

North Texas
**Low Impact
Development
DESIGN
Competition**

Using the *integrated* Stormwater Management (iSWM™) Design Approach

Green Roadway Design Challenge

South Lamar, from I45 to Haven, City of Dallas

Program

An approximately one mile stretch of the existing South Lamar Street will be transformed from a variable 4 to 6 lane roadway to incorporate green infrastructure while accommodating scrap metal recyclers and associated traffic on one side of the street and various uses, including some residential, on the other side of the street. The challenge is to design a new 'green' roadway section that incorporates Low Impact Development techniques, reduces impervious cover, promotes infiltration, reduces stormwater pollution through biofiltration or other means, and reduces long term maintenance costs.

Criteria

All project submittals should be designed in accordance with the following guidelines.

General

- Project limits are approximately one mile of South Lamar from I45 to Haven
- The number of vehicle lanes may be no less than four lanes (2 each direction)
- Assume minimum concrete pavement in accordance set forth in City of Dallas Paving Design Manual
- The Right of Way varies but for the most part is around 95 feet wide. You should gather data on existing ROW width and assume that no additional land will be taken for ROW
- Accommodate traffic needs of industrial uses while considering long-term land use plan (Trinity River Comprehensive Land Use Plan)
- Submissions should define proposed maintenance requirements and identify techniques utilized to ultimately reduce maintenance costs
- Design in accordance with the City's development regulations (Chapter 51A and Paving Design Manual) except for Storm Water Quality, Detention, and LID/iSWM criteria
- The Thoroughfare Plan does not need to be followed for this street
- The City of Dallas Bike Plan should be consulted; however, alternative bike accommodations may be made
- Consider on street parking, if determined applicable

- The City of Dallas is in the process of drafting Complete Street guidance – complete street initiatives should be incorporated as appropriate

Stormwater Management Design

- Projects must utilize LID features and practices as the predominant stormwater infrastructure system.
 - Planning, analysis and design of the stormwater management system / LID features and practices shall be in accordance with applicable sections of the *integrated* Stormwater Management (iSWM™) Technical Manual, which may be accessed at <http://iswm.nctcog.org/>. LID practices from other manuals may be used if adapted for North Central Texas conditions (include references in project submittals and presentations).
 - The post-development stormwater runoff characteristics (flow, volume, and velocity) must be below the pre-development characteristics for the 1-yr, 25-yr, and 100-yr storm events. The pre-development hydrograph and associated assumptions are included in the project specific details.
 - Use iSWM *integrated* Site Design Practices to the greatest extent practicable to preserve environmentally sensitive areas and riparian buffers, reduce imperviousness, and maintain infiltrative capacity of soils.
 - Use iSWM Stormwater Controls to provide at least 80% TSS removal for the first 1.5” of stormwater runoff volume (iSWM Water Quality Protection Volume).
 - The following iSWM Stormwater Controls are considered to be LID practices:

| | |
|----------------------|---------------------------|
| • Bioretention Areas | • Infiltration Trenches |
| • Enhanced Swales | • Soakage Trenches |
| • Grass Channels | • Green Roofs |
| • Filter Strips | • Modular Porous Pavement |
| • Planter Boxes | • Porous Concrete |
| • Downspout Drywell | • Rain Barrels |
- Other iSWM Stormwater Controls not listed (i.e. Wet Ponds, Stormwater Wetlands, etc.) may be used as supplemental controls if necessary.
- Submissions and presentations must include a discussion of the Hydrologic Model used and reasons for selecting.
 - Discuss maintainability, marketability, and acceptance by the public of the design submitted.
 - Present an economic evaluation comparing the project’s LID-focused design versus a conventional design for this development.

Supporting Documents

- [Flood Plain](#)

- [iSWM South Lamar](#)
- [Lamar Plat 1](#)
- [Lamar Plat 2](#)
- [Land Use Plan](#)
- [South Lamar Lidar](#)
- [NCTCOG iSWM Technical Manual](#) and [City of Dallas Draft iSWM Criteria Manual](#)
- [Trinity River Balance Vision Plan](#)
- [Trinity River Comprehensive Land Use Plan](#)
- [Trinity River Comprehensive Land Use Plan - Clup Section](#)
- [Paving Design Manual](#)
- [City of Dallas Bike Plan](#)
- [Bid Tabulation - Green Tabulation](#)
- [LIDAR](#)

Storm Drainage Plans

[SDP-1](#)

[SDP-2](#)

[SDP-3](#)

[SDP-4](#)

[SDP-5](#)

[SDP-6](#)

[SDP-7](#)

[SDP-8](#)

[SDP-9](#)

[SDP-10](#)

[SDP-11](#)

[SDP-12](#)

[SDP-13](#)

[SDP-14](#)

[SDP-15](#)