

## 5 SPECIAL DESIGN CONSIDERATIONS

### 5.1 Introduction

Special design considerations are to be given in certain instances where the utilities are crossing due to the arrangement of their respective ROWs, for example:

1. two ROWs meeting at a common point,
2. two ROWs crossing each other or
3. a ROW comes in alignment with or is compelled to accommodate road infrastructural element such as rail, metro, bus lay by, landscaping ... etc.

In all above mentioned instances, where the design of ROWs deviates from the standard design details, it is expected by the utility designer to adopt special design considerations, which result in efficient layout of the utilities within the typical ROW and associated utility corridors.

Conceptual details have been discussed in this chapter to facilitate the special design considerations. However, due to the variety in nature of such instances, it is recommended that each instance should be considered and designed on case by case basis. Accordingly, the designer should coordinate with the relevant SAUP to obtain their requirements followed by the final approval.

### 5.2 Arrangement of Utility Corridors at Intersections

The most frequent instances with respect to intersections, where ROWs cross/intersect each other and warrant for special design considerations are as follows:

1. Connecting or crossing of ROWs at 3 or 4 legged roundabouts.
2. Connecting or crossing of ROWs at T junctions.
3. Connecting or crossing of ROWs at grade Intersections.
4. Connecting or crossing of ROWs at grade separated intersections.

In all the above mentioned instances, the arrangement of utilities within their respective corridors depends on the width and the angle of intersection of the respective connecting or crossing ROWs. These two parameters i.e. the width and the angle of intersection are considered important as they dictate the splay of the chamfer.

Due to the occurrence of any of the above mentioned instances:

1. The width of the utility corridors will not be affected; however, the sequencing and alignment of certain utility corridors will be changed.
2. All the utilities will pass the chamfer and follow the path parallel to the alignment of the splay, except the irrigation, sewerage and storm drainage corridors, which will maintain their alignment along the path parallel to the centreline of the road.

The typical drawing of utility corridor details showing examples of a roundabout and grade separated junction are presented in Figure 29 and 30 respectively.