Placing Electrical Equipment

Objective:

By the end of this session, you will be able to:

- Select electrical equipment from catalog for placement
- Position and orient electrical equipment in a model by using PinPoint and other positioning methods

Overview:

In this exercise you will be placing street lighting fixtures by using the **Place Equipment** command in Unit **U07**. The workspace will resemble as shown in Figure 1.

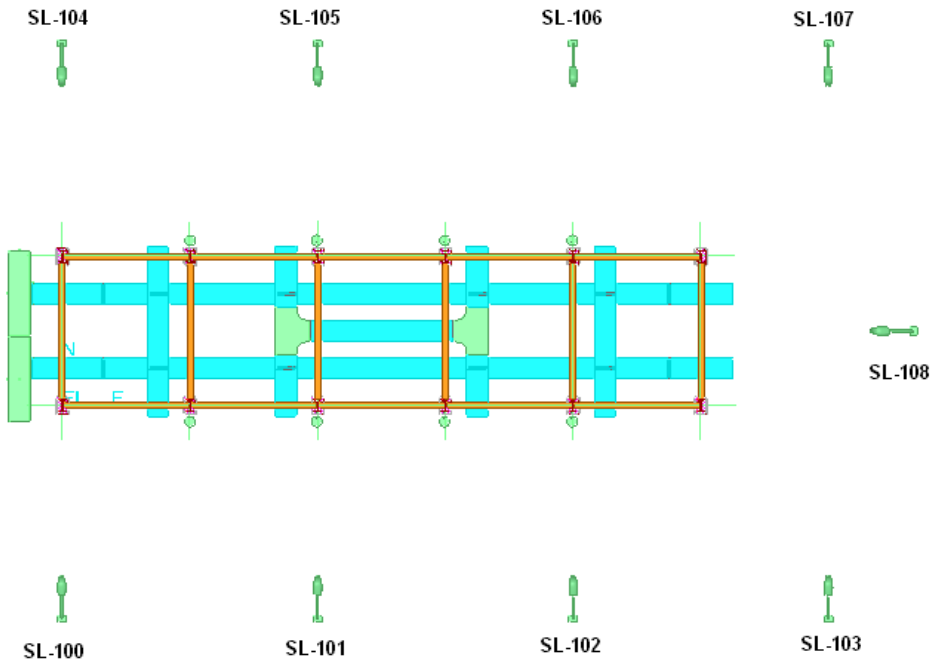

Figure 1: Plan View of Unit U07 - Street Lighting Fixtures

Before you start placing the equipments define your workspace to show Unit **U07**.

1. If you are not in the **Equipment** task, select the **Tasks > Equipment** command.
2. Make sure the Active Permission Group is set to **Electrical**.
3. Activate the **PinPoint** ribbon and set the active coordinate system to **U07 CS** on the **PinPoint** ribbon.
4. Click the **Set Target to Origin** option on the **PinPoint** ribbon, to move the target to the

origin of the current coordinate system.

5. Click the **Place Equipment** button on the vertical toolbar.
6. In the Select Equipment dialog box, expand the folder **\Equipment\Electrical\Lighting\Street Light Fixture** until you see the part **StreetLight-E**. Select the part and click **OK**.
7. The Equipment Properties dialog box appears.
8. Key-in S**L-100** in the Name field.
9. Click the System field and select the **More**.. option to specify the system to which the equipment belongs.
10. Select **CT System** under **A2->U07->Electrical->Low Voltage.** Then, click **OK**.
11. To define the position of the object, select the **Position and Orientation** category in the Category drop-down list.
12. Key in the followings properties:

    East: -0 ft 0.78 in
    North: -20 ft
    Elevation: 0 ft

13. To change the height of the light pole, select the Equipment Dimensions category in the Category drop-down list.
14. Key in a value of **26 ft 3 in** for **A - Pole Height.**
15. Click **OK** on the Equipment Properties dialog to place the equipment **SL-100** in the model.

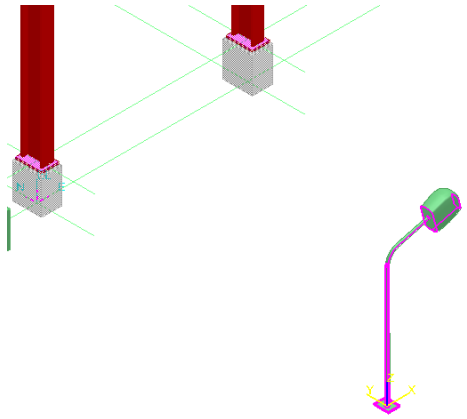

Figure 2: Equipment – SL-100

16. Rotate the equipment to the indicated orientation (street light source pointing North)

by using the left/right arrow keys.

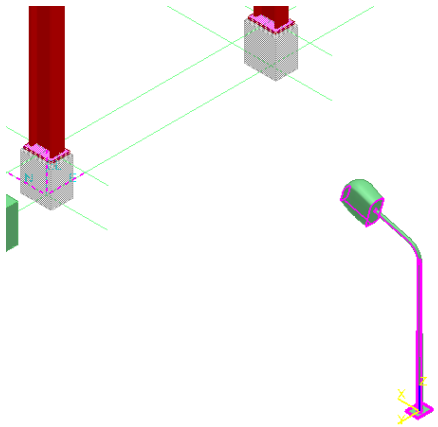

Figure 3: Equipment – SL-100

17. Click the **Place Equipment** button on the vertical toolbar.

18. In the Select Equipment dialog box, expand the folder **\Equipment\Electrical\Lighting\Street Light Fixture** until you see the part **StreetLight-E**. Select the part and click **OK**.

19. The Equipment Properties dialog box appears.

20. Key-in S**L-101** in the Name field.

21. Click the System field and select the **More**.. option to specify the system to which the equipment belongs.

22. Select **CT System** under **A2->U07->Electrical->Low Voltage.** Then, click **OK**.

23. To change the height of the light pole, select the Equipment Dimensions category in the Category drop-down list.

24. Key in a value of **26 ft 3 in** for **A - Pole Height.** Then click **OK.**

25. Key in the following coordinates on the **PinPoint** ribbon.

    E: 24 ft
    N: -20 ft
    EL: 0 ft

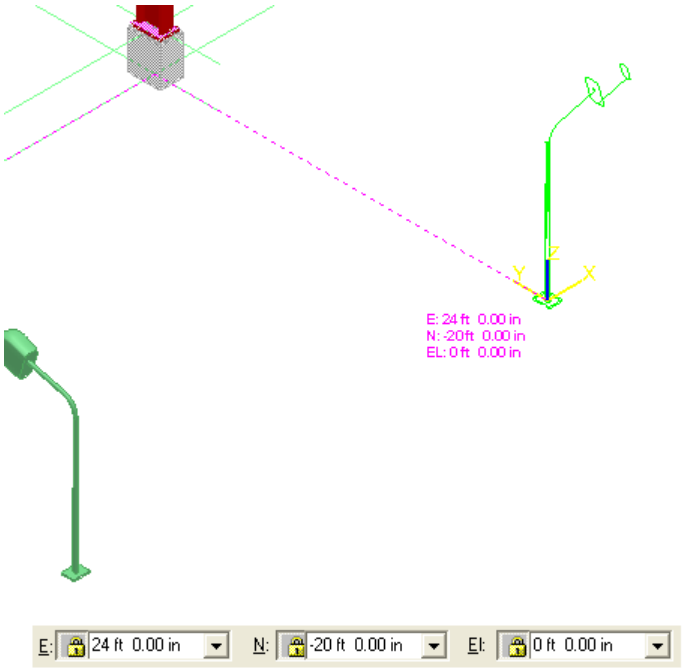

Figure 4: PinPoint Ribbon and Equipment SL-101

26. Equipment can be rotated while still in the dynamic mode by using the keyboard **Left & Right Arrow Keys**. Rotate the equipment to the indicated orientation (street light source pointing North) by using the left/right arrow keys.

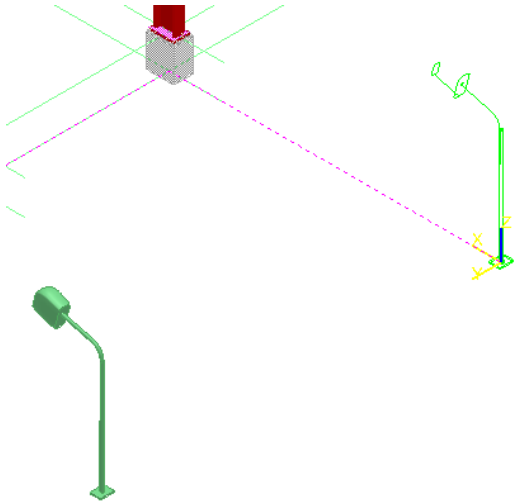

Figure 5: Equipment SL-101

27. Click in the active view to place the street lighting fixture.

28. Select the two street lighting fixtures from the graphic view that you need to copy, as shown in Figure 6.

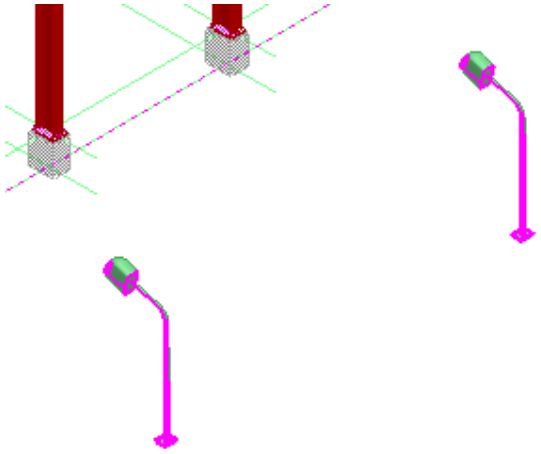

Figure 6: Selected Street Lighting Fixtures

29. Click the **Copy** button on the **Common** toolbar.

Figure 7: Copy Button on the Common Toolbar

30. Select the origin of the fist street lighting fixture from the graphic view to define the position from where to copy the **street lighting fixtures.**

31. Click the **Paste** option on the **Common** toolbar.

Figure 8: Paste Option on the Common Toolbar

32. The **Paste** dialog box appears. Keep the default parent system for the new objects to be pasted on the model, as shown in Figure 9. Clear the **Paste in place** check box in the **Paste** dialog box and click **OK.**

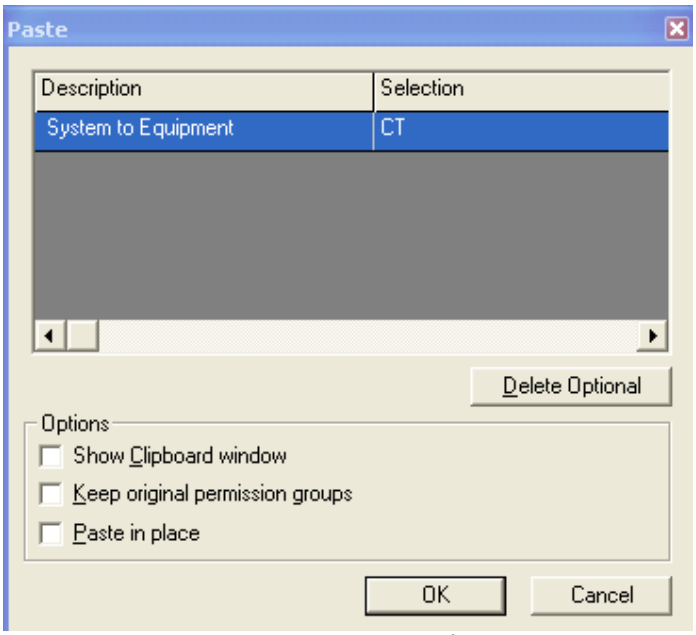

Figure 9: Paste Dialog

33. Key in the following coordinates on the **PinPoint** ribbon.
    E: 48 ft
    N: -20 ft
    El: 0 ft

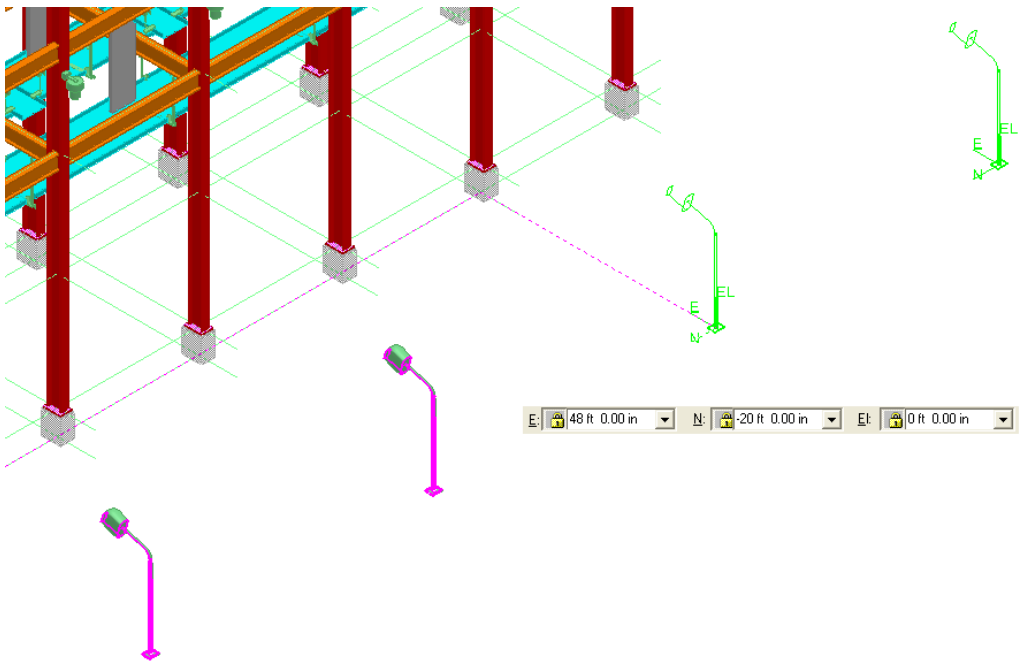

Figure 10: Pasted Objects at Placement Point

34. Click in the active view to place these street lighting fixtures.

35. Name these street lighting fixtures as SL-102 and SL-103 respectively.

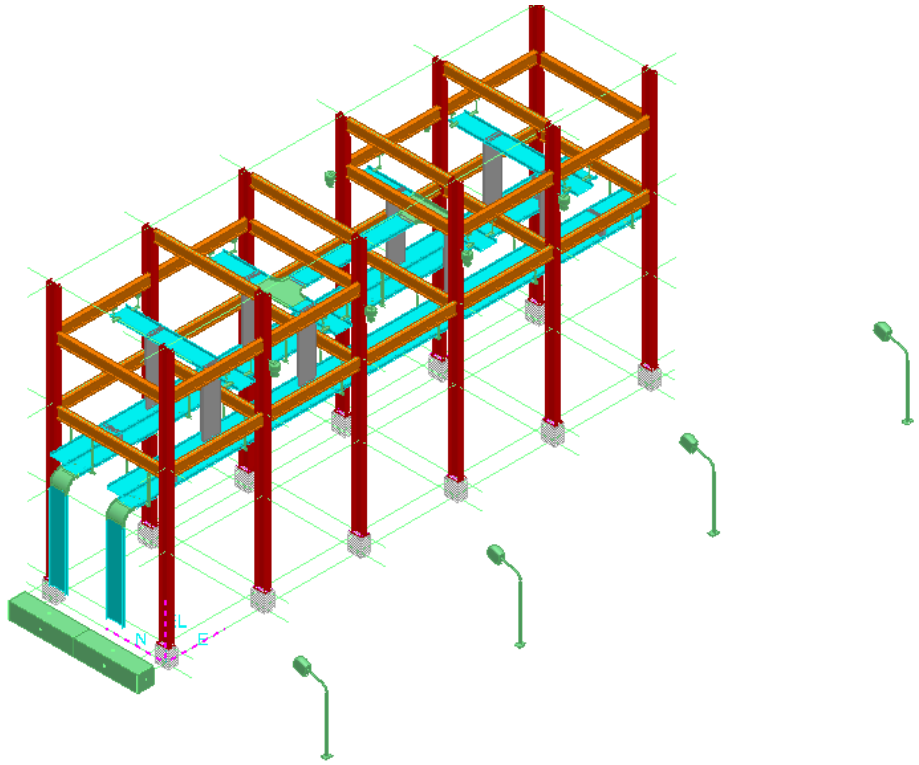

Figure 11: Four Street Lighting Fixtures

36. Select the four street lighting fixtures from the graphic view that you need to mirror copy, as shown in Figure 12.

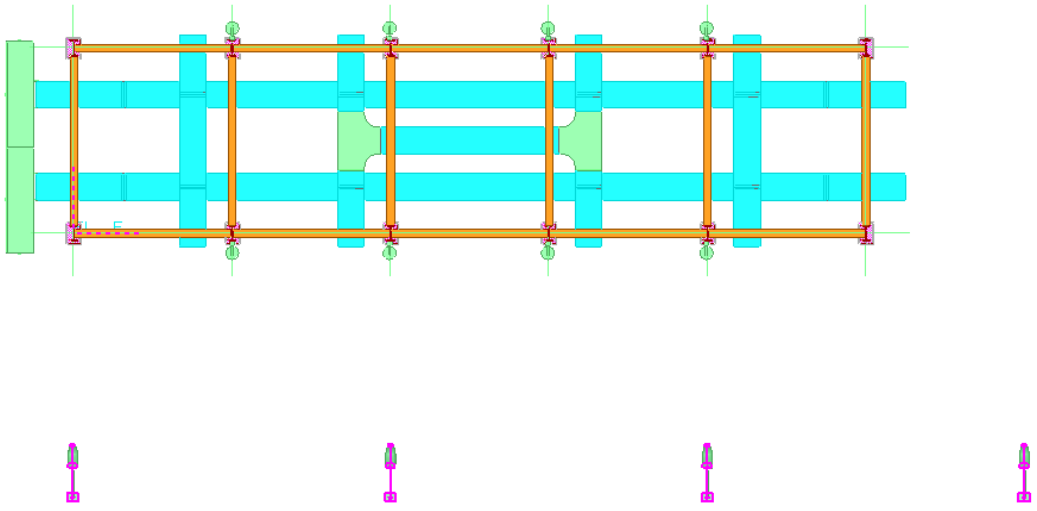

Figure 12: Plan View – Selected Objects

37. Click the **Edit> Mirror Copy** command to mirror copy the selected objects from the graphic view.

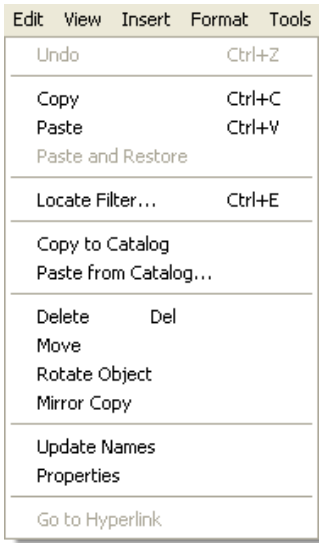

Figure 13: Edit -> Mirror Copy Command

38. The **Mirror Copy** ribbon appears. In this ribbon define the mirror plane and the **Point to Mirror About** in which the selected objects are mirrored. Select the **East-West** option in the **Direction** drop-down list and **Point to Mirror About** as the **Destination mode**.

Figure 14: Point to Mirror About Destination Mode

39. Select the midpoint of the beam as the **Point to Mirror About**, as shown in Figure 15.

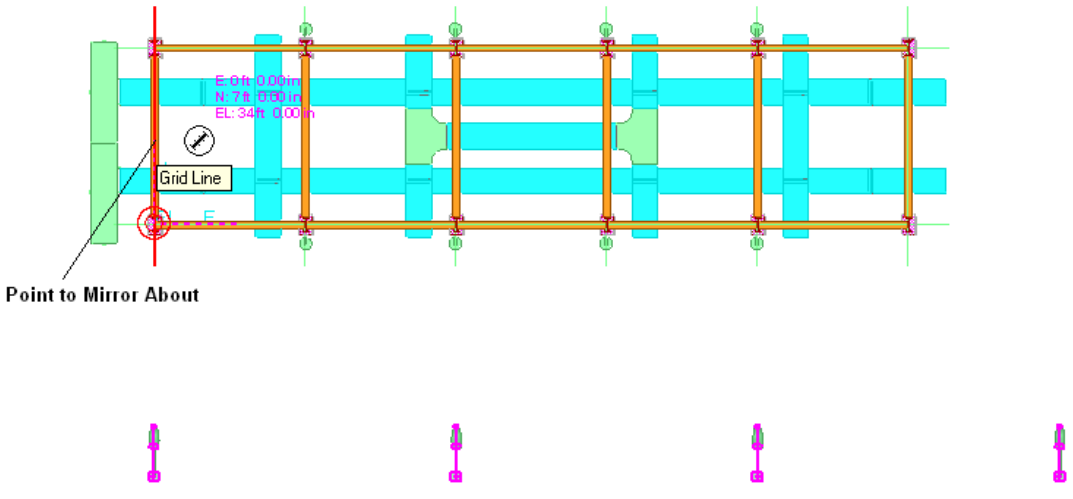

Figure 15: Point to Mirror About

40. The **Parent or Related Object** dialog box appears. Keep the parent system for the equipments from where they have been copied and click **OK.**

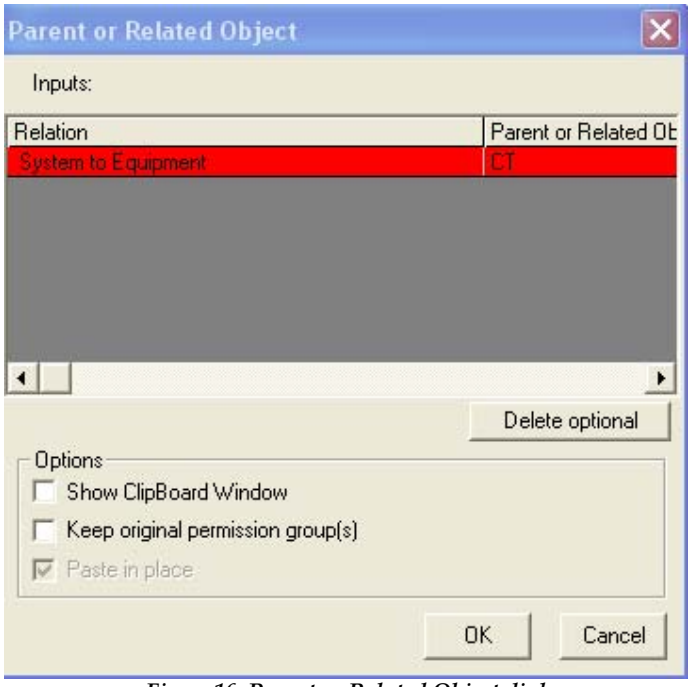

Figure 16: Parent or Related Object dialog

41. The mirrored objects appear in dynamic mode in the graphic view. Click the **Finish** button on the **Mirror Copy** ribbon. The mirrored objects will appear in the graphic view, as shown in Figure 17.

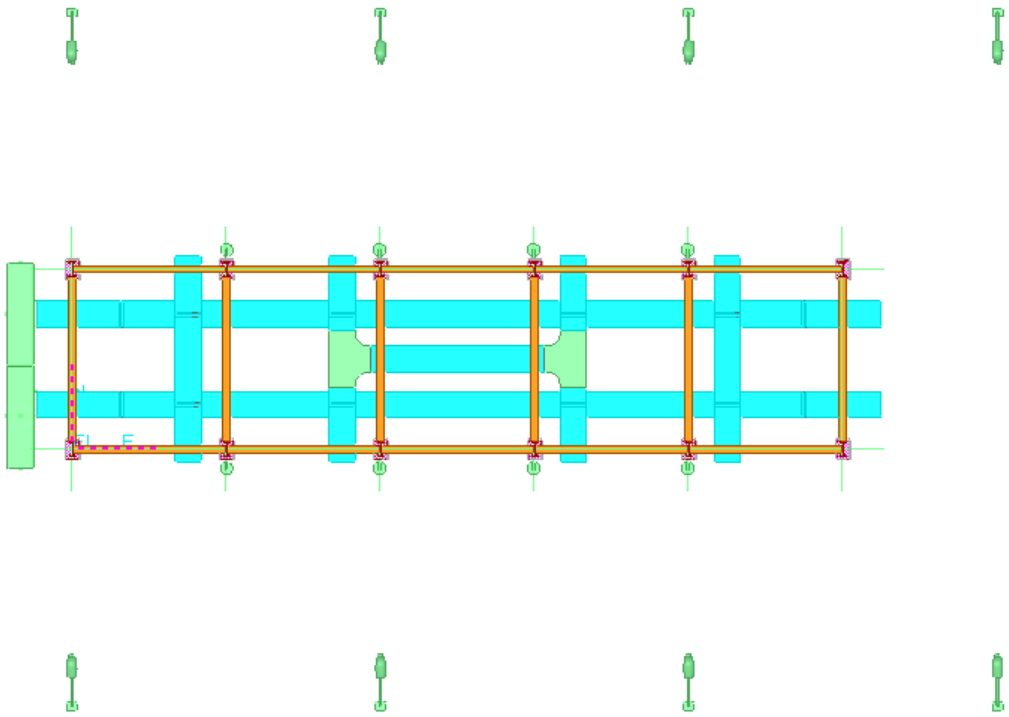

Figure 17: Plan View – Mirrored Objects

42. Name these street lighting fixtures as SL-104, SL-105, SL-106 and SL-107 respectively.

43. Click the **Place Equipment** button on the vertical toolbar.

44. In the Select Equipment dialog box, expand the folder **\Equipment\Electrical\Lighting\Street Light Fixture** until you see the part **StreetLight-E**. Select the part and click **OK**.

45. The Equipment Properties dialog box appears.

46. Key-in S**L-108** in the Name field.

47. Click the System field and select the **More**.. option to specify the system to which the equipment belongs.

48. Select **CT System** under **A2->U07->Electrical->Low Voltage.** Then, click **OK**.

49. On the **PinPoint** ribbon, key-in **80 ft** for East and **7 ft** for North.

50. On the **Equipment** ribbon, make sure the positional relation is set to **Mate**.

Figure 18: Equipment ribbon

51. **In the Workspace Explorer**, expand **Coordinate System** and select **U07 CS -> EL Axis**.

52. Click **EL-0′-0″** to mate the street lighting fixture with elevation **0 ft**.

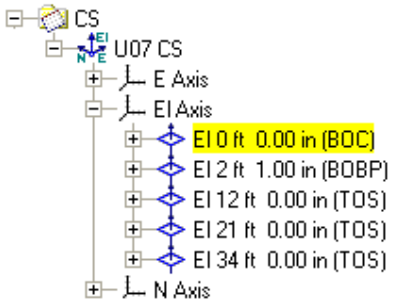

Figure 19: Workspace Explorer – Elevation Plane

53. Click in the graphic view to place the equipment.

54. Rotate the equipment to the indicated orientation (street light source pointing West) by using the left/right arrow keys.

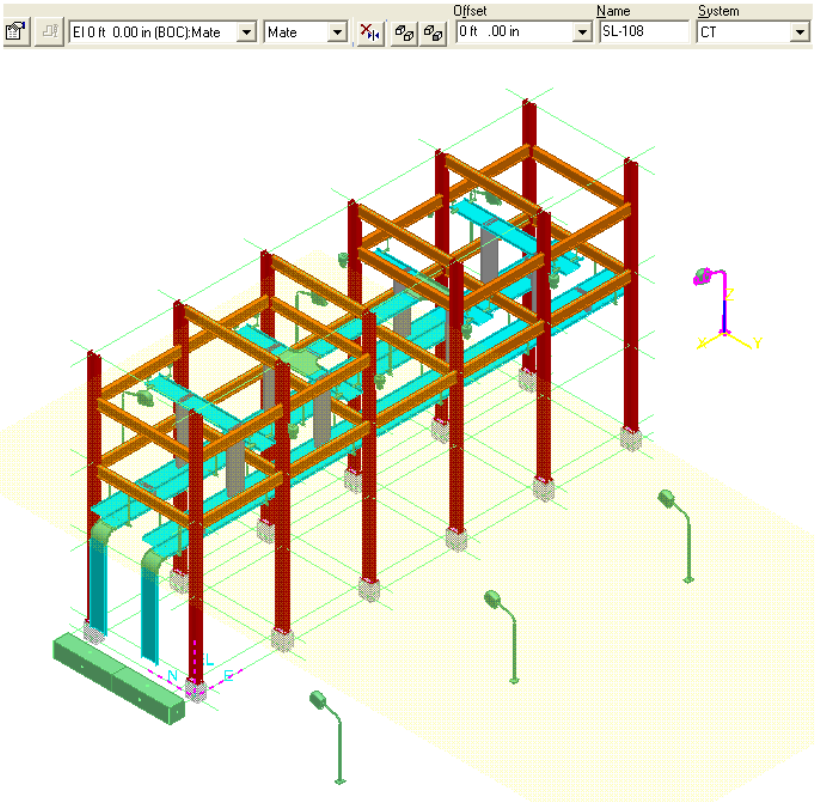

Figure 20: Isometric View – Street Lighting Fixtures