

# Dallas' 2012 Bond Program & Impacts of Sustainable Public Right-of-Way

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Public Works Roundup Forum  
May 23, 2013



# Outline

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- Bond Program Background
- Sustainable Public Right-of-Way definitions
- The Bond Program and Sustainable Public Work Projects
  - Complete-Streets
  - iswm
- Impacts & lessons learned of Sustainable Public Work Projects
- Recent Complete-Street Projects

# Quick 101 on What is a Bond Program?

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- A General Obligation Bond (GO) is a voter approved bond backed by the City's taxing powers
- Conducted every 3-6 years depending on the needs and urgency
- Needs are logged into a needs data base and weighted for priority
- Used to fund capital projects with useful lives of at least 20 years or the life of the bonds. Examples include:
  - Street & thoroughfare improvements
  - Flood protection & storm drainage improvements
  - Infrastructure to support economic development
  - Public health and safety facilities
  - Park & recreation facilities
  - Library facilities & Cultural Arts facilities
- Non-eligible items include
  - Public safety salaries
  - Routine operating & maintenance activities

# Needs Going Into the 2012 Bond Program

## “The City’s needs are increasing”

Proposition	Need Inventory 2006	2006 BP Investment	Current Need Inventory
Street and Transportation	\$3,171,795,000	\$390,420,000	\$4,419,903,000
Flood Protection & Storm Drainage	\$820,416,000	\$334,315,000	\$1,523,269,000
Economic Development	\$57,938,000	\$41,495,000	\$103,500,000
City Facilities	\$116,432,000	\$34,750,000	\$397,656,000
Courts Facilities	\$7,945,000	\$7,945,000	\$52,145,000
Cultural Facilities	\$193,849,000	\$60,855,000	\$187,854,000
Library Facilities	\$136,724,000	\$46,200,000	\$89,953,000
Parks & Recreation	\$2,054,955,000	\$343,230,000	\$2,843,672,000
Public Safety Facilities Fire	\$178,243,000	\$56,720,000	\$164,220,000
Public Safety Facilities Police	\$101,444,000	\$6,905,000	\$283,090,000
<b>Total</b>	<b>\$6,839,741,000</b>	<b>\$1,322,835,000</b>	<b>\$10,065,262,000</b>

# Dallas' Recent Bond Programs

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Year	Program Size	Propositions Addressed						
		Streets Alleys Sidewalks	Flood Protection	City Facilities, New Renovation & Major Repair	Park Facilities	Libraries & Cultural Facilities	Public Safety Facilities	Economic Development
2012	\$642,000,000	✓	✓					✓
2006	\$1,353,522,751	✓	✓	✓	✓	✓	✓	✓

# 2012 Bond Program

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## Bond Program Size **\$642 Million**

- Proposition 1 – Street and Transportation Improvements  
\$260,625,000, approved in Nov. 2012 by **88.3%** of voters
- Proposition 2 - Flood Protection & Storm Drainage  
\$326,375,000, approved in Nov. 2012 by **82.2%** of voters
- Proposition 2- Economic Development and Housing  
\$55,000,000, approved in Nov. 2012 by **78.9%** of voters

# 2012 Bond Program's inclusion of Sustainable Public Right-of-Way Projects

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Bond Program Size \$642 Million

Proposition 1 – Street and Transportation Improvements  
\$260,625,000

- \$22.2 Million is for complete-street
  - sustainable/complete projects
- \$22.5 Million is for trails
- \$22.5 Million is for joint Dallas County or TxDOT projects
- \$193.5 Million for residential streets, alleys and thoroughfares
  - sustainable/complete project goals for all applicable projects

# Complete Streets funded in 2012 Bond Program

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Bishop from Jefferson to 8th	\$3,061,300
Cedar Springs Ave from Douglas to Oak Lawn	\$1,304,100
Davis Street from Beckley to Hampton	\$979,600
Grand from R.B. Cullum to Good Latimer	\$2,449,000
Greenville Ave Retail Areas	\$820,400
Greenville from Belmont to Bell and from Alta to Ross	\$3,673,500
Henderson St from US 75 to Ross Ave	\$1,312,100
Jefferson Blvd from Crawford to Van Buren	\$1,469,400
Knox from Katy Trail to US 75	\$734,700
Lamar (S) from IH 45 to Hatcher	\$4,898,000
Main St from Good Latimer to Exposition	\$734,700
Meadowcreek Drive Arapaho to Campbell - pedestrian and traffic calming improvements	\$271,800
MLK from R.B. Cullum to S.M. Wright	\$468,900



# Trail Projects Funded in 2012 Bond Program

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Bachman Lake Trail	\$1,600,000
Elmwood Parkway pedestrian connection to Kiest Park	\$896,300
Flag Pole Hill Trail from Goforth to the future Park facility at the Jules Muchart Army Reserve Building	\$1,200,000
Lake Highlands Trail from the White Rock Creek Trail to Skillman	\$1,600,000
Northaven Trail Extension	\$1,710,600
Runyon Creek Greenbelt Trail (Glendale Park Loop Trail from Wagon Wheels Trl. and Lazy River Dr. south along Ricketts Br. onto University Dr.)	\$3,673,600
Trail from Timberglen Park to Barry Barker Park	\$2,081,700
Trinity River Trail from Sylvan to Moore Park	\$6,418,400
Trinity Strand Phase 2 from IH 35 at Oak Lawn to DART's Inwood Station	\$3,358,500

## Interagency Projects Funded in 2012 Bond Program (joint contracts w/ TxDOT, DART, County....)

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Denton Drive Phase 1 (Walnut Hill to Royal)	\$5,992,300
Keller Springs / Preston / Westgrove	\$306,100
LBJ at Skillman Interchange	\$1,714,300
Mountain Creek Parkway from 2400' southeast of Eagle Ford to Clark Road	\$6,701,000
SOPAC Trail Phase 3 (East Dallas Veloway)	\$2,081,700
Spring Valley Rd from Coit Rd to Goldmark sidewalk and pedestrian improvements	\$153,100

# Large Special Projects Funded in 2012 Bond Program

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## West Dallas Gateway

\$34 million budget

Eliminate a gap in 3 W. Dallas roads located at an active UPRR line

Goals: improved - connectivity of neighborhoods, safety (emergency response), beautification, multi-modal access, quality of life

Challenges: maintaining active RR operation, constructing 3 underpasses

## Houston Street Viaduct

\$12 million budget

Major structural repairs and coordination with the simultaneous Street Car project on the same bridge

Goals: accommodate the structural needs of the bridge for the introduction of the Street Car as well as the other users



# Dallas' Bond Program

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## Sustainable Public Right-of-Way Projects

Thoughts,  
History and City's  
Approach

# Sustainable Public Right of Way basic components/uses

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- Streets
- Drainage
  - Storm Water Quality
- Lighting, landscape, street furniture, post construction BMPs.....
- Alleys
- Trails
- Pedestrian and bicycle amenities
- Utilities

# Sustainable Public Right-of-Way History of Streets Usage:

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- Early 1900s to vehicle mobility – drainage off the street
- 1950 concentration on vehicle high capacity – stronger drainage concerns – curb & gutters etc.



- 1960s storm drainage became as important as vehicle mobility
- Later 1990-2000s – storm water quality & sustainable streets
- 2010s – Complete Streets



# Sustainable Public Right-of-Way

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Many terms, some interchangeable, some overlapping:

- Context Sensitive Design
- Sustainable Design
- Low Impact Design (LID)
- Facilitates multiple uses - Complete Streets
- Minimizes impact or enhances the environment
  - iswm
  - Green Infrastructure
- Easily maintained
  - Not usually compatible with urban complete street

# Sustainable Public Right-of-Way

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## Accommodates:

- Multimodal uses—vehicle, pedestrian, bicycle, mass transit
- Multiusage –multimodal and accommodates social interaction – enhanced walkways, street benches, trash bins, landscaping encourages foot traffic and businesses catering to foot traffic
- Visually appealing –street art, gathering areas, street landscape, multicolor pavers in walks and crosswalks
- Safe environment for all users
- Minimal Maintenance – requires minimal or no maintenance such as no bricks, trash bins to collect, vegetation requiring maintenance
  - Not usually compatible with urban complete street



# Sustainable Public Right-of-Way

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## Drainage

- Minimizes peak stormwater runoff/drainage – thru retention and infiltration
  - Retention areas, swales or recessed gardens
  - permeable surfaces
- Biological treatment of stormwater runoff/drainage – bio swales, vegetative retention ponds, rain gardens
- Reuses of stormwater runoff/drainage – direct runoff for tree and vegetation irrigation, rainwater harvesting tanks or ponds, rain gardens



# Sustainable Public Right-of-Way

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## Sustainability goals - Laymen's terms

- Build Complete-Streets that:
  - Accommodates all users
  - Promote walking and cycling
  - Improve water quality
  - Improve quality of life
  - Promote use of mass transit
    - Comfortable, ADA compliant and accessible bus stops
  - Enhances visual appeal
  - Increases safety of all users

# Recent Dallas Complete Street Projects

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## 2006 BP Complete Street **Convert** Projects

- Greenville Avenue
- Bishop Street
- Herbert Street
- Congo Street
- Locust Street
- Elm Street
- Bexar Street

# Complete Street- Lower Greenville Project

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## Complete Street Components

- Street Furniture
- Extensive Landscaping
- Enhanced Traffic Calming Crosswalks
- Indented Parking
- Wide, upgraded sidewalks
- Traffic Calming
- Lane Diet
  
- Designed by: Urban Engineers Group

# Complete Street - Lower Greenville Project, Pre-construction

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# Complete Street - Lower Greenville Project, Post-construction

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# Complete Street - Lower Greenville Project, Post-construction

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# Complete Street Bishop Avenue Project

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## Complete Street Components

- Street Furniture
- Extensive Landscaping
- Enhanced Traffic Calming Crosswalks
- Indented Parking
- Wide, upgraded sidewalks
- Bike lanes
  
- Designed by PKCE



# Complete Street-Bishop Avenue Project, Pre-construction

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# Complete Street - Bishop Avenue Project, Post-construction

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# Complete Street - Bishop Avenue, Post-construction

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# Complete Street-Bexar Street Projects, Post construction

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Many phases of ROW projects, funded by Federal Programs and recent Bond Programs coordinated with Bexar Street Redevelopment District Public-Private partnerships



# Complete Street-Bexar Street Project, Post construction

**PROMOTE PARTNERSHIPS TO STABILIZE NEIGHBORHOODS AND  
ENCOURAGE ECONOMIC DEVELOPMENT**



# Complete Street- Herbert Street Project, Pre-construction

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Residential street, requesting traffic calming and pedestrian friendlier conversion

Designer: Neel-Schaffer



# Complete Street- Herbert Street Project, Pre-construction

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# Complete Street- Herbert Street Project, Post-construction



Reduced pavement width to 18', added indented parking, landscaping, increased green space, improved walks



# Complete Street-Congo Street Project, Pre-construction

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Graduate students from the SMU did much of the preliminary engineering design with pro-bono oversight from Huitt-Zollars, Inc., with architectural vision provided pro-bono by the BC Workshop.

The City funded the residential complete street conversion through a Housing Department Administered Program



# Complete Street-Congo Street Project, Pre-construction

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# Complete Street – Congo Street Project, Post-construction



Bioswale and landscaping

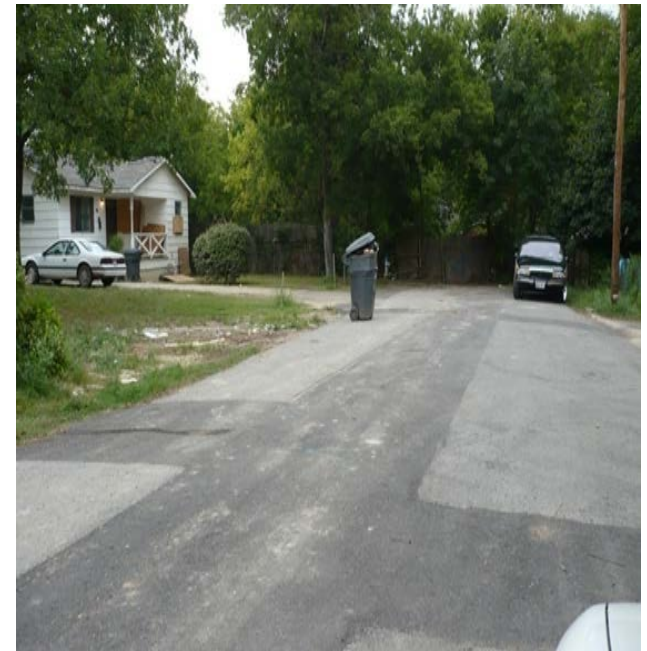


Permeable pavement in recessed parking areas

# Street Petition-Locust Avenue Project, Pre-construction, example of basic project with complete solution

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We show this project as an example of how some basic street projects provide an opportunity to be much more than a street project



Designer: BDS

# Street Petition-Locust Avenue Project, Pre-construction, example of basic project with complete solution

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## Local Street Petition Project

Existing Dead End Street

Existing problems with drainage, potable water circulation and traffic and pedestrian circulation

# Street Petition-Locust Avenue Project, Pre-construction

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Close up of Dead End Area

One blighted property between the dead end and a perpendicular road

Many apparent problems in the secluded dead-end

# Street Petition-Locust Avenue Project

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Standard improvement when reconstructing dead-end road is to construct a cul-de-sac or hammer-head turn around for emergency response

In this case it clearly would not correct the bulk of the problems and would not fit well

Design team looked at feasibility of purchasing property and extending road to the perpendicular road

DCAD website indicated owner lived elsewhere (rental or relatives) and property was affordable

Design Engineer contacted property owner and ran preliminary idea of purchasing at market value and paying renters relocation costs

# Street Petition-Locust Avenue Project, Demolition of House at 4225 Aztec

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After asbestos abatement-Demolition at 4225 Aztec



# Street Petition - Locust Avenue Project, Post-construction

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Locust looking from Aztec



# Complete Street Elm Street in Deep Ellum Project

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## Complete Street Components

- Street Furniture
- Extensive Landscaping
- Rain Gardens
- Permeable sidewalk pavers
- Enhanced Traffic Calming Crosswalks
- Indented Parking
- Wide, upgraded sidewalks
- Narrowing traffic lanes
- Designed for future conversion to 2-way traffic flow



# Complete Street Elm Street in Deep Ellum Project

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Project is in the early construction phases

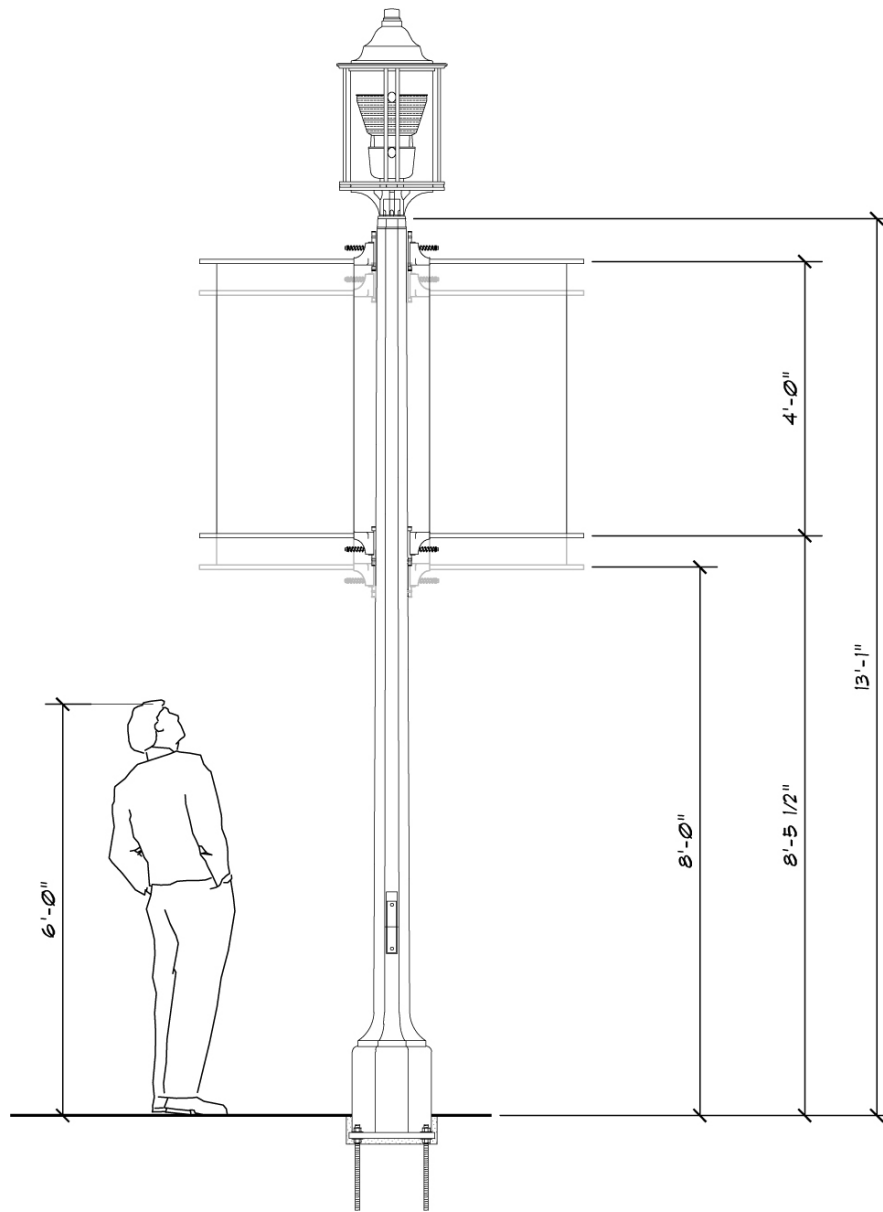
Project includes complete street and iswm components

Designers: TranSystems & CCA

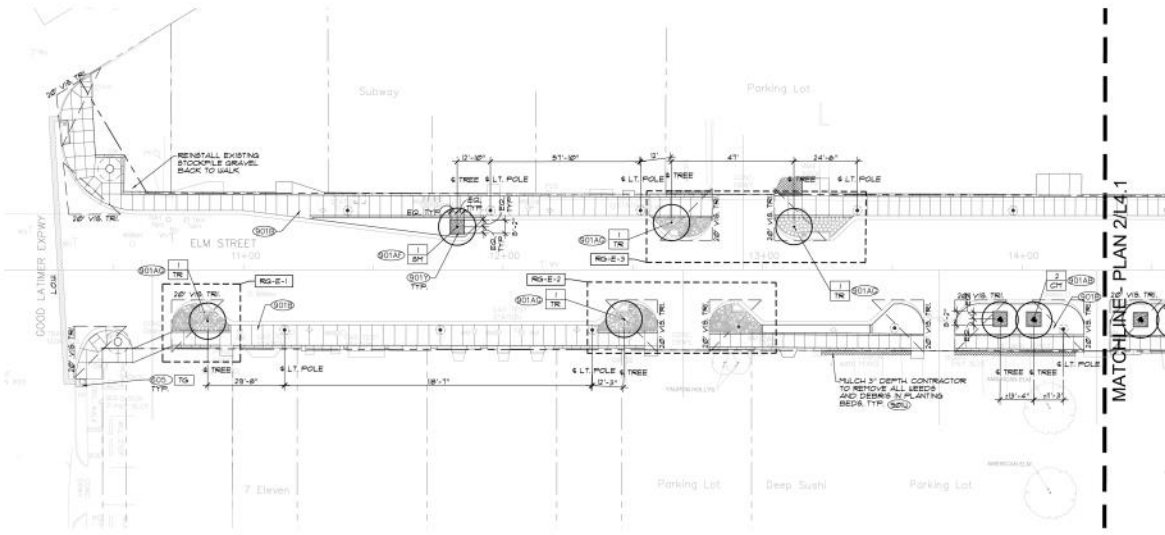


Proposed  
sidewalk paving  
pattern

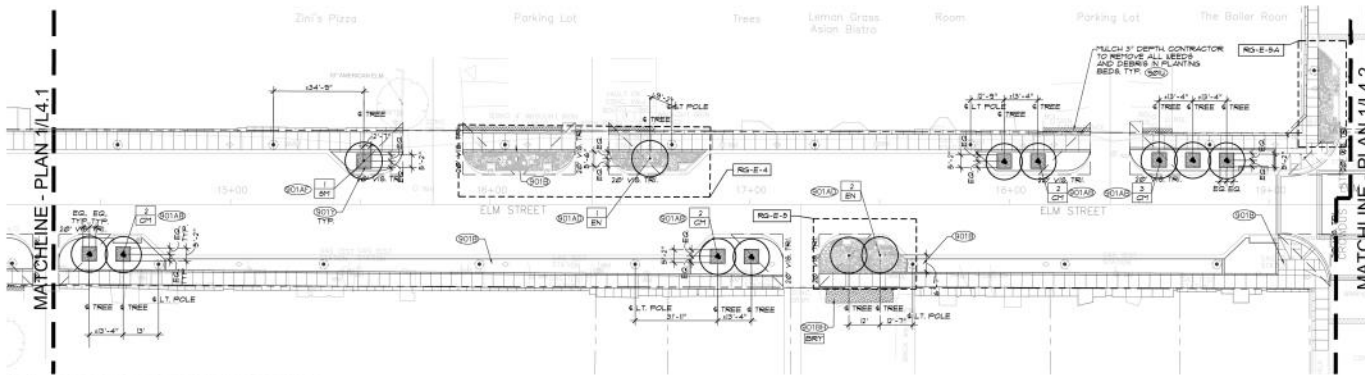
Sidewalk areas  
adjacent to  
landscaped areas  
are proposed to  
utilize permeable  
paver system



Proposed Precast Concrete light pedestals, with banner brackets



1 STREETScape PLANTING PLAN  
1" = 20'-0"



2 STREETScape PLANTING PLAN  
1" = 20'-0"

**PLANTING LEGEND**

- PROPOSED ORNAMENTAL TREE, SINGLE AND MULTI-TRUNK, REF. PLANS
- PROPOSED 31" DEPTH OF VERGE LANDSCAPE AGGREGATE AT 18"X18" TREE OPENINGS (OT) 18"X18" CONCRETE COLLAR TREE OPENING (CO)
- LAWN - TURF/ALO GRASS, REF. PLANS (CC)
- BG - 'MOLNA' BEAR GRASS, REF. PLANS (CC)
- FG - 'MEXICAN FEATHER GRASS, REF. PLANS (CC)
- BRY - 'BARRELIGHT' RED YUCCA, REF. PLANS (CC)
- PLANTING BED MULCH, REF. PLANS (CC)
- BENCH - REF. L41 TO L44 (CC)
- TRASH - REF. L41 TO L44 (CC)
- BIO ITEM (CC)
- QUANTITY PLANT SYMBOL

**SYMBOL PLANT/MATERIAL TYPE**

- CH - CHITALPA (CC) (A)
- CH - CRAPE HYDRLE (CC) (A)
- DW - DESERT SALLOU (CC) (A)
- EN - EVE'S NECKLACE (CC) (A)
- HE - HEBERGE (CC) (A)
- SM - SHANTUNG MAPLE (CC) (A)
- TN - TEXAS REDBUD (CC) (A)
- BG - BEAR GRASS (CC) (A)
- TG - TURFALO GRASS (CC) (A)

NOTE:  
REFER TO SHEETS L45 - L48 FOR MAIN GARDEN ENLARGEMENTS (RG-E-1 TO RG-E-6).

NOTE:  
REFER TO SHEETS L41 - L43 FOR PLANT SCHEDULE AND PLANTING DETAILS.

NOTE:  
REFER TO SHEETS L41 FOR BENCH AND TRASH SCHEDULE.

CCA  
LANDSCAPE ARCHITECTS

RYAN COOK  
REGISTERED PROFESSIONAL ENGINEER  
NO. 12711  
STATE OF TEXAS

Cyrus Cook & Associates  
12700 Hillcrest Road  
Suite 149  
Dallas, TX 75230  
P: 214.739.9105

05-05-13

REV	DATE	DESCRIPTION	BY	CHK	L4.1
1	05.03.2013	REVISIONS FOR ELM STREET FROM GOOD LATIMER EXPWY. TO EXPOSITION AVE.	LMJ	LSW	103
					139

**TranSystems** 3030 I-81 FREEWAY, SUITE 900  
DALLAS, TX 75234  
CALL: 972-380-6300  
FAX: 972-380-6355

**STREETScape PLANTING & SITE FURNITURE PLANS**

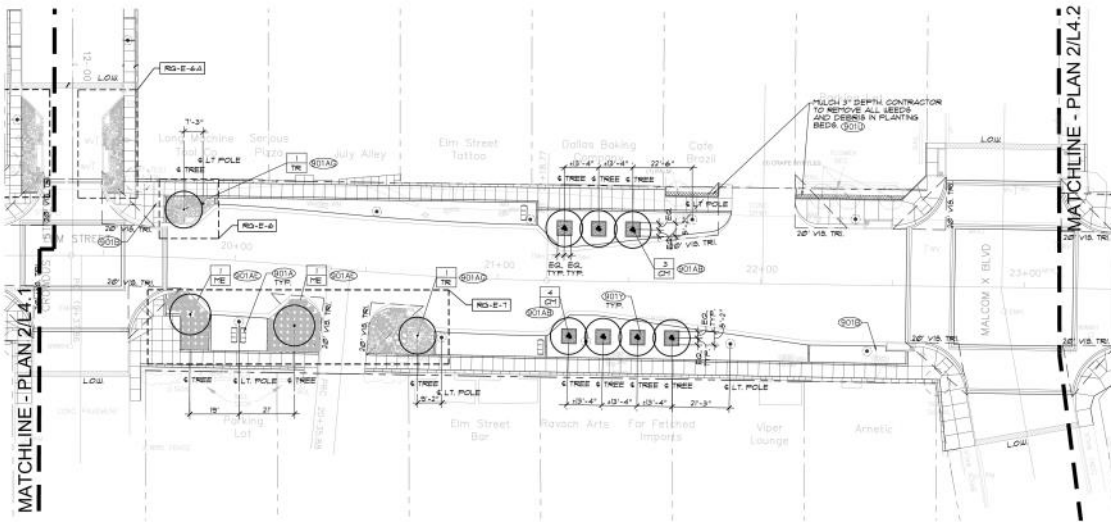
ELM STREET  
FROM GOOD LATIMER EXPWY  
TO EXPOSITION AVE.  
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION  
CITY OF DALLAS, TEXAS

DRAWN BY	DESIGN FILE	PATH & NAME	DATE
LMJ	FILES		JULY 2012
DESIGNED BY	SCALE	FILE NUMBER	
LSW/LMJ	1"=20'	313D	80

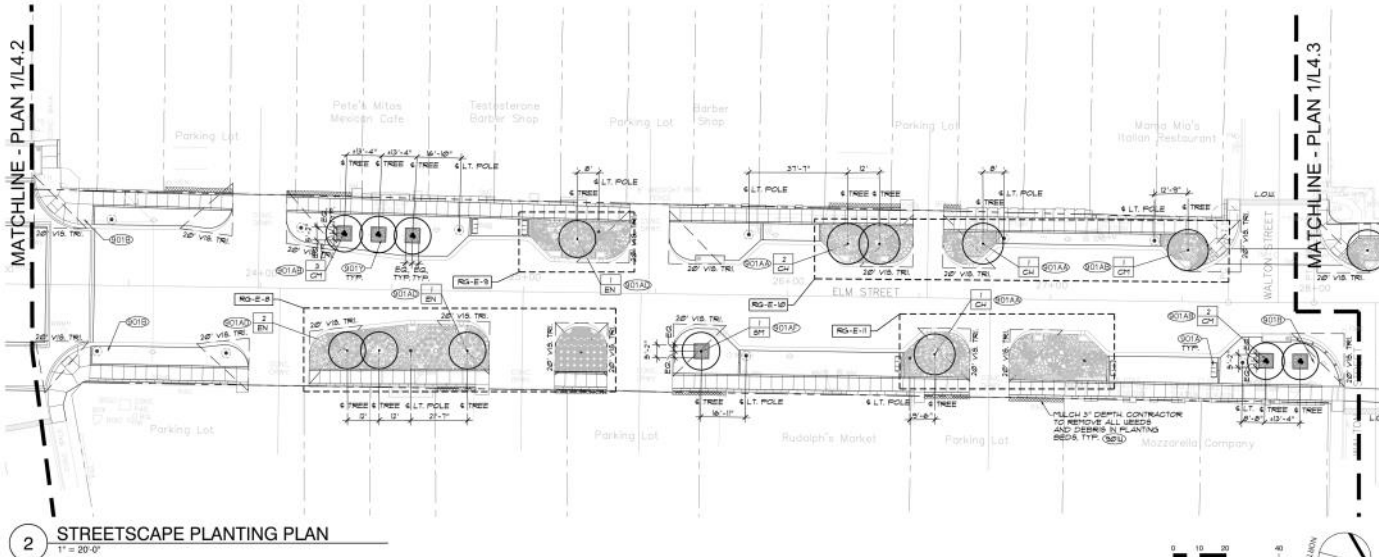


IF THIS DRAWING IS LESS THAN 24" X 36" IT IS A REDUCED SIZE DRAWING





1 STREETScape PLANTING PLAN  
1" = 20'-0"



2 STREETScape PLANTING PLAN  
1" = 20'-0"

- PLANTING LEGEND**
- PROPOSED ORNAMENTAL TREE, SINGLE AND MULTI-TRUNK, REF. PLANS
  - PROPOSED 3" DEPTH OF VERDE LANDSCAPE AGGREGATE AT 16"x20" TREE OPENINGS WITH 18"x24" CONCRETE COLLAR TREE OPENINGS
  - LAWN - TURFALO GRASS REF. PLANS
  - BG - NOLAN BEAR GRASS
  - MFG - MEXICAN FEATHER GRASS
  - BRY - BRAVELIGHT RED YUCCA
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- SYMBOL PLANT/MATERIAL TYPE**
- CH CHITALPA
  - CH CHINA MYRTLE
  - DU DESERT YULLOW
  - EN EVE'S NECKLACE
  - ME MESQUITE
  - SH SHANTUNG MAPLE
  - TR TEXAS REDBUD
  - BG BEAR GRASS
  - TG TURFALO GRASS

**NOTE:**  
REFER TO SHEETS L48 - L46 FOR RAIN GARDEN ENLARGEMENTS (NO-E-1 TO NO-E-16)

**NOTE:**  
REFER TO SHEETS L41 - L43 FOR PLANT SCHEDULE AND PLANTING DETAILS.

**NOTE:**  
REFER TO SHEETS L41 FOR BENCH AND TRASH SCHEDULE.

**CCA LANDSCAPE ARCHITECTS**

Cays Cook & Associates  
12700 Silvercrest Road  
Dallas, TX 75230  
P: 214.739.9105

05-16-13

DATE	DESCRIPTION	BY	CHK	L4.2
05.03.2013	REVISONS FOR ELM STREET FROM GOOD LATIMER EXPWY. TO EXPOSITION AVE.	LMJ	LSW	SHEET 104
REV	DATE	DESCRIPTION	BY	CHK

3030 LUJ FREEWAY, SUITE 900  
DALLAS, TX 75234  
972-286-9300  
FIRM REG. #2307

**STREETScape PLANTING & SITE FURNITURE PLANS**

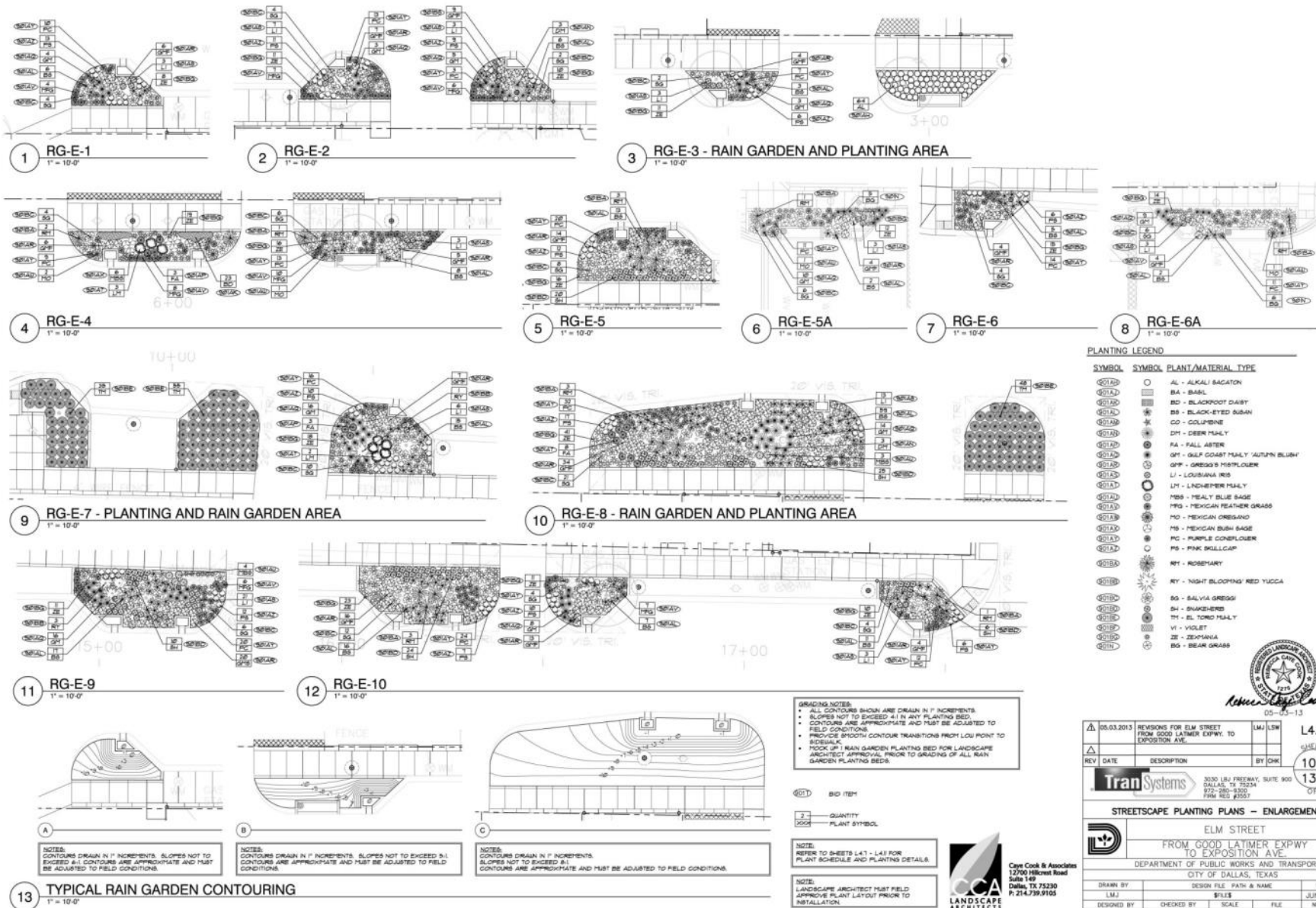
**ELM STREET**  
FROM GOOD LATIMER EXPWY TO EXPOSITION AVE.

DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION  
CITY OF DALLAS, TEXAS

DRAWN BY	DESIGN FILE, PATH & NAME	DATE
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DESIGNED BY	CHECKED BY	SCALE
LSW/LSW	LSW	1"=20'
	FILE	NUMBER
	31.3D	80

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IF THIS DRAWING IS LESS THAN 24" X 36" IT IS A REDUCED SIZE DRAWING.

05-24-13

REVISIONS FOR ELM STREET FROM GOOD LATIMER EXPWY. TO EXPOSITION AVE.

REV DATE DESCRIPTION BY CHK

107 OF 139 SHEET

**TranSystems** 3030 LBJ FREEWAY, SUITE 900 DALLAS, TX 75234 P: 214-252-4300 F: 214-252-4304

**STREETSCAPE PLANTING PLANS - ENLARGEMENT**

ELM STREET FROM GOOD LATIMER EXPWY TO EXPOSITION AVE.

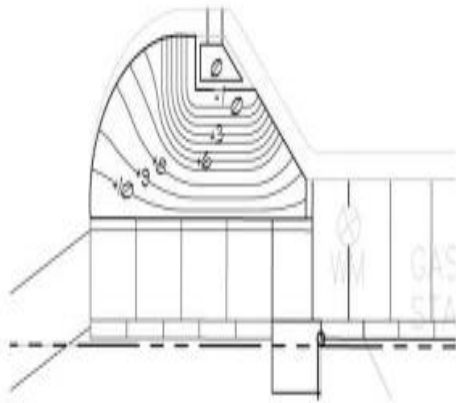
DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION CITY OF DALLAS, TEXAS

DRAWN BY	LMJ	DATE	JUN 2012
DESIGNED BY	LSW	SCALE	1"=10'
CHECKED BY	LSW	FILE	31.3D
NUMBER			80

**CCALANDSCAPE ARCHITECTS**  
Cory Cook & Associates  
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Suite 149  
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P. 214.739.9105

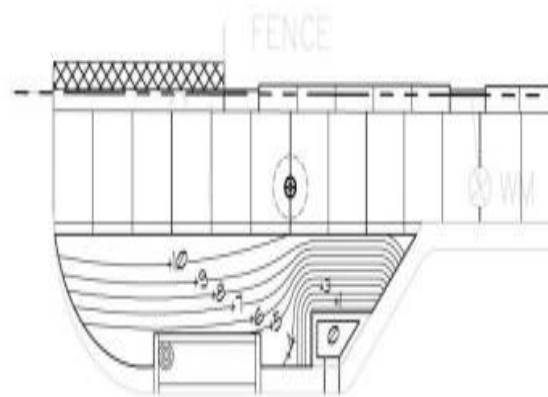
# Landscape details





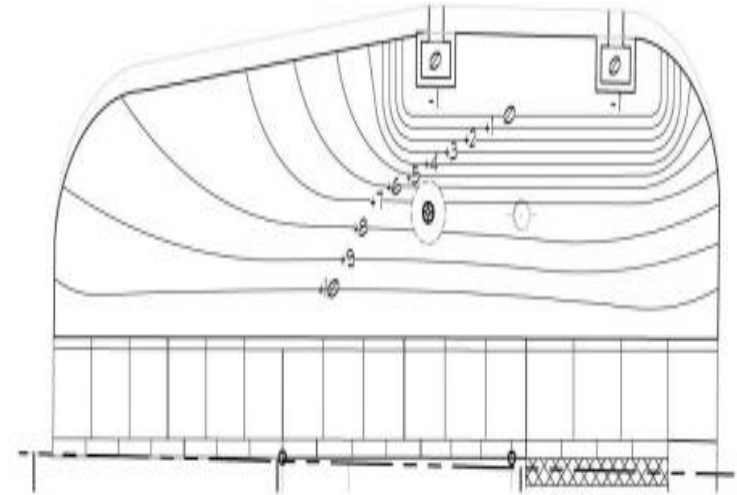
A

**NOTES:**  
 CONTOURS DRAWN IN 1" INCREMENTS. SLOPES NOT TO EXCEED 6:1. CONTOURS ARE APPROXIMATE AND MUST BE ADJUSTED TO FIELD CONDITIONS.



B

**NOTES:**  
 CONTOURS DRAWN IN 1" INCREMENTS. SLOPES NOT TO EXCEED 5:1. CONTOURS ARE APPROXIMATE AND MUST BE ADJUSTED TO FIELD CONDITIONS.



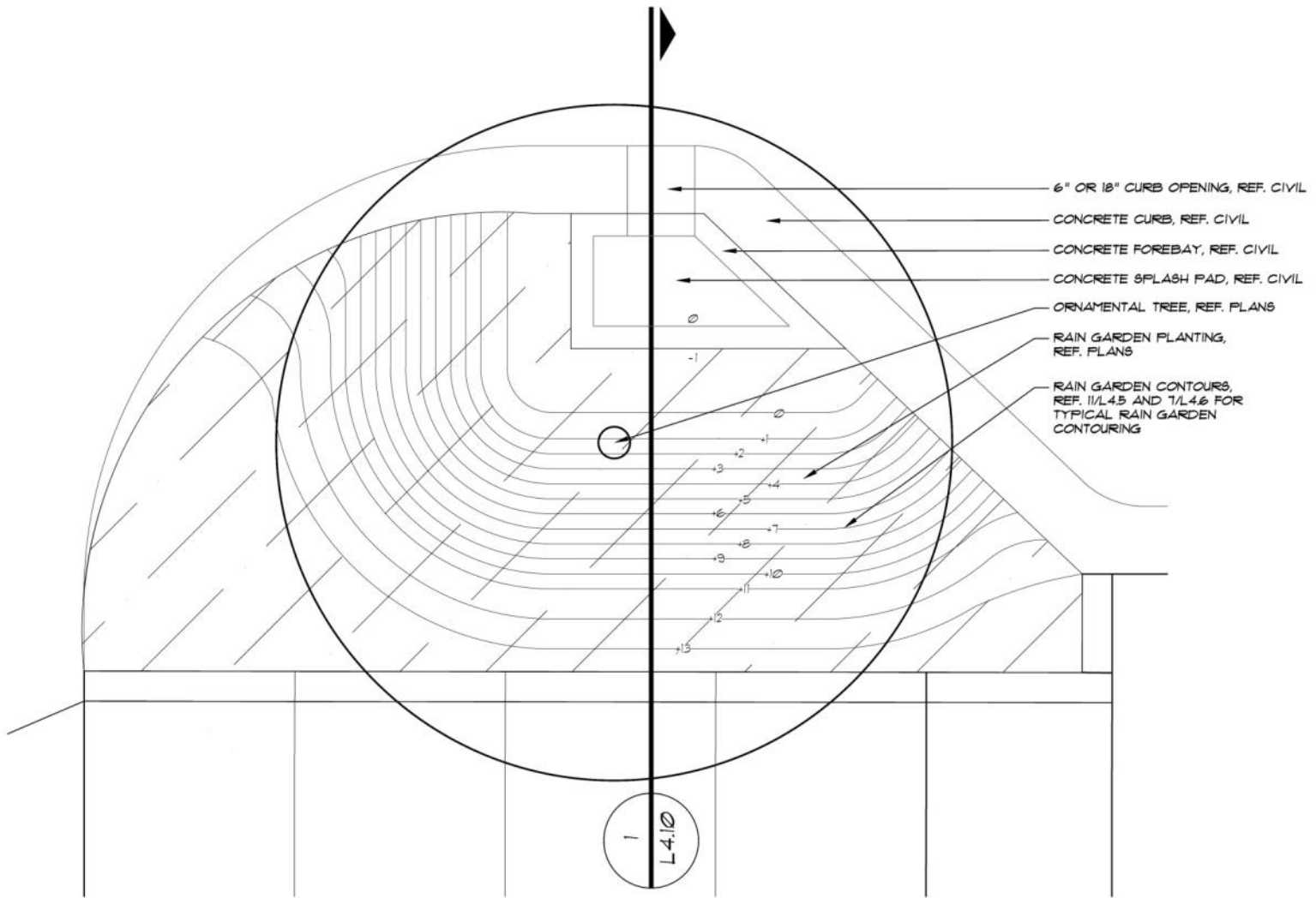
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**NOTES:**  
 CONTOURS DRAWN IN 1" INCREMENTS. SLOPES NOT TO EXCEED 8:1. CONTOURS ARE APPROXIMATE AND MUST BE ADJUSTED TO FIELD CONDITIONS.

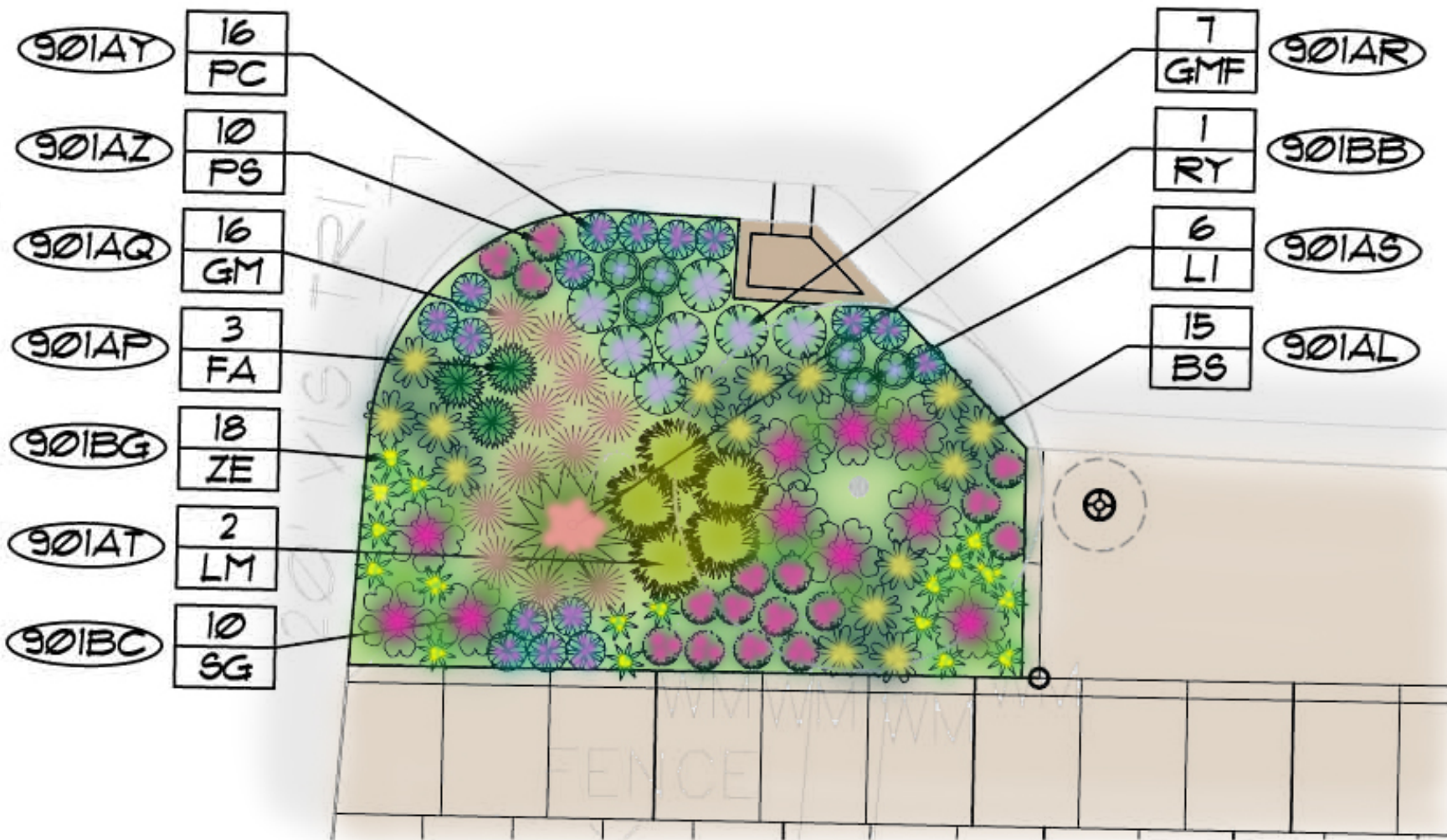
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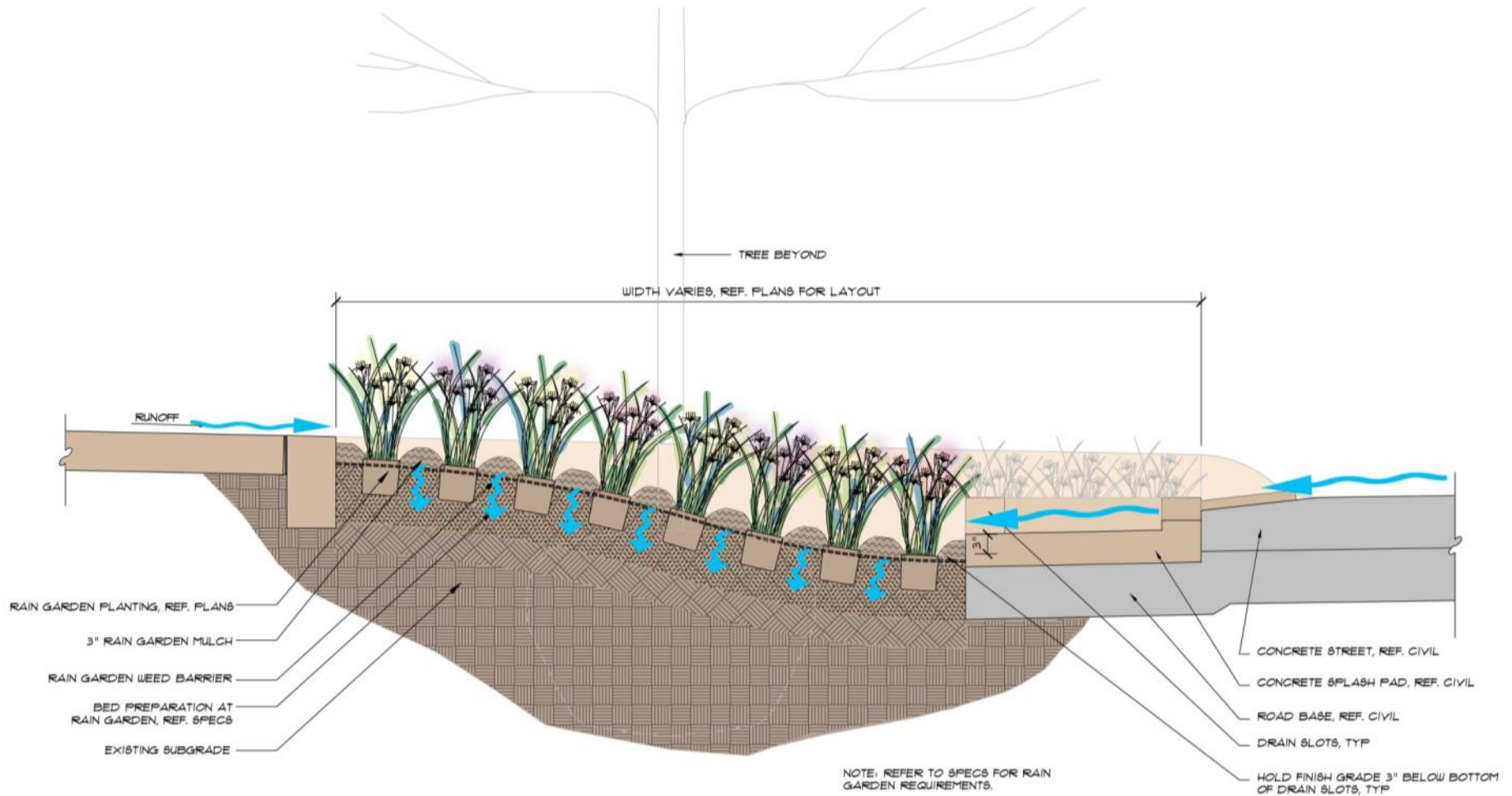
## TYPICAL RAIN GARDEN CONTOURING

1" = 10'-0"

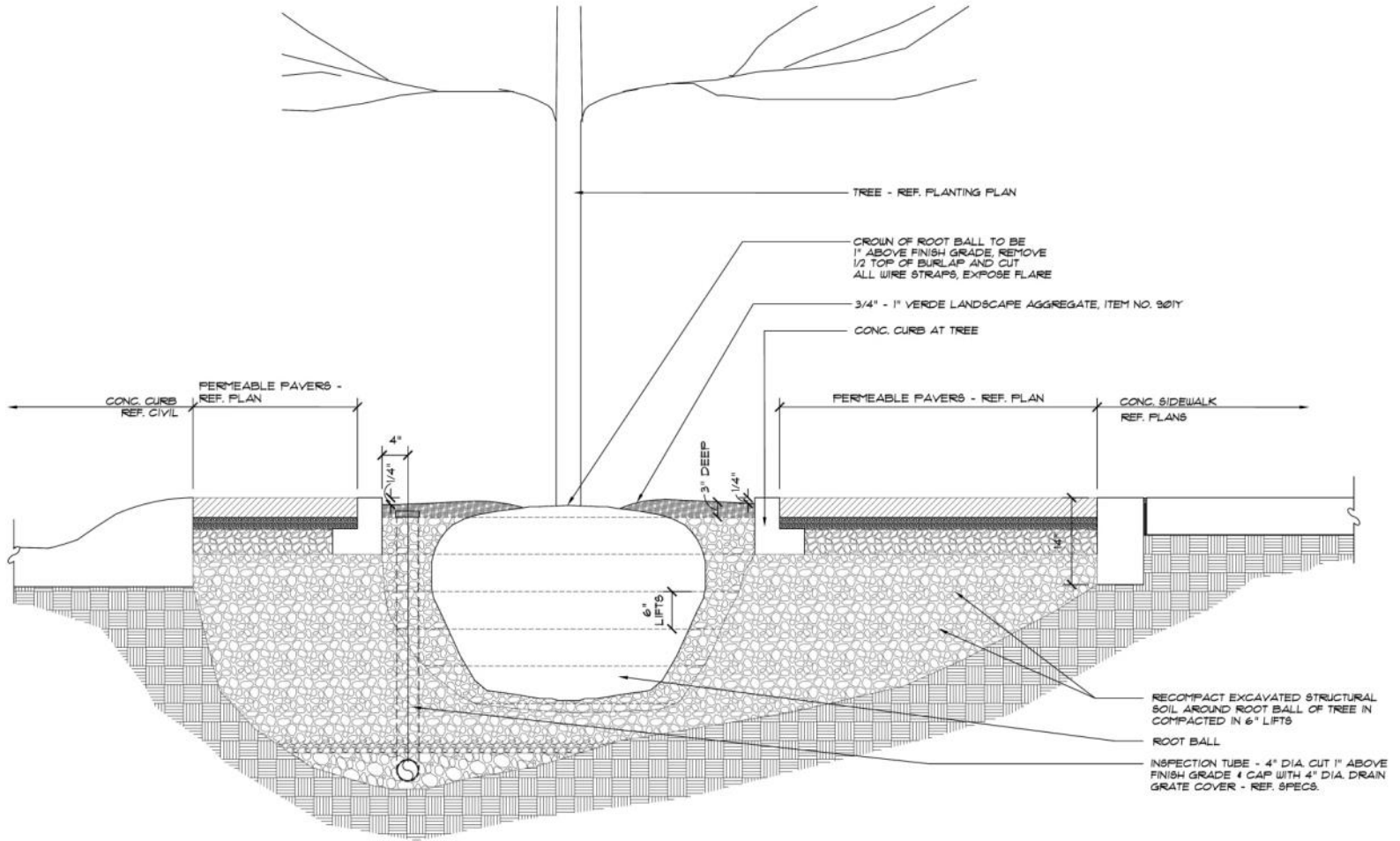


**2** RAIN GARDEN PLANTING - PLAN  
 1/2" = 1'-0"





1 RAIN GARDEN PLANTING - SECTION  
1"=1'-0"



2 ORN. TREE IN STRUCTURAL SOIL AT PERMEABLE PAVERS - SECTION  
NTS

**RAIN GARDEN/BIOSWALE PLANTS** - must withstand mostly drought conditions in an urban reflective heat environment and survive periods of inundation up to 48 hours. These plants provide seasonal color interest while filtering rainwater.

ORNAMENTAL TREES



*Crapemyrtle*



*Eve's Necklace*



*Desert Willow*



*Redbud*



*Yaupon Holly*



*Mesquite*



*Shantung Maple*

SHRUBS, GRASSES



*Autumn Sage*



*Gulf Muhly*



*Bear Grass*



*Red Yucca*



*Mexican Feathergrass*



*Rosemary*



*Lindheimer Muhly*

PERENNIALS



*Purple Coneflower*



*Blackfoot Daisy*



*Black-eyed Susan*



*Columbine*



*Aster*



*Pink Skullcap*



*Mealy Blue Sage*



*Louisiana Iris*



# Sustainable Public Right-of-Way Projects

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Impacts & lessons learned of  
Sustainable Public Works Projects

# Impacts of Complete Street Projects

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- Married to the project
  - Long term plan to maintain
  - custom landscape maintenance contracts or in-house
- If the project is successful
  - more users-more maintenance
  - More uses-more maintenance
- Where possible partner with business association for maintenance of landscaping, irrigation water services, etc.







# Sustainable Public Right of Way Projects

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## 2012 Bond Program

What to look for



# Sustainable Public Right-of-Way

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What are we doing different with in the 2012 BP?

- Examine what streets are truly candidates for the Urban-Complete Street conversion
- Greater efforts to work with stakeholders, planners and traffic professionals to determine feasible options in regard to lanes, parking and walkways
- Incorporate more complete street and iswm concepts in most projects
- Create multi-uses for drainage and utility easements
  - Trails in franchise utility and RR easements
  - Recreational uses in flood way easements



# Sustainable Public Right-of-Way

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What are we doing different in the 2012 BP?

- City staff and consultants are charged with looking for opportunities in every project to meet the sustainable and environmental goals of the City
- The City is encouraging the use of the Envision-Rating-System and context sensitive design approaches to design “complete” and “green” infrastructure for our 2012 Bond Program Projects

# Sustainable Public Right-of-Way

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## Sustainability

Its not a “one size fits all” interpretation

- Requires compromise to accommodate more uses
- Requires additional and varying maintenance
- Requires consideration of Life cycle costs and long term maintenance plan
- Its not just a fad but requires us to design for the foreseeable future
- Its about the environmental quality, economic development and quality of life

Its not rocket science but it does complicate projects

- Often need stake holders to buy into project and commit to maintenance
- Stakeholders must compromise in some areas