

**Chapter 10****Contents**

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# 10 Removal Plan

This chapter will discuss when a removal plan sheet is needed and all the elements that should be shown the plan sheet.

## 10.1 When is a removal plan sheet needed?

A removal plan sheet is required for the following types of work:

- A complete re-build of an existing traffic signal (where all existing equipment is to be replaced by new equipment)
- Replacing an intersection flashing beacon with a traffic signal (where all existing equipment must be removed)
- Removal of any signal poles

A removal plan sheet is recommended for any other type of removal work that cannot clearly be shown on the primary plan sheet or within the special provisions section 00950.02.

A removal plan is NOT required for temporary signal plans as standard specification 00227.42(a) directs the contract how and when to remove the temporary signal, as well as what equipment is property of the contractor.

## 10.2 Equipment Salvaging and Stockpiling

Unless otherwise specified, all equipment/material that is removed becomes property of the contractor at the place of origin by standard specification. The contractor can then reuse, recycle, or dispose of the equipment/material. However, certain signal equipment may be desirable for the owner of the existing traffic signal to salvage. Typical salvaged equipment includes:

- The signal controller cabinet (includes all components within)
- Signal heads and signal poles (which can be reused for future maintenance if they are in decent condition)
- Any equipment that maintenance crews can easily reuse, such as external communication equipment, video detection cameras, etc.

The region electrical crew will provide direction on the which removed appurtenances, if any, should be salvaged, the location to stockpile, and their contact information. This information is contained within the special provisions section 00950.42 (removal of the item is shown on the plan sheet, salvage information related to the item is shown in the special provisions). In addition, when salvaging materials, a letter of public interest finding (LPIF) must be on file. See chapter 19 for more information on the LPIF process and forms.

## 10.3 Abandoning Equipment

The removal plan should show any equipment that will be abandoned. Abandoning equipment should only be considered if both of the following conditions are met:

- The process of removal would require extensive repair or replacement of nearby facilities that would otherwise be unharmed (e.g., removal of loop wires from the pavement would require repair of the pavement).
- The equipment can be abandoned without causing confusion or problems in the future (e.g., the signal pole foundation is abandoned by removing only the top two feet below finish grade which makes it clear it is no longer in use and the risk of encountering a problem on a future project or maintenance activity is low).

There are only a few signal appurtenances that meet these requirements:

- Conduit located underground (top two feet below finish grade is removed per standard specification). However, if extensive earth/roadway work will be done in the locations of the conduit to be abandoned, the conduit should be removed instead.
- Loop detectors
- Signal pole foundations (top two feet below finish grade is removed per standard specification)
- Pedestal and cabinet foundations (top two feet below finish grade is removed per standard specification) may be abandoned, but removal is preferred as the majority of these foundations are equal to or not much greater than 2 feet deep.

All other signal equipment should always be removed, NEVER abandoned.

## 10.4 Removing Equipment

Depending on the type of work being done on the project, certain appurtenances should always be removed (abandoned not allowed).

- Wiring in conduit
- Junction boxes
- Cabinets

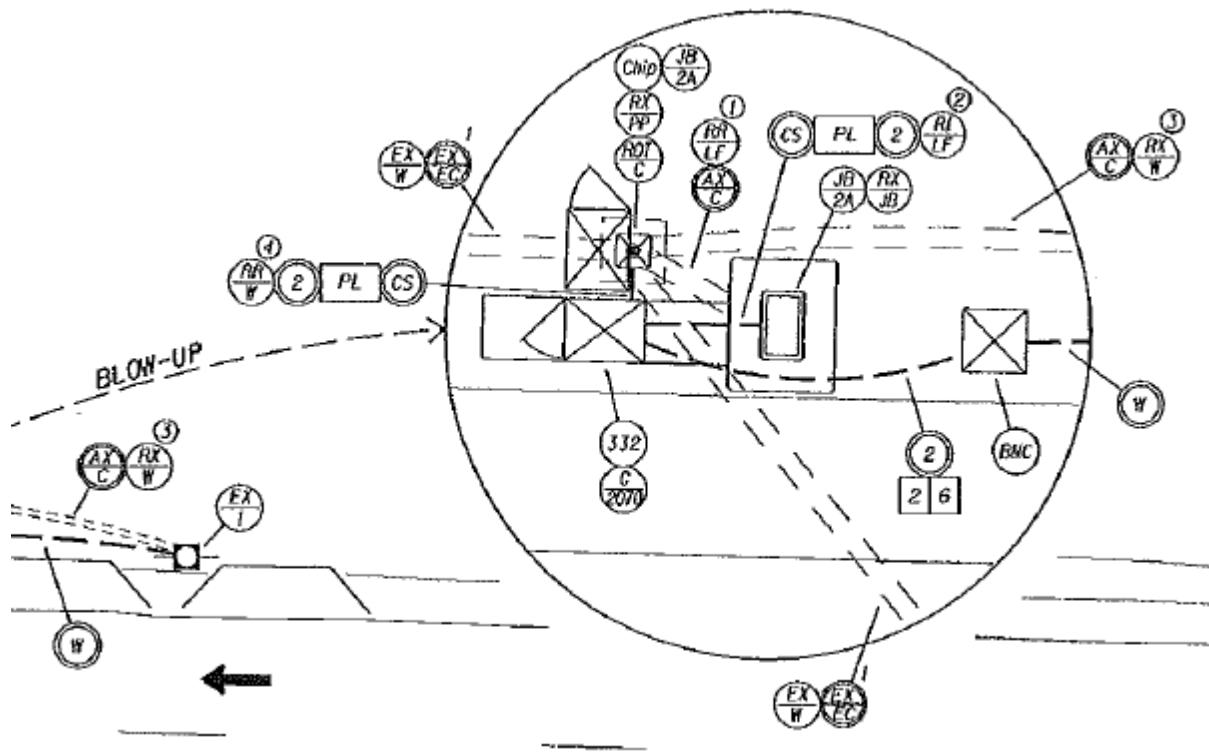
## 10.5 Removing and Relocating Equipment

The region electrical crew should provide direction on which signal appurtenances may be relocated, as they have the most up-to-date information on the condition and remaining service life. Only equipment that is good condition and meets current standards should be considered for relocation. When in doubt, always remove and install new.

The removal plan should show any equipment that is to be removed and relocated. The removal plan should NOT show where the equipment is to be reinstalled; this information should be shown on the primary signal plan sheet. In some cases, it will be obvious where the

removed item will be relocated just using the standard bubble note designations. In other cases, it might not be so clear. For example, if a lot of the same type of items are to be removed and re-installed (vehicle signal heads) with some to be reinstalled at another intersection or only certain wiring is to be removed and relocated up to a certain junction box and reinstalled into another conduit. In these cases, adding some custom general notes that correspond to the appropriate remove & relocate and reinstall bubble notes is advised. See Figure 10-1 for example of custom notes.

Figure 10-1 | Remove and Relocate Equipment with Custom Notes



#### GENERAL NOTES

Construction notes shown as or pertain to this sheet only.

- ① Pull out existing loop feeder cables from existing controller to junction box.
- ② Reinstall loop feeder cables to new controller.
- ③ Coordinate with Power Company for wire removal.
- ④ Remove existing wiring from existing controller and reinstall wiring to new controller.

## 10.6 When a Removal Plan Sheet is Required

The examples in Figure 10-2 and Figure 10-3 show extensive removal and thus require a separate removal plan sheet to clearly show the work to be done.

Figure 10-2 | Removal Plan Sheet Example 1

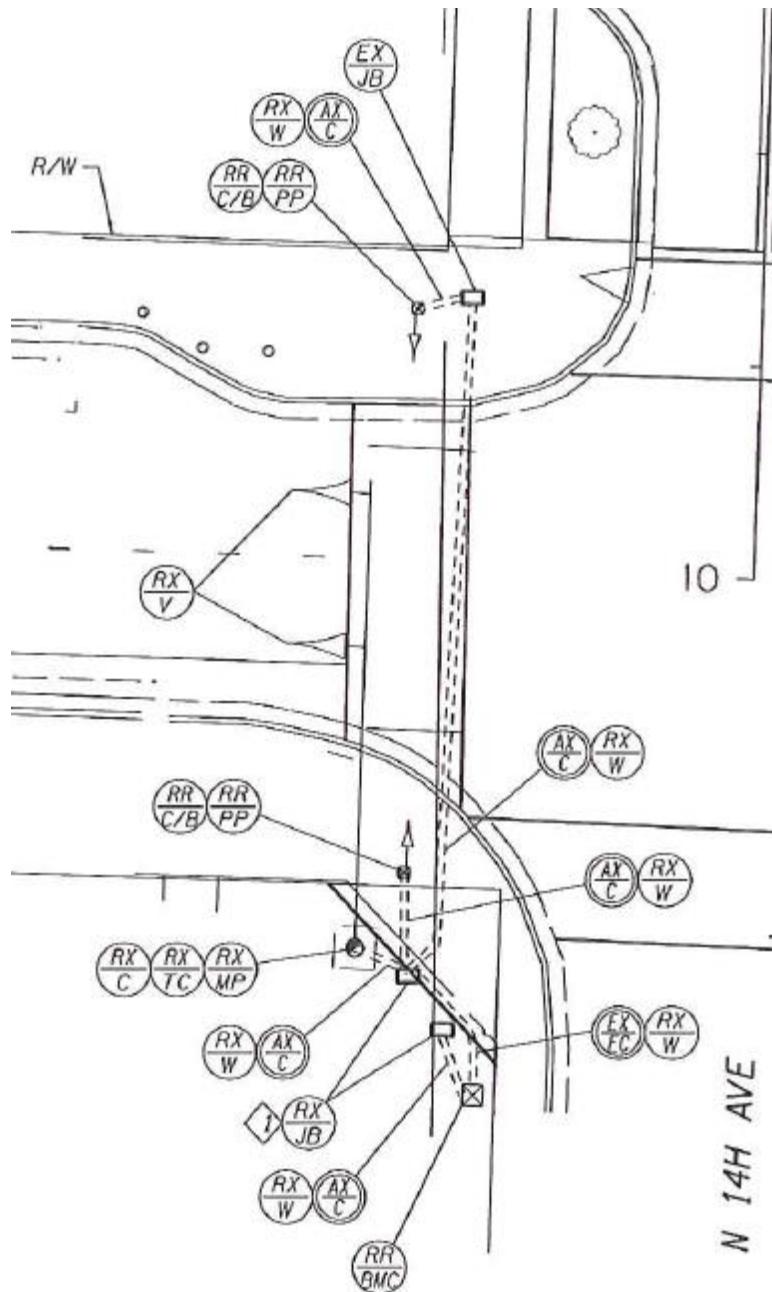
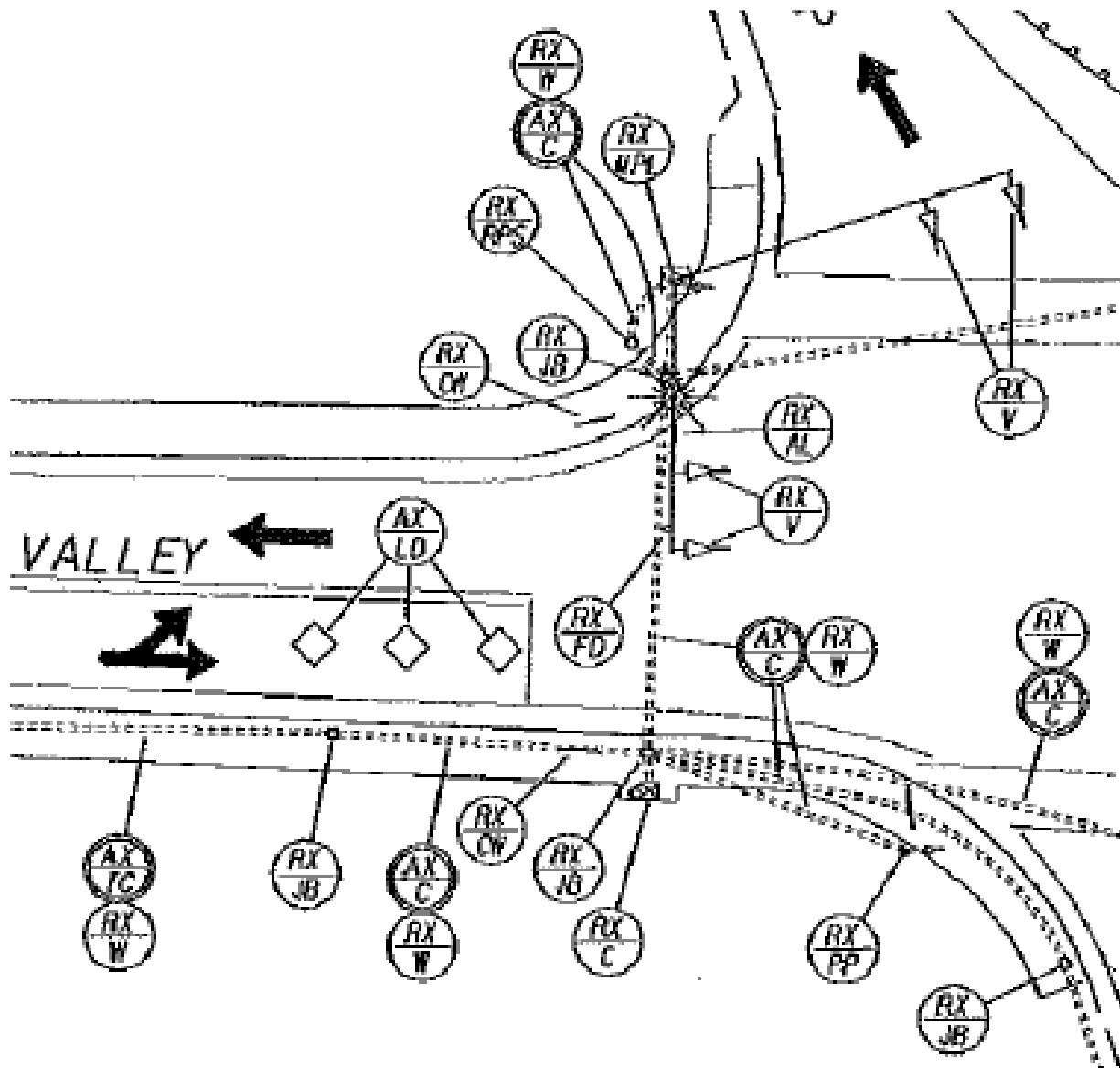


Figure 10-3 | Removal Plan Sheet Example 2



## 10.7 When a Removal Plan Sheet is NOT Required

In some cases, the removal of items can clearly and easily be shown on the primary plan sheet (e.g., signal plan sheet, detector plan sheet, interconnect plan sheet, etc.). If this is the case, a separate removal plan sheet is not recommended. See Figure 10-4 through Figure 10-6 for examples.

Figure 10-4 | Removal Notes Shown on a Primary Signal Plan Sheet Example 1

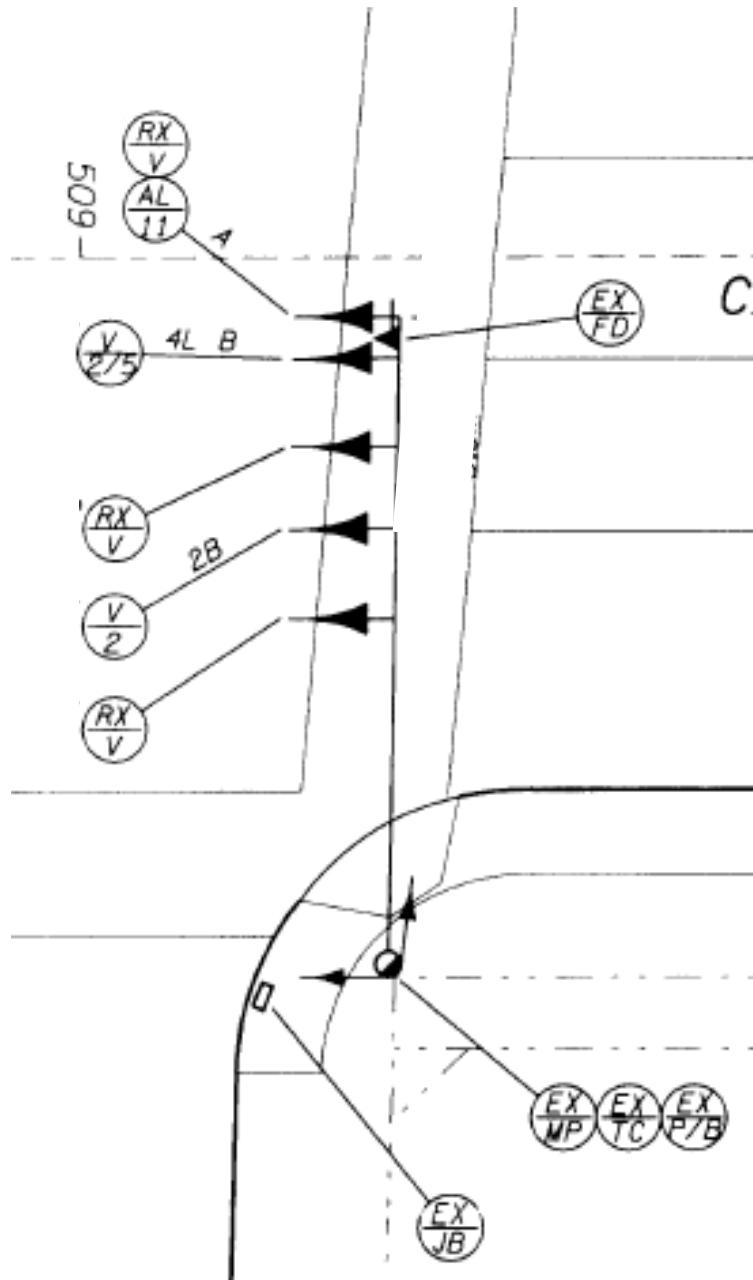


Figure 10-5 | Removal Notes Shown on a Primary Signal Plan Sheet Example 2

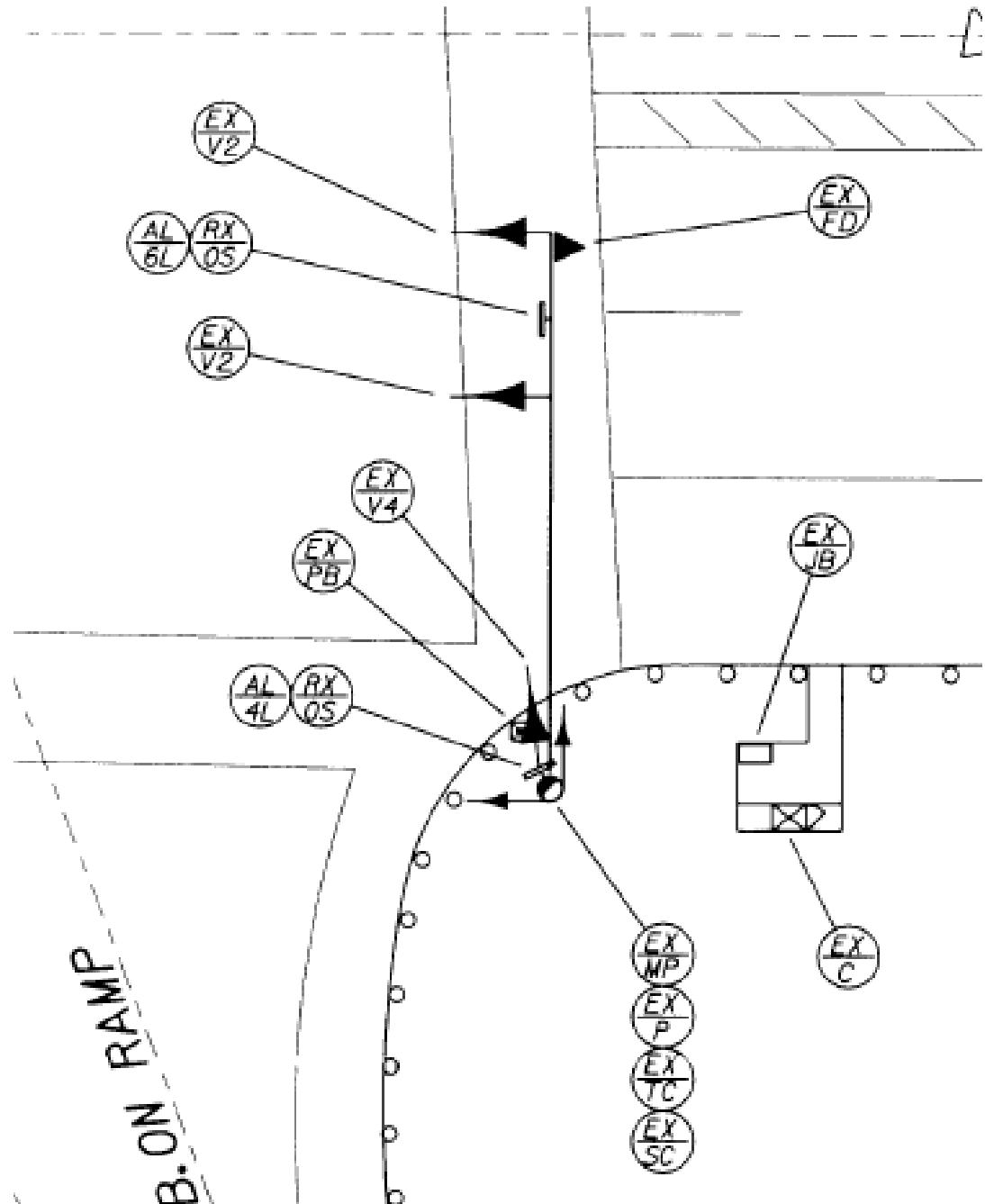


Figure 10-6 | Removal Notes Shown on a Primary Signal Plan Sheet Example 3

