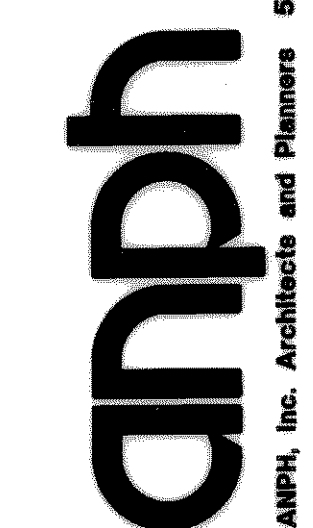


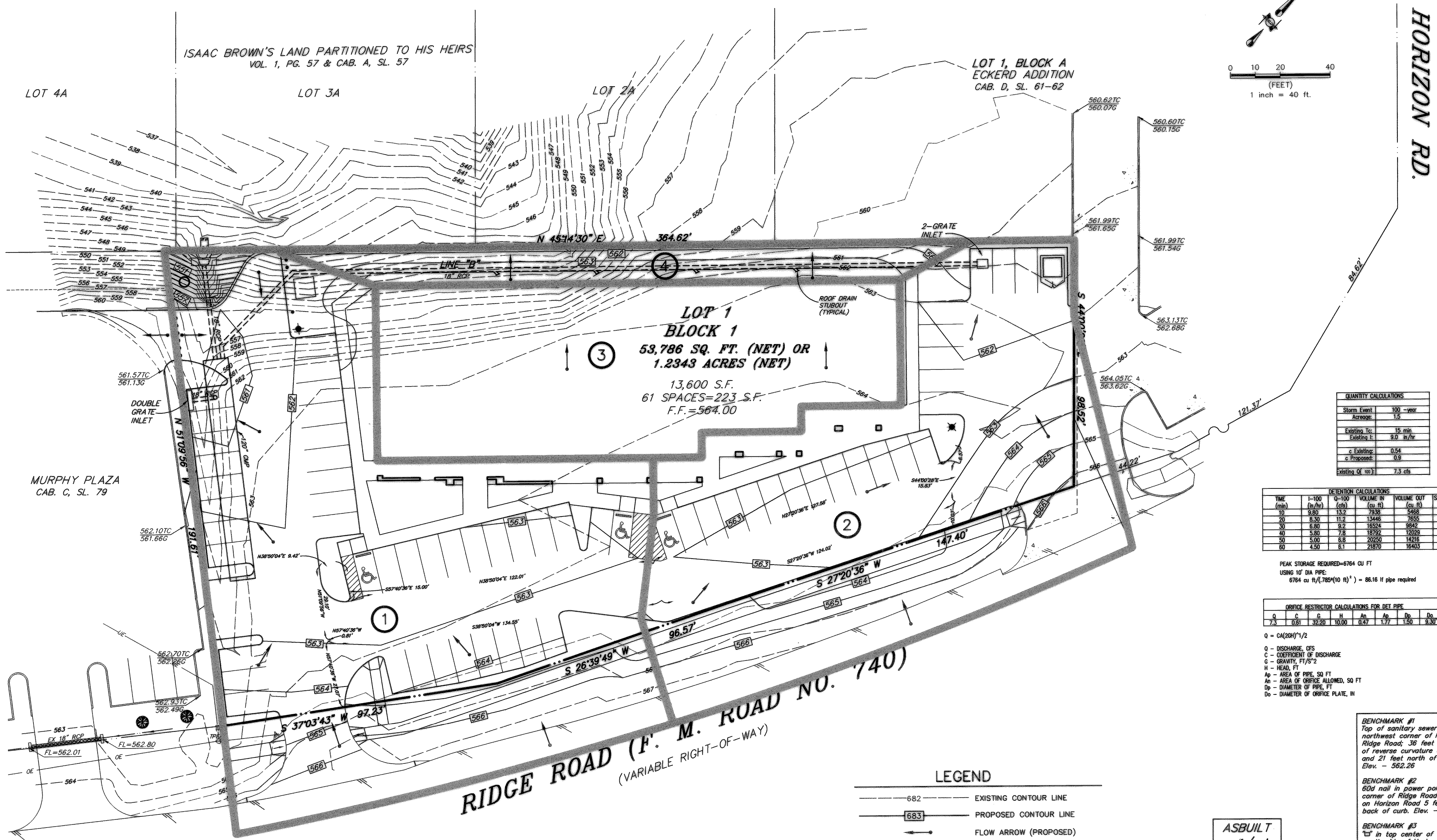
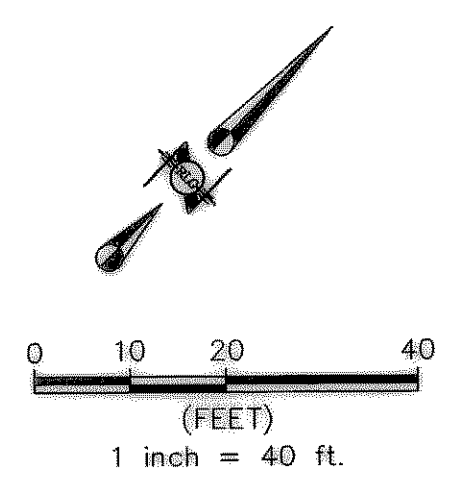
7/21/99  
BY ANPH INC.

ANPH, Inc. Architects and Planners 5499 Glen Lakes Drive Dallas, Texas 75231 (214)368-0066



ROCKWALL OFFICE/RETAIL  
CITY OF ROCKWALL, TEXAS

JOB NO. 99-339  
DRAWN BY  
CHECKED BY  
ISSUE DATE  
10-25-99  
REVISIONS  
SHEET NUMBER  
C4  
SHEET OF



ISAAC BROWN'S LAND PARTITIONED TO HIS HEIRS  
VOL. 1, PG. 57 & CAB. A, SL. 57

LOT 1, BLOCK A  
ECKERD ADDITION  
CAB. D, SL. 61-62

LOT 4A LOT 3A LOT 2A

LOT 1  
BLOCK 1  
53,786 SQ. FT. (NET) OR  
1.2343 ACRES (NET)  
13,600 S.F.  
61 SPACES=223 S.F.  
F.F.=564.00

MURPHY PLAZA  
CAB. C, SL. 79

QUANTITY CALCULATIONS

|                         |           |
|-------------------------|-----------|
| Storm Event             | 100-year  |
| Area                    | 1.5       |
| Existing Ic             | 15 min    |
| Existing I <sub>c</sub> | 9.0 in/hr |
| c Existing              | 0.54      |
| c Proposed              | 0.9       |
| Existing Q (cfs)        | 7.3 cfs   |

RETENTION CALCULATIONS

| TIME (min) | I (in/hr) | Q-100 (cfs) | VOLUME IN (cu ft) | VOLUME OUT (cu ft) | STORAGE REQ'D (cu ft) |
|------------|-----------|-------------|-------------------|--------------------|-----------------------|
| 10         | 9.0       | 13.2        | 7938              | 5468               | 2470                  |
| 20         | 6.30      | 11.2        | 13446             | 7650               | 5796                  |
| 30         | 6.80      | 9.2         | 18524             | 8842               | 9682                  |
| 40         | 5.80      | 7.8         | 18792             | 12029              | 6764                  |
| 50         | 5.00      | 6.8         | 20250             | 14216              | 6034                  |
| 60         | 4.50      | 6.1         | 21970             | 16403              | 5567                  |

PEAK STORAGE REQUIRED=6764 CU FT  
USING 10" DIA PIPE:  
6764 cu ft / (785(10 in)<sup>3</sup>) = 88.16 ft pipe required

ORIFICE RESTRICTOR CALCULATIONS FOR DET PIPE

| Q   | C    | C <sub>d</sub> | H     | A <sub>p</sub> | A <sub>n</sub> | D <sub>p</sub> | D <sub>n</sub> | PIPE DESCRIPTION               |
|-----|------|----------------|-------|----------------|----------------|----------------|----------------|--------------------------------|
| 7.3 | 0.61 | 0.92           | 10.00 | 0.47           | 1.77           | 1.50           | 9.30           | 10" CMP WITH SUBMERGED ORIFICE |

Q = CA(20H)<sup>1/2</sup>  
Q - DISCHARGE, CFS  
C - COEFFICIENT OF DISCHARGE  
C<sub>d</sub> - COEFFICIENT OF DISCHARGE  
H - HEAD, FT  
A<sub>p</sub> - AREA OF PIPE, SQ FT  
A<sub>n</sub> - AREA OF ORIFICE ALLOWED, SQ FT  
D<sub>p</sub> - DIAMETER OF PIPE, FT  
D<sub>n</sub> - DIAMETER OF ORIFICE PLATE, IN

BENCHMARK #1  
Top of sanitary sewer manhole at the northwest corner of Horizon Road and Ridge Road; 36 feet west of the point of reverse curvature on Horizon Road and 21 feet north of the back of curb. Elev. - 562.26

BENCHMARK #2  
60d nail in power pole at the southwest corner of Ridge Road and Horizon Road, on Horizon Road 5 feet + or - off of back of curb. Elev. - 561.29

BENCHMARK #3  
" in top center of 10 foot inlet on the south side of Horizon Road and 357 feet + or - west of west right-of-way of F.M. 740. Elev. - 557.32

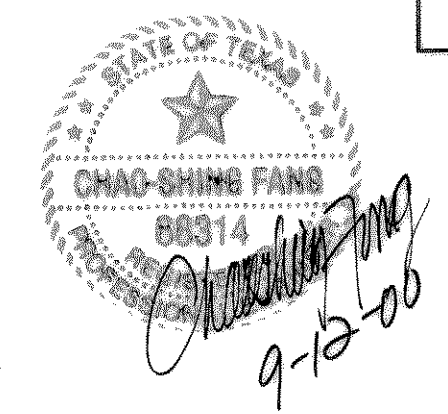
DRAINAGE CALCULATIONS Q=CIA

| DRAINAGE AREA | AREA (Acres) | C   | Time of Conc. (Min.) | I <sub>100</sub> (in/hr) | Q <sub>100</sub> | Remarks            | INLET CAPACITY (cfs) |
|---------------|--------------|-----|----------------------|--------------------------|------------------|--------------------|----------------------|
| 1             | 0.68         | 0.9 | 10                   | 9.8                      | 6.0              | DOUBLE GRATE INLET | 9.0                  |
| 2             | 0.50         | 0.9 | 10                   | 9.8                      | 4.4              | 2-GRATE INLET      | 5.2                  |
| 3             | 0.31         | 0.9 | 10                   | 9.8                      | 2.7              | ROOF DRAINS        |                      |
| 4             | 0.08         | 0.5 | 10                   | 9.8                      | 0.4              | SHEET FLOW         |                      |

LEGEND

- 682 --- EXISTING CONTOUR LINE
- 683 --- PROPOSED CONTOUR LINE
- FLOW ARROW (PROPOSED)
- DRAINAGE DIVIDE LINE
- ③ DRAINAGE AREA NUMBER

ASBUILT  
DATE: 9/12/02



RLG  
RAYMOND L. GOODSON JR., INC.  
CONSULTING ENGINEERS  
SUITE 300, 5445 LA SIERRA DRIVE  
DALLAS, TEXAS 75231 214/739-8100  
REG # 68319

DRAINAGE AREA MAP  
SCALE: 1"=20'