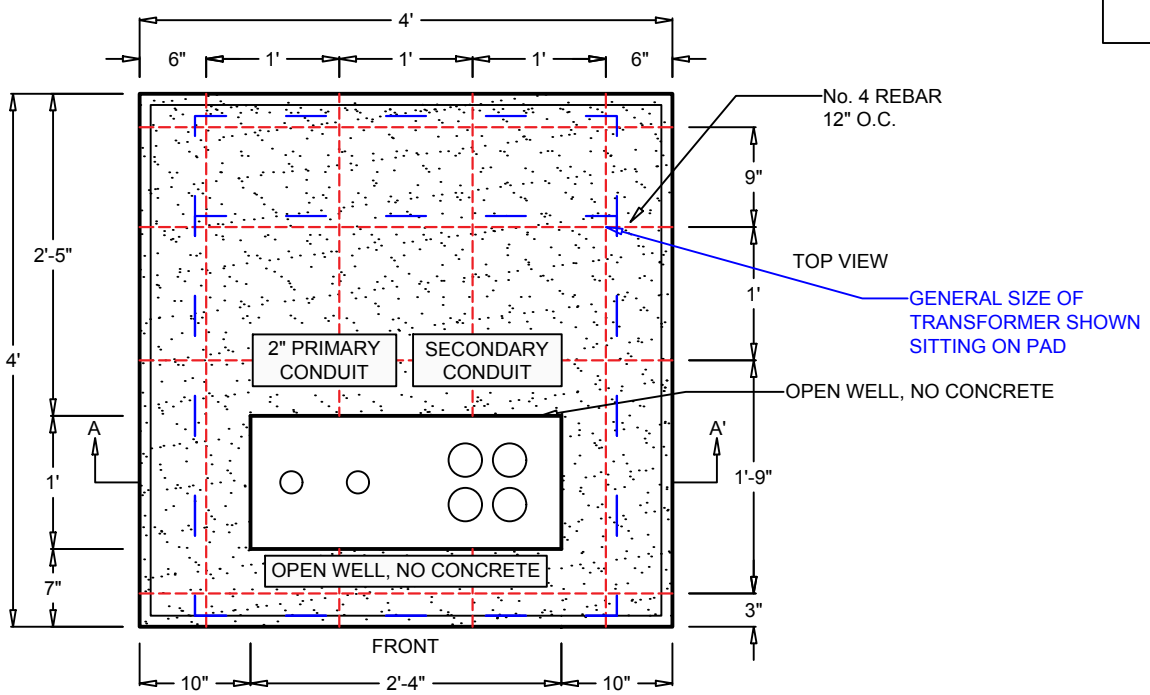
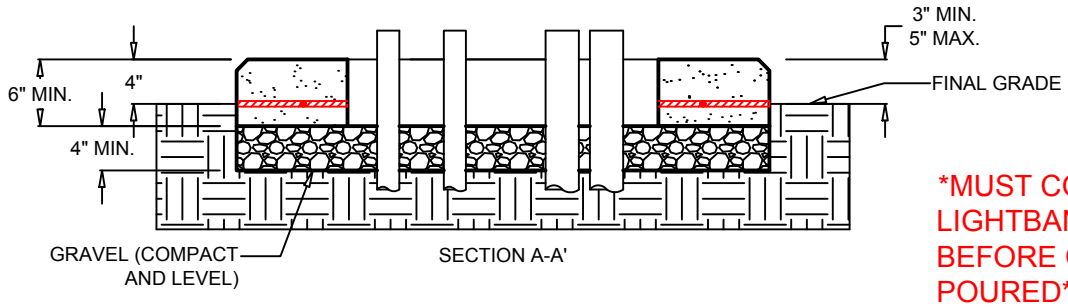
GENERAL SPECIFICATIONS FOR CONTRACTORS AND/OR DEVELOPERS/BUILDERS

NOTE: THE FOLLOWING PAGES ARE TO BE USED AS A REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE CUSTOMER/DEVELOPER TO CONTACT CDE LIGHTBAND TO ENSURE THAT ALL INFORMATION IS CORRECT BEFORE START OF CONSTRUCTION.

TABLE OF CONTENTS





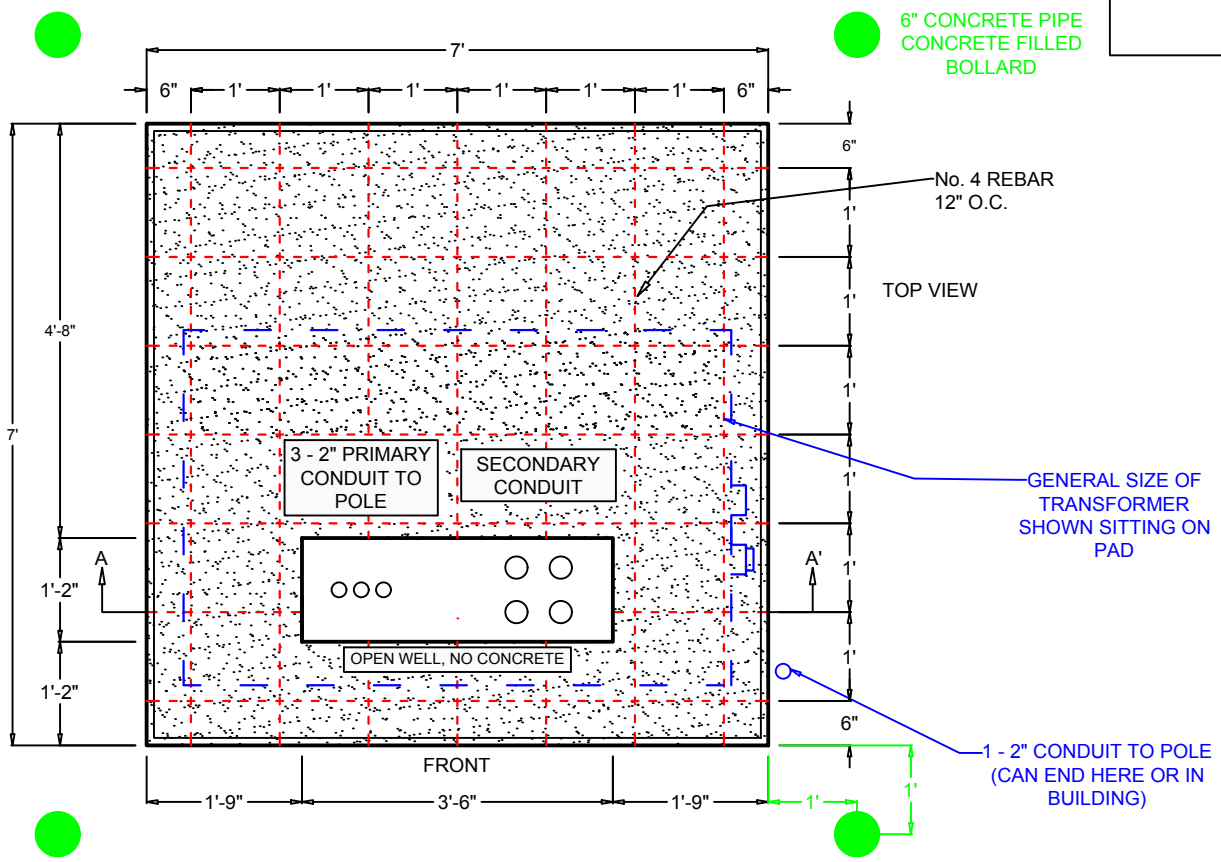
MUST CONTACT CDE LIGHTBAND ENGINEERING BEFORE CONCRETE IS POURED

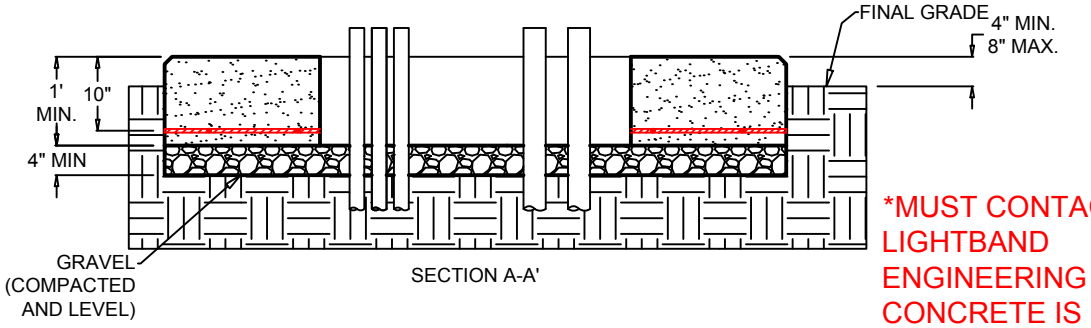
NOTES:

1. OWNER OR CONTRACTOR SHALL FURNISH ALL ABOVE MATERIALS AND LABOR NECESSARY TO CONSTRUCT PAD AS PER ABOVE DETAIL.
2. ALL OPEN AREA WHERE PAD IS TO BE SET/POURED SHALL BE FILLED AND LEVELED WITH 4" GRAVEL.
3. AFTER FORMING, BUT BEFORE CONCRETE IS POURED, OWNER OR CONTRACTOR SHALL NOTIFY CDE LIGHTBAND WHO SHALL CONDUCT AN INSPECTION OF THE PAD SITE.
4. THE CONCRETE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3000 PSI.
5. OWNER OR CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING GRADE OF PAD. IN NO INSTANCE SHALL FINISH GRADE BE LESS THAN 4" FROM TOP OF PAD. GRADING SHALL BE SUCH TO PROVIDE DRAINAGE AWAY FROM PAD IN ALL DIRECTIONS.
6. TRENCH FOR PRIMARY CONDUIT INSTALLED BY CUSTOMER/CONTRACTOR MUST BE INSPECTED BY CDE LIGHTBAND BEFORE FILLING.
7. A MINIMUM OF 10 FEET OF SPACE IN FRONT OF THE PAD SHALL BE CLEAR OF ANY PERMANENT OBSTRUCTIONS, (BUILDINGS, TREES, SHRUBS, ETC.) FOR SERVICE OF TRANSFORMER.
8. SEE SHEET 5 FOR CONDUIT SPECIFICATIONS.
9. CONTACT CDE LIGHTBAND ENGINEERING DEPARTMENT TO DETERMINE IF A CONCRETE PAD OR BOX PAD WILL BE USED.

CONCRETE PAD DETAIL FOR 25-167 KVA 1-PHASE PADMOUNT TRANSFORMER

CDE LIGHTBAND





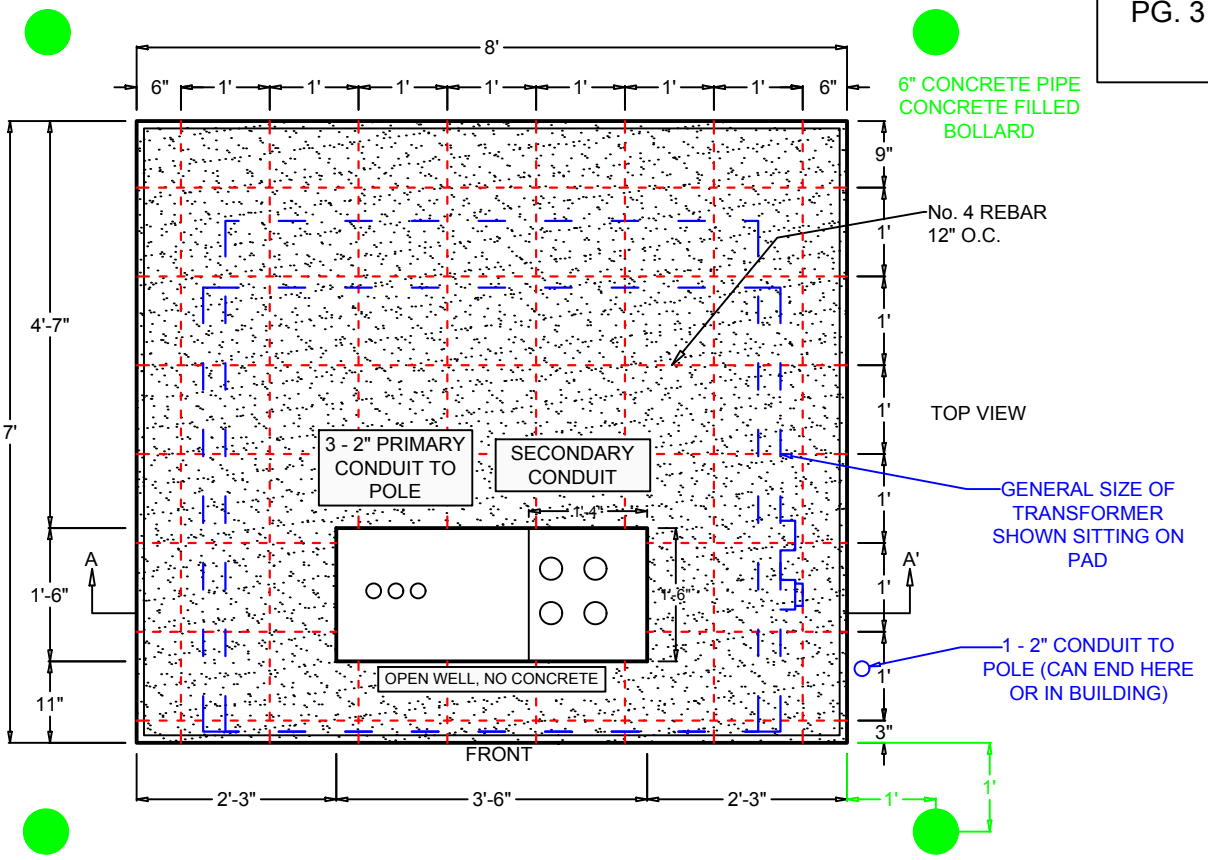
MUST CONTACT CDE LIGHTBAND ENGINEERING BEFORE CONCRETE IS POURED

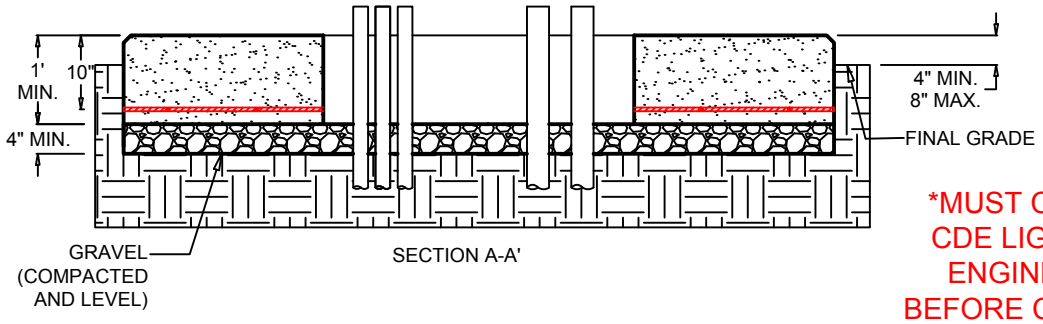
NOTES:

1. OWNER OR CONTRACTOR SHALL FURNISH ALL ABOVE MATERIALS AND LABOR NECESSARY TO CONSTRUCT PAD AS PER ABOVE DETAIL.
2. ALL OPEN AREA WHERE PAD IS TO BE SET/POURED SHALL BE FILLED AND LEVELED WITH 4" GRAVEL.
3. AFTER FORMING, BUT BEFORE CONCRETE IS POURED, OWNER OR CONTRACTOR SHALL NOTIFY CDE LIGHTBAND, WHO SHALL CONDUCT AN INSPECTION OF THE PAD SITE.
4. THE CONCRETE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3000 PSI.
5. OWNER OR CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING GRADE OF PAD. IN NO INSTANCE SHALL FINISH GRADE BE LESS THAN 4" FROM TOP OF PAD. GRADING SHALL BE SUCH TO PROVIDE DRAINAGE AWAY FROM PAD IN ALL DIRECTIONS.
6. TRENCH FOR PRIMARY CONDUIT INSTALLED BY CUSTOMER OR CONTRACTOR MUST BE INSPECTED BY CDE LIGHTBAND BEFORE FILLING.
7. A MINIMUM OF 10 FEET OF SPACE IN FRONT OF THE PAD SHALL BE CLEAR OF ANY PERMANENT OBSTRUCTIONS, (BUILDINGS, TREES, SHRUBS, ETC.) FOR SERVICE OF TRANSFORMER.
8. SEE SHEET 6 FOR CONDUIT SPECIFICATIONS.
9. BOLLARD MUST BE USED WHERE TRANSFORMER WOULD BE EXPOSED TO VEHICLE TRAFFIC.
10. BOLLARDS MUST BE BETWEEN 4'-5' ABOVE THE GRADE, WHILE 4' IS BELOW THE GRADE.

CONCRETE PAD DETAIL FOR 112.5 - 300 KVA 3-PHASE PADMOUNT TRANSFORMER

CDE LIGHTBAND





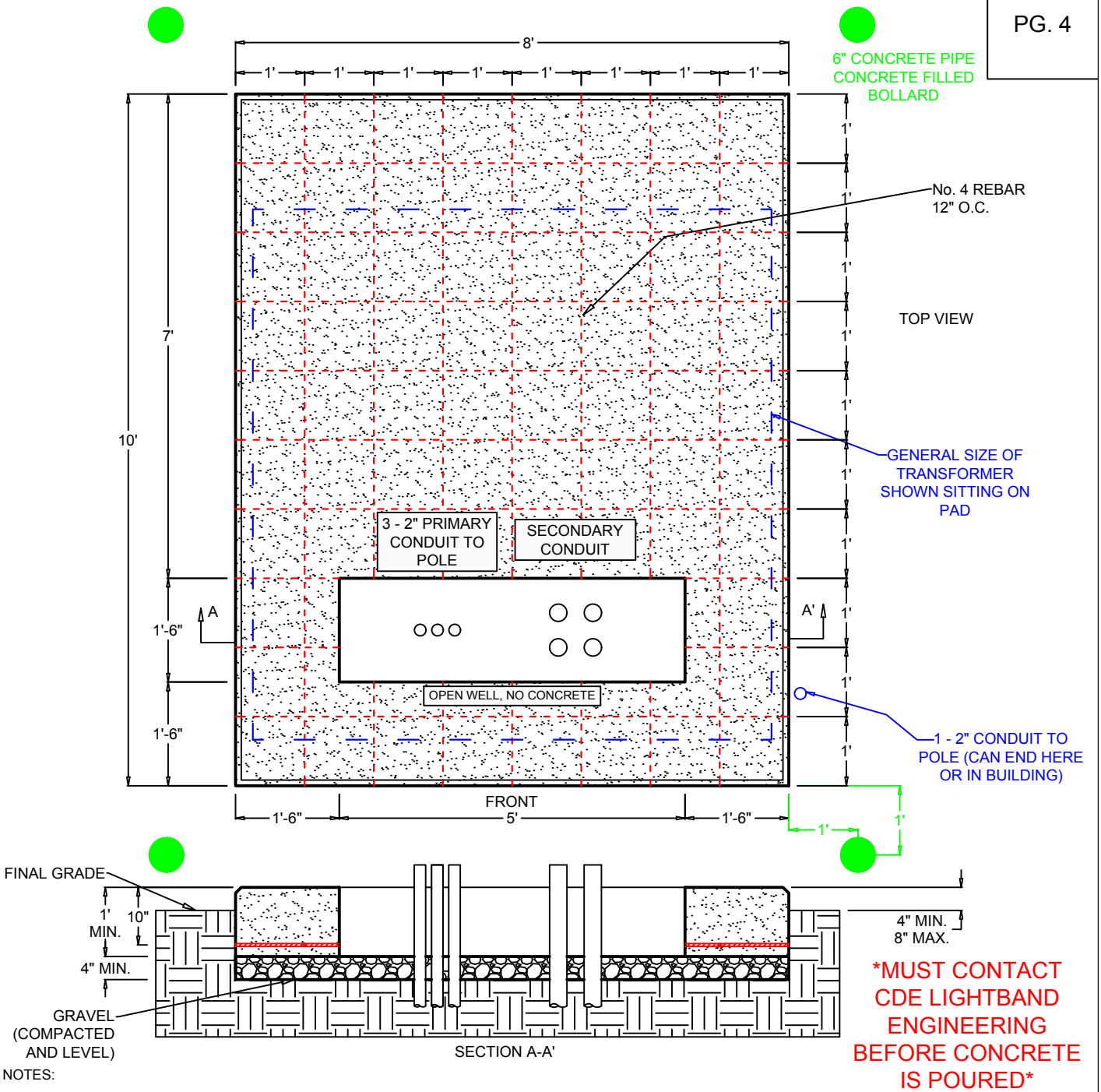
MUST CONTACT CDE LIGHTBAND ENGINEERING BEFORE CONCRETE IS POURED

NOTES:

1. OWNER OR CONTRACTOR SHALL FURNISH ALL ABOVE MATERIALS AND LABOR NECESSARY TO CONSTRUCT PAD AS PER ABOVE DETAIL.
2. ALL OPEN AREA WHERE PAD IS TO BE SET/POURED SHALL BE FILLED AND LEVELED WITH 4" GRAVEL.
3. AFTER FORMING, BUT BEFORE CONCRETE IS POURED, OWNER OR CONTRACTOR SHALL NOTIFY CDE LIGHTBAND, WHO SHALL CONDUCT AN INSPECTION OF THE PAD SITE.
4. THE CONCRETE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3000 PSI.
5. OWNER OR CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING GRADE OF PAD. IN NO INSTANCE SHALL FINISH GRADE BE LESS THAN 4" FROM TOP OF PAD. GRADING SHALL BE SUCH TO PROVIDE DRAINAGE AWAY FROM PAD IN ALL DIRECTIONS.
6. TRENCH FOR PRIMARY CONDUIT INSTALLED BY CUSTOMER OR CONTRACTOR MUST BE INSPECTED BY CDE LIGHTBAND BEFORE FILLING.
7. A MINIMUM OF 10 FEET OF SPACE IN FRONT OF THE PAD SHALL BE CLEAR OF ANY PERMANENT OBSTRUCTIONS, (BUILDINGS, TREES, SHRUBS, ETC.) FOR SERVICE OF TRANSFORMER.
8. SEE SHEET 6 FOR CONDUIT SPECIFICATIONS.
9. BOLLARD MUST BE USED WHERE TRANSFORMER WOULD BE EXPOSED TO VEHICLE TRAFFIC.
10. BOLLARDS MUST BE BETWEEN 4'-5' ABOVE THE GRADE, WHILE 4' IS BELOW THE GRADE.

CONCRETE PAD DETAIL FOR 500-1,000 KVA 3-PHASE PADMOUNT TRANSFORMER

CDE LIGHTBAND



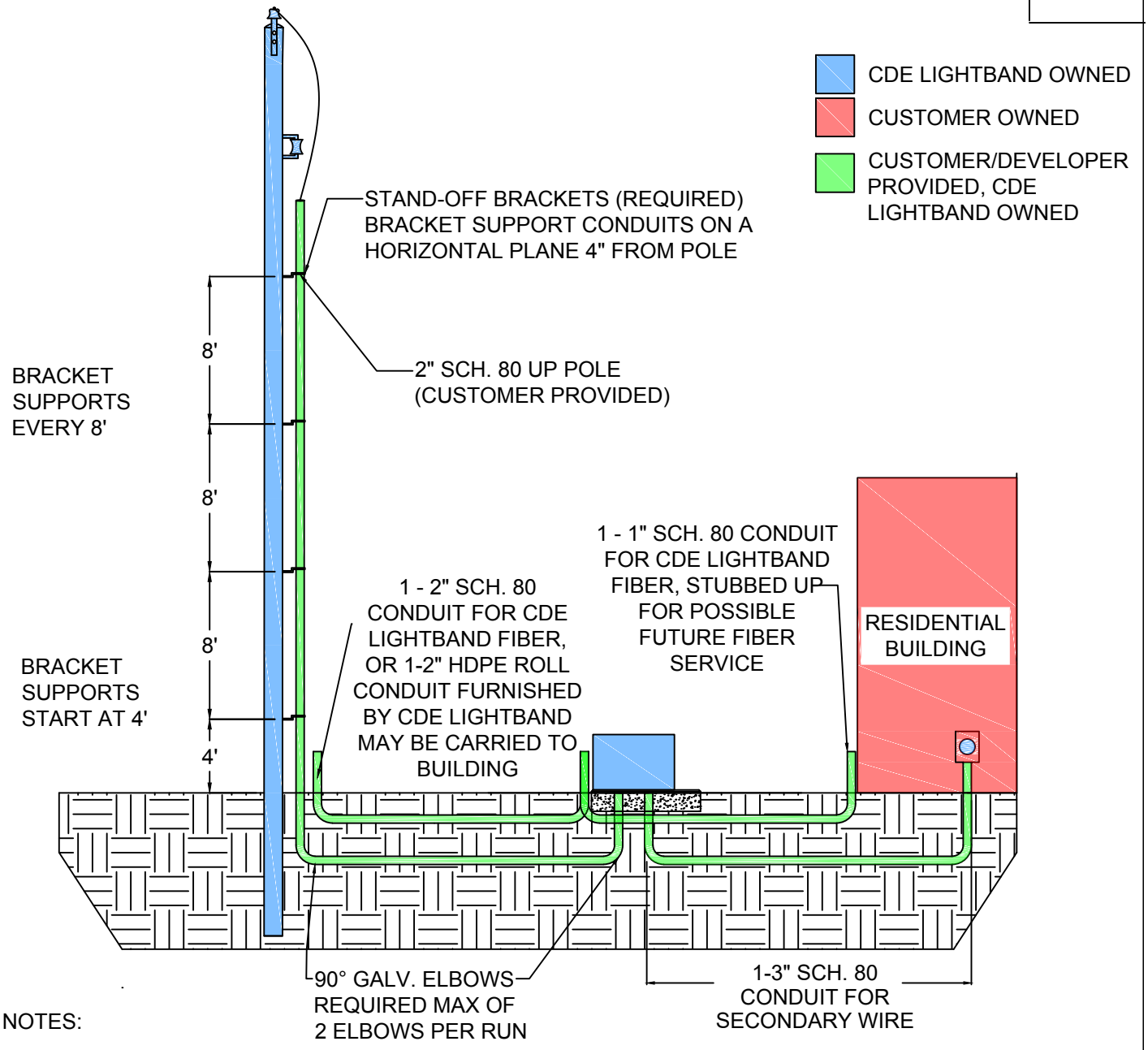
MUST CONTACT CDE LIGHTBAND ENGINEERING BEFORE CONCRETE IS POURED

NOTES:

1. OWNER OR CONTRACTOR SHALL FURNISH ALL ABOVE MATERIALS AND LABOR NECESSARY TO CONSTRUCT PAD AS PER ABOVE DETAIL.
2. ALL OPEN AREA WHERE PAD IS TO BE SET/POURED SHALL BE FILLED AND LEVELED WITH 4" GRAVEL.
3. AFTER FORMING, BUT BEFORE CONCRETE IS POURED, OWNER OR CONTRACTOR SHALL NOTIFY CDE LIGHTBAND, WHO SHALL CONDUCT AN INSPECTION OF THE PAD SITE.
4. THE CONCRETE MINIMUM 28 DAY COMPRESSIVE STRENGTH SHALL BE 3000 PSI.
5. OWNER OR CONTRACTOR SHALL BE RESPONSIBLE FOR SETTING GRADE OF PAD. IN NO INSTANCE SHALL FINISH GRADE BE LESS THAN 4" FROM TOP OF PAD. GRADING SHALL BE SUCH TO PROVIDE DRAINAGE AWAY FROM PAD IN ALL DIRECTIONS.
6. TRENCH FOR PRIMARY CONDUIT INSTALLED BY CUSTOMER OR CONTRACTOR MUST BE INSPECTED BY CDE LIGHTBAND BEFORE FILLING.
7. A MINIMUM OF 10 FEET OF SPACE IN FRONT OF THE PAD SHALL BE CLEAR OF ANY PERMANENT OBSTRUCTIONS, (BUILDINGS, TREES, SHRUBS, ETC.) FOR SERVICE OF TRANSFORMER.
8. SEE SHEET 6 FOR CONDUIT SPECIFICATIONS.
9. BOLLARD MUST BE USED WHERE TRANSFORMER WOULD BE EXPOSED TO VEHICLE TRAFFIC.
10. BOLLARDS MUST BE BETWEEN 4'-5' ABOVE THE GRADE, WHILE 4' IS BELOW THE GRADE.

CONCRETE PAD DETAIL FOR 1,500-3,000 KVA 3-PHASE PADMOUNT TRANSFORMER

CDE LIGHTBAND

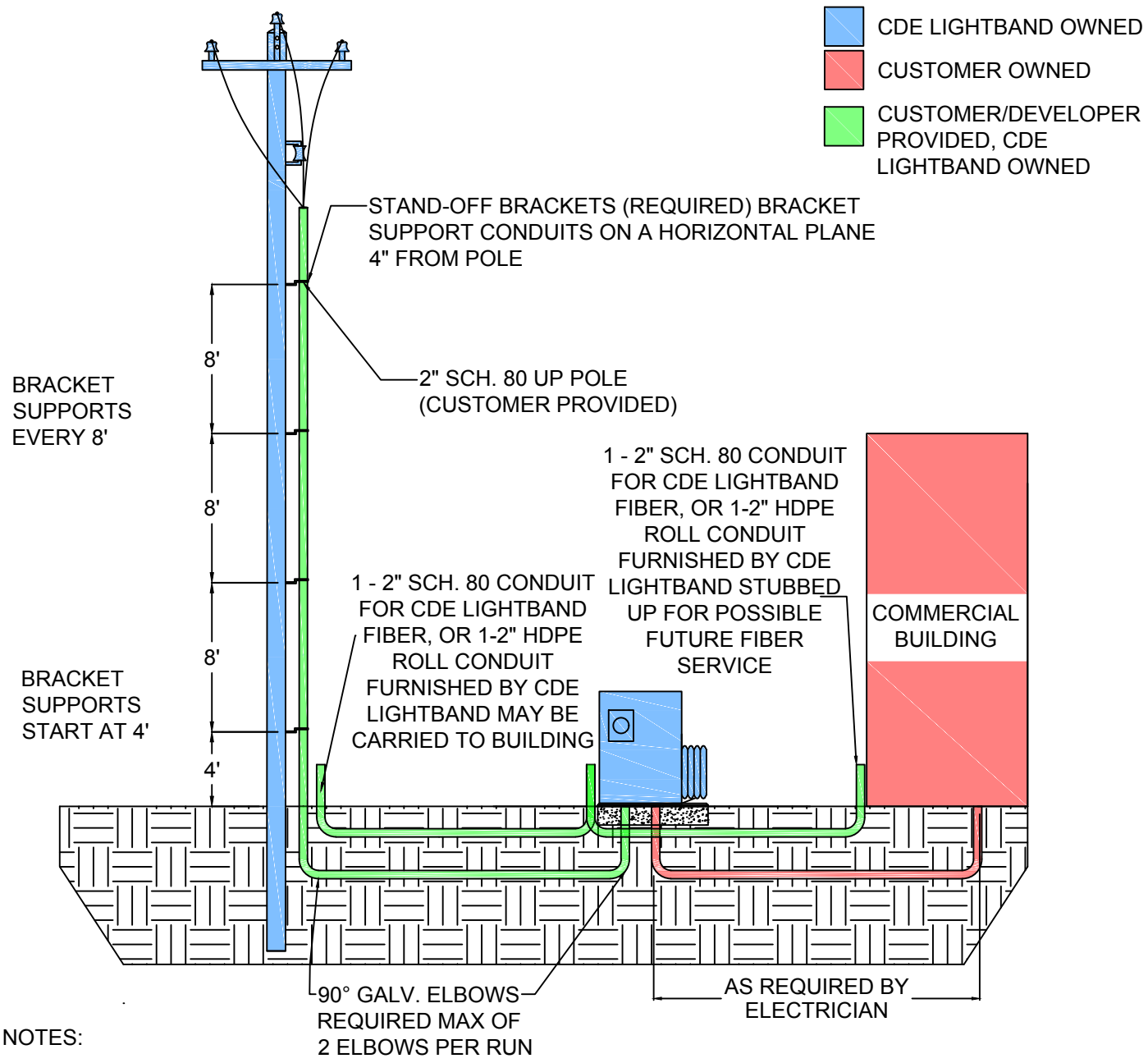


NOTES:

1. CUSTOMER MUST CONTACT CDE LIGHTBAND FOR LOCATION OF TRANSFORMER.
2. CDE LIGHTBAND ENGINEERING MUST INSPECT TRENCH FROM PADMOUNT TO POLE BEFORE REFILLING.
3. CDE LIGHTBAND ENGINEERING MUST INSPECT PAD BEFORE CONCRETE IS POURED.
4. CUSTOMER INSTALLS ONE 2" SCHEDULE 80 PVC WITH RIGID ELBOWS FOR PRIMARY CONDUIT WITH WARNING TAPE INSTALLED 12" ABOVE CONDUIT. A PULL STRING SHOULD ALSO BE INSTALLED IN EACH CONDUIT AND TIED OFF ON BOTH SIDES.
5. PRIMARY CONDUIT MUST BE 48" BELOW SURFACE GRADE.
6. CUSTOMER INSTALLS ONE 2" SCHEDULE 80 PVC OR ONE 2" HDPE ROLL CONDUIT (FURNISHED BY CDE LIGHTBAND) FOR FIBER.
7. SECONDARY CONDUIT MUST BE 24" BELOW SURFACE GRADE WITH A WARNING TAPE INSTALLED 12" ABOVE CONDUIT. A PULL STRING SHOULD ALSO BE INSTALLED IN EACH CONDUIT AND TIED OFF ON BOTH SIDES.
8. SECONDARY CONDUIT AND TRENCH MUST BE INSPECTED BY CLARKSVILLE BUILDING AND CODES.

TYPICAL SINGLE-PHASE TAP PAD-MOUNT TRANSFORMER (RESIDENTIAL)

CDE LIGHTBAND

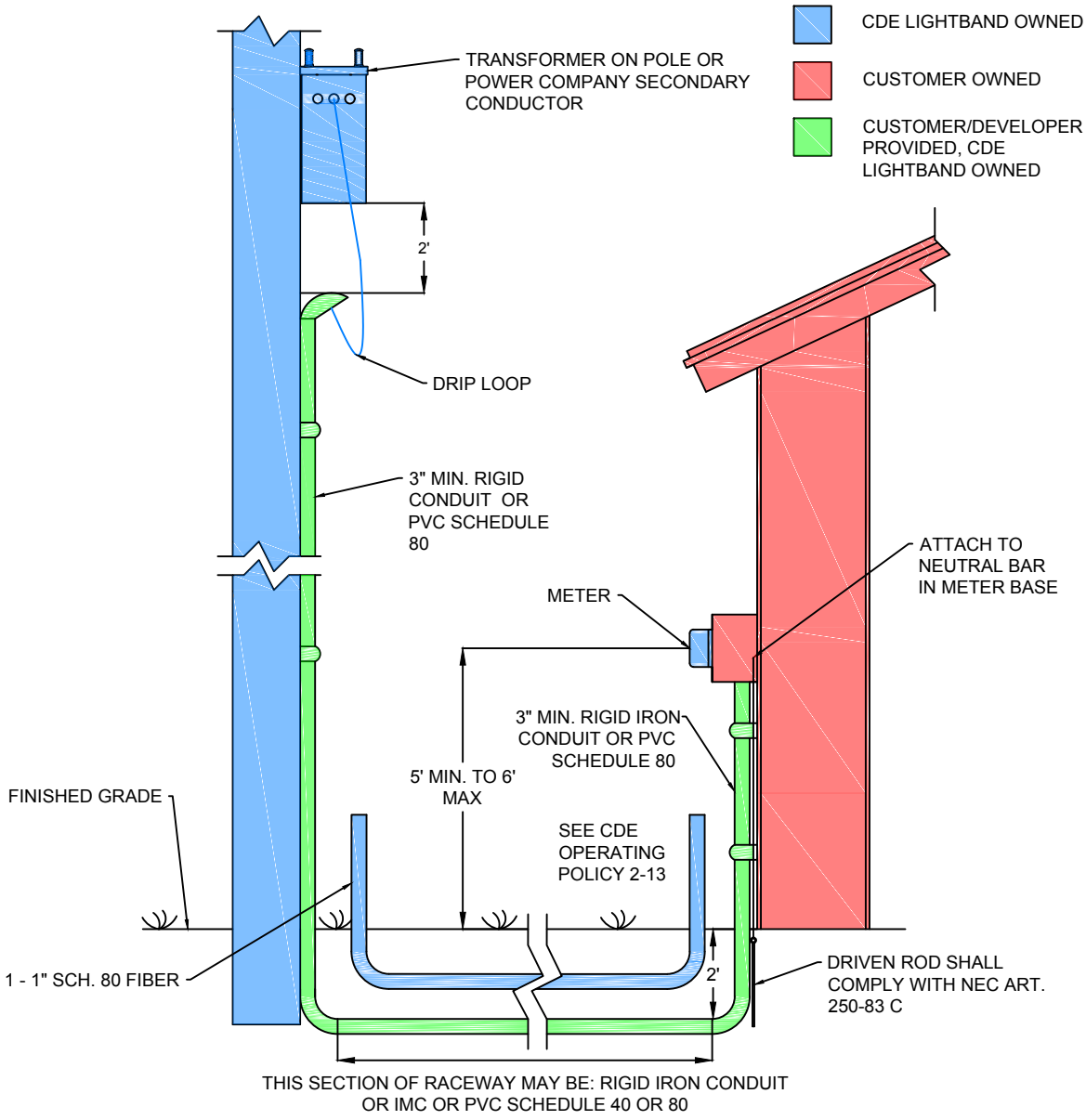


NOTES:

1. CUSTOMER MUST CONTACT CDE LIGHTBAND FOR LOCATION OF TRANSFORMER.
2. CDE LIGHTBAND ENGINEERING MUST INSPECT TRENCH FROM PADMOUNT TO POLE BEFORE REFILLING.
3. CDE LIGHTBAND ENGINEERING MUST INSPECT PAD BEFORE CONCRETE IS POURED.
4. CUSTOMER INSTALLS THREE 2" SCHEDULE 80 PVC WITH RIGID ELBOWS FOR PRIMARY CONDUIT WITH A WARNING TAPE INSTALLED 12" ABOVE CONDUIT. A PULL STRING SHOULD ALSO BE INSTALLED IN EACH CONDUIT AND TIED OFF ON BOTH SIDES.
5. PRIMARY CONDUIT MUST BE 48" BELOW SURFACE GRADE
6. CUSTOMER INSTALLS ONE 2" SCHEDULE 80 PVC OR 2" HDPE CONDUIT FOR FIBER.
7. CLARKSVILLE BUILDING AND CODES MUST INSPECT SECONDARY CONDUITS.

TYPICAL THREE-PHASE TAP PAD-MOUNT TRANSFORMER (COMMERCIAL)

CDE LIGHTBAND

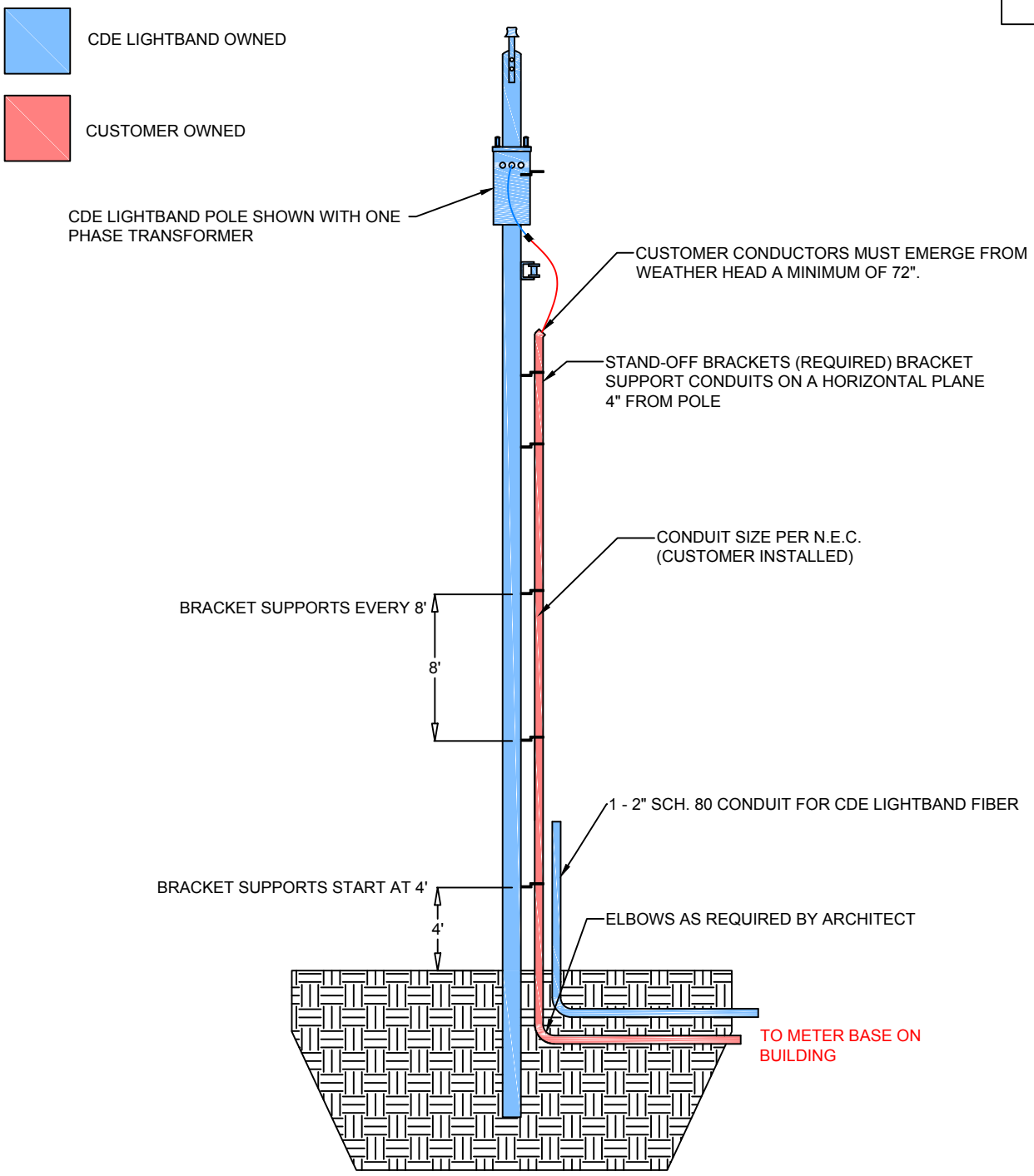


NOTES:

1. RIGID CONDUIT SHALL BE INSTALLED PER NEC ART. 346
2. RIGID NONMETALLIC CONDUIT (PVC) INSTALLED PER NEC ART. 347
3. SCHEDULE 40 PVC SHALL NOT BE USED FOR A SERVICE LATERAL INSTALLATION ABOVE GROUND.
4. ALL SINGLE CONDUCTORS OR CABLE SHALL BE OF THE TYPE APPROVED FOR INSTALLATION IN RACEWAY
5. CDE LIGHTBAND ENGINEERING SECTION SHALL GRANT PERMISSION PRIOR TO EACH INSTALLATION.
6. CONDUIT MUST BE 24" BELOW SURFACE GRADE WITH WARNING TAPE INSTALLED 12" ABOVE CONDUIT. A PULL STRING SHOULD ALSO BE INSTALLED IN EACH CONDUIT AND TIED OFF ON BOTH SIDES.

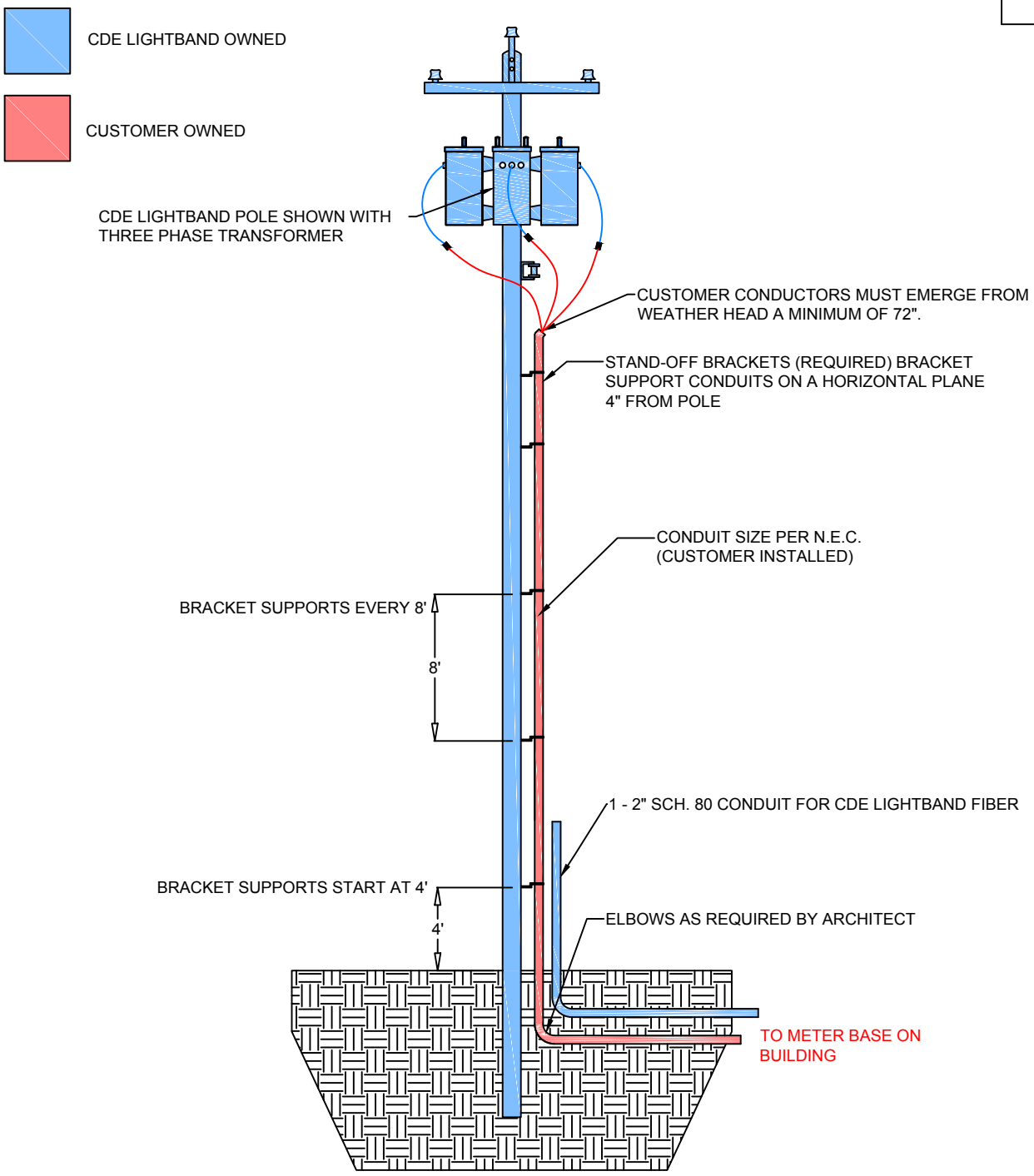
TYPICAL UNDERGROUND SERVICE INSTALLATION FOR SINGLE AND MULTIFAMILY DWELLINGS

CDE LIGHTBAND



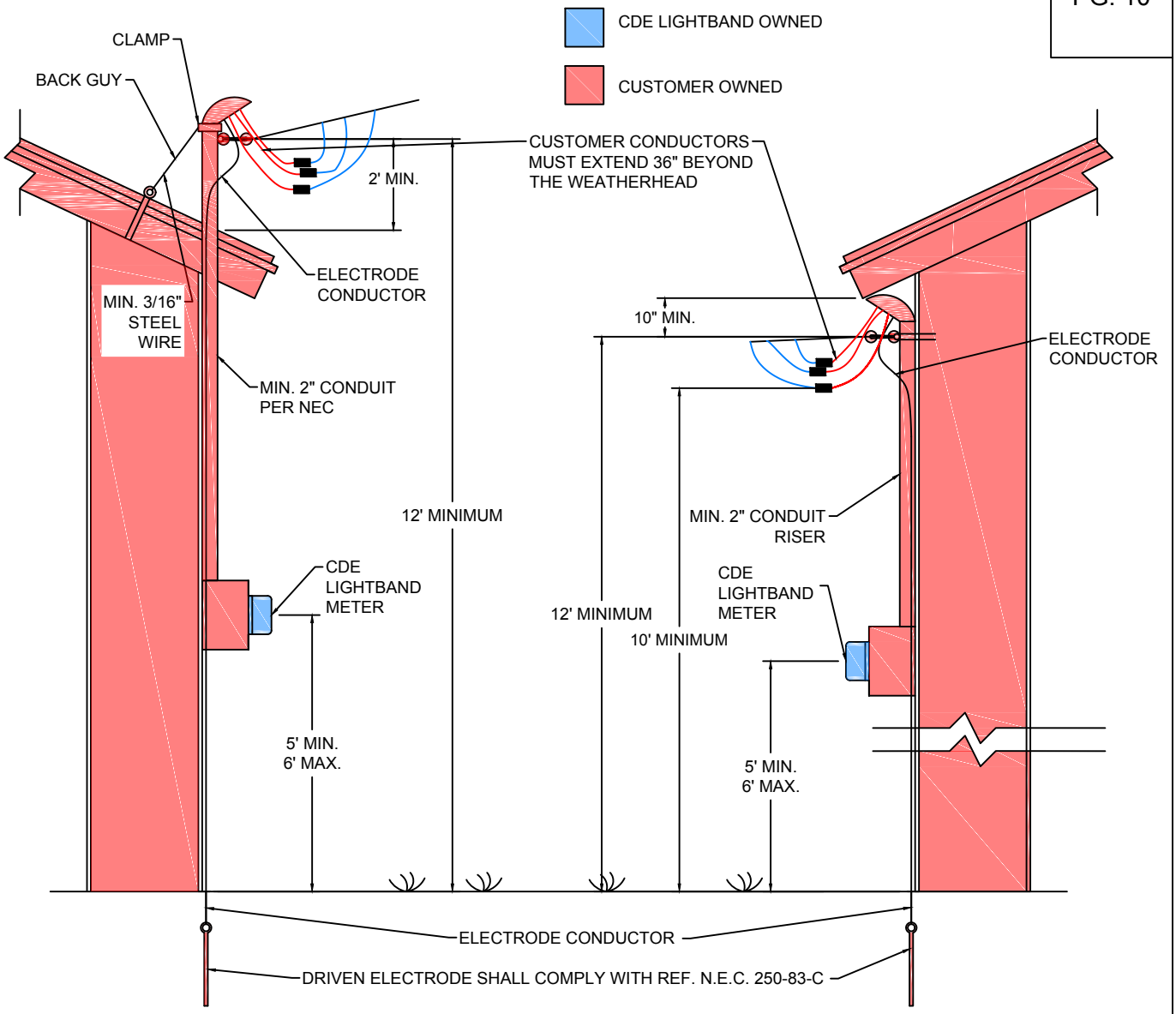
TYPICAL CONDUIT RISER FOR CUSTOMER INSTALLED COMMERCIAL UNDERGROUND SERVICE (SINGLE PHASE)

CDE LIGHTBAND



TYPICAL CONDUIT RISER FOR CUSTOMER INSTALLED COMMERCIAL UNDERGROUND SERVICE (THREE PHASE)

CDE LIGHTBAND



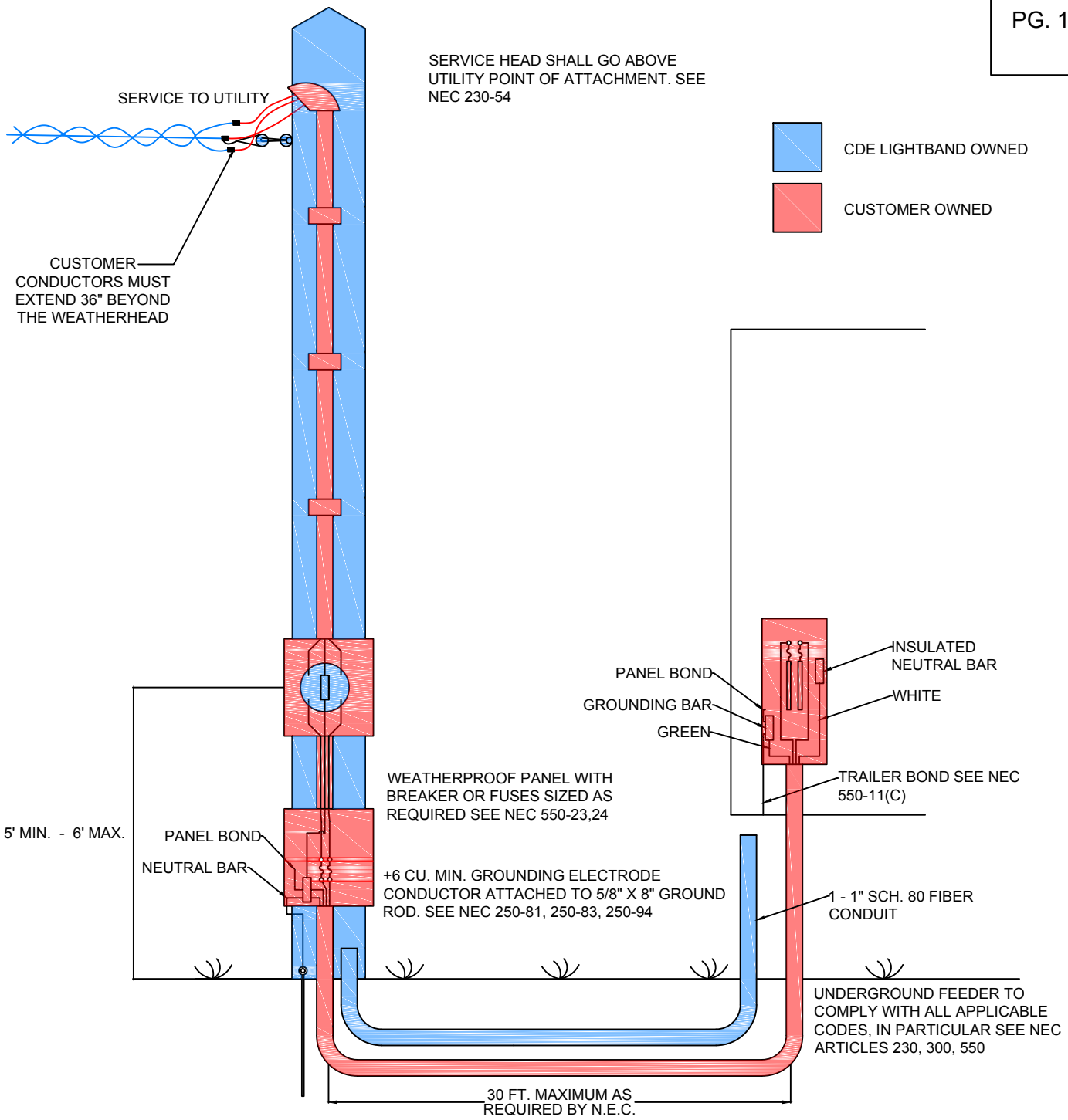
NOTES:

1. THERE SHALL BE A CONTINUOUS GROUND WIRE (ELECTRODE CONDUCTOR) FROM THE WEATHERHEAD TO THE GROUND ROD.

2. PROTECTIVE COVERING (EMT, CONDUIT, ETC.) FOR GROUNDING ELECTRODE CONDUCTOR SHALL BE RUN EXTERIOR TO METER BASE AND RISER.

TYPICAL OVERHEAD SERVICE INSTALLATION (300 VOLTS OR LESS)

CDE LIGHTBAND

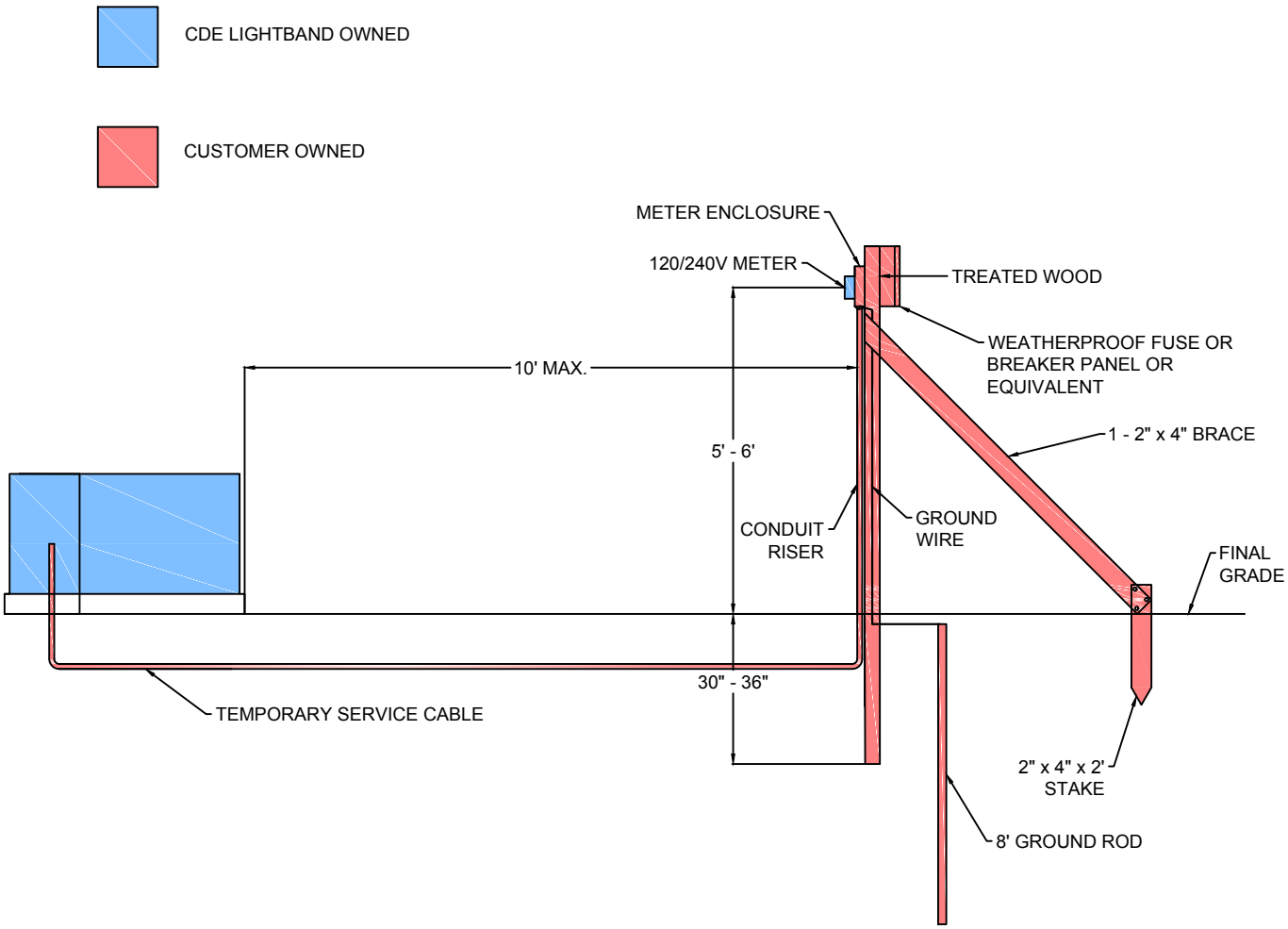


NOTE:

1.) THIS DRAWING IS FOR CLARIFICATION ONLY. IT IS THE RESPONSIBILITY OF THE ELECTRICIAN TO FAMILIARIZE HIMSELF WITH THE APPLICABLE CODES AND PERFORM THE INSTALLATION IN A MANNER ACCEPTABLE TO THE STATE ELECTRICAL INSPECTOR.
2.) LOCATION OF POLE AND SERVICE EQUIPMENT SHALL BE DETERMINED BY CDE LIGHTBAND.
3.) IF NECESSARY POLE SHALL BE PLACED BY CDE LIGHTBAND AND CHARGED FOR AS PER CURRENT CDE LIGHTBAND POLICY.
4.) MUST CONTACT CDE LIGHTBAND ENGINEERING DEPARTMENT FOR LOCATION OF METER BASE AND DISCONNECT.

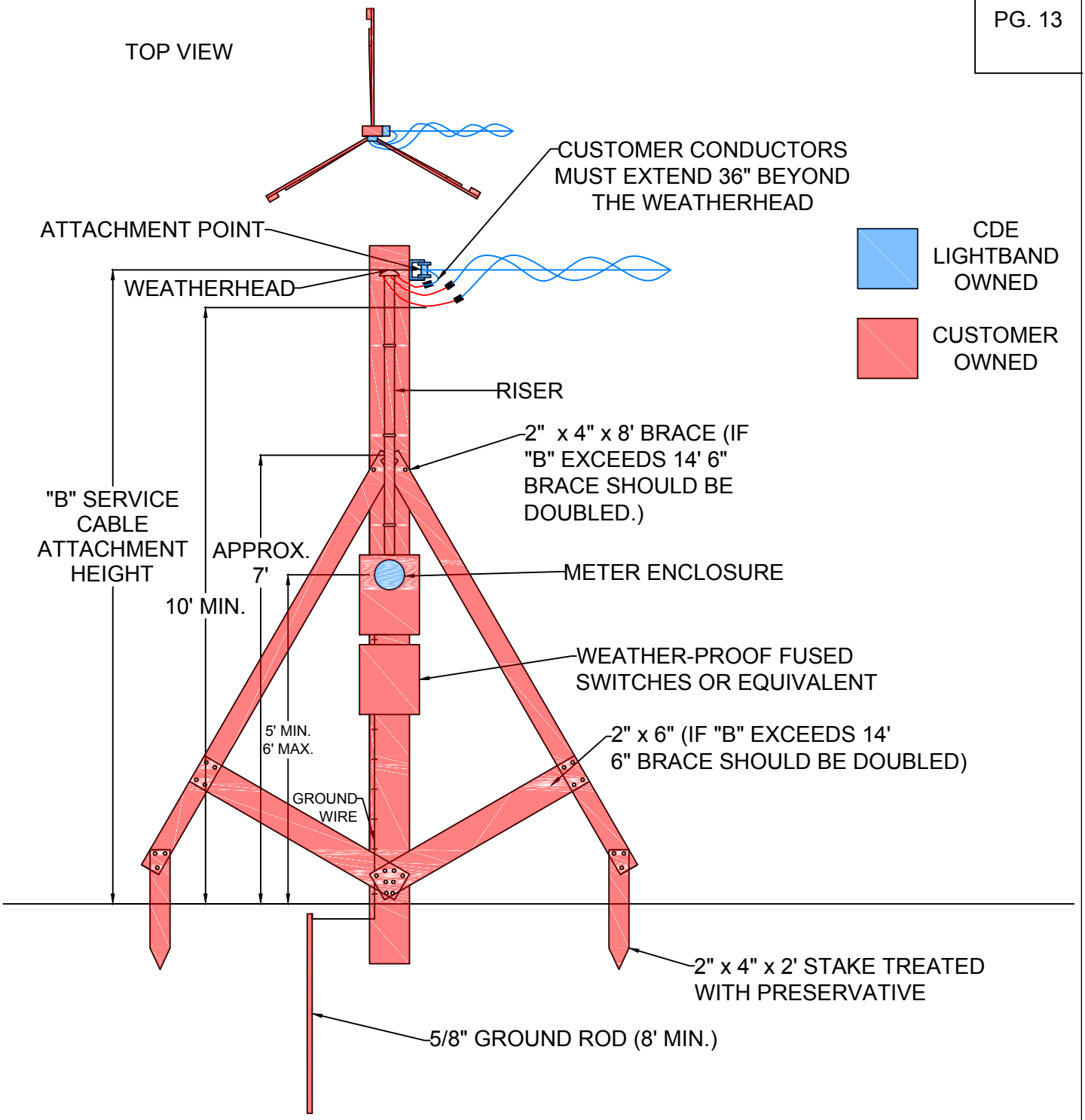
TYPICAL UNDERGROUND SERVICE FOR MANUFACTURED (MOBILE) HOMES

CDE LIGHTBAND



STANDARD TEMPORARY UNDERGROUND SERVICE

CDE LIGHTBAND

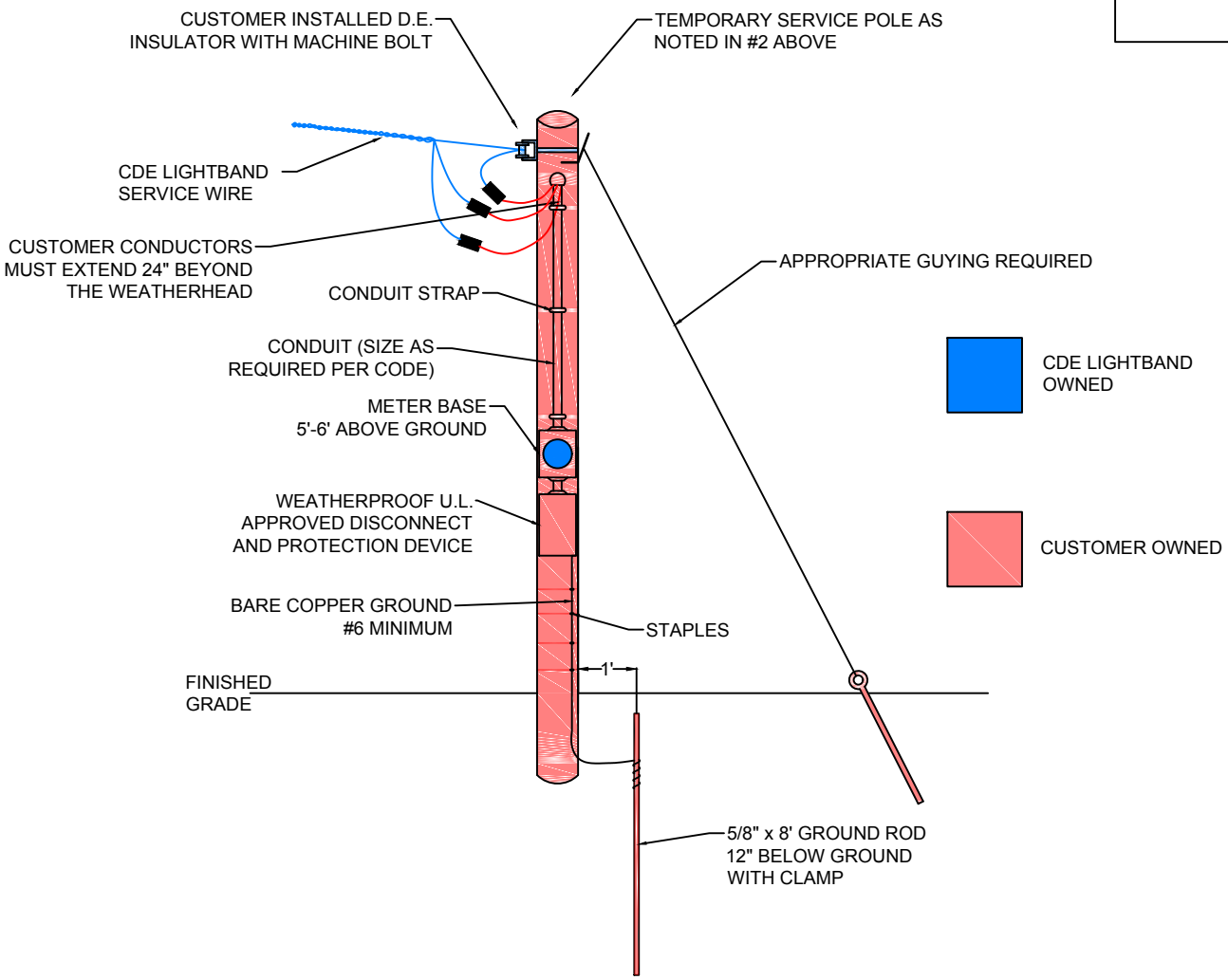


NOTES:

1. TEMPORARY POLE SHALL BE PLACED NO MORE THAN 50 FEET AWAY FROM CDE LIGHTBAND EXISTING POLE.

STANDARD TEMPORARY OVERHEAD SERVICE POLE WITH BRACES

CDE LIGHTBAND



1. FOR TEMPORARY POLES: A MINIMUM OF A SIX (6) INCH BY SIX (6) INCH SQUARE POLE WILL BE ACCEPTED. THE POLE SHALL BE INSTALLED A MINIMUM OF FOUR (4) FEET IN THE GROUND AND CONCRETED WITH A MINIMUM OF THREE (3) FEET, SIX(6) INCHES FROM THE OUTER EDGE OF THE POLE AND BEING ALL AROUND THE POLE, OR SHALL BE PROPERLY GUYED.

2. AN ATTACHMENT POINT ON THE POLE SHALL BE PROVIDED BY THE CUSTOMER. THIS SHALL BE A SECONDARY CLASS CLEVIS, BOLTED TO THE POLE. (SCREW KNOBS WILL NOT BE ACCEPTED) THE ATTACHMENT POINT SHALL BE SUCH THAT IT ALLOWS CLEARANCES THAT MEETS OR EXCEEDS THE REQUIREMENTS SET FORTH IN THE PRESENT NATIONAL ELECTRIC CODE ARTICLE 230-24. CLEARANCES ARE AS FOLLOWS:

   A. MINIMUM 10 FEET - FROM THE BOTTOM OF THE DRIP LOOP OR THE CONDUCTORS AT THE PERMANENT OR TEMPORARY POLE ABOVE THE AREAS OR SIDEWALKS ACCESSIBLE TO ONLY PEDESTRIANS AND BEING MEASURED FROM FINAL GRADE.

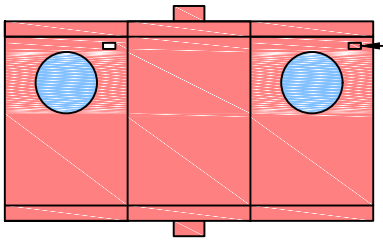
   B. MINIMUM 12 FEET - FROM THE BOTTOM OF THE DRIP LOOP OR THE CONDUCTORS AT THE PERMANENT OR TEMPORARY POLE ABOVE DRIVEWAYS NOT SUBJECT TO TRUCK TRAFFIC AND BEING MEASURED FROM FINAL GRADE.

   C. MINIMUM 18 FEET - FROM THE BOTTOM OF THE DRIP LOOP OF THE CONDUCTORS AT THE PERMANENT OR TEMPORARY POLE ABOVE DRIVEWAYS AND PUBLIC ROADS SUBJECT TO TRUCK TRAFFIC AND BEING MEASURED FROM FINAL GRAD.

   D. MAXIMUM OF 100 FEET FROM EXISTING CDE LIGHTBAND POLE.

TYPICAL TEMPORARY POLE REQUIREMENTS FOR OVERHEAD SERVICE

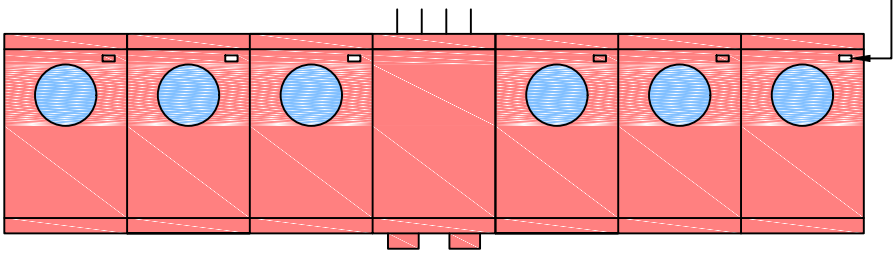
CDE LIGHTBAND



CDE LIGHTBAND OWNED

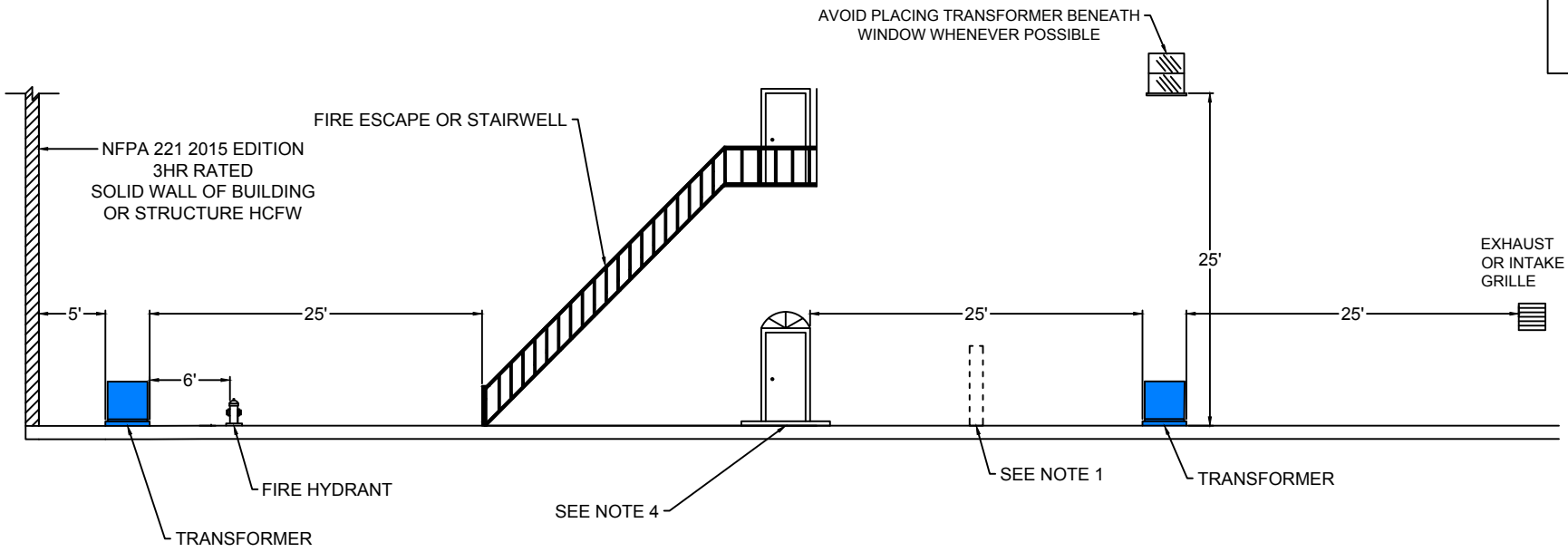
CUSTOMER OWNED

EACH METER ENCLOSURE SHALL BE CORRECTLY IDENTIFIED ON THE OUTSIDE FRONT WITH CHARACTERS A MINIMUM OF 1/2 INCH IN HEIGHT OF A PERMANENT AND LEGIBLE NATURE TO INDICATE THE APARTMENT NUMBER, OFFICE SUITE, LOT NUMBER, ETC. ANY ATTACHED PLATE (NOT REQUIRED) SHOULD BE RIVETED, NOT BOLTED AND SHOULD BE ATTACHED PRIOR TO ENERGIZING THE SOCKET, AND NOT INTERFERE WITH THE ELECTRICAL CLEARANCES OR INTRODUCE MOISTURE. IN ADDITION THE INSIDE OF EACH METER ENCLOSURE SHALL BE CORRECTLY IDENTIFIED WITH A PERMANENT MARKER.



STANDARD LABELING OF MULTIPLE (GANGED) METER ENCLOSURES

CDE LIGHTBAND



NOTES:

1. IN CASES WHERE REQUIRED DISTANCES CANNOT BE OBTAINED, FIRE RESISTANT BARRIER OF 6' MINIMUM HEIGHT SHALL BE CONSTRUCTED.

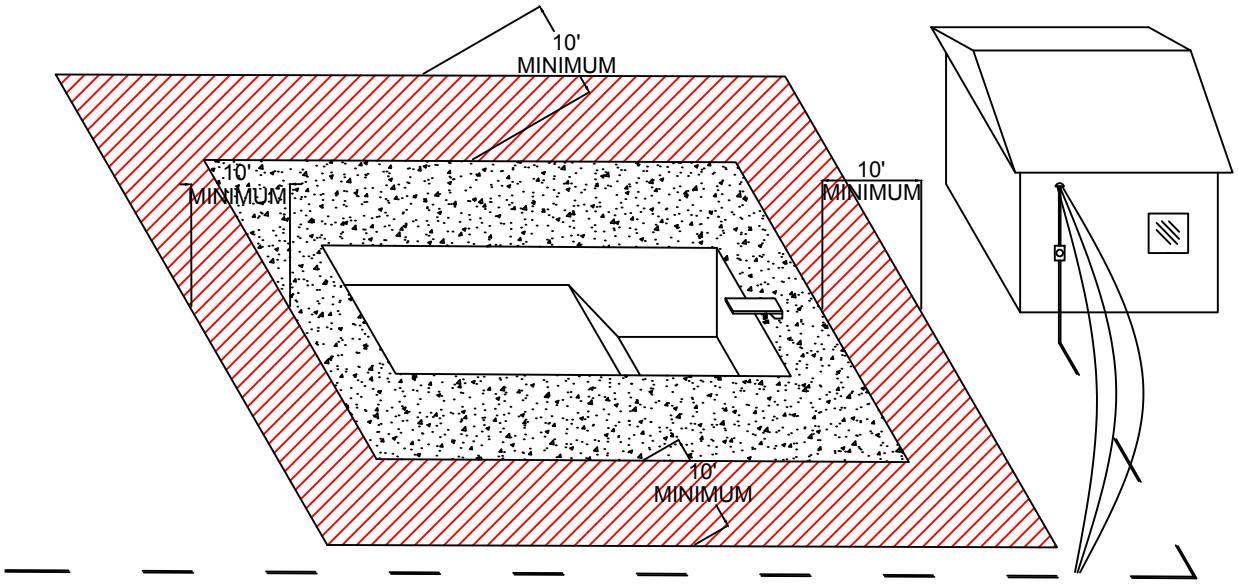
2. CERTAIN CONDITIONS MAY REQUIRE CURBING TO CONFINE OIL IN CASE OF TANK RUPTURE.

3. NO PORTION OF BUILDING OR BUILDING STRUCTURE SHALL OVERHANG ANY PART OF PAD-MOUNTED TRANSFORMER.

4. FIREPROOF DOOR, FOR EXITS FROM PUBLIC BUILDING OR STRUCTURES, 25' CLEARANCE TO TRANSFORMER SHOULD BE INCREASED TO 30', UNLESS THERE IS A BARRIER.

CLEARANCE REQUIREMENTS
FROM BUILDINGS FOR
PAD-MOUNTED TRANSFORMER

CDE LIGHTBAND

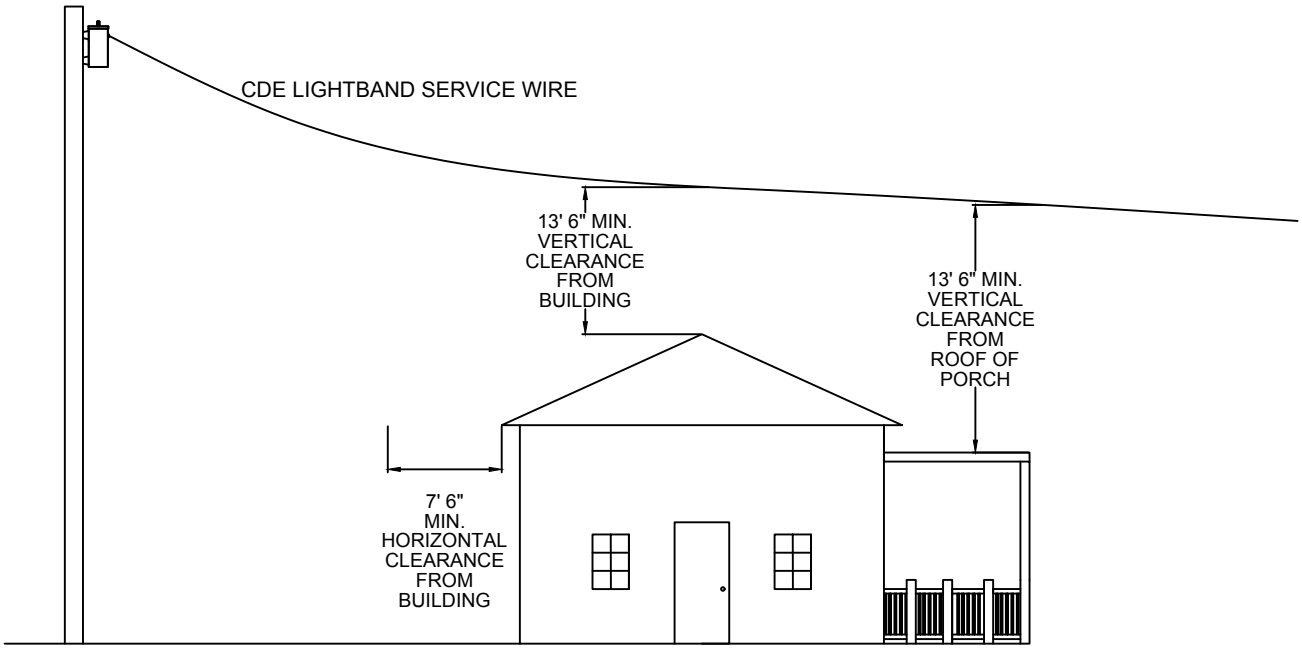


NOTES:

1. ALL OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES SHALL BE A MINIMUM OF 10 FEET OF CLEARANCE FROM ALL EDGES OF THE APRON AND AREAS SURROUNDING POOL INSTALLATIONS.
2. CONTACT CDE TO VERIFY SERVICE IS AT A SAFE DISTANCE BEFORE INSTALLING POOL.

CLEARANCE REQUIRED FOR SWIMMING POOLS

CDE LIGHTBAND

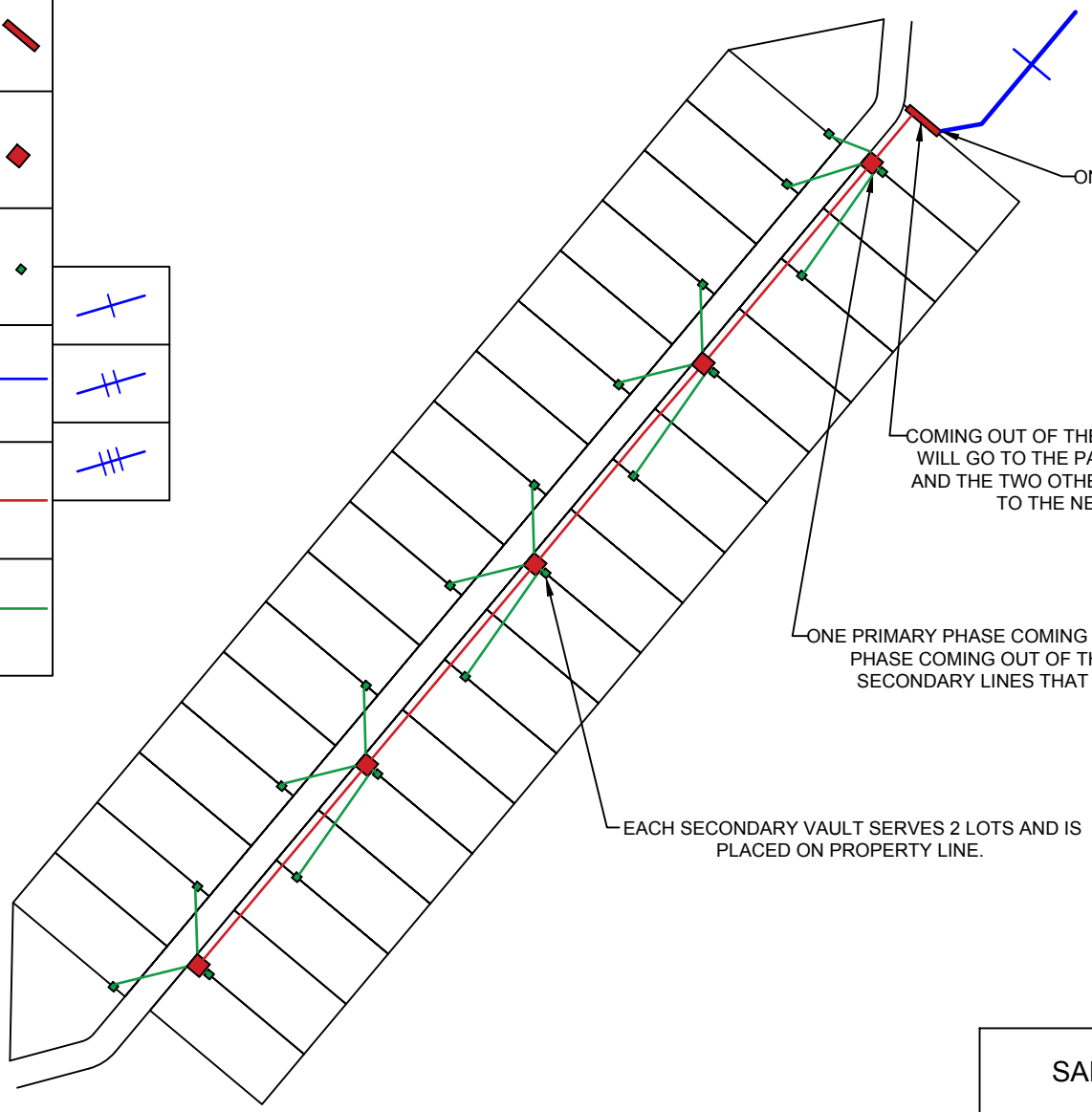


FRONT VIEW (OVERHEAD CLEARANCE)

CLEARANCES FOR SECONDARY WIRE AROUND BUILDINGS

CDE LIGHTBAND

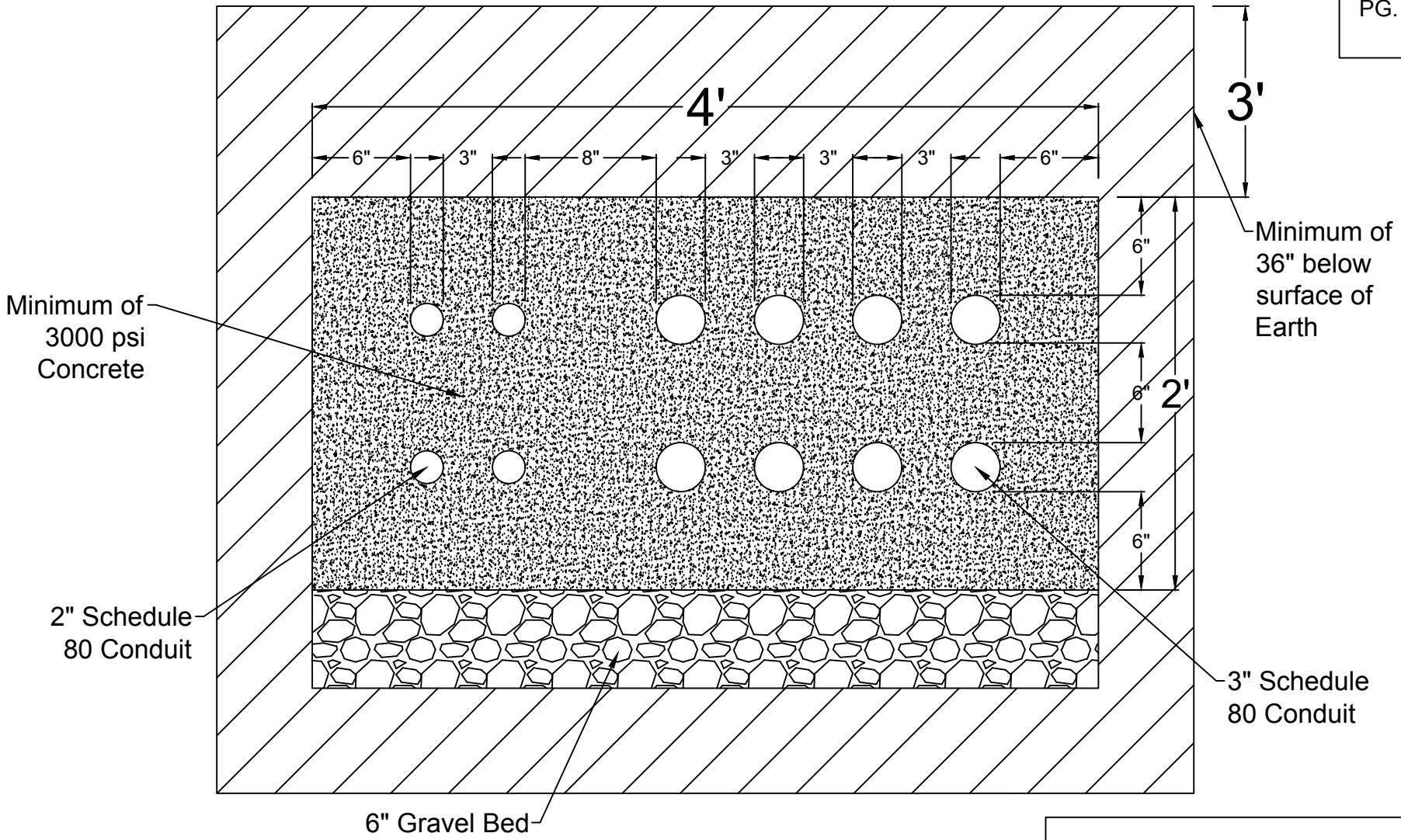
SECTIONALIZER CABINET	
75 KVA TRANSFORMER	
SECONDARY VAULT	
2" SCHEDULE 80 PVC PIPE # PIPES = # PHASES	
2" SCHEDULE 80 PVC PIPE	
3" SCHEDULE 80 PVC PIPE	



1. CONTACT CDE LIGHTBAND ENGINEERING FOR SPECIFIC DESIGN OF NEW RESIDENTIAL DEVELOPMENTS.
2. ALL CONDUIT AND TRANSFORMER PADS SHALL BE INSTALLED BY OWNER/DEVELOPER.

SAMPLE UNDERGROUND NEIGHBORHOOD CONFIGURATION

CDE LIGHTBAND



Typical Conduit Raceways for Electric and FTTH

CDE LIGHTBAND