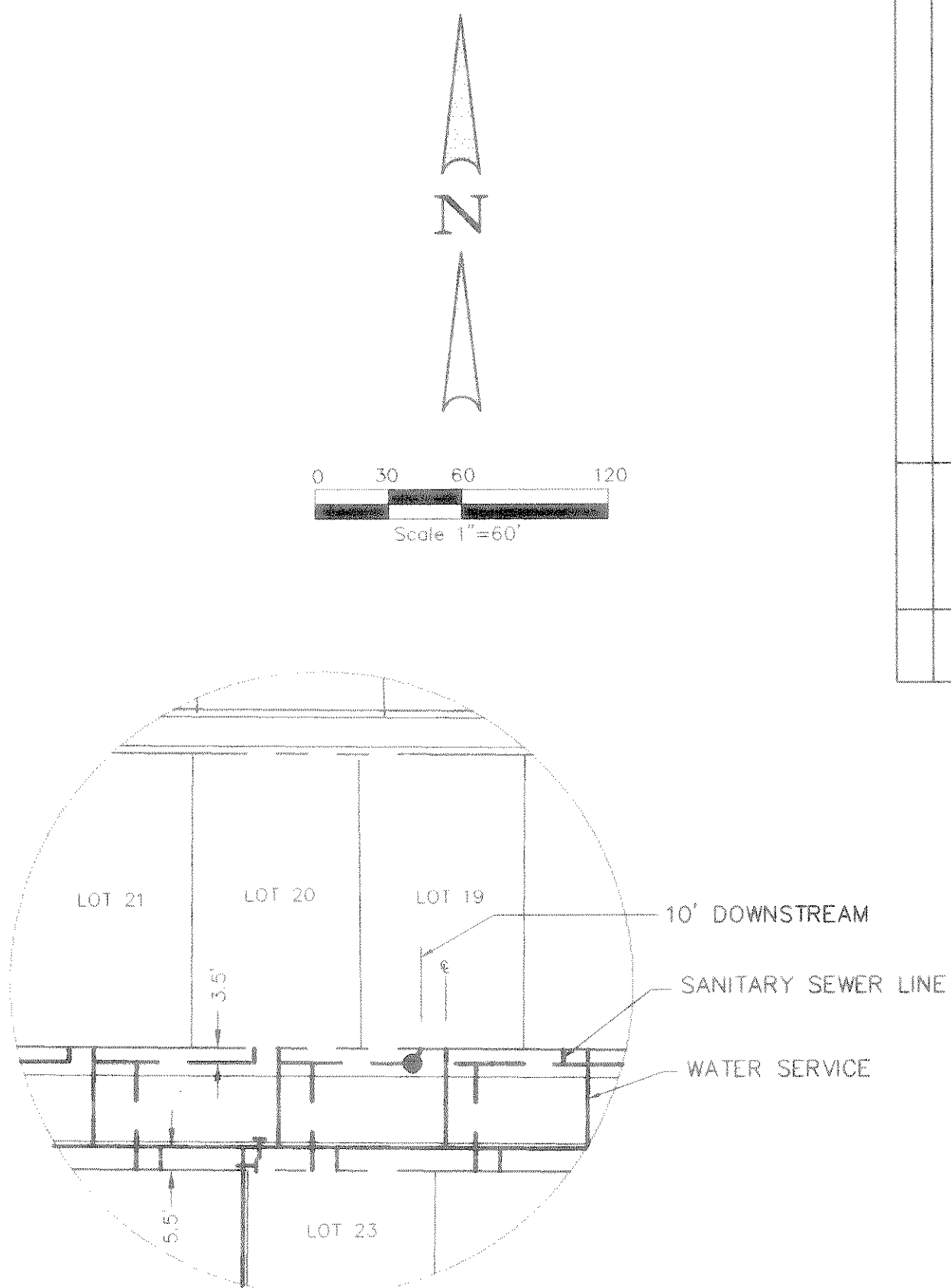


BENCHMARK:  
PK NAIL IN E OF CARUTH LANE & ALLEY INTER-SECTION 150'± EAST OF MORNINGSTAR DRIVE. ELEV. 491.68

BENCHMARK:  
"X" CHISELED IN E OF ALLEY EAST OF MORNINGSTAR DRIVE WITHIN 3RD LOT NORTH OF MIDNIGHT PASS. ELEV. 513.26

SANITARY SEWER CURVE DATA

CURVE	RADIUS	DELTA	TANGENT	LENGTH	CHORD	BEARING	PC	PT
C-5	329.50'	24°42'38"	72.10'	142.11'	141.01'	S60°22'19"E	8+34.17	9+76.28
C-6	200.00'	53°18'04"	100.37'	186.06'	179.42'	S61°56'58"W	0+31.35	2+17.40
C-7	221.50'	46°37'00"	95.43'	180.21'	178.29'	S65°17'30"W	0+54.96	2+49.17
C-8	221.50'	22°01'19"	43.10'	85.13'	84.61'	S80°10'46"E	0+41.90	1+27.03
C-9	321.50'	12°50'08"	36.16'	72.02'	71.87'	N35°33'56"E	2+51.20	3+23.22
C-10	321.50'	12°32'50"	35.34'	70.40'	70.27'	N22°52'27"E	3+23.22	3+93.63



LOT SERVICES DETAIL  
N.T.S.

APPROV.	REVISION	DATE

**Winkelmann & Associates, Inc.**  
CONSULTING CIVIL ENGINEERS & SURVEYORS  
1885 HILLCREST ROAD, SUITE 200  
DALLAS, TEXAS 75240  
(214) 961-7000 FAX

CARUTH LAKE PHASE FOUR  
S.S. McCURRY SURVEY, ABSTRACT NO. 146  
M.B. JONES SURVEY, ABSTRACT NO. 122  
CITY OF ROCKWALL, TEXAS  
ROCKWALL COUNTY, TEXAS  
LUMBERMEN'S INVESTMENT CORPORATION  
5485 DALLAS, TEXAS 75240

**WATER AND SANITARY SEWER PLAN**

Scale: 1"=60'  
Date: 5-9-97  
Designed By: R.B.  
Drawn By: R.B.  
Checked By: F.E.M.  
File: 14633WA2.DWG  
Project No.: 14633.01

SHEET  
**20**  
OF  
**29**

STA. 1+36.17 BIG OAK COURT  
INSTALL:  
1-8" x 6" TEE  
1-6" GATE VALVE  
1-F.H. W/6" LEAD

STA. 8+43.91 MIDNIGHT PASS  
INSTALL:  
1-8" x 6" TEE  
1-6" GATE VALVE  
1-F.H. W/6" LEAD

STA. 5+00.00 LINE "G"=  
STA. 8+79.80 MIDNIGHT PASS  
CONSTRUCT STD. 4" DIA. DROP M.H.  
RIM ELEV. 505.61'

STA. 0+00 LINE "H"=  
STA. 1+74.77 LINE "I"  
STA. 0+99.24 STIMSON  
CONSTRUCT STD. 4" DIA. M.H.  
RIM ELEV. 497.64'

STA. 2+86.73 LINE "H"  
CONSTRUCT STD. 4" DIA. M.H.  
OVER EXIST. 10" SS  
RIM ELEV. 500.80'

INSTALL:  
1-8" 45° BEND

STA. 12+88.83 MIDNIGHT PASS  
INSTALL:  
1-8" x 6" TEE  
1-6" GATE VALVE  
1-F.H. W/6" LEAD

INSTALL:  
1-8" x 8" TEE  
2-8" GATE VALVES

STA. 0+00 LINE "G"=  
STA. 13+60.84 LINE "A"=  
STA. 13+29.21 CARUTH LANE  
CONSTRUCT STD. 5" DIA. M.H.  
RIM ELEV. 495.85'

STA. 0+00 LINE "J"=  
STA. 16+17.84 LINE "A"=  
STA. 15+86.21 CARUTH LANE  
CONSTRUCT STD. 5" DIA. M.H.  
RIM ELEV. 494.62'

INSTALL:  
1-8" x 8" TEE  
2-8" GATE VALVES  
1-8" 20' JOINT OF PIPE  
FROM 8" VALVE

STA. 16+88.84 LINE "A"=  
STA. 16+57.21 CARUTH LANE  
SEE CARUTH LAKE PH 5  
FOR 27" SANITARY SEWER  
CONTINUATION

INSTALL:  
1-8" PLUG

STA. 0+42.50 WISPERWOOD DR.  
INSTALL:  
1-8" x 6" TEE  
1-6" GATE VALVE  
1-F.H. W/6" LEAD

STA. 0+00 LINE "I"=  
STA. 3+23.22 LINE "J"=  
STA. 2+88.91 WISPERWOOD DR.  
CONSTRUCT STD. 4" DIA. M.H.  
RIM ELEV. 496.41'

INSTALL:  
1-8" x 6" TEE  
1-8" GATE VALVE  
1-6" GATE VALVE  
1-8" 20' JOINT OF PIPE  
FROM 8" VALVE

INSTALL:  
1-8" PLUG

STA. 2+49.82 STIMSON  
INSTALL:  
1-6" x 6" TEE  
1-6" GATE VALVE  
1-F.H. W/6" LEAD

STA. 3+93.63 LINE "J"=  
STA. 3+54.60 WISPERWOOD DRIVE  
END & INSTALL 8" PLUG

- NOTES:
1. WATER LINE LOCATED 5' BACK OF CURB.
  2. SANITARY SEWER LOCATED 7' BACK OF CURB.
  3. ALL WATER SERVICE ARE 1".
  4. ALL SEWER SERVICE ARE 4".
  5. THE EXISTING 15" & 10" SANITARY SEWER LINES SHOULD BE REMOVED AT LOCATIONS DETERMINED IN THE FIELD. ALL MANHOLES TO BE ABANDONED SHALL BE REMOVED.
- ASBUILT

Winkelmann & Associates, Inc. hereby states that this plan, to the best of our knowledge is "As Built." Modifications from the originally approved construction documents have been made as per information provided by the contractor. Winkelmann & Associates, Inc. does not certify as to the correctness or quality of construction as no field inspection was performed.

*F.E.M.*  
WINKELMANN & ASSOCIATES, INC. DATE: 7-20-98