LEGEND

\( H \) = maximum allowable height of cover over the top of the pipe, excluding pavement thickness.

Fill heights and design assumptions are based on AASHTO LRFD Bridge Design Specifications, 7th Edition, Section 12.7.

Fill heights are based on AASHTO MP 20, Type S pipes with ribbed reinforced steel walls.

Fill heights for installation with high water table require a special design.

The minimum cover shall be as shown on these tables or conform to AASHTO requirements, whichever is greater.

The minimum cover is measured from the top of the pipe to the bottom of the pavement.

The minimum cover is measured from the top of the pipe to the bottom of the subgrade during construction.

The minimum cover is based on dual axle loads up to 50,000 pounds.

The minimum cover is measured from the top of the pipe to the bottom of the pavement or the minimum required by the state or local code.

The minimum cover is measured from the top of the pipe to the top of the subgrade during construction.

The minimum cover is based on dual axle loads up to 50,000 pounds.

The minimum cover is measured from the top of the pipe to the bottom of the pavement or the minimum required by the state or local code.

GENERAL NOTES

1. All pipes shall meet the requirements of AASHTO MP 20 for steel reinforced, polyethylene, pipe 5 types 5 pipes with ribbed reinforced steel walls. Fill heights and design assumptions are based on AASHTO LRFD Bridge Design Specifications, 7th Edition, Section 12.7.

2. When a pipe is to be extended, the same pipe material and size as in the original installation shall be used.

3. Minimum cover shall be provided during construction to protect the pipe from damage.

4. When installing a guardrail or a sign post directly above a pipe, the post's bottom must be at least 1 foot above the top of the pipe. The hole for the post shall be bored into the soil.

5. Structure backfill material shall be classified.

6. All pipes shall meet the requirements of AASHTO MP 20 for steel reinforced, polyethylene, pipe 5 types 5 pipes with ribbed reinforced steel walls. Fill heights and design assumptions are based on AASHTO LRFD Bridge Design Specifications, 7th Edition, Section 12.7.

### Table: Minimum and Maximum Cover

<table>
<thead>
<tr>
<th>Pipe Diameter, ( d ) (in.)</th>
<th>Minimum Height of Cover (ft.)</th>
<th>Maximum Height of Cover (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>36</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>42</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>48</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>54</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>60</td>
<td>2.5</td>
<td>30</td>
</tr>
</tbody>
</table>

* A manufacturer's certification of maximum allowable fill height is required prior to installation.

** AASHTO minimum cover for construction loads.

---

** Diagram:** Installation of Pipe

---

** Diagram:** Installation of Multiple Pipes

---

** Diagram:** Structure Backfill

---