The ammonia system, which is operated by mechanical units often controlled by the sewage treatment plant where the ammonia are produced. They are used generally at the end of the sewer system.
4.3 HOUSE SEWER CONNECTION

Schedule "H" sewer pipes and fittings are allowed in the drain section of the sewage system at the base of the building, and should be extended vertically down to drain the sewage into the main sewer line. For sewer connections to be installed, the sewer main line shall be extended vertically down to drain the sewage into the main sewer line. For sewer connections to be installed, the sewer main line shall be extended vertically down to drain the sewage into the main sewer line.
CATCH BASINS

These are constructed of concrete and require little or no maintenance.

4.3.1 Kemp nerfs

A maximum spacing of 10m is recommended. A minimum spacing of 0m would depend upon local conditions of road surface, size and slope of the road and would not be less than 2.5m in order to prevent vehicle collision with the road and to allow a minimum of 2.5m at the road shoulder for access of maintenance equipment.

Notice is given to the property owner that the Kemp nerfs are designed to prevent collision with vehicle and to provide a minimum of 2.5m at the road shoulder for access of maintenance equipment.

Storm water may enter the system through the storm water inlet and contribute to the storm water system, to the storm water inlet and to the storm water system.

These are designed to allow the storm water to enter the storm water system, to the storm water inlet and to the storm water system.

4.4 STORM WATER INLETS

4.4.1 Kemp nerfs

These are designed to allow the storm water to enter the storm water system, to the storm water inlet and to the storm water system.
4.1 FLAP GATES AND FLOOD GATES

These gates are opened and closed by remote control to divert flood waters from the channel. The gates are fabricated of a very strong material and are designed so that they would remain intact in the event of severe storms. Such gates should be considered in the design of larger channels to prevent pockets of floodwaters from forming.

4.2 Fluid Gates and Vanes

These gates are used in canals where the velocity of the water is high. They are constructed to control the velocity of the water and to maintain the velocity at a certain level. The gates are designed to control the velocity of the water in the canal to prevent erosion of the canal banks and to prevent the formation of eddies. The gates are operated by a hydraulic system which controls the position of the gates.

4.2.2 Levee Walls

The levee walls are designed to prevent the overflow of the canal. The walls are constructed of concrete or other suitable materials to withstand the force of the water. The height of the levee wall is given by the formula:

\[ h = \frac{B \cdot (L - 2.61)}{C \cdot \sqrt{\left( \frac{C \cdot A}{B} \right)^2 - 1}} \]

where:
- \( B \) is the width of the canal at the levee
- \( C \) is the angle of the levee
- \( A \) is the area of the water surface
- \( L \) is the length of the levee

The length of the side slope of the levee is given by the formula derived by Einstein.

4.4 Side Flow Veers

Side flow veers are used to divert floodwaters and to prevent the formation of eddies. The veers are constructed to maintain the velocity of the water and to prevent the formation of eddies.
SEWER VENTILATORS

The air in with measurement of how been discussed in detail in Chapter 5.

MEASURING DEVICES

The arrangement of pipes requires regular inspection and removal of dirt from the pipe. There should be a scene change to assist finding undersurfaces on the observation side of the

The gases are generally obtained by a key arrangement that makes it possible for the gas safe to be opened. The gases may be of various kinds of shapes of rectangular and may consist of wooden planks, circles or any shape of box, which gases are rectangular and may consist of wooden planks.
MATERIALS FOR SEWER CONSTRUCTION

CHAPTER 5

INTRODUCTION
Some of the advantages of CFCs are:

- Ozone depletion
- Improved cooling efficiency
- Reduced operating costs
- Longer lifespan of systems

For more information, please refer to the literature and consult with experts in the field of refrigeration and air conditioning.
Class B Pipe Recommended Pressure Pipes

5.2.7

For further details of PVC and HDPE pipes, reference may be made to

Another HDPF pipe can be joined using a pipe coupler and the pipe may be deflected and then joined to the HDPE pipe after the coupler has been removed. The pipe joint is not affected by the pipe or joint pressure and hence a hand at the time of installation. These joints are not affected by AC and joint pressure may be reconnected while the pipe is in service.

Among the several developments in terms of high density polyethylene pipes in recent years, developments not to be mentioned in detail include:

- Ease of fabrication
- Economical in laying, joining and maintenance
- Flexibility
- Toughness
- Light weight
- Resistance to corrosion

The chief advantages of PVC are:

5.2.6 PVC Pipes

Inserts and internal adaptors for pipe sizes up to 150mm are available. A word of caution is needed when using, especially for large diameters. These pipes generally come in lengths of 6 m and are produced by extrusion process followed by calibration to ensure maintenance.
JOINING IN SEWER PIPES

5.2.8 PITCH THE PIPES

The pitch of the pipes are of light weight and have shown their durability in service.

5.2.8.1 PULL GLASS FUSED PLASTIC PIPES (GFP)
INTRODUCTION

BURIED SEWERS

STRUCTURAL DESIGN OF

CHAPTER 6
The 6.31 Types of Installation of Construction Conditions

The general form of Mallows formula is

\[ \text{Where } W = \text{w} \cdot \text{L} \]

The considerations are:

The physical action force transferred to the basin by the relevant force of earth weight of the fraction of earth deeper over the condition, called the innovation action of earth plus of minus.

The lead on a portion condition is subject to the influence of the construction conditions as developed by Mallows and translated by the method.

Therefor for determining the vertical load on the condition due to gravity earth force in all.
NOTE: NORMAL GROUND WATER LEVEL WITH REFERENCE TO THE INVERT LEVEL IS TO BE TAKEN NOTE OF IN THE DESIGN.

FIG. 6.1: CLASSIFICATION OF CONSTRUCTION CONDITIONS
The statement that the difference between the shear and moment of the reduced section is the work done by the external load. Therefore, the shear force at any point on the section is equal to the weight of the column plus shear force.

When \( S^2 + (S^2) = (S^2) \) at the section, the shear force is equal to the weight of the column plus shear force.

When \( S^2 = (S^2) \), the shear force is zero, and the column is in equilibrium.

The shear force at any point on the section is equal to the weight of the column plus the shear force at that point.

\[
\frac{S^2}{(p-S^2) - (S^2)}
\]

Shear force at any point on the section is equal to the weight of the column plus the shear force at that point.

A column is said to be in positive flexing condition when the load of the column is

**Positive Flexing Condition**

6.3.2.1 Even Warren or Warren Condition

Loads for Different Conditions

Tunnel condition exists when the excavated section is supported by means of arching or bonding.

When the excavated section is narrow, a tunnel is used.
Projecting conduits.

Fig. 6:2 Settlements that influence loads on positive

---

Final Elevation

Initial Elevation, h=0

Natural Ground

---

Critical Plane

---

Sm+Se (Total Settlement)

---

Ver 54

AND Vice

---

Shear Force

---

Plane of Equal Settlement

---

Top of Embankment

---

H+F

---

Hr

---

Sm+Se+DC

---

Sm = Compression of column or soil of

---

adjacent to column

---

58 = Settlement of natural ground

---

58 = Settlement of Bottom of column
The value of $C$ can be obtained from Fig. 6.3.

The value of settlement may be taken as $0.15$ and $0.13$ respectively, and $B$ and $B'$ respectively.

The bearing pressure is given by $F_s = \frac{C}{B}$, where $C$ is the coefficient of friction of the soil and $B$ is the bearing pressure, both of which are functions of the depth. The factor of safety is the ratio of the safe bearing pressure to the bearing pressure at the bottom of the foundation. It is also influenced by the type of foundation, the weight of the building, and the type of soil.

The settlement $s$ is calculated as a function of the product of the projection area and load on it. The settlement of the foundation is given by:

\[
s = \frac{W}{B}
\]

Where

\[
W = C \cdot B'
\]

$W$ = Load on foundation in kg

$C'$ = Load on foundation in kg

$B'$ = Outside width of foundation in m

$w'$ = Weight of building material in kg/m

$w$ = Weight of building material in kg

$B$ = Projection of building

The settlement formula for the foundation is given below:

\[
\text{Settlement} = \frac{W}{B} \times \frac{w}{w'}
\]

<table>
<thead>
<tr>
<th>Type of Foundation</th>
<th>Type of Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock of underlying foundation</td>
<td>1</td>
</tr>
<tr>
<td>Ordinary foundation</td>
<td>0.8</td>
</tr>
<tr>
<td>Rigid foundation</td>
<td>0.5 to 1.0</td>
</tr>
<tr>
<td>Variable modulus</td>
<td>0.3 to 0.5</td>
</tr>
<tr>
<td>Negligible projection</td>
<td>0.1 to 0.5</td>
</tr>
<tr>
<td>Foundation</td>
<td>0</td>
</tr>
<tr>
<td>Damp clay</td>
<td>0.1 to 0.9</td>
</tr>
<tr>
<td>Silt</td>
<td>0.5 to 0.9</td>
</tr>
<tr>
<td>Poission's coefficient of stiffness</td>
<td>0.1 to 0.9</td>
</tr>
<tr>
<td>Flexible</td>
<td>0</td>
</tr>
</tbody>
</table>

**Recommended Design Values of Settlement Ratios**

Table 6.1

Given in Table 6.1 are recommended design values based on actual experience and practice. However, these values must be modified by a factor $D$ in the table. The settlement of the foundation is given by:

\[
S = \frac{W}{B} \times \frac{w}{w'} \times D
\]

When $(D < 1)$ or the plane of failure coincides with the critical plane, and there are variations of the magnitude of the shear component of the load.

The product of $D$ multiplied by $D$ gives the effective height of plane of general settlement and hence.
PROCEEDING CONDUITS

FIG. 6.3: DIAGRAM FOR COEFFICIENT cc FOR POSITIVE

VALUES OF COEFFICIENT cc

VALUES OF \( \frac{b}{c} \)

VALUES OF CC

\( K_M = 6.15 \)

\( K_M = 0.19 \)

COMPLETE PROJECTION CONDITION

INCOMPLETE PROJECTION CONDITION

COMPLETE TRENCH CONDITION

INCOMPLETE TRENCH CONDITION

10

9

8

7

6

5

4

3

2

1

0

1

2

3

4

5

6

7

8

9

10
(e) Imperfect Trench Condits

Shown in Fig. 6-6. For design purposes, elements of settlement ratios are

Exact determination of the settlement ratio is very difficult

Values of $S^*$ for various values of $H^*$ are given in Fig. 5.

\[ S^* = \frac{S}{(a^* + S^*)} \]

(compression of the backfill within the trench $B^*$)

Separation of material quantities and vertical load on units of material

and the

sum of the reaction equal to the proportion of the trench above the

load compression which is a function of the ratio $(B/B)$ of the length of the

and the

unit weight of soil in kg/m$^3$ and

width of trench in m

load on the trench in kg/m$^3$

Where

\[ B/B = \frac{B}{B} \]

where

\[ C = \frac{W}{B} \]

(1) Computation of loads

or reduce the load on the trench as the depth decreases the gravitation

are the gravitation moment about the base of the trench and the

moment is the sum of the reaction equal to the proportion of the

of the trench. During the excavation of the trench the support is equal to the

moment of the trench is calculated which indicates that the trench shape can be maintained for the

is the area with respect to the area of the trench with respect to depth of cover and the

if trench is used as the load on a negative sloping condition without due regard to exfiltration which

Negative Trench Condits

66