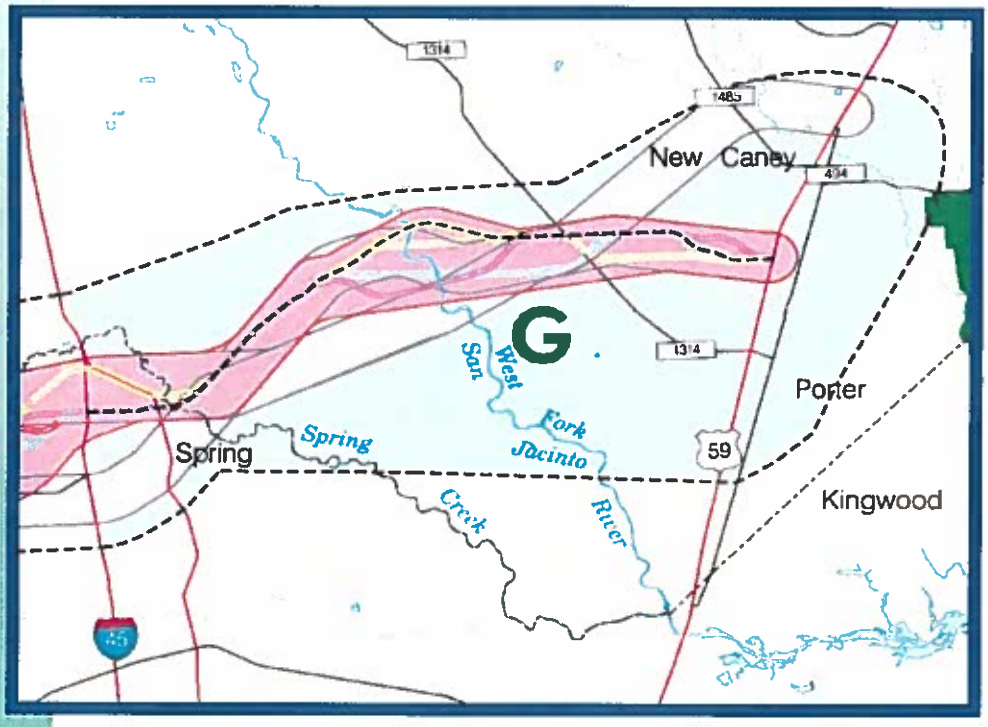
VOLUME III

From IH 45 to US 59
Harris County, Texas
Montgomery County, Texas

Final Environmental Impact Statement

Grand Parkway State Highway 99 Segment G



FHWA-TX-EIS-03-03-F

U.S. Department of Transportation
Federal Highway Administration

Texas Department of Transportation

U.S. Army Corps of Engineers
Cooperating Agency

January 2009

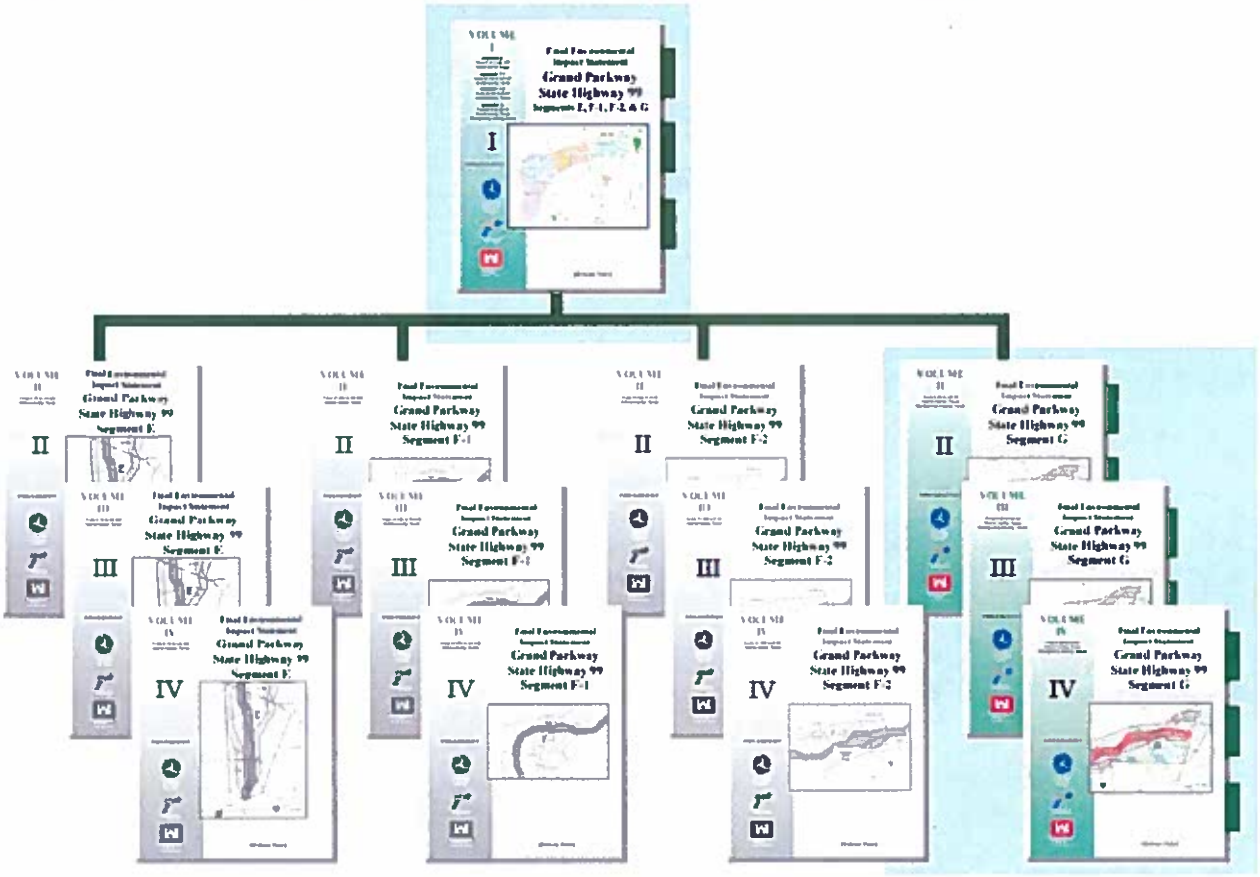
Document Organization

The Grand Parkway Segments E, F-1, F-2, and G study area is divided into four Segments of Independent Utility (SIUs) to facilitate planning, design, and construction because limited state and federal funding provides no assurance that all the Grand Parkway segments would be constructed. Each SIU would connect at least two existing major transportation corridors to ensure independent utility as well as independent significance as required by the U.S. Department of Transportation (USDOT), Federal Highway Administration (FHWA) regulations (23 Code of Federal Regulations [CFR] 771.111[f]).

The Segment G Final Environmental Impact Statement (FEIS) is organized in a four-volume set in response to public and resource agency comments concerning potential cumulative effects of Segment G and the need to assess Segment G as a facility with independent utility and logical termini, as follows:

- Volume I presents analyses and results common to Segments E, F-1, F-2, and G, including project description, the need for and purpose of the project, alternatives considered, affected environment, indirect and cumulative effects, and agency and public coordination.
- Volume II provides a detailed assessment of Segment G relative to its specific project area. It includes issues, permits, and federal actions particular to Segment G, such as the need for and purpose of the project; alternatives considered; affected environment; environmental consequences; avoidance, minimization, and mitigation measures; indirect and cumulative effects; and agency and public coordination.
- Volume III contains exhibits and appendices referenced in Volumes I and II.
- Volume IV includes materials related to the Segment G Draft Environmental Impact Statement (DEIS) Public Hearing, comments submitted, and responses to the DEIS comments provided following the release of the Segment G DEIS in January 2007.

The volume covers and section tabs for Segment G are color coded (Volume I [Green, common to Segments E, F-1, F-2, and G] and Volume II/III/IV [Light Green, Segment G specific]) to help the reader navigate through the document. The following highlights how Segment G is structured in relation to the FEISs for Segments E, F-1, and F-2:



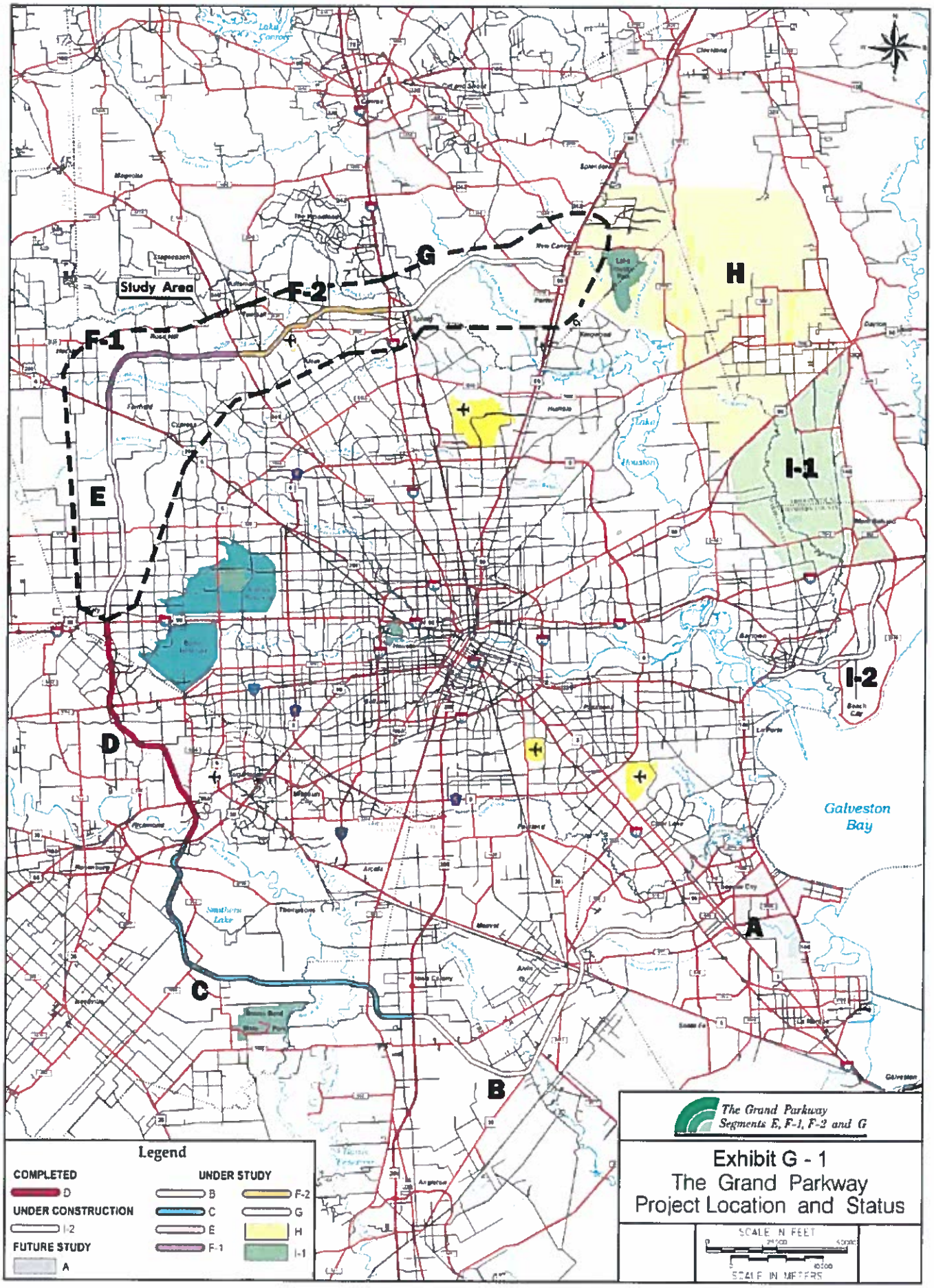
LIST OF EXHIBITS

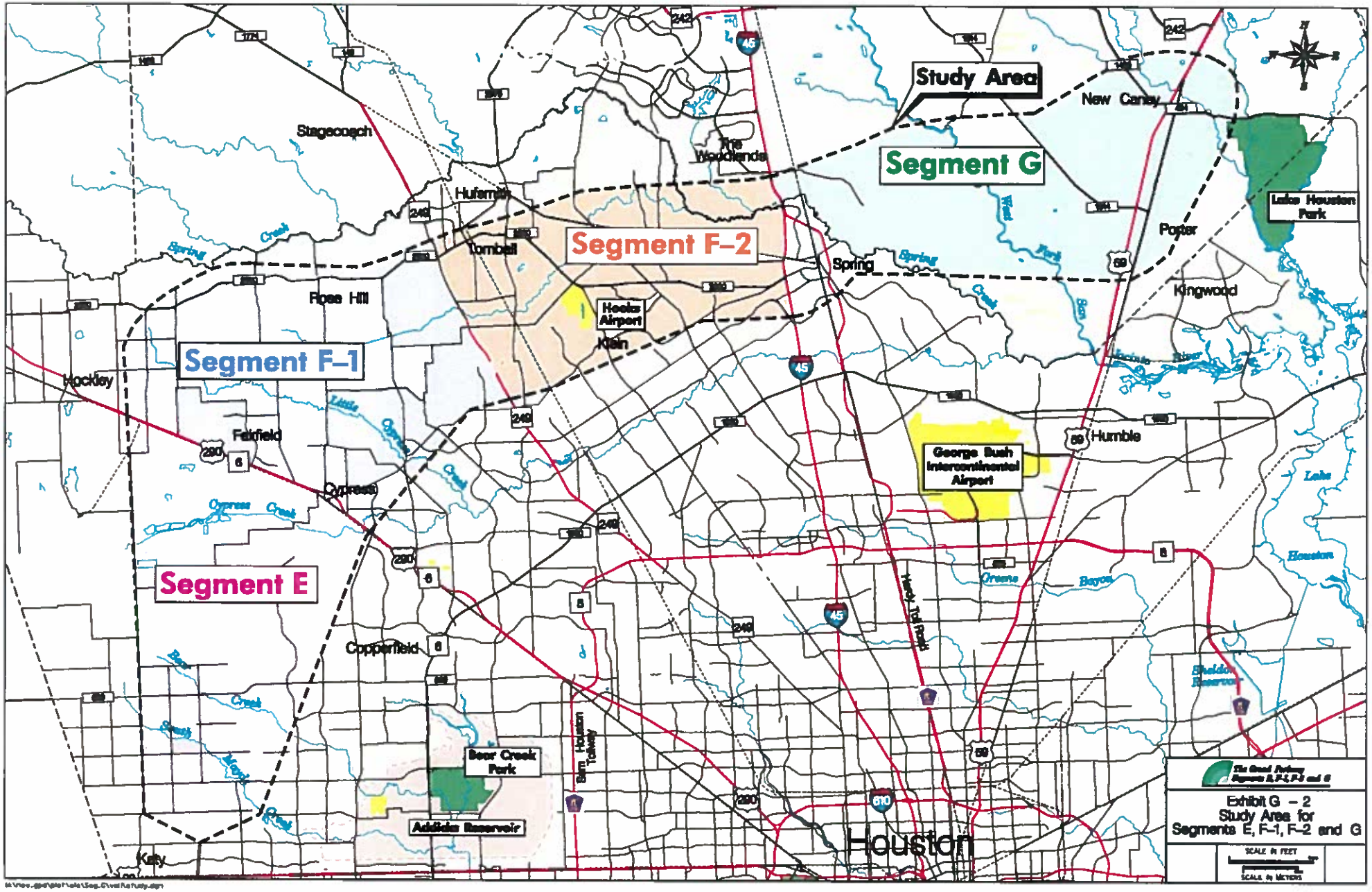
EXHIBIT G–1 ..... The Grand Parkway Project Location and Status
EXHIBIT G–2 ..... Study Area for Segments E, F-1, F-2 and G
EXHIBIT G–3 ..... Project Development Process
EXHIBIT G–4 ..... Year 2000 Average Daily Traffic Volumes
EXHIBIT G–5 ..... Year 2000 Levels of Mobility
EXHIBIT G–6 ..... Year 2010 Average Daily Traffic Volumes: No-Build Alternative
EXHIBIT G–7 ..... Year 2010 No-Build Levels of Mobility
EXHIBIT G–8 ..... Year 2015 Average Daily Traffic Volumes: No-Build/Build Alternatives
EXHIBIT G–9 ..... Year 2015 No-Build Levels of Mobility
EXHIBIT G–10 ..... Year 2025 Average Daily Traffic Volumes: No-Build/Build Alternatives
EXHIBIT G–11 ..... Year 2025 No-Build Levels of Mobility
EXHIBIT G–12 ..... Evacuation Routes
EXHIBIT G–13 ..... Alternative Corridors
EXHIBIT G–14 ..... The Preferred Alternative Corridor
EXHIBIT G–15a-e ..... Corridor Study Environmental Constraints
EXHIBIT G–16 ..... Year 2015 Build Levels of Mobility
EXHIBIT G–17 ..... Year 2025 Build Levels of Mobility
EXHIBIT G–18 ..... Geologic Features
EXHIBIT G–19 ..... Historic Subsidence in the Houston Metropolitan Area, 1906-1995
EXHIBIT G–20 ..... Employment and Population Distribution by Census Tract, 1980
EXHIBIT G–21 ..... Employment and Population Distribution by Census Tract, 1990
EXHIBIT G–22 ..... Employment and Population Distribution by Census Tract, 2000
EXHIBIT G–23 ..... Projected Employment and Population Distribution by Regional Analysis Zones, 2025
EXHIBIT G–24a-d ..... 1970-2000 Development Patterns in the Project's Area of Influence
EXHIBIT G–25a-e ..... Mobile Source Air Toxics (MSAT) Sensitive Receptors
EXHIBIT G–26 ..... Mobile Source Air Toxics (MSAT) Traffic Study Area Links
EXHIBIT G–27 ..... Gulf Coast Aquifer
EXHIBIT G–28 ..... Coastal Zone Management
EXHIBIT G–29 ..... Potential Archeological Liability Map (PALM)
EXHIBIT G–30 ..... Area of Influence and Travel Contours
EXHIBIT G–31 ..... Water Quality/Wetlands Watershed Cumulative Study Area
EXHIBIT G–32 ..... Katy Prairie Cumulative Study Area
EXHIBIT G–33 ..... 2005 Base Land Use Map
EXHIBIT G–34 ..... USGS/NOAA Draft 2001 NLCD for the Area of Influence
EXHIBIT G–35 ..... 2025 Indirect Impact Land USGS/NOAA Draft 2001 NLCD
EXHIBIT G–36 ..... 2025 No-Build Alternative Land Use Map
EXHIBIT G–37 ..... 2025 Build Alternative Land Use Map
EXHIBIT G–38 ..... 2025 No-Build Undeveloped Land USGS/NOAA Draft 2001 NLCD
EXHIBIT G–39 ..... 2025 Build Undeveloped Land USGS/NOAA Draft 2001 NLCD
EXHIBIT G–40 ..... Segment G Project Area
EXHIBIT G–41a-e ..... USGS Topographic Maps for Segments E, F-1, F-2 and G
EXHIBIT G–42a-b ..... Proposed Typical Sections – Toll Road
EXHIBIT G–43 ..... Segment G Land Use
EXHIBIT G–44 ..... Segment G Farmland Soils
EXHIBIT G–45 ..... Segment G Census Tracts

EXHIBIT G–46 .....SEGMENT G COMMUNITY RESOURCES
EXHIBIT G–47 .....SEGMENT G AMBIENT NOISE LEVEL MONTORING SITES
EXHIBIT G–48 ..... SEGMENT G WATER RESOURCES
EXHIBIT G–49 ..... SEGMENT G BOTTOMLAND HARDWOODS AND RIPARIAN FOREST
EXHIBIT G–50 .....SEGMENT G SURVEYED HISTORIC-AGE RESOURCES
EXHIBIT G–51 .....SEGMENT G OIL/GAS WELLS, HAZARDOUS MATERIALS AND PIPELINE SITES
EXHIBIT G–52 .....SEGMENT G PREFERRED ALTERNATIVE ALIGNMENT REPRESENTATIVE NOISE RECEIVERS
EXHIBIT G–53 .....SEGMENT G PROPOSED NOISE BARRIER LOCATIONS PREFERRED ALTERNATIVE ALIGNMENT
EXHIBIT G–54 .....SEGMENT G PREFERRED ALTERNATIVE ALIGNMENT
EXHIBIT G–55 ..... SEGMENT G PRELIMINARY SCHEMATIC LAYOUTS (SHEETS 1-15)

LIST OF APPENDICES

APPENDIX A ..... FHWA MEMORANDUM FROM THE OFFICE OF NEPA FACILITATION
APPENDIX B ..... CORRESPONDENCE LETTERS FROM FEDERAL, STATE, AND LOCAL AGENCIES
APPENDIX C ..... H-GAC 2025 RTP PROJECTS IN THE GRAND PARKWAY AOI
APPENDIX D ..... CONGESTION MANAGEMENT ANALYSIS
APPENDIX E ..... CITY OF HOUSTON GROWTH INDICATOR NEWSLETTERS
APPENDIX F ..... MOBILE SOURCE AIR TOXICS TECHNICAL REPORT
APPENDIX G ..... I-69/TTC PROJECT BROCHURE AND RECOMMENDED REASONABLE CORRIDORS
APPENDIX H ..... NRHP ELIGIBILITY STATUS ON SEGMENT G PRE-1957 SITES
APPENDIX I ..... SEGMENT G HAZARDOUS MATERIALS DATA SEARCH
APPENDIX J ..... SEGMENT G PRIME FARMLANDS
APPENDIX K ..... SEGMENT G ENVIRONMENTAL JUSTICE
APPENDIX L ..... SEGMENT G ECONOMIC EFFECTS
APPENDIX M ..... USACE ADJACENT/ISOLATED CRITERIA
APPENDIX N ..... SEGMENT G WETLAND IMPACTS


Study Area
F-1
F-2
G
H
I-1
I-2
E
D
C
B
A
Galveston Bay
Legend
COMPLETED
D
UNDER CONSTRUCTION
I-2
FUTURE STUDY
A
UNDER STUDY
B
C
E
F-1
F-2
G
H
I-1
The Grand Parkway
Segments E, F-1, F-2 and G
Exhibit G - 1
The Grand Parkway
Project Location and Status
SCALE IN FEET
SCALE IN METERS


Study Area
Segment G
Segment F–2
Segment F–1
Segment E
New Caney
The Woodlands
Stagecoach
Huffman
Tomball
Spring
Porter
Kingwood
Lake Houston Park
Hockley
Rose Hill
Hooks Airport
Klein
Fairfield
Cypress
Humble
George Bush Intercontinental Airport
Copperfield
Bear Creek Park
Addicks Reservoir
Katy
Houston
Sam Houston Tollway
Hardy Toll Road
Spring Creek
Little Cypress Creek
Cypress Creek
Bear Creek
South Mayde Creek
West Fork San Jacinto River
Bear Branch
Cypress Bayou
Houston Lake
Sheldon Reservoir
Exhibit G – 2
Study Area for
Segments E, F–1, F–2 and G
SCALE IN FEET
SCALE IN METERS

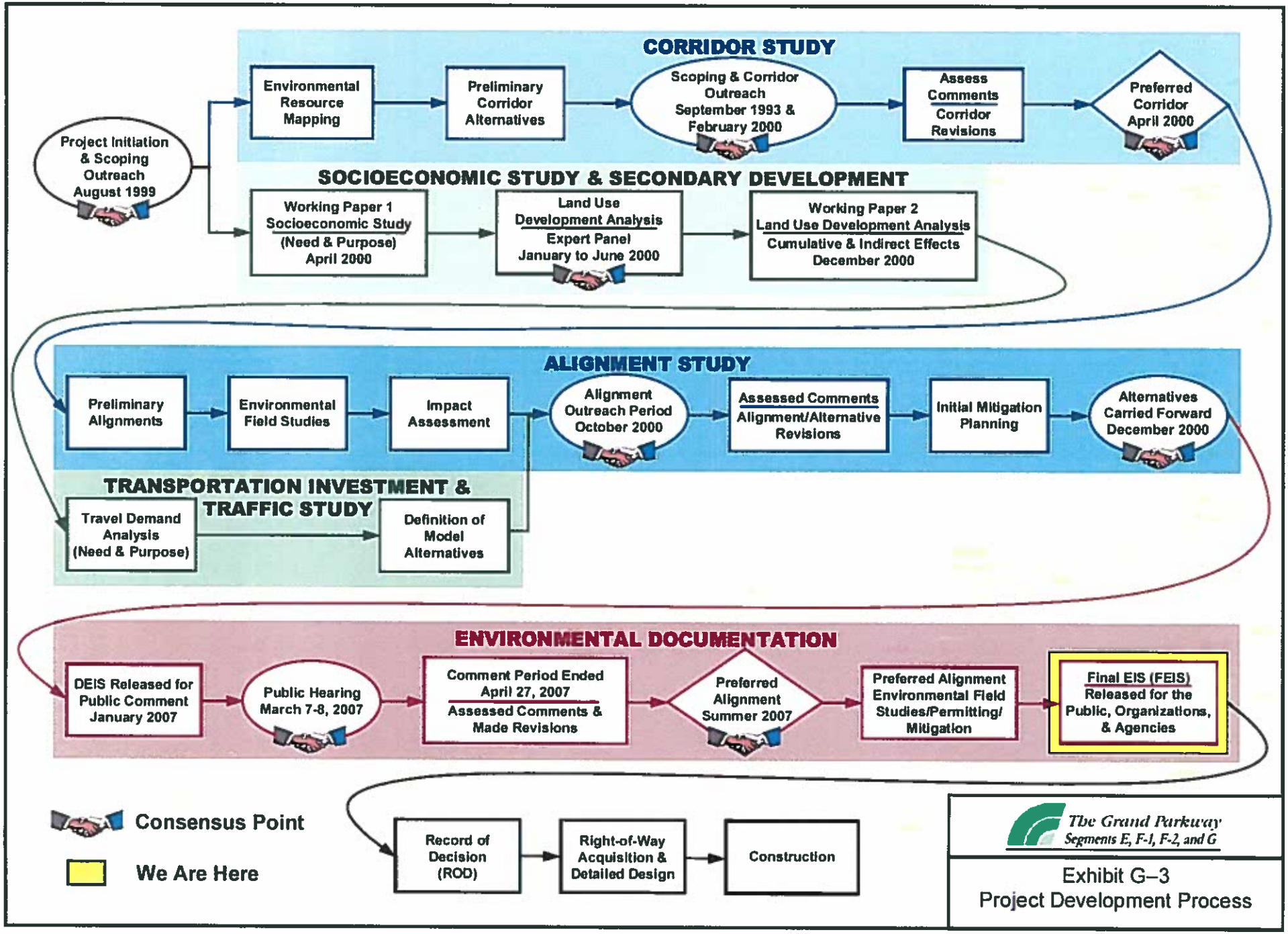
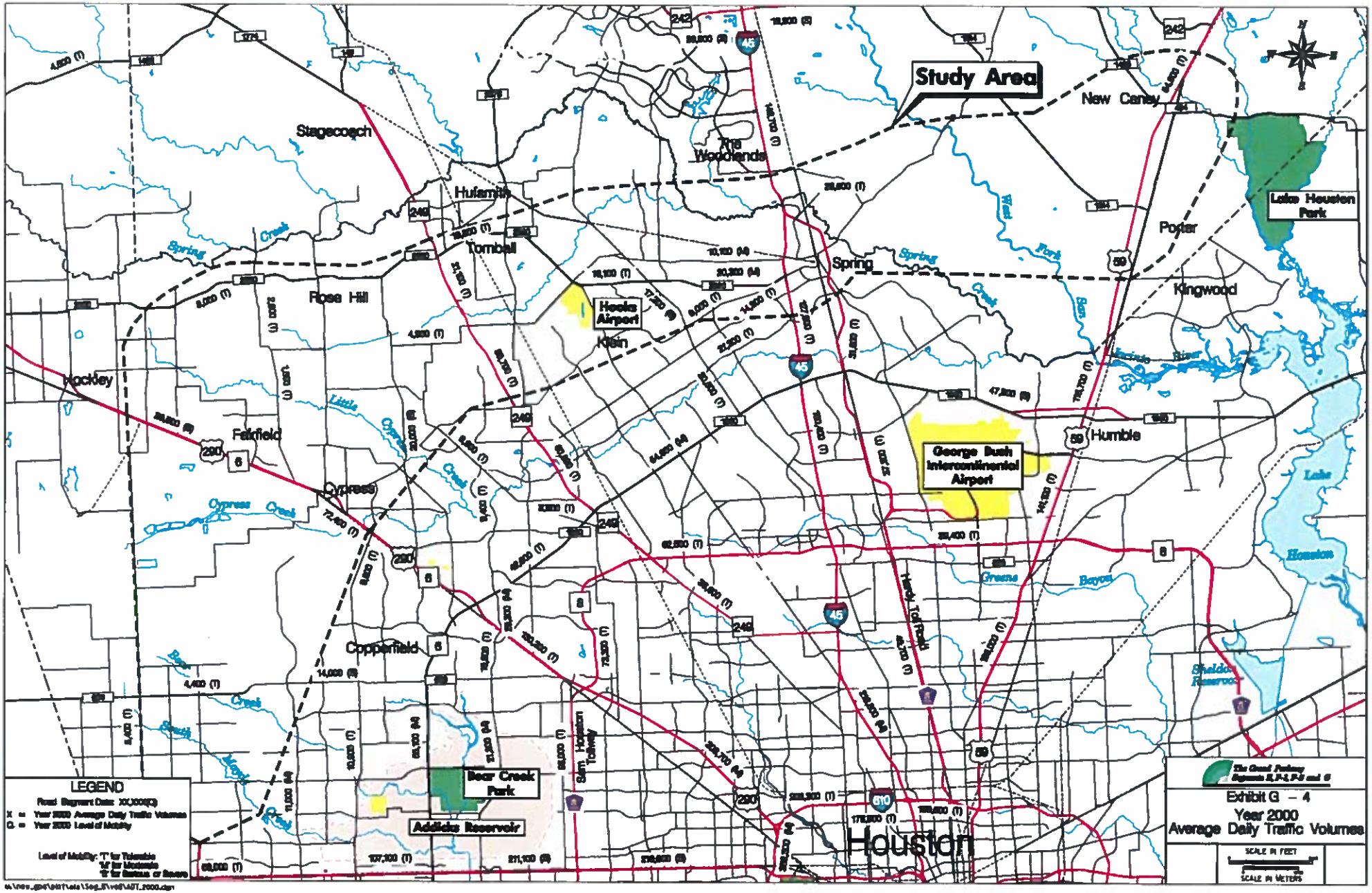
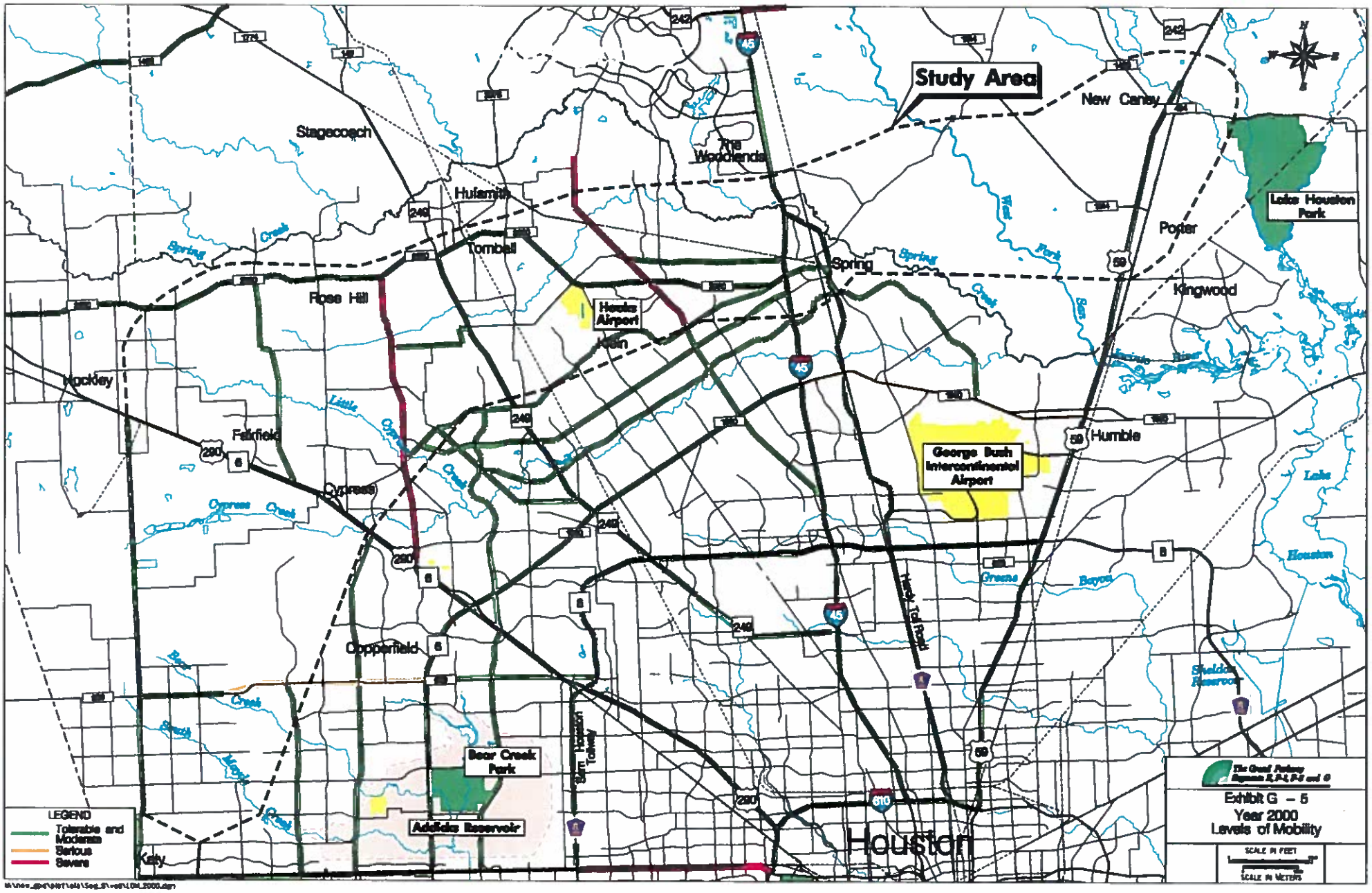
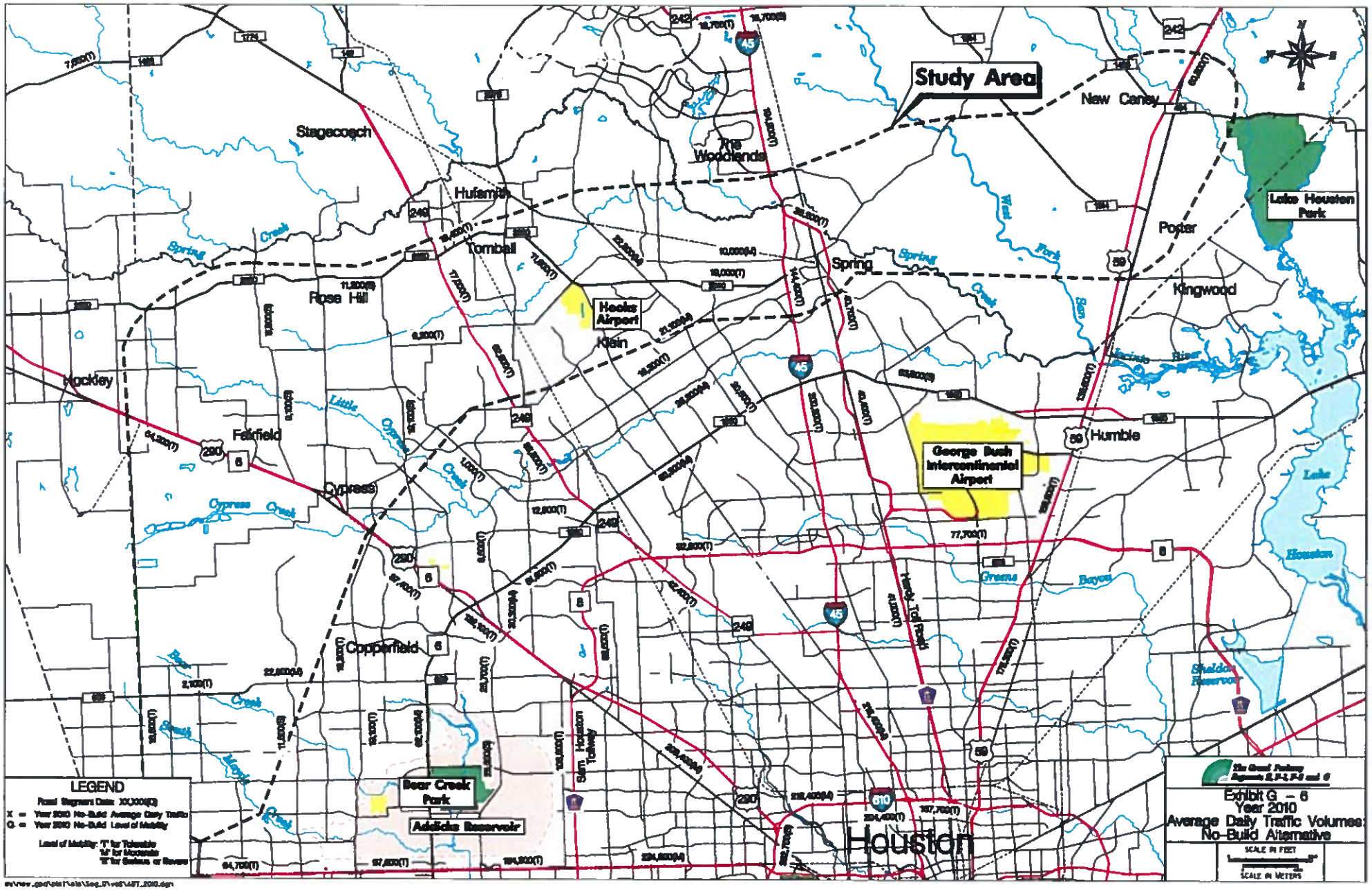
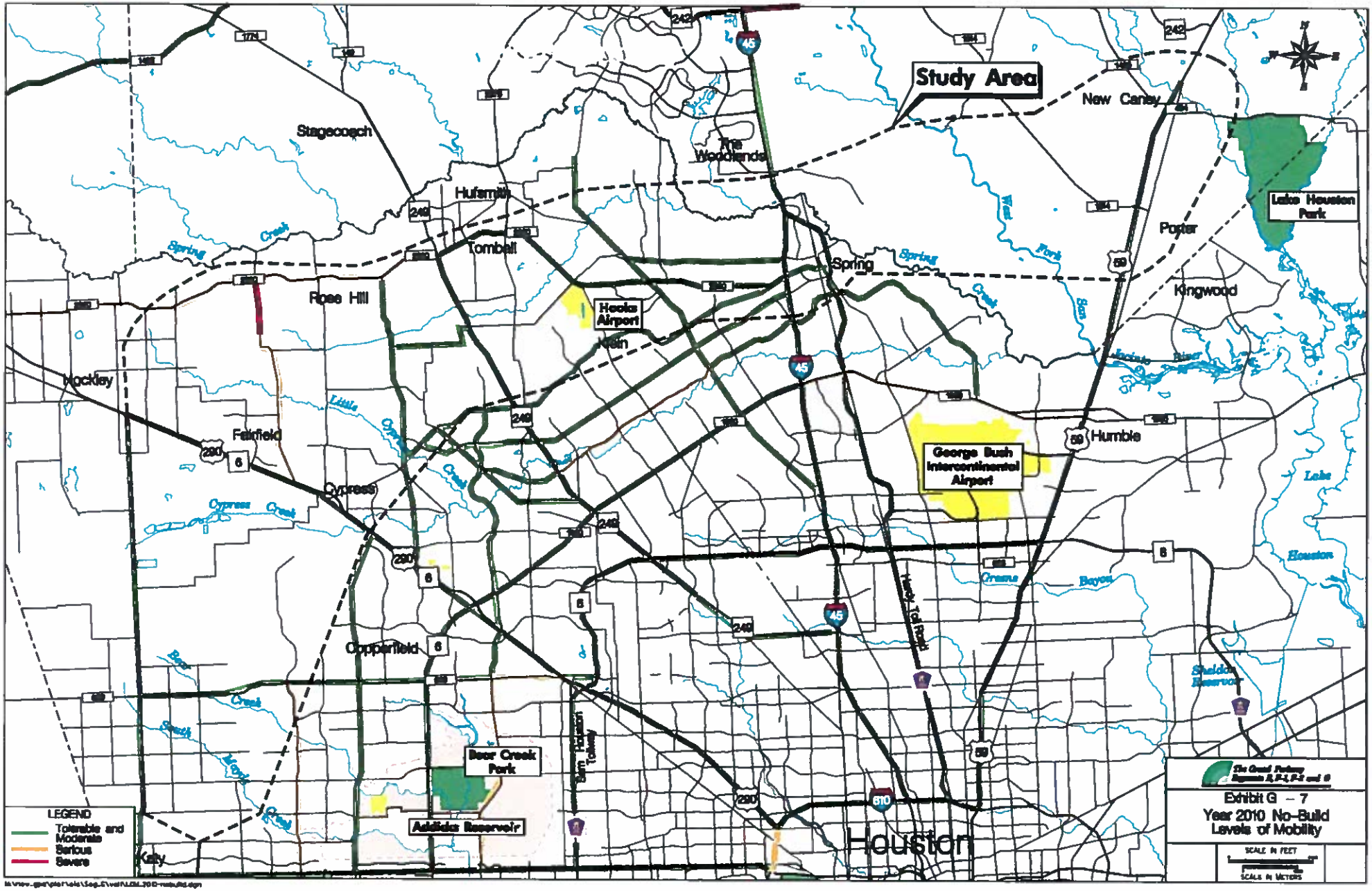


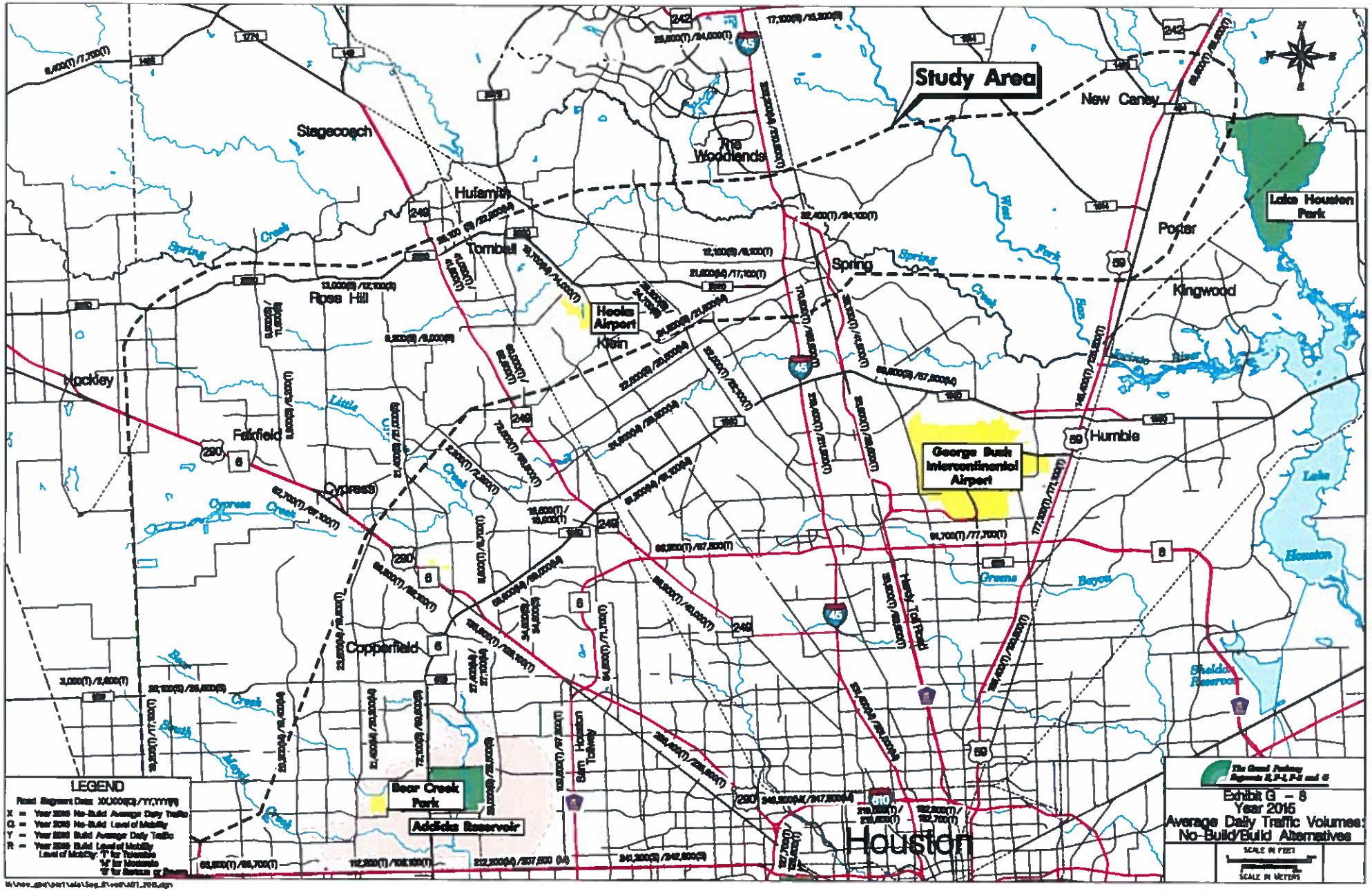
Exhibit G–3
Project Development Process

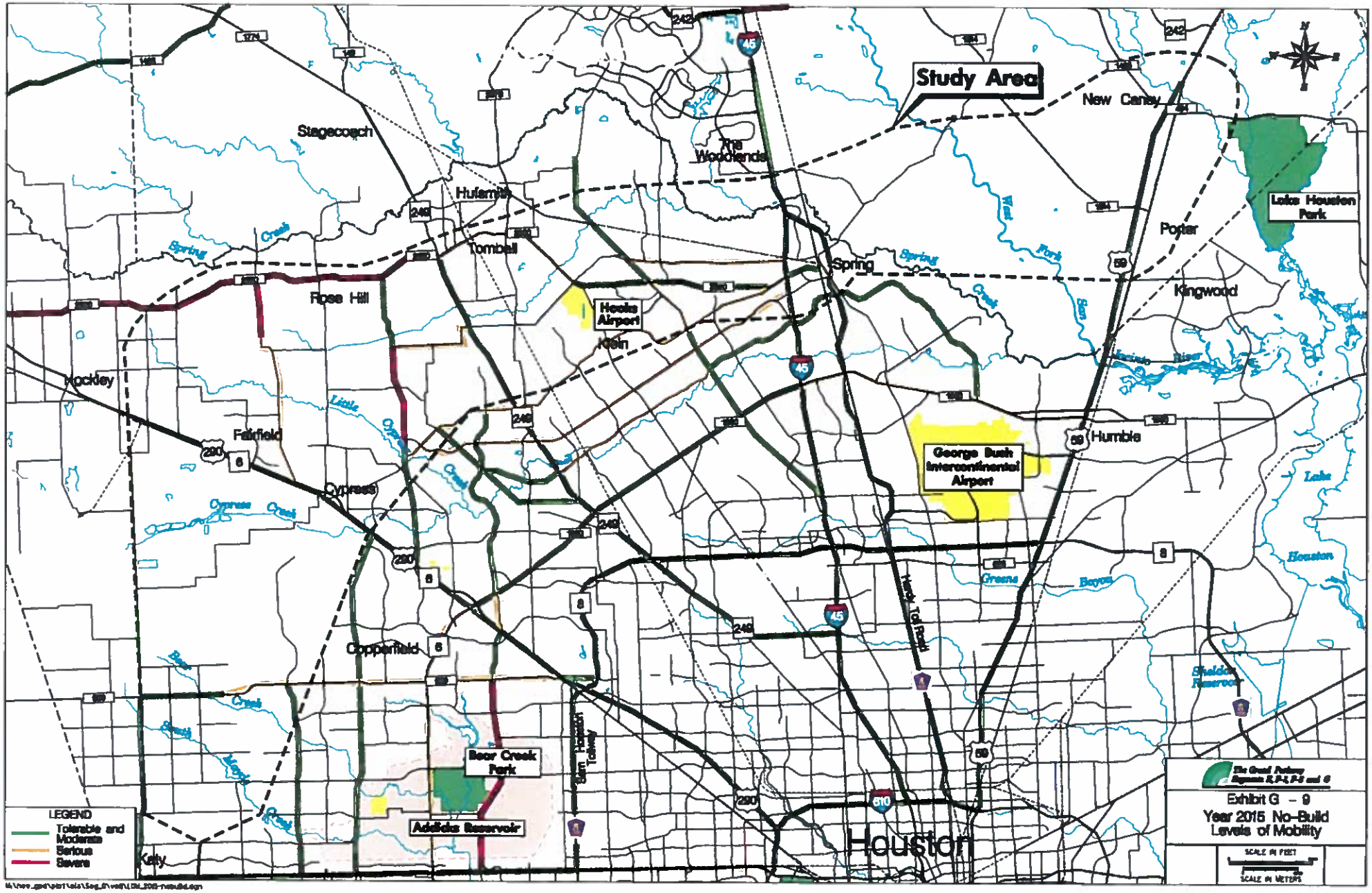

Study Area
Stagecoach
The Woodlands
New Caney
Huffman
Tomball
Spring
Porter
Kingwood
Rose Hill
Hooks Airport
Klein
Lake Houston Park
Cockley
Fairfield
Cypress
Humble
George Bush Intercontinental Airport
Copperfield
Bear Creek Park
Addicks Reservoir
Houston
Lake Houston
Sheldon Reservoir
Sam Houston Tollway
Hardy Toll Road
LEGEND
Exhibit G – 4
Year 2000
Average Daily Traffic Volumes
SCALE IN FEET
SCALE IN METERS

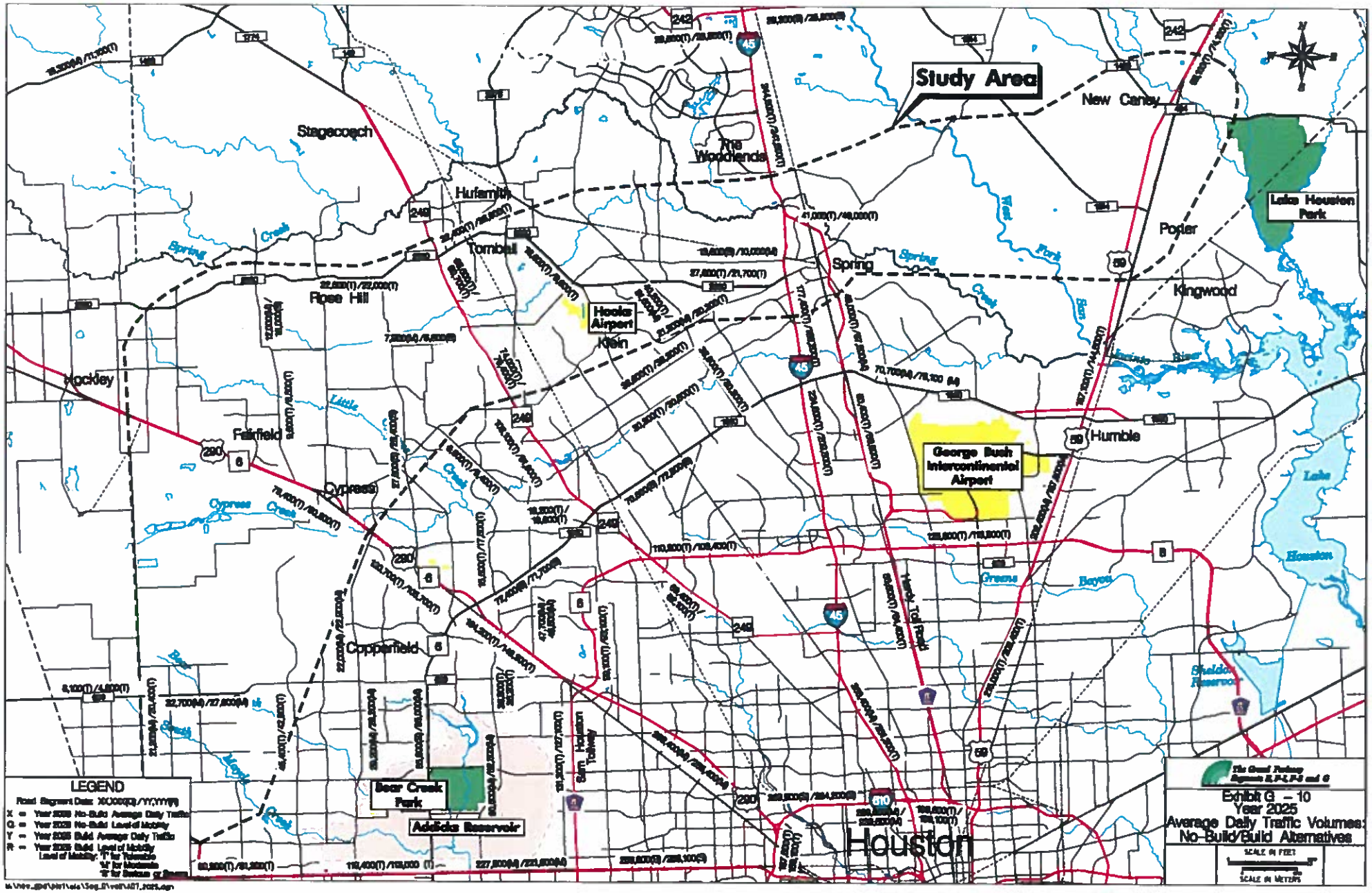

Study Area
Stagecoach
Hufsmith
Tomball
The Woodlands
New Caney
Porter
Kingwood
Lake Houston Park
Spring
Rose Hill
Houston Airport
Klein
Mockley
Fairfield
Cypress
Humble
George Bush Intercontinental Airport
Copperfield
Bear Creek Park
Addicks Reservoir
Katy
Houston
Sam Houston Tollway
Hardy Toll Road
Sheldon Reservoir
LEGEND
Tolerable and Moderate
Serious
Severe
Exhibit G – 5
Year 2000
Levels of Mobility
SCALE IN FEET
SCALE IN METERS

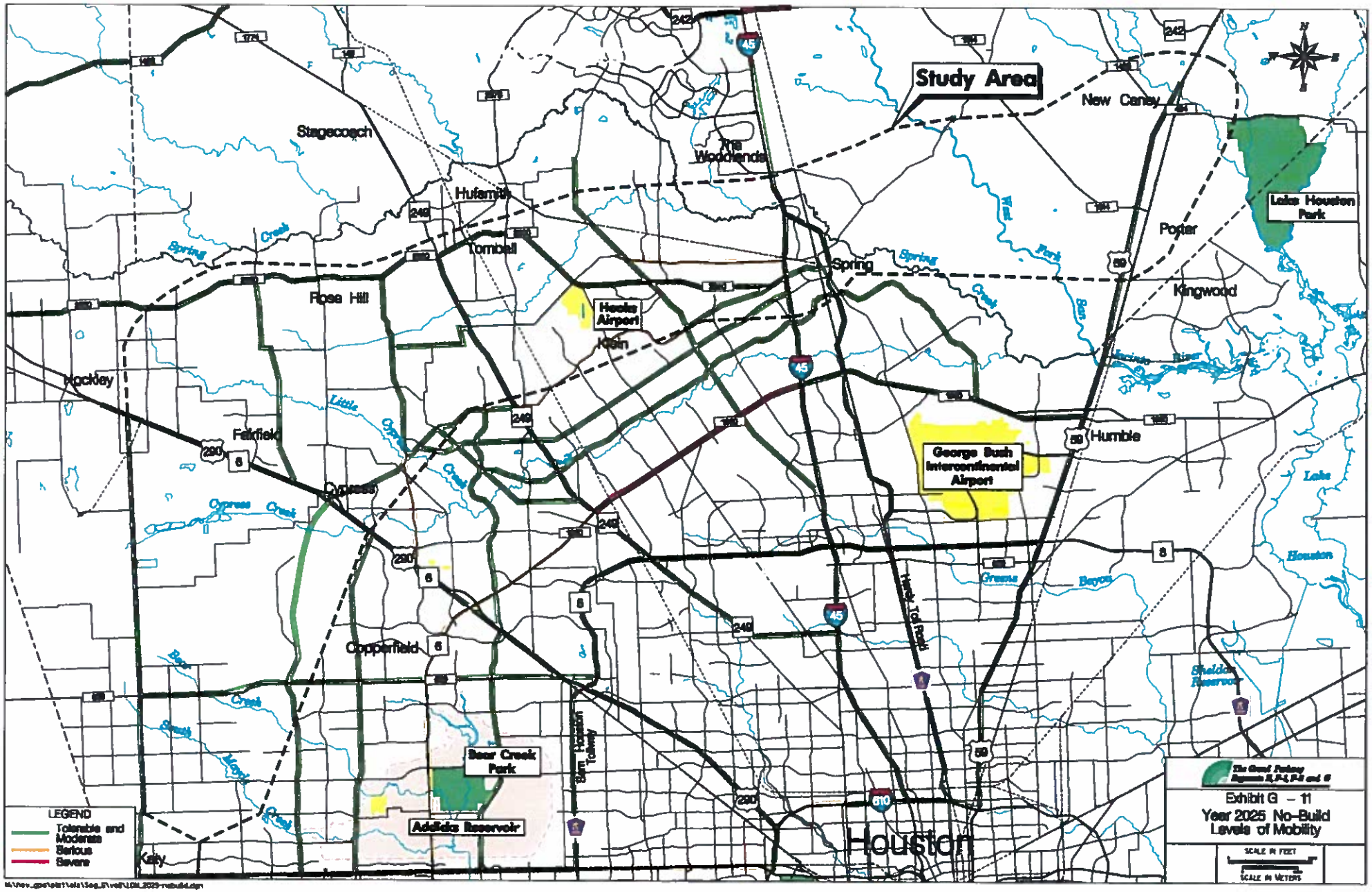

Study Area
Stagecoach
The Woodlands
New Caney
Hufsmith
Tomball
Spring
Porter
Kingwood
Rose Hill
Hockley
Klein
Hooks Airport
Fairfield
Cypress
Humble
George Bush Intercontinental Airport
Lake Houston Park
Copperfield
Bear Creek Park
Addicks Reservoir
Houston
Sam Houston Tollway
Hardy Toll Road
Spring Creek
West Fork San Jacinto River
Cypress Creek
Little Cypress Creek
Greens Bayou
Lake Houston
Sheldon Reservoir
LEGEND
Exhibit G – 6
Year 2010
Average Daily Traffic Volumes:
No-Build Alternative
SCALE IN FEET
SCALE IN METERS

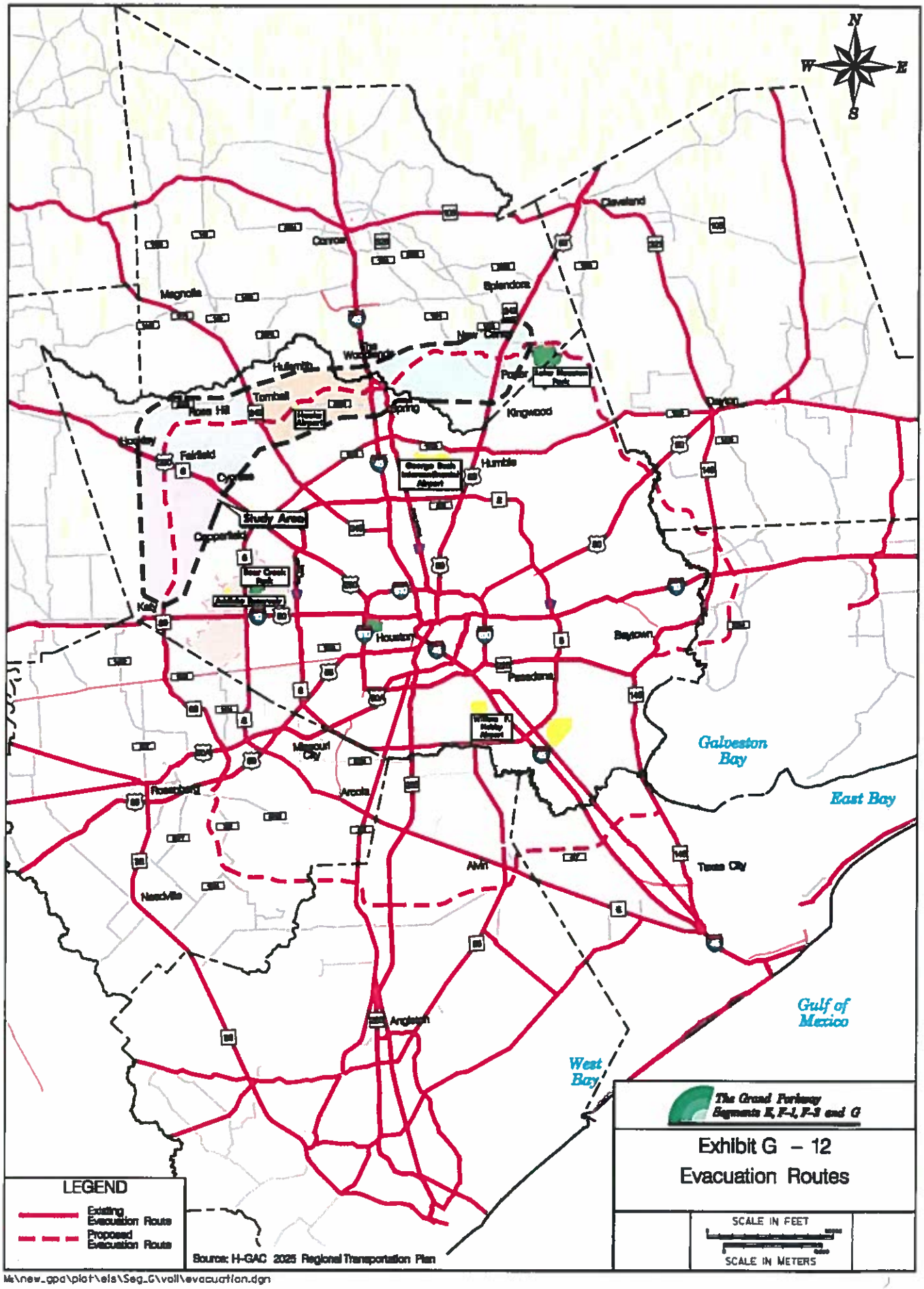

Study Area
New Caney
Stagecoach
The Woodlands
Humble
Tomball
Spring
Porter
Kingwood
Lake Houston Park
Rose Hill
Hooks Airport
Klein
Mockley
Fairfield
Cypress
George Bush Intercontinental Airport
Humble
Copperfield
Bear Creek Park
Addicks Reservoir
Katy
Houston
Sam Houston Tollway
Hardy Toll Road
Spring Creek
Little Cypress Creek
Cypress Creek
Bear Creek
Mary Creek
Sims Bayou
Cypress Bayou
Lake Houston
Sheldon Reservoir
LEGEND
Tolerable and Moderate
Serious
Severe
Exhibit G – 7
Year 2010 No-Build Levels of Mobility
SCALE IN FEET
SCALE IN METERS


Study Area
Stagecoach
The Woodlands
New Caney
Humble
Tomball
Spring
Porter
Kingwood
Rose Hill
Hockley
Fairfield
Cypress
Copperfield
Klein
Hooks Airport
Lake Houston Park
George Bush Intercontinental Airport
Bear Creek Park
Addicks Reservoir
Houston
Sam Houston Tollway
Hardy Toll Road
Spring Creek
West Fork San Jacinto River
Little Cypress Creek
Cypress Creek
Greens Bayou
Lake Houston
Sheldon Reservoir
LEGEND
X = Year 2015 No-Build Average Daily Traffic
Q = Year 2015 No-Build Level of Mobility
Y = Year 2015 Build Average Daily Traffic
R = Year 2015 Build Level of Mobility
Level of Mobility: 'F' for Tolerable
'M' for Moderate
'S' for Serious or Severe
Exhibit G – 8
Year 2015
Average Daily Traffic Volumes:
No-Build/Build Alternatives
SCALE IN FEET
SCALE IN METERS

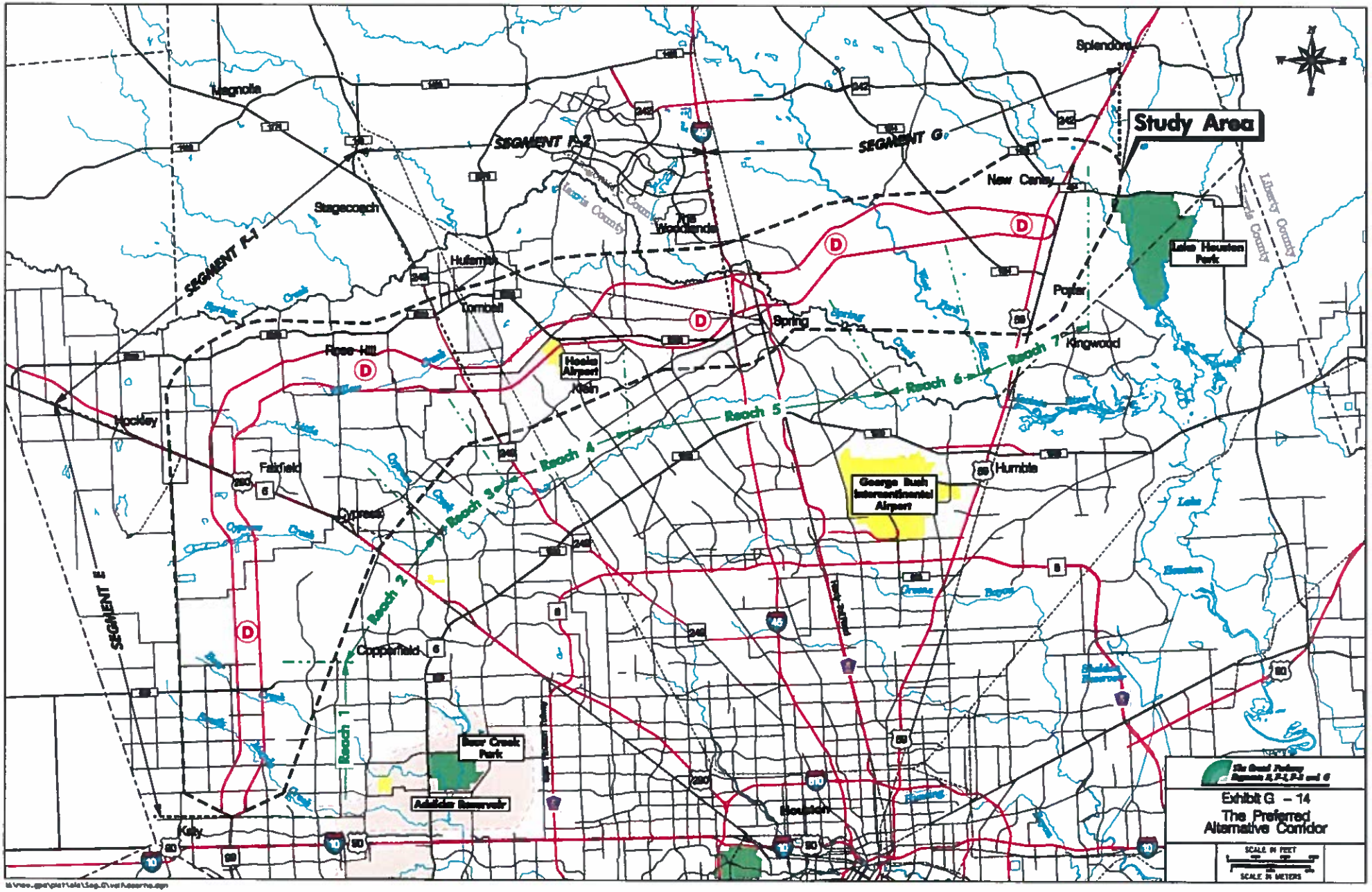

Study Area
New Caney
Stagecoach
The Woodlands
Humble
Tomball
Spring
Porter
Kingwood
Lake Houston Park
Rose Hill
Hooks Airport
Klein
Hockley
Fairfield
Cypress
George Bush Intercontinental Airport
Humble
Copperfield
Bear Creek Park
Addicks Reservoir
Katy
Houston
Sheldon Reservoir
Lake Houston
Spring Creek
Little Cypress Creek
Cypress Creek
Greens Bayou
Hardy Toll Road
Sam Houston Tollway
LEGEND
Tolerable and Moderate
Serious
Severe
Exhibit G - 9
Year 2015 No-Build Levels of Mobility
SCALE IN FEET
SCALE IN METERS

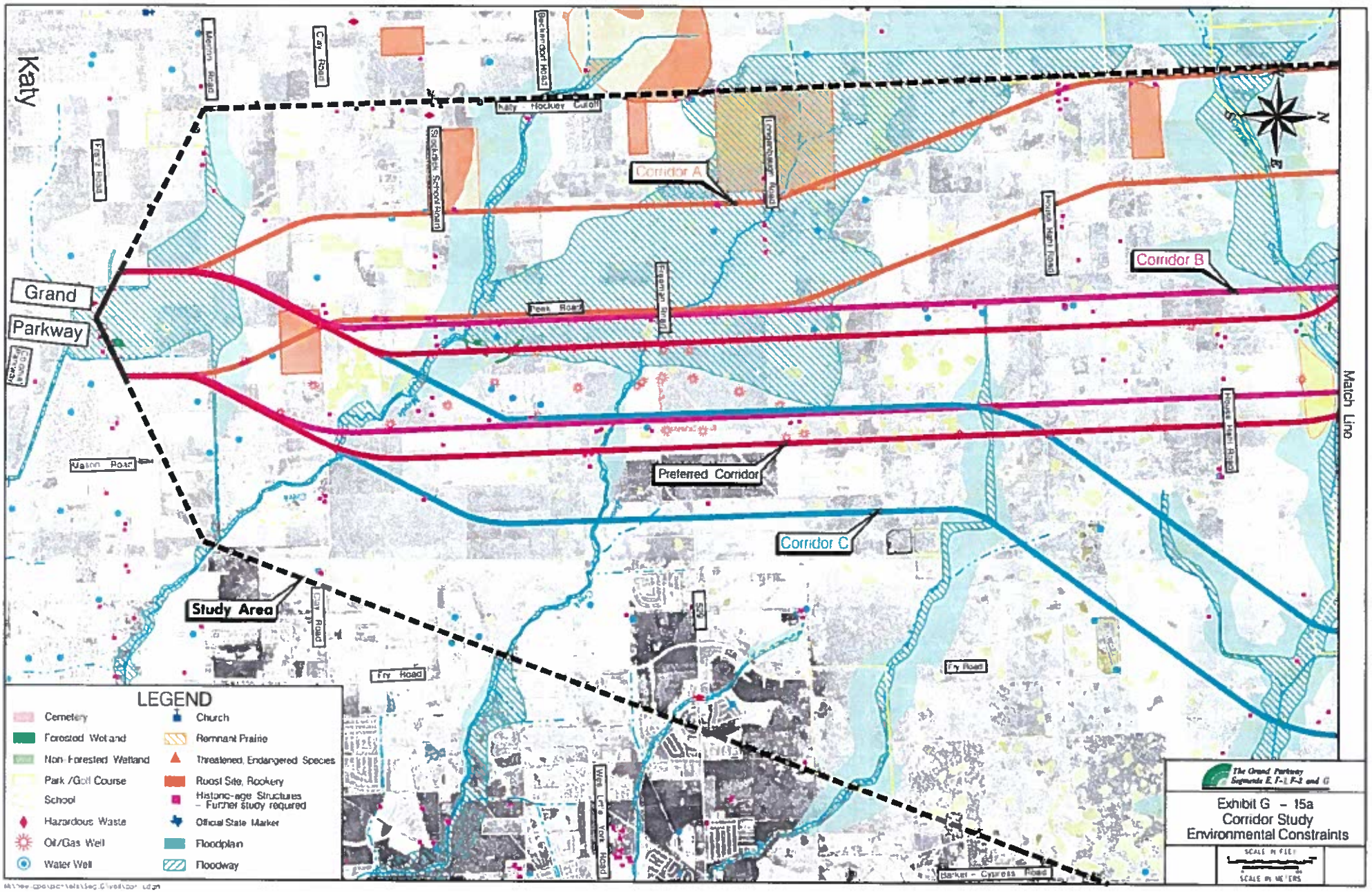

Study Area
Stagecoach
The Woodlands
New Caney
Hufsmith
Tomball
Spring
Porter
Kingwood
Rose Hill
Hooks Airport
Klein
Hockley
Fairfield
Cypress
Humble
George Bush Intercontinental Airport
Copperfield
Lake Houston Park
Bear Creek Park
Addicks Reservoir
Houston
Sam Houston Tollway
Hardy Toll Road
Spring Creek
Little Cypress Creek
Cypress Creek
Mary's Creek
West Fork San Jacinto River
Lake Houston
Houston Bayou
Greens Bayou
Sheldon Reservoir
LEGEND
Road Segment Data: XX,XXX(Q)/YY,YYY(R)
X = Year 2025 No-Build Average Daily Traffic
Q = Year 2025 No-Build Level of Mobility
Y = Year 2025 Build Average Daily Traffic
R = Year 2025 Build Level of Mobility
Level of Mobility: "F" for Tolerable
"M" for Moderate
"S" for Serious or Severe
The Grand Parkway Segments B, F-1, F-2 and G
Exhibit G – 10
Year 2025
Average Daily Traffic Volumes:
No-Build/Build Alternatives
SCALE IN FEET
SCALE IN METERS

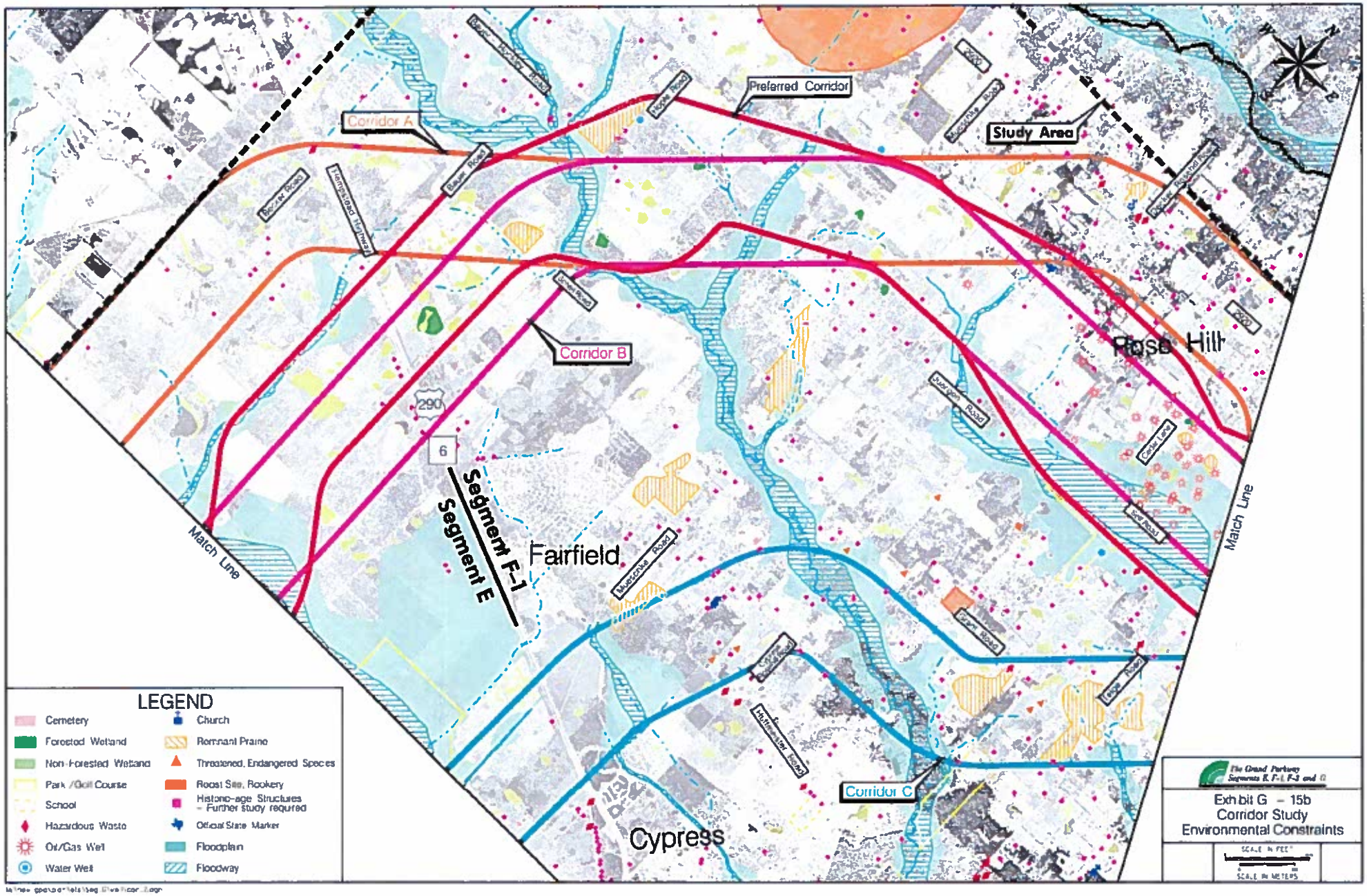

Study Area
New Caney
Stagecoach
The Woodlands
Hufsmith
Tomball
Spring
Rose Hill
Hooks Airport
Klein
Kingwood
Porter
Lake Houston Park
Hockley
Fairfield
Cypress
Humble
George Bush Intercontinental Airport
Copperfield
Bear Creek Park
Addicks Reservoir
Katy
Houston
Sam Houston Tollway
Hardy Toll Road
Spring Creek
Little Cypress Creek
Cypress Creek
Bear Creek
Spring Creek
Greens Bayou
Lake Houston
Sheldon Reservoir
LEGEND
Tolerable and Moderate
Serious
Severe
Exhibit G – 11
Year 2025 No-Build Levels of Mobility
SCALE IN FEET
SCALE IN METERS

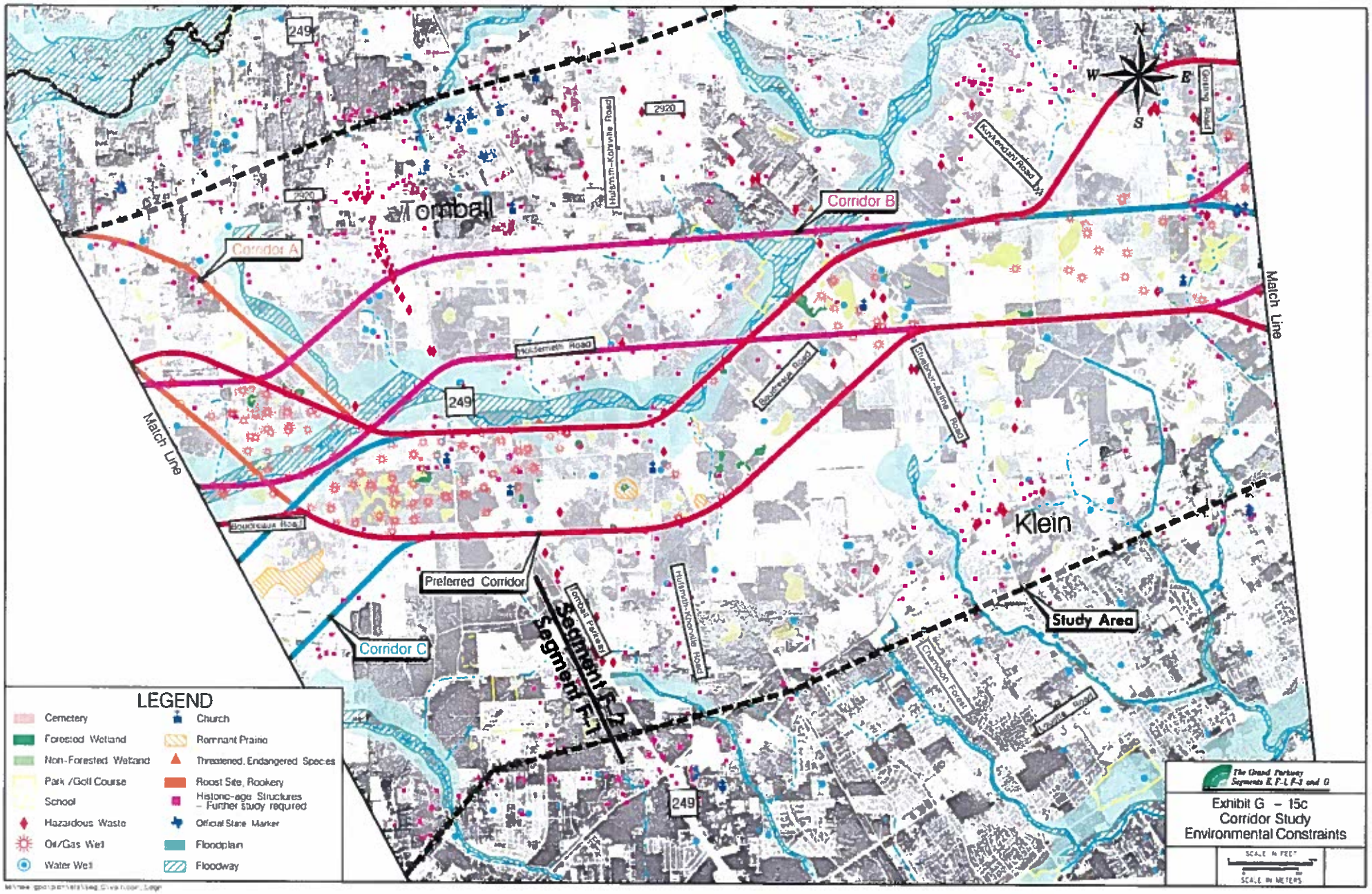


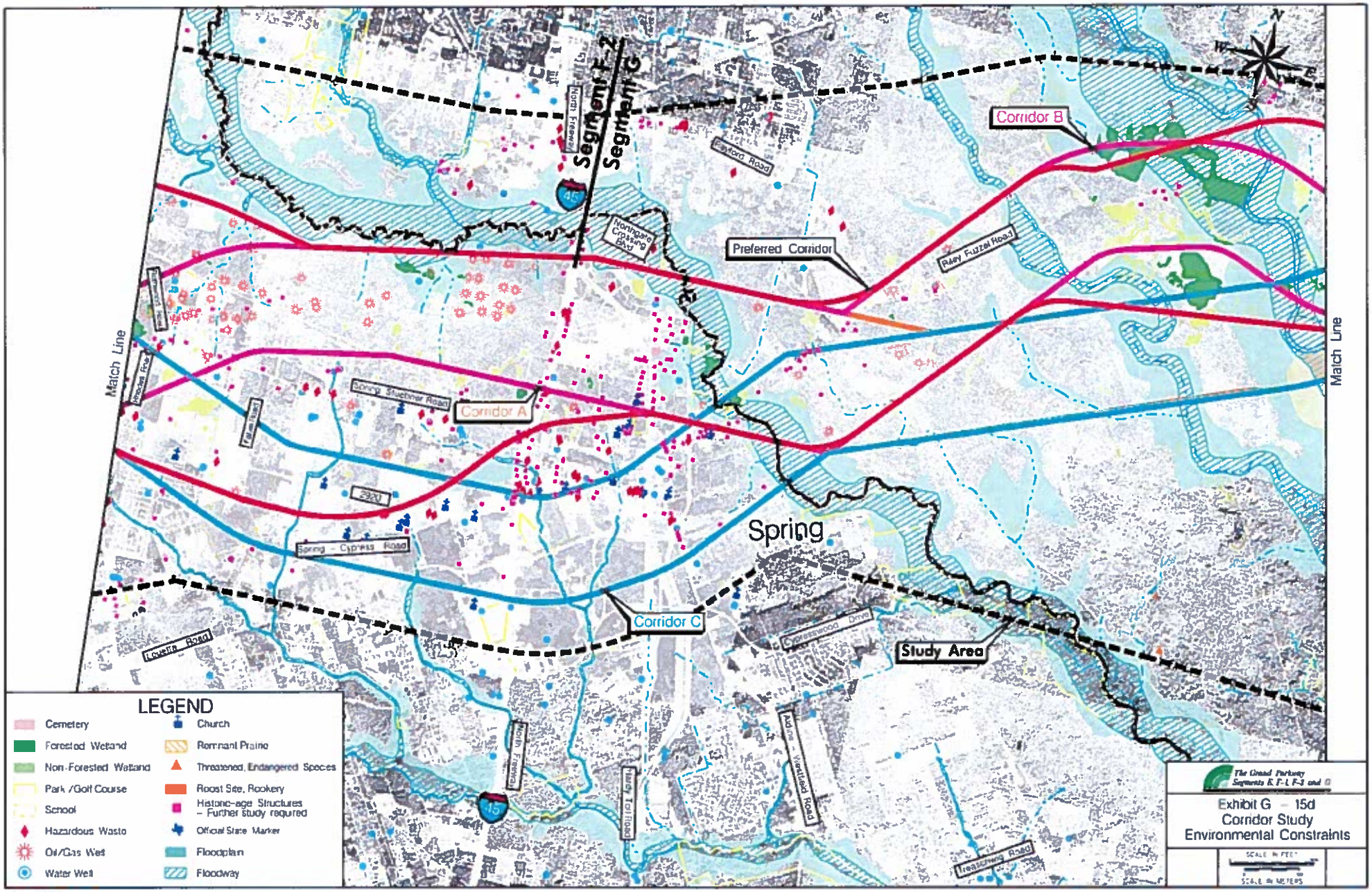
M:\new_gpa\plot\els\Seg_G\vol1\evacuation.dgn

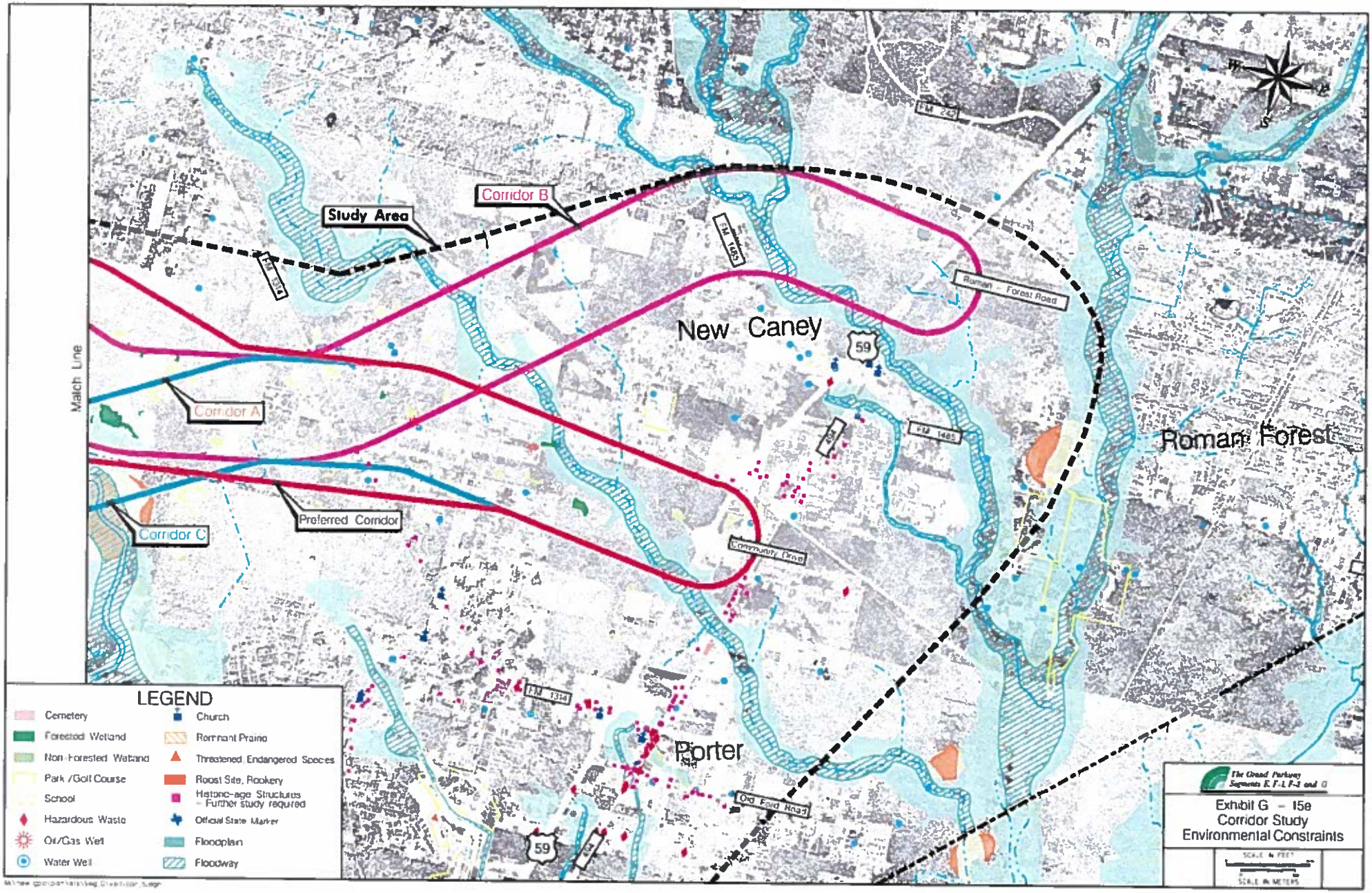

Study Area
SEGMENT F-2
SEGMENT G
SEGMENT F-1
SEGMENT E
Reach 1
Reach 2
Reach 3
Reach 4
Reach 5
Reach 6
Reach 7
Magnolia
Stagecoach
Splendora
New Caney
The Woodlands
Humble
Tomball
Spring
Rose Hill
Hockley
Fairfield
Cypress
Cypresswood
Kingwood
Poplar
Hooks Airport
Klein
George Bush Intercontinental Airport
Lake Houston Park
Bear Creek Park
Addicks Reservoir
Houston
Katy
Harris County
Liberty County
Exhibit G – 14
The Preferred Alternative Corridor
SCALE IN FEET
SCALE IN METERS

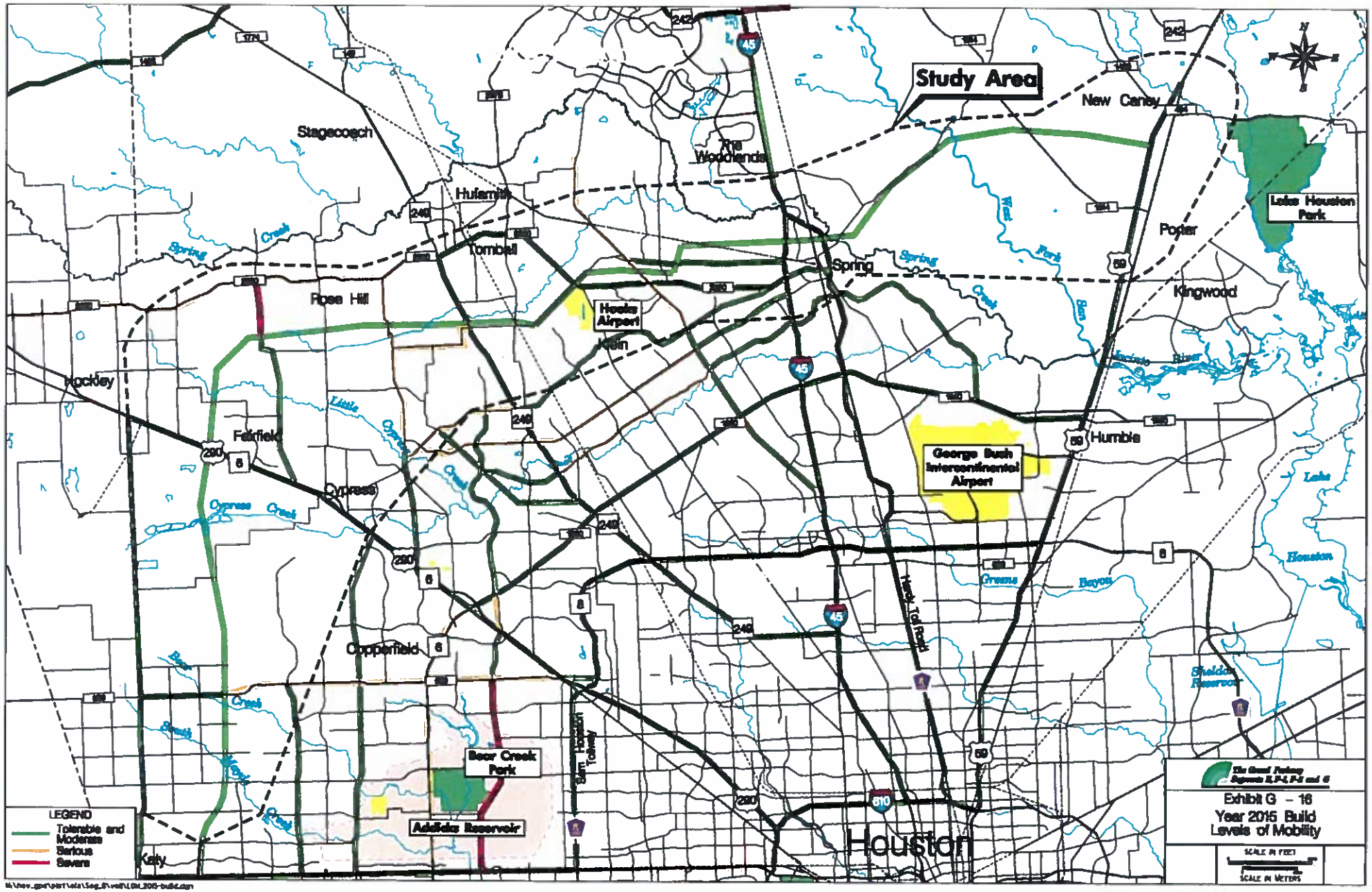

Katy
Grand
Parkway
Corridor A
Corridor B
Corridor C
Preferred Corridor
Study Area
Match Line
Katy - Hockley Cutoff
Peek Road
Mason Road
Fry Road
Barker - Cypress Road
LEGEND
Cemetery
Forested Wetland
Non-Forested Wetland
Park /Golf Course
School
Hazardous Waste
Oil/Gas Well
Water Well
Church
Remnant Prairie
Threatened, Endangered Species
Roost Site, Rookery
Historic-age Structures - Further study required
Official State Marker
Floodplain
Floodway
The Grand Parkway Segments E, F-1, F-2 and G
Exhibit G - 15a
Corridor Study
Environmental Constraints
SCALE IN FEET
SCALE IN METERS

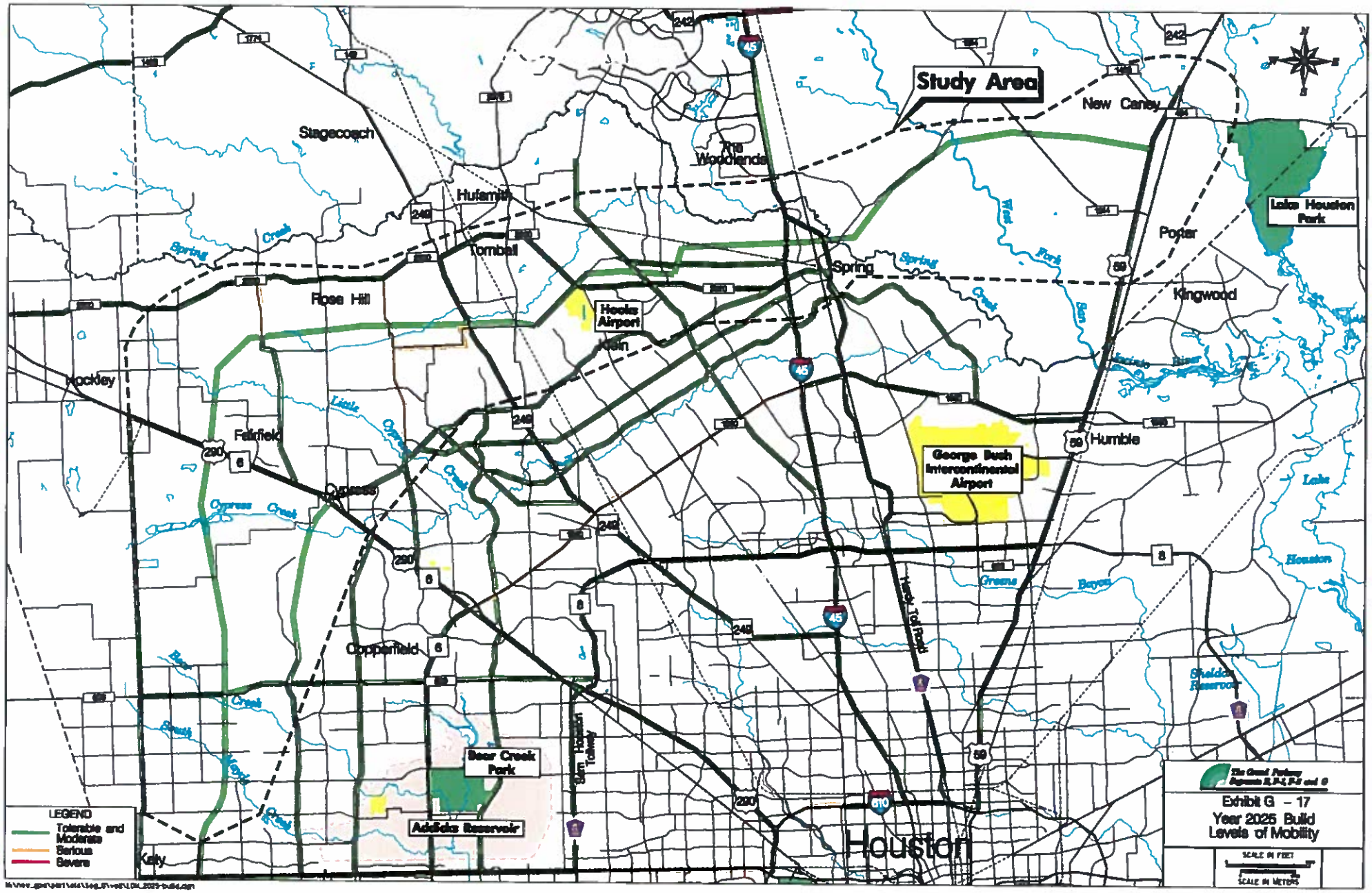

Preferred Corridor
Study Area
Corridor A
Corridor B
Corridor C
Rose Hill
Fairfield
Cypress
Segment F-1
Segment E
Match Line
Match Line
290
6
Hyde Road
Mueschke Road
Beyer Road
Hempstead Highway
West Road
Jackson Road
Center Line
Seal Road
Cypress Road
Legge Road
Huffmeister Road
Cypress Rosehill Road
LEGEND
Cemetery
Forested Wetland
Non-Forested Wetland
Park /Golf Course
School
Hazardous Waste
Oil/Gas Well
Water Well
Church
Remnant Prairie
Threatened, Endangered Species
Roost Site, Rookery
Historic-age Structures - Further study required
Official State Marker
Floodplain
Floodway
The Grand Parkway Segments E, F-1, F-3 and G
Exhibit G – 15b
Corridor Study
Environmental Constraints
SCALE IN FEET
SCALE IN METERS

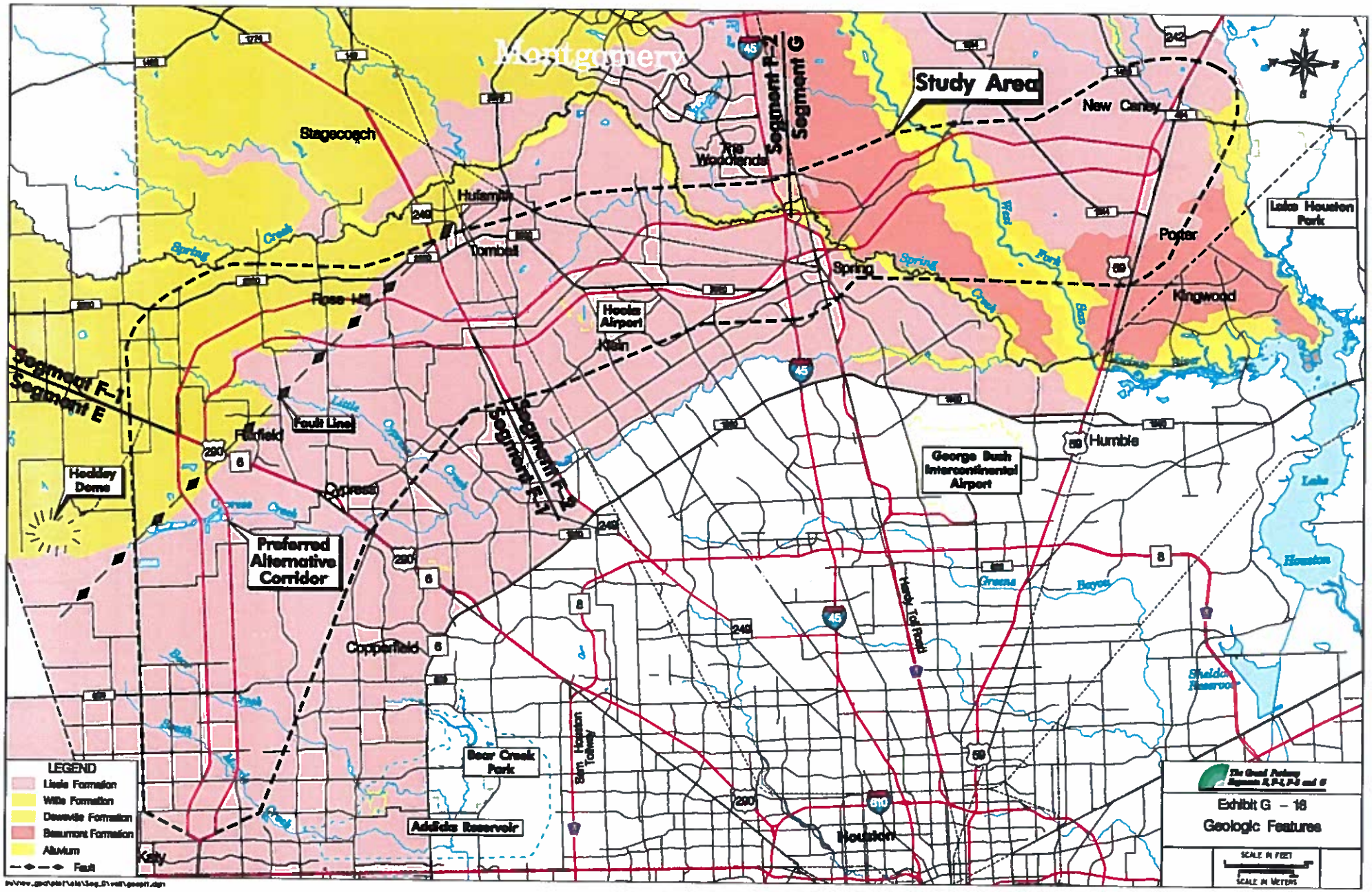

Tomball
Klein
Corridor A
Corridor B
Corridor C
Preferred Corridor
Segment F-1
Study Area
Match Line
Match Line
249
2920
Hufsmith-Kohrville Road
Hufsmith Road
Boudreaux Road
Shiloh-Ayline Road
Kuykendahl Road
Champion Forest
Louetta Road
Tomball Parkway
N
S
E
W
LEGEND
Cemetery
Forested Wetland
Non-Forested Wetland
Park /Golf Course
School
Hazardous Waste
Oil/Gas Well
Water Well
Church
Remnant Prairie
Threatened, Endangered Species
Roost Site, Rookery
Historic-age Structures – Further study required
Official State Marker
Floodplain
Floodway
The Grand Parkway Segments E, F-1, F-3 and G
Exhibit G – 15c
Corridor Study
Environmental Constraints
SCALE IN FEET
SCALE IN METERS


Match Line
Match Line
Segment F-2
Segment G
Corridor A
Corridor B
Corridor C
Preferred Corridor
Study Area
Spring
Spring Stuebner Road
Spring - Cypress Road
Louetta Road
Ralph Fair Road
Rayford Road
Northgate Crossing Blvd
Riley Fuzzel Road
Cypresswood Drive
Aldine - Westfield Road
Treaschwig Road
Hardy Toll Road
North Freeway
2920
45
15
LEGEND
Cemetery
Forested Wetland
Non-Forested Wetland
Park /Golf Course
School
Hazardous Waste
Oil/Gas Well
Water Well
Church
Remnant Prairie
Threatened, Endangered Species
Roost Site, Rookery
Historic-age Structures – Further Study required
Official State Marker
Floodplain
Floodway
The Grand Parkway Segments E, F-1, F-2 and G
Exhibit G – 15d
Corridor Study
Environmental Constraints
SCALE IN FEET
SCALE IN METERS


Study Area
Corridor B
Corridor A
Corridor C
Preferred Corridor
Match Line
New Caney
Porter
Roman Forest
FM 1314
FM 1485
FM 149
FM 2457
Roman Forest Road
Community Drive
Old Field Road
59
LEGEND
Cemetery
Forested Wetland
Non-Forested Wetland
Park /Golf Course
School
Hazardous Waste
Oil/Gas Well
Water Well
Church
Remnant Prairie
Threatened Endangered Species
Roost Site, Rookery
Historic-age Structures - Further study required
Official State Marker
Floodplain
Floodway
The Grand Parkway Segments E, F-1, F-2 and G
Exhibit G - 15e
Corridor Study
Environmental Constraints
SCALE IN FEET
SCALE IN METERS


Study Area
Stagecoach
The Woodlands
New Caney
Hufsmith
Tomball
Spring
Rose Hill
Hooks Airport
Klein
Porter
Kingwood
Lake Houston Park
Hockley
Fairfield
Cypress
Humble
George Bush Intercontinental Airport
Copperfield
Bear Creek Park
Addicks Reservoir
Katy
Houston
Sheldon Reservoir
Spring Creek
Little Cypress Creek
Cypress Creek
West Fork San Jacinto River
Greens Bayou
Lake Houston
Bear Creek
South Mayde Creek
Sam Houston Tollway
Hardy Toll Road
LEGEND
Tolerable and Moderate
Serious
Severe
Exhibit G – 16
Year 2015 Build
Levels of Mobility
SCALE IN FEET
SCALE IN METERS


Study Area
Stagecoach
Hufsmith
Tomball
The Woodlands
New Caney
Porter
Kingwood
Lake Houston Park
Spring
Rose Hill
Hooks Airport
Klein
Hockley
Fairfield
Cypress
Humble
George Bush Intercontinental Airport
Copperfield
Bear Creek Park
Addicks Reservoir
Katy
Houston
Sam Houston Tollway
Hardy Toll Road
Lake Houston
Shelden Reservoir
LEGEND
Tolerable and Moderate
Serious
Severe
Exhibit G – 17
Year 2025 Build
Levels of Mobility
SCALE IN FEET
SCALE IN METERS


Montgomery
Study Area
Segment F-2
Segment G
Segment F-1
Segment E
Stagecoach
Huffman
Tomball
The Woodlands
New Caney
Porter
Kingwood
Spring
Hooks Airport
Klein
Rose Hill
Fault Line
Fairfield
Cypress
Hockley Dome
Preferred Alternative Corridor
Copperfield
Bear Creek Park
Addicks Reservoir
Katy
Houston
Humble
George Bush Intercontinental Airport
Lake Houston Park
Lake Houston
Sheldon Reservoir
Hardy Toll Road
Sam Houston Tollway
LEGEND
Lissie Formation
Willis Formation
Deweese Formation
Beaumont Formation
Alluvium
Fault
Exhibit G – 18
Geologic Features
SCALE IN FEET
SCALE IN METERS

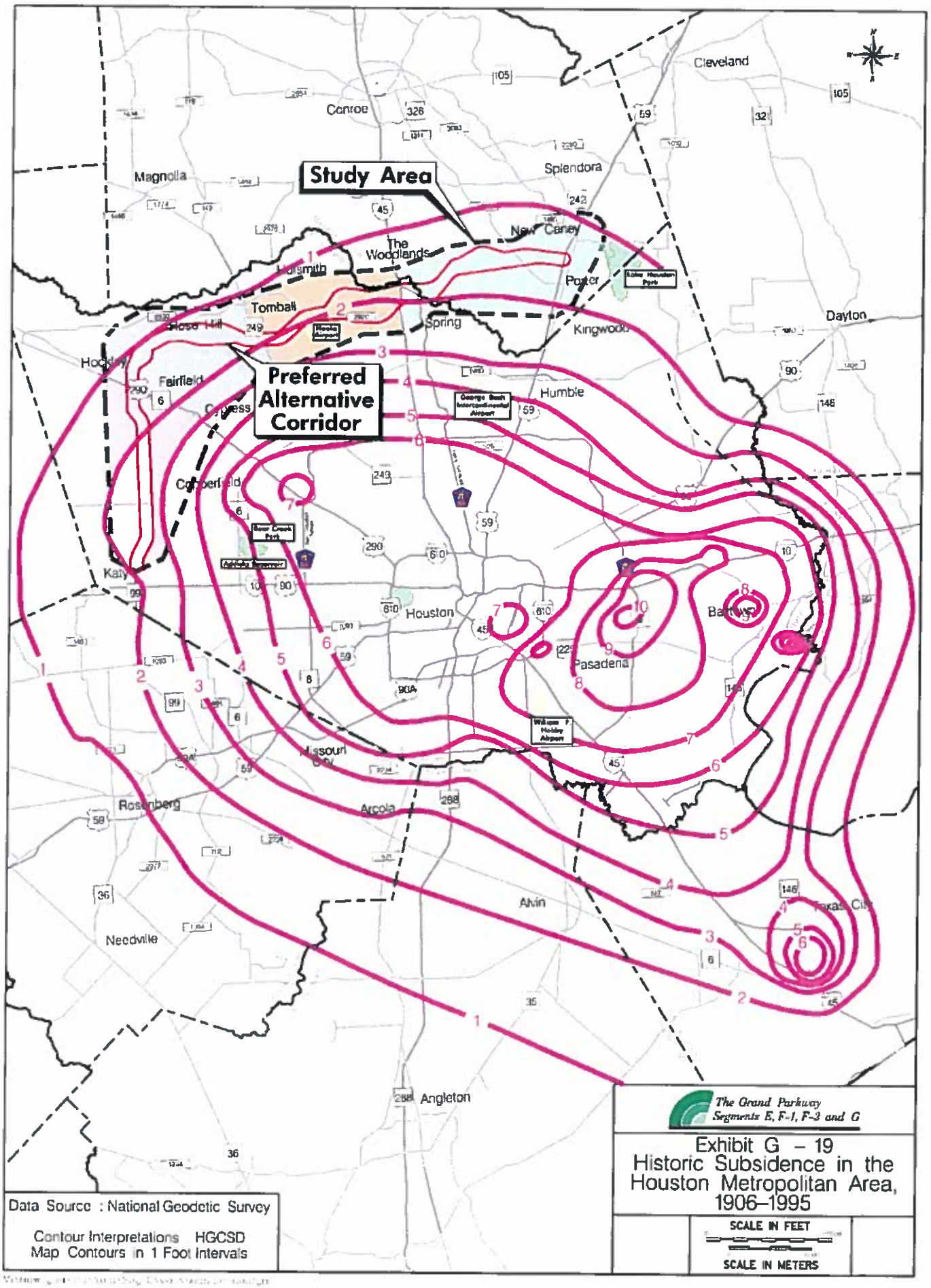
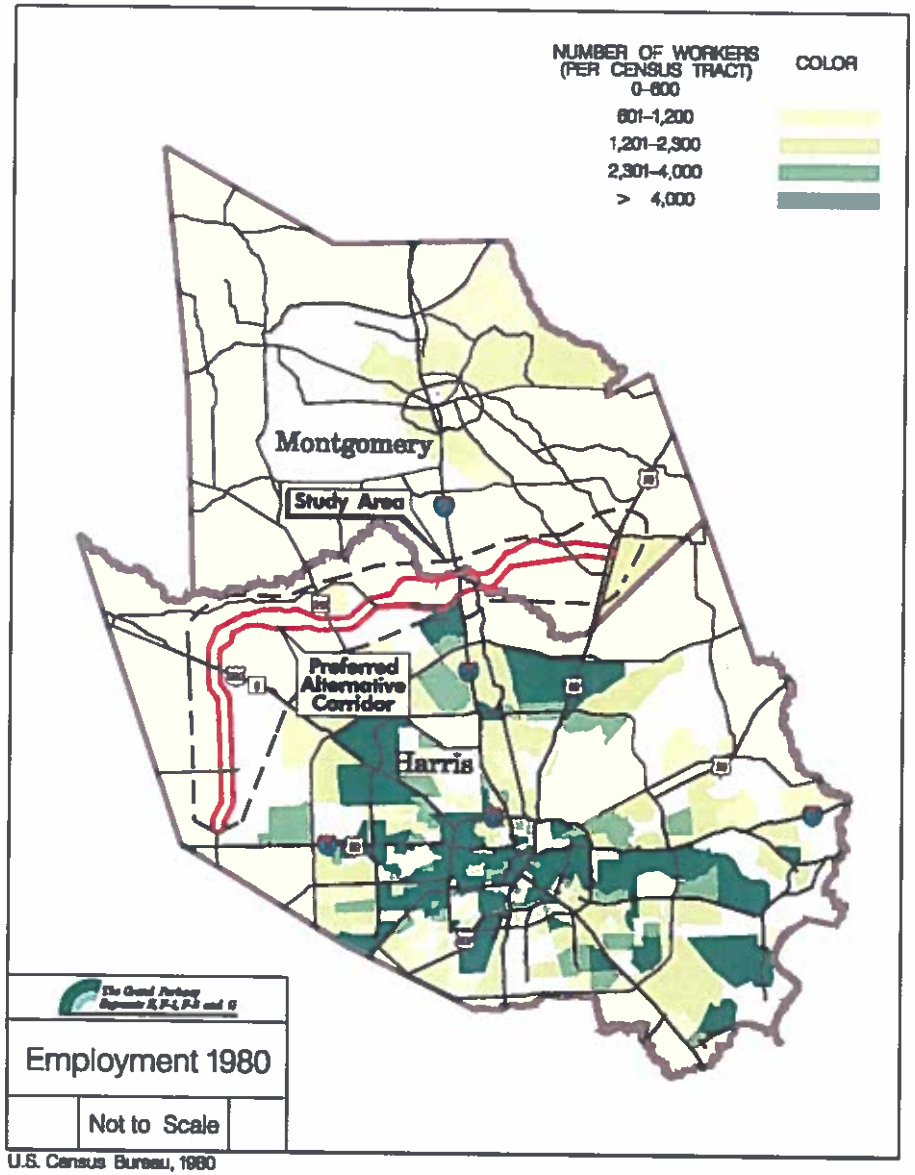
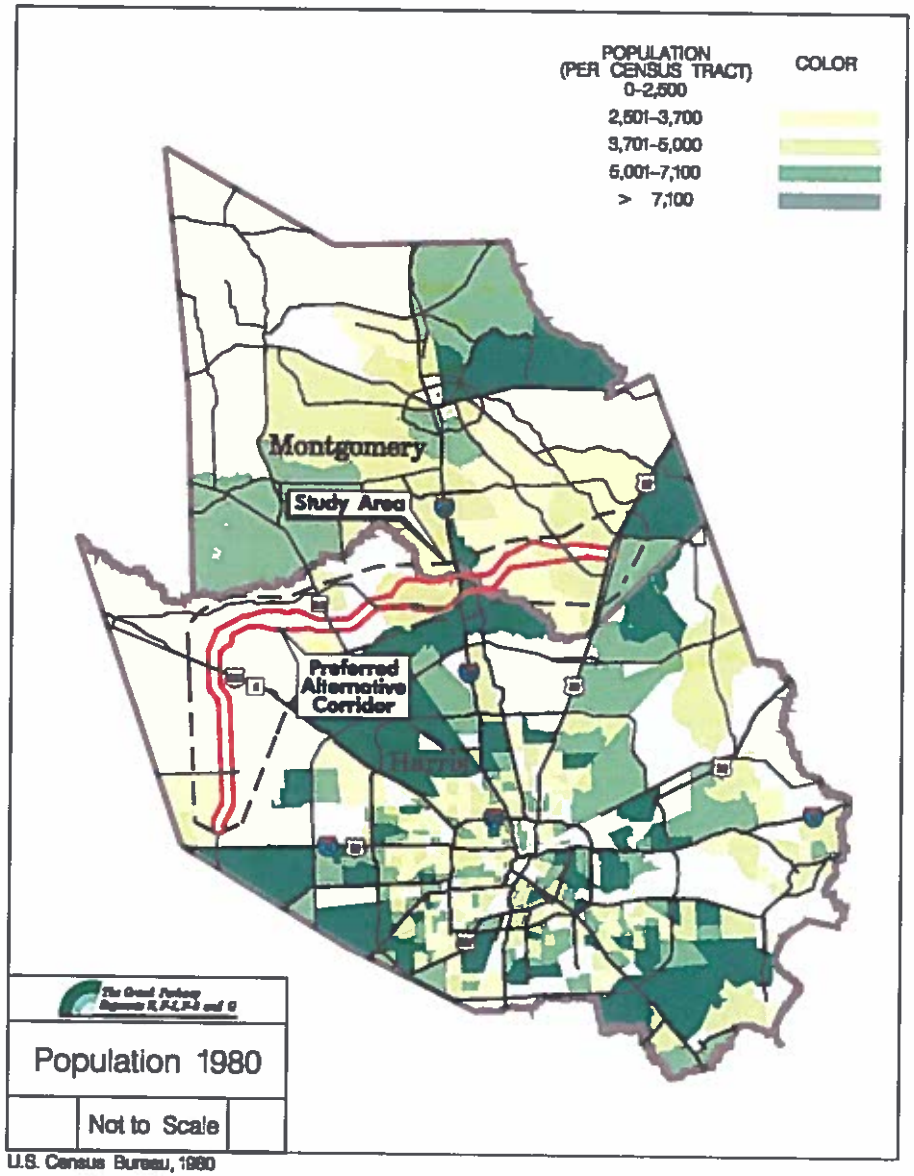

Study Area
Preferred Alternative Corridor
Conroe
Cleveland
Magnolia
Splendora
New Caney
The Woodlands
Porter
Tomball
Spring
Kingwood
Dayton
Hockley
Fairfield
Humble
Cypress
Cottonfield
Katy
Houston
Baytown
Pasadena
Missouri City
Rosenberg
Arcola
Alvin
Needville
Angleton
Texas City
Data Source : National Geodetic Survey
Contour Interpretations HGCSD
Map Contours in 1 Foot Intervals
The Grand Parkway
Segments E, F-1, F-3 and G
Exhibit G – 19
Historic Subsidence in the Houston Metropolitan Area, 1906–1995
SCALE IN FEET
SCALE IN METERS

Exhibit G – 20

Employment and Population Distribution by Census Tract, Harris and Montgomery Counties, 1980



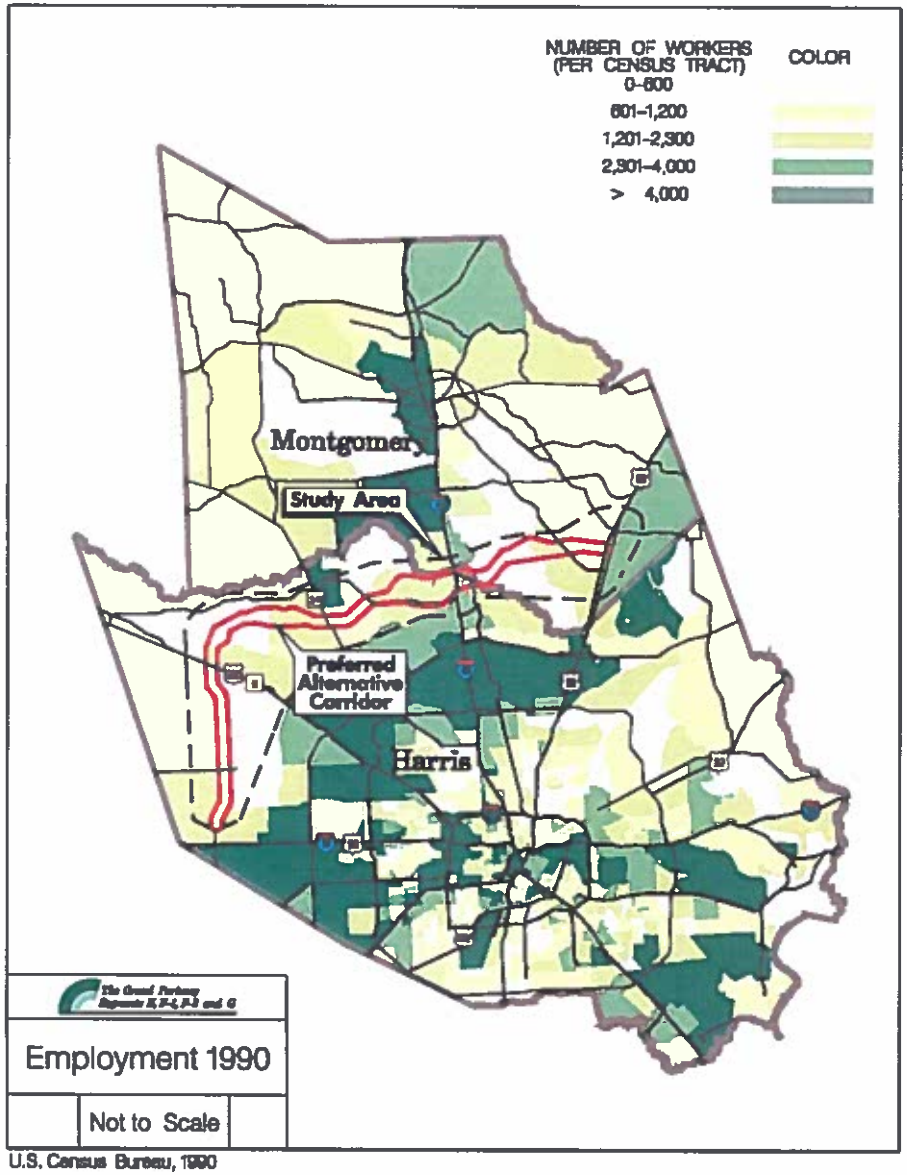
U.S. Census Bureau, 1980



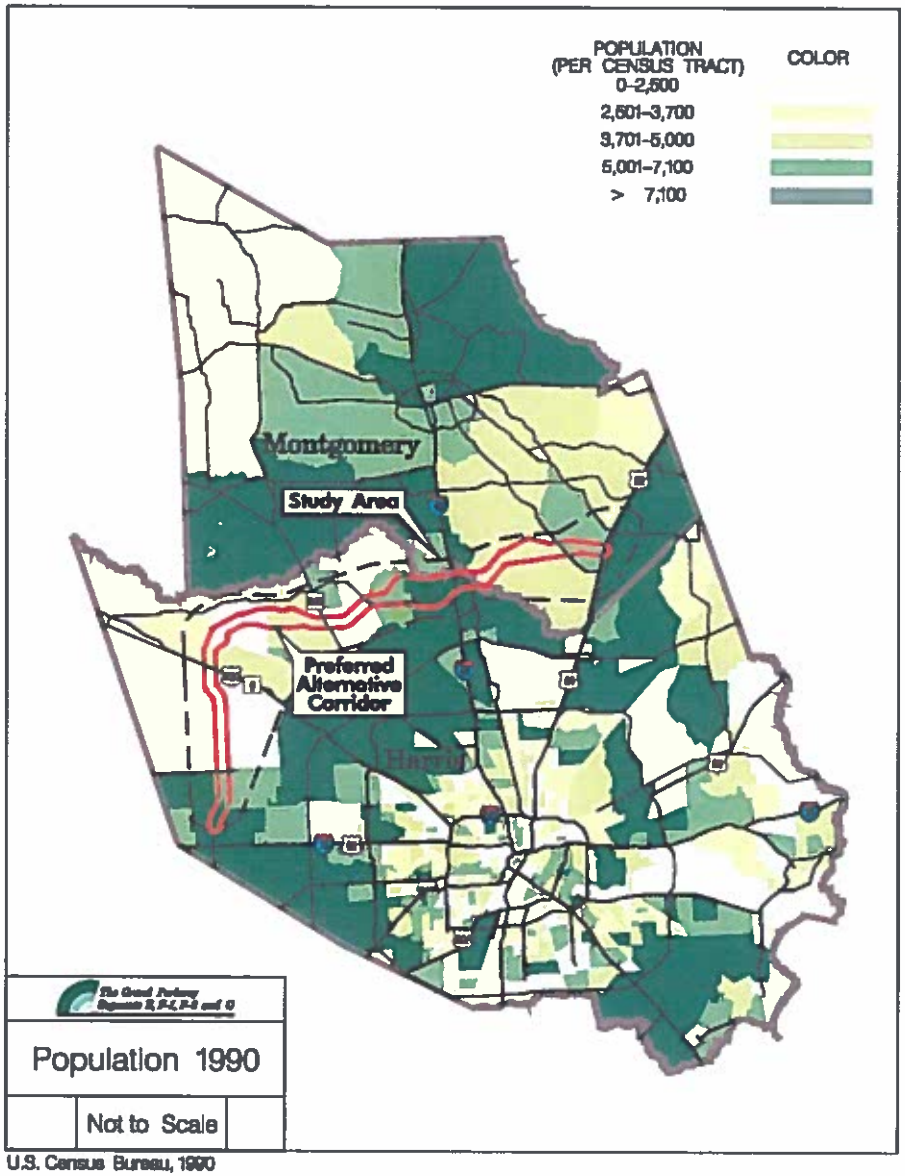
U.S. Census Bureau, 1980

Exhibit G – 21

Employment and Population Distribution by Census Tract, Harris and Montgomery Counties, 1990



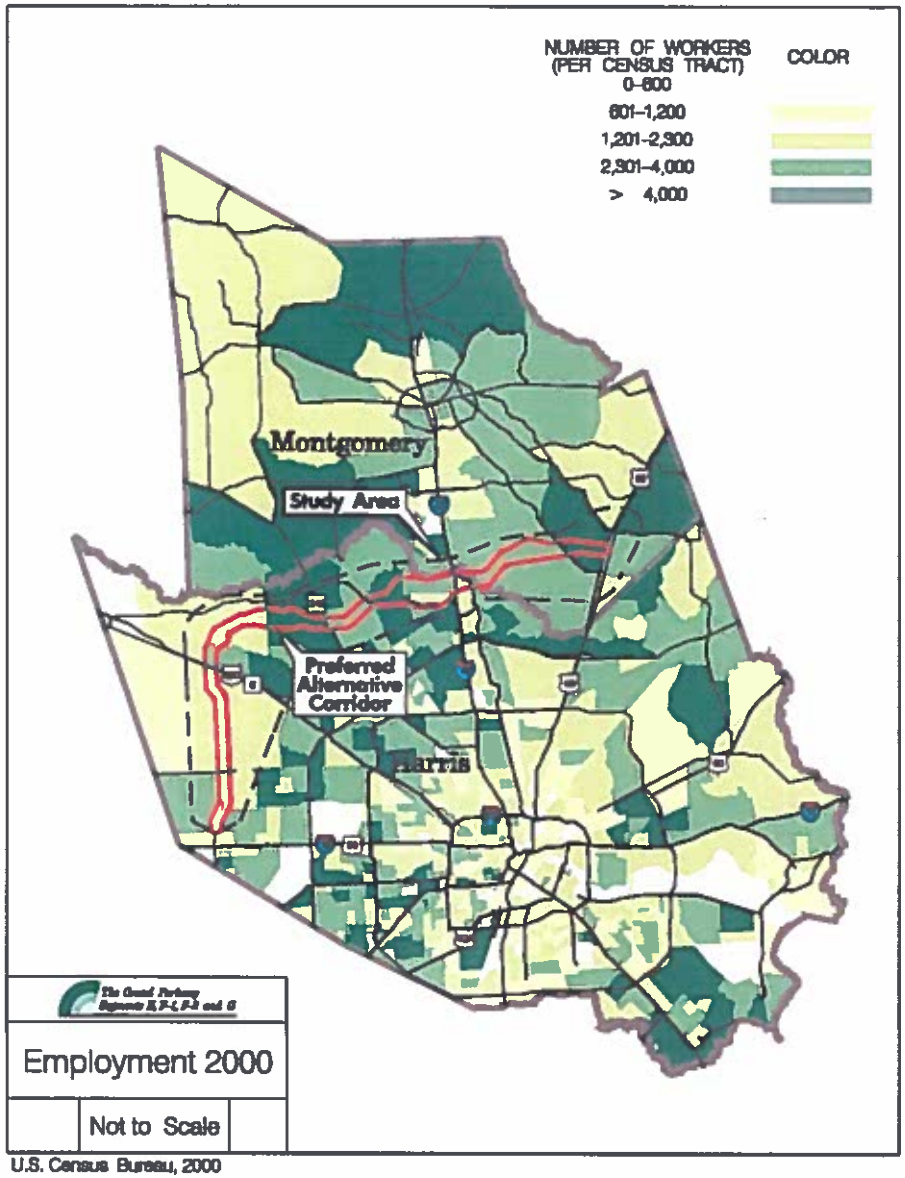
U.S. Census Bureau, 1990



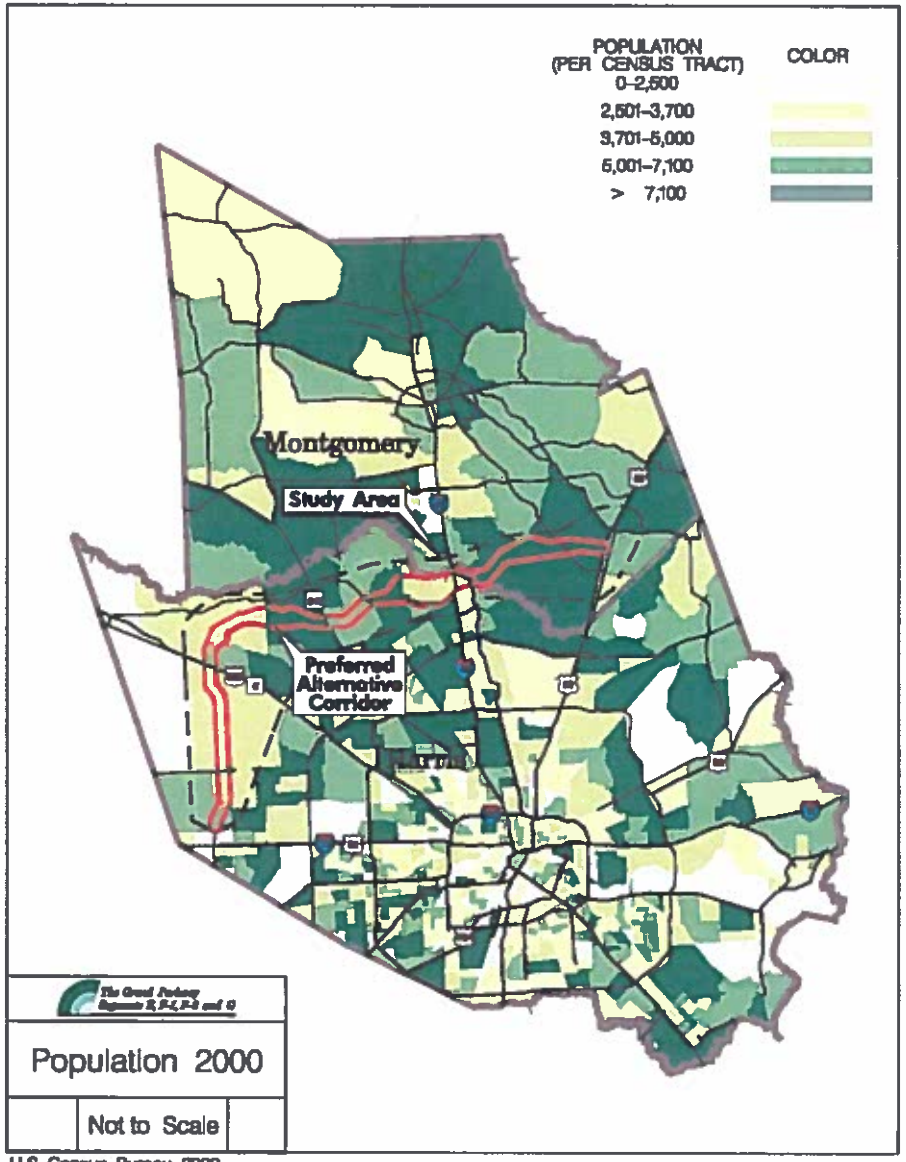
U.S. Census Bureau, 1990

Exhibit G – 22

Employment and Population Distribution by Census Tract, Harris and Montgomery Counties, 2000



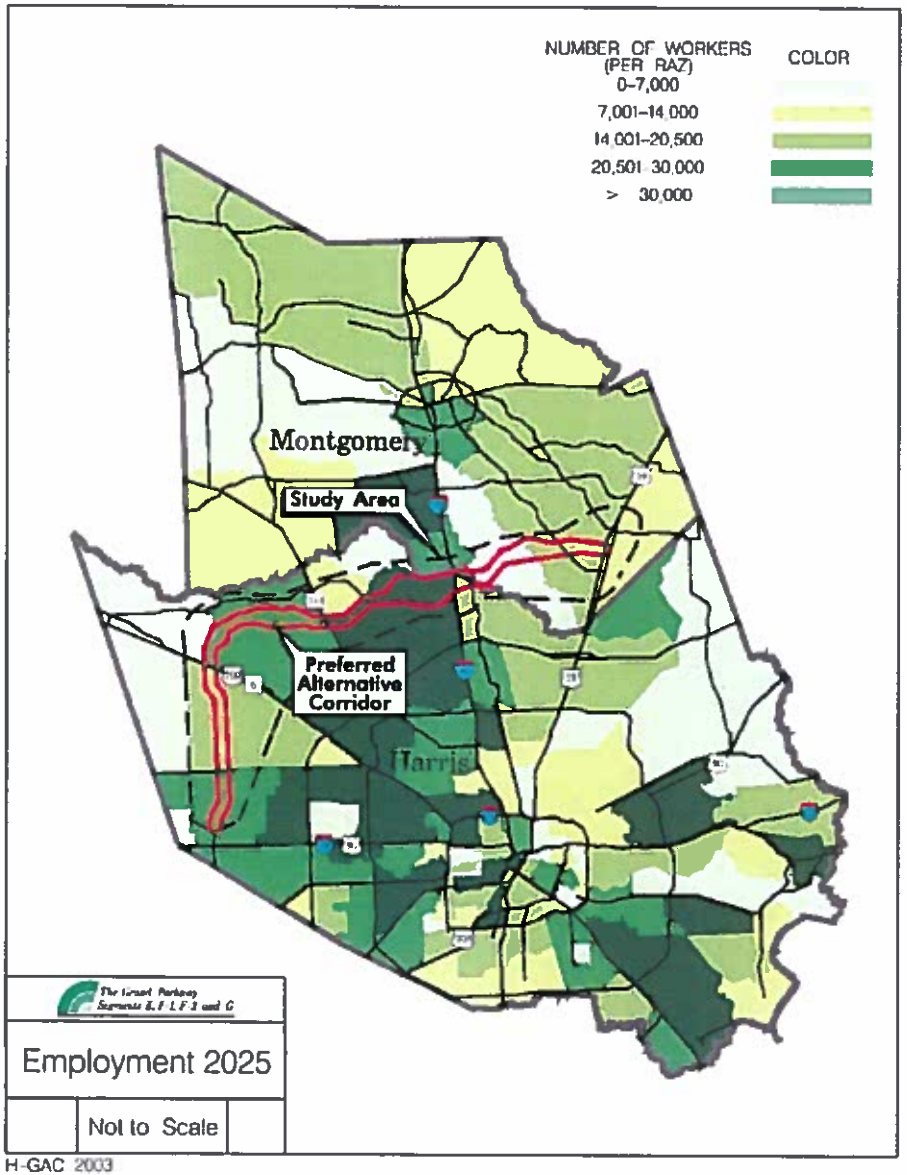
U.S. Census Bureau, 2000



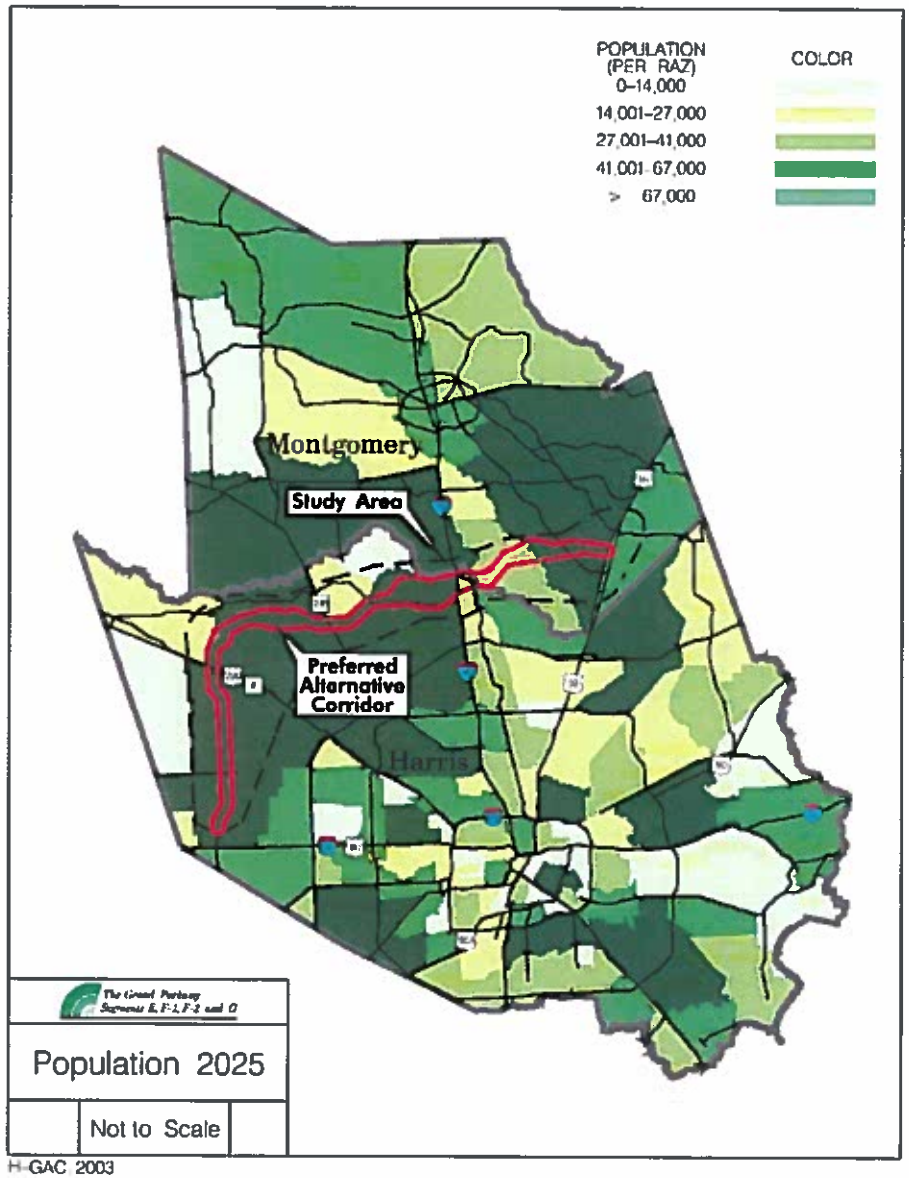
U.S. Census Bureau, 2000

Exhibit G – 23

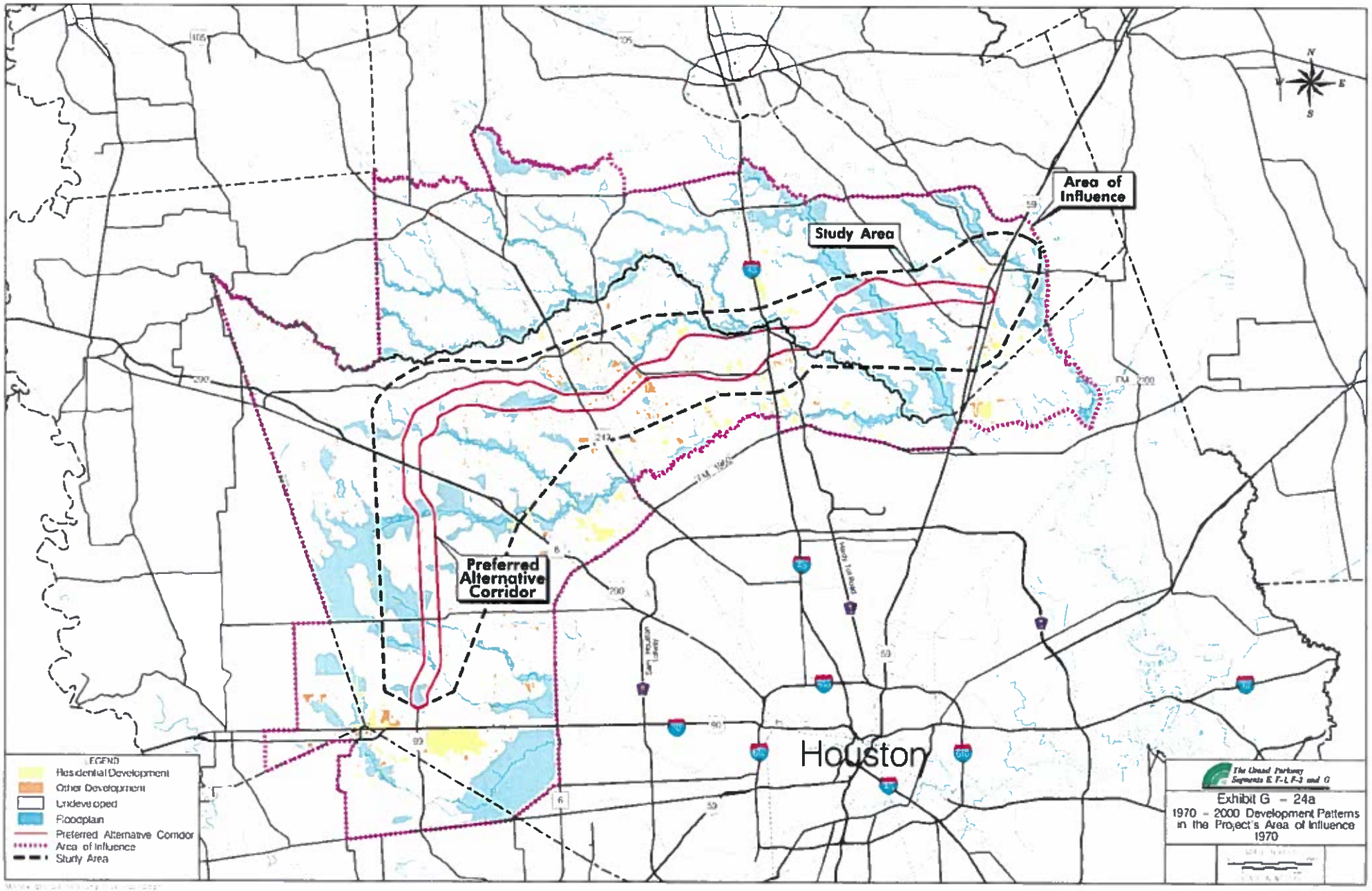
Projected Employment and Population Distribution by Regional Analysis Zones (RAZ), Harris and Montgomery Counties, 2025

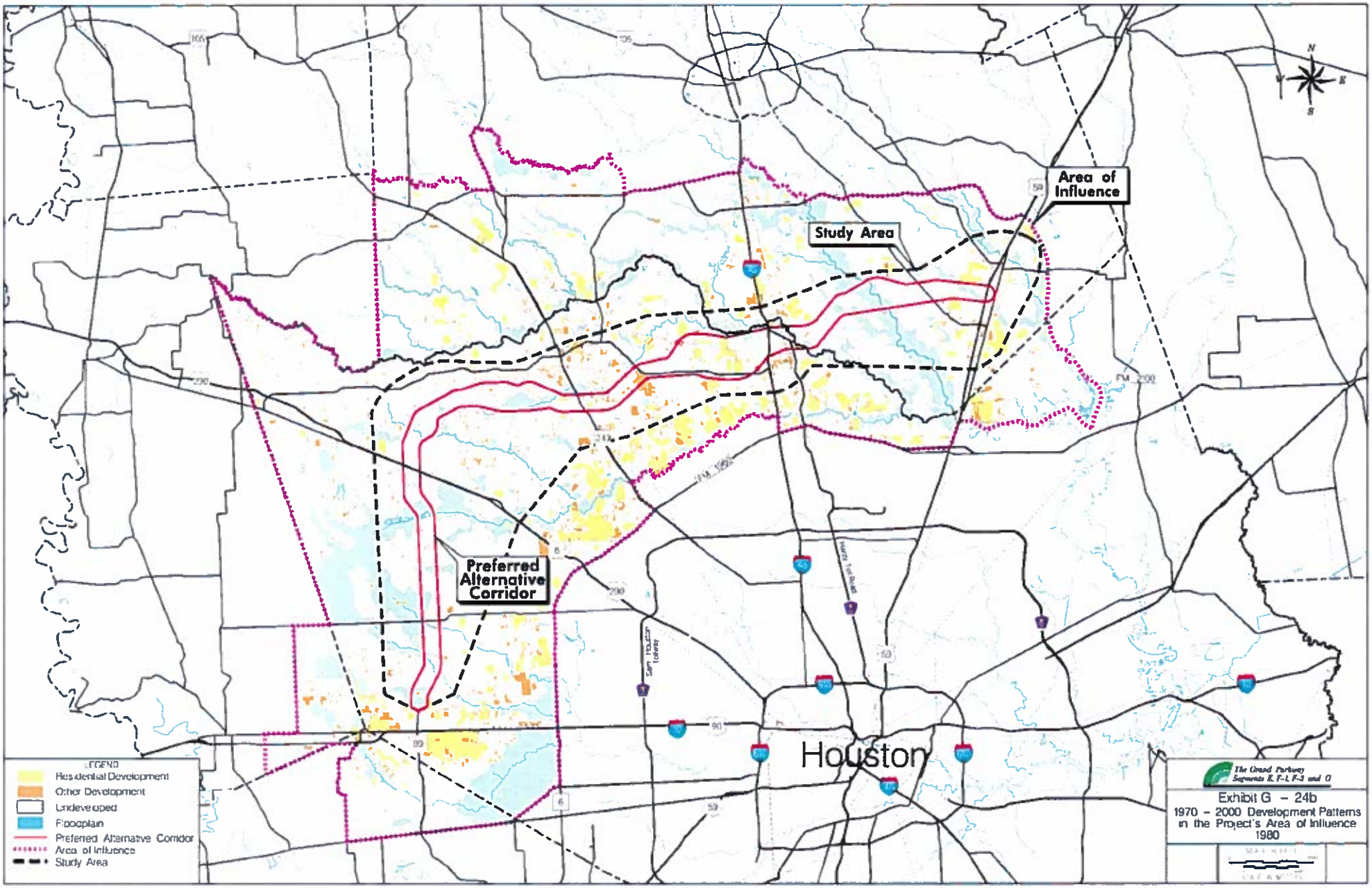


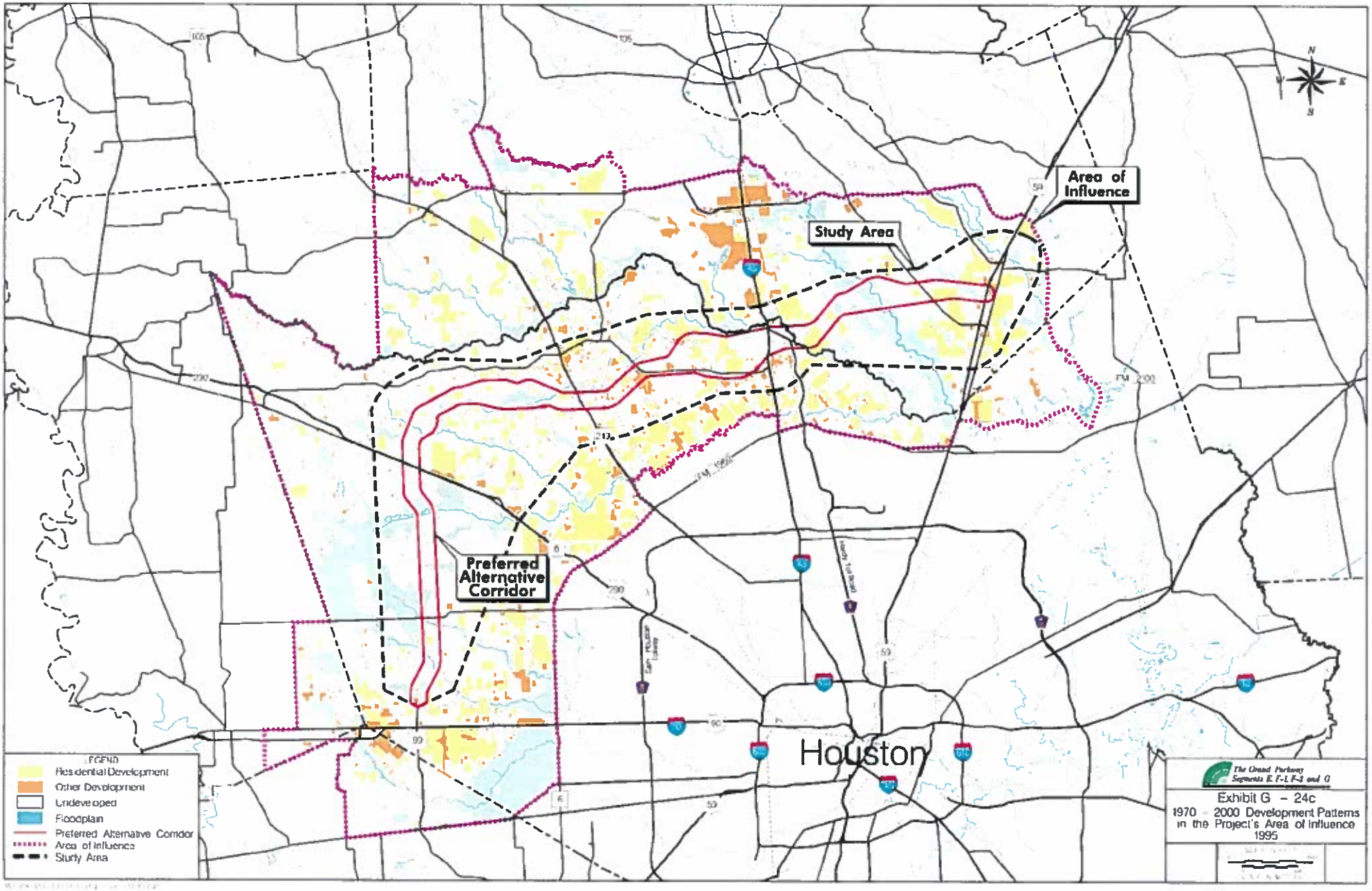
H-GAC 2003

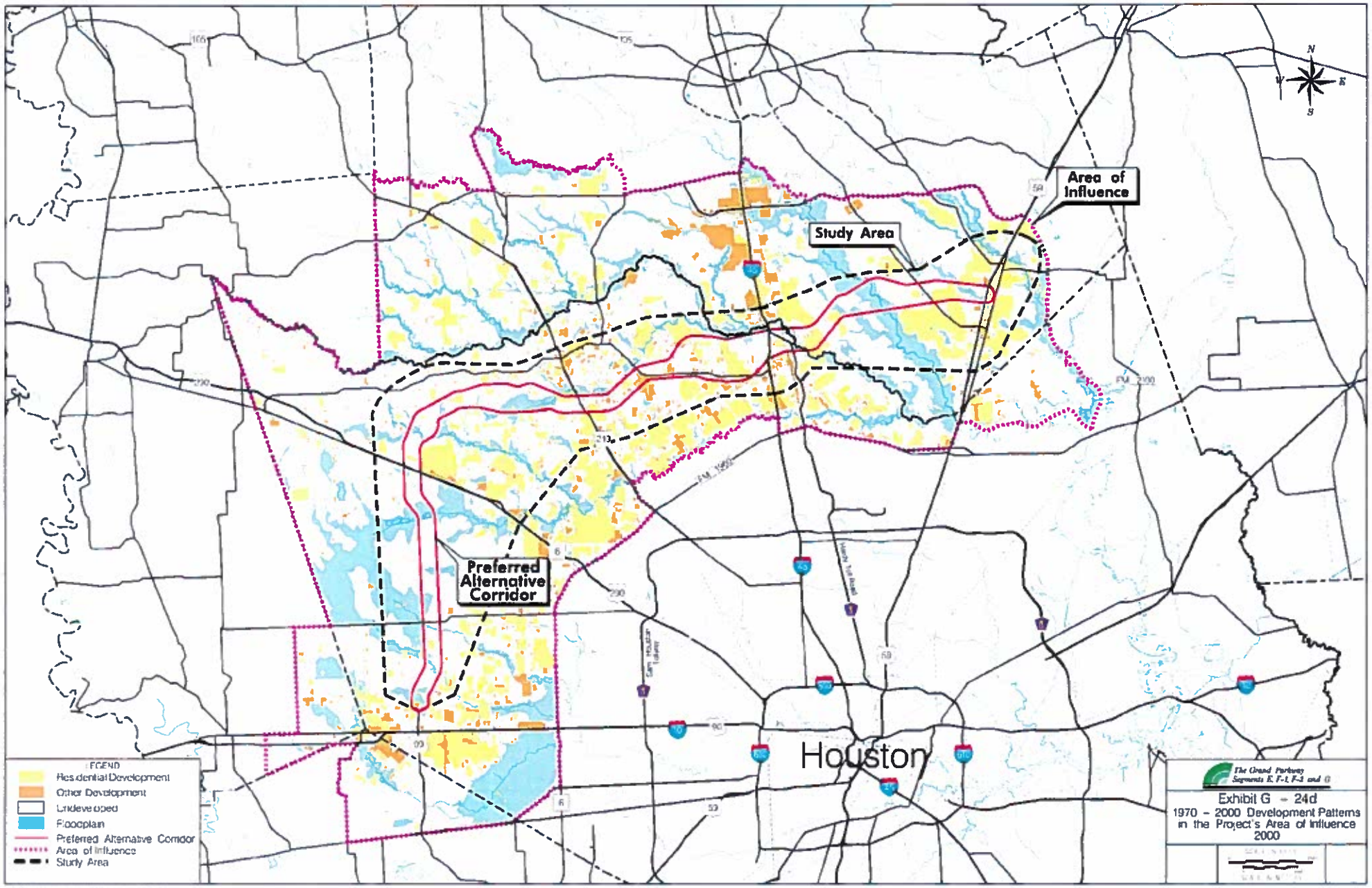


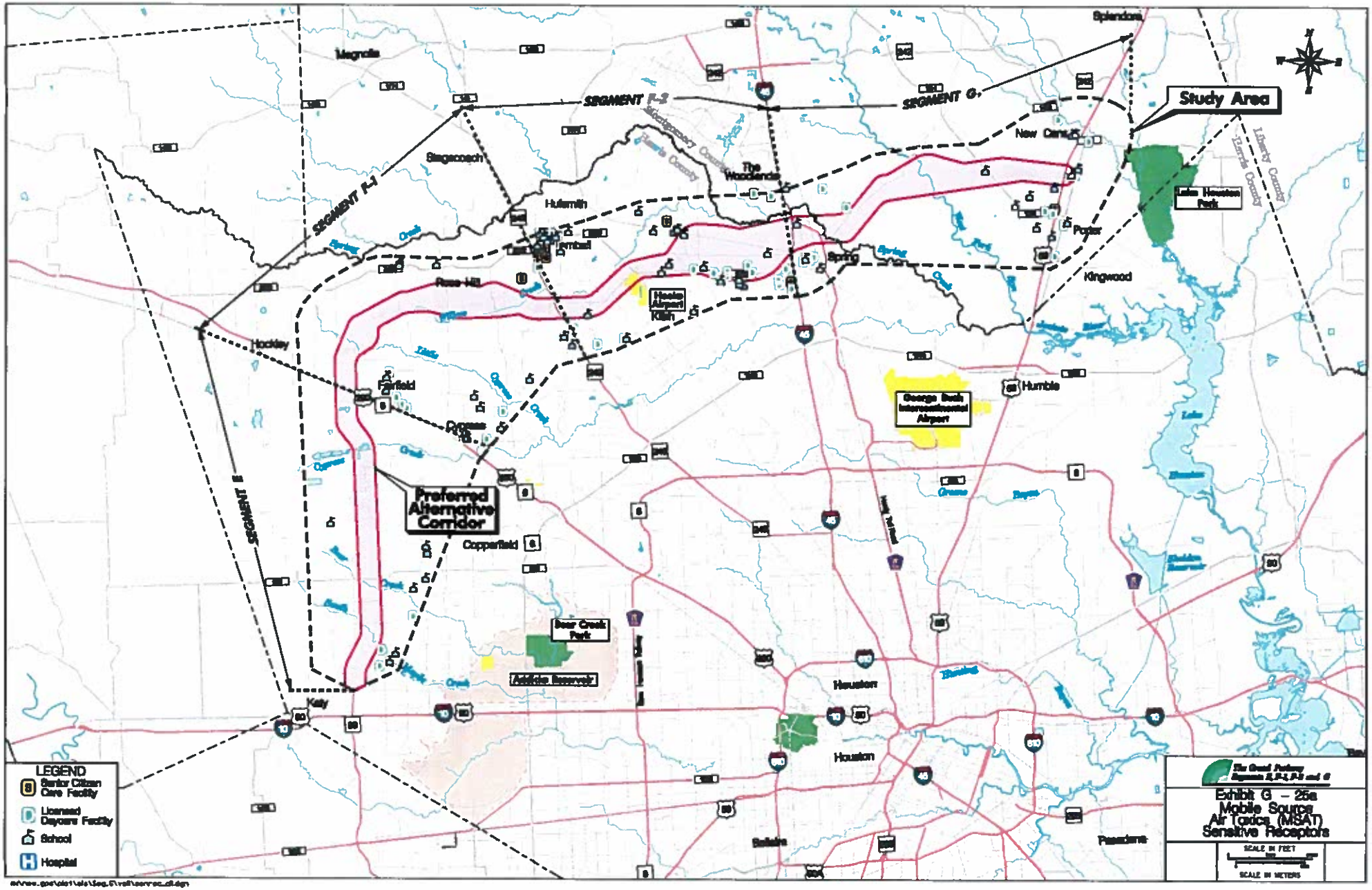
H-GAC 2003

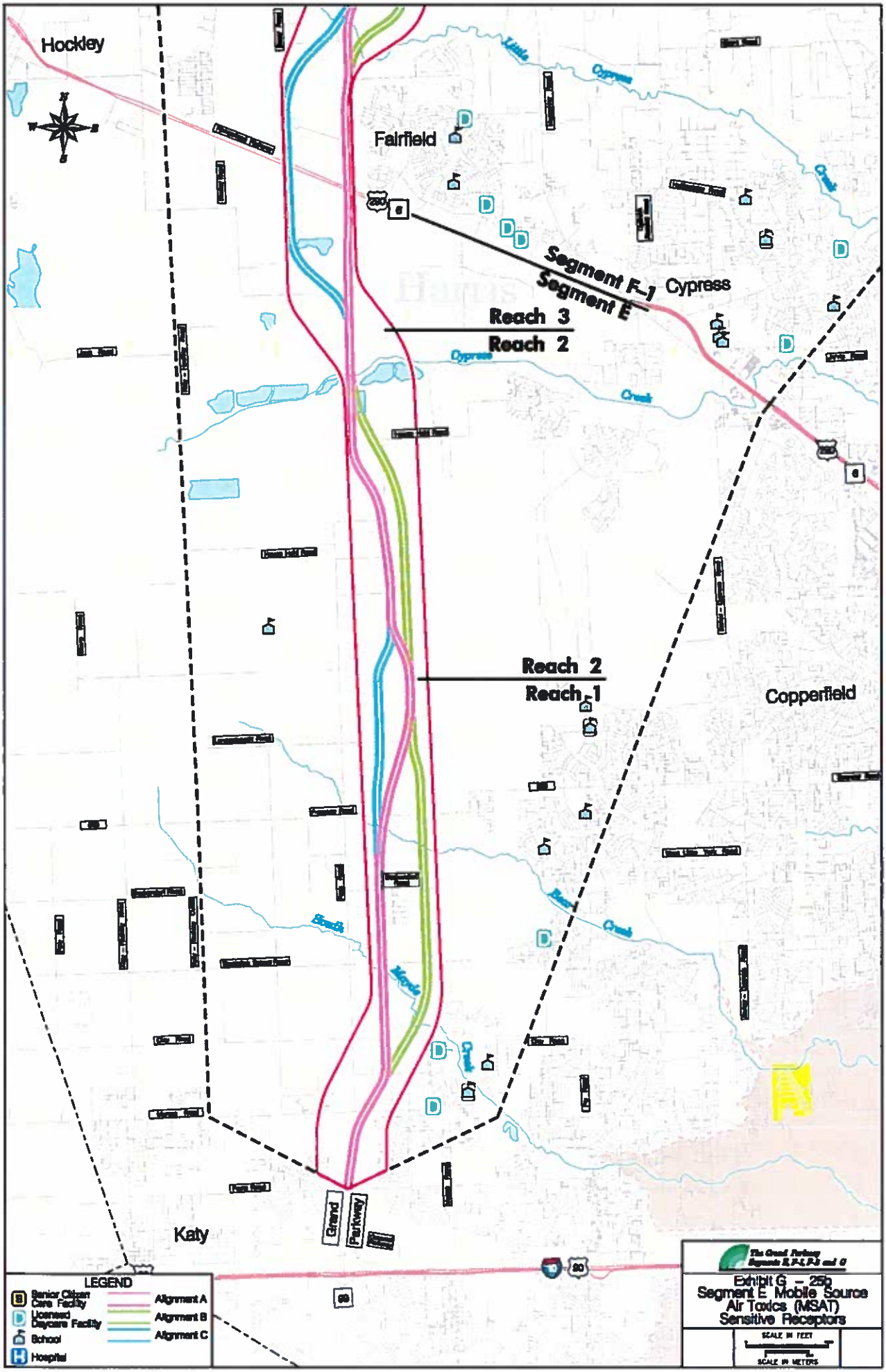

Area of Influence
Study Area
Preferred Alternative Corridor
Houston
LEGEND
Residential Development
Other Development
Undeveloped
Floodplain
Preferred Alternative Corridor
Area of Influence
Study Area
The Grand Parkway Segments E, F-1, F-3 and G
Exhibit G – 24a
1970 – 2000 Development Patterns in the Project's Area of Influence
1970

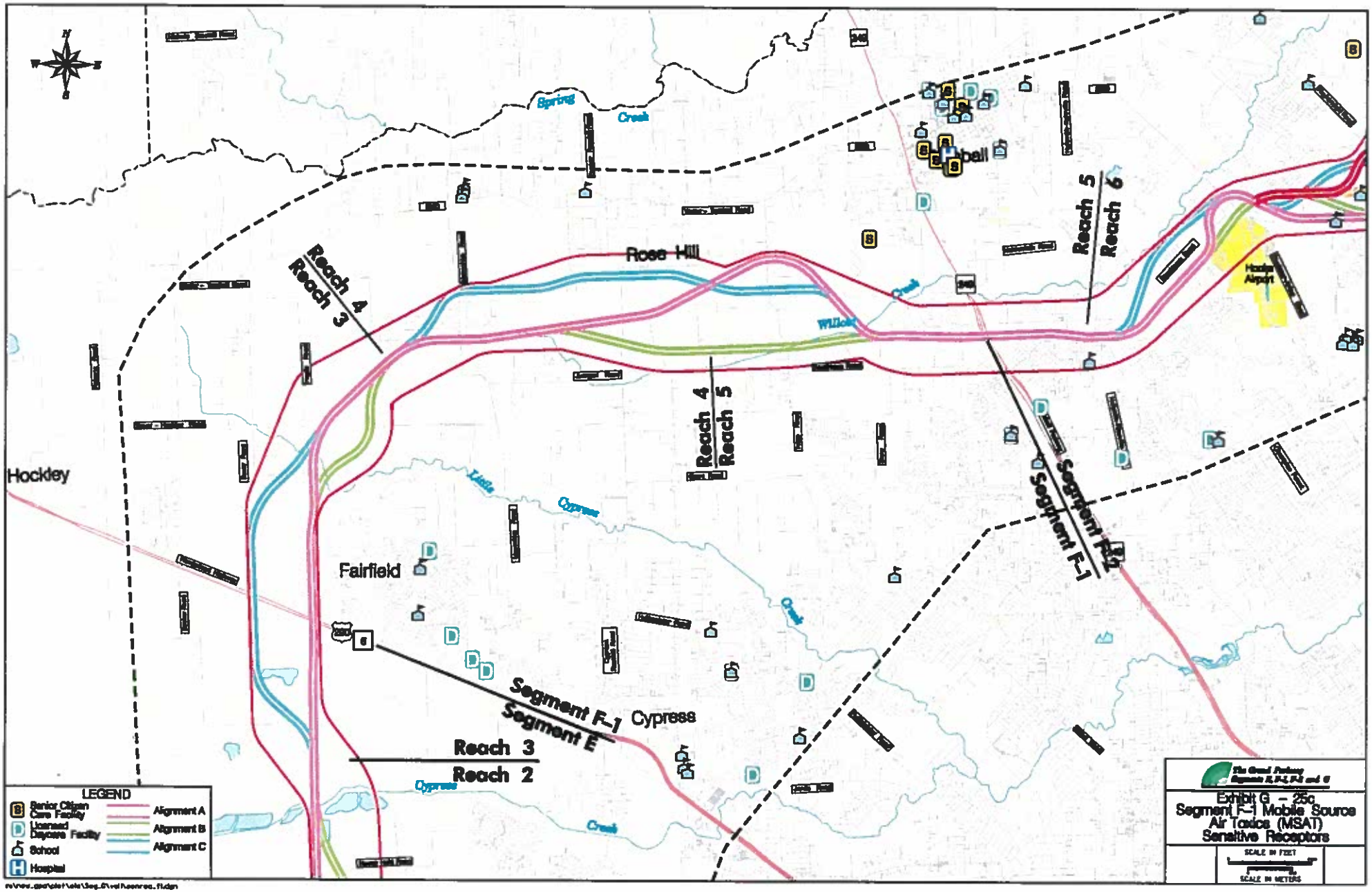

Area of Influence
Study Area
Preferred Alternative Corridor
Houston
LEGEND
Residential Development
Other Development
Undeveloped
Floodplain
Preferred Alternative Corridor
Area of Influence
Study Area
The Grand Parkway Segments E, F-1, F-3 and G
Exhibit G – 24b
1970 – 2000 Development Patterns in the Project's Area of Influence
1980

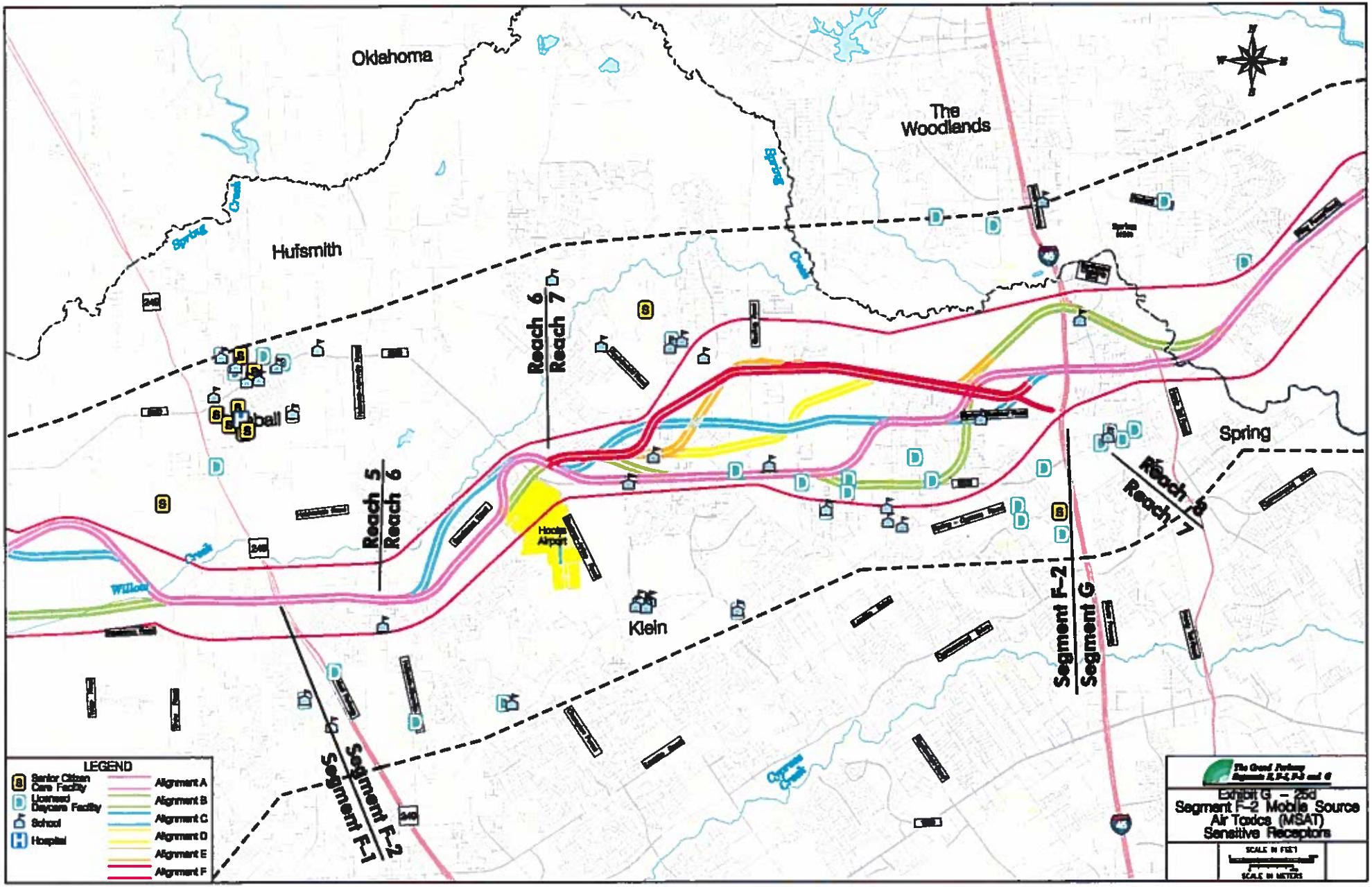

Area of Influence
Study Area
Preferred Alternative Corridor
Houston
LEGEND
Residential Development
Other Development
Undeveloped
Floodplain
Preferred Alternative Corridor
Area of Influence
Study Area
The Grand Parkway
Segments E, F-1, F-3 and G
Exhibit G – 24c
1970 – 2000 Development Patterns
in the Project's Area of Influence
1995

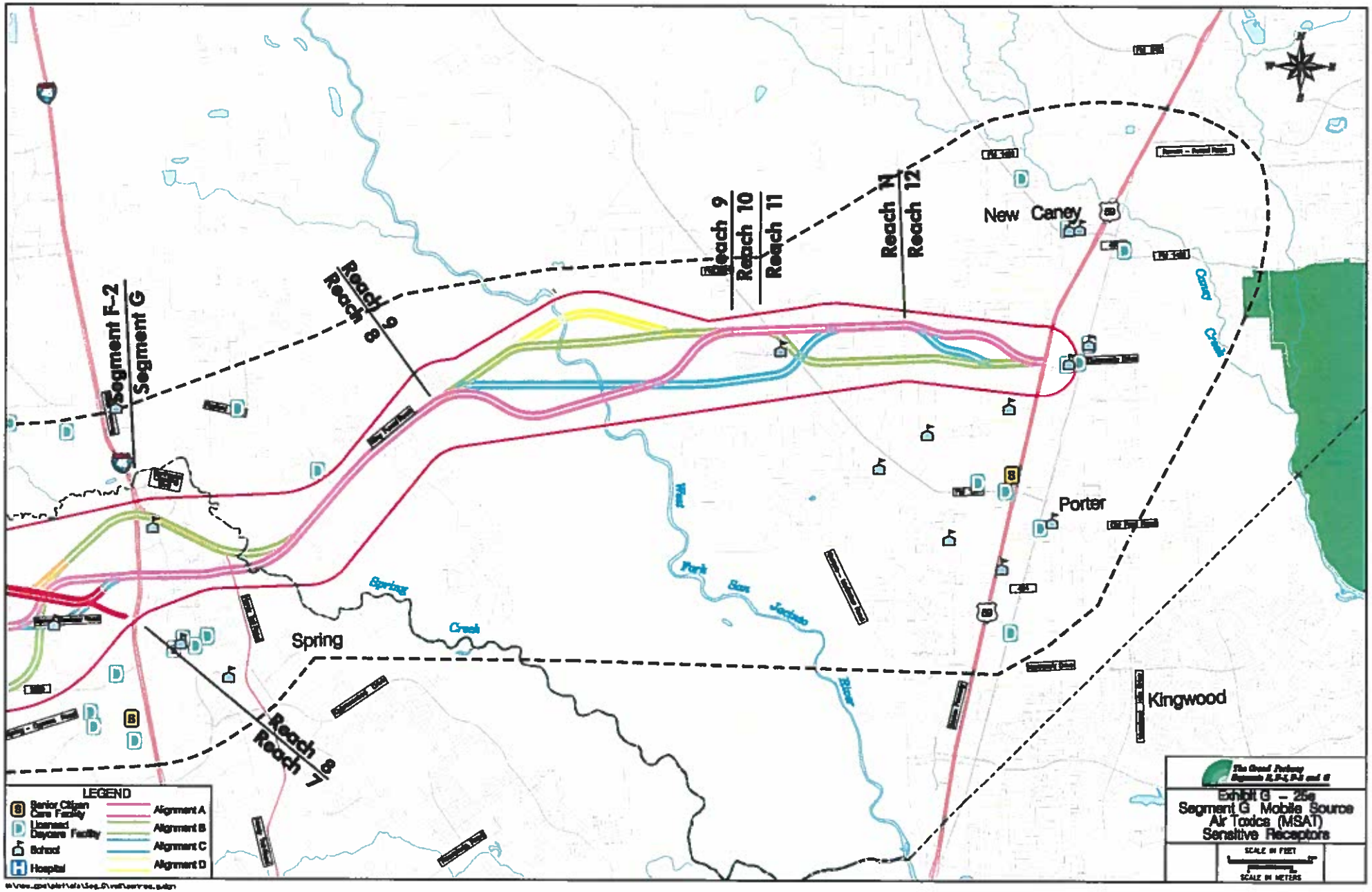

Area of Influence
Study Area
Preferred Alternative Corridor
Houston
N
W
E
S
LEGEND
Residential Development
Other Development
Undeveloped
Floodplain
Preferred Alternative Corridor
Area of Influence
Study Area
The Grand Parkway Segments E, F-1, F-3 and G
Exhibit G – 24d
1970 – 2000 Development Patterns in the Project's Area of Influence
2000


Study Area
SEGMENT F-2
SEGMENT G
SEGMENT F-1
SEGMENT E
Preferred Alternative Corridor
Magnolia
Stagecoach
Hufsmith
Tomball
The Woodlands
New Caney
Splendora
Porter
Kingwood
Spring
Humble
Hockley
Fairfield
Cypress
Copperfield
Katy
Houston
Pasadena
Bellaire
Lake Houston Park
Bear Creek Park
Addicks Reservoir
Hooks Airport
Kleth
George Bush Intercontinental Airport
Montgomery County
Harris County
Liberty County
LEGEND
Senior Citizen Care Facility
Licensed Daycare Facility
School
Hospital
Exhibit G – 25a
Mobile Source Air Toxics (MSAT) Sensitive Receptors
SCALE IN FEET
SCALE IN METERS


Hockley
Fairfield
Little Cypress
Segment F-1
Segment E
Cypress
Reach 3
Reach 2
Cypress Creek
Reach 2
Reach 1
Copperfield
Spring Creek
Mound
Katy
Grand Parkway
LEGEND
Senior Citizen Care Facility
Licensed Daycare Facility
School
Hospital
Alignment A
Alignment B
Alignment C
Exhibit G – 25b
Segment E Mobile Source Air Toxics (MSAT) Sensitive Receptors
SCALE IN FEET
SCALE IN METERS


Hockley
Fairfield
Cypress
Rose Hill
Hobbell
Hooper Airport
Spring Creek
Willow Creek
Little Cypress Creek
Cypress Creek
Reach 3
Reach 4
Reach 4
Reach 5
Reach 5
Reach 6
Reach 3
Reach 2
Segment F-1
Segment E
Segment F-1
Segment F-1
LEGEND
Senior Citizen Care Facility
Licensed Daycare Facility
School
Hospital
Alignment A
Alignment B
Alignment C
Exhibit G – 25c
Segment F-1 Mobile Source Air Toxics (MSAT) Sensitive Receptors
SCALE IN FEET
SCALE IN METERS


Oklahoma
The Woodlands
Hufsmith
Spring
Hockley
Klein
Hoots Airport
Willow Creek
Spring Creek
Reach 5
Reach 6
Reach 6
Reach 7
Reach 7
Reach 8
Segment F-1
Segment F-2
Segment F-2
Segment G
LEGEND
Senior Citizen Care Facility
Licensed Daycare Facility
School
Hospital
Alignment A
Alignment B
Alignment C
Alignment D
Alignment E
Alignment F
Exhibit G – 25d
Segment F-2 Mobile Source Air Toxics (MSAT) Sensitive Receptors
SCALE IN FEET
SCALE IN METERS


Segment F-2
Segment G
Reach 8
Reach 9
Reach 9
Reach 10
Reach 11
Reach 11
Reach 12
New Caney
Porter
Kingwood
Spring
Spring Creek
Spring Creek
Reach 7
Reach 8
LEGEND
Senior Citizen Care Facility
Licensed Daycare Facility
School
Hospital
Alignment A
Alignment B
Alignment C
Alignment D
Exhibit G – 25e
Segment G Mobile Source Air Toxics (MSAT) Sensitive Receptors
SCALE IN FEET
SCALE IN METERS

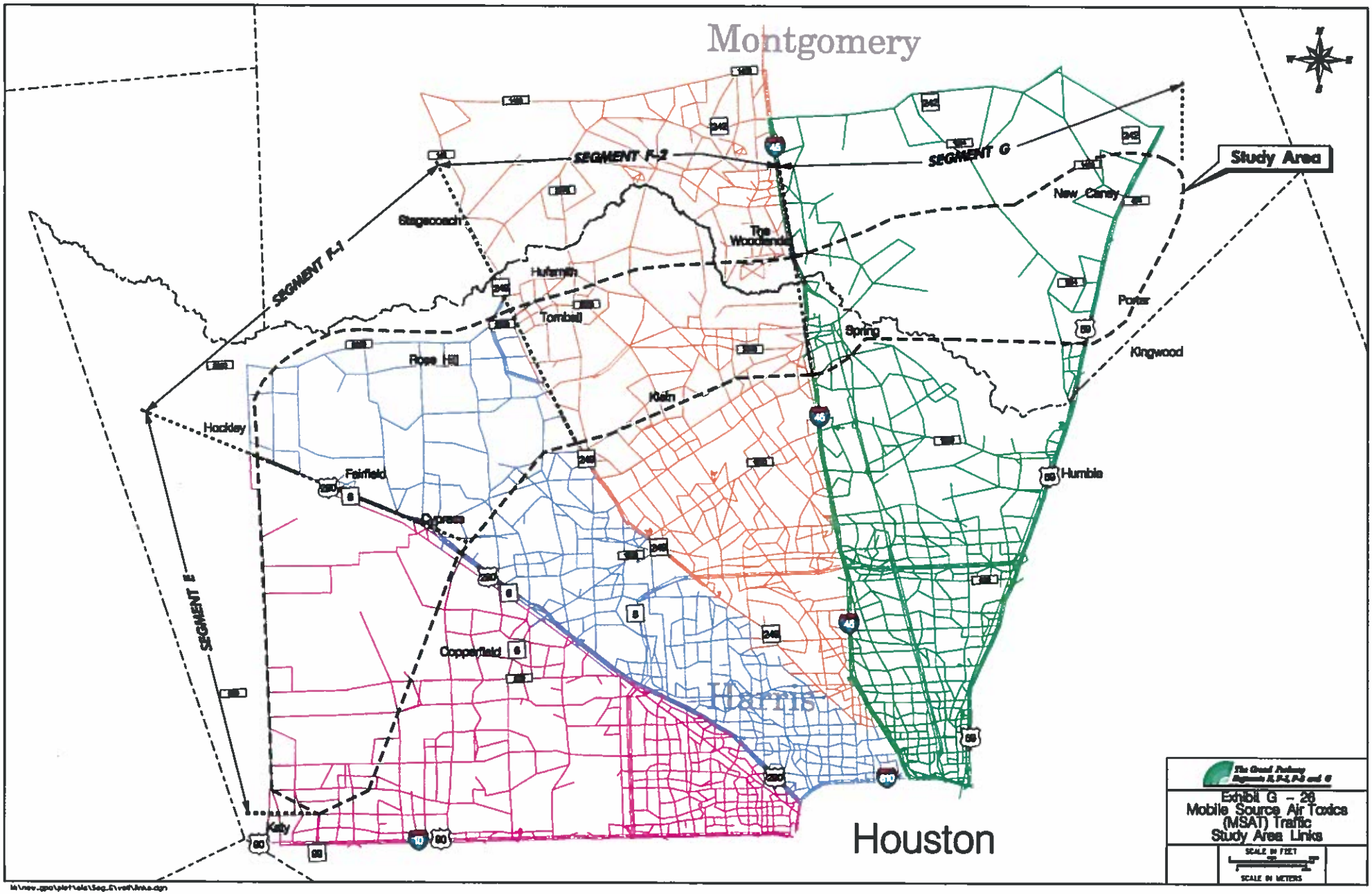
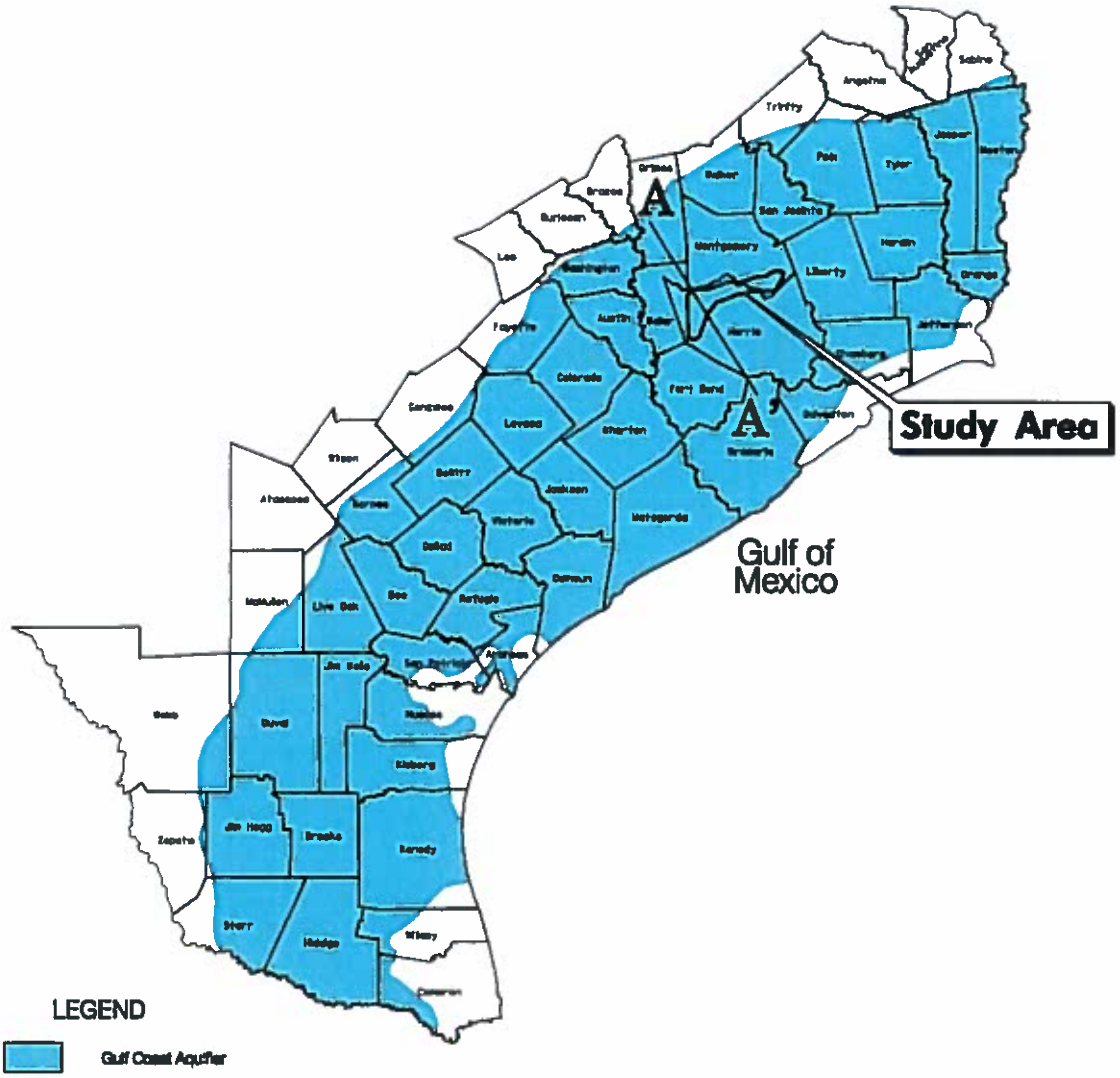
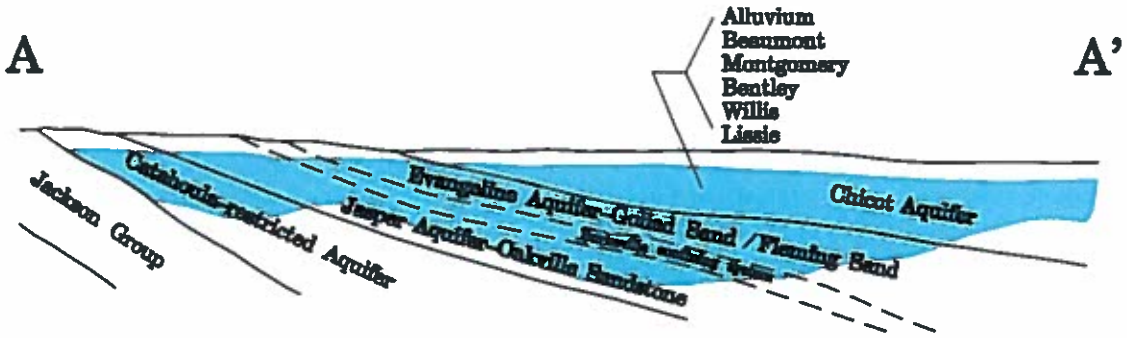


Exhibit G – 28
Mobile Source Air Toxics (MSAT) Traffic Study Area Links

SCALE IN FEET

SCALE IN METERS





Modified from Baker, 1979

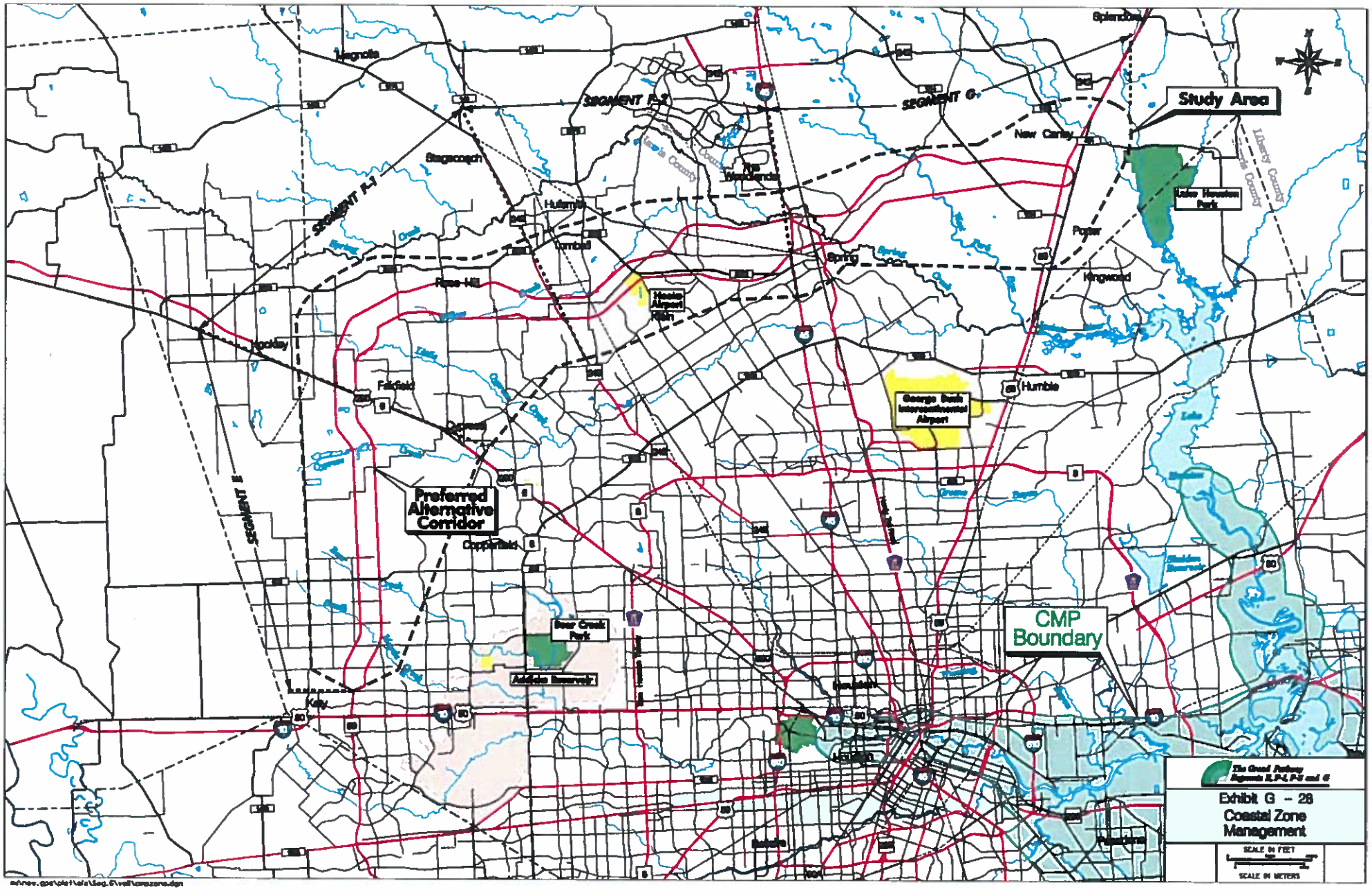
The Grand Parkway
Segments E, F-1, F-3 and G

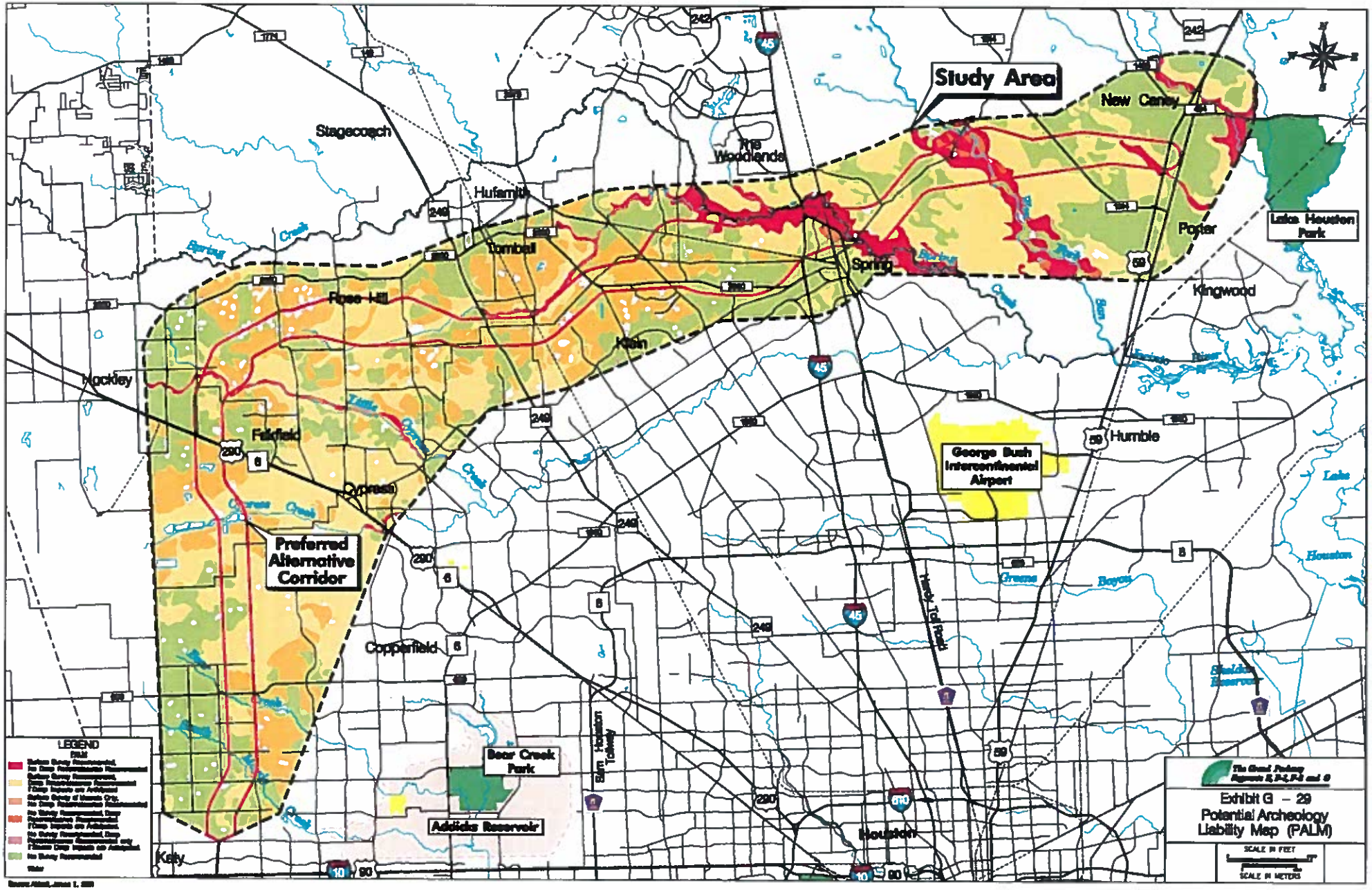
Exhibit G – 27

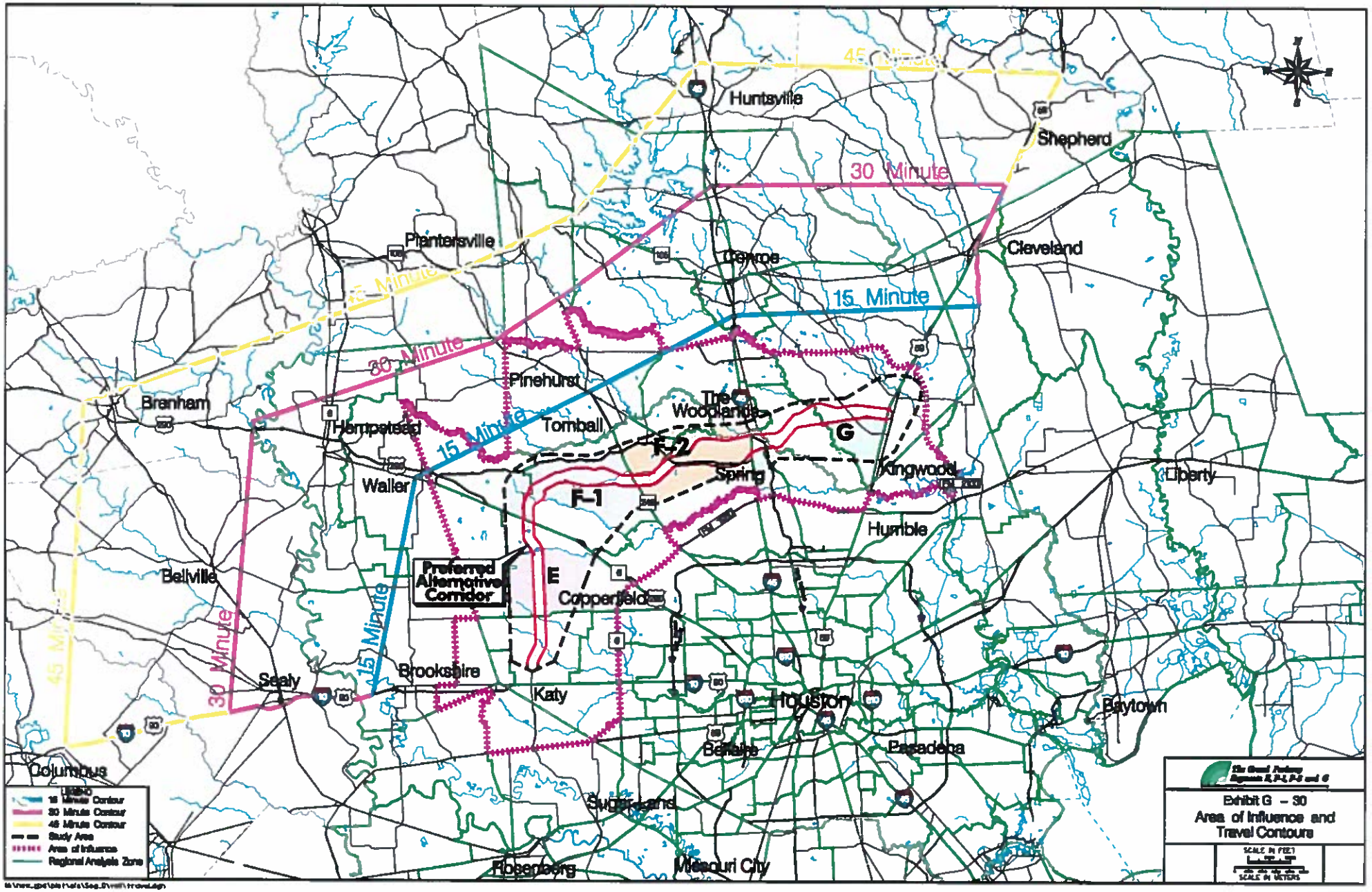
Gulf Coast Aquifer

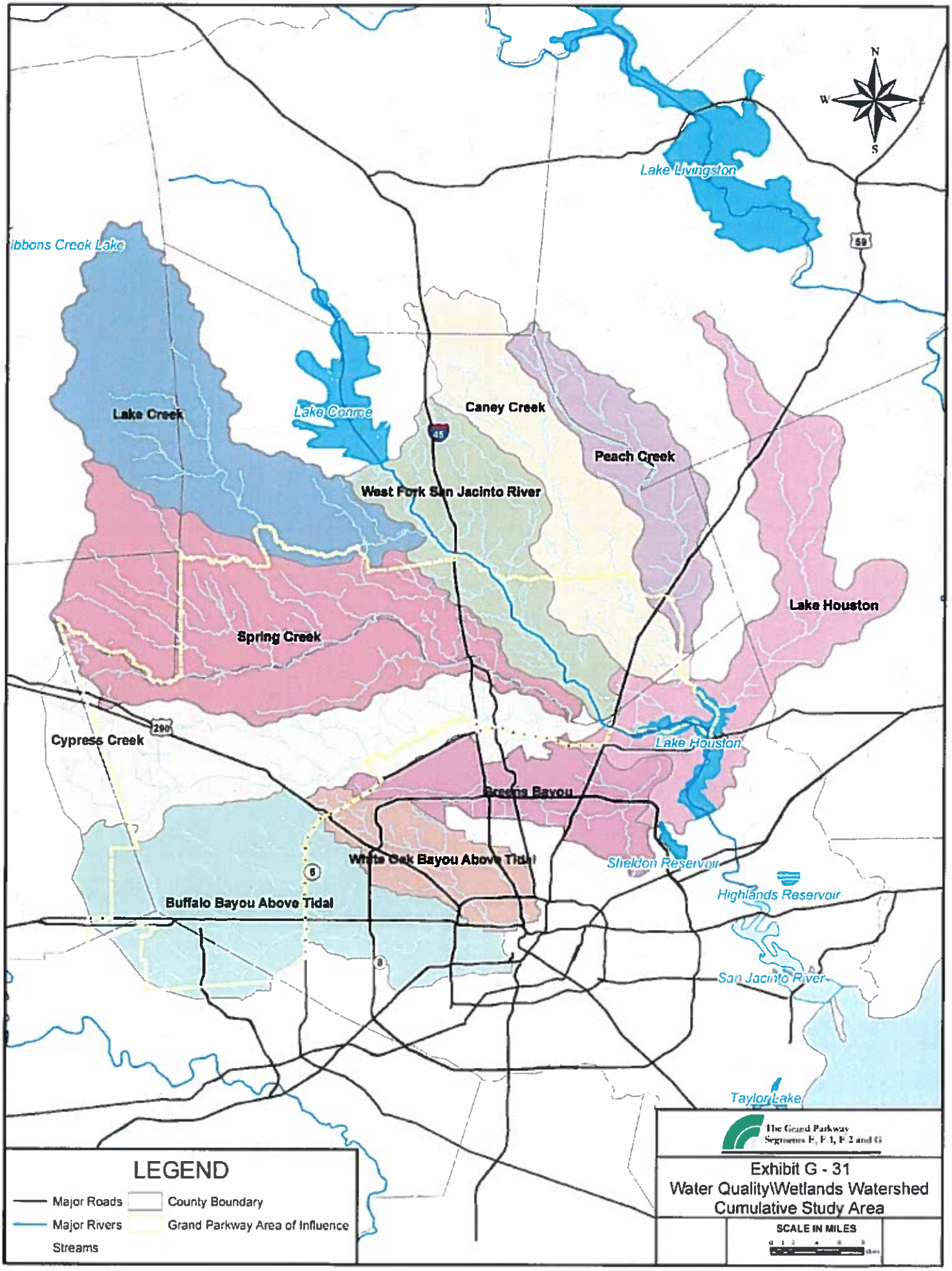
Not to Scale

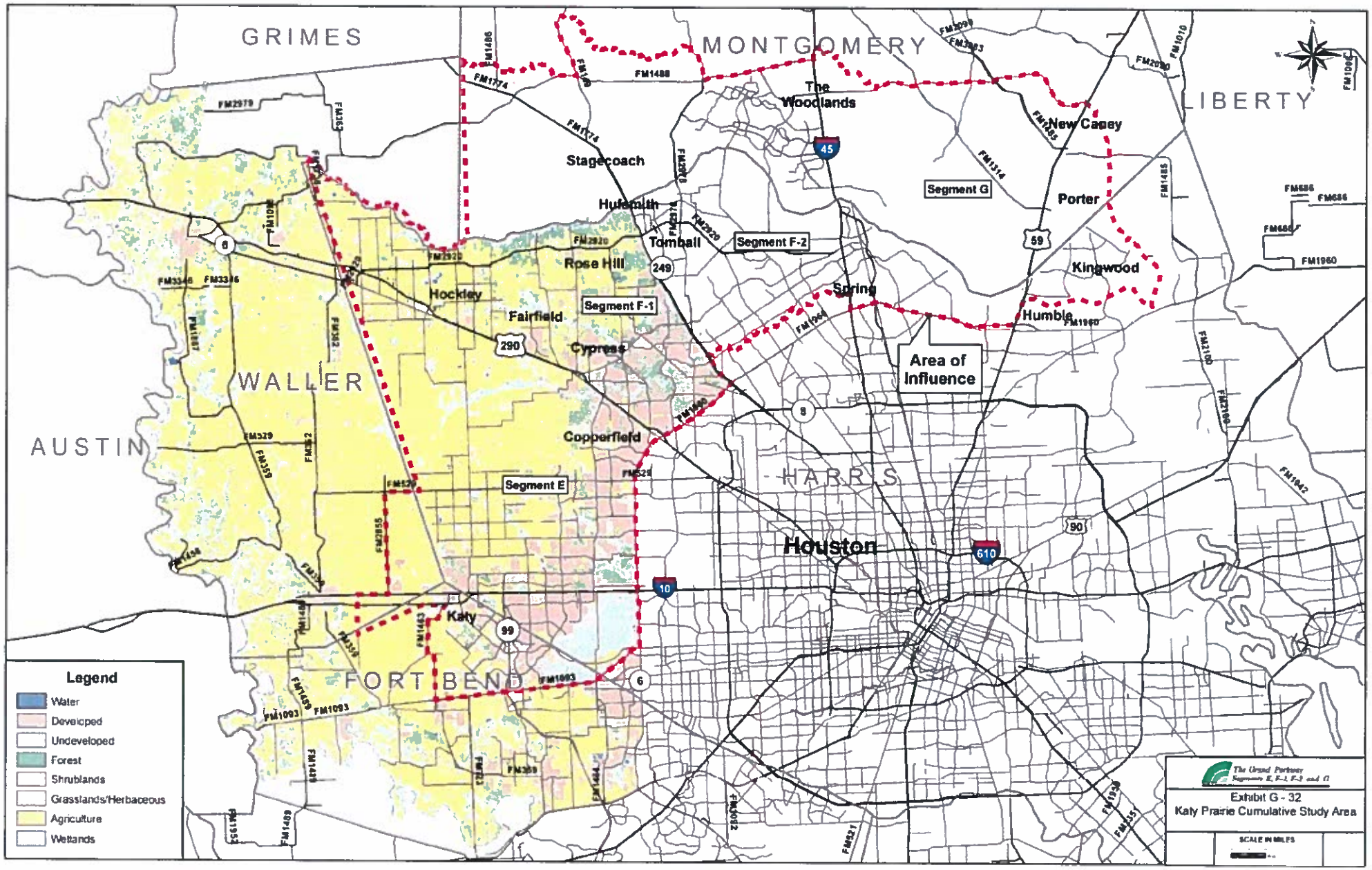
M:\new_gpo\plot\eis\Seg_G\vol1\gcoast.dgn

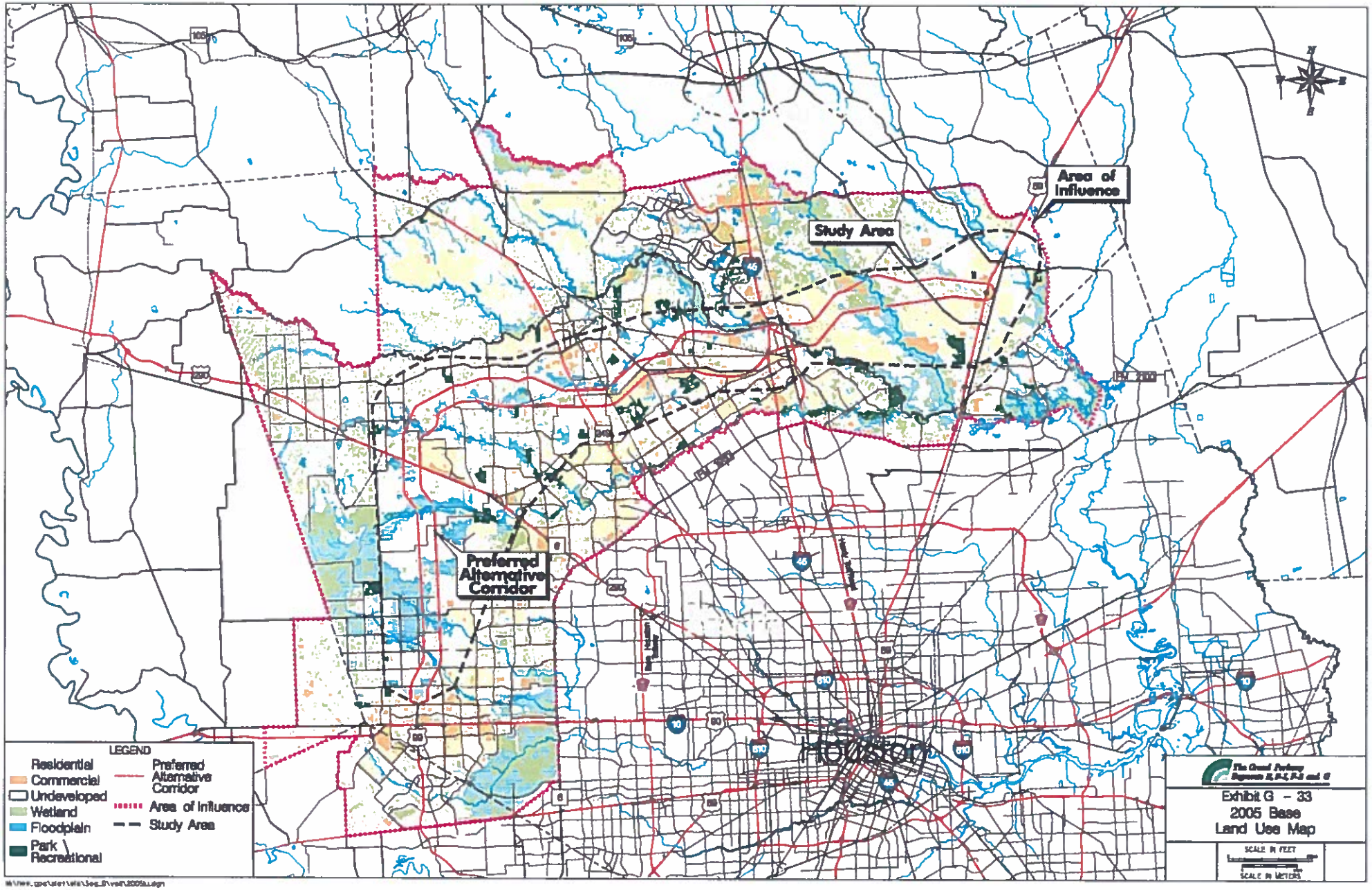

Study Area
SEGMENT F-2
SEGMENT G
SEGMENT F-1
SEGMENT E
Preferred Alternative Corridor
CMP Boundary
Magnolia
Splendora
Stagecoach
Hufsmith
Tomball
Rose Hill
Spring
New Caney
Porter
Kingwood
Humble
Houston Airport System
George Bush Intercontinental Airport
Fairfield
Cypress
Cypress Creek
Bear Creek Park
Addicks Reservoir
Katy
Houston
Baytown
Pasadena
Lake Houston Park
Liberty County
Harris County
Montgomery County
Lake Houston
Exhibit G - 28
Coastal Zone Management
SCALE IN FEET
SCALE IN METERS

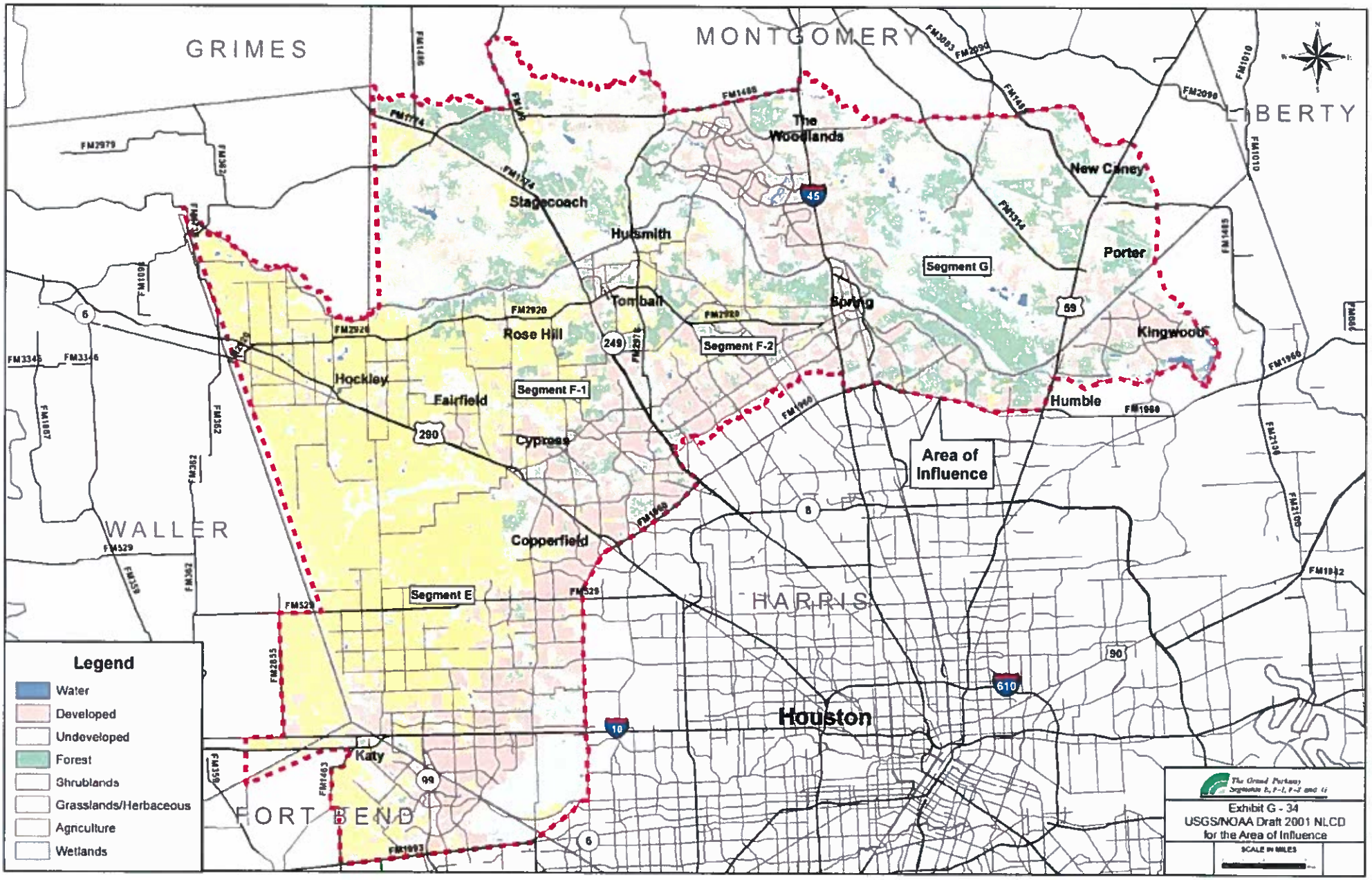

Study Area
Preferred Alternative Corridor
Stagecoach
The Woodlands
Hufsmith
Tomball
Spring
New Caney
Porter
Kingwood
Lake Houston Park
Rose Hill
Klein
Hockley
Fairfield
Cypress
Copperfield
Humble
George Bush Intercontinental Airport
Bear Creek Park
Addicks Reservoir
Sam Houston Tollway
Hardy Toll Road
Houston
Katy
LEGEND
Exhibit G – 29
Potential Archeology Liability Map (PALM)
SCALE IN FEET
SCALE IN METERS

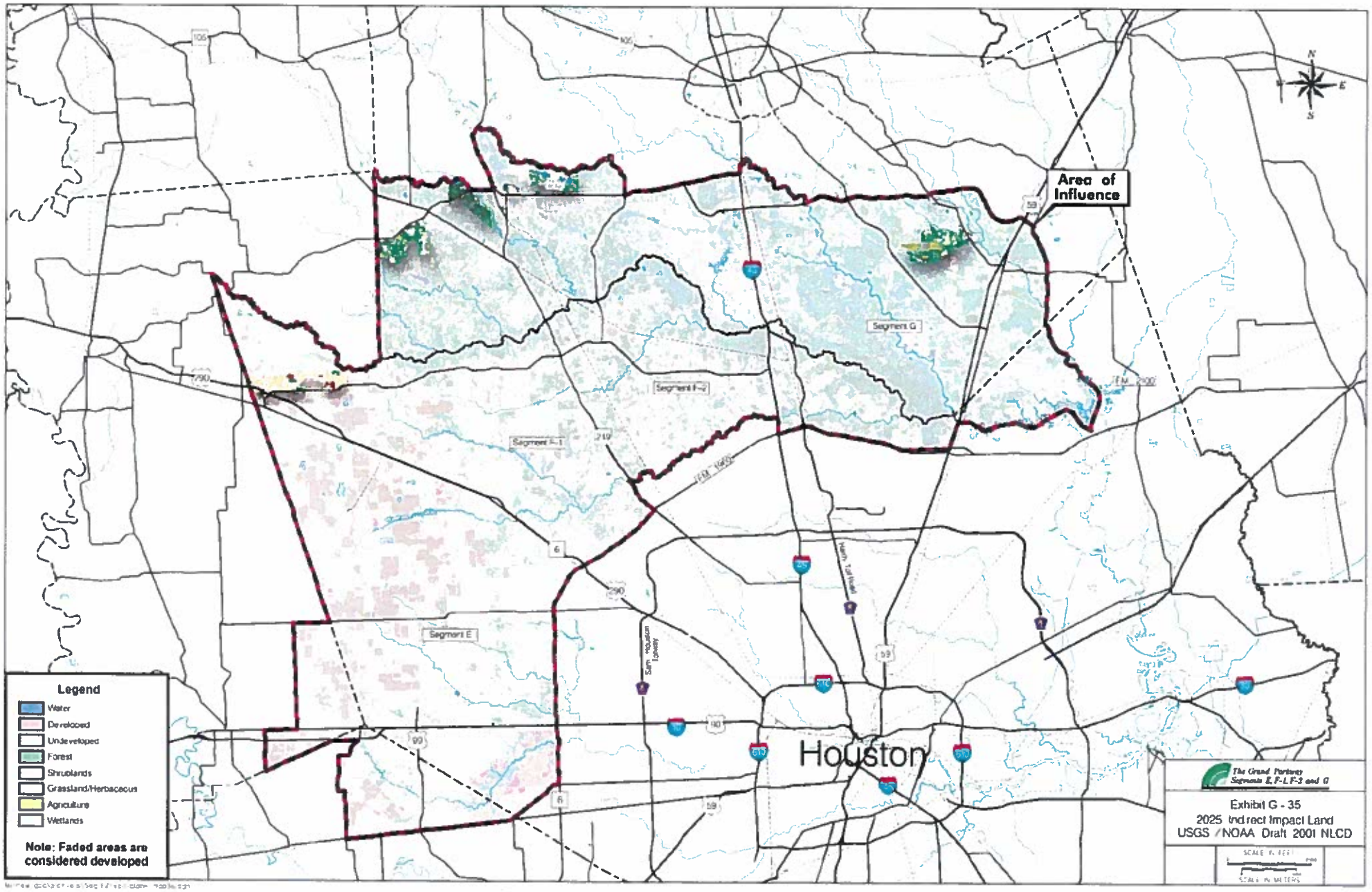

45 Minute
Huntsville
Shepherd
30 Minute
Plantersville
Conroe
Cleveland
15 Minute
30 Minute
Pinehurst
Branham
Hempstead
Tomball
The Woodlands
G
F-2
Spring
Kingwood
Liberty
Waller
F-1
Humble
Preferred Alternative Corridor
E
Bellville
Copperfield
15 Minute
30 Minute
Brookshire
Sealy
Katy
Houston
Baytown
Bellaire
Pasadena
Columbus
Sugar Land
Rosenberg
Missouri City
LEGEND
15 Minute Contour
30 Minute Contour
45 Minute Contour
Study Area
Area of Influence
Regional Analysis Zone
Exhibit G – 30
Area of Influence and Travel Contours
SCALE IN FEET
SCALE IN METERS

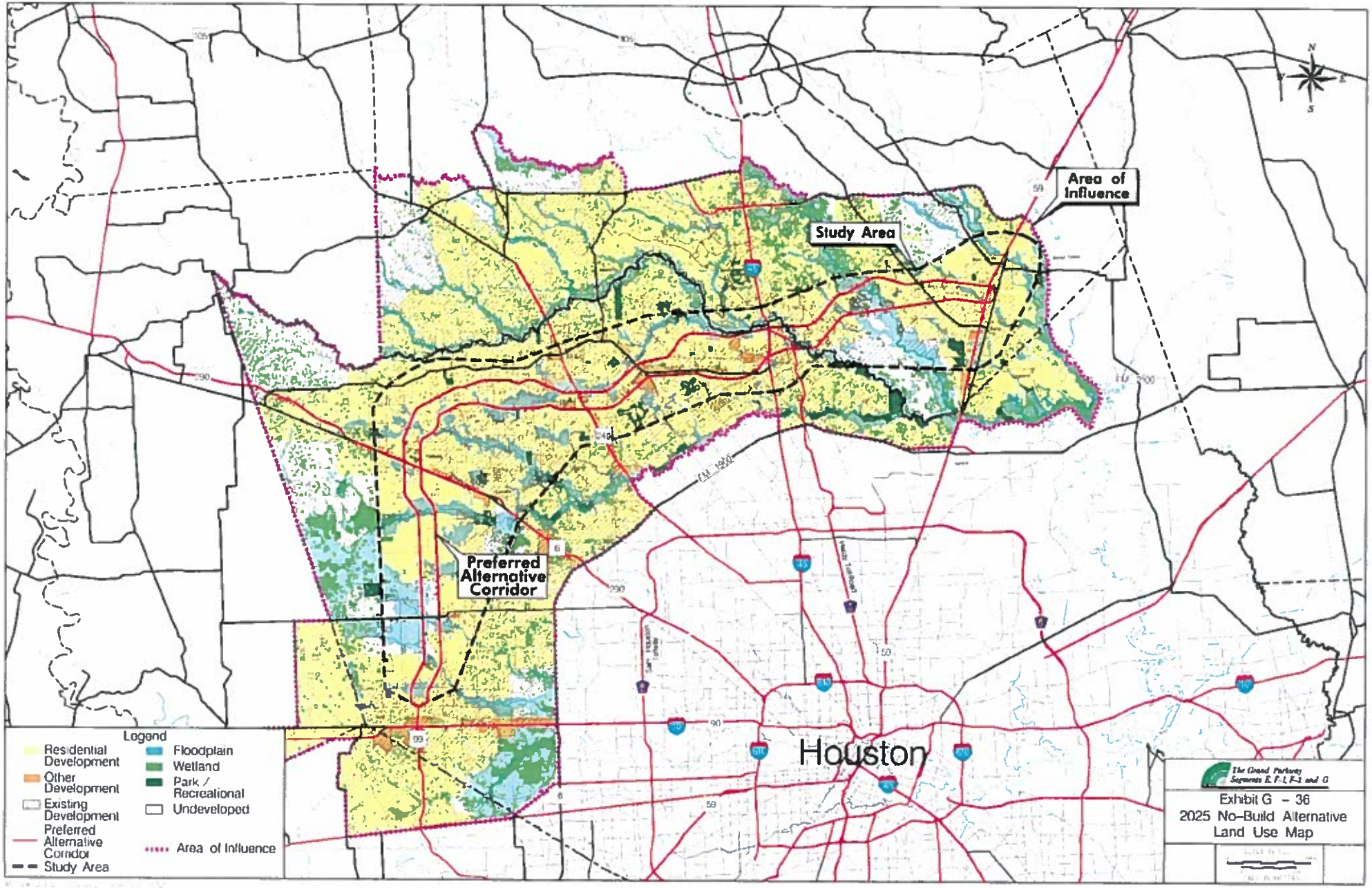

N
W
E
S
Lake Livingston
59
Lake Creek
Lake Conroe
Caney Creek
45
Peach Creek
West Fork San Jacinto River
Lake Houston
Spring Creek
Cypress Creek
290
Lake Houston
Greens Bayou
White Oak Bayou Above Tidal
Sheldon Reservoir
Highlands Reservoir
Buffalo Bayou Above Tidal
San Jacinto River
Taylor Lake
LEGEND
Major Roads
Major Rivers
Streams
County Boundary
Grand Parkway Area of Influence
The Grand Parkway
Segments F, F 1, F 2 and G
Exhibit G - 31
Water Quality\Wetlands Watershed
Cumulative Study Area
SCALE IN MILES

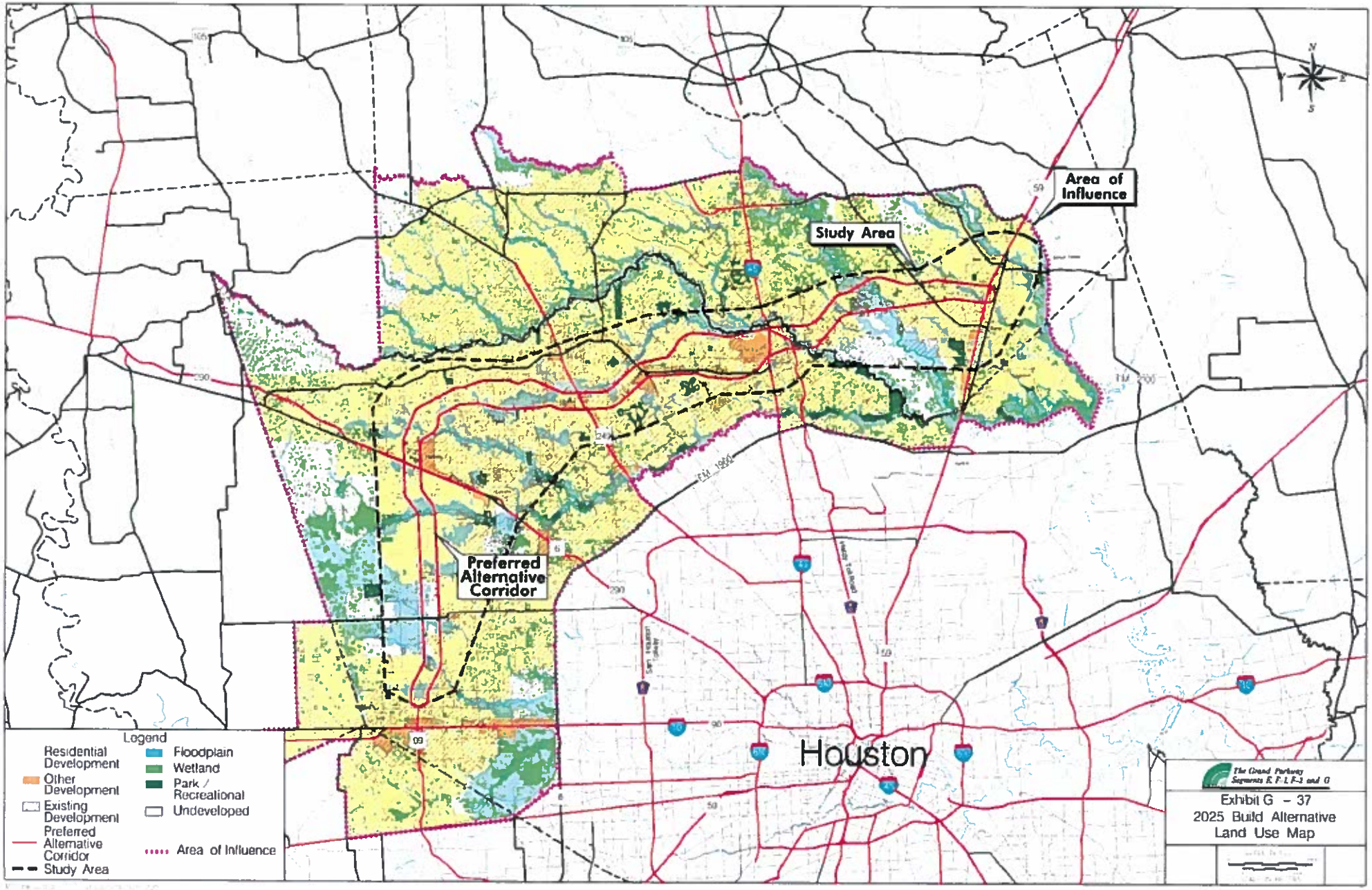

GRIMES
MONTGOMERY
LIBERTY
WALLER
AUSTIN
HARRIS
FORT BEND
The Woodlands
New Caney
Stagecoach
Huffsmith
Tomball
Rose Hill
Hockley
Fairfield
Cypress
Spring
Kingwood
Porter
Humble
Copperfield
Katy
Houston
Segment G
Segment F-2
Segment F-1
Segment E
Area of Influence
Legend
Water
Developed
Undeveloped
Forest
Shrublands
Grasslands/Herbaceous
Agriculture
Wetlands
Exhibit G - 32
Katy Prairie Cumulative Study Area
SCALE IN MILES

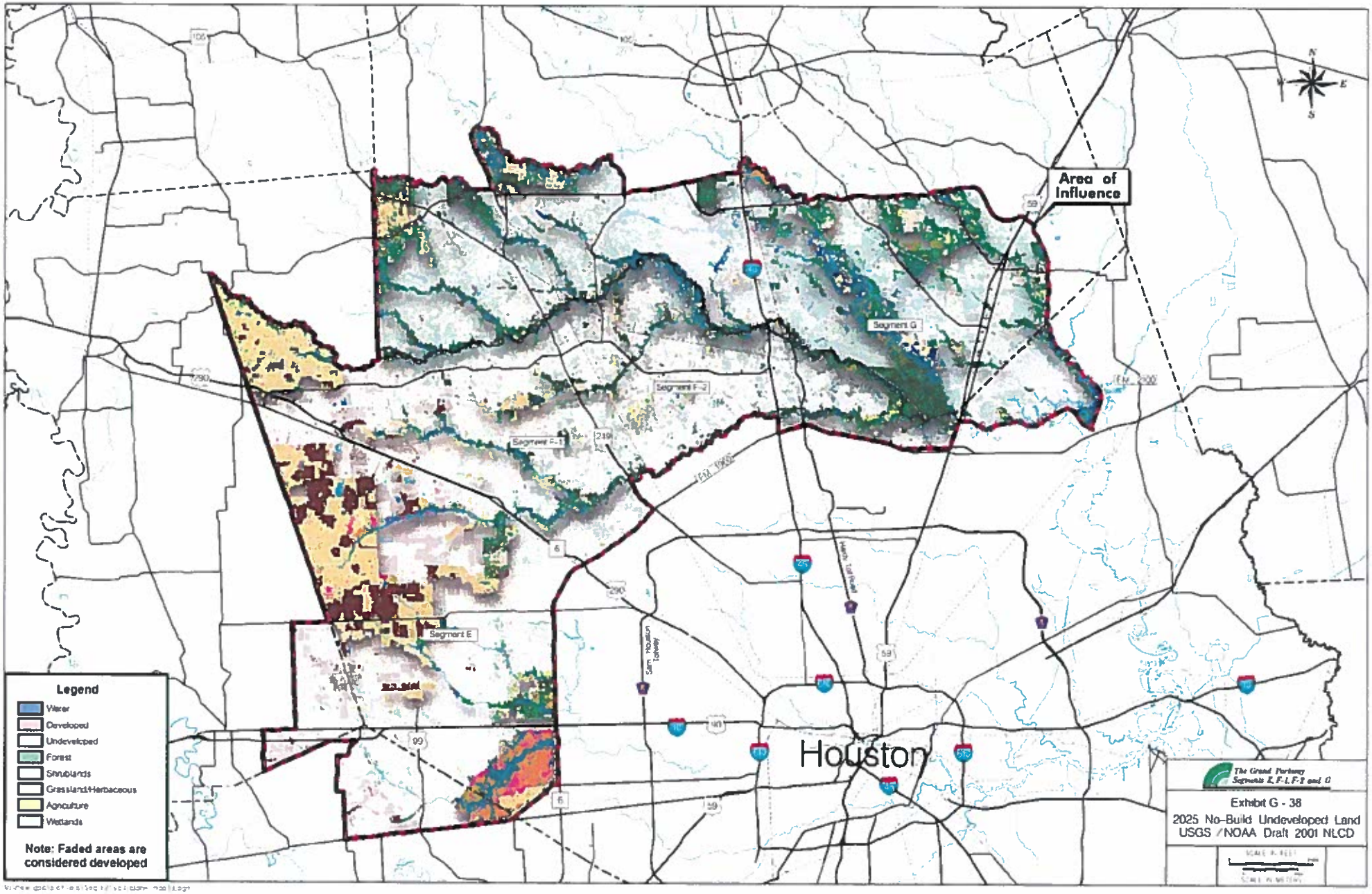

Area of Influence
Study Area
Preferred Alternative Corridor
Houston
LEGEND
Residential
Commercial
Undeveloped
Wetland
Floodplain
Park / Recreational
Preferred Alternative Corridor
Area of Influence
Study Area
Exhibit G - 33
2005 Base
Land Use Map
SCALE IN FEET
SCALE IN METERS

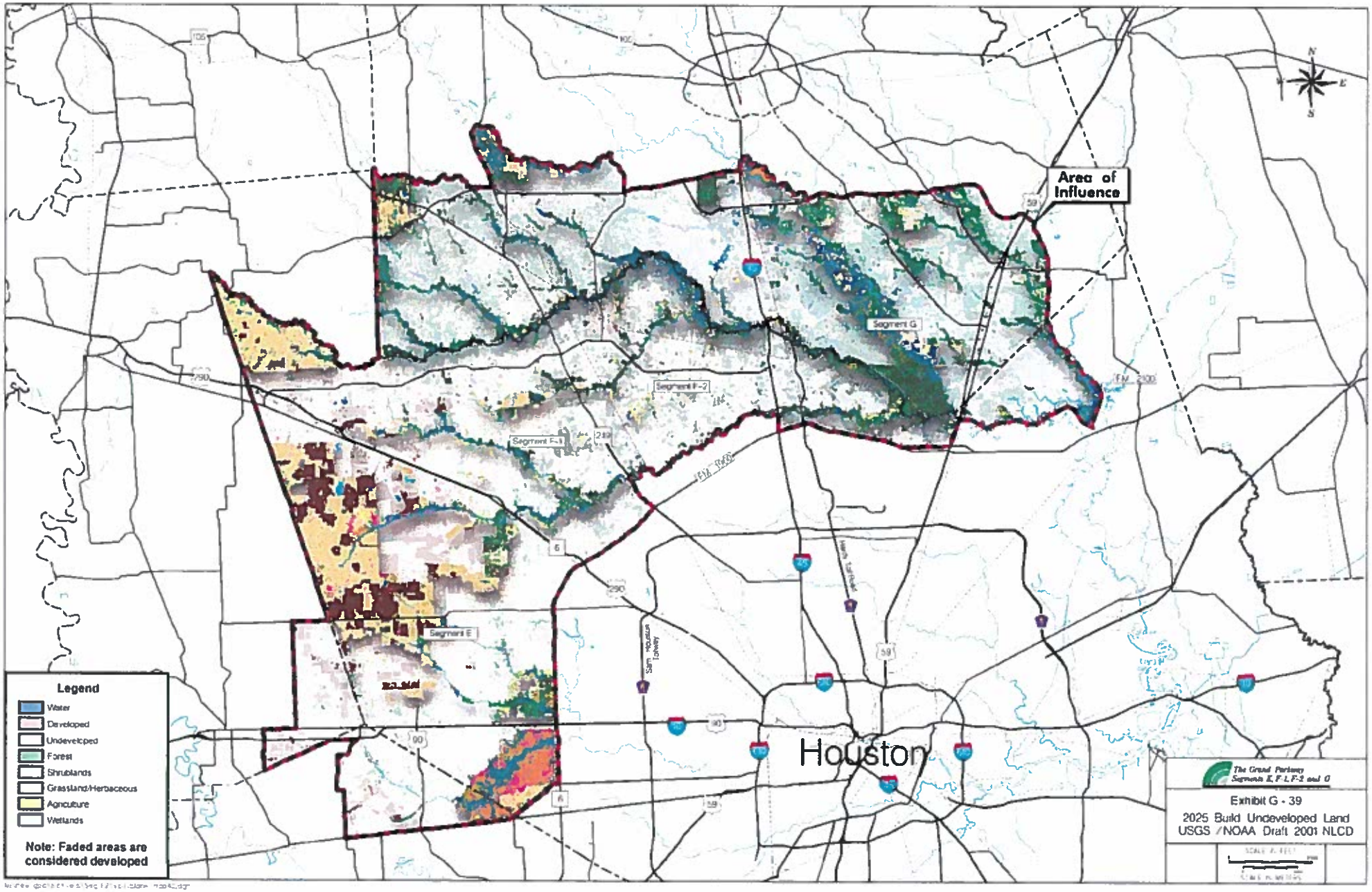

GRIMES
MONTGOMERY
LIBERTY
WALLER
HARRIS
FORT BEND
The Woodlands
New Caney
Stagecoach
Huffsmith
Porter
Segment G
Tomball
Spring
Rose Hill
Kingwood
Segment F-2
Hockley
Fairfield
Segment F-1
Humble
Cypress
Area of Influence
Copperfield
Segment E
Houston
Katy
Legend
Water
Developed
Undeveloped
Forest
Shrublands
Grasslands/Herbaceous
Agriculture
Wetlands
Exhibit G - 34
USGS/NOAA Draft 2001 NLCD
for the Area of Influence
SCALE IN MILES


Area of Influence
Segment G
Segment F-2
Segment F-1
Segment E
Houston
Legend
Water
Developed
Undeveloped
Forest
Shrublands
Grassland/Herbaceous
Agriculture
Wettands
Note: Faded areas are considered developed
The Grand Parkway
Segments E, F-1, F-2 and G
Exhibit G - 35
2025 Indirect Impact Land
USGS / NOAA Draft 2001 NLCD


Area of Influence
Study Area
Preferred Alternative Corridor
Houston
Legend
Residential Development
Other Development
Existing Development
Preferred Alternative Corridor
Study Area
Floodplain
Wetland
Park / Recreational
Undeveloped
Area of Influence
The Grand Parkway Segments E, F-1, F-2 and G
Exhibit G - 36
2025 No-Build Alternative Land Use Map


Area of Influence
Study Area
Preferred Alternative Corridor
Houston
Legend
Residential Development
Other Development
Existing Development
Preferred Alternative Corridor
Study Area
Floodplain
Wetland
Park / Recreational
Undeveloped
Area of Influence
The Grand Parkway Segments E, F-1, F-3 and G
Exhibit G – 37
2025 Build Alternative Land Use Map


Area of Influence
Segment G
Segment F-2
Segment F-1
Segment E
Houston
Legend
Water
Developed
Undeveloped
Forest
Shrublands
Grassland/Herbaceous
Agriculture
Wetlands
Note: Faded areas are considered developed
The Grand Parkway
Segments E, F-1, F-2 and G
Exhibit G - 38
2025 No-Build Undeveloped Land
USGS / NOAA Draft 2001 NLCD


Area of Influence
Segment G
Segment F-2
Segment F-1
Segment E
Houston
Legend
Water
Developed
Undeveloped
Forest
Shrublands
Grassland/Herbaceous
Agriculture
Wetlands
Note: Faded areas are considered developed
The Grand Parkway
Segments E, F-1, F-2 and G
Exhibit G - 39
2025 Build Undeveloped Land
USGS / NOAA Draft 2001 NLCD

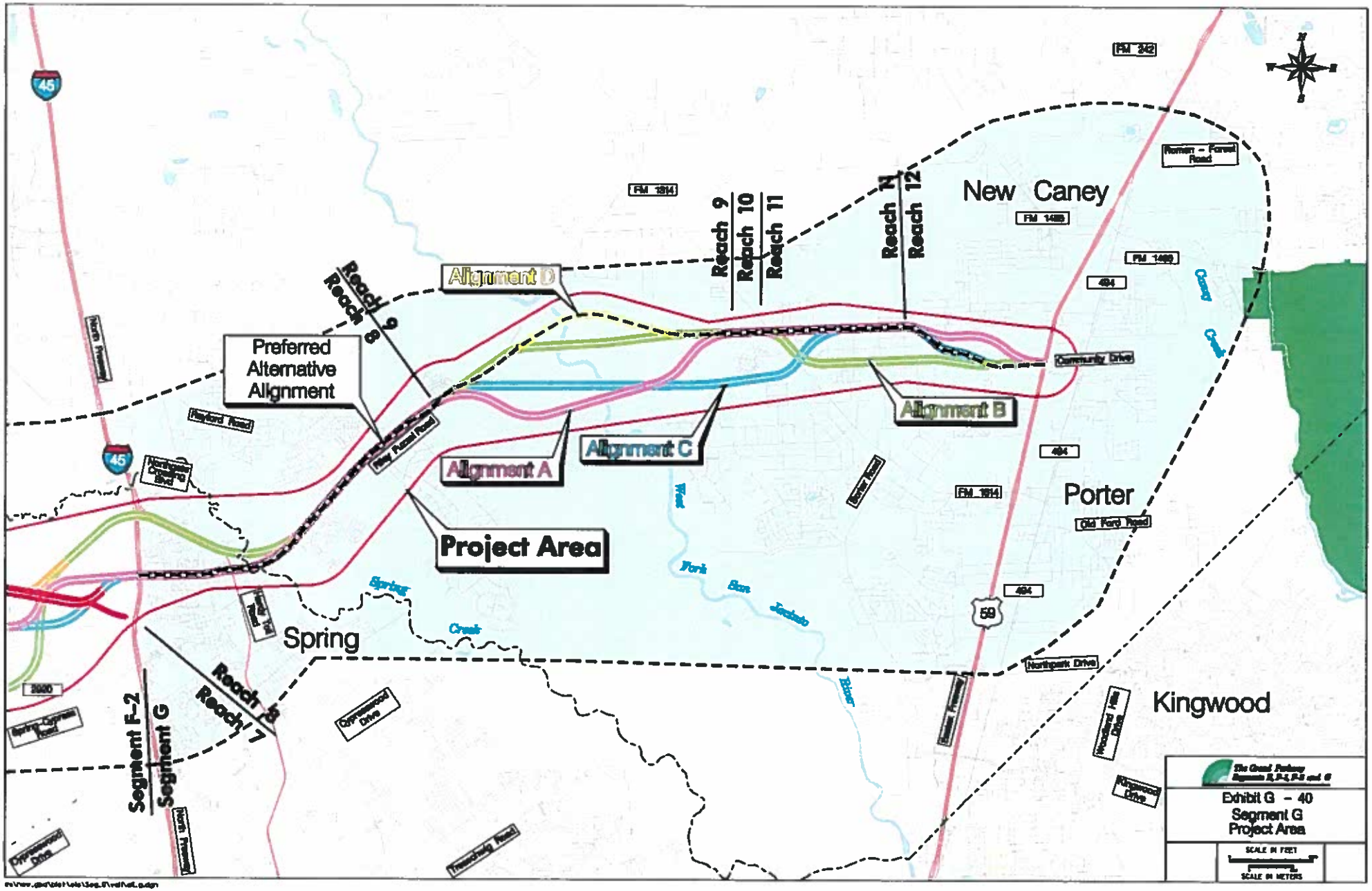
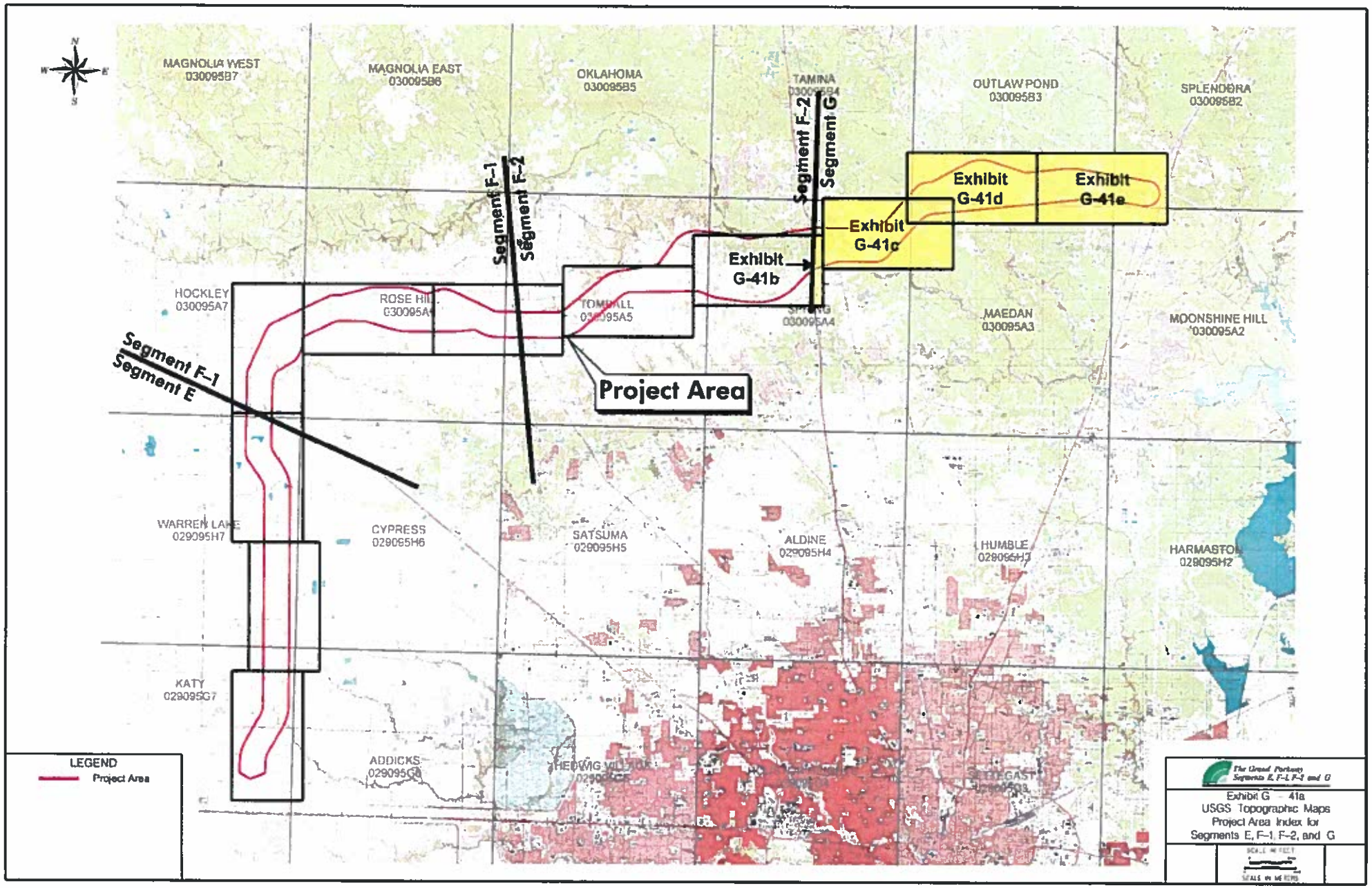


Exhibit G – 40
Segment G
Project Area

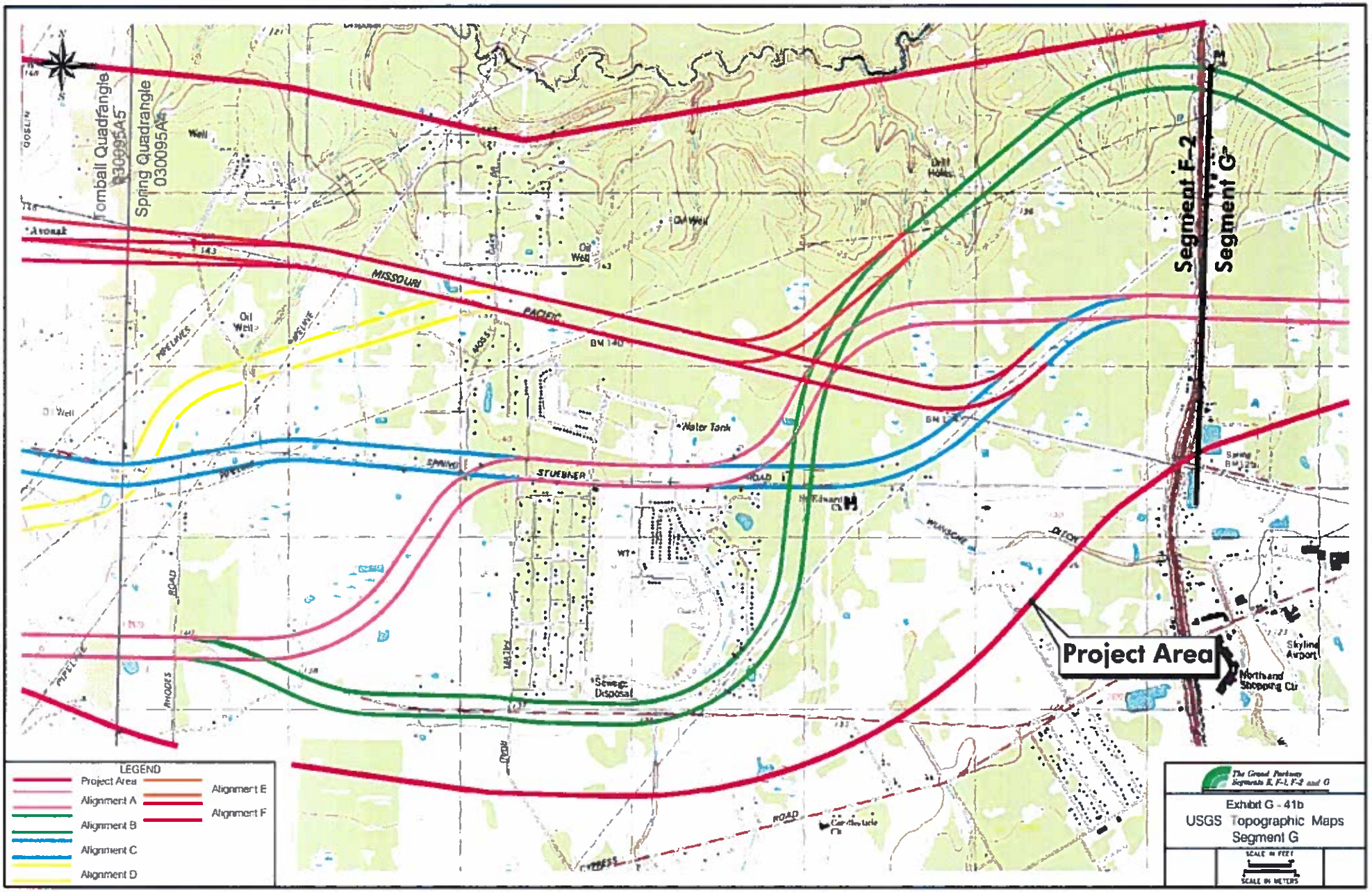
SCALE IN FEET

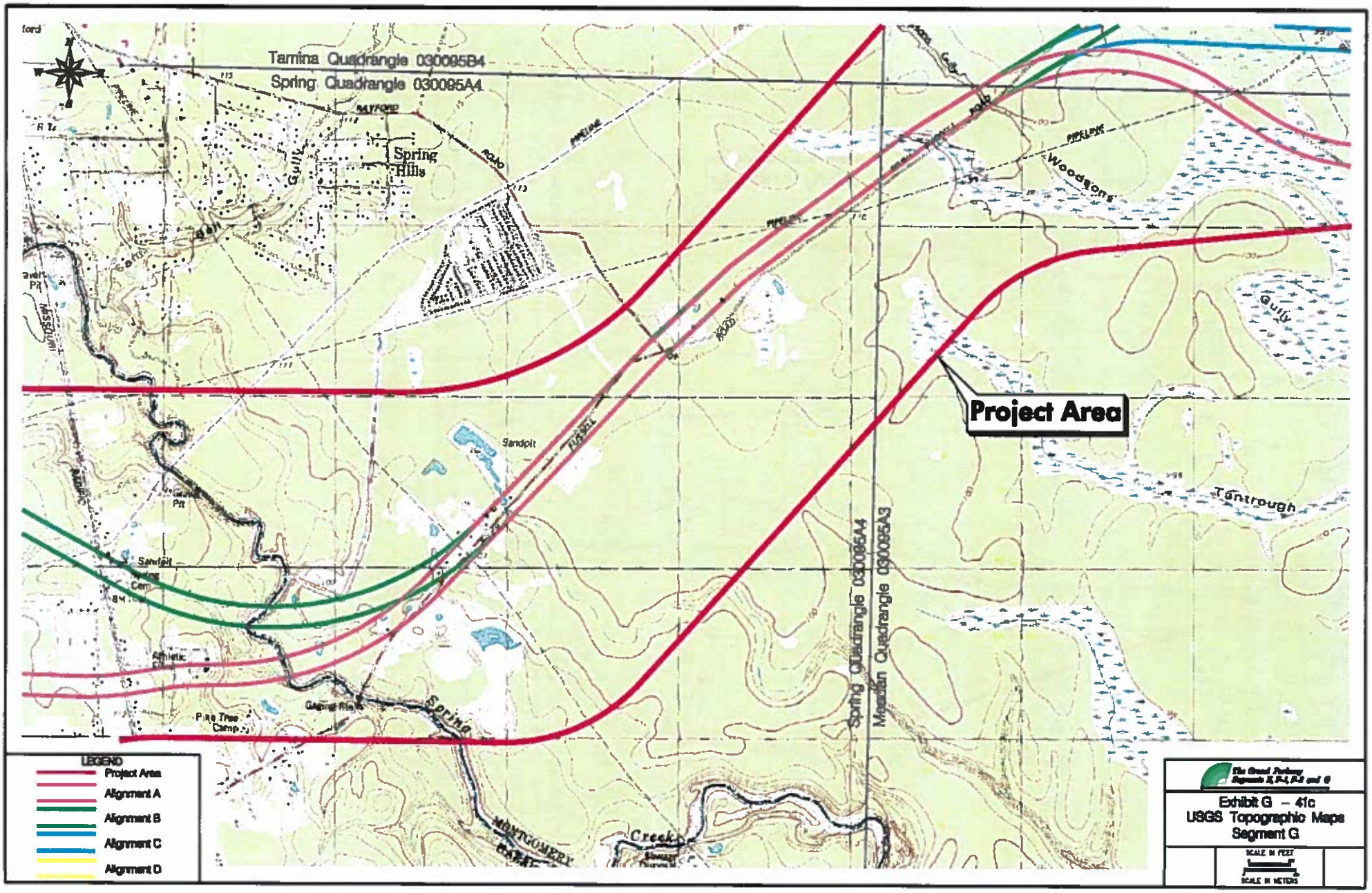
SCALE IN METERS

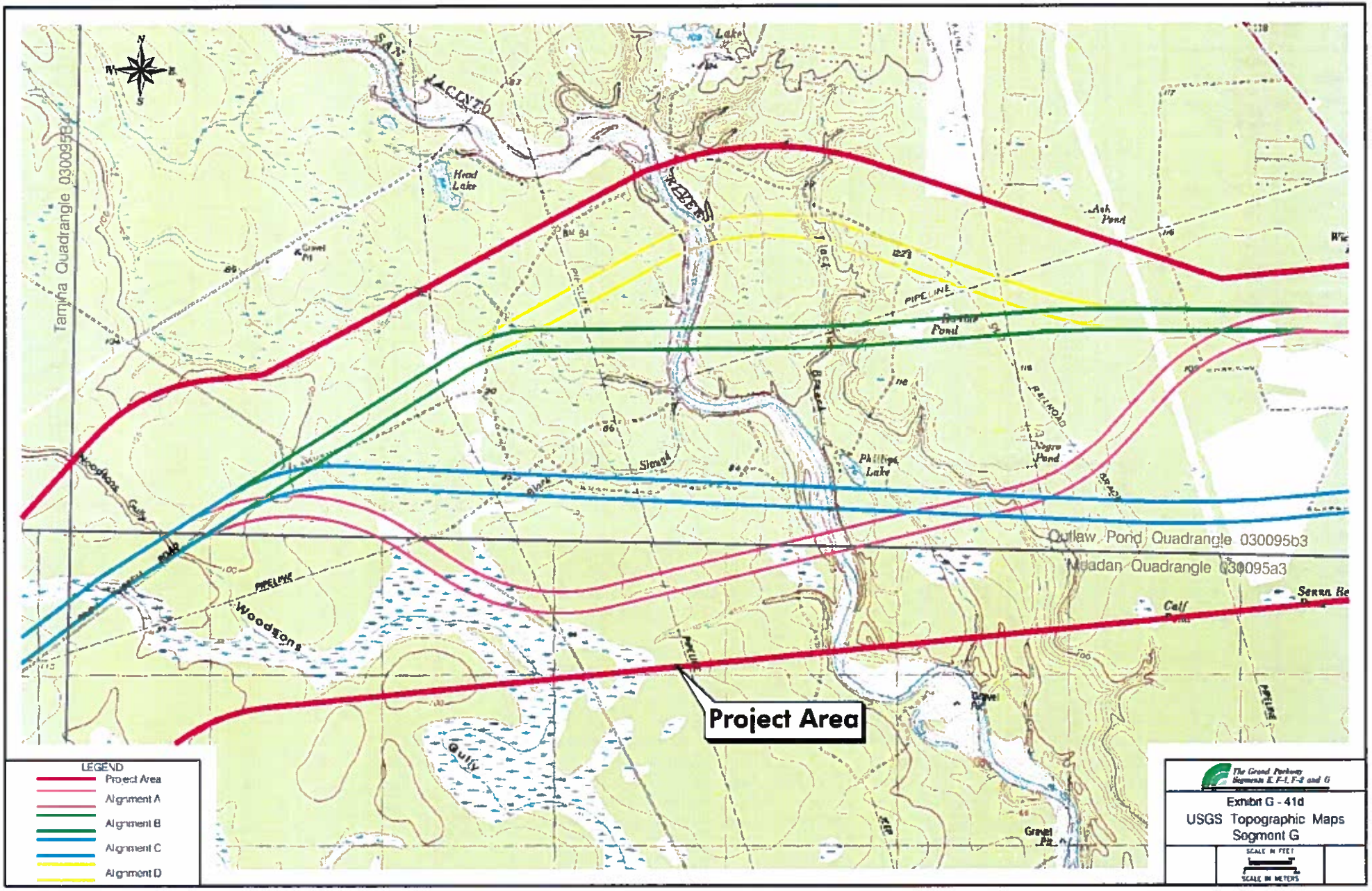


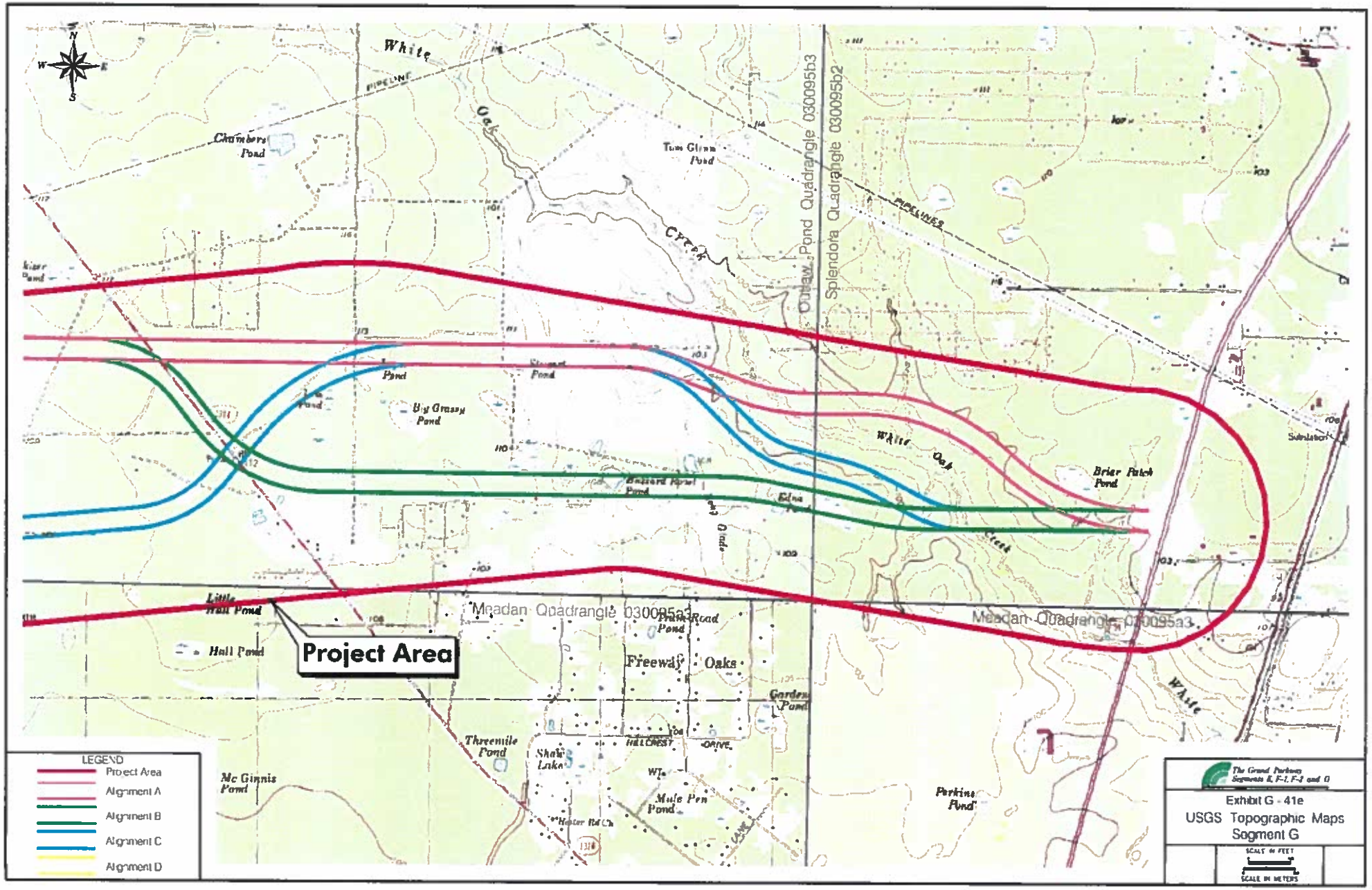
The Grand Parkway
Segments E, F-1, F-2 and G

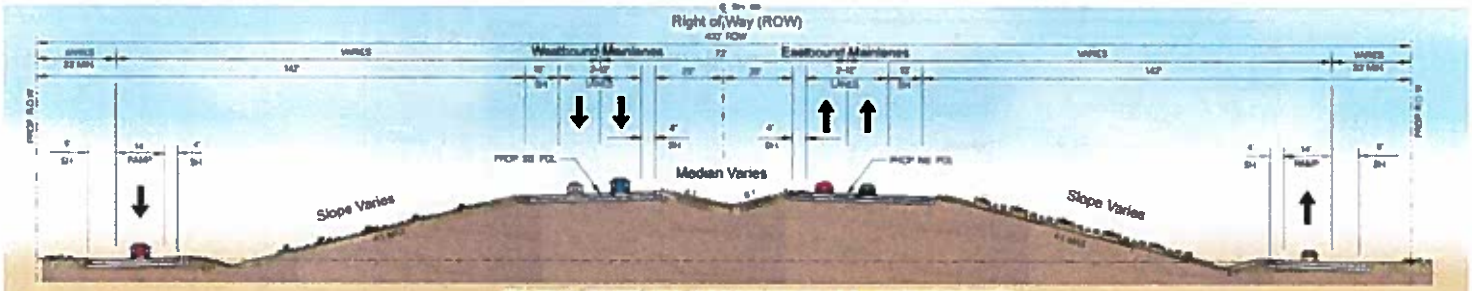
Exhibit G - 41a
USGS Topographic Maps
Project Area Index for
Segments E, F-1, F-2, and G


Tomball Quadrangle
030095A5
Spring Quadrangle
030095A6
Segment F-2
Segment G
Project Area
MISSOURI
PACIFIC
STUEBNER
Water Tank
Sewage Disposal
Oil Well
Skyline Airport
LEGEND
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
Alignment E
Alignment F
The Grand Parkway
Segments E, F-1, F-2 and G
Exhibit G - 41b
USGS Topographic Maps
Segment G
SCALE IN FEET
SCALE IN METERS

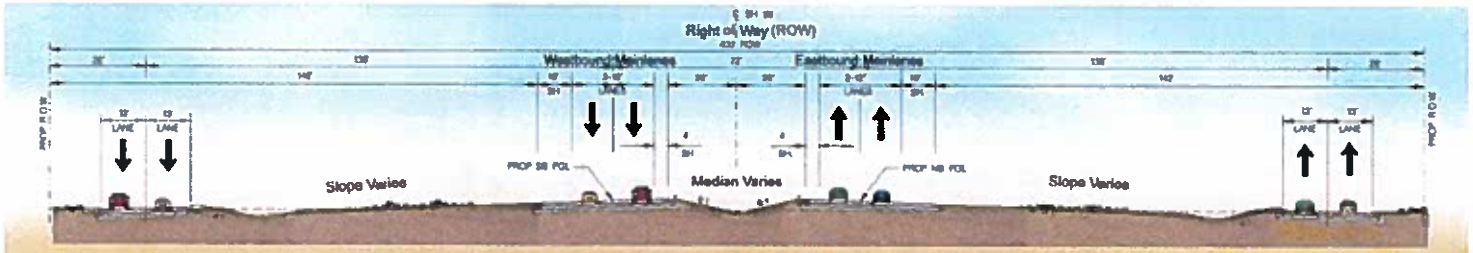

Tamina Quadrangle 030095B4
Spring Quadrangle 030095A4
Spring Hills
Gully
Woodgons
Gully
Tonirough
Project Area
Sandpit
Pit
Sawpit
Spring Cem
Athletic
Pine Tree Camp
Spring
Creek
MONTGOMERY
Spring Quadrangle 030095A4
Meadian Quadrangle 030095A3
LEGEND
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
Exhibit G – 41c
USGS Topographic Maps
Segment G
SCALE IN FEET
SCALE IN METERS


Tamiha Quadrangle 030095b4
Outlaw Pond Quadrangle 030095b3
Meadan Quadrangle 030095a3
Project Area
Head Lake
Ash Pond
Phillips Lake
Negro Pond
Woodsons
Gully
PIPELINE
RAILROAD
Gravel Pit
LEGEND
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
The Grand Parkway Segments E, F-1, F-2 and G
Exhibit G - 41d
USGS Topographic Maps
Segment G
SCALE IN FEET
SCALE IN METERS

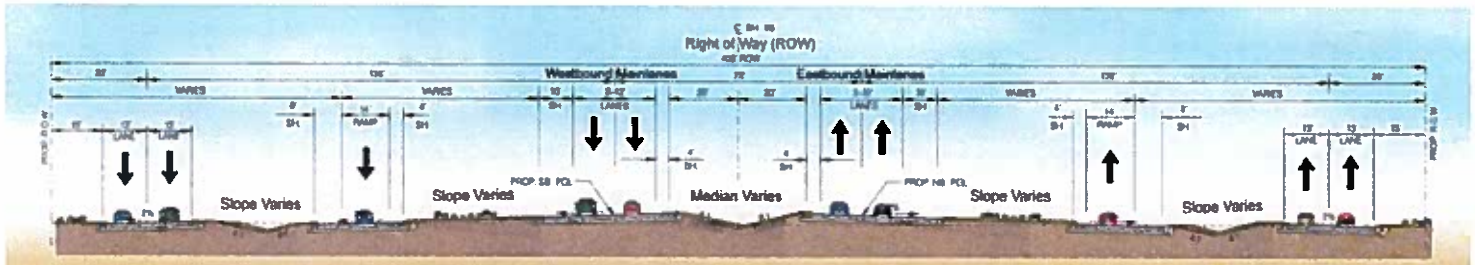

Project Area
Meadan Quadrangle 0300953
Meadan Quadrangle 0300953
Splendora Quadrangle 0300953
Splendora Quadrangle 0300952
White Oak Creek
Chambers Pond
Tom Glenn Pond
Big Grassy Pond
Brier Patch Pond
Little Hall Pond
Hall Pond
Freeway Oaks
Garden Pond
Threemile Pond
Mc Ginnis Pond
Mule Pen Pond
Perkins Pond
Substation
LEGEND
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
The Grand Parkway Segments E, F-1, F-2 and G
Exhibit G - 41e
USGS Topographic Maps
Segment G
SCALE IN FEET
SCALE IN METERS



TYPICAL MAINLANE APPROACH TO GRADE SEPARATION



TYPICAL MAINLANE SECTION WITH FRONTAGE ROADS



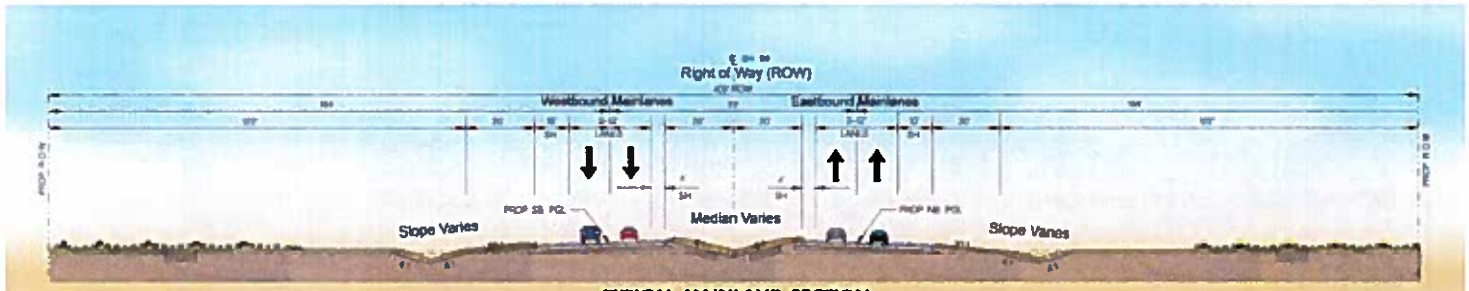
TYPICAL MAINLANE SECTION WITH FRONTAGE ROADS AND RAMPS

DRAFT

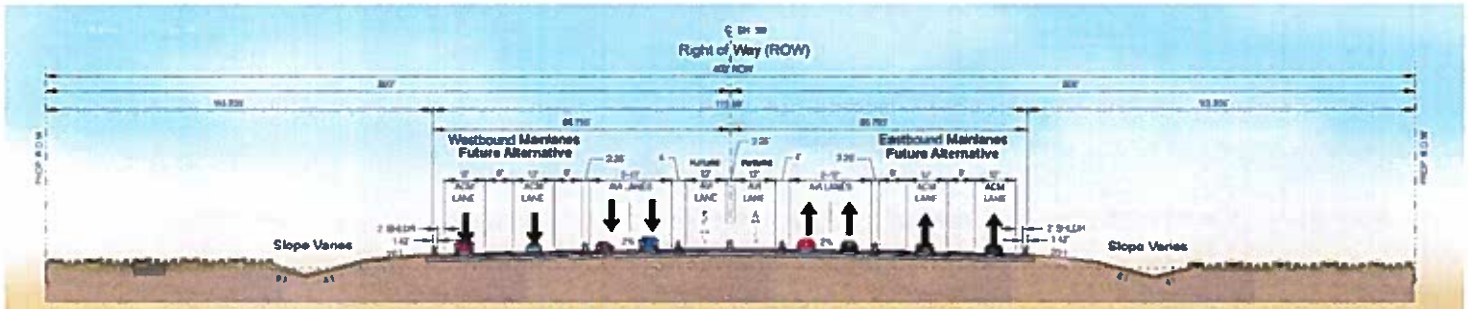
The Grand Parkway
Segments E, F-1, F-2 and G

Exhibit G – 42a
Proposed Typical Sections – Toll Road

NOT TO SCALE



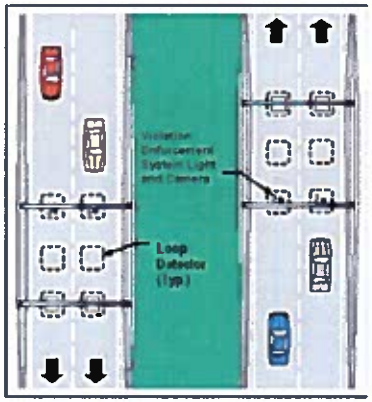
TYPICAL MAINLANE SECTION

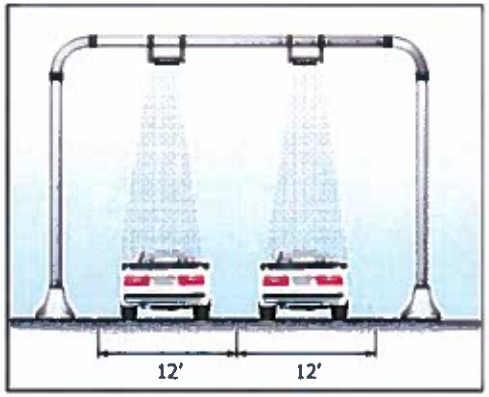


TYPICAL MAINLANE TOLL PLAZA SECTION

DRAFT

THESE DOCUMENTS ARE FOR INTERNAL REVIEW AND NOT FOR CONSTRUCTION BIDDING OR PERMIT PURPOSES





MAINLINE TOLLING PLAZA

Legend

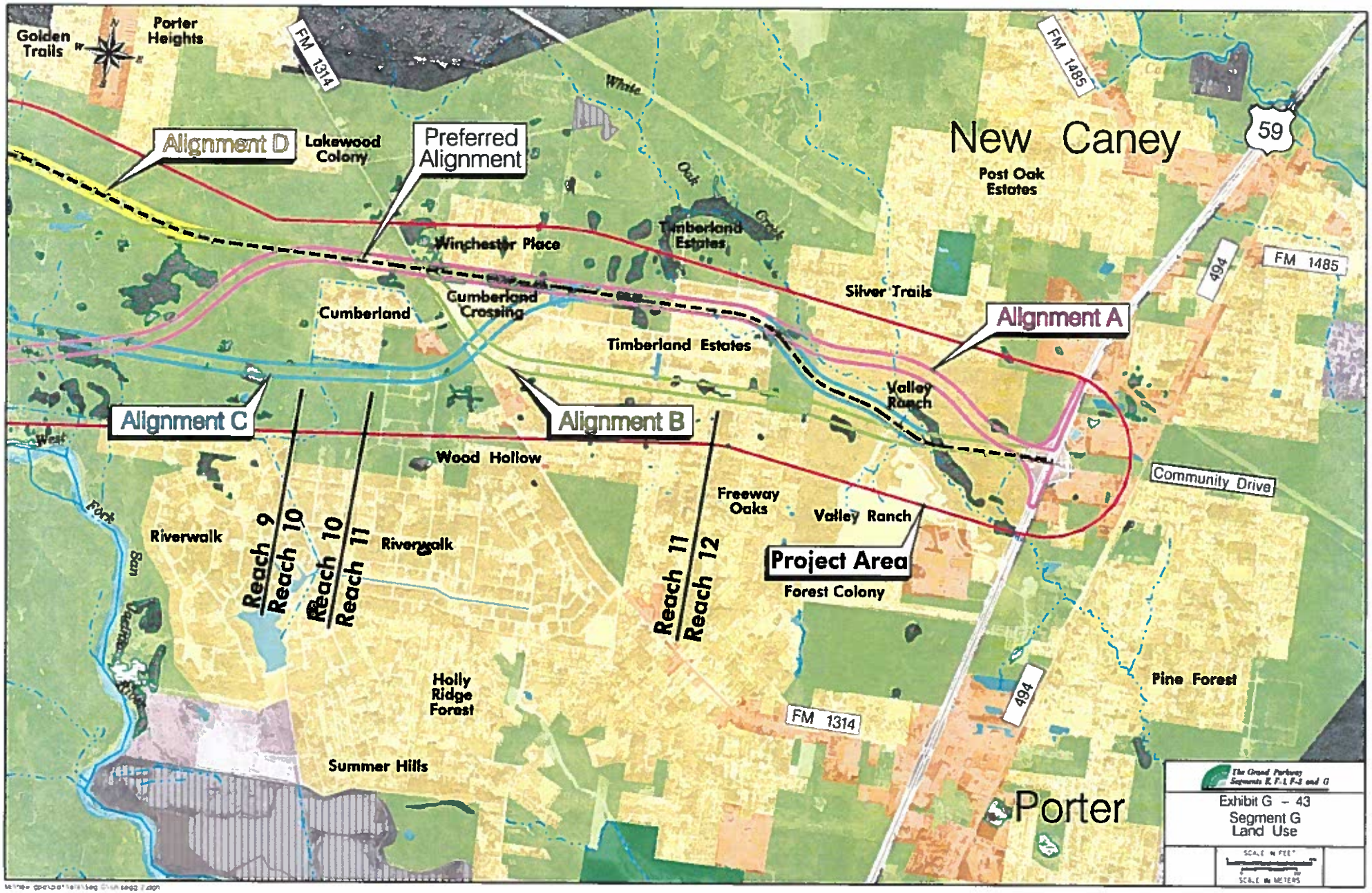
ACM = Automatic Collection Machine (Cash Only) Lanes

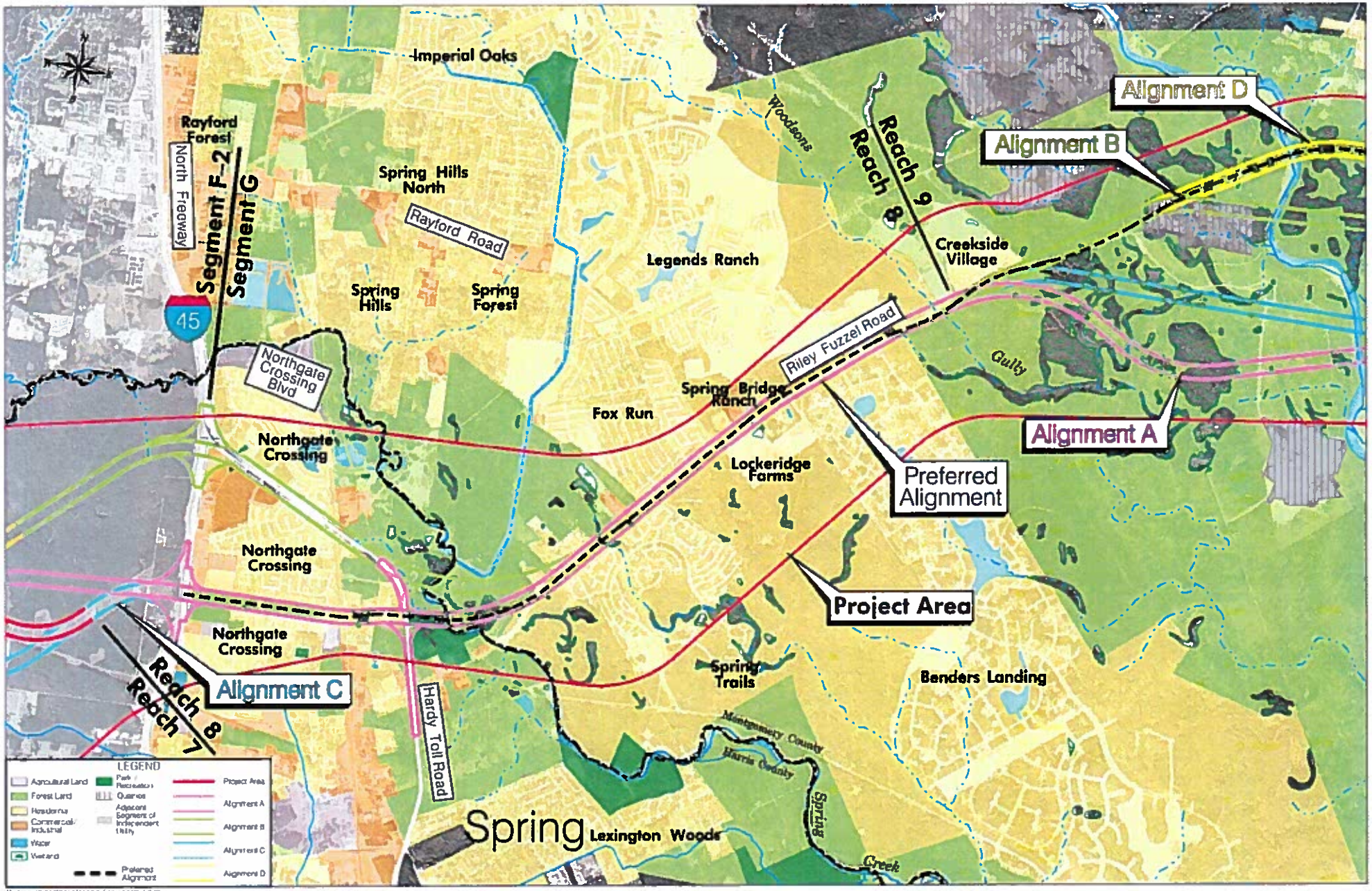
AVI = Automatic Vehicle Identification (TxTag and EZ Tag) Lanes

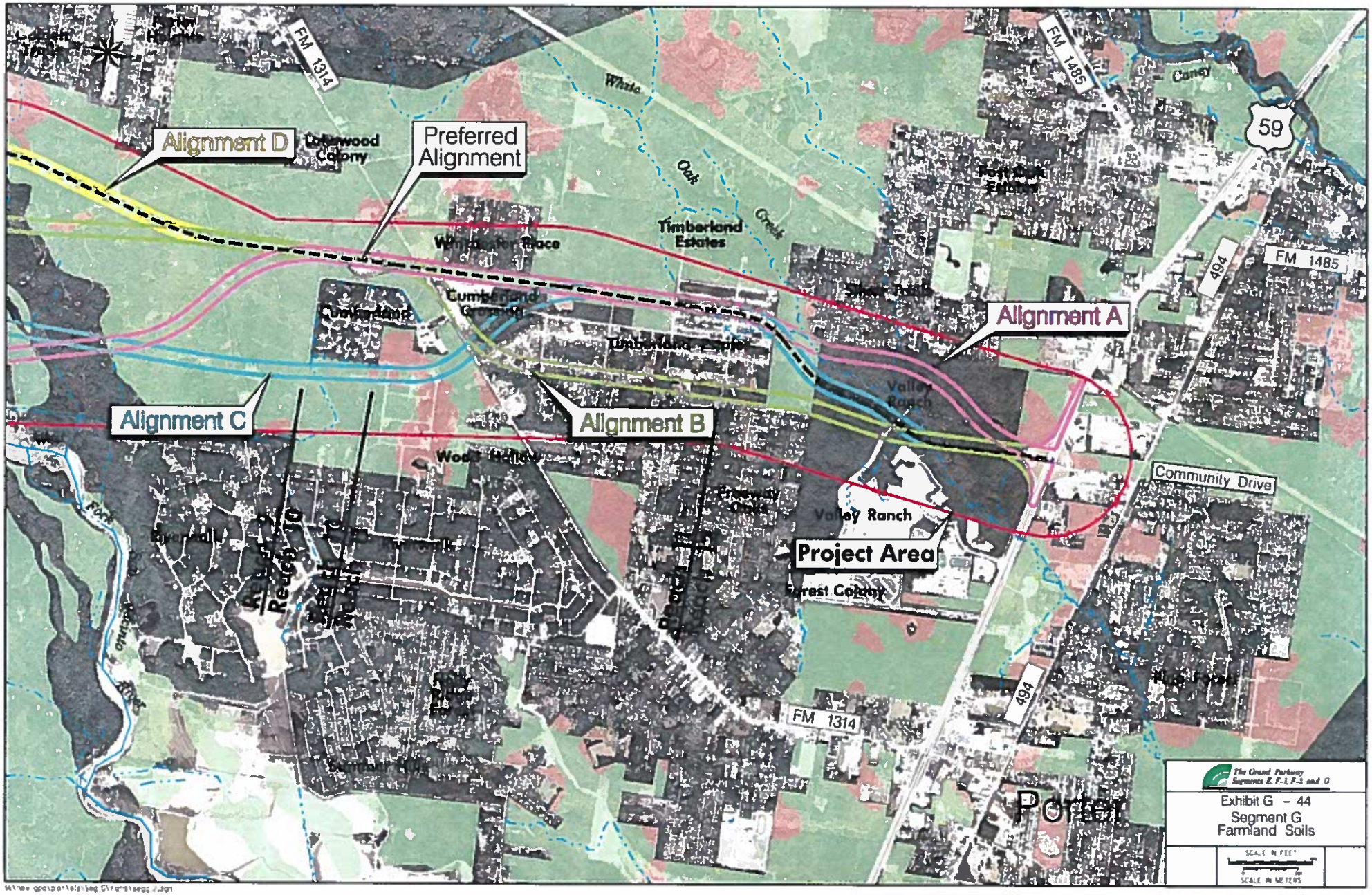
The Grand Parkway
Segments E, F-1, F-3 and G

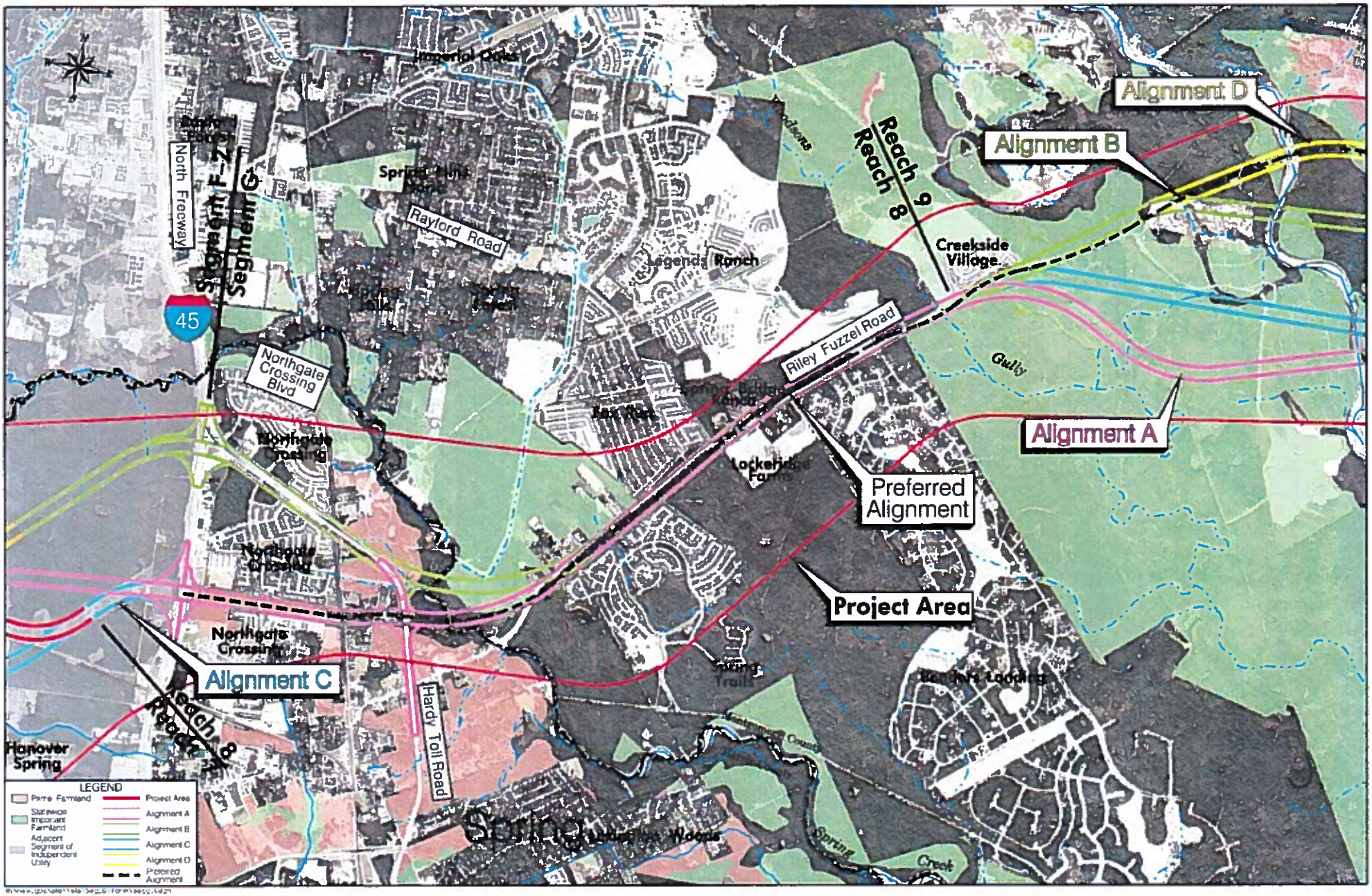
Exhibit G – 42b
Proposed Typical Sections – Toll Road

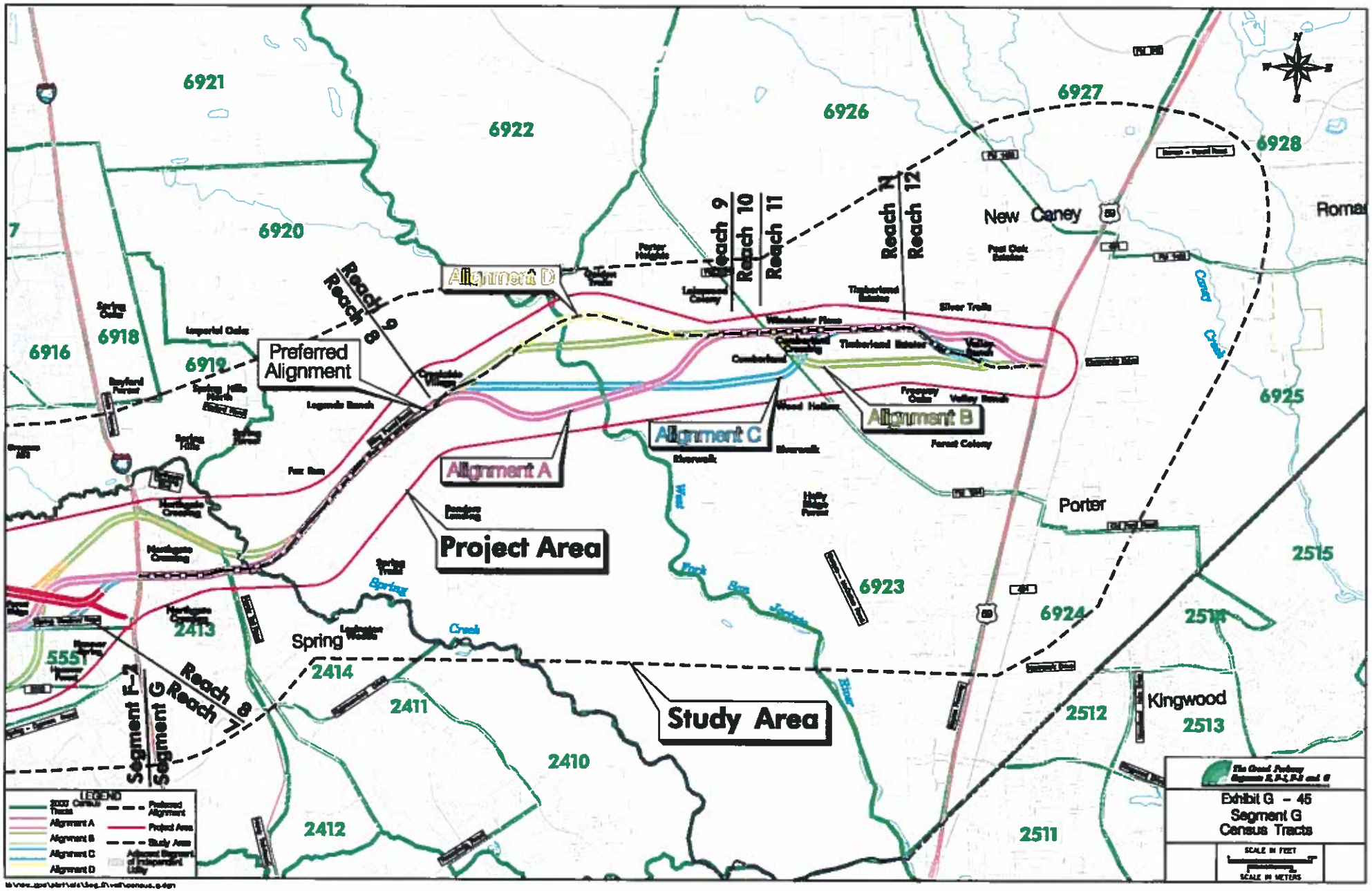
NOT TO SCALE

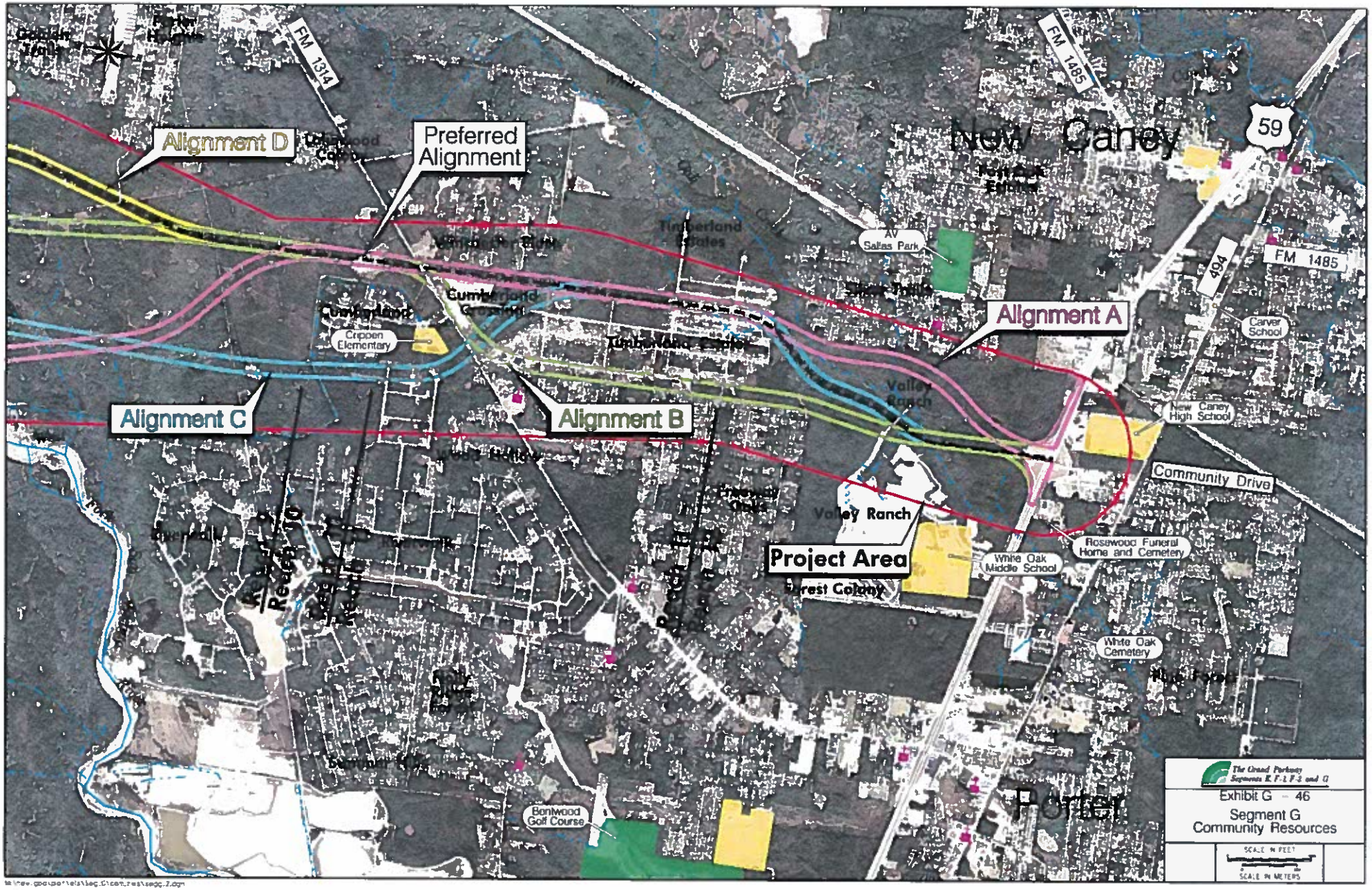

Golden Trails
Porter Heights
FM 1314
White
Oak
Creek
FM 1485
New Caney
59
Alignment D
Lakewood Colony
Preferred Alignment
Post Oak Estates
Winchester Place
Timberland Estates
494
FM 1485
Silver Trails
Cumberland
Cumberland Crossing
Alignment A
Timberland Estates
Valley Ranch
Alignment C
Alignment B
West
Wood Hollow
Community Drive
Fork
Sam
Houston
Riverwalk
Freeway Oaks
Valley Ranch
Riverwalk
Reach 9
Reach 10
Reach 10
Reach 11
Reach 11
Reach 12
Project Area
Forest Colony
Holly Ridge Forest
FM 1314
494
Pine Forest
Summer Hills
Porter
The Grand Parkway Segments E, F-1, F-2 and G
Exhibit G – 43
Segment G
Land Use
SCALE IN FEET
SCALE IN METERS

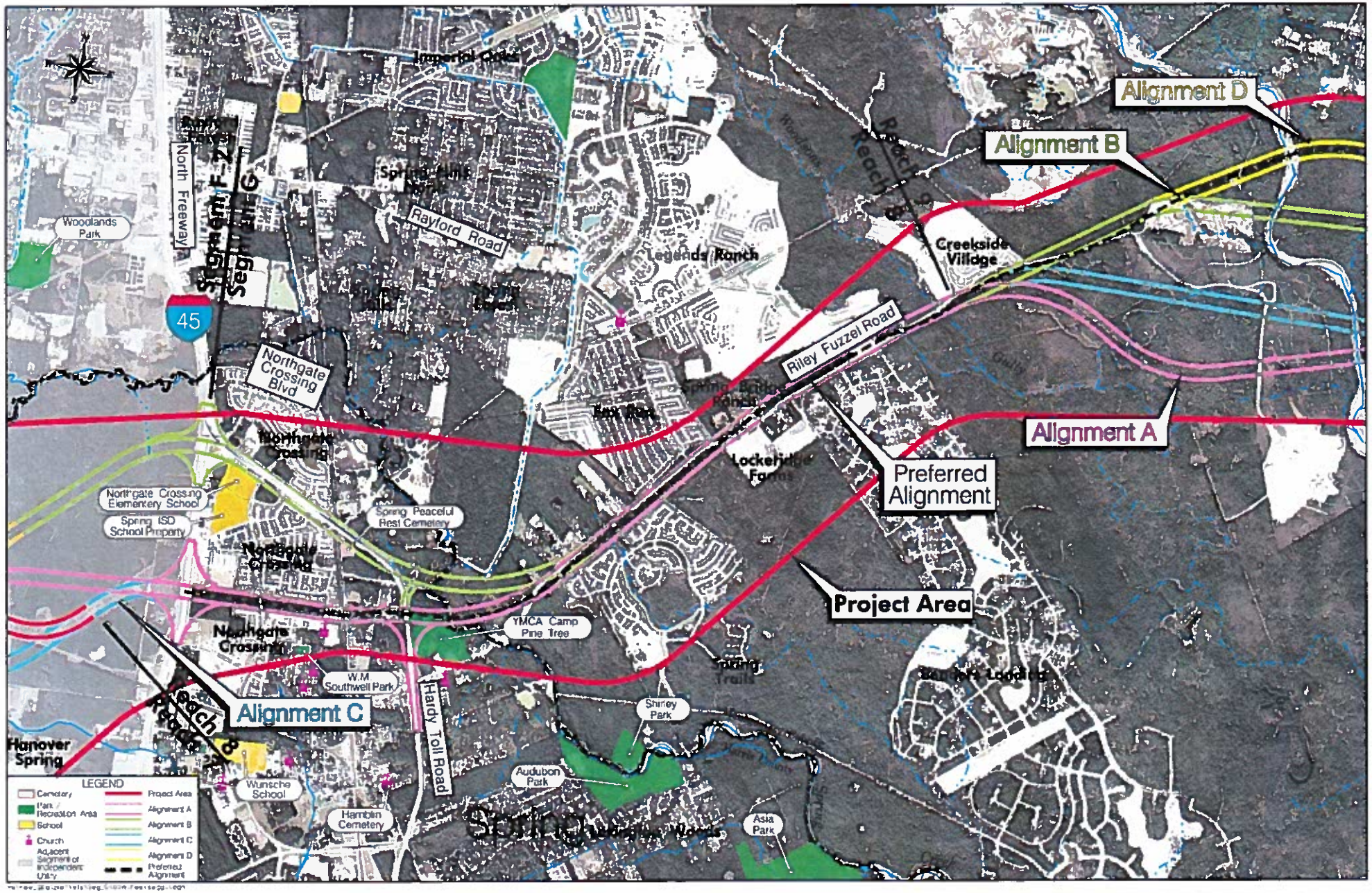

Imperial Oaks
Rayford Forest
North Freeway
Segment F-2
Segment G
Spring Hills North
Rayford Road
Spring Hills
Spring Forest
45
Northgate Crossing Blvd
Northgate Crossing
Northgate Crossing
Northgate Crossing
Reach 7
Reach 8
Alignment C
Hardy Toll Road
Legends Ranch
Fox Run
Spring Bridge Ranch
Riley Fuzzel Road
Lockeridge Farms
Spring Trails
Spring
Lexington Woods
Montgomery County
Harris County
Spring Creek
Woodsons
Reach 8
Reach 9
Creekside Village
Gully
Alignment D
Alignment B
Alignment A
Preferred Alignment
Project Area
Benders Landing
LEGEND
Agricultural Land
Forest Land
Residential
Commercial/ Industrial
Water
Wetland
Park / Recreation
Quarries
Adjacent Segment of Independent Utility
Preferred Alignment
Project Area
Alignment A
Alignment B
Alignment C
Alignment D

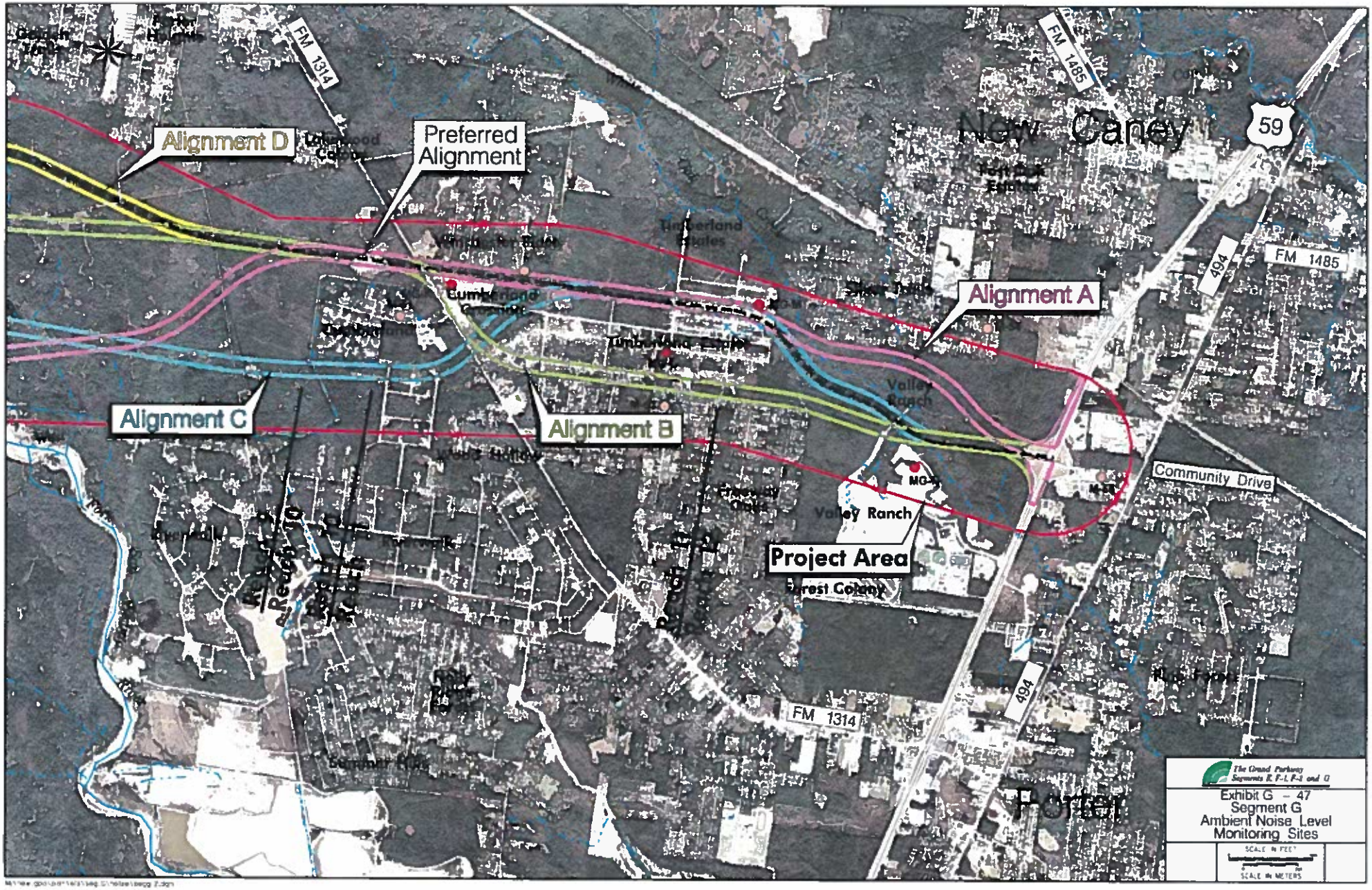

Alignment D
Preferred Alignment
Alignment A
Alignment B
Alignment C
Project Area
Community Drive
FM 1314
FM 1485
59
494
Porter
Timberland Estates
Valley Ranch
Forest Colony
Cumberland
White
Oak
Creek
Caney
Exhibit G - 44
Segment G
Farmland Soils
SCALE IN FEET
SCALE IN METERS

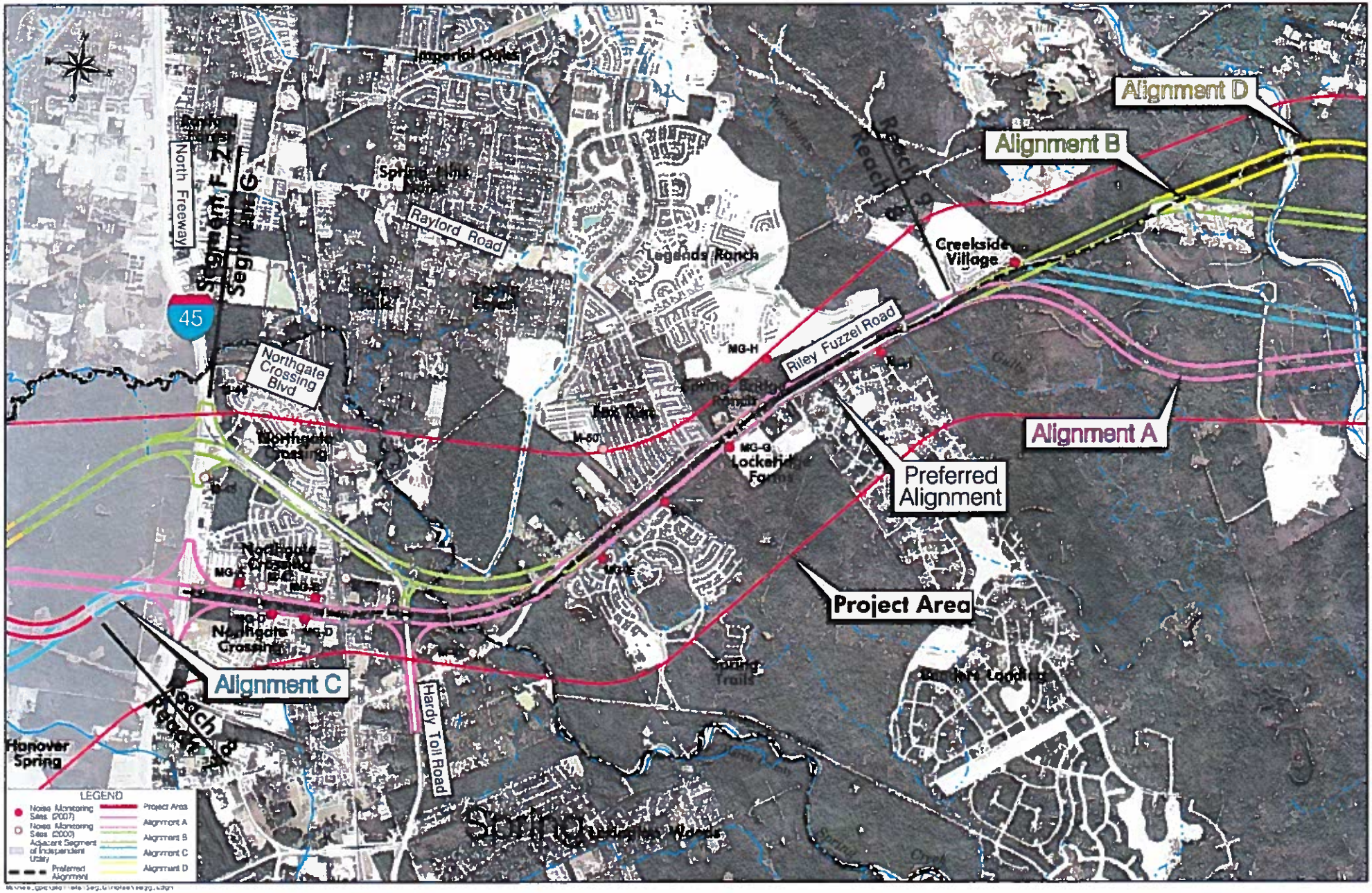

Alignment D
Alignment B
Alignment A
Preferred Alignment
Project Area
Alignment C
Reach 9
Reach 8
Segment F-7
Segment G
North Freeway
45
Rayford Road
Riley Fuzzel Road
Northgate Crossing Blvd
Northgate Crossing
Hardy Toll Road
Creekside Village
Legends Ranch
Hanover Spring
Spring
Gully
LEGEND
Prime Farmland
Statewide Important Farmland
Adjacent Segment of Independent Utility
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
Preferred Alignment

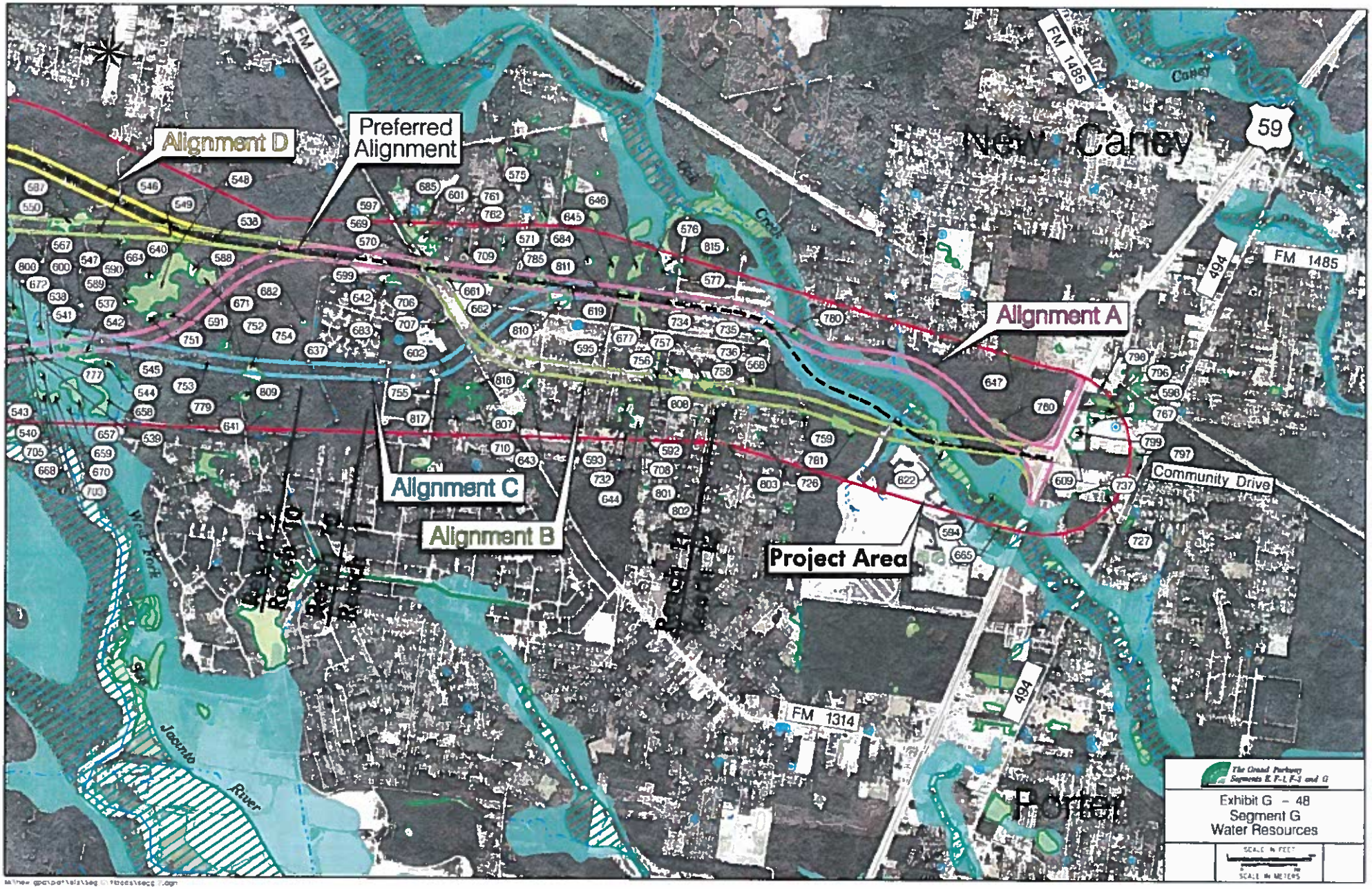

6921
6922
6926
6927
6928
6920
6918
6916
6919
6925
6923
6924
2515
2518
2513
2512
2511
2410
2411
2412
2413
2414
Reach 7
Reach 8
Reach 9
Reach 10
Reach 11
Reach 12
Segment F-2
Segment G
Alignment A
Alignment B
Alignment C
Alignment D
Preferred Alignment
Project Area
Study Area
New Caney
Porter
Spring
Kingwood
Romar
Legend
2000 Census Tracts
Preferred Alignment
Alignment A
Project Area
Alignment B
Study Area
Alignment C
Alignment D
Exhibit G – 45
Segment G
Census Tracts
SCALE IN FEET
SCALE IN METERS

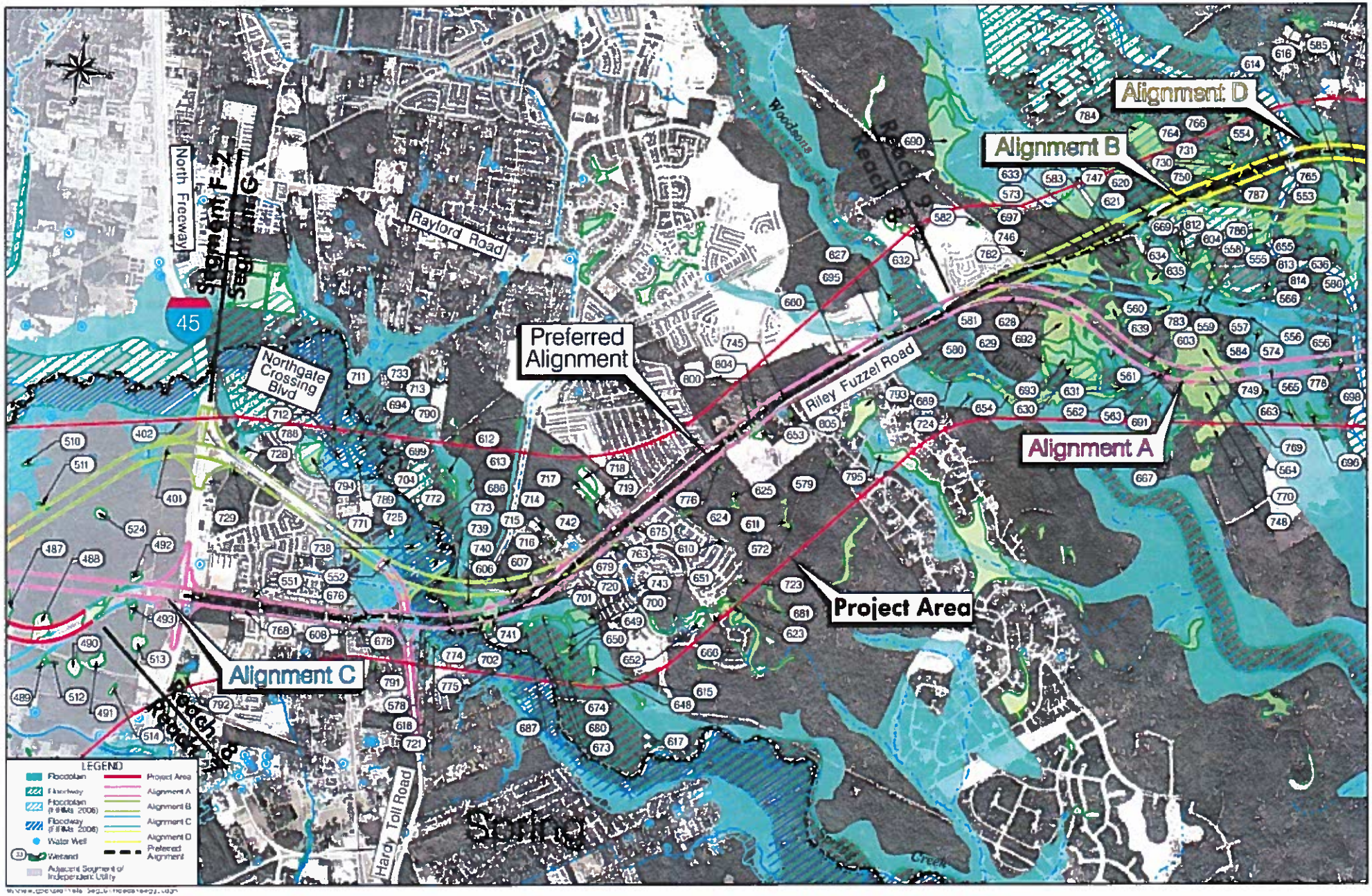

Alignment D
Preferred Alignment
Alignment A
Alignment B
Alignment C
Project Area
New Caney
Porter
FM 1314
FM 1485
59
494
Cumberland
Cumberland Crossing
Crippen Elementary
Timberland Estates
Valley Ranch
Forest Colony
AV Salas Park
Carver School
New Caney High School
Community Drive
Rosewood Funeral Home and Cemetery
White Oak Middle School
White Oak Cemetery
Bentwood Golf Course
The Grand Parkway Segments K, F-1, F-2 and G
Exhibit G – 46
Segment G
Community Resources
SCALE IN FEET
SCALE IN METERS

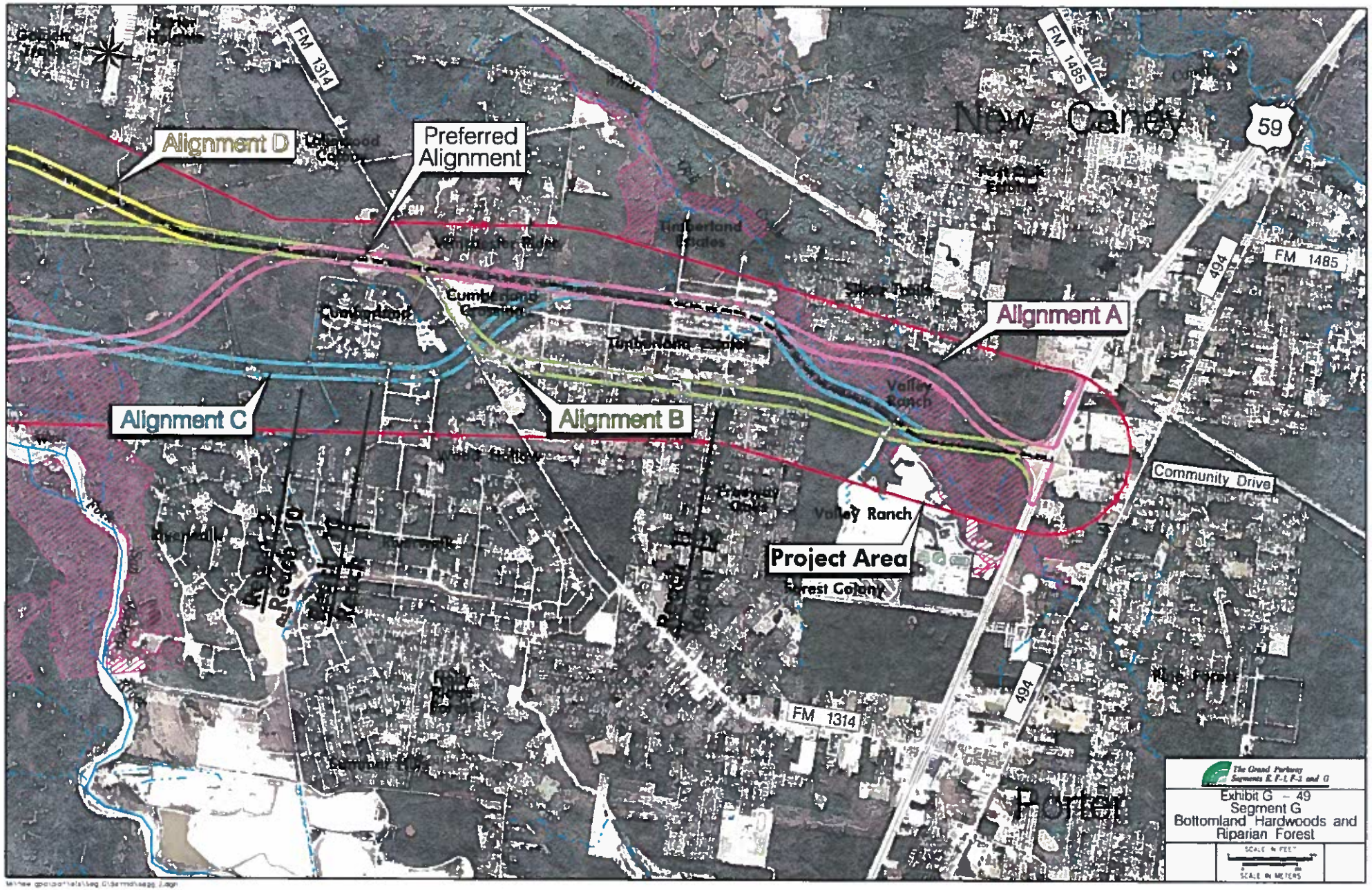

Alignment D
Alignment B
Alignment A
Preferred Alignment
Project Area
Alignment C
Imperial Oaks
Spring Hills
Rayford Road
Legends Ranch
Creekside Village
Riley Fuzzel Road
Woodlands Park
North Freeway
Segment F
Segment G
45
Northgate Crossing Blvd
Northgate Crossing
Northgate Crossing Elementary School
Spring ISD School Property
Spring Peaceful Rest Cemetery
Lockeridge Farms
YMCA Camp Pine Tree
W.M Southwell Park
Hardy Toll Road
Shirley Park
Audubon Park
Asia Park
Hanover Spring
Wunsche School
Hamblin Cemetery
Reach B
Reach C
LEGEND
Cemetery
Park / Recreation Area
School
Church
Adjacent Segment of Independent Utility
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
Preferred Alignment


Alignment D
Preferred Alignment
Alignment A
Alignment B
Alignment C
Project Area
New Caney
Porter
FM 1314
FM 1485
59
494
Community Drive
Valley Ranch
Forest Colony
Cumberland Estates
Cumberland Crossing
Woodlands Estates
Woodlands Golf Club
Summer Park
Fort Cook Estates
Hunt Forest
Valley Ranch
Exhibit G - 47
Segment G
Ambient Noise Level
Monitoring Sites
SCALE IN FEET
SCALE IN METERS


Alignment D
Alignment B
Alignment A
Preferred Alignment
Project Area
Alignment C
North Freeway
Segment F 7a
Segment G
45
Rayford Road
Legends Ranch
Creekside Village
Riley Fuzzel Road
Northgate Crossing Blvd
Northgate Crossing
Hardy Toll Road
Hanover Spring
Imperial Oaks
Spring Trails
Spring Creek
LEGEND
Noise Monitoring Sites (2007)
Noise Monitoring Sites (2009)
Adjacent Segment of Independent Utility
Preferred Alignment
Project Area
Alignment A
Alignment B
Alignment C
Alignment D


Alignment D
Preferred Alignment
Alignment A
Alignment C
Alignment B
Project Area
New Caney
Porter
FM 1314
FM 1485
59
494
Community Drive
Caney
Creek
West Fork
San Jacinto River
The Grand Parkway
Segments E, F-1, F-3 and G
Exhibit G – 48
Segment G
Water Resources
SCALE IN FEET
SCALE IN METERS


Alignment D
Alignment B
Alignment A
Alignment C
Preferred Alignment
Project Area
Rayford Road
Riley Fuzzel Road
Northgate Crossing Blvd
North Freeway
Segment F-2
Segment G
45
Hardy Toll Road
Woodlands
Reach 8
Reach 9
LEGEND
Floodplain
Floodway
Floodway (FIRMs 2006)
Water Well
Wetland
Adjacent Segment of Independent Utility
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
Preferred Alignment

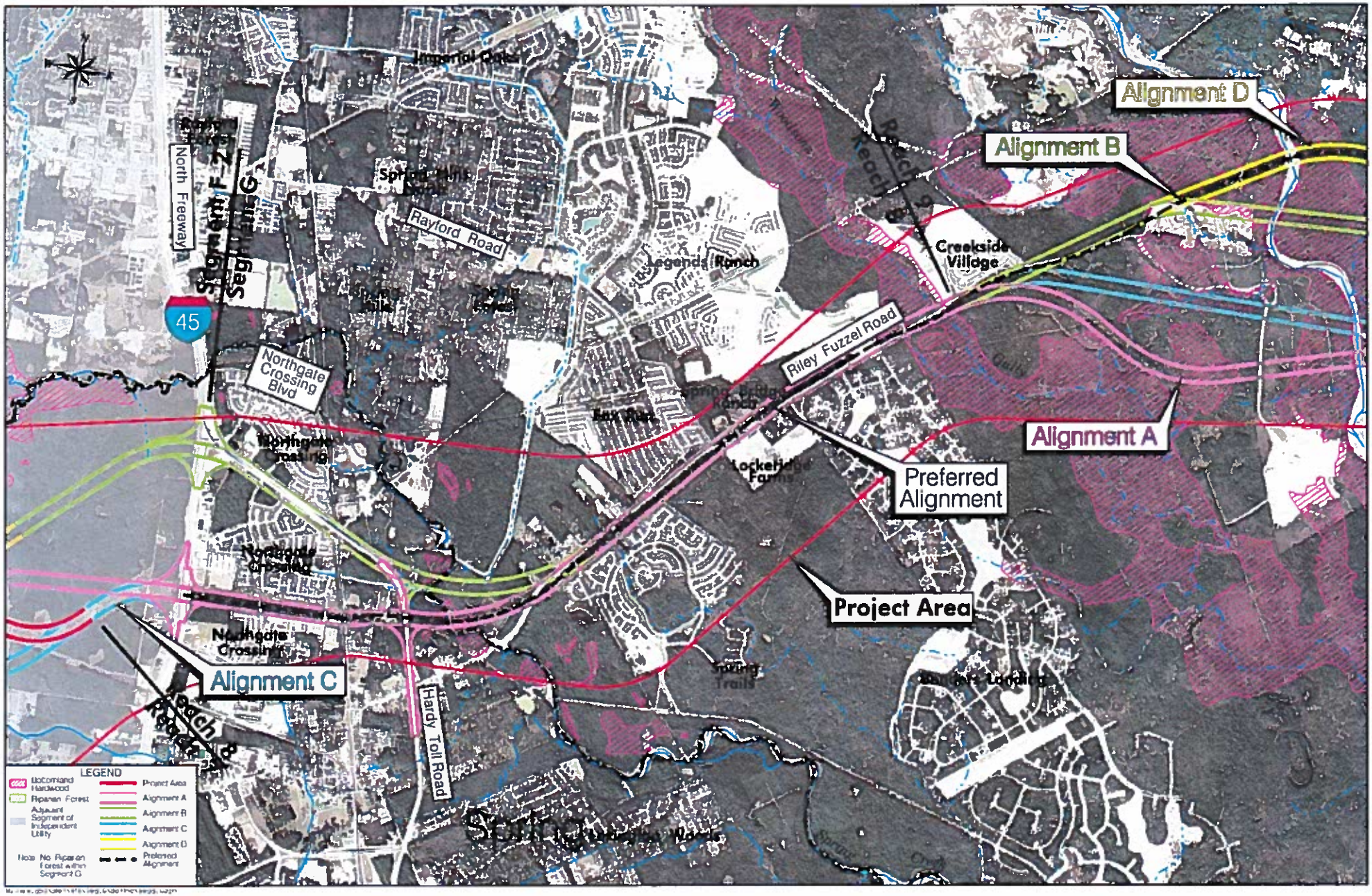


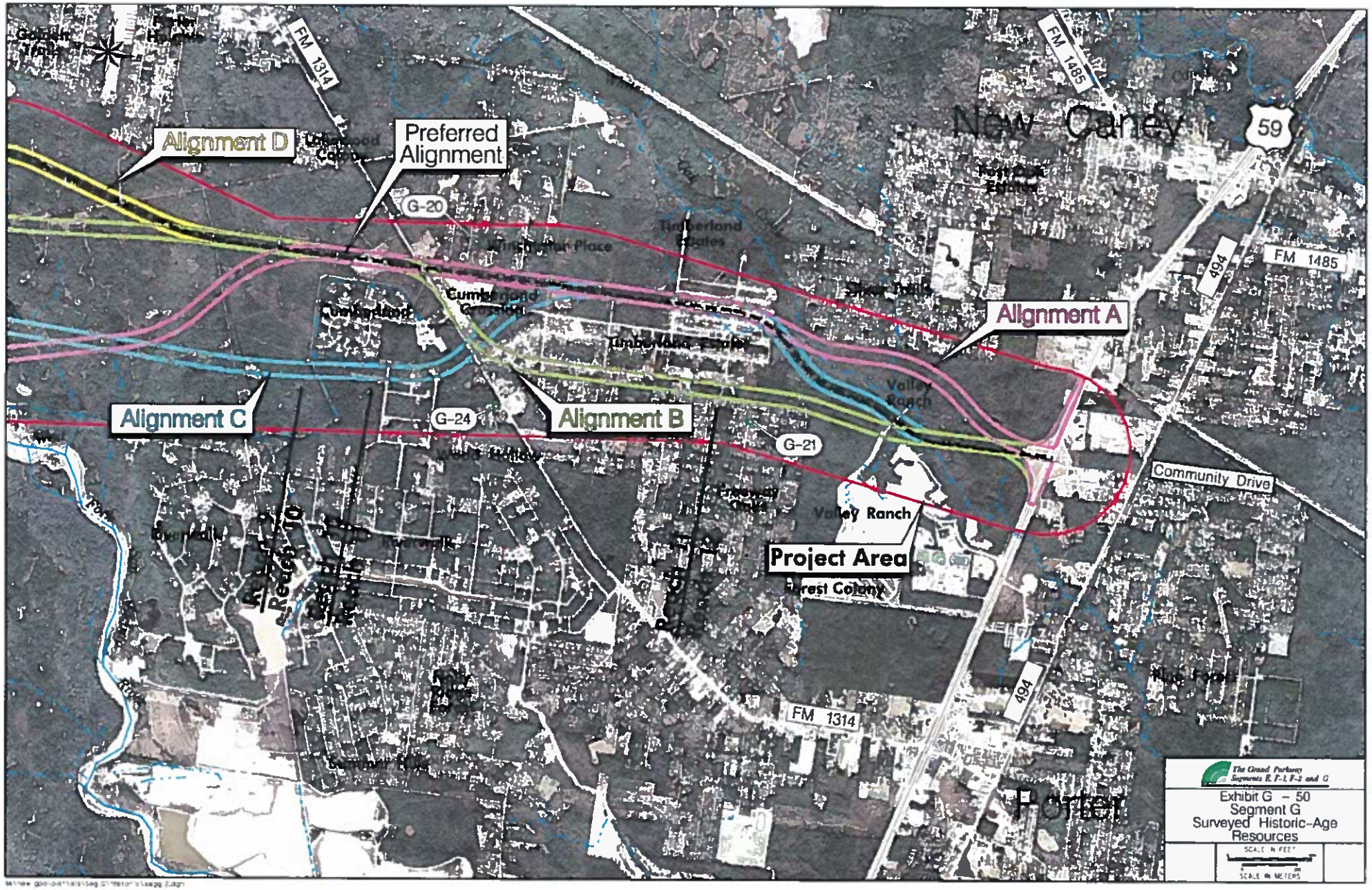
The Grand Parkway Segments E, F-1, F-3 and G

Exhibit G – 49
Segment G
Bottomland Hardwoods and Riparian Forest

SCALE IN FEET

SCALE IN METERS


Alignment D
Alignment B
Alignment A
Preferred Alignment
Project Area
Alignment C
Creekside Village
Legends Ranch
Riley Fuzzel Road
Rayford Road
Northgate Crossing Blvd
Hardy Toll Road
North Freeway
45
Imperial Oaks
Spring Hills
Northgate Crossing
Lockehaven Farms
Swing Trails
Segment F
Segment G
Reach 8
Reach 9
LEGEND
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
Preferred Alignment
Riparian Forest
Adjacent Segment of Independent Utility
Note: No Riparian Forest within Segment G

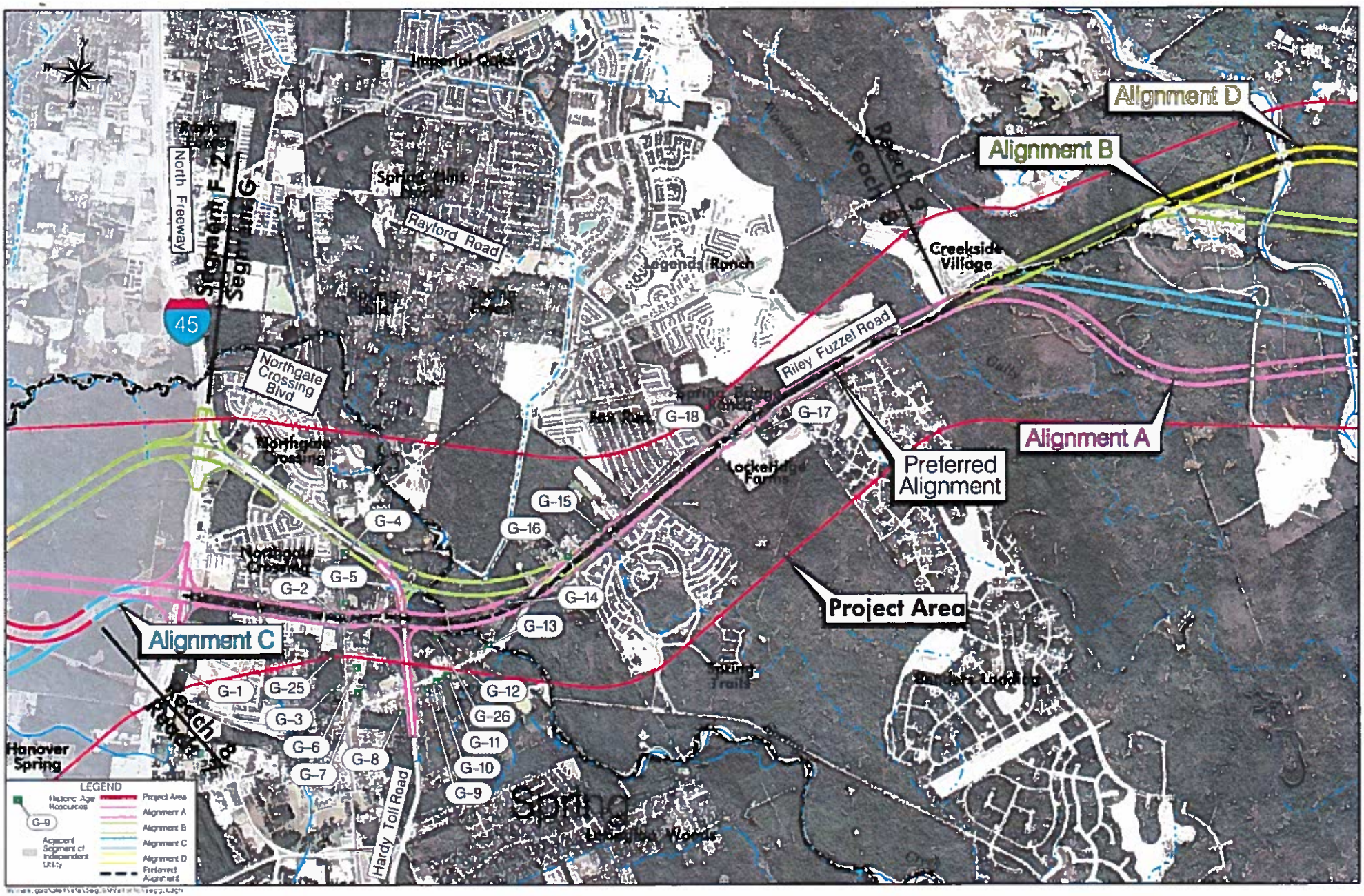


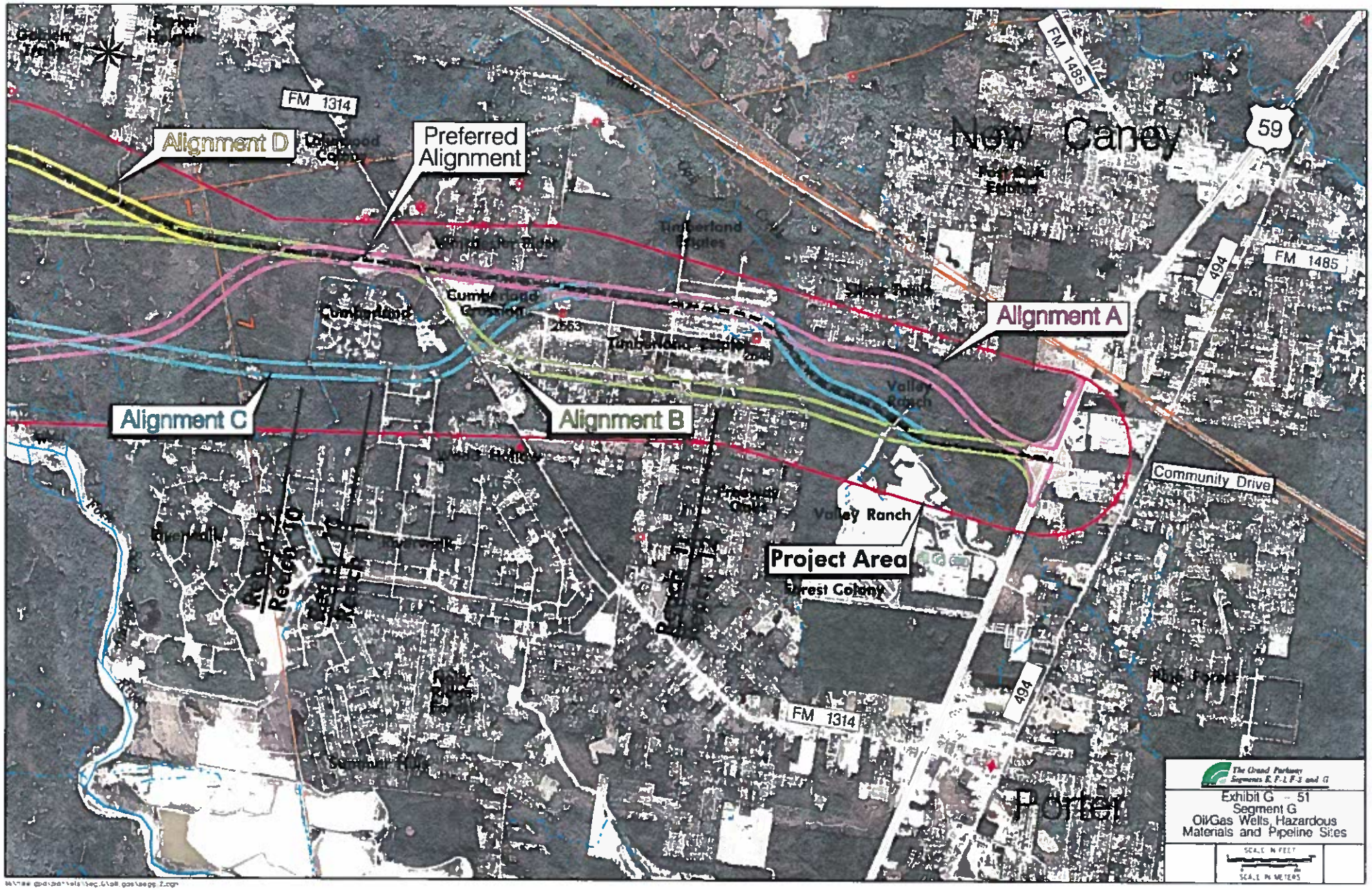
The Grand Parkway Segments E, F-1, F-2 and G

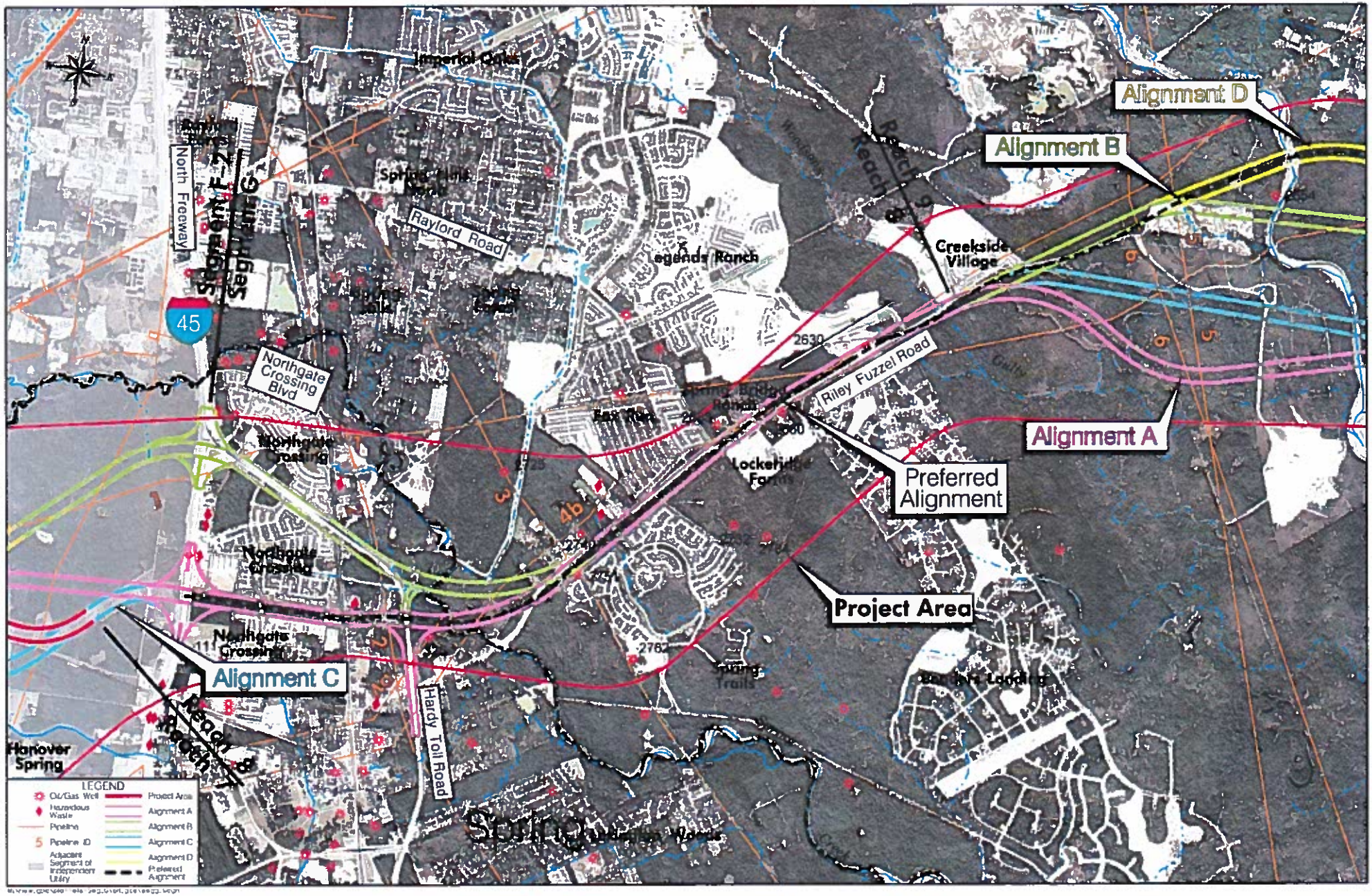
Exhibit G – 50
Segment G
Surveyed Historic-Age Resources

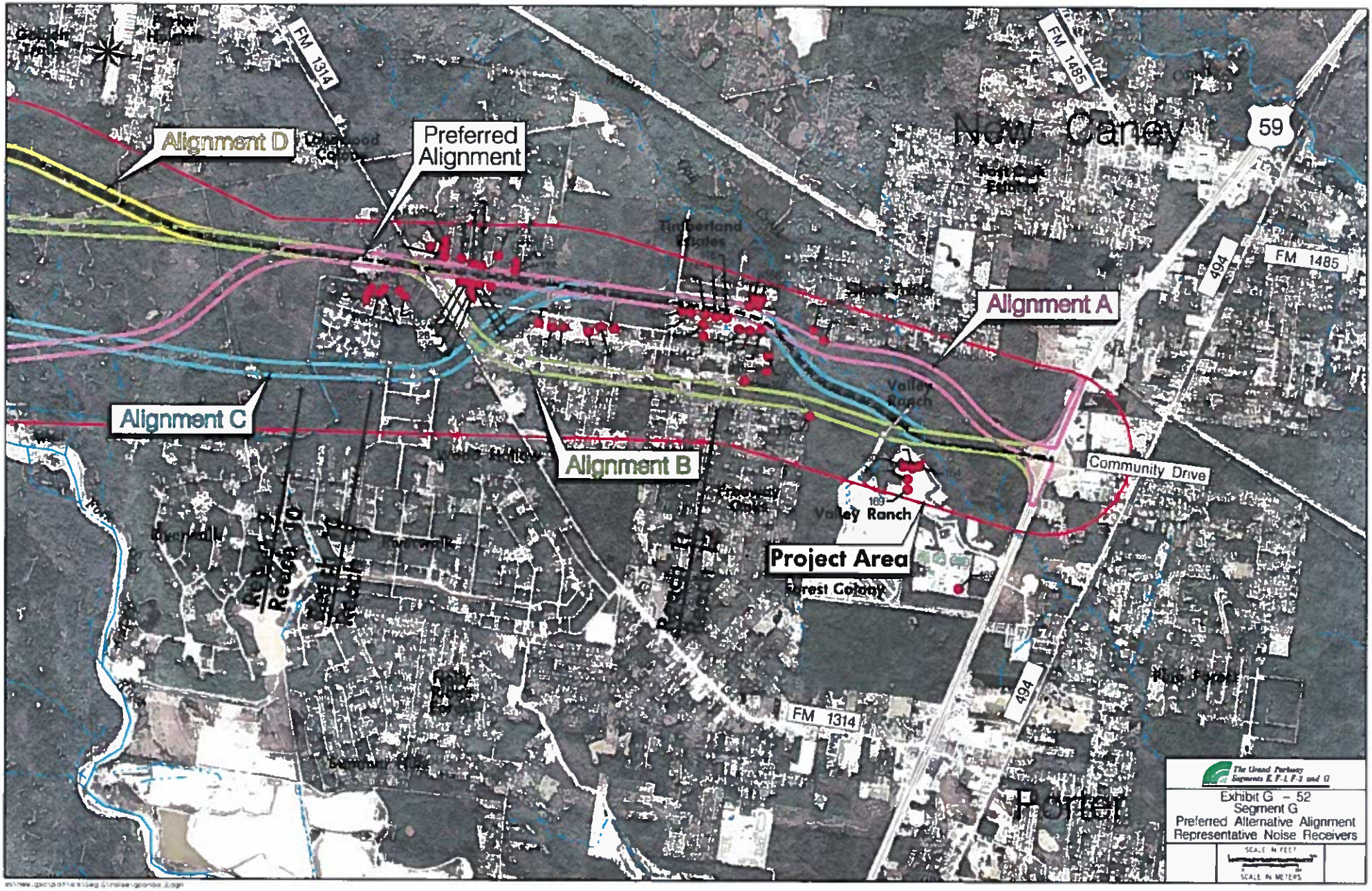
SCALE IN FEET

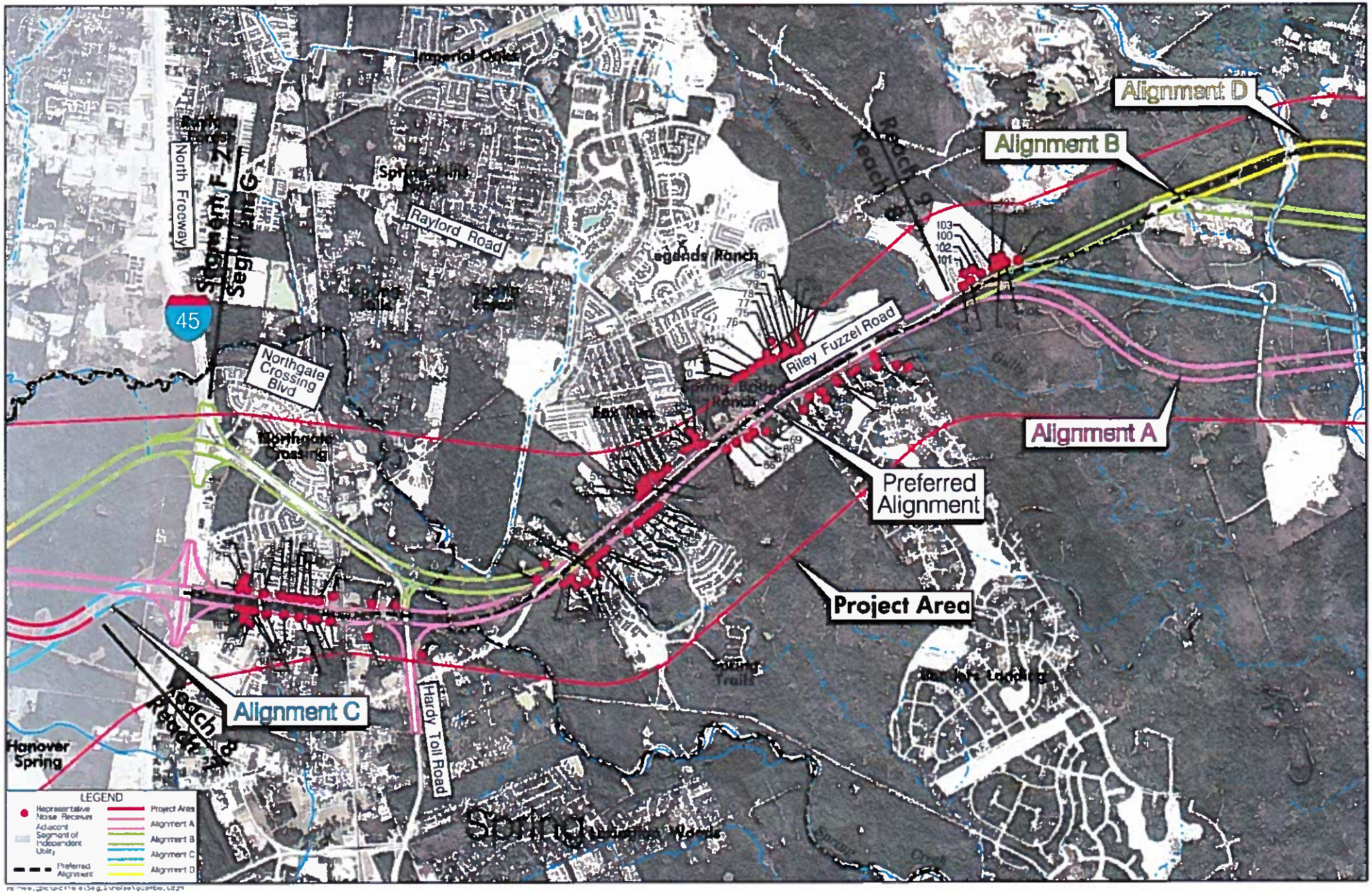
SCALE IN METERS

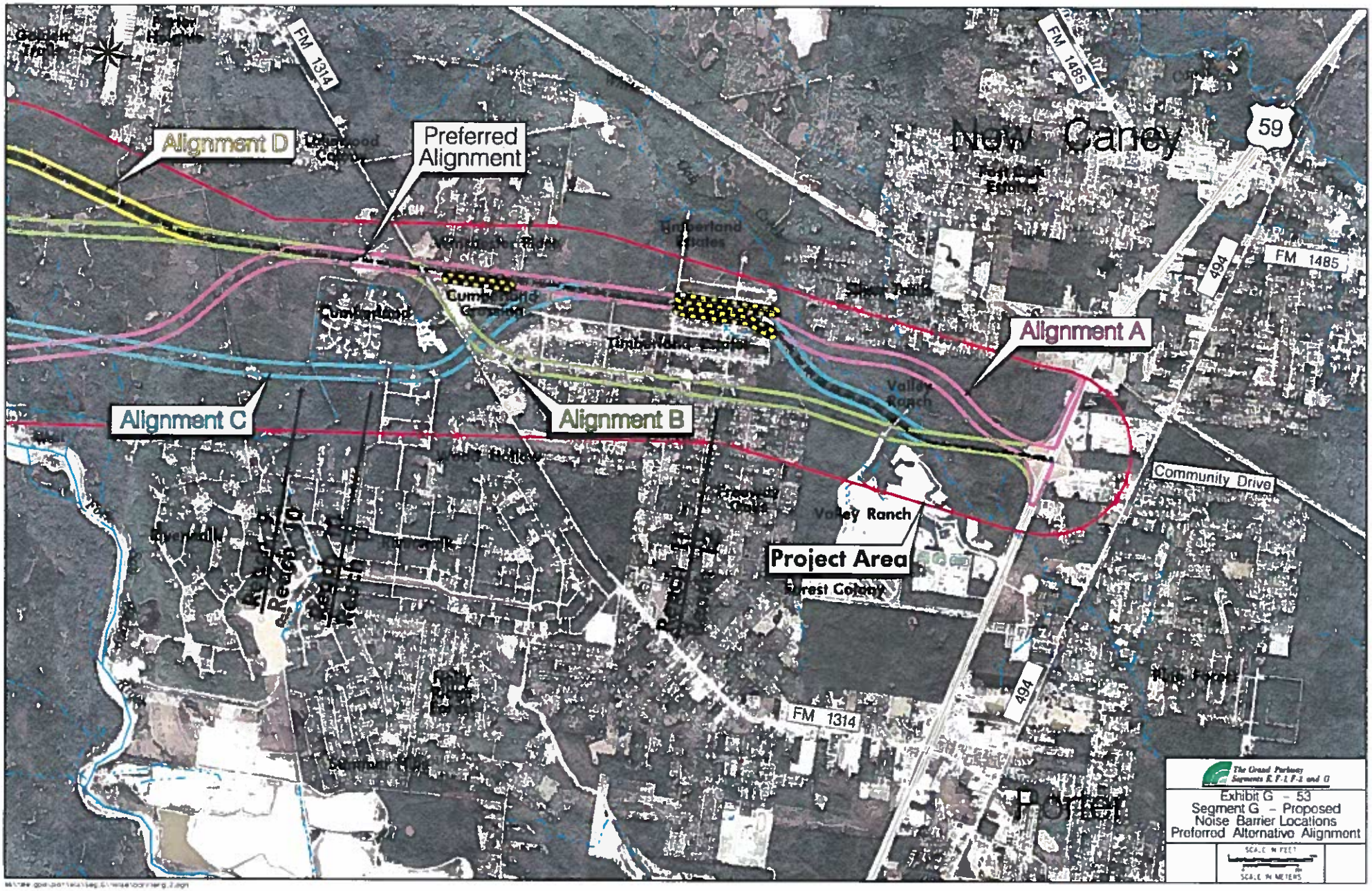

Alignment D
Alignment B
Alignment A
Preferred Alignment
Project Area
Alignment C
Riley Fuzzel Road
Rayford Road
Hardy Toll Road
Northgate Crossing Blvd
North Freeway
45
Creekside Village
Legends Ranch
Imperial Oaks
Hanover Spring
G-1
G-2
G-3
G-4
G-5
G-6
G-7
G-8
G-9
G-10
G-11
G-12
G-13
G-14
G-15
G-16
G-17
G-18
G-25
G-26
LEGEND
Historic Age Resources
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
Preferred Alignment

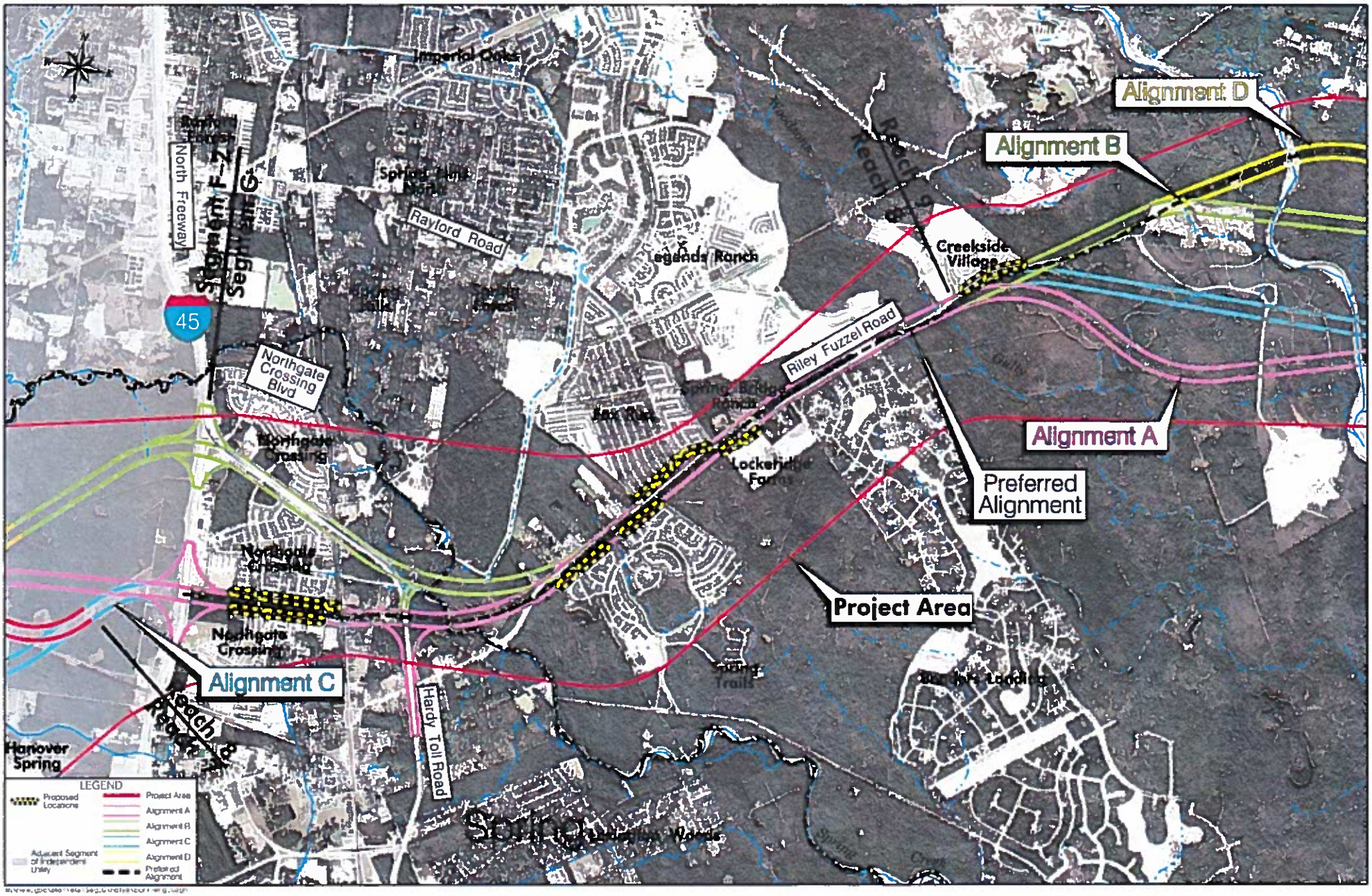

Alignment D
Preferred Alignment
Alignment A
Alignment B
Alignment C
Project Area
New Caney
Porter
FM 1314
FM 1485
59
494
Community Drive
Valley Ranch
Cumberland
Forest Colony
The Grand Parkway
Segments K, P-1, P-3 and G
Exhibit G – 51
Segment G
Oil/Gas Wells, Hazardous
Materials and Pipeline Sites
SCALE IN FEET
SCALE IN METERS

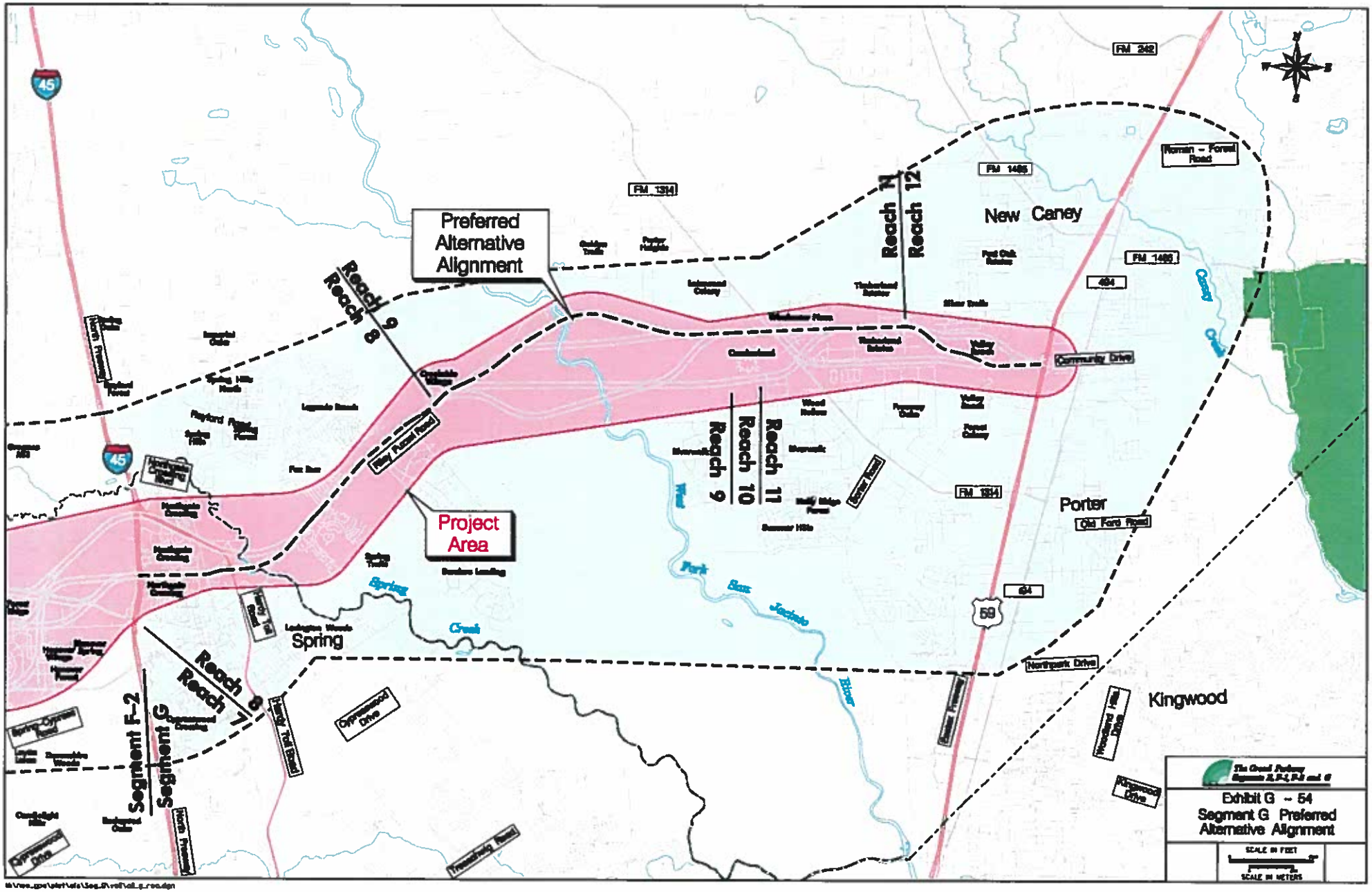

Alignment D
Alignment B
Alignment A
Preferred Alignment
Project Area
Alignment C
Imperial Oaks
Spring Hill
Rayford Road
Legends Ranch
Creekside Village
Riley Fuzzel Road
Lockelridge Forest
Northgate Crossing Blvd
Northgate Crossing
Hardy Toll Road
Hanover Spring
North Freeway
45
Segment F
Segment G
Reach 9
Reach 8
Reach 7
LEGEND
Oil/Gas Well
Hazardous Waste
Pipeline
Pipeline ID
Adjacent Segment of Independent Utility
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
Preferred Alignment


Alignment D
Preferred Alignment
Alignment C
Alignment B
Alignment A
Project Area
New Caney
Porter
FM 1314
FM 1485
59
494
Community Drive
Valley Ranch
Forest Colony
Timberland Estates
Woodland Cove
Bowman Rd
The Grand Parkway
Segments E, F-1, F-2 and G
Exhibit G – 52
Segment G
Preferred Alternative Alignment
Representative Noise Receivers
SCALE IN FEET
SCALE IN METERS

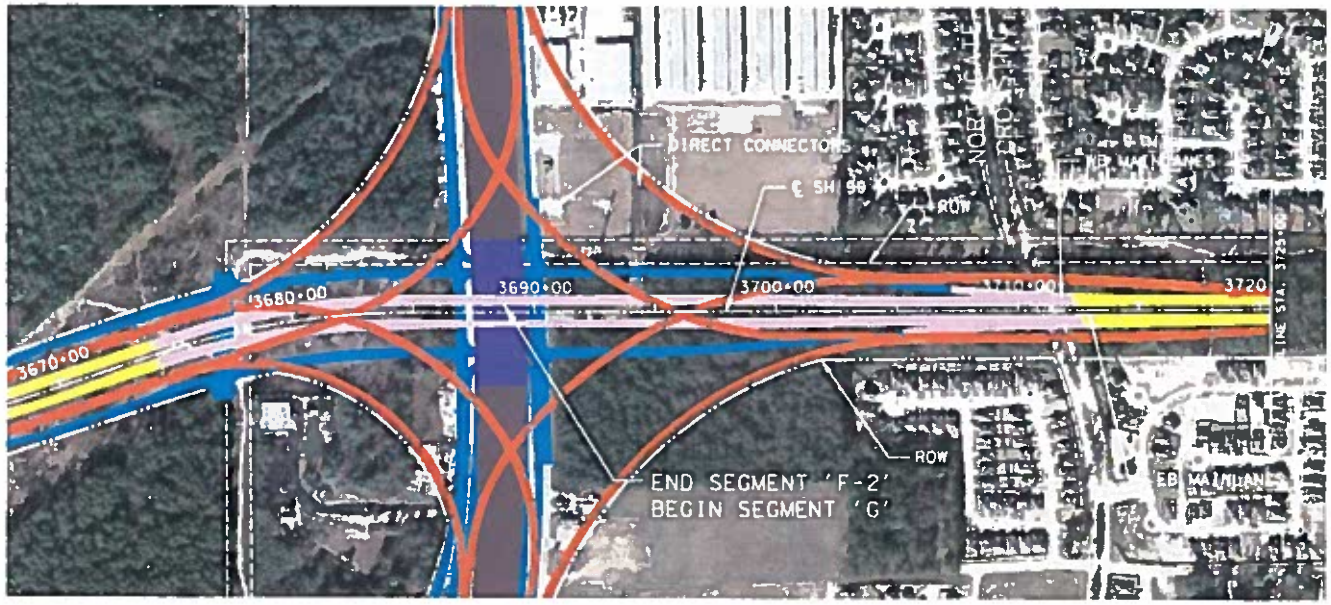

Alignment D
Alignment B
Alignment A
Preferred Alignment
Project Area
Alignment C
Riley Fuzzel Road
Rayford Road
Northgate Crossing Blvd
Hardy Toll Road
North Freeway
45
Legends Ranch
Hanover Spring
LEGEND
Representative Noise Receiver
Adjacent Segment of Independent Utility
Preferred Alignment
Project Area
Alignment A
Alignment B
Alignment C
Alignment D

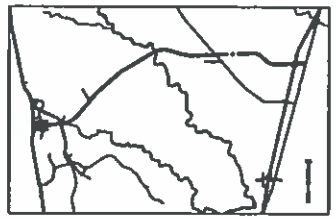

Alignment D
Preferred Alignment
Alignment A
Alignment B
Alignment C
New Caney
FM 1314
FM 1485
59
494
Community Drive
Valley Ranch
Project Area
Forest Colony
Cumberland Crossing
Cumberland Estates
Cumberland
Valley Ranch
Porter
The Grand Parkway Segments E, F-1, F-2 and G
Exhibit G - 53
Segment G - Proposed Noise Barrier Locations
Preferred Alternative Alignment
SCALE IN FEET
SCALE IN METERS

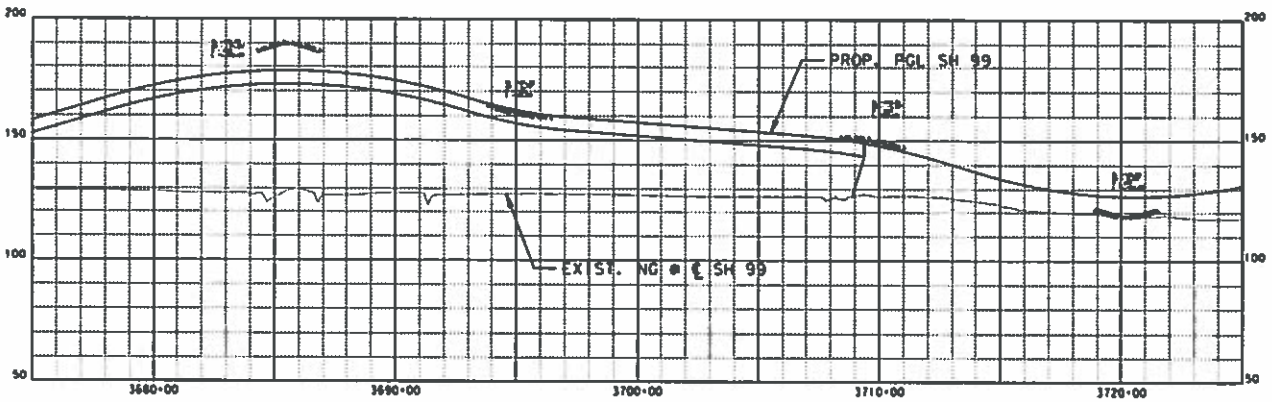

Alignment D
Alignment B
Alignment A
Preferred Alignment
Project Area
Alignment C
Riley Fuzzel Road
Rayford Road
Hardy Toll Road
Northgate Crossing Blvd
Northgate Crossing
Legends Ranch
Creekside Village
Lockehdge Farms
Hanover Spring
North Freeway
45
Segment F-7
Segment G
Reach 8
Reach 9
LEGEND
Proposed Locations
Project Area
Alignment A
Alignment B
Alignment C
Alignment D
Preferred Alignment
Adjacent Segment of Independent Utility


Preferred Alternative Alignment
Project Area
Reach 6
Reach 9
Reach 7
Reach 8
Reach 9
Reach 10
Reach 11
Reach 11
Reach 12
Segment F-2
Segment G
New Caney
Porter
Spring
Kingwood
FM 1314
FM 1485
FM 242
494
45
59
Community Drive
Old Ford Road
Northpark Drive
Kingwood Drive
Spring Cypress Road
Cypresswood Drive
Hardy Toll Road
Hardy Parkway
Hardy Road
Kingwood Drive
Woodland Hills Drive
Lake Houston Parkway
Lake Road
Wilson Road
Spring Creek
West Fork
East Fork
Caney Creek
Lake Houston
Bear Branch
Bear Creek
Bear Branch
Bear Branch
Bear Branch

PRELIMINARY - SUBJECT TO CHANGE







N

SCALE IN FEET

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & GAY ENGINEERS, INC.
MATTHEW B. BRANNEN, P.E.
TEXAS LICENSE NO. 90068

DRAFT AS OF
05-Sep-07

Exhibit G - 55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

PRELIMINARY SCHEMATIC LAYOUT
STA 3680+00 TO STA 3725+00

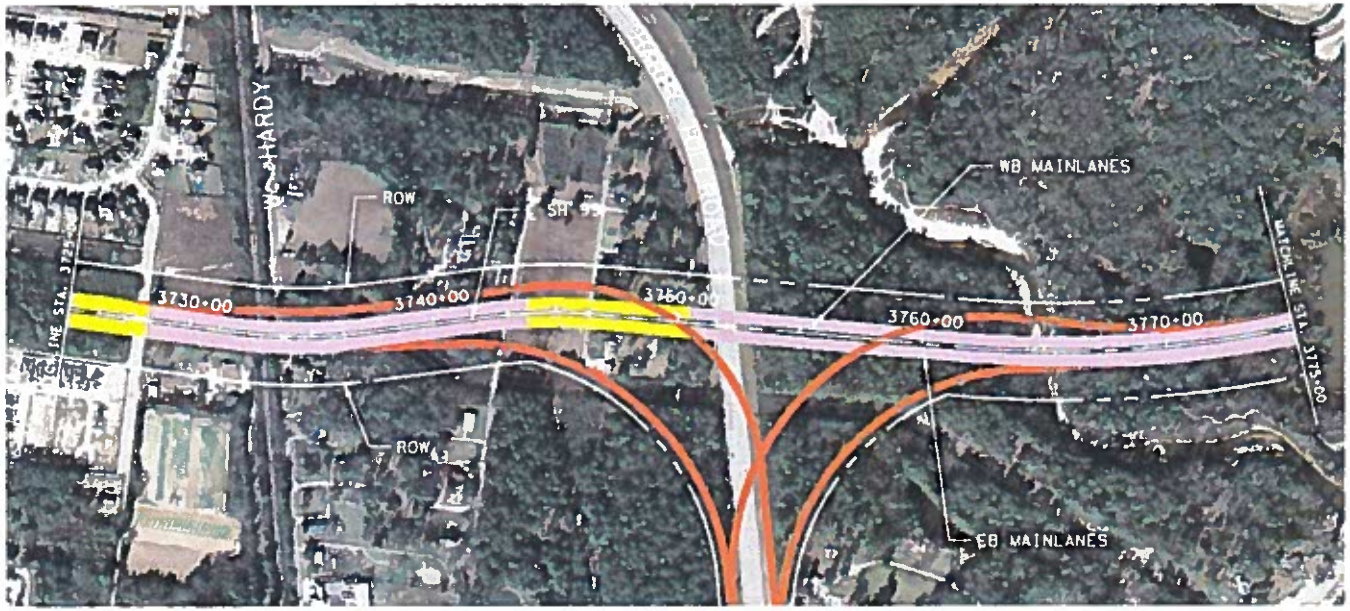
SHEET 1 OF 15

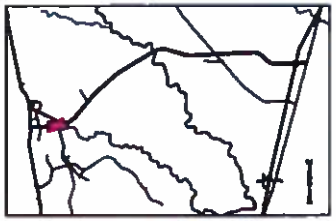
HOUSTON DISTRICT

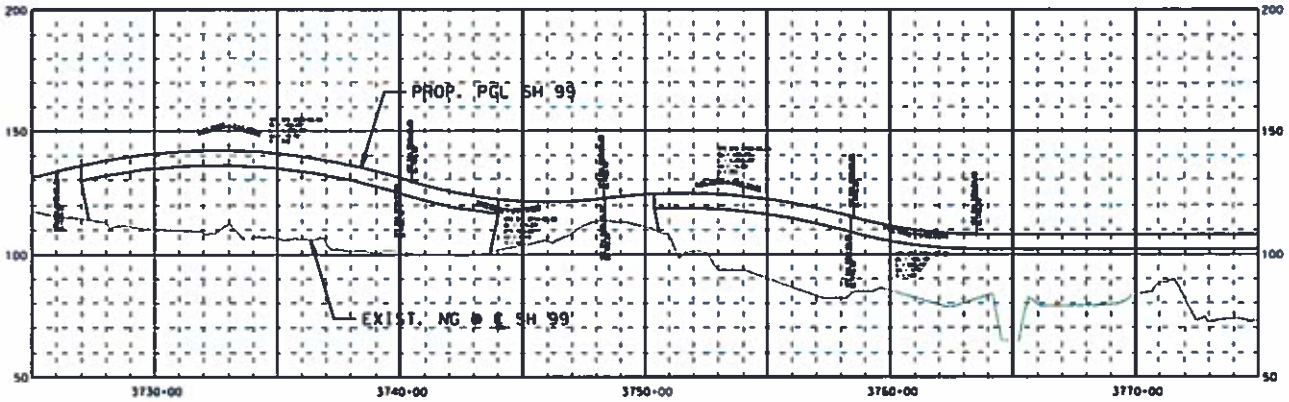
05-Sep-07 10:27:57 AM Matt

I:\VBFiles\FEIS+G+SCH01.dgn

PRELIMINARY - SUBJECT TO CHANGE







THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & CAY ENGINEERS, INC.
MATTHEW W. BRANNEN, P.E.
TEXAS LICENSE NO. 90068

DRAFT AS OF
05-Sep-07

Exhibit G-55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

PRELIMINARY SCHEMATIC LAYOUT
STA 3725+00 TO STA 3775+00

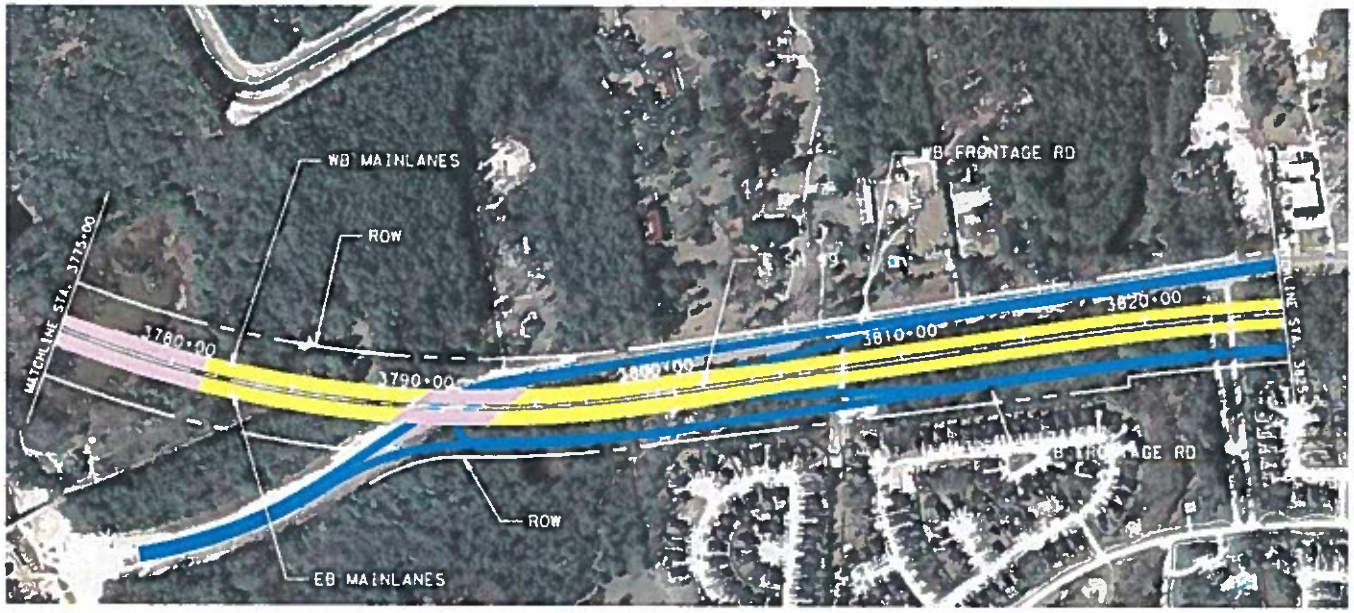
SHEET 2 OF 15

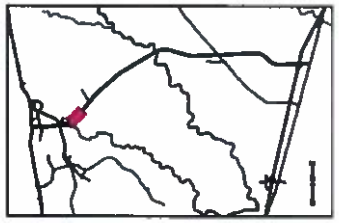
HOUSTON DISTRICT

05-Sep-07 10:11:26 AM Matt

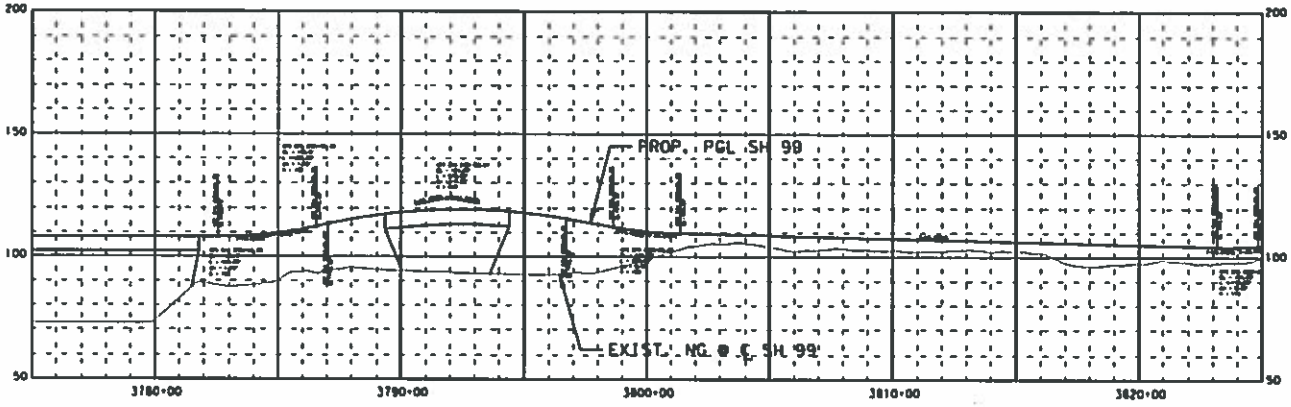
...\v8Files\FEIS-G-SCHM02.dgn

PRELIMINARY - SUBJECT TO CHANGE





SCALE IN FEET
0 250 500



THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER: BROWN & GAY ENGINEERS, INC. MATTHEW W. BRAMMER, P.E. TEXAS LICENSE NO. 90868

DRAFT AS OF 05-Sep-07

Exhibit G - 55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

PRELIMINARY SCHEMATIC LAYOUT
STA 3775+00 TO STA 3825+00

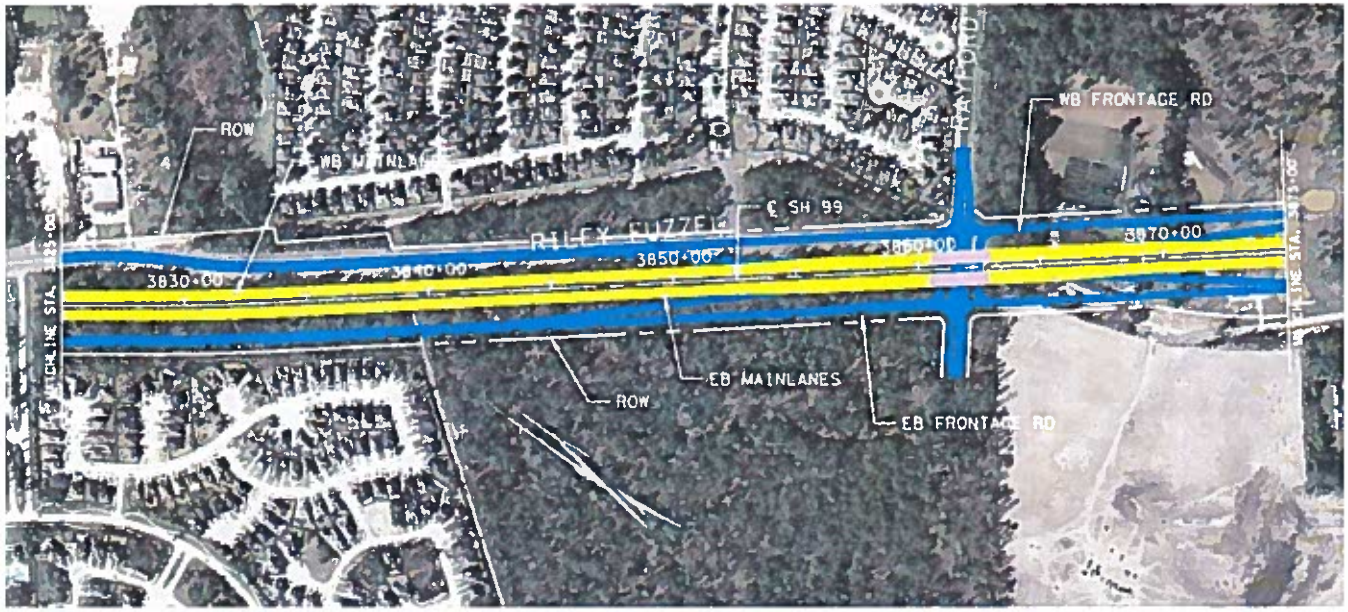
SHEET 3 OF 15

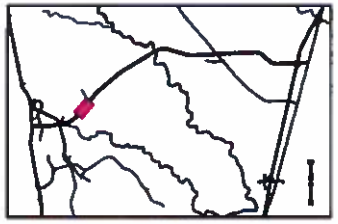
HOUSTON DISTRICT

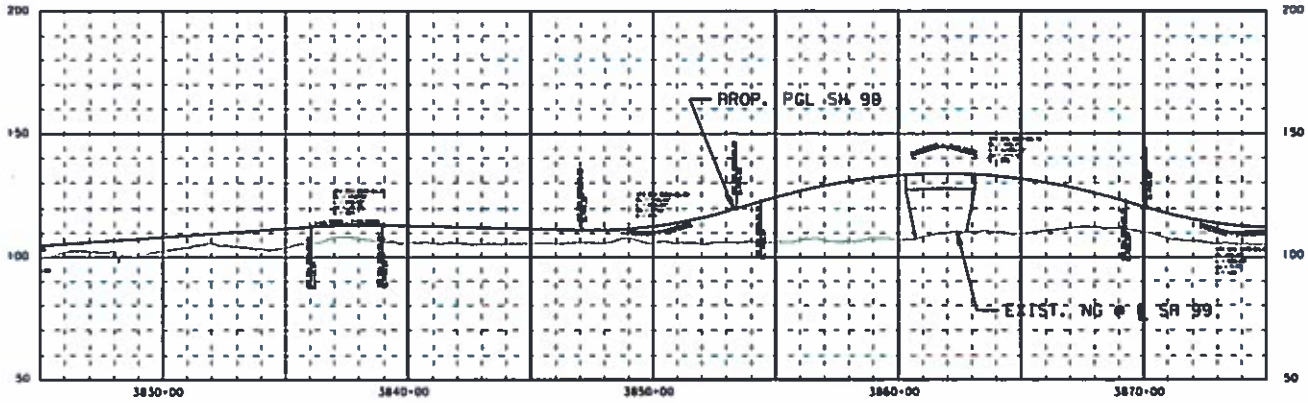
05-Sep-07 10:11:36 AM Matt

\\s\-dfi\ios\FEIS-G-SCHMCL.dgn

PRELIMINARY - SUBJECT TO CHANGE







THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & GAY ENGINEERS, INC.
MATTHEW W. BRANNEN, P.E.
TEXAS LICENSE NO. 90868

DRAFT AS OF
05-Sep-07

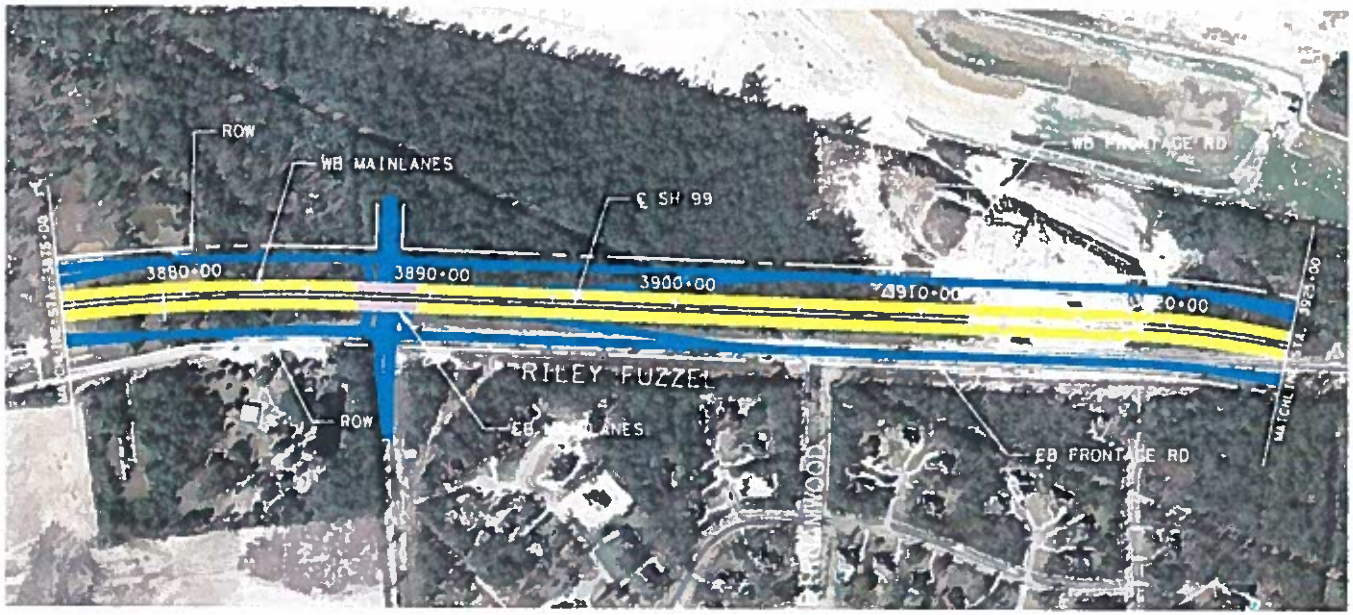
Exhibit G-55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

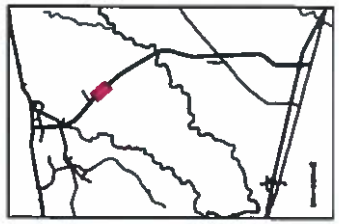
PRELIMINARY SCHEMATIC LAYOUT
STA 3825+00 TO STA 3875+00

SHEET 4 OF 15

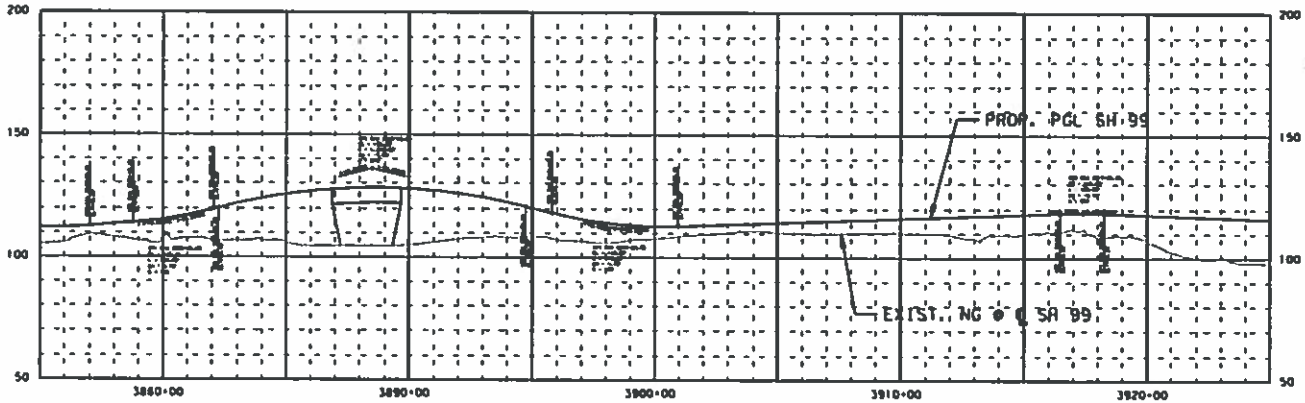
HOUSTON DISTRICT

PRELIMINARY - SUBJECT TO CHANGE





SCALE IN FEET



THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & GAY ENGINEERS, INC.
MATTHEW R. BRANNEN, P.E.
TEXAS LICENSE NO. 90868

DRAFT AS OF
05-Sep-07

Exhibit G - 55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

PRELIMINARY SCHEMATIC LAYOUT
STA 3875+00 TO STA 3925+00

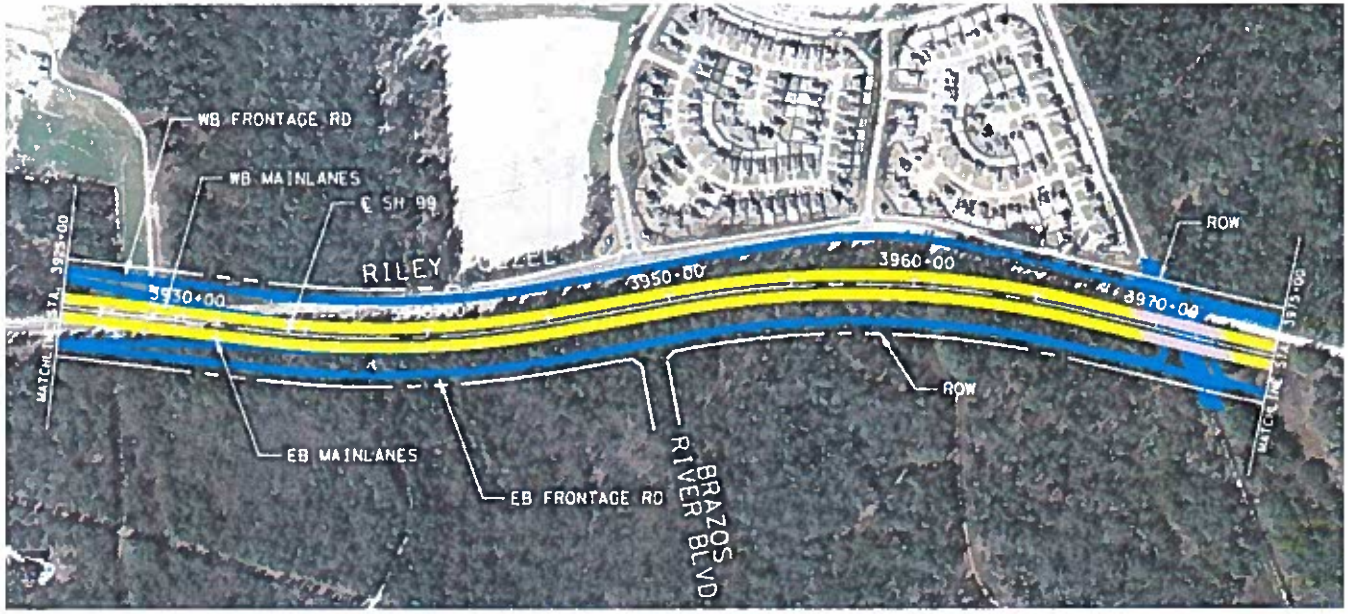
SHEET 5 OF 15

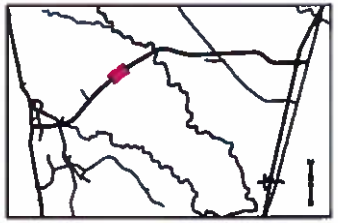
HOUSTON DISTRICT

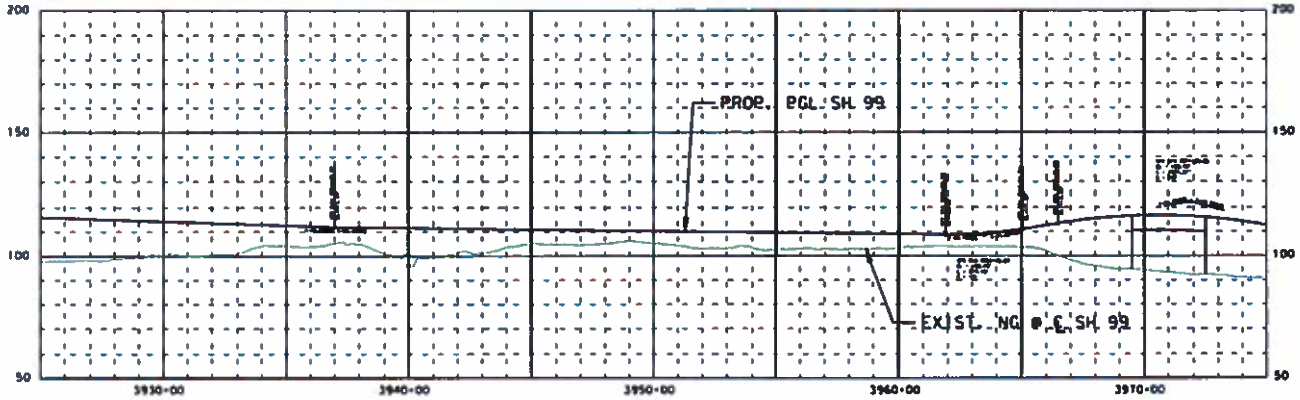
05-Sep-07 10:12:04 AM Matt

...\Brian\FEIS-G-SCHMDS.dgn

PRELIMINARY - SUBJECT TO CHANGE







SCALE IN FEET

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER: BROWN & CAY ENGINEERS, INC. MATTHEW W. BRANNEN, P.E. TEXAS LICENSE NO. 90868

DRAFT AS OF 05-Sep-07

Exhibit G-55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

PRELIMINARY SCHEMATIC LAYOUT
STA 3925+00 TO STA 3975+00

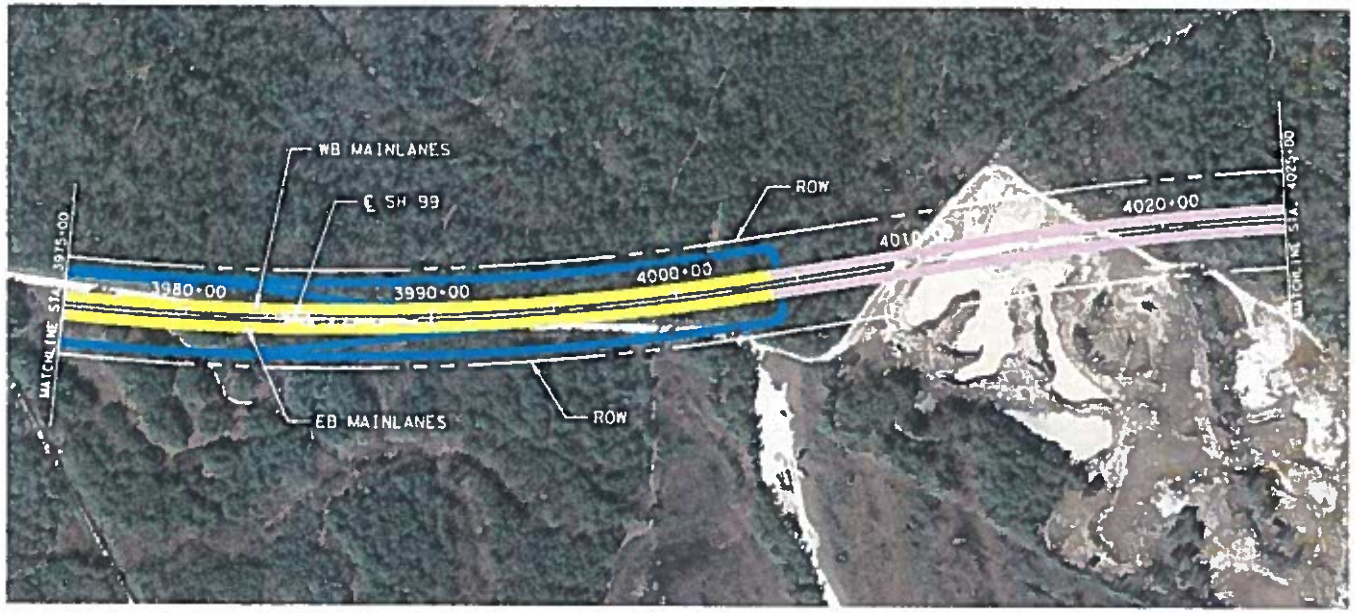
SHEET 6 OF 15

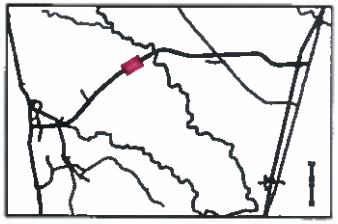
HOUSTON DISTRICT

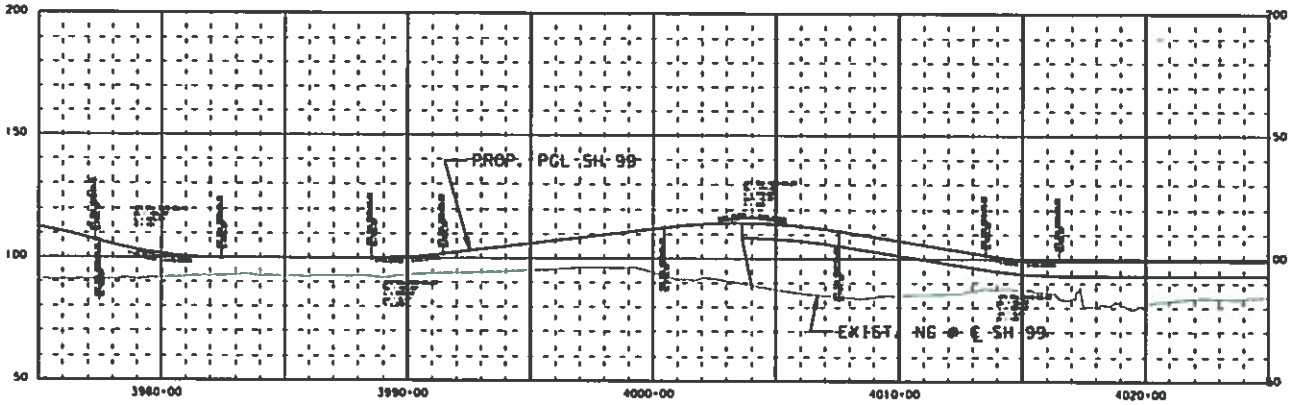
05-Sep-07 10:12:16 AM Matt

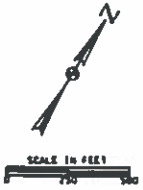
...\DFiles\FEIS-G-SCHMBG.dgn

PRELIMINARY - SUBJECT TO CHANGE









THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & CAY ENGINEERS, INC.
MATTHEW W. BRANNEN, P.E.
TEXAS LICENSE NO. 90868

DRAFT AS OF
05-Sep-07

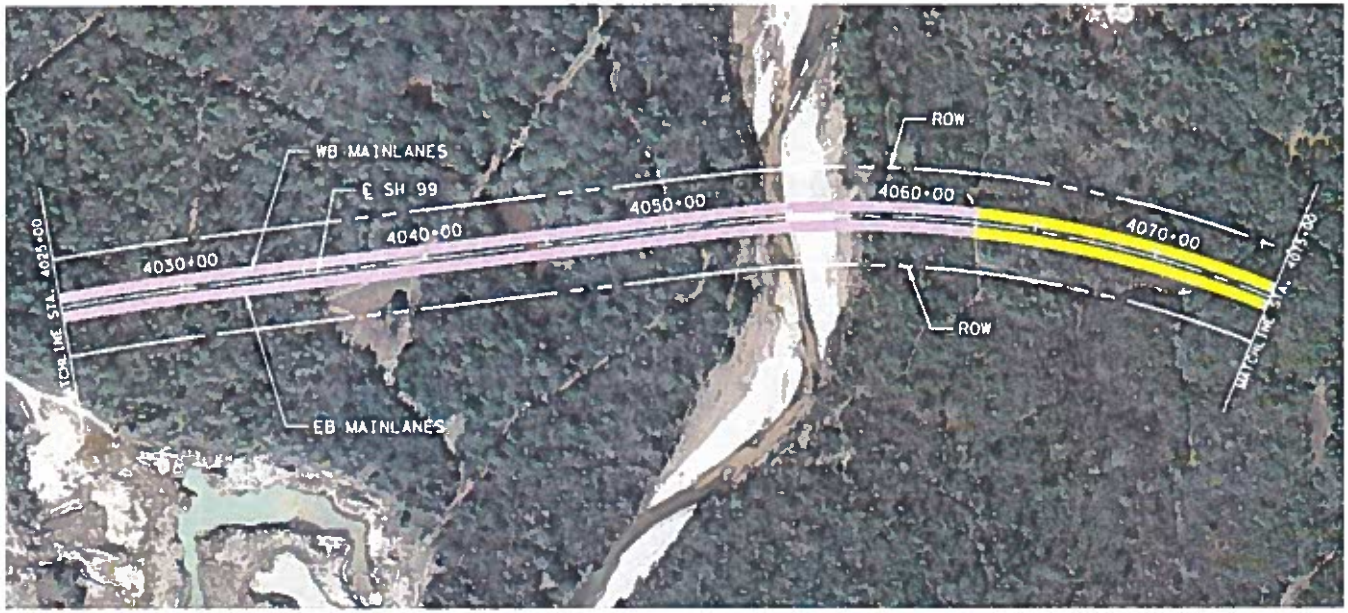
Exhibit G - 55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

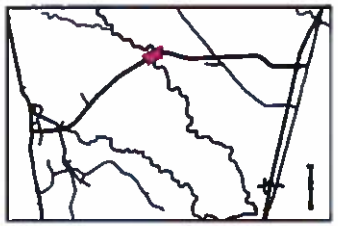
PRELIMINARY SCHEMATIC LAYOUT
STA 3975+00 TO STA 4025+00

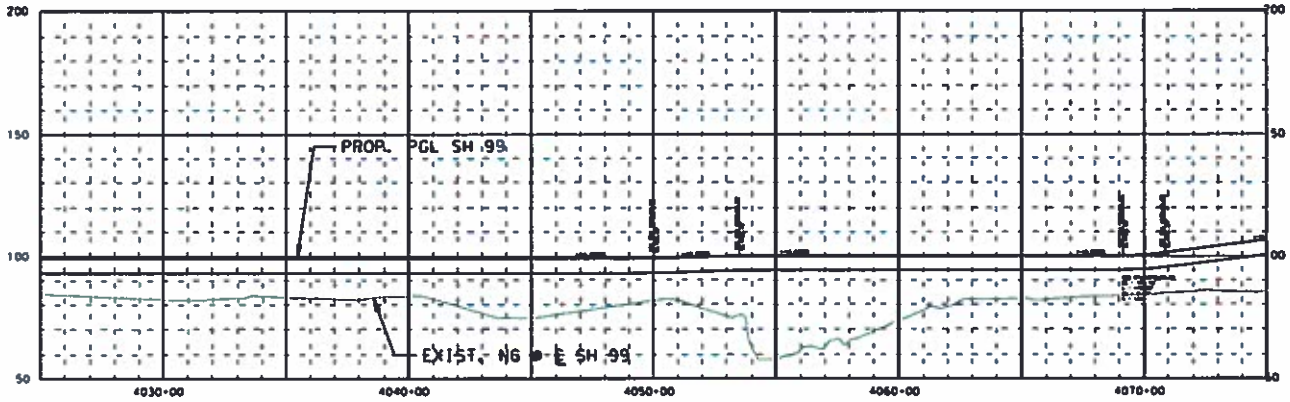
SHEET 7 OF 15

HOUSTON DISTRICT

PRELIMINARY - SUBJECT TO CHANGE







THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & GAY ENGINEERS, INC.
MATTHEW W. BRANNEN, P.E.
TEXAS LICENSE NO. 90660

DRAFT AS OF
05-Sep-07

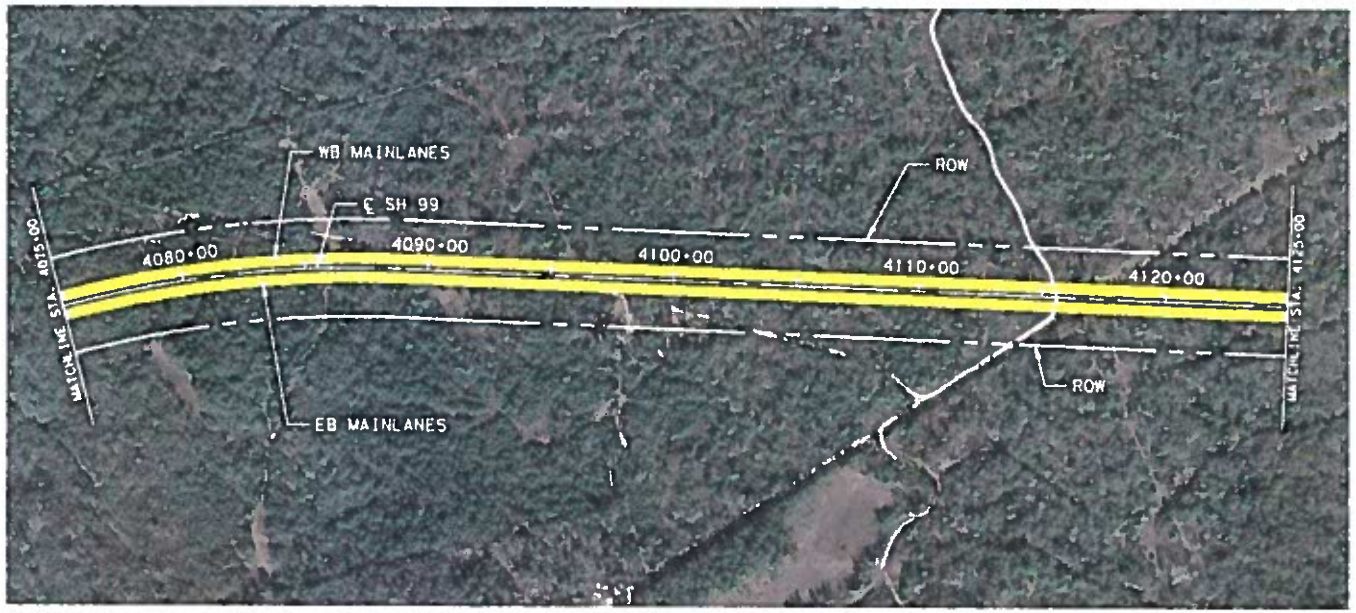
Exhibit G-55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

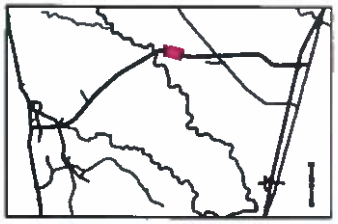
PRELIMINARY SCHEMATIC LAYOUT
STA 4025+00 TO STA 4075+00

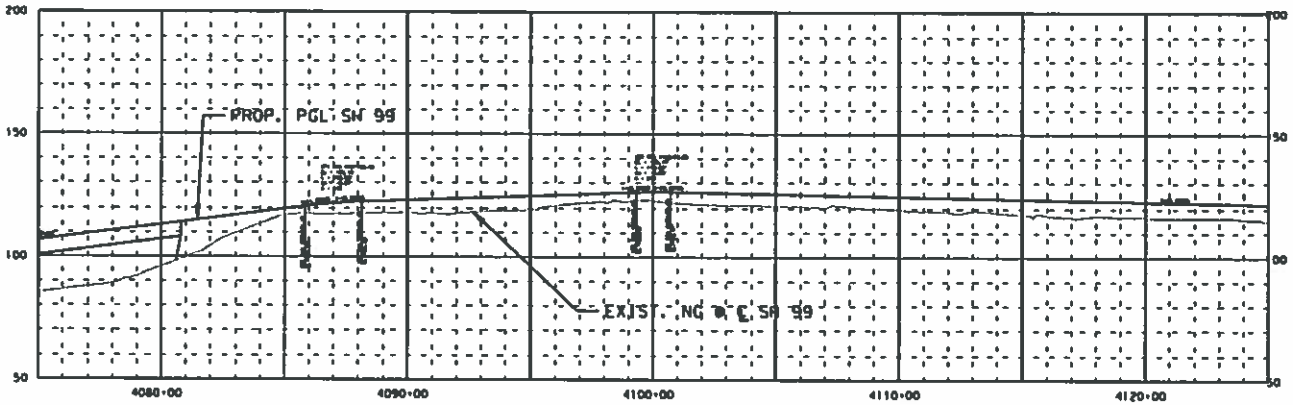
SHEET 8 OF 15

HOUSTON DISTRICT

PRELIMINARY - SUBJECT TO CHANGE







THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & GAY ENGINEERS, INC.
MATTHEW B. BRAMMER, P.E.
TEXAS LICENSE NO. 90868

DRAFT AS OF
05-Sep-07

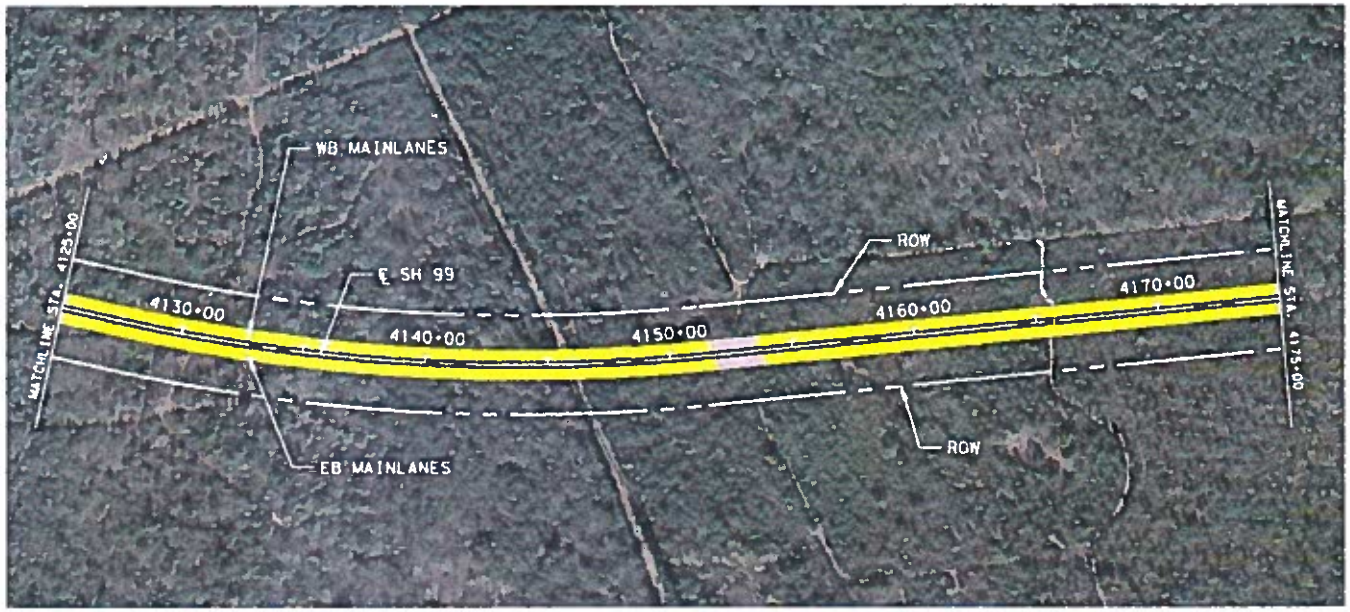
Exhibit G - 55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

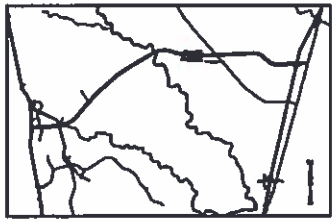
PRELIMINARY SCHEMATIC LAYOUT
STA 4075+00 TO STA 4125+00

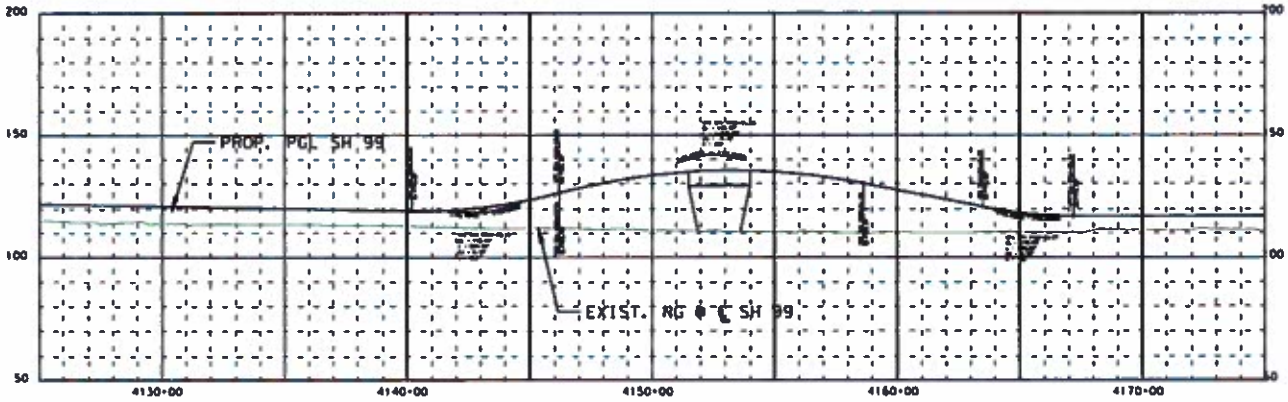
SHEET 9 OF 15

HOUSTON DISTRICT

PRELIMINARY - SUBJECT TO CHANGE







THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & GAY ENGINEERS, INC.
MATTHEW W. BRAMMER, P.E.
TEXAS LICENSE NO. 90860

DRAFT AS OF
05-Sep-07

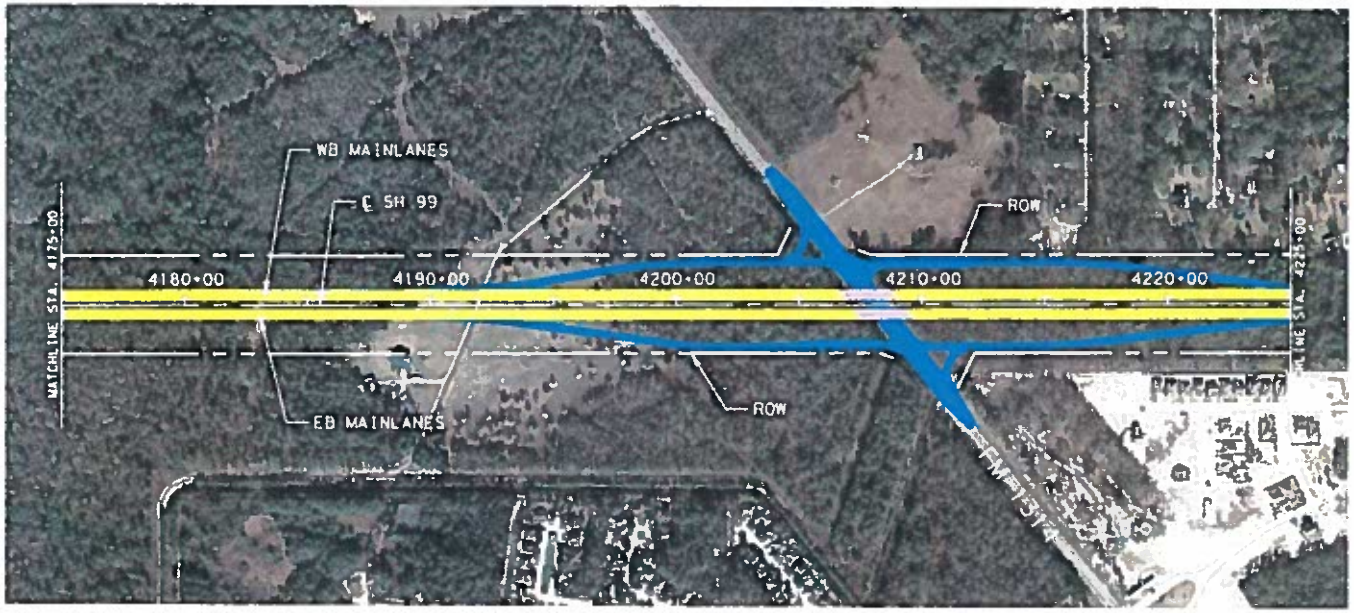
Exhibit G - 55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

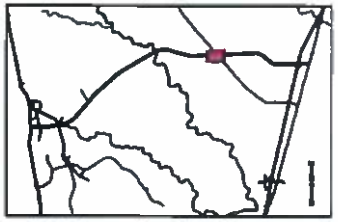
PRELIMINARY SCHEMATIC LAYOUT
STA 4125+00 TO STA 4175+00

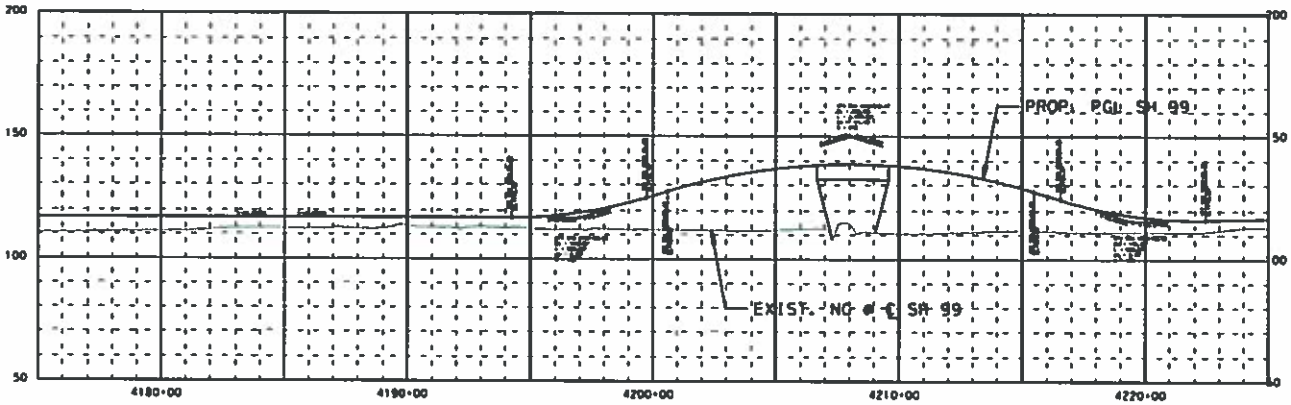
SHEET 10 OF 15

HOUSTON DISTRICT

PRELIMINARY - SUBJECT TO CHANGE







THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER: BROWN & GAY ENGINEERS, INC. MATTHEW W. BRANNEN, P.E. TEXAS LICENSE NO. 90868

DRAFT AS OF 05-Sep-07

Exhibit G - 55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "C"
FROM IH 45(N) TO US 59(N)

PRELIMINARY SCHEMATIC LAYOUT
STA 4175+00 TO STA 4225+00

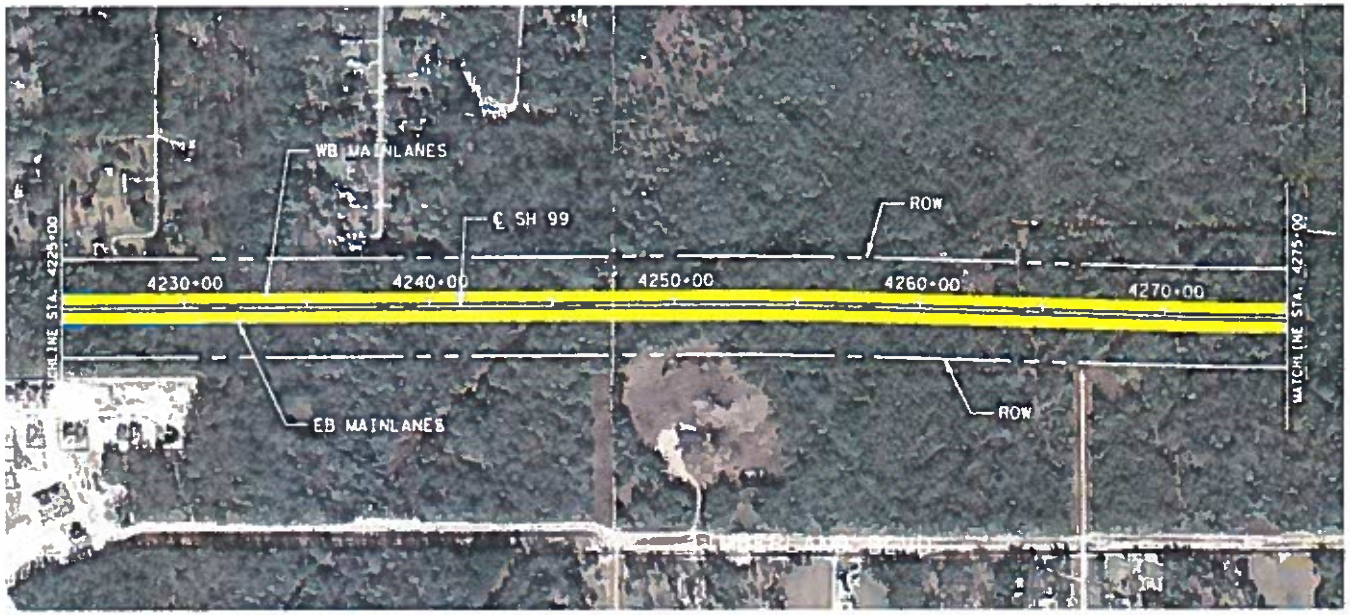
SHEET 11 OF 15

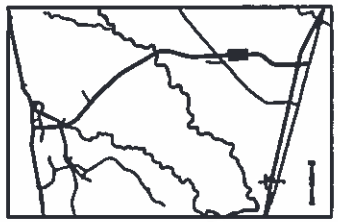
HOUSTON DISTRICT

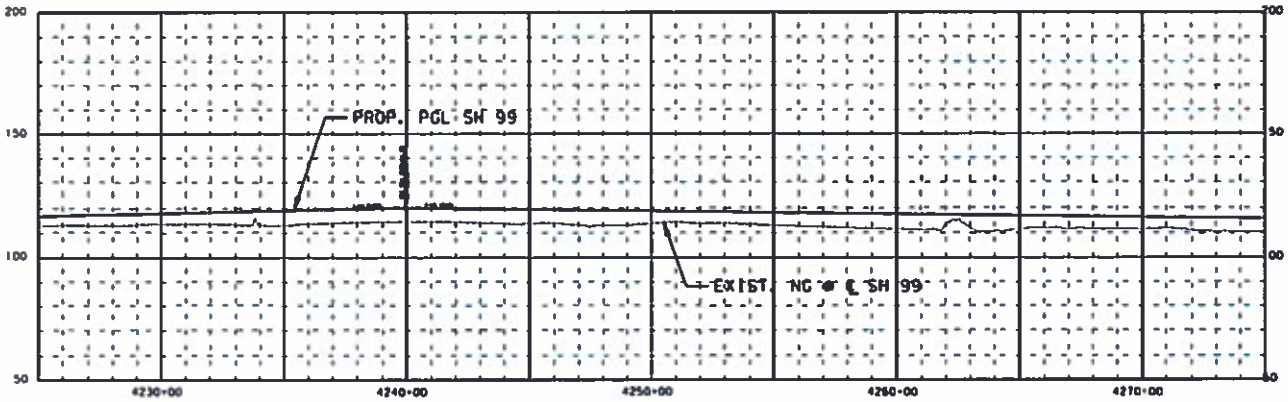
05-Sep-07 10:12:16 AM Matt

n:\-Oriles\FEIS-C-SCH013.dgn

PRELIMINARY - SUBJECT TO CHANGE







N

SCALE IN FEET

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & GAY ENGINEERS, INC.
MATTHEW W. BRANNEN, P.E.
TEXAS LICENSE NO. 90868

DRAFT AS OF
05-Sep-07

Exhibit G-55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

PRELIMINARY SCHEMATIC LAYOUT
STA 4225+00 TO STA 4275+00

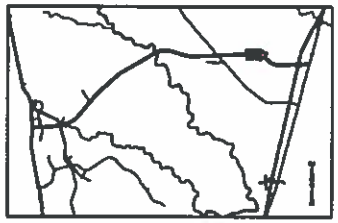
SHEET 12 OF 15

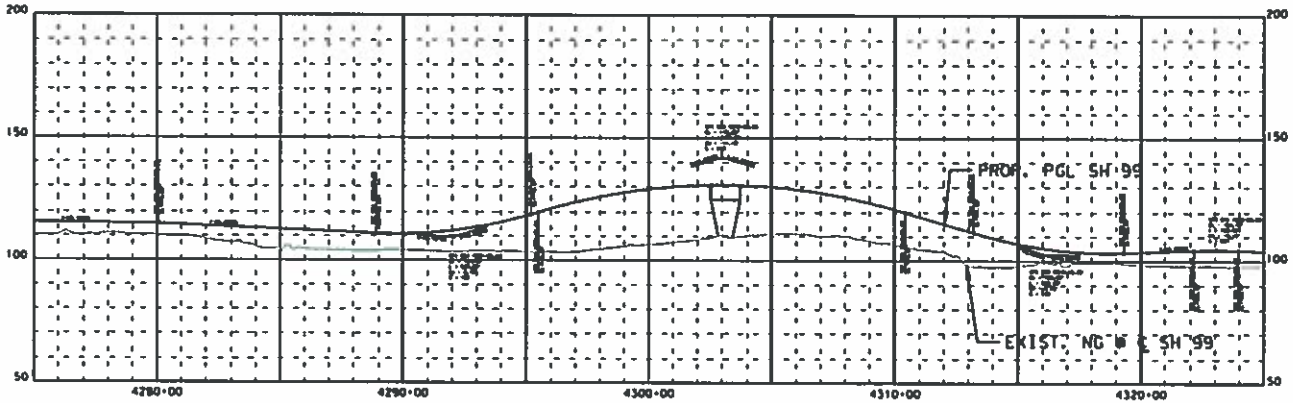
HOUSTON DISTRICT

05-Sep-07 10:13:26 AM Matt

\\s\BFI\ms\FEIS+G+SCH12.dgn

PRELIMINARY - SUBJECT TO CHANGE





SCALE IN FEET

THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & GAY ENGINEERS, INC.
MATTHEW W. BRAMMER, P.E.
TEXAS LICENSE NO. 90868

DRAFT AS OF
05-Sep-07

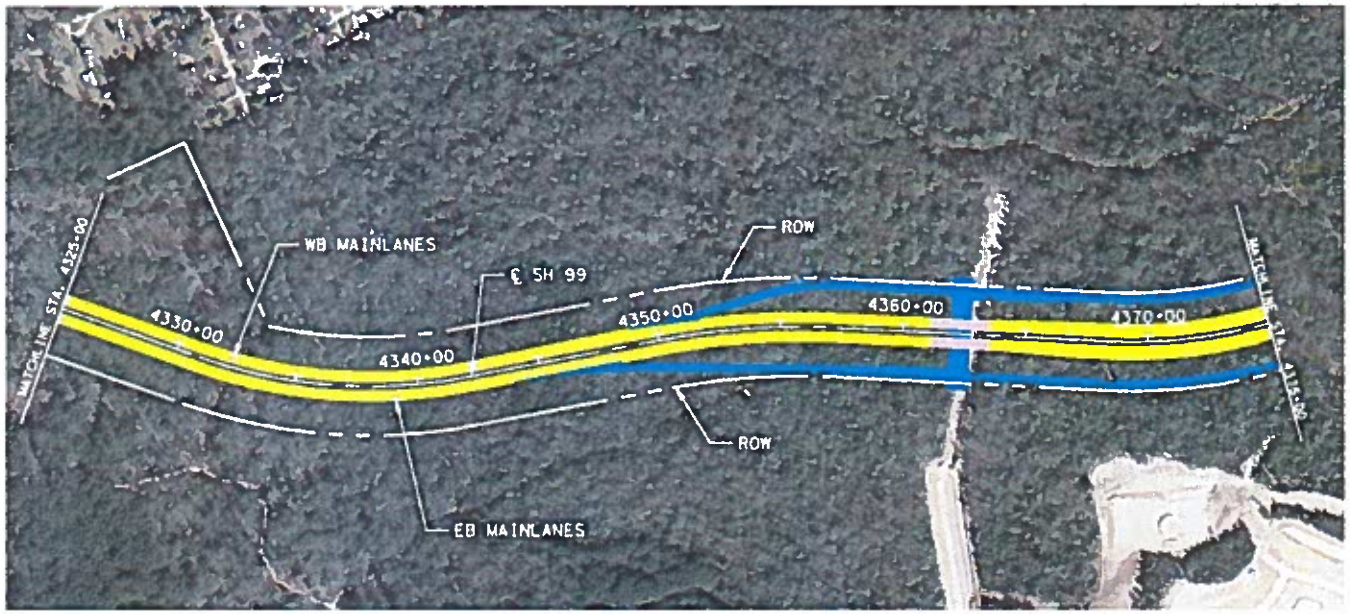
Exhibit G - 55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

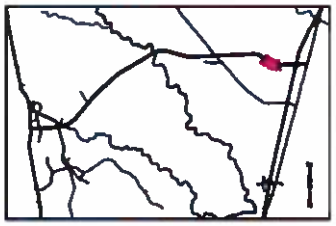
PRELIMINARY SCHEMATIC LAYOUT
STA 4275+00 TO STA 4325+00

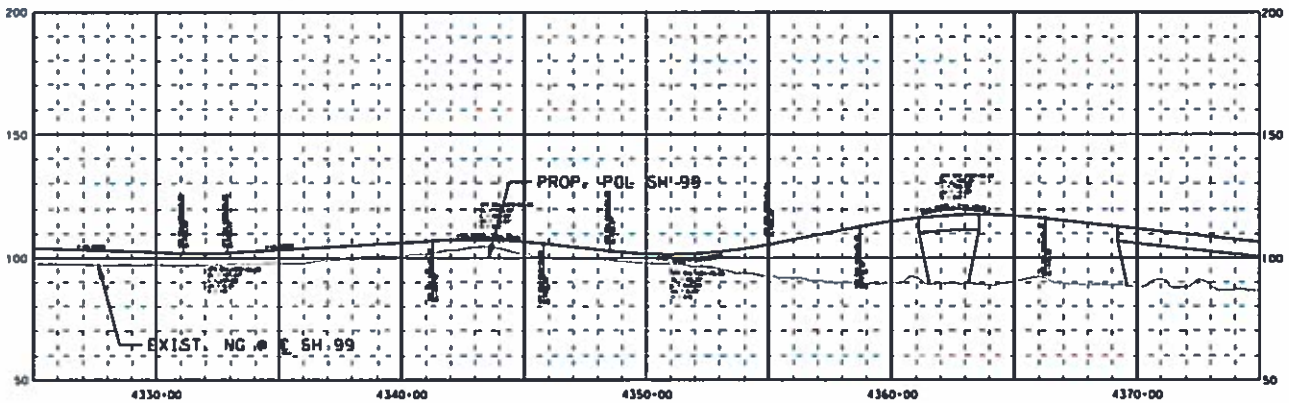
SHEET 13 OF 15

HOUSTON DISTRICT

PRELIMINARY - SUBJECT TO CHANGE







THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & GAY ENGINEERS, INC.
MATTHEW G. BRAMMER, P.E.
TEXAS LICENSE NO. 90868

DRAFT AS OF
05-Sep-07

Exhibit G - 55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

PRELIMINARY SCHEMATIC LAYOUT
STA 4325+00 TO STA 4375+00

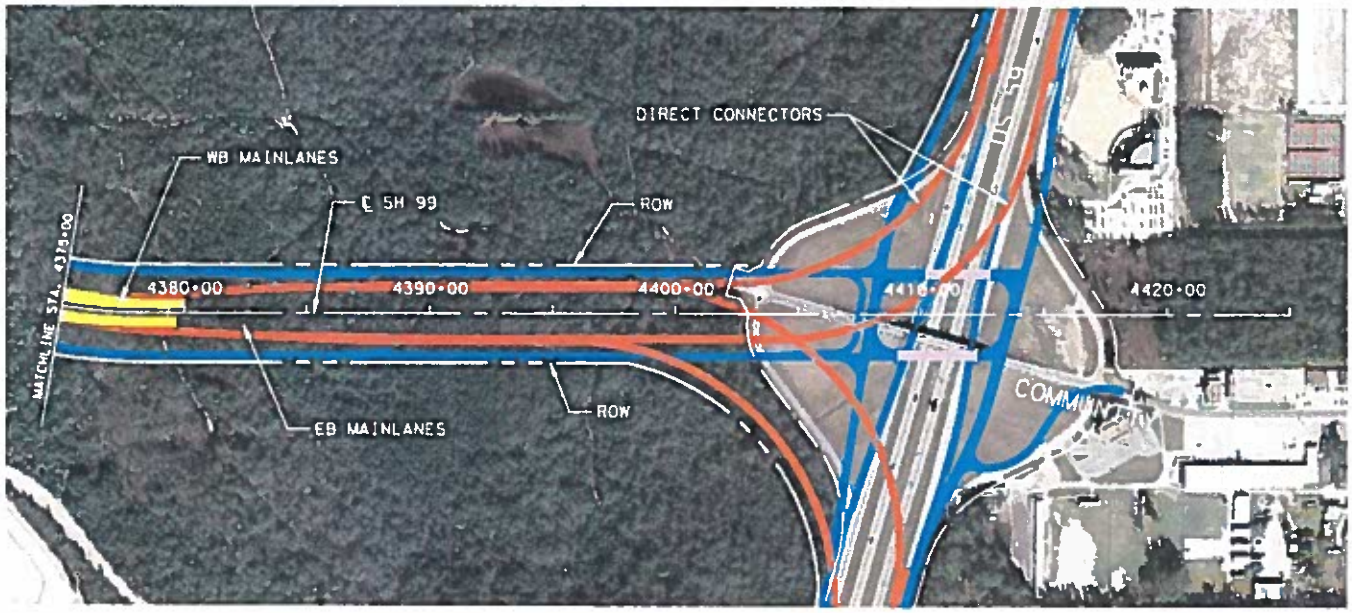
SHEET 14 OF 15

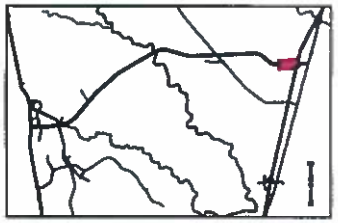
HOUSTON DISTRICT

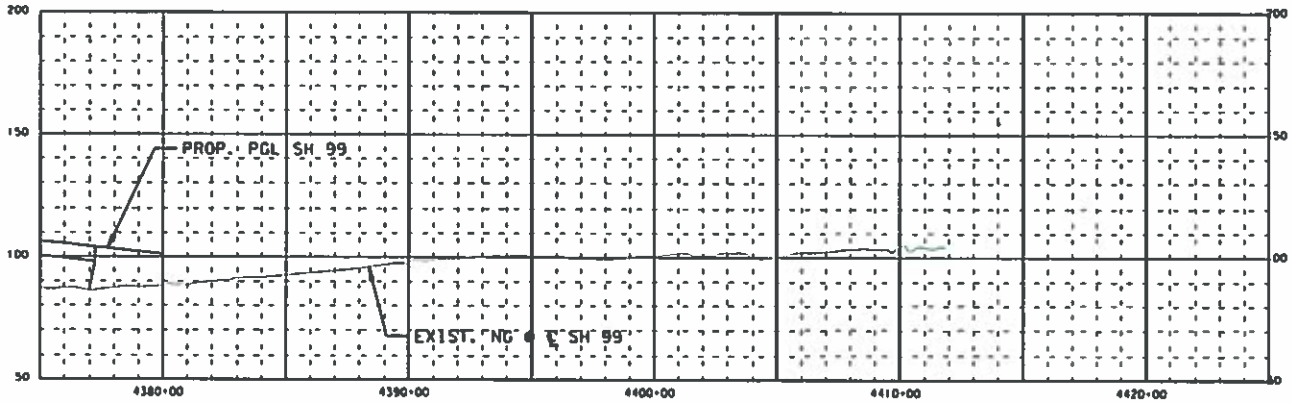
05-Sep-07 10:12:58 AM Hqtt

s:\-BF\ieg\FEIS\G-SCH\14.dgn

PRELIMINARY - SUBJECT TO CHANGE







THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

RESPONSIBLE ENGINEER:
BROWN & GAY ENGINEERS, INC.
MATTHEW W. BRANNEN, P.E.
TEXAS LICENSE NO. 90868

DRAFT AS OF
05-Sep-07

Exhibit G - 55
STATE HIGHWAY 99
GRAND PARKWAY-SEGMENT "G"
FROM IH 45(N) TO US 59(N)

PRELIMINARY SCHEMATIC LAYOUT
STA 4375+00 TO END PROJECT

SHEET 15 OF 15

HOUSTON DISTRICT