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Background

The City of Dallas approached Hellmuth, Obata & Kassabaum, L.P. (HOK) in 2007 about preparing a concept master plan for a seven mile segment of planned trail in east Dallas. The segment in question is a heavy rail corridor that is no longer in use and has been identified as the Southern Pacific Trail (SoPac Trail) on previous area trail master plans.

The corridor begins near White Rock Lake’s west shore near the end of Lakewood Boulevard extending generally north by north west until crossing White Rock Creek adjacent to the DART light rail trestle bridge north of Royal Lane. With the rail corridor easily defining the route of the SoPac Trail this document focuses on planning for community and user trail connections.

The City tasked HOK with creating a master plan document that selected appropriate locations for trail heads and community gateway connections, then provide prototypical designs for each. This master plan document is to act as a design guide for multiple consultants as the trail phases become funded for construction. In 2008, Dallas County, in a joint venture with the City of Dallas, provided funding for implementation of the SoPac Trail. In turn, the County contracted with HOK to work with a task force of consultants tasked with detailed trail design. Over the coming months, the HOK Planning Group met regularly with the task force to coordinate design efforts.

In September of 2009, the task force held a community design charrette with the area communities to gather information and input regarding the SoPac Trail Master Plan and proposed prototypical designs. HOK then combined public comment with the task force direction, finalizing the SoPac Trail Master Plan that follows.

Context

The SoPac Trail Corridor primarily passes through residential neighborhoods and a few commercial pockets. The design team analyzed the corridor for important connections to adjacent neighborhoods that allow and encourage trail access. Taking topography and land ownership into consideration, the design team selected twelve community ‘Gateways’ and five ‘Trailheads’. For the purposes of the SoPac Trail project, a ‘Trailhead’ will be a trail access designation, containing 10-20 parking stalls. A ‘Gateway’ will be trail access by pedestrian and cyclists only, and is primarily intended to be an integral connection for the community to take advantage of the trail.

There is no hiding the fact that the proposed SoPac Trail corridor is an abandoned heavy rail track. The direct routes, almost imperceptible slopes and heavily defined earthwork cut and fill are unmistakable. The design team felt that the most desirable design solution would be to emphasize and build upon the features that define the heavy rail corridor, rather than attempt a feeble effort to mask it. To do this, the design team prepared a master plan design that:

• Provides trail connections of direct, consistent slope without vertical or horizontal curves.
• Produces cut and fill earthwork to obtain the trail connections at rigid ratios of 3:1 in cut or fill, rigidly cutting through hills and mounds, or filling depressions or swales in the same manner a heavy rail corridor does.
• Provides monuments with integral signage at each trail connection that could be seen and identified at a distance, similar to the way historic heavy rail had water towers at each that are visible from a long distance.
• Provides texture and patterning in the concrete of each connection reminiscent of the corridor’s past use.
• Provides monuments, signage and paving with subtle iconic reference to the corridor’s past use.

The pages that follow include graphics, documentation and support for the future detailed design work on the Southern Pacific Trail.
Cut Trail Connection

The sketches, photos and diagrams below illustrate the application of the heavy rail design concept for a trail ‘Gateway’ to the community.

The corridor at this location is recessed and located between dead end streets. In the example below, the trail connections from each neighborhood extend in a straight line from the end of each street. The elevation difference between the street end and the proposed SoPac Trail are made up in an even, consistent slope with even 4:1 cuts to reach the recessed corridor. Monument are placed as termini along each trail connection to form the trail ‘Gateway.’
Fill Trail Connection

The sketches, photos and diagrams below illustrate the application of the heavy rail design concept for ‘Trailhead’ access for the overall community.

The corridor at this location is elevated and highly visible from a neighborhood ‘T’ intersection. Parking is placed in such a way that allows an unimpeded view from the street through the trail connection by extending the street center line. Fill is used to provide a direct gentle slope from parking to the SoPac Trail with even 4:1 side slopes back to existing grade on each side. A monument is placed at the connection terminus, remaining visible from the ‘T’ street intersection. This combination of parking, connection and monument comprise the ‘Trailhead’.
SoPac Trail Master Plan

SOPAC TRAIL CORRIDOR

Trail Corridor

SoPac Trail Phase 4
Katy Trail Phase 4

MATCHLINE

305 ft. Bridge
92 ft. Bridge
195 ft. Bridge
90 ft. Bridge
455 ft. Bridge

NORTHWEST HWY
GATEWAY pg. 20
EASTRIDGE DR.
GATEWAY pg. 22
RIDGECREST RD.
GATEWAY pg. 24
PINELAND DR.
GATEWAY pg. 26
FAIR OAKS PARK
TRAILHEAD pg. 30
FAIR OAKS AVE.
GATEWAY pg. 28
GREENVILLE AVE.
GATEWAY pg. 32
TREEHOUSE LN.
GATEWAY pg. 34
MANDERVILLE LN.
GATEWAY pg. 36
VANGUARD WAY
TRAILHEAD pg. 38

Mockingbird Ln.
Dart Blue Line
Katy Trail

White Rock Trail
Abbots Ln.
Fisher Rd.
NW Hwy

Dart Red Line

Lovers Ln.
Trammel Dr.
Gaston Ave.
E. Grand Ave.
Lawther Dr.

Treehouse Ln.
Growth pg. 34
Manderville Ln.
Growth pg. 36
Greenville Ave.
Growth pg. 32
Fair Oaks Park
Growth pg. 30

Ridgeway Rd.
Growth pg. 24
Pineland Dr.
Growth pg. 26
Fair Oaks Ave.
Growth pg. 28
Eastridge Dr.
Growth pg. 22

SoPac Trail Master Plan
In a shared use agreement, the outer row of parking at the YMCA will be dedicated to trail use. Access along the property line provides:
- A direct trail connection along the trail parking of even slope up to the raised SoPac Trail.
- Direct line of site from the parking lot to the monument.
- A bridge across a drainage way is required in lieu of fill at 4:1 side slopes.
A small spur from the street to the existing end of the White Rock Trail is located near the end of Lakewood and Lawther. This connection provides:

- A direct trail connection extending from the center line of Lakewood to the raised SoPac Trail.
- Direct line of sight down Lakewood Boulevard to the gateway monument. Minor tree trimming will likely be required.
- Rigid fill placed between the edge of Lawther Drive to the raised SoPac Trail at a consistent, gradual slope with side slopes of 4:1.
SoPac Trail Master Plan

LAKEWOOD BLVD. GATEWAY

Location Map

LEGEND
- SoPac Trail Corridor
- Trail Connection & Preserved Site Line
- Gateway Monument
- Trailhead Parking Circulation
- Trail Intersection Circulation
- Photo ID & Direction

Community Connection 11
Adding a community trail connection at the end of Alexander provides:

- Direct community trail connection extending from the center line of Alexander to the raised SoPac Trail.
- Direct line of sight down Alexander Drive to the gateway monument. Minor tree trimming will likely be required.
- Rigid fill placed between the edge of Williamson Road to the raised SoPac Trail at a consistent, gradual slope with side slopes of 4:1.
The addition of a trail connection at this location will:

- Provide a connection from the Katy Spur Trail to the SoPac Trail, promoting the interconnection of the Dallas Trail System.
- Provide a close link to Lakewood Park.
The area south of the Mockingbird overpass between Santa Barbara Drive and Fisher Road is a good location for a trail connection to the adjacent communities while still allowing easy pedestrian and cycle access to the corridor. This provides:

- A direct community trail connection extending from Santa Barbara Drive to the recessed SoPac Trail. A direct connection from Fisher Road would also be required.

- Direct line of site down Santa Barbara Drive from the south and from Fisher Road to the East of the gateway monument. Minor tree trimming will likely be required.

- Rigid cut and fill placed between the edge of Santa Barbara Drive to the recessed SoPac Trail at a consistent, gradual slope with side slopes of 4:1. Fisher Road provides an at grade connection requiring no appreciable cut or fill.
SoPac Trail Master Plan

FISHER RD. TRAILHEAD

Location Map

LEGEND
- SoPac Trail Corridor
- Trail Connection & Preserved Site Line
- Gateway Monument
- Trailhead Parking Circulation
- Trail Intersection Circulation
- Photo ID & Direction

SoPac Trail Corridor

Community Connection 17
SoPac Trail Master Plan

TRAMMEL DR. GATEWAY

Trammel Drive crosses over the SoPac Trail corridor at a location allowing access by dense neighborhoods on each side of the proposed trail. Although grades are difficult and significant tree clearing would be required, access by such large numbers of potential users is critical. Cost prohibits a connection both to the north and south, one on each side of the bridge. Access at one side of the bridge at this location provides:

- A dedicated, striped bike lane crossing on the north side of the bridge. This lane will allow access from the neighborhood to the east.
- Direct community trail connection extending from the north west corner of the existing bridge down to the recessed SoPac Trail.
- Direct line of site from the beginning of the trail access on Trammel to the gateway monument. In addition to tree removal, additional tree trimming will likely be required.
- Rigid cut and fill ledged into the steep cut slope to the west of the trail corridor at a consistent, gradual slope with stabilized side slopes as steep as the Engineer shall determine feasible. Safety rail will be required on the downhill side of the access connection.
Northwest Highway crosses over the SoPac Trail corridor at a location allowing access by dense neighborhoods on the south and east of the proposed trail. Although grades are difficult and significant tree clearing would be required, access by such large numbers of potential users is critical.

Cost prohibits a connection both to the north and south, one on each side of the bridge. Access on the north east corner allows immediate access to the largest quantity of potential users, and repaired pedestrian access lanes on each side of the Northwest Highway bridge will allow access to the trail connection. The connection at the north east corner provides:

- Repaired, protected pedestrian access across the Northwest Highway bridge.
- Direct community trail connection from the alley on the north east bridge approach. This location minimizes difficult terrain access extending from the north west corner of the existing bridge down to the recessed SoPac Trail.
- Direct line of site from the beginning of the trail access in the alley to the gateway monument. The gateway monument will also be highly visible from the bridge. In addition to tree removal, additional tree trimming will likely be required.
- Rigid cut and fill ledged into the steep cut slope to the east of the trail corridor at a consistent, gradual slope with stabilized side slopes as steep as the Engineer shall determine feasible. Safety rail will be required on the downhill side of the access connection.
SoPac Trail Master Plan

Location Map

LEGEND

- SoPac Trail Corridor
- Trail Connection & Preserved Site Line
- Gateway Monument
- Trailhead Parking Circulation
- Trail Intersection Circulation
- Photo ID & Direction
Access for high density housing at this location provides:

- A direct trail connection extending from the center line of the Service Road to the SoPac Trail that is at approximately the same elevation as Eastridge.
- Direct line of site down Service Road and from Watermill Court in the adjacent apartment complex to the gateway monument. Minor tree trimming will likely be required.
- An unobtrusive drainage structure between Eastridge and the SoPac Trail will be required with minimal cut and fill to reach the SoPac Trail at an even, gradual slope.
SoPac Trail Master Plan

EASTRIDGE DR. GATEWAY

Location Map

LEGEND

- SoPac Trail Corridor
- Trail Connection & Preserved Site Line
- Gateway Monument
- Trailhead Parking Circulation
- Trail Intersection Circulation
- Photo ID & Direction
Private property fences deny access on the east side of the SoPac Trail corridor. Access for high density housing and an elementary school on the west side at this location provides:

- A direct trail connection extending from the center line of Ridgecrest to the SoPac Trail that is recessed at this location.
- Direct line of site down Ridgcrest to the gateway monument. Minor tree trimming will likely be required.
- Rigid cut placed between the edge of Ridgecrest Road to the recessed SoPac Trail at a consistent slope with side slopes of 4:1.
The Pineland location provides trail access to a large multi-family housing complex to the West. The connection consists of:

- An elevated 10’ wide access in a direct line from the Wildflower apartment entry.
- A drainage way between Pineland drive and the SoPac Trail corridor will require selective tree removal for the elevated connection and significant tree trimming to provide visibility to the trail.
The Fair Oaks Ave. gateway will provide:

- A direct trail access to Emmet J. Conrad High School.
- A shared gateway monument and line of sight with the Pineland monument.
- Rigid cut from the high school walk along Fair Oaks at 4:1 to the recessed SoPac Trail at this location.
An existing parking lot in a large park with an adjacent high school and community center create an ideal location for a trailhead connection. A trail connection at this location provides:

- A community trail connection extending from the existing parking lot in Fair Oaks Park to the north to avoid existing park elements, then west to the recessed SoPac Trail.
- No direct line of site is feasible from the parking lot, but will be visible at a significant distance from the gateway monument. Minor tree trimming, in addition to tree removal, will likely be required.
- Rigid cut and fill placed between the edge of the Fair Oaks parking lot to the recessed SoPac Trail at a consistent, gradual slope with side slopes of 4:1.
The Greenville gateway is challenging due to access. If the proper easements can be obtained, the location will provide:

- Access to and from the athletic facilities on the south west corner.
Future high density housing at this location necessitate a community connection to the trail system. A connection in the south east corner of the future development is anticipated and provides:

- A direct trail connection extending from the development’s vehicular circulation to the trail corridor that is slightly recessed at this location.
- Direct line of site down an interior access road in the development.
- Minimal cut placed between the edge of the development’s interior vehicular circulation to the recessed SoPac Trail at a consistent slope with side slopes of 4:1.

Note: Coordination with the property owner is needed to ensure an effective trail connection as the area redevelops.
The Manderville location provides:
- A gateway connection for the large multi-family development to the west.
- A direct line of connection from the existing utility service road across the DART line.
- Rigid fill and side slopes of 4:1 will provide a gentle slope of the SoPac Trail.
TYPICAL CROSS SECTIONS

RECESSED CONDITION

ELEVATED CONDITION
SoPac Trail Master Plan

TYPICAL BRIDGE TYPE & DIMENSIONS

SoPac Trail Phase 1 Bridge

Bridge Manufacturer Options

Contech Construction Products Inc.
Rick Ledesma
(972) 590-2000

Excel Bridge Manufacturing Co.
Contact: Mark Becker
(320) 762-1784
SoPac Trail Master Plan

MONUMENT - OPTION 1

42 Trail Elements
### SCHEMATIC COST ESTIMATES

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*2012 dollars cost escalation shall be figured at 4% per year.*