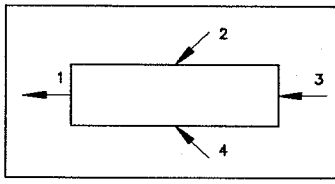
Location Manhole No. _____ Designed By _____ | DATE: JUNE/98 | REV. 2

At _____ Checked By _____

_____ Date _____



PIPE No.	DIA. = mm	GRADE %	CAPACITY Qcap (hℓ/s)	EXP. FLOW Qact (hℓ/s)
1				
2				
3				
4				

PIPE No. 1 Q_1 cap = _____ Q_1act. = _____ $\frac{Q_1 \text{ act}}{Q_1 \text{ cap}}$ = _____ x 100 = _____%

FROM S-5D-2 READ DEPTH OF FLOW = _____%

V_1 cap = _____ FROM ABOVE DEPTH OF FLOW AND S-5D-2 READ RATIO OF V_1 act / V_1 cap = _____

$\therefore V_1 \text{ act} = V_1 \text{ cap} \times \frac{\_\_\_\_\%}{100}$ = _____ x _____ = _____

H_1 = PIPE DIAMETER (m) x % DEPTH + $\frac{(V_1 \text{ act})^2}{2g}$ = _____ x _____ + _____ = _____

PIPE No.2 Q_2 cap = _____ Q_2act. = _____ $\frac{Q_2 \text{ act}}{Q_2 \text{ cap}}$ = _____ x 100 = _____%

FROM S-5D-2 READ DEPTH OF FLOW = _____%

V_2 cap = _____ FROM ABOVE DEPTH OF FLOW AND S-5D-2 READ RATIO OF V_2 act / V_2 cap = _____

$\therefore V_2 \text{ act} = V_2 \text{ cap} \times \frac{\_\_\_\_\%}{100}$ = _____ x _____ = _____

H_2 = PIPE DIAMETER (m) x % DEPTH + $\frac{(V_2 \text{ act})^2}{2g}$ = _____ x _____ + _____ = _____

PIPE No.3 Q_3 cap = _____ Q_3act. = _____ $\frac{Q_3 \text{ act}}{Q_3 \text{ cap}}$ = _____ x 100 = _____%

FROM S-5D-2 READ DEPTH OF FLOW = _____%

V_3 cap = _____ FROM ABOVE DEPTH OF FLOW AND S-5D-2 READ RATIO OF V_3 act / V_3 cap = _____

$\therefore V_3 \text{ act} = V_3 \text{ cap} \times \frac{\_\_\_\_\%}{100}$ = _____ x _____ = _____

H_3 = PIPE DIAMETER (m) x % DEPTH + $\frac{(V_3 \text{ act})^2}{2g}$ = _____ x _____ + _____ = _____

PIPE No.4 Q_4 cap = _____ Q_4act. = _____ $\frac{Q_4 \text{ act}}{Q_4 \text{ cap}}$ = _____ x 100 = _____%

FROM S-5D-2 READ DEPTH OF FLOW = _____%

V_4 cap = _____ FROM ABOVE DEPTH OF FLOW AND S-5D-2 READ RATIO OF V_4 act / V_4 cap = _____

$\therefore V_4 \text{ act} = V_4 \text{ cap} \times \frac{\_\_\_\_\%}{100}$ = _____ x _____ = _____

H_4 = PIPE DIAMETER (m) x % DEPTH + $\frac{(V_4 \text{ act})^2}{2g}$ = _____ x _____ + _____ = _____

HEAD LOSS

$h_e = \left| K \frac{V_{1\,act}^2 - V_{2\,act}^2}{2g} \right|$ FOR PIPES 1 and 2

SELECT K = 0.1 or 0.2 AS PER S-5D

FOR PIPES 1 and 2 h_e = _____ | (_____ - _____) | = _____

FOR PIPES 1 and 3 h_e = _____ | (_____ - _____) | = _____

FOR PIPES 1 and 4 h_e = _____ | (_____ - _____) | = _____

FOR PIPES 1 and 2 $h_i = (H_1 - H_2) + h_e$

h_i = _____ - _____ + _____ = _____m DROP

FOR PIPES 1 and 3 h_i = _____ - _____ + _____ = _____m DROP

FOR PIPES 1 and 4 h_i = _____ - _____ + _____ = _____m DROP

SUMMARY:

1. TAKE MAXIMUM CONDITION OF THE ABOVE THREE CASES AS THE GOVERNING FACTOR WHICH SETS THE REQUIRED MAXIMUM DROP THROUGH THE MANHOLE.
2. MINIMUM 30mm DROP REQUIRED THROUGH ALL MANHOLES MANHOLE STD OPSD-_____ OR ALTERNATE _____
3. " | | " REPRESENTS ABSOLUTE VALUE

APPROVED

T. Eichenbaum

DIRECTOR OF ENGINEERING

DATE: Feb. 17/99

CITY OF BURLINGTON

ENGINEERING DEPARTMENT

METRIC

SCALE: N.T.S.

SEWER DESIGN CALCULATION SHEET

DWG. NO. S-5D-1