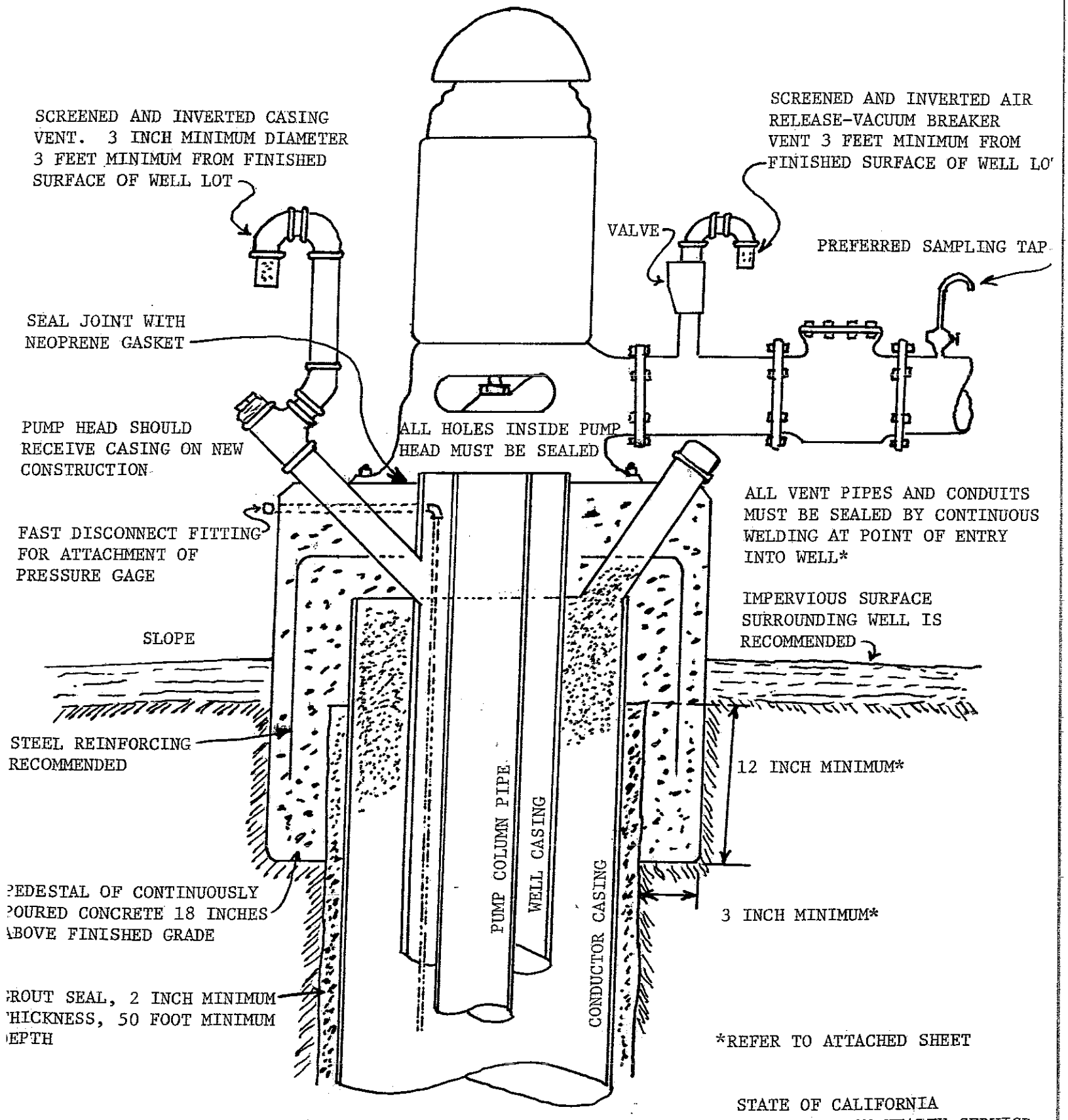
SURFACE FEATURES OF A
DOMESTIC WATER WELL



*REFER TO ATTACHED SHEET

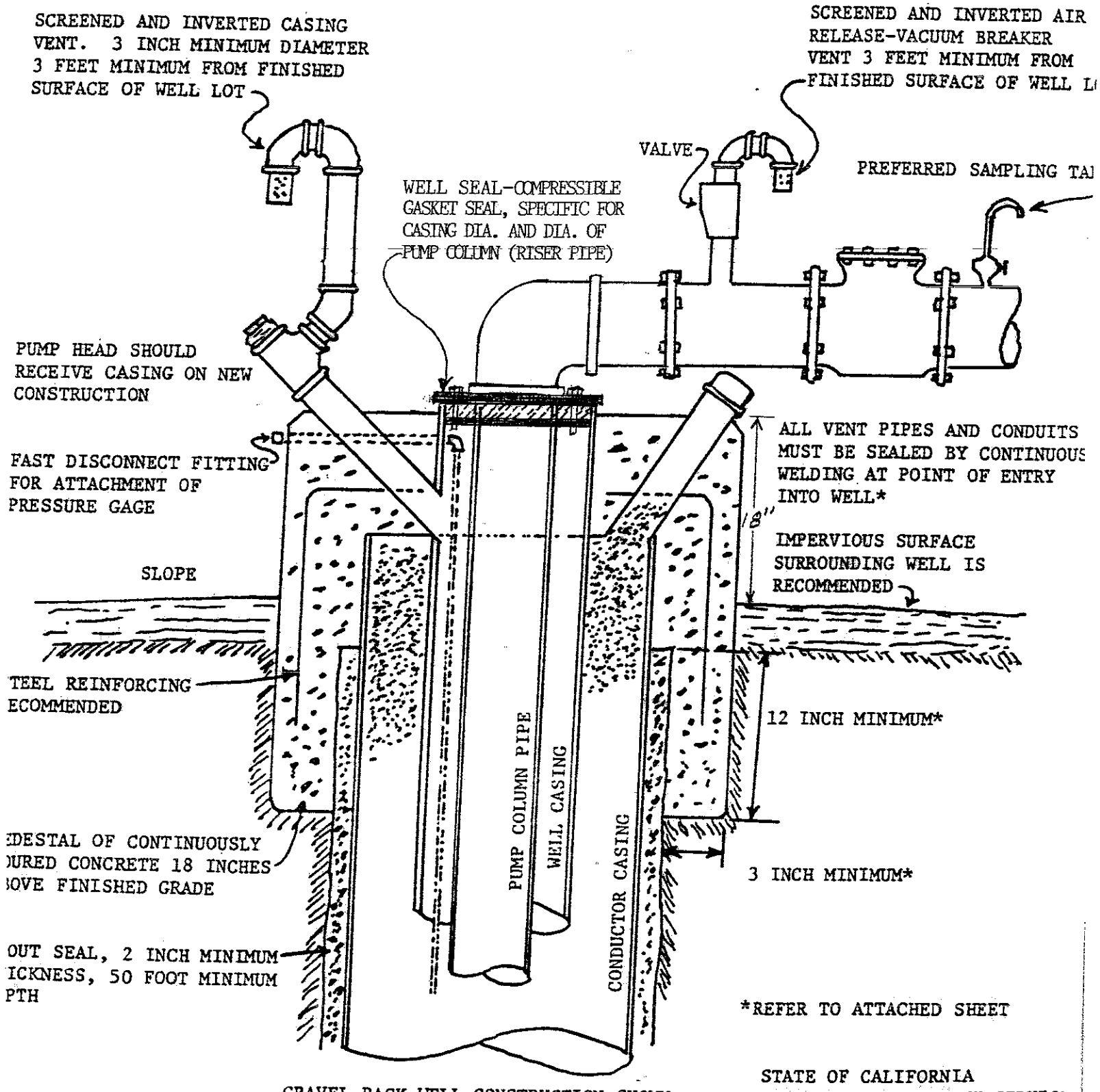
GRAVEL PACK WELL CONSTRUCTION SHOWN

STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICE
REV. (4-79)

DRAWING NOT TO SCALE

SURFACE FEATURES OF A
DOMESTIC WATER WELL
SUBMERSIBLE PUMP INSTALLATIONS

THE WELL CONSTRUCTIONS FEATURES ARE THE SAME FOR
SUBMERSIBLE PUMP INSTALATIONS AND DWT INSTALLATIONS



*REFER TO ATTACHED SHEET

GRAVEL PACK WELL CONSTRUCTION SHOWN

DRAWING NOT TO SCALE

STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVIC
REV. (4-79)

WELL CONSTRUCTION NOTES

PEDESTAL CONSTRUCTION

The pump pedestal should be constructed of continuously-poured concrete to a minimum height of eighteen inches (18") above the finished elevation of the well lot. A lower pedestal height may be acceptable upon approval of the Department of Health Services, but in no case may the pedestal height be less than twelve inches (12").

The pedestal should be of sufficient diameter to provide a minimum of three inches (3") of concrete around the conductor casing grout seal. The pedestal should be of sufficient depth to enclose the top of the grout seal to a minimum depth of twelve inches (12"). Steel reinforcement of the pedestal is recommended

Prior to placement of the pedestal, the cement grout seal must be thoroughly cleaned to assure a tight bond between the grout and the concrete pedestal.

PUMP MOTOR BASE SEAL (DWT Installations)

The seal must provide a watertight connection between the pump motor base and the concrete pedestal. A neoprene rubber material cut from flat stock is highly recommended for sealing new wells or resealing an existing well whenever the pump base is removed for repairs to the well.

On existing well an oil resistant, non-hardening material such as latex rubber is an excellent sealant. Cement grout will eventually crack and is not a desirable sealant material.

WELL SEAL (Submersible Pump Installations)

A standard well cap designed for submersible installations shall be used. The cap must have a compressible gasket material between two (2) steel or cast iron plates. The cap must have a minimum of four (4) bolts for compression of the gasket. All holes for entry through the well cap (for electrical cables, vents, etc.) must be plugged if unused When the compression bolts are tightened, the compressible gasket must form a water tight seal against the well casing and all cables, pipes, etc., that pass through the well cap.

DISINFECTION (All Wells)

All completed well installations (DWT, Submersible, Jet, etc.) must be equipped with the necessary plumbing and electrical connections for installation of chlorination equipment. The minimum provisions shall include a connection for dilution or make-up water supply (2" recommended), a plug for installation of the chlorine injector downstream of the dilution water supply (3/4" minimum) and a 110 volt electrical power source wired to the pump control switch. The injector should be installed downstream of the pump discharge check valve.

VENTS

GENERAL: All well vents should be constructed so that openings are in a vertical downward position. Openings should be a minimum of thirty-six inches (36") in height above the finished surface of the well lot and should be covered with a fine mesh screen or similar device to exclude small insects from the well interior.

CASING VENTS: A properly-sized and constructed vent should allow the unrestricted flow of air into and out of the well interior. A minimum-size vent of three inches (3") diameter should be provided. Dual venting is desirable on large diameter wells.

The casing vent on existing wells should not be restricted or reduced in cross-sectional area.

AIR RELEASE-VACUUM BREAKER VENT: The type and size of air release-vacuum breaker valve utilized usually determines the size of this vent. There is no minimum size requirement. However, all other items specified under the "General" heading above apply to this vent.

It is essential that all vent pipes, sounding lines and gravel fill pipes be one continuous conduit through the concrete pedestal. It is also essential that all conduits which penetrate the casings be provided a continuous watertight weld at the point of entry into the well interior.

SAMPLING TAPS

A sampling tap should be provided on the downstream side of the pump check valve. A petcock valve fitted with a three-eighths inch (3/8") copper line formed in a semi-circle the ending of which points vertically downward is recommended.

There should be no hose bib, faucet, or any other threaded valve installed between the well pump and the check valve.

WATER LEVEL SOUNDING LINE

If a water level air sounding line is to be incorporated, it should be installed through the upper portion of the concrete pedestal rather than through the pump base. A conduit of sufficient diameter to allow the passage of the sounding line is placed in the pedestal form prior to placement of concrete. One-quarter inch (1/4") galvanized pipe is frequently utilized as an air sounding line. The space between the sounding line and the conduit must be provided with a watertight seal.

A quick disconnect fitting is desirable on the air sounding line in place of a permanent gauge installation.