

EXHIBIT M – TEST PIT INVESTIGATION REPORT



December 26, 2018

Mr. Richard Schleyer
Public Building Commission of Chicago
Richard J. Daley Center, Room 200
50 West Washington Street
Chicago, Illinois 60602

**Re: Test Pit Investigation
Proposed Engine Company 115 – Site B
Northwest Corner of W. 119th St. & S. Morgan St.
Chicago, Illinois 60643**

Dear Mr. Schleyer:

Carnow, Conibear, and Associates, Ltd. (Carnow Conibear) contracted Tecnica Environmental Services, Inc. (Tecnica) to perform a test pit investigation at the proposed Engine Company 115 – Site B (Site) at the northwest corner of W. 119th St. and S. Morgan St. in Chicago, Illinois. The Site consists of an abandoned asphalt parking lot and is approximately 4.0 acres in size.

Previously, the Public Building Commission of Chicago (PBCC) retained Carnow Conibear to conduct Ground Penetrating Radar (GPR) and Electromagnetic Induction (EMI) surveys to identify any anomalies buried at the Site which could be indicative of concrete building foundations, underground storage tanks (USTs), or other metallic objects of environmental concern. Carnow Conibear worked with Ground Penetrating Radar Systems, Inc. (GPRS) to conduct the GPR and EMI surveys on November 2, 2018 and November 6, 2018. The GPR and EMI results indicated multiple anomalies that would be consistent for possible soil change, previous excavations or other debris such as brick or concrete spread throughout the parking lot area. The GPR and EMI survey results are presented in a separate Ground Penetrating Radar & Electromagnetic Induction Survey report dated December 7, 2018. The GPR and EMI anomaly locations are shown in attached **Exhibit I**.

Test pits were advanced on November, 19th and 20th, 2018 by Tecnica under the direction of Karen Zelzer and Chad Adams P.G. of Carnow Conibear. Two anomaly areas were located by GPRS during the GPR survey. These anomalies were located near the center east and west boundaries of the Site. These two areas were investigated by Test Pits 10-14. Several anomalies were located by GPRS during the EMI phase of the survey. These anomalies were divided into a southern zone, Test Pits 1-9, and a northern zone, Test Pits 15-31. In each test pit area an excavation was advanced by an excavator, approximately five to five and a half feet in depth and at determined length and width for each anomaly area.

A depiction of the location of the test pits and findings can be viewed in attached **Exhibit I. Attachment A** provides photographs from the Site investigation. The following is a brief description of the findings for each test pit area:

| Test Pit | Anomaly | Size | GPS Location* | Observations |
|----------|-------------------|--|--|---|
| 1 | Southern EMI Zone | 3.5' East-West 15' North-South ~5' depth | 41 40.679 N -87 38.872 W 41 40.682 N -87 38.871 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3.5'. Large metal post support encountered at 2.5'. No noticeable odors. |
| 2 | Southern EMI Zone | 3.5' East-West 15' North-South ~5' depth | 41 40.685 N -87 38.866 W 41 40.683 N -87 38.869 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3.5'. No anomalies encountered. No noticeable odors. |
| 3 | Southern EMI Zone | 3.5' East-West 15' North-South ~5' depth | 41 40.677 N -87 38.845 W 41 40.674 N -87 38.849 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3.5'. No anomalies encountered. No noticeable odors. |
| 4 | Southern EMI Zone | 3.5' East-West 15' North-South ~5.5' depth | 41 40.676 N -87 38.810 W 41 40.679 N -87 38.815 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3.5'. Brick fragments encountered at 2'. No noticeable odors. |
| 5 | Southern EMI Zone | 3.5' East-West 15' North-South ~5.5' depth | 41 40.691 N -87 38.870 W 41 40.695 N -87 38.869 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3.5'. Relic utility line exposed at 1'. Broken foundation/brick fragments at 2'. No noticeable odors. |
| 6 | Southern EMI Zone | 3.5' East-West 15' North-South ~5' depth | 41 40.699 N -87 38.871 W 41 40.701 N -87 38.871 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3.5'. Broken foundation/brick fragments at 2'. No noticeable odors. |
| 7 | Southern EMI Zone | 3.5' East-West 20' North-South ~5' depth | 41 40.713 N -87 38.849 W 41 40.706 N -87 38.850 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3.5'. Broken foundation/brick fragments at 2'. No noticeable odors. |
| 8 | Southern EMI Zone | 3.5' East-West 15' North-South ~5' depth | 41 40.722 N -87 38.873 W 41 40.713 N -87 38.873 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3.5'. No anomalies encountered. No noticeable odors. |
| 9 | Southern EMI Zone | 3.5' East-West 15' North-South ~5' depth | 41 40.712 N -87 38.878 W 41 40.714 N -87 38.852 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Broken foundation material and storm drain found at 3'. No noticeable odors. |

| | | | | |
|----|-------------------|--|--|--|
| 10 | GPR East Zone | 3.5' East-West 15' North-South ~5' depth | 41 40.717 N -87 38.837 W 41 40.720 N -87 38.836 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Broken blue stained concrete at 2'. No noticeable odors. |
| 11 | GPR East Zone | 3.5' East-West 20' North-South ~5' depth | 41 40.720 N -87 38.832 W 41 40.723 N -87 38.824 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Broken blue stained concrete at 2'. No noticeable odors. |
| 12 | GPR East Zone | 3.5' East-West 30' North-South ~5' depth | 41 40.724 N -87 38.823 W 41 40.723 N -87 38.818 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Broken brick at 2'. No noticeable odors. |
| 13 | GPR West Zone | 3.5' East-West 40' North-South ~5.5' depth | 41 40.732 N -87 38.875 W 41 40.834 N -87 38.862 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Wood flooring and brick debris at 2-3, with perched water'. 6-9" metal pipe (possible relic water main) running perpendicular to trench at north end. No noticeable odors. |
| 14 | GPR West Zone | 3.5' East-West 40' North-South ~5.5' depth | 41 40.726 N -87 38.871 W 41.40.742 N -87 38.871 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Brick foundation at 2-3' with perched water. No noticeable odors. |
| 15 | Northern EMI Zone | 3.5' East-West 20' North-South ~5' depth | 41 40.740 N -87 38.827 W 41 40.743N -87 38.828 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Broken brick at 2'. No noticeable odors. |
| 16 | Northern EMI Zone | 3.5' East-West 15' North-South ~5' depth | 41 40.758 N -87 38.862 W 41 40.771 N -87 38.864 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. No anomalies encountered. No noticeable odors. |
| 17 | Northern EMI Zone | 3.5' East-West 15' North-South ~5' depth | 41 40.746 N -87 38.856 W 41 40.746 N -87 38.859 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. No anomalies encountered. No noticeable odors. |
| 18 | Northern EMI Zone | 3.5' East-West 15' North-South ~5.5' depth | 41 40.748 N -87 38.872 W 41 40.749 N -87 38.874 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. No anomalies encountered. Red sandy layer at 2' on north end. No noticeable odors. |

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|----|-------------------|---|--|--|
| 19 | Northern EMI Zone | 3.5' East-West 15' North-South ~5.5' deep | 41 40.750 N -87 38.869 W 41 40.751 N -87 38.867 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. No anomalies encountered. Red sandy layer at 2' at north end. No noticeable odors. |
| 20 | Northern EMI Zone | 3.5' East-West 20' North-South ~5.5' deep | 41 40.760 N -87 38.873 W 41 40.761 N -87 38.875 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. No anomalies encountered. Red sandy layer at 2' at south end. No noticeable odors. |
| 21 | Northern EMI Zone | 3.5' East-West 20' North-South ~5.5' deep | 41 40.750 N -87 38.870 W 41 40.756 N -87 38.868 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Red sandy layer and some bricks at 2' at south end. No noticeable odors. |
| 22 | Northern EMI Zone | 3.5' East-West 17.5' North-South ~5.5' deep | 41 40.752 N -87 38.860 W 41 40.753 N -87 38.860 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Loose metal pipe at ~2'. Red sandy layer at 2' at south end. No noticeable odors. |
| 23 | Northern EMI Zone | 3.5' East-West 25' North-South ~5.5' deep | 41 40.756 N -87 38.850 W 41 40.756 N -87 38.846 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Concrete wall footing at south end. 1' wide, 18' bgs. 3.5' depth with base at ~5 bgs. No noticeable odors. |
| 24 | Northern EMI Zone | 3.5' East-West 35' North-South ~5' deep | 41 40.759 N -87 38.841 W 41.40.759 N -87 38.840 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. No anomalies encountered. Red sandy layer at 2' at south end. No noticeable odors. |
| 25 | Northern EMI Zone | 3.5' East-West 15' North-South ~5.5' deep | 41 40.761 N -87 38.832 W 41 40.761 N -87 38.835 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Loose foundation pier at north end. Top of pier is ~2 bgs; pier is 12x12", approximately 3' south of north end. No noticeable odors. |
| 26 | Northern EMI Zone | 3.5' East-West 30' North-South ~5' deep | 41 40.760 N -87 38.863 W 41 40.766 N -87 38.862 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Concrete wall footing at north end. 1' wide, 18' bgs. 3.5' depth with base at ~5 bgs. No noticeable odors. |
| 27 | Northern EMI Zone | 3.5' East-West 15' North-South ~5' deep | 41 40.761 N -87 38.854 W 41 40.766 N -87 38.849 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. No anomalies encountered. Red sandy layer at 2' at south end. No noticeable odors. |

| | | | | |
|-----|-------------------|---|--|--|
| 28 | Northern EMI Zone | 3.5' East-West 20' North-South ~5' deep | 41 40.764 N -87 38.844 W 41 40.765 N -87 38.844 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Concrete wall footing at north end. 1' wide, 18' bgs. 3.5' depth with base at ~5 bgs. Foundation pier at south end. Top of pier is ~2 bgs; pier is 12x12", approximately 2' north of south end. No noticeable odors. |
| 29 | Northern EMI Zone | 3.5' East-West 20' North-South ~5' deep | 41 40.767 N -87 38.844 W 41 40.767 N -87 38.843 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Concrete wall footing at north end. 1' wide, 18' bgs. 3.5' depth with base at ~5 bgs. No noticeable odors. |
| 30 | Northern EMI Zone | 3.5' East-West 15' North-South ~5' deep | 41 40.762 N -87 38.831 W 41 40.766 N -87 38.829 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Concrete wall footing at north end. 1' wide, 18' bgs. 3.5' depth with base at ~5 bgs. 6" drainage pipe south of foot wall approximately 2' bgs. Relic utility wire at south end approximately 2' bgs. No noticeable odors. |
| 31 | Northern EMI Zone | 3.5' East-West 20' North-South ~5.5' deep | 41 40.764 N -87 38.824 W 41 40.770 N -87 38.827 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Concrete wall footing at south end. 1' wide, 18' bgs. 3.5' depth with base at ~5 bgs. No noticeable odors. |
| 22A | Northern EMI Zone | 3.5' East-West 3.5' North-South ~2' deep | 41 40.754 N -87 38.864 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Concrete wall footing located. No noticeable odors. |
| 22B | Northern EMI Zone | 3.5' East-West 3.5' North-South ~2' deep | 41 40.752 N -87 38.873 W | Approximately 6" asphalt underlain with black silty CLAY with light brown SAND at 3'. Southwest corner concrete wall footing located. No noticeable odors. |

* Each GPS location obtained utilizing an Apple smart phone application program. Margin of error +/- 6m.

At the conclusion of test pit work, each excavation area was backfilled with excavated soil and compacted with excavator.

If you have any questions regarding this test pit investigation, please feel free to contact Nohemi Melero at (312) 762-2927.

Sincerely,

CARNOW, CONIBEAR & ASSOC., LTD.

A handwritten signature in black ink, appearing to read 'CA', is enclosed in a light gray rectangular box.

Chad Adams P.G.
Licensed Professional Geologist

A handwritten signature in black ink, reading 'Nohemi Melero', is written in a cursive style.

Nohemi Melero
Senior Project Manager

Attachments:

Exhibit I – Test Pit Location Map

Attachment A: Site Photographs

Exhibit I
Test Pit Location Map

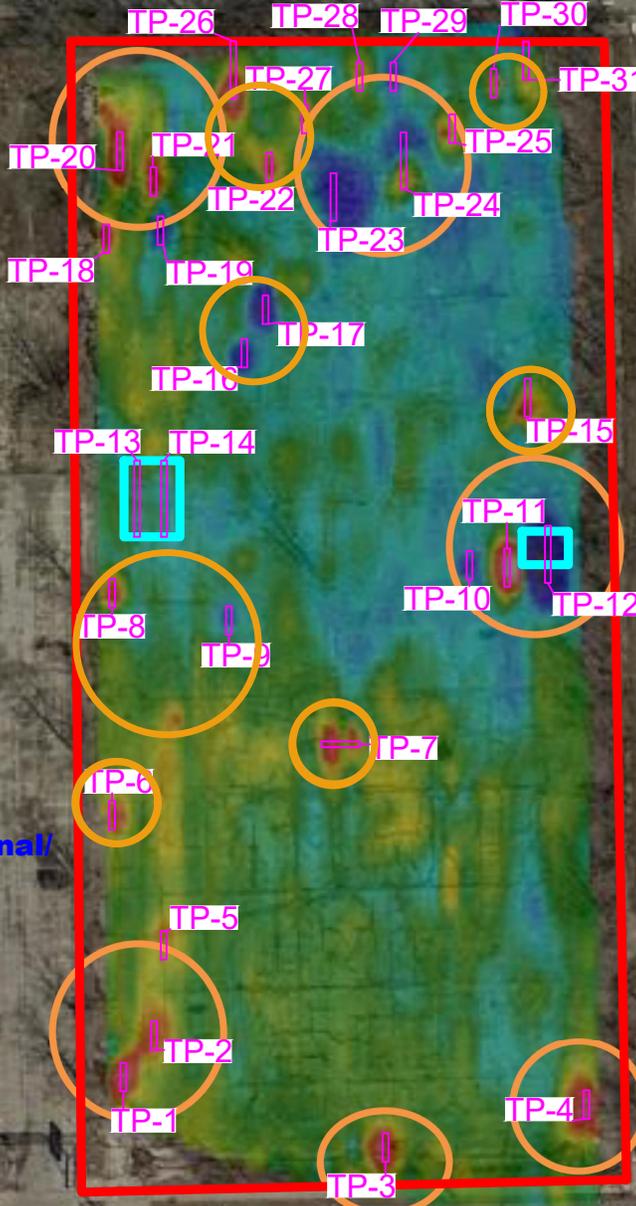
**WIRA Study
Areas 1, 2,
4 SRP Site**



Residential

Residential

W. 118th St.



S. Morgan St.

Residential

**Axletech
International/
US Gear
Corp/
Heat
Treat
Corp.**

Commercial

W. 119th St.

**Ingersoll Products
SEMS Site**

Vacant

LEGEND

-  Site Boundary
-  EMI Anomaly
-  GPR Anomaly
-  Test Pit Location

...a with Electromagnetic Induction equipment, and th

Date: December 2018
Scale: 1"= 100'
Drawn by: NM
Checked by: DSB

Exhibit I: Test Pit Location Map
Proposed Engine Company 115 - Site B
Northwest Corner of W. 119th St. & S. Morgan St.
Chicago, Illinois 60643

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**Attachment A
Site Photographs**



1: TP-1, view east

2: TP-1, obstruction



3: TP-2, view east

4: TP-3, view east

Photo Date: November 2018
Created by: JL, CA
Checked by: NM
Page 1 of 10

APPENDIX B: Test Pit Photographs
Proposed Engine 115 Fire Station - Site B
W. 119 St. & S. Morgan St.
Chicago, Illinois 60643

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5: TP-4, view east

6: TP-5, with abandoned utility wire, view east



7: TP-6, view east

8: TP-7, view east

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9: TP-8, view east



10: TP-9, view east



11: TP-10, view east



12: TP-10, stained concrete rubble

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13: TP-11, view east



14: TP-12, view east



15: TP-13, building debris



16: TP-13, probable abandoned water main, view north

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17: TP-14, view west

18: TP-15, view east



19: TP-16, view east

20: TP-17, view east

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21: TP-18, view west



22: TP-19, view east



23: TP-20, view east



24: TP-21, view east

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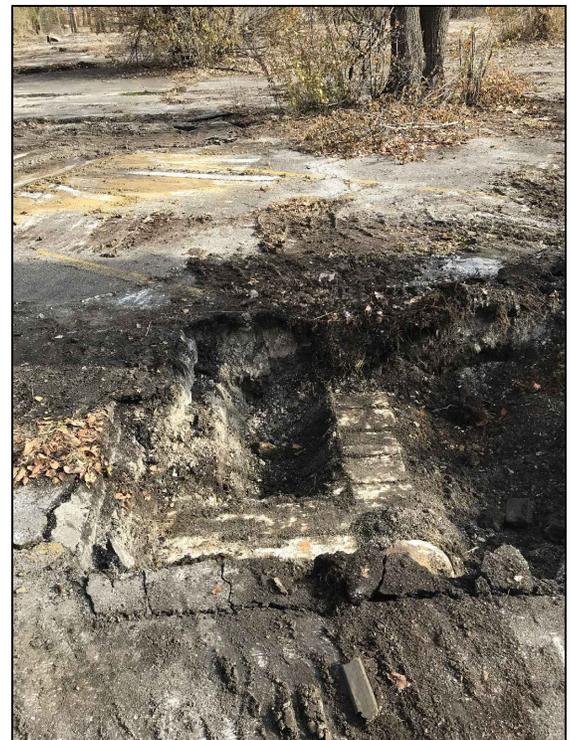
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25: TP-22, view west

26: TP-22, metal debris



27: TP-22A, wall footing, view west

28: TP-22B, corner wall footing, view east

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29: TP-23, wall footing, view west

30: TP-24, view east



31: TP-25, view east

32: TP-25, foundation pier

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33: TP-26, wall footing, view west

34: TP-27, view west



35: TP-28, foundation pier, view east

36: TP-28, foundation wall, view west

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37: TP-29, wall footing, view east

38: TP-30, wall footing, view west



39: TP-31, wall footing, view east

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