3ø TRANSFORMER INSTALLATION NOTES

1. TRANSFORMER SHALL NOT BE LOCATED WITHIN 6.1m OF OPENINGS, DOORS AND WINDOWS.

2. **ENWIN** WILL PROVIDE AND INSTALL TRANSFORMER, PRIMARY CABLES, AND STEP POTENTIAL GROUNDING, CONTRACTOR WILL BACKFILL AND COMPACT GRANULAR "A" MATERIAL AS DETAILED AND LEAVE A 300mm x 300mm TRENCH AT 904mm FROM EDGE OF TRANSFORMER FOUNDATION FOR GRAVEL, WIRE AND ACCESS TO VAULT.

3. GRADE MUST BE ESTABLISHED AROUND THE TRANSFORMER FOUNDATION AS DETAILED.

4. **ENWIN** WILL PROVIDE DUCT, DUCT SWEEPS, BASE SPACERS, 4/0 COPPER GROUND WIRE AND SPLICING VAULT IF REQ'D FOR PRIMARY SUPPLY.

5. MINIMUM CLEARANCE TO ANY STRUCTURE (EXCLUDING BOLLARDS) TO BE 3m AT THE DOOR OPENING SIDE AND 1m AT THE NON-OPENING SIDE OF THE TRANSFORMER.

6. GENERAL CONTRACTOR TO PROVIDE EXCAVATION, CONCRETE, PVC GLUE, TRANSFORMER FOUNDATION AND LID, TRENCHING, INSTALLATION OF DUCT WITH GLUED JOINTS, CONCRETE ENCASEMENT OF DUCT, BACKFILL AND REINSTATEMENT OF SOD AND CONCRETE PYLON, AND BOLLARDS, IF REQUIRED.

7. TRANSFORMER FOUNDATION(S) SHOULD BE FREE OF STANDING WATER AND HAVE LIDS REMOVED. THEY ARE TO BE SECURED WITH 13mm PLYWOOD AND TAP CONS UNTIL PRIMARY CABLES ARE INSTALLED. AFTER THE PRIMARY CABLES ARE INSTALLED, THE CONTRACTOR SHALL INSTALL THE LID ON THE TRANSFORMER BASE. SECONDARY CABLES SHOULD BE INSTALLED BEFORE TRANSFORMER IS PLACED ON THE BASE.

8. PYLON MUST BE ROUND, SQUARE PYLON IS NOT ACCEPTABLE.

9. SECONDARY CABLES AND 4/0 BARE CABLE ENWIN GROUND WIRE SHOULD EXTEND 2.15m ABOVE THE TOP OF THE TRANSFORMER PAD.

10. 4/0 COPPER GROUND WIRES TO BE PLACED AROUND ANY SPLICING VAULT IN NATURAL FILL, (NOT INTO VAULT).

11. CUSTOMER TO PROVIDE CONNECTIONS BETWEEN THE CONDUCTORS AND THE TRANSFORMER SECONDARY TERMINALS (FOUR HOLE NEMA PADDLE WITH FOUR (4) 17mm HOLES BY 44mm CENTERS) COMPRESSION CONNECTION TO THE CONDUCTOR IS REQUIRED WHERE ALUMINUM CONDUCTORS ARE USED. CONNECTORS ARE TO BE INSTALLED AND LOOSELY BOLTED TO THE TRANSFORMER PADS BY CONDUCTOR FOR FINAL CONNECTION BY **ENWIN**.

12. DUCT SPACERS TO BE PLACED 1.8m APART.

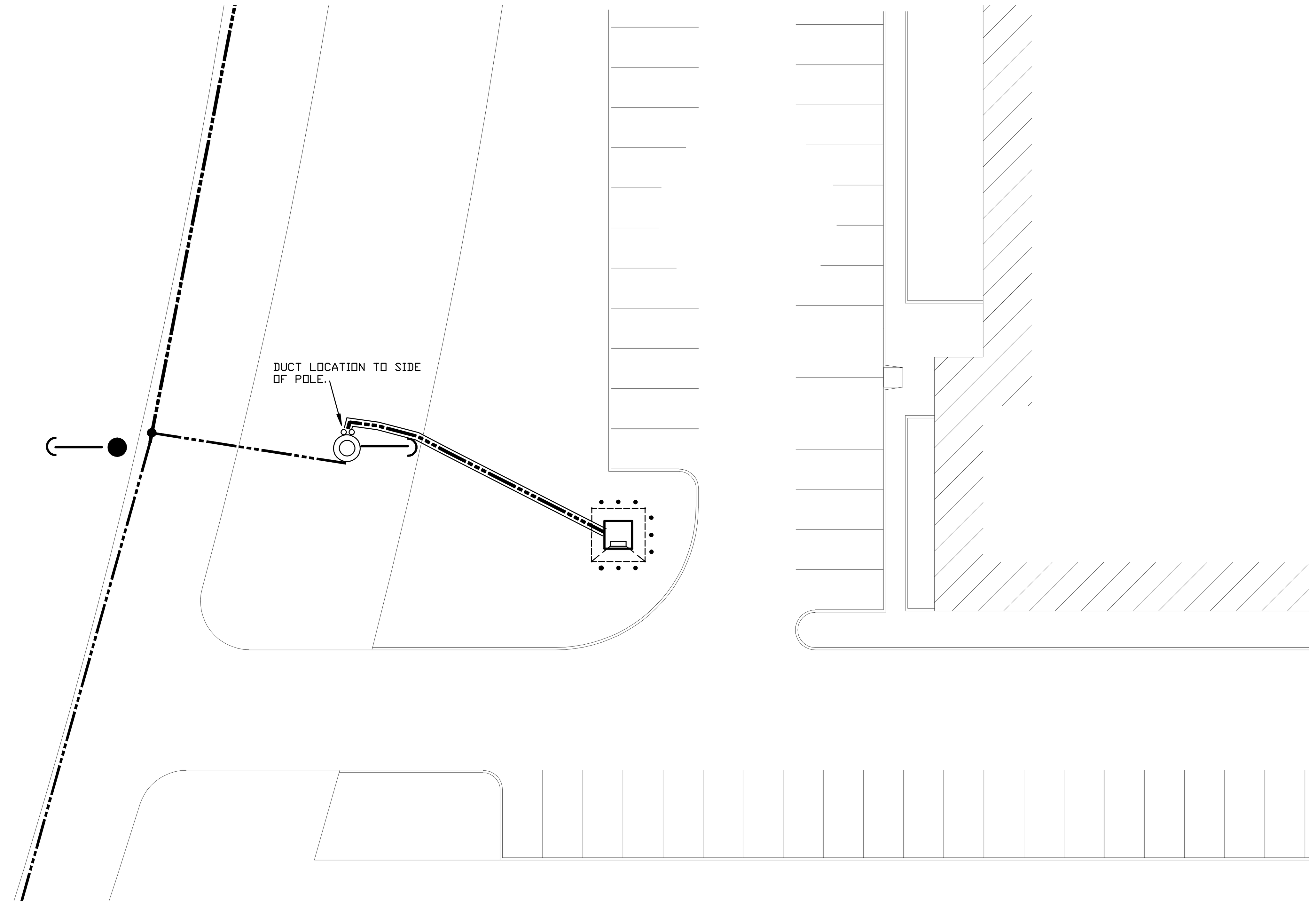
13. A 1/4 INCH DUCT POLY PULL ROPE SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR, IN EACH 5 INCH DUCT RUN AND SECURED/TERMINATED IN THE APPROPRIATE APPERTURANCE.

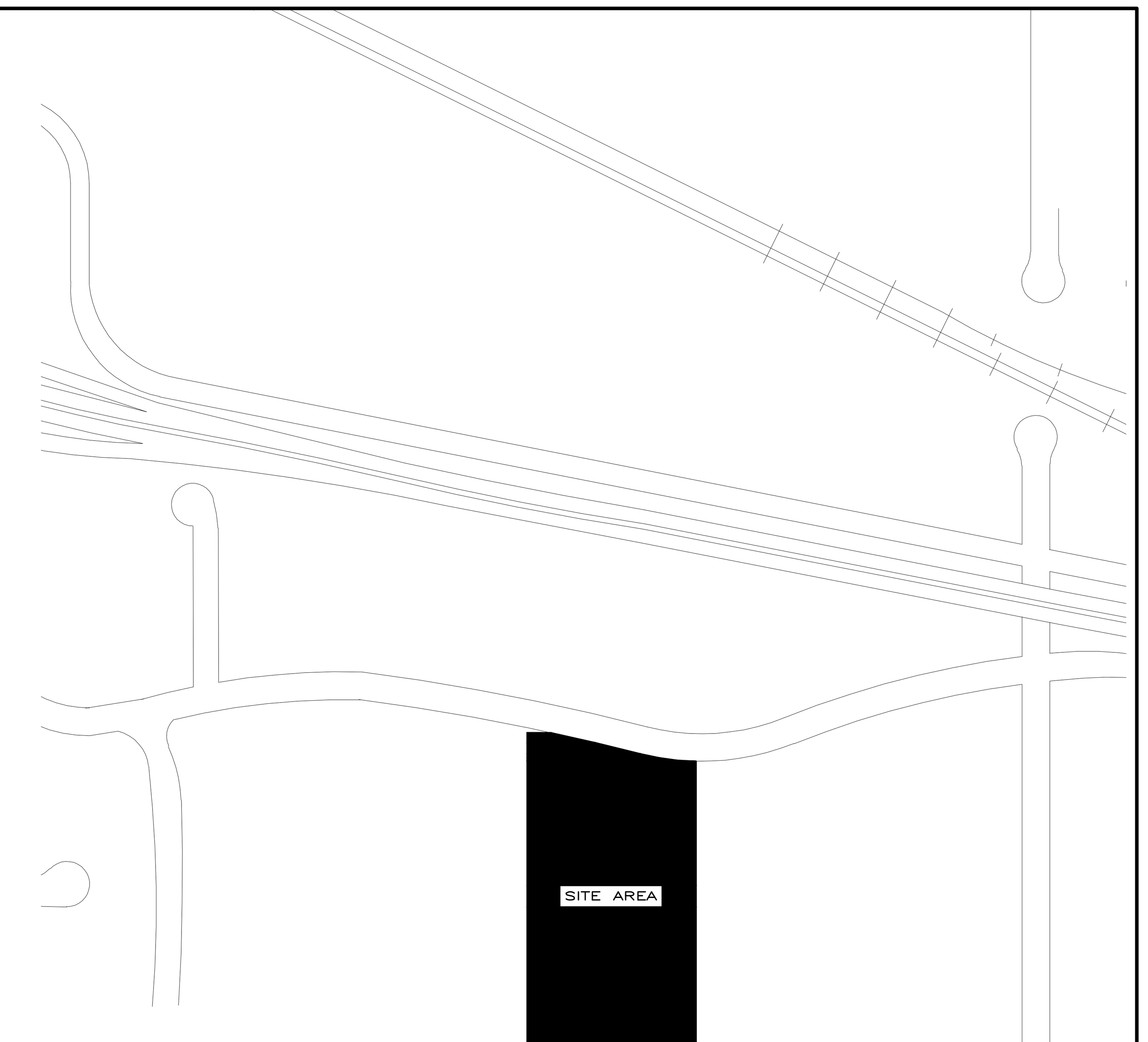
14. THE OWNER SHALL PROVIDE AN EASEMENT OF 1.5M FOR DUCTS AND CABLE AND 6M x 6M FOR TRANSFORMER CONCRETE FOUNDATION PAD SWITCHGEAR.

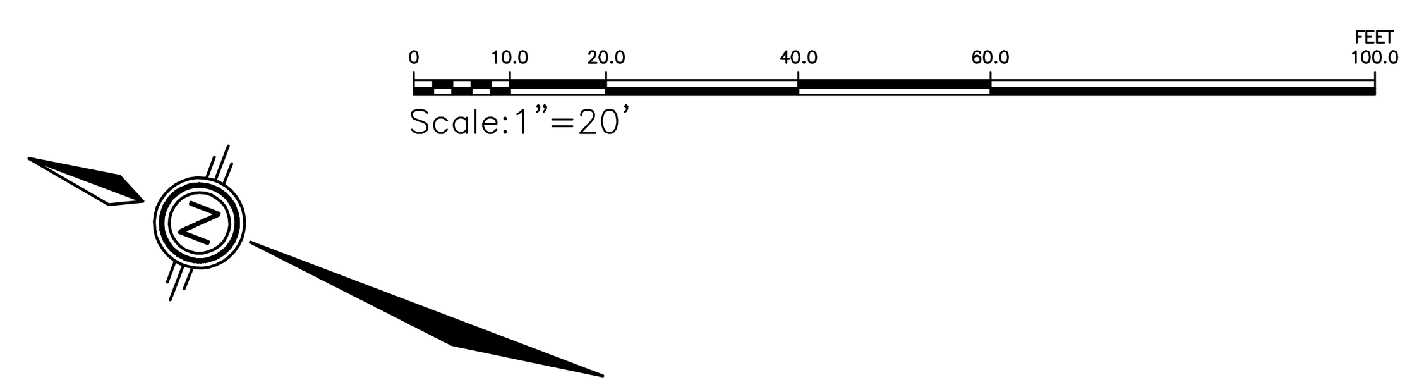
15. COMPACTION AT THE BASE OF THE TRANSFORMER FOOTING IS TO BE 100% STANDARD MAXIMUM DRY PROCTOR DENSITY. THE CONTRACTOR IS RESPONSIBLE TO RETAIN A CERTIFIED TESTING AGENCY TO PERFORM COMPACTION TESTS OF GRANULAR "A" MATERIAL AT THE BASE OF THE CONCRETE TRANSFORMER FOUNDATION. TEST RESULTS ARE TO BE PROVIDED TO **ENWIN**.

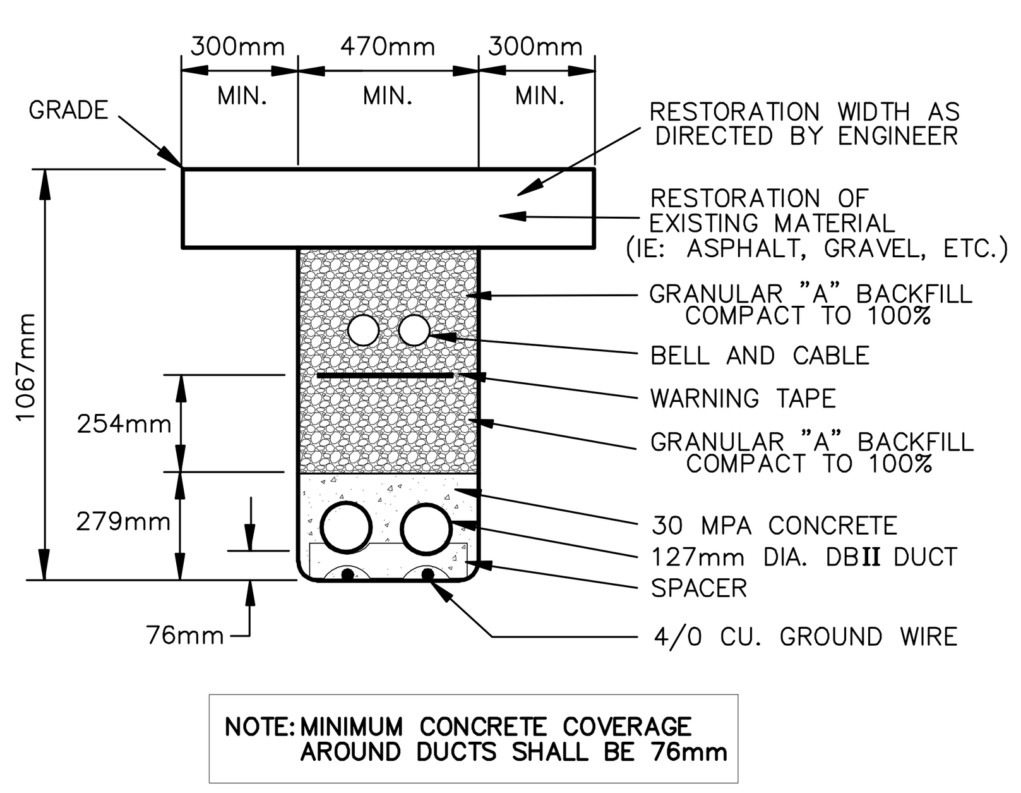
16. BACKFILL AND COMPACT GRANULAR "A" MATERIAL AS DETAILED.

17. THIS DRAWING IS TO BE STUDIED VERY CAREFULLY, ANY NON COMPLIANCE WILL RESULT IN A REFUSAL TO CONNECT BY **ENWIN**.



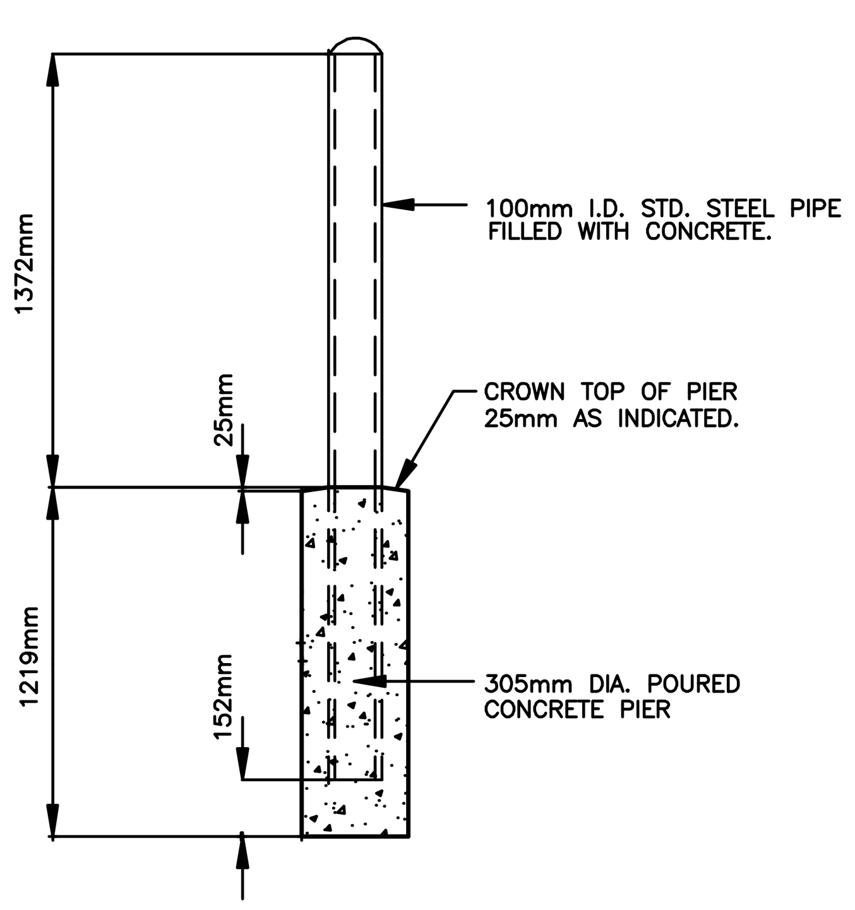






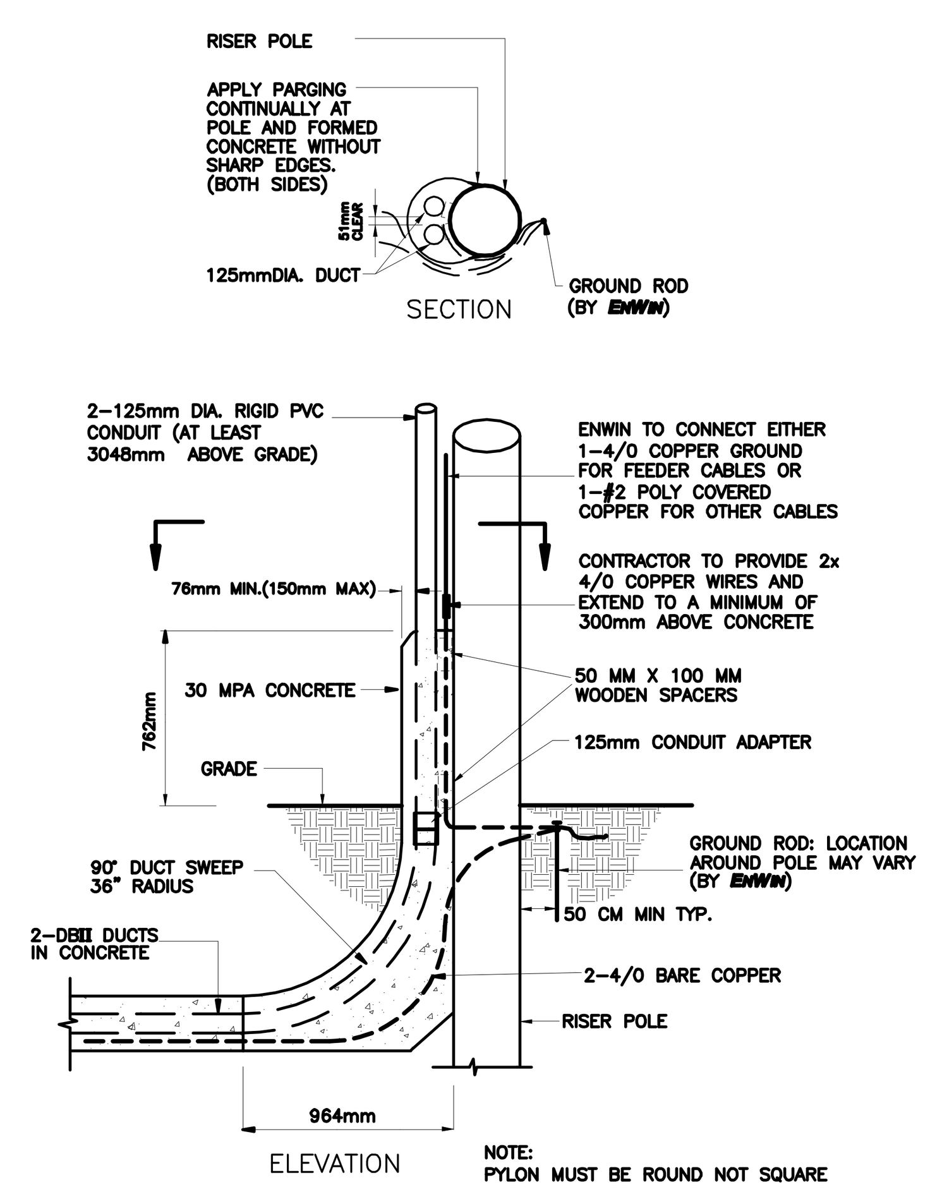
TRENCH DETAIL

2-127mm DIA. DUCTS
30 MPA CONCRETE



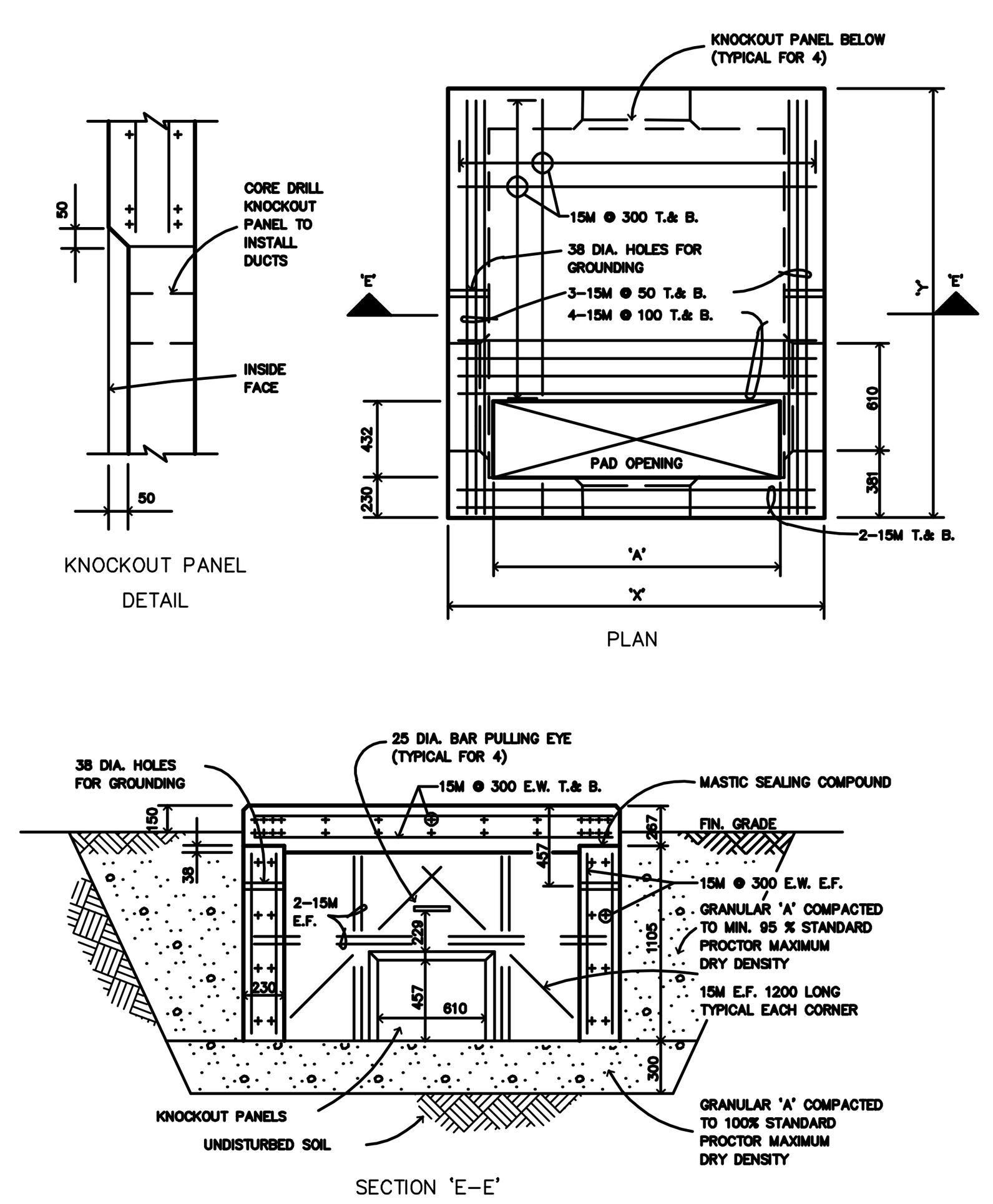
TYPICAL BOLLARD DETAIL w/SUFFICIENT PROPERTY

NTS



TYPICAL ROUND PYLON DETAIL

N.T.S. CONCRETE



TRANSFORMER PAD SIZE CHART			
TRANSFORMER	DIM. 'X'	DIM. 'Y'	DIM. 'A'
300-1500 kVA	1981	1981	1168
2000-3000 kVA	2134	2438	1600

TYPICAL 3ø TRANSFORMER INSTALLATION DETAIL

N.T.S.

TRANSFORMER FOUNDATION CONSTRUCTION NOTES

1. TERMINATE REINFORCING STEEL AT KNOCKOUT PANELS AND AT SIDES OF PAD OPENING.
2. CONCRETE COVER OVER REINFORCING STEEL : PRECAST 38mm MIN.
   CAST-IN-PLACE 50mm MIN.
3. LAP LENGTHS OF SPLICED BARS
   630mm FOR 15M BARS
   770mm FOR 20M BARS
4. GROUT HOLES WITH NON-SHRINK GROUT.
5. REINFORCING DESIGNATIONS :
   E.W. DENOTES 'EACH WAY'
   E.F. DENOTES 'EACH FACE'
   T. DENOTES 'TOP'
   B. DENOTES 'BOTTOM'
6. WEIGHT
   PAD – 3.8 TONNES
   BASE – 5.1 TONNES
7. LIFTING HOOKS
   PAD – PROVIDE 4 LIFTING INSERTS WITH SAFE WORKING LOAD OF 1.8 TONNES IN EACH PAD.
   BASE – HANDLE BASE BY LIFTING AT 4 PULLING EYES.
8. MATERIAL
   CONCRETE : 30 MPa WITH 5 TO 7% AIR ENTRAINMENT, 80mm± 20mm SLUMP, AND MAXIMUM WATER CEMENT RATIO TO BE 0.45
   REINFORCEMENT : CSA G30.12M GRADE 400
   GRANULAR : OPSS 1010, GRANULAR 'A'
   LIFTING INSERTS : ACROW-RICHMOND 20mm, 2 STRUT TYPE EC-2 WITH SAFETY WORKING LOADS OF 20kN TENSION AND 15.6 kN SHEAR WITH 4:1 SAFETY FACTOR.
9. PULLING EYE – 25mm BAR TO *ENWIN* STANDARDS.
10. MASTIC SEALING COMPOUND – CONCRETE SEALANT CS.665, 9.5 mm x 38 mm

PROJECT NO. XXXXXX XXXXX

W.O.#XXXXX-L XXXXXXXXXXXXXXXXXXXX
W.O.#XXXXX-UT XXXXXXXXXXXXXXXXXXXXXX
W.O.#XXXXX-C XXXXXXXXXXXXXXXXXXXXXXX

PRINT RECORD			REVISIONS			
NO.	FOR	DATE	NO.	REVISION	DATE	BY
01	ALL	SEPT 7 2004	01	DETAILS	SEPT 7 2004	AEM

LEGEND

——— – – – ———	EXISTING 3 PH. 1/0 AL. 28KV CONC. NEUT. PRIMARY CABLE.	[V]	SPLICING VAULT
——— – – – ———	NEW 3 PH. 1/0 AL. 28KV. CONC. NEUT. PRIMARY CABLE.	———	NEW TRENCH
——— – ———	NEW 1 PH. 1/0 AL. 28KV. CONC. NEUT. PRIMARY CABLE.	▬ ▬ ▬	ROAD CROSSING
– – – – – – –	NEW SECONDARY CABLE	②	ROAD CROSSING NUMBER
———	NEW STREETLIGHT CABLE		
——-·-——-·-	PROPERTY LINE		
• 18	STREET LIGHT AND NUMBER		
○	HYDRO POLE		
[T]	TRANSFORMER (NEW UNLESS NOTED)		

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CITY OF WINDSOR – TRAFFIC ENGINEERING	519	255-6248
FIRE DEPARTMENT – SIGNALS	519	255-6478

ENWIN

4545 RHODES DR. P.O. BOX 1625, STATION "A"
WINDSOR, ONTARIO N9A 5T7
www.enwin.com

CONCEPTUAL CONFIGURATION

NOT FOR CONSTRUCTION

DRAWN XXXXXX	APPROVED XXXXXX	SCALE XXXXXX
DATE XXXXXX	ENG/TECH XXXXXX	DRAWING NO. XXXXXX