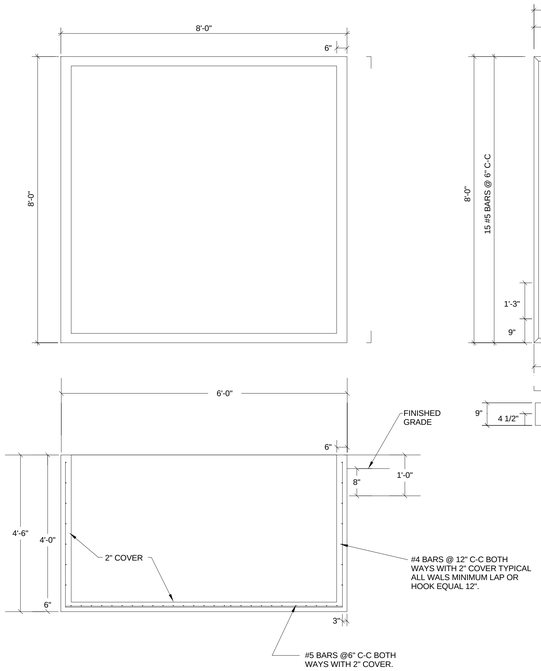
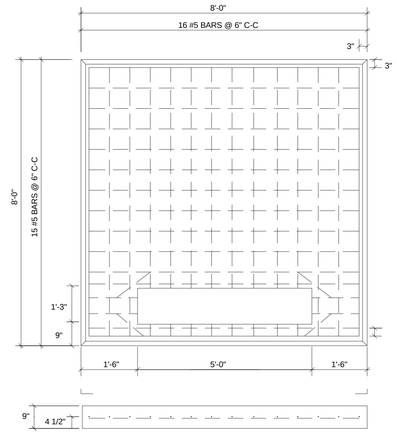


PRE-CAST CONCRETE BASE

SCALE: NONE



PRE-CAST CONCRETE LID

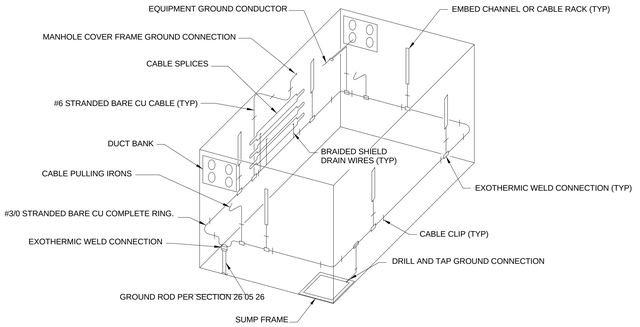
SCALE: NONE

TRANSFORMER PRE-CAST CONCRETE PAD DETAIL

SCALE: NONE

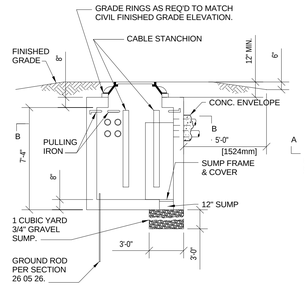
NOTES:

1. THIS DETAIL APPLIES ONLY TO UTILITY TRANSFORMER SIZES 1500 KVA - 2500 KVA.
2. THE COMPONENTS SHALL BE PRODUCED IN A PLANT CERTIFIED BY THE NATIONAL PRECAST CONCRETE ASSOCIATION.
3. THE PAD SHALL BE CONSTRUCTED IN TWO PARTS: A BASE WITH PULLING IRONS AND CONDUIT TERMINATORS (CAST IN THE WALLS); AND A FLAT LID WITH A RECTANGULAR OPENING. THE BASE WALL THICKNESS IS A MINIMUM, A THICKER WALL MAY BE USED IF IT BETTER ACCOMODATES PRODUCTION PROCESSES.
4. ALL PRIMARY AND SECONDARY CABLES SHALL ENTER THE BASE THROUGH CONDUIT TERMINATORS (FOR 4" CONDUIT, UNLESS SPECIFIED OTHERWISE) CAST INTO THE WALLS. TERMINATORS SHALL BE EQUIPPED WITH A KNOCK-OUT MEMBRANE TO MINIMIZE DIRT AND WATER INGRESS INTO THE BASE. FIRST ENERGY WILL IDENTIFY THE NUMBER AND LOCATION OF THE TERMINATORS.
5. A PULLING IRON SHALL BE CAST INTO THE WALL OPPOSITE EACH BANK OF CONDUITS (I.E. A PULLING IRON FOR PULLING THE PRIMARY CABLES AND ANOTHER PULLING IRON FOR PULLING THE SECONDARY CABLES).
6. TWO 2 " PVC CONDUITS SHALL BE CAST INTO THE BASE FOR GROUNDING CONDUCTORS.
7. THE CONCRETE SHALL HAVE THE MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI IN 28 DAYS.
8. THE PORTLAND CEMENT SHALL CONFORM TO THE ASTM C150, TYPE I OR TYPE IA. IF HIGH EARLY STRENGTH IS REQUIRED, TYPE III OR TYPE IIIA SHALL BE USED. WHEN TYPE I OR TYPE III PORTLAND CEMENT IS USED, AN AIR-ENTRAINING ADMIXTURE SHALL BE REQUIRED AND SHALL CONFORM TO THE ASTM C260.
9. THE AIR CONTENT OF THE CONCRETE, PERCENTAGE BY VOLUME, SHALL BE 4.5%, PLUS OR MINUS 1% . AIR CONTENT SHALL BE TESTED IN ACCORDANCE WITH ASTM C173.
10. AGGREGATES SHALL CONFORM TO ASTM C33. THE AGGREGATE SHALL BE FROM 3/8" SIEVE. AIR-COOLED BLAST FURNACE SLAG IS NOT AN ACCEPTABLE COURSE AGGREGATE.
11. WATER SHALL BE CLEAR AND FREE FROM INJURIOUS AMOUNTS OF OIL, ACID SALT, ALKALI, INDUSTRIAL WASTE, SANITARY SEWAGE, SUGAR ALGAE, OR OTHER DELETERIOUS SUBSTANCES.
12. THE USE OF CALCIUM CHLORIDE AS AN ADMIXTURE OR USE OF FIBER REINFORCED CONCRETE SHALL NOT BE PERMITTED.
13. REBARS 60,000 PSI (GRADE 60).
14. CHAMFER ALL EXPOSED EDGES 1".
15. FINISH TOP SURFACE SMOOTH AND LEVEL.
16. SIDES MAY BE TAPERED UP TO 1/2".

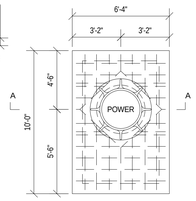


MANHOLE GROUNDING DETAILS

SCALE: NONE



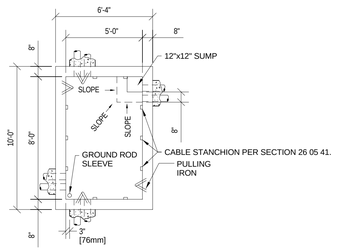
SECTION "A-A"



TOP VIEW

POWER MANHOLE DETAIL GENERAL NOTES:

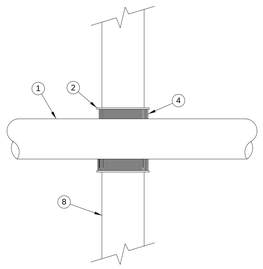
1.INCLUDE ALUMINUM LADDER (NOT SHOWN FOR CLARITY)



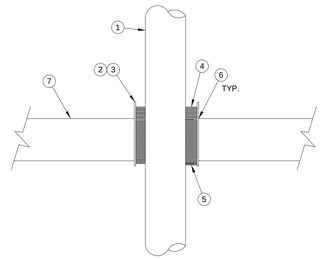
SECTION "B-B"

POWER MANHOLE DETAILS

SCALE: NONE



WALL PENETRATION



FLOOR PENETRATION

FIRESTOPPING PENETRATIONS THROUGH FIRE-RATED WALLS AND FLOORS

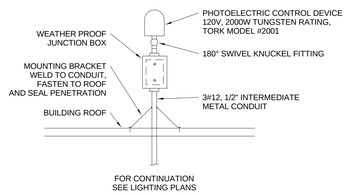
SCALE: NONE

KEY NOTES: #

1. PENETRATING CONDUIT
2. PIPE SLEEVE (MAXIMUM 4" DIA.)
3. EXTEND PIPE SLEEVE +2" AFF IN MECHANICAL ROOMS.
4. PROVIDE U.L. LISTED FIRE-STOP MATERIAL TO MAINTAIN FIRE RESISTANCE RATING OF PENETRATED CONSTRUCTION.
5. PROVIDE DAMMING MATERIAL U.L. LISTED FOR USE AS A SYSTEM WITH FIRE-STOP MATERIAL BEING APPLIED.
6. SEAL VOID BETWEEN PIPE SLEEVE AND SLAB CONCRETE WITH MIN. 1/2" OF BEAD TYPE FIRE-STOP CAULKING.
7. FLOOR SLAB. REFER TO ARCHITECTURAL DRAWINGS FOR CONSTRUCTION AND FIRE RATING.
8. WALL SECTION. REFER TO ARCHITECTURAL DRAWINGS FOR CONSTRUCTION AND FIRE RATING.

GENERAL NOTES:

1. WHERE CONDUIT, CABLES AND OTHER ELECTRICAL ITEMS PASS THROUGH FIRE AND/OR SMOKE RATED WALLS AND FLOORS, PROVIDE NON-ASBESTOS SEALING ASSENBLIES THAT ARE CLASSIFIED BY UL. TO PROVIDE FIRE BARRIERS THAT ARE EQUAL TO OR GREATER THAN THE TIME RATING OF THE CONSTRUCTION BEING PENETRATED. USE MATERIALS AND SYSTEMS THAT COMPLY WITH ALL APPLICABLE CODES AND THAT HAVE BEEN TESTED IN ACCORDANCE WITH UBC STD. 7-5 , AND ASTM E814 (ANSI/UL 1479).
2. FOR SLEEVED PENETRATIONS, PROVIDE FIRE-STOPPING WITHIN THE ANNULAR SPACE (VOID) BETWEEN SLEEVE AND ADJACENT CONSTRUCTION TO MEET UL. AND UBC SYSTEM REQUIREMENTS. ANNULAR SPACE AROUND SLEEVE SHALL BE LIMITED TO MAXIMUM 1/4".
3. GROUT, MORTER, OR GYPSUM-BASED MATERIALS OR PRODUCTS SHALL NOT BE UESD IN LIEU OF U.L. LISTED FIRE-STOPPING MATERIALS AND SYSTEMS.
4. FIRE-STOP ALL MISCELLANEOUS OPENINGS THROUGH FIRE RATED CONSTRUCTION THAT RESULT FROM ELECTRICAL WORK.
5. PROVIDE SUBMITTAL DRAWINGS TO THE ARCHITECT FOR EACH TYPE OF PENETRATION AND FIRE-STOP CONFIGURATION . SUBMITTAL TO INCLUDE UL. SYSTEM IDENTIFICATION, DETAIL, AND MANUFACTURER'S INFORMATION ON FIRE-STOP MATERIAL BEING APPLIED.
6. SLEEVES BEING USED FOR CABLE RISERS PASSING THROUGH WALLS AND FLOORS SHALL BE INSTALLED IN ACCORDANCE WITH ABOVE DETAILS. IN ADDITION, U.L. LISTED FIRE-STOP MATERIAL SHALL BE PLACED INSIDE SLEEVE AFTER CABLES ARE COMPLETELY INSTALLED. SPARE (EMPTY) SLEEVES SHALL ALSO BE FILLED WITH FIRE-STOP MATERIAL.
7. ALL MATERIALS USED SHALL HAVE A MELTING POINT GREATER THAN 1700 DEGREES FAHRENHEIT.



PHOTOEYE MOUNTING DETAIL

SCALE: NONE

FINAL SUBMITTAL

No.	Description	Date
	DD#1	07/09/2012
	DD#2	08/13/2012
	CD#1	09/24/2012
	CD#2	11/02/2012
	FINAL SUBMITTAL	05/07/2013
Revisions:		Date

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Approved: Project Director

Project Title: VA Erie Parking Structure

Location: Erie, PA

Date: 9/24/2013 | Checked: MSB | Drawn: SRH

Project Number: 11159.00

Building Number:

Drawing Number: **E-501**

Office of Construction and Facilities Management

Department of Veterans Affairs