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P1.011 JUNO underground facilities and construction status

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Jiangmen Underground Neutrino Observatory (JUNO), a next generation underground reactor antineutrino experiment, is proposed to determine the neutrino mass hierarchy using a massive liquid scintillator detector underground. The experimental hall, spanning more than 50 meters, is under a granite mountain of over 700 m overburden. The central antineutrino detector, built with 35.4-meter diameter acrylic sphere, contains 20 kilotons of liquid scintillator and $\sim 17,000$ 20 inch PMTs (and $\sim 34,000$ 3 inch PMTs). The antineutrino detector is placed in a water pool shielding system which also functions as an active water Cherenkov veto detector. On the top of water pool is a Top Tracker system which further improves the muon track reconstruction. There are two accesses to the underground experimental hall: a sloped tunnel equipped with cable cars for both personnel and equipment and a vertical shaft equipped with an elevator system for personnel and light equipment. JUNO civil construction was officially kicked off on Jan 10th, 2015 as well as the whole project. This poster presents the details of the underground facilities, the civil construction and the layout of detectors in the underground experimental hall.