

# **What Should a TELCO Do When the Power Company Constructs a New Substation Adjacent to Your Central Office?**

George Nilsen - Sprint  
&  
Bruce Melton - BellSouth

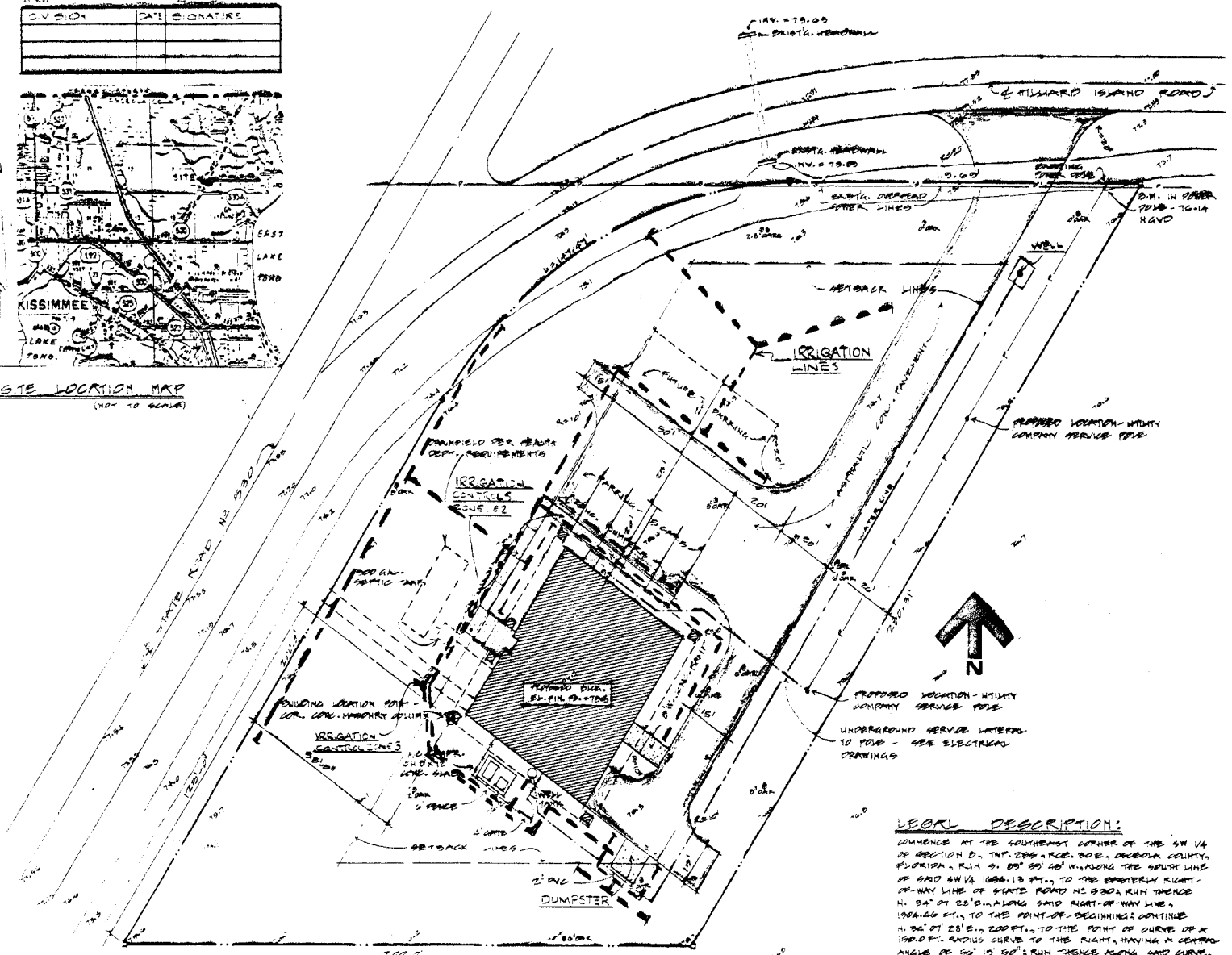
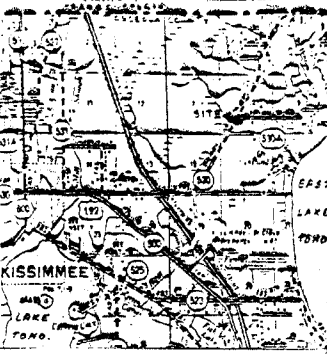
**SPRINT C.O.  
(AS VIEWED FROM SUBSTATION LOT)**





# KUA Substation Plot Plan

DIVISION	DATE	SIGNATURE



**LEGAL DESCRIPTION:**  
 COMMENCE AT THE SOUTHWEST CORNER OF THE SW 1/4 OF SECTION 0, T17N, R20E, S02E, OSCEOLA COUNTY, FLORIDA, RUN S. 89° 00' 00" W. ALONG THE SOUTH LINE OF SAID SW 1/4 1000.13 FT., TO THE WESTERLY RIGHT-OF-WAY LINE OF STATE ROAD NO. 300, RUN THENCE N. 84° 01' 28" E. ALONG SAID RIGHT-OF-WAY LINE 1000.00 FT., TO THE POINT-OF-BEGINNING, CONTINUE N. 86° 01' 28" E. 200 FT., TO THE POINT OF CURVE OF A 1000 FT. RADIUS CURVE TO THE RIGHT, HAVING A BEARING ANGLE OF 90° 19' 50" RUN THENCE ALONG SAID CURVE 314.15 FT., TO THE POINT OF TANGENCY, RUN THENCE S. 00° 32' 02" E. ALONG THE SOUTH RIGHT-OF-WAY LINE OF HILWARD ISLAND ROAD, 110.00 FT., RUN THENCE S. 84° 01' 28" W. 200.01 FT., RUN THENCE N. 89° 32' 42" W. 200.00 FT., TO THE POINT-OF-BEGINNING, CONTAINING MORE OR LESS. PROPERTY IS SITUATED AT LATITUDE N. 25° 10' 10", LONGITUDE W. 81° 20' 14".

**PLOT PLAN** INCLUDES WELL IRRIGATION SYSTEM  
 1"=20'-0"

**INDEX OF SYMBOLS**

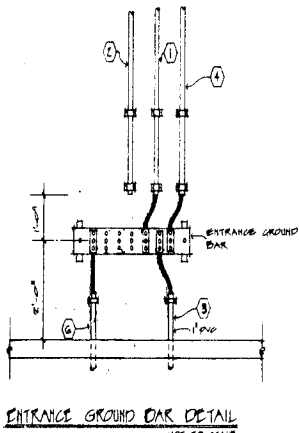
[Symbol]	BRICK
[Symbol]	CONCRETE BLOCK
[Symbol]	CONCRETE BLOCK CORE WALL CONCRETE & 1" REINFC. BAR CONC. FLOOR NO. 10 ROAD DEATH
[Symbol]	CONCRETE WALL - SCALE OF WALLS DRAWING
[Symbol]	CONCRETE LARGE WALL
[Symbol]	METAL WILD PARTITION
[Symbol]	METAL WALLS, METAL WILD PARTITION, METAL WILD PARTITION, METAL WILD PARTITION
[Symbol]	METAL WALL W/RE PARTITION
[Symbol]	WOOD WILD PARTITION
[Symbol]	WOOD BLOCK FIRE PARTITION

[Symbol]	EXISTING ELEVATION
[Symbol]	FLOOR ELEVATION
[Symbol]	PLUMBING GRADE SECTION NUMBER
[Symbol]	WREST WHERE DRAIN
[Symbol]	WREST ELEVATION NUMBER
[Symbol]	WREST WHERE DRAIN
[Symbol]	WALL SECTION OR DETAIL NUMBER
[Symbol]	WREST WHERE DRAIN
[Symbol]	WINDOW NUMBER
[Symbol]	FLOOR NUMBER
[Symbol]	CONSTRUCTIVE OVER NUMBER WITH JOINT OVER NUMBER (SEE KEY TO OVER NUMBER)

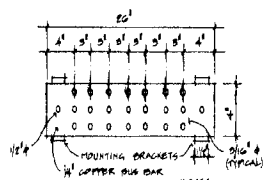
**INDEX OF DRAWINGS**

001 TITLE & PLOT PLAN	P11 PLUMBING PLAN, SCHEDULE
002 SITE DRAINAGE PLAN	
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004 EXTERIOR ELEVATIONS	M11 WIRING PLAN
005 WALL SECTIONS	001 WIRING SCHEDULES
006 WALL SECTS. & CLOS. SECTS.	
	E11 ELECTRICAL POWER PLAN
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008 ROOF EXHAUST PLAN DETAILS	E13 ELECTRICAL WIRING PLAN
009 STRUCTURAL WALL SECTIONS	
010 STRUCTURAL WALL & FLOOR SECTS.	

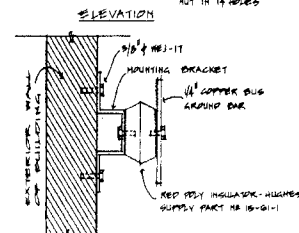
# Central Office Details



ENTRANCE GROUND BAR DETAIL  
NOT TO SCALE



TYPICAL GROUNDING SECTION  
NOT TO SCALE



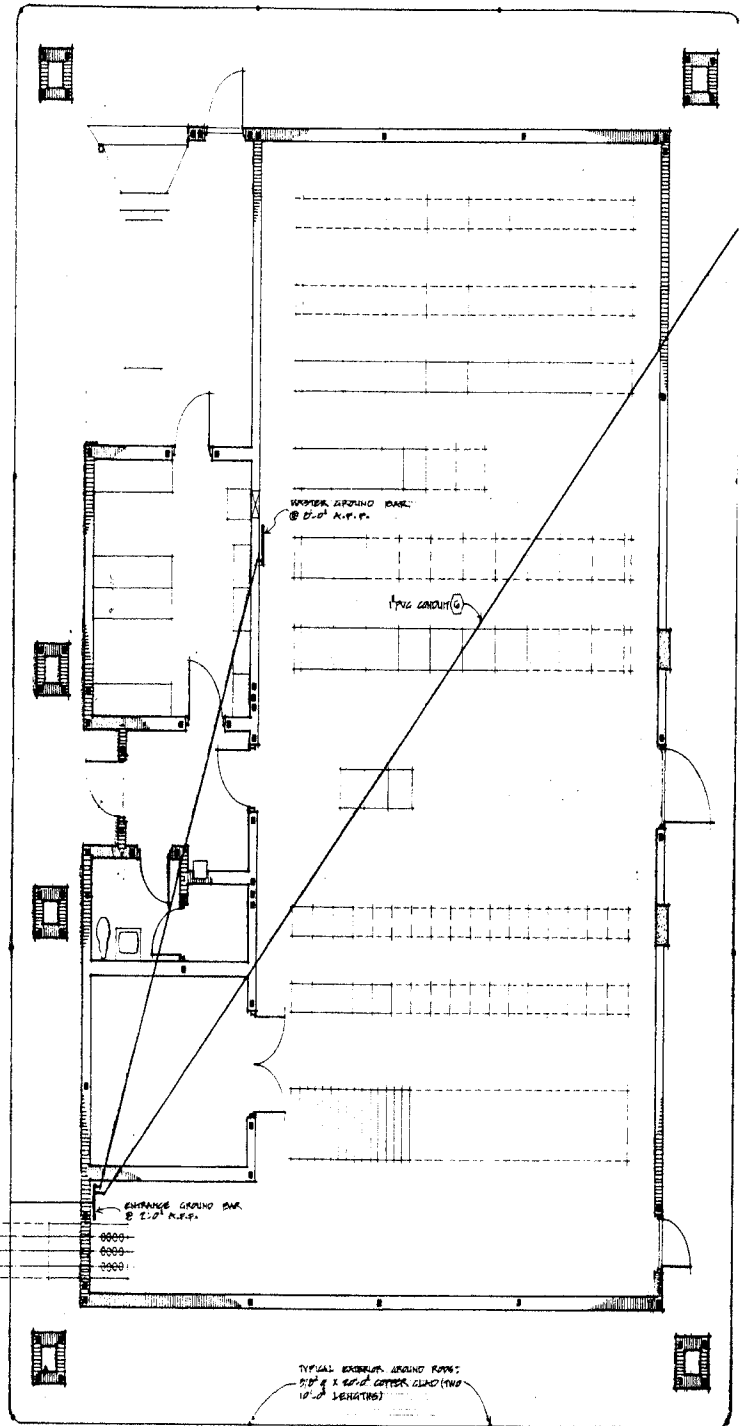
TYPICAL GROUND BAR DETAIL  
(ENTRANCE & MASTER)  
NOT TO SCALE

## EQUIPMENT GROUND WIRE SIZES

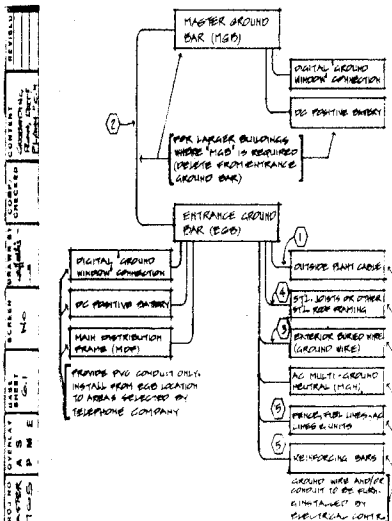
1. OUTSIDE PLANT CABLE 6/11 PVC CONDUIT ALL BARS FROM STRAND CONDUCTOR. RUN CONDUIT THROUGH FULL LENGTH OF RACE.
2. RISE TO AND GROUND THROUGH THE STRUCTURED CLOSET. 6/11 PVC CONDUIT.
3. EXTERIOR GROUND RING. 2 ANG BARS SOLID THINNEO COPPER. DIRECT BURIAL.
4. METAL RAILINGS TO THE STRUCTURED. 1" PVC CONDUIT.
5. WELLS, PUMP LINES, AIR UNITS, REFR. BARS & SMOKE HOSES. 2 ANG BARS SOLID THINNEO COPPER. DIRECT BURIAL.
6. GROUND WIRE UNDER SLAB FROM RISE TO GROUND RING 1/2" FROM FIRST CONNECTION. 2 ANG BARS SOLID THINNEO COPPER. 1" PVC CONDUIT.

## GENERAL NOTES:

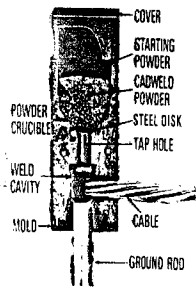
1. ALL GROUNDING CONDUCTORS SHALL BE COPPER.



TYPICAL EXTERIOR GROUND RING:  
2" x 2" ANG. COPPER CLAD (100'  
10'-0" SPACING)



TYPICAL GROUNDING SCHEMATIC  
NOT TO SCALE



TYPICAL CADWELD CONNECTION:  
USE ON WELDED JOINTS, WATER OR  
GAS IN WIRE CONNECTIONS.

PRESSURE TIGHT W-BOLT CONNECTION:  
ASSEMBLY TYPE SVS91  
USE IN TOWER GUY WIRESS GUY AND  
TOWER WARESS.

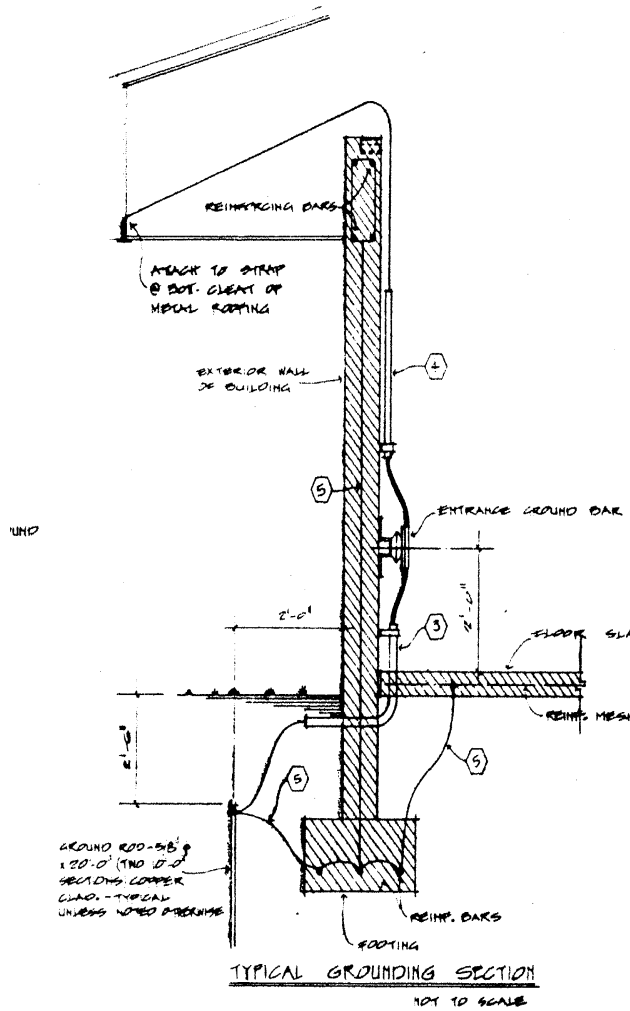
SPICED 1/2" x 1/2" CONDUIT BURNDY  
TYPE 'A' (COPPER ONLY)  
USE ON EXTERIOR GROUND BAR,  
PAPER GROUND BAR, PLUMBING, 100K  
USE FOR BURNDY PRESSURE 500'  
100' TO 1000'

CLAMP TYPE RACK CONNECTION - BURNDY TYPE 10N  
USE ON EXTERIOR PLANT CABLE RACK.

CLAMP TYPE PIPE CONNECTION - BURNDY TYPE 10N  
USE ON 1/2" - 1 1/2" WATER PIPES - TOWER GUY ANGLE

## CONNECTORS

# Construction Detail

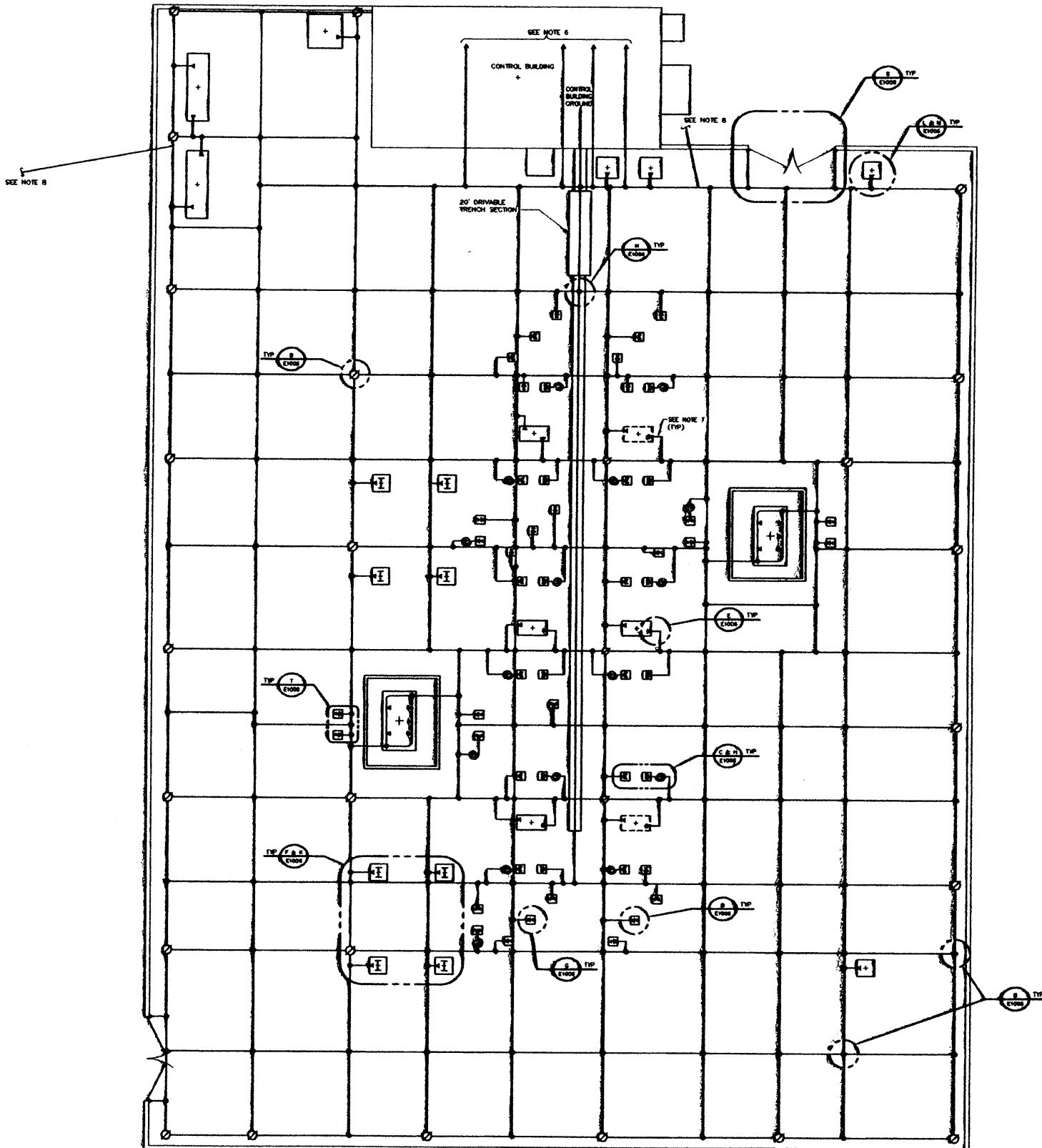


## EQUIPMENT GROUND WIRE SIZES

16  
KASS  
KASS  
KASS

- ① OUTSIDE PLANT CABLE & 1/2" PVC CONDUIT. W/ 4/0 BARE COPPER STRAND CONDUCTOR. RUN CONDUIT (OR CABLE) FULL LENGTH OF RACE.
- ② EGG TO MGD GROUND 20 MCM THIN STRANDED COPPER. 1/2" PVC CONDUIT.
- ③ EXTERIOR GROUND RING. #2 ANG BARE SOLID TINNED COPPER. DIRECT BURIAL.
- ④ METAL ROOFING. 1/2 THIN STRANDED. 1" PVC CONDUIT.
- ⑤ FENCE, FUEL LINES, A/C UNITS, REINF. BARS & SLAB MESH. #2 ANG BARE SOLID TINNED COPPER. DIRECT BURIAL.
- ⑥ GROUND WIRE UNDER SLAB FROM EGG TO GROUND RING 100' FROM FIRST CONNECTION. #2 ANG BARE SOLID TINNED COPPER. 1" PVC CONDUIT.

# GROUND MAT CONFIGURATION



# SPRINT C.O. (FRONT)



**EXCAVATION FOR 100'  
GROUND ROD LOCATION**

# SPRINT GROUND ROD LOCATION



# Power Service Drop for C.O.



# Power Service Drop for C.O.



# KUA SUBSTATION SITE

(approx. location of substation mat)



# C.O. ENTRANCE GROUND BAR

