

SANITARY SEWER LIFT STATION AND FORCE MAIN
BOTANICA - THE WICHITA GARDENS
STREETS AND UTILITIES

ELECTRICAL SPECIFICATIONS

SHEET TITLE
468-84683
PROJECT NUMBER

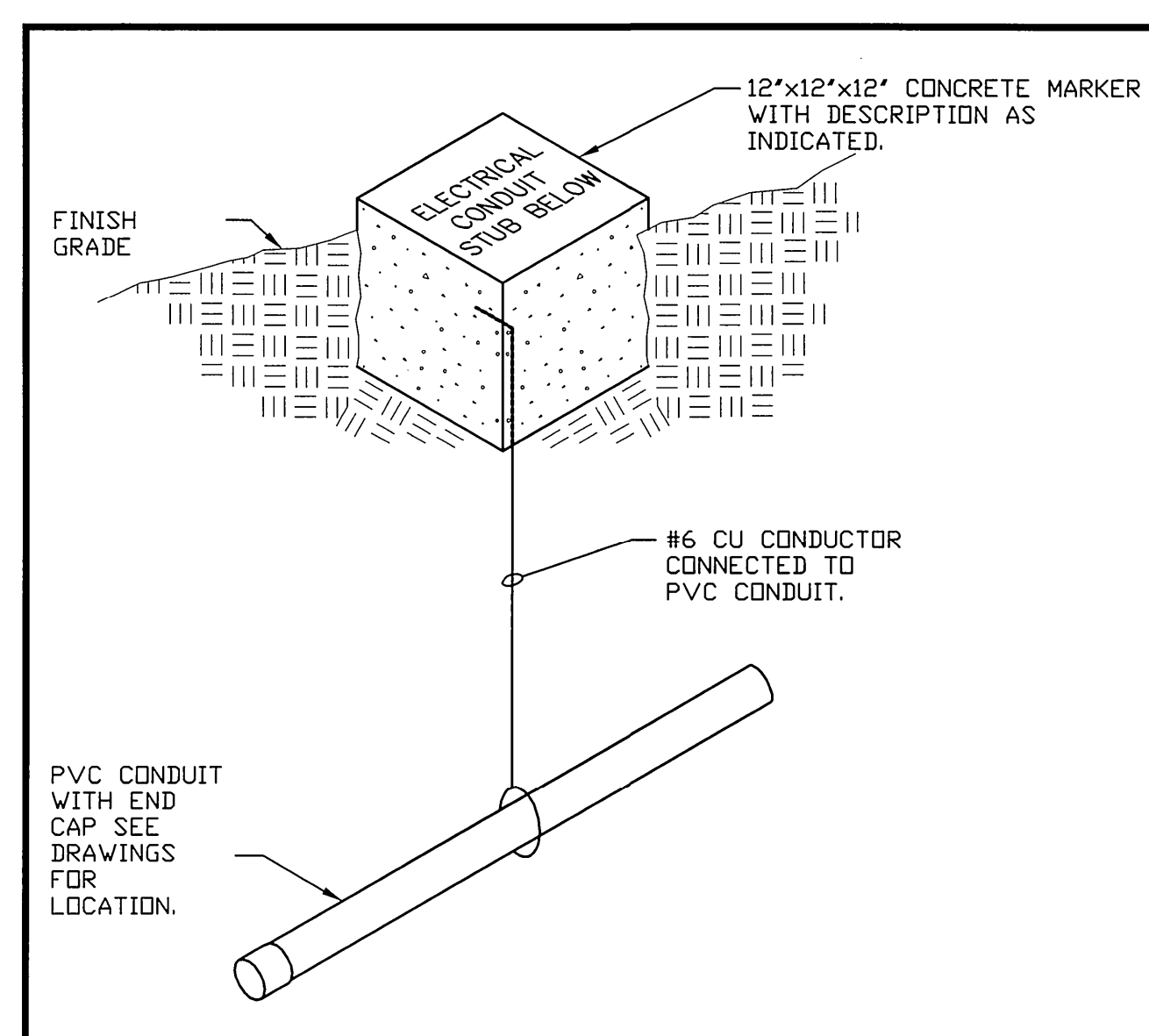
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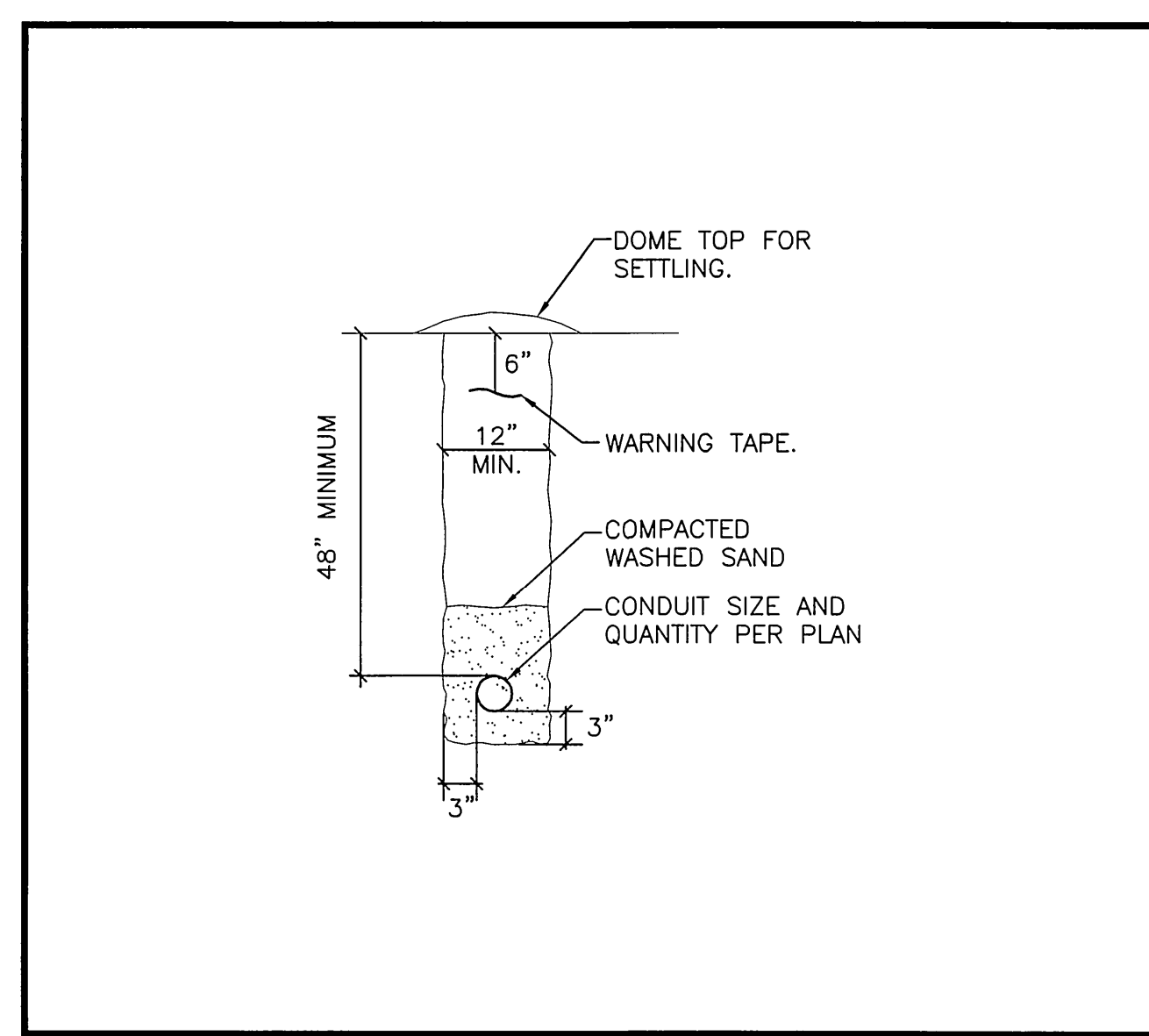
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- ELECTRICAL SPECIFICATIONS**
- A. GENERAL:**
- SCOPE OF SERVICES**— WORK SHALL INCLUDE THE FURNISHING AND INSTALLING OF COMPLETE FUNCTIONING SYSTEMS AS INDICATED ON THE DRAWINGS AND THESE SPECIFICATIONS, ACCESSORIES NECESSARY WHETHER SPECIFICALLY STATED OR NOT TO MAKE THE REQUIRED ELECTRICAL SYSTEMS COMPLETE AND OPERATIONAL; INCLUDING EVERY ARTICLE, DEVICE OR ACCESSORY NECESSARY TO FACILITATE EACH SYSTEM FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT SPECIFIED. CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE AND ALL EXISTING CONDITIONS PRIOR TO BIDDING.
 - MATERIAL AND WORKMANSHIP**— ALL EQUIPMENT PROVIDED SHALL BE NEW EXCEPT AS OTHERWISE STATED ON THE DRAWINGS. ALL EQUIPMENT PROVIDED SHALL BE UL LISTED WHEN SUCH STANDARDS EXIST FOR THE TYPE OF EQUIPMENT FURNISHED AND ACCEPTABLE FOR INSTALLATION OF THE LOCAL BUILDING AUTHORITY. ALL MATERIAL AND APPARATUS SHALL BE NEW AND IN FIRST CLASS CONDITION. ALL WORKMANSHIP SHALL BE OF THE FINEST POSSIBLE, BY EXPERIENCED ELECTRICIANS OR JOURNEYMEN. ALL TOOLS, MACHINERY AND EQUIPMENT REQUIRED OF THE PERFORMANCE OF THE ELECTRICAL WORK SHALL BE FURNISHED BY THIS CONTRACTOR.
 - COORDINATION**— THE CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER CONTRACTORS AND SUBCONTRACTORS SO THAT VARIOUS COMPONENTS OF THE ELECTRICAL SYSTEMS WILL BE INSTALLED AT THE PROPER TIME, WILL FIT THE AVAILABLE SPACE, AND WILL ALLOW PROPER SERVICE ACCESS TO ALL EQUIPMENT. THE CONTRACTOR SHALL REFER TO ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND TO RELEVANT EQUIPMENT DRAWINGS TO DETERMINE THE EXTENT OF CLEAR SPACES.
 - ORDINANCES AND CODES**— CONTRACTOR'S PERFORMANCE, WORKMANSHIP AND MATERIALS SHALL COMPLY WITH NATIONAL FIRE PROTECTION ASSOCIATION CODES STATE AND LOCAL BUILDING CODES, AND/OR ALL OTHER APPLICABLE CODES AND ORDINANCES. ALL PERMITS, LICENSES AND FEES THAT ARE REQUIRED BY THE GOVERNING AUTHORITIES FOR THE PERFORMANCE OF THE ELECTRICAL WORK SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR. FILLING OUT FORMS FOR APPLICATIONS BY THE ENGINEER WILL BE BILLED HOURLY TO THE CONTRACTOR.
- B. WORK:**
- GUARANTEE**— GUARANTEE AGAINST DEFECTIVE WORKMANSHIP AND MATERIAL FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL PAYMENT. GUARANTEE SHALL INCLUDE MATERIAL TO BE REPLACED AND ALL LABOR REQUIRED.
 - TESTING, CHECK-OUT AND CLEANING**— REPLACE ALL BURNED-OUT LAMPS. THE CONTRACTOR SHALL CLEAN ALL MATERIAL AND EQUIPMENT INSTALLED UNDER THE ELECTRICAL CONTRACT. DIRT, DUST, PLASTER, STAINS AND FOREIGN MATTER SHALL BE REMOVED FROM ALL SURFACES. ALL EQUIPMENT SHALL HAVE FINISH TOUCHED UP PRIOR TO INSPECTION.
 - CUTTING AND PATCHING**— THIS CONTRACTOR SHALL DO ALL CUTTING OF WALLS, FLOORS, CEILINGS, ETC. AS REQUIRED TO INSTALL WORK UNDER THIS SECTION. CONTRACTOR SHALL PATCH WALLS, FLOORS, ETC. TO MATCH THE ORIGINAL MATERIAL AND CONSTRUCTION.
 - DEMOLITION** — REMOVE ALL EXISTING WIRING, FIXTURES, EXPOSED CONDUITS AND OTHER ELECTRICAL INSTALLATIONS NOT REUSED. RETURN ALL LIGHT FIXTURES AND DEVICES NOT RE-USED
 - UNDERGROUND CONDUIT**— SCHEDULE 40 PVC WITH RMC TRANSITION TO ABOVE GRADE.
 - CONDUIT INSTALLATION** — ALL WIRING SHALL BE ROUTED IN CONDUIT. CONDUIT SHALL BE INSTALLED CONCEALED WHEREVER POSSIBLE. EXPOSED CONDUIT SHALL BE PAINTED TO MATCH SURROUNDINGS.
 - WIRE** — ALL WIRE SHALL HAVE COPPER CONDUCTORS, WITH U.L. LABEL. SERVICE ENTRANCE CABLE SHALL BE TYPE USE, THWN OR XHHW WITH STRANDED CONDUCTORS. ALL FEEDER AND BRANCH CIRCUIT WIRE #8 AWG AND LARGER SHALL BE TYPE THWN OR XHHW, BOTH WITH STRANDED CONDUCTORS. ALL WIRE #10 AWG SHALL BE TYPE THWN (WET OR DAMP LOCATIONS, OR IN CONDUIT BELOW GRADE OR SLAB) OR THHN (DRY LOCATIONS ONLY AND ABOVE GROUND). BOTH WITH SOLID CONDUCTORS. ALL BRANCH CIRCUIT WIRING SHALL BE NOT SMALLER THAN #10 AWG WIRE
 - VOLTAGE DROP** — ALL BRANCH CIRCUITS SUPPLYING EQUIPMENT, LIGHTING, OR DEVICES SHALL BE SIZED NOT TO EXCEED 3% VOLTAGE DROP WITH AN OVERALL OF 5% VOLTAGE DROP FROM SOURCE. DERATE CONDUCTORS PER NEC WHEN RAN IN RACEWAY CONTAINING MORE THAN THREE CIRCUITS. PROVIDE BUCK-BOOST TRANSFORMERS MEETING THE REQUIREMENTS OF THE TRANSFORMER SECTION WHEN VOLTAGE DROP EXCEEDS 3% FROM OVERCURRENT DEVICE TO END DEVICE.
 - WIRING INSTALLATION** — ALL WIRING SHALL BE INSTALLED IN APPROVED RACEWAY AND ENCLOSURES. ALL SPLICES OR TAPS SHALL OCCUR IN APPROVED BOXES AND ENCLOSURES, AND SHALL BE MADE UP WITH APPROVED SOLDERLESS CONNECTORS. CONDUCTORS SHALL HAVE INSULATION OF THE PROPER COLOR TO MATCH NEC COLOR CODE SYSTEM. ALL BRANCH CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR INSTALLED IN THE RACEWAY, SIZED IN ACCORDANCE WITH NEC TABLE 250-122. COMPLY WITH VOLTAGE DROP REQUIREMENTS IN THIS SPECIFICATION.
 - CONNECTION TO SERVING UTILITIES**— CONTRACTOR SHALL PROVIDE PROPER TERMINATION, METERING PROVISIONS, ETC. FOR ELECTRICAL AND TELEPHONE SERVICES FOR CONNECTION BY THE SERVING UTILITY, IN STRICT COMPLIANCE WITH THE REQUIREMENTS OF ALL CODES HAVING JURISDICTION AND OF THE SERVING UTILITY INVOLVED. UTILITY COSTS SHALL BE INCLUDED IN THE BID.
 - GROUNDING**— ALL CONDUCTORS, CONDUITS, MOTOR FRAMES, ETC. WHICH REQUIRE GROUNDING SHALL BE PERMANENTLY AND EFFECTIVELY GROUNDED BY THIS CONTRACTOR IN A THOROUGH AND EFFICIENT MANNER CONFORMING IN ALL PARTICULARS TO THE NATIONAL ELECTRICAL CODE. RUN A #6 COPPER WIRE TO THE TELEMETRY PANEL.



1 CONDUIT MARKER DETAIL
NO SCALE



2 TYPICAL TRENCH CROSS SECTION
NO SCALE