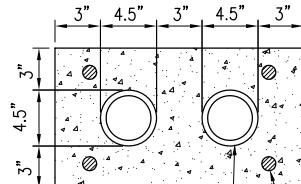
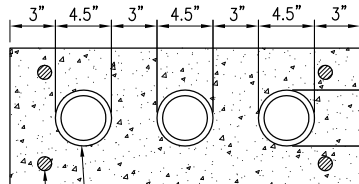


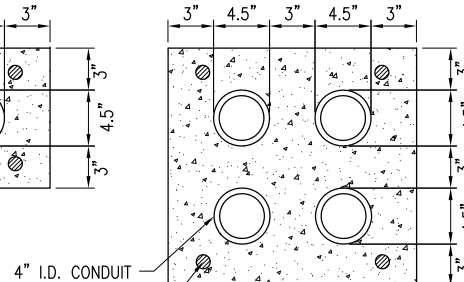
**TYPICAL SECTION**  
"NOT TO SCALE"



**2-DUCT BANK**  
"NOT TO SCALE"



**3-DUCT BANK**  
"NOT TO SCALE"



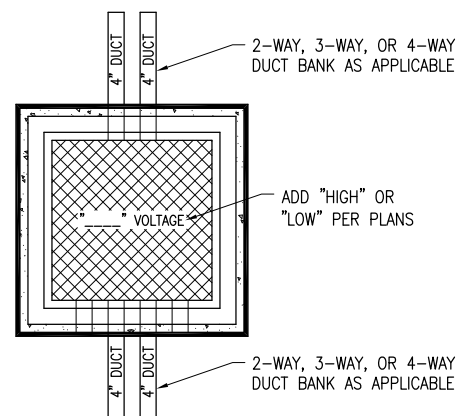
**4-DUCT BANK**  
"NOT TO SCALE"

**DUCT BANK NOTES:**

- DIMENSIONS FOR CONCRETE COVERAGE AND SEPARATION BETWEEN DUCTS ARE MINIMUM.
- INCLUDE DUCT SPACERS AS MANUFACTURED BY UNDERGROUND DEVICES INC., OR APPROVED EQUAL TO MAINTAIN PROPER SEPARATION OF CONDUITS.
- REBAR IS REQUIRED TO ACCOMMODATE FUTURE DUCT EXTENSIONS & INTERFACE AT DUCT BANK TERMINATIONS. CONCRETE ENCASED DUCT BANKS TERMINATING IN HANDHOLES REQUIRE REBAR AT TERMINATIONS.
- CONDUITS FOR CONCRETE ENCASED DUCT SHALL BE SCHEDULE 40 PVC CONFORMING TO ITEM 110.
- MINIMUM DEPTH OF TOP OF DUCT ENCASEMENT SHALL BE 18" BELOW FINISHED GRADE.
- HIGH VOLTAGE AND LOW VOLTAGE CIRCUITS SHALL NOT BE INSTALLED IN THE SAME RACEWAY, CONDUIT, DUCT, HANDHOLE, OR MANHOLE.
- HOMERUN CABLES FOR A RESPECTIVE CIRCUIT SHALL BE INSTALLED IN THE SAME RACEWAY OR DUCT.
- DUCT INTERFACE TO HANDHOLES OR MANHOLES WILL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE DUCT PAY ITEM.

**CABLE & DUCT MARKER NOTES:**

- THE COST OF ALL TURF AND PAVEMENT DUCT MARKERS SHALL BE INCIDENTAL TO THE DUCT. THE COST OF ALL CABLE MARKERS SHALL BE INCIDENTAL TO THE CABLE.
- BITUMINOUS PAVEMENT DUCT MARKER AND CONCRETE DUCT MARKER TO BE PROVIDED AT EACH END OF EACH DUCT AS SHOWN ON THE LOCATION PLAN. FOR CONCRETE PAVEMENT, THE LETTER "D" SHALL BE IMPRESSED IN THE PAVEMENT INSTEAD OF THE MARKER. THE LETTER SHALL BE FORMED AS DESCRIBED IN NOTE 4.
- CABLE MARKERS SHALL BE PLACED AT CHANGES OF DIRECTION AND APPROXIMATELY EVERY 200' ALONG CABLE RUNS.
- CONCRETE CABLE MARKERS AND DUCT MARKERS SHALL HAVE LETTERS 4" HIGH, 3" WIDE WITH WIDTH OF STROKE 1/2" AND 3/4" DEEP. ALL LETTERS, NUMBERS AND ARROWS TO BE IMPRESSED.

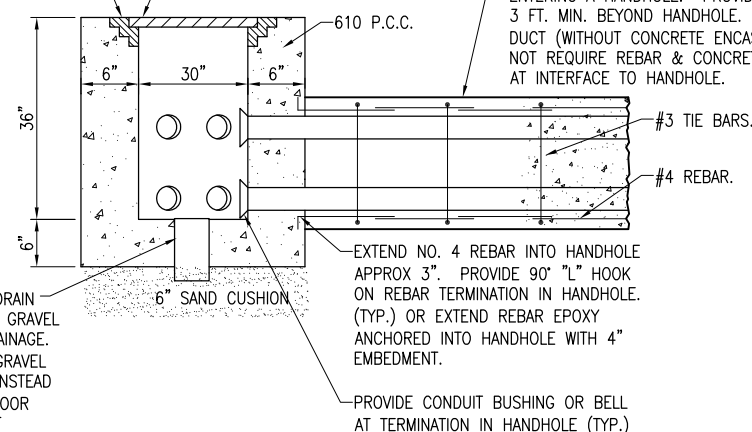


HEAVY DUTY FRAME & LID SUITABLE FOR H-20 LOADING, NEENAH CAT. NO. R-6662-PP OR APPROVED EQUAL

SMOOTH TROWEL FINISH (SLOPE TO DRAIN)

DUCT BANK SHALL TRANSITION TO (OR BE) REINFORCED CONCRETE ENCASED DUCT WHERE ENTERING A HANDHOLE. PROVIDE REINFORCEMENT 3 FT. MIN. BEYOND HANDHOLE. DIRECT BURY DUCT (WITHOUT CONCRETE ENCASEMENT) DOES NOT REQUIRE REBAR & CONCRETE ENCASEMENT AT INTERFACE TO HANDHOLE.

6" SCHED 40 PVC DRAIN PIPE. FILL WITH PEA GRAVEL TO ACCOMMODATE DRAINAGE. NOTE 6" OF CA-7 GRAVEL MAY BE PROVIDED, INSTEAD OF 6" CONCRETE FLOOR WITH DRAIN PIPE, AT CONTRACTORS OPTION.



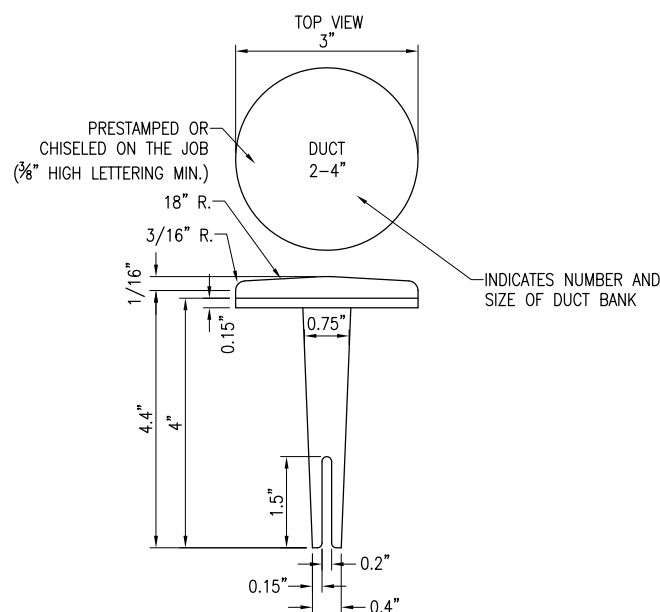
EXTEND NO. 4 REBAR INTO HANDHOLE APPROX 3". PROVIDE 90° "L" HOOK ON REBAR TERMINATION IN HANDHOLE. (TYP.) OR EXTEND REBAR EPOXY ANCHORED INTO HANDHOLE WITH 4" EMBEDMENT.

PROVIDE CONDUIT BUSHING OR BELL AT TERMINATION IN HANDHOLE (TYP.)

**NOTES:**

- LIDS FOR LOW VOLTAGE HANDHOLES SHALL BE LABELED "LOW VOLTAGE". LIDS FOR HIGH VOLTAGE HANDHOLES SHALL BE LABELED "HIGH VOLTAGE". COORDINATE LETTERING WITH MFR.
- HANDHOLES MAY BE CAST IN PLACE OR PRECAST. PRECAST MANUFACTURERS MUST BE ON THE IDOT (ILLINOIS DEPT. OF TRANSPORTATION) APPROVED LIST OF CERTIFIED PRECAST CONCRETE PRODUCERS.
- ALL CORING, INTERFACE, AND LABOR ASSOCIATED WITH CONDUIT, DUCT, CABLE IN UNIT DUCT, AND / OR CABLE ENTRIES WILL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE HANDHOLE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

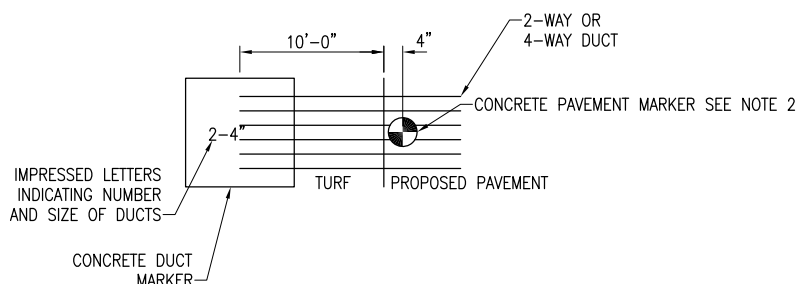
**ELECTRICAL HANDHOLE**  
"NOT TO SCALE"



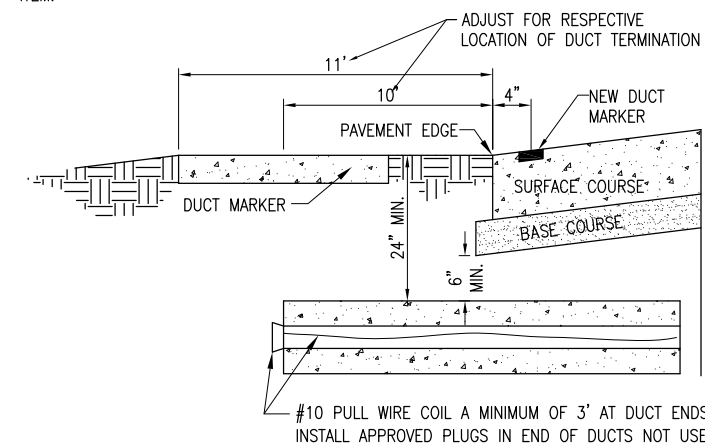
**BITUMINOUS PAVEMENT DUCT MARKERS**  
"NOT TO SCALE"

**NOTES:**

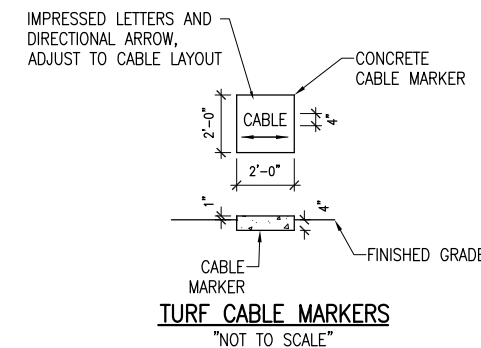
- TOP OF MARKER SHALL BE FLUSH WITH FINISHED PAVEMENT SURFACE. MARKER MAY BE INSTALLED IN A DRILLED HOLE AND SECURED WITH EPOXY GLUE.
- BRASS DUCT MARKERS ARE AVAILABLE FROM G&S FOUNDRY & MANUFACTURING CO., INC., 210 KASKASKIA DRIVE, RED BUD, IL 62278, PHONE: (618)-282-4114



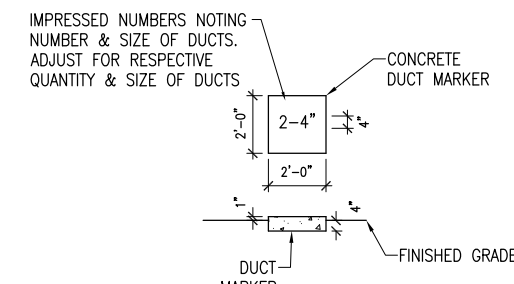
**DUCT MARKER DETAIL**  
"NOT TO SCALE"



**UNDERGROUND ELECTRICAL DUCT**  
"NOT TO SCALE"



**TURF CABLE MARKERS**  
"NOT TO SCALE"



**TURF DUCT MARKERS**  
"NOT TO SCALE"

REVISION	DATE

MACOMB MUNICIPAL AIRPORT  
MACOMB, ILLINOIS

ILL. PROJ.: MCB-4206 BLOCK GRANT PROJ.: 3-17-0064-B21

Hanson Proj. No. 12A0053	LAYOUT	KNL	01/13/13
Filename: E-504-DETL.dwg	DRAWN	TRR	01/15/13
Scale: NOT TO SCALE	REVIEWED	KNL/CAH	02/04/13
Date: 06/17/13			



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REPLACE VAULT, AIRFIELD  
LIGHTING AND GUIDANCE SIGNS

ELECTRICAL DETAILS  
SHEET 4