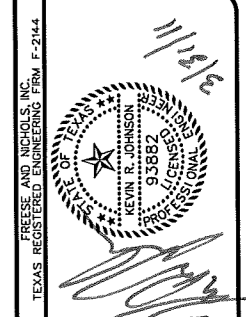
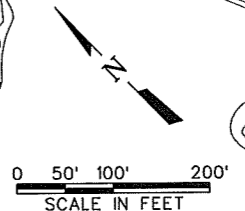


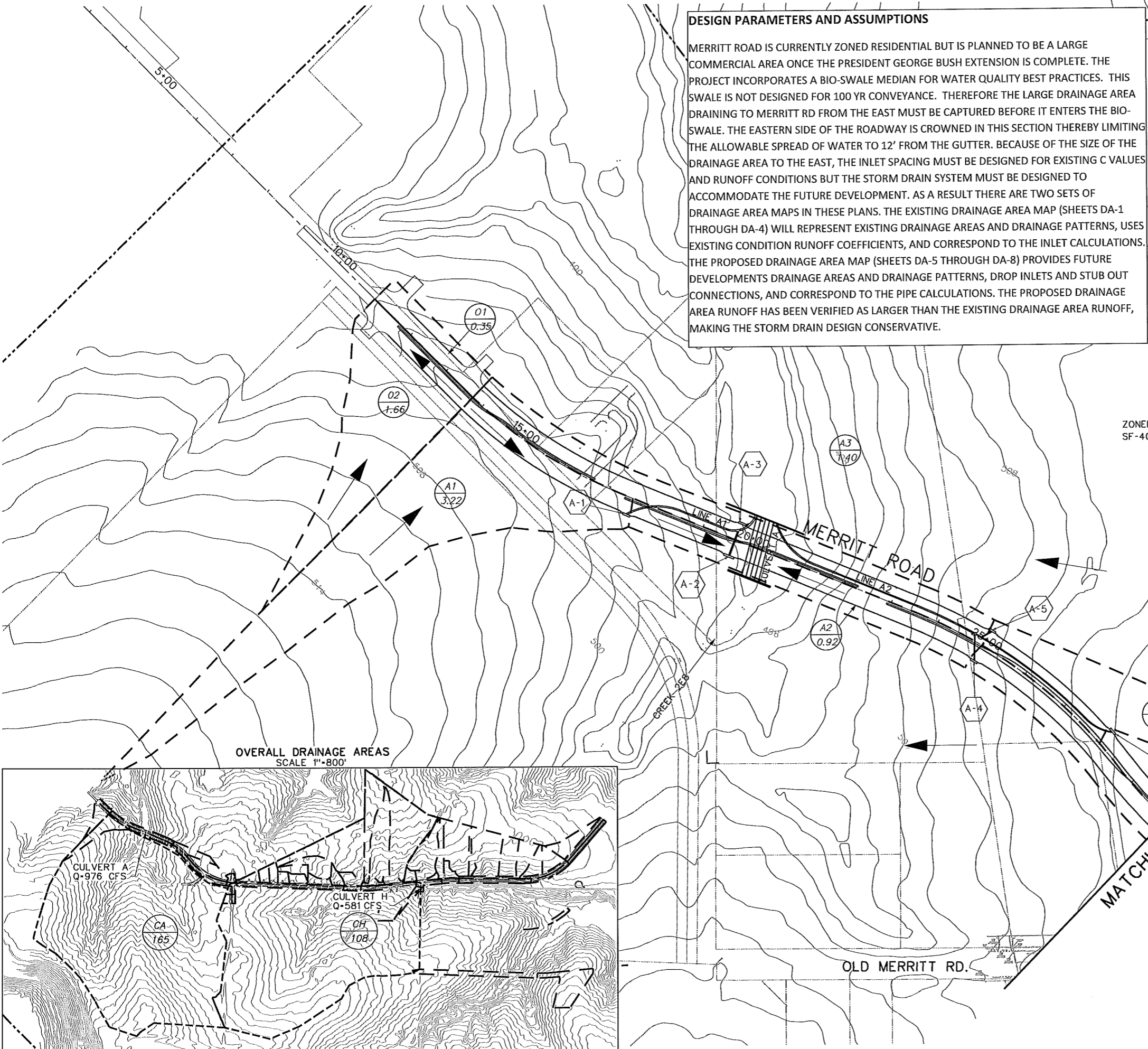
DESIGN PARAMETERS AND ASSUMPTIONS

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.



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 7701 N. Meeks Street, Suite 500, LB 51
 Dallas, TX 75202-2001
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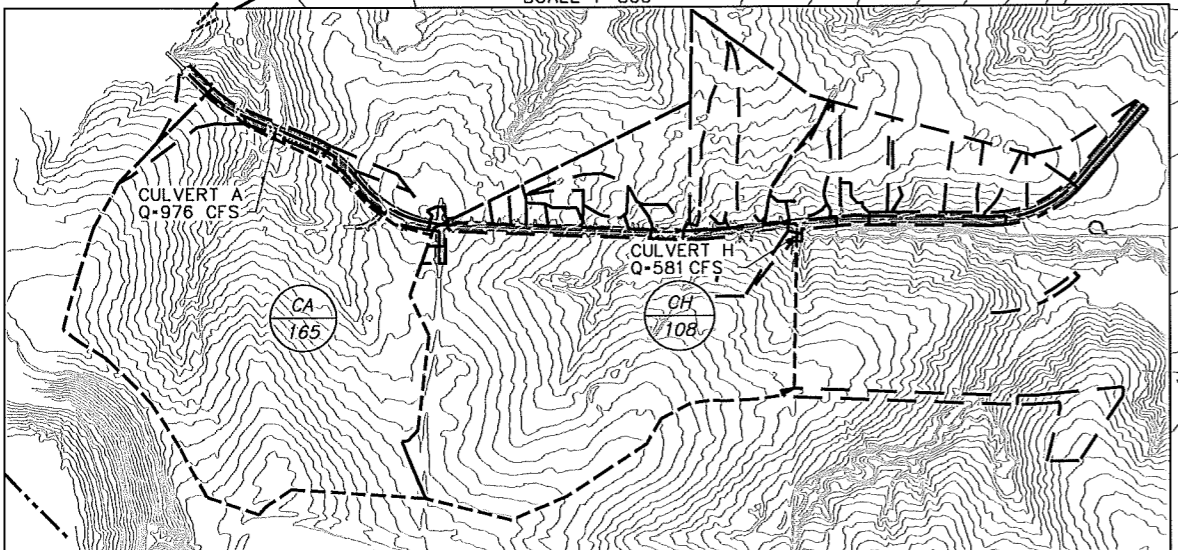
CITY OF ROWLETT
MERRITT ROAD PAVING IMPROVEMENTS
 CIVIL
BEGINNING TO STA 30+00
EXISTING DRAINAGE AREA MAP



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 acres	C	Time to Inlet min	Intensity in/hr	Q cfs
O1	0.35	0.85	10	9.00	2.64
O2	1.66	0.45	10	9.00	6.72
A1	3.22	0.45	10	9.00	13.03
A2	0.92	0.85	10	9.00	7.07
A3	1.40	0.85	10	9.00	10.69
A5	1.54	0.45	10	9.00	6.26

NOTES

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

ROW09317	DATE 03/30/11	DESIGNED LMW	DRAWN CHM	REVISION	CHECKED	FILE NAME	cv-trt-gn-dmap01.sht
SHEET DA-1 SEQ. 77							

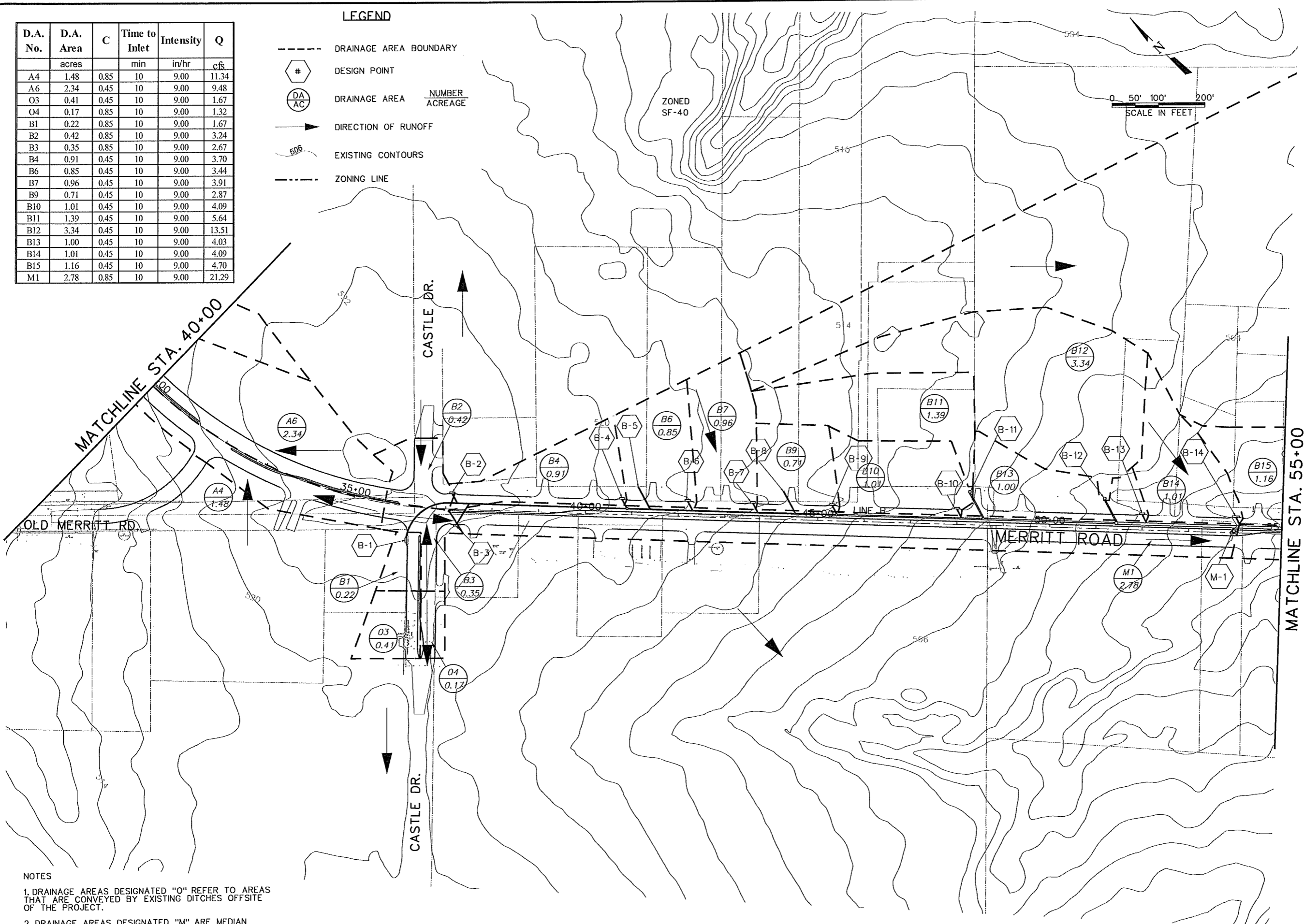
VERIFY SCALE Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

MacroStation V8 User: sil Office: Dallas Date: 03/31/2011 - 10:46:36 AM User: sil File: N:\V\Drawings\cv-trt-gn-dmap01.sht
 Project: Freese and Nichols, Inc.
 Plotter: HP DesignJet 2400 Plot Scale: 1"=800' Y: 11.00 X: 11.00
 CV-TRT-PL-DESIGN.dgn Contours.dgn
 CV-TRT-PL-DESIGN.dgn Contours.dgn
 CV-TRT-PL-DESIGN.dgn Contours.dgn
 CV-TRT-PL-DESIGN.dgn Contours.dgn

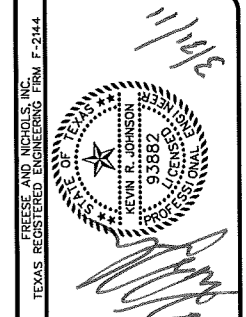
D.A. No.	D.A. Area	C	Time to Inlet	Intensity	Q
	acres		min	in/hr	cfs
A4	1.48	0.85	10	9.00	11.34
A6	2.34	0.45	10	9.00	9.48
O3	0.41	0.45	10	9.00	1.67
O4	0.17	0.85	10	9.00	1.32
B1	0.22	0.85	10	9.00	1.67
B2	0.42	0.85	10	9.00	3.24
B3	0.35	0.85	10	9.00	2.67
B4	0.91	0.45	10	9.00	3.70
B6	0.85	0.45	10	9.00	3.44
B7	0.96	0.45	10	9.00	3.91
B9	0.71	0.45	10	9.00	2.87
B10	1.01	0.45	10	9.00	4.09
B11	1.39	0.45	10	9.00	5.64
B12	3.34	0.45	10	9.00	13.51
B13	1.00	0.45	10	9.00	4.03
B14	1.01	0.45	10	9.00	4.09
B15	1.16	0.45	10	9.00	4.70
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



- 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 IN THE PROPOSED BIO-SWALE. SEE SHEETS BS-1 THROUGH BS-5 FOR DETAILS.
 3. DESIGN POINTS B-5 AND B-8 ARE STUB OUTS FOR PROPOSED DRAINAGE AREAS.

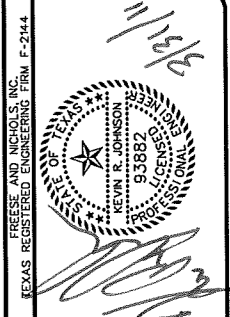


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CITY OF ROWLETT
MERRITT ROAD PAVING IMPROVEMENTS
 CIVIL
 STA 30+00 TO STA 55+00
 EXISTING DRAINAGE AREA MAP

ROW09317	DATE 03/30/11	DESIGNED LMW	CHM
	DRAWN	REVISION	CHECKED
	FILE NAME	cv-trt-gn-dmap02.sht	
SHEET DA-2			
SEQ. 78			

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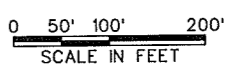
FREESSE AND NICHOLS, INC.
 7701 N. Mopac Blvd., Suite 500, LB 51
 Austin, Texas 78731
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 Web - www.freesse.com

CITY OF ROWLETT
MERRITT ROAD PAVING IMPROVEMENTS
 CIVIL
STA 55+00 TO STA 80+00
EXISTING DRAINAGE AREA MAP

ROW09317	DATE 03/30/11	DESIGNED LHM	CHM
	DRAWN	REVIS	CHECKED
			FILE NAME
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VERIFY SCALE Bar is one inch on original if not one inch on this sheet, adjust scale.			
SHEET DA-3			
SEQ. 79			

NOTES

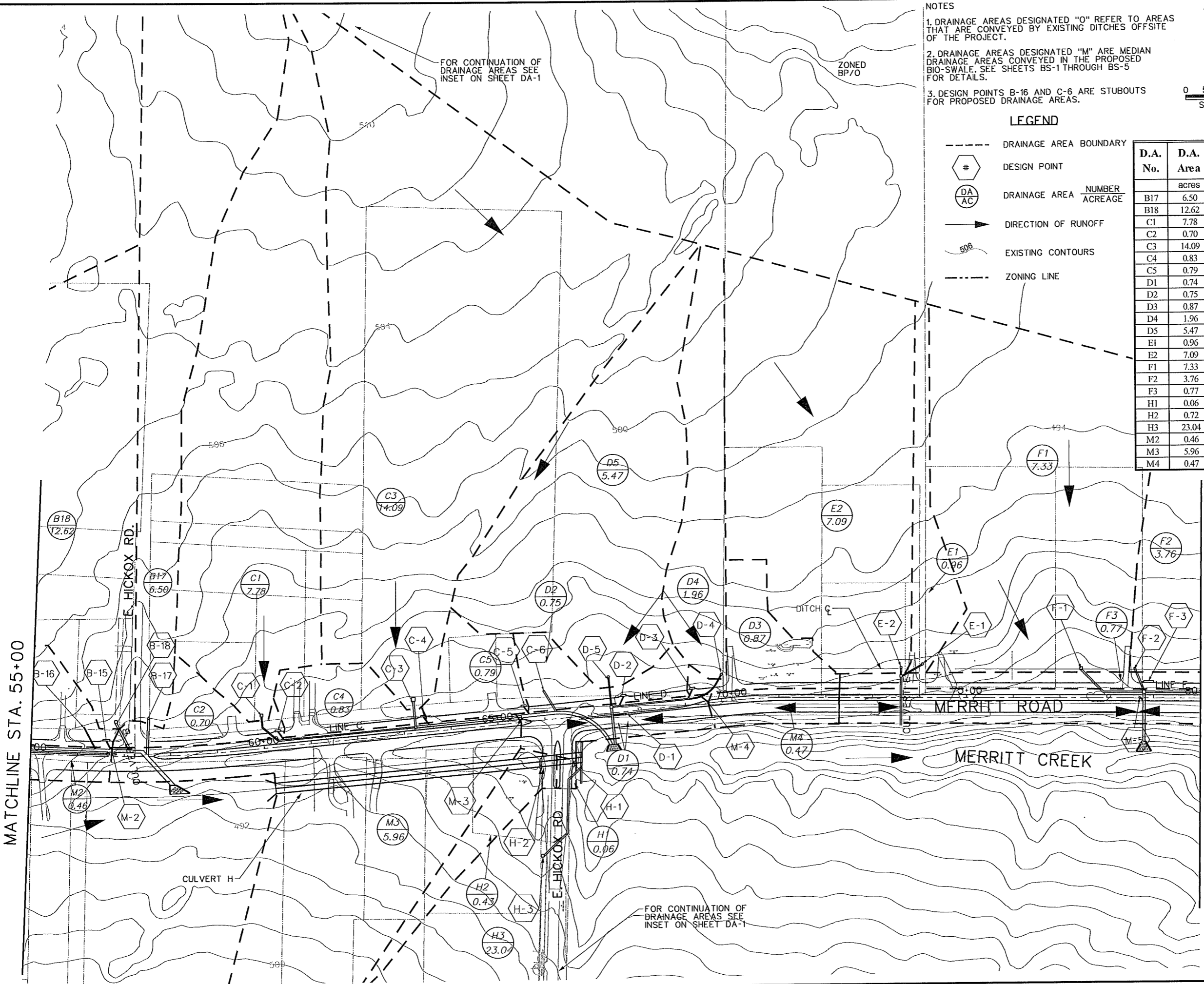
1. DRAINAGE AREAS DESIGNATED "O" REFER TO AREAS THAT ARE CONVEYED BY EXISTING DITCHES OFFSITE OF THE PROJECT.
2. DRAINAGE AREAS DESIGNATED "M" ARE MEDIAN DRAINAGE AREAS CONVEYED IN THE PROPOSED BIO-SWALE. SEE SHEETS BS-1 THROUGH BS-5 FOR DETAILS.
3. DESIGN POINTS B-16 AND C-6 ARE STUBOUTS FOR PROPOSED DRAINAGE AREAS.



LEGEND

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

D.A. No.	D.A. Area	C	Time to Inlet	Intensity	Q
	acres		min	in/hr	cfs
B17	6.50	0.45	10	9.00	26.31
B18	12.62	0.45	10	9.00	51.12
C1	7.78	0.45	10	9.00	31.51
C2	0.70	0.45	10	9.00	2.82
C3	14.09	0.45	10	9.00	57.07
C4	0.83	0.45	10	9.00	3.35
C5	0.79	0.45	10	9.00	3.21
D1	0.74	0.85	10	9.00	5.68
D2	0.75	0.45	10	9.00	3.05
D3	0.87	0.45	10	9.00	3.53
D4	1.96	0.45	10	9.00	7.93
D5	5.47	0.45	10	9.00	22.17
E1	0.96	0.45	10	9.00	3.87
E2	7.09	0.45	10	9.00	28.72
F1	7.33	0.45	10	9.00	29.67
F2	3.76	0.45	10	9.00	15.23
F3	0.77	0.45	10	9.00	3.12
H1	0.06	0.45	10	9.00	0.25
H2	0.72	0.45	10	9.00	2.92
H3	23.04	0.45	10	9.00	93.32
M2	0.46	0.85	10	9.00	3.51
M3	5.96	0.45	10	9.00	24.13
M4	0.47	0.85	10	9.00	3.58



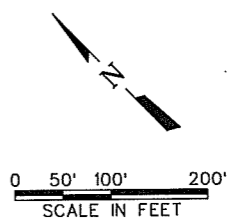
FOR CONTINUATION OF DRAINAGE AREAS SEE INSET ON SHEET DA-1

ZONED BP/0

FOR CONTINUATION OF DRAINAGE AREAS SEE INSET ON SHEET DA-1

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 Office: Dallas
 Date: 03/31/2011 10:46:47 AM
 User: sll
 File: N:\Drawings\cv-trt-gn-dmap03.sht

MicroStation V8 User: sil Office: Dallas
 Plotter: HP-Plotter-XM-Plotter-4 PS-11x17-ADV-TRT-PL-ALONGLED
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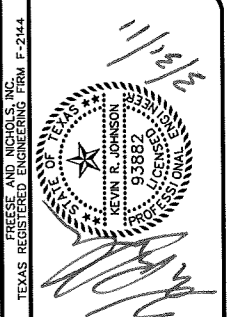


D.A. No.	D.A. Area acres	C	Time to Inlet min	Intensity in/hr	Q cfs
F4	2.86	0.45	10	9.00	11.60
F5	0.98	0.85	10	9.00	7.47
F6	1.89	0.45	10	9.00	7.67
F7	0.83	0.85	10	9.00	6.36
F8	1.98	0.45	10	9.00	8.00
G1	1.09	0.85	10	9.00	8.35
G2	3.19	0.45	10	9.00	12.92
G3	1.10	0.85	10	9.00	8.45
M5	1.93	0.85	10	9.00	14.73

NOTES
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 2. DRAINAGE AREAS DESIGNATED "M" ARE MEDIAN DRAINAGE AREAS CONVEYED IN THE PROPOSED BIO-SWALE. SEE SHEETS BS-1 THROUGH BS-5 FOR DETAILS.

LEGEND

	DRAINAGE AREA BOUNDARY
	DESIGN POINT
	DRAINAGE AREA NUMBER ACRES
	DIRECTION OF RUNOFF
	EXISTING CONTOURS
	ZONING LINE



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 Web - www.preandni.com

CITY OF ROWLETT
MERRITT ROAD PAVING IMPROVEMENTS
 CIVIL
 STA 80+00 TO END
EXISTING DRAINAGE AREA MAP

ROW09317	DATE 03/30/11	DESIGNED LMW	DRAWN CHM	REVISION	CHECKED	FILE NAME
						cv-trt-gn-dmop04.sht

SHEET
 SEQ. DA-4
 80