

Memorandum

City of Lawrence

Planning & Development Services

TO: David L. Corliss, City Manager

FROM: Planning Staff

Date: February 7, 2012

RE: TA-4-6-11: Synthetic Turf; Draft language to permit the limited use of synthetic turf through Alternative Compliance to meet landscaping requirements in Article 10 of the Development Code

Attachment A: Draft language for TA-4-6-11

Attachment B: Examples showing where synthetic turf could be installed on existing development, based on proposed criteria.

Please place this item on the next available City Commission agenda.

Process History to Date:

5/3/2011: City Commission initiated the text amendment regarding the use of synthetic turf at the applicant's request as part of their consent agenda.

8/24/2011: Planning Commission voted 6 to 2 to forward the text amendment to the City Commission with a recommendation for denial.

9/13/2011: City Commission voted unanimously to defer the item and directed staff to develop language which would permit the limited use of synthetic turf through the existing Alternative Compliance procedure.

Note: Adoption of proposed language requires 4 out of 5 votes since the action would be contrary to the Planning Commission's recommendation.

Paul Werner Architects requested the initiation of a text amendment to the *Land Development Code* to include 'synthetic turf' in the list of landscape materials that may be used to meet the landscape requirements in Article 10 and to revise the definition of 'Landscaping' in Article 17 to include 'synthetic turf'. The request was made in order to maintain recently installed synthetic turf at the Frontier apartment complex being constructed at the intersection of Trail and Frontier. While the site plan was approved with code compliant landscape materials (sod, seed), a routine inspection of the site yielded the installation of the synthetic turf. The owner was informed of the non-compliant material early in its installation and was provided options to conform to the code, including installing the approved plant material, seeking a variance, or requesting a text amendment to revise the applicable sections of the code. The applicant elected to request the initiation of a text amendment and agreed to comply with the standards of the code, following the outcome of the text amendment process, in order to receive temporary certificates of occupancy.

Summary of Code Amendments

1. Synthetic turf would be permitted through the Alternative Compliance process of the Development Code. In keeping with the direction to permit the use of synthetic turf in limited fashion, its use would be limited to no more than 10% of the net area of the property. Please see attached graphics for examples of how the use of synthetic turf could be applied per the criteria of the proposed code.
2. Use standards which would dictate the quality, installation, and replacement requirements of the turf have been developed.
3. Appeals from the Planning Director's determination on a request would continue to be made to the Board of Zoning Appeals to maintain the current process of appealing Alternative Compliance requests to the BZA. (No changes are being proposed to the existing language.)
4. Definitions have been revised to accommodate synthetic turf as an approved material through Alternative Compliance.

Staff and the applicant met several times throughout the process to discuss the use of synthetic turf as a landscape material and to discuss proposed draft language. Several changes proposed by the applicant were accepted and staff believes there is general consensus between applicant and staff regarding the proposed language with the following exceptions provided for the Commission's consideration.

1. Revise proposed Section 20-1007(a)(2) to delete the factors which identify the limited situations in which synthetic turf may be appropriate.

Staff did not accept this change, as these factors will provide useful guidance to both the applicant and staff in determining where synthetic turf may be acceptable.

2. Revise the mitigation plantings noted in proposed Section 20-1011(a)(3) requiring 1 tree and 2 shrubs for each 100 sq ft of synthetic turf which is installed to 1 tree OR 2 shrubs.

One concern with the use of synthetic turf is that it does not meet the purpose of the landscaping section: Section 20-1001 lists the following as purposes of the chapter:

- *"Maintain the City's quality, heritage and character by enhancing its visual appearance through the use of landscaping."*
- *"Enhance environmental conditions by providing shade, air purification, oxygen regeneration, groundwater recharge, filtering of stormwater runoff, abatement of noise, glare and heat."*

The proposed standards require the mitigation of synthetic turf through the planting of additional landscape materials to insure that air purification and oxygen regeneration occur as with the use of natural vegetation and to provide variety to the landscaped area and enhance the City's visual appearance.

3. Revise the appeal process from the BZA to the City Commission as suggested by the Commission at their September 13, 2011 meeting.

This suggestion would introduce an inconsistency in how requests for Alternative Compliance are appealed. Under the current code, appeals related to the use of Alternative Compliance are heard by the Board of Zoning Appeals since consideration of a

request for Alternative Compliance is similar to the review of a variance request as they both vary from the standard code requirements.

The applicant's suggested language would require that appeals for the use of synthetic turf be heard by the City Commission. Often, there are multiple elements to a request for Alternative Compliance and all parts of a request should have the same appeal process. If the Commission desires to revise the language so that appeals related to synthetic turf are directed to the City Commission, staff recommends that ALL appeals from the Planning Director's determination on Alternative Compliance requests be directed to the City Commission rather than only those dealing with synthetic turf.

4. Add a new subsection: 'Effective Date'.

"The effective date of this ordinance is the date of its publication in the newspaper of record. All synthetic turf installed in Douglas County prior to that date shall be deemed approved, but shall be subject to the maintenance, replacement and enforcement provisions of Section 20-1011(b)."

This text amendment, TA-4-6-11, was initiated by the applicant in response to an enforcement action of the City regarding non-compliant installation of synthetic turf at Frontier Apartments. The approved site plan for the property, SP-9-51-10, stated that drought-tolerant plants and seed/sod would be utilized for landscaping; however, during a site plan inspection early in the process of installing the synthetic turf, staff noticed that synthetic turf was being installed and notified the applicant of the code issue.

Staff knows of two locations where synthetic turf has been used – the Oread Hotel, which was approved via site plan approval and in limited fashion, and Frontier Apartments, which was installed throughout the site without approval and which generated this text amendment request. Accepting the applicant's proposed language would render Frontier Apartments compliant with the code. Staff does not support this language since its effect is contrary to the direction to use synthetic turf in limited fashion and staff has received no direction from the Planning or City Commissions to accommodate the use of the turf at Frontier Apartments as it is currently installed. Additionally, staff granted the apartment project temporary certificates of occupancy with the owner's understanding that the amendment may require revisions to the site related to the turf, including the potential for its complete removal.

If the City Commission desires to accept the applicant's language to allow all synthetic turf installed prior to adoption of this amendment (effectively only Frontier Apartments), then staff would recommend the language be revised as follows and included in Section 20-1007(b)(2):

"All synthetic turf installed prior to the effective date of this section shall be deemed approved, but shall be subject to the maintenance, replacement and enforcement provisions of Section 20-1011(d)."

PROPOSED TEXT AMENDMENT LANGUAGE

(new proposed language is shown in *bold italics*, deleted text is shown ~~struckthrough~~.
Comment on relocated text in red)

20-1007 ALTERNATIVE COMPLIANCE

(a) Applicability

- (1) Alternative methods of compliance with the standards of this article may be used when one or more of the following conditions exist:
 - (i) Topography, soil, vegetation, space constraints or other site conditions are such that full compliance is impossible or impractical, or improved environmental quality would result from the alternative compliance.
 - (ii) Safety considerations make alternative compliance necessary.
- (2) *Alternative compliance may be approved for the limited use of Synthetic Turf in locations where the Planning Director has determined that natural vegetation may be difficult to establish and maintain due to one of the following:*
 - (i) *Narrow area available for plantings, such as narrow strips between a split-path driveway, or areas between a building and parking lot;*
 - (ii) *Areas that may be heavily or totally shaded, such as areas between buildings; or*
 - (iii) *High-traffic areas.*
- (3) Alternative compliance is limited to the specific site under consideration and does not establish precedent for or acceptance of alternative compliance plans on other sites. (moved from 20-1007(b) for clarity)

(b) Approval Criteria

- 1) To be approved, an alternative compliance landscape plan shall be equal to or exceed traditional compliance in terms of quality of materials and visual effect, effectiveness in meeting the purpose established in Section 20-1001, and material durability and hardness.
 - a. *In addition to the criteria noted above, an alternative compliance landscape plan for the use of Synthetic Turf shall also comply with the standards in Section 20-1011.*

(c) Procedure

- (1) A request for alternative compliance shall be accompanied by a landscape plan with sufficient explanation and justification (written, graphic, or both) to allow appropriate evaluation and decision.
 - (i) *A request to utilize Synthetic Turf through alternative compliance shall be accompanied by the following:*

- *Information establishing the unsuitability of the area for the establishment and maintenance of living vegetation.*
 - *A landscape plan which identifies and dimensions the areas to be surfaced with Synthetic Turf, and notes this area in the landscape summary along with the total percentage of the areas to be surfaced with Synthetic Turf related to the total net site area.*
 - *A copy of the Synthetic Turf manufacturer's warranty and product specifications.*
 - *The installer's contact information and credentials.*
 - *A sample of the proposed Synthetic Turf.*
- (2) A request for alternative compliance shall be submitted to the Planning Director at the time the landscape plan is submitted. The Planning Director is authorized to approve the alternative compliance plan if the Director determines that one or more of the conditions of Subsection (a) hereof exist, the approval criteria of Subsection ~~(c)~~(b) hereof are satisfied, and the purposes and overall standards of this Article will be met by implementation of the plan.
- (3) Appeals of the decisions of the Planning Director may be filed with the Board of Zoning Appeals.

20-1009 LANDSCAPE MATERIAL STANDARDS

(b) ~~Artificial~~-**Synthetic Plants**

No ~~artificial~~-*synthetic plants, shrubs, trees, or other* vegetation may be used to meet any standards of this section *with the exception of Synthetic Turf when approved through alternative compliance.*

20-1011 SYNTHETIC TURF STANDARDS

The use of Synthetic Turf may be approved through alternative compliance per the criteria in Section 20-1007. The following standards are the minimum required standards for Synthetic Turf when approved with alternative compliance.

(a) *Use Standards*

- (1) *The use of Synthetic Turf is to be limited to the greatest extent possible through appropriate site design. In no event shall the amount of Synthetic Turf utilized on a site exceed 10% of the total net site area.*
- (2) *Additional landscaping shall be provided elsewhere on site in the following ratio when Synthetic Turf is used: 1 tree and 2 shrubs per each 100 square feet of Synthetic Turf.*

(b) *Product Specifications:*

- (1) *Synthetic Turf shall be green in color and have a minimum 8 year 'no fade' warranty.*
- (2) *Synthetic Turf shall be of a type known as 'cut pile infill' and shall be manufactured from polyethylene monofilament fibers attached to a permeable backing. The Planning Director may approve another material if the product has been certified to meet applicable environmental and*

health regulations regarding lead content. (Nylon based grass blades are not permitted.)

- (3) Infill medium shall consist of Durafill or coated sand or 70% rubber/30% sand by volume. Rubber infill made from old tires is not acceptable.*
- (4) Minimum infill weight: 6 lbs per sq ft*
- (5) Minimum infill height: 75% of the height of the turf or a minimum of 1.5".*
- (6) Minimum pile height: 2 inch*
- (7) Machine gauge: 3/4" to 3/8"*
- (8) Minimum fiber face weight: 40 oz per sq yard of unfilled Synthetic Turf*
- (9) Minimum permeability (drainage rate): carpet itself: 50" water penetration per square yard per hour; total installation: 14" water penetration per square yard per hour.*

(c) Installation:

- (1) All Synthetic Turf shall be installed over a minimum of two-inch compacted gravel or comparable material.*
- (2) Synthetic Turf shall be anchored at all edges and seams*
- (3) All electric, water, gas and irrigation lines and conduits shall be run outside the perimeter of a Synthetic Turf installation with the exception of those that provide direct service to the structure on site.*
- (4) Synthetic Turf may not be installed within the City right-of-way.*
- (5) Synthetic Turf shall be installed by a certified licensed professional through the Association of Synthetic Grass Installers (ASGI) or by a contractor with a valid contractor's license, and shall be installed pursuant to manufacturer's specifications.*

(d) Maintenance , replacement and enforcement:

- (1) The Synthetic Turf shall be maintained to resemble a well-kept lawn, in a green fadeless condition free of weeds, debris, tears, holes, and impressions. To achieve this, the ASGI (Association of Synthetic Grass Installers) maintenance guidelines which include, but are not limited to, guidelines related to the grooming and cleaning of Synthetic Turf areas, and the use of herbicides to combat weed growth are recommended.*
- (2) In order to reduce the amount of organic materials that collect on the Synthetic Turf surface, bird feeders, fruit and nut trees, heavily flowering bushes and plants that shed large quantities of materials should not be located near an area that is surfaced with Synthetic Turf.*
- (3) All Synthetic Turf approved with alternative compliance will be subject to periodic inspection by the Planning Director to insure the turf is being maintained to resemble a well kept lawn.*

- (4) *When, in the opinion of the Planning Director, Synthetic Turf has not been installed, maintained, or replaced to comply with the approved final landscape plan the Planning Director shall issue a written order to the alleged violator. The order shall specify the sections of the Development code of which the individual is in violation and will allow the violator 60 days in which to replace the turf with other Synthetic Turf or with natural landscaping, at the Planning Director's discretion.*
- (5) *Should Synthetic Turf not be installed, maintained and replaced as needed to comply with the approved landscape plan, the owner will be considered in violation of the terms of the approved landscape plan. Violations of the terms and conditions of the approved landscape plan will be considered a violation of this Development Code subject to the penalties established in this Development Code.*

Section 20-1701

Landscape Material: ~~Such~~ Living material *such* as trees, shrubs, ground cover/vines, Turf Grasses; ~~and~~ non-living *organic based* material such as rocks, pebbles, sand, bark, brick pavers, earthen mounds (excluding pavement); ~~and/or~~ other items of a decorative or embellishing nature such as fountains, pools, walls, fencing, sculpture, etc.; *and Synthetic Turf when approved through alternative compliance.*

Landscaping: Any combination of living plants such as trees, Shrubs, plants, vegetative Ground cover or turf grasses. May *Landscape Materials and/or other items that* include structural features such as walkways, fences, benches, works of art, reflective pools, fountains or the like. Landscaping shall also include irrigation systems, Mulches, topsoil use, soil preparation, re-vegetation or the preservation, protection and replacement of trees. *In limited applications, the use of Synthetic Turf may be permitted as part of a landscaping plan through alternative compliance.*

Synthetic Turf: *Carpet-like surfacing material manufactured from synthetic fibers which is designed to resemble natural Turf grass.*

Turf or Turf Grass: *Any of various grasses grown to form an upper stratum of soil bound by roots into a thick mat.*

LIMITED USE OF SYNTHETIC TURF

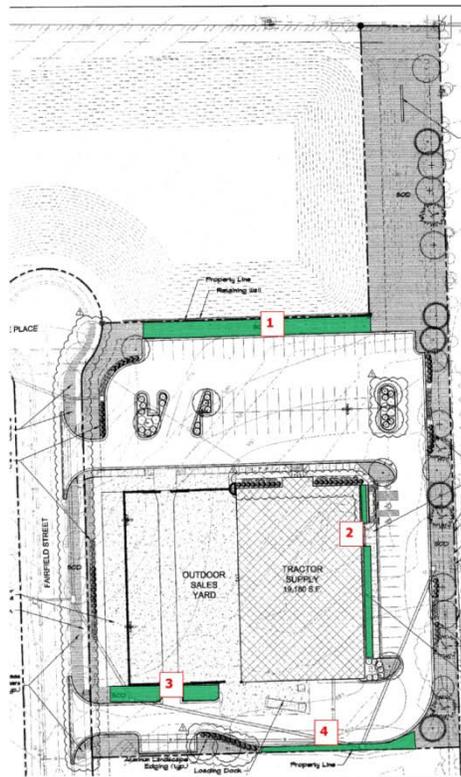
To determine a reasonable limit for the use of synthetic turf, staff reviewed several properties and analyzed the amount of synthetic turf which would be possible with the criteria proposed in Section 20-1007(a)(2). As seen on these examples, the overall design of the site is a principal factor in the amount of synthetic turf which could be necessary. A tight site with very small landscape areas could have more areas that fit the criteria for synthetic turf than a site which was designed with more open area. In some cases, adjustments to the site's design may reduce the need for synthetic turf.

The following table lists the various sites and notes the percentage of the net area which could fit the criteria for synthetic turf based on the development pattern of these sites. Based on these examples, the draft language limits the use of synthetic turf to no more than 10% of the total site.

Site	Percentage of site which could meet the criteria for synthetic turf*
Frontier Apartments	10.9%
Tractor Supply	7.6%
Overland Addition Apartments	.3%
The Exchange	2.3%
The Grove	4.3%

Please note: Percentages in this table and dimensions in the following tables are estimates due to the irregular shapes of the landscape areas.

TRACTOR SUPPLY		
LOCATION	DIMENSIONS	AREA
1	15' X 200'	3000 sq ft
2	7' X 30' + 7' X 100'	910 sq ft
3	10' x 30' + 10' x 50'	800 sq ft
4	5' X 150'	750 sq ft
Total		5460 sq ft
Area which might qualify for synthetic turf		5460 sq ft
Total Site Area		144,258 sq ft
% of site which could meet the criteria for synthetic turf		7.6%



The Exchange at Lawrence SP-01-01-08		
LOCATIO N	DIMENSIONS	AREA
1	20' x 60'	120 sq ft
2	8' x 50' + 10' x 60' + 8' x 50' + 6' x 50' + 2(5'x10')	1800 sq ft
3	10' x 40' + 10' x 52' + 10' x 50' + 50' x 8'	1820 sq ft
4	(8'x50' + 5'x8') + (70'x8' + 20'x5') + (50'x8' + 5'x8') + (4 (5'x8')) + (5'x8' + 50'x8') + (70'x8' + 20'x5') + (9'x50' + 5' x 8')	3170 sq ft
5	2(55'x8 + 2(5x8)) + 60'x10'	1640 sq ft
6	(8'x50' + 5'x8') + (70'x8' + 20'x5') + (50'x8' + 5'x8') + 2(5'x8')	1560 sq ft
7	2(20'x8')	320 sq ft
8	2(8'x5') + 10'x20' + 50'x 8' + 50'x8' + 10'x20'	1280 sq ft
9	2(8'x5) + 10'x50'	580 sq ft
10	4(8'x5') + 40'x8' (mail)	480 sq ft
11	5'x15' + 15' x 20 + 15'x15' + 15'x50'+ 15'x40'	1950 sq ft
12	100' x 10'	1000 sq ft
13	(8'x50' + 5'x8') + (70'x8' + 20'x5') + (50'x8' + 5'x8') + 10'x50'	1980 sq ft
14	5'x8 + 10'x45' + 10'x50' + 10'x40'	1390 sq ft
15	5'x8' + 50'x10' + 60'x10+ 5'x20' + 5'x8' + 50'x10'	1780 sq ft
16	5'x15' + 15' x 20 + 15'x15' + 15'x50'+ 15'x40'	1950 sq ft
Area which might qualify for synthetic turf		22,820 sq ft
Total Site Area		988,757 sq ft
% of Site which could meet criteria for synthetic turf		2.3%
Graphic on next page		



The Exchange (continued)

The Grove (FDP-7-5-09)		
Area 1	$6(5 \times 10) + (22 \times 5) + 2(10 \times 48)$	1370 sq ft
Area 2	$6(5 \times 10) + (22 \times 5) + 2(10 \times 48)$	1370 sq ft
Area 3	3×40	120 sq ft
Area 4	$(8 \times 50) + (8 \times 40) + (5 \times 15) + (.5(10 \times 15)) + (65 \times 10) + (.5(10 \times 15)) + (3 \times 25) + (5 \times 5)$	1695 sq ft
Area 5	$2(30 \times 10) + 2(25 \times 7) + 2(37 \times 12) + 2(15 \times 5) + 2(10 \times 45) + (30 \times 10)$	3188 sq ft
Area 6	$(55 \times 5) + (65 \times 5) + (55 \times 15) + (65 \times 3) + (15 \times 50)$	2370 sq ft
Area 7	$(55 \times 10) + (50 \times 12) + (25 \times 4) + (8 \times 15)$	1370 sq ft
Area 8	$2(30 \times 3) + 2(10 \times 10)$	380 sq ft
Area 9	10×67	670 sq ft
Area 10	$(12 \times 27) + (7 \times 46) + (5 \times 7) + (20 \times 5) + (35 \times 10) + (20 \times 10)$	1331 sq ft
Area 11	$(50 \times 10) + (55 \times 5) + (32 \times 10) + (5 \times 20) + (60 \times 10) + (5 \times 45)$	2020 sq ft
Area 12	$(7 \times 40) + (15 \times 10) + (10 \times 10) + (5 \times 10) + (17 \times 10)$	750 sq ft
Area 13	$(50 \times 10) + (15 \times 85) + (48 \times 10) + 2(20 \times 5)$	2455 sq ft
Area 14	$(10 \times 65) + (55 \times 10) + (45 \times 10) + (55 \times 20) + (50 \times 10) + (25 \times 7) + (20 \times 60)$	4625 sq ft
Total		23,714 sq ft
Area which might qualify for synthetic turf		23,714 sq ft
Total Site Area		546,716 sq ft
% of Site which could meet criteria for synthetic turf		4.3%

