ExhibitB

WR#3269827

Standards and Specifications

Exhibit B

STAKING and AS- BUILT SURVEY REQUIRMENTS

STAKING

It will be the responsibility of the Customer/contractor and/or his surveyor to initially stake the entire job establishing the following:

Centerline of trench
Center of manhole with off sets

It is the responsibility of the Customer/contractor and/or his surveyor to maintain the original staking or perform any re-staking that is required.

Grade information, reference information, benchmarks, etc., that may be required will be supplied by the developer / owner.

AS-BUILT SURVEY

The customer / contractor will have a land surveyor, who is registered and licensed in the State of Florida, obtain, before back-filling occurs, all AS-BUILT field information necessary for updating and correcting FPL construction drawings. The surveyor will legibly mark, with a red pencil, on both the profile and plan view of FPL's construction drawings, all corrections, additions, and deletions while at the job site. These drawings are to remain on the job site at all times for inspection by the FPL Company Representative. Construction drawings are to be updated by the surveyor, while at the job site, each time any AS-BUILT survey information is obtained. The surveyor is also to record all AS-BUILT information in a FIELD BOOK. This FIELD BOOK is to include the company name, crewmembers and the date, each time AS-BUILT information is obtained.

The AS-BUILT information required is as follows:

1. All facilities are to be stationed to a baseline or reference line that is identifiable as a land line or right-of-way line. This base line or reference line must be related to the area of the job site and be capable of being transposed onto FPL's construction drawings. If the construction drawing includes a baseline or reference line, the AS-BUILT information is to be referenced to this line.

2. All elevations will refer to the datum plane of "mean sea level" as defined by various bench marks of the United States Geological Survey or Coast and Geodetic Survey. They are to be taken along the top of the duct bank, with no offsets, and at existing grade, all at 50 foot maximum intervals. Additional elevations and grade shots are required when there is a change of elevation and/or direction of the duct bank. Elevations are also required on the roof of the manhole, at existing grade, and where the duct bank enters the manhole.

3. Overall total lengths of duct are to be recorded. Measurements are to be taken from the manhole's outside wall and directly along the length of the duct bank with no offsets.

4. When other utilities are uncovered, (water, gas, sewers, telephone, CATV, etc.) their size and type are to be determined, their location referenced to the baseline, and their elevation noted. An elevation will be taken on the duct bank directly above or below the other utility and at existing grade.

5. A duplicate set of construction prints, marked in red pencil, is also required. This duplicate set may be marked from FIELD BOOK information by the surveyor's office.

Note: The construction contract/agreement will <u>not</u> be considered complete until all of the following are presented to, and approved by, the FPL Company Representative.

a) Signed and sealed copies of the AS-BUILT survey FIELD BOOK.
b) The set of FPL construction drawings marked in red by the surveyor in the field.
c) The duplicate marked set of construction prints.

STAKING INFORMATION
(EXHIBIT "A")

D-15.0.2

D

COLOR CRAYONS, PAINTS, AND PLASTIC RIBBONS MAY BE USED FOR IDENTIFYING STAKES. THE FOLLOWING A.P.W.A. COLORS HAVE BEEN ADOPTED STATEWIDE AS STANDARD:

- WHITE
  PROPOSED EXCAVATION
- PINK
  TEMPORARY SURVEY MARKINGS
- RED
  ELECTRIC POWER LINES, CABLES, CONDUIT AND LIGHTING CABLES
- YELLOW
  GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS
- ORANGE
  COMMUNICATION, ALARM OR SIGNAL LINES, CABLES OR CONDUIT
- BLUE
  PORTABLE WATER
- PURPLE
  RECLAIMED WATER, IRRIGATION AND SLURRY LINES
- GREEN
  SEWER AND DRAIN LINES

ALL COLOR STAKES USED BY FLORIDA POWER & LIGHT COMPANY (EXISTING FACILITIES) WILL BE RED AS DESIGNATED BY ANSI STANDARD Z53.1, ISS-NBS VIVID RED #11. THIS COLOR IS AVAILABLE AS SPRAY PAINT UNDER M&S #504-17100-5.

WHITE PER A.P.W.A. WILL BE USED TO MARK PROPOSED FPL FACILITIES. CRAYONS AND PLASTIC RIBBONS USED FOR STAKING FP&L FACILITIES SHOULD APPROXIMATE THESE COLORS.

FPL

OH & UG DISTRIBUTION SYSTEM STANDARDS

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
1	9/04/01	UPDATE DRAWING (TITLE AND TEXT)	DPM	JES	JJM
D	8/09/96	CHANGE PAGE FORMAT	PMG	RAS	JJM

ORIGINATOR: PMG DRAWN BY: RAS

DATE: 8/09/96 APPROVED: J.J. MCEVOY
SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

NO SCALE

STAKING INFORMATION

D-15.0.4

D

TRANSFORMER PAD, HANDHOLE & MARKER STAKING

1. TRANSFORMERS, PADS AND MARKERS ARE MOST OFTEN POSITIONED AT OR NEAR THE TRENCH CENTERLINE. AS A RESULT THE STAKES ARE USUALLY DUG UP DURING TRENCHING. OFFSET OR FACE STAKES ARE USEFUL TO THE CONSTRUCTION FORCES TO RE-ESTABLISH THE LOCATION OF THE FACILITIES AFTER TRENCHING. STAKE CENTER LINE OF HANDHOLE & MARKERS. THE FOLLOWING SKETCHES ARE EXAMPLES OF FACE STAKING AND OFFSET REFERENCE STAKING. FACE STAKING IS PREFERRED, PARTICULARLY FOR TRANSFORMER PADS, BUT OFFSET REFERENCE STAKES MAY BE NEEDED AT TIMES IF TREES OR OTHER OBSTRUCTIONS PREVENT THE USE OF FACE STAKES. ADDITIONAL STAKES SUCH AS CORNER STAKES MAY BE USED TO SUIT LOCAL CONDITIONS.
2. WHERE GRADE STAKES ARE REQUIRED, INSTALL AFTER TRENCHING AT PAD OR HANDHOLE.

TRANSFORMER PAD, HANDHOLE, MARKER & MANHOLE STAKING

1. THE FOLLOWING TABLE GIVES THE DIMENSIONS OF THE CONCRETE TRANSFORMER PADS TO AID IN ACCURATE STAKING.

PAD TYPE	W	L	APPLICATION
UX-115	6'-8"	5'-0"	3ø LF PM W/SECT.
UX-116	6'-0"	5'-0"	3ø &2ø W/O SECT. & 3ø DF W/SECT.
UX-117	4'-0"	4'-7"	ALL 1ø
UX-119	9'-10"	10'-6"	PADMOUNTED AUTOTRANSFORMER
UN-18	10'	5'	FEEDER SPLICE BOX

LENGTH AND WIDTH OF CONCRETE PADS

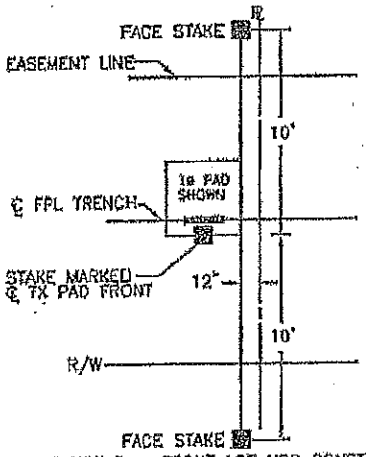


FIGURE 3 – FRONT LOT URD CONSTRUCTION FACE STAKING

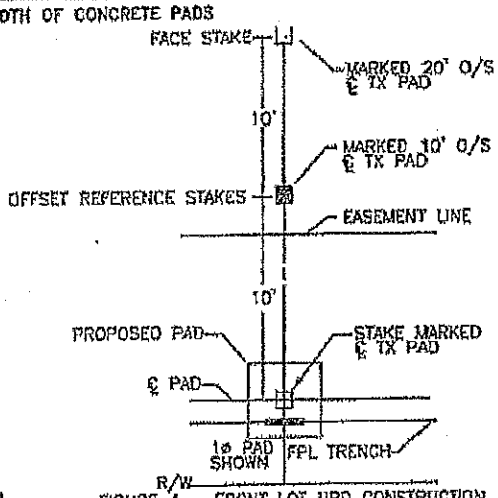


FIGURE 4 – FRONT LOT URD CONSTRUCTION OFFSET STAKING

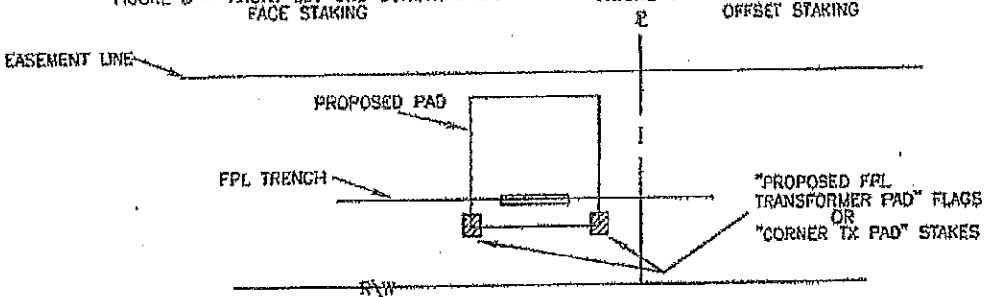


FIGURE 5 – FRONT LOT URD CONSTRUCTION FACE STAKING

TRENCH STAKING

CENTER LINE OF TRENCH STAKES SHOULD BE APPROXIMATELY 50' APART EXCEPT ON CURVES, WHERE 25' OR 30' SEPARATION SHOULD BE MAINTAINED. ON SMALL RADIUS CURVE THERE SHALL BE A MINIMUM OF 4 STAKES (PC, PT & 2 ONLINE) TO AVOID "CUTTING THE CORNER". DIFFERENT METHODS OF STAKING, SUCH AS A STAKE PER LOT, MAY BE USED IF LOCAL CONDITIONS REQUIRE THEM.

FPL

OH & UG DISTRIBUTION SYSTEM STANDARDS

ORIGINATOR: PKG DRAWN BY: RAS

DATE: 8/09/96 APPROVED: J.J. MCEVOY SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES NO SCALE

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
1	9/04/01	UPDATE DRAWING (TITLE AND TEXT)	DPM	JES	JJM
0	8/09/96	CHANGE PAGE FORMAT	PKG	RAS	JJM

SPECIFICATIONS FOR UNDERGROUND CONDUIT INSTALLATION

1. Conduit, handhole, and transformer pad placement shall be in the easement provided and in accordance with the design drawings and field staking.

2. Use only FPL supplied conduit with FPL supplied bends. (Figure 1)

3. Glue all joints securely with FPL supplied glue. (Appendix A)

4. FPL conduit markers must be placed at all conduit ends. (Figure 1)

5. Primary conduit is to have a minimum of 36 inches of cover. Secondary conduit is to have a minimum of 24 inches of cover. (Figure 1). Secondary conduit may be placed at 36" depth when in the same trench as primary conduit.

6. All service and street light conduit is to have 24 – 30 inches of cover at property line. All future service stub-outs at transformer locations to be installed with 90's. Where primary, secondary, or street light conduit runs turn horizontally, 36 inch radius 90 degree bends are to be used.

7. Cap all ends of the conduit with FPL supplied end caps. Denote termination point of each conduit run on the capped end, (Appendix B). All conduit ends are to be terminated 1 – 2 feet above final grade except at transformer locations where conduit ends are to be terminated 3 inches above final grade. (Figure 3)

8. Install 1 #12 copper locate wire supplied by FPL in each trench per attached specs (Figure 4). All ends of the #12 copper locate wire must be exposed above grade, and secured with a tie wrap to a piece of stubbed up conduit for future locates. (Figure 4)

9. Conduits terminated at transformer locations to be installed with templates supplied by FPL per Figure 3A, 3B, or 3C according to the type of transformer being installed. (Consult your Service Planner).

10. Concrete transformer slabs provided by FPL are to be installed level on compacted fill at final grade and oriented as shown on the FPL design drawing(s) (Figure 3)

11. Conduits terminated at future secondary handhole locations to be installed per Figure 2. If secondary handholes are being installed at the time of conduit installation, install 45 degree bends as shown in Figure 1.

12. Primary splice handhole to be installed with electronic cable marker. (Figure 2A)

13. Install a continuous length of pull string in all conduit runs.

14. Backfill operations are to be done carefully with special attention given to utilizing clean fill, thereby assuring the elimination of rock and other scrap material to insure that the conduit will not be damaged or marking devices moved and proper compaction is achieved.

TESTING AND ACCEPTANCE GUIDELINES

Following notification of completed installation of underground conduits by a developer/contractor FPL will:

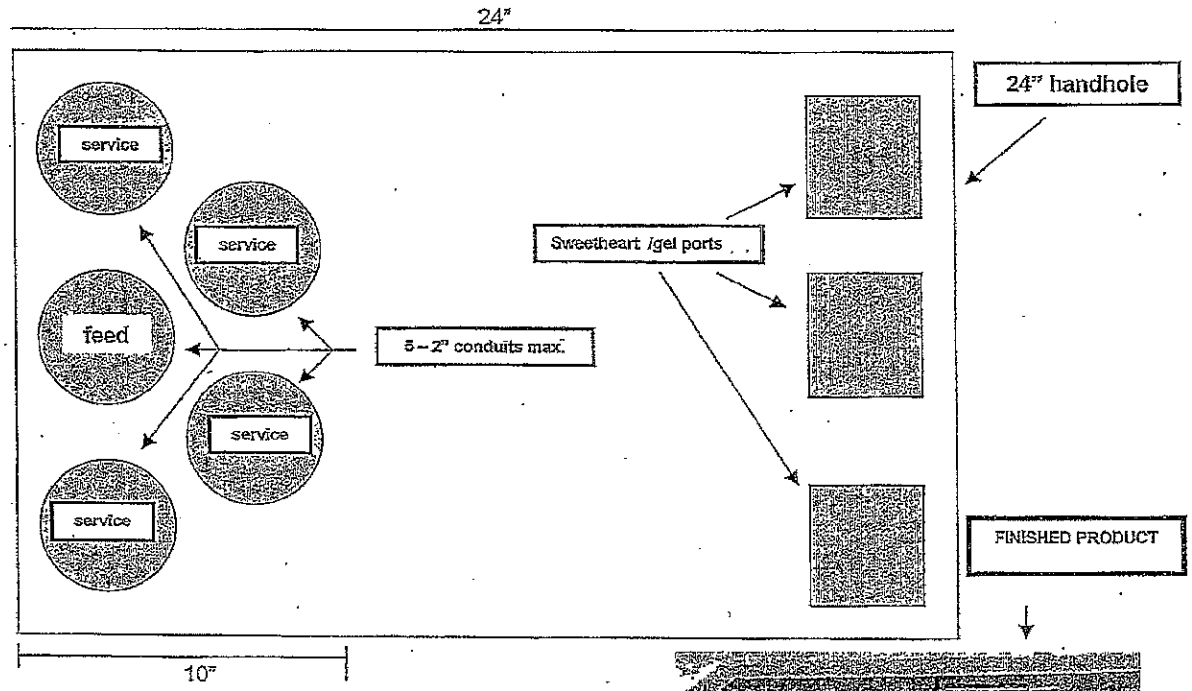
1. Randomly spot check the installation depth of conduits below grade at a minimum of 2 points between each primary termination point, (transformers, splice boxes & risers) noting the measured depth on the record drawing.

2. After confirming the correct routing and integrity of a conduit run, verify that the cable markers were installed and exposed conduit ends are plugged.

3. Confirm that a continuous length of pull string has been installed in all conduit runs and verify that all conduits runs terminate in the correct locations.

4. The final acceptance of the conduit installation will occur when FPL pulls the conductor and occupies the conduit.

TEMPLATE



WHEN INSTALLING 2" CONDUITS UP TO 5 MAY BE PLACED IN A 24" HANDHOLE. Please install all conduits within 10" of one end of the handhole. This allows cables to drape across to the other end of handhole where the terminations will be placed such as sweetheart connectors or gel port connectors. When the wires are raised out of the handhole this will allow approximately 18" of wire above ground level making it easier for employees to work on in future situations.

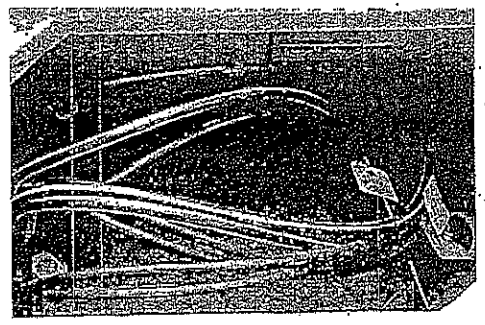
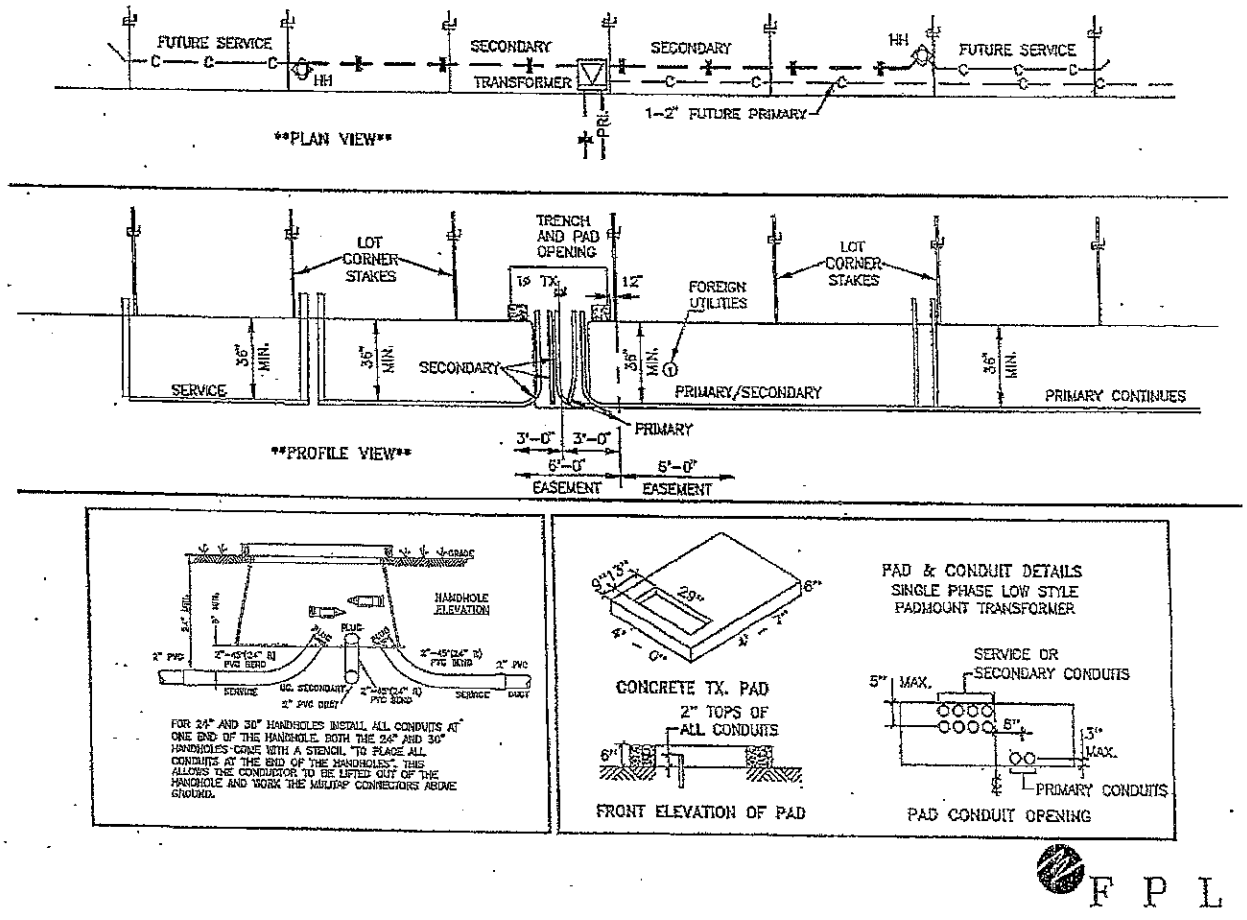


FIGURE 1



F P L

Note - Transformer location to be per specific design drawing, and may split lot lines in some cases.

FIGURE 2

TYPICAL SERVICE HANDHOLE INSTALLATION

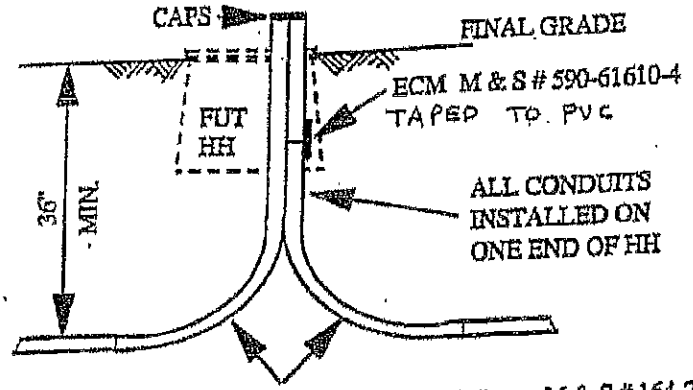


FIGURE 2A

48" PRIMARY SPLICE HANDHOLE

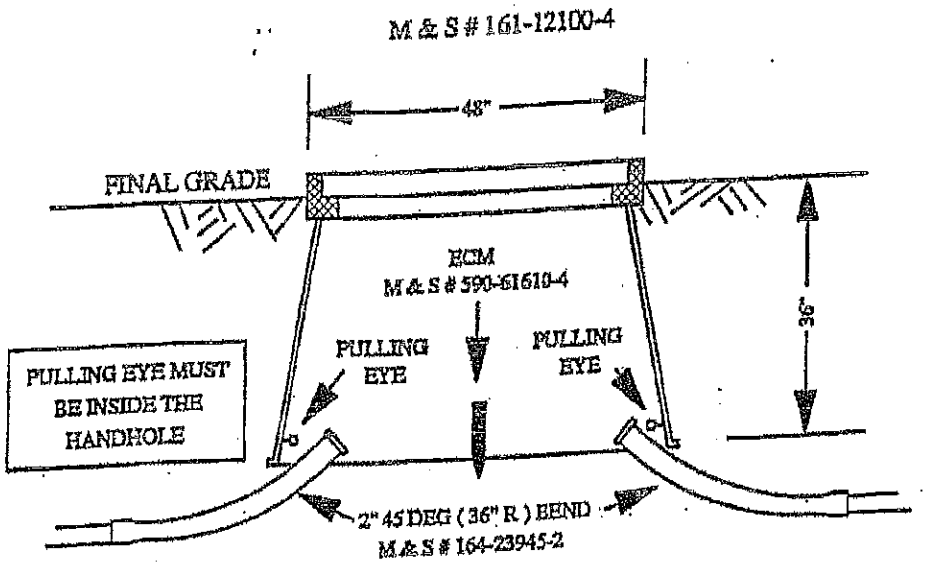
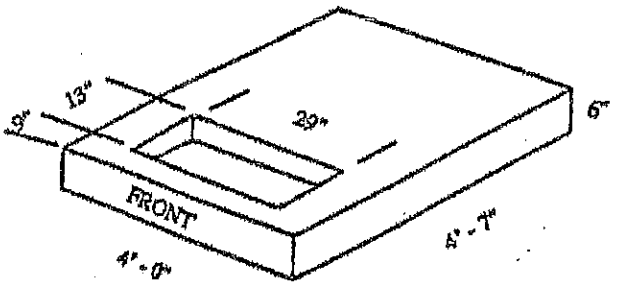


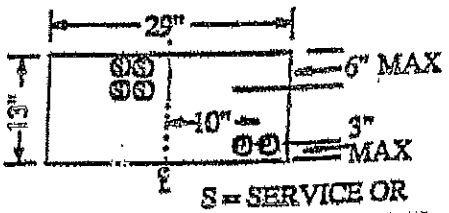
FIGURE 3

PAD & CONDUIT DETAILS

SINGLE PHASE LOW STYLE
PADMOUNT TRANSFORMER



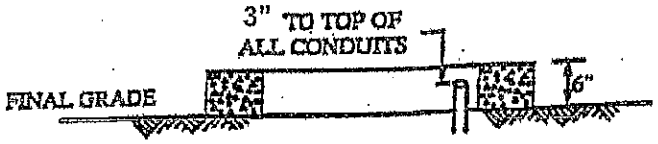
CONCRETE TRANSFORMER PAD
M & S # 162-24800-4



S = SERVICE OR
SECONDARY

P = PRIMARY

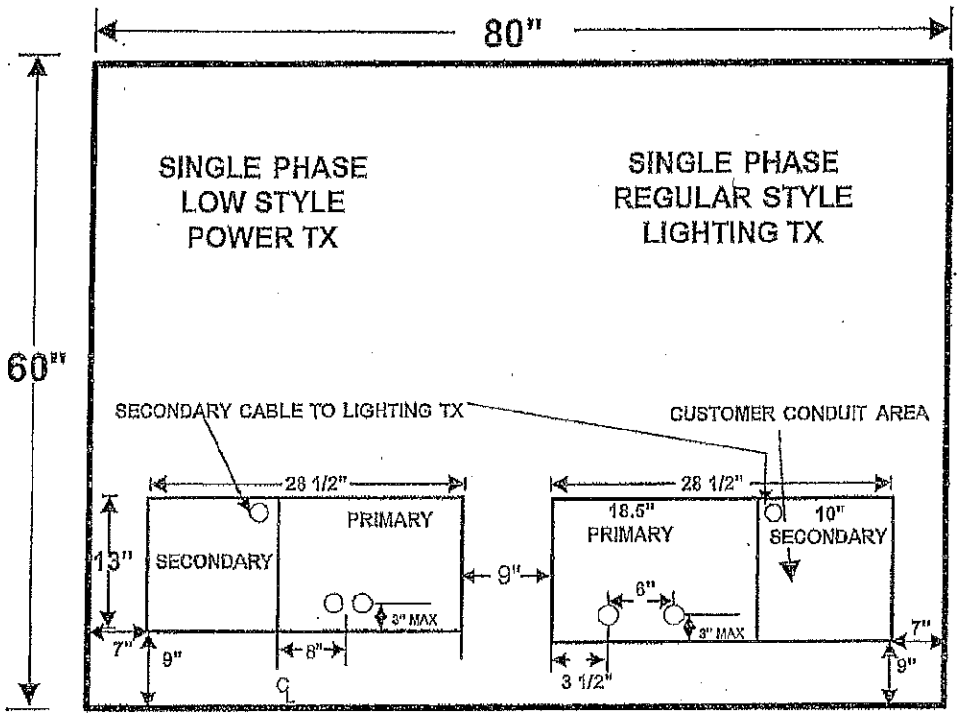
PAD CONDUIT OPENING



FRONT ELEVATION OF PAD

FIGURE 3A

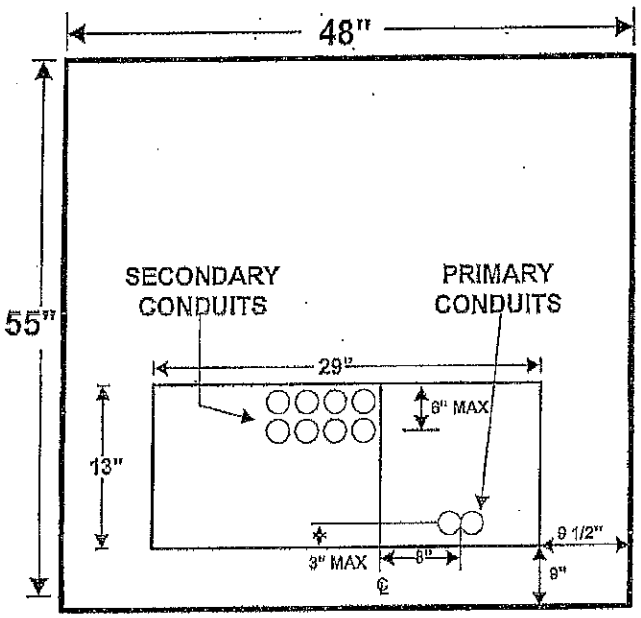
ONE LOW STYLE & ONE REGULAR STYLE TRANSFORMER



(FRONT OF PAD)

FIGURE 3B

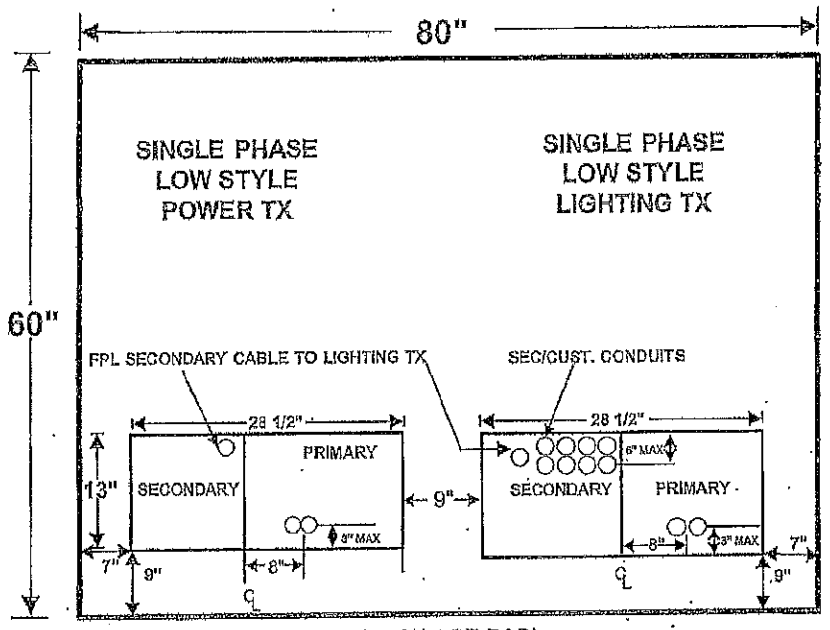
SINGLE PHASE LOW STYLE TRANSFORMER



(FRONT OF PAD)

FIGURE 3C

TWO LOW STYLE TRANSFORMERS

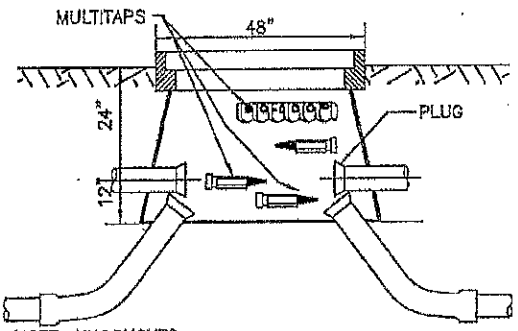


(FRONT OF PAD)

UN-19.0.0

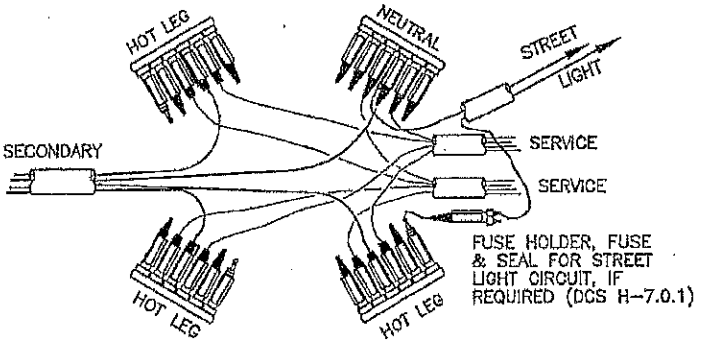
MULTITAP CONNECTORS IN HANDHOLE (30"X48"X36") FOR CONNECTING 2 TO 5 SERVICES AND 1/0 PRIMARY SPLICE BOX

UN-19.0.0



NOTE: KNOCKOUTS WILL ACCOMMODATE 5" PVC 2 KNOCKOUTS EACH SIDE

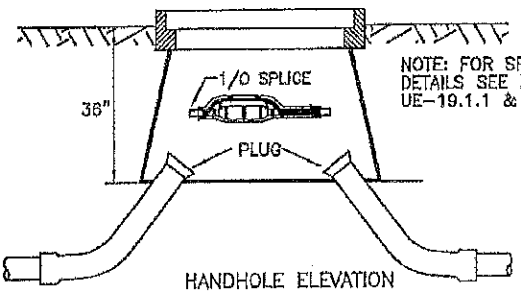
HANDHOLE ELEVATION



FOR EASE OF INSTALLATIONS TRAIN THE CABLES ABOVE GRADE, INSTALL THE MULTITAP CONNECTORS, THEN INSTALL INSIDE HANDHOLE

CONNECTION DIAGRAM (EXPANDED)

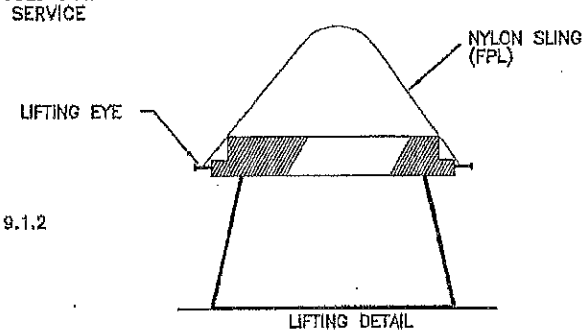
HANDHOLE USED FOR SECONDARY SERVICE



NOTE: FOR SPLICE DETAILS SEE DCS UE-19.1.1 & UE-19.1.2

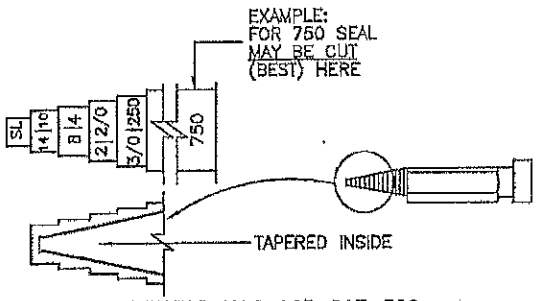
HANDHOLE ELEVATION

HANDHOLE USED AS A 1/0 PRIMARY SPLICE BOX



LIFTING DETAIL

HANDHOLE MAY BE LIFTED WITH OR WITHOUT COVER IN PLACE



MULTITAP CONNECTOR M&S 163-017-502
FLOOD SEAL

NOTES:
1. MAXIMUM 1 SECONDARY CONDUIT WITH 2 TO 5 SERVICES.
2. MAXIMUM 3 SPLICES.
3. PROVIDE GROUNDING FOR ANY RUN GREATER THAN 950 FT.
4. 6-PORT MULTITAP CONNECTOR M & S #163-017-502 WILL ACCOMMODATE CABLE FROM 1/0 TO 750 MCM, COPPER OR ALUMINUM.
5. WEIGHT:
   2 PIECE LID = 82 LBS. EACH
   BODY = 190 LBS.
6. LIFTING:
   COVER MAY BE LIFTED WITH THE HANDHOLE LID LIFTER (HOOK) TOOL M&S #593-930-021
7. COMPLETE HANDHOLE, INCLUDES COVER M&S #162-121-004
8. REPLACEMENT COVER M&S #162-121-012
9. HANDHOLE SHOULD NOT BE EXPOSED TO VEHICULAR TRAFFIC, SUCH AS STREETS, PARKING LOTS, OR DRIVEWAYS.
10. FOR DRIVEWAY LOADING HANDHOLE 32"X50"X36" DEEP, USE M&S #162-122-892, (UX-202.0.0) APPROXIMATE WEIGHT 2,663 LBS.

SUPERSEDES UN-19.0.0 LAST REVISED ON 9-30-94

F P L

OH & UG DISTRIBUTION SYSTEM STANDARDS

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
5	8/18/05	UPDATE NOTES	RJO	ELS	JJM
4	11/18/03	UPDATE NOTES	RJO	ELS	JJM
3	7/16/01	UPDATE DRAWING (NOTES)	RAP	JES	JJM
2	9/27/99	UPDATE DRAWING (NOTES)	RAP	JES	JJM
1	8/09/96	ADDED EMS & NOTES 9., 10, & 11	SMS	RAS	JJM

ORIGINATOR: SMS DRAWN BY: SMS

DATE: 9/30/94 APPROVED: J.J. MCEVOY NO SCALE

SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

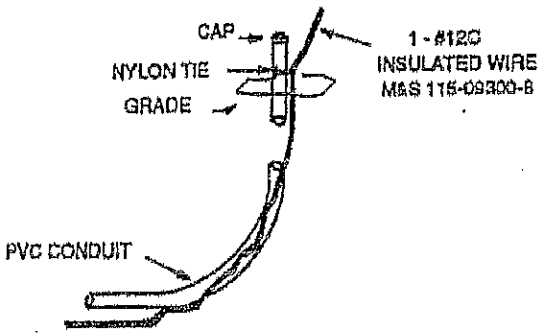
UN

FIGURE 4

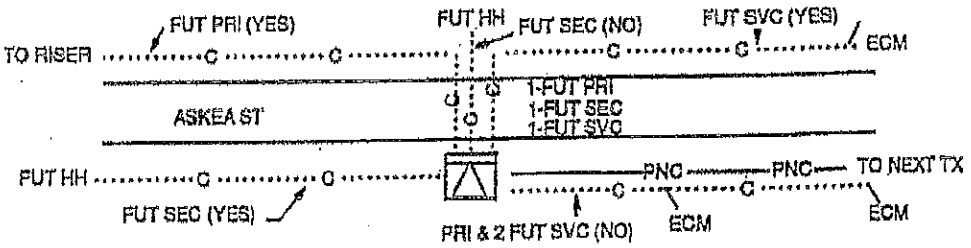
1 - #12C INSTALLATION

When installing conduit only (cable to be pulled later), a single #12 copper insulated wire is to be direct buried in every trench at the same depth as the conduits. The ends of the wire are to be terminated above ground at the conduit ends as shown. This wire will allow empty plastic conduits to be located with electronic equipment.

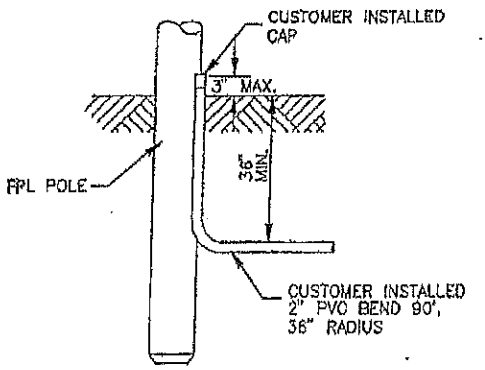
This method is not intended for cases where conduit is installed strictly for road crossings only. In these cases ECM markers should be used to mark the conduit ends.



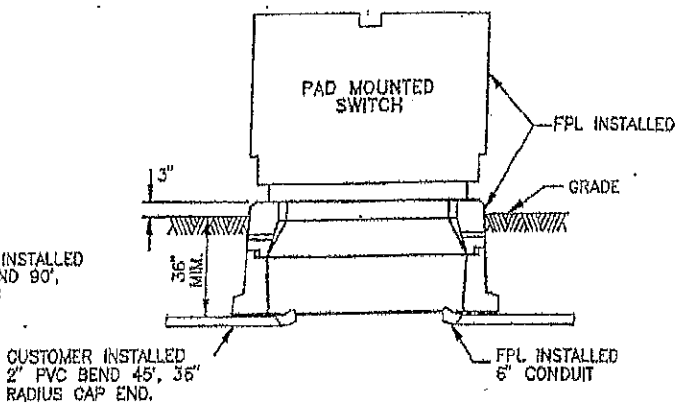
WHERE TO INSTALL #12C WIRE



DRAWING SYMBOLS



TYPICAL PVC CONDUIT BEND AT RISER POLE INSTALLATION



TYPICAL CONDUIT ENTRANCES TO PAD MOUNTED SWITCH

SYMBOLS

	EXISTING	PROPOSED
CONDUCTORS – PRIMARY FPL OWNED, IN CONDUIT, WITH CONDUCTOR SIZE, METAL, RATED VOLTAGE INSULATION AND NEUTRAL INDICATED.	—|—PNC—|—	—|—PNC—|—
CONDUCTORS – SECONDARY – STREET LIGHT FPL OWNED, IN CONDUIT, WITH CONDUCTOR SIZE, METAL AND INSULATION INDICATED (HM/HD TPX SHOWN).	1/0A	4/0A
SERVICE LATERALS THREE-WIRE SECONDARY SERVICE. FPL OWNED IN CONDUIT WITH CONDUCTOR SIZE, METAL, INSULATION AND JACKET INDICATED.	3-2C RN	1/0A TPX
EMPTY CONDUIT	—C—	—C— —C—
PADMOUNTED TRANSFORMERS PADMOUNTED TRANSFORMER, 1ø, WITH kVA RATING (FRONT, OR TERMINAL CHAMBER, IS SMALL RECTANGLE AT RIGHT END OF SYMBOL. PRIMARY PHASE INDICATED) TRANSFORMER STYLE SHOWN AS FOLLOWS: (RS) – REGULAR SIZE – 42" ± HIGH, (DF) – DEAD FRONT – 32 " ± HIGH, (LS) – LOW STYLE – 24" ± HIGH.	B 15	B 15
STRUCTURES ELECTRONIC CABLE MARKER AND OR SPLICE PIT (BURIED)		
SERVICE HANDHOLE		

F P L

APPENDIX A

UN-27.0.0	RECOMMENDED PRACTICES FOR FIELD JOINING OF PVC CONDUIT (USING CLEAR SOLVENT CEMENT) AND PVC CONDUIT INSTALLATION	UN-27.0.0

FIELD JOINING

1. EXAMINE EACH LENGTH OF CONDUIT AND ENSURE THERE ARE NO INTERIOR OR EXTERIOR IMPERFECTIONS, CRACKS, ETC. REMOVE ALL FOREIGN MATERIAL FROM INSIDE CONDUIT.

2. USING A HACKSAW, FINE TOOTH WOOD SAW, OR NYLON STRING, CUT PIPE SQUARE (IF REQUIRED). REMOVE ANY BURRS AND BEVEL ANY SHARP EDGES. WIPE DRY WITH A CLEAN, DRY CLOTH.

3. APPLY CEMENT (M & S #522-14100-7) UNIFORMLY ON INSIDE OF BELL OR FITTING. APPLY UNIFORM COAT OF CEMENT ONTO CONDUIT END. DO NOT POUR, SPLASH, OR GLOB CEMENT ON!

4. IMMEDIATELY INSERT THE CONDUIT INTO THE BELL END OF FITTING ALL THE WAY TO THE INSIDE SHOULDER. ENSURE SNUG FIT AND TURN CONDUIT 1/4 TURN TO DISTRIBUTE CEMENT EVENLY.

5. HOLD JOINT FOR APPROXIMATELY ONE MINUTE TO ALLOW CEMENT TO BEGIN SETTING. WIPE OFF EXCESS CEMENT.
(NOTE: MANUFACTURER RECOMMENDATIONS ARE TO ALLOW FOR A MINIMUM OF 10 MINUTES OF DRYING TIME PRIOR TO ANY BACKFILLING. WEATHER CONDITIONS MAY VARY THIS SETTING TIME.)

FIELD INSTALLATION

1. LAY CONDUIT RUN INTO TRENCH. DO NOT KICK, THROW OR SLAM IT IN!

2. SURROUNDING TRENCH BACKFILL MUST BE FREE OF LARGE OR SHARP ROCKS, CINDERS OR OTHER DEBRIS WHICH WILL DAMAGE CONDUITS DURING BACKFILL OPERATION OR SUBSEQUENT COMPACTION.

3. IN CORAL ROCK AREAS, IT IS RECOMMENDED THAT HAND BACKFILLING FOR THE FIRST 3 TO 6 INCHES BE PERFORMED.

4. INSTALL PLUGS OR END BELLS ON ALL VACANT DUCTS, AS REQUIRED.

5. THE FINISHED CONDUIT RUN SHALL BE RODDED IN AN APPROVED MANNER (I.E. WINCH LINE, MANDREL, ETC.) TO VERIFY CONTINUITY AND CLEANLINESS. (NOTE: NO CONDUIT RUN SHALL BE ACCEPTED AS PROPERLY INSTALLED UNLESS FREE PASSAGE IS OBTAINED AND VERIFIED BY FPL SUPERVISION.)

F P L

OH & UG DISTRIBUTION SYSTEM STANDARDS

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.

ORIGINATOR: CM DRAWN BY: BQ

DATE: 8-30-94 APPROVED: R. J. SALESKY NO SCALE

SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

APPENDIX B

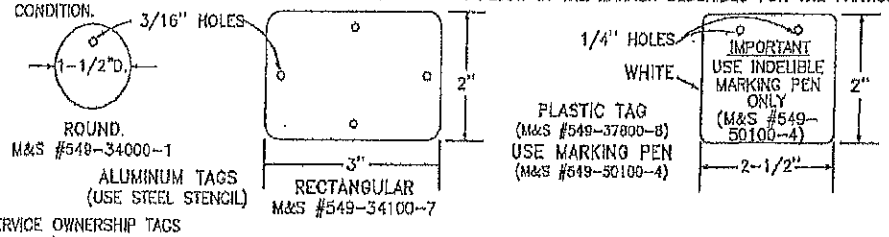
UV-12.0.0	IDENTIFICATION OF UNDERGROUND CABLES AND VACANT CONDUITS	UV-12.0.0

GENERAL ALL UNDERGROUND CIRCUITS SHOULD BE IDENTIFIED WHERE APPLICABLE AS FOLLOWS:

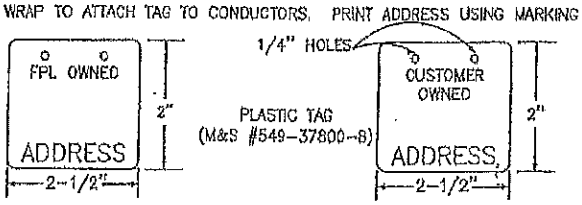
FEEDER NUMBER
SWITCH NUMBER
PHASE
CONDUCTOR SIZE, METAL, TYPE INSULATION AND VOLTAGE RATE (IF NOT SAME AS OPERATING VOLTAGE)
SOURCE OR DIRECTION OF FEED
OWNERSHIP
ADDRESS OF BUILDING SERVED
TLM NUMBER
DATE OF FAILURE ON SECTION OF CABLE (DIRECT BURIED ONLY)
ANY UNUSUAL CONDITIONS, I.E. CABLE IN CONDUIT, PARTIALLY IN CONDUIT, DIRECT BURIED, ETC.

ALL CIRCUITS AND VACANT CONDUITS SHOULD BE APPROPRIATELY IDENTIFIED AT EACH TERMINAL OR SWITCHING POINT AND ALL INTERMEDIATE LOCATIONS SUCH AS VAULTS, MANHOLES, PAD MOUNTED TRANSFORMERS, OR HANDHOLES. WHEN THE CIRCUIT OR VACANT CONDUIT IS OWNED BY OTHER THAN FLORIDA POWER & LIGHT COMPANY, SHOW "CUST" ON APPROPRIATE TAG. IF NECESSARY INFORMATION CANNOT BE SHOWN ON ONE TAG, USE ADDITIONAL TAGS.

INFORMATION WILL BE PLACED ON APPROVED TAGS SHOWN BELOW IN THE MANNER DESCRIBED FOR THE PARTICULAR CONDITION.



SERVICE OWNERSHIP TAGS
PLACE INSIDE METER CAN. USE TIE WRAP TO ATTACH TAG TO CONDUCTORS. PRINT ADDRESS USING MARKING PEN (M&S #549-50100-4)



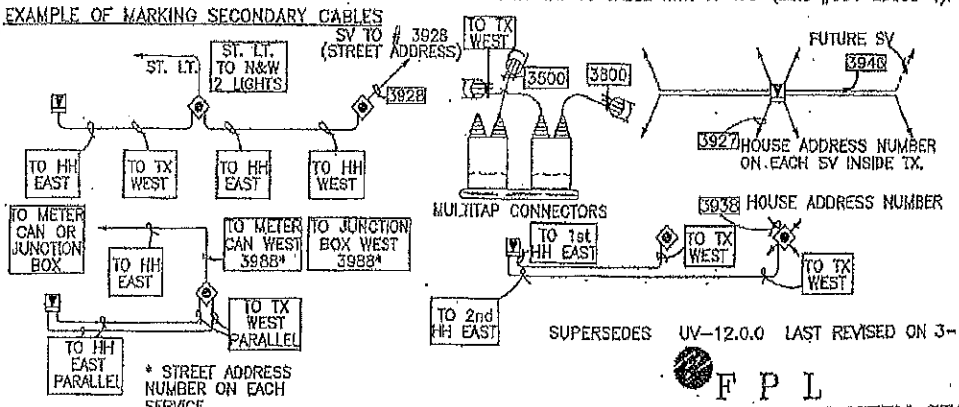
UNDERGROUND DUCT & MANHOLE SYSTEMS

USE ALUMINUM TAGS, AFFIXED TO CABLES WITH #12C-TW ON ALL CIRCUITS IN UNDERGROUND SYSTEMS, SUCH AS SUBWAY VAULTS, MANHOLES, RISER POLES, ETC. ROUND ALUMINUM TAGS ARE FOR FEEDER NUMBER AND PHASE IDENTIFICATION. RECTANGULAR ALUMINUM TAGS ARE USED FOR ALL OTHER IDENTIFICATION PURPOSES FOR EXAMPLE, ON ISOLATED NEUTRAL CONDUCTORS OF PILC CABLES, ETC.

DIRECT BURIED AND CABLE IN CONDUIT SYSTEMS

USE ALUMINUM TAGS FOR CUSTOMER I.D. AS INDICATED ABOVE FOR LOCATIONS THAT WILL BE SUBJECTED TO SUNLIGHT. USE PLASTIC TAGS FOR URD CABLE TERMINATION TAGGING AND AT OTHER LOCATIONS SUCH AS PADMOUNTED TRANSFORMERS AND HANDHOLES. ALLOW 10 SECONDS MINIMUM DRYING TIME TO PREVENT SMEARING. FASTEN PLASTIC TAG TO CABLE WITH TY-RAP (M&S #534-25000-1).

EXAMPLE OF MARKING SECONDARY CABLES



SUPERSEDES UV-12.0.0 LAST REVISED ON 3-15-91

FPL

OH & UG DISTRIBUTION SYSTEM STANDARDS

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
0	9-30-94	CHANGED PAGE FORMAT AND REVISED NOTES AND DIMENSIONS	RJO	MLG	RJS

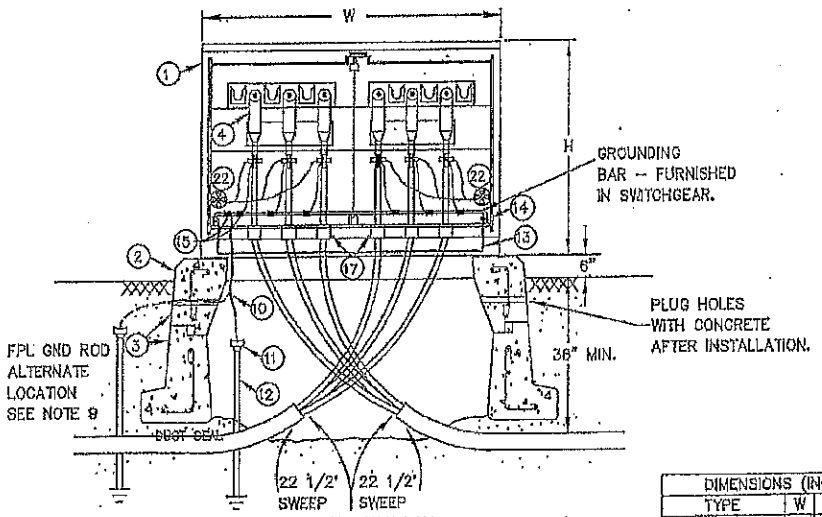
ORIGINATOR: RJO DRAWN BY: MLG

DATE: 9-30-94 APPROVED: R.J. SALESKY NO SCALE

SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

C-32.0.2	TYPICAL INSTALLATION OF 15 OR 25 KV S & C TYPE PME DEAD FRONT THREE PHASE PAD MOUNTED SWITCHGEAR	C-32.0.2

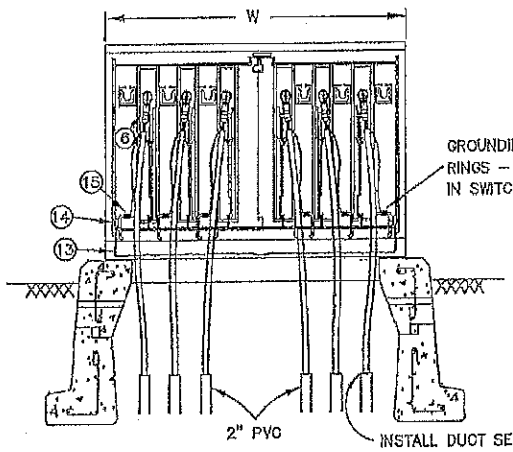
C



600 AMP FEEDER SIDE
SECTION A-A

DIMENSIONS (INCHES)					WEIGHT IN LBS.*
TYPE		W	D	H	
15 KV	PME-9	75	67	50	2300
	PME-11	75	73	50	2350
	PME-10	75	73	50	2400
25 KV	PME-9	84	82	56	2900
	PME-11	84	88 1/2	56	2950
	PME-10	84	88 1/2	56	3000

* ADD 150 LBS. FOR STAINLESS STEEL.



FUSE SIDE (PME-9 SHOWN)
SECTION B-B

F P L

OH & UG DISTRIBUTION SYSTEM STANDARDS

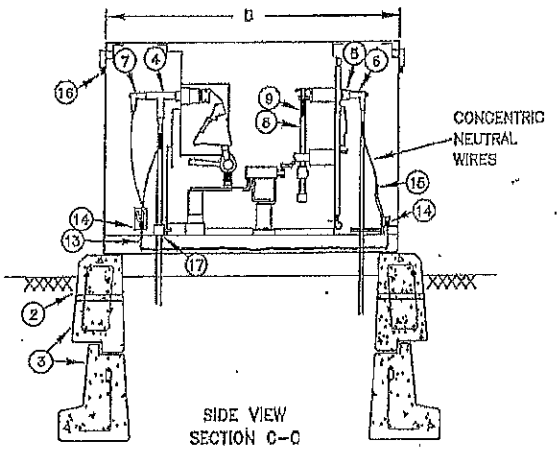
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
2	7/21/01	UPDATE DRAWING ADDED PME-10 AND CHANGED SOME TEXT	RAP	JES	JJM
1	9/30/94	ADDED ARROW TO INCLUDE TOP CHAMBER SECTION ③	RJO	BAQ	RJS

ORIGINATOR: RWS DRAWN BY: JRG

DATE: 6/30/93 APPROVED: R.J. SALESKY NO SCALE

DIRECTOR, DISTRIBUTION ENGINEERING AND OPERATIONS SERVICES

C-32.0.3	TYPICAL INSTALLATION OF 15 OR 25KV S&C TYPE PME DEAD FRONT THREE PHASE PAD MOUNTED SWITCHGEAR	C-32.0.3



SIDE VIEW
SECTION C-C

NOTES:

1. WHEN CHANGING OUT A LIVE FRONT PAD MOUNTED SWITCH TO A DEAD FRONT PAD MOUNTED SWITCH, IT IS IMPORTANT TO ENSURE THAT THE REPLACEMENT DEAD FRONT SWITCH HAS THE SIX INCH ADAPTER BASE SPACER. THE NEW SWITCH MUST BE INSTALLED WITH THE SAME ORIENTATION AS THE OLD SWITCH IN ORDER TO ENSURE THAT THE ADAPTER BASE SPACER MATCHES THE NEW SWITCH CORRECTLY TO THE ORDER, SMALLER SIZED PAD. NOTE: IT IS NO LONGER REQUIRED TO CHANGE OUT THE TOP PAD PORTITION OF THE CHAMBER. USE 600 AMP REPLACEMENT ELBOWS (M & S # 163-50256-7), AS SHOWN IN DCS UH-40.0.0, FOR THE FEEDER CABLES AND 200 AMP REPAIR ELBOWS (VARIOUS M & S NUMBERS), AS SHOWN IN UH-78.0.0 FOR THE LOOP SIDE PRIMARY CABLES.
2. CABLES MUST NOT BE IN CONTACT WITH THE EDGE OF CHAMBER FOOTING. TOP VIEW SHOWS CORRECT ROUTING FOR FEEDER CABLES THAT IS NECESSARY TO PROVIDE FOR CABLE MOVEMENT.
3. PRIMARY CABLES MUST BE ABLE TO REACH PARKING LOCATIONS.
4. ALLOW SUFFICIENT LENGTH OF CONCENTRIC NEUTRAL TO REACH GROUNDING BARS AND PERMIT FREE MOVEMENT OF ELBOWS.
5. BRASS STUDS FURNISHED WITH THE 600 AMP ELBOW KITS MUST BE INSTALLED AND TIGHTENED SECURELY (55 FT. LBS.) IN THE 600 AMP BUSHINGS. THE SHORT THREADED END OF THE STUD GOES INTO THE BUSHING. SEE UH-41.0.1 AND UH-41.0.2 FOR 600 AMP ELBOW DETAILS.
6. INSTALL 600 AMP 3ø FAULT INDICATORS ON EACH SET OF FEEDER CABLES. SEE UV-14.0.0, UV-14.0.1, UV-14.0.2.
7. LOOP SIDE PRIMARY CABLES (#1/0A) MUST GO THRU CABLE GUIDES TO AVOID CONFLICT WITH FUSE DOOR WHEN IT IS ROTATED TO OPEN.
8. CABLE SPOOLS (2 1/2") SHOULD BE USED ON THE FEEDER CABLE TO CORRECTLY POSITION THE CABLES FOR EASIER INSTALLATION OF THE BOLT-ON ELBOW TERMINATORS ON TO THE 600 AMP BUSHINGS. THE 600 AMP ELBOWS MUST BE BE INSTALLED PERFECTLY STRAIGHT (VERTICALLY AND HORIZONTALLY) ONTO THE 600 AMP BUSHINGS TO PROPERLY ENGAGE THE THREADS. THE SPOOLS ARE TO BE BOLTED TO THE BOTTOM FLANGE OF THE SWITCH COMPARTMENT WALL WITH 3/8" X 1 1/2" BOLTS THRU EXISTING HOLES PROVIDED BY THE SWITCH MANUFACTURER.
9. MAKE CERTAIN OF CABLE LOCATIONS BEFORE DRIVING GROUND RODS. WHEN INSTALLING GROUND RODS IN ALTERNATE LOCATION, INSURE THAT BOTH THE TOP OF THE ROD AND THE #4Q WIRE ARE AT LEAST 3" BELOW GRADE AND ARE COVERED. EXISTING 3/4" HOLES SHOULD BE USED IF AT LEAST 3" BELOW GRADE.
10. APPLY CAULKING COMPOUND TO SEAM BETWEEN PAD MOUNTED SWITCH AND PAD CHAMBER.
11. UNUSED FUSE POSITIONS MUST HAVE BUSHINGS & PROTECTIVE CAPS INSTALLED. UNUSED FEEDER POSITIONS MUST HAVE 600 AMP PROTECTIVE CAPS (M&S #163-64500-7).
12. AFTER THE PADMOUNTED SWITCH IS INSTALLED, THE LIFTING BRACKETS MUST BE REMOVED AND STORED INSIDE THE CABINET OR TURNED DOWN SO THAT THEY DO NOT PROTRUDE ABOVE THE TOP OF THE CABINET.
13. ENSURE THAT THE "CAUTION" LABEL (M&S #548-58010-4) IS INSTALLED ON EACH SIDE OF THE SWITCH HAVING ACCESS TO THE HIGH VOLTAGE SWITCH AND/OR THE HIGH VOLTAGE FUSE COMPARTMENTS PER DCS Z-35.0.0.
14. SEAL DUCTS PER UN-29.0.0.

SUPERSEDES C-32.0.3 LAST REVISED ON 9-30-94

F P L

OH & UG DISTRIBUTION SYSTEM STANDARDS

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
3	8/20/02	UPDATE DWG. (NOTE 1)	CEA	JES	JJM
2	8/13/01	UPDATE DWG. (NOTES 10, 12, 13, & 14)	CEA	JES	JJM
1	8/09/96	ADDITION TO NOTE 11	PMG	RAS	JJM

ORIGINATOR: PMG DRAWN BY: RAS

DATE: 9/30/94 APPROVED: J.J. McEVOY NO SCALE

SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

C-32.0.4

TYPICAL INSTALLATION OF 15 OR 25KV S&C TYPE PME DEAD FRONT THREE PHASE PAD MOUNTED SWITCHGEAR

C-32.0.4

C

MATERIAL LIST

ITEM	DESCRIPTION			QUANTITY	M&S NO.
1	15KV SWITCHGEAR	PME-9	(2-THREE PHASE FEEDER POSITIONS AND 6 FUSE POSITIONS	1	STANDARD 270-67400-7 STAINLESS STEEL 270-67401-5
		PME-11	(3-THREE PHASE FEEDER POSITIONS AND 3 FUSE POSITIONS	1	STANDARD 270-67900-9 STAINLESS STEEL 270-67901-7
		PME-10	(4-THREE PHASE FEEDER POSITIONS AND NO FUSE POSITIONS	1	STANDARD 270-683-000 STAINLESS STEEL 270-683-050
	25KV SWITCHGEAR	PME-9	(2-THREE PHASE FEEDER POSITIONS AND 6 FUSE POSITIONS	1	STANDARD 270-67200-4 STAINLESS STEEL 270-67201-2
		PME-11	(3-THREE PHASE FEEDER POSITIONS AND 3 FUSE POSITIONS	1	STANDARD 270-68100-3 STAINLESS STEEL 270-68101-1
		PME-10	(4-THREE PHASE FEEDER POSITIONS AND NO FUSE POSITIONS	1	STANDARD 270-684-000 STAINLESS STEEL 270-684-050
2	PAD (TOP SECTION ONLY) FOR REPLACING LF WITH DF		FOR 15KV FOR 25KV	1	182-12203-5 182-12205-1
3	PAD & CABLE CHAMBER (TOP & BOTTOM SECT.)		FOR 15KV FOR 25KV	1	182-12201-6 182-12202-7
4	DEAD FRONT TERMINATOR, 1000 KCMIL AL		15KV 25KV	VARIES	163-63900-7
5	LOADBREAK BUSHING, 200 AMP		15KV 25KV	VARIES	163-86100-1 163-86400-1
6	ELBOW TERMINATOR, 1/0 AL		15KV 25KV	VARIES	163-58700-7 163-80200-1
7	PROTECTIVE CAP 200 AMP		(15KV SWITCHES ONLY)	VARIES	163-02200-0
	ELBOW SURGE ARRESTER		(25KV SWITCHES ONLY)	VARIES	334-01500-5
8	SME-4Z FUSE HOLDERS		15KV 25KV	VARIES	531-86150-1 531-86310-5
9	FUSES: REFILL UNITS FOR SME-4Z, SM-4Z&SML-4Z FUSE HOLDERS 15KV: 20 AMP 531-38700-5; 30 AMP 531-38800-1; 50 AMP 531-38900-8; 65 AMP 531-39500-8; 80 AMP 531-39601-6; 100 AMP 531-39800-4; 125 AMP 531-39850-7; 150 AMP 531-40200-4; 175 AMP 531-40300-1; 200 AMP 531-39000-6 25KV: 10 AMP 531-32700-2; 15 AMP 531-32800-9; 20 AMP 531-32900-5; 30 AMP 531-33000-3; 40 AMP 531-33100-0; 50 AMP 531-33200-6; 65 AMP 531-33300-2; 80 AMP 531-33400-9; 100 AMP 531-33500-5; 125 AMP 531-33700-5; 150 AMP 531-33800-4; 175 AMP 531-33910-1; 200 AMP 531-34000-9				NOTE: THE FUSE REFILLS ARE THE SAME AS THOSE USED IN LIVEFRONT SWITCHES
10	WIRE #4C SDB			6	112-30900-0
11	CONNECTOR, GROUND ROD, CLAMP TYPE			1	120-03610-6
12	COPPERWELD GROUND RODS AS REQUIRED GROUND ROD COUPLINGS			VARIES	130-61400-5 130-40510-4
13	#4/0C CABLE, 600V			27	110-10106-1
14	CONNECTOR #4/0 COPPER CABLE TO FLAT			6	120-87100-5
15	CONNECTOR, COPPER TO COPPER, BOLTED		PME-9 PME-11 PME-10	19 22 25	102-80000-2
16	LOCK STANDARD PADLOCK, SMALL		PME-9 PME-11 PME-10	4 5 6	546-24601-1
17	CABLE SPOOL, 2 1/2"		PME-9 PME-11 PME-10	6 9 12	160-30600-7
18	BOLT, 3/8" X 1 1/2" (FOR SPOOLS)			SAME AS SPOOLS	161-47900-2
19	NUT, 3/8" (FOR SPOOLS)			SAME AS SPOOLS	161-45000-4
20	WASHER FLAT 3/8" (FOR SPOOLS)			SAME AS SPOOLS	145-35900-8
21	LOCKWASHER, 3/8" (FOR SPOOLS)			SAME AS SPOOLS	161-52400-8
22	FAULT INDICATOR, 600 AMP, 3 PHASE		PME-9 PME-11 PME-10	2 3 4	163-29700-9

SUPERSEDE C-32.0.4 LAST REVISED ON 9-30-94

REPLACEMENT PARTS FOR SWITCHES
600 AMP BUSHINGS 15KV 274-00200-3; 25KV 274-00300-0
200 AMP BUSHING WELLS 15KV 274-00220-8; 25KV 274-00320-4

FPL

OH & UG DISTRIBUTION SYSTEM STANDARDS

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
2	08/06/01	ADDED PME-10 SWITCH	CEA	JES	JJM
1	8/08/95	ADDITION TO ITEM 12	PMG	RAS	JJM

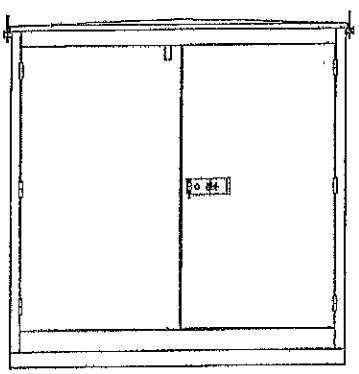
ORIGINATOR: PMG DRAWN BY: RAS

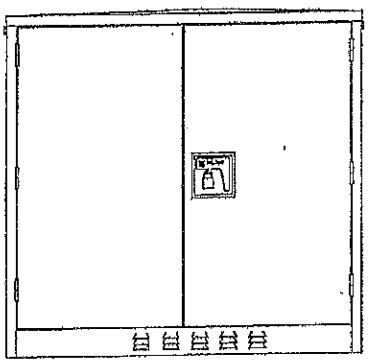
DATE: 9/30/94 APPROVED: J.J. MCEVOY NO SCALE

SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

J-4.0.2	TYPICAL INSTALLATION OF 25 KV S & C DEAD FRONT SWITCHGEAR AND THREE PHASE PAD-MOUNTED CAPACITOR BANK	J-4.0.2

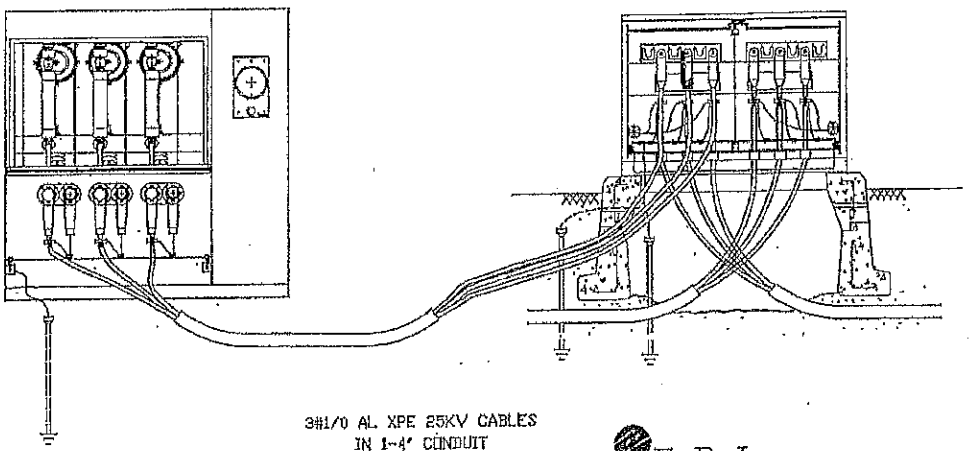
NOTES:
1. INSTALL 92" X 92" PRECAST PAD (M & S 162-25100-5)
2. DRIVE GROUND RODS & ATTACH #2 CU GROUND TO GROUNDING LUGS.
3. INSTALL URD CAPACITOR BANK (M & S 223-38880-1) ON PAD.
4. INSTALL ROTATABLE FEED-THRU BUSHING 25KV (M & S 163-25000-2) ON EACH BUSHING.
5. INSTALL 200 AMP ELBOWS ON ROTATABLE FEED-THRU BUSHINGS.
6. INSTALL 18KV ELBOW ARRESTERS (M & S 334-01500-5) ON ROTATABLE FEED-THRU BUSHINGS.





CAPACITOR CABINET

SWITCH CABINET



3#1/0 AL XPE 25KV CABLES
IN 1-4" CONDUIT
MAXIMUM OF 100 FEET

F P L
OH & UG DISTRIBUTION SYSTEM STANDARDS

ORIGINATOR: LFV

DRAWN BY: J. SHOUP

DATE: 07/26/01 APPROVED: J.J. MCEVOY
SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

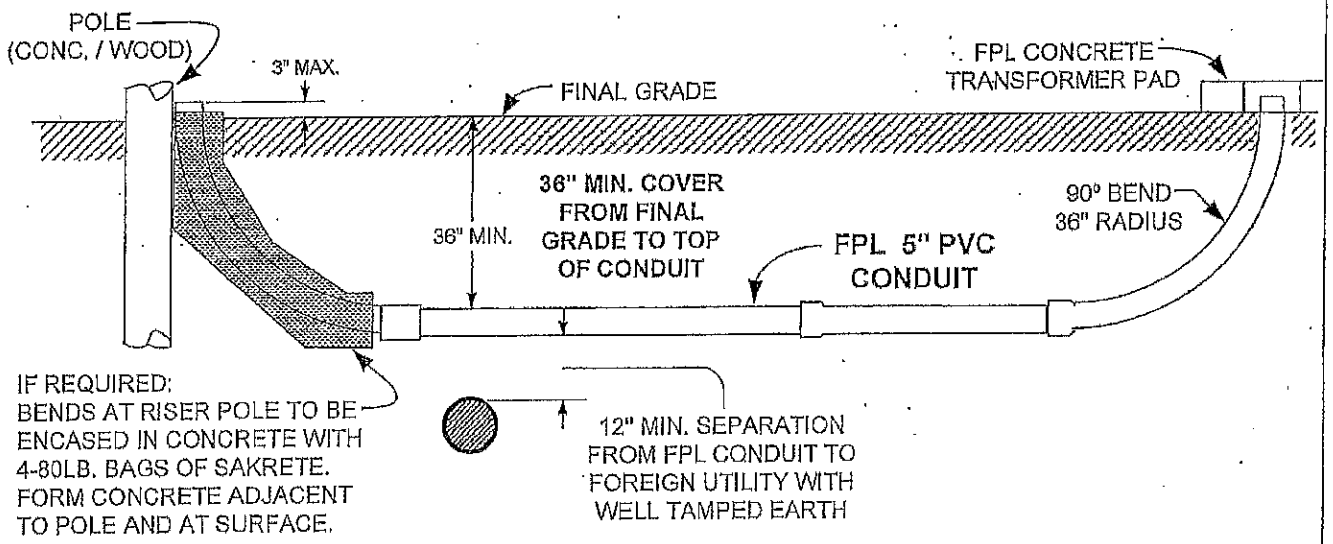
NO SCALE

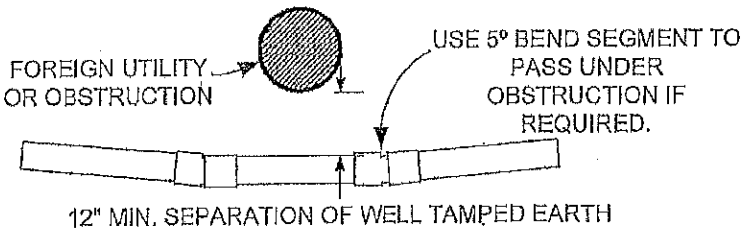
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.

J

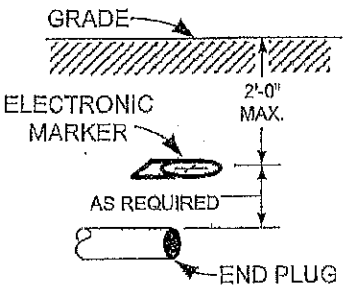
****** NOTICE******

- CALL SUNSHINE 1-800-432-4770 48HOURS BEFORE YOU DIG FOR UNDERGROUND LOCATIONS.
- NOTIFY FPL REP. FOR INSPECTION OF TRENCH DEPTH & PVC INSTALLATION PRIOR TO BACKFILLING TRENCH.





FPL CONDUIT CROSSING UNDER A FOREIGN UTILITY

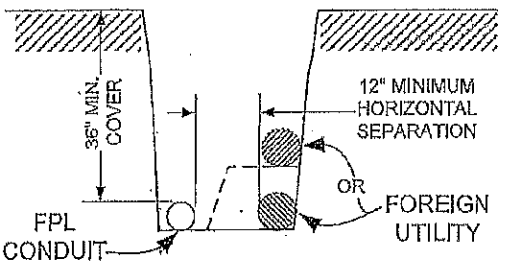


DUCT END MARKING
(IF REQUIRED)

NOTES:

- BACK-FILL WITHIN 4" OF THE CONDUIT TO BE FREE OF MATERIAL THAT MAY DAMAGE CONDUIT SYSTEM (BOARDS, ROCKS LARGER THAN 1" IN DIAMETER, DEBRIS, ETC.)
- IF COMPACTION OF TRENCH ROUTE IS REQUIRED FOR PAVING, ETC. BEGIN MACHINE COMPACTION 6" MINIMUM ABOVE CONDUIT.
- WHERE 36" OF COVER CANNOT BE MAINTAINED, 30" OF COVER WILL BE ALLOWED WITH 3" OF CONCRETE ENCASEMENT AROUND THE CONDUIT. (N.E.S.C. RULE FOR PRIMARY VOLTAGES)
- INSTALL A CONTINUOUS LENGTH OF PULL STRING IN ALL CONDUIT RUNS.

MATERIAL LIST 5" PVC SCH 40 CONDUIT	
20' LENGTH (BELLED END)	164-33800-1
90° BEND 36" RADIUS	164-25250-5
90° BEND 48" RADIUS	164-25200-9
45° BEND 48" RADIUS	164-61400-8
5° BEND SEGMENT	164-56100-1
22.5° SWEEP 12'-6" RADIUS	164-13000-1
STRAIGHT COUPLING	164-44900-7
REPAIR SLEEVE 6' LONG	164-47530-0
END PLUG	164-53500-1
ELECTRONIC MARKER	590-61601-5

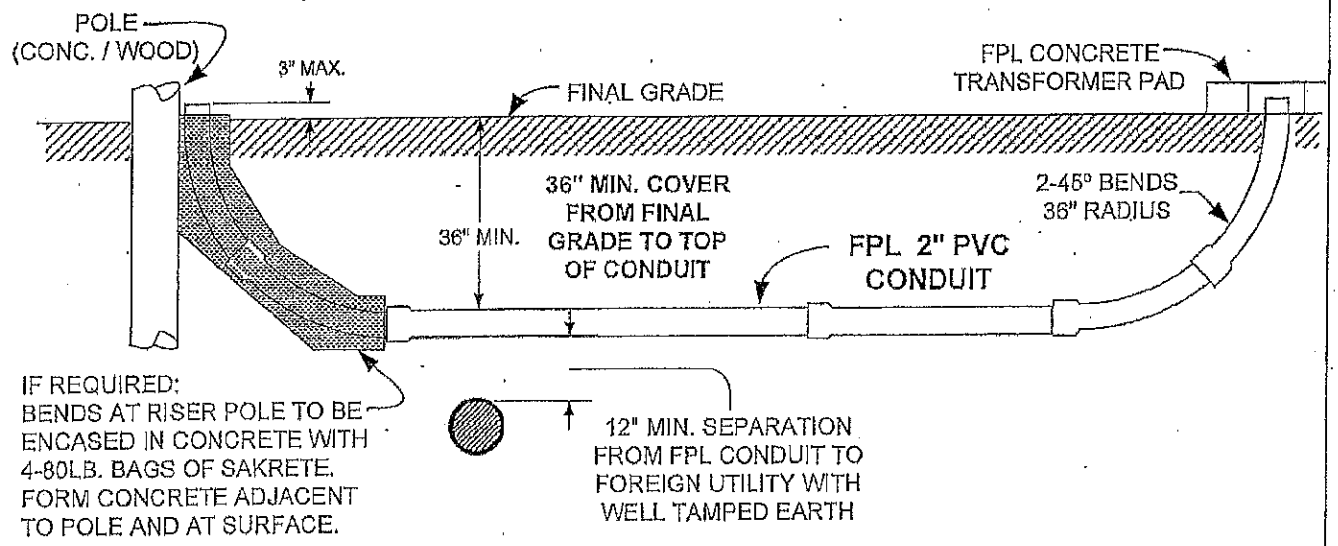


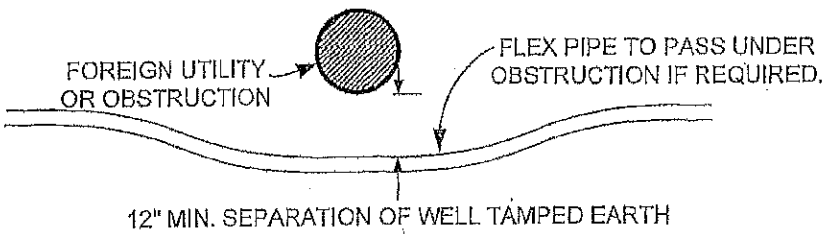
INSTALLATION OF FPL CONDUIT
PARALLEL WITH - OR - IN A SHARED TRENCH
WITH A FOREIGN UTILITY.

FPL SUPPLIED 5" PVC CONDUIT
TYPICAL CUSTOMER INSTALLATION DETAILS
(PORTIONS OF UN-6, UN-15,CONC. & PAD DETAILS)

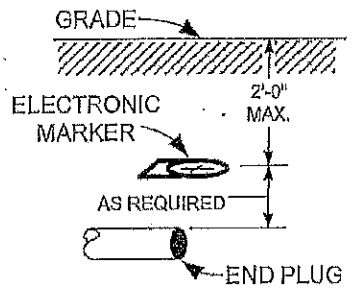
****** NOTICE******

- CALL SUNSHINE 1-800-432-4770 48HOURS BEFORE YOU DIG FOR UNDERGROUND LOCATIONS.
- NOTIFY FPL REP. FOR INSPECTION OF TRENCH DEPTH & PVC INSTALLATION PRIOR TO BACKFILLING TRENCH.





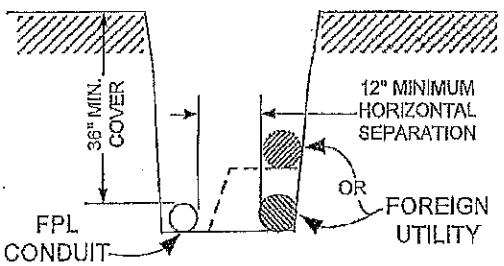
FPL CONDUIT CROSSING UNDER A FOREIGN UTILITY



DUCT END MARKING
(IF REQUIRED)

NOTES:

- BACK-FILL WITHIN 4" OF THE CONDUIT TO BE FREE OF MATERIAL THAT MAY DAMAGE CONDUIT SYSTEM (BOARDS, ROCKS LARGER THAN 1" IN DIAMETER, DEBRIS, ETC.)
- IF COMPACTION OF TRENCH ROUTE IS REQUIRED FOR PAVING, ETC. BEGIN MACHINE COMPACTION 6" MINIMUM ABOVE CONDUIT.
- WHERE 36" OF COVER CANNOT BE MAINTAINED, 30" OF COVER WILL BE ALLOWED WITH 3" OF CONCRETE ENCASEMENT AROUND THE CONDUIT. (N.E.S.C. RULE FOR PRIMARY VOLTAGES)
- INSTALL A CONTINUOUS LENGTH OF PULL STRING, IN ALL CONDUIT RUNS.



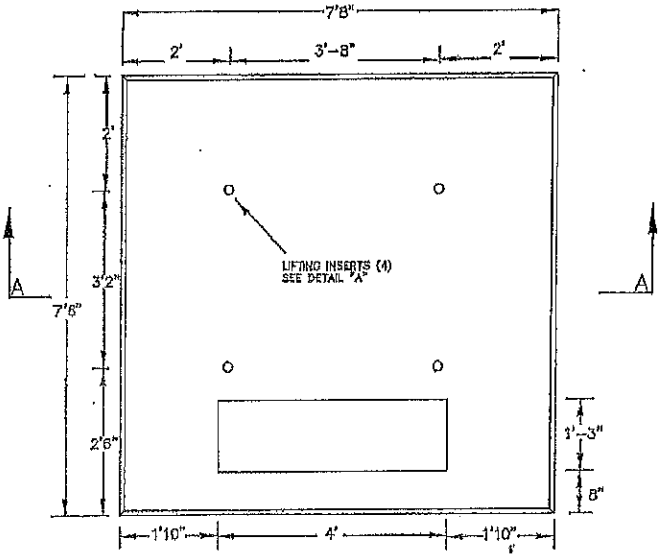
INSTALLATION OF FPL CONDUIT
PARALLEL WITH - OR - IN A SHARED TRENCH
WITH A FOREIGN UTILITY.

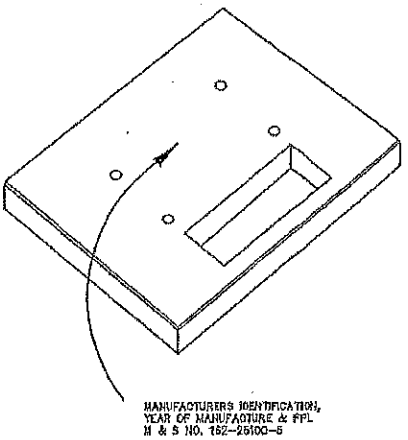
MATERIAL LIST 2" PVC SCH 40 CONDUIT	
20' LENGTH (BELLED END)	164-33100-6
90° BEND 24" RADIUS	164-23800-6
45° BEND 36" RADIUS	164-23945-2
45° BEND 24" RADIUS	164-23900-2
STRAIGHT COUPLING	164-47000-6
REPAIR SLEEVE 4" LONG	164-47520-2
END PLUG	164-54800-5
ELECTRONIC MARKER	590-61601-5

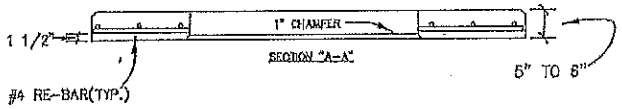
FPL SUPPLIED 2" PVC CONDUIT

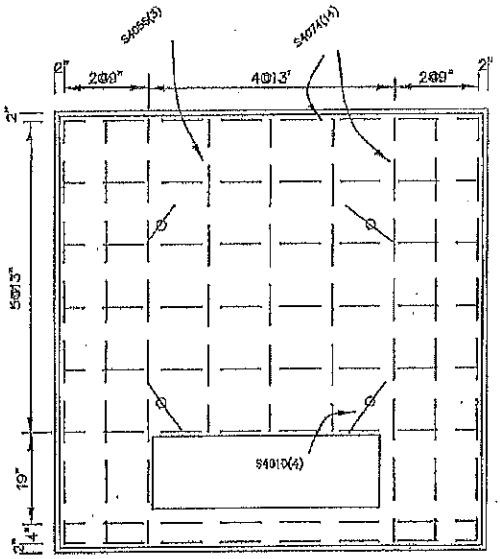
TYPICAL CUSTOMER INSTALLATION DETAILS
(PORTIONS OF UN-6, UN-15, CONC.& PAD DETAILS)

UX-108	CONCRETE_FOUNDATION URD_CAPACITOR_BANK	UX-108









NOTES:
1. TOP SURFACE SHALL BE A SMOOTH PLANE. THE MAX. ALLOWABLE VARIATION IN HEIGHT BETWEEN ANY TWO POINTS ON THIS SURFACE IS 0.125".

2. 5000 PSI TEST CONCRETE.

3. MANUFACTURERS IDENTIFICATION, YEAR OF MANUFACTURE & FPL CO. M&S NO. 162-25100-6 TO BE CAST IN TOP SURFACE OF PAD NEAR CENTER (REQUIRED WHEN PRECAST).

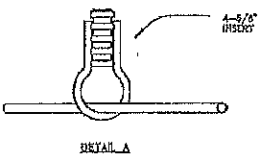
4. SUPERIOR THREADED INSERT, 5/8" WITH PLUG, ELECTRO-GALVANIZED, 4 REQUIRED.

5. REINFORCING RODS TO BE WELDED AT ALL INTERSECTIONS

WEIGHT	3230 LB
CU. FT.	28.9
CU. YDS.	1.0
MAX LOAD	2000 LB

REINFORCED STEEL

S4074	14X7'-4"
S4055	3X6'-5"
S4010	4X1'-0"



DETAIL A

F P L

OH & UG DISTRIBUTION SYSTEM STANDARDS

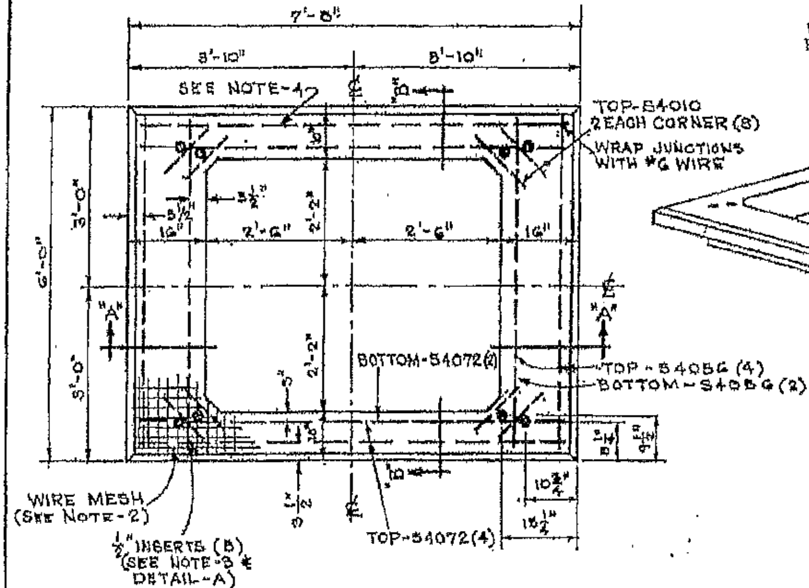
ORIGINATOR:BOB BENN DRAWN BY:D.OKONEWSKI

DATE:12/29/97 APPROVED: J.J. MCEVOY NO SCALE
SUPERVISOR, OH/UG PRODUCT
SUPPORT SERVICES

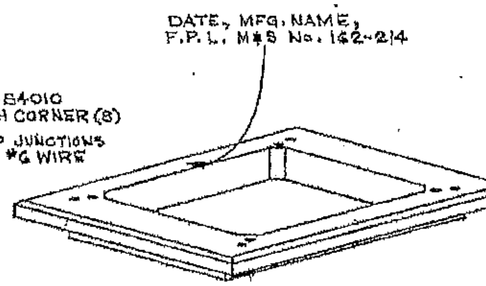
NO.	DATE	REVISION	ORIG.	DRAWN	APPR.

UX-113

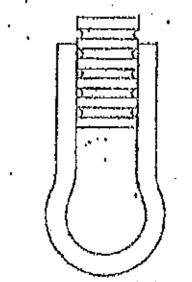
CONCRETE FOUNDATION FOR S&C 3Ø PADMOUNTED SWITCH



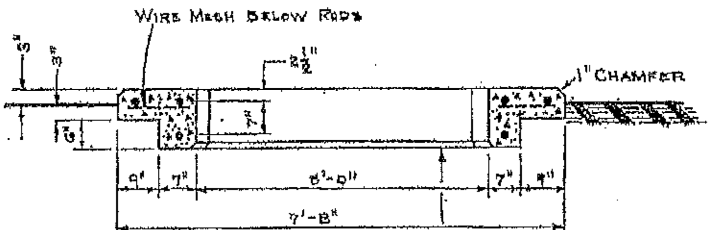
PLAN VIEW



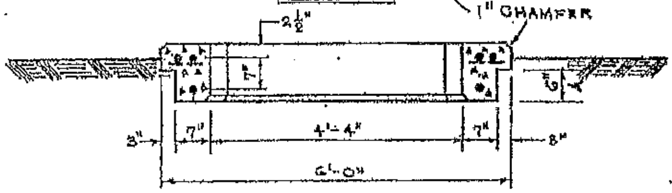
WEIGHT - 2745 LB.	1245 - KILOGRAMS
CU. FT. - 18.3	519 - LITERS
CU. YD. - 0.68	0.519 - CU. METERS



DETAIL "A"



SECTION "A-A"



SECTION "B-B"

1. Top surface to be smooth and level. Surface irregularities are not acceptable.
2. 4 x 4 No.4 Welded Wire Mesh Reinforcing to stop 2" from Sides and Opening of Foundation.
3. Superior Threaded Inserts, 1/2" with Plug, Electro-Galv.,4 Required.(See Detail A)
4. #4 Reinforcing Rod as shown.
5. 4000 Lb. Test Concrete.
6. For use with S & C Switches, M & S Nos. 270-853,270-854,270-855 & 270-860.
7. Manufacturers Identification, Year of Manufacture, and FPL Co. M & S Number to be cast in top surface of pad near center of pad. (This required when precast.)

APPROVED: CHIEF ENGINEER

NO.	DATE	REVISION	BY	CH	COR	APP
1	2-8-72	CORRECTED DIMENSION				

DRAWN / CHECKED / CORRECT

STANDARDS

UNDERGROUND DISTRIBUTION SYSTEM

FLORIDA POWER & LIGHT COMPANY

DATE 12-28-71 NO SCALE

I-68.0.1	OPEN WYE-OPEN DELTA TRANSFORMER BANK USING SINGLE PHASE PADMOUNT TRANSFORMERS	I-68.0.1

NOTES:

1. POWER TRANSFORMER MUST HAVE AN INSULATED NEUTRAL BUSHING. THE EXTERNAL GROUND STRAP TO THE CASE MUST BE REMOVED AND THE BUSHING SHALL BE INSULATED WITH SELF BONDING TAPE & ONE HALF LAPPED LAYER OF VINYL TO CONFINE BONDING TAPE.
2. BOND TRANSFORMER CASES TOGETHER WITH #4 BARE COPPER WIRE DIRECT BURIED.
3. SERVICE CABLES FURNISHED AND INSTALLED BY CUSTOMER TO BE IN DUCT.
4. A DECAL WITH THE FOLLOWING NOTE SHALL BE LOCATED IN A CONSPICUOUS PLACE INSIDE BOTH TRANSFORMERS. CAUTION: OPEN WYE-OPEN DELTA TRANSFORMER CONNECTION; THIS TRANSFORMER CAN BE ENERGIZED FROM ADJACENT TRANSFORMER (M&S #548-54800-7). REFER TO Z-35.0.0 FOR LOCATION.
5. SEE UV-12.0.0 FOR MARKING UNDERGROUND CABLES.
6. THIS STANDARD IS FOR TRANSFORMERS 167 KVA AND SMALLER.
7. LOOP SYSTEM SHOWN. RADIAL SYSTEM MAY BE USED.
8. DEAD END PLUG (M&S #163-10100-7) IS REQUIRED WHEN INSTALLATION IS PERMANENTLY RADIALLY FED. INSULATED CAP ASSEMBLY (M&S #163-01800-2, OR M&S #163-02200-0) REQUIRED AT LOOP OPEN POINT (13kV AREAS) OR WHEN LOOP WILL BE EXTENDED IN FUTURE.
9. LIGHTING TRANSFORMER SHALL BE DEAD FRONT (36" HIGH) OR LOW STYLE (24" HIGH) WITH HORIZONTAL TYPE SECONDARY SPADES. MAXIMUM SECONDARY CABLE SIZE FOR LOW STYLE TRANSFORMER IS #4/0.
10. REFER TO I-60, C-12, I-62 AND I-65 FOR MATERIAL DESCRIPTIONS.
11. ALL SINGLE PHASE 7620 VOLT TRANSFORMERS 167 KVA AND SMALLER ARE ADDITIVE POLARITY. ALL 23 KV AND DUAL VOLTAGE TRANSFORMERS ARE SUBTRACTIVE POLARITY. CONNECTIONS MUST BE MADE AS SHOWN IN DIAGRAM.
12. IF C.T. METERING AT TRANSFORMER IS REQUIRED, REFER TO K-26. LEAVE PULL STRING IN METERING CONDUIT. 0.2
13. MAKE CERTAIN OF CABLE LOCATION BEFORE INSTALLING GROUND RODS TO AVOID DRIVING THE GROUND ROD THROUGH ANY EXISTING CABLES.
14. FOR DUAL VOLTAGE OR 23kV NORMALLY OPEN POINTS USE 18kV RATED ELBOW ARRESTERS. (RATING IS FOR PHASE TO GROUND VOLTAGE). REFER TO I-62.0.0 AND I-65.1.1.
15. WHEN CONNECTING MORE THAN ONE CUSTOMER CABLE TO POWER LEG USE HANDHOLE MULTITAP (M&S #163-06600-7).
16. THE NESC REQUIRES A MINIMUM OF 6 FEET SPACING BETWEEN RODS. IF ADDITIONAL RODS ARE REQUIRED, REFER TO G-2.0.2.

FPL

OH & UG DISTRIBUTION SYSTEM STANDARDS

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
4	8/01/01	UPDATED DRAWING (REFERENCES)	GJP	JES	IA
3	9/4/99	UPDATED DRAWING (TEXT)	WC	DLW	JJM
2	9/25/90	REVISED NOTE #14 AND ADDED NOTE #16	JV	HO	RKC
1		ADDED NOTE #15	JV	HO	GWH

ORIGINATOR: J.V. DRAWN BY: J.R.F.

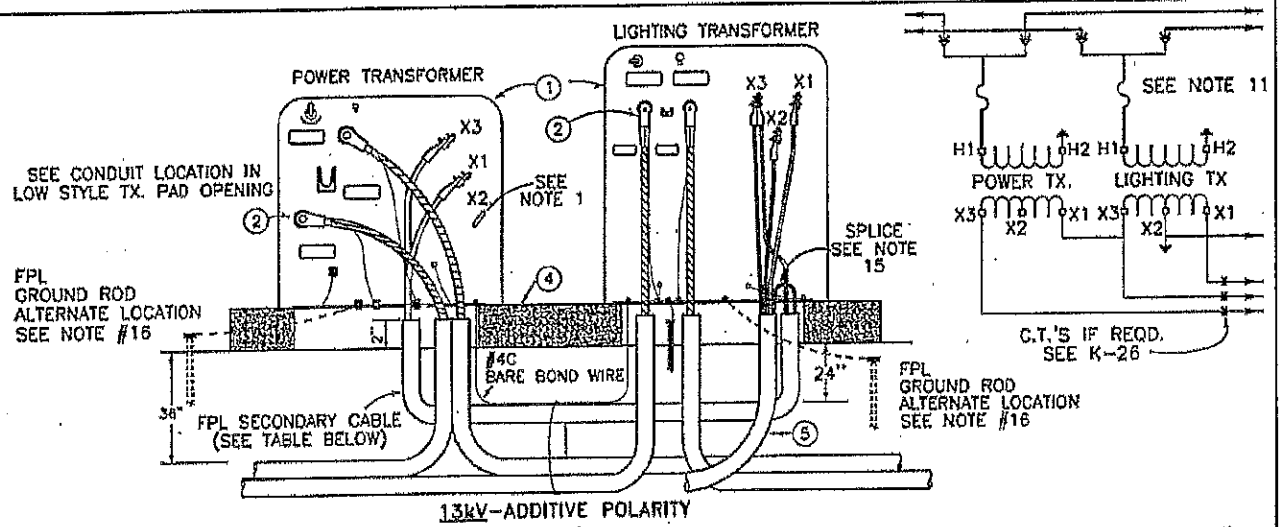
DATE: 1/1/90 APPROVED: R.K. CIELO NO SCALE

SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

I-68.0.2

OPEN WYE-OPEN DELTA TRANSFORMER BANK USING SINGLE PHASE PADMOUNT TRANSFORMERS

I-68.0.2

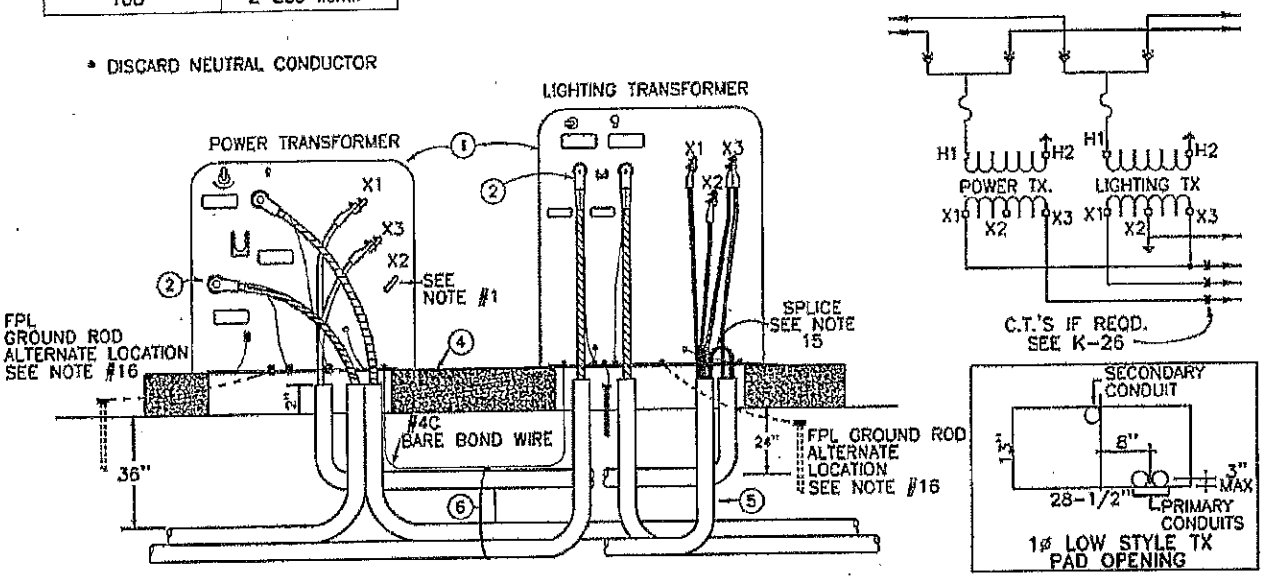


13kV-ADDITIVE POLARITY

SECONDARY CABLE SIZE GOVERNED BY KVA OF POWER TRANSFORMER	
POWER TRANSFORMER KVA	ALUMINUM CABLE SECONDARY SIZE
25	1/0 TPX *
37-1/2 & 50	4/0 TPX *
75	350 kcmil
100	2-350 kcmil

* DISCARD NEUTRAL CONDUCTOR

ITEM	QUANTITY	DESCRIPTION (SEE NOTE 10)		M&S NUMBER
1	2	PAD MOUNTED TX.		SEE NOTE 9
2	VARIES	ELBOW TERMINATOR:	15kV ELBOW	163-58700-7
			25kV ELBOW	163-50200-1
3	VARIES	COLD SHRINK TERMINATOR-SEE UH-34		163-51000-4
4	1	PAD TX, (SEE UX-115)		162-24600-1
5	VARIES	CONDUIT (FURNISHED & INSTALLED BY CUSTOMER)		VARIES



23kV OR DUAL VOLTAGE SUBTRACTIVE POLARITY

SUPERSEDES I-68.0.2 LAST REVISED ON 9-25-90

NOTES: SEE I-68.0.1

FPL

OH & UG DISTRIBUTION SYSTEM STANDARDS

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
2	8/01/01	REMOVE REFERENCES TO DELETED SHEET	GJP	JES	IA
1	9/30/94	REVISED CHART FOR ITEM #3 TO COLD-SHRINK TERMINATOR	RJO	JED	RJS
0	9/25/90	ORIGINAL DRAWING	RJO	JED	RJS

ORIGINATOR: RJO DRAWN BY: JED

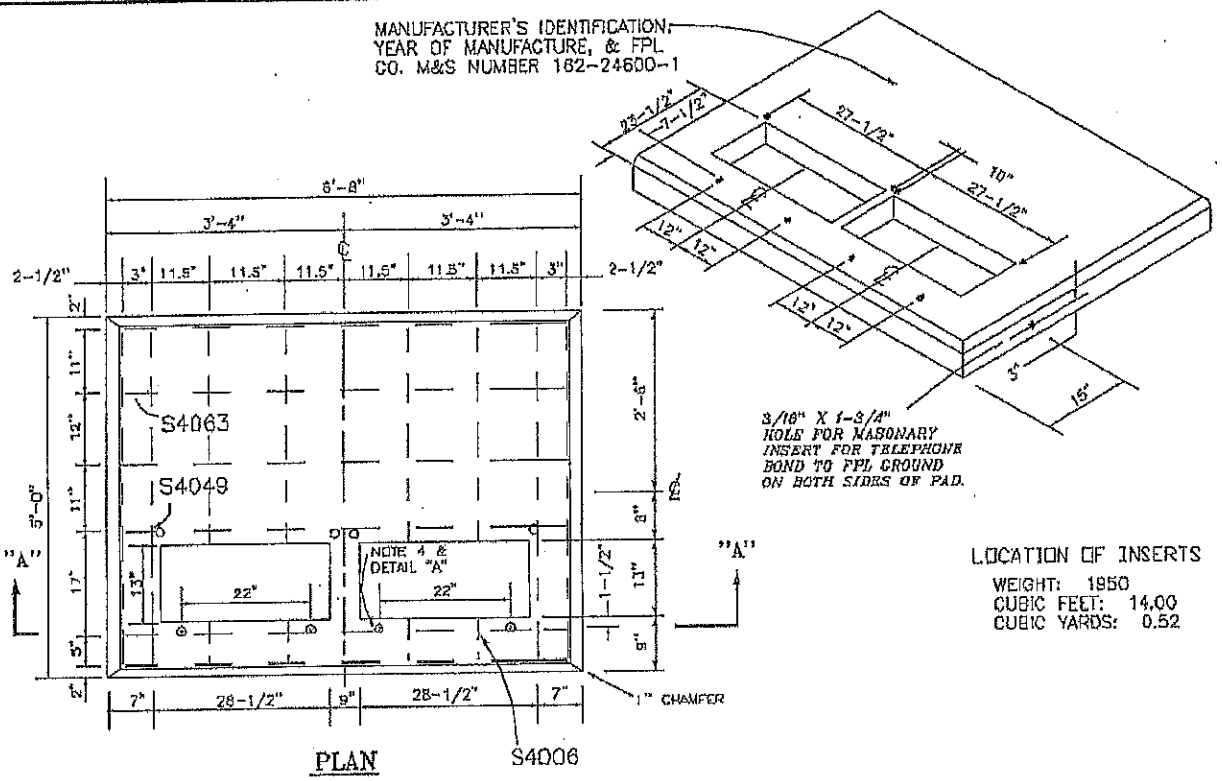
DATE: 9/30/94 APPROVED: R.J. SALESKY, SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

NO SCALE

UX-115.0.0

CONCRETE FOUNDATION OPEN WYE OPEN DELTA TRANSFORMER BANK USING SINGLE PHASE PAD MOUNT TRANSFORMERS

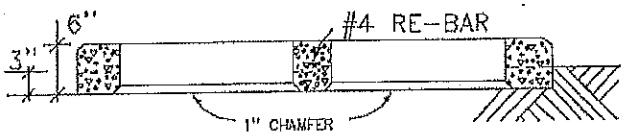
UX-115.0.0



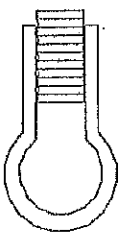
PLAN

LOCATION OF INSERTS

WEIGHT: 1950
CUBIC FEET: 14.00
CUBIC YARDS: 0.52



SECTION "A-A"



DETAIL - "A"

NOTES:

1. TOP SURFACE SHALL BE A SMOOTH PLANE. THE MAXIMUM ALLOWABLE VARIATION IN HEIGHT BETWEEN ANY TWO POINTS ON THIS SURFACE IS 0.125 INCHES (3.175 mm).
2. TWO INCH MINIMUM CONCRETE COVER REQUIRED OVER STEEL ON SIDES AND AROUND OPENINGS OF FOUNDATION.
3. 4000 LB. TEST CONCRETE.
4. DAYTON SUPERIOR THREADED INSERT, 1/2", WITH PLUG, ELECTRO-GALVANIZED. EIGHT (8) REQUIRED.
5. MANUFACTURER'S IDENTIFICATION, YEAR OF MANUFACTURE AND FPL CO. M&S NUMBER TO BE CAST IN TOP SURFACE OF PAD NEAR CENTER OF PAD. (THIS IS REQUIRED WHEN PRECAST.)
6. REINFORCING RODS TO BE WELDED AT ALL INTERSECTIONS.

REINFORCING STEEL

S4063 - 6 REQ'D
S4049 - 9 REQ'D
S4006 - 4 REQ'D

F P L

OH & UG DISTRIBUTION SYSTEM STANDARDS

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
2	05/30/02	*UPDATE DIMENSIONS*	RAP	JES	JJM
1	01/18/01	*UPDATE TEXT AND DIMENSIONS*	RAP	JES	JJM

ORIGINATOR: RCB DRAWN BY:

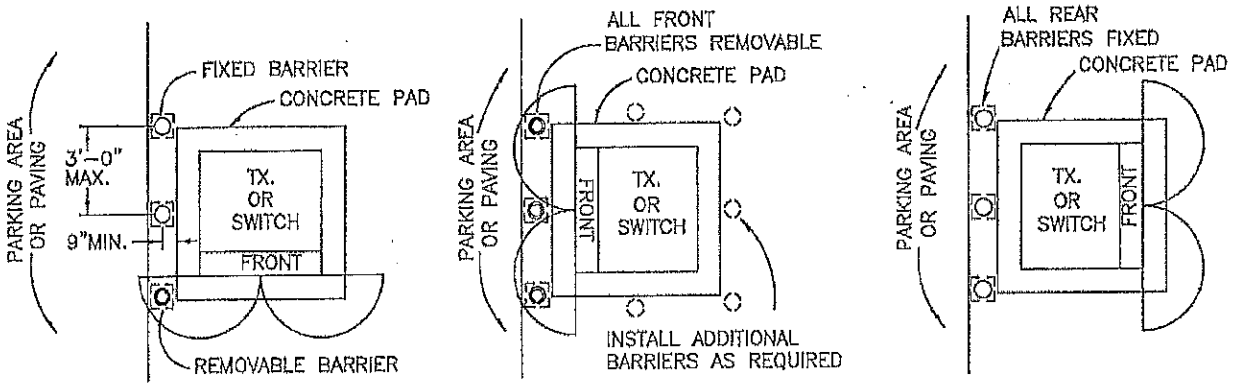
DATE: APPROVED: J.J. MCEVOY NO SCALE

SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

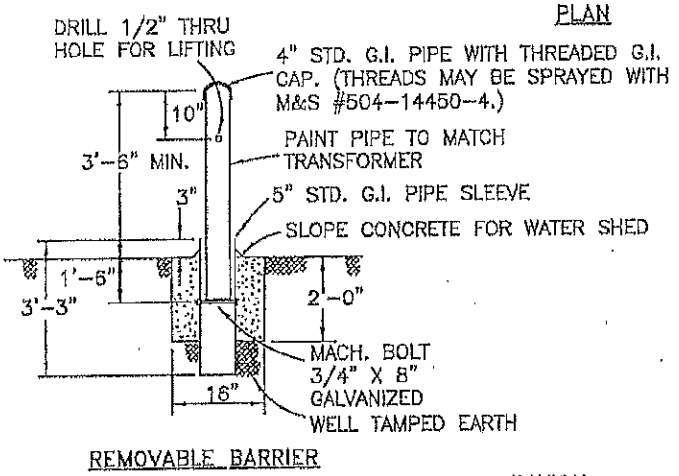
UN-21.0.0

PROTECTIVE BARRIER AND PLANTING CLEARANCES FOR PAD MOUNT TRANSFORMERS AND SWITCHES

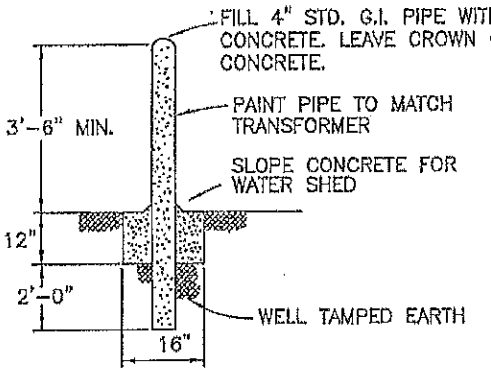
UN-21.0.0



PLAN

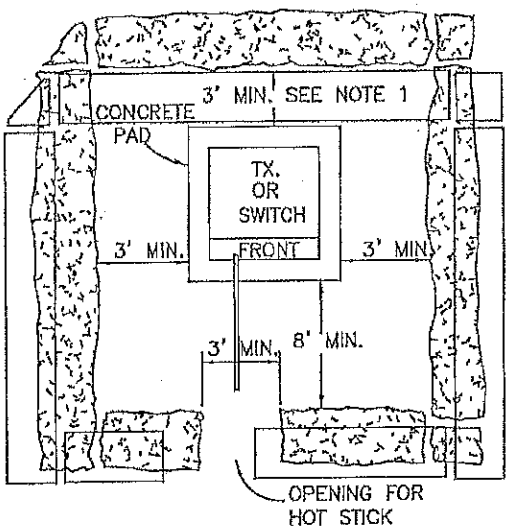


REMOVABLE BARRIER



FIXED BARRIER

SECTION



PLAN

NOTE

1 – PADMOUNTED SWITCHES REQUIRE 8' MIN. CLEARANCE FRONT AND REAR.

2. "ELECTRIC EQUIPMENT-KEEP OUT" DECAL THAT SHOWS THE MINIMUM SEPARATION DISTANCES FOR BUSHES FROM TRANSFORMERS IS M & S #548-56010-4.

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
2	7/16/01	UPDATE DRAWING (NOTES)	RAP	JES	JJM
1	8/27/99	UPDATE DRAWING (NOTES)	RAP	JES	JJM
0	9/30/94	ORIGINAL DRAWING	CJM	PMG	RJS

F P L

OH & UG DISTRIBUTION SYSTEM STANDARDS

UN

ORIGINATOR: CJM

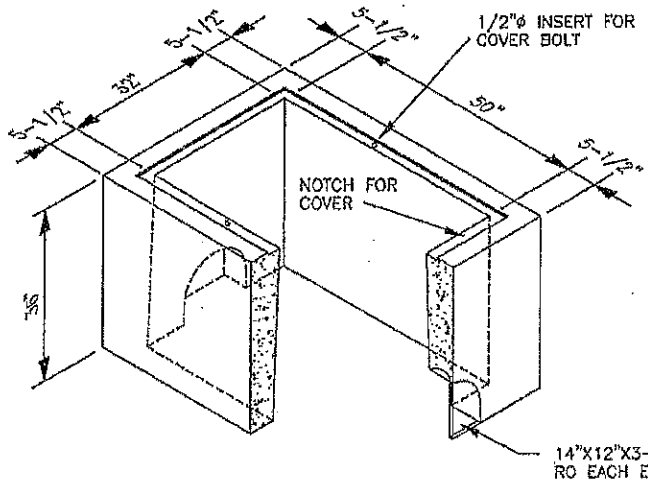
DRAWN BY: PTH

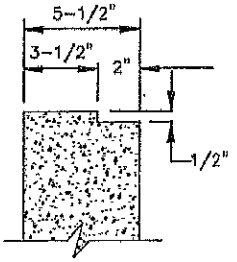
DATE: 9/30/94

APPROVED: R.J. SALESKY
DIRECTOR, DISTRIBUTION ENGINEERING AND OPERATIONS SERVICES

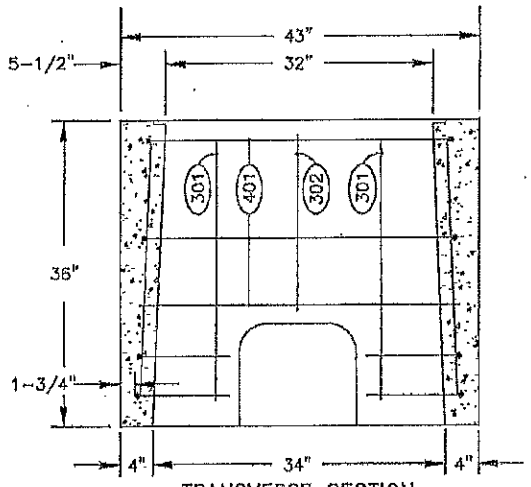
NO SCALE

UX-202.0.0	PRECAST HANDHOLE (32" X 50" X 36") DRIVEWAY LOADING DESIGN M&S 162-12289-2	UX-202.0.0

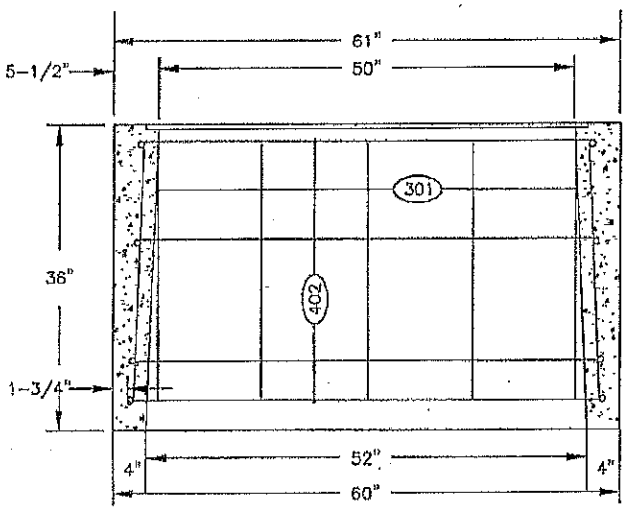




NOTCH DETAIL



TRANSVERSE SECTION



LONGITUDINAL SECTION

REINFORCEMENT SCHEDULE

MARK	SIZE	LENGTH	QTY	DETAIL
(301)	NO.3	2'-6"	14	STRAIGHT
(302)	NO.3	1'-5"	2	STRAIGHT
(401)	NO.4	3'-2"	6	STRAIGHT
(402)	NO.4	5'-0"	8	11"⌊36"⌋

NOTES

CONCRETE COMPRESSIVE STRENGTH 5000 PSI
REINFORCEMENT ASTM A-615 (GRADE 60)
WHEEL LOADING 16,000 LBS.
APPROXIMATE WEIGHT - 2,663 LBS.

F P L
OH & UG DISTRIBUTION SYSTEM STANDARDS

ORIGINATOR: SMS DRAWN BY: BILL

NO.	DATE	REVISION	ORIG.	DRAWN	APPR.
2	10/10/96	REPLACE OLD BORDER	SMS	BILL	SMS

DATE: APPROVED: J.J. MCEVOY
SUPERVISOR, OH/UG PRODUCT SUPPORT SERVICES

NO SCALE