

## ELECTRICAL SYMBOLLOGY



MANHOLE



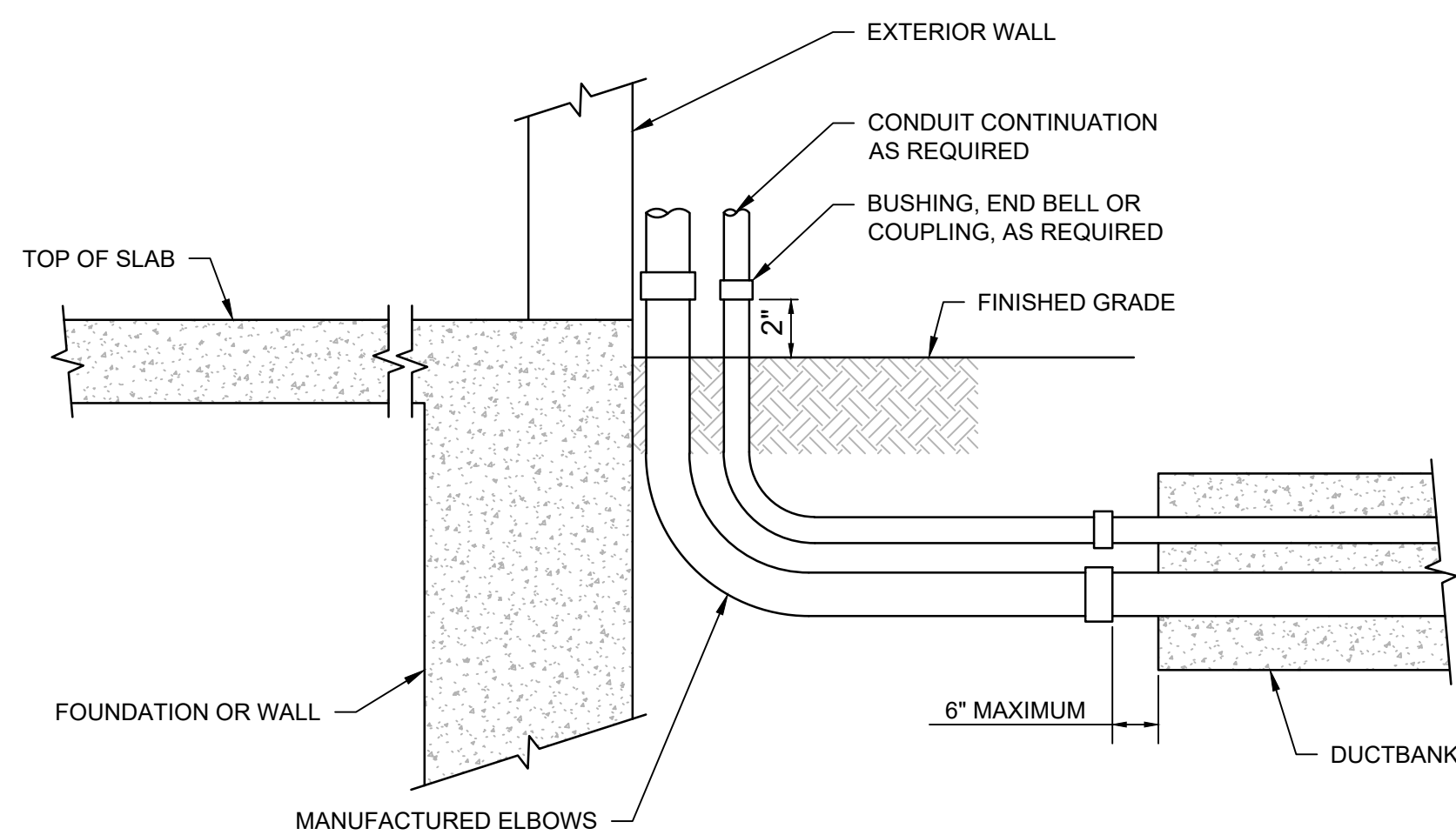
## HANDHOLE

—DB— UNDERGROUND DUCTBANK CONSISTING OF FOUR 4" CONDUITS, UNLESS OTHERWISE NOTED.

— ABOVE GROUND CONDUIT CONSISTING OF FOUR 4" CONDUITS, UNLESS OTHERWISE NOTED.

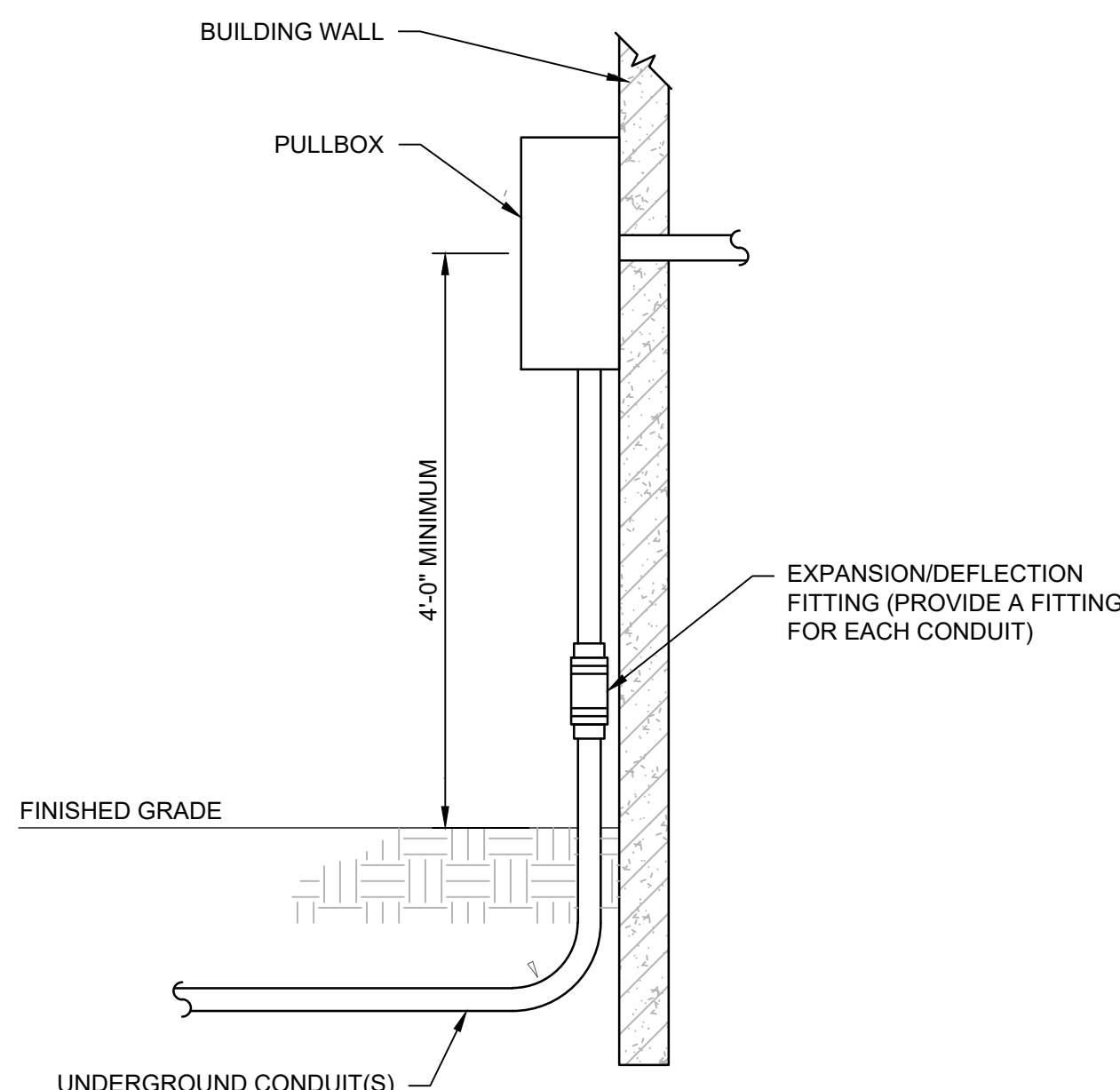
## GENERAL NOTES

1. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.



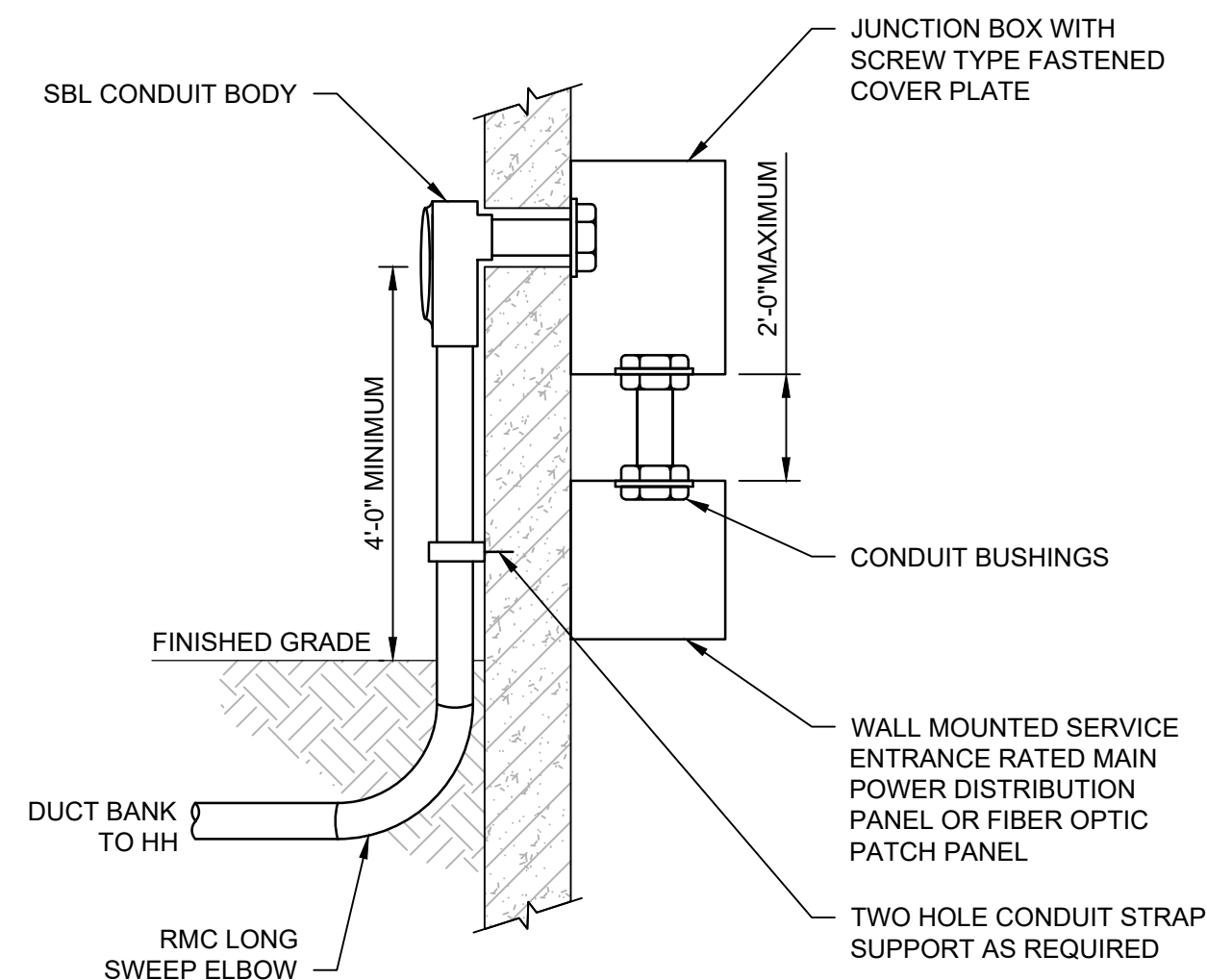
NOTE:

1. SEE DUCTBANK DETAIL FOR ADDITIONAL REQUIREMENTS



NOTE:

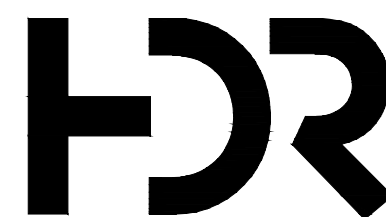
1. CONCRETE ENCASEMENT IF REQUIRED, IS NOT SHOWN. SEE SITE PLAN FOR ENCASEMENT OR DIRECT BURIED.



1  
- CONDUIT TRANSITION TO ABOVE GRADE (EXTERIOR TO EXTERIOR)  
NOT TO SCALE

2 UNDERGROUND CONDUIT-BUILDING-ENTRY  
- NOT TO SCALE

3 ABOVE GRADE FACILITY ENTRANCE DETAIL  
- NOT TO SCALE



-	MARCH 2022	B-3 DESIGN SUBMITTAL
ISSUE	DATE	DESCRIPTION

<b>PROJECT MANAGER</b>	DEREK WORLEY
<b>DESIGNED BY:</b>	ED CHINNIS
<b>DRAWN BY:</b>	JEREMY FORREST
<b>CHECKED BY:</b>	JIM ZAVADIL
<b>CONTRACT #:</b>	W9133L-15-D-0004
<b>ANG PROJECT #:</b>	FJRP182510
<b>HDR PROJECT #:</b>	10226692



## EXTEND COMMUNICATIONS DUCT BANK

**NC AIR NATIONAL GUARD  
145TH AIRLIFT WING  
CHARLOTTE, NC**

## CHARLOTTE AIR NATIONAL GUARD BASE ELECTRICAL LEGEND & GENERAL NOTES



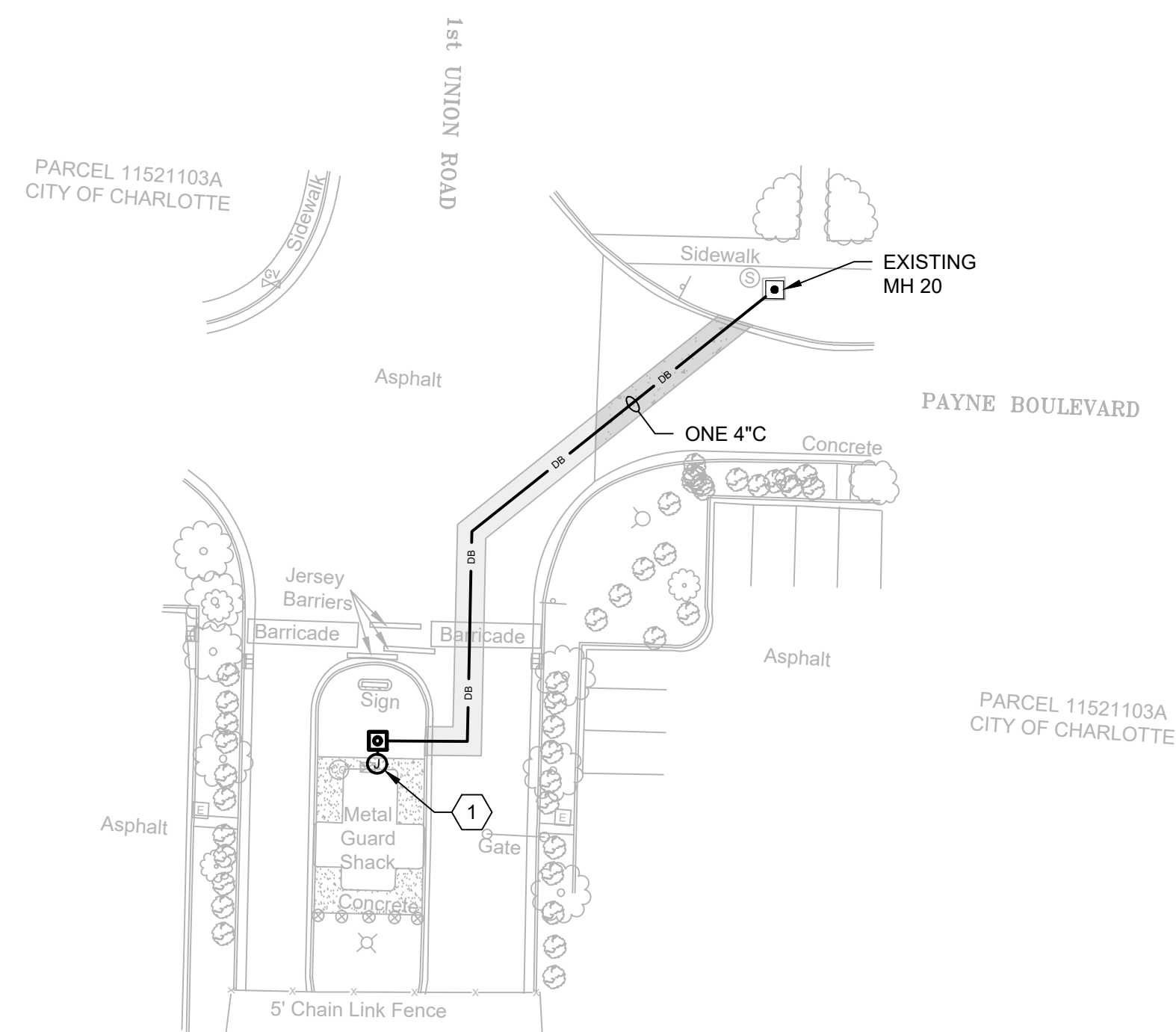
<b>FILENAME</b>	E-001.DWG
<b>SCALE</b>	NONE

SHEET  
E-001







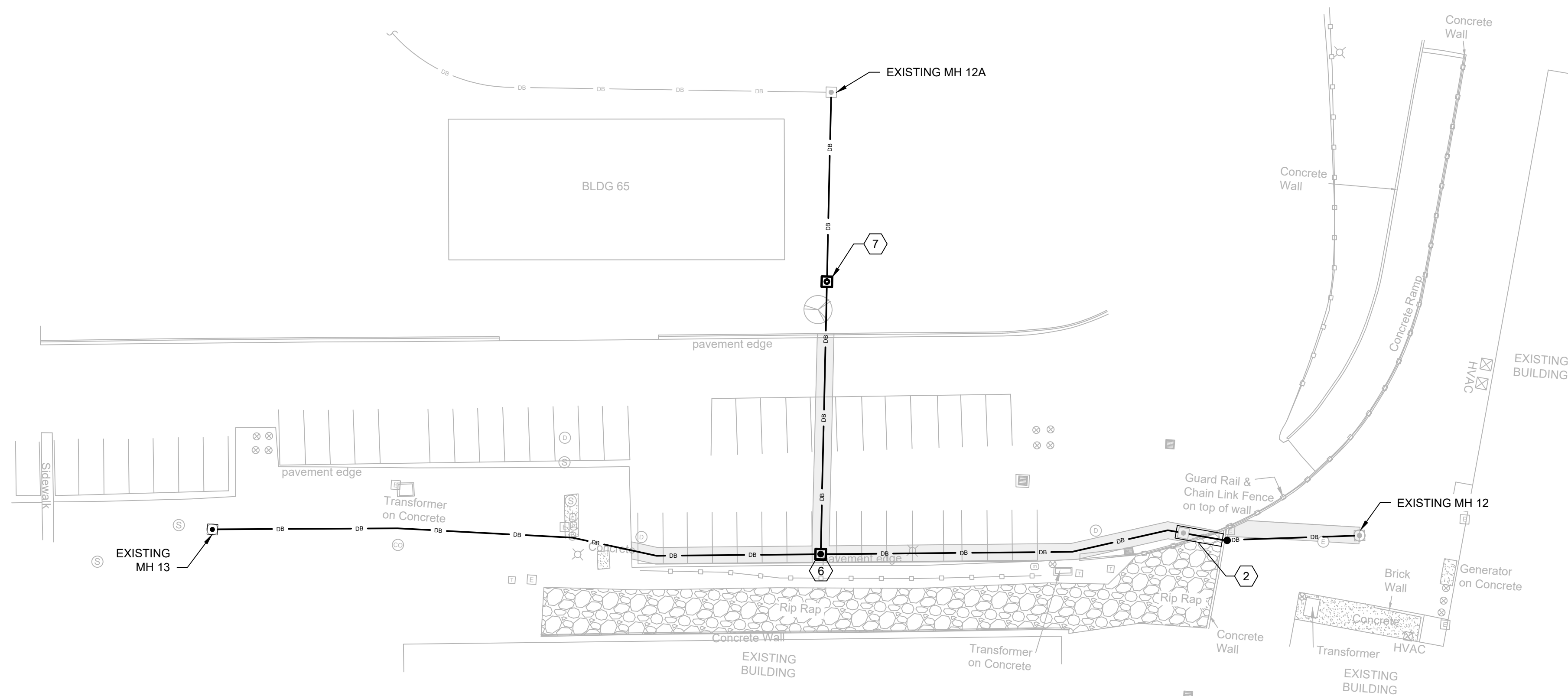


## PARTIAL SITE PLAN AREA 1

$$1^m = 30$$


## PARTIAL CONDUIT ROUTING SECTION ELEVATION

NTS



PARTIAL SITE PLAN AREA 2

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1" = 30'



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## EXTEND COMMUNICATIONS DUCT BANK

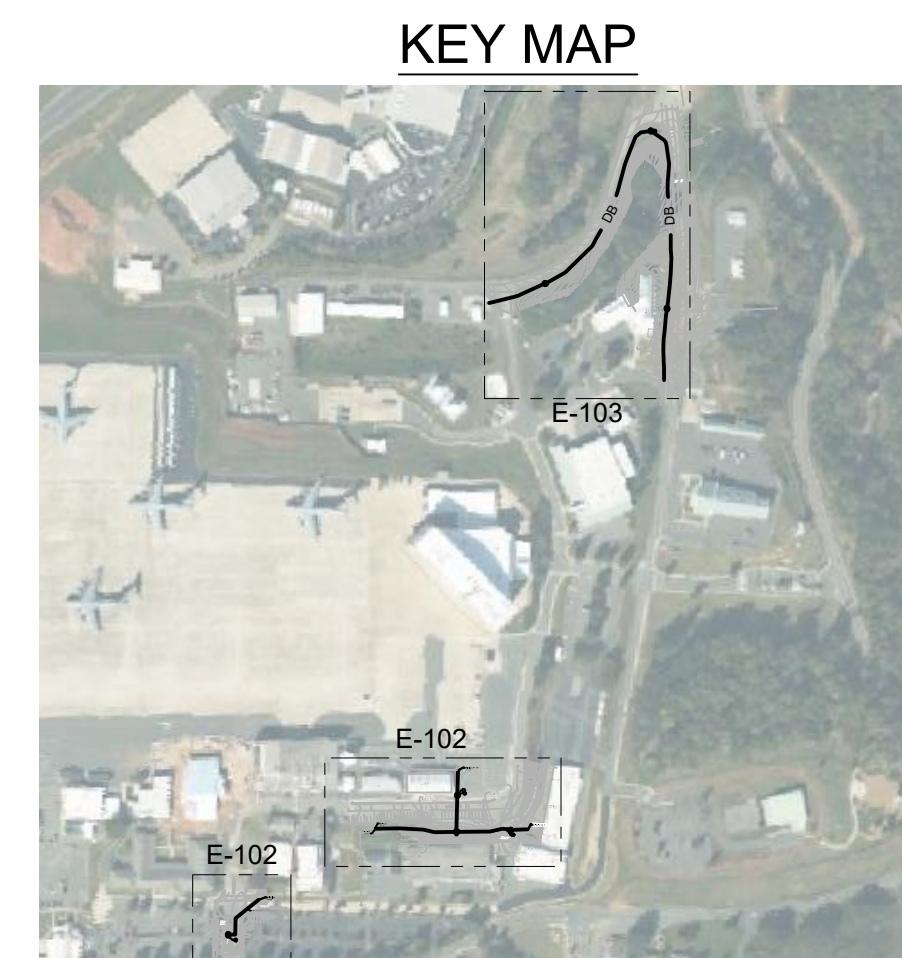
**NC AIR NATIONAL GUARD  
145TH AIRLIFT WING  
CHARLOTTE, NC**

# CHARLOTTE AIR NATIONAL GUARD BASE PARTIAL ELECTRICAL SITE PLAN 1

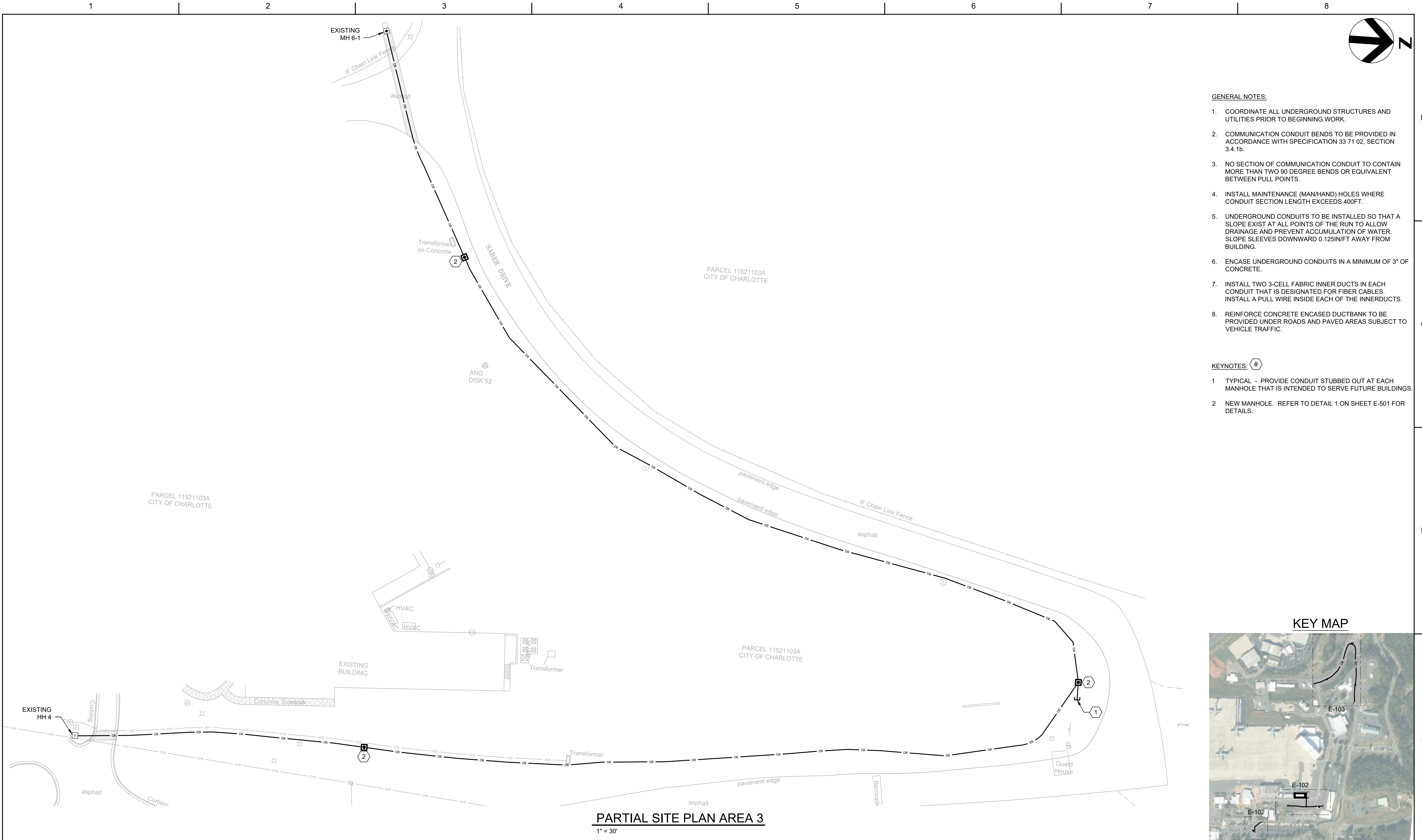


<b>FILENAME</b>	E-102.DWG
<b>SCALE</b>	1" = 30'

SHEET  
**E-102**

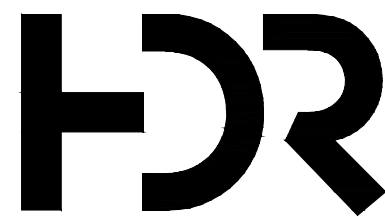
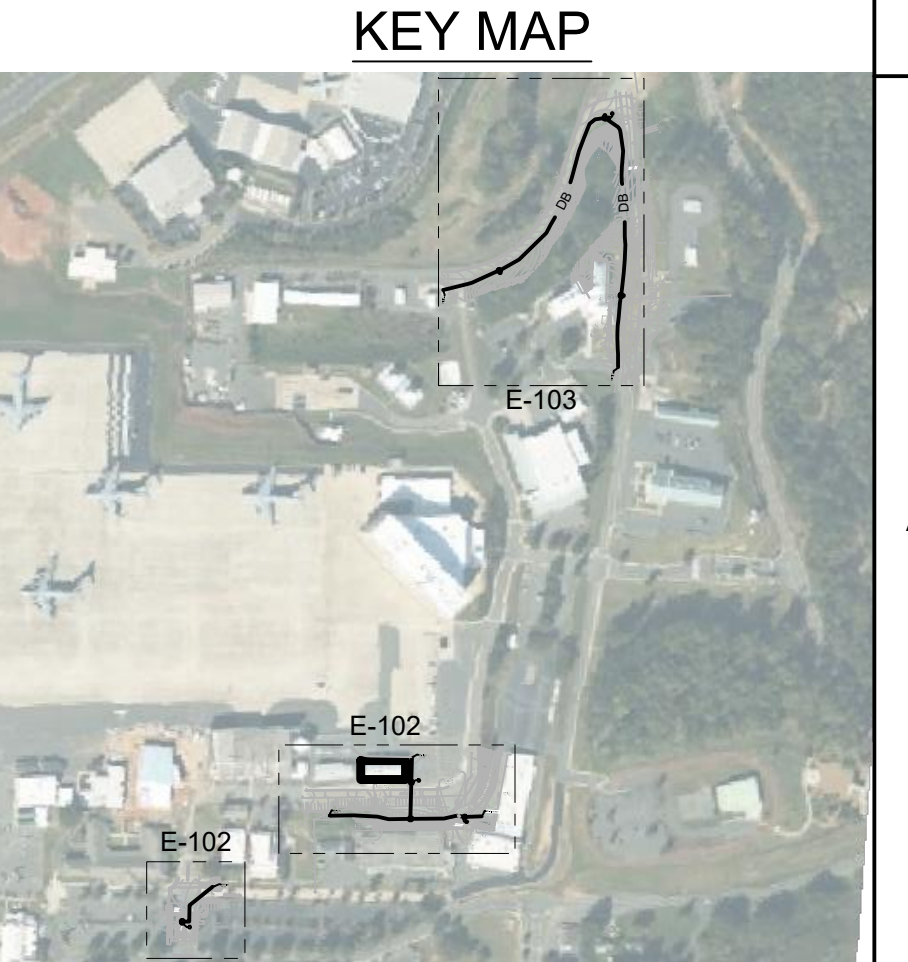






- GENERAL NOTES:**
- COORDINATE ALL UNDERGROUND STRUCTURES AND UTILITIES PRIOR TO BEGINNING WORK.
  - COMMUNICATION CONDUIT BENDS TO BE PROVIDED IN ACCORDANCE WITH SPECIFICATION 33 71 02, SECTION 3.4.1b.
  - NO SECTION OF COMMUNICATION CONDUIT TO CONTAIN MORE THAN TWO 90 DEGREE BENDS OR EQUIVALENT BETWEEN PULL POINTS.
  - INSTALL MAINTENANCE (MAN/HAND) HOLES WHERE CONDUIT SECTION LENGTH EXCEEDS 400FT.
  - UNDERGROUND CONDUITS TO BE INSTALLED SO THAT A SLOPE EXIST AT ALL POINTS OF THE RUN TO ALLOW DRAINAGE AND PREVENT ACCUMULATION OF WATER. SLOPE SLEEVES DOWNWARD 0.125IN/FT AWAY FROM BUILDING.
  - ENCASE UNDERGROUND CONDUITS IN A MINIMUM OF 3" OF CONCRETE.
  - INSTALL TWO 3-CELL FABRIC INNER DUCTS IN EACH CONDUIT THAT IS DESIGNATED FOR FIBER CABLES. INSTALL A PULL WIRE INSIDE EACH OF THE INNERDUCTS.
  - REINFORCE CONCRETE ENCASED DUCTBANK TO BE PROVIDED UNDER ROADS AND PAVED AREAS SUBJECT TO VEHICLE TRAFFIC.

- KEYNOTES:** #
- TYPICAL - PROVIDE CONDUIT STUBBED OUT AT EACH MANHOLE THAT IS INTENDED TO SERVE FUTURE BUILDINGS.
  - NEW MANHOLE. REFER TO DETAIL 1 ON SHEET E-501 FOR DETAILS.



ISSUE	DATE	DESCRIPTION
-	MARCH 2022	B-3 DESIGN SUBMITTAL

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CHECKED BY:	JIM ZAVADIL
CONTRACT #:	W9133L-15-D-0004
ANG PROJECT #:	FJRP182510
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EXTEND  
COMMUNICATIONS DUCT  
BANK  
  
NC AIR NATIONAL GUARD  
145TH AIRLIFT WING  
CHARLOTTE, NC

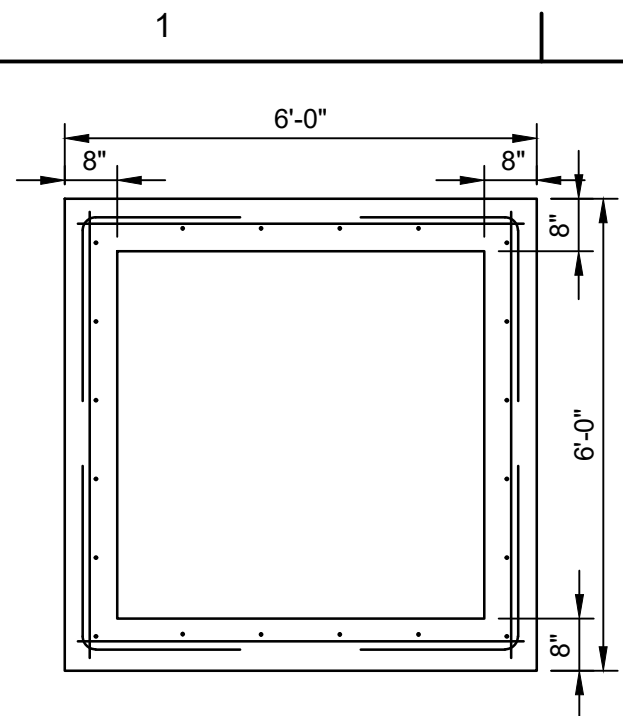
CHARLOTTE AIR NATIONAL GUARD BASE  
PARTIAL ELECTRICAL SITE  
PLAN 2



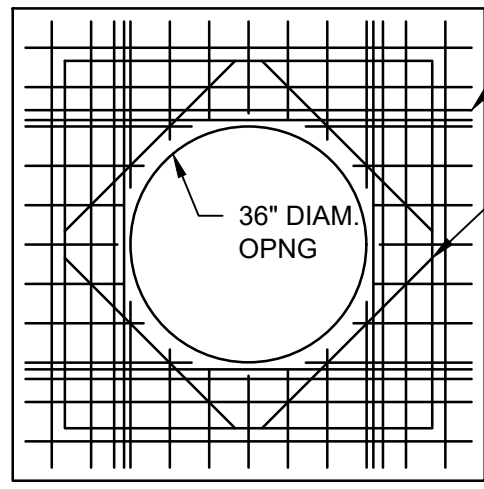
FILENAME | E-103.DWG  
SCALE | 1" = 30'

SHEET  
E-103

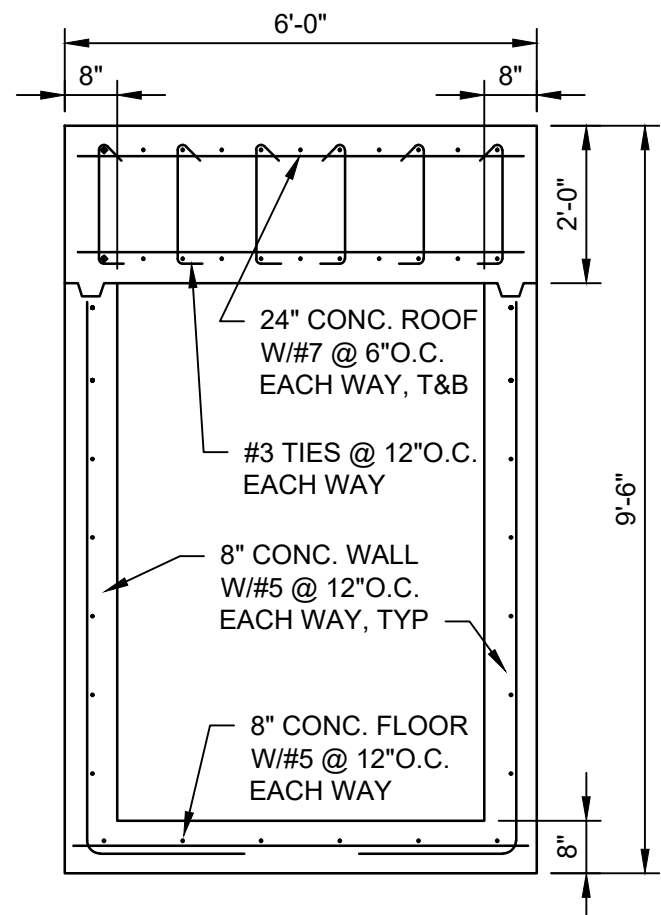




WALL SECTION



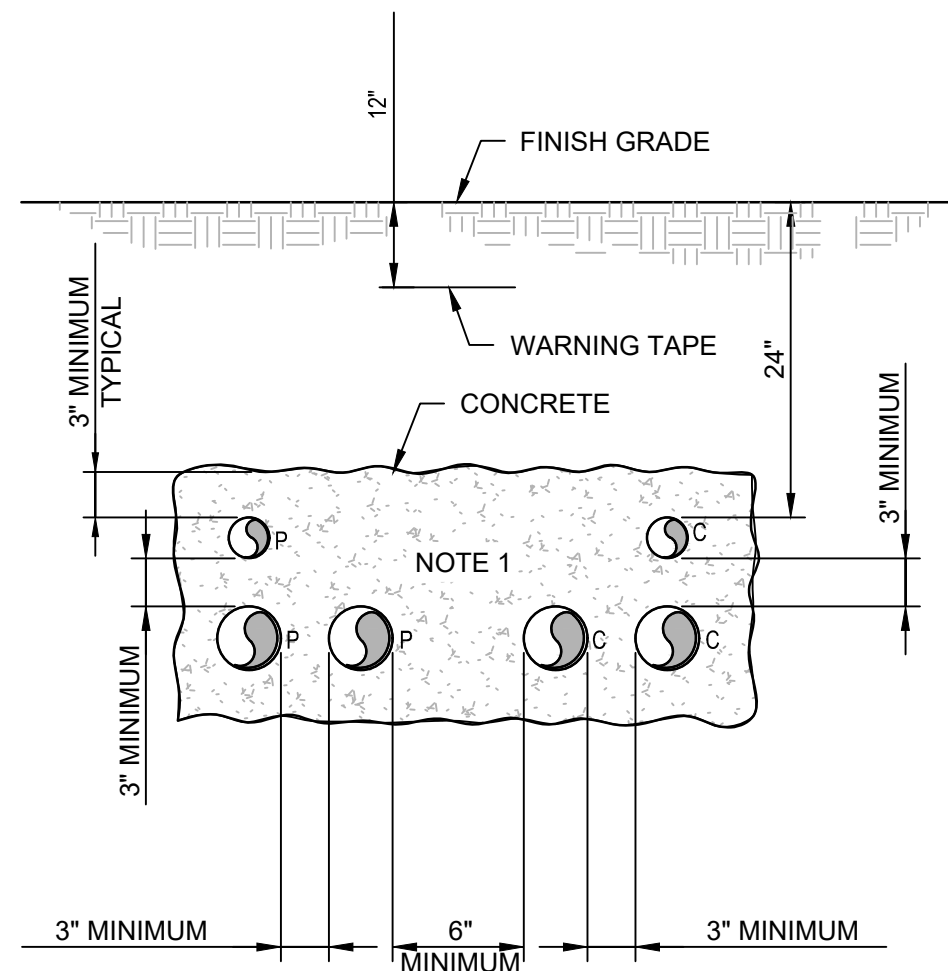
ROOF PLAN



SECTION

### 1 TELECOM MANHOLE DETAIL

NOT TO SCALE

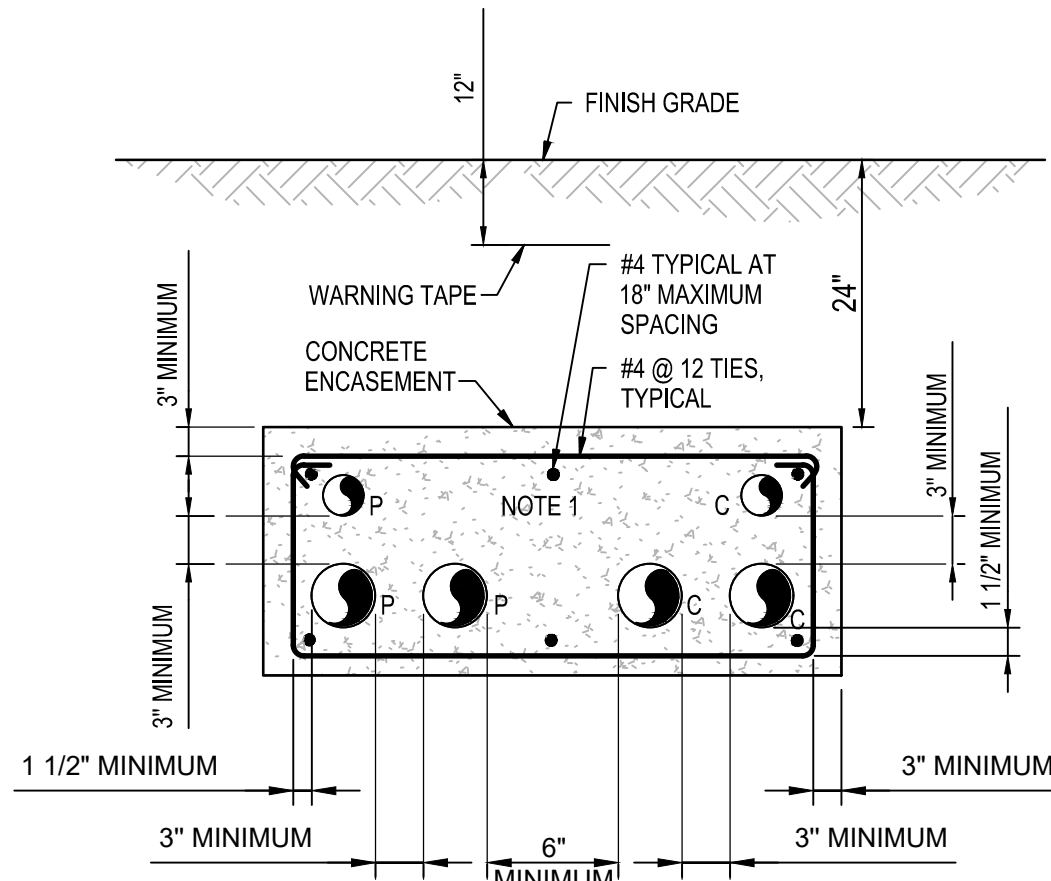


#### NOTES:

1. NUMBER OF CONDUITS AS REQUIRED FOR THE APPLICATION.
2. "P" SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
3. "C" SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.

### 4 CONCRETE ENCASED DUCTBANK

NOT TO SCALE

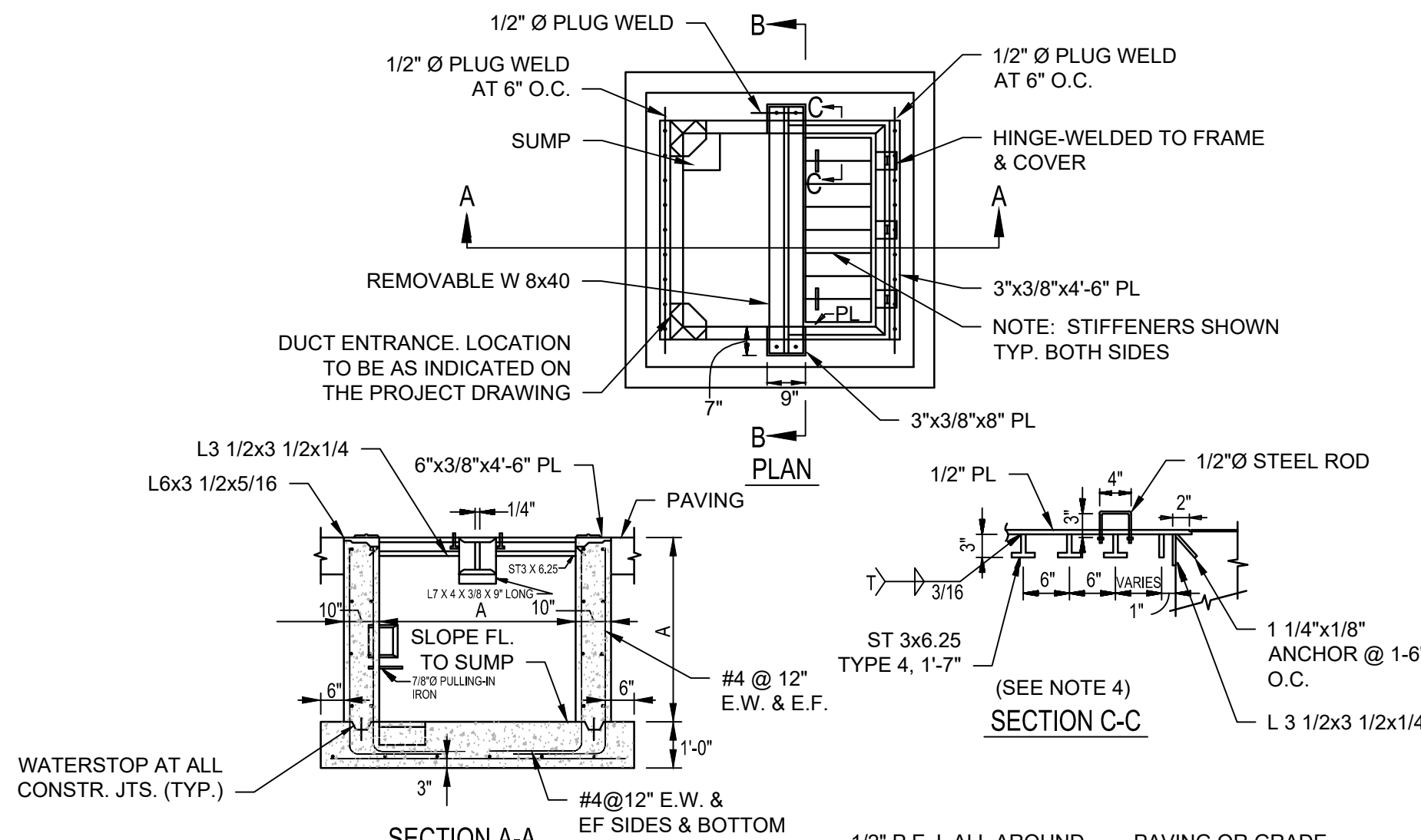


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1. NUMBER OF CONDUITS AS REQUIRED FOR THE APPLICATION.
2. "P" SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
3. "C" SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.

### 2 REINFORCED CONCRETE ENCASED DUCTBANK SECTION

NOT TO SCALE

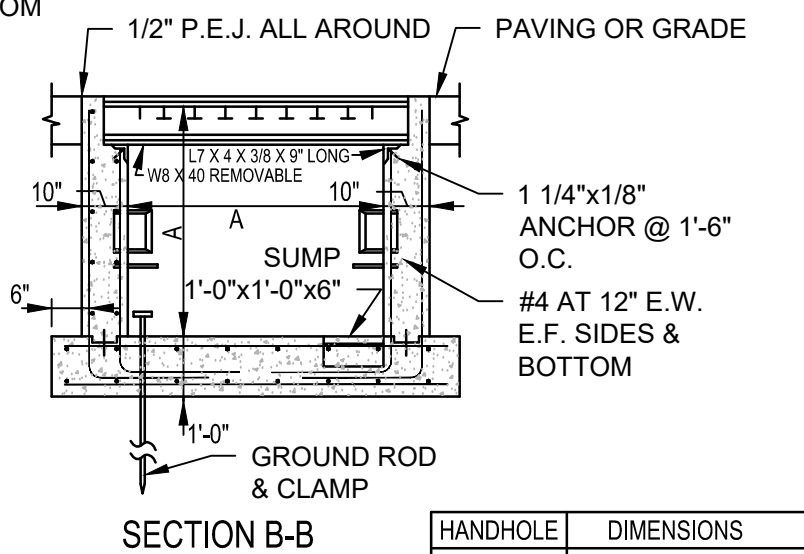


#### NOTES:

1. ENTRANCE OF DUCTS INTO HANDHOLE MAY BE MADE ON SIDE FACES OR CORNERS AS REQUIRED.
2. FOR DETAILS OF CABLE RACKS, DUCT ENTRANCE AND PULLING-IN IRONS, SEE DETAIL 6 THIS SHEET.
3. HANDHOLE AND COVER IS DESIGNED FOR MAXIMUM SINGLE WHEEL LOAD OF 50,000 LB. OR DUAL WHEEL LOAD OF 90,000 LB.
4. COVER SHALL BE MADE OF STRUCTURAL STEEL CONFORMING TO ASTM A 36/A 36M.
5. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 3000 PSI.

### 5 STANDARD ELECTRICAL HANDHOLE TYPE 4

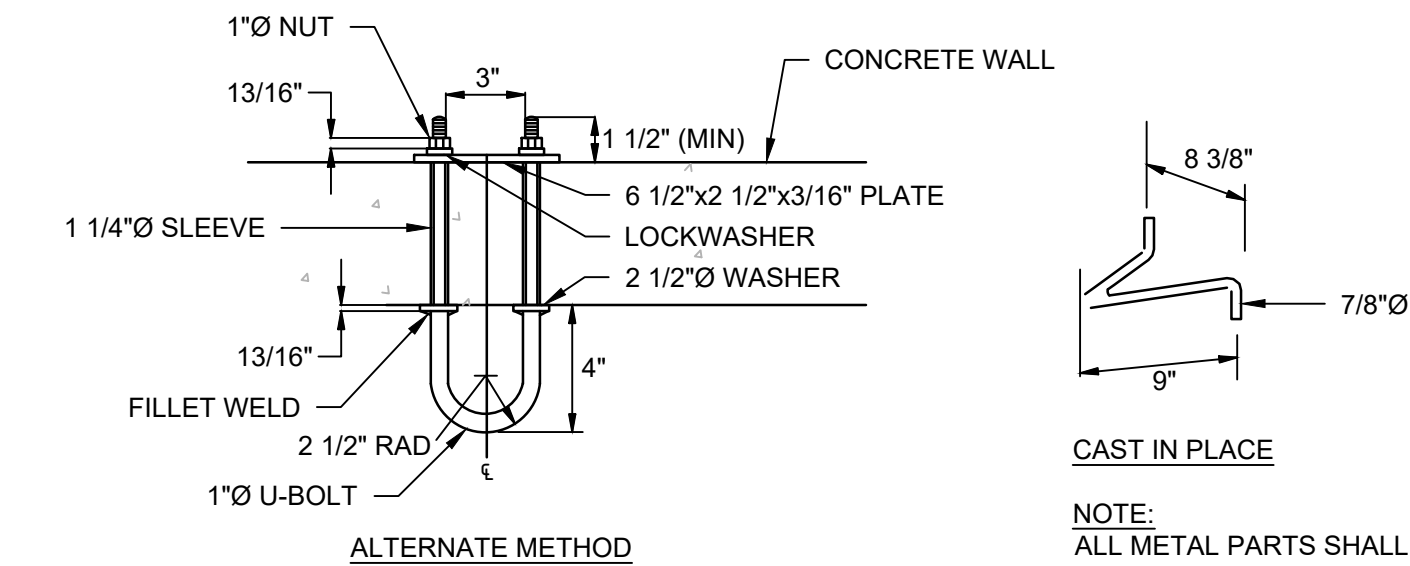
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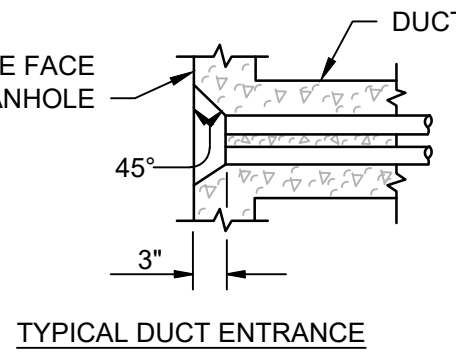
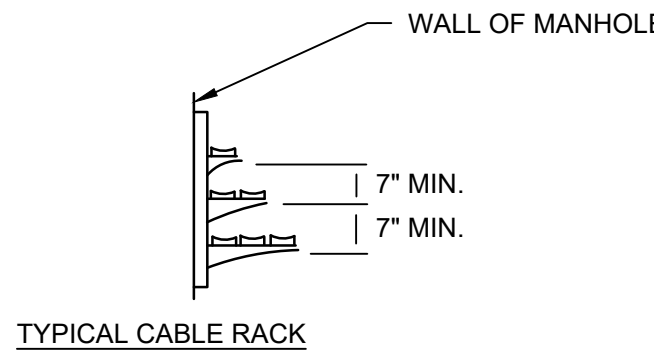
HANDHOLE TYPE	DIMENSIONS
4	4'-0"

### 3 UNDERGROUND DUCTBANK CONCRETE REINFORCING DETAIL

NOT TO SCALE



#### DETAIL OF PULLING-IN IRON



### 6 DETAILS (PULLING-IN IRON, CABLE RACK AND DUCT ENTRANCE)

NOT TO SCALE



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NC AIR NATIONAL GUARD  
145TH AIRLIFT WING  
CHARLOTTE, NC

#### CHARLOTTE AIR NATIONAL GUARD BASE ELECTRICAL DETAILS



FILENAME	E-501.DWG
SCALE	AS NOTED

SHEET  
E-501