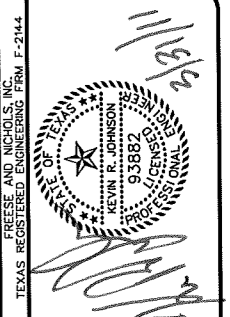
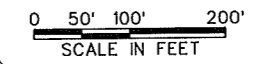


**DESIGN PARAMETERS AND ASSUMPTIONS**

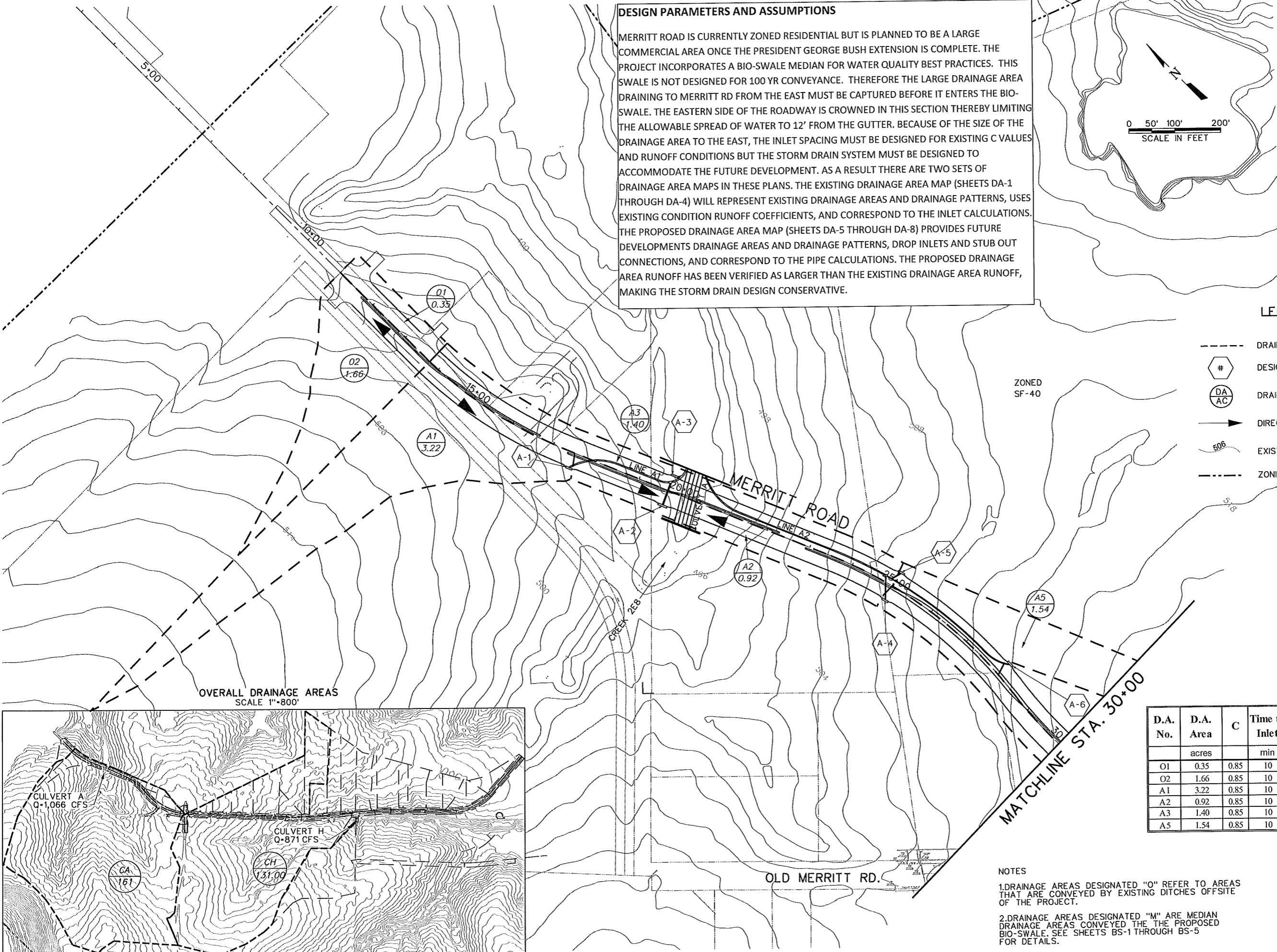
MERRITT ROAD IS CURRENTLY ZONED RESIDENTIAL BUT IS PLANNED TO BE A LARGE COMMERCIAL AREA ONCE THE PRESIDENT GEORGE BUSH EXTENSION IS COMPLETE. THE PROJECT INCORPORATES A BIO-SWALE MEDIAN FOR WATER QUALITY BEST PRACTICES. THIS SWALE IS NOT DESIGNED FOR 100 YR CONVEYANCE. THEREFORE THE LARGE DRAINAGE AREA DRAINING TO MERRITT RD FROM THE EAST MUST BE CAPTURED BEFORE IT ENTERS THE BIO-SWALE. THE EASTERN SIDE OF THE ROADWAY IS CROWNED IN THIS SECTION THEREBY LIMITING THE ALLOWABLE SPREAD OF WATER TO 12' FROM THE GUTTER. BECAUSE OF THE SIZE OF THE DRAINAGE AREA TO THE EAST, THE INLET SPACING MUST BE DESIGNED FOR EXISTING C VALUES AND RUNOFF CONDITIONS BUT THE STORM DRAIN SYSTEM MUST BE DESIGNED TO ACCOMMODATE THE FUTURE DEVELOPMENT. AS A RESULT THERE ARE TWO SETS OF DRAINAGE AREA MAPS IN THESE PLANS. THE EXISTING DRAINAGE AREA MAP (SHEETS DA-1 THROUGH DA-4) WILL REPRESENT EXISTING DRAINAGE AREAS AND DRAINAGE PATTERNS, USES EXISTING CONDITION RUNOFF COEFFICIENTS, AND CORRESPOND TO THE INLET CALCULATIONS. THE PROPOSED DRAINAGE AREA MAP (SHEETS DA-5 THROUGH DA-8) PROVIDES FUTURE DEVELOPMENTS DRAINAGE AREAS AND DRAINAGE PATTERNS, DROP INLETS AND STUB OUT CONNECTIONS, AND CORRESPOND TO THE PIPE CALCULATIONS. THE PROPOSED DRAINAGE AREA RUNOFF HAS BEEN VERIFIED AS LARGER THAN THE EXISTING DRAINAGE AREA RUNOFF, MAKING THE STORM DRAIN DESIGN CONSERVATIVE.



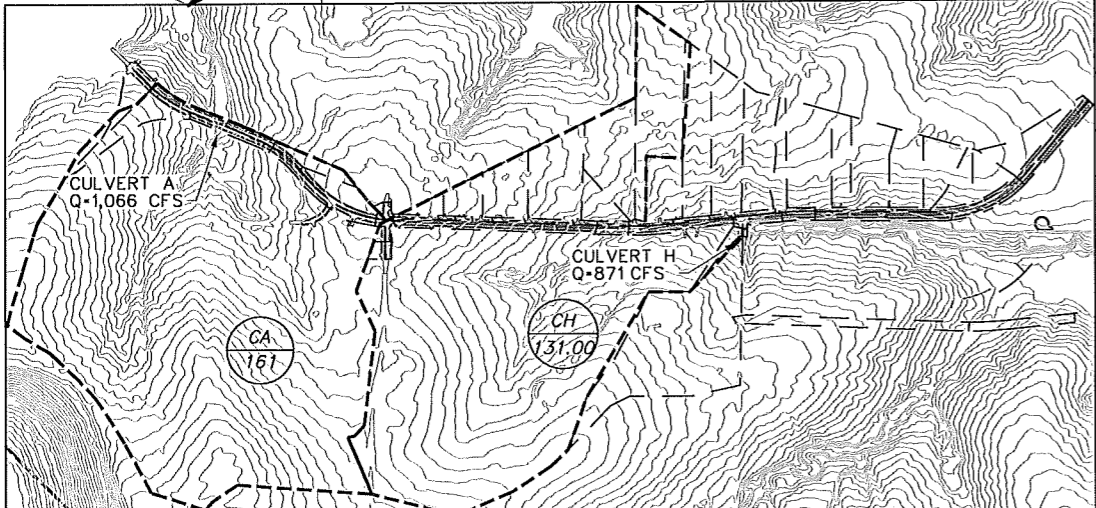
**FREESE AND NICHOLS, INC.**  
 1701 N. Market Street, Suite 500, LB 51  
 Dallas, TX 75202-2001  
 Phone - (214) 217-5200  
 Web - www.freese.com

**LEGEND**

- DRAINAGE AREA BOUNDARY
- # DESIGN POINT
- DA/AC DRAINAGE AREA NUMBER ACRES
- DIRECTION OF RUNOFF
- 500 EXISTING CONTOURS
- - - ZONING LINE



OVERALL DRAINAGE AREAS  
 SCALE 1"=800'



D.A. No.	D.A. Area	C	Time to Inlet	Intensity	Q
	acres		min	in/hr	cfs
O1	0.35	0.85	10	9.00	2.64
O2	1.66	0.85	10	9.00	12.68
A1	3.22	0.85	10	9.00	24.63
A2	0.92	0.85	10	9.00	7.07
A3	1.40	0.85	10	9.00	10.69
A5	1.54	0.85	10	9.00	11.82

- NOTES**
- 1.DRAINAGE AREAS DESIGNATED "O" REFER TO AREAS THAT ARE CONVEYED BY EXISTING DITCHES OFFSITE OF THE PROJECT.
  - 2.DRAINAGE AREAS DESIGNATED "M" ARE MEDIAN DRAINAGE AREAS CONVEYED THE THE PROPOSED BIO-SWALE. SEE SHEETS BS-1 THROUGH BS-5 FOR DETAILS.

CITY OF ROWLETT  
**MERRITT ROAD PAVING IMPROVEMENTS**  
 CIVIL  
**BEGINNING TO STA 30+00**  
**PROPOSED DRAINAGE AREA MAP**

ROW09317	DATE 03/30/11	DESIGNED LHM	DRAWN CHM	REVIEWED	CHECKED	FILE NAME
						cv-trt-gn-dmap05.sht
SHEET	DA-5					
SEQ.	81					

MicroStation V8 User: all  
 Office: Dallas  
 Project: Freese and Nichols  
 Date: 03/31/2011 10:46:57 AM  
 File: N:\V\Drawings\cv-trt-gn-dmap05.sht

D.A. No.	D.A. Area	C	Time to Inlet	Intensity	Q
	acres		min	in/hr	cfs
O3	0.41	0.85	10	9.00	3.16
O4	0.17	0.85	10	9.00	1.32
A4	1.48	0.85	10	9.00	11.35
A6	2.34	0.85	10	9.00	17.91
B1	0.22	0.85	10	9.00	1.67
B2	0.42	0.85	10	9.00	3.24
B3	0.35	0.85	10	9.00	2.67
B4	0.33	0.85	10	9.00	2.54
B5	0.82	0.85	10	9.00	6.31
B6	0.12	0.85	10	9.00	0.90
B7	0.12	0.85	10	9.00	0.88
B8	2.12	0.85	10	9.00	16.22
B9	0.14	0.85	10	9.00	1.06
B10	0.22	0.85	10	9.00	1.68
B11	4.03	0.85	10	9.00	30.80
B12	7.17	0.85	10	9.00	54.84
B13	0.33	0.85	10	9.00	2.52
B14	0.17	0.85	10	9.00	1.26
M1	2.78	0.85	10	9.00	21.29

**LEGEND**

- DRAINAGE AREA BOUNDARY
- # DESIGN POINT
- DA/AC DRAINAGE AREA NUMBER/ACREAGE
- ➔ DIRECTION OF RUNOFF
- 506 EXISTING CONTOURS
- ZONING LINE

