

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
338/IL 59	2011-035-1	DUPAGE		
FED.ROAD.DIST.NO.			CONTRACT 60P42	
ILLINOIS			FED. AID PROJECT	

1. SCOPE

This specification covers the manufacture and delivery of concrete pads and vaults for three phase transformers.

2. APPLICATION

The concrete pads and vaults are intended for an underground application as a base for three phase pad mounted distribution transformers, on a 60 Hertz electric system, up to and including 15kV power cables.

3. STANDARDS

The concrete pads and vaults shall be manufactured and tested according to the latest applicable standards of ACI, ASTM, AASHTO and other related specifications and standards.

4. TECHNICAL REQUIREMENTS

4.1 DESIGN

The concrete pads and vaults must meet or exceed the minimum requirements of the ACI Code, Section 318-89 and AASHTO requirement for an HS-20 loading. The pads and vaults should be designed and built according to ASTM C-858 and ASTM C-857 requirements. The pad must be poured separately from the vault so that it is removable.

4.2 MATERIAL

Concrete shall have a minimum strength of 4500 psi at 28 days. Reinforcing steel bars (#4) shall be epoxy coated according to ASTM A-615 grade 60 and ASTM A-775.

4.3 CONSTRUCTION

Pad and vault rebar are to be placed at 30 centimeters (12 inch) intervals, center to center, and be tied at points of crossing. Vault reinforcing is to be continuous in the four sides of the vault, overlap 30 centimeters (12 inches), and tied at rebar ends.

Pad and vault are to each have four lifting devices, which shall be verified for capacity and will have an adequate factor of safety for lifting and handling, taking into account the various forces acting on the device, including release, impact and various positions of pads and vaults during handling. Each vault is to have four knockout windows, 30 centimeters (12 inches) square and 4 centimeters (1-1/2 inch) thick as shown on the detail. In addition, a 1-1/2 inch pipe shall be placed in the front wall, as shown on the detail, to allow a grounding conductor to be extended to the outside of the vault.

A pulling iron is to be installed opposite each window (3 required). Each iron shall be galvanized or coated to provide 30 years service in a corrosive atmosphere and have an installed pulling strength of 1360 kilograms (3000 pounds) minimum.

Joint tape shall be 2.5 x 2.5 cm (1" x 1") Butyl Sealant as approved by the City.

Top edges of transformer pad must be tooled or chamfered to eliminate roughness. Tool or chamfer the bottom edges of the transformer pad opening to remove any rough edges.

Top edges of transformer pad must be tooled or chamfered to eliminate roughness. Tool or chamfer the bottom edges of the transformer pad opening to remove any rough edges.

4.4 DIMENSIONS

There are three different sizes for pads and vaults. The dimensions are shown on the attached detail sheet.

4.5 MARKING

The concrete pad and vault shall have a durable identification, showing the name or trademark of the manufacturer, size (identified by code ratings), date, and the words CITY OF NAPERVILLE - ELECTRIC embossed on the inside of each pad and vault respectively.

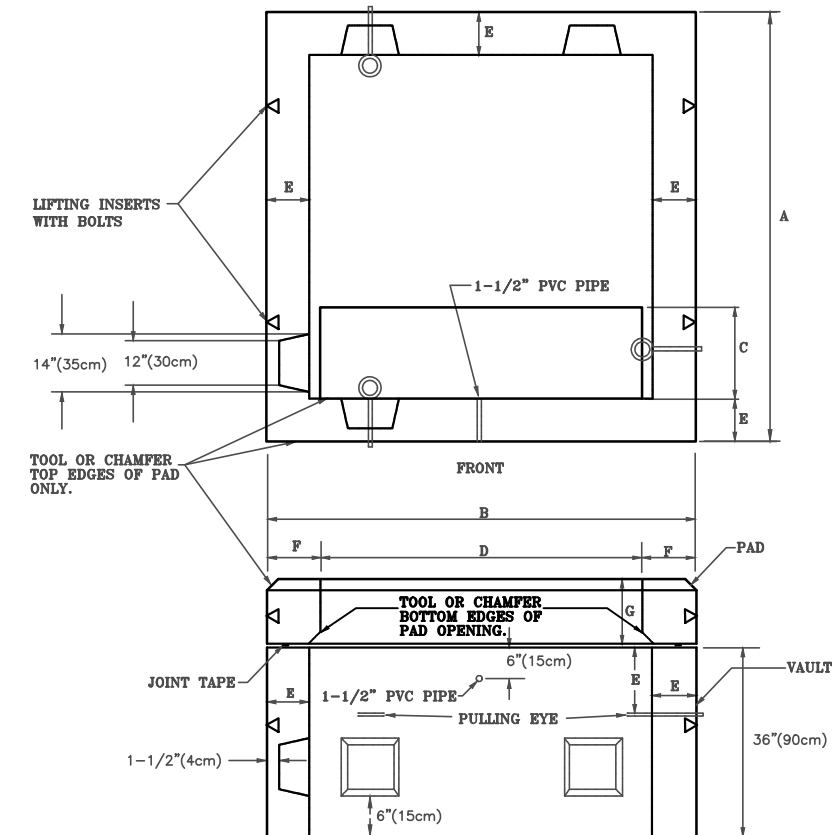
5. DELIVERY

Concrete products are to be stored at the manufacturer's site until needed.

The Department of Public Utilities-Electric will notify the manufacturer, when a contract is let, of anticipated demand and a tentative delivery schedule. The contractor will notify the manufacturer 48 hours before delivery. Vaults will be delivered to the site and off-loaded at specified locations. Should the excavation be prepared to accept the vault upon delivery, the contractor may be responsible for setting the vault in the excavation. The setting of the vault in the prepared excavation shall be considered incidental to the contract, and no additional compensation will be allowed.

Note: Manufacturer must address any deviation from these specifications at time of bid.

The Naperville Department of Public Utilities-Electric (DPU-E) shall be notified before manufacturing to allow for periodic inspections at the plant. Call (630) 548-2961 48 hours before manufacturing, to allow for scheduling said inspection.



TRANSFORMER KVA	ASSEMBLY CODE	DIMENSIONS—CENTIMETERS(INCHES)							APPROXIMATE WEIGHT IN KILOGRAMS (POUNDS)		
		A	B	C	D	E	F	G	PAD	VAULT	TOTAL
75-150	DEVT 150	175(70)	175(70)	38(15)	115(46)	20(8)	30(12)	30(12)	1987(4380)	3007(6630)	4994(11010)

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PROJECT TITLE						ROUTE 59 ROAD IMPROVEMENTS					
PROJECT DESCRIPTION						DETAILS AND STANDARDS					
ENGINEER	DRAFTING DATE	MAP #	SCALE								
BCC	5-11-12	4211,4212,4223	N.T.S.								
GIS DESIGN BY	DRAFTED BY	REVISIONS DATE	AT&T JOINT AGREEMENT #	PROJECT #							
DL	PSM		N/A	EU-12							
CHECKED BY	APPROVED BY	CAD FILE	SHEET #								
		0060648001D136.DWG	36 OF 63								
Naperville						Department of Public Utilities Electric Division					
						WORK REQUEST # 60468					