

Bureau of Engineering

Special Order

August 12, 2015

Special Order No. 07-0515

To All: Deputy City Engineers
Senior Managers
Group Managers
Division/District Managers

Subject: **SYNTHETIC (ARTIFICIAL) TURF FOR USE IN PARKWAYS**

This Special Order establishes minimum requirements for the acceptance of synthetic turf within the City right-of-way. within the area commonly referred to as a "parkway." For the purposes of this Order, the term "parkway" is defined as the area of the street between the back of curb and the sidewalk that is typically planted or landscaped. An "A" permit is required for residential installations (RE, R-1, R-2, and R-3) with the least applicable fees assessed where an express permit process can be applied. For all other zoning installations, the project will be reviewed on a case-by-case basis and a Revocable permit (R-permit) will be required in addition to the "A" permit. Prior to beginning any turf installations, the applicant must satisfy the requirements in this policy.

GENERAL REQUIREMENTS

1. All work shall conform to the Standard Specification for Public Works Construction (SSPWC) as amended by the Los Angeles City Brown Book, latest edition.
2. Synthetic turf shall come with a minimum Manufacturer Warranty of 12 years and shall have features implementing the latest in synthetic turf technology.
3. Only synthetic turf products and associated materials and the installation method listed on the following Bureau of Engineering (BOE) approved products list website: <http://boe.lacity.org/apm/> shall be permitted for use in the public right-of-way. Used, refurbished or secondhand synthetic turf products, materials, and parts, are not allowed to be used or installed. Synthetic turf products, materials, and parts furnished and installed shall be new, high grade and free from defects.
4. Except for residential use, permit application shall be accompanied by project plans and specifications for review and approval by the City Engineer.
5. A manufacturer certified installer is required for the installation of the synthetic turf product and must be a licensed California C-27 contractor, with an optional C-61 specialty contractor license, with a D-12 Subcategory for synthetic products. A warranty certificate is to be issued by the authorized manufacturer warranting agent to property owners, and shall include the name of the synthetic turf product, the name and address of the certified installer company, and that the product was installed by a licensed California contractor certified by the manufacturer.

6. Synthetic turf shall not be installed where the parkway longitudinal slope parallel to the street exceeds 5 percent.
7. Synthetic turf shall be separated from flower beds, vegetated areas, and adjacent natural turf by a 6-inch concrete mow strip, bender board, treated lumber, or other barriers acceptable to the City in order to prevent intrusion of living plant material into the synthetic turf.
8. The Bureau of Engineering's Engineer of Design shall make the final and sole determination on whether a particular product line of synthetic turf meets the requirements of this policy. Final determination for acceptability of use in the public way may also include such criteria as eye appeal of the individual product as well as consistency in appearance with adjacent properties and/or the local community.

MATERIAL REQUIREMENTS

9. Synthetic turf shall conform to the following material requirements:
 - a) Synthetic turf shall be "landscape" type for moderate to heavy traffic use. The color of the synthetic turf shall be green.
 - b) Synthetic turf shall have dust free non-floatable silica sand infill per the manufacturer recommendation or equal. The use of crumb rubber as infill material is not permitted.
 - c) Synthetic turf shall have a minimum percolation rate of 30 inches/hour per American Society for Testing and Materials (ASTM) F1551.
 - d) Synthetic turf shall be made of 100 percent polyethylene or other approved monofilament non-abrasive material, be lead-free, and free of any heavy metals. Synthetic turf shall be tested per ASTM F2765 and ASTM E1613 and shall not exceed the safe harbor levels of California Proposition 65 (California's Safe Drinking Water and Toxic Enforcement Act).
 - e) Synthetic turf shall have a minimum coefficient of friction of 0.6 per ASTM C1028 and shall be UV rated (or have a UV inhibitor and stabilizer) per ASTM G154 and D2616 (> grey scale 3). Synthetic turf shall be non-flammable per ASTM D2859 and shall have a melting temperature of not less than 104 degrees Celsius or 220 degrees Fahrenheit per ASTM D789 and ASTM D7138.
 - f) Synthetic turf fiber shall have a minimum fiber denier or linear density of 9000 denier per ASTM D1907. The fiber or pile thickness shall be not less than 100 micron per ASTM D3218 and the fiber pile height shall be 1.00-2.00 inch tall, per

ASTM D5823. The face weight of the synthetic turf shall be not less than 50 oz./sq. yd., the combined backing(s) weight shall be not less than 25 oz/sq. yd., and a total weight of not less than 75 oz/sq. yd. per ASTM D5848.

- g) The gauge distance between stitch rows shall not be greater than 3/8 inches.
- h) The grab tear strength shall be a minimum of 150 lbs./force both at warp (longitudinal, machine direction) and at weft (transverse, cross machine direction), per ASTM D5034.
- i) Synthetic turf and all its components and materials shall be made in the U.S.A.

INSTALLATION REQUIREMENTS

- 10. Unless otherwise approved by the City Engineer, synthetic turf shall only be installed within the sidewalk parkway, and shall be evenly sloped toward the street.
- 11. Except where existing utility boxes, street lighting, hydrants, and similar elements are located, synthetic turf shall be installed over an aggregate base. All existing grass, plants and landscape irrigation systems within the parkway area shall be removed. After the removal, existing parkway or subgrade shall be free of rocks greater than 1 inch in diameter and free of voids. The removal of existing parkway top soil within 12 inches of and around existing utility boxes, street lighting, hydrants, and similar elements is limited to a maximum depth of 2 inches and a geotextile fabric in conformance with standard plan S-480 shall be placed over the subgrade soil extended 12 inches all around and raised-up against those elements.
- 12. Where existing trees occur within the parkway, the applicant shall maintain a clear opening around the tree consistent with the tree well opening per Standard Plan S-450 Plan Type 1. For plans that do not comply with Standard Plans S-450 the applicant must contact the Bureau of Street Services, Division of Urban Forestry to secure clearance and obtain requirements for any tree irrigation and minimum setbacks of the synthetic turf from the tree base.
- 13. The excavated area shall be treated with an environmentally friendly weed abatement agent. A thicker aggregate sub-base than required by the manufacturer may be installed provided a geotextile fabric is placed at the bottom and walls of the excavation prior to introducing the sub-base. Geotextile shall conform to Standard Plan S-480. Maximum excavation shall not exceed the depth of the adjacent curb. The installation thickness as specified herein includes the thickness of the synthetic turf. Adjust the leveling bed and base thickness as necessary, to complete the backfill. Final top elevation of the synthetic turf fiber shall be approximately 0.5 inch above the adjacent finished surfaces, concrete sidewalk, and concrete curb. The infill sand shall be kept 0.5 inch minimum below the adjacent surfaces.


14. Synthetic turf shall be laid out in the field and inspected and shall be installed over the base in accordance with pre-prepared layout plan. All synthetic turf pile naps shall face the same direction. Turf shall be rolled out by roller at least 2 hours before any seaming procedure and with all wrinkles removed. All scrim or excess material shall be trimmed. All seams and turf backings shall be sewn with high quality cord/thread or connected by using seam tape and glue. No visible gap shall be allowed in any seam. The glue shall be cured before nailing the synthetic turf. Nails or staples shall not be used for the seam connection. No seams parallel to the street are permitted. Only one seam, perpendicular to the street is permitted, provided the smallest portion is 40 percent of total.
15. Perform final trim cuts, and nail the synthetic turf onto the supporting layers below using manufacturer's recommended, and engineer approved landscape nail. Landscape nail shall have galvanized coating and be minimum 6 inches long. The spacing of the landscape nail shall not exceed 6 inches on center.
16. All edges and seams shall be properly secured and inspected for tight fit. Spread infill material of silica sand per manufacturer's recommended infill rate, but not less than 2 lbs per square foot, evenly on synthetic turf and all edges by using a drop spreader. The infill materials shall fill the voids between the fibers and allow the fibers to remain vertical and non directional.

MAINTENANCE REQUIREMENTS

17. All synthetic turf installed in the parkway shall be maintained by the property owner. In cases where an R-permit is required, the property owner shall complete a Covenant and Maintenance Agreement form, executed with the City and recorded with the Los Angeles County Registrar-Recorder. A copy of the recorded Covenant and Maintenance Agreement form must be filed with the City Engineer before a permit can be issued.
18. The synthetic turf shall be maintained, cleaned, re-brushed, and replenished with new approved infill per the manufacturer's recommendations. Any damaged, loose, or raised synthetic turf, anchoring pin and/or landscaping nail shall be promptly repaired. Synthetic turf shall be regularly inspected and disinfected, and remain free of litter or animal droppings and urine, foul odors, bacterial stain, weeds, debris and standing water.

Should you have any questions, please contact the Engineer of Design at (213) 485-4584.

(SAA EA RMK KRR TA)

EXE/ADM/RMK/WCE/SAA/EA/gva Special Order No. 07-0515	Approved By:  Gary Lee Moore, PE, ENV SP City Engineer
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