

Mezzanine Inspection Report

REVISION 2

Date: 06/04/15	Station Name: F02 Archives	Mezzanine #: M081	Completed By: Mike Butler
----------------	----------------------------	-------------------	---------------------------

Summary

NEPP-01: Upper / lower faregate communications and power ducts were video scoped; pull strings were installed in upper / lower communication ducts. Pull string installation could not be completed in power duct from kiosk to AFC panel because the duct was at capacity and wire congestion prohibited passage through the duct.

Scanning was conducted to identify new power route between the Kiosk and AFC Panel. The scanning results showed that the mezzanine floor is very congested with existing walker ducts and there is no clear path for a new duct between the Kiosk and AFC Panel. However, alternate ducts running into the back rooms were identified.

NEPP-02: Video scoping and pull string installation was completed in an empty alternate duct that runs from the Kiosk to an empty junction box in Elevator Machine Room 205 (refer to photos). An overhead conduit is proposed from junction box (Room 205) to AFC Panel (Room 203). The proposed conduit will rise up from the junction box and snake around the internal wall until it reaches the outside wall of Room 203. The conduit will then core drill through the wall into Room 203 and proceed around the internal wall before connecting with the AFC Panel.

NEPP-01: Scoping of Faregate Arrays (10/22/14)

Task	5	Yes/No	Notes
Communications Duct – Upper Faregate Array (4 gates)			
Was video scoping completed for the entire duct run?	5	Yes	Refer to "WMATA Archives Upper Comm Duct Video.avi"
Were pull strings installed at all faregates in the array?	5	Yes	
Were there any obstructions or blockages? Provide details of type and specific location.	5	No	2" duct is in good condition, however 4" duct is collapsed.
Is the duct at capacity? Provide additional details about the dimensions of ducts and number of wires.	5	No	2" walker duct with less than 8 wires.
Communications Duct - Lower Faregate Array (3 gates)			
Was video scoping completed for the entire duct run?	5	Yes	Refer to "WMATA Archives Lower Comm Duct Video.avi"
Were pull strings installed at all faregates in the array?	5	Yes	
Were there any obstructions or blockages? Provide details of type and specific location.	5	No	
Is the duct at capacity? Provide additional details about the dimensions of ducts and number of wires.	5	No	4" walker duct with less than 8 wires.
Power Duct - Upper Faregate Array (4 gates)			
Was video scoping completed for the entire duct run?	5	Yes	Refer to "WMATA Archives Upper Power Duct Video.avi"
Were there any obstructions or blockages? Provide details of type and specific location.	5	No	
Is the duct at capacity? Provide additional details about the dimensions of ducts and number of wires.	5	No	6" walker duct with less than 10 wires.
Power Duct - Lower Faregate Array (3 gates)			
Was video scoping completed for the entire duct run?	5	Yes	Refer to "WMATA Archives Lower Power Duct Video.avi"
Were there any obstructions or blockages? Provide details of type and specific location.	5	No	
Is the duct at capacity? Provide additional details about the dimensions of ducts and number of wires.	5	No	6" walker duct with less than 10 wires.


NEPP-01: Scoping of Existing Power Duct (10/22/14)		
Task	Yes/No	Notes
Kiosk to AFC Panel (Distance: 55')		
Was video scoping completed for the entire duct / conduit run?	No	Video scoping not possible due to wire congestion.
Was pull string installed?	No	
Were there any obstructions or blockages? Provide details of type and specific location.	Yes	There were blockages due to wire congestion.
Is the duct / conduit at capacity? Provide additional details about the dimensions of duct / conduit and number of wires.	Yes	6" duct with more than 20 wires.
NEPP-01: Scanning of Mezzanine Floor (11/04/14)		
<ul style="list-style-type: none"> - Scanning was conducted to identify new power route between the Kiosk and AFC Panel. - The scanning results showed that the mezzanine floor is very congested with existing walker ducts and there is no clear path for a new duct between the Kiosk and AFC Panel. - Alternate ducts running into the back rooms were identified. 		
NEPP-02: Scoping of Alternate Power Duct (06/04/15)		
Task	Yes/No	Notes
Kiosk to Junction Box in Room 205 (Distance: 75')		
Was video scoping completed for the entire duct / conduit run?	Yes	Refer to "F02_MZ081_Archives_Kiosk to Junction Box.avi"
Was pull string installed?	Yes	
Were there any obstructions or blockages? Provide details of type and specific location.	No	
Is the duct / conduit at capacity? Provide additional details about the dimensions of duct / conduit and number of wires.	No	Empty 6" walker duct.
Observations / Issues / Next Steps		
<ul style="list-style-type: none"> - The distance of proposed power route from Kiosk to AFC Panel is 135', including of 75' empty alternate duct between Kiosk and Junction Box (Room 205) and 60' of proposed overhead conduit from Junction Box (Room 205) to AFC Panel (Room 203). - Refer to attached photos and drawings for further information. 		
Sign Off		
	GFP Representative	WMATA PRGM
Name:	Mike Butler	
Signature:		
Date:	06/09/15	

Photo # 1 – Existing and alternate duct layout on mezzanine floor

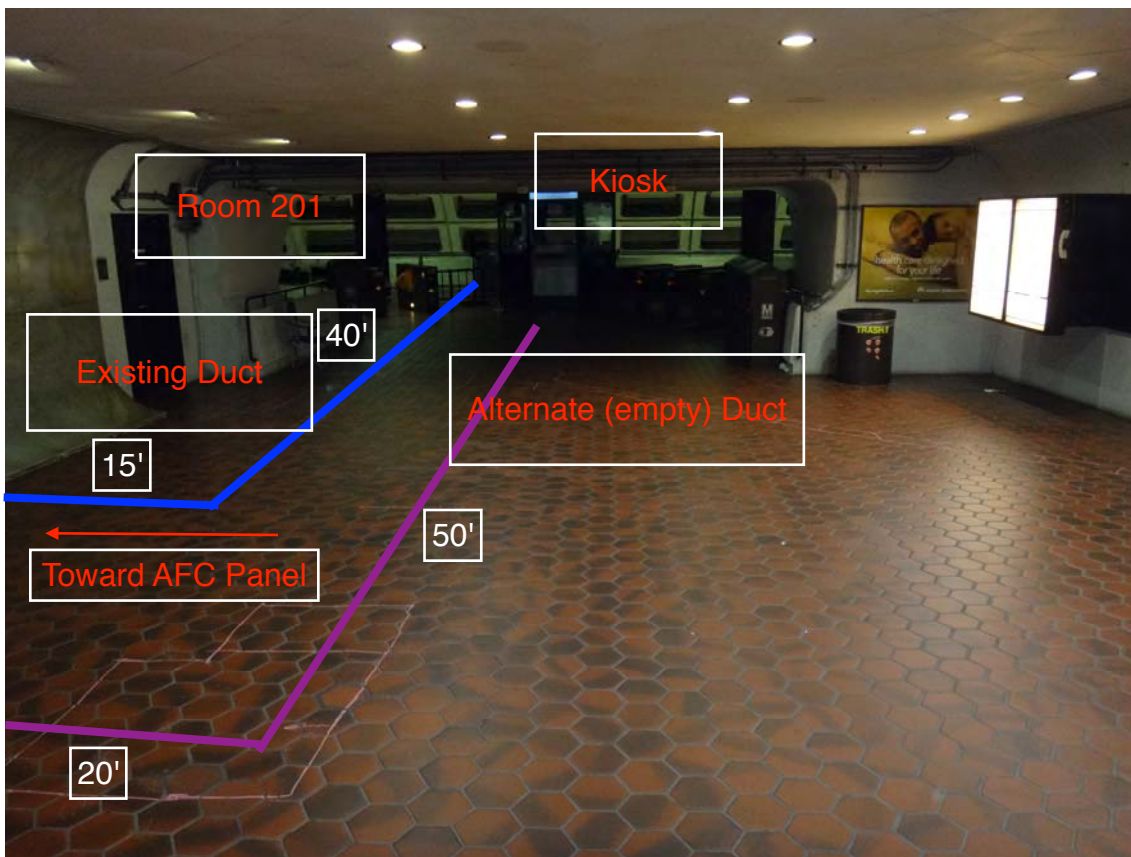


Photo # 2 – Existing and alternate duct layout on mezzanine floor

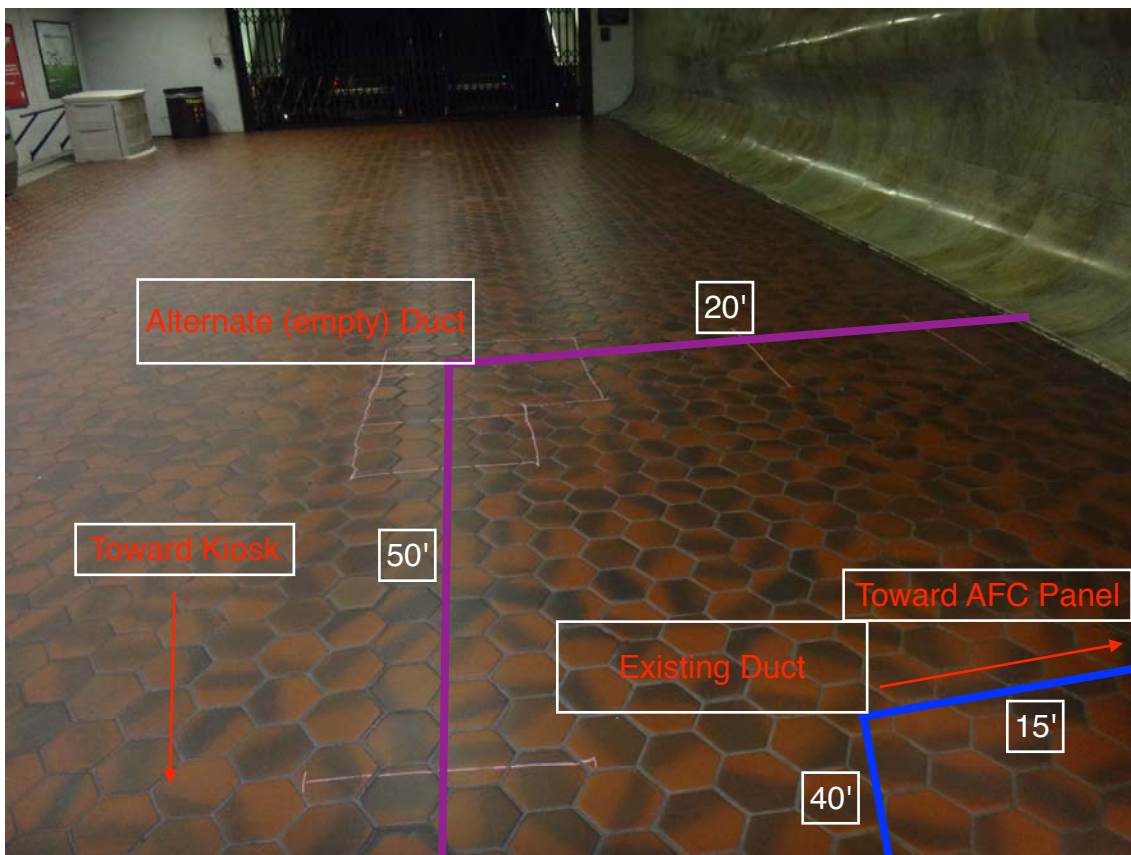


Photo #3 – Alternate (empty) duct and proposed conduit in Elevator Machine Room 205

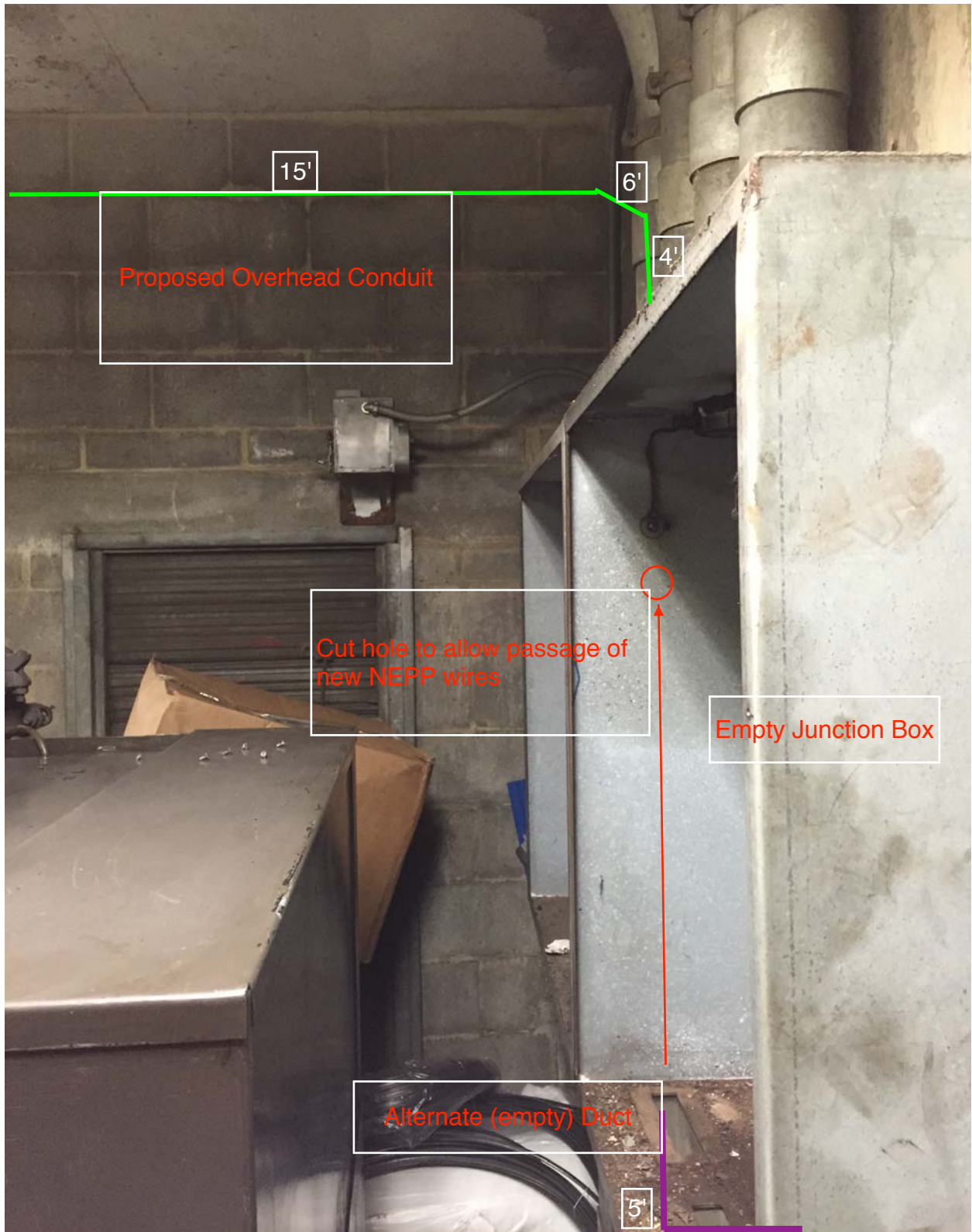


Photo #4 – Proposed overhead conduit in Elevator Machine Room 205

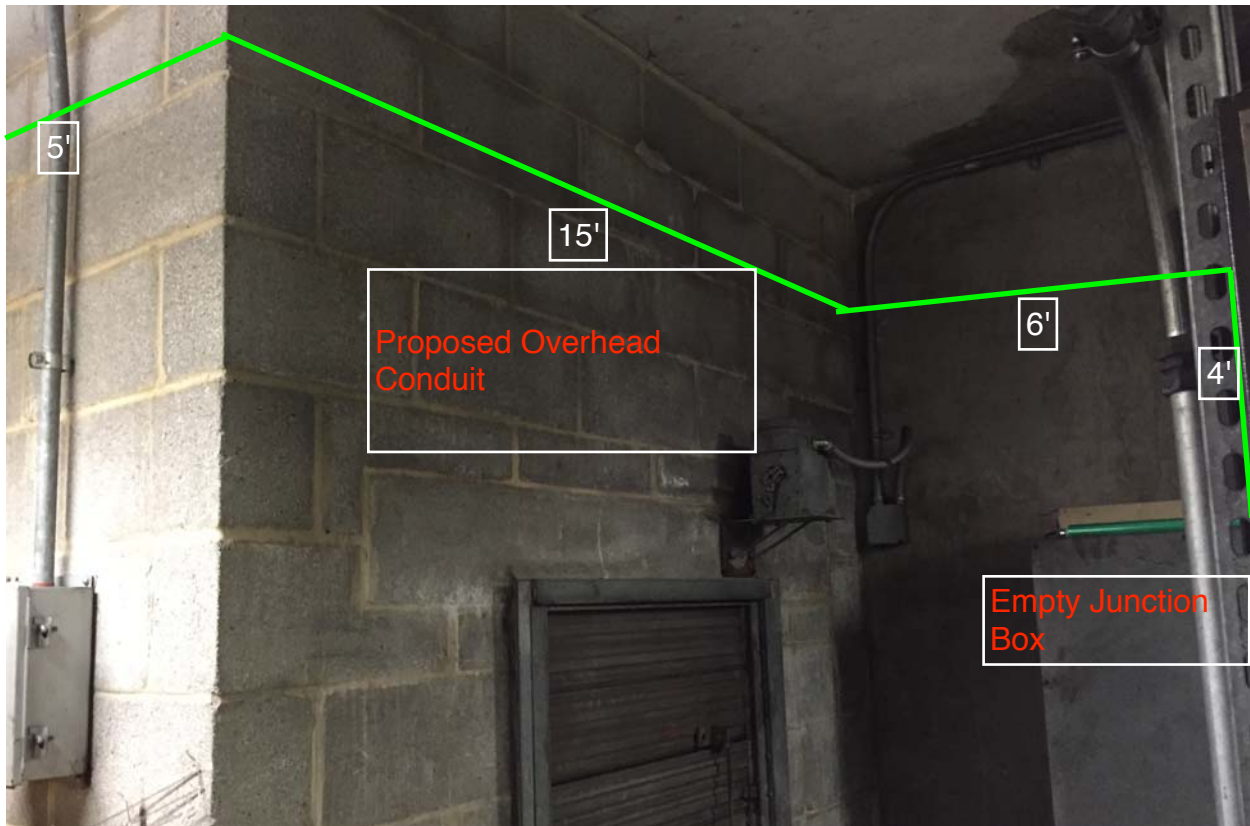


Photo #5 – Proposed overhead conduit in Elevator Machine Room 205

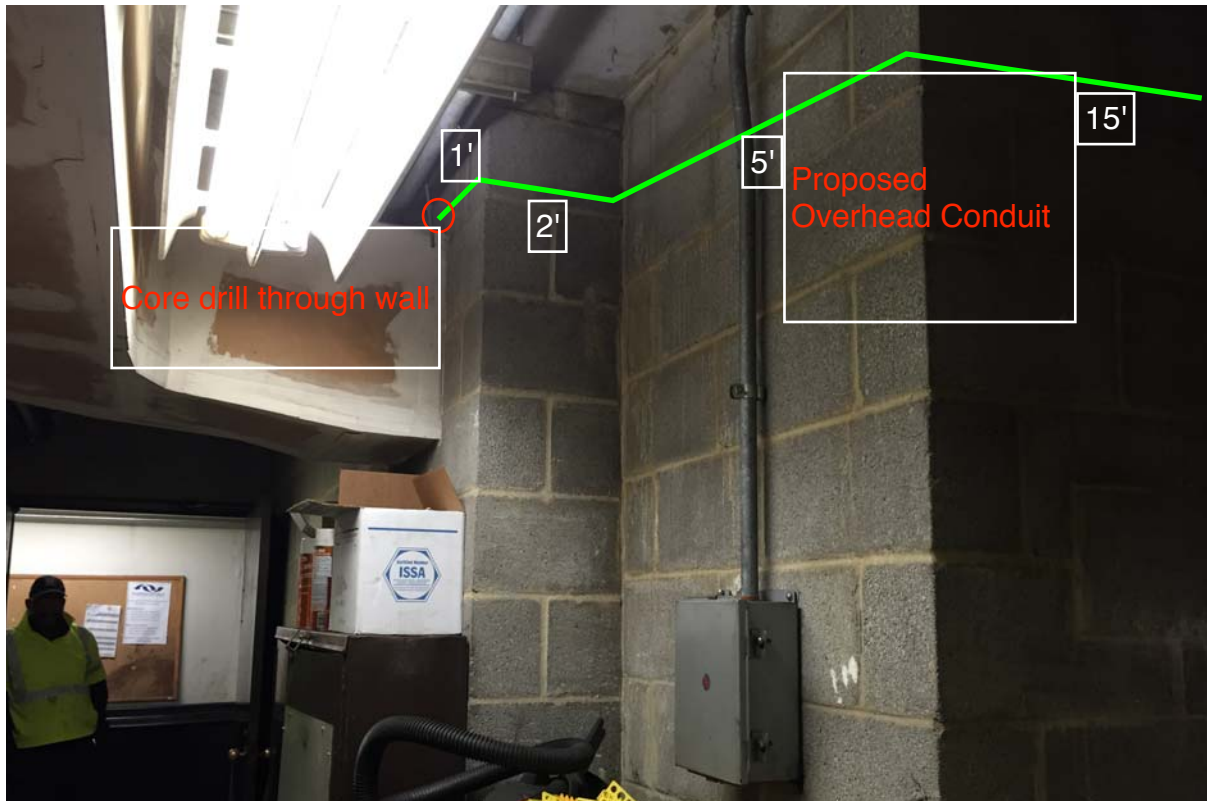


Photo #6 – Proposed overhead conduit in Electrical Room 203

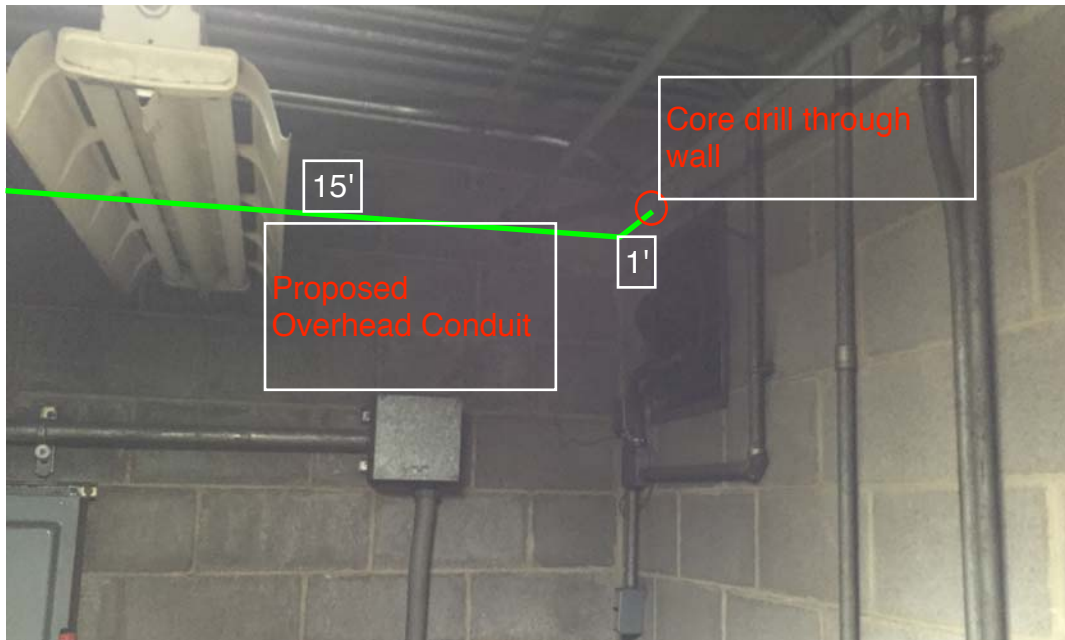
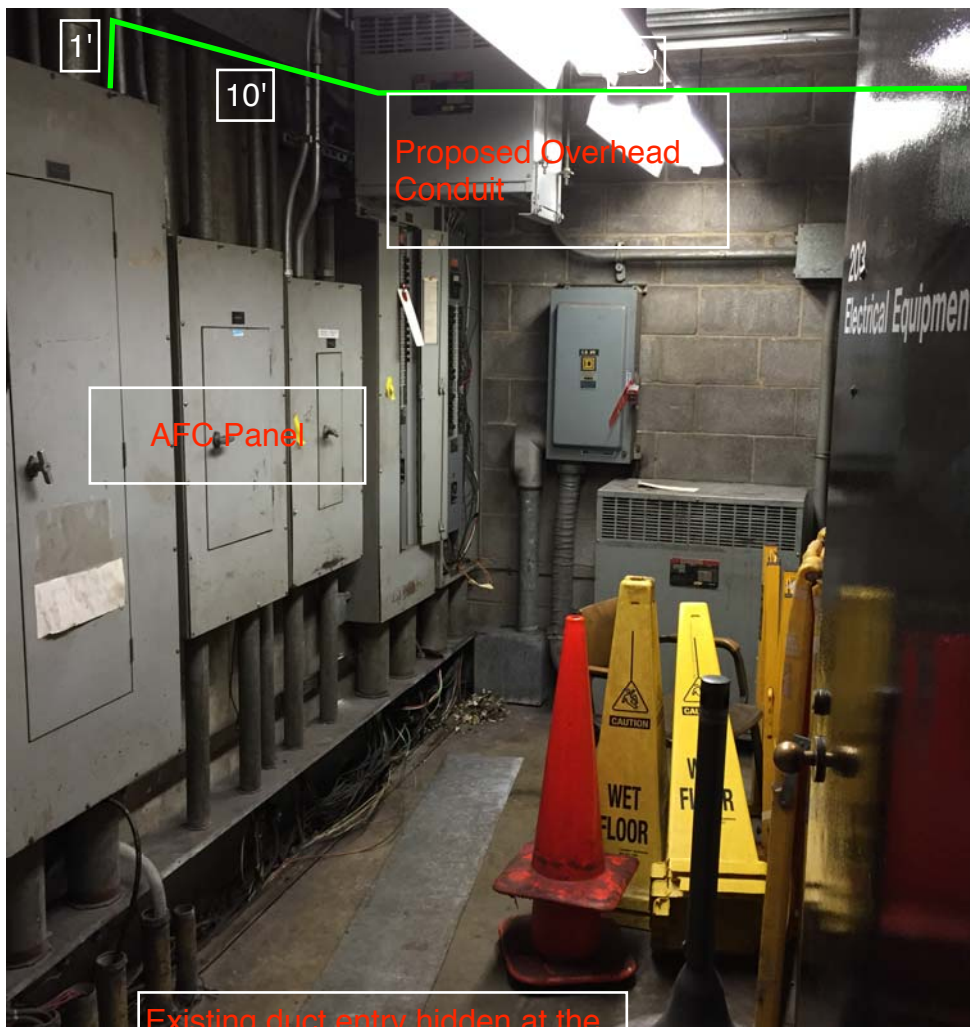


Photo #7 – Existing duct and proposed overhead conduit in Electrical Room 203



Existing duct entry hidden at the bottom of shared trough

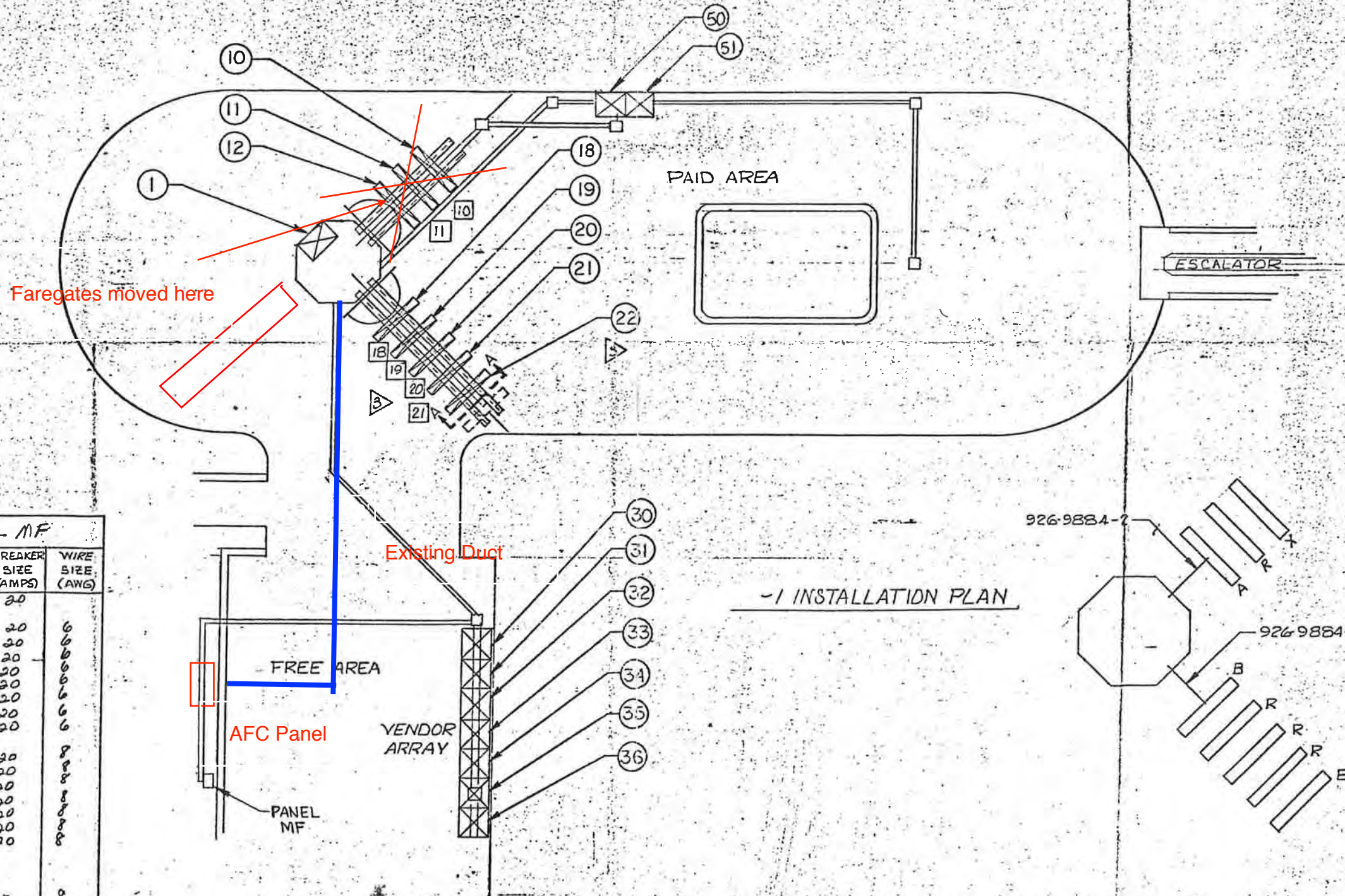
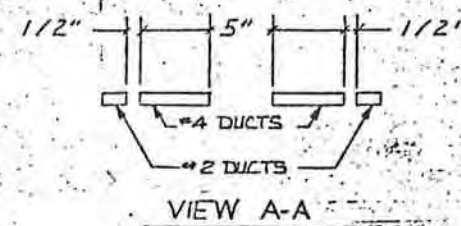
NOTES

1. THE MINIMUM OPERATIONAL MACHINE INVENTORY IS REFERENCED ON THIS DRAWING BY THE "X" DRAWN THROUGH THE MACHINE.

2. FOR REFERENCE DRAWINGS USED SEE SUPPORT DOCUMENTATION PACKAGE FOR THIS MEZZANINE.

3. (X) INDICATES POSITION NO. (X) INDICATES AISLE NO.

EXISTING LAYOUT



POSITION NO.	MACHINE TYPE	SERIAL NO.	CIRCUIT BREAKER NO.	BREAKER SIZE (AMPS)	WIRE SIZE (AWG)
1	DADS	DS 8073	K105K	20	
10	EXIT GATE	GX 4067	13	20	99999999
11	REV GATE	GR-7262	7	20	
12	A GATE	GA-5052	7	20	
18	B GATE	GB-6049	9	20	
19	REV GATE	GR-7257	11	20	
20	REV GATE	GR-7257	13	20	
21	REV GATE	GR-7256	15	20	
22	ENTRY GATE	GN-3054	17	20	
30	VENDOR	FV-1336	14	20	
31	VENDOR	FV-1319	18	20	
32	VENDOR	FV-1329	20	20	
33	VENDOR	FV-1334	22	20	
34	VENDOR	FV-1301	24	20	
35	VENDOR	FV-1340	26	20	
36	VENDOR	FV-1323	26	20	
50	ADDFARE	Am-2122	19	20	
51	ADDFARE	Am-2123	21	20	

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES ON BREAK SHARP EDGES .010 MAX
ON OTHERS .010
HOLE SIZES .010
ANGLES 1 D.S. DEG.

CONTRACT NUMBER

DRAWING NUMBER
926-0453

SHEET 1 OF 1

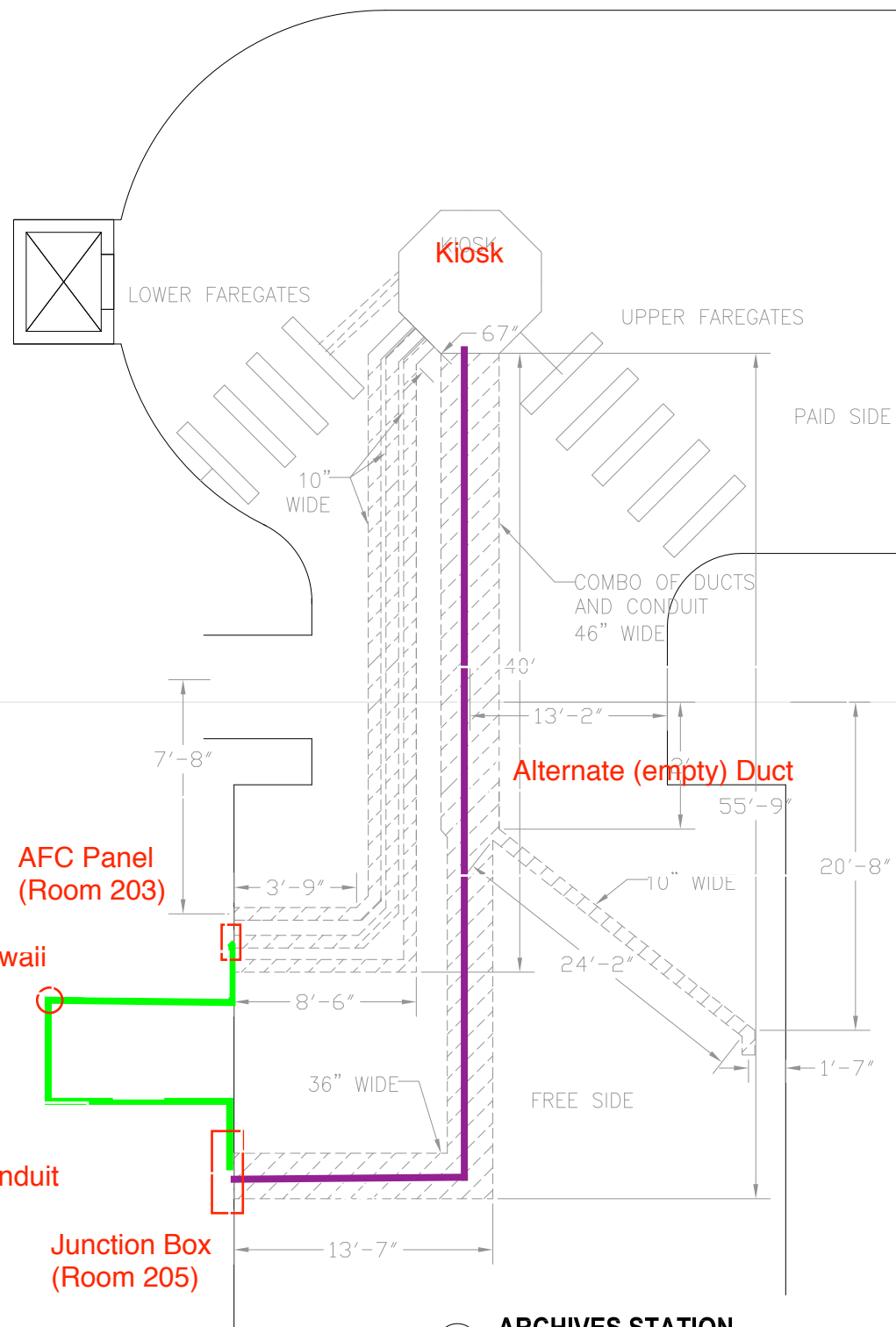
CUBIC WESTERN DATA
A Subsidiary of Pacific Telephone Company
5450 KENNEDY AVENUE, SUITE 100, SAN DIEGO, CA 92138

INSTALLATION PLAN
ARCHIVES STATION

CODE IDENT NO.
94987

D 926-0453

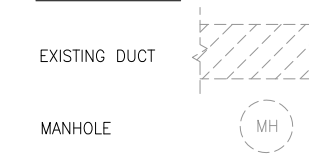
DATE: 5/22/82
DRAWN: T.D.N.
CHECKED: A.S.L.
DESIGN: C.T.C.
ENGINEER: C.T.C.
DESIGN ACTIVITY APPROVAL: [Signature]
APPROVAL: [Signature]



PLAN NOTES:

1. DIMENSIONS ARE IN FEET AND INCHES.
2. DIMENSIONS ARE FOR REFERENCE ONLY.
3. EXISTING IN-FLOOR DUCTS/CONDUITS WERE IDENTIFIED USING A PORTABLE GPR SCANNING DEVICE.
4. THE SCANNING COVERAGE IS LIMITED TO THE MEZZANINE FLOOR ONLY.
5. GPR SCANNING HAS THE FOLLOWING LIMITATIONS: (i) 12 INCHES VISIBLE SCANNING DEPTH; (ii) VISIBILITY BEYOND CONGESTED OR NEAR SURFACE REINFORCEMENT LAYERS; (iii) DETECTION OF PVC AND OTHER NON-METALLIC OBJECTS (iv) DETERMINATION OF SIZE AND EXTENTS OF SUBSURFACE ANOMALIES SUCH AS SLAB VOIDS OR REBAR SIZES; AND (v) VISIBILITY WHEN VARIABLE MOISTURE CONDITIONS EXIST IN THE SUBSTRATE.

LEGEND:



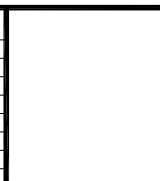
ARCHIVES STATION
E-100 NOT TO SCALE

CONTRACT NO.
XXXXXX

DESIGNED	C. LOOSE	11-14
		DATE
DRAWN	C. LOOSE	11-14
		DATE
CHECKED	M. BUTLER	11-14
		DATE
APPROVED		
		DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED _____
PROJECT MANAGER

SCALE
NOT TO SCALE

15-NEPP-01
IN - FLOOR DUCT INSPECTIONS
F02 ARCHIVES
PROPOSED POWER ROUTE
DRAWING NO.
F02-E-100

XXX

Mezzanine Inspection Report

Date: 06/24/15	Station Name: F03 L'Enfant Plaza North	Mezzanine #: 082	Completed By: Mike Butler
----------------	--	------------------	---------------------------

Summary

NEPP-01: Video scoping and pull string installation completed for communication ducts in upper and lower faregate arrays; video scoping also completed in respective power ducts. Video scoping and pull string installation was completed in duct between Kiosk, Handhole 1 and Handhole 2. Pull string installation was also completed in conduit between AFC Panel and Junction Box on ceiling in Room N104 at platform level. Although video scoping was attempted and partially completed, it was not possible to complete pull string installation between Handhole 2 and Junction Box due to an obstruction caused by a vertical 90-degree bend under the mezzanine floor where the duct goes down to platform level. Scanning of the mezzanine was conducted to identify a power route between the Kiosk and AFC Panel. The results of the scanning confirmed that there are multiple ducts running from the Kiosk - an alternate duct running parallel to existing power duct was also identified.

NEPP-02: Pull string installation was completed in the alternate duct between the Kiosk and Junction Box (Room N104). Video scoping was completed between Kiosk, Handhole 3, Handhole 4, and the vertical 90-degree bend before the Junction Box. Pull string installation was also completed in existing power duct between Handhole 2 and Junction Box.

Recommendation: It is recommended to utilize the alternate duct for the installation of new wires. Although there is pull string installed in both existing and alternate ducts/ conduit between Kiosk and AFC Panel, it is preferred to use the alternate duct because the duct has more capacity. Refer to attached photos and drawings for further information.

NEPP-01: Scoping of Faregate Arrays (10/24/14)

Task	6	Yes/No	Notes
Communications Duct – Upper Faregate Array (5-gates)			
Was video scoping completed for the entire duct run?	6	Yes	Refer to "WMATA L'Enfant Upper Comm Duct Video.avi".
Were pull strings installed at all faregates in the array?	6	Yes	
Were there any obstructions or blockages? Provide details of type and specific location.	6	No	
Is the duct at capacity? Provide additional details about the dimensions of ducts and number of wires.	6	No	4" duct with less than 8 wires.
Communications Duct – Lower Faregate Array (5 gates)			
Was video scoping completed for the entire duct run?	6	Yes	Refer to "WMATA L'Enfant Lower Comm Duct Video.avi".
Were pull strings installed at all faregates in the array?	6	Yes	
Were there any obstructions or blockages? Provide details of type and specific location.	6	No	
Is the duct at capacity? Provide additional details about the dimensions of ducts and number of wires.	6	No	4" duct with less than 8 wires.
Power Duct – Upper Faregate Array (5 gates)			
Was video scoping completed for the entire duct run?	6	Yes	Refer to "WMATA L'Enfant Upper Power Duct Video.avi"
Were there any obstructions or blockages? Provide details of type and specific location.	6	No	
Is the duct at capacity? Provide additional details about the dimensions of ducts and number of wires.	6	No	6" duct with less than 10 wires.
Power Duct – Lower Faregate Array (5 gates)			
Was video scoping completed for the entire duct run?	6	Yes	Refer to "WMATA L'Enfant Lower Power Duct Video.avi".
Were there any obstructions or blockages? Provide details of type and specific location.	6	No	
Is the duct at capacity? Provide additional details about the dimensions of ducts and number of wires.	6	No	6" duct with less than 10 wires.

NEPP-01: Scoping of Existing Power Duct - Kiosk to AFC Panel (10/24/14)		
Task	Yes/No	Notes
Kiosk to Handhole 1 (Distance : 45')		
Was video scoping completed for the entire duct / conduit run?	Yes	Refer to "F03_MZ082_L'Enfant Plaza North_Existing Power Duct_Kiosk to HH1.avi"
Was pull string installed?	Yes	
Were there any obstructions or blockages? Provide details of type and specific location.	No	
Is the duct / conduit at capacity? Provide additional details about the dimensions of duct / conduit and number of wires.	No	6" walker duct with less than 20 wires.
Handhole 1 to Handhole 2 (Distance: 15')		
Was video scoping completed for the entire duct / conduit run?	Yes	Refer to "F03_MZ082_L'Enfant Plaza North_Existing Power Duct_HH1 to HH2.avi"
Was pull string installed?	Yes	
Were there any obstructions or blockages? Provide details of type and specific location.	No	
Is the duct / conduit at capacity? Provide additional details about the dimensions of duct / conduit and number of wires.	No	6" walker duct with less than 20 wires.
Handhole 2 to Junction Box (Distance: 55') - Updated for NEPP-02		
Was video scoping completed for the entire duct / conduit run?	No	Refer to "F03_MZ082_L'Enfant Plaza North_Existing Power Duct_HH2 to JB.avi"
Was pull string installed?	Yes	Pull string installation completed under NEPP-02.
Were there any obstructions or blockages? Provide details of type and specific location.	Yes	There was an obstruction at the vertical 90-degree bend at the mezzanine / platform level transition, which prevented video scoping beyond this point.
Is the duct / conduit at capacity? Provide additional details about the dimensions of duct / conduit and number of wires.	No	6" walker duct with less than 20 wires.
Junction Box to AFC Panel (Distance: 40')		
Was video scoping completed for the entire duct / conduit run?	No	Video scoping not required in conduits.
Was pull string installed?	Yes	
Were there any obstructions or blockages? Provide details of type and specific location.	No	
Is the duct / conduit at capacity? Provide additional details about the dimensions of duct / conduit and number of wires.	No	2" conduit with less than 8 wires.
NEPP-01: Scanning of Mezzanine Floor (12/09/14 & 05/12/15)		
<p>Scanning of the mezzanine was conducted to identify a suitable power route between the Kiosk and AFC Panel.</p> <p>The results of the scanning confirmed that there are multiple ducts running from the Kiosk and there is also an alternate duct running parallel to existing power duct.</p> <p>Both existing duct and alternate duct have a vertical 90-degree bend just beyond the mezzanine wall where the duct goes down to platform level.</p>		


NEPP-02: Scoping of Alternate Duct - Kiosk to AFC Panel (06/24/15)		
Task	Yes/No	Notes
Kiosk to Handhole 3 (Distance: 45')		
Was video scoping completed for the entire duct / conduit run?	Yes	Refer to "F03_MZ082_L'Enfant Plaza North_Alternate Duct_Kiosk to HH3.avi"
Was pull string installed?	Yes	
Were there any obstructions or blockages? Provide details of type and specific location.	No	
Is the duct / conduit at capacity? Provide additional details about the dimensions of duct / conduit and number of wires.	No	6" walker duct with less than 10 wires.
Handhole 3 to Handhole 4 (Distance: 15')		
Was video scoping completed for the entire duct / conduit run?	Yes	Refer to "F03_MZ082_L'Enfant Plaza North_Alternate Duct_HH3 to HH4.avi"
Was pull string installed?	Yes	
Were there any obstructions or blockages? Provide details of type and specific location.	No	
Is the duct / conduit at capacity? Provide additional details about the dimensions of duct / conduit and number of wires.	No	6" walker duct with less than 10 wires.
Handhole 4 to Junction Box in Room N104 (Distance: 55')		
Was video scoping completed for the entire duct / conduit run?	No	Refer to "F03_MZ082_L'Enfant Plaza North_Alternate Duct_HH4 to JB.avi"
Was pull string installed?	Yes	Pull string completed using an abandoned ELES wire.
Were there any obstructions or blockages? Provide details of type and specific location.	Yes	There was an obstruction at the vertical 90-degree bend at the mezzanine / platform level transition, which prevented video scoping beyond this point.
Is the duct / conduit at capacity? Provide additional details about the dimensions of duct / conduit and number of wires.	No	6" walker duct with less than 10 wires.
Junction Box to AFC Panel in Room N104 (Distance: 40') - Completed under NEPP-01		
Observations / Issues / Next Steps		
<ul style="list-style-type: none"> - The total distance of power route between Kiosk and AFC Panel is 155', including 115' of existing/ alternate duct and 40' of existing conduit. - The conduit run between Junction Box and AFC Panel in Room N104 is the same for both existing power and alternate duct runs. - An existing AFC as-built drawing is not available for this mezzanine. - Important Note: To ensure successful installation of NEPP wires between Handhole 2 or 4, and Junction Box (Room N104), it is strongly recommended to pull the wires up from Handhole 2 or 4 at the mezzanine level. The pull string may get snagged if pulled from the Junction Box side due to the positioning of the bends. 		
Sign Off		
	GFP Representative	WMATA PRGM
Name:	Mike Butler	
Signature:		
Date:	06/25/15	

Photo 1 – Existing / Alternate Ducts on mezzanine floor.

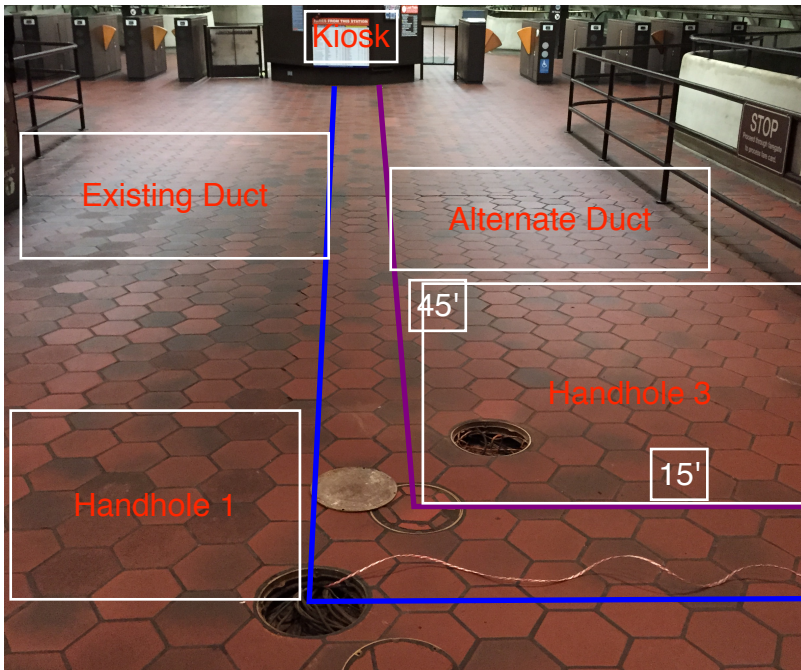


Photo 2 – Existing / Alternate Ducts on mezzanine floor.

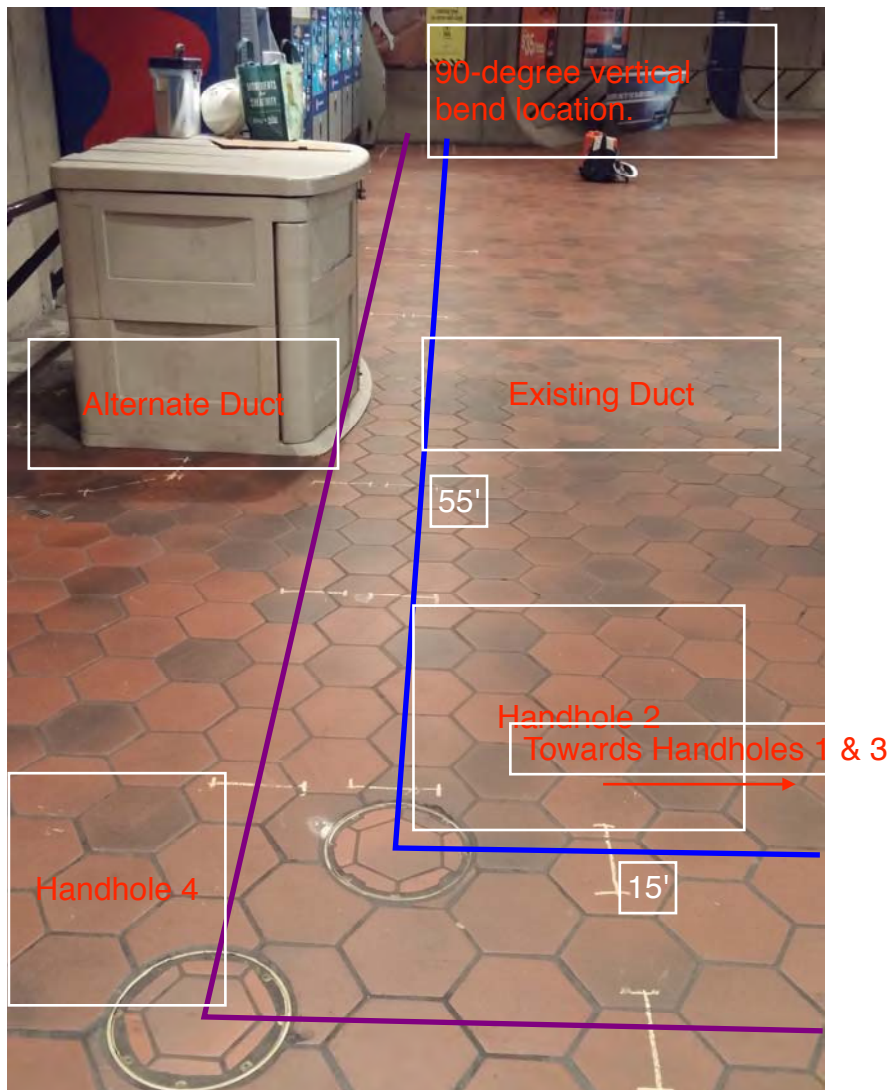


Photo 3 – Existing / Alternate Ducts on mezzanine floor.

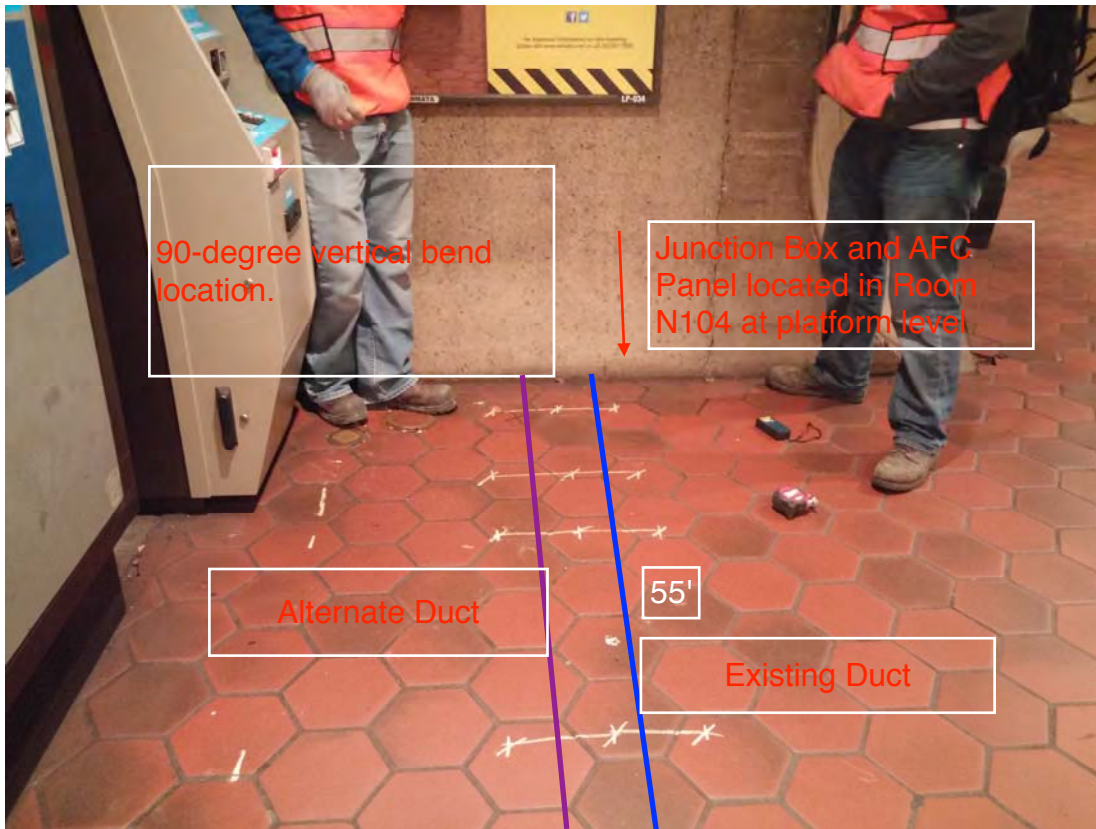


Photo 4 – Junction Box and Existing Conduit in Room N104.

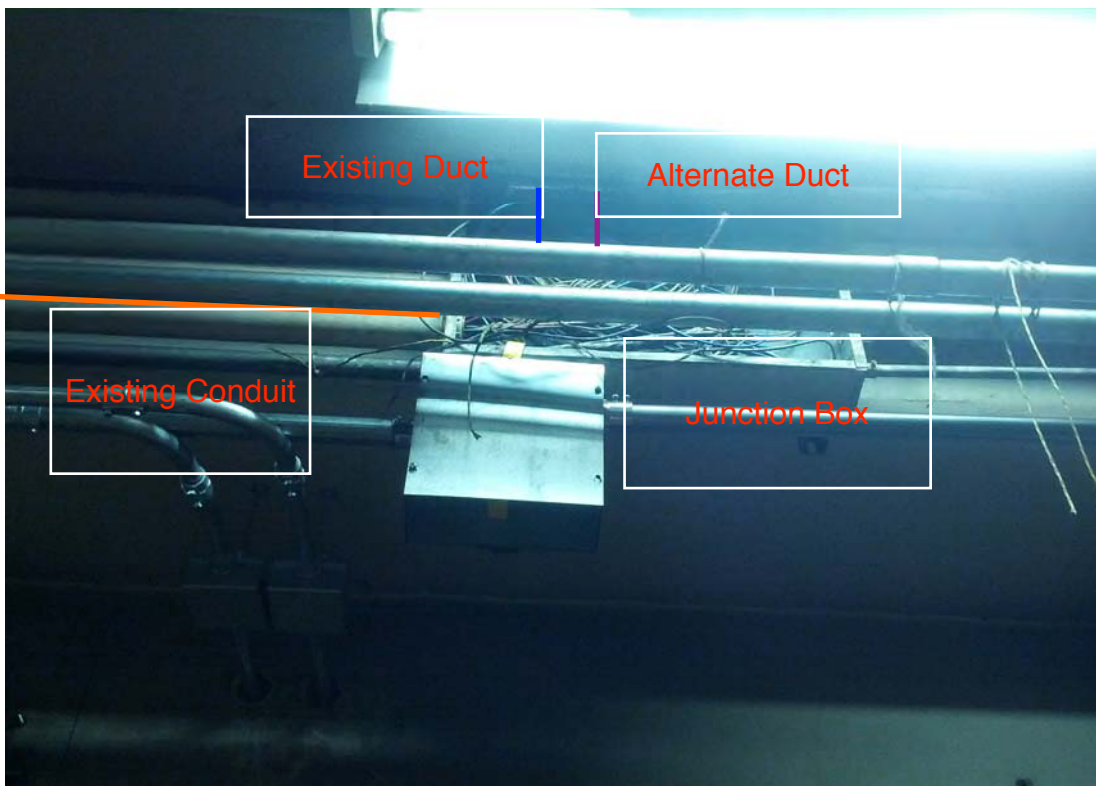


Photo 5 – Existing Conduit run in Room N104.

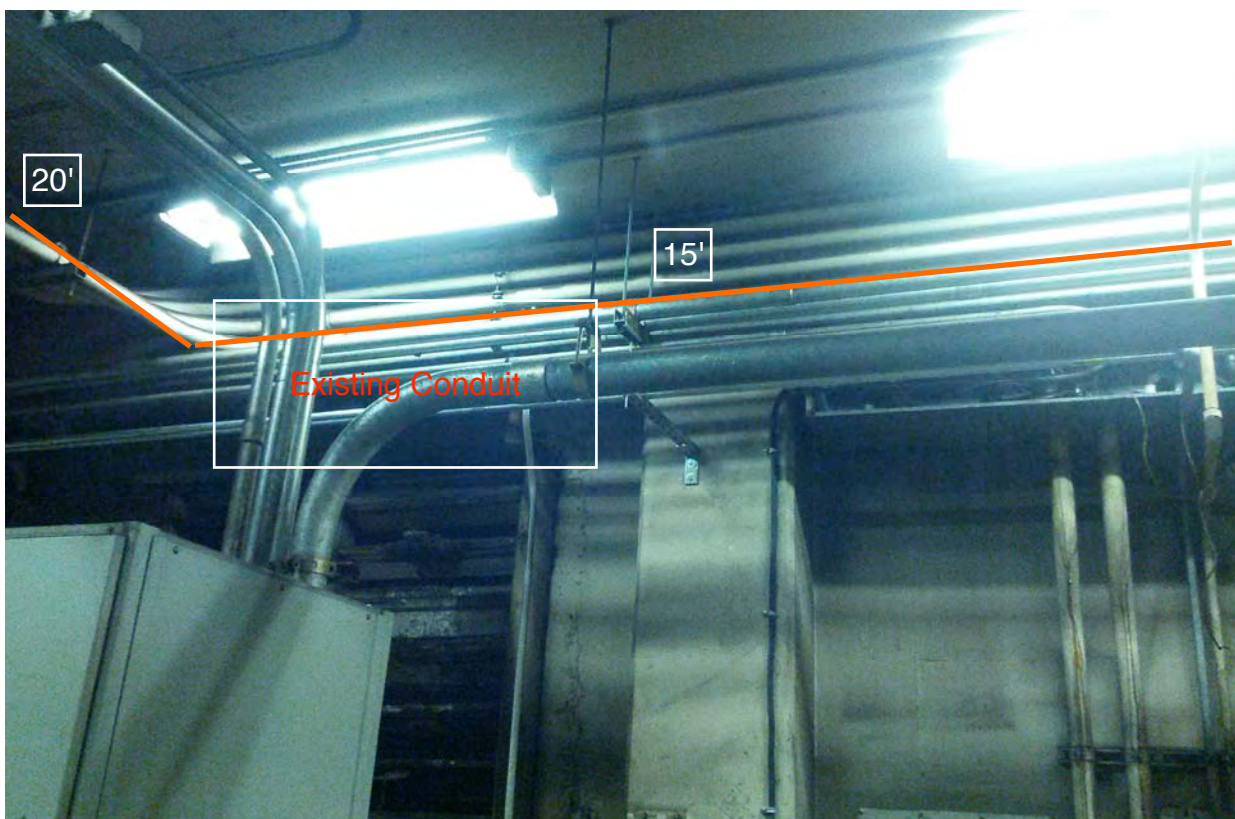
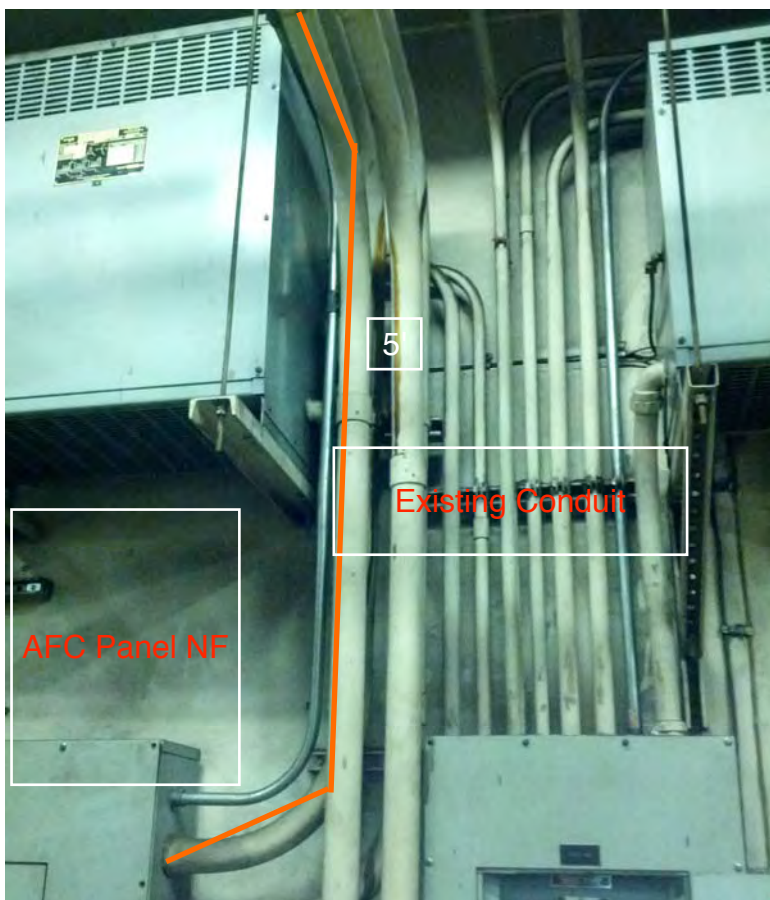
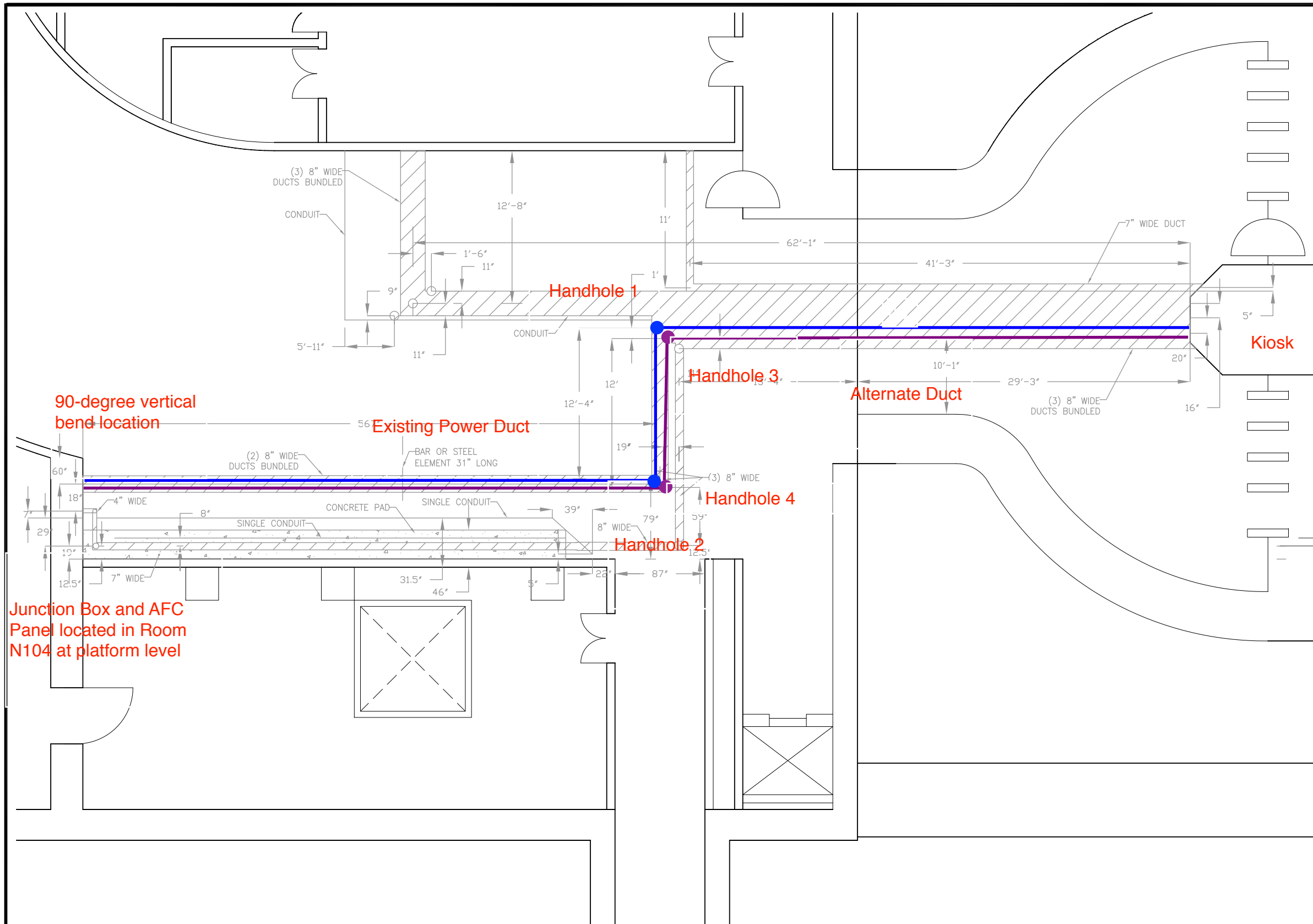


Photo 6 – Existing Conduit run in Room N104.

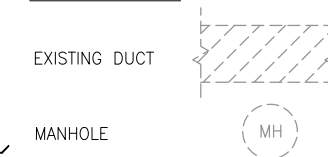




PLAN NOTES:

1. DIMENSIONS ARE IN FEET AND INCHES.
2. DIMENSIONS ARE FOR REFERENCE ONLY.
3. EXISTING IN-FLOOR DUCTS/CONDUITS WERE IDENTIFIED USING A PORTABLE GPR SCANNING DEVICE.
4. THE SCANNING COVERAGE IS LIMITED TO THE MEZZANINE FLOOR ONLY.
5. GPR SCANNING HAS THE FOLLOWING LIMITATIONS: (i) 12 INCHES VISIBLE SCANNING DEPTH; (ii) VISIBILITY BEYOND CONGESTED OR NEAR SURFACE REINFORCEMENT LAYERS; (iii) DETECTION OF PVC AND OTHER NON-METALLIC OBJECTS (iv) DETERMINATION OF SIZE AND EXTENTS OF SUBSURFACE ANOMALIES SUCH AS SLAB VOIDS OR REBAR SIZES; AND (v) VISIBILITY WHEN VARIABLE MOISTURE CONDITIONS EXIST IN THE SUBSTRATE.

LEGEND:



90-degree vertical bend location

Junction Box and AFC Panel located in Room N104 at platform level

1
E-100 L'ENFANT PLAZA NORTH STATION
SCALE: NOT TO SCALE

CONTRACT NO.
XXXXXX

DESIGNED	C. LOOSE	02-15
DRAWN	C. LOOSE	02-15
CHECKED	M. BUTLER	02-15
APPROVED		

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____ SUBMITTED _____
PROJECT MANAGER

15-NEPP-01
IN - FLOOR DUCT INSPECTIONS
F03 L'enfant Plaza North
POWER DUCT ROUTE

SCALE: NOT TO SCALE

DRAWING NO.
F03-E-100

XXX