CITY OF ASPEN

Major Engineering Design

Utility Plan Requirement Checklist

City of Aspen Engineering Department

There are three main components to a Major Engineering Design.

1. Stormwater and Drainage
2. Utilities
3. Public Improvements

The following checklist contains all information that must be included within a Major Engineering Submittal in regard to **Utilities**. Please reference supporting documents for Public Improvement and Stormwater/Drainage Requirements.

Refer to the COA Water Distribution and Electric Standards available on the City of Aspen website. The sole purpose of this checklist is to run through all items that must be shown on plan documents for permit submittal, not to outline utility standards.

Projects that require a Major Engineering Review and/or projects that propose any changes to an existing utility must submit to the Engineering Department an existing and proposed utility plan. The following are minimum requirements for all Utility Plans.

Contents

Utility Plan Requirements

General

1. Show all existing utilities on the survey.
2. Show extents of existing transformer vaults subgrade, not just the cabinet above grade.

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3. Provide utility abandonment plan. Reference appropriate utility abandonment standards.
4. Show all utilities planned for the final configuration. Include both proposed utilities and existing utilities to remain.
5. Demonstrate there is adequate separation from existing and proposed utilities. Refer to the Engineering Design Standards for minimum separation requirements.
   a. Potholing at the location of utility crossings may be required for utilities in the ROW to verify adequate separation. A ROW permit is required for all potholing activities.
6. Provide a specific utility trench detail if applicable.

Easements

7. Show all utility easements.
8. New easements must be acquired for proposed transformers within the City of Aspen service area. Transformer easements shall be sized to include adequate clearance zones.
   a. An existing easement that does not meet standard dimensions will need to be revised and updated.

Utilities and Landscaping

9. Show adequate utility separation distance from trees or call out tree removal. Ensure proper tree removal permits are in place.
10. Provide a utility and landscaping overlay. Ensure there is no conflict with proposed plantings in easements or in close vicinity to proposed or existing utilities.

Water Service Lines

11. The Utility Plan shall clearly call out the following for a proposed water service line:
    a. Line size
    b. Line type
    c. Alignment in plan view
    d. Valve configuration including curb stop if applicable
    e. Tap location
    f. A profile of the water service line showing all utility crossings and separation distances
    g. Abandonment and removal of existing water service line with appropriate asphalt patch dimensions
12. In addition to the above items, line sizes 4” or larger shall include the following:
    a. Demonstrate all design requirements for a water main are met. Reference the COA Water Distribution Standards.
    b. Call out adequate restraint at all bends.
    c. Provide a profile of the proposed service line. Show all utility crossings and call out separation distances.
    d. Provide a detail showing how the service line enters the building. Call out elevations.
    e. Ensure adequate restraint is provided and shown on the planset for the first bend within the building.
13. Include in the Civil set the COA Water Standard Detail sheet.
14. The COA recommends water service lines be placed a minimum of 7’ from all onsite stormwater infrastructure including drywells, pervious pavers, and bioretention areas.

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15. For structures that will have a fire suppression system, provide fire suppression calculations demonstrating the requested water service line size is appropriate.
    a. Fire suppression calculations for one line size smaller than requested may be required to demonstrate the smaller line size fails, and the requested line size is needed. This will be required for all 4" proposed lines and larger.
    b. At the Engineering Dept's discretion 2" lines may submit a memo signed by the fire suppression company stating a 2" line is needed instead of providing full calculations for building over 5,000 sf.

Transformers

Installation of a new service line to an existing transformer:

1. Show existing service line and current transformer.
2. Show the proposed service line and trench.
3. Show the existing easement which serves the existing transformer. If the existing transformer does not have appropriate easements or access it may not be permitted to be utilized.
4. Coordinate with City of Aspen Electric. Provide written documentation stating that there is adequate capacity and lugs in the existing transformer to support the new development.
5. Provide load calcs for the existing transformer with the proposed service line.

Installation of a new transformer:

1. Show the location of the proposed transformer.
2. Show new primary lines connecting the proposed transformer to the nearby existing transformers.
3. Call out transformer type and vault size. Single phase requires a 5'x5' vault. Three phase requires a 7'x7' vault.
4. Show 3' clearance on the back and sides of the proposed transformer vault. Ensure the clearance distance is from the vault not the cabinet.
5. Show 10' clearance distance along the front of the transformer.
6. Show adequate access to the transformer. Standard installations will set the transformer along the roadway or alley with the doors opening to the alley. If the transformer is set anywhere else an access easement must be provided to the transformer.
7. An easement must be in place for any proposed transformer prior to building permit issuance. The easement should show the transformer location and incorporate the 3' clearance distances along the side and back and 10' along the front. City ROW can be utilized for clearance areas. City ROW can be utilized for clearance areas. Reach out t o COA Engineering for template language on the electric easement. An exhibit must be prepared which shows the easement footprint.
8. Provide bollards along vehicular areas.

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