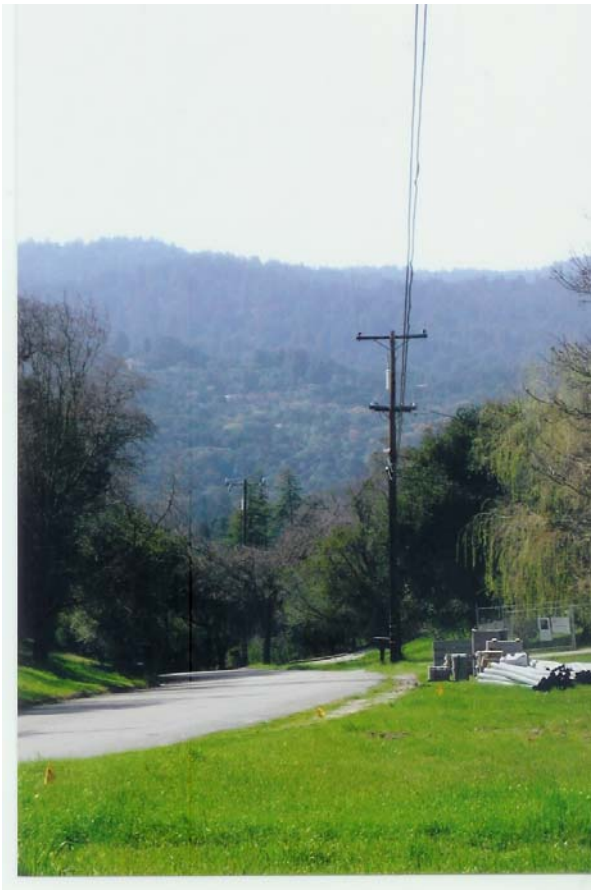
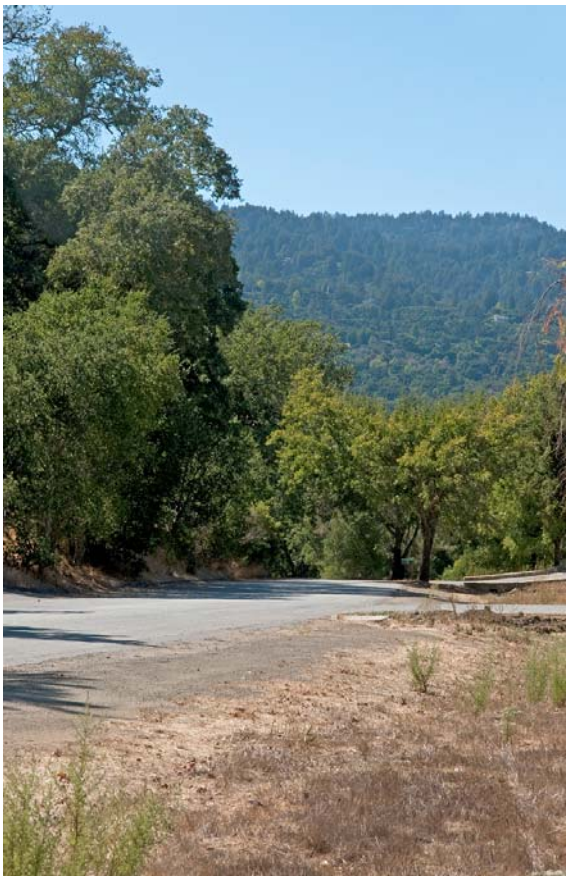
## A Case Study on Neighborhood Undergrounding

In 2008, owners of the 6 homes on Solana Road in Portola Valley completed their own neighborhood undergrounding project, becoming only the third such neighborhood in town. This effort is remarkable because the other two projects are the large commercially developed neighborhoods of Portola Valley Ranch and the Sequoias. To complete this small project took several years of perseverance and community. It is a case study of how neighbors can come together to beautify their street by eliminating overhead outdoor wiring. Check out the before and after photos and an overview of the strengths and pitfalls of the project.

### Solana Road Before Undergrounding



### Solana Road After Undergrounding



## Project Costs

Of course, the first thing homeowners ask is “how much will this cost?”

For this project, the answer is not as much as you may think: $171,000 to underground 835 feet of utility wires, 4 telephone poles, and 2 transformers. Drops from the street to each residence

were already underground. Solana decided to completely hide the transformers and paid a $36,000 premium to place them underground rather than on a concrete pad at ground level.

| | **Underground Transformer** | **Grade Level Transformer** |
|---|---|---|
| 4 Poles + 2 Transformers | $ 135,000 | $ 135,000 |
| Premium - to place 2 transformers underground | $ 36,000 | |
| **Total** | $ 171,000 | $ 135,000 |
| Cost per Linear Foot | $ 205 | $ 162 |

Also important, because more than 800 feet of public thoroughfare was undergrounded, the project qualified for a "Rule 20B" lower rate schedule from PG&E and AT&T, resulting in a savings of $48,000. Other neighborhoods may have fewer transformers per pole, more distance between poles, etc. Therefore, "your mileage may vary", and the only way to develop an accurate estimate is to work with PG&E and the utilities.

By combining into a neighborhood project as recognized by the Town Council, Solana gained the PG&E and AT&T credits and also attained economies-of-scale in the trenching, which is about half the cost of undergrounding. Solana also appointed one neighbor who managed the project as well as its self-funding. Having one point person simplified the project's ability to work with the utilities of PG&E, AT&T, and Comcast. But having a united neighborhood also meant, in the words of their manager, "The residents were responsible for the success of the project which allowed us to move forward in the face of some uncertainty and unexpected issues."

## Project Pitfalls and Lessons Learned

Overhead wiring on telephone poles has been around since Thomas Edison and is cheaper to install and maintain than underground wiring. Perhaps the greatest pitfall is that utilities are not highly motivated to help communities move their wires underground. The planning and construction process can be like getting a tortoise to sprint uphill.

Working with several utilities caused the Solana manager to endure many headaches to get tasks lined up and executed. A slight error in paperwork and project delays almost caused the utility to rework the cost estimates. The best bet is for each neighborhood manager to insist that a PG&E and AT&T Supervisor with experience in Rule 20B be the utility-side Project Managers and contacts for their job. Finally, note that the neighborhood manager was a volunteer position, neighborhood terrains have different physical environments, and therefore your costs to pursue a similar project will most likely vary.