without sacrifice in real quality. Even the new wing, with its 17 miles of electrical conductors and other equipment to match, was installed at only 60 cents per cubic foot, but of course under more favorable market conditions.

The older portion of the building houses not only the administrative offices, storerooms, central mechanical services, library, etc., of chemistry, but also includes the large laboratories in elementary and advanced inorganic and organic chemistry and biochemistry. The new wing houses quantitative analysis and physical chemistry on two of its floors. The feature of this section is a sub-basement underlying the whole southerly block. This part is subdivided into ten research laboratories, all with complete forced-ventilation service. The subterranean location practically eliminates the considerable day-to-night temperature variation characteristic of California. Like the instructors' private laboratories, these research laboratories are equipped with gas, water, steam, air, vacuum and diversified electrical service. In addition to the conventional single- and 3-phase alternating current, and generator-battery direct current services, a very useful multivoltage, 1 to 220 volt alternating current service is provided at a central transformer. Lights, students' laboratory circuits, etc., are protected by individual circuit breakers instead of fuses. The newer classrooms, offices and corridors are treated with acoustic plaster.

THE NEW ARBORETUM OF CORNELL UNIVERSITY

PROFESSOR RALPH W. CURTIS gives an account in *The Cornell Alumni News* of the beginning of the work on the new arboretum to be constructed at Cornell University. Unlike any other great arboretum or botanic garden, this one will be not only a garden of trees, shrubs and vines brought together for scientific purposes, but in addition will exemplify the principles of landscape design and be a laboratory for the conservation of wild life. None of these three ideas is new in itself, but their combination into one great preserve is a novel enlargement of the arboretum idea. The arboretum will occupy eventually more than five hundred acres of present university property.

The landscape consultant is Nelson Wells, '18, now with the Department of Parks, New York City. The chairman of the university arboretum committee is Conant Van Blarcom, '08, superintendent of Cornell buildings and grounds; the other members are Professors Gilmore D. Clarke, '13, planning; Carl Crandall, '12, civil engineering; Ralph W. Curtis, '01, ornamental horticulture; Ralph S. Hosmer, forestry; Eugene D. Montillon, '07, landscape architecture, and Karl M. Wiegand, '94, botany. Lieutenant R. D. Blanchard of the army is construction officer of the camp, and Charles E. Houghton, of the Finger Lakes State Park Commission project, is project superintendent in charge of the whole arboretum development.

Eight general provisions adopted by the management of the arboretum are announced:

1. The arboretum should contain representatives of all species and varieties of woody plants which will grow in this climate.
2. The arrangement of plants in the arboretum should be such as to give the best landscape effects and also promote to the highest degree their educational value.
3. The wilder areas should be maintained as nearly as possible in their natural condition.
4. Areas needed for special biological purposes may be assigned when this seems desirable. Such areas should be brought into harmony, as far as possible, with the general scheme of the arboretum.
5. Local characteristic trees, shrubs, and vines should be planted generously and quite continuously as the background of the arboretum to give continuity and appropriate setting for the large amount of exotic planting which the arboretum will contain.
6. The planting scheme of the arboretum should be a composite of four superimposed seasonal units so that at all times of the year, in spring, summer, autumn, and winter, there will be interest throughout the entire arboretum.
7. While the planting should be in generic groups, so that any one may find the oaks near each other and the maples, pines, and other groups in the same fashion, the scenic appearance of the arboretum must be maintained by merging the individuals in adjacent groups so that they tie together with the background material and those plantings made for seasonal interest. In this way the arboretum will demonstrate planting design as well as plant materials.
8. Circulation should be by paths and by only such roads as are necessary for accessibility and service. Entrances, in location and number as necessary and desirable, should be established to connect the arboretum with adjoining roads. By this plan, it is hoped that the Cornell Arboretum may become distinctly a plant sanctuary.

A CCC camp of two hundred workers has been transferred to Ithaca to carry on the work.

THE HAYDEN PLANETARIUM OF THE AMERICAN MUSEUM OF NATURAL HISTORY

THE Hayden Planetarium at the American Museum of Natural History will open its doors to the public on October 3, when a group of school children will comprise the audience. It is expected that at least 300,000 children will attend free of charge in the course of each school year. The work is being done by the museum in cooperation with the City School Department.