

PART 1 - GENERAL

- A. Contact Miss Dig (1-800-482-7171) before performing any excavation work.
- B. Contact the University Electrical Inspectors for an inspection before backfilling any sleeves, conduits and junction boxes, and before energizing any circuits.
- C. During the installation of new wall lighting, the existing wall and Detroit Edison lighting shall be kept operational at the Contractor's expense. Coordinate with the University Electric Shop (Duane Briggs at 310-1041) for repairs to existing lighting.
- D. The University will provide the fixtures, lamps and base covers for the wall lighting. The contractor must pick them up from a North Campus warehouse on Baxter Road. Contact the University Electric Shop (Duane Briggs at 310-1041) to arrange for pick-up of these items.

PART 2 - PRODUCTS

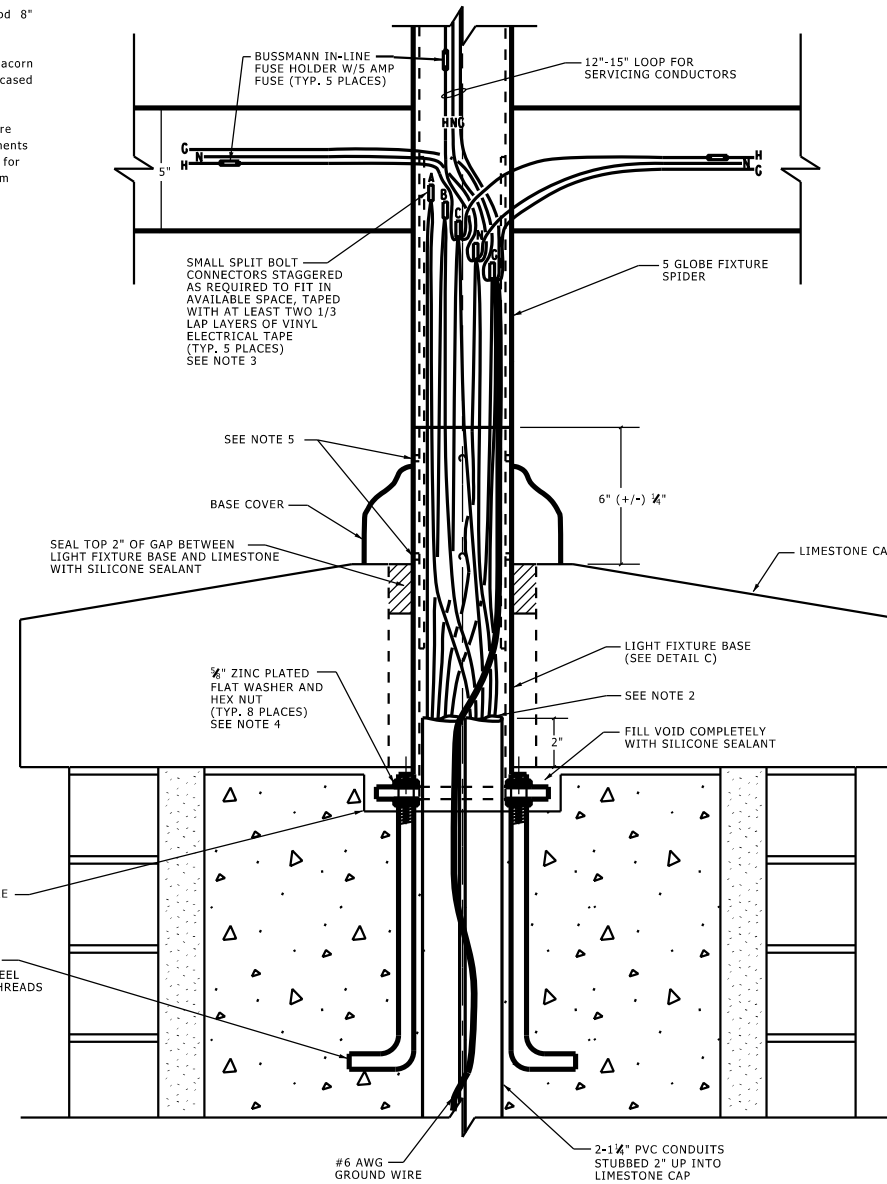
- A. Fixture mounting components shall be as detailed on the drawings.
- B. Sleeves for underground site lighting installations shall be 6" Schedule 40 PVC, UL Labeled for use with 90 Deg.C cables, Cantex or Carlon.
- C. Conduits shall be Schedule 40 PVC, UL Labeled for use with 90 Deg.C cables, Cantex or Carlon.
- D. Junction boxes shall be pre-cast polymer concrete or polymer foam, heavy duty rated, one size larger than required by the NEC, bottomless, with a single piece cover engraved "UM Outside Lighting" and attached with pentahed stainless steel bolts. CDR Systems, Carson-Brooks or Quartzite.
- E. Marking tape shall be plastic, vinyl or mylar, 6" wide, red for electrical and orange for telephone circuits, and labeled to indicate the type of circuit buried below.
- F. Wire shall be single conductor stranded copper, with Type XHHW Insulation rated 90 Deg.C in dry locations and 75 Deg.C in wet locations, 600 volts. American Insulated Wire, Rockbestos, Rome, Service Wire, Southwire or Triangle.
- G. Terminations
 - 1. Connectors for splicing and terminating lighting conductors in junction boxes shall be Homac No. RAB4 or RAB6 "Flood Seal" only.
 - 2. Connectors for terminating lighting conductors in fixture bases shall be copper split bolt connectors with full tin plating. Blackburn 1HPW for #3 AWG wire and 4HPW for #6 AWG ground wire.
- H. Fuse holders for lighting fixtures shall be Bussmann TRON No. HEB-AA In-line, waterproof fuse holders rated 300 volts, 30 amps.
- I. Fuses for lighting fixtures shall be Bussmann No. KTK-5 rated 5 amps.

PART 3 - EXECUTION

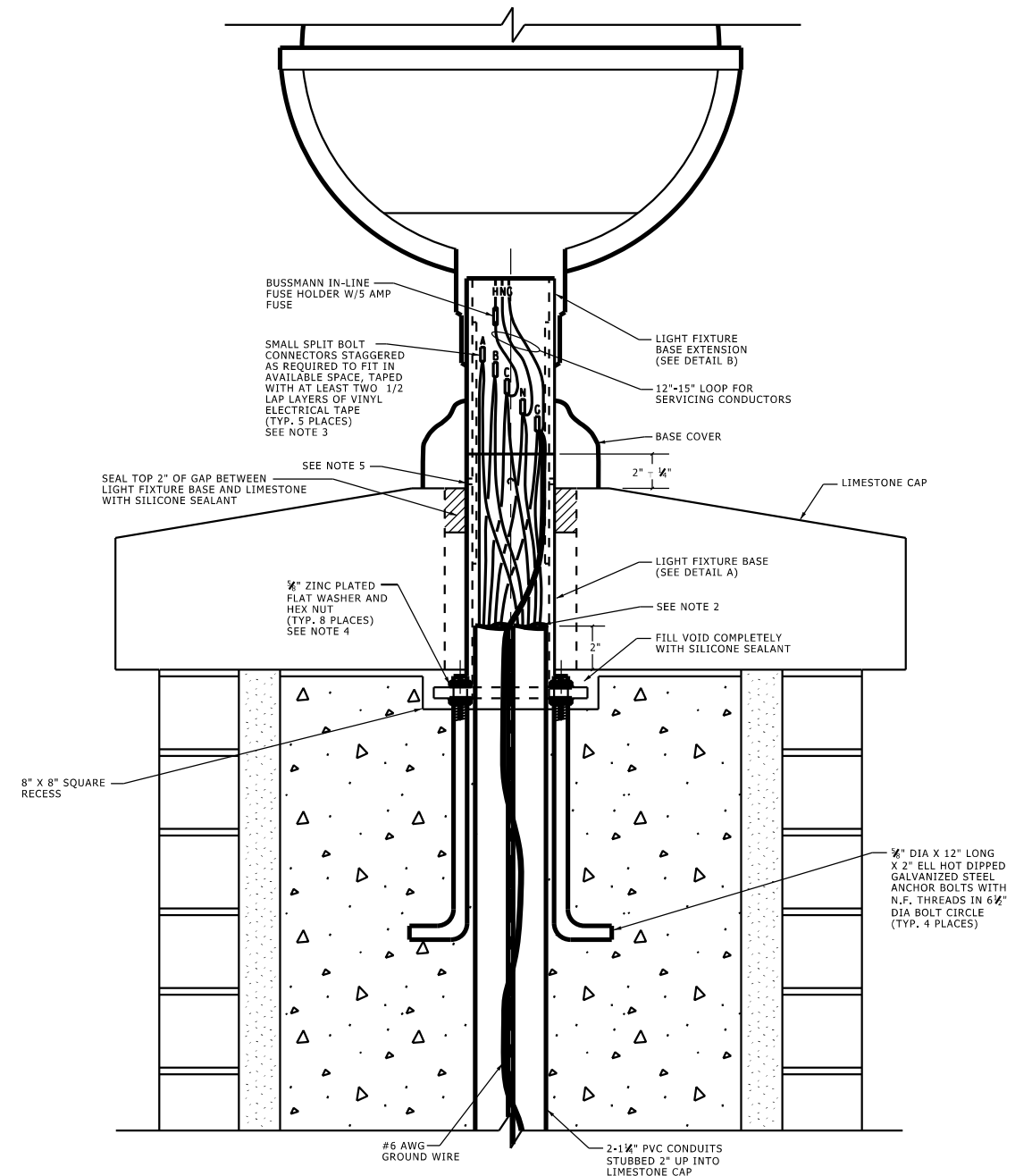
- A. Sleeves
 - 1. Sleeves shall be buried at a minimum depth of 24" to their top. Sleeves shall extend a minimum of 12" beyond the pavement they pass under.
 - 2. Sleeves shall be taped closed at both ends with duct tape.
 - 3. Sleeve ends shall be marked with steel stakes, pipes or conduits that are 3' long minimum, driven vertically down at the sleeve ends to a depth of 6" below grade to their top.
- B. Conduits
 - 1. Conduit bends shall not be smaller than the radius of standard manufactured elbows (7-1/4" bend radius for 1-1/4" conduit).
 - 2. Locate underground conduits as close to curbs, sidewalks and walls as possible to avoid interferences with future landscaping.
 - 3. Where conduits can not be installed at a minimum depth of 24", install rigid steel conduits or pour concrete over the conduits in accordance with NEC Table 300-5.
- C. Junction Boxes
 - 1. Keep the number of junction boxes to a minimum. Splice inside fixtures wherever possible. Stagger splices as required to fit.
 - 2. Locate junction boxes in mulched areas wherever possible. The top of the junction box shall be level with the existing grade.
 - 3. Install junction boxes on a base of pea gravel or Class 2 sand at least 1'-0" deep.
 - 4. Provide metal barriers in junction boxes containing circuits of two different voltages or containing both power and telephone circuits.
- D. Sleeves and conduits shall be marked for their entire length with a marking tape buried 12" above them.
- E. Fixture bases shall be plumb.
- F. Lighting fixtures shall be aligned so that one spoke of the globe basket is perpendicular to the wall.
- G. The center band of lighting fixtures shall be level.
- H. Terminations
 - 1. Provide one fuse holder and fuse for each globe.
 - 2. Provide adequate slack in the fixture conductors so that the conductors can be pulled out for maintenance.

I. Grounding

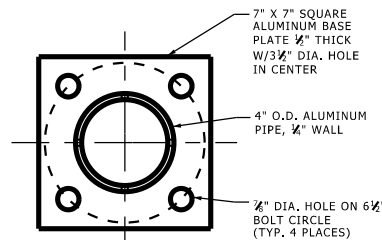
- 1. Provide a 1/2" minimum diameter copper ground rod 8' minimum long for each light fixture.
- 2. Provide exothermic weld type ground connections or acorn clamps for concealed, underground and concrete encased ground connections, splices and taps.
- 3. Coordinate carefully with general contractor to insure needed conduits, wire, backfill, fixture mounting components and other materials are scheduled and installed to allow for required electrical inspections and proper long term operation of the lighting systems.



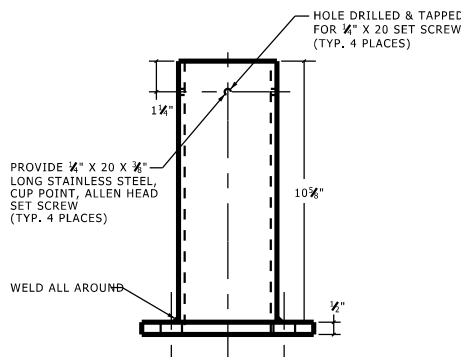
LIGHT FIXTURE ATTACHMENT - FIVE GLOBE FIXTURE
N.T.S.



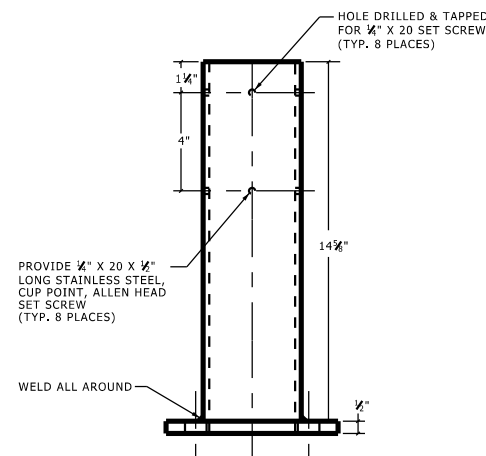
LIGHT FIXTURE ATTACHMENT - SINGLE GLOBE FIXTURE
N.T.S.



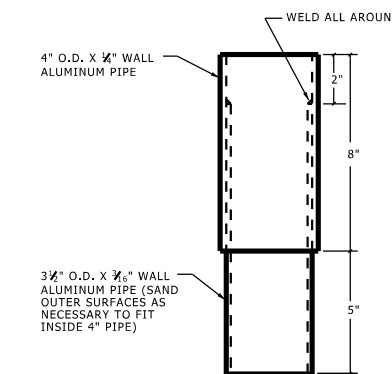
BASE TOP VIEW
N.T.S.



DETAIL A - LIGHT FIXTURE BASE SINGLE GLOBE FIXTURE
N.T.S.



DETAIL C - LIGHT FIXTURE BASE FIVE GLOBE FIXTURE
N.T.S.



DETAIL B - LIGHT FIXTURE BASE EXTENSION SINGLE GLOBE FIXTURE
N.T.S.

NOTES:

- 1. LED OR METAL HALIDE FIXTURE. REFER TO FIXTURE SCHEDULE.
- 2. TEMPORARILY PLUG CONDUIT ENDS WITH DUX-SEAL DURING CONCRETE POURING TO KEEP CONDUITS FROM FILLING WITH CONCRETE.
- 3. CONNECT FIXTURES TO ALTERNATE PHASES OF POWER CIRCUIT TO BALANCE LOAD.
- 4. ADJUST ANCHOR BOLT HEX NUTS UNTIL LIGHT FIXTURE BASE IS PLUMB. TIGHTEN SET SCREWS TO SECURE BASE EXTENSION OR FIXTURE SPIDER.

PEDESTRAIN LIGHT TOP OF WALL MOUNTING