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260542 - Ductbank

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SECTION 26 0542 – DUCTBANK

1.1 SUMMARY

- A. See Chapter 5, Division 01, Section 017700.1.1.B.1.i Closeout Procedures - Project Record Documents for equipment list requirements for all equipment provided in this section.
- B. All concrete used for the ductbank shall be 3500 Psi mix minimum. Refer to Chapter 5, Division 03, Section 033000 for LEED requirements.
- C. All underground concrete encased conduits shall be PVC, Carlon P & C EB20
- D. All conduits entering buildings extending out 10' from a foundation wall shall be rigid galvanized steel, provide plastic to steel adapter fittings.
- E. Elbows and offsets greater than 30 degrees shall be rigid galvanized steel, provide plastic to steel adapter fittings.
- F. Conduits shall be placed on spacers 8-1/2" on center, spaced 10' apart down the trench line. Carlon High Impact Spacers or equal may be used.
- G. Underground duct banks shall be set at a minimum depth of 30" below finish grade.
- H. All underground Medium/High Voltage ducts shall be encased by reinforced concrete.
- I. Reinforcing steel shall be interfaced with the manhole walls and the building foundation walls to minimize shearing. All concrete duct banks shall be doweled to the manholes walls and building foundation walls with rebar.
- J. All underground ductbanks shall be field coordinated with existing underground utilities.

1.2 QUALITY ASSURANCE

- A. All encased rigid galvanized steel conduit shall be coated with two coats of an asphaltic composition and allowed to dry prior to being encased.
- B. The first ten feet of a ductbank either entering or leaving a manhole shall be coated with two coats of an asphaltic composition on the top and sidewalls and allowed to dry prior to being backfilled.
- C. All underground conduit runs shall be cleared of all debris by using appropriately sized brushes/swab pulled from one end of the conduit run to the other end of the conduit run, this operation will be observed by a UNH Rep.

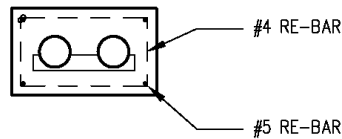
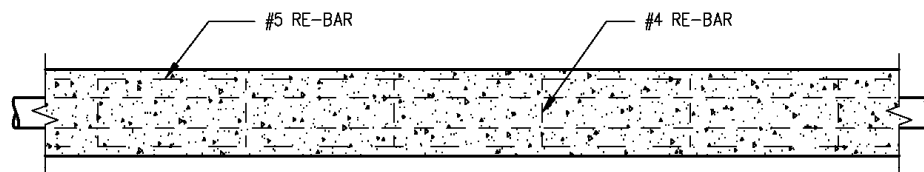
- D. All underground conduit runs shall be proof tested for size by pulling a full size mandrel from one end of the conduit run to the other end of the conduit run, this operation will be observed by a University representative.

- E. All spare underground conduit runs shall have a nylon pull string installed in each conduit the pull string shall be rated at a minimum tinsel strength or 200 pounds the pull string shall tied off at each end of the conduit run.

Exhibit #1

UNDERGROUND CONDUIT/DUCTBANK NOTES:

- 1.) RE-BAR DETAIL FOR DUCTBANK SECTION.
- 2.) ALL CONCRETE USED FOR THE DUCTBANK SHALL COMPLY WITH THE SPECIFICATIONS AND SHALL BE 3500 P.S.I. MIX MINIMUM.
- 3.) ALL UNDERGROUND CONDUITS SHALL BE PVC CARLON P & C SERIES EB20.
- 4.) ALL CONDUIT ENTERING BUILDING'S EXTENDING OUT 10'-0" FROM A FOUNDATION WALL SHALL BE RIGID GALVANIZED STEEL.
- 5.) ELBOWS AND OFFSETS GREATER THAN 30 DEGREES SHALL BE RIGID GALVANIZED STEEL. PROVIDE STEEL TO PLASTIC ADAPTER FITTINGS.
- 6.) CONDUITS SHALL BE PLACED ON CARLON HIGH IMPACT SPACERS 8-1/2" ON CENTER, SPACED 10' APART DOWN THE TRENCH LINE.
- 7.) UNDERGROUND DUCTBANKS SHALL BE SET A MINIMUM DEPTH OF 30" BELOW GRADE.
- 8.) ALL UNDERGROUND DUCTS SHALL BE ENCASED BY REINFORCED CONCRETE AS INDICATED ON THE DRAWING.
- 9.) REINFORCING STEEL SHALL BE INTERFACED WITH THE MANHOLE WALLS AND THE BUILDING FOUNDATION WALLS TO MINIMIZE SHEARING.
- 10.) ALL UNDERGROUND DUCTBANKS SHALL BE FIELD COORDINATED WITH EXISTING UNDERGROUND UTILITIES.
- 11.) ALL ENCASED RIGID GALVANIZED STEEL CONDUIT SHALL BE COATED WITH TWO COATS OF AN ASPHALTIC COMPOSITION AND ALLOWED TO DRY PRIOR TO BEING ENCASED.
- 12.) THE FIRST TEN FEET OF THE DUCTBANK EITHER ENTERING OR LEAVING A MANHOLE SHALL BE COATED WITH TWO COATS OF AN ASPHALTIC COMPOSITION OF THE TOP AND SIDE WALLS AND ALLOWED TO DRY PRIOR TO BACKFILL.



TYPICAL DUCTBANK RUN TO RISER POLE OR TO PAD MOUNTED TRANSFORMER. MIN. SIZE CONDUIT 5"

Exhibit #2

GENERAL NOTES:

- 1.) ALL HOLES SHALL BE CORED TO THE SIZE RECOMMENDED BY THE MANUFACTURER OF THE CONDUIT SEALING BUSHING

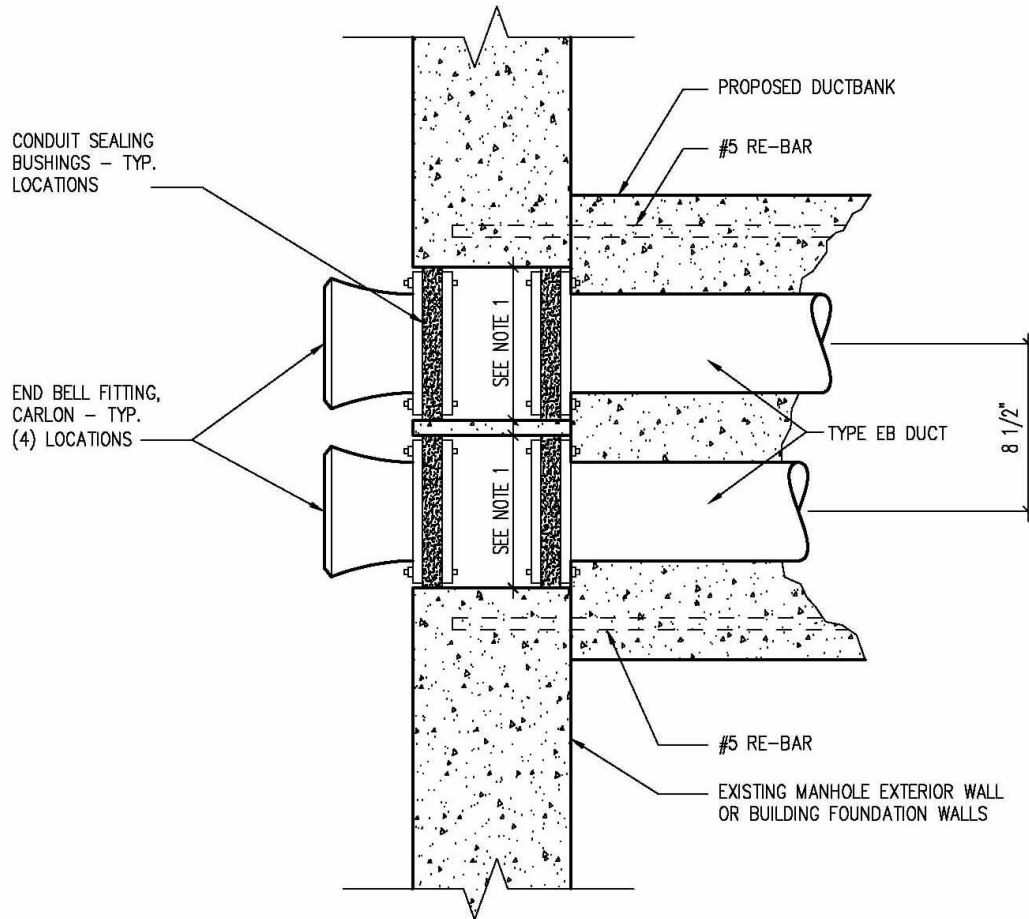
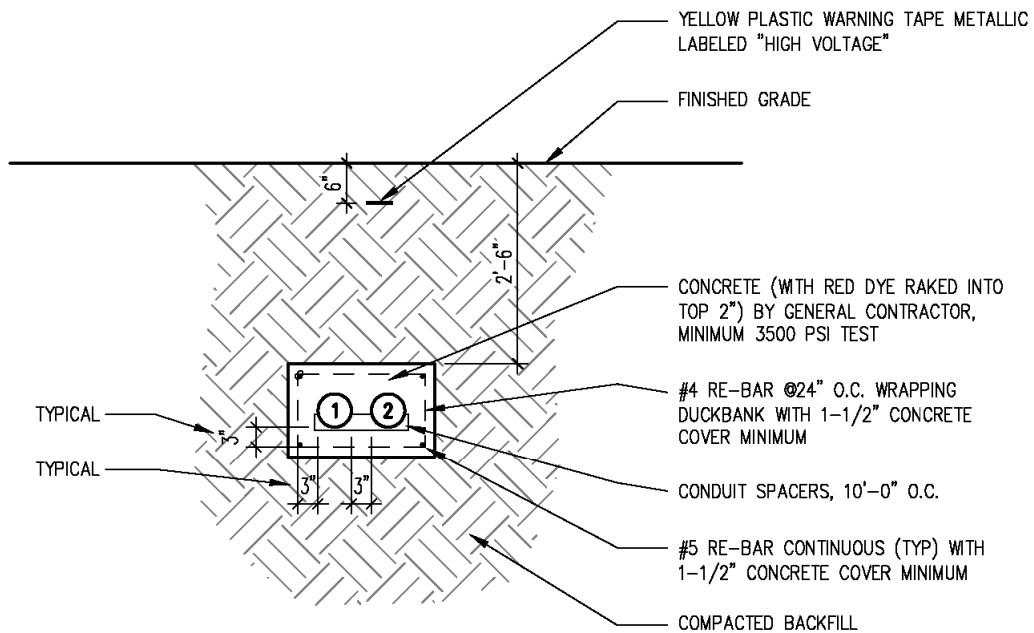


Exhibit #3

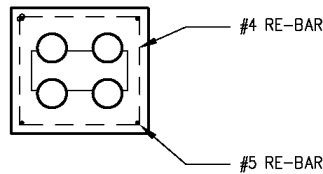
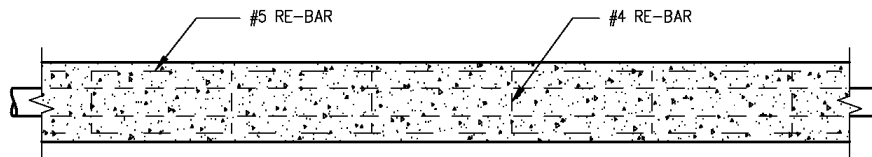


- ① 5" PVC -
- ② 5" PVC -

Exhibit #4

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- 5.) ELBOWS AND OFFSETS GREATER THAN 30 DEGREES SHALL BE RIGID GALVANIZED STEEL. PROVIDE STEEL TO PLASTIC ADAPTER FITTINGS.
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- 12.) THE FIRST TEN FEET OF THE DUCTBANK EITHER ENTERING OR LEAVING A MANHOLE SHALL BE COATED WITH TWO COATS OF AN ASPHALTIC COMPOSITION OF THE TOP AND SIDE WALLS AND ALLOWED TO DRY PRIOR TO BACKFILL.



TYPICAL MAINLINE DUCTBANK RUN BETWEEN MANHOLES
AND MAINLINE RISER POLES. MIN. SIZE CONDUIT 5"

- A. The following duct bank components shall be submitted to the client for approval:
1. PVC Conduit.
 2. PVC Fittings.
 3. PVC High Impact Spacers.
 4. RGC, IMC & EMT.
 5. RGC, IMC & EMT Fittings.
 6. Conduit Sealing Fittings.

END SECTION 26 0542