E.2.1 - TRENCHING & CONDUITS

TRENCHING

The developer is to provide the trench for all required conduit systems and, following installation of the conduit by the Developer (see 5.4 CONDUITS), backfill to meet Power Department requirements.The Power Department, under the terms of the City's Line Extension policy, will install both primary (medium voltage 12.47 kV or 4.16 kV) and secondary cables (below 480 volts).

To assure the final grade has been established, the trenching will be started after the curbs and gutters have been installed unless approved by the Lehi City Power Department.

Call Before You Dig

Utah Law Section 54-8A-1 through 54-8A-11 requires the Blue Stakes One Call Location Center be notified at least two working days prior to excavation. The excavation must not be started until locations have been made.

Depth

SEE CHART ON E.2.2 FOR TRENCHING DEPTHS. The property owner is responsible at their own cost to insure that proper burial depth clearance listed below is maintained even after excavation of the property. Any questions on impaired burial depths should be immediately brought to the attention of the Power Department. Under certain conditions, with prior Power Department approval, cable/conduit systems may be buried with less cover provided that mechanical protection is installed by the Developer to the Power Departments specifications.

Width

All trenches meet OSHA requirements. Primary/secondary combined trenches shall be a minimum of 18 inches wide at the bottom. Trenches 12 inches wide will be approved for a single service only.

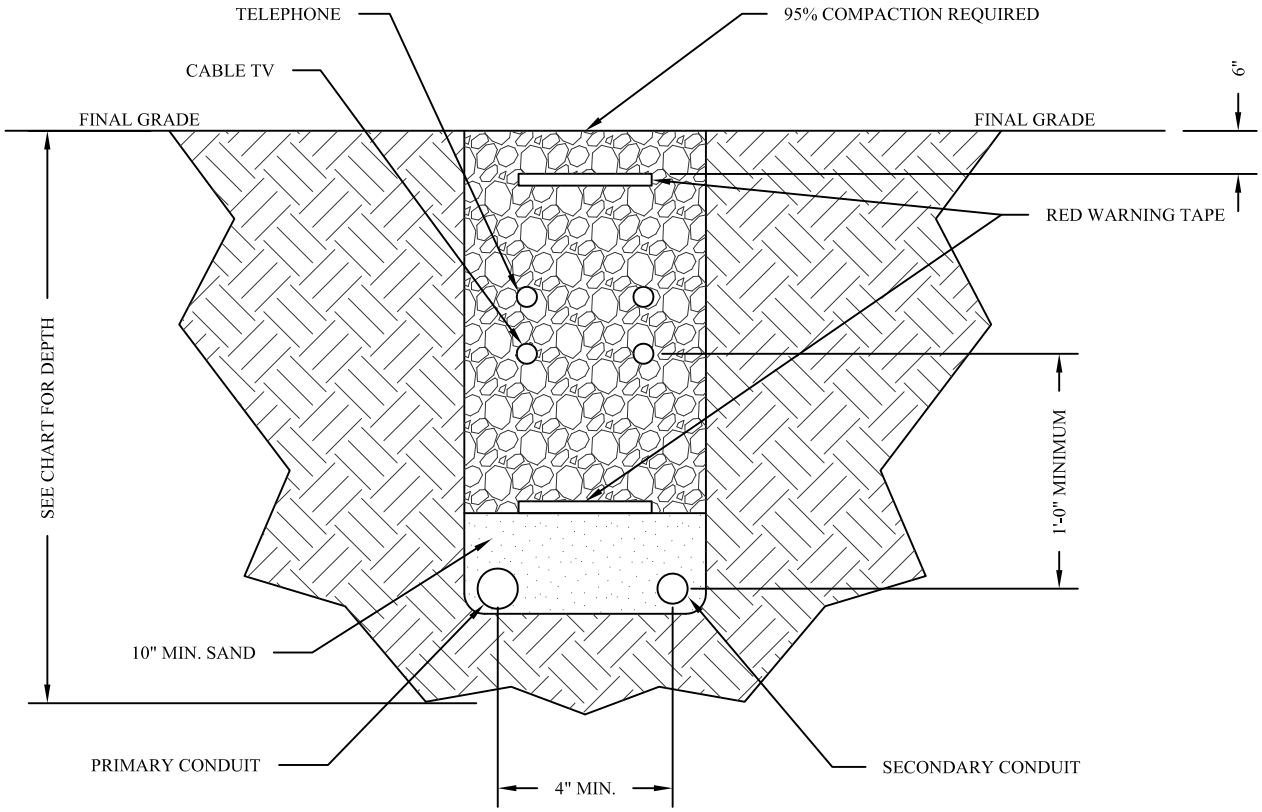
Backfill

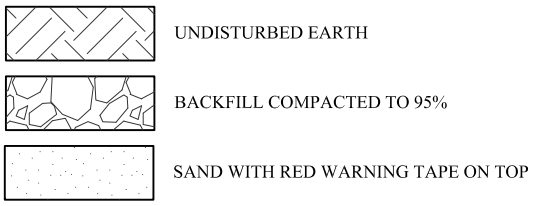
The developer will be responsible for backfilling trenches he provides. The Developer must provide 10" of sand to be placed on top of conduits and shall have red warning tape on top of sand.Where trenches cross structural fill, typical of road crossings, the trench backfill shall consist of like kind structural fill. All primary trenches and all road crossings trenches (including secondaries) shall be compacted to 95% compaction of the maximum dry density as determined by ASHTO T-99 (standard). All primary and secondary conduit systems shall have placement of red warning tape 6" below final grade. The tape shall be of the type specific for the application.

Joint Use

Typically, joint use between other utilities of power department trenches is not allowed unless approved by the Power Department. Any joint use between telephone, TV, and other electrical communication cables must be pre-approved by the Power Department and installed in accordance with the Power Department specifications. The Power Department normally will not install electrical cables in a common trench with non-electric utilities such as water, gas, and sewer, unless unusual conditions such as adverse soil or route restrictions exist. All such installations require the prior approval of the Power Department.

E.2.2 - TRENCHING & CONDUITS





CONDUIT SIZES AND DEPTHS:	
CONDUIT SIZE	DEPTH
2"	2'-0"
3"	3'-0"
4"	4'-0"
5"	5'-0"
6"	6'-0"

NOTES:

1. SECONDARY CONDUITS SHALL BE BURIED AT THE SAME DEPTH AS PRIMARY, IF NO PRIMARY IS TO BE INSTALLED USE THE ABOVE CHART FOR SECONDARY DEPTHS.
2. THERE SHALL BE A 4" MINIMUM SEPARATION BETWEEN CONDUITS.
3. A MINIMUM OF 12" SEPARATION BETWEEN ELECTRICAL AND OTHER UTILITIES IS REQUIRED.
4. ALL CONDUITS SHALL BE BURIED A MINIMUM OF 36" UNDER PAVED SURFACES AND 48" UNDER ALL RAILROADS.

LEHI
PIONEERING UTAH'S FUTURE

LEHI CITY
ELECTRICAL REQUIREMENTS
& STANDARDS MANUAL
TRENCHING & CONDUITS

ELECTRIC 2.2
TRENCHING & CONDUITS
SCALE: NONE
DATE: 7.22.06
REV: A
REV DATE: 7.22.06

E.2.3 - TRENCHING & CONDUITS

CONDUITS

The Power Department requires the use of conduit for all underground primary and secondary cable installations, including lighting circuits. Rigid galvanized steel, IMC and gray electrical grade PVC schedule 40 (underground only) conduit are acceptable materials for conduits installed by the Customer.

All 90-degree bends are to be a minimum of 15" radius for 2" pipe, 18" radius for 3" pipe, 30" radius for 4" pipe, and 36" radius for 6" pipe. All primary elbows are to be PVC for 2", 3" and 4" conduits, steel elbows for 6" conduit.

All conduits shall be terminated at the open end with plastic bushings.

All underground metallic conduit must be tape wrapped with suitable tape for the application.

Residential primary conduit sizes must be three (3) inch. Secondary conduit size shall be three (3) inches from transformers to junction domes and two (2) inches from transformer or dome or transformer to resident.

All conduits end points shall be sealed or taped to prevent debris from plugging the conduit and future use (1" PVC painted red). The Developer shall be responsible for cleaning conduits if the Power Department is unable to install or pull the service cable.

Along with conduits extending to secondary junction boxes, each transformer pad and secondary box shall have ten (10) foot conduit subouts for interconnection to adjacent homes.

Prior to backfilling, the Developer must notify the Power Department for an inspection, following the inspection the Power Department shall issue a notice to proceed slip, allowing backfilling.

2" CONDUIT REQUIREMENTS

Along with conduit requirements for the installation of power cables the Developer must provide a 2" conduit system. The conduit system shall consist of 1- two (2) inch gray PVC schedule 40 conduit and shall parallel the primary power system and to the secondary junction boxes. All applicable requirements pertaining to the installation of the power conduit system apply to 2" conduit system.

Directional Boring

All boring conduit shall be type HDPE/SDR-17 or equivalent unless approved by Lehi City Power.