	
& Loop 1 NBFR	Signalized	NB	1.53	157.6	F	
		INT		63.3	E	
Executive		WB	0.05	12.5	В	
Center Drive	TWSC	NB .	0.18	0	_A	
& Hart Lane		SB	0.08	2.4	Α	

	8 (con't) - 202 red Study Are		HOUR ANALYSIS RESULTS 2024 No Build Condition (AM Peak)			
Intersection	Traffic Control	Approach	V/C	Delay	LOS	
	Control					
		EB	0.13	21.2	С	
Executive		WB	0.09	14.9	В	
Center Drive & Wood Hollow	TWSC/	NB	0.03	1.1	Α	
Drive	Signalized	SB	0.1	2.7	Α	
		INT				
Executive		EB	0.04	11	В	
Center Dr. & Loop 1 SBFR	TWSC	SB	0.77	0	Α	
·		NB	0.571	19.8	В	
		EB	0.575	17.8	В	
Greystone Drive & Hart Lane	AWSC	WB	0.451	17.5	В	
& Flatt Latte		SB	0.806	32.3	С	
		INT		22.7	С	
	AWSC	NB	0.403	13.9	В	
Greystone Drive		EB	0.382	12.9	В	
& Wood Hollow		WB	0.438	14.5	В	
Drive		SB	0.464	15.1	В	
		INT		14	В	
Greystone Drive	TWSC	EB	1.19	172.1	F	
& Loop 1 SBFR	TWSC	SB	0.72	0	Α	
		EB	0.82	43.3	D	
Far West		WB	0.82	53.5	D	
Boulevard &	Signalized	NB	0.86	67.8	E	
Hart Lane		SB	0.96	75.1	E	
		INT		56.7	E	
		EB	0.73	41.4	D	
Far West		WB	0.72	35.6	D	
Boulevard & Wood Hollow Drive	Signalized	NB	1.04	115	F	
		SB	0.71	43.9	D	
		INT		50.7	D	
E-184- 1		EB	0.67	19.6	В	
Far West Boulevard &	Signalized	WB	0.48	1.9	Α	
Loop 1 SBFR	oig.idii200	SB	1.16	69	E	
h 4		INT	1 - 10 km - 10 - 10 -	39.5	D	

Table	8 (con't) - 202	4 AM PEAK I	HOUR ANA	ALYSIS RE	SULTS
Requir	ed Study Are	a	2024 No	Build Con	dition (AM Peak)
Intersection	Traffic Control	Approach	V/C	Delay	LOS
		EB	0.47	3.1	Α
Far West Blvd. & Loop 1 NBFR	Signalized	NB	0.7	47.6	D
a coop i Noi i		INT		19.3	В
	G: " .	EB	1.03	88	F
Steck Avenue &		WB	0.47	5.9	Α
Loop 1 SBFR	Signalized	SB	1.52	233.9	F
		INT		184.3	F
		EB	0.72	4.9	Α
Steck Avenue & Loop 1 NBFR	Signalized	WB	0.85	62.8	E
	Signalized	NB	3.04	766.6	F
		INT		253.9	F

Table 9 shows the estimated delays for the future 2024 traffic conditions during the PM peak hour, assumed to occur between 4 and 6 PM during the regular workweek (Monday – Friday). The analysis below is used to estimate the future conditions without site related traffic.

Requ	Required Study Area			2024 No Build Condition (PM Peak		
Intersection	Traffic Control	Approach	V/C	Delay	LOS	
		EB	0.3	0	Α	
Spicewood	TWSC/	WB	0.4	1.1	Α	
Springs Road & Hart Lane	Signalized	NB	1.75	381.1	F	
		INT				
	Signalized	EB	0.39	12.6	В	
Spicewood		WB	0.54	11.2	В	
Springs Road & Wood		NB	0.89	73.6	E	
Hollow Drive		SB	0.03	49.1	D	
		INT		22.7	С	
Spicewood	Signalized	EB	1.29	162.4	F	
Springs Road		WB	0.87	12.1	В	
& Loop 1		SB	1.28	125.3	F	
SBFR		INT		97.2	F	
Spicewood Springs Road & Loop 1 NBFR		EB	0.9	8.7	Α	
	Cinnelles d	WB	0.84	39.2	D	
	Signalized	NB	1.66	233	F	
		INT		68.5	E	

	9 (con't) - 202 ed Study Are			The same of the sa	dition (PM Peak)
Intersection	Traffic Control	Approach	V/C	Delay	LOS
Executive		WB	0.3	13.8	, B
Center Drive &	TWSC	NB	0.25	0	Α
Hart Lane		SB	0.02	0.9	Α
		EB	0.69	39.2	D
Executive		WB	0.4	. 16.8	В
Center Drive & Wood Hollow	TWSC/ Signalized	NB	0.01	0.3	Α
Drive	Olghalized	SB	0.02	0.9	Α
		INT₄	9		
Executive		EB	0.69	37.8	D
Center Dr. & Loop 1 SBFR	TWSC	SB	0.56	. 0	Α
•	AWSC	NB	0.667	20.5	С
		EB	0.267	12	В
Greystone Drive & Hart Lane		WB	0.516	15.8	В
& Half Lane		SB	0.399	13.5	В
		INT		16.4	В
		NB	0.616	18.3	В
Greystone Drive		EB	0.258	12.1	В
& Wood Hollow	AWSC	WB	0.71	23.1	С
Drive		SB	0.339	13.4	В
		INT		18.3	В
Greystone Drive	TWSC	EB	0.92	81.6	F
& Loop 1 SBFR	10050	SB	0.54	0	Α
		EB	0.39	21.7	С
Far West		WB	0.42	7.6	Α
Boulevard &	Signalized	NB	0.78	61.4	E
Hart Lane		SB	0.78	62.3	E
		INT		28.1	С
		EB	0.55	17.4	В
Far West		WB	1.12	47.7	D
Boulevard & Wood Hollow	Signalized	NB	0.92	80.9	F
Drive		SB	0.81	69.2	E
	-5	INT		47.1	D

	9 (con't) - 202		Programming speciments and			
Required Study Area			2024 No Build Condition (PM Peak)			
Intersection	Traffic Control	Approach	V/C	Delay	LOS	
		EB	0.83	23.2	С	
Far West Boulevard &	Signalized	WB	0.29	3.8	Α	
Loop 1 SBFR	Signalized	SB	1.86	277.7	F	
2000 1 001 11		INT		139.4	F.	
	Signalized	EB	1.09	70.8	Ε	
Far West Blvd. & Loop 1 NBFR		NB	0.35	26	С	
a coop i Noi it		INT		61.7	E	
	Signalized	EB	1.02	84.9	F	
Steck Avenue &		WB	0.36	0.7	Α	
Loop 1 SBFR		SB	1.57	303.2	F	
		INT		196.9	F	
Steck Avenue & Loop 1 NBFR		EB	1.14	46.5	, D	
	Cianalized	WB	1.12	86.7	F	
	Signalized	NB	2.36	594.3	F	
		INT		234	F	

Summary of future 2024 'no build' conditions

As shown in the tables above, certain intersections are project to operate at LOS at "E" or below, independent of the proposed development. These analyses reflect the baseline conditions to which site traffic (and proposed mitigations) will be added. Where the V/C ratio is shown greater than 1.0, staff interprets the analysis to indicate that more vehicles seek to enter the intersection than can be served.

Presentation of future 2024 "build without mitigation" conditions

Table 10 shows the estimated delays for the future traffic conditions during the AM peak hour with the site developed and <u>no mitigations</u> provided. The City of Austin assumes the morning peak hour traffic will occur between 7 and 9 AM during the regular workweek (Monday – Friday). The following analysis is used to estimate the future conditions <u>without any</u> mitigation provided to accommodate site traffic.

	able 10 - 2024		THE RESIDENCE OF THE PARTY OF T		
Kequire	d Study Area		2024 Bui	id w/o miti	igation (AM Peak)
Intersection	Traffic Control	Approach	V/C	Delay	LOS
		EB	0.75	25.4	C
Spicewood Springs	TWSC/	WB	0.49	10.6	В
Road & Hart Lane	Signalized	NB	0.52	25.5	С
		INT		19.8	В
		EB	0.83	37.4	D
Spicewood Springs		WB	1	31.4	С
Road & Wood	Signalized	NB	0.34	26.5	С
Hollow Drive		SB	0.01	38.5	D
		INT		33.6	С
		EB	1.2	91.2	F
Spicewood Springs	0: "	WB	1.17	52.4	D
Road & Loop 1 SBFR	Signalized	SB	1.44	125.1	F
OD! IX		INT		94.1	F
	Signalized	EB	0.52	2.5	Α
Spicewood Springs		WB	1.03	68.7	E
Road & Loop 1 NBFR		NB	1.73	236.4	F
HOIT		INT		96.3	F
	TWSC	WB	0.3	16.7	В
Executive Center Drive & Hart Lane		NB	0.2	0.	Α
Drive & Hart Lane		SB	0.22	5.1	Α
		EB	0.348	15.3	В
Executive Center		WB	0.305	14.5	В
Drive & Wood	TWSC/	NB	0.675	24.9	С
Hollow Drive	Signalized	SB	1.074	53.3	D
	,	INT		33.8	С
Executive Center	TMCC	EB	free	free	free
Dr. & Loop 1 SBFR	TWSC	SB	free	free	free
		NB	0.698	26.6	С
		EB	0.61	19.7	В
Greystone Drive & Hart Lane	AWSC	WB	0.504	20	В
mart Lane		SB	0.885	44.9	D
		INT		29	С
		NB	0.848	41.1	D
		EB	0.527	18.9	В
Greystone Drive & Wood Hollow Drive	AWSC	WB	0.54	18.9	В
AAOOG LIGHOM DIIVE		SB	4.9	0.675	С
		INT			С

	ed Study Area		2024 Build w/o mitigation Condition (AM Peak)		
Intersection	Traffic Control	Approach	V/C	Delay	LOS
Greystone Drive	TWSC	EB	1.42	254.9	<i>F</i>
& Loop 1 SBFR		SB	0.63	0	A
		EB	0.67	29.6	С
Far West		WB	0.74	43.1	D
Boulevard & Hart	Signalized	NB	0.74	51.4	D
Lane		SB	0.85	54.9	D
		INT	,	42	D
	Signalized	EB	0.54	33.1	С
Far West		WB	0.61	56.7	E
Boulevard & Wood Hollow		NB	0.96	88.2	F
Drive		SB	0.72	44.5	D
		INT		49.4	D
	Signalized	EB	0.68	22.4	C
Far West		WB	0.57	5.7	Α
Boulevard & Loop 1 SBFR		SB	0.63	13.6	В
Loop Tobi IX		INT		15.3	В
		EB	0.56	5.5	Α
Far West Blvd. & Loop 1 NBFR	Signalized	NB	0.71	43.7	D
LOOP I NOT IX	_	INT		20.1	С
V		EB	1.03	88	F
Steck Avenue &		WB	0.47	6	Α
Loop 1 SBFR	Signalized	SB	1.57	250.7	F
		INT		197.4	F
		EB	0.72	4.9	А
Steck Avenue &	Olemeties d	WB	0.85	62.8	E
Loop 1 NBFR	Signalized	NB	3.04	765	F
		INT		253.4	F

Table 11 shows the estimated delays for the future 2024 traffic conditions during the PM peak hour, assumed to occur between 4 and 6 PM during the regular workweek (Monday – Friday). The analysis below is used to estimate the future conditions <u>without any</u> mitigation performed to serve site related traffic.

	le 11 - 2024 Pi ed Study Area				o mitigation
Intersection	Traffic Control	Approach	V/C	Delay	LOS
		EB	0.61	28.1	С
Spicewood Springs Road &	TWSC/	WB	0.5	11.9	В
Hart Lane	Signalized	NB	0.77	35.9	D
		INT-		22.1	С
		EB	0.6	17.7	В
Spicewood	F 1	. WB	0.8	25.8	С
Springs Road & Wood Hollow	Signalized	NB	0.74	42.9	D
Drive		SB	0.02	35	С
		INT		26.3	С
· ·		EB	1.48	219.5	F
Spicewood	Signalized	WB	0.97	14.7	В
Springs Road & Loop 1 SBFR		SB	1.28	105.2	F
		INT		111.2	. F
	Signalized	EB	1.03	14.9	В
Spicewood		WB	0.92	44.5	D
Springs Road & Loop 1 NBFR		NB	1.86	309.2	F
2000 / / / 21 / /		INT		91.4	F
		WB	0.74	29.9	С
Executive Center Drive & Hart Lane	TWSC	NB	0.26	0	Α
Drive & Hart Lane		SB	0.13	4	Α
		EB	0.825	42.9	D
Executive Center		WB	0.878	42.6	D
Drive & Wood	TWSC/ Signalized	NB	0.925	62.2	E
Hollow Drive	Signalized	SB	0.926	52.5	D
		INT	T y u		
Executive Center		EB	free	free	free
Dr. & Loop 1 SBFR	TWSC	SB	free	free	free
	11 111	NB	0.735	25	С
One water a Bit of		EB	0.279	12.5	В
Greystone Drive & Hart Lane	AWSC	WB	0.569	17.7	В
rigit Lano		SB	0.458	15	В
	(0)	INT		18.9	В

Table 1	1 (con't) - 202	4 PM PEAK H			
Require	ed Study Area		202	24 Build w (PM I	/o mitigation Peak)
Intersection	Traffic Control	Approach	V/C	Delay	LOS
		NB	0.934	47.7	D
Greystone Drive &		EB	0.339	15.5	В
Wood Hollow	AWSC	WB	0.835	33.2	С
Drive		SB	3.3	0.554	В
		INT		8	С
Greystone Drive &	THEO	EB	1.17	143.4	F
Loop 1 SBFR	TWSC	SB	0.5	0	Α
		EB	0.36	17.5	В
Far West		WB	0.42	31.5	С
Boulevard & Hart	Signalized	NB	0.73	54.5	D
Lane		SB	0.74	54	D
		INT	, Lui	34.5	С
	Signalized	EB	0.47	35.6	D
Far West		WB	0.79	45.7	D
Boulevard & Wood		NB ·	0.82	51.2	D
Hollow Drive		SB	0.83	69.2	E
		INT	THE LEVEL TO	46.3	D
		EB	0.9	29.5	С
Far West	0:	WB	0.33	3.3	Α
Boulevard & Loop 1 SBFR	Signalized	SB	1.32	78.6	E
1 00111		INT		49:5	D
Elike-i Blod 0		EB	1.2	117	F
Far West Blvd. & Loop 1 NBFR	Signalized	NB	0.4	26.8	С
Loop 1 Noi 1		INT	-	97.9	F
		. EB	1.02	84.9	F
Steck Avenue &	Clausalissaul	WB	0.36	0.7	Α
Loop 1 SBFR	Signalized	SB	1.61	321.6	F
		INT		209.4	F.
		EB	1.14	46.5	D
Steck Avenue &	Signalized	WB	1.12	86.7	F
Loop 1 NBFR	Signalized	NB	2.36	594.3	F
		INT		234	F

Summary of future 2024 'build without mitigation' conditions

As shown in Tables 10 and 11, should the development be permitted without mitigation, several intersections will not operate satisfactorily. As was shown in the 2024 'no build' condition, current conditions continue to degrade and secondary consequences result. These analyses help to identify which intersections require mitigation as a part of development, and which may be deferred.

Presentation of future 2024 'build with mitigation' conditions

Table 12 shows the estimated delays for the future traffic conditions during the AM peak hour with the site developed and mitigations provided. The analysis below is used to estimate the future conditions with the improvements proposed to mitigate the impact of site related traffic.

Required Study Area			2024 Build and Mitigated Condition (AM Peak)			
Intersection	Traffic Control	Approach	V/C	Delay	LOS	
		EB	0.75	25.4	С	
Spicewood	TWSC/	WB	0.49	10.6	В	
Springs Road & Hart Lane	Signalized	NB	0.52	25.5	С	
		INT		19.8	В	
		EB	0.83	37.4	D	
Spicewood		WB	1	31.4	С	
Springs Road & Wood	Signalized	NB	0.34	26.5	C	
Hollow Drive		SB	0.01	38.5	D	
		INT	. Die e	33.6	С	
Spicewood	Signalized	EB	1.2	91.2	F	
Springs Road		WB	1.17	52.4	D	
& Loop 1		SB	1.44	125.1	F	
SBFR		INT		94.1	F	
Spicewood		EB	0.52	2.5	Α	
Springs Road		WB	1.03	68.7	E	
& Loop 1	Signalized	NB	1.73	236.4	F	
NBFR		INT		96.3	F	
Executive		WB	0.15	14.7	В	
Center Drive	TWSC	NB	0.2	0	Α	
& Hart Lane		SB	0.22	3.6	Α	
		EB	0.24	21.7	С	
Executive		WB	0.22	21.2	С	
Center Drive & Wood	TWSC/ Signalized	NB	0.77	31.9	С	
Hollow Drive	Olymanzeu	SB	0.92	38.2	D	
		INT		31.7	С	

	e 12 (con't) - 2		HOUR ANALYSIS RESULTS 2024 Build and Mitigated Condition				
Keqt	Traffic	sa I	and the same	(AN	/ Peak)		
Intersection	Control	Approach	V/C	Delay	LOS		
Executive	7400	EB	_	-	-		
Center Dr. & Loop 1 SBFR	TWSC	SB	_	-	-		
		NB	0.719	28.6	С		
Greystone		EB	0.592	18.5	В		
Drive & Hart	AWSC	WB	0.488	18.9	В		
Lane		SB	0.483	17.3	В		
		INT	11-2-00	20.5	С		
		NB	0.475	17.6	В		
Greystone		EB	0.503	17.6	В		
Drive & Wood	AWSC	WB	0.518	17.6	В		
Hollow Drive		SB	0.65	22	С		
		INT		18.7	В		
Greystone	TWSC	EB	1.42	254.9	F		
Drive & Loop 1 SBFR		SB	0.63	0	Α		
		EB	0.67	29.6	С		
Far West		WB	0.74	32.4	С		
Boulevard &	Signalized	NB	0.74	51.4	D		
Hart Lane		SB	0.85	54.9	D		
		INT		39.3	D		
		EB	0.52	29.6	С		
Far West		WB	0.47	42.9	D		
Boulevard & Wood Hollow	Signalized	NB	0.83	64.8	E		
Drive		SB	0.85	54.7	D		
		INT		42.3	D		
		EB	0.68	22.2	С		
Far West Boulevard & Loop 1 SBFR	CinII	WB	0.57	5.7	Α		
	Signalized	SB	0.63	13.6	В		
		INT		15.3	В		
Far West Blvd.		EB	0.56	5.5	Α		
& Loop 1	Signalized	NB	0.71	43.7	D		
NBFR	_	INT		20	В		

Required Study Area			2024 Build and Mitigated Condition (AM Peak)		
Intersection	Traffic Control	Approach	V/C Delay LOS		
Steck Avenue & Loop 1 SBFR	Signalized	EB	1.03	88	F
		WB	0.47	6	Α
		SB	1.57	250.7	F
		INT		197.4	F
Steck Avenue & Loop 1 NBFR	Signalized	EB	0.72	4.9	Α
		WB	0.85	62.8	Ε
		NB	3.04	765	F
		INT		253.4	F

Table 13 shows the estimated delays for the future 2024 traffic conditions during the PM peak hour, assumed to occur between 4 and 6 PM during the regular workweek (Monday – Friday). The analysis below is used to estimate the future conditions with the mitigation measures to accommodate site related traffic.

Required Study Area			OUR ANALYSIS RESULTS 2024 Build and Mitigated Condition (PM Peak)			
Intersection	Traffic Control	Approach	V/C	Delay	Los	
		EB	0.61	28.1	С	
Spicewood	TWSC/	WB	0.5	11.9	В	
Springs Road & Hart Lane	Signalized	NB	0.77	35.9	D	
		INT		22.1	С	
	Signalized	EB	0.64	18.8	, В	
Spicewood		WB	0.86	31.5	С	
Springs Road & Wood Hollow		NB	0.67	34.4	С	
Drive		SB	0.02	31.6	С	
		INT	100	27.3	С	
Spicewood	Signalized	EB	1.48	220.5	F	
Springs Road		WB	0.97	14.7	В	
& Loop 1		SB	1.28	105.2	F	
SBFR		INT	and a med	111.5	F	
Spicewood		EB	1.03	14.8	В	
Springs Road	Cianalizad	WB	0.92	44.5	D	
& Loop 1	Signalized	NB	1.86	309.2	F	
NBFR		INT	Constant	91.4	F	

	e 13 (con't) - 20					
Required Study Area			2024 Build and Mitigated Condition (PM Peak)			
Executive	TWSC	WB	0.5	17.6	В	
Center Drive &		NB	0.26	0	Α	
Hart Lane		SB	0.16	3.1	A	
		EB	0.49	20.7	С	
Executive		WB	0.44	20	В	
Center Drive & Wood Hollow	TWSC/ Signalized	NB	0.81	33.4	С	
Drive	Olgridiized	SB	0.81	49.1	D	
		INT		30.4	С	
Executive		EB	free	free	free	
Center Dr. & Loop 1 SBFR	TWSC	SB	free	free	free	
	AWSC	NB	0.808	33.5	С	
		EB	0.284	12.8	В	
Greystone Drive & Hart Lane		WB	0.579	18.4	В	
a Hart Lane		SB	0.297	12.5	В	
		INT		21.7	С	
	AWSC	NB	0.596	20.9	С	
Greystone Drive		EB	0.329	14.9	В	
& Wood Hollow		WB	0.814	30.7	С	
Drive		SB	0.574	19.2	В	
		INT		22.9	С	
Greystone Drive	TWSC	EB	1.17	143.4	F	
& Loop 1 SBFR	1000	SB	0.5	0	Α	
		EB	0.36	17.5	В	
Far West		WB	0.42	31.5	С	
Boulevard &	Signalized	NB	0.73	54.5	D	
Hart Lane		SB	0.74	54	D	
		INT		34.5	С	
		EB	0.47	35.6	D	
Far West		WB	0.79	45.7	D	
Boulevard & Wood Hollow	Signalized	NB	0.82	51.2	D	
Drive		SB	0.83	69.2	E	
		INT		46.3	D	

Tabl	e 13 (con't) - 20	024 PM PEAK	HOUR AN	NALYSIS F	RESULTS	
Required Study Area			2024 Build and Mitigated Condition (PM Peak)			
		EB	0.9	29.5	C	
Far West		WB	0.33	3.3	A	
Boulevard & Loop 1 SBFR	Signalized	SB	0.71	78.6	E	
LOOP 1 OBITY		INT		49.5	D	
Far West Blvd.	Signalized	EB	1.2	117	F	
& Loop 1		NB	0.4	26.8	С	
NBFR		INT		97.9	F	
	Signalized	EB	1.02	84.9	F	
Steck Avenue		WB	0.36	0.7	Α	
& Loop 1 SBFR		SB	1.61	321.6	F	
32. ,,		INT		209.4	F	
	Signalized	EB	1.14	46.5	D	
Steck Avenue		WB	1.12	86.7	F	
& Loop 1 NBFR		NB	2.36	594.3	F	
		INT		234	F	

Summary of future 2024 'build with mitigation' conditions evaluation

As shown in Tables 12 and 13, the development proposes to address its site related traffic impact with improvements to the intersections along Spicewood Springs Road and the southbound frontage road of Mo-Pac Expressway. The interchanges of Far West Boulevard and Spicewood Springs/Anderson Lane with Mo-Pac have limited options, due to right-of-way limitations and the needs of larger regional traffic operations (apart from the site related traffic). As such, staff review of the TIA indicates that site related traffic will be adequately mitigated by the proposed improvements. The exception to these findings is the identified degradation of traffic operations along the Mo-Pac frontage roads in the vicinity of the site.

Discussion of results of TIA analysis

As illustrated in the above findings, existing capacity concerns are identified along the Loop 1 corridor. The impacts of these regional issues were observed at intersections in the study area in the Existing (2016) analysis. Although major improvements are necessary at intersections along Loop 1, these would need to be undertaken as regional improvements to achieve an acceptable LOS. The findings reflect a level of investment and analysis greater than can be offered by site development review. The applicant has requested the City consult with TxDOT to identify how best to determine the long range improvements required.

2024 Build Analysis Results - detailed intersection elements

<u>Executive Center Drive & Hart Lane</u>. Vehicles making the 'westbound' left-turn movement from
Executive Center Drive have difficulty finding gaps onto Hart Lane. Because the westbound
approach is a single lane, the delay at the westbound left-turn movement is also experienced by
vehicles waiting to turn right onto Hart Lane.

- <u>Executive Center Drive & Wood Hollow Drive</u>. The northbound approach of Wood Hollow Drive at Executive Center Drive experience an unacceptable LOS due to the high volume expected at this approach.
- o <u>Greystone Drive & Hart Lane</u>. The southbound approach of Hart Lane at Greystone Drive experiences an unacceptable LOS due to the high volume at this approach and the capacity limitations of an all-way stop-controlled (AWSC) intersection.
- Greystone Drive & Wood Hollow Drive. The northbound approach of Wood Hollow Drive at Greystone Drive experiences an unacceptable LOS due to the high volume at this approach and the capacity limitations of an AWSC intersection.
- Spicewood Springs Road & Loop 1. Similar to existing conditions the intersection of Spicewood Springs Road and Loop 1 continues to operate at an unacceptable LOS.
- <u>Greystone Drive & Loop 1.</u> Similar to existing conditions the eastbound approach of Greystone Drive at Loop 1 SBFR continues to operate at an unacceptable LOS.
- Far West Boulevard & Loop 1. Similar to existing conditions the intersection of Far West Boulevard and Loop 1 continues to operate at an unacceptable LOS.
- Steck Avenue & Loop 1. Similar to existing conditions the intersection of Steck Avenue and Loop 1 continues to operate at an unacceptable LOS.

Traffic Signal Warrant Analysis

As part of the analysis of 2024 Build conditions, a traffic signal warrant analysis was performed at the intersection of Executive Center Drive and Wood Hollow Drive. The number of vehicles at the eastbound approach of Executive Center Drive throughout the day is consistently above the minor street volume threshold for warranting a signal. A traffic signal is warranted based on the 2024 projected traffic volumes at the intersection.

Transportation System Improvements

The TIA identified a series of improvements to the surrounding public infrastructure which would serve to mitigate the calculated impact to traffic resulting from this development. The following is a summation of the proposed improvements, organized by Phase:

Developer proposed Phase 1 (2018) improvements:

- Spicewood Springs Road & Hart Lane. Consider installing a fully actuated traffic signal at the
 intersection of Spicewood Springs Road and Hart Lane. Install an advance warning flasher
 west of the intersection synchronized with the traffic signal and widen the northbound
 approach of Hart Lane to include dual left-turns.
- Hart Lane between Executive Center Drive and Spicewood Springs Road. Widen Hart Lane
 between Executive Center Drive and Spicewood Springs Road to accommodate a three-lane
 northbound approach at the intersection of Hart Lane at Spicewood Springs Road. Restripe
 the northbound approach of Hart Lane to include dual-left-turn lanes and an exclusive rightturn lane (three 10' approach lanes); a single northbound receiving lane (14') and southbound
 bike lane (5') will remain.

- Spicewood Springs Road & Wood Hollow Drive. Extend the westbound left-turn bay of Spicewood Springs Road to Wood Hollow Drive to provide adequate storage for vehicles making a left-turn movement and prevent spill-back into the adjacent lane. 15% of the inbound trips generated by the Austin Oaks development were assigned to the westbound left-turn movement of Spicewood Springs Road to Wood Hollow Drive. The proposed left-turn bay extension will mitigate the impact of site traffic at this movement.
- Spicewood Springs Road & Wood Hollow Drive. Provide a right-turn overlap operation at the
 northbound right-turn movement of Wood Hollow Drive to Spicewood Springs Road. This will
 allow the northbound right-turn phase and the westbound left-turn phase to operate
 simultaneously and decrease delay at the northbound approach of Wood Hollow Drive. 15% of
 the outbound trips generated by the Austin Oaks development were assigned to the right-turn
 movement of Wood Hollow Drive to Spicewood Springs Road. The proposed right-turn overlap
 operation will mitigate the impact of site traffic at this movement.
- Wood Hollow Drive between Executive Center Drive and Spicewood Springs Road.
 Concurrently with the right-turn overlap improvement at the northbound right-turn movement of
 Wood Hollow Drive to Spicewood Springs Road, restripe Wood Hollow Drive between
 Executive Center Drive and Spicewood Springs Road to allow two northbound lanes, one
 southbound lane, and bike lanes on both sides of the roadway. Restricting parking and
 extending the northbound right-turn lane will maximize the operations at the northbound
 approach of Wood Hollow Drive at Spicewood Springs Road.
- Spicewood Springs Road & Loop 1 southbound frontage road. Provide a free, channelized operation at the southbound right-turn movement from Loop 1 SBFR to Spicewood Springs Road (westbound). On Spicewood Springs the existing pavement can accommodate a free movement; however, there are design constraints due to the existing bike lane. Where feasible, an eight foot wide (8') sidewalk will be provided along Mo-Pac Southbound Frontage Road. Any improvements at Mo-Pac Frontage Road are subject to TxDOT approval.
- Spicewood Springs Road & Loop 1 southbound frontage road. Provide striping and vertical panels (or other barrier) at the southbound receiving lanes of Loop 1 southbound frontage road to facilitate a free eastbound right-turn movement from Spicewood Springs Road to Loop 1 southbound frontage road. This movement is currently channelized and a merge with Loop 1 southbound frontage road can be accomplished with existing pavement. Twelve foot (12') wide receiving lanes should be maintained along Mo-Pac southbound frontage road. Where feasible, an eight foot wide (8') sidewalk will be provided along Mo-Pac southbound frontage road. Any improvements at Mo-Pac Frontage Road are subject to TxDOT approval.
- Executive Center Drive & Wood Hollow Drive. Implement stop-control at the northbound and southbound approaches of Wood Hollow Drive. Restripe the northbound approach of Wood Hollow Drive at Executive Center Drive to include a shared thru-left and a shared thru-right. The shared thru-right lanes will also be marked as shared bike lanes. This will require the north-leg of the intersection to be restriped to provide two receiving lanes. Restripe the southbound approach of Wood Hollow Drive at Executive Center Drive to include an exclusive right-turn lane and a shared thru-left. The proposed cross sections can be accomplished using existing pavement.
- Executive Center Drive & Loop 1 southbound frontage road. Construct a southbound right-turn
 deceleration lane on Loop 1 SBFR (upstream of Executive Center Drive). Additionally, install
 vertical panels (or other physical barrier) along Loop 1 Southbound Off-Ramp to prevent
 access to Executive Center Drive from southbound Loop 1 Southbound Off-Ramp and reduce

weaving in this section of the frontage road. Where feasible, an eight foot wide (8') sidewalk will be provided along Mo-Pac Southbound Frontage Road. Any improvements at Mo-Pac Frontage Road are subject to TxDOT approval.

- Executive Center Drive at Loop 1 southbound frontage road. Construct a southbound
 acceleration lane on Loop 1 southbound frontage road, downstream of Executive Center Drive
 to provide a free operation at the eastbound right-turn movement of Executive Center Drive.
 Where feasible, an eight foot wide (8') sidewalk will be provided along Mo-Pac Southbound
 Frontage Road. Any improvements at Mo-Pac Frontage Road are subject to TxDOT approval.
- Greystone Drive & Loop 1 southbound frontage road. Construct a southbound right-turn
 deceleration lane on Loop 1 southbound frontage road (upstream of Greystone Drive). The
 proposed southbound right-turn deceleration lane will mitigate the impact of site traffic at
 eastbound approach by removing vehicles turning right from the southbound thru lane. Where
 feasible, an eight foot wide (8') sidewalk will be provided along Mo-Pac Southbound Frontage
 Road. Any improvements at Mo-Pac Frontage Road are subject to TxDOT approval.
- Far West Boulevard & Hart Lane. Widen the northbound approach of Hart Lane to a five-lane cross-section at the intersection of Far West Boulevard. The northbound approach should include an exclusive left-turn lane, exclusive thru lane, and exclusive right-turn lane; two southbound receiving lanes with remain. Concurrent with the widening, a five foot (5') wide sidewalk should be reconstructed adjacent to the northbound approach of Hart Lane. Restripe the southbound approach of Hart Lane to include an exclusive left-turn lane, exclusive thru lane, and shared thru-right lane; a single northbound receiving lane will remain.
- Far West Boulevard & Wood Hollow Drive. Provide a right-turn overlap operation at the northbound right-turn movement from Wood Hollow Drive to Far West Boulevard. Restripe the northbound approach to extend the existing right-turn lane.
- Far West Boulevard & Loop 1 southbound frontage road. Provide a free, channelized operation at the southbound right-turn movement from Loop 1 southbound frontage road to Far West Boulevard (westbound). The existing lane configurations can accommodate a free operation because there are three westbound receiving lanes. The right-turn-only lane along Far West Boulevard is recommended to be restriped as a shared thru-right lane between Loop 1 and the first driveway (approximately 400'). Where feasible, an eight foot wide (8') sidewalk will be provided along Mo-Pac southbound frontage road. Any improvements along Mo-Pac are subject to TxDOT approval.

Developer proposed Phase 2 (2020) improvement:

• Far West Boulevard & Wood Hollow Drive Adjust signal timing at the intersection of Far West Boulevard and Wood Hollow Drive.

Developer proposed Phase 3 (2022) improvements:

- Executive Center Drive & Wood Hollow Drive. Restripe the eastbound approach of Executive
 Center Drive at Wood Hollow Drive to include a shared thru-left and a shared thru-right. The
 shared thru-right lanes will also be marked as shared bike lanes. This will require the east leg
 of the intersection to be restriped to provide two receiving lanes. Restripe the westbound
 approach of Executive Center Drive at Wood Hollow Drive to include an exclusive right-turn
 lane and a shared thru-left.
- Far West Boulevard & Wood Hollow Drive. Restripe the eastbound approach of Far West Boulevard at Wood Hollow Drive. The outside lane of the eastbound approach is currently striped as an exclusive right-turn lane and there are three eastbound receiving lanes. To prevent weaving downstream of Wood Hollow Drive the City should consider restriping the outside lane of Far West Boulevard as a shared thru-right until Loop 1 SBFR.

Developer proposed Phase 4 (2024) improvements:

- Executive Center Drive & Hart Lane. Restripe the westbound approach of Executive Center
 Drive at Hart Lane to include two lanes: exclusive left-turn lane and exclusive right-turn lane.
 This improvement will allow the left-turn and right-turn movements to operate independently
 and improve the LOS of this approach.
- Hart Lane between Executive Center Drive and Spicewood Springs Road. Restripe Hart Lane between Executive Center Drive and Spicewood Springs Road to provide a southbound leftturn bay from Hart Lane to Executive Center Drive. The storage provided in this bay will be minimal as space must be preserved to accommodate the dual left-turn lanes at the northbound approach from Hart Lane to Spicewood Springs Road.
- Executive Center Drive & Wood Hollow Drive. Consider installing a fully actuated traffic signal
 at the intersection of Executive Center Drive and Wood Hollow Drive. The City should consider
 split phase operation for northbound and southbound approaches. The recommended all-way
 stop should remain and be monitored until the signal is necessary.
- Greystone Drive & Hart Lane. Restripe the southbound approach of Hart Lane at Greystone
 Drive to include two thru lanes. This will require the south-leg of the intersection to be restriped
 to provide two receiving lanes. A cross-section which will accommodate three travel lanes and
 two bike lanes can be accomplished using existing pavement.
- Greystone Drive & Wood Hollow Drive. Restripe the northbound approach of Wood Hollow
 Drive at Greystone Drive to include two thru lanes. This will require the north-leg of the
 intersection to be restriped to provide two receiving lanes. A cross-section which will
 accommodate three travel lanes and two bike lanes can be accomplished using existing
 pavement.
- Far West Boulevard & Wood Hollow Drive. Adjust signal timing at the intersection of Far West Boulevard and Wood Hollow Drive.

As a part of the TIA, the applicant provided probable cost estimates to perform the identified improvements. These cost estimates were used to determine percentage cost participation ('prorata') from the developer. The following tables present the description, probable cost, percentage of site related traffic assigned to the location, along with the developer's estimate of the fiscal contribution (according to overall traffic volumes).

	Phase 1 - 2018 in	nprovements		
Location	Improvement Description	Probable Cost (\$)	Site Traffic (%)	Pro-Rata Cost Share (\$)
1. Spicewood Springs Road & Hart Lane (2018)	Install a fully actuated traffic signal.	\$420,000	11.0%	\$46,200
2. Spicewood Springs Road & Hart Lane (2018)	Widen Hart Lane.	\$150,000	11.0%	\$16,500
3. Spicewood Springs Road & Wood Hollow Drive (2018)	Extend westbound left-turn bay.	\$50,000	42.5%	\$21,250
4. Spicewood Springs Road & Wood Hollow Drive (2018)	Provide a right-turn overlap operation.	\$10,000	29.3%	\$2,930
5. Executive Center Drive & Wood Hollow Drive (2018)	Restripe Wood Hollow Drive.	\$20,000	40.1%	\$8,020
6. Spicewood Springs Road & Loop 1 SBFR (2018)	Create channelized turn from Mo-Pac to Spicewood Springs	\$175,000	7.3%	\$12,780
7. Spicewood Springs Road & Loop 1 SBFR (2018)	Provide channelized turn from Spicewood Springs Road to Mo- Pac SBFR	\$35,000	7.3%	\$2,560
8. Executive Center Drive & Wood Hollow Drive (2018)	Install multi-way stop signs	\$10,000	52.6%	\$5,260
9. Executive Center Drive & Loop 1 SBFR (2018)	Construct right turn deceleration lane	\$160,000	77.5%	\$124,000
10. Executive Center Drive & Loop 1 SBFR (2018)	Construct acceleration lane.	\$130,000	85.6%	\$111,280
11. Greystone Drive & Loop 1 SBFR (2018)	Construct right turn deceleration.	\$160,000	39.5%	\$63,200

Phase 1 - 2018 improvements (con't)					
Location	Improvement Description	Probable Cost (\$)	Site Traffic (%)	Pro-Rata Cost Share (\$)	
12. Far West Blvd & Hart Lane (2018)	Widen northbound approach and restripe southbound approach Hart Lane	\$110,000	8.6%	\$9,460	
13. Far West Blvd & Wood Hollow Drive (2018)	Provide a right-turn overlap operation	\$20,000	5.8%	\$1,160	
14. Far West Blvd & Loop 1 SBFR (2018)	Provide channelized turn from Loop 1 SBFR to Far West Boulevard	\$175,000	7.5%	\$13,130	
Phase I Improvements Subtotal		\$1,625,000	-	\$437,730	

Phase 2 - 2020 improvement							
Improvement (Year)	Description	Probable Cost (\$)	Site Traffic (%)	Pro-Rata Share (\$)			
1. Far West Boulevard & Wood Hollow Drive (2020)	Adjust signal.	\$10,000	5.6%	\$560			
	Phase 3 - 2022 in	nprovements					
Executive Center Drive & Wood Hollow Drive (2022)	Widen Executive Center Drive to a four-lane cross- section	\$20,000	52.6%	\$10,520			
2. Far West Boulevard & Wood Hollow Drive (2022)	Restripe the eastbound approach	\$10,000	3.0%	\$300			
	Phase 4 - 2024 improvements						
Executive Center Drive & Hart Lane (2024)	Restripe westbound approach of Executive Center Drive and Hart Lane	\$20,000	79.1%	\$15,820			
2. Executive Center Drive & Hart Lane (2024)	Restripe Hart Lane	\$20,000	79.1%	\$15,820			
3a. Executive Center Drive & Wood Hollow Drive (2024)	Conduct traffic signal warrant analysis.	\$10,000	52.6%	\$5,260			
3b. Executive Center Drive & Wood Hollow Drive (2024)	Install a fully actuated traffic signal	\$250,000	52.6%	\$131,500			

Phase 4 - 2024 improvements (con't)						
4. Greystone Drive & Hart Lane (2024)	Restripe southbound approach.	\$20,000	9.7%	\$1,940		
5. Greystone Drive & Wood Hollow Drive (2024)	Restripe northbound approach.	\$20,000	40.2%	\$8,040		
6. Far West Boulevard & Wood Hollow Drive (2024)	Adjust signal timing.	\$10,000	5.6%	\$560		
Phase II, III, & IV Improvements Subtotal		\$390,000	-	\$190,320		
Recommended Impro	\$2,015,000	-	\$628,000			

City of Austin Staff recommended improvements

Staff discussed the need to implement physical improvements concurrently with the development of the site and thus prioritized the infrastructure elements accordingly. Staff recognized and acknowledged the need to distinguish site related traffic congestion from larger (or preexisting) regional traffic concerns. Therefore, after review and acceptance of the TIA findings, the following terms were set forth:

- 1) Wherever feasible, staff prefers to have the developer construct physical improvements instead of posting fiscal towards the estimated costs of construction.
- 2) In locations where more than one improvement is identified, staff would accept a fully constructed single improvement in the place of several partial funded elements.
- Texas Department of Transportation facilities also serve the interests of the general traveling public and are therefore incorporated into City of Austin objectives for site mitigation.

Conclusions and recommendations

While not all of the identified improvements necessary will be constructed as part of this site development, review staff are in agreement that the applicant will satisfactorily mitigate the impact determined in the TIA document if certain critical improvements are made as a part of site development. Therefore, staff recommends approval of this zoning application subject to the following conditions:

- 1) Prior to the 3rd Reading of City Council, the applicant should commit to constructing the following identified improvements as part of their site development application:
 - A. Within 1 year of the effective date of the rezoning ordinance, the owner will pay \$420,000 to the City of Austin Transportation Department, to be used exclusively for the installation of a traffic signal at Hart Lane and Spicewood Springs Road

- B. The owner will enter into an agreement with TxDOTⁱ to complete the work for the following three projects that were identified in the TIA;
 - Construct free eastbound right-turn movement from Spicewood Springs Road to Mo-Pac (Loop 1) southbound frontage road,
 - Construct a southbound right-turn deceleration lane on Mo-Pac (Loop 1) southbound frontage road (upstream of Executive Center Drive), and
 - iii. Construct a southbound acceleration lane on Mo-Pac (Loop 1) southbound frontage road (downstream of Executive Center Drive).
- 2) Per the Texas Dept. of Transportation (TxDOT), design of all elements which access the southbound frontage road of Mo-Pac (Loop 1) is subject to review for compliance with safety standards and requirements.
- 3) Development of this property should not vary from the approved uses, nor exceed the approved intensities and estimated traffic generation assumptions within the TIA document (dated July 26, 2016), including land uses, trip generation, trip distribution, traffic controls and other identified conditions.

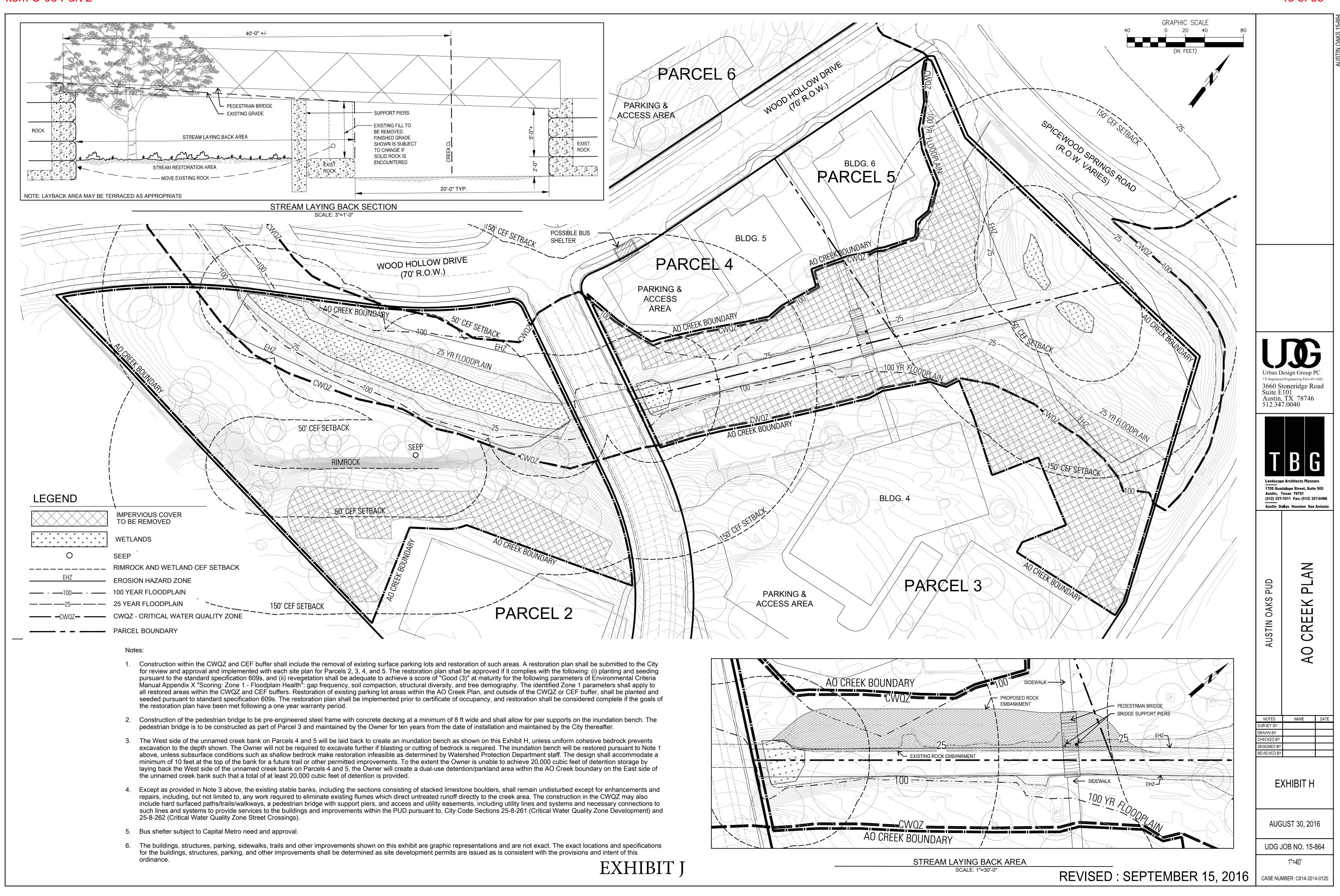
If you have any questions or require additional information, please contact me at (512) 974 – 2208. Thank you.

Scott A. James, P.E., PTOE

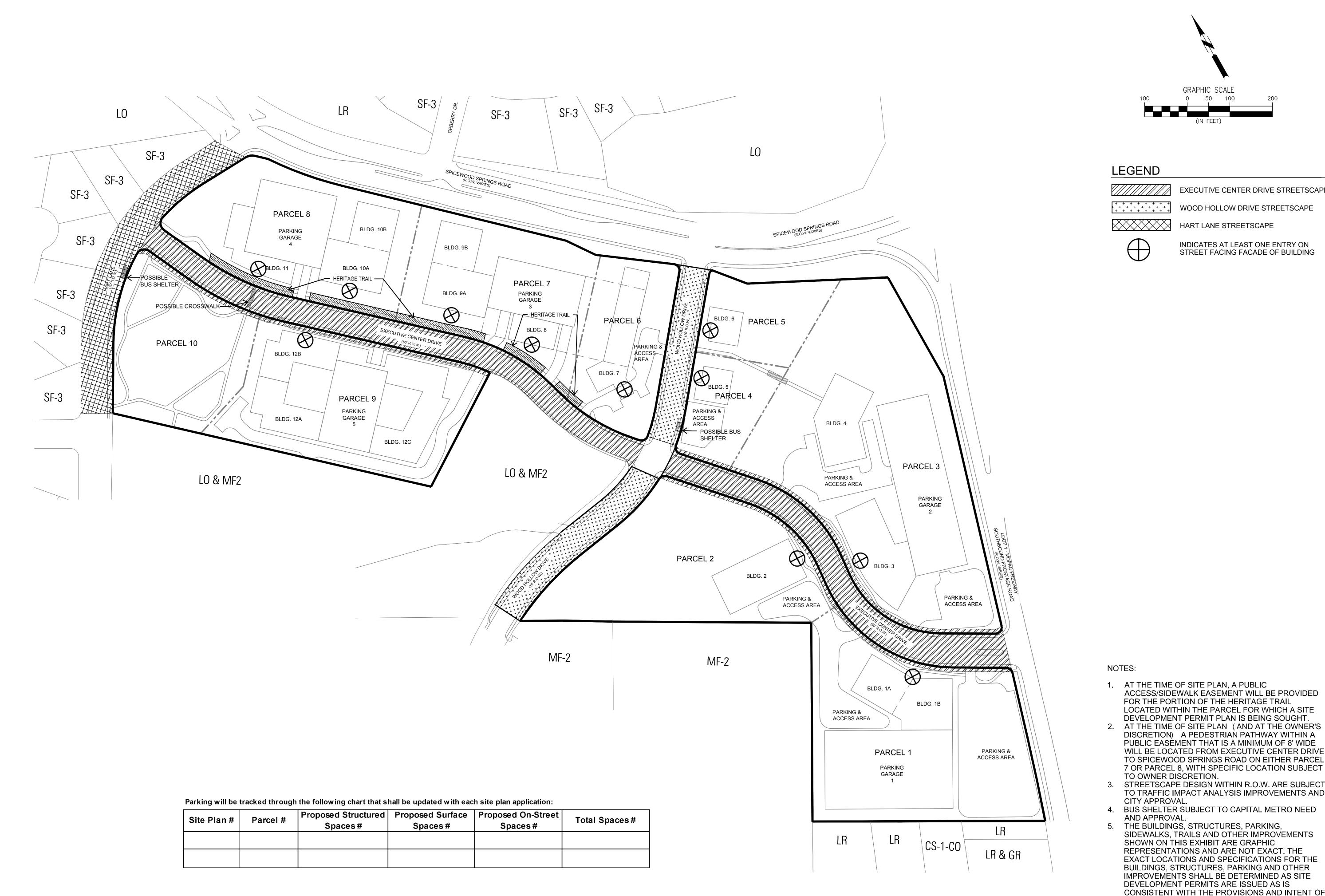
Development Services Department

Land Use Review Division/ Transportation Review

¹ The implementation of the construction will be done through an agreement with TxDOT that either (i) allows for the owner to design and construct the improvements with TxDOT approval or (ii) permits the owner to pay TxDOT to construct the improvements



Item C-03 Part 2 49 of 55



LEGEND

EXECUTIVE CENTER DRIVE STREETSCAPE

HART LANE STREETSCAPE

WOOD HOLLOW DRIVE STREETSCAPE

INDICATES AT LEAST ONE ENTRY ON STREET FACING FACADE OF BUILDING

ACCESS/SIDEWALK EASEMENT WILL BE PROVIDED

LOCATED WITHIN THE PARCEL FOR WHICH A SITE

DEVELOPMENT PERMIT PLAN IS BEING SOUGHT.

DISCRETION) A PEDESTRIAN PATHWAY WITHIN A PUBLIC EASEMENT THAT IS A MINIMUM OF 8' WIDE WILL BE LOCATED FROM EXECUTIVE CENTER DRIVE

TO SPICEWOOD SPRINGS ROAD ON EITHER PARCEL 7 OR PARCEL 8, WITH SPECIFIC LOCATION SUBJECT

TO TRAFFIC IMPACT ANALYSIS IMPROVEMENTS AND

SIDEWALKS, TRAILS AND OTHER IMPROVEMENTS

EXACT LOCATIONS AND SPECIFICATIONS FOR THE

CONSISTENT WITH THE PROVISIONS AND INTENT OF

BUILDINGS, STRUCTURES, PARKING AND OTHER IMPROVEMENTS SHALL BE DETERMINED AS SITE

REPRESENTATIONS AND ARE NOT EXACT. THE

DEVELOPMENT PERMITS ARE ISSUED AS IS

FOR THE PORTION OF THE HERITAGE TRAIL

THE BUILDINGS, STRUCTURES, PARKING,

SHOWN ON THIS EXHIBIT ARE GRAPHIC

TO OWNER DISCRETION.

CITY APPROVAL.

AND APPROVAL.

THIS ORDINANCE.





Austin Dallas Houston San Antonio

AN AP OAKS AUSTIN \mathcal{L}

NOTES NAME DATE SURVEY BY CHECKED BY DESIGNED BY REVIEWED BY

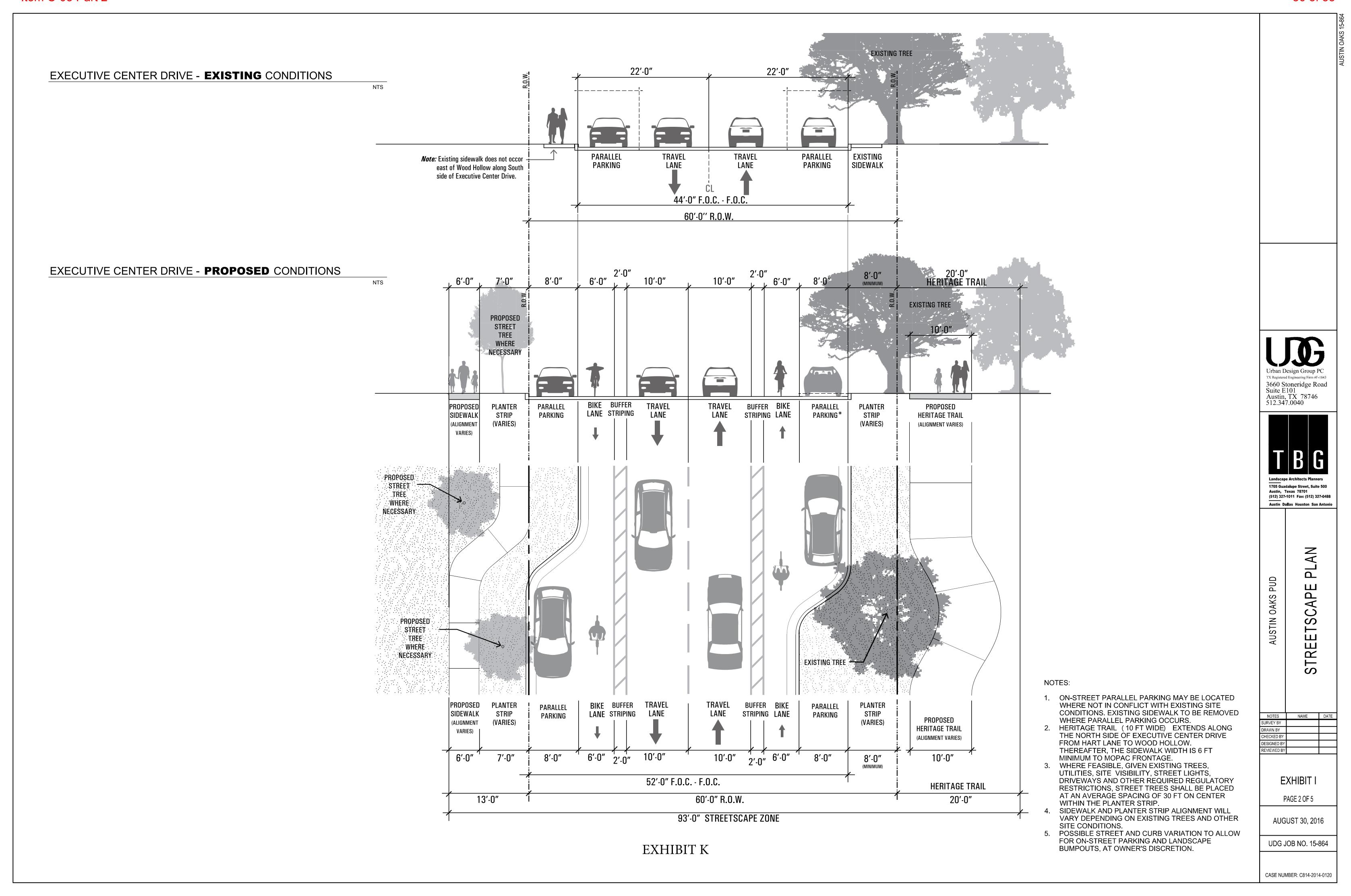
EXHIBIT I

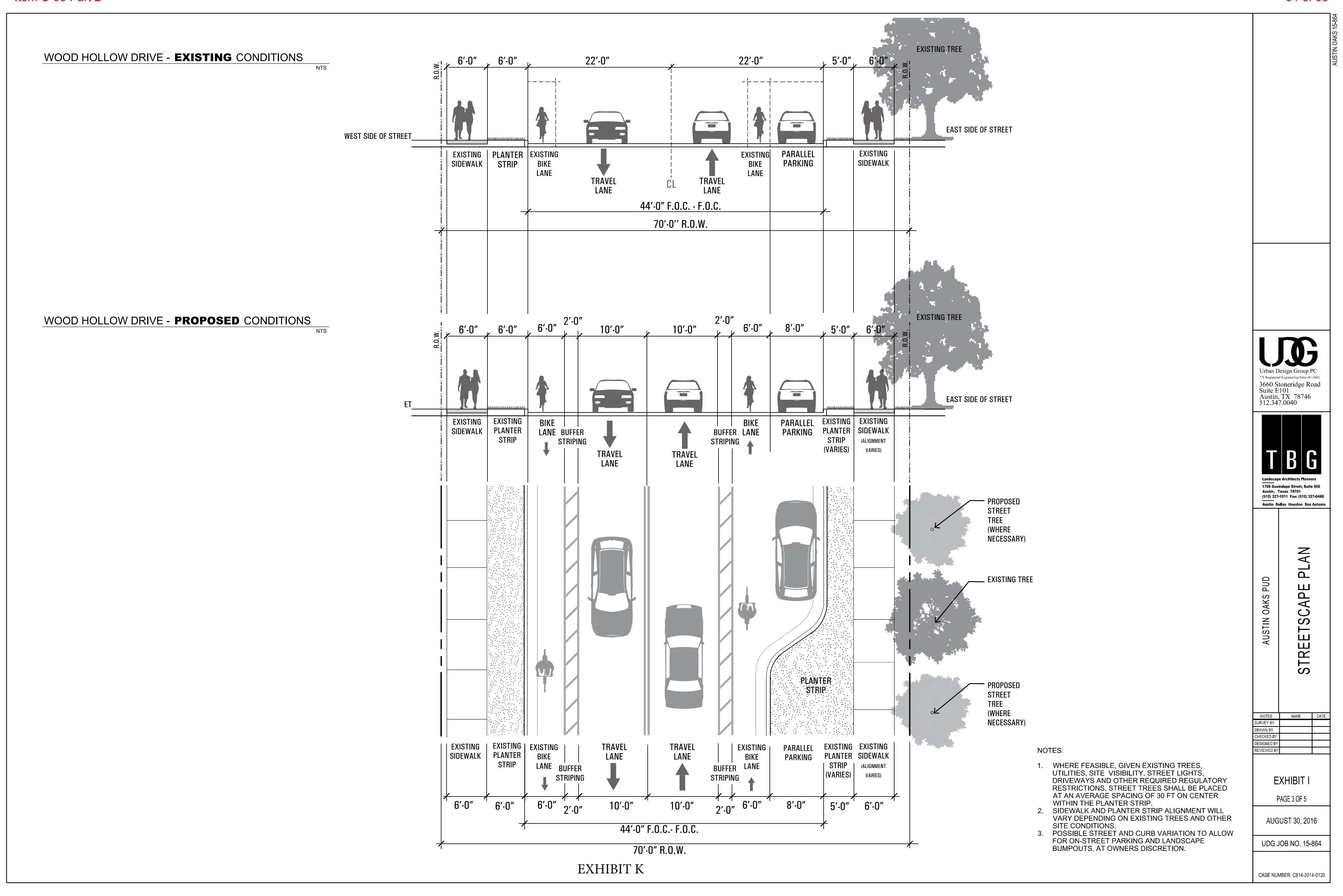
PAGE 1 OF 5

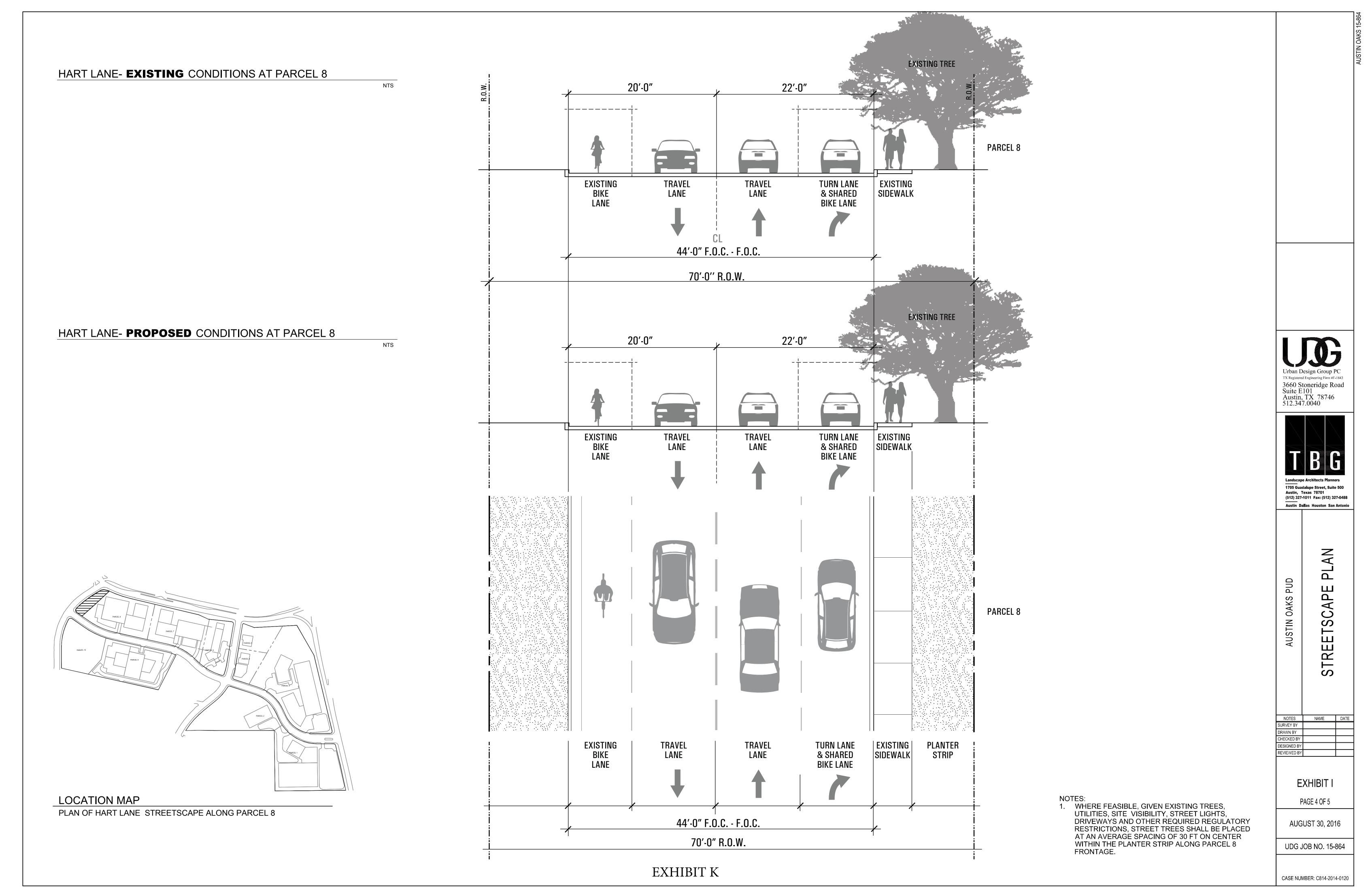
AUGUST 30, 2016

UDG JOB NO. 15-864 1"=100' CASE NUMBER: C814-2014-0120

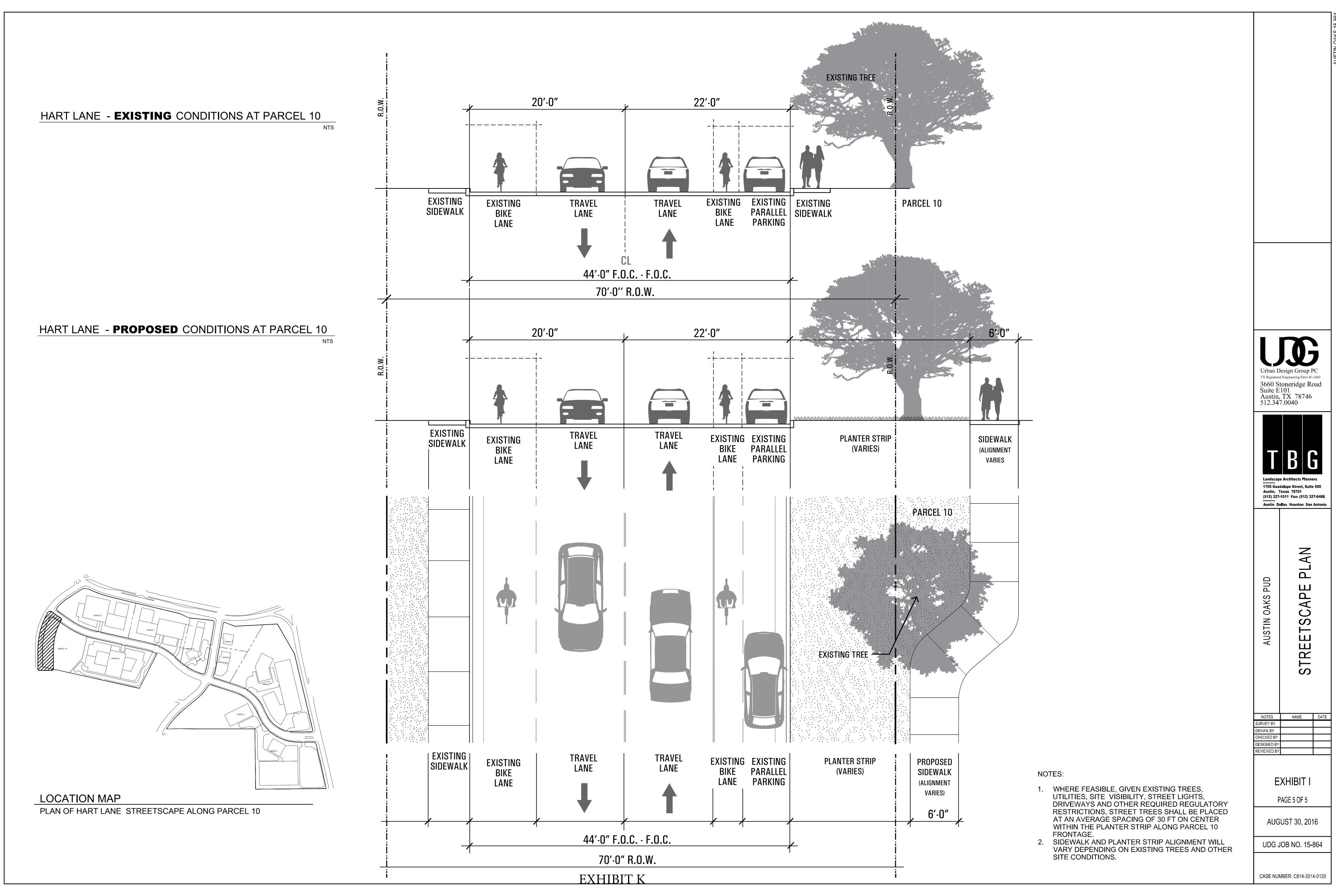
EXHIBIT K

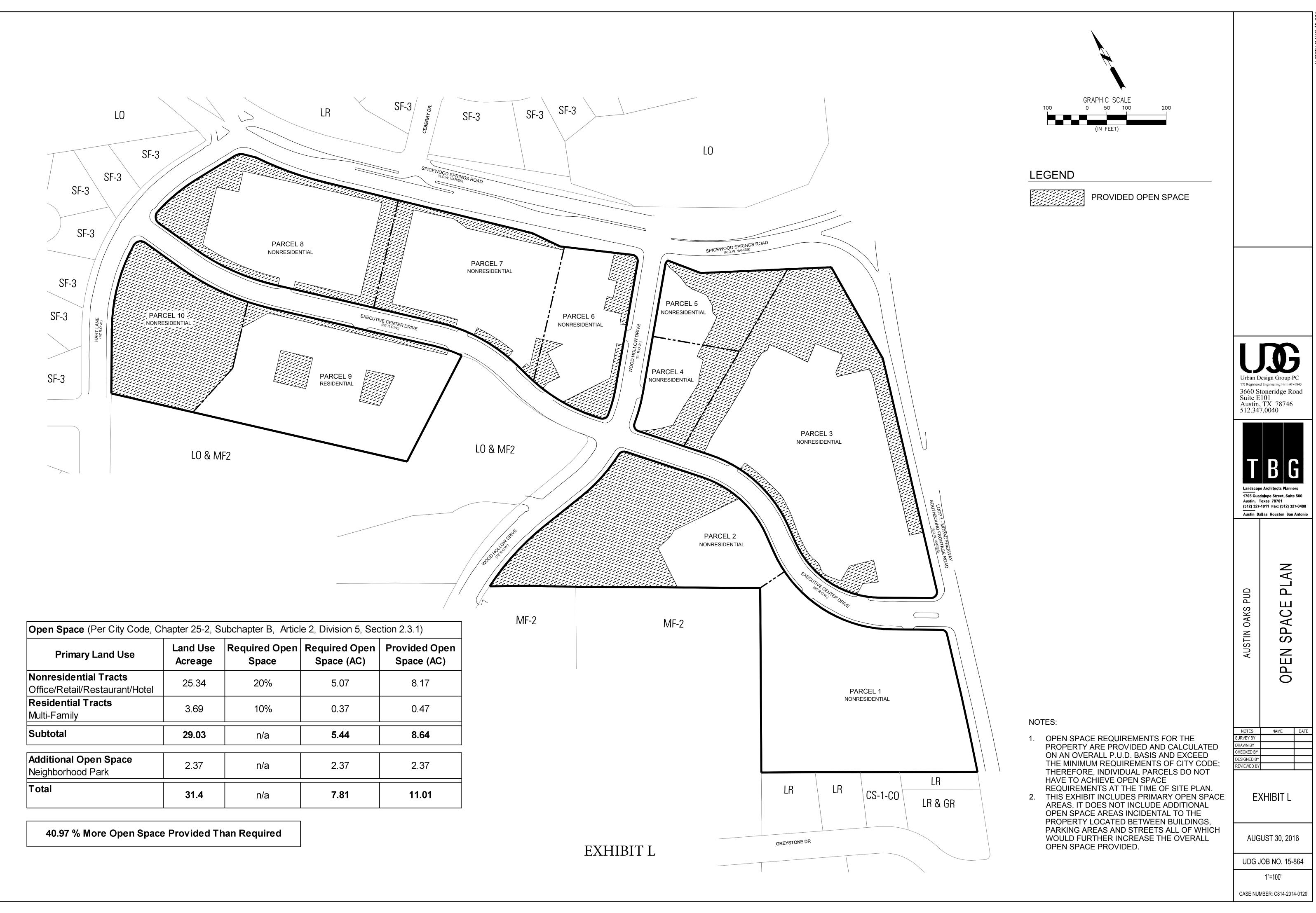






Item C-03 Part 2 53 of 55





Additional information may be found at the link below.

http://www.austintexas.gov/cityclerk/boards commissions/meetings/54 1.htm