SG/cla
08/05/2010
Z-9

CASE NO. Z2010103

AN ORDINANCE 2010-08-05-0680

AMENDING THE OFFICIAL ZONING MAP OF THE CITY OF SAN ANTONIO BY AMENDING CHAPTER 35, UNIFIED DEVELOPMENT CODE, SECTION 35-304, OF THE CITY CODE OF SAN ANTONIO, TEXAS BY CHANGING THE ZONING DISTRICT BOUNDARY OF CERTAIN PROPERTY.

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WHEREAS, a public hearing was held after notice and publication regarding this amendment to the Official Zoning Map at which time parties in interest and citizens were given an opportunity to be heard; and

WHEREAS, the Zoning Commission has submitted a final report to the City Council regarding this amendment to the Official Zoning Map of the City of San Antonio; **NOW THEREFORE,**

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF SAN ANTONIO:

SECTION 1. Chapter 35, Unified Development Code, Section 35-304, Official Zoning Map, of the City Code of San Antonio, Texas is amended by changing the zoning district boundary of the River North Zoning Site Plan area generally bound by IH-35 to the north; Lexington and 4th Street to the southwest; and Bonham, Elm Street, and IH-37 to the southeast:

From "FBZ T4-1 AHOD" Form Based Zoning Transect Zone 4-1 Airport Hazard Overlay District to "FBZ SD-1 AHOD" Form Based Zoning Specialized District-1 Airport Hazard Overlay District for property located at:

GEOGRAPHIC ID	LEGAL DESCRIPTION
00837-011-0030	NCB 837 BLK 11 LOT 3
00837-011-0120	NCB 837 BLK 11 LOT 12
00837-011-0131	NCB 837 BLK 11 LOT E 45 FT OF S 118 FT OF 13 ARB A13
00837-011-0132	NCB 837 BLK 11 LOT S 120 FT OF 14 & S 120 FT OF W 2.62 FT OF 13
00837-011-0140	NCB 837 BLK 11 LOT N 42 FT OF 13 & 14
00837-011-0170	NCB 837 BLK 11 LOT N 106.4 FT OF W 15 FT OF 2 & E 32.62 FT OF 2
00837-011-0012	NCB 837 BLK 11 LOT 1 & S 53.6 FT OF W 15 FT OF 2
00837-011-0040	NCB 837 BLK 11 LOT 4
00837-011-0050	NCB 837 BLK 11 LOT 5
00837-011-0060	NCB 837 BLK 11 LOT 6
00837-011-0070	NCB 837 BLK 11 LOT 7
00837-011-0081	NCB 837 BLK 11 LOT N 60 FT OF 8,N 60 OF E 2.62 OF 9,N 48 OF W 18 OF E 20.62 OF 9
00837-011-1000	CB 837 BLK 11 LOT P-100 & P-101
00848-012-0010	NCB 848 BLK 12 LOT 1 & W 25 FT OF 2
00848-012-0023	NCB 848 BLK 12 LOT SE 101.1 X 25 FT OF 2 & S 101.1 FT OF 3
00848-012-0024	NCB 848 BLK 12 LOT NE 66.8 FT X 25 FT OF 2 & N 66. 8 FT OF 3
00849-014-0100	NCB 849 BLK 14 LOT 10

00854-022-0011	NCB 854 BLK 22 LOT S 40.1 FT OF 1, 2 & S 40.1 FT OF W 6 FT OF 3
00854-022-0020	NCB 854 BLK 22 LOT N 127.9 FT OF 1 & N 127.9 FT OF W 5 FT OF 2
00854-022-0031	NCB 854 BLK 22 LOT E 50 FT OF N 127.9 FT OF 2 & W 6 FT OF N 127.9 FT OF 3
00854-022-0035	NCB 854 BLK 22 LOT E 50 FT OF 3
00854-022-0040	NCB 854 BLK 22 LOT W 55.6 FT OF 4
00854-022-0050	NCB 854 BLK 22 LOT 5 & E 7.1 FT OF 4
00854-022-0060	NCB 854 BLK 22 LOT 6
00854-022-0070	NCB 854 BLK 22 LOT 7
00854-022-0080	NCB 854 BLK 22 LOT 8
00854-022-0090	NCB 854 BLK 22 LOT 9 815 DALLAS
00854-022-0100	NCB 854 BLK 22 LOT 10

From "FBZ T5-1 AHOD RIO-2" Form Based Zoning Transect Zone 5-1 Airport Hazard Overlay River Improvement Overlay District-2 and "HE FBZ T5-1 AHOD RIO-2" Historic Exceptional Form Based Zoning Transect Zone 5-1 Airport Hazard Overlay River Improvement Overlay District-2 to "FBZ SD-1 AHOD RIO-2" Form Based Zoning Specialized District-1 Airport Hazard Overlay River Improvement Overlay District-2 and "HE FBZ SD-1 AHOD RIO-2" Historic Exceptional Form Based Zoning Specialized District-1 Airport Hazard Overlay River Improvement Overlay District-2 for property located at:

GEOGRAPHIC ID	LEGAL DESCRIPTION
00849-014-0080	NCB 849 BLK 14 LOT 8

From "FBZ T-51 AHOD RIO-2" Form Based Zoning Transect Zone 5-1 Airport Hazard Overlay River Improvement Overlay District-2 to "FBZ SD-1 AHOD RIO-2" Form Based Zoning Specialized District-1 Airport Hazard Overlay River Improvement Overlay District-2 for property located at:

GEOGRAPHIC ID	LEGAL DESCRIPTION
00849-014-0090	NCB 849 BLK 14 LOT 9

From "HE FBZT5-1 AHOD RIO-2" Historic Exceptional Form Based Zoning Transect Zone 5-1 Airport Hazard Overlay River Improvement Overlay District-2 to "HE FBZSD-1 AHOD RIO-2" Historic Exceptional Form Based Zoning Specialized District-1 Airport Hazard Overlay River Improvement Overlay District-2 for property located at:

GEOGRAPHIC ID	LEGAL DESCRIPTION
00835-015-0020	NCB 835 BLK 15 SW IRR 68.3 FT OF A2 FORM SW IRR 70.4 FT OF A2

From "FBZ T6-2 AHOD RIO-2" Form Based Zoning Transect Zone 6-2 Airport Hazard Overlay River Improvement Overlay District-2 to "FBZ T6-2 S AHOD RIO-2" Form Based Zoning Transect Zone 6-2 Specific Use Authorization for a Hotel (no room limit) Airport Hazard Overlay River Improvement Overlay District-2 for property located at:

GEOGRAPHIC ID	LEGAL DESCRIPTION
00449-027-0106	NCB 449 BLK 27 LOT 12 (EXCEPT S IRR 9 FT) & ARB P-100 (OLD RIVER BED)

From "HS FBZ T5-1 AHOD RIO-2" Historic Significant Form Based Zoning Transect Zone 5-1 Airport Hazard Overlay River Improvement Overlay District-2 to "HS FBZ T6-1 AHOD RIO-2" Historic Significant Form Based Zoning Transect Zone 6-1 Airport Hazard Overlay River Improvement Overlay District-2 for property located at:

GEOGRAPHIC ID	LEGAL DESCRIPTION
00432-016-0130	NCB 432 BLK 16 LOT 13

From "HE FBZ T5-1 AHOD" Historic Exceptional Form Based Zoning Transect Zone 5-1 Airport Hazard Overlay to "HE FBZ T6-1 AHOD" Historic Exceptional Form Based Zoning Transect 6-1 Airport Hazard Overlay River Improvement Overlay District-2 for property located at:

GEOGRAPHIC ID	LEGAL DESCRIPTION
00433-015-0130	NCB 433 BLK: 15 LOT 13 FIRST PRESBYTERIAN SUBD

From "HS FBZ T5-1 AHOD" Historic Significant Form Based Zoning Transect Zone 5-1 Airport Hazard Overlay to "HS FBZ T6-1 AHOD" Historic Significant Form Based Zoning Transect 6-1 Airport Hazard Overlay River Improvement Overlay District-2 for property located at:

GEOGRAPHIC ID	LEGAL DESCRIPTION
00433-015-0030	NCB 433 BLK 15 LOT SW 71.2 FT OF 2 & 4
00434-014-0140	NCB 434 BLK 14 LOT 14 FIRST PRESBYTERIAN CHURCH
00434-014-0130	NCB 434 BLK 14 LOT 13 FIRST PRESBYTERIAN CHURCH

SECTION 2. All portions of land mentioned are depicted on the Proposed Site Plan and on the Transect Summary Table 18A1 in **Attachment "A",** attached hereto and incorporated herein for all purposes. Chapter 35, Unified Development Code, Section 35-304, Official Zoning Map, of the City Code of San Antonio, Texas is amended by adopting the Master Development Pattern Plan 007-10 attached as **Attachment "B"** and including: an approved zoning site plan, site conditions plan, transportation design plan, civic functions plan, transit network plan, residential and non-residential functions plan, the transect zone summary table, master tree canopy/preservation plan, and master storm water management plan for the River North Zoning Site Plan area generally bound by IH-35 to the north; Lexington and 4th Street to the southwest; and Bonham, Elm Street, and IH-37 to the southeast, and more specifically for property located at:

GEOGRAPHIC ID	LEGAL DESCRIPTION
00998-012-0013	NCB 998 BLK 12 LO SW 83.5 FT OF 1 & 2
00808-014-0130	NCB 808 BLK 14 LOT 13
00808-014-0140	NCB 808 BLK 14 LOT 14
00833-007-0070	NCB 833 BLK 7 LOT S IRRG 82.91 FT OF 7
00833-007-0080	NCB 833 BLK 7 LOT S 125.9 FT OF 8
00833-007-0090	NCB 833 BLK 7 LOT W 45.1 FT OF S IRR 124.19 FT OF 9 OR A9
00833-007-0100	NCB 833 BLK 7 LOT S IRR 90.3 OF E 10 FT OF 9 & S IRR 72.9 OF 10&11 & S IRR 39.9 OF 12
00847-010-0101	NCB 847 BLK 10 LOT 10
00855-021-0140	NCB 855 BLK 21 LOT 10
00856-020-0090	NCB 856 BLK 20 LOT S IRR 78.85 FT OF 9
00998-012-0210	NCB 998 BLK 12 LOT 21 (EDWARDS UNDERGROUND WATER)

00856-020-0080	NCB 856 BLK 20 LOT S 124.3 FT OF 8
00822-005-0010	NCB 822 BLK 5 LOT W 42.9 FT OF A10
00822-005-0020	NCB 822 BLK 5 LOT W 42.9 FT OF E 88.2 FT OF S 122.3 FT OF A10
00822-005-0030	NCB 822 BLK 5 LOT E 44 FT OF S 122.3 FT OF A10
00822-005-0040	NCB 822 BLK 5 LOT N 45.6 FT OF E 88.20 FT OF A10
00822-005-0050	NCB 822 BLK 5 LOT A8
00822-005-0060	NCB 822 BLK 5 LOT A7
00822-005-0070	NCB 822 BLK 5 LOT N, 53.95 FT OF A9
00822-005-0080	NCB 822 BLK 5 LOT S, 53.95 FT OF N 107.9 FT OF A9
00822-005-0090	NCB 822 BLK 5 LOT S, 60 FT OF A9
00822-005-0100	NCB 822 BLK 5 LOT E 43.5 FT OF W 86.4 FT OF A10
00823-004-0040	NCB 823 BLK 4 LOT A4
00823-004-0110	NCB 823 BLK 4 LOT A5
00823-004-0160	NCB 823 BLK 4 LOT 14
00823-004-0170	NCB 823 BLK 4 LOT 15
00823-016-0020	NCB 823 BLK 16 LOT 2 W 21.4 FT OF 1
00823-016-0070	NCB 823 BLK 16 LOT 7
00823-016-0170	NCB 823 BLK 16 LOT 17 CAMDEN-BROOKLYN SUBD
00837-011-0030	NCB 837 BLK 11 LOT 3
00837-011-0120	NCB 837 BLK 11 LOT 12
00837-011-0131	NCB 837 BLK 11 LOT E 45 FT OF S 118 FT OF 13 ARB A13
00837-011-0132	NCB 837 BLK 11 LOT S 120 FT OF 14 & S 120 FT OF W 2.62 FT OF 13
00837-011-0140	NCB 837 BLK 11 LOT N 42 FT OF 13 & 14
00837-011-0170	NCB 837 BLK 11 LOT N 106.4 FT OF W 15 FT OF 2 & E 32.62 FT OF 2
00838-009-0140	NCB 838 BLK 9 LOT 14
00847-010-0130	NCB 847 BLK 10 LOT 13 (BMA OF ALAMO CITY)
00813-010-0140	NCB 813 BLK 10 LOT 14 QUINCY SUBD (AMENDING)
00814-015-0060	NCB 814 BLK 15 LOT 6 THRU 9
00814-015-0310	NCB 814 BLK 15 LOT 31 CENTRAL CARDIOVASCULAR CLINIC
00814-015-0320	NCB 814 BLK 15 LOT 32 CENTRAL CARDIOVASCULAR CLINIC
00814-015-1010	NCB 814 BLK 15 LOT P-101 (FORMERLY PT OF ALLEY)
00815-001-0090	NCB 815 BLK S PT 19 LOT S 75.9 FT OF 6
00815-002-0060	NCB 815 BLK 19 LOTS 6 & 7
00815-002-0110	NCB 815 BLK 19 LOTS 11 & 12
00815-002-0150	NCB 815 BLK 19 LOT 15
00815-019-0060	NCB 815 BLK S PT OF 19 LOT 5
00815-019-0070	NCB 815 BLK S PT 19 LOT N 70 FT OF 6
00815-019-0080	NCB 815 BLK S PT 19 LOT N 50 FT OF S 125.9 FT OF 6
00822-020-0013	NCB 822 BLK 20 LOT N 48.9 OF 1 & N 55.2 OF S 5.6 OF 6
00822-020-0070	NCB 822 BLK 20 LOT 7
00823-016-0090	NCB 823 BLK 16 LOT 9
00823-016-0160	NCB 823 BLK 16 LOT 16 ESCOBEDO SUBD
00824-003-0012	NCB 824 BLK 3 LOT S 128 FT OF LOT E
00824-003-0021	NCB 824 BLK 3 LOT S 128 FT OF F & G
00824-003-0401	NCB 824 BLK 3 LOT S 128 FT OF H
00824-011-0030	NCB 824 BLK 11 LOT S IRR 113.11 FT OF 3
00824-011-0033	NCB 824 BLK 11 LOT S 128.0 FT OF 2
00824-011-0040	NCB 824 BLK 11 LOT S 129 FT OF 1
00838-009-0170	NCB 838 BLK 9 LOT 17 (SAN ANTONIO HEAD & NECK CLINIC)

00839-007-0074	NCB 839 BLK 7 LOT S IRR 107 OF 7, S IRR 114.9 FT OF 12 & S 120 FT OF 8 THRU 11
00822-020-0030	NCB 822 BLK 20 LOT 3 EXC W 4.4 FT OF S 112.9 FT
00822-020-0040	NCB 822 BLK 20 LOT 4 & E 5 FT OF 5
00814-015-0032	NCB 814 BLK 15 LOT 3-5, 20-29, P-100, P-102, P-103
00822-020-0011	NCB 822 BLK 20 S. 119 FT OF 1 & S IRR 112.9 FT OF 2
00823-016-0030	NCB 823 BLK 16 LOT S 80.5 FT OF 3, 4, 5 & 6
00823-016-0080	NCB 823 BLK 16 LOT 8
00820-007-0100	NCB 820 BLK 7 LOT 10
00820-007-0111	NCB 820 BLK 7 LOT 11 & 12
00820-030-0090	NCB 820 BLK 30 LOT 9
00821-006-0010	NCB 821 BLK 6 LOT E 83 FT OF A8
00821-006-0020	NCB 821 BLK 6 LOT W 50 FT OF A8 OR AB8
00821-025-0050	NCB 821 BLK 25 LOT 5 & E 3.9 FT OF 4 & N 14.9 OF E 58.90 OF W 112.30 FT OF 7
00821-025-0060	NCB 821 BLK 25 LOT 6 & N 14.9 FT OF W 55.6 FT OF 7
00821-006-0030	NCB 821 BLK 6 LOT A9
00821-025-0070	NCB 821 BLK 25 LOT 7 EXC N 14.9 FT OF W 112.3 FT
00820-030-0081	NCB 820 BLK 30 LOT 8 & NCB 820 BLK - LOT 14
00849-014-0080	NCB 849 BLK 14 LOT 8
00849-014-0090	NCB 849 BLK 14 LOT 9
00846-008-0100	NCB 846 BLK 8 LOT S 117 FT OF 10
00997-001-0081	NCB 997 BLK G LOT E 60' OF 1 & 2 EXC SE TRI 9' OF 1 & NE IRR 9' OF 2
00837-011-0012	NCB 837 BLK 11 LOT 1 & S 53.6 FT OF W 15 FT OF 2
00846-008-0070	NCB 846 BLK 8 LOT S 122.9 FT OF 7 ARB A6
00838-009-0150	NCB 838 BLK 9 LOT 15
00808-014-0010	NCB 808 BLK 14 LOT 1
00808-014-0020	NCB 808 BLK 14 LOT 2, 3 & SW 2.77 FT OF 4
00808-014-0220	NCB 808 BLK 14 LOT 22, 23 & 24
00808-014-0250	NCB 808 BLK 14 LOT 25 26
00808-014-0270	NCB 808 BLK 14 LOT 27 28
00837-011-0040	NCB 837 BLK 11 LOT 4
00837-011-0050	NCB 837 BLK 11 LOT 5
00837-011-0060	NCB 837 BLK 11 LOT 6
00837-011-0070	NCB 837 BLK 11 LOT 7
00837-011-0081	NCB 837 BLK 11 LOT N 60 FT OF 8,N 60 OF E 2.62 OF 9,N 48 OF W 18 OF E 20.62 OF 9
00837-011-1000	CB 837 BLK 11 LOT P-100 & P-101
00838-009-0061	NCB 838 BLK 9 LOT N 117.9 OF 6, ARB A6
00838-009-0063	NCB 838 BLK 9 LOT S 50 FT OF 6
00838-009-0070	NCB 838 BLK 9 LOT 7
00847-010-0052	NCB 847 BLK 10 S 107.9 FT OF 5
00847-010-0060	NCB 847 BLK 10 S 115.4 FT OF 6
00847-010-0071	NCB 847 BLK 10 N 59 FT OF 7
00847-010-0073	NCB 847 BLK 10 S 108.9 FT OF 7
00847-010-0110	NCB 847 BLK 10 E 46.33 FT OF N 124.8 FT OF 11
00847-010-0111	NCB 847 BLK 10 S IRR 47 FT OF 11 & 12
00847-010-0121	NCB 847 BLK 10 N 120.9 FT OF 12 & W 1 FT OF N 120.9 FT OF 11
00848-012-0010	NCB 848 BLK 12 LOT 1 & W 25 FT OF 2
00848-012-0023	NCB 848 BLK 12 LOT SE 101.1 X 25 FT OF 2 & S 101.1 FT OF 3

00848-012-0024	NCB 848 BLK 12 LOT NE 66.8 FT X 25 FT OF 2 & N 66. 8 FT OF 3
00849-014-0100	NCB 849 BLK 14 LOT 10
00854-022-0011	NCB 854 BLK 22 LOT S 40.1 FT OF 1, 2 & S 40.1 FT OF W 6 FT OF 3
00854-022-0020	NCB 854 BLK 22 LOT N 127.9 FT OF 1 & N 127.9 FT OF W 5 FT OF 2
00854-022-0031	NCB 854 BLK 22 LOT E 50 FT OF N 127.9 FT OF 2 & W 6 FT OF N 127.9 FT OF 3
00854-022-0035	NCB 854 BLK 22 LOT E 50 FT OF 3
00854-022-0040	NCB 854 BLK 22 LOT W 55.6 FT OF 4
00854-022-0050	NCB 854 BLK 22 LOT 5 & E 7.1 FT OF 4
00854-022-0060	NCB 854 BLK 22 LOT 6
00854-022-0070	NCB 854 BLK 22 LOT 7
00854-022-0080	NCB 854 BLK 22 LOT 8
00855-021-0010	NCB 855 BLK 21 N 107.7 FT OF 5 & N 107.7 FT OF E 3.8 FT OF 4 ARB A
00855-021-0020	NCB 855 BLK 21 N50.7 FT OF S 60.2 FT OF 5 & N 50.7 FT OF S 60. 2 FT OF E 10.5 FT OF 4 ARB B
00855-021-0030	NCB 855 BLK 21 LOT C
00855-021-0040	NCB 855 BLK 21 RED D OR E 51 FT OF 3
00855-021-0041	NCB 855 BLK 21 LOT S 9.5 FT OF 4 & 5 (DIRT ALLEY)
00855-021-0050	NCB 855 BLK 21 LOT E & E 14 FT OF F
00855-021-0060	NCB 855 BLK 21 LOT G AND W 28 FT OF F
00855-021-0070	NCB 855 BLK 21 LOT S 50.7 FT OF 1 & 2 & S 50.7 FT OF W 7 FT OF 3 OR A-11
00855-021-0080	NCB 855 BLK 21 S 117.9 FT OF 6 ARB A6
00855-021-0090	NCB 855 BLK 21 N 50 FT OF 6 & 7 ARB A12
00855-021-0100	NCB 855 BLK 21 LOT W 33.4 FT OF S 117.9 FT OF 7
00855-021-0110	NCB 855 BLK 21 LOT E 33.4 FT OF S 117.9 FT OF 7
00855-021-0120	NCB 855 BLK 21 LOT 8
00998-012-0061	NCB 998 BLK 12 LOT W 75 FT OF 6
00998-012-0160	NCB 998 BLK 12 LOT 16 JOE LOPEZ SUBDIVISION
00808-014-0040	NCB 808 BLK 14 LOT E 44.83 FT OF 4
00808-014-0050	NCB 808 BLK 14 LOT 5 & 6
00808-014-0070	NCB 808 BLK 14 LOT 7
00808-014-0151	NCB 808 BLK 14 LOT 15 THRU 18
00808-014-0190	NCB 808 BLK 14 LOT 19 & E 13.9 FT OF 20
00808-014-0210	NCB 808 BLK 14 LOT 21 & W 13.9 FT OF 20
00808-014-0290	NCB 808 BLK 14 LOT SW 55.6 FT OF 29
00808-014-0291	NCB 808 BLK 14 LOT NE 55.6 FT OF 29
00809-009-0101	NCB 809 BLK 9 LOT S IRR 161.0 FT OF 10
00809-009-0102	NCB 809 BLK 9 LOT N IRR 10.11 OF 10,E 4' OF 9,N IRR 29.51' OF 11, & N IRR 35' OF 12
00809-009-0111	NCB 809 BLK 9 LOT S IRR 150.89 FT OF 11
00809-009-0140	NCB 809 BLK 9 LOT 14 (WILLERSON-LOT 14)
00813-010-0013	NCB 813 BLK 10 LOT NW 35 FT OF 1
00813-010-0021	NCB 813 BLK 10 LOT S 125 FT OF 2
00813-010-0022	NCB 813 BLK 10 LOT N 35 FT OF 2
00813-010-0030	NCB 813 BLK 10 LOT W 47.96 FT OF 3
00813-010-0130	NCB 813 BLK 10 LOT 13 (B.M.H.S.-LOT 13)
00814-015-0010	NCB 814 BLK 15 SE IRR 69.7 FT OF 1 & 2
00814-015-0020	NCB 814 BLK 15 LOT N IRR 42.3 FT OF 1 & 2
00815-001-0011	NCB 815 BLK 19 LOT A, B, C, & D

00815-001-0040	NCB 815 BLK S PT 19 LOT 3
00815-001-0100	NCB 815 BLK 19 LOT E & F
00815-019-0020	NCB 815 BLK 19 LOT G
00815-019-0050	NCB 815 BLK S PT 19 LOT 4
00846-008-0090	NCB 846 BLK 8 LOT S 121 FT OF 9 ARB A8
00846-008-0110	NCB 846 BLK 8 LOT 11
00846-008-0120	NCB 846 BLK 8 LOT S 118 FT OF 12
00856-020-0100	NCB 856 BLK 20 LOT S 81.9 FT OF 10 ARB 10A
00856-020-0110	NCB 856 BLK 20 LOT N 44 FT OF S 125.9 FT OF 10 ARB 10B
00997-000-0160	NCB 997 BLK LOT 16
00855-021-0130	NCB 855 BLK 21 LOT 9
00846-008-0130	NCB 846 BLK 8 LOT 13 (707 E QUINCY SUBD)
00856-020-0060	NCB 856 BLK 20 LOT S 122.9 FT OF 6
00856-020-0070	NCB 856 BLK 20 LOT S 123.55 FT OF 7
00449-027-0106	NCB 449 BLK 27 LOT 12 (EXCEPT S IRR 9 FT) & ARB P-100 (OLD RIVER BED)
00854-022-0090	NCB 854 BLK 22 LOT 9 815 DALLAS
00854-022-0100	NCB 854 BLK 22 LOT 10
00998-012-0110	NCB 998 BLK 12 LOT 11 AND 12
00432-016-0130	NCB 432 BLK 16 LOT 13
00433-015-0030	NCB 433 BLK 15 LOT SW 71.2 FT OF 2 & 4
00433-015-0130	NCB 433 BLK 15 LOT 13 FIRST PRESBYTERIAN SUBD
00434-014-0130	NCB 434 BLK 14 LOT 13 FIRST PRESBYTERIAN CHURCH
00434-014-0140	NCB 434 BLK 14 LOT 14 FIRST PRESBYTERIAN CHURCH
00435-013-0050	NCB 435 BLK 13 LOT 5
00435-013-0060	NCB 435 BLK 13 SE 25.4 FT OF 6 & NW 31.3 FT OF 8 ARB A9
00435-013-0070	NCB 435 BLK 13 LOT 7 & 9
00435-013-0100	NCB 435 BLK 13 LOT 10 & E 20 FT OF 8
00436-012-0013	NCB 436 BLK 12 LOT SW 91.5 FT OF 2 & SW 91.5 FT OF 4
00436-012-0014	NCB 436 BLK 12 LOT SW 91.5 FT OF 2 & SW 91.5 FT OF 4
00436-012-0040	NCB 436 BLK 12 LOT E, 50 FT OF 2, 4 & 6
00436-012-0041	NCB 436 BLK 12 LOT E 50 FT OF 2, 4 AND 6
00436-012-0060	NCB 436 BLK 12 LOT 7 ARB A4
00436-012-0070	NCB 436 BLK 12 LOT 8 ARB A12
00436-012-0100	NCB 436 BLK 12 LOT 10 ARB A13
00436-012-0101	NCB 436 BLK 12 LOT 10 ARB ARB A13 REFER TO 00436-012-0100
00436-012-0120	NCB 436 BLK 12 LOT 12
00436-012-0130	NCB 436 BLK 12 LOT 13 SHEFTS SUBD
00437-011-0070	NCB 437 BLK 11 LOT N 94.33 FT OF 7, 9 AND 11
00441-007-0071	NCB 441 BLK 7 LOT 7 & 13
00441-007-0080	NCB 441 BLK 7 LOT 8&10
00441-007-0140	NCB 441 BLK 7 LOT NW 22.93 FT & S 5 FT OF E 79.67 FT OF 14
00442-006-0010	NCB 442 BLK 6 LOT N 59.73 FT OF 1 & N IRR 67.31 FT OF 3
00442-006-0021	NCB 442 BLK 6 LOT 2, 4, 6 & 8
00442-006-0100	NCB 442 BLK 6 LOT 10 & 12
00443-005-0052	NCB 443 BLK 5 LOT 5
00443-005-0060	NCB 443 BLK 5 LOT 6
00443-005-0070	NCB 443 BLK 5 LOT 7 (AIR EQUIPMENT REPAIR)
00445-004-0020	NCB 445 BLK 4 LOT S 92 FT OF 2 & S 92 FT OF E 4 FT OF 4 ARB A5
00445-004-0110	NCB 445 BLK 4 LOT 11, W 22.66 FT OF 9

00446-003-0010	NCB 446 BLK 3 LOT S 40 FT OF 1 & 3 & S 42.7 FT OF 5
00446-003-0020	NCB 446 BLK 3 LOT 2, 4 AND 6
00446-003-0050	NCB 446 BLK 3 LOT NE 98.6 FT OF 5 /C/
00446-003-0130	NCB 446 BLK 3 LOT 13 /C/
00451-029-0090	NCB 451 BLK 29 LOT 9
00451-029-0100	NCB 451 BLK 29 LOT 10
00451-029-0110	NCB 451 BLK 29 LOT 11
00451-029-0120	NCB 451 BLK 29 LOT 12
00451-029-0130	NCB 451 BLK 29 LOT 13
00451-029-0141	NCB 451 BLK 29 LOT 14
00451-029-0153	CB 451 BLK 29 LOT S 62.32 FT OF 15 & 16
00451-029-0154	CB 451 BLK 29 LOT N 79.7 FT OF 15 & 16
00452-030-0010	NCB 452 BLK 30 LOT 1 & 2
00452-030-0030	NCB 452 BLK 30 LOT 3
00452-030-0040	NCB 452 BLK 30 LOT 4
00452-030-0050	NCB 452 BLK 30 LOT 5
00452-030-0070	NCB 452 BLK 30 LOT 7
00452-030-0080	NCB 452 BLK 30 LOT 8
00452-030-0102	NCB 452 BLK 30 LOT NW IRR. 55 FT OF 10
00452-030-0103	NCB 452 BLK 30 LOT SW IRR 77.5 FT OF 10
00452-030-0161	NCB 452 BLK 30 LOT 15 & 16
00453-031-0010	NCB 453 BLK 31 LOT NW 172 FT OF 1 & 2
00453-031-0020	NCB 453 BLK 31 LOT E IRR 73' OF 1 & E IRR 55' OF 2
00453-031-0023	NCB 453 BLK 31 LOT E IRRG 22.15 FT OF W IRRG 182.15 FT OF 3
00453-031-0050	NCB 453 BLK 31 LOT SE IRR PTS OF 3, 4, 5
00516-000-0011	NCB 516 NW IRRG 184.8 FT OF BLK
00523-019-0030	NCB 523 BLK 19 LOT W IRRG 15 FT OF 3 & 4
00523-019-0100	NCB 523 BLK 19 LOT 10 KZEP SUBDIVISION
00524-025-0040	NCB 524 BLK 25 W IRR 24.68 OF 5A, W IRR 20 OF 3D & 4A W IRR 30 OF 1&2 /MBL REPR/
00541-034-0070	NCB 541 BLK 34 LOT A7
00541-034-0090	NCB 541 BLK 34 LOT 9 (THE GRACE SUBD UT-2)
00809-009-0130	NCB 809 BLK 9 LOT 13
00997-001-0031	NCB 997 BLK G LOT NW TRI 15 FT OF 4 ARB A8
00997-001-0110	NCB 997 BLK G LOT 4
00997-001-0120	NCB 997 BLK G LOT 5A AND 6A
00997-001-0180	NCB 997 BLK G LOT 18 HICKEY SUBD
00999-013-0010	NCB 999 BLK 13 LOT 2-3, S IRR 23.96 FT OF 1, N9.5 FT OF 4 SW 25X52 FT TRI OF 7, W IRR (*)
00999-013-0050	NCB 999 BLK 13 LOT 5, 6 & S 46.06 FT OF 4
00999-013-0100	NCB 999 BLK 13 LOT 10 11&12
00453-031-0030	NCB 453 BLK 31 LOT NW IRR 169 FT OF 3
00453-031-0040	NCB 453 BLK 31 LOT 6, 7, 8, NW IRR 160.5 FT OF 4 & NW IRR 130 FT OF 5
00454-032-0120	NCB 454 BLK 32 LOT 12 & 13
00454-032-0140	NCB 454 BLK 32 LOT 14 & E 11.82 FT OF 8
00454-032-0150	NCB 454 BLK 32 LOT SW 61.93 FT OF 15 & 16
00454-032-0160	NCB 454 BLK 32 LOT NE 61.93 FT OF 15 & 16
00460-038-0012	NCB 460 BLK 38 LOT W IRR 136 FT OF 1 & W IRR 132 FT OF 2 ARB A1
00460-038-0013	NCB 460 BLK 38 LOT 3

00460-038-0014	NCB 460 BLK 38 LOT N 13 FT OF E 119 FT OF 4 & E IRR 94.09 OF 5 ARB A15
00460-038-0015	NCB 460 BLK 38 LOT W 73.9 OF 5 EXC N IRR 0.20 BY 2.29 OF W IRR 73.9 OF 4
00460-038-0016	NCB 460 BLK 38 LOT S 43 FT OF E 122.3 FT OF 4 ARB A16
00460-038-0017	NCB 460 BLK 38 LOT W IRR 73.9 FT OF 4 ARB A4 EXC N IRR 20 BY 2.29 FT
00460-038-0060	NCB 460 BLK 38 LOT 6, 7 & NE TRI 3.03 OF 5
00460-038-0080	NCB 460 BLK 38 LOT W IRRG 134.92 FT OF 8
00460-038-0090	NCB 460 BLK 38 LOT W IRRG 105.6 FT OF 9
00444-000-0010	NCB 444 BLK LOT 1, 2 3, 4 & 5 /MBL REPR/
00435-013-0110	NCB 435 BLK 13 LOT 11
00436-012-0010	NCB 436 BLK 12 LOT 1
00436-012-0020	NCB 436 BLK 12 LOT 3
00436-012-0050	NCB 436 BLK 12 SW 91.5 FT OF 6 ARB A11
00437-011-0080	NCB 437 BLK 11 LOT 13
00441-007-0120	NCB 441 BLK 7 LOT 12
00441-007-0150	NCB 441 BLK 7 LOT 15
00442-006-0050	NCB 442 BLK 6 LOT 5, 7, 9, 11, A, B & S 93 FT OF W 17.4 FT OF 3
00443-005-0010	NCB 443 BLK 5 LOT 1
00443-005-0020	NCB 443 BLK 5 LOT 2
00445-004-0010	NCB 445 BLK 4 LOT 1 & 3 & PT OF 5 ARB A1
00445-004-0041	NCB 445 BLK 4 LOT N 48 FT OF 2 & 4 & N 48 FT OF E 3.66 FT OF 6 ARB A4
00445-004-0043	NCB 445 BLK 4 LOT S 92 FT OF W 50 FT OF 4 & S 92 FT OF E 3.66 FT OF 6 ARB A6
00445-004-0130	NCB 445 BLK 4 LOT 13 (JUAREZ SUBD)
00452-030-0060	NCB 452 BLK 30 LOT 6
00452-030-0110	NCB 452 BLK 30 LOT 9 & S 22.6 FT OF W 154.5 FT OF 11
00452-030-0120	NCB 452 BLK 30 LOT 12, S 22.6 FT OF E 56.3 FT OF 11 & N 16 FT OF 11
00452-030-0131	NCB 452 BLK 30 LOT 13 & 14
00541-034-0060	NCB 541 BLK 34 LOT A6
00541-034-0080	NCB 541 BLK 34 LOT 8
00454-032-0090	NCB 454 BLK 32 LOT 9, 10 & 11
00460-038-0011	NCB 460 BLK 38 LOT E IRR 76.5 FT OF 1 & E IRR 64.1 FT OF 2 ARB A2
00436-012-0030	NCB 436 BLK 12 LOT 5 ARB A3
00445-004-0030	NCB 445 BLK 4 LOT 7 & PT OF 5 & E 28 FT OF 9 ARB A2
00783-026-0010	NCB 783 BLK 26 LOT 1
00783-026-0011	NCB 783 BLK 26 LOT PT OF A ARB A1
00783-026-0021	NCB 783 BLK 26 LOT 2 & 3
00783-026-0040	NCB 783 BLK 26 LOT 4
00783-026-0061	NCB 783 BLK 26 LOT 6 & S 60 FT OF 7 ARB A-6 & 24
00783-026-0250	NCB 783 BLK 26 LOT 25
00805-028-0030	NCB 805 BLK 28 LOT 3, 7 & 8
00805-028-0060	NCB 805 BLK 28 LOT 4, 5, 6 & S 17.9 FT OF 1 & 2
00806-023-0030	NCB 806 BLK 23 LOT S 51.9 FT OF 1 & W 28.3 FT OF S 51.9 FT OF 2
00806-023-0061	NCB 806 BLK 23 LOT SE 60.9 FT OF 5 & SE 60 FT OF 6
00806-023-0070	NCB 806 BLK 23 LOT NW 107 FT OF 5
00806-023-0080	NCB 806 BLK 23 LOT N 107.9 FT OF 6
00806-023-0140	NCB 806 BLK 23 LOT E 51.89 FT OF 11 & W 7.5 FT OF 12

00815-002-0130	NCB 815 BLK 19 LOT 13 (CAMDEN ST SUBD) 2009-NEW ACCT PER PLAT 9598/127-130 FILED 10/31/2008 FROM PI
00815-002-0140	NCB 815 BLK 19 LOT 14 (CAMDEN ST SUBD) 2009-NEW ACCT PER PLAT 9598/127-130 FILED 10/31/2008 FROM
00816-024-0030	NCB 816 BLK 24 LOT 3-4- 5
00816-024-0060	NCB 816 BLK 24 LOT 6
00816-024-0070	NCB 816 BLK 24 LOT 7 & E 27.8 FT OF 8
00816-024-0121	NCB 816 BLK 24 LOT 1, 2 & W 2.8 FT OF 3 OR A, B & C ARB A12, A13, A1 & A2
00816-024-0150	NCB 816 BLK 24 LOT D
00816-024-0160	NCB 816 BLK 24 LOT E EXC N 7.75 FT OF E 18.6 FT
00816-024-0170	NCB 816 BLK 24 LOT F & N 7.75 FT OF E 18.6 FT OF E
00817-029-0010	NCB 817 BLK 29 LOT 1
00817-029-0020	NCB 817 BLK 29 LOT 2 & W 27.8 FT OF 3
00817-029-0040	NCB 817 BLK 29 LOT 4 & E 27.8 FT OF 3
00817-029-0050	NCB 817 BLK 29 LOT 5&6
00817-029-0070	NCB 817 BLK 29 LOT E 50 FT OF 7
00817-029-0080	NCB 817 BLK 29 LOT W 5 FT OF 7, E 50 FT OF 8
00817-029-0090	NCB 817 BLK 29 LOT 9, 10 & SW 5.4 FT OF 8
00817-029-0110	NCB 817 BLK 29 LOT 11
00817-029-0120	NCB 817 BLK 29 LOT 12
00820-030-0010	NCB 820 BLK 30 LOT 1&2
00820-030-0031	NCB 820 BLK 30 LOT 3, 4, 5 & 6
00997-001-0010	NCB 997 BLK G LOT 1A 2A B2
00997-001-0050	NCB 997 BLK G LOT E 126.2 FT. OF C OR A-14 & A-15
00997-001-0070	NCB 997 BLK G LOT A13
00997-001-0130	NCB 997 BLK G LOT A12, SE TRI 9.7 FT OF 5 & SE TRI 55.8 FT OF 7 OR A7
01000-000-0010	NCB 1000 BLK LOT 1 THRU 15 & STRIP 55.66 FT X 350 FT FORMERLY MCLANE'S AVE
01758-000-0170	NCB 1758 BLK LOT 17
01759-000-0010	NCB 1759 BLK H LOT E 75 FT OF 1 OR A-9-W IRR 32.5 FT OF 1 OR A-9 & ALL OF 1
01759-000-0020	NCB 1759 BLK H LOT 2 & 3
01759-000-0040	NCB 1759 BLK H LOT 4
01759-000-0050	NCB 1759 BLK H LOT 5
01759-000-0060	NCB 1759 BLK H LOT 6
01759-000-0070	NCB 1759 BLK H LOT 7& 8
00431-017-0010	NCB 431 BLK 17 LOT 1
00431-017-0020	NCB 431 BLK 17 LOT 2
00431-017-0190	NCB 431 BLK 17 LOT A6 OR RED 19
00431-017-0200	NCB 431 BLK 17 LOT A7 OR RED 20
00431-017-0210	NCB 431 BLK 17 LOT 21
00431-017-0220	NCB 431 BLK 17 LOT 22
00431-017-0230	NCB 431 BLK 17 LOT 23, 24 & P-100
00431-017-1010	NCB 431 BLK 17 LOT P-101 PT OF ALLEY ROW.
00437-011-0060	NCB 437 BLK 11 LOT 6 & N 105.35 FT OF E IRR 1.59 FT OF 5
00438-010-0010	NCB 438 BLK 10 LOT 1
00438-010-0070	NCB 438 BLK 10 LOT 7, 9, 11 & 20 FT ALLEY
00438-010-0080	NCB 438 BLK 10 LOTS 8, 10 & 12 ARB A10& AB10

00438-010-0150	NCB 438 BLK 10 LOT 15 (ALAMO PUBLIC TELECOMM UT-1)
00440-008-0010	NCB 440 BLK 8 LOT 1, NE 50 FT OF 2
00440-008-0030	NCB 440 BLK 8 LOT 3, SW 10.84 FT OF 2
00440-008-0040	NCB 440 BLK 8 LOT 4
00440-008-0050	NCB 440 BLK 8 LOT 5&6
00440-008-0070	NCB 440 BLK 8 LOT 7, 9 & 11
00440-008-0081	NCB 440 BLK 8 LOT 8 & 10
00440-008-0120	NCB 440 BLK 8 LOT 12
00441-007-0010	NCB 441 BLK 7 LOT 1& SW IRRG 1.5 FT OF 2
00441-007-0020	NCB 441 BLK 7 LOT NE IRRG 53.08 FT OF 2
00441-007-0030	NCB 441 BLK 7 LOT 3
00441-007-0040	NCB 441 BLK 7 LOT 4
00441-007-0051	NCB 441 BLK 7 LOT W IRR 47.81 FT OF 5
00441-007-0061	NCB 441 BLK 7 LOT 6 & NE IRR 6.1 FT OF 5
00446-003-0070	NCB 446 BLK 3 LOT 8 & NE 44.61 FT OF 7 (3.18 SQ FT DEDICATED TO CITY OF S A)
00446-003-0090	NCB 446 BLK 3 LOT 9
00446-003-0100	NCB 446 BLK 3 LOT 10
00446-003-0110	NCB 446 BLK 3 LOT 11 & 12
00447-002-0010	NCB 447 BLK 2 LOT 1, 2 AND 3
00447-002-0041	NCB 447 BLK 2 LOT 4
00447-002-0042	NCB 447 BLK 2 LOT 5 EXC SW 5 FT OF NW 65 FT
00447-002-0060	NCB 447 BLK 2 LOT 6, & S 5 FT OF W 65 FT OF 5
00447-002-0070	NCB 447 BLK 2 LOT 7 & 9 11 ARB A15 A16
00447-002-0080	NCB 447 BLK 2 LOT 8
00447-002-0100	NCB 447 BLK 2 LOT 10
00447-002-0120	NCB 447 BLK 2 LOT 12
00450-028-0010	NCB 450 BLK 28 LOT 1, 2, 3 AND 4
00450-028-0050	NCB 450 BLK 28 LOT 5 &6
00450-028-0070	NCB 450 BLK 28 LOT 7
00450-028-0080	NCB 450 BLK 28 LOT 8
00450-028-0090	NCB 450 BLK 28 LOT 9, 10 & 11
00450-028-0120	NCB 450 BLK 28 LOT 12
00450-028-0130	NCB 450 BLK 28 LOT 13
00450-028-0140	NCB 450 BLK 28 LOT 14
00450-028-0150	NCB 450 BLK 28 LOT 15
00450-028-0160	NCB 450 BLK 28 LOT 16
00451-029-0010	NCB 451 BLK 29 LOT 1
00451-029-0020	NCB 451 BLK 29 LOT 2
00451-029-0030	NCB 451 BLK 29 LOT 3, S1 FT OF 4
00451-029-0040	NCB 451 BLK 29 LOT 4, EXC SW 1 FT AND S 1.5 FT OF 5
00451-029-0050	NCB 451 BLK 29 LOT 5 EX S 1.5 FT & ALL OF 6
00451-029-0070	NCB 451 BLK 29 LOT 7
00451-029-0080	NCB 451 BLK 29 LOT 8
00454-032-0060	NCB 454 BLK 32 LOT N 76.9 FT OF 6 & 7 & N 76.9 FT OF W 39.12 FT OF 8
00454-032-0171	NCB 454 BLK 32 LOT N 120 FT OF 17 MANION SUBS
00454-032-0172	NCB 454 BLK 32 LOT S 87.5 FT OF 17 MANION SUBS
00455-033-0010	NCB 455 BLK 33 LOT 1, 2 3, 4 & 5
00455-033-0060	NCB 455 BLK 33 LOT 6
00455-033-0090	NCB 455 BLK 33 LOT 9

00455-033-0100	NCB 455 BLK 33 LOT 10
00455-033-0110	NCB 455 BLK 33 LOT 11
00455-033-0173	NCB 455 BLK 33 LOT 17 & 18 SAWCO SUBD
00455-033-0190	NCB 455 BLK 33 LOT 19 SAWCO SUBD III
00458-036-0012	NCB 458 BLK 36 LOT 1 THRU 4
00458-036-0013	NCB 458 BLK 36 LOT 9 THRU 16
00458-036-0020	NCB 458 BLK 36 LOT 5&6, 7 & 8
00459-000-0010	NCB 459 BLK ALL OF BLK
00463-043-0030	NCB 463 BLK 43 LOT 2, 6 THRU 11, 14 THRU 23, N84 FT OF 1 & E IRRG 48.33 FT OF 3 & N 23.38 FT OF 4 & 5
00463-043-0040	NCB 463 BLK 43 LOT W 1.6 FT OF S 111.71 FT OF 3,S IRR 111.6 OF 4,S IRR 65 OF 5
00463-043-0120	NCB 463 BLK 43 LOT 12 13 & 24
00464-044-0011	NCB 464 BLK 44 LOT 1&2, 3 AND 4, & S.5 FT OF 5
00464-044-0051	NCB 464 BLK 44 LOT N 49.5' OF 5
00464-044-0060	NCB 464 BLK 44 LOT 6
00464-044-0070	NCB 464 BLK 44 LOT 7
00464-044-0080	NCB 464 BLK 44 LOT 8, 9 & 10
00464-044-0111	NCB 464 BLK 44 LOT 11 & 12
00464-044-0130	NCB 464 BLK 44 LOT S 26 FT OF 13 ARB A17
00464-044-0140	NCB 464 BLK 44 LOT 14, 15, 16 & N 25 FT OF 13
00466-047-0011	NCB 466 BLK 47 LOT 1 THRU 4
00466-047-0051	NCB 466 BLK 47 LOT E, 65 FT OF 5
00466-047-0053	NCB 466 BLK 47 LOT W, 65 FT OF 5
00466-047-0060	NCB 466 BLK 47 LOT 6
00466-047-0070	NCB 466 BLK 47 LOT 7
00466-047-0081	NCB 466 BLK 47 LOT 8 THRU 10
00467-048-0010	NCB 467 BLK 48 LOT 1, THRU 18
00468-049-0010	NCB 468 BLK 49 LOT 1&2
00468-049-0030	NCB 468 BLK 49 LOT 3
00468-049-0040	NCB 468 BLK 49 LOT 4
00468-049-0050	NCB 468 BLK 49 LOT 5 & 6 EXC NE TRI 62.5 FT
00468-049-0070	NCB 468 BLK 49 LOT SW TRI 62.5 FT OF 7
00468-049-0091	NCB 468 BLK 49 LOT E, 71.5 FT OF 9
00468-049-0093	NCB 468 BLK 49 LOT W, 48.5 FT OF 9
00468-049-0101	NCB 468 BLK 49 LOT 10 & 11 EXC NE TRI 15 FT, W IRR 52.17 FT OF 12, SW TRI 52.17 FT OF 13, & P-10
00468-049-1000	NCB 468 BLK 49 LOT P-100 FORMERLY PT OF ALLEY
00468-049-1010	NCB 468 BLK 49 LOT P-101 FORMERLY PT OF ALLEY
00468-049-1020	NCB 468 BLK 49 P-102
00468-049-1030	NCB 468 BLK 49 P-103
00468-049-1040	NCB 468 BLK 49 P-104
00468-049-1050	NCB 468 BLK 49 P-105
00474-055-0010	NCB 474 BLK 55 LOT 1 EXC NE TRI 35X130 FT
00475-056-0010	NCB 475 BLK 56 LOT 1
00475-056-0020	NCB 475 BLK 56 LOT 2
00475-056-0030	NCB 475 BLK 56 LOT 3
00475-056-0050	NCB 475 BLK 56 LOT 5
00475-056-0060	NCB 475 BLK 56 LOT 6
00475-056-0070	NCB 475 BLK 56 LOT SW TRI 35X130 FT OF 7

00475-056-1000	NCB 475 BLK 56 LOT P-100
00439-009-0020	NCB 439 BLK 9 LOT N IRR 110.09 OF S 308.85 OF 1, N IRR 82.81 OF S 326.28 OF 2
00439-009-0040	NCB 439 BLK 9 LOT 4, 5 & SE IRR 206.76 FT OF 1, SEE NOTES FOR MORE
00448-000-0010	NCB 448 BLK LOT A-1
00448-000-0020	NCB 448 BLK 1 LOTS 2&3& S 15.5 FT OF 1 EXC W PT SOLD TO CITY
00448-000-0031	NCB 448 BLK LOT E IRR 63.3 OF W 103.2 OF 4 & E IRR 123.8 OF W IRR 165 OF 5 A6
00448-000-0040	NCB 448 BLK LOT S 184 FT OF 4
00448-000-0050	NCB 448 BLK LOT SE 107.3 FT OF 5 ARB A5
00448-000-0070	NCB 448 BLK 1 LOT E 60 FT OF W 225 FT OF 5 OR A6 SEVENTH ST
00448-000-0080	NCB 448 BLK LOT A7
00449-027-0010	NCB 449 BLK 27 LOT A, A1 1, 2, 3, 4, 5, 6, NW 50 OF 9 ARB C & 9 EXC NW 50 ARB D
00449-027-0070	NCB 449 BLK 27 LOT 7
00449-027-0080	NCB 449 BLK 27 LOT 8
00449-027-0100	NCB 449 BLK 27 LOT 10
00456-034-0013	NCB 456 BLK 34 LOT NW 1/2 OF 1
00456-034-0021	NCB 456 BLK 34 LOT W IRR 80 FT OF A-22 NCB 783 LOT A-2
00456-034-0022	NCB 456 BLK 34 LOT 2, 4, W 5.56 FT AND E 41.66 FT OF 3
00456-034-0051	NCB 456 BLK 34 LOT 5, 6, 7 AND P-101 (PT OF ALLEY)
00456-034-0080	NCB 456 BLK 34 LOT 8
00457-035-0010	NCB 457 BLK 35 LOT SE 69 FT OF 1
00457-035-0020	NCB 457 BLK 35 LOT NW IRR 45 FT OF 1 & 2 AT 1009 AVE B
00457-035-0030	NCB 457 BLK 35 LOT S 69 FT OF 2
00457-035-0040	NCB 457 BLK 35 LOT S IRR 27.5 FT OF 3
00457-035-0050	NCB 457 BLK 35 LOT N 19.72 FT OF 3 & S 7.78 FT OF 4 AT 1011 AVE B
00457-035-0060	NCB 457 BLK 35 LOT NE, 39.44 FT OF 4
00457-035-0070	NCB 457 BLK 35 LOT 5
00457-035-0080	NCB 457 BLK 35 LOT 6 & SW 23.61 FT OF 7
00457-035-0110	NCB 457 BLK 35 LOT 8 & NE 23.61 FT OF 7
00465-045-0010	NCB 465 BLK 45 LOT 1, 2 AND 3
00465-045-0040	NCB 465 BLK 45 LOT 4&5
00465-045-0061	NCB 465 BLK 45 LOT 6 & 7
00465-045-0080	NCB 465 BLK 45 LOT 8
00465-045-0090	NCB 465 BLK 45 LOT 9
00465-045-0100	NCB 465 BLK 45 LOT 10 & 11
00476-057-0010	NCB 476 BLK 57 LOT 1 THRU 4
00476-057-0021	NCB 476 BLK 57 LOT NW TRI 58.58 X 96.95 ARB B
00476-057-0050	NCB 476 BLK 57 LOT 5
00476-057-0060	NCB 476 BLK 57 LOT N 47 FT OF 6 AND 7
00476-057-0070	NCB 476 BLK 57 LOT S 93 FT OF 6 & 7
00476-057-0080	NCB 476 BLK 57 LOT 8
00783-026-0015	NCB 783 BLK 26 LOT NW TRI 26. 62'X25.16'-ARBB, PT OF A-ARB A3, PT OF TRA ARB A2 & A2-1, 23
00783-034-0091	NCB 783 BLK 34 LOT A-9 & A-10, N 55.5' OF S 91' OF 14 OR A11
00783-034-0121	NCB 783 BLK 34 LOT N15' OF 13 & S40.5' OF 14 OR A12, N IRRG 73.6' OF A13, S 30' OF 13 & N 3' OF 12
00783-034-0140	NCB 783 BLK 34 LOT S 47 FT OF N 50 FT OF 12 OR A14

00783-034-0151	NCB 783 BLK 34 LOT A17, N IRR 50 FT OF 11 OR A16 & S 50 FT 12 OR A15
00783-034-0192	NCB 783 BLK 34 LOT A-19, A-20, SW 170 FT OF A-21 & ARB A-23
00783-034-0242	NCB 783 BLK 34 LOT PT OF A ARB A-24 NCB 1037 LOT SE IRR 44' OF 4 & NE IRR 225' OF 4
00783-034-0250	NCB 783 BLK 34 LOT PT OF LOT A ARB A-25
00804-032-0010	NCB 804 BLK 32 LOT A1
00804-032-0011	NCB 804 BLK 32 LOT A1 & A3 (IMPTS ONLY)
00804-032-0020	NCB 804 BLK 32 LOT A2 & A4
00804-032-0030	NCB 804 BLK 32 LOT A3
00804-032-0051	NCB 804 BLK 32 LOT A5, A8
00804-032-0060	NCB 804 BLK 32 LOT A6
00804-032-0070	NCB 804 BLK 32 LOT A-7, B-7 & P, NCB 1761 BLK LOT W IRRG 115 OF L /HQ OF BG/
00804-032-0091	NCB 804 BLK 32 LOT W IRR 69.22' OF A9 & W IRR 96.14' OF A10
00819-030-0010	NCB 819 BLK 30 PORTIONS OF A1, A2, & A3 VACATED, (SEE NOTES FOR MORE LEGAL)
00819-030-0060	NCB 819 BLK 30 LOT N IRR 200 FT OF A2 NCB 834 BLK 19 LOT S TRI 156.35 OF N 205 OF A1
00834-019-0020	NCB 834 BLK 19 LOT W, X Y, A-3, A-4, A-5 & A-6 SAVE & EXCEPT 821 SQ FT
00834-019-0050	NCB 834 BLK 19 LOT Z
00862-046-0010	NCB 862 BLK LOT 1 2 & 3
00862-046-0040	NCB 862 BLK 46 LOT 4 5 & 6
00862-046-0070	NCB 862 BLK 46 LOTS 7 TO 11
01036-001-0010	NCB 1036 BLK 1 LOT IRR 666.6 FT OF 1 2008 SPLIT/MERGE PER DEED 13278/1755 FILED 12/11/07.
01037-000-0010	NCB 1037 BLK LOT 1&2
01037-000-0030	NCB 1037 BLK LOT 3
01037-000-0050	NCB 1037 BLK LOT 5 6, 7 & W 150.5 FT OF 4
01037-000-0080	NCB 1037 BLK 1 LOT 8&9
01037-000-0100	NCB 1037 BLK LOT 10 AND 11
01037-000-0120	NCB 1037 BLK LOT NW IRR 85.99 FT OF 12
01757-006-0081	NCB 1757 BLK F LOT ALL OF BLK EXC PT OF 8 THRU 11
01760-000-0040	NCB 1760 BLK LOT 4, 5, 6, 6A, A7, AB7 & 8-11
01760-000-0041	NCB 1760 LOT 4, 5, 6, 6A, A7, AB7 & 8-11 REF TO 01760-000-0040
01760-000-0140	NCB 1760 BLK LOT 14
01761-000-0010	NCB 1761 BLK LOT E IRR 66.53 FT OF A16
01761-000-0011	NCB 1761 BLK LOT NW IRR 18.96 FT OF A16 & N IRR 59.88 FT OF 2
01761-000-0020	NCB 1761 BLK LOT A15
01761-000-0026	NCB 1761 BLK LOT A9
01761-000-0027	NCB 1761 BLK LOT A-9 REFER TO 01761-000-0026
01761-000-0030	NCB 1761 BLK LOT S 79.88 FT OF 2 EXC NE 16.05 FT TRI
01761-000-0031	NCB 1761 BLK LOT 2, 3, A-10, A-11, A-15, A-16 & A-18
01761-000-0040	NCB 1761 BLK LOT A11
01761-000-0050	NCB 1761 BLK LOT 3 EXC NW TRI 27.06 FT
01761-000-0060	NCB 1761 BLK LOT SE IRR 82.8 FT OF A10
01761-000-0080	NCB 1761 BLK LOT SW IRR 34.85 FT OF NW TRI 69.18 FT OF M
01761-000-0081	NCB 1761 BLK LOT NE IRR 34.33 FT OF NW TRI 69.18 FT OF M
01761-000-0090	NCB 1761 BLK LOT A18 EXC SE TRI 28 FT

01036-000-0060	NCB 1036 BLK LOT TR E
00806-023-0010	NCB 806 BLK 23 LOT N 54.64 FT OF 1 & W 28.33 FT OF N 54.64 FT OF 2
00806-023-0020	NCB 806 BLK 23 LOT N 62.7 OF S 113.7 FT OF 1 & N 62.7 FT OF S 113.7 OF W 28.3 FT OF 2
00806-023-0041	NCB 806 BLK 23 LOT 3, 4 & E 26 FT OF 2
00806-023-0100	NCB 806 BLK 23 LOT 7 SW 51.2 FT OF 8
00806-023-0110	NCB 806 BLK 23 LOT 9 & NE 4.4 FT OF 8
00806-023-0120	NCB 806 BLK 23 LOT 10 & W 3.71 FT OF 11
00806-023-0150	NCB 806 BLK 23 LOT E 48.5 FT OF 12
00816-024-0090	NCB 816 BLK 24 LOT 9 & W 27.8 FT OF 8
00816-024-0100	NCB 816 BLK 24 LOT 10
00816-024-0110	NCB 816 BLK 24 LOT E 50 FT OF 11
00431-017-0250	NCB 431 BLK 17 LOT 25 FIRST BAPTIST CHURCH
00437-011-0140	NCB 437 BLK 11 LOT 14
00454-032-0010	NCB 454 BLK 32 LOT 1&2
00463-043-0010	NCB 463 BLK 43 S 56 FT OF 1 ARB B1
00456-034-0010	NCB 456 BLK 34 LOT SE 62 FT OF 1
00835-015-0020	NCB 835 BLK 15 SW IRR 68.3 FT OF A2 FORM SW IRR 70.4 FT OF A2
00431-017-0030	NCB 431 BLK 17 LOT 3 & N 25.4 FT OF 4
00456-034-0090	NCB 456 BLK 34 LOT 9 (VFW POST NO 76 SUBD)
01036-001-0020	NCB 1036 BLK 1 LOT 2

SECTION 3. All other provisions of Chapter 35 except those expressly amended by this ordinance shall remain in full force and effect including the penalties for violations as made and provided for in Section 35-491.

SECTION 4. The Director of Planning and Development Services shall change the zoning records and maps in accordance with this ordinance and the same shall be available and open to the public for inspection.

SECTION 5. This ordinance shall become effective August 15, 2010.

PASSED AND APPROVED this 5th day of August 2010.

M A Y O R
Julián Castro

ATTEST:

Leticia M. Vacek, City Clerk

APPROVED AS TO FORM:

for

Michael Bernard, City Attorney

Request for COUNCIL ACTION

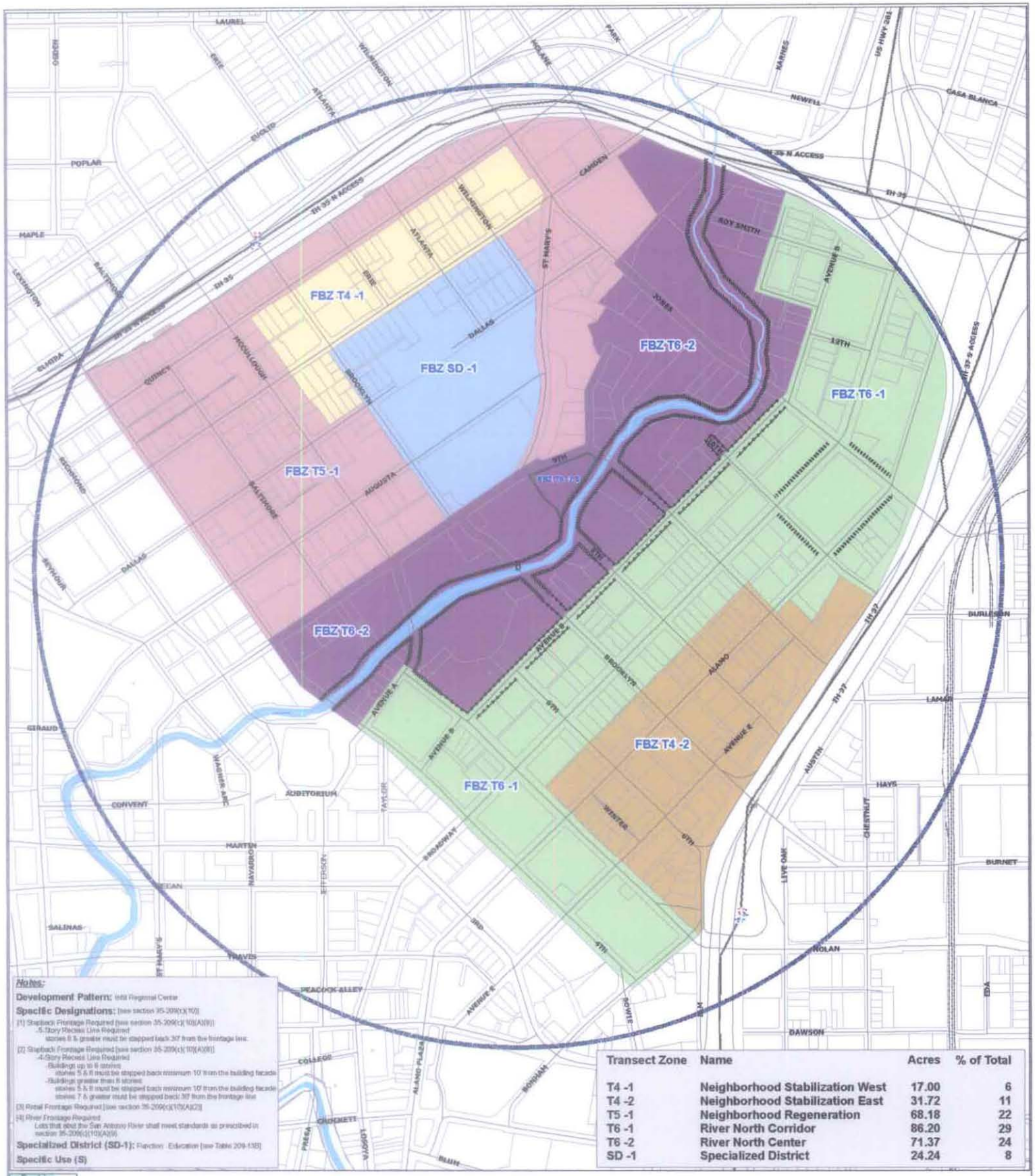
City of San Antonio

Agenda Voting Results - Z-9

Name:	P-1, Z-1, Z-4, Z-6, Z-9
Date:	08/05/2010
Time:	02:16:40 PM
Vote Type:	Motion to Approve
Description:	ZONING CASE Z2010103 (District 1 and 2): 1) Adopting a Master Development Pattern Plan to include an approved zoning site plan, site conditions plan, transportation design plan, civic functions plan, transit network plan, residential and non-residential functions plan, the transect zone summary table, master tree canopy/preservation plan, and master storm water management plan for the River North site plan area generally bound by IH-35 to the north; Lexington and 4th Street to the southwest; and Bonham, Elm Street, and IH-37 to the southeast and 2) a change in zoning district within the River North area, from "FBZ T4-1" Form Based Zoning District Transect Zone 4-1 and "FBZ T5-1" Form Based Zoning District Transect Zone 5-1 to "FBZ SD-1" Form Based Zoning District Specialized District 1 for multiple properties generally bound by Camden St. to the north, St. Mary's St. to the east and south, and Brooklyn St. to the southwest and west; from "FBZ T6-2" Form Based Zoning District Transect Zone 6-2 to "FBZ T6-2 S" Form Based Zoning District Transect Zone 6-2 S Specific Use authorization for a hotel with no room limit located at 103 W 9th St.; and from "FBZ T5-1" Form Based Zoning District Transect Zone 5-1 to "FBZ T6-1" Form Based Zoning District Transect Zone 6-1 for an area generally bound by McCullough St. to the north and northeast, Bonham St. to the southeast, 4th St. to the south and southwest, and Broadway to the northwest, with all existing overlay districts including "H" Historic Districts, "HS" Historic Significant, "HE" Historic Exceptional, "RIO-2" River Improvement Overlay District-2, and "AHOD" Airport Hazard Overlay District remaining unchanged, more specifically for an area generally bound by IH-35 to the north; Lexington and 4th Street to the southwest; and Bonham, Elm Street, and IH-37 to the southeast. Staff and Zoning Commission recommend approval.
Result:	Passed

Voter	Group	Not Present	Yea	Nay	Abstain	Motion	Second
Julián Castro	Mayor		x				
Mary Alice P. Cisneros	District 1		x				x
Ivy R. Taylor	District 2		x				
Jennifer V. Ramos	District 3		x				
Philip A. Cortez	District 4		x				

David Medina Jr.	District 5		x				
Ray Lopez	District 6		x				
Justin Rodriguez	District 7		x				
W. Reed Williams	District 8		x				
Elisa Chan	District 9		x				
John G. Clamp	District 10		x			x	



Notes:

Development Pattern: Infill Regional Center

Specific Designations: [see section 35-209(c)(10)]

[1] Stepback Frontage Required [see section 35-209(c)(10)(A)(8)]
- 5-Story Recess Line Required
  stories 6 & greater must be stepped back 30' from the frontage line.

[2] Stepback Frontage Required [see section 35-209(c)(10)(A)(8)]
- 4-Story Recess Line Required
  - Buildings up to 6 stories
    stories 5 & 6 must be stepped back minimum 10' from the building facade
  - Buildings greater than 6 stories
    stories 5 & 6 must be stepped back minimum 10' from the building facade
    stories 7 & greater must be stepped back 30' from the frontage line

[3] Retail Frontage Required [see section 35-209(c)(10)(A)(2)]

[4] River Frontage Required
Lots that abut the San Antonio River shall meet standards as prescribed in section 35-209(c)(10)(A)(9)

Specialized District (SD-1): Function - Education [see Table 209-13B]

Specific Use (S)

Transect Zone	Name	Acres	% of Total
T4 -1	Neighborhood Stabilization West	17.00	6
T4 -2	Neighborhood Stabilization East	31.72	11
T5 -1	Neighborhood Regeneration	68.18	22
T6 -1	River North Corridor	86.20	29
T6 -2	River North Center	71.37	24
SD -1	Specialized District	24.24	8

T4 -1 Neighborhood Stabilization West
T4 -2 Neighborhood Stabilization East
T5 -1 NR Neighborhood Regeneration
T6 -1 River North Corridor
T6 -2 River North Center
SD -1 Specialized District
Half Mile Pedestrian Shed
Specific Designation[1]: Stepback Frontage Required - 5 Story Recess Line
Specific Designation[2]: Stepback Frontage Required - 4 Story Recess Line
Specific Designation[3]: Retail Frontage Required

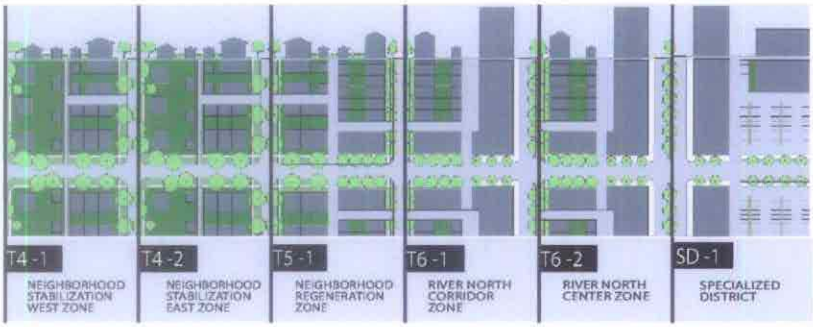
City of San Antonio
Planning and Development Services Department
Frederick J. Sanchez, MCP, CNU
Director
CD Market Development and Business Services Center
828 Dolorosa
San Antonio, TX 78204

River North Zoning Site Plan

Z2010103

0 125 250 500 750 1,000 Feet

Attachment I



A. ALLOCATION OF ZONES see section 35-209(c)						
Infill Regional Center						
B. OVERALL DENSITY see section 35-209(c)						
Infill Option						
C. BLOCK SIZE						
Block Perimeter	1600 ft. max	1600 ft. max	1600 ft. max	1600 ft. max	2000 ft. max	3400 ft. max
Block Face Length	400 ft. max	400 ft. max	400 ft. max	400 ft. max	600 ft. max	850 ft. max
D. PUBLIC FRONTAGES (see Table 209-6E and 209-6F)						
PW	not permited	not permited	not permited	not permited	not permited	permited
BV	permited	permited	permited	permited	permited	permited
RR	not permited	not permited	not permited	not permited	not permited	permited
RS	permited	permited	not permited	not permited	not permited	permited
SS & AV	permited	permited	permited	permited	permited	permited
CS & AV	not permited	not permited	permited	permited	permited	permited
Alley	permited	permited	required*	required*	required*	permited
E. CIVIC SPACE (see Table 209-9A)						
Park	not permited	not permited	not permited	not permited	not permited	permited
Green	permited	permited	permited	not permited	not permited	permited
Square	permited	permited	permited	permited	permited	permited
Plaza	not permited	not permited	permited	permited	permited	permited
Playground	permited	permited	permited	permited	permited	permited
F. LOT OCCUPATION						
Primary Frontage Width	25 ft. min 200 ft. max	25 ft. min 200 ft. max	18 ft. min. 300 ft. max	no min - no max	no min - no max	50 ft. - 850 ft.
Lot Coverage[1]	70%max	70%max	80%max	85%max	90%max	90%max
G. SETBACKS - PRINCIPAL BUILDING						
Front Setback (Primary)[2]	10 ft. min 15 ft. max.	10 ft. min 15 ft. max.	5 ft. min 12 ft. max.	0 ft. min 12 ft. max.	0 ft. min. 12 ft. max.	0 ft min.
River Setback	n/a	n/a	n/a	n/a	15 ft. min. 20 ft. max	n/a
Front Setback (Secondary)	6 ft. min. 10 ft. max	6 ft. min. 10 ft. max	5 ft. min. 12 ft. max	0 ft. min. 12 ft. max	0 ft. min. 10 ft. max	0 ft min.
Side Setback[2]	0 ft. min. 7 ft. max	0 ft. min. 7 ft. max	0 ft. min. 12 ft. max	0 ft. min. 12 ft. max	0 ft. min. 10 ft. max	0 ft min.
Rear	3 ft. min.	3 ft. min.	3 ft. min.	3 ft. min.	3 ft. min.	0 ft min.
Frontage Buildout	60% min.	60% min.	80 % min.	80%min	80%min	40%min
H. SETBACKS - OUTBUILDING						
Front Setback	24 ft. min. +bldg setback	24 ft. min. +bldg setback	40 ft. max from rear prop line	3rd lot layer	3rd lot layer	20-30 ft + bldg setback
Side Setback	0 ft or 3 ft.	0 ft or 3 ft.	0 ft. min	no max, no min.	no max, no min	0 ft. - 10 ft.
Rear Setback[3]	3 ft. min.	3 ft. min.	3 ft. max	no max, no min.	no max, no min.	3 ft. min.
I. BUILDING DISPOSITION (see Table 209-11)						
Edge Yard	permited	permited	not permited	not permited	not permited	permited
Side Yard	permited	permited	permited	not permited	not permited	permited
Rear Yard	permited	permited	permited	permited	permited	permited
Court Yard	permited	permited	permited	permited	permited	permited
J. PRIVATE FRONTAGES (see Table 209-12)						
Common Yard	not permited	not permited	not permited	not permited	not permited	not applicable
Porch & Fence	permited	permited	not permited	not permited	not permited	not applicable
Terrace or L.C.	permited	permited	permited	not permited	not permited	not applicable
Forecourt	permited	permited	permited	permited	permited	not applicable
Stoop	permited	permited	permited	permited	permited	not applicable
Shopfront & Awning	permited	permited	permited	permited	permited	not applicable
Gallery	permited	permited	permited	permited	permited	not applicable
Arcade	not permited	not permited	permited	permited	permited	not applicable
K. BUILDING HEIGHT						
Principal Building	3 stories max.	4 stories max.	2 stories min., 4 max.[4]	2 stories min., 8 max.[4]	2 stories min., 10 max.[4]	3 stories max
Outbuilding	2 stories max.	2 stories max.	2 stories max.	3 stories max	3 stories max	2 stories max
L. FUNCTION (see Tables 209-13A & 209-13B)**						
Residential	limited use	limited use	open use	open use	open use	see table 209-13B
Lodging	limited use	limited use	open use	open use	open use	see table 209-13B
Office / Service	limited use	limited use	open use	open use	open use	see table 209-13B
Retail	limited use	limited use	open use	open use	open use	see table 209-13B

DISPOSITION

CONFIGURATION

FUNCTION

SECTION (a)

SECTION (b) & (c)

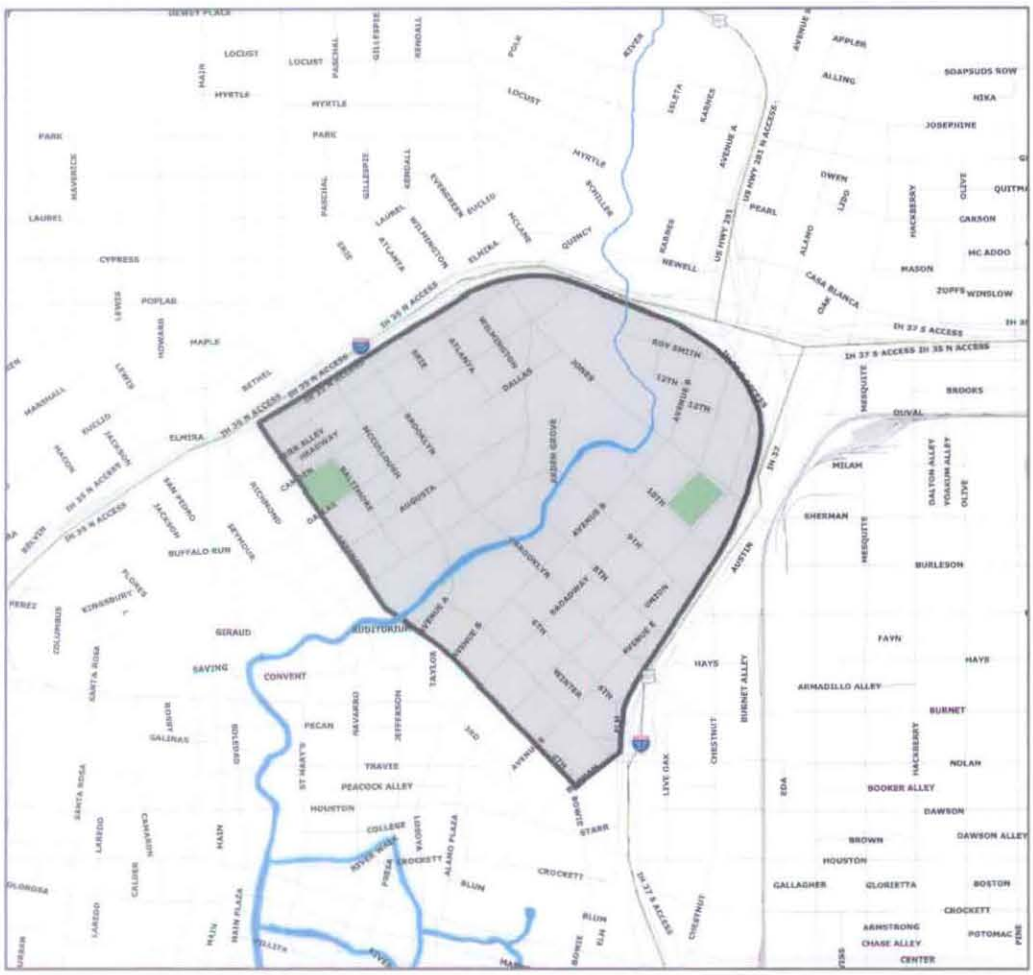
1. Refers to the percentage of the lot that can be covered by the structure
2. For sideyard buildings, see section 209(a)(2)(A)(11)
3. The rear setback shall be measured from the rear lot line as defined on table 209-10C
4. Single story buildings are permitted if they follow all of the following requirements:
   a. the buildings are no more than 40% of a linear block face
   b. the buildings are not located on street corners

* See Section 209(c)(8)(B)(8)

** For specific function, see table 209-13B

River North

Master Development Pattern Plan



Location Map
Not to Scale

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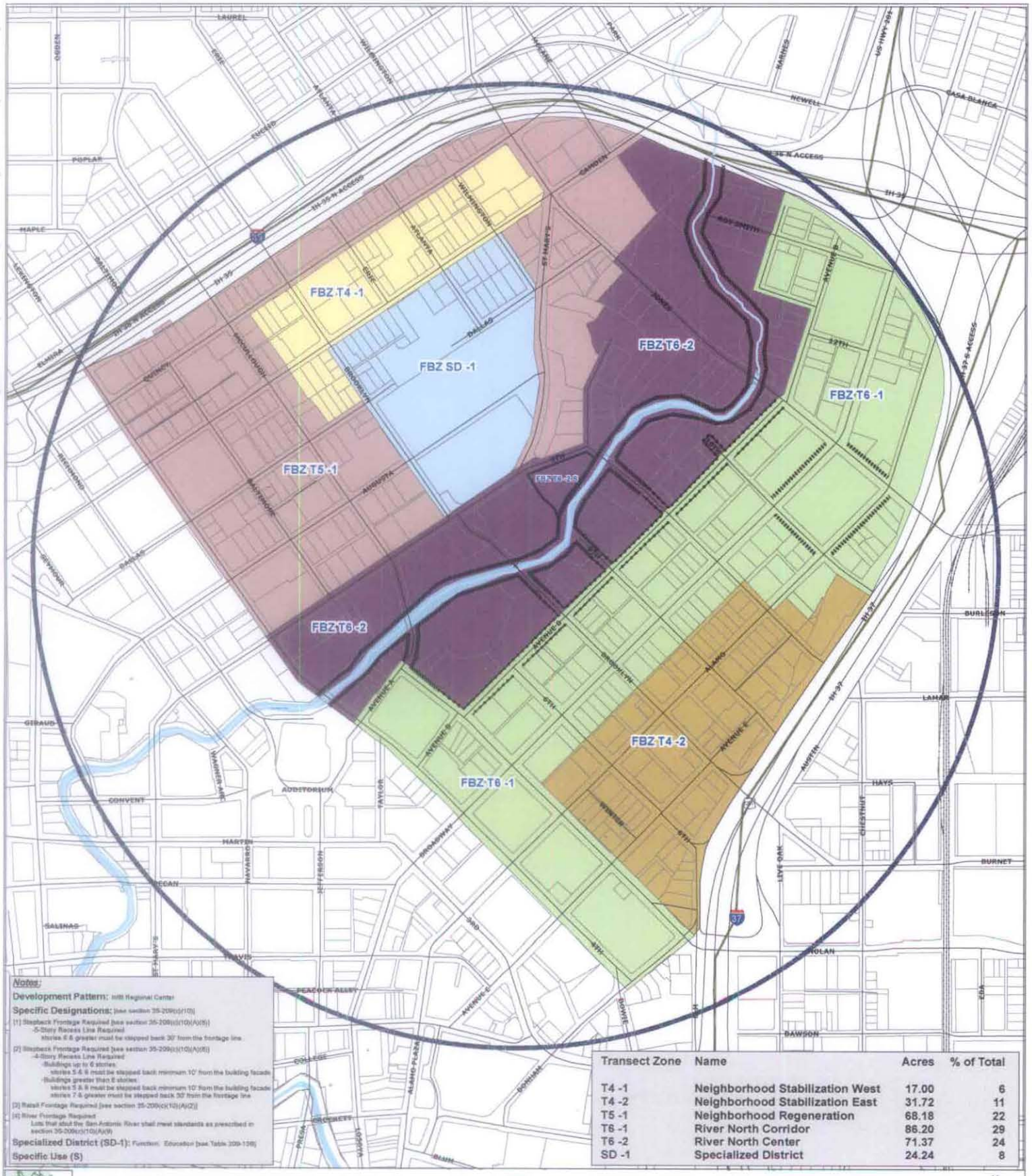
1. Approved Zoning Site Plan
   - Location of Transect Zones
   - Pedestrian Shed
   - Development Pattern
   - Mandatory Frontage Designations
2. Site Conditions Plan
3. Transportation Design Plan
   - Street Designations
   - Thoroughfare Assemblies
   - Public Frontage Dimensions
4. Civic Functions Plan
5. Transit Network Plan
6. Residential and Non-Residential Functions Plan
7. Transect Zone Summary Table
   - Standards for block size; public frontages; civic spaces; lot occupation; setbacks; building disposition; private frontages; building height
8. Master Tree Canopy/Preservation Plan
9. Master Storm Water Management Plan

Attachment B



Transect Zone	Name	Acres	% of Total
T4 -1	Neighborhood Stabilization West	17.00	6
T4 -2	Neighborhood Stabilization East	31.72	11
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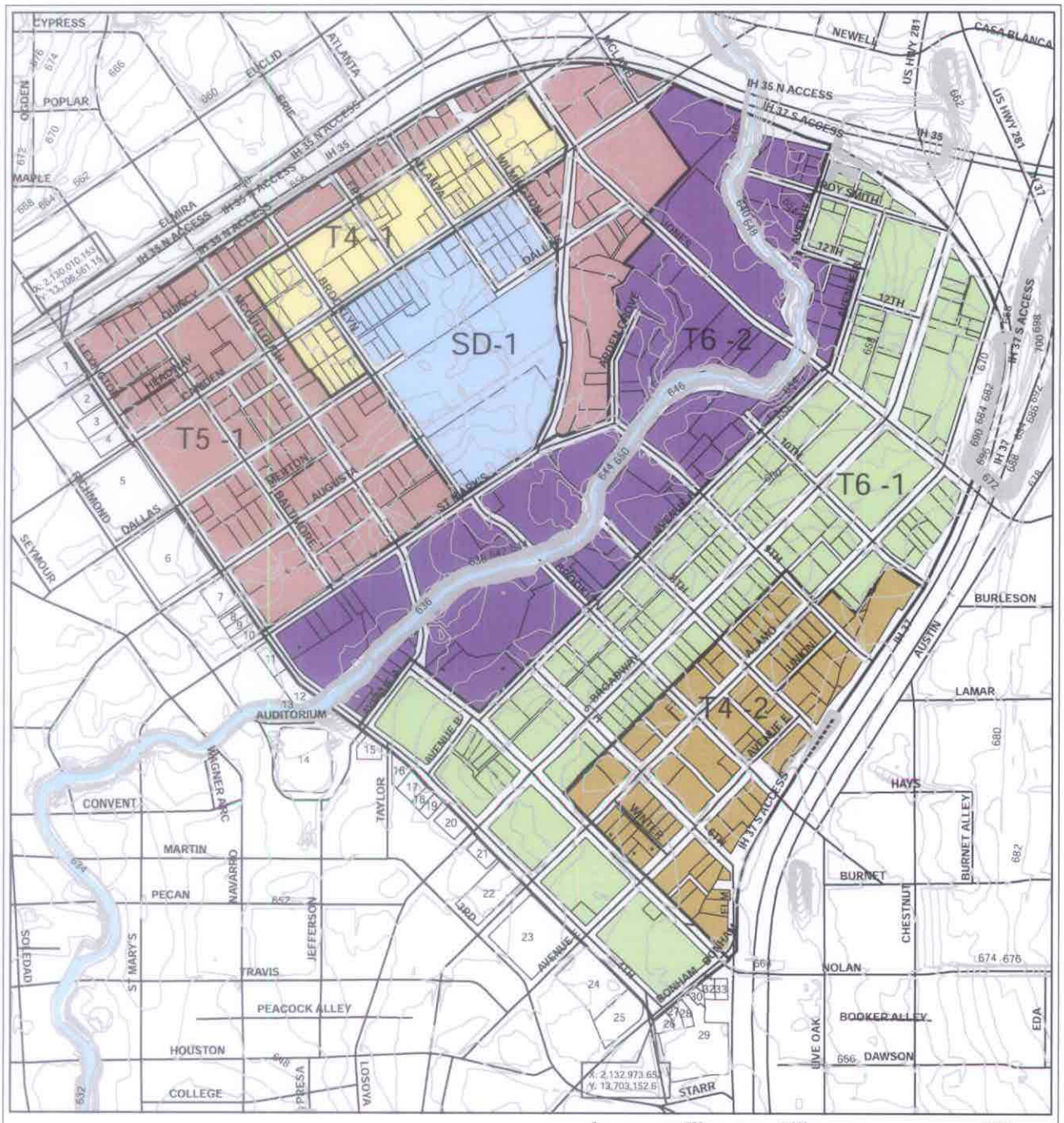
T6 -2	River North Center	71.37	24
SD -1	Specialized District	24.24	8

River North Zoning Site Plan



0 500 1,000 2,000 Feet

= 2 foot contours

SCALE 1" = 500'

Location Map

Not to Scale

Adjacent Landowners

1. VHS San Antonio Partners LP
   Attn Kelvin Ault
   20 Burton Hills Blvd Ste 100
   Nashville, TN 37215
2. Madison SQ Presby Church
   319 Camden
   San Antonio, TX 78215
3. Madison SQ Presby Church
   319 Camden
   San Antonio, TX 78215
4. Madison SQ Presby Church
   319 Camden
   San Antonio, TX 78215
5. City Of San Antonio
   PO Box 839975
   San Antonio, TX 78283
6. Cadillac Lofts LLC
   215 W Travis St
   San Antonio, TX 78205
7. Berlow Lumber Company
   215 W Travis St
   San Antonio, TX 78205
8. 211 Lexington LLC
   Betty Scott Settlemeyer
   31525 Post Oak Trl
   Fair Oaks Ranch, TX 78015
9. 207 Lexington LLC
   Betty Scott Settlemeyer
   31525 Post Oak Trl
   Fair Oaks Ranch, TX 78015
10. 833 N St Marys LLC
    David Vernon Scott
    5311 Beri Hur St
    San Antonio, TX 78229
11. Ed & Jutta Beck
    249 W Sunset Rd
    San Antonio, TX 78209
12. Ed & Jutta Beck
    249 W Sunset Rd
    San Antonio, TX 78209
13. City Of San Antonio
    PO Box 839975
    San Antonio, TX 78283
14. Bexar County Performing Arts
    Center Foundation
    700 N Saint Mary St Ste 125
    San Antonio, TX 78205
15. John Sheridan
    151 South Birch St
    Denver, CO 80246
16. First Baptist Church of San Antonio
    515 Mc Cullough
    San Antonio, TX 78215
17. First Baptist Church of San Antonio
    515 Mc Cullough
    San Antonio, TX 78215
18. First Baptist Church of San Antonio
    515 Mc Cullough
    San Antonio, TX 78215
19. First Baptist Church of San Antonio
    515 Mc Cullough
    San Antonio, TX 78215
20. Taylor Street Venture LP Cross & Co
    100 Sandau Rd. Ste. 300
    San Antonio, TX 78216
21. Ithaca Investments Ltd
    4515 San Pedro
    San Antonio, TX 78212
22. Hearst Newspapers Prtnrship
    Comptroller Office
    PO Box 2171
    San Antonio, TX 78297
23. Hearst Newspapers Prtnrship
    Comptroller Office
    PO Box 2171
    San Antonio, TX 78297
24. San Antonio Scottish Rite
    Library & Museum Inc.
    308 Avenue E
    San Antonio, TX 78205
25. HPTMI Corp % Marriott Buss
    Svcs Prop Tax Dept
    PO Box 579
    Louisville, TN 37777
26. HG Parking Lot Corp
    300 East Express Way 83
    Mcallen, TX 78503
27. Lansdowne Investments Ltd
    118 Broadway St. Ste. 324
    San Antonio, TX 78205
28. Lansdowne Investments Ltd
    118 Broadway St. Ste. 324
    San Antonio, TX 78205
29. Gi San Antonio LP Evans & Petree PC
    PO Box 771020
    Memphis, TN 38177
30. Tony Davila
    520 Bonham
    San Antonio, TX 78205
31. Edgar & Maxine Markwardt
    200 Alameda Cir
    San Antonio, TX 78212
32. Tony Davila
    520 Bonham
    San Antonio, TX 78205
33. Tom Baldwin
    2211 NW Military Hwy Ste 210
    San Antonio, TX 78213

RIVER NORTH

Master Development Pattern Plan - MDPP 007-10

Site Conditions

May 27, 2010

PLANNER

City of San Antonio
Planning and Development Services Department
Land Entitlements
1901 S. Alamo
San Antonio TX, 78204

Transportation Design Plan

RIVER NORTH

San Antonio, Texas

Prepared by:

City of San Antonio
Dept. of Public Works
Transportation Planning & Engineering Division
191 S. Alamo, 2nd Floor
San Antonio, TX 78283-3966

Pape-Dawson Engineers
555 East Ramsey
San Antonio, TX 78216

June 3, 2010

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2. Existing Condition

3. Future Condition

4. Conclusions and Recommendations

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Table 2: Trip Generation of Existing Properties to be Redeveloped

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Table 4: Scenario 1B Level of Service Results – Signalized Intersections

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Table 7: AM & PM Peak Hour Turning Movement Counts

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Figure 1: River North Through Traffic Volumes

Figure 2: High school and AT&T Office Towers Traffic

Figure 3: High school and AT&T Office Towers Traffic Inset

Figure 4: Broadway Proposed Lane Configuration

Figure 5: River North TMC Locations

Figure 6: River North 24-Hr Traffic Counts

Figure 7A: AM Proposed LOS Exhibit

Figure 7B: PM Proposed LOS Exhibit

Figure 8: River North Street Cross-Section (1 of 3)

Figure 9: River North Street Cross-Section (2 of 3)

Figure 10: River North Street Cross-Section (3 of 3)

Figure 11: River North Traffic Recommendations

APPENDIX

RIVER NORTH Traffic Study (Pape-Dawson Dated April 2010)

STREET NETWORK GUIDELINES

Interdisciplinary approach to street design. Throughout history the street has been one of the primary open spaces of any town or city where one could observe and experience the unfolding of community life. The street serves both individual and collective needs – needs to be together or to have a private moment. Until recently, the primary determinant of their make up has been a continuous facilitation of public life based primarily on pedestrian speed and scale. Streets also serve as primary traffic channels as well as places to run wires, pipes, and infrastructure in general. Their design varies from place to place and changes over time in order to accommodate the changing society, technological advances, different transportation means, climatic conditions, orientation, and so on. It could be said that the street is indeed a complex system serving a complex set of needs.

Sustainable design concerns have created new and multiple demands on the street space. We see these demands as an opportunity to look at the street design from an ever more systemic point of view. Sustainable design concerns and an integrative approach to design at different scales and levels of complexity are beginning to suggest some new roles for the street space.

This Chapter identifies the various street types recommended to assemble the street network for the plan area.

The purpose of these guidelines is to:

a. provide guidelines with which to modify existing streets, if proposed for change,
b. provide guidelines with which to maintain existing streets not proposed to change,
c. provide connections from street level to River Walk level.

PROJECT DESCRIPTION

With the recent completion of the Museum Reach portion of the Riverwalk, the proposed Tax Increment Reinvestment Zone (TIRZ) and proposed zoning changes, the River North District is expected to undergo substantial redevelopment in the coming years. As new developments are constructed in the River North District, it is important that the street network be able to accommodate the expected increase in traffic, as well as be compatible with other modes of transportation such as pedestrians and transit. The River North District Master Plan calls for mixed-use development that encourages pedestrian traffic, use of public transit, and compatible commercial development. These objectives are met through zoning and standards that provide for on-street

parking, minimum building setbacks, higher densities, and pedestrian features such as curb extensions, street trees, and wider sidewalks. Access to public transportation and the encouragement of transit-oriented development are key components of the Master Plan. Street cross-sections were developed to accommodate proposed VIA Street Car lines, bus routes, pedestrians, bicyclists as well as passenger cars. The features of the River North District Master Plan were included in this analysis of the street network following redevelopment. The River North District analyzed in this study consisted of the area generally bounded by IH-37, IH-35, and Lexington in the northeast corner of the Central Business District. Refer to **Figure A**: Study Area.

EXISTING CONDITION

A Synchro model of the existing street network was prepared to analyze the impact of the River North Master Plan Development on the area traffic operations. Available existing traffic volumes at signalized intersections were used in the study. The volumes at unsignalized intersections were estimated based on a comparison of traffic volumes at adjacent intersections and the identified volume imbalances. The existing traffic volumes, street geometry, and intersection traffic controls were used to establish the level-of-service (LOS) and capacities for the River North study intersections using Synchro Refer to **Figures 1 – 6 and Table 7.**.

FUTURE CONDITION – SCENARIO 1B DEVELOPMENT

Trip Generation – Scenario 1B

Traffic volumes in the River North District will increase as the area is redeveloped. The source of the traffic generated within the River North District is a combination of existing land uses and proposed developments. The amount of traffic generated by the proposed River North Master Plan is dependent upon the land uses and sizes of each development. The River North District Master Plan appendices contain projections for sizes and types of land uses that are anticipated. The traffic generated by the proposed land uses was calculated using statistical data contained in the *ITE Trip Generation 8th Edition*. Development Scenario 1B from the River North Master Plan was used for this study because it was determined to have the highest total trip generation. **Table 1** provides the trips generated by River North Master Plan Scenario 1B. The total trip generation represents the future volumes anticipated in the River North District once redevelopment is completed.

Table 1: Trip Generation of Scenario 1B – Proposed Development

ITE Code	Land Use	Var.	Size	Trip Generation Rates					Trips				
				AM Pk Hour		PM Pk Hour		Daily	AM Pk Hour		PM Pk Hour		Daily
				Enter	Exit	Enter	Exit		Enter	Exit	Enter	Exit	
223	Mid-Rise Apartment	DU	6172	0.10	0.25	0.26	0.18	4.18	617	1543	1605	1111	**25,799**
710	General Office	TGFA	791.7	1.36	0.19	0.25	1.24	11.01	1077	150	198	982	**8,717**
820	Shopping Center	TGLA	281.4	0.61	0.39	1.83	1.9	42.94	172	110	515	535	**12,083**
310	Hotel	Rooms	400	0.34	0.22	0.31	0.28	14.34	136	88	124	112	**5,736**
	TOTAL								**3893**		**5182**		**52,335**

River North District Master Plan Projected Volumes – Scenario 1B

A number of steps were taken in order to develop the future projected volumes for the River North District:

- The traffic generated by existing properties to be redeveloped was identified, as shown in **Table 2**, and subtracted from the volumes in **Table 1.** The resulting trip generation values in **Table 2** represent the future volumes anticipated in the River North District due to the Scenario 1B Plan.

- Through traffic or trips passing through the River North area were identified and are shown in **Figure 1**. Through traffic was assumed to travel primarily on Broadway, McCullough and Quincy and was assumed to remain at current levels. The through trips were identified by subtracting turning volumes from roadway volumes at the study area boundaries. The through trips were removed from the existing volumes to better represent existing traffic with origins or destinations in the River North District.

- Trip generation was calculated for the existing AT&T office towers, Central Catholic High School, and Providence High School based on the enrollment at the High Schools, and the estimated size of the office towers. The trip generation for these land uses is shown in **Table 3.** These uses are existing major traffic generators located on the west side of the River North District and are not expected to change as part of the River North District Master Plan. Traffic destined to and from these uses typically utilizes McCullough, Brooklyn, St. Mary's, and Quincy. A portion of these trips were subtracted from the existing volumes on the roadways identified above to better represent the River North Area traffic that would be

likely to change due to the Scenario 1B Plan. The trips removed for the High Schools and AT&T offices are shown in **Figures 2 and 3.**

- The remaining traffic volumes represent the existing volumes in the River North District that are most likely to be increased due to the Scenario 1B Plan. These remaining volumes were expanded by applying a growth factor to reach the nominal level of the total inbound and outbound volumes at the River North District boundaries.
- The through traffic and the traffic associated with the existing schools and AT&T Office Towers were combined with the expanded volumes to develop the total projected River North District Redevelopment volumes. These volumes were used in the Synchro model along with street characteristics and transit usage in the corridor. The model was used to evaluate intersection operation and to identify potential issues with the street cross-sections proposed in the River North District Master Plan.

Table 2: Trip Generation of Existing Properties to be Redeveloped

ITE Code	Land Use	Var.	Size	Trip Generation Rates					Trips				
				AM Pk Hour		PM Pk Hour		Daily	AM Pk Hour		PM Pk Hour		Daily
				Enter	Exit	Enter	Exit		Enter	Exit	Enter	Exit	
710	General Office	TGFA	360.6	1.36	0.19	0.25	1.24	11.01	490	69	90	447	**3,971**
820	Shopping Center	TGLA	360.6	0.61	0.39	1.83	1.9	42.94	220	141	660	685	**15,485**
	TOTAL								**920**		**1882**		**19,456**

Table 3: Trip Generation of the Existing High Schools and AT&T Office Towers

ITE Code	Land Use	Var.	Size	Trip Generation Rates					Trips				
				AM Pk Hour		PM Pk Hour		Daily	AM Pk Hour		PM Pk Hour		Daily
				Enter	Exit	Enter	Exit		Enter	Exit	Enter	Exit	
530	High School (Central Catholic)	Students	560	0.29	0.13	0.06	0.07	1.71	162	73	34	39	**958**
530	High School (Providence)	Students	400	0.29	0.13	0.06	0.07	1.71	116	52	24	28	**684**
714	Headquarter Office	TGFA	604.4	1.39	0.10	0.14	1.26	7.98	840	60	85	762	**4,823**
	TOTAL								**1303**		**972**		**6,465**

Public Transit

Another important aspect of the River North District Master Plan is the proposed VIA Streetcar system. The streetcar will run along Broadway and connect neighborhoods within the River North District, as well as provide access to Downtown and the Pearl Brewery area.
The streetcar is currently planned to run in the curb lanes of Broadway, and is expected to have stops at McCullough Avenue, Brooklyn Avenue, 9th Street, Jones Avenue, and Roy Smith Street. Headways are expected to be 10 minutes. The Synchro model was updated to account for potential blockages at these intersections due to the streetcar operation. The River North District Master Plan assumed that the streetcar would run southbound on Broadway and northbound on Avenue B. However, VIA Metropolitan Transit current plans identify the streetcar as traveling in both directions on Broadway in the curb lanes. A sketch of the proposed configuration for Broadway is shown in **Figure 4.** It is important to note that the streetcar stations and alignments are preliminary and subject to change.

No mode split was applied to the trip generation to account for streetcar, bus or pedestrian transportation. However, data from the 2000 census tabulated by the City of Ann Arbor, Michigan identifies commuter trip mode splits for 25 cities with populations over 70,000. Generally, bus usage ranged from 10% to 20% while walking to work accounted for 8 % to 24 %. We expect a reduction in vehicle trips due to the implementation of the streetcar system, access to bus service, incorporation of pedestrian/bicycle features and the construction of higher density mixed-use developments.

Traffic Analysis – Scenario 1B

According to the River North Master Plan, the highest density developments are expected to occur along Broadway and Avenue B. Therefore, a large portion of the proposed River North traffic is expected to utilize Broadway. However, Broadway will continue to carry a higher percentage of through traffic compared with the other roadways in the River North District.
As stated previously, the River North District Master Plan also includes changes to the street network such as the addition of on-street parking, lane reductions, and bulb outs at intersections to accommodate pedestrians. These changes were incorporated into the River North Synchro model.

Capacity analyses of the signalized and unsignalized intersections were performed for the AM and PM peak hours for the Existing Condition and the Future Condition which represents the ultimate redevelopment of the River North District based on Scenario 1B. The Levels of Service (LOS) for the signalized intersections in the AM and PM peak hours are shown in **Table 4.**

Table 4: Scenario 1B Level of Service Results – Signalized Intersections

	AM Peak Hour		PM Peak Hour	
Intersection	Existing	Future[1]	Existing	Future[1]
Camden & Lexington	A	A	A	B
Camden & McCullough	A	B	A	B
Camden & Brooklyn	B	C	B	B
Augusta & McCullough	B	A	A	B
St Mary's & Lexington	B	B	A	B
St Mary's & McCullough	B	C	B	C
St Mary's & Brooklyn	C	C	C	C
Quincy & St Mary's	A	A	A	A
Camden & St Mary's	C	C	C	C
4th & Broadway	A	B	B	C
McCullough & Broadway	**E**	C	**D**	**D**
6th & Broadway	A	A	A	A
Brooklyn & Broadway	**D**	**E**	C	B
8th & Broadway	A	A	A	A
9th & Broadway	A	A	A	A
E Jones & Broadway	B	B	B	C
McCullough & Alamo	B	B	**F**	**F**
Brooklyn & Alamo	B	C	B	B
Quincy & Lexington	B	B	B	B
Quincy & McCullough	B	B	C	**D**
Quincy & Brooklyn	B	B	B	C

[1] River North District Master Plan Scenario 1B

The capacity analysis for the River North redevelopment included retiming of the signalized intersections to optimize the signal operations for the proposed volumes. With signal retiming, the proposed Levels of Service are similar to the Existing Condition results in the AM and PM peak hours. The unsignalized intersections generally operate at acceptable Levels of Service with the proposed volumes. Some intersections do show poor levels of Service on some approaches, such as Dallas at McCullough, but given the high level of connectivity of the street network within the River North District, it is likely traffic would use alternate routes as delays increase at any specific intersection. Refer to **Figures 7A & 7A**.

Mitigation Improvements – Scenario 1B

The intersections of McCullough at Broadway and McCullough at Alamo display poor Levels of Service. Broadway and McCullough are currently the highest

volume streets in the River North District, and their traffic volumes will continue to increase with the redevelopment of the area. McCullough and Brooklyn both provide direct access to IH-35 and IH-37 and, as such, will continue to carry high volumes of River North and Downtown destination traffic. Opportunities to provide wayfinding signage to and from the River North District should be investigated to improve circulation. Refer to **Figure 11**.

Currently, on-street parking is allowed along McCullough between Alamo and Broadway and the River North Master Plan retains the on-street parking. However, we recommend that parking be prohibited on McCullough between Avenue B, (west of Broadway), and Avenue E (east of Alamo) in order to meet the increased traffic demand. Removal of the on-street parking will allow the section between Alamo and Broadway to be striped for four lanes. The intersection operations will improve to LOS C or better at both intersections. Refer to **Figure 11**.

The intersection of Brooklyn and Broadway will operate at a LOS E in the AM peak hour. The addition of a dedicated westbound left-turn lane on Brooklyn will improve the intersection to LOS C. However, parking will need to be removed on one or both sides of Brooklyn east and west of the intersection with Broadway in order to accommodate the left-turn lane and the transition area. Refer to **Figure 11**.

The intersection of Quincy and McCullough will operate at a LOS D during the PM peak hour. Adding a dedicated northbound left-turn lane on Quincy will improve the operation to a LOS C. However, this improvement would require the removal of on-street parking on Quincy south of McCullough to provide space for the left-turn lane. Refer to **Figure 11**.

FUTURE CONDITION - ALTERNATIVE DEVELOPMENT SCENARIO

As shown in **Table 1**, the majority of trips generated by the proposed River North District Master Plan Scenario 1B are from residential land uses. The Mid-Rise Apartments land use category (ITE Code 223) was selected as the most appropriate to calculate the residential trip generation based on the high density character assumed and the description of potential land uses provided in the River North Master Plan. The Mid-Rise Apartment land use trip generation rates are approximately 40 percent lower than the rates for the standard Apartment land use (ITE Code 220). According to the *ITE Trip Generation, 8th Ed*, the data used to develop the rates for the Mid-Rise Apartment land use were recorded at locations in Maryland near Washington D.C. This region typically has higher levels of multimodal transportation use compared with San Antonio, and this is a likely reason for the lower trip generation rates. Using trip generation rates for a land use with access to alternative modes of transportation is valid for the River

North District given the proposed streetcar system and the emphasis on pedestrian and bike features. However, it is not typical for other areas of San Antonio where individual vehicles are the predominant mode of transportation.
To promote alternative modes of transportation within the River North District, the land uses must be compatible with the other forms of transportation. While many people might use the streetcar to travel from their residence to place of work in different parts of the River North District, the streetcar will not provide a direct connection with most outer areas of San Antonio. The success of the River North District Master Plan and the VIA Streetcar system are dependant upon transient-oriented or mixed-use developments. These types of developments are compatible with public transportation and promote walkability and biking. They allow for people to live, work and shop within the River North District and utilize the streetcar, pedestrian, and bicycle facilities as their modes of transportation instead of relying solely on the automobile. One of the benefits of mixed-use and transit-oriented developments is a reduction in automobile traffic.

Trip Generation – Alternative Development Scenario

An Alternative Development Scenario was evaluated to illustrate the importance of mixed use developments to reduce traffic on the street network. **Table 5** contains the trip generation for the Alternative Development Scenario.

Table 5: Trip Generation – Alternative Development Scenario

				Trip Generation Rates					Trips				
				AM Pk Hour		PM Pk Hour		Daily	AM Pk Hour		PM Pk Hour		Daily
ITE Code	Land Use	Var.	Size	Enter	Exit	Enter	Exit		Enter	Exit	Enter	Exit	
221	Low-Rise Apartment	DU	101	0.1	0.36	0.38	0.2	6.59	10	36	38	20	**666**
223	Mid-Rise Apartment	DU	1528	0.1	0.25	0.26	0.18	4.18	153	382	397	275	**6,387**
710	General Office	TGFA	888.3	1.36	0.19	0.25	1.24	11.01	1208	169	222	1101	**9,780**
820	Shopping Center	TGLA	1567	0.61	0.39	1.83	1.9	42.94	956	611	2867	2977	**67,269**
	TOTAL								**3525**		**7897**		**84,102**

This scenario assumes development of the River North District with a high percentage of commercial land uses rather than a balanced mix with residential. General Office and Retail land uses were assumed with no reductions applied for multimodal transportation. This scenario assumes all trips generated by the new River North developments will be from outside the River North District. The trip generation for the Alternative Development Scenario is 84,102 daily trips. This is over 60% higher than the daily trips for Scenario 1B which incorporates higher density residential use mixed with commercial. If the River North District were developed with primarily commercial uses in the typical manner that relies on

automobile transportation, the traffic generated would be significantly higher than what is being proposed.

Traffic Analysis – Alternative Development Scenario

As can be seen in **Table 6**, the traffic generated by this Alternative Development Scenario will result in poor Levels of Service at many River North area intersections in the PM peak hour. This predominantly commercial land use scenario is not identified as a possibility in the River North District Master Plan, but it demonstrates the negative impact associated with developments that rely on automobile transportation. The operation of the street network is directly affected by the type and character of the land uses if they are not compatible with the alternative forms of transportation proposed for the River North District.

Table 6: Alternative Development Scenario Level of Service Results - Signalized Intersections

	PM Peak Hour	
Intersection	Existing	Future
Camden & Lexington	A	B
Camden & McCullough	A	**E**
Camden & Brooklyn	B	**D**
Augusta & McCullough	A	C
St Mary's & Lexington	A	C
St Mary's & McCullough	B	**D**
St Mary's & Brooklyn	C	**D**
Quincy & St Mary's	A	A
Camden & St Mary's	C	C
4th & Broadway	B	**F**
McCullough & Broadway	**D**	**F**
6th & Broadway	A	A
Brooklyn & Broadway	C	**F**
8th & Broadway	A	A
9th & Broadway	A	A
E Jones & Broadway	B	**F**
McCullough & Alamo	**F**	**F**
Brooklyn & Alamo	B	B
Quincy & Lexington	B	B
Quincy & McCullough	C	**F**
Quincy & Brooklyn	B	**F**

CONCLUSIONS AND RECOMMENDATIONS

The traffic generated by the proposed development identified in the River North Master Plan will result in an increase in traffic throughout the River North District. However, the Synchro analysis results for the Future Condition show that with a few exceptions, the signalized intersections will operate at a Level of Service comparable to the Existing Condition by simply retiming the signals. Signal timing studies should be performed in the River North District as redevelopment occurs to maintain efficient signal operation as the traffic volumes increase. Only one intersection will experience a LOS F for the Future Condition – McCullough and Alamo. Improvements can be implemented at this intersection and several others with LOS D or E. The addition of left- or right-turn lanes will result in a LOS C or better but at the expense of on-street parking. These on-street parking restrictions can be implemented, as-needed.

As traffic volumes increase in the River North District due to redevelopment, some unsignalized intersections may require a traffic signal. Signal Warrant Studies should be performed for key unsignalized intersections on an as-needed basis.

The River North Traffic Study should be updated periodically on an as-needed basis as development in the River North District occurs. Changes in traffic patterns and land use assumptions should be incorporated in the analysis and the results evaluated to update or modify key recommendations.

The trip generation was based on the Scenario 1B developments outlined in the Appendices of the River North District Master Plan, which assumes a mix of land uses compatible with alternative modes of transportation such as walking, biking, and utilizing public transit. Developments incompatible with these modes of transportation may result in significantly higher traffic volumes than projected as demonstrated by the results of the Alternative Development Scenario. The success of the River North District Master Plan will be dependent upon the mix of compatible land uses that are developed, in conjunction with the character of the streetscape, convenient access to public transit, and the provision of pedestrian and bicycle features that encourage walking and biking. Mixed Use developments and the use of alternative modes of transportation are necessary for efficient traffic operations in the River North District, and this should be achievable following the guidelines outlined in the River North District Master Plan. Careful consideration of the effects of deviation from the guidelines should be evaluated prior to approval.

Recommended Street Network Guidelines for the street network within the River North Master Plan are defined in **Figures 8 – 10 and Figure 12**.

FIGURE A: STUDY AREA

PAPE-DAWSON ENGINEERS

LEGEND

← AM (PM) TURNING VOLUMES BY ARROW DIRECTION

N

SCALE = 1":500'

0' 250' 500'

PAPE-DAWSON ENGINEERS

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TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 470

RIVER NORTH

FIGURE 1: RIVER NORTH THROUGH TRAFFIC VOLUMES

% SUBMITTAL	PROJECT NO.:		DATE: 3/31/2010
DRWN BY: CV	DSGN BY: DM	CHKD BY:	SHEET NO.:

Plotted on: 3/31/2010

Design File name: P:\74\39\03\exhibits\through Volume exhibit no lexington.dgn

LEGEND

← AM(PM) TURNING VOLUMES BY ARROW DIRECTION

N

SCALE = 1":400'

0' 200' 400'

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RIVER NORTH

FIGURE 2: HIGHSCHOOL AND AT&T OFFICE TOWERS TRAFFIC

% SUBMITTAL	PROJECT NO.:		DATE: 4/1/2010
DRWN. BY: CV	DSGN. BY: DM	CHKD. BY:	SHEET NO.:

Plotted on: 4/1/2010

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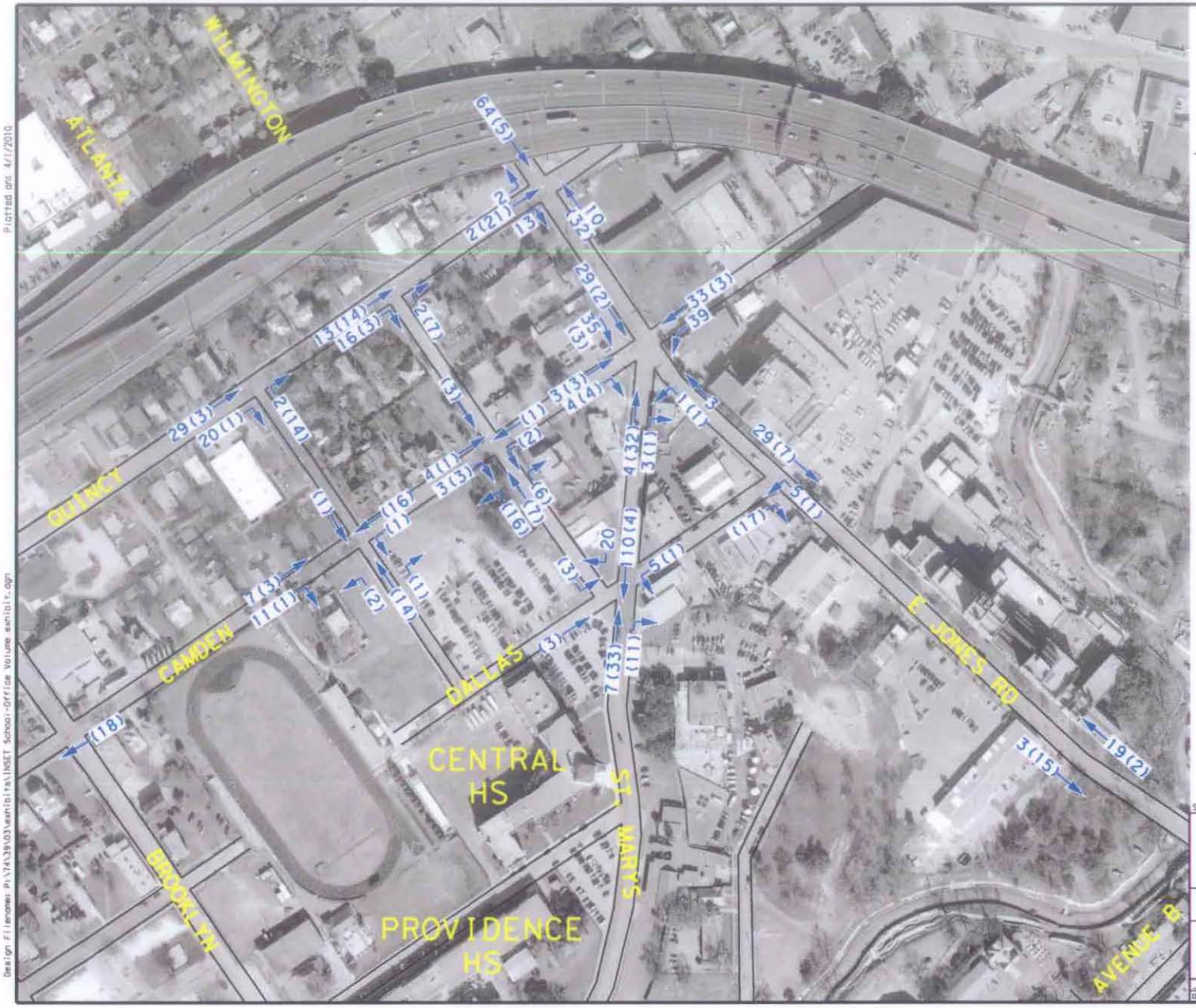

LEGEND

← AM(PM) TURNING VOLUMES BY ARROW DIRECTION

N

SCALE = 1":200'

0' 100' 200'

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RIVER NORTH

FIGURE 3: HIGHSCHOOL AND AT&T OFFICE TOWERS TRAFFIC INSERT

% SUBMITTAL	PROJECT NO.:		DATE: 4/1/2010
DRAWN BY: EV	DESIGN BY: DH	CHKD. BY:	SHEET NO.:

Plotted on: 4/1/2010

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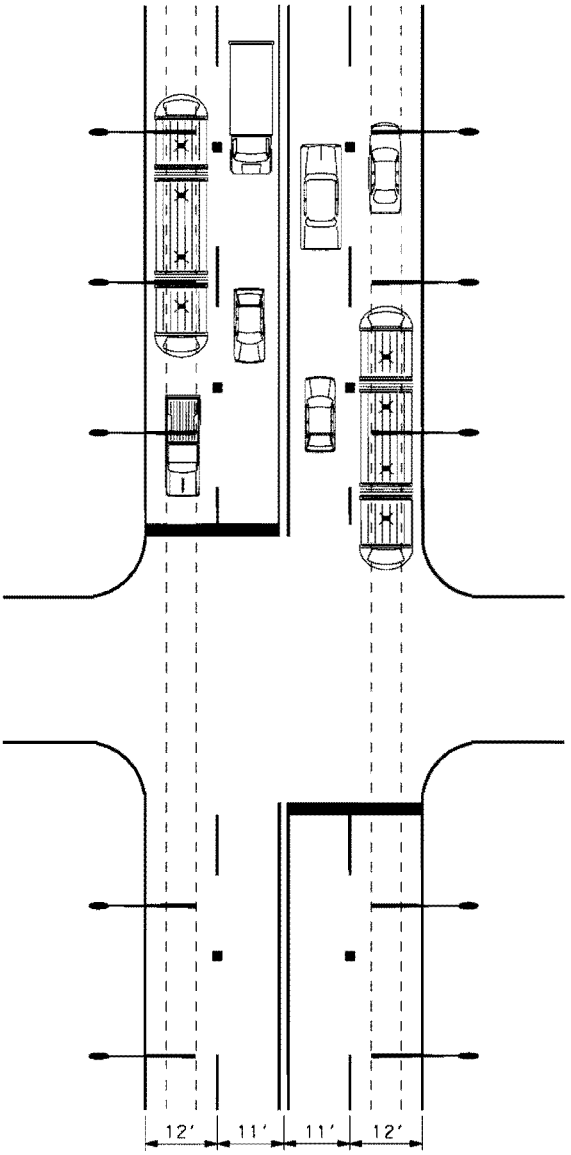

RIVER NORTH
FIGURE 4: BROADWAY
PROPOSED LANE CONFIGURATION

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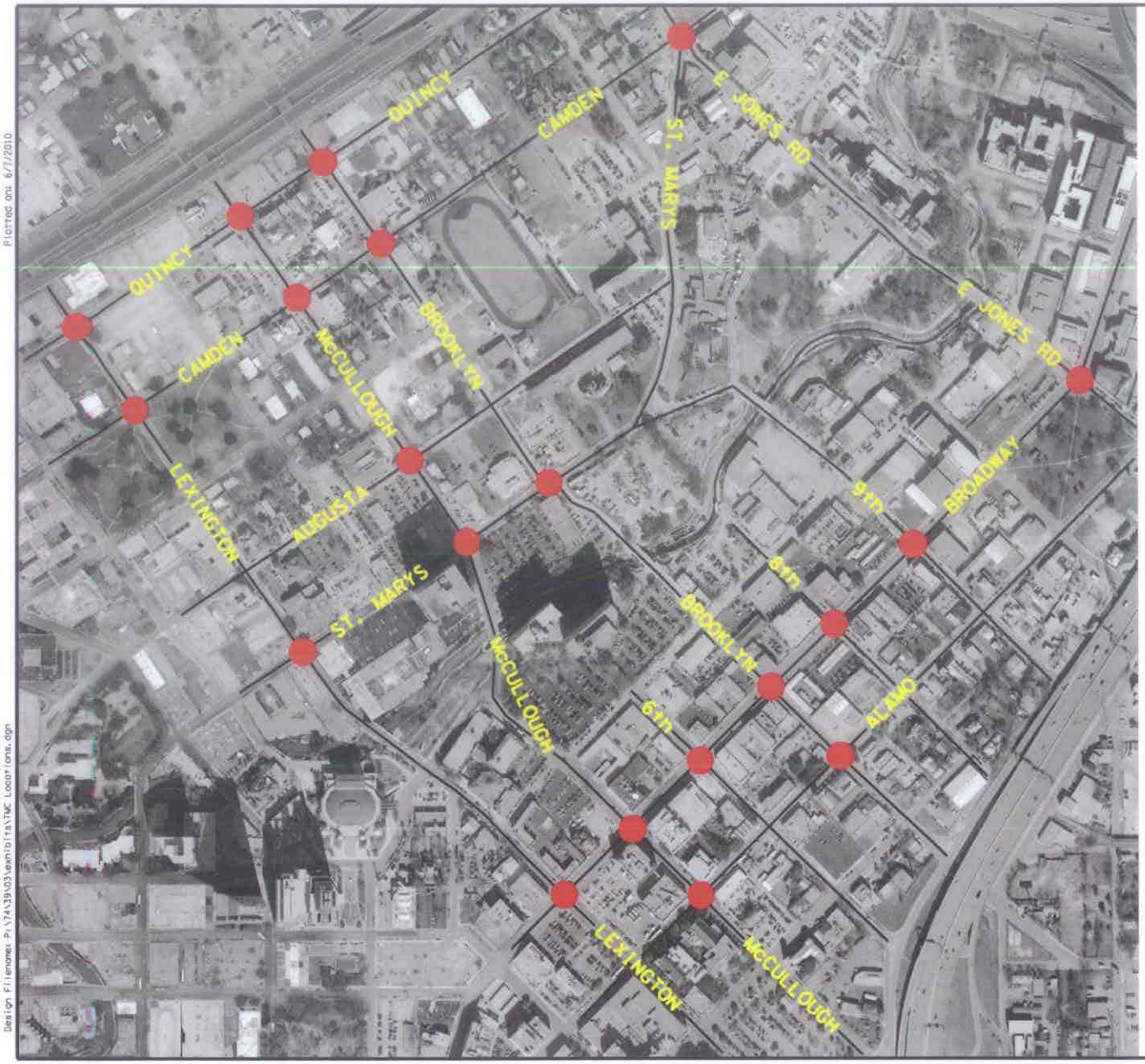

LEGEND

TMC LOCATION

N

0' 200' 400'

SCALE = 1"=400'

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RIVER NORTH

FIGURE 5: TMC LOCATIONS

% SUBMITTAL	PROJECT NO.:		DATE: 6/7/2010
DRAWN BY: CV	DSGN. BY: CM	CHKD. BY:	SHEET NO.:

Plotted on: 6/7/2010

Design Filename: P:\74\39\03\exhibits\TMC Locations.dgn

TABLE 7

Intersection			AM Peak Hour Turning Movement Count (veh)											
			EB			WB			NB			SB		
	E-W Street	N-S Street	L	T	R	L	T	R	L	T	R	L	T	R
	Camden	Lexington	5	46	6	10	130	30	7	53	3	8	150	37
	Camden	McCullough	10	25	9	9	57	18	5	212	3	21	802	165
	Camden	Brooklyn	11	39	7	13	52	134	4	216	27	164	211	17
	Augusta	McCullough	18	6	6	3	20	13	28	200	2	21	627	110
	St Mary's	Lexington	7	118	7	19	395	11	31	73	14	6	76	61
	St Mary's	McCullough	40	85	17	28	175	27	12	184	17	29	341	238
	St Mary's	Brooklyn	17	102	17	13	152	21	33	59	54	133	90	35
	4th	Broadway	12	41	15	11	85	45	9	245	9	30	793	75
	McCullough	Broadway	32	105	68	58	228	37	20	255	38	37	797	54
	6th	Broadway	5	2	5	1	6	10	12	259	8	15	852	25
	Brooklyn	Broadway	25	51	14	131	250	21	16	244	14	11	829	42
	8th	Broadway	1	2	2	4	16	8	14	267	13	19	913	14
	9th	Broadway	11	5	8	9	17	8	12	241	8	9	888	27
	Jones	Broadway	20	29	16	32	59	17	2	245	10	2	936	34
	McCullough	Alamo	0	165	10	27	280	17	14	55	15	8	59	22
	Brooklyn	Alamo	9	52	9	48	385	49	12	48	6	6	41	5
	Quincy	Lexington	33	289	57	0	0	0	0	48	22	42	199	0
	Quincy	McCullough	54	197	31	0	0	0	0	228	17	57	948	0
	Quincy	Brooklyn	94	87	30	0	0	0	0	274	3	68	344	0

E-W Street	N-S Street	NW-SE Street	EB				WB				NB				SB				NWB			
			L	T	R (to SE)	R (to S)	L (to SE)	L (to S)	T	R	L	T	R (to E)	R (to SE)	L (to E)	L (to SE)	T	R	L (to S)	L (to W)	R (to N)	R (to E)
Camden	St Mary's	Jones	4	28	10	38	14	103	100	7	3	55	32	1	11	75	135	35	2	3	47	13

Intersection			PM Peak Hour Turning Movement Count (veh)											
			EB			WB			NB			SB		
	E-W Street	N-S Street	L	T	R	L	T	R	L	T	R	L	T	R
	Camden	Lexington	13	69	11	15	69	29	12	128	6	7	120	15
	Camden	McCullough	39	62	8	12	38	31	7	541	8	16	505	75
	Camden	Brooklyn	29	52	5	3	45	121	8	263	18	34	134	24
	Augusta	McCullough	60	30	10	4	22	24	9	441	8	22	433	50
	St Mary's	Lexington	6	183	18	14	306	8	24	93	16	6	70	36
	St Mary's	McCullough	72	129	24	24	143	51	18	338	24	20	278	130
	St Mary's	Brooklyn	34	112	10	12	141	45	33	127	30	20	97	40
	4th	Broadway	72	102	28	16	53	60	11	707	17	27	448	26
	McCullough	Broadway	42	265	54	17	143	40	34	612	245	45	444	44
	6th	Broadway	11	4	23	3	1	11	4	698	19	23	442	12
	Brooklyn	Broadway	45	109	28	25	62	36	11	696	12	20	444	41
	8th	Broadway	5	22	19	8	1	15	3	735	40	12	471	10
	9th	Broadway	18	14	5	9	9	22	4	746	7	11	495	27
	Jones	Broadway	68	57	29	18	61	31	13	790	32	4	477	32
	McCullough	Alamo	0	507	23	5	132	13	42	82	88	20	55	14
	Brooklyn	Alamo	7	114	13	16	93	9	17	75	18	13	57	11
	Quincy	Lexington	102	342	49	0	0	0	0	126	21	22	84	0
	Quincy	McCullough	148	304	18	0	0	0	0	544	9	23	434	0
	Quincy	Brooklyn	136	202	26	0	0	0	0	431	7	30	219	0

E-W Street	N-S Street	NW-SE Street	EB				WB				NB				SB				NWB			
			L	T	R (to SE)	R (to S)	L (to SE)	L (to S)	T	R	L	T	R (to E)	R (to SE)	L (to E)	L (to SE)	T	R	L (to S)	L (to W)	R (to N)	R (to E)
Camden	St Mary's	Jones	1	12	21	56	10	30	43	7	2	135	31	4	11	67	70	18	1	10	61	4

Figure 6 - River North 24-Hr Traffic Counts

AM Proposed LOS Exhibit

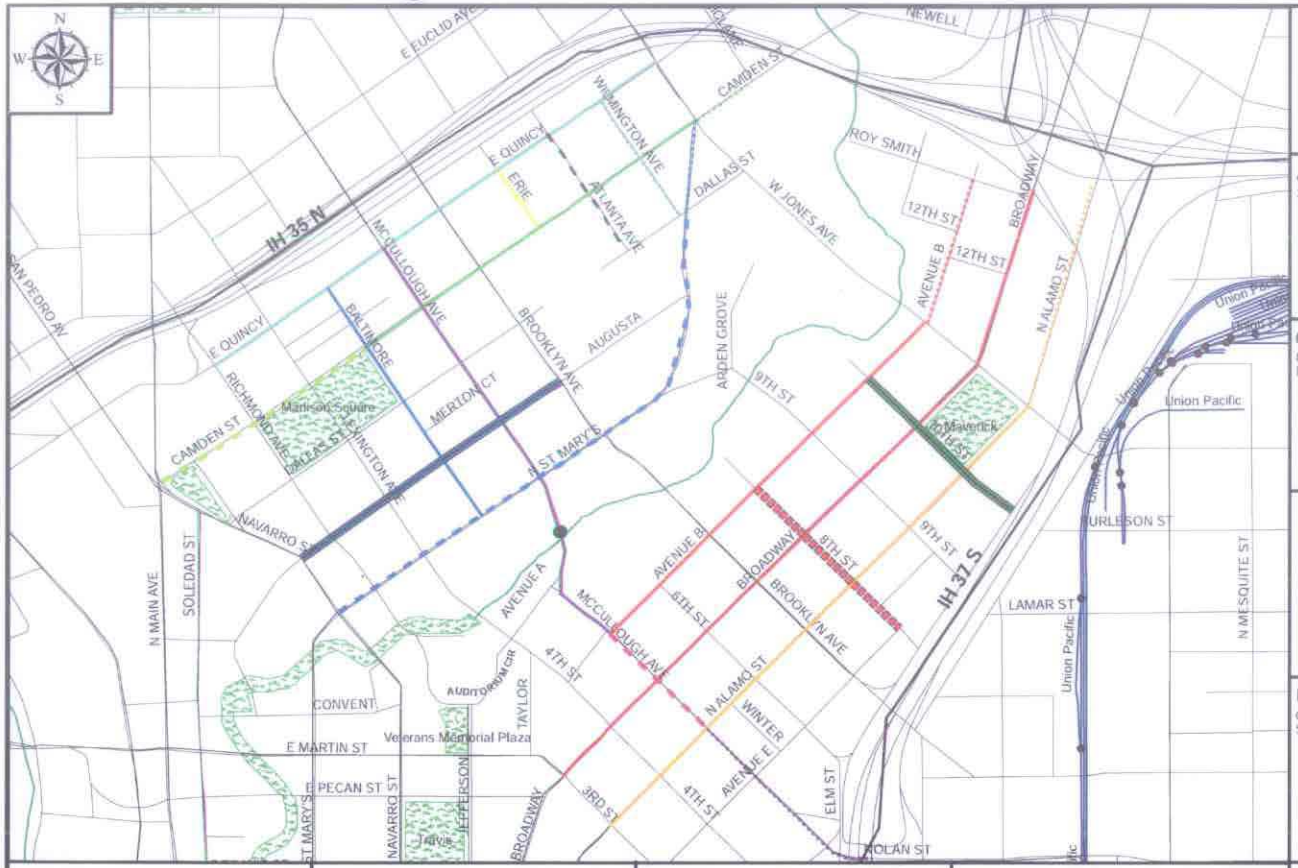
FIGURE 7A

LOS D
LOS E
LOS F

PM Proposed LOS Exhibit

FIGURE 7B

Figure 8 - River North Street Cross-Sections



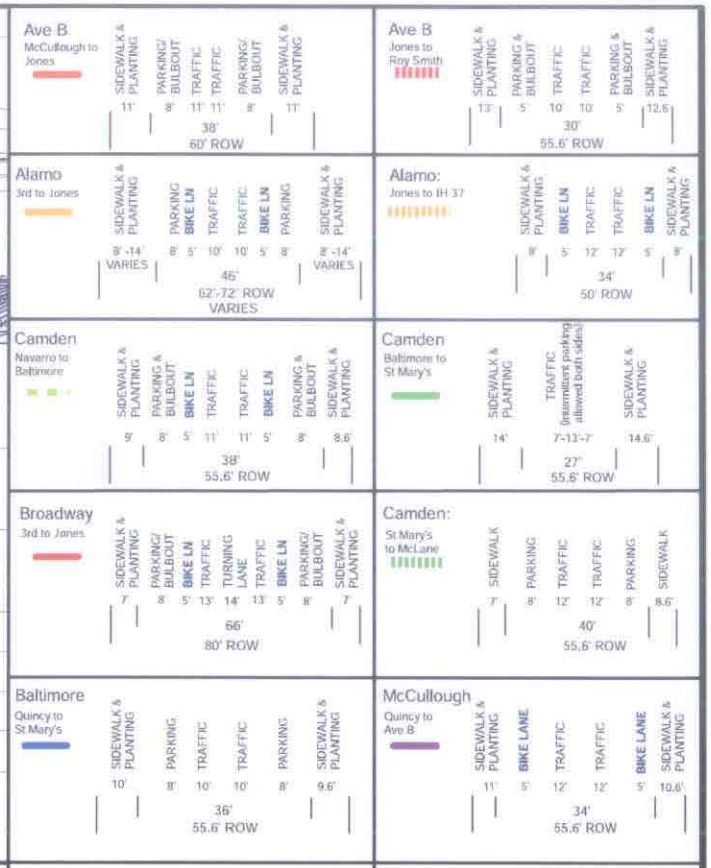
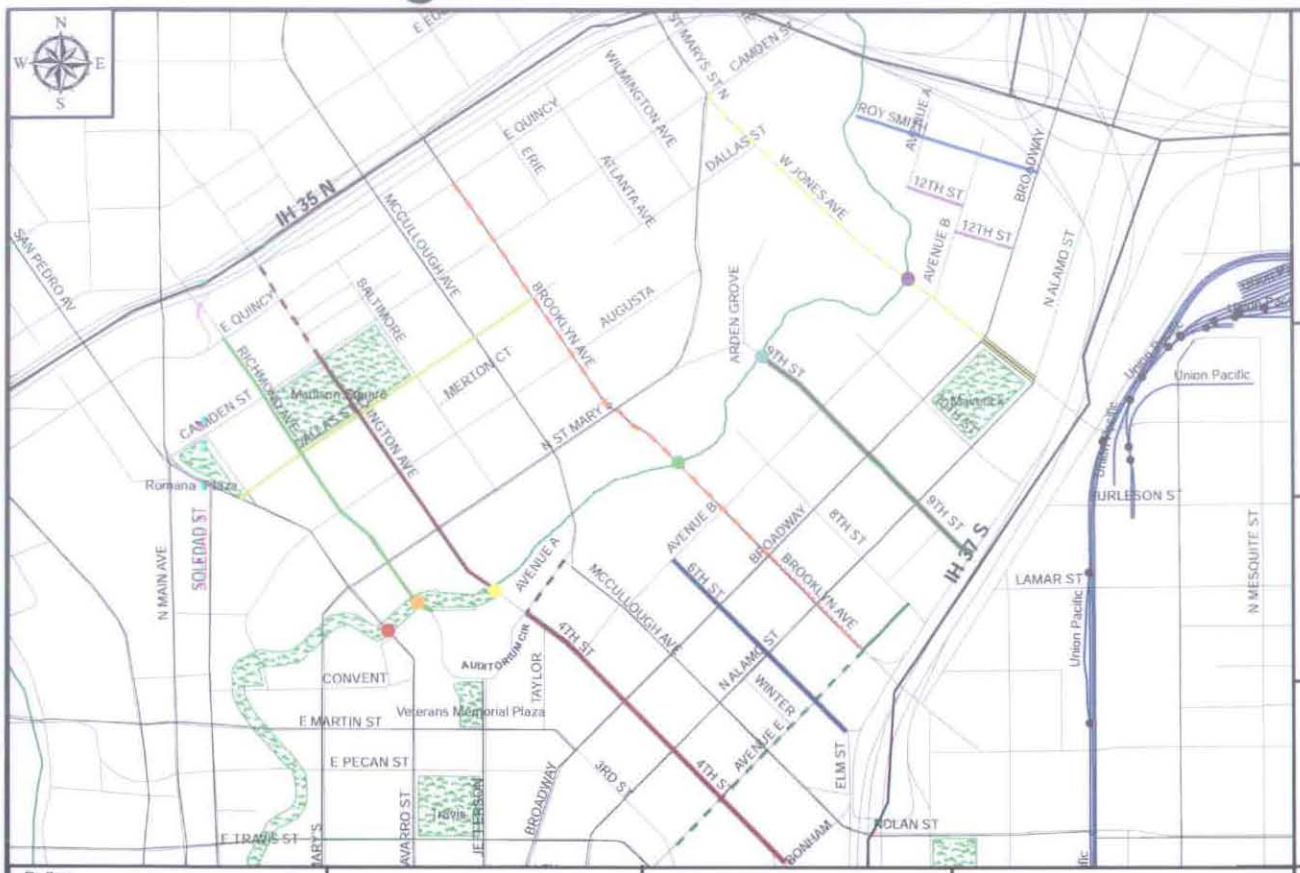


Figure 9 - River North Street Cross-Sections



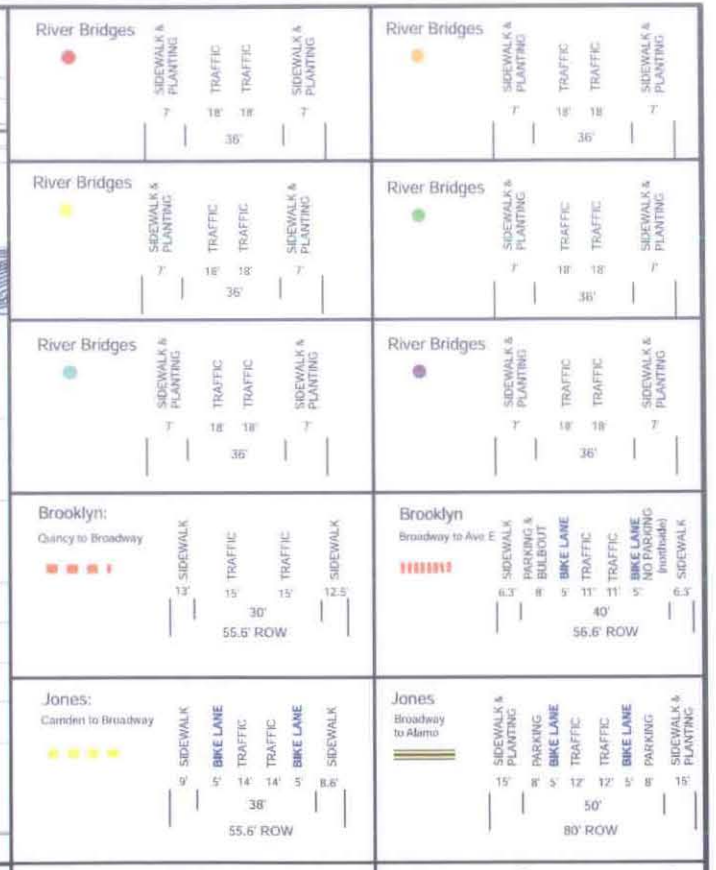
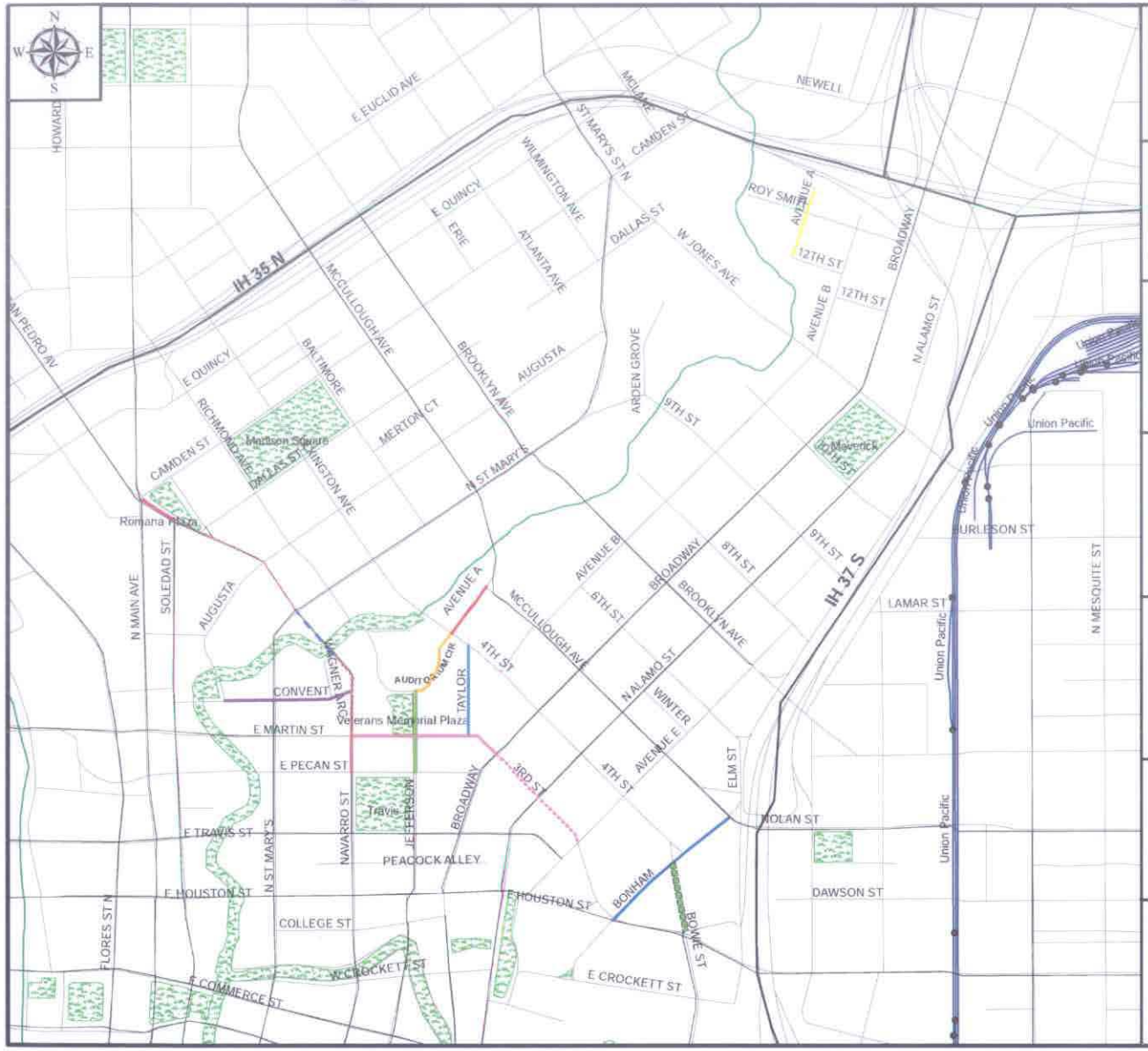


Figure 10 - River North Street Cross-Sections



Bowie: Houston to Bonham

SIDEWALK & PLANTING	TRAFFIC	TRAFFIC	SIDEWALK & PLANTING
10'	15'	15'	10'

30' / 50' ROW

Auditorium Cir: 4th to Jefferson

SIDEWALK & PLANTING	TRAFFIC	TRAFFIC	SIDEWALK & PLANTING
13'	22'	22'	13'

44' / 70' ROW

Jefferson: Auditorium Cir. to Pecan

SIDEWALK & PLANTING	TRAFFIC	TRAFFIC	SIDEWALK & PLANTING
12'	15.5'	15.5'	12'

31' / 55.6' ROW

Taylor: Martin to 4th

SIDEWALK & PLANTING	PARKING	TRAFFIC	TRAFFIC	PARKING	SIDEWALK & PLANTING
10'	7'	11'	11'	7'	9.6'

36' / 55.6' ROW

Bonham: McCullough to Houston

SIDEWALK & PLANTING	PARKING	TRAFFIC	TRAFFIC	PARKING	SIDEWALK & PLANTING
7'	7'	11'	11'	7'	7'

36' / 50' ROW

Convent: Navarro to Augusta

SIDEWALK & PLANTING	PARKING	TRAFFIC	TRAFFIC	PARKING	SIDEWALK & PLANTING
8'	7'	13'	13'	7'	7.6'

40' / 55.6' ROW

3rd: Ave E to Broadway

SIDEWALK & PLANTING	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	SIDEWALK & PLANTING
16'	12'	12'	12'	12'	16'

48' / 80' ROW

3rd: Broadway to Navarro/Martin

One-Way

SIDEWALK & PLANTING	PARKING	TRAFFIC	TRAFFIC	TRAFFIC	SIDEWALK & PLANTING
9.6'	7'	11'	11'	11'	9'

38' / 55.6' ROW

Navarro: Pecan to Martin

One-Way NB

SIDEWALK & PLANTING	TRAFFIC	TRAFFIC	BUS LANE NB	SIDEWALK & PLANTING
11'	11'	11'	12'	10.6'

34' / 55.6' ROW

Navarro: Martin to Wagner

One-Way NB

SIDEWALK & PLANTING	TRAFFIC	TRAFFIC	SIDEWALK & PLANTING
14'	14'	14'	13.6'

28' / 55.6' ROW

Navarro: Wagner to St Mary's

One-Way NB

SIDEWALK & PLANTING	PARKING	TRAFFIC	TRAFFIC	PARKING	SIDEWALK & PLANTING
10'	7'	11'	11'	7'	9.6'

36' / 55.6' ROW

Navarro: St Mary's to Soledad

One-Way NB

SIDEWALK & PLANTING	BUS LANE SB	TRAFFIC	TRAFFIC	SIDEWALK & PLANTING
10'	13'	11'	11'	10.6'

35' / 55.6' ROW

Romano Plaza: Dallas to Main

One-Way

SIDEWALK & PLANTING	BUS LANE SB	TRAFFIC	TRAFFIC	TRAFFIC	TRAFFIC	SIDEWALK & PLANTING
11'	12'	12'	12'	11'	11'	11'

58' / 80' ROW

Ave A: 12th to Dead End

SIDEWALK & PLANTING	TRAFFIC	TRAFFIC	SIDEWALK & PLANTING
10'	15'	15'	10'

30' / 50' ROW

Figure 11 - River North Traffic Recommendations

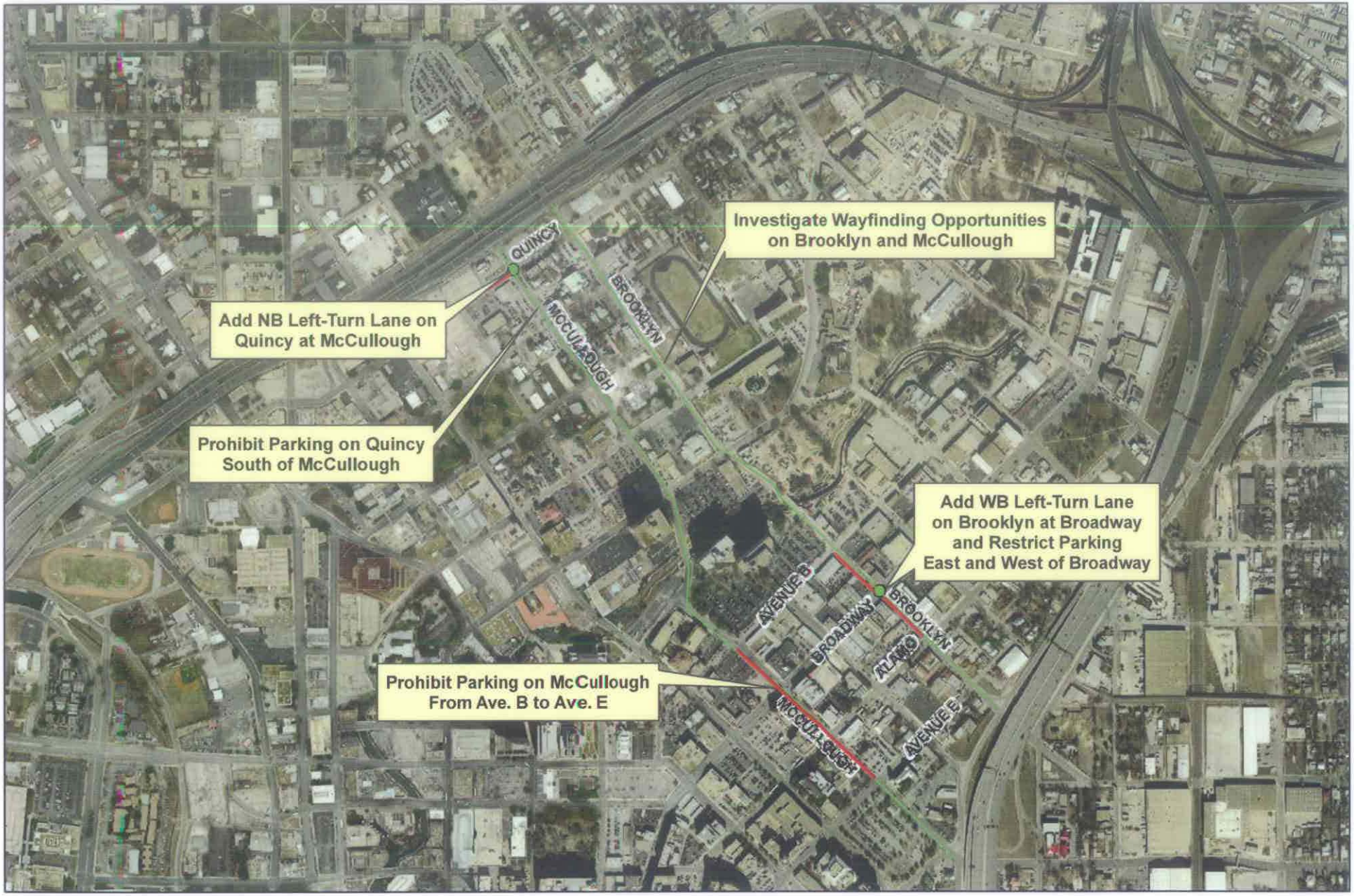


Figure 12 - River North Street Network Plan

	Street Name	Segment	R.O.W.	Design Speed
1	Avenue B	McCullough to Jones	60'	30
2	Avenue B	Jones to Roy Smith	55.6'	30
3	Alamo	Third to Jones	72'	30
4	Alamo	Jones to IH 37	50'	30
5	Camden	Navarro to Baltimore	55.6'	30
6	Camden	Baltimore to St Mary's	55.6'	30
7	Camden	St Mary's to McLane	55.6'	30
8	Broadway	Third to Jones	80'	35
9	Baltimore	Quincy to St Mary's	55.6'	30
10	McCullough	Quincy to Ave B	55.6'	35
11	McCullough	Ave B to Alamo	80'	35
12	McCullough	Alamo to IH 37	80'	35
13	Atlanta	Quincy to Dallas	55.6'	25
14	Erie	Quincy to Camden	55.6'	25
15	Wilmington	Quincy to Dallas	55.6'	30
16	Augusta	Navarro to Brooklyn	55.6'	30
17	St Mary's	Navarro to Dallas	55.6'	30
18	St Mary's	Dallas to Camden	55.6'	30
19	Tenth	Ave B to IH 37	58'	30
20	Eighth	Ave B to Ave E	58'	30
21	Quincy	Richmond to Jones	55.6'	35

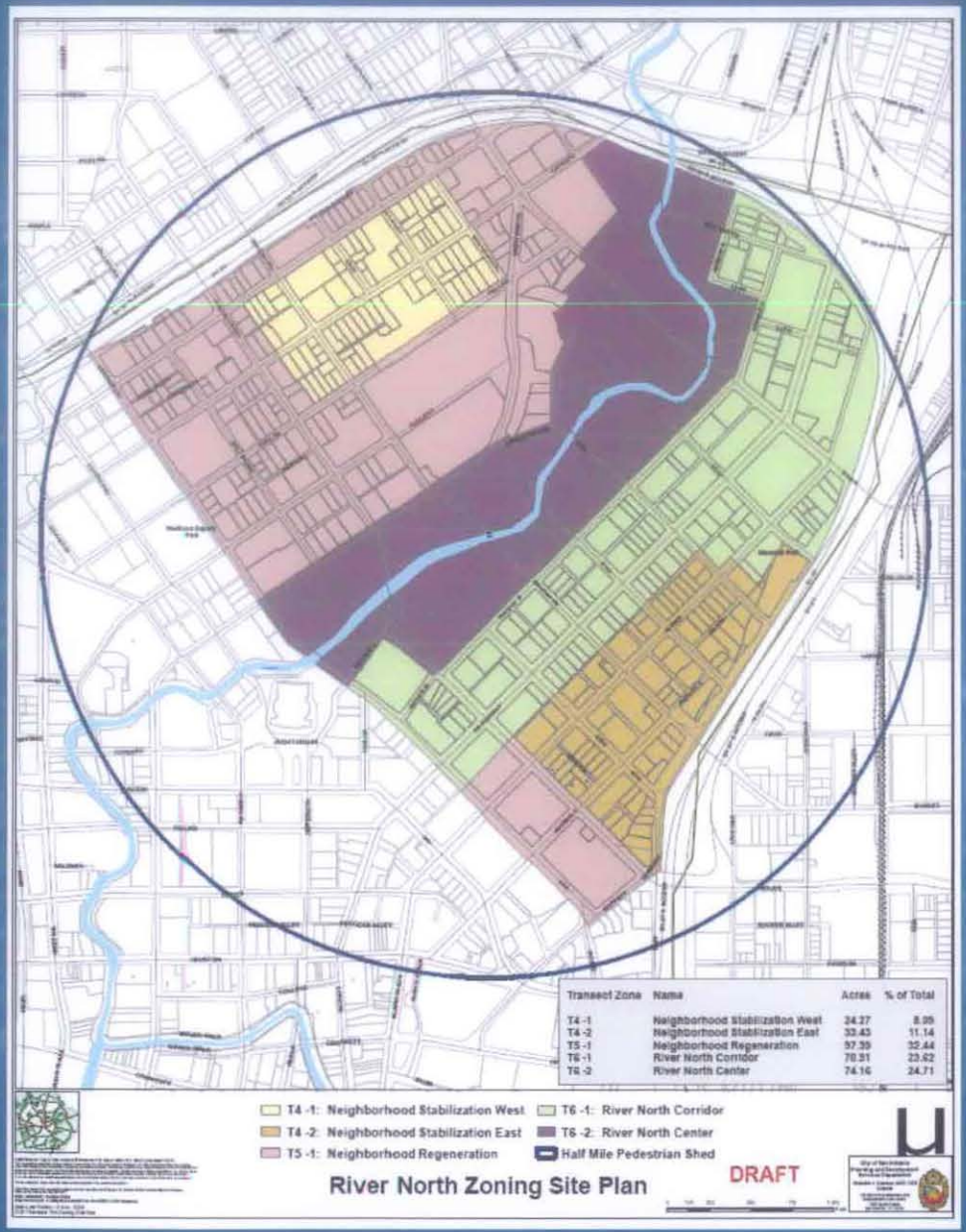
	Street Name	Segment	R.O.W.	Design Speed
1	Brooklyn	Quincy to Broadway	55.6	30
2	Brooklyn	Broadway to Ave E	58'	30
3	Jones	Camden to Broadway	55.6'	30
4	Jones	Broadway to Alamo	80'	30
5	Ave A	McCullough to Fourth	60'	30
6	Twelfth	Broadway to Ave A	50'	25
7	Sixth	Ave B to IH 37	80'	30
8	Roy Smith	SA River to Broadway	50'	30
9	Lexington	SA River to Camden	55.6'	30
10	Lexington	Camden to IH 35	55.8'	30
11	Ninth	IH 37 to SA River	58'	30
12	Fourth	Bonhan to Ave A	80'	30
13	Ave E	Eighth to Brooklyn	40'	30
14	Ave E	Brooklyn to Third	78'	30
15	Richmond	Quincy to Auditorium Cir	55.6'	30
16	Dallas	Navarro to Brooklyn	55.6'	30

	Street Name	Segment	R.O.W.	Design Speed
1	Bowie	Houston to Bonham	50'	30
2	Auditorium Cir	Fourth to Jefferson	70	25
3	Jefferson	Auditorium to Pecan	55.6'	30
4	Taylor	Martin to Fourth	55.6'	30
5	Bonham	McCullough to Houston	50'	30
6	Convent	Navarro to Augusta	55.6'	30
7	Third	Ave E to Broadway	80'	30
8	Third	Broadway to Navarro	55.6'	30
9	Navarro	Pecan to Martin	55.6'	30
10	Navarro	Martin to Wagner	55.6'	30
11	Navarro	Wagner to St Mary's	55.6'	30
12	Navarro	St Mary's to Soledad	55.6'	30
13	Romano Plaza	Dallas to Main	80'	30
14	Ave A	Twelfth to Dead End	50'	25

Refer to Figure 8

Refer to Figure 9

Refer to Figure 10



RIVER NORTH TRAFFIC STUDY

April 2, 2010

Presented to the City of San Antonio

PAPE-DAWSON ENGINEERS

STUDY AREA

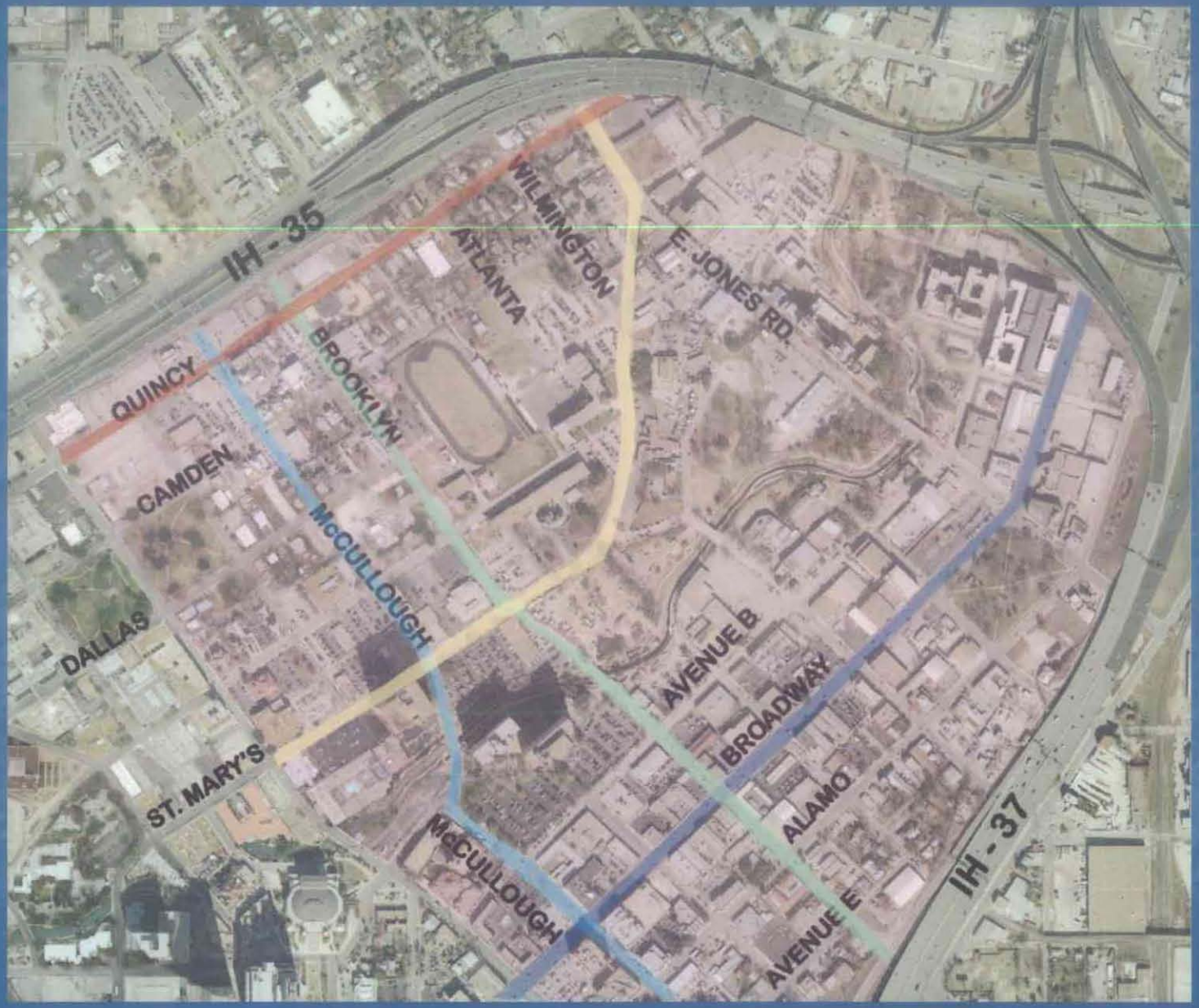
PAPE-DAWSON ENGINEERS

Objective of the Traffic Study

- Evaluate impacts of the River North Master Plan on the street network.
- Identify operational issues at area intersections.
- Recommend mitigation improvements.

PAPE-DAWSON ENGINEERS

MAJOR ROADWAYS



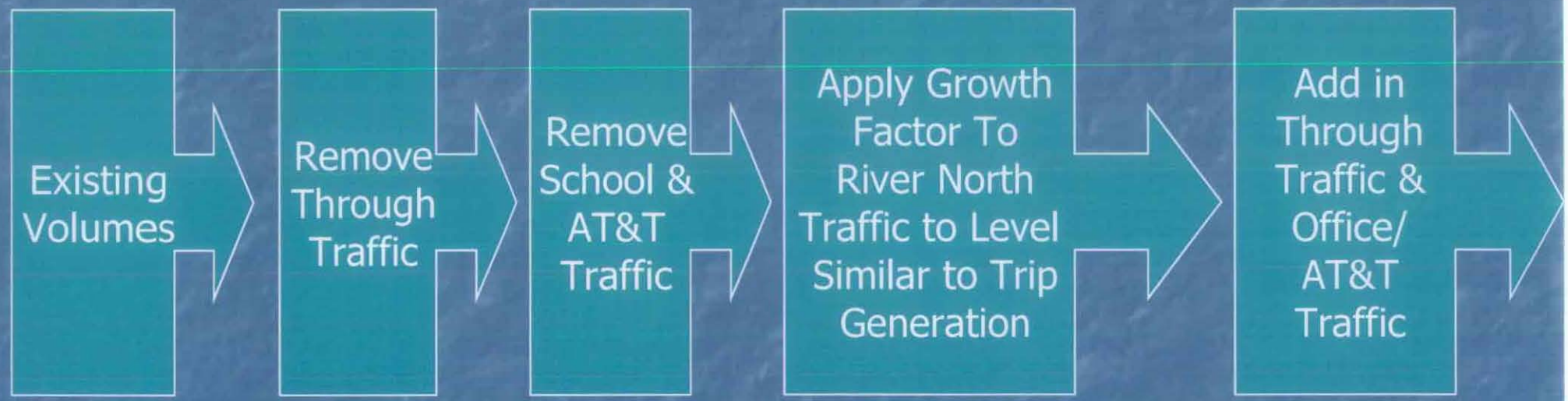
PAPE-DAWSON ENGINEERS

Table 1: Trip Generation Scenario 1B New Development

ITE Code	Land Use	Var.	Size	Trip Generation Rates					Trips				
				AM Pk Hour		PM Pk Hour		Daily	AM Pk Hour		PM Pk Hour		Daily
				Enter	Exit	Enter	Exit		Enter	Exit	Enter	Exit	
223	Mid-Rise Apartment	DU	6172	0.1	0.25	0.26	0.18	4.18	617	1543	1605	1111	**25,799**
710	General Office	TGFA	791.7	1.36	0.19	0.25	1.24	11.01	1077	150	198	982	**8,717**
820	Shopping Center	TGLA	281.4	0.61	0.39	1.83	1.9	42.94	172	110	515	535	**12,083**
310	Hotel	Rooms	400	0.34	0.22	0.31	0.28	14.34	136	88	124	112	**5,736**
	TOTAL								**3893**		**5182**		**52,335**

PAPE-DAWSON ENGINEERS

Process



PAPE-DAWSON ENGINEERS

Table 4: Scenario 1B Level of Service – Signalized Intersections

	AM Peak Hour		PM Peak Hour	
Intersection	Existing	Future[1]	Existing	Future[1]
Camden & Lexington	A	A	A	B
Camden & McCullough	A	B	A	B
Camden & Brooklyn	B	C	B	B
Augusta & McCullough	B	A	A	B
St Mary's & Lexington	B	B	A	B
St Mary's & McCullough	B	C	B	C
St Mary's & Brooklyn	C	C	C	C
Quincy & St Mary's	A	A	A	A
Camden & St Mary's	C	C	C	C
4th & Broadway	A	B	B	C
McCullough & Broadway	**E**	C	**D**	**D**
6th & Broadway	A	A	A	A
Brooklyn & Broadway	**D**	**E**	C	B
8th & Broadway	A	A	A	A
9th & Broadway	A	A	A	A
E Jones & Broadway	B	B	B	C
McCullough & Alamo	B	B	**F**	**F**
Brooklyn & Alamo	B	C	B	B
Quincy & Lexington	B	B	B	B
Quincy & McCullough	B	B	C	**D**
Quincy & Brooklyn	B	B	B	C

PAPE-DAWSON ENGINEERS

AM Proposed LOS Exhibit

FIGURE 7A

LOS D
LOS E
LOS F

PM Proposed LOS Exhibit

FIGURE 7B

Recommendations

- Prohibit parking on McCullough between Avenue B and Avenue E. Re-stripe section between Alamo and Broadway to 4 lanes.
- Add a westbound left-turn lane on Brooklyn at Broadway. Prohibit parking on Brooklyn, east and west of Broadway.
- Add a northbound left-turn lane on Quincy at McCullough. Prohibit parking on McCullough, south of Quincy.
- Investigate opportunities to implement wayfinding signage to direct traffic to/from Brooklyn and McCullough.
- Monitor traffic volumes in the area and update River North Traffic Study as development occurs.

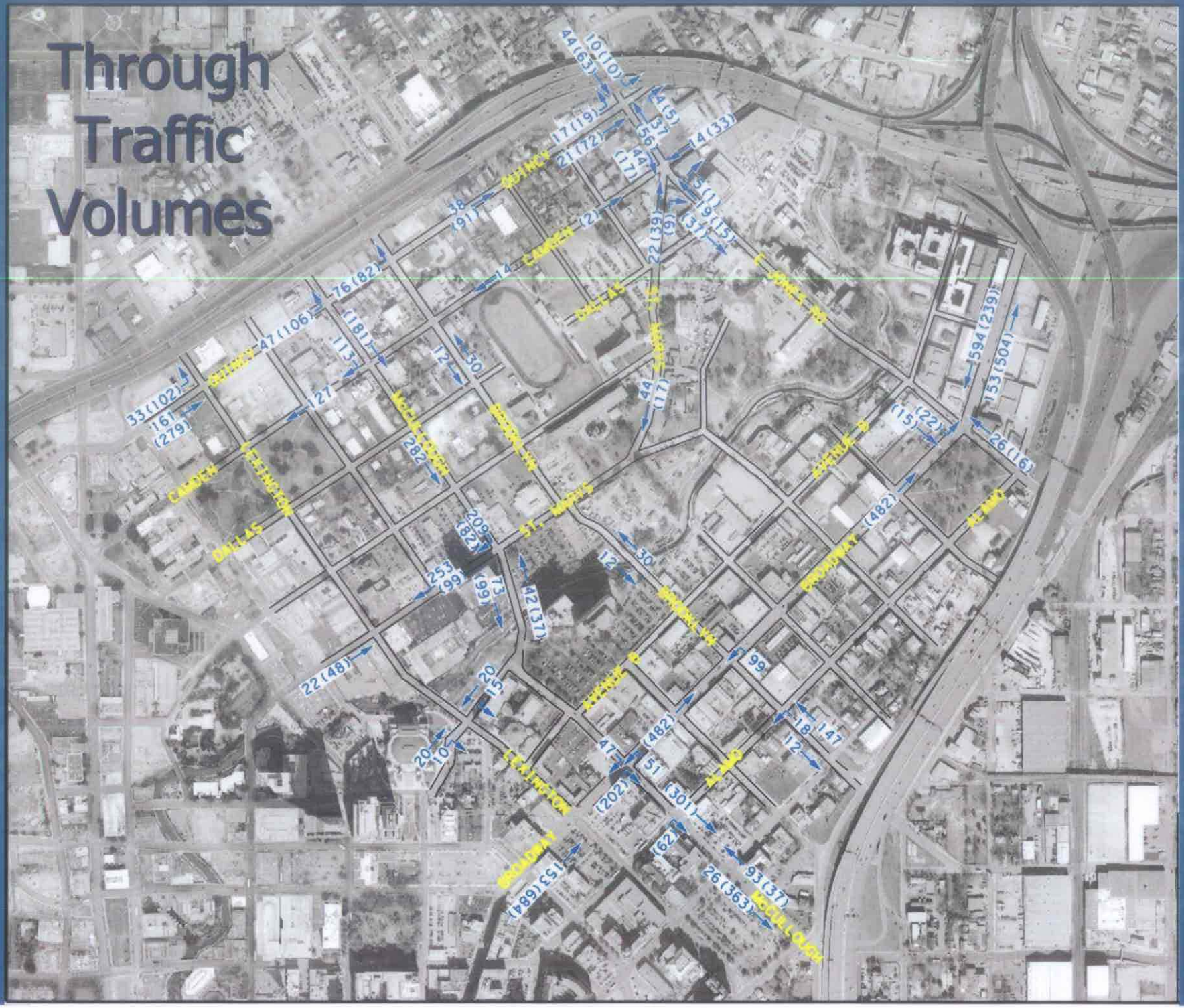
PAPE-DAWSON ENGINEERS

Contact:

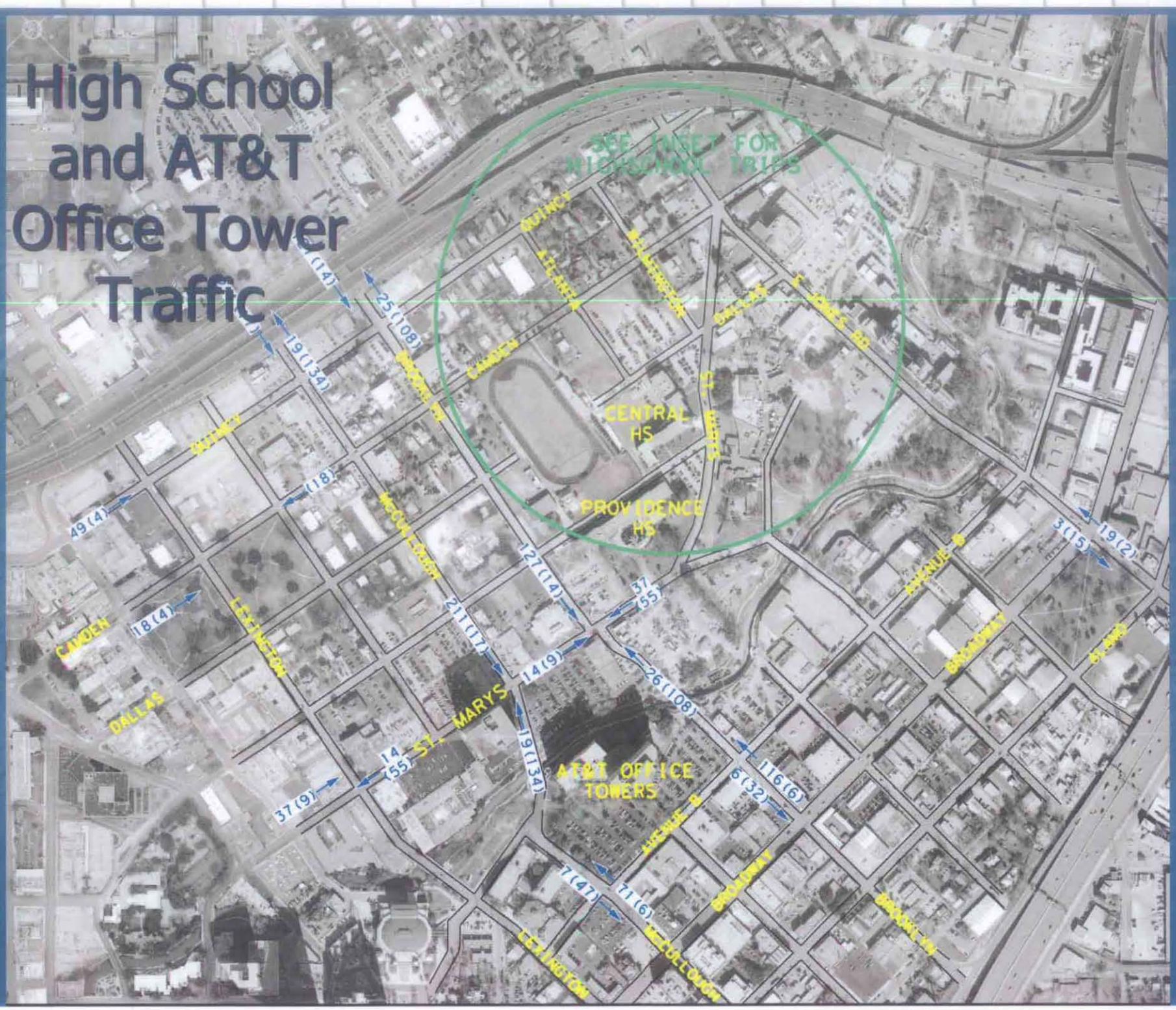
Gilmer D. Gaston, P.E., PTOE
Pape-Dawson Engineers, Inc.
555 E. Ramsey
San Antonio, Texas 78216
T: 210-375-9000
e: ggaston@pape-dawson.com

PAPE-DAWSON ENGINEERS

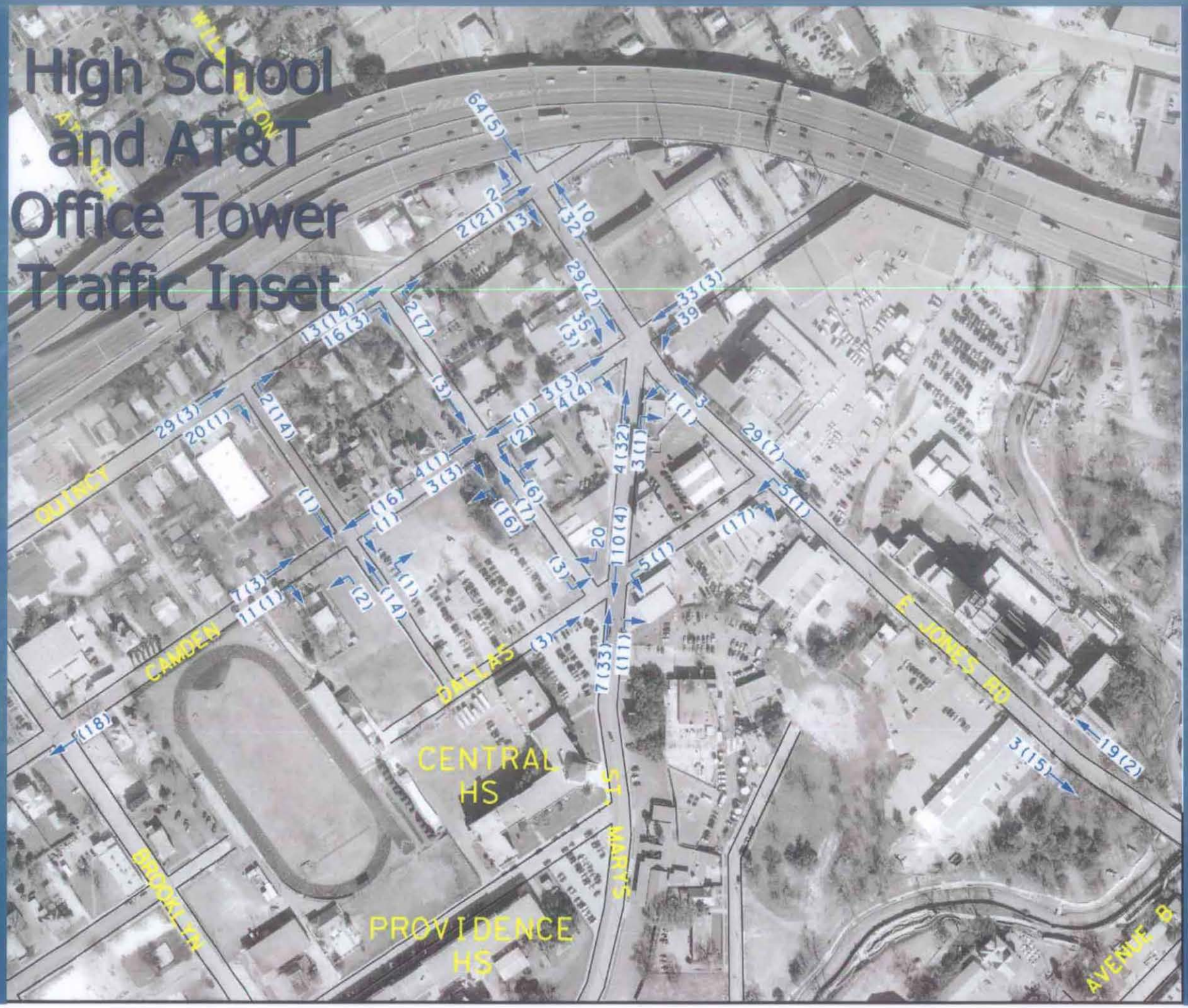
Through Traffic Volumes

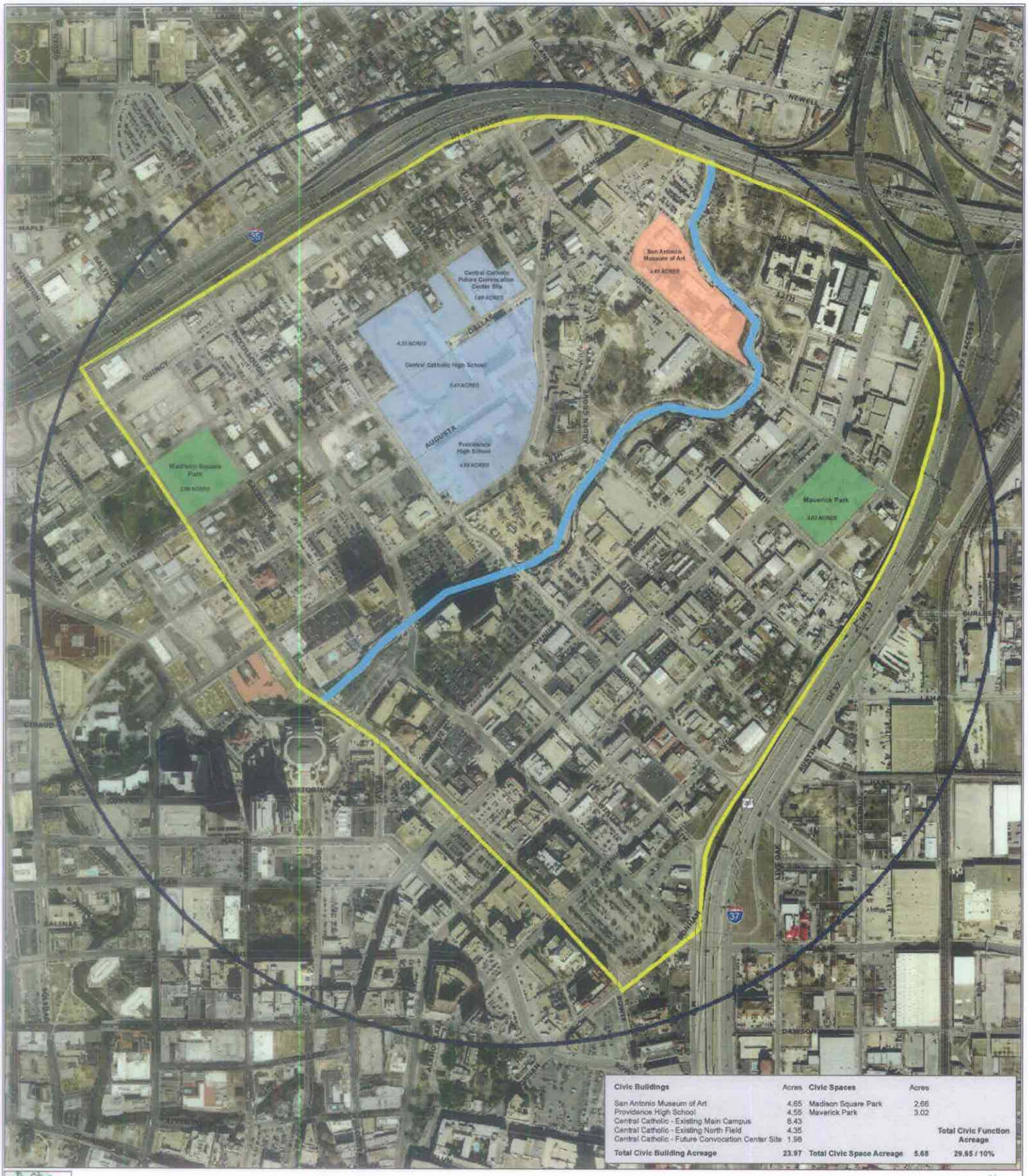


High School and AT&T Office Tower Traffic



High School and AT&T Office Tower Traffic Inset





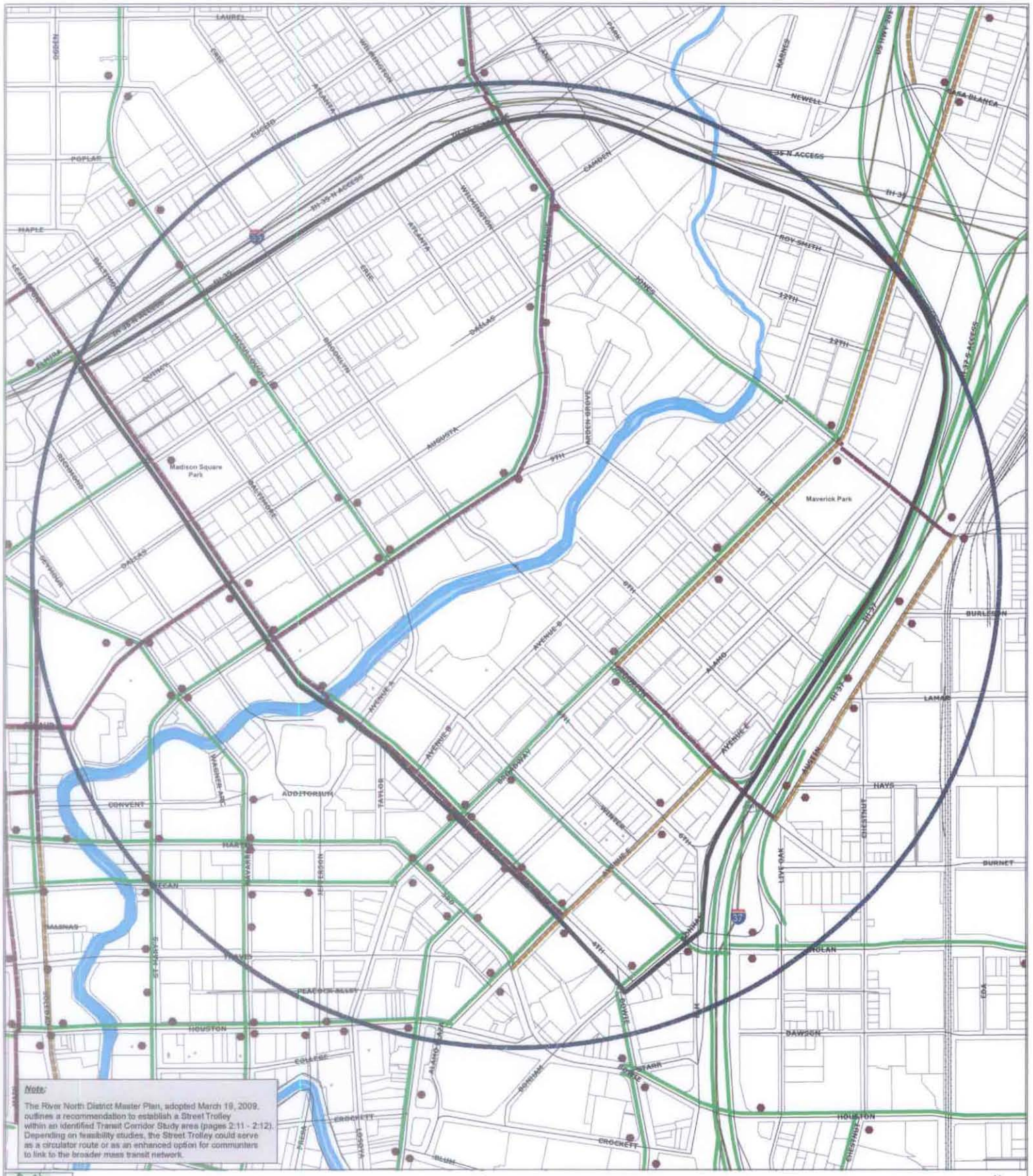
Civic Buildings	Acres	Civic Spaces	Acres	
San Antonio Museum of Art	4.65	Madison Square Park	2.66	
Providence High School	4.55	Maverick Park	3.02	
Central Catholic - Existing Main Campus	8.43			
Central Catholic - Existing North Field	4.35			Total Civic Function Acreage
Central Catholic - Future Convocation Center Site	1.96			
Total Civic Building Acreage	**23.97**	**Total Civic Space Acreage**	**5.68**	**29.65 / 10%**

Zoning Site Plan Boundary
Half Mile Pedestrian Shed
San Antonio River
Civic Spaces - Squares
Civic Buildings - Schools
Civic Buildings - Museums

River North
Master Development Pattern Plan - MDPP 007-10
Civic Functions

0 125 250 500 750 1,000 Feet

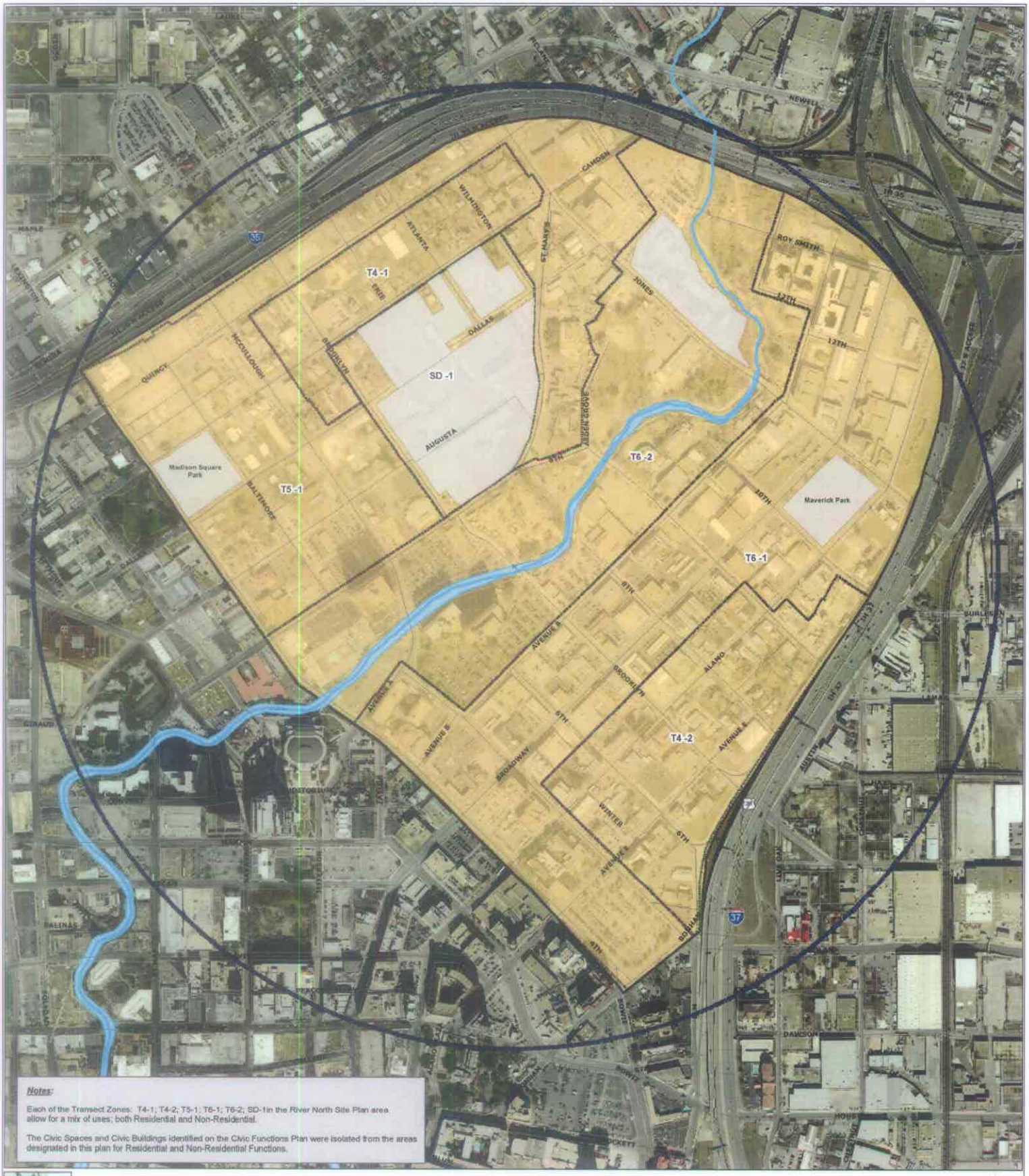
City of San Antonio
Planning and Development Services Department
Roderick J. Sanchez, AICP, CNU
Director
Cliff Morton Development and Business Services Center
1901 South Alamo
San Antonio, TX 78204



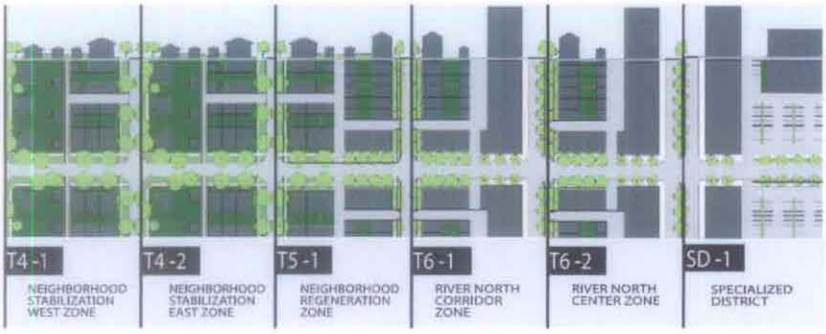
Zoning Site Plan Boundary
Half Mile Pedestrian Shed
Existing VIA Bus Service
Existing VIA Bus Stops
Existing Bike Lane/Routes
Lane
Route

River North
Master Development Pattern Plan - MDPP 007-10
Transit Network

City of San Antonio
Planning and Development Services Department
Roderick J. Sanchez, AICP, CBO
Director
Off Milton Development and Business Services Center
1901 South Alamo
San Antonio, TX 78204



River North
Master Development Pattern Plan - MDPP 007-10
Residential and Non-Residential Function Areas



A. ALLOCATION OF ZONES see section 35-209(c)						
Infill Regional Center						
B. OVERALL DENSITY see section 35-209(c)						
Infill Option						
C. BLOCK SIZE						
Block Perimeter	1600 ft. max	1600 ft. max	1600 ft. max	1600 ft. max	2000 ft. max	3400 ft. max
Block Face Length	400 ft. max	400 ft. max	400 ft. max	400 ft. max	600 ft. max	850 ft. max
D. PUBLIC FRONTAGES (see Table 209-6E and 209-6F)						
PW	not permitted	not permitted	not permitted	not permitted	not permitted	permitted
BV	permitted	permitted	permitted	permitted	permitted	permitted
RR	not permitted	not permitted	not permitted	not permitted	not permitted	permitted
RS	permitted	permitted	not permitted	not permitted	not permitted	permitted
SS & AV	permitted	permitted	permitted	permitted	permitted	permitted
CS & AV	not permitted	not permitted	permitted	permitted	permitted	permitted
Alley	permitted	permitted	required*	required*	required*	permitted
E. CIVIC SPACE (see Table 209-9A)						
Park	not permitted	not permitted	not permitted	not permitted	not permitted	permitted
Green	permitted	permitted	permitted	not permitted	not permitted	permitted
Square	permitted	permitted	permitted	permitted	permitted	permitted
Plaza	not permitted	not permitted	permitted	permitted	permitted	permitted
Playground	permitted	permitted	permitted	permitted	permitted	permitted
F. LOT OCCUPATION						
Primary Frontage Width	25 ft. min. 200 ft. max	25 ft. min. 200 ft. max	18 ft. min. 300 ft. max	no min - no max	no min - no max	50 ft. - 850 ft.
Lot Coverage [1]	70% max	70% max	80% max	85% max	90% max	90% max
G. SETBACKS - PRINCIPAL BUILDING						
Front Setback (Primary)	10 ft. min. 15 ft. max.	10 ft. min. 15 ft. max.	5 ft. min. 12 ft. max.	0 ft. min. 12 ft. max.	0 ft. min. 12 ft. max.	0 ft. min.
River Setback	n/a	n/a	n/a	n/a	15 ft. min. 20 ft. max.	n/a
Front Setback (Secondary)	6 ft. min. 10 ft. max.	6 ft. min. 10 ft. max.	5 ft. min. 12 ft. max.	0 ft. min. 12 ft. max.	0 ft. min. 10 ft. max.	0 ft. min.
Side Setback [2]	0 ft. min. 7 ft. max.	0 ft. min. 7 ft. max.	0 ft. min. 12 ft. max.	0 ft. min. 12 ft. max.	0 ft. min. 10 ft. max.	0 ft. min.
Rear	3 ft. min.	3 ft. min.	3 ft. min.	3 ft. min.	3 ft. min.	0 ft. min.
Frontage Buildout	60%. min.	60%. min.	80 % min.	80% min	80% min	40% min.
H. SETBACKS - OUTBUILDING						
Front Setback	24 ft. min. +bldg setback	24 ft. min. +bldg setback	40 ft. max from rear prop line	3rd lot layer	3rd lot layer	20-30 ft + bldg setback
Side Setback	0 ft or 3 ft.	0 ft or 3 ft.	0 ft. min	no max, no min.	no max, no min.	0 ft. - 10 ft.
Rear Setback [3]	3 ft. min.	3 ft. min.	3 ft. max	no max, no min.	no max, no min.	3 ft. min.
I. BUILDING DISPOSITION (see Table 209-11)						
Edge Yard	permitted	permitted	not permitted	not permitted	not permitted	permitted
Side Yard	permitted	permitted	permitted	not permitted	not permitted	permitted
Rear Yard	permitted	permitted	permitted	permitted	permitted	permitted
Court Yard	permitted	permitted	permitted	permitted	permitted	permitted
J. PRIVATE FRONTAGES (see Table 209-12)						
Common Yard	not permitted	not permitted	not permitted	not permitted	not permitted	not applicable
Porch & Fence	permitted	permitted	not permitted	not permitted	not permitted	not applicable
Terrace or L.C.	permitted	permitted	permitted	not permitted	not permitted	not applicable
Forecourt	permitted	permitted	permitted	permitted	permitted	not applicable
Stoop	permitted	permitted	permitted	permitted	permitted	not applicable
Shopfront & Awning	permitted	permitted	permitted	permitted	permitted	not applicable
Gallery	permitted	permitted	permitted	permitted	permitted	not applicable
Arcade	not permitted	not permitted	permitted	permitted	permitted	not applicable
K. BUILDING HEIGHT						
Principal Building	3 stories max.	4 stories max.	2 stories min., 4 max.[4]	2 stories min., 6 max.[4]	2 stories min., 10 max.[4]	8 stories max
Outbuilding	2 stories max.	2 stories max.	2 stories max.	3 stories max	3 stories max	2 stories max
L. FUNCTION (see Tables 209-13A & 209-13B)**						
Residential	limited use	limited use	open use	open use	open use	see table 209-13B
Lodging	limited use	limited use	open use	open use	open use	see table 209-13B
Office / Service	limited use	limited use	open use	open use	open use	see table 209-13B
Retail	limited use	limited use	open use	open use	open use	see table 209-13B

DISPOSITION

CONFIGURATION

FUNCTION

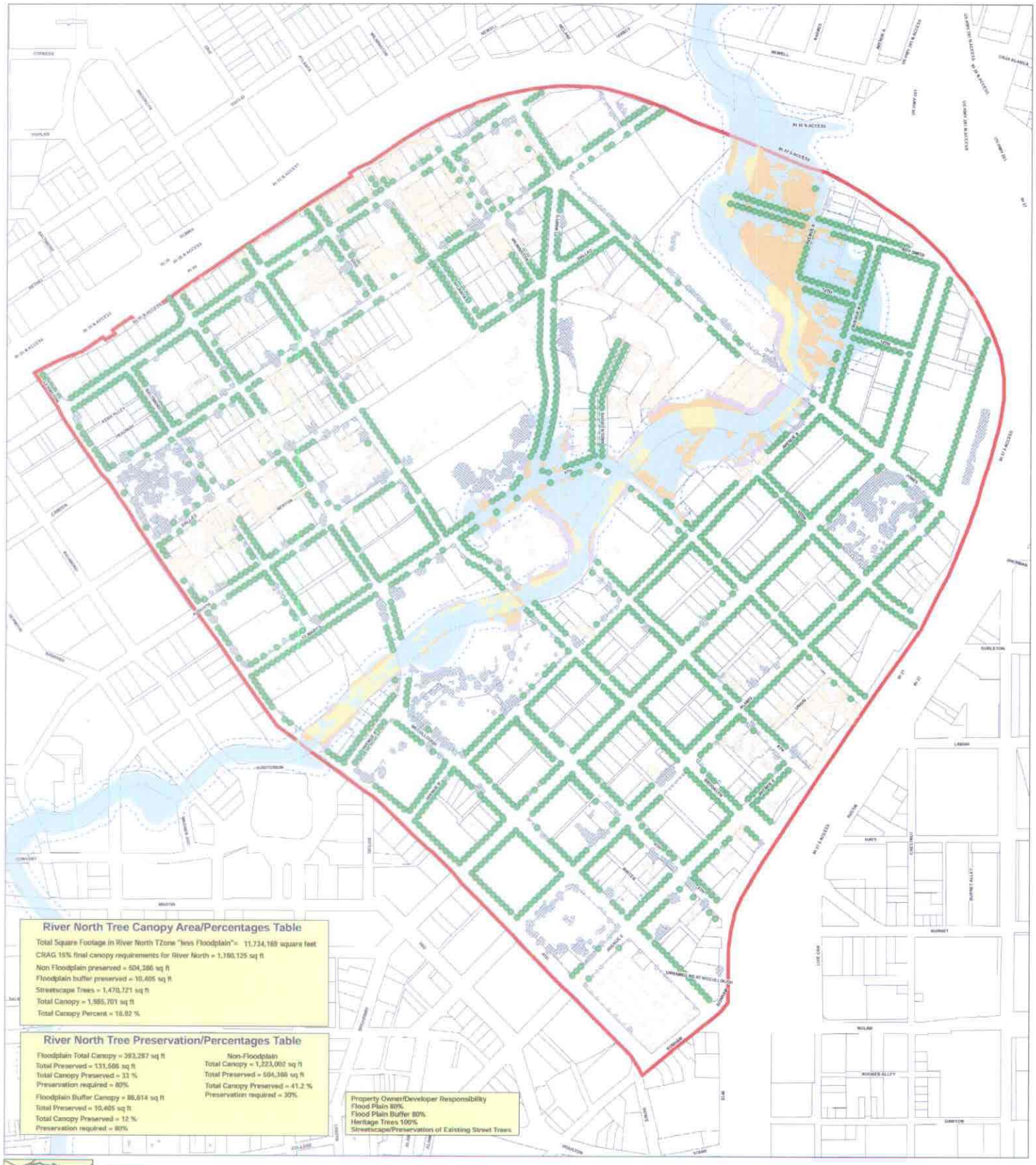
SECTION (e)

SECTION (b) & (c)

1. Refers to the percentage of the lot that can be covered by the structure
2. For sideyard buildings, see section 209(e)(2)(A)(11)
3. The rear setback shall be measured from the rear lot line as defined on table 209-10C
4. Single story buildings are permitted if they follow all of the following requirements:
   a. the buildings are no more than 40% of a linear block face
   b. the buildings are not located on street corners

* See Section 209(c)(8)(B)(8)

** For specific function, see table 209-13B



River North Tzone Boundary
Trees 30' Streetscape
All Trees in Tzone
Trees in DFIRM channel only Clip
Trees in DFIRM Clip
Trees in DFIRM 30ft buffer Clip
Trees ROW existing
Trees outside FP in target area
DFIRM 100 year FP
DFIRM 100 year FP plus 30 ft

River North Tree Canopy/Preservation Plan

Based on 2009 Aerial Photography

200 100 0 200 400 Feet

City of San Antonio
Planning and Development Services Department

Master Storm Water Management Plan

RIVER NORTH

San Antonio, Texas

June 3, 2010

Prepared by:

City of San Antonio
Department of Public Works
Storm Water Engineering
Municipal Plaza Bldg., 114 W. Commerce, 7th Floor
San Antonio, TX 78283-3966

City of San Antonio
144 W. Commerce Street
San Antonio, TX 78205

Table of Contents

1. **Scope of Analysis**
2. **Existing Drainage Conditions**
3. **Future Projects**
4. **Master Storm Drainage Infrastructure Plan**
5. **San Antonio Mid Reach River Analysis**
6. **Conclusions**

Appendices

Appendix A Location Map
Appendix B 311-Citizen Inquires
Appendix C Future Projects Map
Appendix D Drainage Calculations
Appendix E Drainage Systems Map
Appendix F San Antonio River Hydrograph Exhibit

City of San Antonio
144 W. Commerce Street
San Antonio, TX 78205

River North Master Storm Water Management Plan

1. Scope of Analysis

The City of San Antonio Storm Water Engineering proposes the following storm water drainage master plan for River North. River North is located on Southwest corner of the IH 35/IH 37 Interchange. The master plan limits are bounded by IH35 access road on the North, IH 37 access road on the East and Lexington Ave on the Southwest. The San Antonio River Mid Reach flows through the middle of River North from IH 35 to Lexington Ave.

2. Existing Drainage Conditions

In the existing conditions the entire site drains from the outer boundaries to the San Antonio River. On the IH 35 boundary no offsite runoff enters the River North limits, however there is offsite runoff coming from the IH 37 boundary. All offsite runoff past Lexington Ave drains to the San Antonio River further downstream of the River North limits. (**Appendix A**)

The existing impervious cover is predominately consistent with a runoff coefficent of 0.95 with existing streets, sidewalks, buildings and parking lots.

The existing internal drainage areas are established based on the existing drainage system, the street network and the building locations and elevations. Based on asbuilts and 311-citizen concerns (**Appendix B**), the existing drainage system is old with a number of failing links as well as being hydraulically undersized based on today's standards, causing flooding of the streets and other drainage problems.

3. Future Projects

The City of San Antonio Public Works Storm Water Engineering has 4 unfunded future projects within the River North limits. Two of the projects are located on the south side of River North and the other two on the North side of River North. Refer to **Appendix C** for additional information on the future projects.

4. Master Storm Drainage Infrastructure Plan

As explained in the existing drainage conditions, the existing offsite and internal drainage areas for River North remain the same for proposed. The drainage areas were created using the two foot contours as well as field inspections. (**Appendix D**)

Eight drainage systems are being proposed to convey the 1% annual chance rain storm event to the San Antonio River. The pipe sizes range from 24 inch

to 84 inch diameter pipes. Curb inlets were identified based on general capacity and street intersections. Junction boxes identified by pipe size and pipe crossings only, intermediate junction boxes may be required. (**Appendix E**)

Tailwater conditions from the San Antonio River were not taken into account when determining the storm drain capacity. However, the storm drain trunk lines were designed for the 1% annual chance storm event and a pipe slope of 0.5% to be conservative.

5. San Antonio Mid Reach River Analysis

Due to the fact that the River North is ultimately built out, the amount of runoff will not be increased due to the Master Pattern Plan. However, the improved conveyance of the runoff will reach the San Antonio River quicker than the existing conditions. Therefore a peak on peak analysis was done to determine if there would be an adverse impact due to the increase in runoff times. The results of this analysis indicated that the time to peak for the San Antonio Mid Reach (JSA8e) is 12.35 hours where as the times to peak for the nine proposed drainage systems ranged from 24 to 53 minutes. This signifies that the increased runoff timing of the proposed systems will not occur near the peak of the San Antonio River and that the peak runoff of the San Antonio River will remain equivalent to that of the existing peak after the hydrographs are merged. (**Appendix F**)

6. Conclusions

The proposed Storm Water Master Plan will create an infrastructure that will alleviate existing drainage problems and provide a storm drainage system that will comply with current City development codes and standards.

The calculations and analysis provided in this report provide a conceptual master plan for River North storm water infrastructure; this report shall be used for planning and cost estimating purposes only.

Prepared by:

6/4/10

Gabriel J. Villarreal, P.E.
Storm Water Design Engineer

Approved by:

6/4/10

Robert J. Browning, P.E., CFM
Chief Storm Water Engineer

River North
Master Development Pattern Plan - MDPP 007-10
Location Map
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Appendix A

0 500 1,000 1,500 2,000 Feet

N W E S

City of San Antonio
Public Works Department
Storm Water Engineering

Map created by: Martin.Hernandez@sanantonio.gov
Location: \\Ficommon\misc23\SW_Engineering\InHouse_Cad_Design\12787_RiverNorth_DrainageReport_Prelim\ArcMap.mxd
Date created: 05/11/10

Data Source: City of San Antonio Enterprise GIS.
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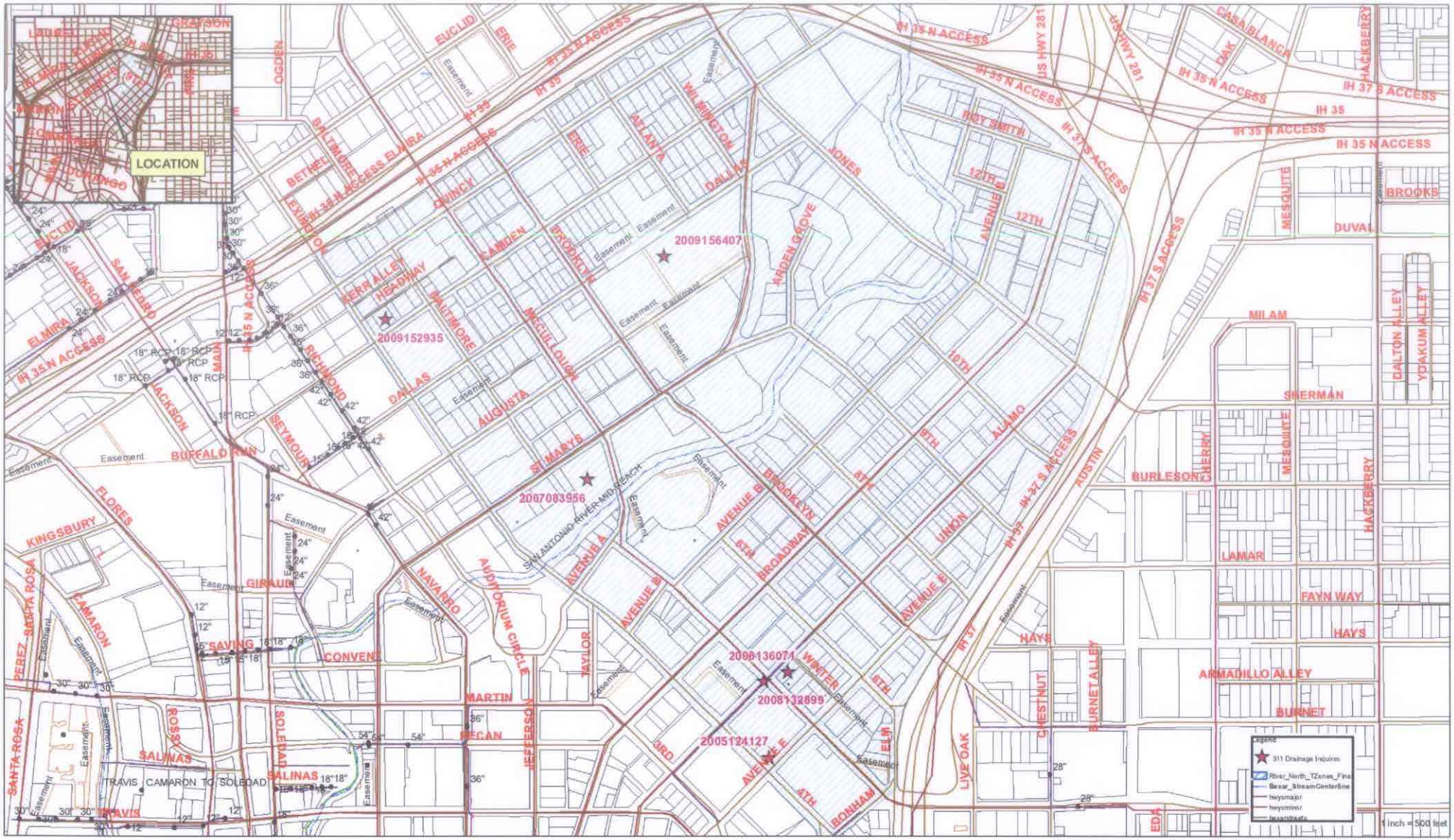

River North
Master Development Pattern Plan - MDPP 007-10
311 Citizen Inquires
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Appendix B

0 500 1,000 1,500 2,000 Feet

City of San Antonio
Public Works Department
Storm Water Engineering

Map created by: Martin.Hernandez@sanantonio.gov
Location: \\Fscommon\misc23\SW_Engineering\InHouse_Cad_Design\12787_RiverNorth_DrainageReport_Prelim\ArcMap\ExhibitMap_311.mxd
Date created: 06/03/10

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ISPWM210                          REQUEST ADD/UPDATE                    06/01/10
COMMAND: ____________________     REQUEST: 2009156407                 20091102
==================================================================================
 REQUEST: 2009156407 INIT: 23  STREET MAINTENANCE            ADA PRIORITY: _
RECEIVED: 10 19 2009   AT: 10 27  BY: SW05410   DUE: 12 28 2009    STATUS: C
CATEGORY: 600   DRAINAGE ENGINEERING INVEST          SCHEDULE DATE: __ __ ____
LOCATION: 1403_ ST MARYS N____ INTRSCTN: _______________ UPPER: WILMINGTON AV
ZIP: 78215 1740 DIST: 01 TOWN: 00  MAP: 616F3  GEO-VAL Y LOWER: AUGUSTA ST
 ROUTED ON: 10 19 2009 AT: 10 27    TO: 06  BY: SW05410_  LIN#: 318916
  COMMENTS:  B    OLE HAS FORMED BETWEEN CURB AND SIDEWALK. PLEASE INVES
           TIGATE TO FIND OUT CAUSE. CAUTION TAPE AND CONES IN PLACE BY
ACTION: 26_  STORMWATER COMPLETED                ASSIGNED TO: ____ SRV CTR: ___
     DATE: 11 02 2009  TIME: 10 29  BY: JS16338   PW SERV CTR: SOUTHEAST
ACTION REMARKS: INVESTIGATED AND DOCUMENTED. CONFIRMED LINES STORM WATER. FO
                RWARDED FOR SW OPS TO POINT REPAIR IF STORM WATER._________
REQUESTOR: LAST NAME: GOMEZ_________        FIRST NAME: JAVIER_________
            ADDRESS: _____ _______________
               CITY: _____________________        ZIP: _____ ____  CALLBACK: Y
             PHONE(S): ___ 639 7835 EXT: _____    ___ ___ 0000     CLBK STAT: P
              EMAIL: ____________________________________________
 COUNCIL REQST: DIST: __ ___________________________ PH: ___ ___ 0000  CLLBCK: _
         EMAIL: ____________________________________________          CLBK STAT:
F2=MENU F3=RETRN F4=ACTS F5=DUP ACT F6=NEW ACT F9=CLLBCKS F10=CMMNTS F11=RMRKS
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TSPWM210                          REQUEST ADD/UPDATE                    06/01/10
COMMAND: _____                    REQUEST: 2009152935                 20091112
==================================================================================
 REQUEST: 2009152935 INIT: 311 311 SERVICE CENTER            ADA PRIORITY: _
RECEIVED: 10 13 2009   AT: 11 15  BY: RA16488   DUE: 12 18 2009    STATUS: C
CATEGORY: 600   DRAINAGE ENGINEERING INVEST          SCHEDULE DATE: __ __ ____
LOCATION: 409__ CAMDEN ST_____ INTRSCTN: _____ UPPER: BALTIMORE AVE
ZIP: 78215 1923 DIST: 01 TOWN: 00  MAP: 616E3  GEO-VAL Y LOWER: LEXINGTON AV
 ROUTED ON: 10 13 2009 AT: 11 15    TO: 06  BY: RA16488_  LIN#: 48821
  COMMENTS: ABOVE LOCATION NEEDS A DRAINAGE STUDY DUE TO STANDING WATER_
            CAUSED BY A LOW SPOT IN STREET. WATER IS FLUSH WITH CURB PLE
ACTION: 29_  DRAINAGE ENGINEERING COMPLETED     ASSIGNED TO: ____ SRV CTR: ___
     DATE: 11 12 2009  TIME: 07 30  BY: GG03851   PW SERV CTR: SOUTHEAST
ACTION REMARKS: THIS IS A STREETS PROBLEM FORWARD TO STREETS TSPW#2009171867

REQUESTOR: LAST NAME: AMERICA(SAWS)__        FIRST NAME: MRS_____________
             ADDRESS: _____ _______________
                CITY: _____________________        ZIP: _____ ____  CALLBACK: Y
            PHONE(S): 210 233 2015 EXT: _____      ___ ___ 0000    CLBK STAT: P
               EMAIL: ____________________________________________
 COUNCIL REQST: DIST: __ ___________________________ PH: ___ ___ 0000  CLLBCK: _
         EMAIL: ____________________________________________          CLBK STAT:
F2=MENU F3=RETRN F4=ACTS F5=DUP ACT F6=NEW ACT F9=CLLBCKS F10=CMMNTS F11=RMRKS
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TSPWM210                          REQUEST ADD/UPDATE                    06/01/10
COMMAND: ____________________     REQUEST: 2005124127                 20051128
==================================================================================
 REQUEST: 2005124127 INIT: 20  CITIZEN                          ADA PRIORITY: _
RECEIVED: 09 26 2005   AT: 15 40  BY: JN08908   DUE: 11 28 2005    STATUS: C
CATEGORY: 600   DRAINAGE ENGINEERING INVEST          SCHEDULE DATE: __ __ ____
LOCATION: 404__ ALAMO ST N____ INTRSCTN: 4TH___________ UPPER: MC CULLOUGH AV
ZIP: 78205 1918 DIST: 01 TOWN: 00  MAP: 616F4  GEO-VAL Y LOWER: ALAMO ST N
 ROUTED ON: 09 26 2005 AT: 15 40    TO: 06  BY: JN08908_  LIN#: 369962
  COMMENTS: INLET BACKED UP DURING LAST RAIN EVENT; PLEASE CHECK IF INLE
            T IS CLOGGED OR UNDERSIZED._____________________________________
ACTION: CLB  CALLBACK                          ASSIGNED TO: ____ SRV CTR: ___
      DATE: 11 28 2005  TIME: 09 49  BY: JN08908   PW SERV CTR: SOUTHEAST
ACTION REMARKS: SPOKE TO REQUESTOR_____________________________________________
                ADVISED MT. RYLAND THAT THE SYSTEM WAS UNDERSIZED AND THAT A
REQUESTOR: LAST NAME: RYLAND_________          FIRST NAME: JEFF___________
             ADDRESS: 404__ ALAMO ST N____
                CITY: ____________________          ZIP: _____ ____  CALLBACK: Y
            PHONE(S): 210 226 0215 EXT: _____      ___ ___ 0000     CLBK STAT: C
               EMAIL: ____________________________________________
 COUNCIL REQST: DIST: __ ___________________________ PH: ___ ___ 0000  CLLBCK: _
         EMAIL: ____________________________________________              CLBK STAT:
F2=MENU F3=RETRN F4=ACTS F5=DUP ACT F6=NEW ACT F9=CLLBCKS F10=CMMNTS F11=RMRKS
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TSPWM210                          REQUEST ADD/UPDATE                    06/01/10
COMMAND: ____________________     REQUEST: 2008132899                 20080917
==============================================================================
 REQUEST: 2008132899 INIT: 21  OTHER                          ADA PRIORITY: _
RECEIVED: 09 10 2008   AT: 15 44  BY: ER75105   DUE: 11 12 2008    STATUS: C
CATEGORY: 600   DRAINAGE ENGINEERING INVEST          SCHEDULE DATE: __ __ ____
LOCATION: _____ ALAMO ST N____ INTRSCTN: MC CULLOUGH AV  UPPER:
ZIP: 78215      DIST: 01 TOWN: 00  MAP: 616F4  GEO-VAL Y LOWER:
 ROUTED ON: 09 10 2008 AT: 15 44    TO: 06  BY: ER75105_  LIN#: 3616
  COMMENTS: INTERSECTION FLOODS WHAT CAN BE DONE_________________________
            ______________________________________________________________
ACTION: 29_  DRAINAGE ENGINEERING COMPLETED     ASSIGNED TO: ____ SRV CTR: ___
     DATE: 09 17 2008  TIME: 08 08  BY: ER75105   PW SERV CTR: SOUTHEAST
ACTION REMARKS: EXISTING DRAIN SYSTEM UNDERSIZED REQUIRES NEW SYSTEM,FUTURE_
                ST/DRAIN PROJECT 2386 REQD NOT FUNDED COST EST 14.4 MILLION_
REQUESTOR: LAST NAME: RICHTER_______        FIRST NAME: ARTHUR_________
            ADDRESS: _____ _______________
               CITY: ____________________          ZIP: _____ ____  CALLBACK: _
           PHONE(S): ___ ___ 0000 EXT: _____      ___ ___ 0000     CLBK STAT:
              EMAIL: ______________________________________________
 COUNCIL REQST: DIST: __ ___________________________ PH: ___ ___ 0000  CLLBCK: _
        EMAIL: ____________________________________________________  CLBK STAT:
F2=MENU F3=RETRN F4=ACTS F5=DUP ACT F6=NEW ACT F9=CLLBCKS F10=CMMNTS F11=RMRKS
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TSPWM210                          REQUEST ADD/UPDATE                    06/01/10
COMMAND: ____________________     REQUEST: 2006136071                 20070426
==================================================================================
 REQUEST: 2006136071 INIT: 26  DRAINAGE ENGINEERING          ADA PRIORITY: _
RECEIVED: 11 07 2006   AT: 16 08  BY: JN08908   DUE: 01 17 2007    STATUS: C
CATEGORY: 600   DRAINAGE ENGINEERING INVEST          SCHEDULE DATE: __ __ ____
LOCATION: 500__ ALAMO ST N____ INTRSCTN: _____________ UPPER: 6TH ST E
ZIP: 78215 1807 DIST: 01 TOWN: 00  MAP: 616F4  GEO-VAL Y LOWER: MC CULLOUGH AV
 ROUTED ON: 11 07 2006 AT: 16 08    TO: 06  BY: JN08908_  LIN#: 3618
  COMMENTS: WATER ENTERS BUSINESS DURING MOD RAINS; OWNER STATED THIS BE
            GAN AFTER OVERLAYS; ST CAPACITY TO CARRY RUNOFF DIMINSHED.__
ACTION: 29_  DRAINAGE ENGINEERING COMPLETED     ASSIGNED TO: ____ SRV CTR: SA_
     DATE: 04 26 2007  TIME: 14 24  BY: JN08908   PW SERV CTR: SOUTHEAST
ACTION REMARKS: CREATED 200706072 CAT 500 COST EST TO RECONST N ALAMO @ LOWE
                R GRADE W/CURBS TO CONVEY STORMWATER IN ST. CURB EXP MINIMAL
REQUESTOR: LAST NAME: RICHTER_______        FIRST NAME: ARTHUR_________
             ADDRESS: ____ _______________
                CITY: ____________________          ZIP: _____ ____  CALLBACK: _
           PHONE(S): ___ ___ 0000 EXT: _____     ___ ___ 0000     CLBK STAT:
               EMAIL: ____________________________________________
 COUNCIL REQST: DIST: __ ____________________________ PH: ___ ___ 0000  CLLBCK: _
         EMAIL: ____________________________________________          CLBK STAT:
F2=MENU F3=RETRN F4=ACTS F5=DUP ACT F6=NEW ACT F9=CLLBCKS F10=CMMNTS F11=RMRKS
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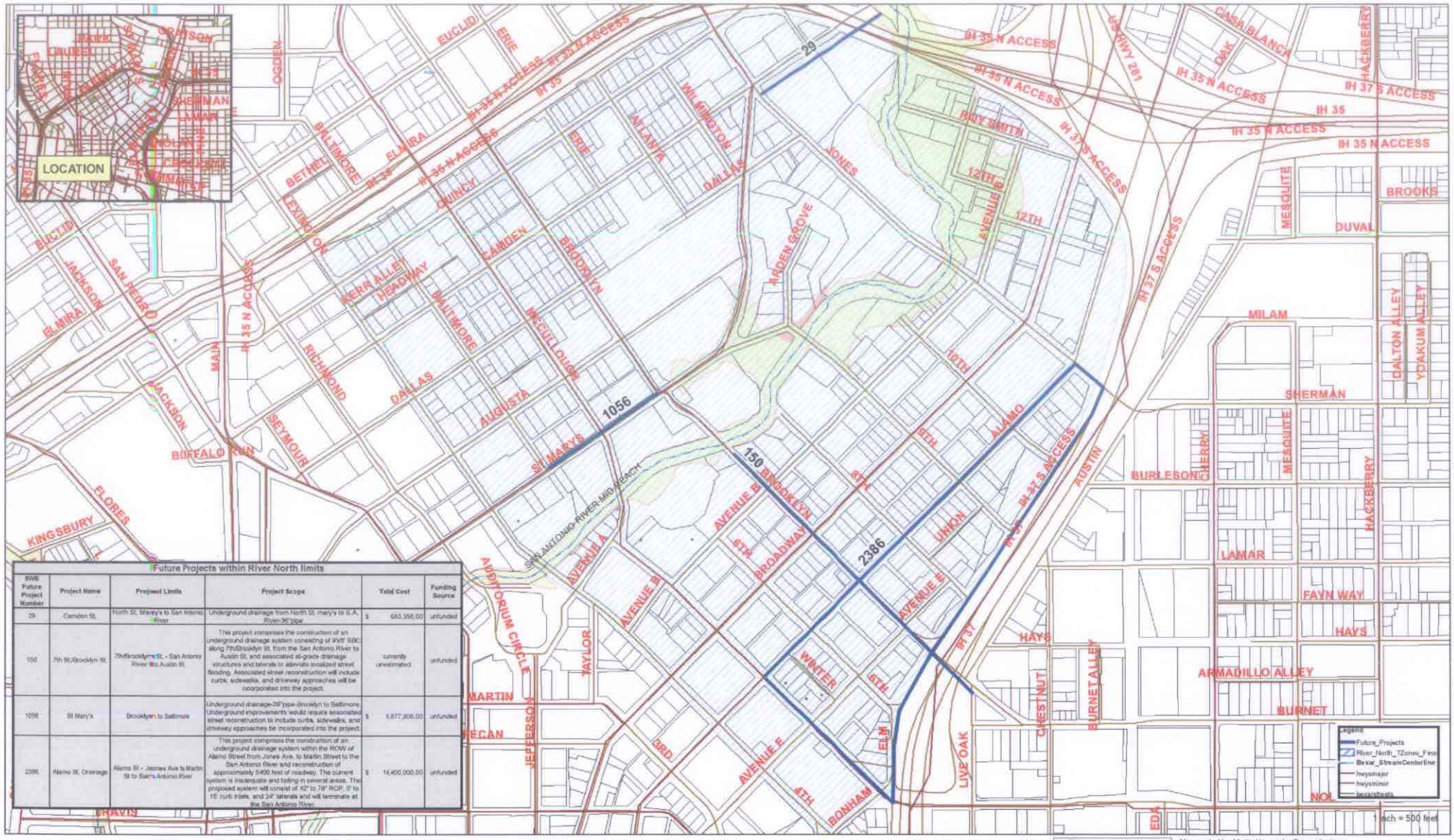
TSPWM210                          REQUEST ADD/UPDATE                    06/01/10
COMMAND: ____________________     REQUEST: 2007083956                 20070801
==================================================================================
 REQUEST: 2007083956 INIT: 23  STREET MAINTENANCE            ADA PRIORITY: _
RECEIVED: 06 01 2007   AT: 08 20  BY: MP12139   DUE: 08 06 2007    STATUS: C
CATEGORY: 600   DRAINAGE ENGINEERING INVEST          SCHEDULE DATE: __ __ ____
LOCATION: 1010_ ST MARYS N____  INTRSCTN: _____________  UPPER: MC CULLOUGH AV
ZIP: 78215      DIST: 01 TOWN: 00  MAP: 616F4  GEO-VAL Y LOWER: BALTIMORE AVE
 ROUTED ON: 06 01 2007 AT: 08 20    TO: 06  BY: MP12139_  LIN#: 318893
  COMMENTS: SEVERE DRAINAGE PROBLEMS AT THIS ADDRESS. PLEASE INVESTIGATE
            . MAY NEED ADDITIONAL DRAINAGE BTWN MCCULLOUGH AND AUGUSTA__
ACTION: I__  INVESTIGATING                          ASSIGNED TO: ____ SRV CTR: SA_
     DATE: 06 05 2007  TIME: 09 24  BY: PT08909   PW SERV CTR: SOUTHEAST
ACTION REMARKS: OPERATIONS TO INSPECT INLETS AT ST MARYS AND MCCULLOUGH_____
                ____________________________________________________________
REQUESTOR: LAST NAME: WILLIAMS_______        FIRST NAME: FRAN___________
             ADDRESS: _____ _______________
                CITY: ____________________        ZIP: _____ ____  CALLBACK: Y
            PHONE(S): 210 886 3247 EXT: _____     ___ ___ 0000     CLBK STAT: C
               EMAIL: ____________________________________________
 COUNCIL REQST: DIST: __ ___________________________ PH: ___ ___ 0000  CLLBCK: _
         EMAIL: ____________________________________                  CLBK STAT:
F2=MENU F3=RETRN F4=ACTS F5=DUP ACT F6=NEW ACT F9=CLLBCKS F10=CMMNTS F11=RMRKS
```



Future Projects within River North limits

SWE Future Project Number	Project Name	Project Limits	Project Scope	Total Cost	Funding Source
29	Camden St.	North St. Mary's to San Antonio River	Underground drainage from North St. mary's to S.A. River-36"pipe	$ 683,356.00	unfunded
150	7th St./Brooklyn St.	7th/Brooklyn St. - San Antonio River to Austin St.	This project comprises the construction of an underground drainage system consisting of 9'x6' SBC along 7th/Brooklyn St. from the San Antonio River to Austin St. and associated at-grade drainage structures and laterals to alleviate localized street flooding. Associated street reconstruction will include curbs, sidewalks, and driveway approaches will be incorporated into the project.	currently unestimated	unfunded
1056	St Mary's	Brooklyn to Saltmore	Underground drainage-36"pipe-Brooklyn to Saltmore. Underground improvements would require associated street reconstruction to include curbs, sidewalks, and driveway approaches be incorporated into the project.	$ 1,677,306.00	unfunded
2386	Alamo St. Drainage	Alamo St. - Jones Ave to Martin St to Saint's Antonio River	This project comprises the construction of an underground drainage system within the ROW of Alamo Street from Jones Ave. to Martin Street to the San Antonio River and reconstruction of approximately 5400 feet of roadway. The current system is inadequate and failing in several areas. The proposed system will consist of 42" to 78" RCP, 5' to 15' curb inlets, and 24" laterals and will terminate at the San Antonio River.	$ 14,400,000.00	unfunded

River North
Master Development Pattern Plan - MDPP 007-10
Future Projects Map
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Appendix C

0 500 1,000 1,500 2,000 Feet

City of San Antonio
Public Works Department
Storm Water Engineering

Map created by: Martin.Hernandez@sanantonio.gov
Location: \\Fscommon\misc20\InHouse_Cad_Design\12767_RiverNorth_DrainageReport_Prelim\ArcMap\Exhibit\Map_FutureProject
Date created: 06/03/10

Data Source: City of San Antonio Enterprise GIS.
"This Geographic Information System-Product, received from The City of San Antonio is provided "as is" without warranty of any kind, and the City of San Antonio expressly disclaims all express and implied warranties, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. The City of San Antonio does not warrant, guarantee, or make any representations regarding the use, or the results of the use, of the information provided to you by the City of San Antonio in terms of correctness, accuracy, reliability, timeliness or otherwise. The entire risk as to the results and performance of any information obtained from the City of San Antonio is entirely assumed by the recipient." "Please contact the responsible City of San Antonio Department for specific determinations."City of San Antonio Public Works Department.

Project: River North (System 1)

CIP No:
FP No:

						Rainfall Intensity - i						Flowrates - Q					
Computation Point	Development Type	Contributing Basins	Area (acres)	Composite C-Value	t_c (min)	2 yr (in/hr)	5 yr (in/hr)	10 yr (in/hr)	25 yr (in/hr)	50 yr (in/hr)	100 yr (in/hr)	2 yr (cfs)	**5 yr (cfs)**	10 yr (cfs)	**25 yr (cfs)**	50 yr (cfs)	**100 yr (cfs)**
DA1-1	-	-	3.30	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	16.93	**19.69**	21.73	**24.89**	27.12	**29.69**
DA1-2	-	-	4.40	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	22.57	**26.25**	28.97	**33.19**	36.16	**39.58**
DA1-3	-	-	4.80	52.00	9	5.21	6.08	6.70	7.69	8.37	9.17	13.00	**15.18**	16.72	**19.19**	20.89	**22.89**
DA1-4	-	-	9.50	95.00	11	4.88	5.69	6.27	7.21	7.85	8.61	44.04	**51.35**	56.59	**65.07**	70.85	**77.71**
DA1-2a	-	-	2.90	95.00	9	5.21	6.08	6.70	7.69	8.37	9.17	14.35	**16.75**	18.46	**21.19**	23.06	**25.26**
DA1-3a	-	-	3.40	95.00	11	4.88	5.69	6.27	7.21	7.85	8.61	15.76	**18.38**	20.25	**23.29**	25.36	**27.81**
DA1-4a	-	-	4.60	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	23.60	**27.44**	30.28	**34.70**	37.80	**41.38**
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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Rational Method

$$Q = CiA$$

Q= flow rate (cfs)
C= runoff coefficient
i= rainfall intensity (in/hr)
A= contributing area (acres)

Appendix D

River North
Master Development Pattern Plan - MDPP 007-10
Drainage Calculations
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Project: River North (System 2)

CIP No:
FP No:

						Rainfall Intensity - i						Flowrates - Q					
Computation Point	Development Type	Contributing Basins	Area (acres)	Composite C-Value	t_c (min)	2 yr (in/hr)	5 yr (in/hr)	10 yr (in/hr)	25 yr (in/hr)	50 yr (in/hr)	100 yr (in/hr)	2 yr (cfs)	**5 yr (cfs)**	10 yr (cfs)	**25 yr (cfs)**	50 yr (cfs)	**100 yr (cfs)**
DA2-1	-	-	2.10	95.00	7	5.59	6.50	7.17	8.20	8.95	9.78	11.15	**12.97**	14.30	**16.36**	17.86	**19.51**
DA2-2	-	-	3.60	95.00	13	4.58	5.35	5.89	6.76	7.39	8.10	15.66	**18.30**	20.14	**23.12**	25.27	**27.70**
DA2-3	-	-	3.50	95.00	9	5.21	6.08	6.70	7.69	8.37	9.17	17.32	**20.22**	22.28	**25.57**	27.83	**30.49**
DA2-4	-	-	6.05	95.00	10	5.04	5.88	6.48	7.44	8.10	8.88	28.97	**33.80**	37.24	**42.76**	46.55	**51.04**
DA2-5	-	-	1.80	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	9.23	**10.74**	11.85	**13.58**	14.79	**16.19**
DA2-2a	-	-	5.30	95.00	10	5.04	5.88	6.48	7.44	8.10	8.88	25.38	**29.61**	32.63	**37.46**	40.78	**44.71**
DA2-3a	-	-	4.50	95.00	9	5.21	6.08	6.70	7.69	8.37	9.17	22.27	**25.99**	28.64	**32.87**	35.78	**39.20**
DA2-4a	-	-	5.40	96.00	9	5.21	6.08	6.70	7.69	8.37	9.17	27.01	**31.52**	34.73	**39.86**	43.39	**47.54**
-	-	-	-	-	14	4.45	5.19	5.72	6.56	7.19	7.86	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Rational Method

$$Q = CiA$$

Q= flow rate (cfs)
C= runoff coefficient
i= rainfall intensity (in/hr)
A= contributing area (acres)

Appendix D

River North
Master Development Pattern Plan - MDPP 007-10
Drainage Calculations
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Project: River North (System 3)

CIP No:
FP No:

						Rainfall Intensity - i						Flowrates - Q					
Computation Point	Development Type	Contributing Basins	Area (acres)	Composite C-Value	t_c (min)	2 yr (in/hr)	5 yr (in/hr)	10 yr (in/hr)	25 yr (in/hr)	50 yr (in/hr)	100 yr (in/hr)	2 yr (cfs)	**5 yr (cfs)**	10 yr (cfs)	**25 yr (cfs)**	50 yr (cfs)	**100 yr (cfs)**
DA3-1	-	-	1.50	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	7.70	**8.95**	9.88	**11.31**	12.33	**13.49**
DA3-2	-	-	8.70	95.00	14	4.45	5.19	5.72	6.56	7.19	7.86	36.78	**42.90**	47.28	**54.22**	59.43	**64.96**
DA3-3	-	-	4.70	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	24.11	**28.04**	30.94	**35.45**	38.62	**42.28**
DA3-4	-	-	5.40	95.00	11	4.88	5.69	6.27	7.21	7.85	8.61	25.03	**29.19**	32.17	**36.99**	40.27	**44.17**
DA3-2a	-	-	5.60	95.00	14	4.45	5.19	5.72	6.56	7.19	7.86	23.67	**27.61**	30.43	**34.90**	38.25	**41.82**
DA3-2b	-	-	4.40	95.00	10	5.04	5.88	6.48	7.44	8.10	8.88	21.07	**24.58**	27.09	**31.10**	33.86	**37.12**
DA3-2c	-	-	6.70	95.00	13	4.58	5.35	5.89	6.76	7.39	8.10	29.15	**34.05**	37.49	**43.03**	47.04	**51.56**
DA3-2d	-	-	5.90	95.00	10	5.04	5.88	6.48	7.44	8.10	8.88	28.25	**32.96**	36.32	**41.70**	45.40	**49.77**
DA3-3a	-	-	7.30	49.79	12	4.72	5.52	6.08	6.98	7.61	8.35	17.16	**20.07**	22.10	**25.37**	27.66	**30.35**
DA3-4a	-	-	2.50	35.00	11	4.88	5.69	6.27	7.21	7.85	8.61	4.27	**4.98**	5.49	**6.31**	6.87	**7.53**
DA4	-	-	3.30	95.00	11	4.88	5.69	6.27	7.21	7.85	8.61	15.30	**17.84**	19.66	**22.60**	24.61	**26.99**
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Rational Method

$$Q = CiA$$

Q= flow rate (cfs)
C= runoff coefficient
i= rainfall intensity (in/hr)
A= contributing area (acres)

Appendix D

River North
Master Development Pattern Plan - MDPP 007-10
Drainage Calculations
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Project: River North (System 5)

CIP No:
FP No:

						Rainfall Intensity - i						Flowrates - Q					
Computation Point	Development Type	Contributing Basins	Area (acres)	Composite C-Value	t_c (min)	2 yr (in/hr)	5 yr (in/hr)	10 yr (in/hr)	25 yr (in/hr)	50 yr (in/hr)	100 yr (in/hr)	2 yr (cfs)	**5 yr (cfs)**	10 yr (cfs)	**25 yr (cfs)**	50 yr (cfs)	**100 yr (cfs)**
DA5-1	-	-	4.90	95.00	10	5.04	5.88	6.48	7.44	8.10	8.88	23.46	**27.37**	30.16	**34.63**	37.71	**41.34**
DA5-2	-	-	3.40	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	17.44	**20.28**	22.38	**25.65**	27.94	**30.59**
DA5-3	-	-	3.60	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	18.47	**21.48**	23.70	**27.15**	29.58	**32.39**
DA5-4	-	-	5.30	95.00	7	5.59	6.50	7.17	8.20	8.95	9.78	28.15	**32.73**	36.10	**41.29**	45.06	**49.24**
DA5-5	-	-	14.30	95.00	20	3.85	4.56	5.08	5.86	6.48	7.09	52.30	**61.95**	69.01	**79.61**	88.03	**96.32**
DA5-1a	-	-	7.50	95.00	16	4.22	4.94	5.46	6.26	6.89	7.53	30.07	**35.20**	38.90	**44.60**	49.09	**53.65**
DA5-3a	-	-	12.90	95.00	20	3.85	4.56	5.08	5.86	6.48	7.09	47.18	**55.88**	62.26	**71.81**	79.41	**86.89**
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Rational Method

$$Q = CiA$$

Q= flow rate (cfs)
C= runoff coefficient
i= rainfall intensity (in/hr)
A= contributing area (acres)

Appendix D

River North
Master Development Pattern Plan - MDPP 007-10
Drainage Calculations
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Project: River North (System 6)

CIP No:
FP No:

						Rainfall Intensity - i						Flowrates - Q					
Computation Point	Development Type	Contributing Basins	Area (acres)	Composite C-Value	t_c (min)	2 yr (in/hr)	5 yr (in/hr)	10 yr (in/hr)	25 yr (in/hr)	50 yr (in/hr)	100 yr (in/hr)	2 yr (cfs)	**5 yr (cfs)**	10 yr (cfs)	**25 yr (cfs)**	50 yr (cfs)	**100 yr (cfs)**
DA6-1	-	-	2.50	95.00	7	5.59	6.50	7.17	8.20	8.95	9.78	13.28	**15.44**	17.03	**19.48**	21.26	**23.23**
DA6-2	-	-	4.50	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	23.09	**26.85**	29.63	**33.94**	36.98	**40.48**
DA6-3	-	-	4.40	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	22.57	**26.25**	28.97	**33.19**	36.16	**39.58**
DA6-4	-	-	6.20	96.00	6	5.79	6.72	7.42	8.48	9.27	10.10	34.46	**40.00**	44.16	**50.47**	55.18	**60.12**
DA6-2a	-	-	5.70	96.00	9	5.21	6.08	6.70	7.69	8.37	9.17	28.51	**33.27**	36.66	**42.08**	45.80	**50.18**
DA6-2b	-	-	3.90	95.00	12	4.72	5.52	6.08	6.98	7.61	8.35	17.49	**20.45**	22.53	**25.86**	28.20	**30.94**
DA6-4a	-	-	5.70	95.00	11	4.88	5.69	6.27	7.21	7.85	8.61	26.43	**30.81**	33.95	**39.04**	42.51	**46.62**
DA6-4b	-	-	5.40	96.00	9	5.21	6.08	6.70	7.69	8.37	9.17	27.01	**31.52**	34.73	**39.86**	43.39	**47.54**
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Rational Method

$$Q = CiA$$

Q= flow rate (cfs)
C= runoff coefficient
i= rainfall intensity (in/hr)
A= contributing area (acres)

Appendix D

River North
Master Development Pattern Plan - MDPP 007-10
Drainage Calculations
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Project: River North (System 7)

CIP No:
FP No:

						Rainfall Intensity - i						Flowrates - Q					
Computation Point	Development Type	Contributing Basins	Area (acres)	Composite C-Value	t_c (min)	2 yr (in/hr)	5 yr (in/hr)	10 yr (in/hr)	25 yr (in/hr)	50 yr (in/hr)	100 yr (in/hr)	2 yr (cfs)	**5 yr (cfs)**	10 yr (cfs)	**25 yr (cfs)**	50 yr (cfs)	**100 yr (cfs)**
DA7-1	-	-	4.94	95.00	8	5.40	6.28	6.93	7.94	8.65	9.47	25.34	**29.47**	32.52	**37.26**	40.59	**44.44**
DA7-2	-	-	4.20	95.00	9	5.21	6.08	6.70	7.69	8.37	9.17	20.79	**24.26**	26.73	**30.68**	33.40	**36.59**
DA7-3	-	-	4.60	96.00	7	5.59	6.50	7.17	8.20	8.95	9.78	24.69	**28.70**	31.66	**36.21**	39.52	**43.19**
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Rational Method

$$Q = CiA$$

Q= flow rate (cfs)
C= runoff coefficient
i= rainfall intensity (in/hr)
A= contributing area (acres)

Appendix D

River North
Master Development Pattern Plan - MDPP 007-10
Drainage Calculations
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Project: River North (System 8)

CIP No:
FP No:

						Rainfall Intensity - i						Flowrates - Q					
Computation Point	Development Type	Contributing Basins	Area (acres)	Composite C-Value	t_c (min)	2 yr (in/hr)	5 yr (in/hr)	10 yr (in/hr)	25 yr (in/hr)	50 yr (in/hr)	100 yr (in/hr)	2 yr (cfs)	**5 yr (cfs)**	10 yr (cfs)	**25 yr (cfs)**	50 yr (cfs)	**100 yr (cfs)**
DA8-1	-	-	9.00	96.00	8	5.40	6.28	6.93	7.94	8.65	9.47	46.66	**54.26**	59.88	**68.60**	74.74	**81.82**
DA8-1a	-	-	1.69	95.00	6	5.79	6.72	7.42	8.48	9.27	10.10	9.30	**10.79**	11.91	**13.61**	14.88	**16.22**
DA8-2	-	-	5.60	96.00	8	5.40	6.28	6.93	7.94	8.65	9.47	29.03	**33.76**	37.26	**42.69**	46.50	**50.91**
DA8-2a	-	-	5.70	96.00	9	5.21	6.08	6.70	7.69	8.37	9.17	28.51	**33.27**	36.66	**42.08**	45.80	**50.18**
DA8-2b	-	-	5.50	96.00	7	5.59	6.50	7.17	8.20	8.95	9.78	29.52	**34.32**	37.86	**43.30**	47.26	**51.64**
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Rational Method

$$Q = CiA$$

Q= flow rate (cfs)
C= runoff coefficient
i= rainfall intensity (in/hr)
A= contributing area (acres)

Appendix D

River North
Master Development Pattern Plan - MDPP 007-10
Drainage Calculations
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Project: River North (System 9)

CIP No:
FP No:

						Rainfall Intensity - i						Flowrates - Q					
Computation Point	Development Type	Contributing Basins	Area (acres)	Composite C-Value	t_c (min)	2 yr (in/hr)	5 yr (in/hr)	10 yr (in/hr)	25 yr (in/hr)	50 yr (in/hr)	100 yr (in/hr)	2 yr (cfs)	**5 yr (cfs)**	10 yr (cfs)	**25 yr (cfs)**	50 yr (cfs)	**100 yr (cfs)**
DA9-1	-	-	3.90	96.00	7	5.59	6.50	7.17	8.20	8.95	9.78	20.93	**24.34**	26.84	**30.70**	33.51	**36.62**
DA9-2	-	-	3.80	96.00	10	5.04	5.88	6.48	7.44	8.10	8.88	18.39	**21.45**	23.64	**27.14**	29.55	**32.39**
DA9-3	-	-	1.20	68.00	7	5.59	6.50	7.17	8.20	8.95	9.78	4.56	**5.30**	5.85	**6.69**	7.30	**7.98**
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Rational Method

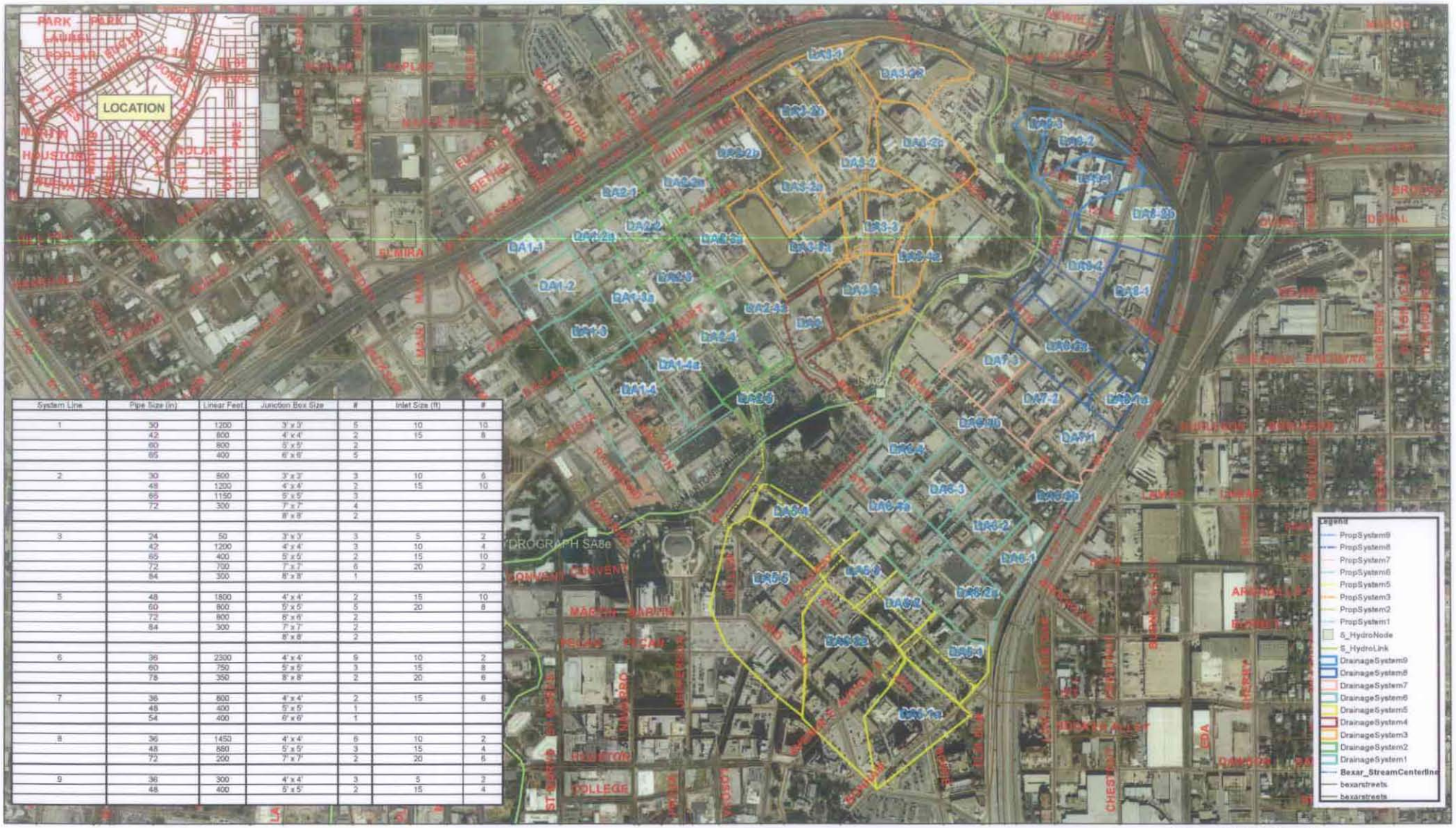
$$Q = CiA$$

Q= flow rate (cfs)
C= runoff coefficient
i= rainfall intensity (in/hr)
A= contributing area (acres)

Appendix D

River North
Master Development Pattern Plan - MDPP 007-10
Drainage Calculations
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205



System Line	Pipe Size (in)	Linear Feet	Junction Box Size	#	Inlet Size (ft)	#
1	30	1200	3' x 3'	5	10	10
	42	800	4' x 4'	2	15	8
	60	800	5' x 5'	2		
	65	400	6' x 6'	5		
2	30	600	3' x 3'	3	10	6
	48	1200	4' x 4'	2	15	10
	65	1150	5' x 5'	3		
	72	300	7' x 7'	4		
			8' x 8'	2		
3	24	50	3' x 3'	3	5	2
	42	1200	4' x 4'	3	10	4
	65	400	5' x 5'	2	15	10
	72	700	7' x 7'	6	20	2
	84	300	8' x 8'	1		
5	48	1800	4' x 4'	2	15	10
	60	800	5' x 5'	5	20	8
	72	800	6' x 6'	2		
	84	300	7' x 7'	2		
			8' x 8'	2		
6	36	2300	4' x 4'	9	10	2
	60	750	5' x 5'	3	15	8
	78	350	8' x 8'	2	20	6
7	36	800	4' x 4'	2	15	6
	48	400	5' x 5'	1		
	54	400	6' x 6'	1		
8	36	1450	4' x 4'	6	10	2
	48	880	5' x 5'	3	15	4
	72	200	7' x 7'	2	20	6
9	36	300	4' x 4'	3	5	2
	48	400	5' x 5'	2	15	4

River North
Master Development Pattern Plan - MDPP 007-10
Drainage Systems Map
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Appendix E

0 600 1,200 1,800 2,400 Feet

City of San Antonio
Public Works Department
Storm Water Engineering

Map created by: Martin.Hernandez@sanantonio.gov
Location: \\Fscommon\misc23\InHouse_Cad_Design\12787_RiverNorth_DrainageReport_Prelim\ArcMap\ExhibitMap_11x17_DrainageAreas.mxd
Date created: 006/03/10

Data Source: City of San Antonio Enterprise GIS
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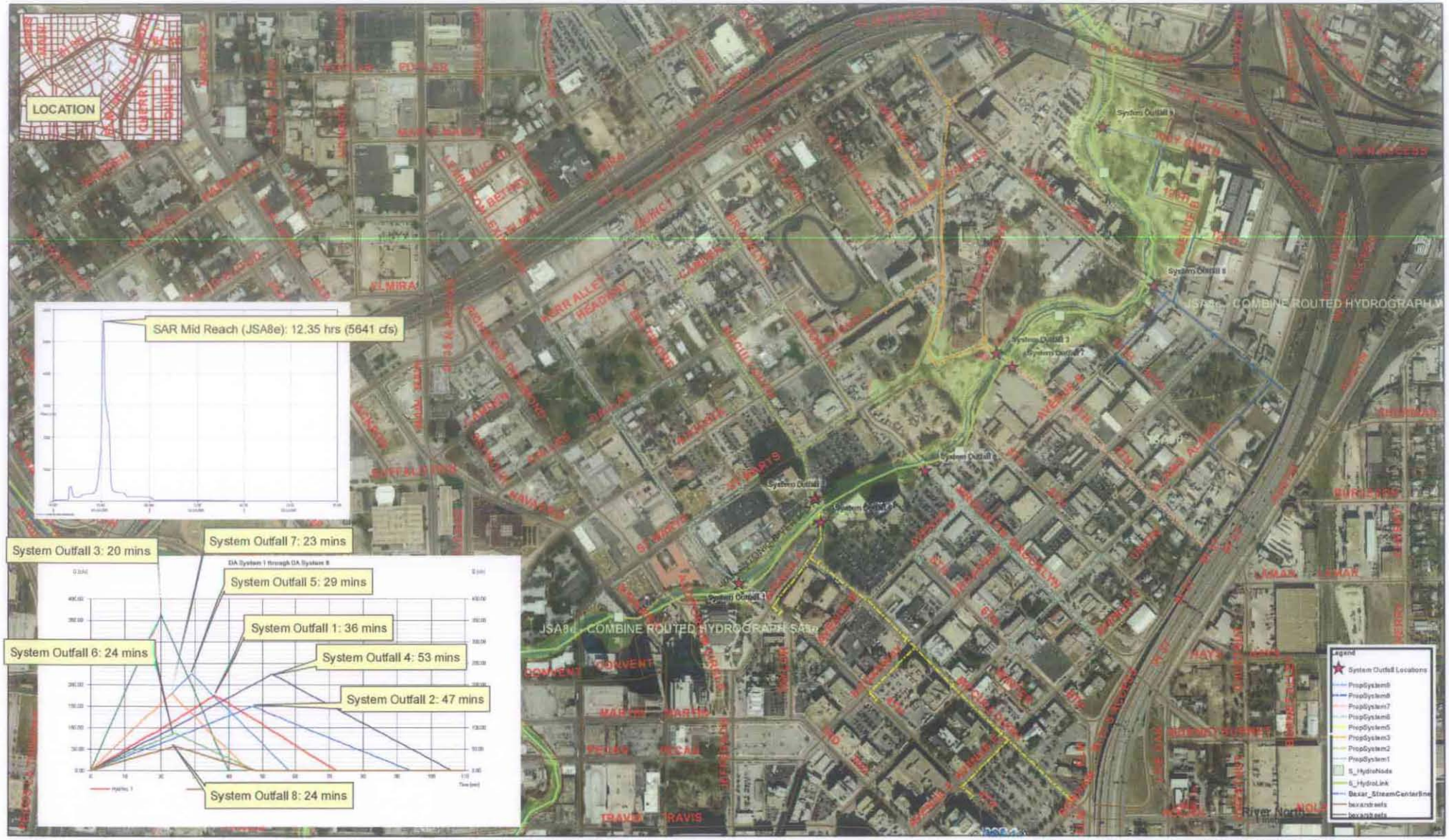

River North
Master Development Pattern Plan - MDPP 007-10
San Antonio River Hydrograph Exhibit
June 3, 2010

Storm Water Engineering
City of San Antonio
114 W. Commerce Street
San Antonio, TX 78205

Appendix F

0 500 1,000 1,500 2,000 Feet

N W E S

City of San Antonio Public Works Department Storm Water Engineering

Map created by: Martin.Hernandez@sanantonio.gov
Location: \\Fasomnon\mlsc2315\W_Engineering\InHouse_Cad_Design\12767_RiverNorth_DrainageReport_PrelimAccMap\Exhibit_11x17_HydrologyComparison.mxd
Date created: 06/03/10

Data Source: City of San Antonio Enterprise GIS

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