

## MEMORANDUM

**TO:** Bill Wiet  
Stephane Pfifer  
Alex Minnella

**FROM:** Bruce L. Goldsmith

**RE:** Narrative of Changes to Old Dominion Plan and Additional Information to Address Neighbors' Concerns

**DATE:** June 9, 2016

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As you requested, we are submitting this "narrative" on behalf of our client Old Dominion Freight Line, Inc. to address a variety of issues raised by the neighbors, City staff, or members of the P&D Committee. These include the following:

1. **Site operations.** The truck terminal will have tractor trailers entering the site and exiting the site on Meridian Road on a 24 hour basis from Monday to Friday. In general, from approximately 3:00 a.m. on Saturday until after 6:00 p.m. on Sunday, there is no activity on the site

For the most part, drivers entering the site will back their trailers into the docks. The tractors/cabs used by drivers who make pick-ups and deliveries do not have any back-up horns or alarms. However, there are occasions where trailers are moved on the site by "spotters" which are smaller cabs that are equipped with "white noise" back-up alarms. No more than two (2) spotters will be operating at any one time.

2. **Back-up Horns.** As noted above, spotters are equipped with back-up horns using the white noise technology. Dr. Thunder testified before the P&D Committee about the effectiveness of such horns. Old Dominion has since recorded the sounds emitted from a prior model of a backup horn still in use at the Chicago facility and also one using the white noise device, measured at 25 feet behind the spotters. Dr. Thunder then graphed the two sounds. The louder horn peaks in the range in which the human ear is most sensitive. Dr. Thunder's graph of the two horns along with the recorded sounds are attached hereto as Exhibit 1. He can explain this further at the next P&D Committee meeting. We will also reproduce these sounds for the P&D Committee as part of our PowerPoint at the next meeting on June 16<sup>th</sup>.

3. **Berming.** By eliminating one aisle from the fueling center, the berm along Meridian Road has been expanded in width. As a result, the berm is now 6-10 feet high along Meridian Road using a 3:1 slope. On the Sunrise Road side, the berm is 4-6 feet in height, using a 2:1 slope. The six foot portion of the berm is directly across from all three houses on Sunrise Road. The emergency fire access has been moved to the farther end of Sunrise Road to eliminate any break in the berm in front of the houses on the south side of Sunrise Road. The berm and fire

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access changes were incorporated in the revised preliminary plan submitted to the City on June 3, 2016. A reduced version is attached as Exhibit 2.

4. **Landscaping.** The new landscape plan incorporates 12 foot high evergreens on both the Meridian Road and Sunrise Road sides from the entrance south to Sunrise Road and down Sunrise Road until the fence ends at a point at the tree line west of the third house on the south side of Sunrise Road. See Exhibit 3. Although not required under the City's landscaping standards, tall evergreens are also being placed on the south side of the Sunrise Road right of way to replace material that may be removed when the roadway and utilities are installed. A buffer is being provided on Meridian Road in front of the only house on the east side of Meridian Road to enhance visual screening. In addition, street trees are being installed on the east side of Meridian Road along its entire length from Ferry Road to Sunrise Road. All street trees will be at 4 inch caliper, rather than the City's standard 2 1/2 inch caliper requirement, for the streetscape on Meridian Road and the north side of Sunrise Road. Due to the slope of the berm on Sunrise Road, it is to be planted in low mow fescue to eliminate the need to provide lawn maintenance. These changes to the landscape plan were delivered to the City on June 3, 2016. We are resubmitting pages 3 and 4 of the plan with this narrative in order to call out the 200 feet of 12 foot Simtek fence along the east end of Sunrise Road, as recommended by Dr. Thunder. It also shows the location of the 8 foot sections of Simtek fence, as well as the higher berm heights on both the Meridian Road (south of the entrance) and Sunrise Road sides.

5. **Sound attenuation by fencing.** Consistent with Dr. Thunder's testimony, a special fence has been specified from the maker Simtek. We have previously provided staff with the specifications for this fence, a copy of which is attached as Exhibit 4a. In addition, we have had the landscape architect prepare a line of sight exhibit to show that the fence on top of the berm extends well above the height of the exhaust pipe on the trucks to create an effective sound buffer. As Dr. Thunder indicated, sound follows line of sight. Our depiction shows the line of sight from the only two story house adjacent to the site, which is located on the south side of Sunrise Road just west of Meridian Road. The six foot berm and the twelve foot fence along this portion of the berm provide an extra level of screening for the two story residence. For the rest of the site south of the entrance on Meridian Road to a point past the third house on Sunrise Road an eight foot fence together with a minimum 6 foot berm will be constructed to provide a screen of fourteen (14) feet. This will completely address the line of sight issues on the four houses along these two roadways. We are also enclosing a line of sight depiction of the area in front of a one story house. Exhibit 4b.

6. **Lighting.** The site lighting meets the City's standard for no spillage as noted in the attached lighting plan as Exhibit 5. Although this is really a final plan detail, we felt it was best to provide this now. In addition, we provided an aerial of the OD Memphis facility, which is twice as large and adjacent to a residential subdivision. The aerial shows there is no spillage and the residential neighbors are thus protected. See aerial, Exhibit 6. In addition, with the use of the berms (at a minimum of six feet across from any of the adjacent homes) and an 8 foot fence (plus the run of 12 foot fence along the frontage of the 2 story house), as well as 12 foot evergreens placed at the top of the berms, there is a visual buffer to the on-site lighting.

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7. **Traffic**. The traffic study established that the volume of traffic generated by the OD facility has an impact of less than 1% to the area roadways. Moreover, Ferry Road is only at 40% of capacity in spite of all the buildings operating within the Duke development.

8. **Ambient Noise**. Old Dominion asked Dr. Thunder to conduct a noise study to measure ambient noise at the site to compare with noise that will be generated from the site when it is in operation. This study was conducted from the afternoon of June 2<sup>nd</sup> through the morning of June 3<sup>rd</sup>. Due to the absence of bad weather, the conditions allowed the collection of good data. The study compares the level of ambient noise at the corner of the Old Dominion site at Meridian Road and Sunrise Road. It shows that while evening rush hour readings are below the state standard, early morning rush hour readings (between 4:00 am and 6:30 am) exceed the state standard. Moreover, the nighttime levels sometimes exceed the daytime levels, which Dr. Thunder indicates is unusual. Dr. Thunder indicates further that the operation of the terminal will not increase these levels. See attached ambient noise graph, Exhibit 7.

9. **Adjacent Lot on Ferry Road**. We are enclosing a copy of the listing sheet to answer a question posed by Alderman Donnell. Exhibit 8.

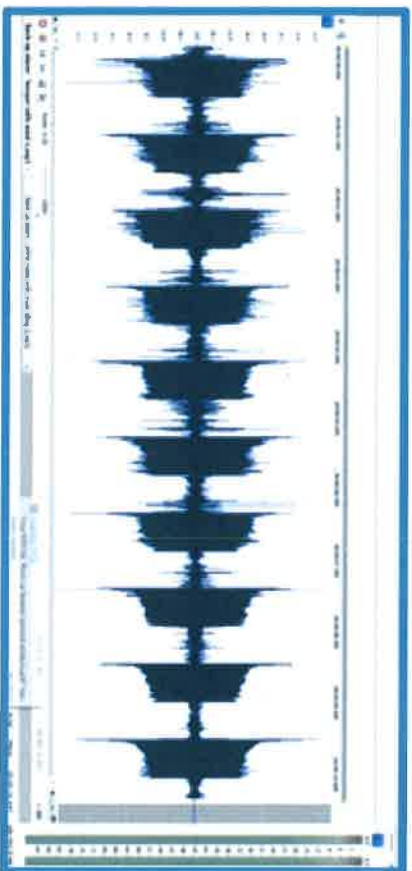
10. **Annexation Agreement**. We are also enclosing a revised annexation agreement that is consistent with your last version, but adds the commitments as additional conditions at the end of the document. Exhibit 9.

11. **Miscellaneous Documents**. Although other documents have been provided previously, we are also enclosing the following. An electronic version of this memo with exhibits will also be transmitted.

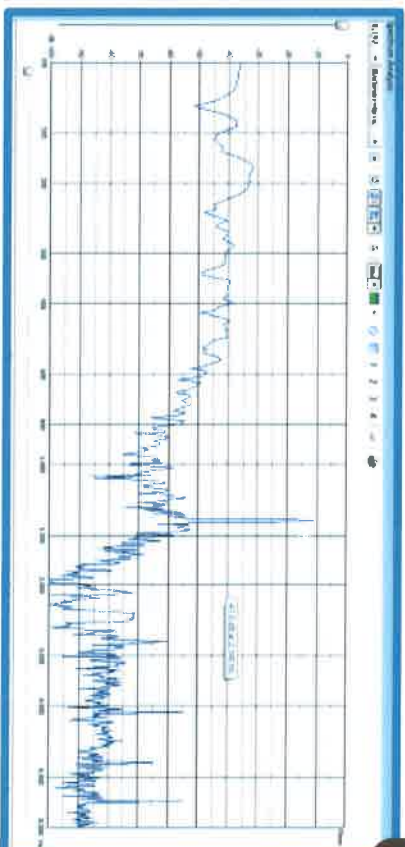
- a. Huff and Huff study in Crest Hill. Exhibit 10.
- b. Simtek fence cut sheet and sound study. Exhibit 11.
- c. Revised Fire Access Plan submitted last week. Exhibit 12.
- d. Detail of plant materials used in revised Landscape Plan. Exhibit 13.
- e. Revised sheets 3-4 of Landscape Plan to show higher berms and fence details. Exhibit 14.

# Comparison of Two Back-up Alarms

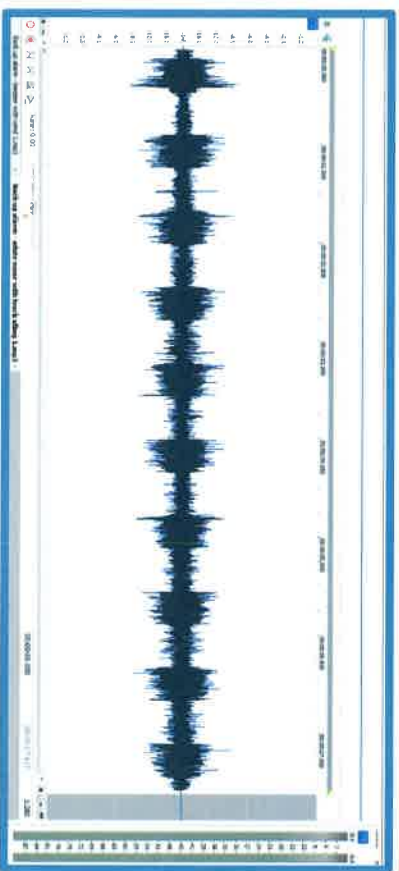
*Top panel: conventional tone beeper. Bottom panel: white noise alarm.*



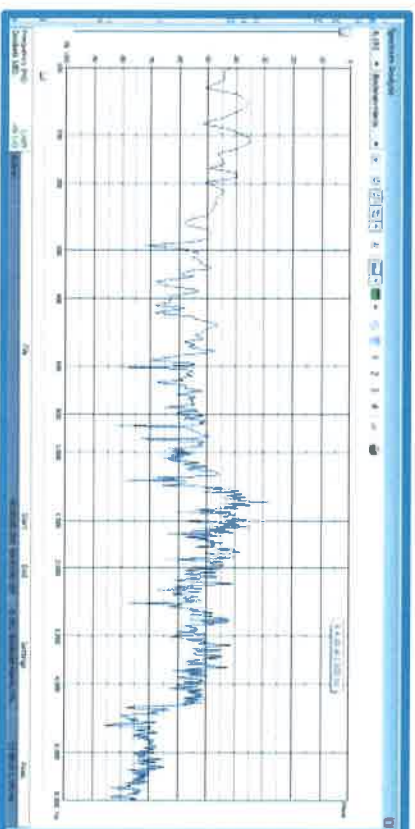
**Time-course analysis:** shows the conventional on-off cycling with a duty cycle of 50%.



**Spectral analysis:** shows a frequency of 1,400 Hz that is more than 50 dB above the background noise.

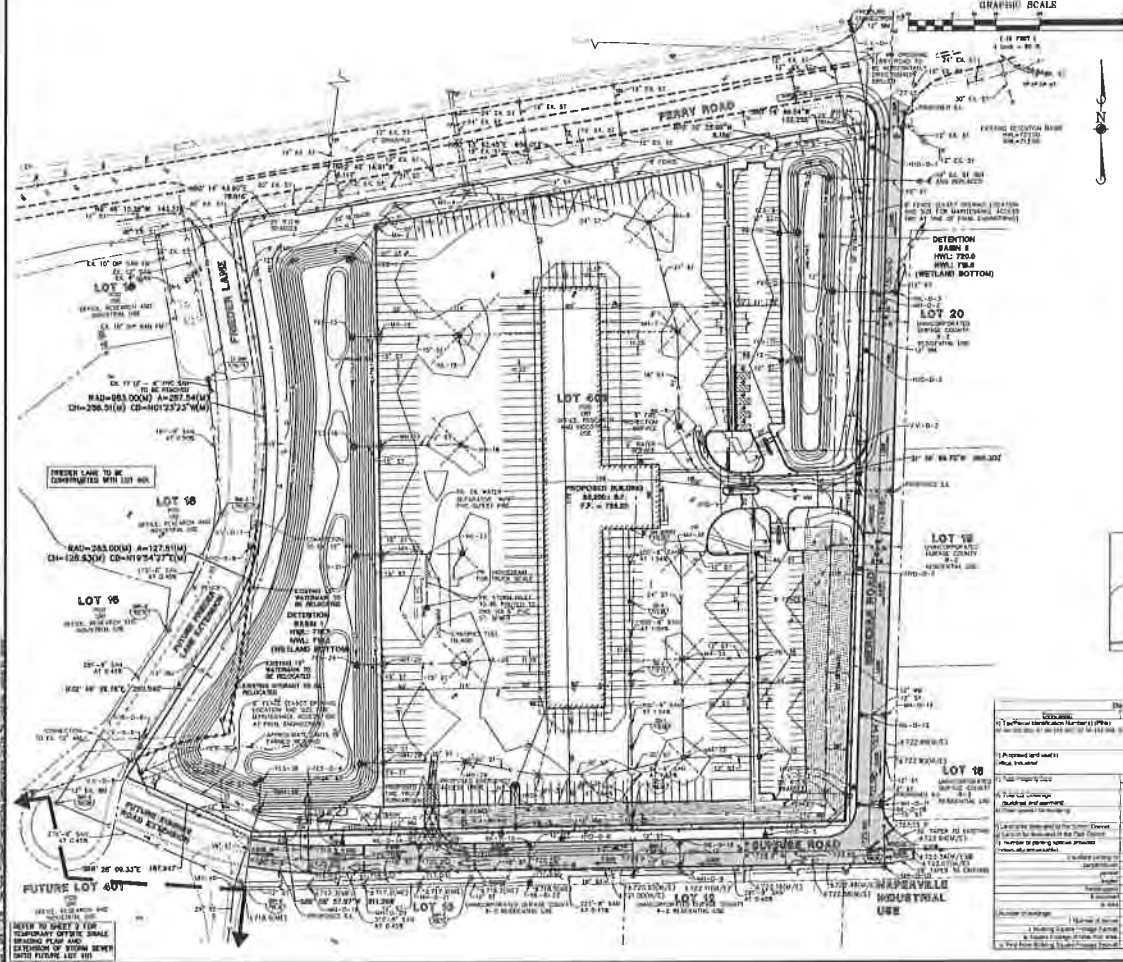


**Time-course analysis:** shows an on-off cycling with a duty cycle of 50% - same as the conventional beeper.



**Spectral analysis:** shows a broad range of high frequencies from 1000-5000 Hz that is 20 dB above the background noise.

# PRELIMINARY PLAN BUTTERFIELD PHASE II UNIT 4 LOT 402



## STANDARD SYMBOLS

EXISTING	PROPOSED
1. 10' WIDE	1. 10' WIDE
2. 10' WIDE	2. 10' WIDE
3. 10' WIDE	3. 10' WIDE
4. 10' WIDE	4. 10' WIDE
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## LOCATION MAP

Development Data Table, Preliminary Plan	
Item	Description
1. Project Name	Butterfield Phase II Unit 4 Lot 402
2. Project Location	City of Aurora, Illinois
3. Project Owner	Manhard Construction Co., Inc.
4. Project Engineer	Manhard Construction Co., Inc.
5. Project Architect	Manhard Construction Co., Inc.
6. Project Surveyor	Manhard Construction Co., Inc.
7. Project Planner	Manhard Construction Co., Inc.
8. Project Designer	Manhard Construction Co., Inc.
9. Project Contractor	Manhard Construction Co., Inc.
10. Project Subcontractor	Manhard Construction Co., Inc.
11. Project Supplier	Manhard Construction Co., Inc.
12. Project Manufacturer	Manhard Construction Co., Inc.
13. Project Installer	Manhard Construction Co., Inc.
14. Project Maintainer	Manhard Construction Co., Inc.
15. Project Operator	Manhard Construction Co., Inc.
16. Project User	Manhard Construction Co., Inc.
17. Project Beneficiary	Manhard Construction Co., Inc.
18. Project Stakeholder	Manhard Construction Co., Inc.
19. Project Interest Group	Manhard Construction Co., Inc.
20. Project Community	Manhard Construction Co., Inc.
21. Project Society	Manhard Construction Co., Inc.
22. Project Culture	Manhard Construction Co., Inc.
23. Project Values	Manhard Construction Co., Inc.
24. Project Beliefs	Manhard Construction Co., Inc.
25. Project Attitudes	Manhard Construction Co., Inc.
26. Project Behaviors	Manhard Construction Co., Inc.
27. Project Emotions	Manhard Construction Co., Inc.
28. Project Thoughts	Manhard Construction Co., Inc.
29. Project Feelings	Manhard Construction Co., Inc.
30. Project Opinions	Manhard Construction Co., Inc.
31. Project Judgments	Manhard Construction Co., Inc.
32. Project Conclusions	Manhard Construction Co., Inc.
33. Project Recommendations	Manhard Construction Co., Inc.
34. Project Suggestions	Manhard Construction Co., Inc.
35. Project Comments	Manhard Construction Co., Inc.
36. Project Feedback	Manhard Construction Co., Inc.
37. Project Evaluation	Manhard Construction Co., Inc.
38. Project Assessment	Manhard Construction Co., Inc.
39. Project Analysis	Manhard Construction Co., Inc.
40. Project Synthesis	Manhard Construction Co., Inc.
41. Project Integration	Manhard Construction Co., Inc.
42. Project Implementation	Manhard Construction Co., Inc.
43. Project Monitoring	Manhard Construction Co., Inc.
44. Project Control	Manhard Construction Co., Inc.
45. Project Improvement	Manhard Construction Co., Inc.
46. Project Innovation	Manhard Construction Co., Inc.
47. Project Creativity	Manhard Construction Co., Inc.
48. Project Problem Solving	Manhard Construction Co., Inc.
49. Project Decision Making	Manhard Construction Co., Inc.
50. Project Leadership	Manhard Construction Co., Inc.
51. Project Management	Manhard Construction Co., Inc.
52. Project Organization	Manhard Construction Co., Inc.
53. Project Structure	Manhard Construction Co., Inc.
54. Project Processes	Manhard Construction Co., Inc.
55. Project Procedures	Manhard Construction Co., Inc.
56. Project Policies	Manhard Construction Co., Inc.
57. Project Standards	Manhard Construction Co., Inc.
58. Project Guidelines	Manhard Construction Co., Inc.
59. Project Principles	Manhard Construction Co., Inc.
60. Project Practices	Manhard Construction Co., Inc.
61. Project Methods	Manhard Construction Co., Inc.
62. Project Techniques	Manhard Construction Co., Inc.
63. Project Tools	Manhard Construction Co., Inc.
64. Project Equipment	Manhard Construction Co., Inc.
65. Project Materials	Manhard Construction Co., Inc.
66. Project Supplies	Manhard Construction Co., Inc.
67. Project Resources	Manhard Construction Co., Inc.
68. Project Assets	Manhard Construction Co., Inc.
69. Project Liabilities	Manhard Construction Co., Inc.
70. Project Equity	Manhard Construction Co., Inc.
71. Project Debt	Manhard Construction Co., Inc.
72. Project Capital	Manhard Construction Co., Inc.
73. Project Revenue	Manhard Construction Co., Inc.
74. Project Expenses	Manhard Construction Co., Inc.
75. Project Profit	Manhard Construction Co., Inc.
76. Project Loss	Manhard Construction Co., Inc.
77. Project Income	Manhard Construction Co., Inc.
78. Project Cost	Manhard Construction Co., Inc.
79. Project Value	Manhard Construction Co., Inc.
80. Project Price	Manhard Construction Co., Inc.
81. Project Market	Manhard Construction Co., Inc.
82. Project Demand	Manhard Construction Co., Inc.
83. Project Supply	Manhard Construction Co., Inc.

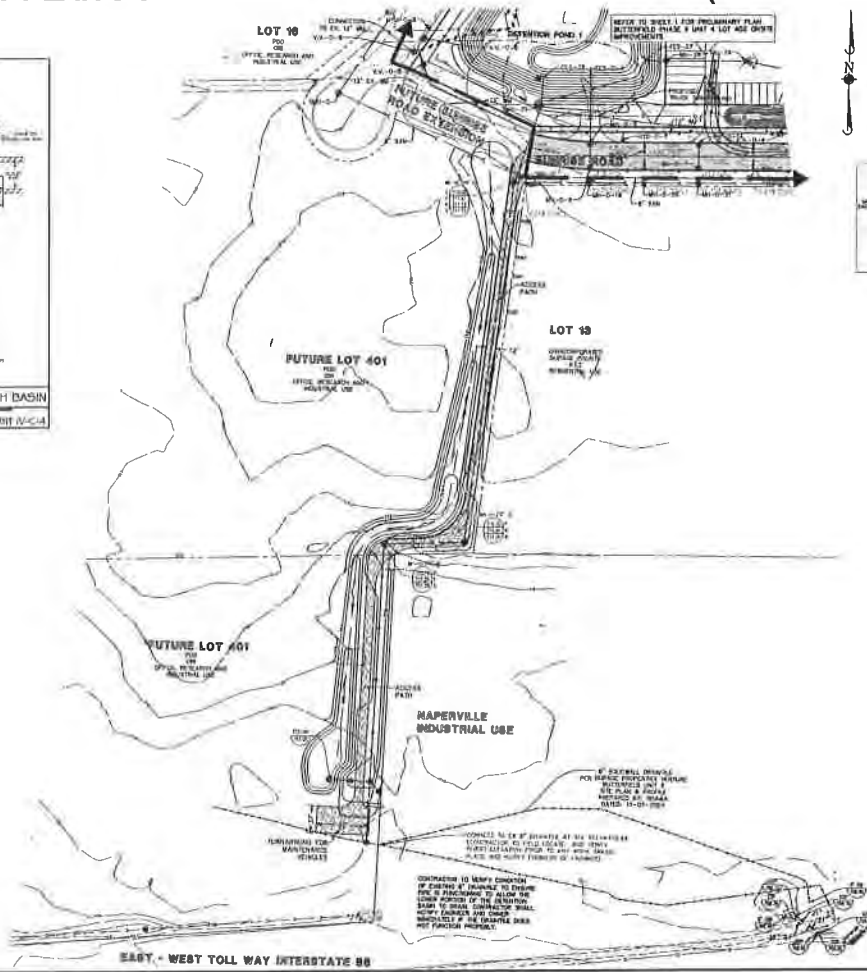
MANHARD CONSTRUCTION CO., INC.  
1000 N. LAKE STREET  
AURORA, ILLINOIS 60007  
TEL: 630-584-1100  
FAX: 630-584-1101  
WWW.MANHARDCONSTRUCTION.COM

OLD DOMINION FREIGHT LINE  
CITY OF AURORA, ILLINOIS  
PRELIMINARY PLAN - BUTTERFIELD PHASE II UNIT 4 LOT 402

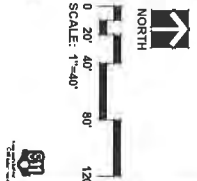
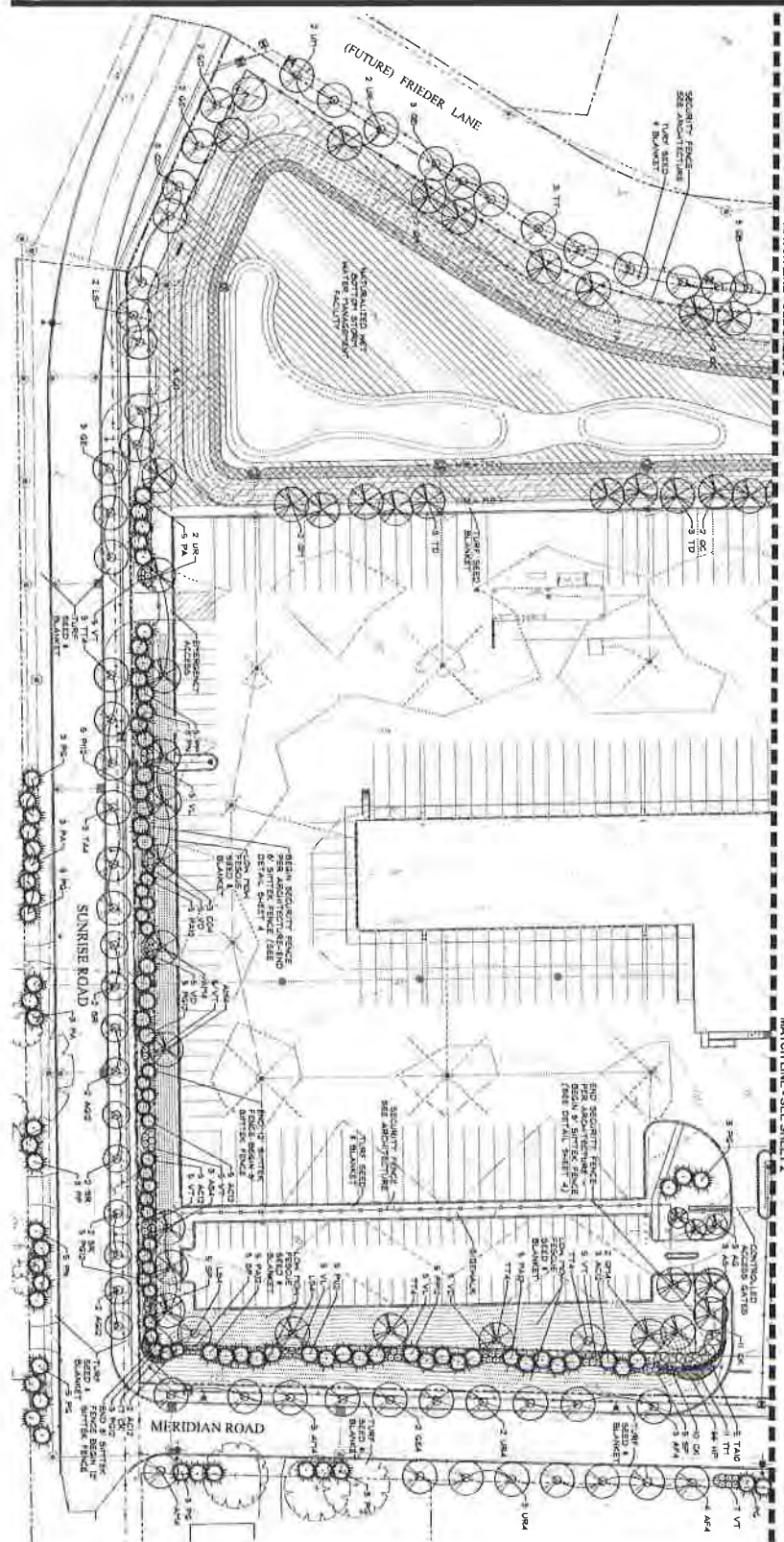
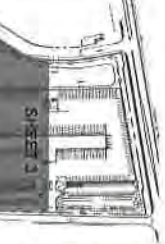
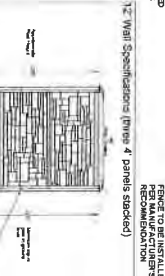
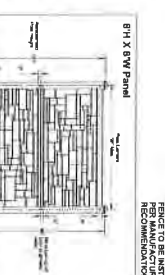
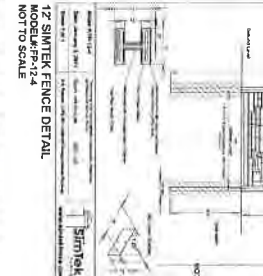
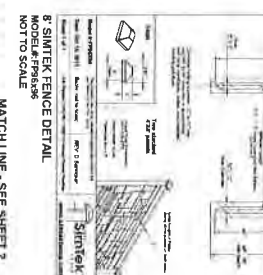
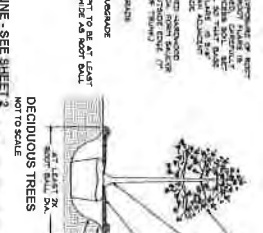
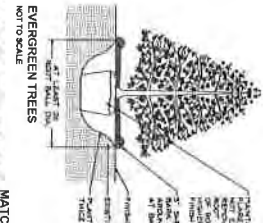
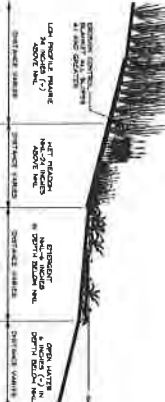
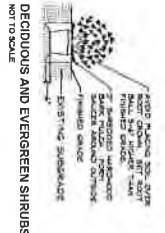
1 of 2

**EXHIBIT**

2

[illegible]

# PLANTING DETAILS



DATE: 11/11/11  
PROJECT NO.: 000001  
DRAWN: JMM/DCS  
CHECKED: JMM/DCS  
SHEET NO.: 3 OF 4

**BUTTERFIELD CENTER FOR BUSINESS & INDUSTRY**  
UNIT 4 - LOT 402  
AURORA, ILLINOIS  
**LANDSCAPE PLAN**



The work will consist of finding, reviewing and testing all maps, plans and other materials required for the construction of the proposed project.

12. **Identify** the following:
  - a. **Stress** and explain its place in stress theories. Name one or two coping mechanisms.
  - b. **Primary appraisal** and **secondary appraisal**.
  - c. **Emotional** and **physical** responses to stressors.
  - d. **Adaptation** and **resistance**.
13. **Describe** the following:
  - a. **Stress** and explain its place in stress theories. Name one or two coping mechanisms.
  - b. **Primary appraisal** and **secondary appraisal**.
  - c. **Emotional** and **physical** responses to stressors.
  - d. **Adaptation** and **resistance**.
14. **Discuss** the following:
  - a. **Stress** and explain its place in stress theories. Name one or two coping mechanisms.
  - b. **Primary appraisal** and **secondary appraisal**.
  - c. **Emotional** and **physical** responses to stressors.
  - d. **Adaptation** and **resistance**.
15. **Explain** the following:
  - a. **Stress** and explain its place in stress theories. Name one or two coping mechanisms.
  - b. **Primary appraisal** and **secondary appraisal**.
  - c. **Emotional** and **physical** responses to stressors.
  - d. **Adaptation** and **resistance**.

- B. *Sample 12* (1): none of the observed playing activities involving either the ball, stick or puck.
  - C. *Sample 13* (2): degree of "organization" (ordering) concerning movement to be addressed by the player. The player is to be organized in terms of the following activities:
    - 1. *Positioning* (placement of the stick and feet).
    - 2. *Preparation* (stance, weight, body position, reaching or pulling the stick, movement and balance).
    - 3. *Execution* (direction, speed, force, timing, accuracy, and control).
    - 4. *Follow-up* (placement of the stick and feet).
  - D. *Sample 14* (3): degree of "organization" (ordering) concerning movement to be addressed by the player in terms of the following activities:
    - 1. *Positioning* (placement of the stick and feet).
    - 2. *Preparation* (stance, weight, body position, reaching or pulling the stick, movement and balance).
    - 3. *Execution* (direction, speed, force, timing, accuracy, and control).
    - 4. *Follow-up* (placement of the stick and feet).
  - E. *Sample 15* (4): sample of activities (movement, body actions, stick control, balance, and all other) that are not included in the previous samples.
  - F. *Sample 16* (5): sample of activities (movement, body actions, stick control, balance, and all other) that are not included in the previous samples.
- Other activities may occur in any sample.
- JOB continued

- A. **Stability:** The stability of the model can be tested by varying the parameters and seeing if the model still works. For example, if the parameters are changed, the model should still be able to predict the outcome.
- B. **Generalizability:** The model should be able to generalize to new data. This can be tested by using a different set of data and seeing if the model still works.
- C. **Robustness:** The model should be able to handle noise and outliers. This can be tested by adding noise to the data and seeing if the model still works.
- D. **Interpretability:** The model should be able to explain the results. This can be tested by looking at the coefficients and seeing if they make sense.
- E. **Validation:** The model should be validated using a separate set of data. This can be done by splitting the data into a training set and a test set.
- F. **Comparison:** The model should be compared to other models. This can be done by using a metric like the mean squared error (MSE) to compare the results of different models.
- G. **Assumptions:** The model should be based on reasonable assumptions. These assumptions should be stated and justified.
- H. **Limitations:** The model should have limitations. These limitations should be stated and justified.
- I. **Conclusion:** The model should be concluded. This should be a summary of the findings and a statement about the future work.

- [illegible]

- [illegible]

- [illegible]

- [illegible]

Test	0.1% BCH	0.1% BCH
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a volume of 11,500 tonnes. Subsidisation of pig feed must be approved by the Landbouw Minister, after consultation.

- [illegible]

- | Drug           | Chemical Class | Drug Class     | Drug Class     |
|----------------|----------------|----------------|----------------|
| Amphetamine    | Amphetamine    | Amphetamine    | Amphetamine    |
| Barbiturate    | Barbiturate    | Barbiturate    | Barbiturate    |
| Benzodiazepine | Benzodiazepine | Benzodiazepine | Benzodiazepine |
| Bupropion      | Bupropion      | Bupropion      | Bupropion      |
| Carbamazepine  | Carbamazepine  | Carbamazepine  | Carbamazepine  |
| Cocaine        | Cocaine        | Cocaine        | Cocaine        |
| Ecstasy        | Ecstasy        | Ecstasy        | Ecstasy        |
| Heroin         | Heroin         | Heroin         | Heroin         |
| Hydrocodone    | Hydrocodone    | Hydrocodone    | Hydrocodone    |
| Hydroxyzine    | Hydroxyzine    | Hydroxyzine    | Hydroxyzine    |
| Insulin        | Insulin        | Insulin        | Insulin        |
| Lithium        | Lithium        | Lithium        | Lithium        |
| Marijuana      | Marijuana      | Marijuana      | Marijuana      |
| Morphine       | Morphine       | Morphine       | Morphine       |
| Naloxone       | Naloxone       | Naloxone       | Naloxone       |
| Nicotine       | Nicotine       | Nicotine       | Nicotine       |
| Prozac         | Prozac         | Prozac         | Prozac         |
| Quaalude       | Quaalude       | Quaalude       | Quaalude       |
| Valium         | Valium         | Valium         | Valium         |
| Wash State     | Wash State     | Wash State     | Wash State     |

- | Total |            | Female |            | Male  |            |
|-------|------------|--------|------------|-------|------------|
| Count | Percentage | Count  | Percentage | Count | Percentage |
| 1     | 0.27       | 1      | 0.27       | 0     | 0.00       |
| 2     | 0.27       | 2      | 0.55       | 0     | 0.00       |
| 3     | 0.27       | 3      | 0.82       | 0     | 0.00       |
| 4     | 0.27       | 4      | 1.10       | 0     | 0.00       |
| 5     | 0.27       | 5      | 1.37       | 0     | 0.00       |
| 6     | 0.27       | 6      | 1.64       | 0     | 0.00       |
| 7     | 0.27       | 7      | 1.91       | 0     | 0.00       |
| 8     | 0.27       | 8      | 2.18       | 0     | 0.00       |
| 9     | 0.27       | 9      | 2.45       | 0     | 0.00       |
| 10    | 0.27       | 10     | 2.72       | 0     | 0.00       |
| 11    | 0.27       | 11     | 3.00       | 0     | 0.00       |
| 12    | 0.27       | 12     | 3.27       | 0     | 0.00       |
| 13    | 0.27       | 13     | 3.54       | 0     | 0.00       |
| 14    | 0.27       | 14     | 3.82       | 0     | 0.00       |
| 15    | 0.27       | 15     | 4.09       | 0     | 0.00       |
| 16    | 0.27       | 16     | 4.36       | 0     | 0.00       |
| 17    | 0.27       | 17     | 4.64       | 0     | 0.00       |
| 18    | 0.27       | 18     | 4.91       | 0     | 0.00       |
| 19    | 0.27       | 19     | 5.18       | 0     | 0.00       |
| 20    | 0.27       | 20     | 5.45       | 0     | 0.00       |
| 21    | 0.27       | 21     | 5.73       | 0     | 0.00       |
| 22    | 0.27       | 22     | 6.00       | 0     | 0.00       |
| 23    | 0.27       | 23     | 6.27       | 0     | 0.00       |
| 24    | 0.27       | 24     | 6.54       | 0     | 0.00       |
| 25    | 0.27       | 25     | 6.82       | 0     | 0.00       |
| 26    | 0.27       | 26     | 7.09       | 0     | 0.00       |
| 27    | 0.27       | 27     | 7.36       | 0     | 0.00       |
| 28    | 0.27       | 28     | 7.64       | 0     | 0.00       |
| 29    | 0.27       | 29     | 7.91       | 0     | 0.00       |
| 30    | 0.27       | 30     | 8.18       | 0     | 0.00       |
| 31    | 0.27       | 31     | 8.45       | 0     | 0.00       |
| 32    | 0.27       | 32     | 8.73       | 0     | 0.00       |
| 33    | 0.27       | 33     | 9.00       | 0     | 0.00       |
| 34    | 0.27       | 34     | 9.27       | 0     | 0.00       |
| 35    | 0.27       | 35     | 9.54       | 0     | 0.00       |
| 36    | 0.27       | 36     | 9.82       | 0     | 0.00       |
| 37    | 0.27       | 37     | 10.09      | 0     | 0.00       |
| 38    | 0.27       | 38     | 10.36      | 0     | 0.00       |
| 39    | 0.27       | 39     | 10.64      | 0     | 0.00       |
| 40    | 0.27       | 40     | 10.91      | 0     | 0.00       |
| 41    | 0.27       | 41     | 11.18      | 0     | 0.00       |
| 42    | 0.27       | 42     | 11.45      | 0     | 0.00       |
| 43    | 0.27       | 43     | 11.73      | 0     | 0.00       |
| 44    | 0.27       | 44     | 12.00      | 0     | 0.00       |
| 45    | 0.27       | 45     | 12.27      | 0     | 0.00       |
| 46    | 0.27       | 46     | 12.54      | 0     | 0.00       |
| 47    | 0.27       | 47     | 12.82      | 0     | 0.00       |
| 48    | 0.27       | 48     | 13.09      | 0     | 0.00       |
| 49    | 0.27       | 49     | 13.36      | 0     | 0.00       |
| 50    | 0.27       | 50     | 13.64      | 0     | 0.00       |
| 51    | 0.27       | 51     | 13.91      | 0     | 0.00       |
| 52    | 0.27       | 52     | 14.18      | 0     | 0.00       |
| 53    | 0.27       | 53     | 14.45      | 0     | 0.00       |
| 54    | 0.27       | 54     | 14.73      | 0     | 0.00       |
| 55    | 0.27       | 55     | 15.00      | 0     | 0.00       |
| 56    | 0.27       | 56     | 15.27      | 0     | 0.00       |
| 57    | 0.27       | 57     | 15.54      | 0     | 0.00       |
| 58    | 0.27       | 58     | 15.82      | 0     | 0.00       |
| 59    | 0.27       | 59     | 16.09      | 0     | 0.00       |
| 60    | 0.27       | 60     | 16.36      | 0     | 0.00       |
| 61    | 0.27       | 61     | 16.64      | 0     | 0.00       |
| 62    | 0.27       | 62     | 16.91      | 0     | 0.00       |
| 63    | 0.27       | 63     | 17.18      | 0     | 0.00       |
| 64    | 0.27       | 64     | 17.45      | 0     | 0.00       |
| 65    | 0.27       | 65     | 17.73      | 0     | 0.00       |
| 66    | 0.27       | 66     | 18.00      | 0     | 0.00       |
| 67    | 0.27       |        |            |       |            |

- |                  |      |       |
|------------------|------|-------|
| Endocrine system | High | 1.000 |
| Endocrine system | High | 0.970 |
| Endocrine system | High | 0.940 |
| Endocrine system | High | 0.910 |
| Endocrine system | High | 0.880 |
| Endocrine system | High | 0.850 |
| Endocrine system | High | 0.820 |
| Endocrine system | High | 0.790 |
| Endocrine system | High | 0.760 |
| Endocrine system | High | 0.730 |
| Endocrine system | High | 0.700 |
| Endocrine system | High | 0.670 |
| Endocrine system | High | 0.640 |
| Endocrine system | High | 0.610 |
| Endocrine system | High | 0.580 |
| Endocrine system | High | 0.550 |
| Endocrine system | High | 0.520 |
| Endocrine system | High | 0.490 |
| Endocrine system | High | 0.460 |
| Endocrine system | High | 0.430 |
| Endocrine system | High | 0.400 |
| Endocrine system | High | 0.370 |
| Endocrine system | High | 0.340 |
| Endocrine system | High | 0.310 |
| Endocrine system | High | 0.280 |
| Endocrine system | High | 0.250 |
| Endocrine system | High | 0.220 |
| Endocrine system | High | 0.190 |
| Endocrine system | High | 0.160 |
| Endocrine system | High | 0.130 |
| Endocrine system | High | 0.100 |
| Endocrine system | High | 0.070 |
| Endocrine system | High | 0.040 |
| Endocrine system | High | 0.010 |

- [illegible]

- [illegible]

- [illegible]

2 TIG is a supply of not less than 6' supply and environmental: remove high grade and fill in downstream till soil to a homogeneous mixture of fine sand, various types clays, gravel and

1,000 mg. P<sub>2</sub>O<sub>5</sub> and small amounts of Zn and Cu are uniformly spread and mixed into the soil to a depth of 1" below.

4. The first step is to identify the problem. In this case, the problem is that the company is not meeting its financial goals. The second step is to analyze the data and determine the causes of the problem. The third step is to develop a plan of action to address the problem. The fourth step is to implement the plan and monitor the results. The fifth step is to evaluate the results and make adjustments as needed.
5. The second objective of the study is to identify the factors that influence the company's financial performance. The third objective is to determine the relationship between the company's financial performance and its operational performance. The fourth objective is to identify the factors that influence the company's operational performance. The fifth objective is to determine the relationship between the company's operational performance and its financial performance.

4. If a person is employed, and is a member of a union, the employer should inform the person that the person is entitled to the right to join the union.
5. If a person is employed, and is not a member of a union, the employer should inform the person that the person is entitled to the right to join the union.
6. If a person is employed, and is a member of a union, the employer should inform the person that the person is entitled to the right to join the union.
7. If a person is employed, and is not a member of a union, the employer should inform the person that the person is entitled to the right to join the union.

- [illegible]

1. **Openness to experience**, or *extraversion*, has a defined or continuous level of activity and interest in the environment. Individuals are generally classified as being either "introverted" or "extroverted."
2. **Conscientiousness** is the tendency to be organized, to follow a plan, to be diligent, and to be self-disciplined.
3. **Emotional stability** is the tendency to be calm, relaxed, and free of anxiety.
4. **Agreeableness** is the tendency to be kind, helpful, and cooperative.
5. **Neuroticism** is the tendency to be nervous, anxious, and depressed.

- [illegible]

- [illegible]

- These authors have also found that the use of a single, standard, non-validated measure of the construct of self-esteem is inadequate for the purpose of examining the effects of self-esteem on health-related behaviors. They have argued that the use of a single measure of self-esteem is inadequate for the purpose of examining the effects of self-esteem on health-related behaviors. They have argued that the use of a single measure of self-esteem is inadequate for the purpose of examining the effects of self-esteem on health-related behaviors.

be awarded by the Developer/Owner's Professional Specialist no less than 60 days prior to the expiration of any Hardware Cash Rent or Lease of Credit period for the machine and the amount of the award shall be determined by the Developer/Owner upon termination of the award period and no award shall be awarded by the Developer/Owner's Professional Specialist.

- The Long Term Operations and Maintenance Plan called for additional funding and resources to ensure continued operation of the project. Additional funding and resources will be derived from the following sources:
- A. Federal and state grants
  - B. Project fund-raising and other resources from groups and individuals interested in the project
  - C. Project fund-raising and other resources from the local business community, including the Chamber of Commerce and the local newspaper
  - D. Project fund-raising and other resources from the local educational community, including the local school district
  - E. Project fund-raising and other resources from the local government community, including the local city and county governments
  - F. Project fund-raising and other resources from the local private sector, including the local insurance industry
  - G. Project fund-raising and other resources from the local non-profit sector, including the local United Way and the local Red Cross
  - H. Project fund-raising and other resources from the local volunteer community, including the local Rotary and the local Kiwanis
  - I. Project fund-raising and other resources from the local media community, including the local radio and television stations
  - J. Project fund-raising and other resources from the local entertainment community, including the local theater and the local music industry
  - K. Project fund-raising and other resources from the local sports community, including the local professional sports teams and the local amateur sports organizations
  - L. Project fund-raising and other resources from the local health care community, including the local hospitals and the local health care providers
  - M. Project fund-raising and other resources from the local social service community, including the local social workers and the local mental health providers
  - N. Project fund-raising and other resources from the local religious community, including the local churches and the local synagogues
  - O. Project fund-raising and other resources from the local cultural community, including the local museums and the local arts organizations
  - P. Project fund-raising and other resources from the local historical community, including the local historical societies and the local historical landmarks
  - Q. Project fund-raising and other resources from the local environmental community, including the local environmental groups and the local environmental organizations
  - R. Project fund-raising and other resources from the local scientific community, including the local scientists and the local research institutions
  - S. Project fund-raising and other resources from the local technological community, including the local technology companies and the local technology organizations
  - T. Project fund-raising and other resources from the local legal community, including the local lawyers and the local law firms
  - U. Project fund-raising and other resources from the local medical community, including the local doctors and the local medical organizations
  - V. Project fund-raising and other resources from the local engineering community, including the local engineers and the local engineering organizations
  - W. Project fund-raising and other resources from the local architecture community, including the local architects and the local architectural organizations
  - X. Project fund-raising and other resources from the local design community, including the local designers and the local design organizations
  - Y. Project fund-raising and other resources from the local creative community, including the local artists and the local creative organizations
  - Z. Project fund-raising and other resources from the local entertainment community, including the local entertainers and the local entertainment organizations

- D. Select a random sampling technique to find customers and frequency of their purchases.
- E. Select a random sampling and mail.
- F. Select a random sampling and mail.
- G. Select a random sampling and mail.
- H. Select a random sampling and mail.
- I. Select a random sampling and mail.
- J. Select a random sampling and mail.
- K. Select a random sampling and mail.
- L. Select a random sampling and mail.
- M. Select a random sampling and mail.
- N. Select a random sampling and mail.
- O. Select a random sampling and mail.
- P. Select a random sampling and mail.
- Q. Select a random sampling and mail.
- R. Select a random sampling and mail.
- S. Select a random sampling and mail.
- T. Select a random sampling and mail.
- U. Select a random sampling and mail.
- V. Select a random sampling and mail.
- W. Select a random sampling and mail.
- X. Select a random sampling and mail.
- Y. Select a random sampling and mail.
- Z. Select a random sampling and mail.

- 

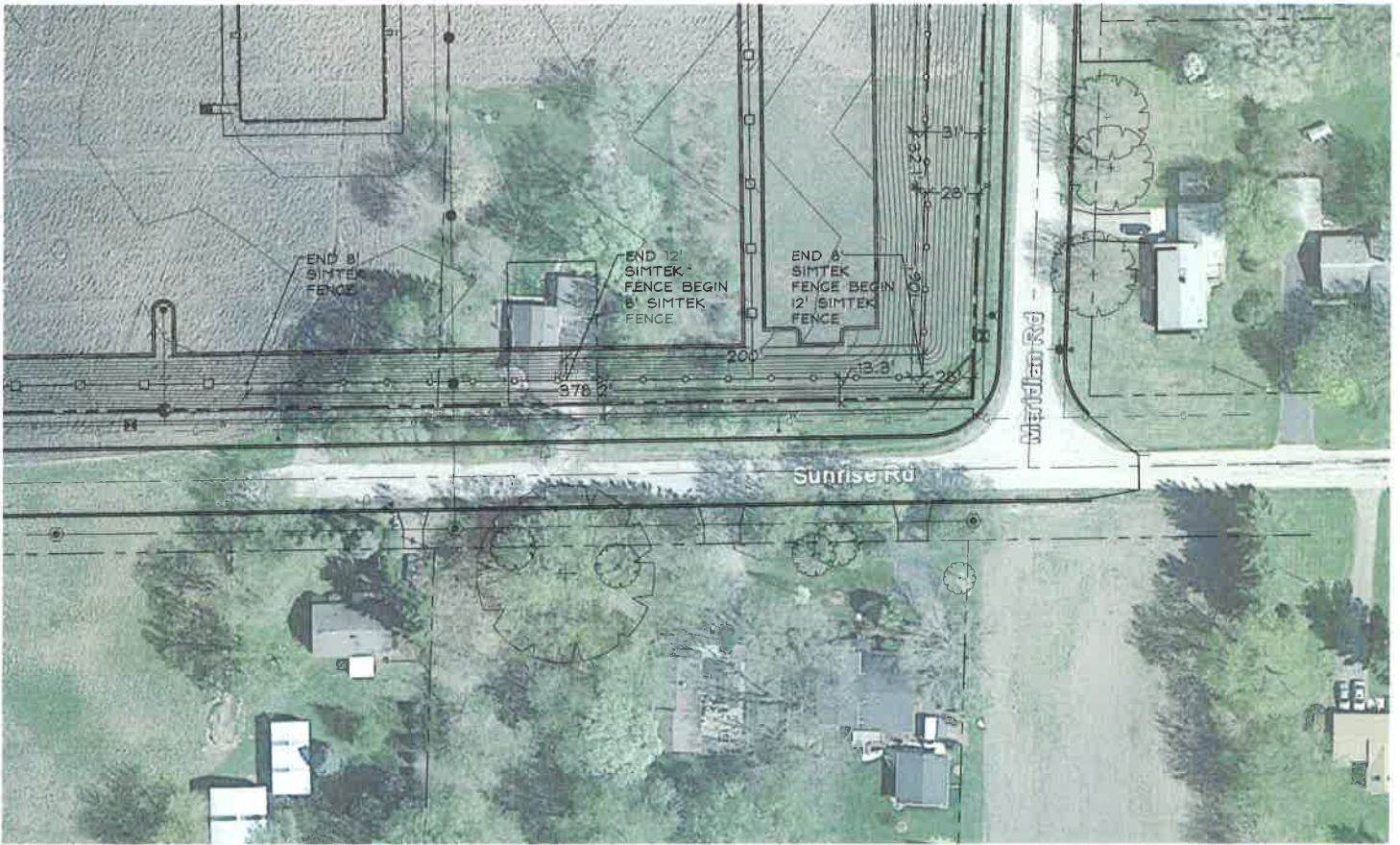
- [illegible]

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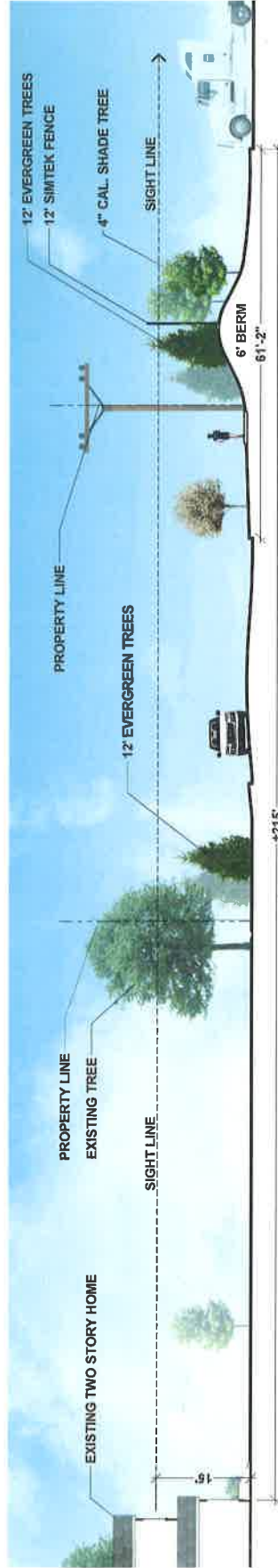
- 
- SIMTEK FENCE LAYOUT DETAIL**  
SCALE: 1"=80'





## SIMTEK FENCE LOCATION

SCALE: 1"=50'



SUNRISE ROAD SECTION A

# BUTTERFIELD CENTER FOR BUSINESS & INDUSTRY

UNIT 4, LOT 402  
AURORA, ILLINOIS

6/9/16



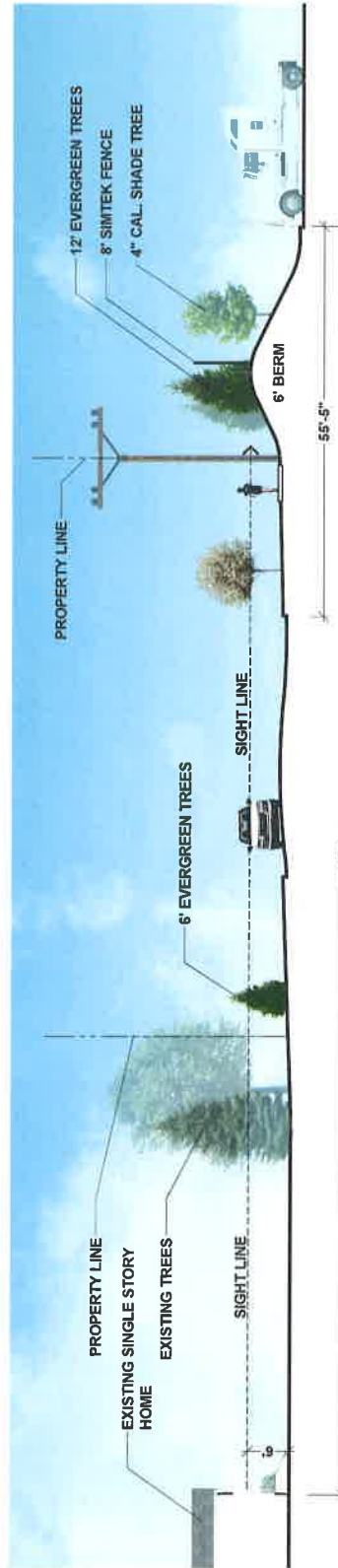
GARY R. WEBER  
ASSOCIATES, INC.

LAND PLANNING  
SCAPE DESIGN  
LANDSCAPE ARCHITECTURE  
113 SOUTH MAIN STREET  
AURORA, ILLINOIS 60009  
TEL: 630.584.1171

tabbles®

EXHIBIT

4A



**SUNRISE ROAD SECTION B**



# BUTTERFIELD CENTER FOR BUSINESS & INDUSTRY

UNIT 4, LOT 402  
AURORA, ILLINOIS

6/9/16

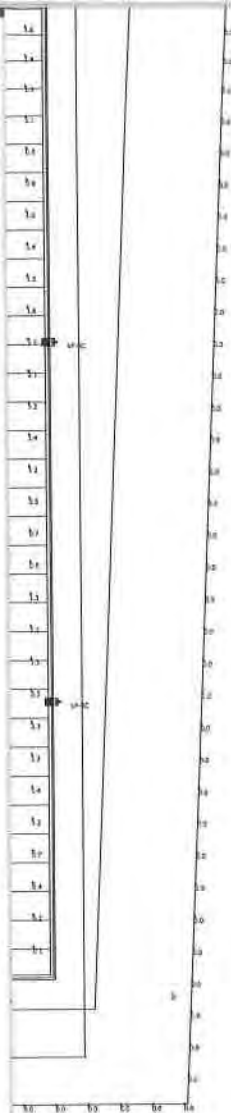


GARY R. WEBER  
ASSOCIATES, INC.

LAND PLANNING  
ROADWAY DESIGN  
LANDSCAPE ARCHITECTURE  
213 SOUTH MAIN STREET  
WEST PALM BEACH, FL 33411  
TEL: 561.832.1100  
WWW.GRWAA.COM

**EXHIBIT**

48



1. THIS LIGHTING DESIGN IS BASED ON LIMITED INFORMATION SUPPLIED BY OTHERS TO HUBBELL LIGHTING. SITE DETAILS PROVIDED HEREON ARE REF. CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR OWNER.
2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES ARE ASSUMED.
3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.

TITLE:

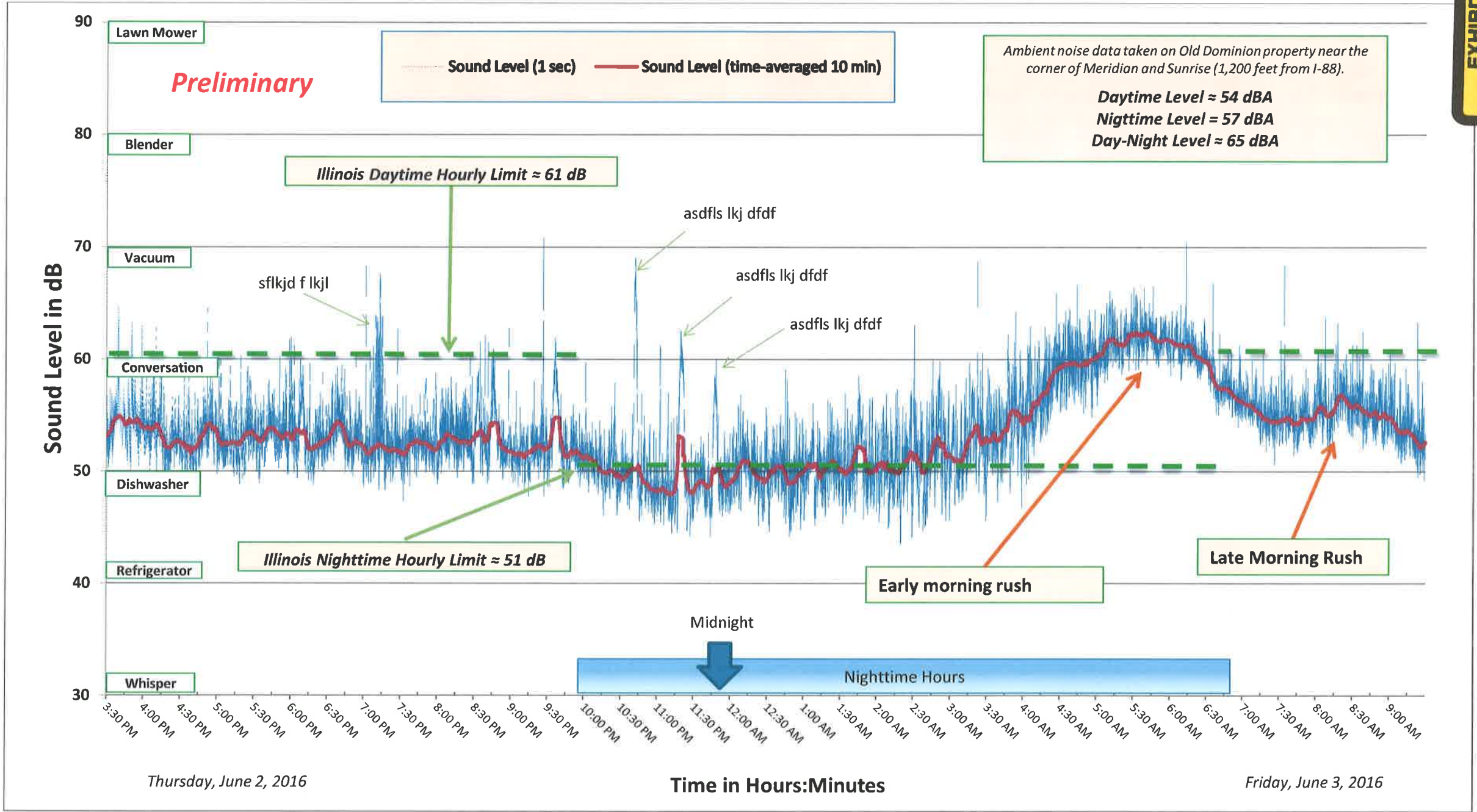
# OLD DOMINION FREIGHT LINES AUROA, IL SITE LIGHTING PLAN



EXHIBIT

tabbles

6



**RE/MAX** Northern Illinois

CORPORATE CITIZENSHIP

REAL ESTATE NEWS

[ccount click here](#)**\$899,000**30W575 Ferry R...  
NAPERVILLE, IL ...**6.47**ACRE  
Active

FAVORITE



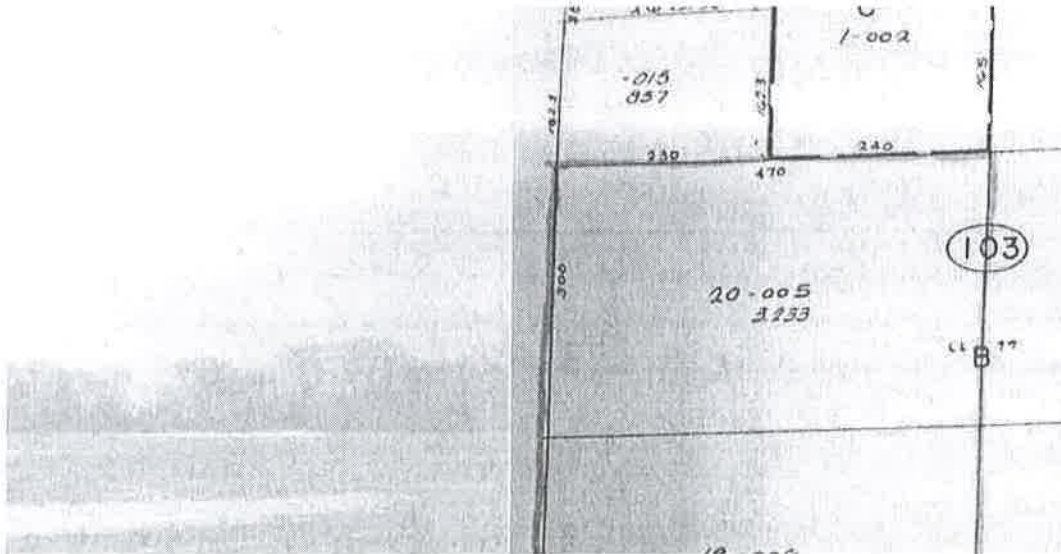
SHARE



INFO



VISIT

MARKET  
REPORTVIRTUA  
TOUR**My Property Finder** members always view full listing details. Login or Register**\$899,000**

Mortgage Calculator ✓

**Active**  
STATUS

For Sale

MLS#: 09118106

Location, Location ,Location! Prime Development Opportunity!!! 6.46 prime acres of land in a newly developing area. Endless possibility's. Great location easy on and off of I-88. Unincorporated Naperville! Potential for Horse property. Currently used for crops with income potential. Bring your development ideas! Two - 3.23 acres parcels with 2 pin numbers. Sold together

Listing provided courtesy of: RE/MAX Action

**General Features****EXHIBIT**

8



## **EXHIBIT "A"**

### **ANNEXATION AGREEMENT FOR APPROXIMATELY 4.958 ACRES LOCATED ALONG SUNRISE ROAD AND WEST OF MERIDIAN ROAD**

This ANNEXATION AGREEMENT, hereinafter referred to as "AGREEMENT", is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016 by and between the CITY OF AURORA, ILLINOIS, a municipal corporation, "CITY"; and OLD DOMINION FREIGHT LINE, INC., "OWNER" and "DEVELOPER". The City, Owner, and Developer are referred to as "Party" or "Parties".

#### **WITNESSETH:**

1. The Owner is record title holder of the Subject Property consisting of approximately 4.958 acres, legally described in Attachment "A" attached hereto (the "Subject Property").
2. The Owner has attached hereto as Attachment "B" a disclosure of the beneficial owners of any land trust holding title to all or a portion of the Subject Property, if any or a statement indicating that there are none.
3. The Parties to this Agreement desire that the Subject Property be annexed to the City of Aurora with the benefits of the Subject Property being as follows:
  - a. Full development potential of the Subject Property;
  - b. Establishment of high quality development standards that will elevate, support and stabilize property values for the proposed land uses;
  - c. Provision of a water supply system that has been engineered to supply water services to the Subject Property;
  - d. Provision of a sanitary sewer system that has been engineered to supply services to the Subject Property through the Fox Metro Water Reclamation District's facilities, or the City's facilities;
  - e. Provision of police protection by the City's fully trained, staffed and equipped Police Department;
  - f. Provision of fire protection by the City's fully trained, staffed and equipped Fire Department; and,
  - g. Favorable insurance rates due to the City's Fire Department having a Class 2 rating.



4. The Subject Property is contiguous to the city limits of the City of Aurora, Illinois, and is not within the corporate limits of any other municipality.
5. This Agreement is made pursuant to 65 ILCS 5/11-15.1-1 and 65 ILCS 5/7-1-1 of the Illinois Compiled Statutes.

All notices, publications, public hearings, and all other matters attendant to said Agreement as required by State statute and the ordinances, regulations, and procedures of the City have been met prior to the execution by the Parties to this Agreement.

NOW, THEREFORE, it is agreed by and between the Parties hereto as follows:

**SECTION A                      Duration, Applicability and Owner/Developer Responsibility**

1. This Agreement shall be binding upon and inure to the benefit of the Parties hereto, successor owners of record and/or Developers of the Subject Property, or any part thereof, which is the subject of this Agreement, and their heirs, executors, administrators, successors, assignees, lessees, devisees and upon any successor municipalities for a period of fifteen (15) years from the date of execution hereof, unless changed in accordance with the law.
2. It is understood and agreed by the Parties hereto that, in the event all or any portion of the Subject Property is sold or conveyed at any time during the term of this Agreement, all the obligations and responsibilities of the Owner, as herein set forth shall devolve upon and be assumed by such purchaser or grantee, and the Owner shall be released from all obligations which relate to that portion of the Subject Property as may have been sold or conveyed.
3. Owner agrees to record a copy of the City ordinance providing for the execution of this agreement and an executed copy of this Agreement with the appropriate county recorder within sixty (60) days of the approval of said ordinance.
4. Owner agrees to file with the City Clerk a properly executed Annexation Petition pursuant to this Agreement covering the properties described in Attachment "A" not later than ninety (90) days after the execution of this Agreement.
5. Owner agrees to petition and diligently pursue the Fox Valley Park District for annexation of the entire Subject Property within ninety (90) days of annexation to the City.
6. Owner agrees to petition and diligently pursue the Fox Metro Water Reclamation District for annexation of the entire Subject Property within ninety (90) days of annexation to the City.
7. Owner agrees to petition and diligently pursue the appropriate U.S. Post Office for an "Aurora" mailing address on the Subject Property of this Agreement, within ninety (90) days of annexation to the City.

8. Owner agrees to dedicate right of way for proposed roadways on, through, adjacent, to the Subject Property, at the time of the approval of the final plat and plan of the Subject Property as specified herein. To the extent there are existing roadways that have come under the jurisdiction of the City as part of the annexation of the Subject Property but are not formally owned by the City, the Owner shall make the necessary dedication of such right of ways at the time it submits for final plan and plat approval.
9. Developer agrees that all existing structures on the Subject Property shall be razed and removed within one (1) year after the first final plan and/or plat approval for any portion of the Subject Property
10. Developer agrees to connect to the public sanitary sewer system at the time the Subject Property is developed and shall pay charges for sewer service as are prescribed by City ordinances and by the Fox Metro Water Reclamation District.
11. Developer agrees to establish cross-access easements with regard to private drives on the Subject Property that are mutually agreeable with Owner/Developer and the adjacent property owner.
12. Developer agrees that one-hundred percent (100%) of the public improvements costs required to serve development to be constructed on the Subject Property shall be the Developer's responsibility.
13. Developer agrees that the cost of roadway improvements described in Section E as the "Developer's Responsibility" shall be constructed at one-hundred percent (100%) the Developer's cost.
14. Owner agrees to cooperate with the City in establishing any special service areas required by the City concerning storm water control and common areas maintenance for Subject Property and shall establish any required specific Special Service Area ("SSA") within 60 days after Final Plan, Plat, and Final Engineering approval, and prior to any conveyance of any parcels to any non-Developer/Owner controlled person or entity. Owner waives any objection to the establishment of an SSA for the Subject Property, and agree that failure to comply and have a required SSA established may result in the City withholding Occupancy Permits in the Development. Owners of land in the Butterfield Center for Commerce and Industry have set up a not for profit corporation to act as the Property Owner's Association called the Butterfield Owner's Association and Developer shall bind the Subject Property to the covenants and conditions of this association.

**SECTION B.           Annexation, Zoning and City Responsibility**

1. Subsequent to the approval of this Annexation Agreement, the City agrees to adopt an ordinance annexing the Subject Property to the City pursuant to an Annexation Petition, subject to the terms and conditions herein.
2. In the event that an Annexation Petition for the Subject Property is not filed within ninety (90) days, the City may void this Agreement by ordinance.

3. Subsequent to Annexation the City agrees to adopt an ordinance zoning the Subject Property as part of the Area B "Manufacturing (Office/Research/Industrial)" of the Butterfield Planned Development District (P.D.D.) except for variations which are specifically set forth as part of Area B "Manufacturing (Office/Research/Industrial)" of the Butterfield Planned Development District (P.D.D.) and accompanying Plan Description.
4. The City agrees to adopt the Preliminary Plan and Plat documents incorporated herein as Attachment "C" by separate Resolution, upon and concurrently with annexation of the Subject Property.
5. City agrees to adopt a recapture ordinance(s) to reimburse Developer, as specifically requested subsequent to this agreement, for the cost of installing Meridian Road and Sunrise Road, including engineering, construction, and other costs from owners of property which may be reasonably expect to benefit from such facilities. The recapture ordinance shall be for fifty percent (50%) of the cost of any full cross section improvement of the roadway installations across the frontage of the parcels that are not included in this annexation to the extent such properties are annexed to the City either along the east side of Meridian or the south side of Sunrise. The City shall adopt the recapture ordinance within a reasonable time following notice from Developer that facilities are complete, and provided that the Developer supplies all information required by the City to process said ordinance(s). The recapture ordinance shall provide for Developer to be paid by said owners a reasonable amount of interest of no more than five percent (5%) on the amount expended in completing the improvements, which interest shall be calculated from and after the date of completion and acceptance of the improvement, said interest shall accrue for a maximum of ten (10) years, and for the payment of all recapture sums due at the time of connection, or use by any benefited property owner.
6. The City agrees that the dedication of land or cash in lieu of land is not required as the Subject Property is being zoned ORI.

## **SECTION C            Development Review**

1. No portion of the Subject Property shall be developed until and unless the City in accordance with the conditions has approved such development hereinafter set forth.
2. The Subject Property described in Attachment "A" shall be governed by all of the requirements contained in the Aurora Zoning Ordinance No. 3100, to be treated as part of the Area B "Manufacturing (Office/Research/Industrial)" of the Butterfield Planned Development District (P.D.D.) except for variations which are specifically set forth in the accompanying Plan Description.
3. Except as provided herein, the provisions of the Aurora Subdivision Control Ordinance shall govern all development of the Subject Property regardless of the size of a parcel being developed at any one time. If no subdivision plats for the Subject Property are required, then Owner agrees that the public improvements and other subdivision control

requirements of the Aurora Subdivision Control Ordinance shall be applicable to the Subject Property, except for variations which are specifically set forth as part of Area B "Manufacturing (Office/Research/Industrial)" of the Butterfield Planned Development District (P.D.D.) and accompanying Plan Description.

4. Preliminary plans and plats and final plans and plats may be submitted and approved simultaneously.
5. Final plats may be presented to the City for approval individually.
6. Building elevations shall be presented for approval with the Final Plat and/or Plan and will be evaluated based on quality and variety of building materials, orientation and presentation from the public street, and the use of architectural elements.
7. The construction of buildings on the Subject Property shall be in accordance with the Aurora Building Code requirements in force at the time of issuance of building permits.
9. All codes and ordinances of the City of Aurora not amended by the Butterfield Plan Description and all codes and ordinances applicable Citywide adopted by the City after the execution and entering into of this Agreement by the Parties hereto shall apply to the Subject Property.
10. Engineering plans and specifications for the improvements to be installed in each phase of the development shall be submitted to the City together with the final subdivision plat for such phase.

#### **SECTION D                    Variations and Special Uses**

The variations and conditions as set forth in the Area B "Manufacturing (Office/Research/Industrial)" of the Butterfield Planned Development District (P.D.D.) and accompanying Plan Description.

#### **SECTION E                    Roads, Public Utilities and Storm Water Management**

1. Meridian Road – The public right of way has been dedicated for Meridian Road and is located along the eastern property line of the Subject Property. Said right of way shall be established at 66 feet, with a cross section of 39 feet of roadway width from back of curb to back of curb with B6-12 curb and gutter. DEVELOPER RESPONSIBILITY: The Developer shall be responsible for dedicating any necessary right-of-way to meet the 66 foot width along the entire frontage of the Subject Property and intersection right-of-way triangles as requested by the Engineering Division. The Developer shall be responsible for construction of a full cross section improvement from Ferry Road to Sunrise Road. The cost of said improvements adjacent shall include, but not be limited to, engineering, construction, utilities, interest and other costs. The principal access point(s) from the existing public right-of-way and/or proposed roadway extension for the Subject Property shall be from Meridian Road. Developer shall construct a sidewalk along the east side of Lot 402.

2. Sunrise Road – The public right of way has been dedicated for Sunrise Road and is located along the southern property line of the Subject Property. Said right of way shall be established at 80 feet with a cross section of 39 feet of pavement width back to back with B6-12 curb and gutter. DEVELOPER RESPONSIBILITY: The Developer shall be responsible for dedicating any necessary right-of-way to meet the 80 foot width along the entire frontage of the Subject Property and intersection right-of-way triangles as requested by the Engineering Division. The Developer shall be responsible for construction of a full cross section improvement from Meridian Road to Frieder Lane. If Frieder Lane has not been extended to Sunrise Road prior to occupancy of Lot 402, a turnaround for Sunrise Road shall be required prior to an occupancy permit being issued for Lot 402. The cost of said improvements shall include, but not be limited to, engineering, construction, utilities, interest and other costs. Developer shall construct a sidewalk along the north side of Sunrise Road. The City recognizes that Sunrise Road will not connect to future Frieder Lane until Lot 401 is developed.
3. Frieder Lane – A portion of the public right of way has been dedicated for Frieder Lane and is located along the western property line of the Subject Property. Said right of way shall be established at 66 feet with a cross section of 39 feet of pavement width back to back with B6-12 curb and gutter. DEVELOPER RESPONSIBILITY: The responsibility for dedicating any necessary right-of-way to meet the 66 foot width along the entire frontage of the Subject Property shall be with the development of as part of Lot 401. The Developer shall be responsible for dedicating intersection right-of-way triangles at the northwest and southwest corners of Lot 402 as requested by the Engineering Division. The responsibility for construction of a full cross section improvement from Ferry Lane to Sunrise Road shall be with the development of Lot 401. Due to the need to determine the profile and location of public utilities (in particular storm sewer) once Lot 401 is developed, no sidewalk will be required on the west side of Lot 402.
4. A double-fed public water main system is required to provide adequate fire protection and water service for the Subject Property and each lot.

#### Sanitary Sewer Language

5. Development of the Subject Property requires that adequate storm and sanitary discharge plans, and other related plans, have been approved by the appropriate City of Aurora Department, or agency with responsible jurisdiction.
6. Owner has already supplied evidence to the City that the Subject Property is not subject to any jurisdictional review by the Army Corps of Engineers relating to wetland mitigation and wetland/floodplain mitigation shall be subject to review and approval in accordance with the applicable Kane County ordinances.
7. A subsurface drainage investigation report shall be submitted to the City's Engineering Division for review, as per the requirements of the Stormwater Ordinance. Any and all field tiles on the Subject Property must be protected during construction and shall be re-routed so as to not run under any building. Any filling operations must be done in such a manner so as not to raise the emergency overland flow elevations on adjacent properties. When, as and if said field tile is re-routed or damaged Owner and Developer shall repair

all damaged field tile, but shall not be required to use any tile of a type, kind or character other than is the same or equal to that presently used in the field tile in question. If the tile is run under any paved area, or within public right of way, then concrete tile must be used.

8. Retaining walls utilized within the development shall not exceed three (3) feet in height. The stepping of retaining walls is allowed up to six (6) feet in overall height with a minimum run of three (3) feet between steps.
9. All improvements, buildings and structures shall be required to follow the Kane County Stormwater Ordinance requirements as adopted by the City.

## **SECTION F                    General Provisions**

1. In the event that any section, subsection or paragraph of this Agreement is held to be invalid, the invalidity of such section, subsection or paragraph shall not affect any of the other provisions of this Agreement. None of the parties to this Agreement shall challenge the validity or enforceability of this Agreement nor any provision of this Agreement, nor assert the invalidity or unenforceability of this Agreement or any provision thereof as defense to any claim by any other party seeking to enforce this Agreement.
2. Any notice or demand hereunder from any Party hereto to another Party hereto shall be in writing and shall be deemed served if mailed by prepaid registered or certified mail addressed as follows:

If to the CITY:                    Mayor of Aurora  
   City of Aurora  
   44 East Downer  
   Aurora, Illinois 60507

With copy to:                    Aurora Corporation Counsel  
   City of Aurora  
   5 East Downer Place, Suite F  
   Aurora, Illinois 60507

If to the OWNER/DEVELOPER:  
   Old Dominion Freight Lines, Inc.  
   500 Old Dominion Way  
   Thomasville, NC 27360  
   Attention: Phil Danner

With a copy to:                    Dykema Gossett PLLC  
   4200 Commerce Court, Suite 300  
   Lisle, Illinois 60532  
   Attn: Bruce Goldsmith

3. Should correspondence to Owner be a notification of violation of any provision of this Annexation Agreement, Owner shall have thirty (30) days in which to correct such violation. The thirty-day period shall begin at the time of the mailing of said notice.
4. The Parties hereto agree to cooperate in applying the provisions of this Agreement and to fulfill the intent of the provisions set forth herein.
5. The Parties agree that the Parties or their successors in title may enforce this Agreement in any court of competent jurisdiction, in an appropriate action at law or in equity, as provided in 65 ILCS 5/11.1-4, as amended, including the right of any of the Parties to seek specific performance of the terms of this Agreement.
6. Owner and Developer understand and agree that the Subject Property shall be subject to any lawful fees enacted by the City with regard to development so long as said fees are uniformly applied in the City except for fees that the City elects to rebate to developers pursuant to an annexation or development agreement.

**(SIGNATURE PAGES TO FOLLOW)**

Executed in Aurora, Illinois.

**SIGNED BY OWNER and DEVELOPER** on the \_\_\_\_\_ day of \_\_\_\_\_, 2016.

Name: Old Dominion Freight Lines, Inc.

By: \_\_\_\_\_  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_

**SIGNED BY CITY OF AURORA** on this \_\_\_\_\_ day of \_\_\_\_\_, 2016.

CITY OF AURORA, an Illinois Municipal Corporation

By; \_\_\_\_\_  
Thomas Weisner, Mayor

Attest: \_\_\_\_\_  
Wendy McCambridge, City Clerk

## **ATTACHMENT "A"**

### **LEGAL DESCRIPTION OF SUBJECT PROPERTY**

LOT 15; TOGETHER WITH THAT PART OF PRAIRIE LANE (NOW KNOWN AS MERIDIAN ROAD) LYING EAST OF AND ADJOINING SAID LOT 15; TOGETHER WITH THAT PART OF SUNRISE ROAD LYING SOUTH OF AND ADJOINING SAID LOT 15; TOGETHER WITH THAT PART OF SAID SUNRISE ROAD LYING SOUTH OF AND ADJOINING SAID PRAIRIE LANE; ALL IN ARTHUR T. MCINTOSH AND COMPANY'S FERRY ROAD FARMS, BEING A SUBDIVISION OF PART OF THE WEST 1/2 OF SECTION 4, TOWNSHIP 38 NORTH, RANGE 9 EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED NOVEMBER 12, 1943 AS DOCUMENT NO. 455751, IN DUPAGE COUNTY, ILLINOIS.

PARCEL NUMBERS: 07-04-102-007 and 07-04-102-008

**ATTACHMENT "B"**

**NOT APPLICABLE**

## **ATTACHMENT “C”**

### **PRELIMINARY PLAN AND PLAT PREPARED BY MANHARD CONSULTING**

## **PRELIMINARY PLAN CONDITIONS**

1. The proposed fences that are not Simtek screening fences shall be decorative metal fences.
2. The truck parking stalls shall be modified to be a minimum of ten (10) feet in width and forty-five (45) feet in length.
3. The roadway improvements for Sunrise Road, including a sidewalk on the north frontage, shall be shown from Meridian Road to Frieder Lane extended. This extension can be shown as a construction obligation to be completed by the developer of Lot 401 pursuant to the Annexation Agreement.
4. The fencing used for screening and sound attenuation from the entrance on Meridian to a point on Sunrise noted in the Landscape Plan shall be eight (8) feet in height, using the Simtek type fencing. On the Sunrise Road side, the fence shall be twelve (12) feet in height for the first two hundred (200) feet and then at eight (8) feet to the far end of the third house on the road, all as shown on the Landscape Plan.
5. The evergreens to be planted south of the entrance on Meridian Road and along the north and Sunrise Road shall be twelve (12) feet in height. There will also be twelve (12) feet evergreens along the south side of Sunrise in front of the first house (two story). Evergreens are also shown at six (6) feet in height along the south side of Sunrise where it is expected construction will remove existing plantings. These commitments are shown on the Landscape Plan.
6. All street trees shall be four (4) inch caliper in lieu of the City's standard s 2 1/2 inch caliper requirement along both sides of Meridian from Ferry Road to Sunrise Road. Street trees shall be four (4) inch caliber on the north side of Sunrise Road from Meridian to the secondary fire access lane. These commitments are noted in the Landscape Plan.
7. Backup horns on the spotters shall use the white noise equipment.
8. Berms on the Meridian Road south of the entrance shall be from six (6) to ten (10) feet in height as shown on the Landscape Plan. Berms on the Sunrise Road side in front of the three houses on the south side of Sunrise Road shall be six (6) feet in height with the remainder at four (4) feet as shown on the Landscape Plan.

**NOISE MONITORING  
STUDY REPORT  
FOR THE  
CITY OF  
CREST HILL, ILLINOIS**

**January 2015**



## SUMMARY

The following report presents the methodology used, associated testing details, and resultant findings from three evenings of noise level monitoring conducted for the City of Crest Hill in addressing the community concerns associated with the trucking facilities located south of Division Street and west of Weber Road in Crest Hill, Illinois. We hereby certify that to the best of our knowledge the information and data contained herein this report are true and accurate.

Tim Kelly, P.E., Huff & Huff, Inc.

Gerry Trzupek, Huff & Huff, Inc.

*Tim Kelly*  
*Gerry Trzupek*

### **1. INTRODUCTION**

A noise monitoring study was conducted by the Huff & Huff, Inc. (H&H) personnel listed above to evaluate the effect two trucking facilities have upon noise levels at the nearest residential area. The trucking terminals are located southeast of the intersection of Division Street and Enterprise Boulevard, and the nearest residential area is north of the facilities, across Division Street and known as Carillon Lakes. The project area and monitoring location is shown in Figure 1.

**Figure 1 – Project Area and Monitoring Location**



H&H conducted noise following the regulations maintained by the Illinois Pollution Control Board and found at Title 35 of the Illinois Administrative Code (35 IAC), specifically those limits and methodologies found in Subtitle H, "Noise Pollution", Chapter I, Parts 900 through 910. Regulations regarding the measurement of highly impulsive noise sources and the regulatory standards for Class C (in this case transportation facilities) noise effects upon Class A (residential) land uses were utilized. Noise measurements were taken for five-hour periods (10 p.m. to 3 a.m.). This time period falls within the state definition of "nighttime hours" found at 35 IAC 900.101, which is 10 p.m. to 7 a.m.

One monitoring session was conducted on a Saturday night when the facility was not in operation to determine background noise levels for the area. The two other monitoring sessions were conducted on week nights with the facility operating.

The facility noise levels, once isolated from background noise and roadway noise, was compared to both applicable octave band-based noise level limits and to impulse noise level limits. These limits are found in 35 IAC 901. The facilities did not exceed either of these noise level limits during the ten hours noise monitoring was conducted.

## **2. NOISE BACKGROUND**

Sound is caused by the vibration of air molecules, and is measured on a logarithmic scale using units of decibels (dB). Sound is composed of a wide range of frequencies; however, the human ear is not uniformly sensitive to all frequencies. Therefore, the "A" weighted scale was devised to correspond with the ear's sensitivity. Noise levels reported using the A-weighted scale are identified using "dB(A)".

The equivalent sound level is the steady-state, A-weighted sound level, which contains the same amount of acoustic energy as the actual time-varying, A-weighted sound level over a specified period of time. The A-weighted unit is used because:

- 1) it is easily measured,
- 2) it approximates the human ear's sensitivity to sounds of different frequencies,
- 3) it matches attitudinal surveys of noise annoyance better than other noise measurements, and
- 4) it has been adopted as the basic unit of environmental noise by many agencies around the world, including OSHA.

## **3. NOISE LEVEL MONITORING**

### **3.1 Obtaining Background Noise Levels**

To distinguish trucking terminal noise from other ambient noise sources, noise levels must be monitored during a time at which the terminals are NOT in operation. H&H was informed that the only overnight period without terminal operations is Saturday night to Sunday morning. H&H

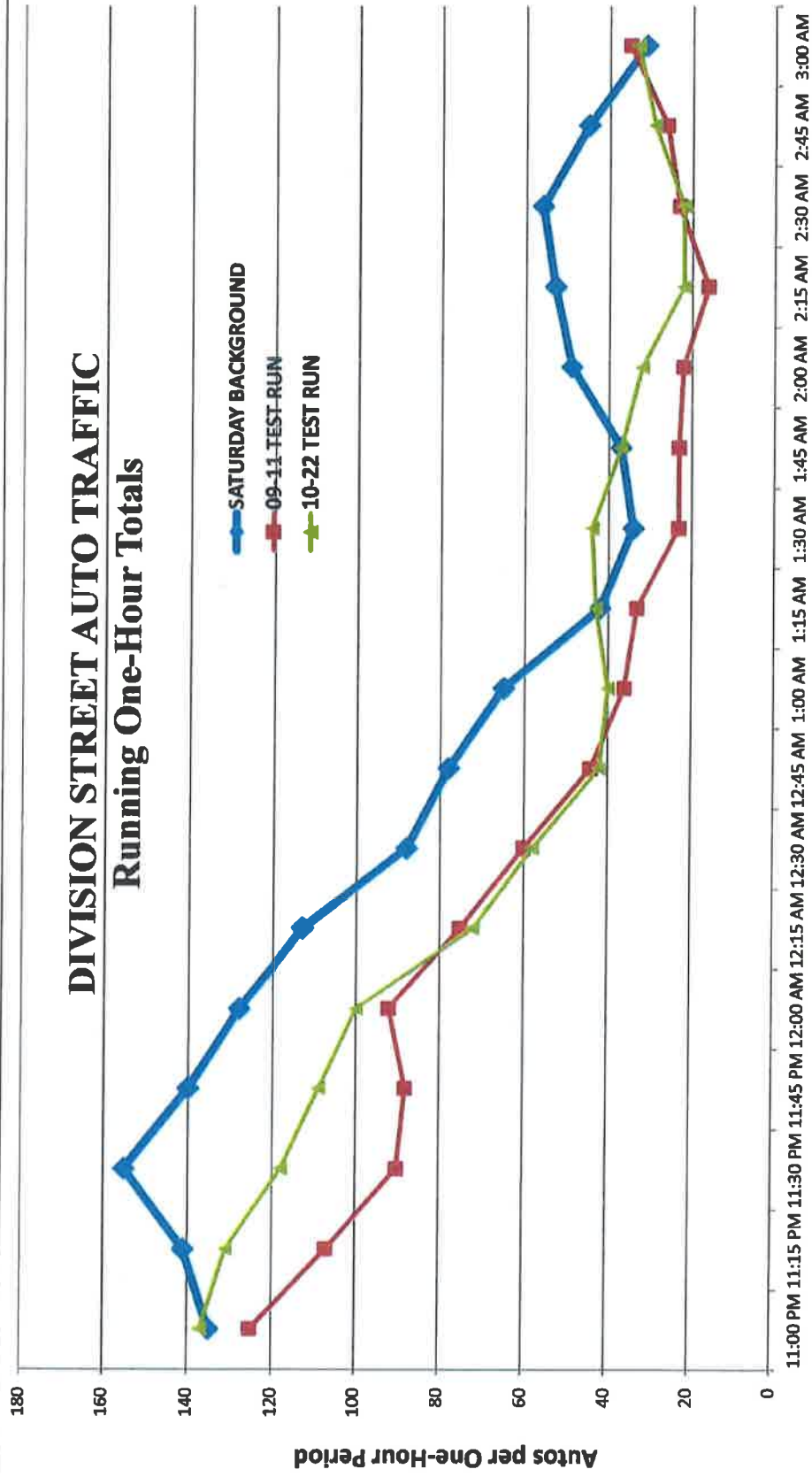
therefore monitored noise levels from 10 p.m. to 3 a.m. on the evening of September 13, 2014 in order to establish a baseline background noise level for the neighborhood. The monitoring location, immediately south of the fence line at Carillon Lakes, just east of the Enterprise and Division intersection, was necessarily the same for both background measurements and facility operations measurements. This location met the requirements of 35 IAC 910.105(a).

The time of night monitored were also the same for both background measurements and facility operations measurements. This was done in order to determine the trucking facilities' contribution to overall noise levels. This was done by logarithmically subtracting the background noise levels from the noise reading taken during facility operating hours. The justification for this correction is found in 35 IAC 910.106(a)(4).

Without the truck terminals operating, and therefore without the related truck traffic on the roadway, the major contributor to overnight background noise levels at the monitoring location was roadway car and single unit truck traffic. Traffic from the background monitoring periods and from the terminal noise monitoring periods was compared to ensure the volumes were comparable. The car volumes for all three monitoring periods are graphically presented as running one-hour totals below:

# DIVISION STREET AUTO TRAFFIC

## Running One-Hour Totals



### 3.2 Obtaining Terminal Operations Noise Levels

Noise monitoring is required to be conducted only within certain ambient parameters. Monitoring is not considered valid in conditions of high (greater than 12 mph) winds, temperature extremes (below 14 °F or above 112 °F), or excessive humidity (greater than 90%). Pavement must also be dry. These conditions were met for each of the three monitoring sessions.

H&H attempted to conduct this noise study on an evening in which terminal noise would be at or near its loudest levels. Residents had volunteered to rate the night-time noise levels and send this data to The City. H&H sorted through the available data and determined the consensus “loudest” nights of the week. These became the target night for the study, as The City authorized no more than two nights of operational study, and this information provided the best opportunity for picking a “loud” night. Monitoring was conducted on the evenings of September 11 and October 22.

## 4. NOISE MONITORING RESULTS

The truck terminal noise levels were checked against two sets of regulatory limits determined by the Illinois Pollution Control Board. These two limits are octave band limits and highly-impulsive noise limits. Once isolated from background traffic levels and short-term transient sounds, trucking facility noise levels at specified frequencies was compared with nighttime limits found at 35 IAC 901.102(b) for sound emitting from the trucking facilities’ land classification (C) to residential land (classified as A):

<b>Octave Band Center Frequency (Hertz)</b>	<b>Allowable Octave Band Sound Pressure Levels (dB)</b>
31.5	69
63	67
125	62
250	54
500	47
1000	41
2000	36
4000	32
8000	32

Additionally, highly impulsive sound, as defined in 35 IAC 900.101 and found below, was also studied:

*Highly Impulsive Sound: either a single pressure peak or a single burst (multiple pressure peaks) for a duration usually less than one second. Examples of highly impulsive sound sources are drop forge hammer and explosive blasting.*

The limit for highly impulsive sound levels generated from Class C land and received upon Class A land during nighttime hours, as found in 35 IAC 901.104, is 43 dB(A).

These limits apply to noise levels coming from the facility not including background noise and other

noise sources from outside the facility. In order to properly define terminal noise, non-terminal-generated noise must be extracted from the 18,000 individual seconds that make up each evening's worth of noise monitoring data. The major components of the non-terminal noise was semi-trailer truck noise and automobile noise from Enterprise Drive and Division Street. Traffic noise will not be counted against regulatory noise limits found in 35 IAC 901 based on the exception found in 35 IAC 901.107(f):

*Sections 901.102 through 901.106 inclusive do not apply to the operation of any vehicle registered for highway use while such vehicle is being operated within any land used as specified by Section 901.101 in the course of ingress to or egress from a highway.*

The truck-related noise levels and over-all, uncorrected noise levels are presented below for informational purposes:

<b>Test Start Date</b>	<b>Total Truck Count for 5-hour Monitoring Period</b>	<b>Noise Level when Trucks are Present Leq, dB(A)<sup>1</sup></b>	<b>Over-all, Uncorrected Noise Levels, dB(A)<sup>2</sup></b>
September 11, 2014	78	55.8	50.8
October 22, 2014	82	57.3	54.3

<sup>1</sup> This represents the noise level for the periods when trucks are audible. This includes the approach, idle, pass-by, and departure noise.

<sup>2</sup> This represents the overall noise level measured each night. This includes all background, facility, impulse, transient, and truck noise.

The Federal Highway Administration (FHWA) defines traffic noise-related impacts for residential land uses as a noise level (in terms of hourly Leq) of 67 dB(A). This impact criterion is applied only at exterior residential areas. The FHWA Impact criterion is only used to determine impacts for new roadway projects, which generally include the addition of a travel lane to an existing roadway or the construction of a new roadway. When determining potential impacts stemming from the new roadway projects, the Illinois Department of Transportation (IDOT) analyzes abatement measures to reduce traffic noise at residential receivers when the traffic noise levels from the new roadway project are expected to approach, meet or exceed the FHWA criterion. IDOT defines "approach" as an expected noise level of 66 dB(A) or greater.

Short-term transient background sounds not generated by the trucking facilities (for example a truck gathering contents of a dumpster at the near-by strip mall) must not be included as part of the data set based on 35 IAC 910.107(b)(2)(B):

*Data collection must be inhibited whenever a short-term background transient sound occurs.*

Data from the terminal for each of the five hours of the study nights was averaged for each of the nine octave bands for which night-time noise limits exist in the Illinois Administrative Code, based on appropriate land use. The background noise levels were then used, as per the methodology found in the regulation, to correct for the terminal noise levels measured. When accounting for background levels, all but 13 data points out of ninety (nine octave band averages for each of five hours on two study nights) fall at or below the background noise level, thereby meeting the regulatory requirements. The remaining 13 data points are less than the regulatory limit. Therefore, the facility does not exceed octave bands noise limits. These results are tabulated below:



## Table 2 – Octave Band Results – October 22, 2014

Hour	10-22-14 - Corrected Hourly Facility Leq									
	LZeq_O 31.5Hz	LZeq_O 63Hz	LZeq_O 125Hz	LZeq_O 250Hz	LZeq_O 500Hz	LZeq_O 1kHz	LZeq_O 2kHz	LZeq_O 4kHz	LZeq_O 8kHz	
1	60.7	62.1	57.8	51.4	47.1	50.8	47.2	37.0	26.9	
2	59.4	63.0	61.3	51.8	46.8	48.5	44.9	36.3	28.1	
3	60.9	63.8	55.6	46.3	45.8	46.7	43.4	34.2	25.9	
4	61.9	65.2	57.2	46.9	48.3	47.2	43.0	34.3	25.0	
5	60.8	61.8	55.0	48.8	44.0	46.4	43.0	34.5	27.2	
Allowable	69.0	67.0	62.0	54.0	47.0	41.0	36.0	32.0	32.0	

Hour	Corrected Hourly Background Leq									
	LZeq_O 31.5Hz	LZeq_O 63Hz	LZeq_O 125Hz	LZeq_O 250Hz	LZeq_O 500Hz	LZeq_O 1kHz	LZeq_O 2kHz	LZeq_O 4kHz	LZeq_O 8kHz	
1	56.2	62.4	60.9	54.0	46.2	49.0	45.5	36.9	29.0	
2	58.3	62.1	57.0	51.0	46.5	50.8	47.7	37.4	28.3	
3	60.1	63.3	56.6	46.7	42.6	45.7	42.4	33.2	24.5	
4	57.4	59.4	52.4	47.7	44.3	45.1	42.5	33.1	24.3	
5	54.3	58.1	53.2	45.1	43.6	44.1	40.1	31.4	25.4	

[illegible]

Terminal noise also includes “highly impulsive noise,” short-duration ‘jarring’ sounds. The monitored data from the evenings of September 11<sup>th</sup> and October 22<sup>nd</sup>, in conjunction with H&H field notes, was analyzed for highly impulsive noise events. The noise limit for the land uses in question is 43 dB(A), as a Leq value for a 60 minute period. The facility did not exceed this noise level during any continuous one-hour period.

During the facility monitoring session, four main types of highly-impulsive noise emanated from the facility. The majority of these noise events were from loading operations, as forklifts bumped across loading gates, and also metal ‘clanging’ and ‘crashing’ noises. The metallic noises were exclusive to the October 22<sup>nd</sup> monitoring period. To a lesser extent beeping and spotter truck noises added to highly-impulsive noise events. A running 60-minute average of highly-impulsive noise levels indicated that the Leq from these events never exceeded 29 dB(A) on the evening of September 11<sup>th</sup> and never exceeded 40 dB(A) on the evening of October 22<sup>nd</sup>.

The loudest highly-impulse noise event from the September 11<sup>th</sup> monitoring session – loudest by far, about four times louder than the next loudest highly-impulsive noise event during the entire five-hour study – would have to be repeated 27 times in one hour before the facility was in violation of the highly-impulsive noise regulatory level.

The loudest highly-impulse noise event from the October 22<sup>nd</sup> monitoring session would have to be repeated 30 times in one hour before the facility was in violation of the highly-impulsive noise regulatory level.

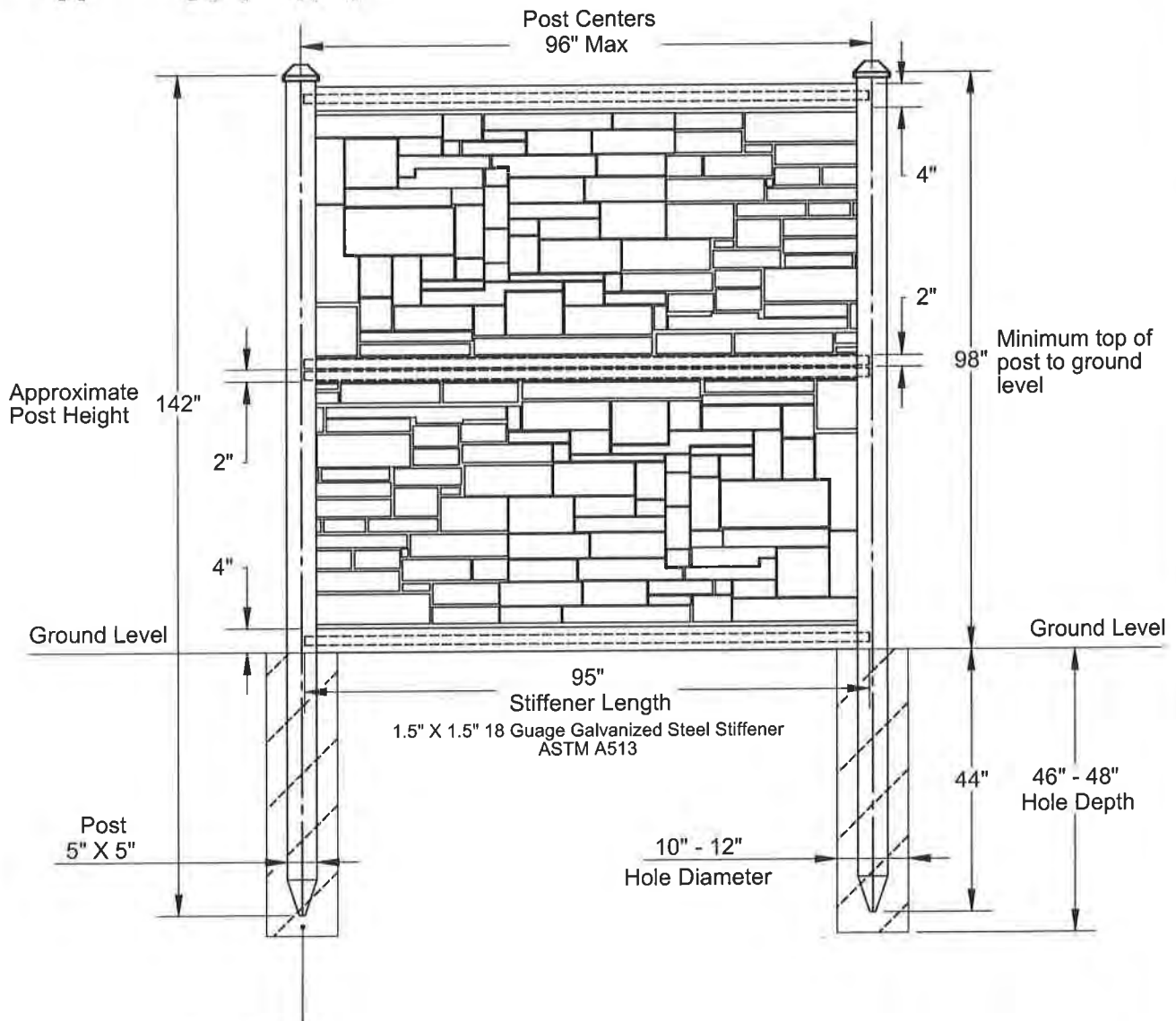
Based on the worse of the two monitoring nights, the average loading bump noise could be repeated 178 times in an hour before the facility exceeded regulatory levels. There were 163 distinguishable loading bump noises during the ten hours studied, and the most in any consecutive 60-minute period was 60.

The loudest spotter truck impulse noise observed during the September 11<sup>th</sup> monitoring session could be repeated 646 times in an hour before exceeding regulatory standards. The average spotter truck impulse noise observed during the monitoring period could be repeated 2,429 times in an hour before exceeding regulatory standards. There were 18 distinguishable spotter truck noises during the ten hours studied. Spotter truck-based impulse noise was less discernible on the evening of October 22<sup>nd</sup>.

Based on the worse of the two monitoring nights, the loudest beeping impulse noise could be repeated 85 times in an hour before exceeding regulatory standards. The average beeping impulse noise observed during the monitoring period could be repeated 286 times in an hour before exceeding regulatory standards. There were 48 distinguishable beeping noises during the ten hours studied.

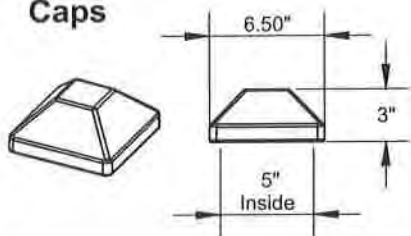
The October 22<sup>nd</sup> monitoring session produced more impulse noise events, and contained numerous metal-on-metal “clangs” not heard in the September 11<sup>th</sup> session. It is likely this increase in impulse noises was a major component leading to the increase in overall facility noise compared to September 11<sup>th</sup>, as seen in the octave band results from October 22<sup>nd</sup>. The loudest metallic noise could occur 30 times in an hour before exceeding regulatory standards. The average metallic impulse noise observed during the monitoring period could be repeated 201 times in an hour before exceeding regulatory standards. There were 117 distinguishable metallic impulse noises during the October 22<sup>nd</sup> monitoring period, and the most metallic noise events in any one-hour period was 79.

# 8'H X 8'W Panel



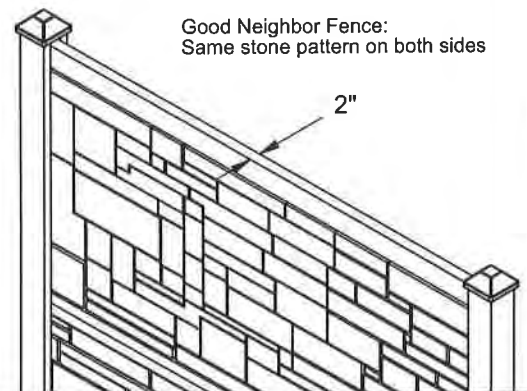
Concrete footing diameter 10" to 12" min and 46" to 48" deep min in accordance with local conditions, codes, and standard building practices.

## Caps



## Two stacked 4'X8' panels

- Actual Panel Dimensions: 48"H X 94.25"W
- Panel Weight: 60 lbs
- Tolerances are:  $\pm .5"$



Model #:FP96X96

This drawing may not be altered or reproduced without the permission of SimTek® Fence

Date: Oct 15, 2013

Scale: not to scale

REV: D Barlocker

Sheet 1 of 1

U.S. Patents: 7,478,797 / 7,635,114 Foreign Patents Pending

 **SimTek™**  
FENCE  
www.simtek

EXHIBIT

11



**ASTM E 90 SOUND TRANSMISSION LOSS  
TEST REPORT**

**Rendered to:**

**SIMTEK™ FENCE**

**SERIES/MODEL: Simtek 8-Foot Wall**

**TYPE: Privacy Fence**

Summary of Test Results			
Data File No.	Description (Nominal Dimensions)	STC	OITC
89608.01	Simtek 8-foot wall, simulated rock wall, 8' by 8' privacy fence section	26	20

Reference should be made to Architectural Testing, Inc. Report No. 89608.01-113-11 for complete test specimen description. The complete test results are listed in Appendix B.



## **ACOUSTICAL PERFORMANCE TEST REPORT**

Rendered to:

SIMTEK™ FENCE  
1330 West 400 North  
Orem, Utah 84057

Report No: 89608.01-113-11  
Test Date: 03/03/09  
Report Date: 03/10/09  
Expiration Date: 03/03/13

### **Test Sample Identification:**

**Series/Model:** Simtek 8-Foot Wall

**Type:** Privacy Fence

**Overall Size:** 96" by 96"

**Material:** Polyethylene

**Pattern:** Simulated Rock Wall

**Project Scope:** Architectural Testing, Inc. was contracted by SimTek™ Fence to conduct a sound transmission loss test on a Series/Model Simtek 8-foot wall, privacy fence. A summary of the results is listed in the Test Results section and the complete test data is included as Appendix B of this report. The sample was provided by the client.

**Test Methods:** The acoustical tests were conducted in accordance with the following:

ASTM E 90-04, *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions.*

ASTM E 413-04, *Classification for Rating Sound Insulation.*

ASTM E 1332-90 (Re-approved 2003), *Standard Classification for Determination of Outdoor-Indoor Transmission Class.*

ASTM E 2235-04, *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods.*

**Test Equipment:** The equipment used to conduct these tests meets the requirements of ASTM E 90. The microphones were calibrated before conducting sound transmission loss tests. The test equipment and test chamber descriptions are listed in Appendix A.

**Sample Installation:** Sound transmission loss tests were initially performed on a filler wall that was designed to test 96" by 96" specimens. The filler wall achieved an STC rating of 68.

The 96" by 96" plug was removed from the filler wall assembly. The privacy fence was placed on a foam isolation pad in the test opening. Duct seal was used to seal the perimeter of the privacy fence to the test opening on both sides. The interior side of the privacy fence, when installed, was approximately 1/4" from being flush with the receiving room side of the filler wall. A stethoscope was used to check for any abnormal air leaks around the test specimen prior to testing.

**Test Procedure:** The sound transmission loss test consisted of the following measurements: One background noise sound pressure level and five sound absorption measurements were conducted at each of the five microphone positions. Two sound pressure level measurements were made simultaneously in both rooms, at each of the five microphone positions. The air temperature and relative humidity conditions were monitored and recorded during the background, absorption, source, and receive room measurements.

**Sample Descriptions:** A polyethylene fence section measuring 96" by 96" was tested. SimTek™ Fence provided all test materials, and the test specimen did not arrive assembled. Two horizontal sections were installed between two end posts.

Each horizontal section was 89-7/8" wide by 48" high and approximately 2" thick. Both horizontal sections were hollow-molded polyethylene with an 18 gauge thick, 1-1/2" by 1-1/2" hollow steel stiffener in the top and bottom rails.

The two polyethylene end posts were a nominal 5" by 5" by 96", C-channel shape. Each post was filled with recycled polyethylene and had a 14 gauge, 2" by 3" hollow steel reinforcement channel. The vertical sections were stacked and inserted into both C-channel shaped end posts.

**Comments:** The weight of the sample was 188 lbs. The client did not supply drawings on the Series/Model Simtek 8-foot wall, privacy fence. The test specimen was returned per the client's request. Photographs of the test specimen are included in Appendix C.

**Test Results:** The STC (Sound Transmission Class) rating was calculated in accordance with ASTM E 413. The OITC (Outdoor-Indoor Transmission Class) was calculated in accordance with ASTM E 1332. A summary of the sound transmission loss test results on the Series/Model Simtek 8-foot wall, privacy fence is listed below.

Summary of Test Results			
Data File No.	Description (Nominal Dimensions)	STC	OITC
89608.01	Simtek 8-foot wall, simulated rock wall, 8' by 8' privacy fence section	26	20

The complete test results are listed in Appendix B. Flanking limit tests and reference specimen tests are available upon request.

Detailed drawings, data sheets, representative samples of test specimens, a copy of this report, or other pertinent project documentation will be retained by Architectural Testing for a period of four years from the original test date. At the end of this retention period, such materials shall be discarded without notice and the service life of this report will expire. Results obtained are tested values and were secured by using the designated test methods. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing.

For ARCHITECTURAL TESTING, INC:



Digitally Signed by: Kurt A. Golden

Kurt A. Golden  
Senior Technician - Acoustical Testing




Digitally Signed by: Todd D. Kister

Todd D. Kister  
Laboratory Supervisor - Acoustical Testing

KAG:jmc

Attachments (pages): This report is complete only when all attachments listed are included.

- Appendix-A: Equipment description (1)
- Appendix-B: Complete test results (2)
- Appendix-C: Photographs (1)

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### Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	03/10/09	N/A	Original Report Issue

## Appendix A

### Instrumentation:

Instrument	Manufacturer	Model	Description	ATI Number
Analyzer	Agilent Technologies	35670A	Dynamic signal analyzer	Y002929
Receive Room Microphone	G.R.A.S.	40AR	1/2", pressure type, condenser microphone	Y003246
Source Room Microphone	G.R.A.S.	40AR	1/2", pressure type, condenser microphone	Y003245
Receive Room Preamp	G.R.A.S.	26AK	1/2" preamplifier	Y003249
Source Room Preamp	G.R.A.S.	26AK	1/2" preamplifier	Y003248
Microphone Calibrator	Bruel & Kjaer	4228	Pistonphone calibrator	Y002816
Noise Source	Delta Electronics	SNG-1	Two, uncorrelated "Pink" noise signals	Y002181
Equalizer	Rane	RPE228	Programmable EQ	Y002180
Power Amplifiers	Renkus-Heinz	P2000	Two Amplifiers	Y002179 Y001779
Receive Room Loudspeakers	Renkus-Heinz	Trap Jr/9"	Two Loudspeakers	Y001784 Y001785
Source Room Loudspeakers	Renkus-Heinz	Trap Jr/9"	Two Loudspeakers	Y002649 Y002650

### Test Chamber:

	Volume	Description
Receiving Room	8291.3 ft <sup>3</sup> (234 m <sup>3</sup> )	Rotating vane and stationary diffusers. Temperature and humidity controlled. Isolation pads under the floor.
Source Room	7296.3 ft <sup>3</sup> (206.6 m <sup>3</sup> )	Stationary diffusers only. Temperature and humidity controlled.

	Maximum Size	Description
TL Test Opening	14 ft wide by 10 ft high	Vibration break between source and receive rooms.

**Appendix B**  
**Complete Test Results**



# SOUND TRANSMISSION LOSS

## ASTM E 90

### Architectural Testing

ATI No.	89608.01	Date	03/03/09
Client	SimTek™ Fence		
Specimen	Series/Model: Simtek 8-foot wall, simulated rock wall, 8' by 8' privacy fence section		
Specimen Area	64.00 Sq Ft		
Filler Area	76.00 Sq Ft		
Operator	Kurt Golden		

	Bkgrd	Absorp	Source	Receive	Filler	Specimen
Temp F	71.2	70.9	71.7	71.1	71.8	71.2
RH %	44.1	44.6	45.1	44.3	42.9	44.5

Freq (Hz)	Bkgrd SPL (dB)	Absorp (Sabines /Sq Ft)	Source SPL (dB)	Receive SPL (dB)	Filler TL (dB)	Specimen TL (dB)	95% Conf Limit	No. of Defici- encies	Trans Coef Diff
80	40.3	55.5	83.9	70.8	47.1	14	2.04	0	32.6
100	39.3	50.6	87.9	74.3	47.9	15	2.27	0	32.5
125	41.5	51.7	91.8	77.4	55.1	15	2.01	0	39.0
160	39.3	56.3	94.5	80.8	55.3	14	1.22	0	40.4
200	38.3	57.5	98.6	84.5	54.5	15	0.60	1	39.1
250	36.8	63.6	99.1	85.0	57.0	14	0.96	5	42.1
315	36.1	69.1	98.0	81.1	57.5	17	0.78	5	40.1
400	34.4	74.6	97.6	78.7	62.5	18	0.81	7	43.6
500	34.0	69.5	99.1	77.2	66.0	22	0.36	4	43.7
630	32.2	65.0	101.8	76.3	67.0	25	0.45	2	40.8
800	35.2	63.5	101.2	72.0	70.6	29	0.38	0	40.6
1000	32.7	65.5	100.9	69.2	74.0	32	0.26	0	41.7
1250	32.4	72.7	104.0	71.3	75.3	32	0.53	0	42.4
1600	30.1	77.1	110.0	78.3	74.1	31	0.47	0	42.5
2000	21.2	83.3	105.3	74.0	72.3	30	0.22	0	41.3
2500	10.9	98.8	103.7	72.6	74.6	29	0.22	1	44.7
3150	11.6	114.4	104.3	73.2	80.2	29	0.44	1	50.9
4000	9.5	137.9	103.2	69.8	83.2	30	0.33	0	52.4
5000	7.8	176.6	101.4	64.8	86.2	32	0.46	0	53.3

**STC Rating = 26** (Sound Transmission Class)  
**Deficiencies = 26** (Number of deficiencies versus contour curve)  
**OITC Rating = 20** (Outdoor/Indoor Transmission Class)

#### Notes:

- 1) The acoustical chambers are qualified for measurements down to 80 hertz. Data reported below 80 hertz is for reference only.
- 2) Transmission loss coefficient differences less than 6 indicate the lower limit of the transmission loss for this specimen. These cells are highlighted red.
- 3) Transmission loss coefficient differences between 6 and 15 indicate there has been a filler wall correction applied. These cells are highlighted green.
- 4) Receive Room levels less than 5dB above the Background levels are highlighted in yellow.



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## Architectural Testing

ATI No. 89608.01

Date 03/03/09

Client SimTek™ Fence

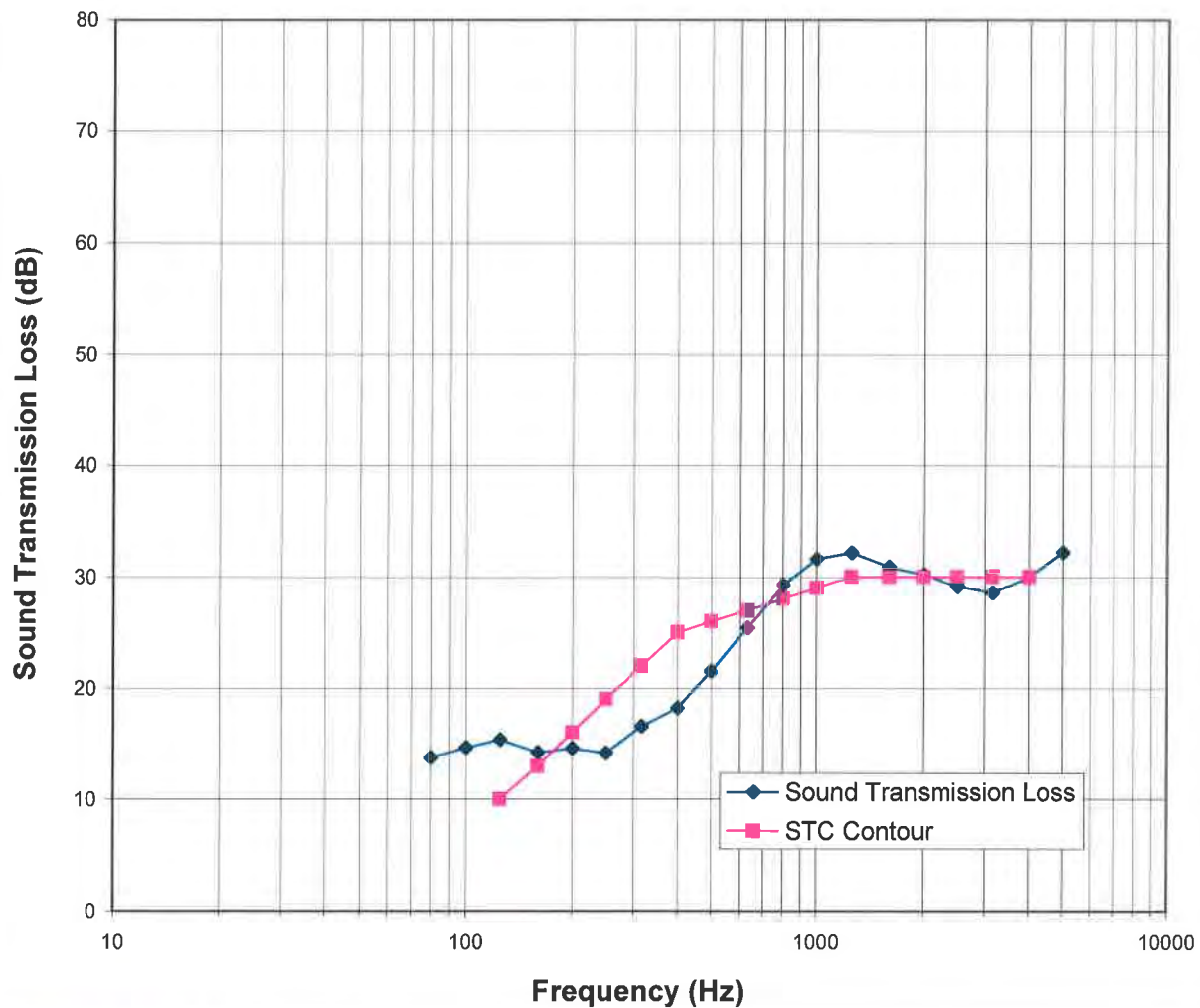
Specimen Series/Model: Simtek 8-foot wall, simulated rock wall, 8' by 8' privacy fence section

Specimen Area 64.00 Sq Ft

Filler Area 76.00 Sq Ft

Operator Kurt Golden

### Sound Transmission Loss



Architectural Testing, Inc is accredited by the International Accreditation Service, Inc. (IAS) under the specific test methods listed under lab code TL-144, in accordance with the recognized International Standard ISO/IEC 17025:2005. The laboratory's accreditation or test report in no way constitutes or implies product certification, approval, or endorsement by IAS. This test report applies only to the specimen that was tested.

VERIFIED REPORTED 10/12/09

**Appendix C**

**Photographs**

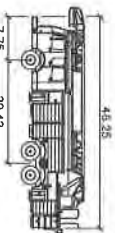
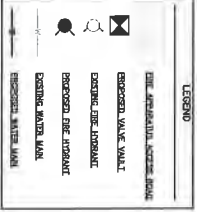
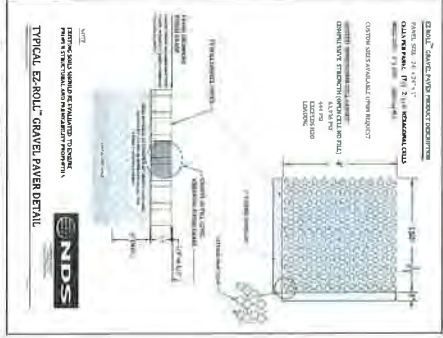
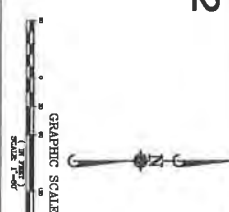
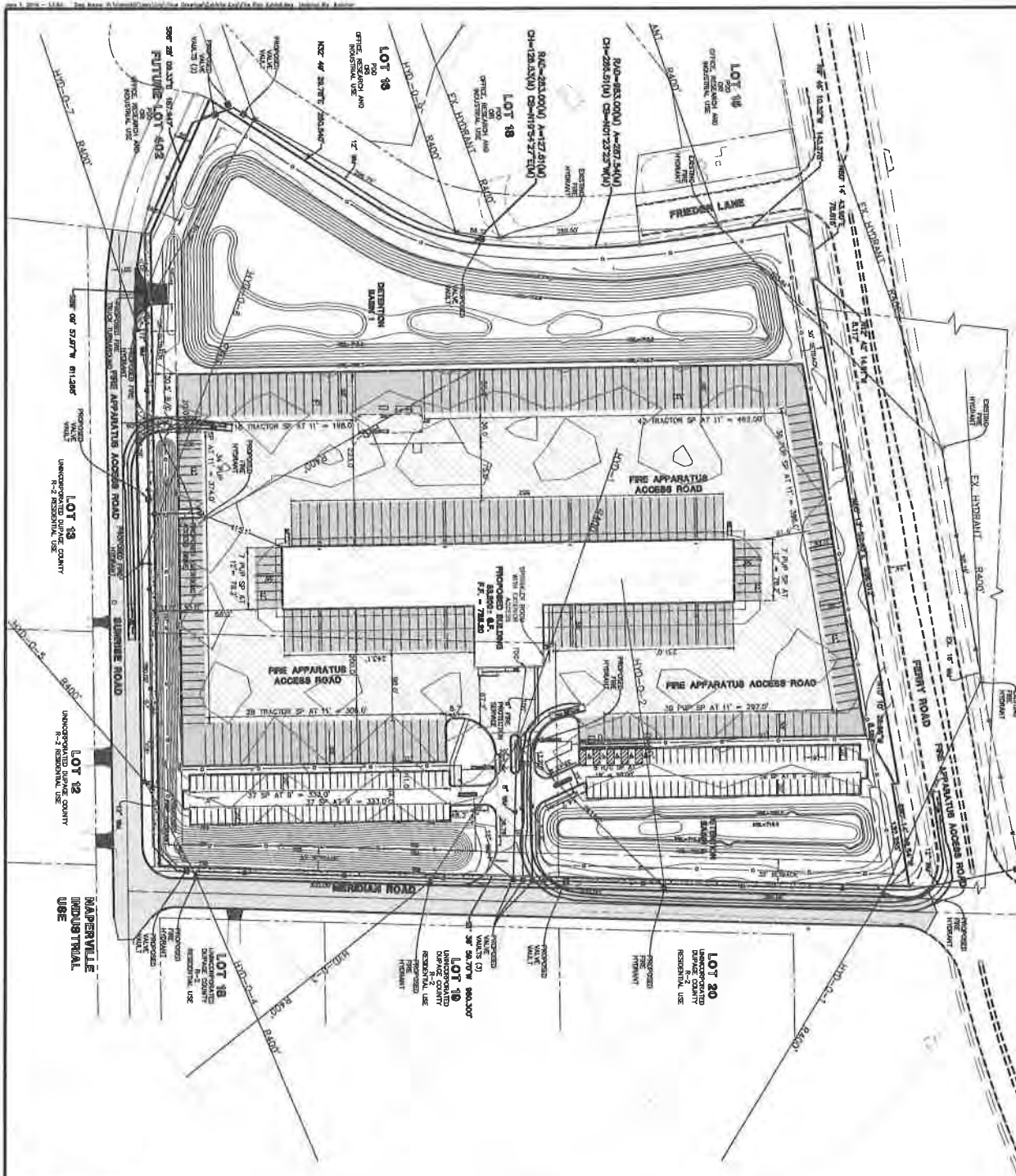


**Receive Room View of Installed Specimen**



**Source Room View of Installed Specimen**

# FIRE ACCESS PLAN for BUTTERFIELD PHASE II UNIT 4 LOT 402



Width : 8.33  
Track to Lock Time : 8.00  
Steering Angle : 40.7

NOTES:  
1. ALL DIMENSIONS ARE IN FEET AND INCHES.  
2. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.  
3. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
4. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.  
5. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
6. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.  
7. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
8. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.  
9. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
10. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.  
11. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.  
12. ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.

LOT 402 - OLD DOMINION FREIGHT LINE
CITY OF AURORA, ILLINOIS
FIRE ACCESS PLAN - BUTTERFIELD PHASE II UNIT 4 LOT 402
1 OF 1

**Manhard CONSULTING**  
PROPOSED FACILITY FOR  
OLD DOMINION FREIGHT LINE, INC.  
THOMASVILLE, NC 27360

**EXHIBIT**  
12

### Landscape Material Worksheet

Project Number: 2015.226

Petitioner: Old Dominion Freight Lines, Inc

#### Proposed Canopy Trees

Family	Genus	Species	Common Name	Size
Aceraceae	Acer	x freemanii 'Autumn Fantasy'	Autumn Fantasy Maple	2 1/2" , 4" along Meridian & Sunrise Rd.
Aceraceae	Acer	myabei 'Morton'	State Street Miyabe Maple	2 1/2" , 4" along Meridian & Sunrise Rd.
Aceraceae	Acer	saccharum	Sugar Maple	2 1/2" Cal.
Rosaceae	Amelanchier	grandiflora	Apple Serviceberry	2 1/2" Cal.
Ulmaceae	Celtis	occidentalis	Common Hackberry	2 1/2" Cal.
Fabaceae	Gymnocladus	dioicus	Kentucky Coffee Tree	2 1/2" Cal.
Fabaceae	Gymnocladus	dioicus 'Espresso'	Espresso Kentucky Coffee Tree	2 1/2" , 4" along Meridian & Sunrise Rd.
Hamamelidaceae	Liquidambar	styraciflua 'Moraine'	Moraine Sweetgum	2 1/2" , 4" along Meridian & Sunrise Rd.
Fagaceae	Quercus	bicolor	Swamp White Oak	2 1/2" , 4" along Meridian & Sunrise Rd.
Fagaceae	Quercus	macrocarpa	Bur Oak	2 1/2" , 4" along Meridian & Sunrise Rd.
Fagaceae	Quercus	muehlenbergii	Chinquapin Oak	2 1/2" Cal.
Taxodiaceae	Taxodium	distichum	Bald Cypress	2 1/2" Cal.
Tiliaceae	Tilia	americana 'McKSentry'	Sentry American Linden	2 1/2" Cal.
Tiliaceae	Tilia	tomentosa 'Sterling'	Sterling Silver Linden	2 1/2" , 4" along Meridian & Sunrise Rd.
Oleaceae	Syringa	reticulata 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	2 1/2" Cal.
Ulmaceae	Ulmus	'Morton Glossy'	Triumph Elm	2 1/2" , 4" along Meridian & Sunrise Rd.
Ulmaceae	Ulmus	carpinifolia 'Regal'	Regal Smoothleaf Elm	2 1/2" , 4" along Meridian & Sunrise Rd.

#### Proposed Evergreen Trees

Family	Genus	Species	Common Name	Size
Pinaceae	Abies	concolor	White Fir	6' Ht, 12' Ht. along Meridian & Sunrise Rd.
Pinaceae	Picea	abies	Norway Spruce	6' Ht, 12' Ht. along Meridian & Sunrise Rd.
Pinaceae	Picea	glauca 'Densata'	Black Hills Spruce	6' Ht, 12' Ht. along Meridian & Sunrise Rd.
Pinaceae	Picea	pungens	Green Colorado Spruce	6' Ht, 12' Ht. along Meridian & Sunrise Rd.
Pinaceae	Picea	pungens 'Glaucua'	Colorado Blue Spruce	6' Ht, 12' Ht. along Meridian & Sunrise Rd.
Pinaceae	Pinus	nigra	Austrian Pine	6' Ht

#### Proposed Understory Trees

Family	Genus	Species	Common Name	Size
Cornaceae	Cornus	mas	Cornellancherry Dogwood	8' Ht
Rosaceae	Crataegus	viridis 'Winter King'	Winter King Hawthorne	8' Ht
Rosaceae	Malus	'Purple Prince'	Purple Prince Crabapple	8' Ht
Rosaceae	Malus	'Snowdrift'	Snowdrift Crabapple	8' Ht
Tiliaceae	Tilia	americana 'McKSentry'	Sentry American Linden	10' Ht

#### Proposed Deciduous Shrubs

Family	Genus	Species	Common Name	Size
Oleaceae	Syringa	patula 'Miss Kim'	Miss Kim Lilac	24" Tall
Caprifoliaceae	Viburnum	dentatum 'Morton'	Northern Burgundy Arrowwood Viburnum	36" Tall
Caprifoliaceae	Viburnum	lantana 'Mohican'	Mohican Viburnum	36" Tall
Caprifoliaceae	Viburnum	trilobum 'Hah's'	Hah's Cranberrybush Viburnum	36" Tall

#### Proposed Evergreen Shrubs

Family	Genus	Species	Common Name	Size
Cupressaceae	Juniperus	chinensis 'Sea Green'	Sea Green Juniper	24" Wide
Taxaceae	Taxus	x media 'Densiformis'	Dense Yew	24" Wide

EXHIBIT

tabbilar

13

Landscape Plan  
Unit 4, Lot 402

BUTTERFIELD CENTER FOR BUSINESS & INDUSTRY

Aurora, Illinois  
December 1, 2015

CONSULTANTS:



LANDSCAPE ARCHITECT:  
GARY R. WEBER ASSOCIATES, INC  
212 SOUTH MAIN STREET  
WHEATON, ILLINOIS 60187



CIVIL ENGINEER:  
MANHARD CONSULTING, LTD.  
700 SPRINGER DRIVE  
LOMBARD, IL 60148



LOCATION MAP  
SCALE: 1"=1000'



INDEX OF SHEETS

SHEET NO.	DESCRIPTION
0	COVER SHEET
1	OVERALL LANDSCAPE PLAN
2	LANDSCAPE PLAN
3	LANDSCAPE PLAN
4	LANDSCAPE SPECIFICATIONS

PDD  
ZONING  
CITY OF AURORA

R-2  
ZONING  
DUPAGE COUNTY

SYMBOL LEGEND

EXISTING	PROPOSED

NATIVE SEED LEGEND

Key	Description
	EMERGENT SEED & PLUGS
	WET MEADOW SEED MIX
	LOW PROFILE PRAIRIE SEED MIX

PLANTING MATERIALS TABLE  
LANDSCAPE PLAN

	STREET TREE CANOPY TREE - 107
	TYPICAL CANOPY TREE - 104
	EVERGREEN TREE - 172
	ORNAMENTAL TREE - 30
	DECIDUOUS SHRUB - 176
	EVERGREEN SHRUB - 90
	ORNAMENTAL GRASSES - 115
	PERENNIALS - 172

Landscape Data Table: CTEs Provided			
	CTE Value	Count Provided	Total CTEs Provided
Canopy Trees	1	211	211
Evergreen Trees	3	165	55
Understory Trees	3	30	10
Deciduous Shrubs	20	176	9
Evergreen Shrubs	20	90	5
Existing Canopy Trees	1	3	3
Upsized Material	1	18	18
<b>Total:</b>		<b>693</b>	<b>310</b>

GENERAL NOTES

- Contractor shall verify underground utility lines and is responsible for any damage.
- Contractor shall verify all existing conditions in the field prior to construction and shall notify landscape architect of any variance.
- Material quantities shown are for contractors convenience only. The Contractor must verify all material and supply sufficient materials to complete the job per plan.
- The landscape architect reserves the right to inspect trees and shrubs either at place of growth or at site before planting, for compliance with requirements of variety, size and quality.
- Work shall conform to American Standard for Nursery Stock, State of Illinois Horticultural Standards, and Local Municipal requirements.
- Contractor shall secure and pay for all permits, fees, and inspections necessary for the proper execution of this work and comply with all codes applicable to this work.
- See General Conditions and Specifications for landscape work for additional requirements.



GARY R. WEBER  
ASSOCIATES, INC.  
LAND PLANNING  
ECOLOGICAL CONSULTING  
LANDSCAPE ARCHITECTURE  
212 SOUTH MAIN STREET  
WHEATON, ILLINOIS 60187  
PHONE: 630-668-7197

OWNER/APPLICANT:  
**OLD DOMINION  
FREIGHT LINE, INC**  
500 OLD DOMINION WAY  
THOMASVILLE, NC 27380  
CIVIL ENGINEER:  
**MANHARD CONSULTING**  
700 SPRINGER DRIVE  
LOMBARD, ILLINOIS 60148



BUTTERFIELD CENTER FOR BUSINESS & INDUSTRY  
UNIT 4 - LOT 402  
AURORA, ILLINOIS  
OVERALL LANDSCAPE PLAN



2	6.03.16
1	5.23.16
REVISIONS	

DATE 12.01.15  
PROJECT NO. OD1501  
DRAWN MGM/TRC/GFB  
CHECKED JCT  
SHEET NO.

LANDSCAPE  
PLAN DETAIL  
SEE SHEET 2

PDD  
ZONING  
CITY OF AURORA

MERIDIAN ROAD STREET TREES - 880 LF ROW  
REQUIRED: 26 CTE  
PROVIDED: 26 CTE  
(26 CANOPY TREES = 26 CTE)

WET STORM WATER FACILITY - 2,801 LF ON HWL  
REQUIRED: 28 CTE  
PROVIDED: 28 CTE  
(10 CANOPY TREES = 10 CTE)  
(UPSIZED PLANTS IN ENHANCED BUFFER=18 CTE)

ENHANCED BUFFER YARD PLANTINGS - 880 LF  
(MERIDIAN ROAD)  
REQUIRED: 18 CTE  
PROVIDED: 18 CTE  
(39 ORNAMENTAL/EVERGREEN TREES = 13 CTE)  
(99 DECIDUOUS/EVERGREEN SHRUBS = 5 CTE)

MERIDIAN ROAD OFF-SITE STREET TREES  
970 LF ROW  
REQUIRED: 29 CTE  
PROVIDED: 30 CTE  
(23 CANOPY TREES = 23 CTE)  
(3 EXISTING CANOPY TREES = 3 CTE)  
(9 EVERGREEN TREES = 3 CTE)  
(14 DECIDUOUS SHRUBS = 1 CTE)

LANDSCAPE  
PLAN DETAIL  
SEE SHEET 3

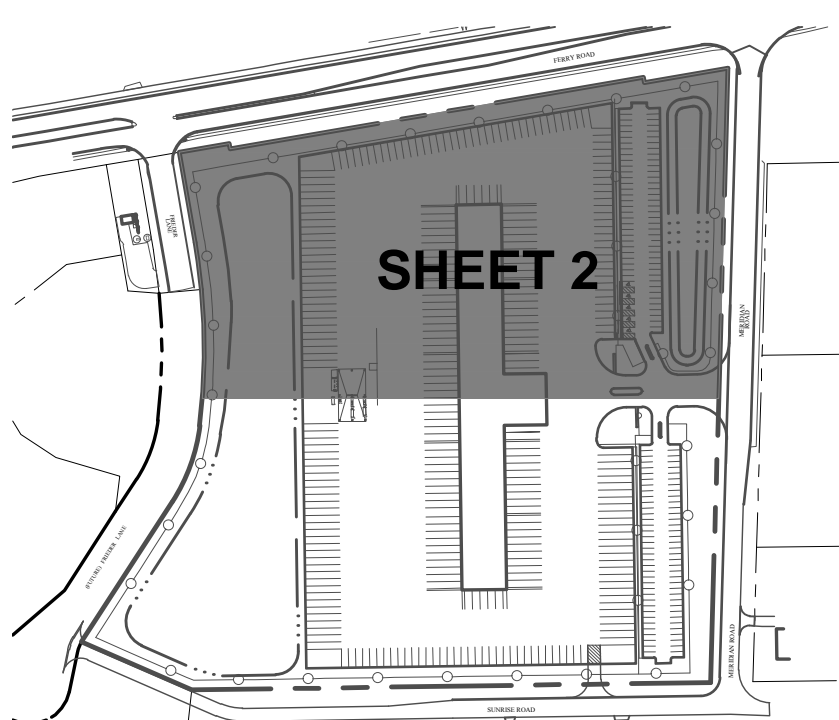
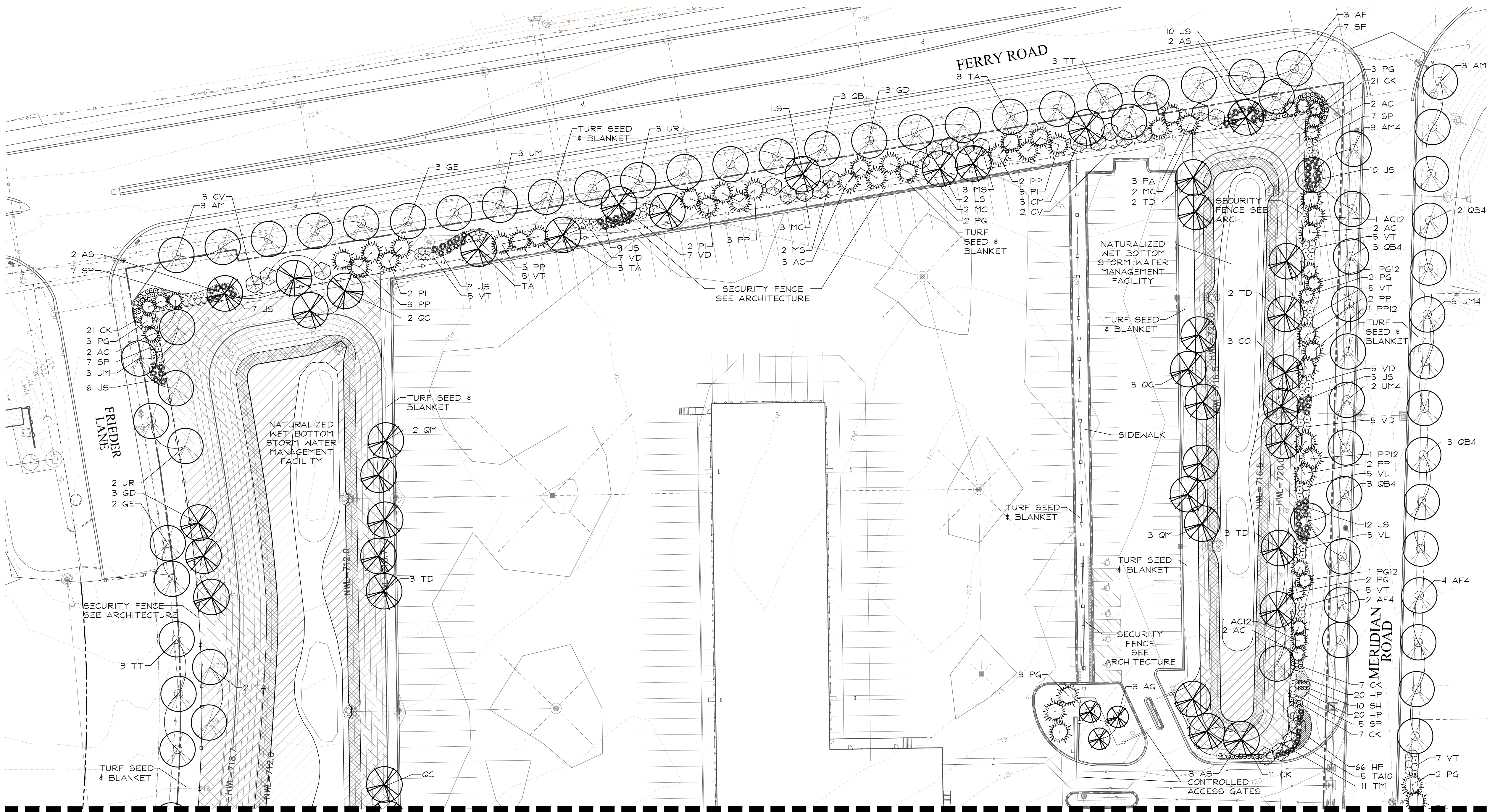
PERIMETER YARD - 3,568 LF  
REQUIRED: 107  
PROVIDED: 107 CTE  
(71 CANOPY TREES = 71 CTE)  
(68 EVERGREEN/ORNAMENTAL TREES = 30 CTE)  
(118 DECIDUOUS/EVERGREEN SHRUBS = 6 CTE)

ENHANCED BUFFER YARD PLANTINGS - 650 LF  
(SUNRISE ROAD)  
REQUIRED: 13 CTE  
PROVIDED: 14 CTE  
(34 EVERGREEN TREES = 12 CTE)  
(35 DECIDUOUS/EVERGREEN SHRUBS = 2 CTE)

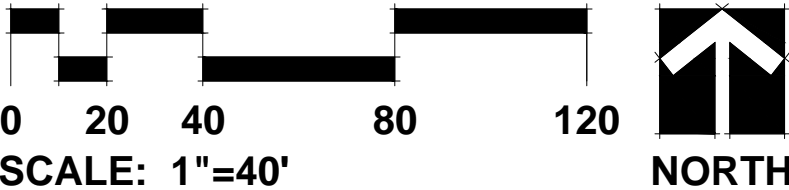
SUNRISE ROAD ADDITIONAL SCREENING TREES  
FOR ADJACENT RESIDENCES  
REQUIRED: 9 CTE  
PROVIDED: 9 CTE  
(25 EVERGREEN TREES = 9 CTE)

SUNRISE ROAD STREET TREES - 1000 LF ROW  
REQUIRED: 30 CTE  
PROVIDED: 30 CTE  
(30 CANOPY TREES = 30 CTE)

FRIEDER LANE STREET TREES  
819 LF ROW  
REQUIRED: 24 CTE  
PROVIDED: 24 CTE  
(24 CANOPY TREES = 24 CTE)



SHEET KEY  
NOT TO SCALE



PLANT LIST

Key	Qty	Botanical/Common Name	Size	Remarks	Key	Qty	Botanical/Common Name	Size	Remarks	Key	Qty	Botanical/Common Name	Size	Remarks	Key	Qty	Botanical/Common Name	Size	Remarks
SHADE TREES					SHADE TREES CONT.					ORNAMENTAL TREES (CONT.)					DECIDUOUS SHRUBS				
AF	3	Acer x freemanii 'Autumn Fantasy' AUTUMN FANTASY MAPLE	2 1/2" Cal.		QC	10	Quercus muehlenbergii CHINKAPIN OAK	2 1/2" Cal.		MS	5	Malus 'Snowdrift' SNOWDRIFT CRABAPPLE	8' Ht.	Clump form	SP	48	Syringa patula 'Miss Kim' MISS KIM LILAC	24" Tall	4' O.C.
AF4	12	Acer x freemanii 'Autumn Fantasy' AUTUMN FANTASY MAPLE	4" Cal.		QM	9	Quercus macrocarpa BUR OAK	2 1/2" Cal.		TA10	10	Tilia americana 'McKsentry' SENTRY AMERICAN LINDEN	10' Ht.	Clump form	VD	39	Viburnum dentatum 'Morton' NORTHERN BURGUNDY ARROWWOOD VIBURNUM	36" Tall	5' O.C.
AM	3	Acer miyabei 'Morton' STATE STREET MIYABE MAPLE	2 1/2" Cal.		QM4	2	Quercus macrocarpa BUR OAK	4" Cal.							VL	25	Viburnum lantana 'Mohican' MOHICAN VIBURNUM	36" Tall	5' O.C.
AM4	12	Acer miyabei 'Morton' STATE STREET MIYABE MAPLE	4" Cal.		SR	6	Syringa reticulata 'Ivory Silk' IVORY SILK JAPANESE TREE LILAC	12' Ht.	Tree form	AC	11	Abies concolor WHITE FIR	6' Ht.		VT	64	Viburnum trilobum 'Hah's' HAH'S CRANBERRYBUSH VIBURNUM	36" Tall	5' O.C.
AS	10	Acer saccharum SUGAR MAPLE	2 1/2" Cal.		TD	16	Taxodium distichum BALD CYPRESS	2 1/2" Cal.		AC12	17	Abies concolor WHITE FIR	12' Ht.						
AS4	4	Acer saccharum SUGAR MAPLE	4" Cal.		TA	11	Tilia americana 'McKsentry' SENTRY LINDEN	2 1/2" Cal.		PA	14	Picea abies NORWAY SPRUCE	6' Ht.		JS	68	Juniperus chinensis 'Sea Green' SEA GREEN JUNIPER	24" Wide	5' O.C.
AG	6	Amelanchier x grandiflora APPLE SERVICEBERRY	2 1/2" Cal.	Tree form	TA4	3	Tilia americana 'McKsentry' SENTRY LINDEN	2 1/2" Cal.		PA12	15	Picea abies NORWAY SPRUCE	12' Ht.		TM	22	Taxus x media 'Densiflormis' DENSE YEW	24" Wide	4' O.C.
AG12	4	Amelanchier x grandiflora APPLE SERVICEBERRY	12' Ht.	Tree form	TT	9	Tilia tomentosa 'Sterling' STERLING SILVER LINDEN	2 1/2" Cal.		PG	38	Picea glauca 'Densata' BLACK HILLS SPRUCE	6' Ht.						
CO	9	Celtis occidentalis COMMON HACKBERRY	2 1/2" Cal.		TT4	6	Tilia tomentosa 'Sterling' STERLING SILVER LINDEN	4" Cal.		PG12	15	Picea glauca 'Densata' BLACK HILLS SPRUCE	12' Ht.		CK	105	Calamagrostis x acutiflora 'Karl Foerster' FEATHER REED GRASS	#2	36" O.C.
CO4	3	Celtis occidentalis COMMON HACKBERRY	4" Cal.		UM	8	Ulmus 'Morton Glossy' TRIUMPH ELM	2 1/2" Cal.		PP	23	Picea pungens GREEN COLORADO SPRUCE	6' Ht.		HP	172	Hemerocallis 'Pardon Me' PARDON ME DAYLILY	#2	24" O.C.
GD	8	Gymnocladus dioica KENTUCKY COFFEE TREE	2 1/2" Cal.		UM4	5	Ulmus 'Morton Glossy' TRIUMPH ELM	4" Cal.		PPI2	7	Picea pungens GREEN COLORADO SPRUCE	12' Ht.		SH	10	Sporobolus heterolepis PRAIRIE DROPSEED	#2	24" O.C.
GE	10	Gymnocladus dioica 'Espresso' ESPRESSO KENTUCKY COFFEETREE	2 1/2" Cal.		UR	9	Ulmus carpinifolia 'Regal' REGAL SMOOTHLEAF ELM	2 1/2" Cal.		PI	14	Picea pungens 'Glaucia' COLORADO BLUE SPRUCE	6' Ht.						
GE4	2	Gymnocladus dioica 'Espresso' ESPRESSO KENTUCKY COFFEETREE	4" Cal.		UR4	5	Ulmus carpinifolia 'Regal' REGAL SMOOTHLEAF ELM	4" Cal.		PI12	10	Picea pungens 'Glaucia' COLORADO BLUE SPRUCE	12' Ht.		3.00	Turf Seed & Erosion Control Blanket	AC.		
LS	5	Liquidambar styraciflua 'Moraine' MORAINES SWEETGUM	2 1/2" Cal.		ORNAMENTAL TREES					PN	8	Pinus nigra AUSTRIAN PINE	6' Ht.		1.00	Emergent Seed Mix & Plugs	AC.		
LS4	2	Liquidambar styraciflua 'Moraine' MORAINES SWEETGUM	4" Cal.		CM	3	Cornus mas CORNELIANCHERRY DOGWOOD	8' Ht.	Clump form					0.45	Wet Meadow Seed Mix & Erosion Control Blanket	AC.			
QB	9	Quercus bicolor SWAMP WHITE OAK	2 1/2" Cal.		CV	5	Crataegus viridis 'Winter King' WINTER KING HAWTHORNE	8' Ht.	Clump form					1.75	Low Profile Prairie Seed Mix & Erosion Control Blanket	AC.			
QB4	11	Quercus bicolor SWAMP WHITE OAK	4" Cal.		MC	7	Malus 'Purple Prince' PURPLE PRINCE CRABAPPLE	8' Ht.	Clump form					0.86	Low Mow Fescue Erosion Control Blanket Berm	AC.			
														175	Shredded Hardwood Mulch	C.Y.			
														799	8' SIMTEK Fence	L.F.			

STATE OF ILLINOIS  
JERRY C. TORRES  
131-201-032  
EXP. 12/31/2025  
REGISTERED LANDSCAPE ARCHITECT

26.03.16  
5.23.16  
REVISIONS

DATE 12.01.15  
PROJECT NO. OD1501  
DRAWN MGM/TRC/GFB  
CHECKED JCT  
SHEET NO.

811  
Know what's below.  
Call before you dig.

2 OF 4

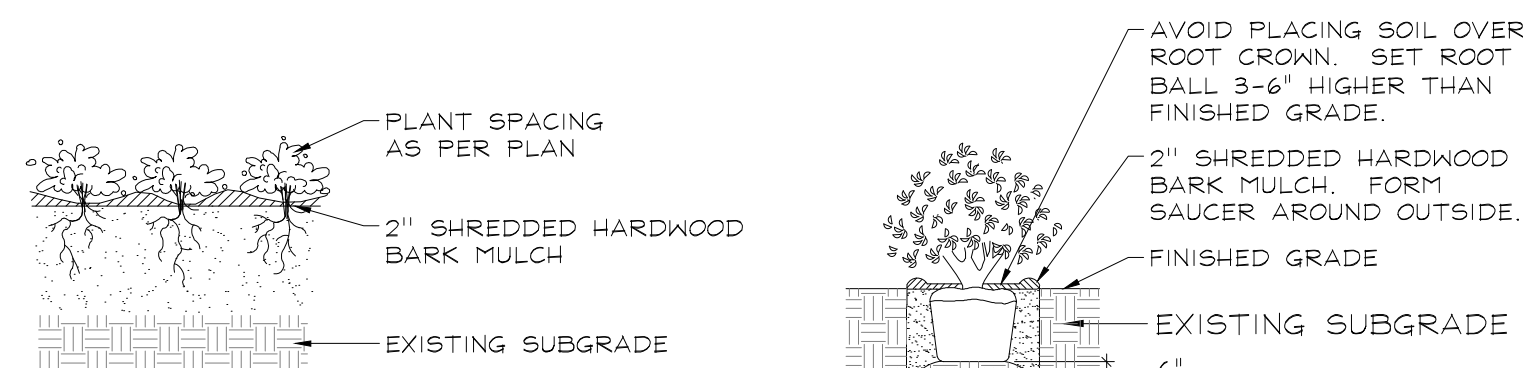
BUTTERFIELD CENTER FOR BUSINESS & INDUSTRY  
UNIT 4 - LOT 402  
AURORA, ILLINOIS  
LANDSCAPE PLAN



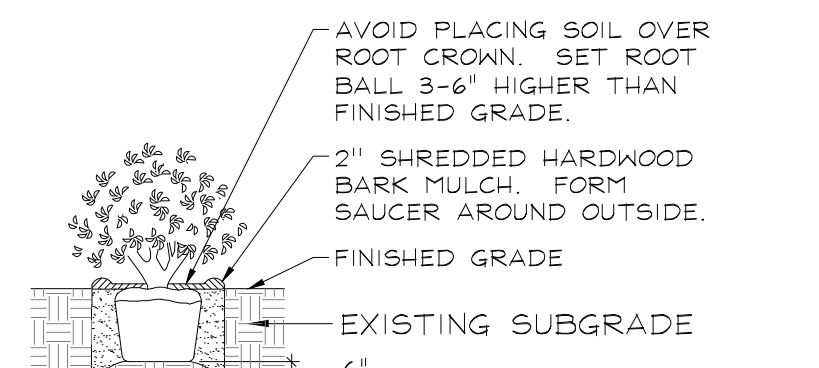
REVISIONS	DATE	DESCRIPTION
2	6.03.16	
1	5.23.16	

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PROJECT NO.	OD1501
DRAWN	MGM/TRC/GFB
CHECKED	JCT
SHEET NO.	

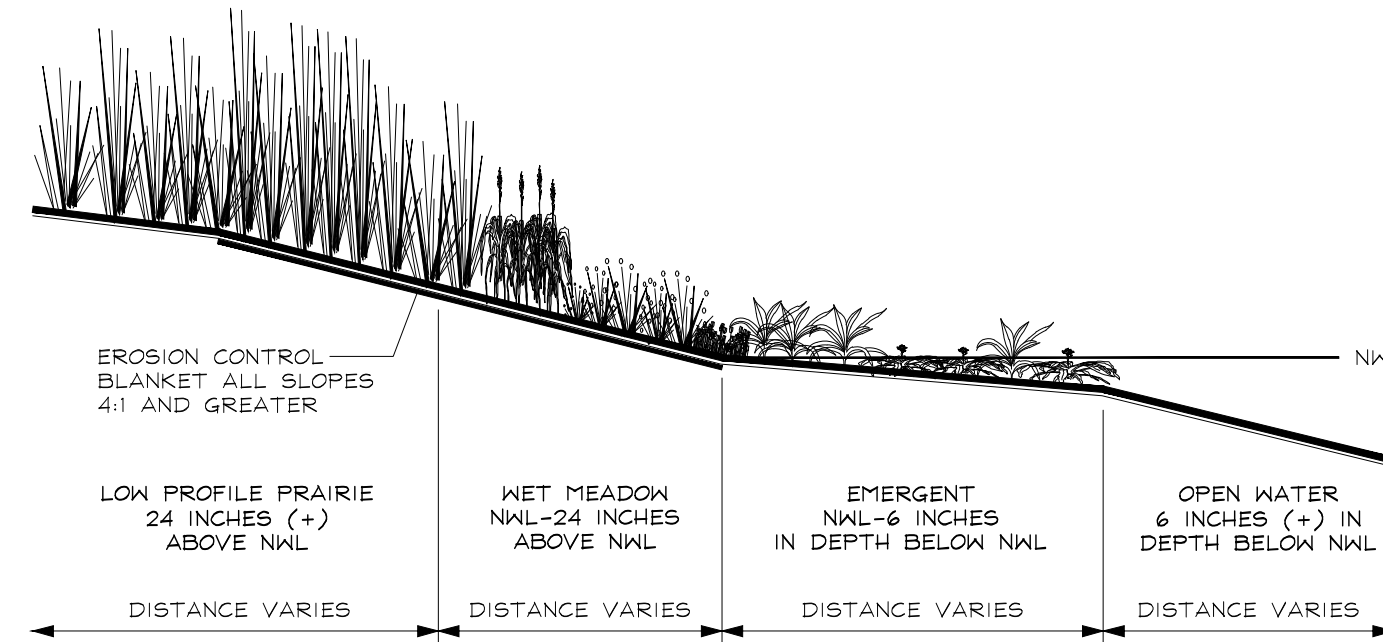
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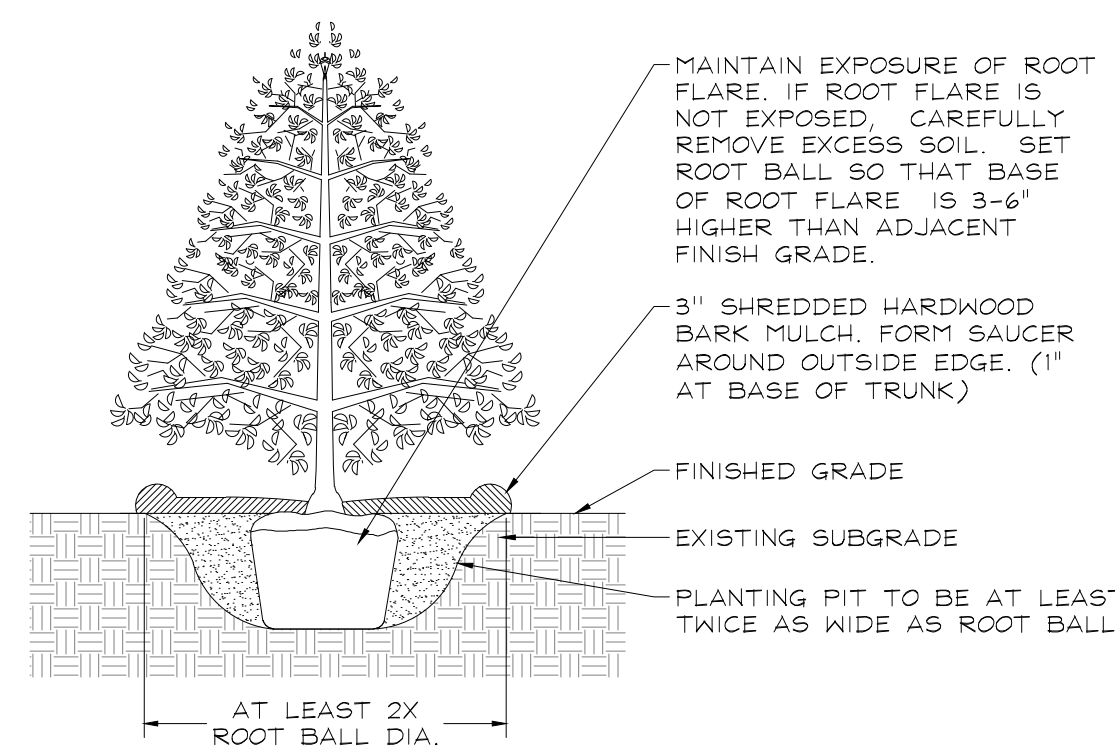
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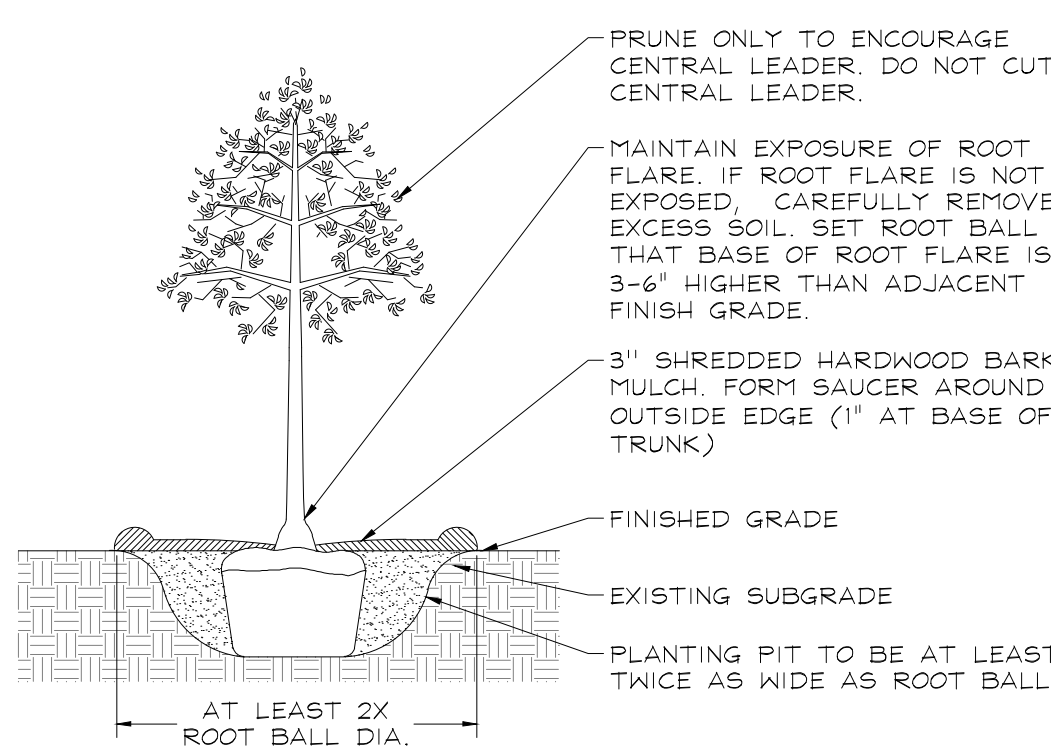
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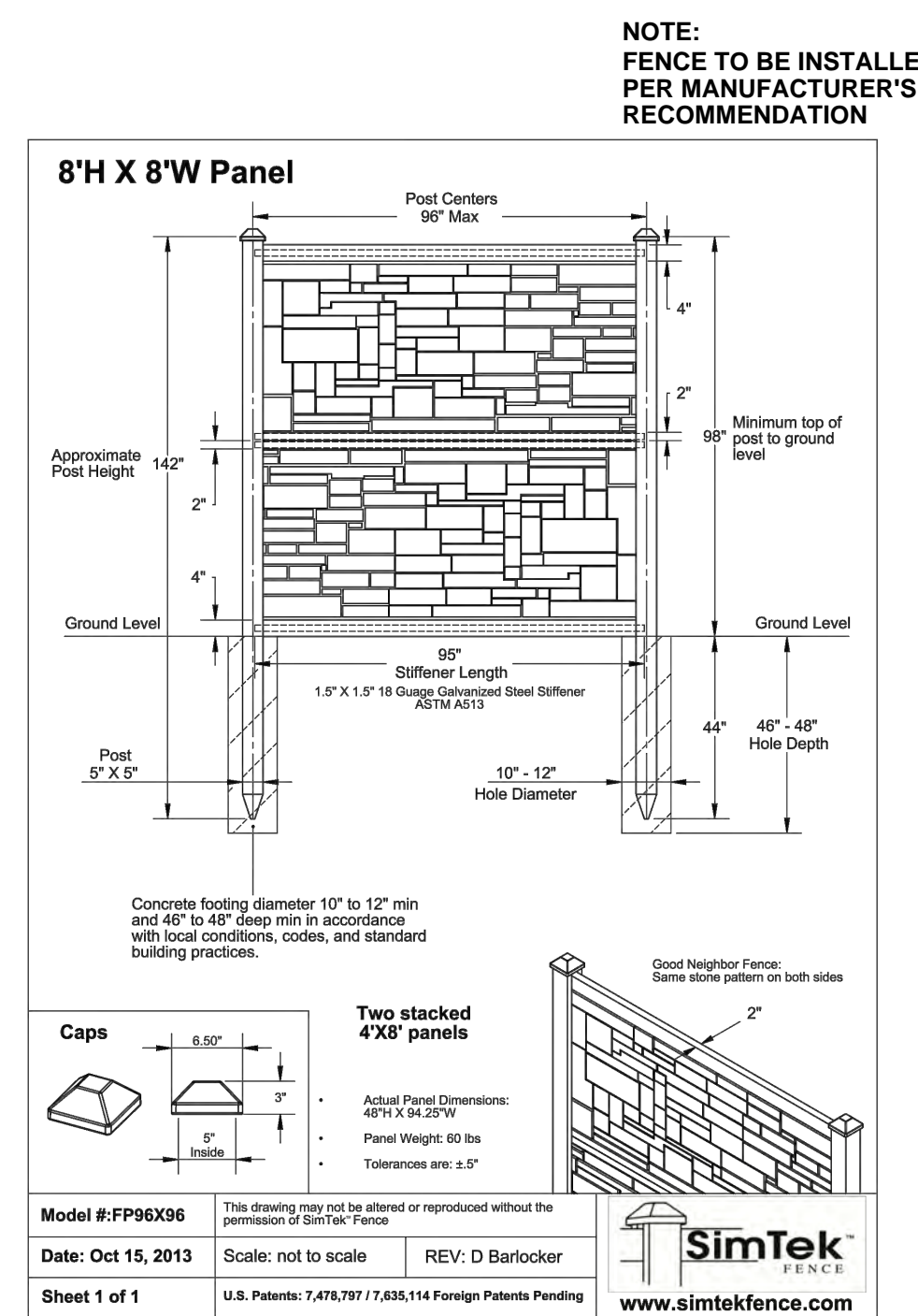
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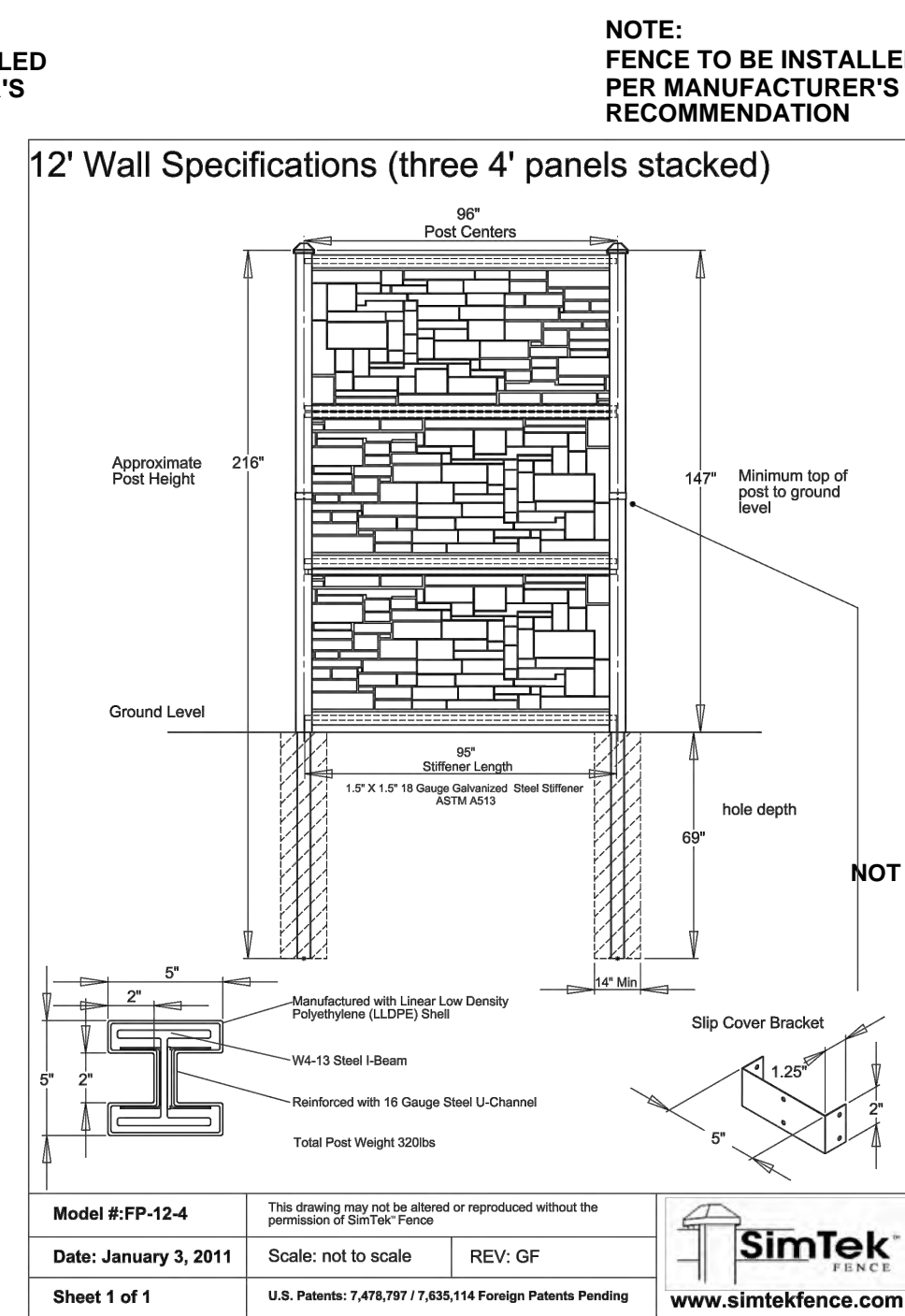
**EVERGREEN TREES**  
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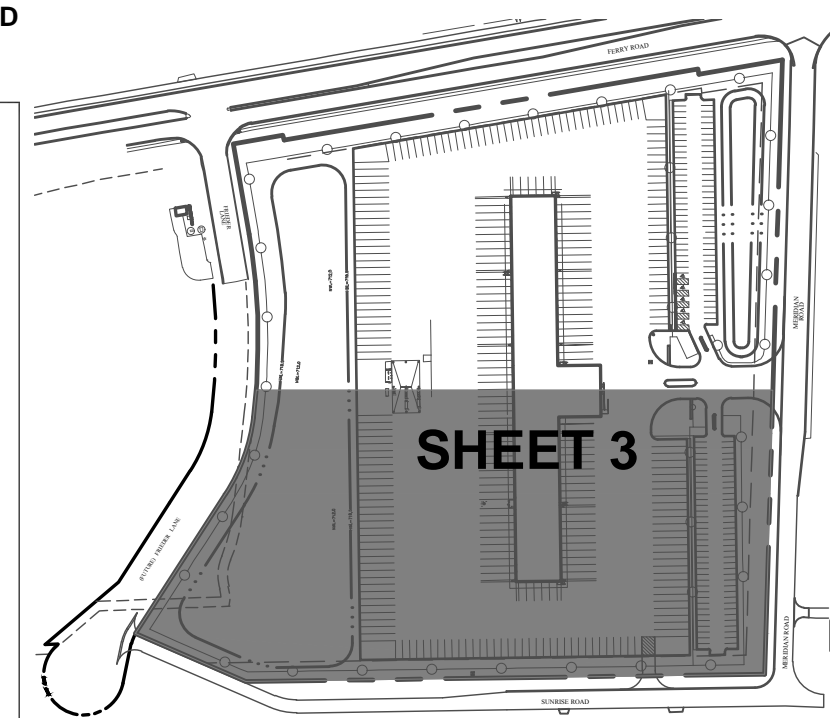
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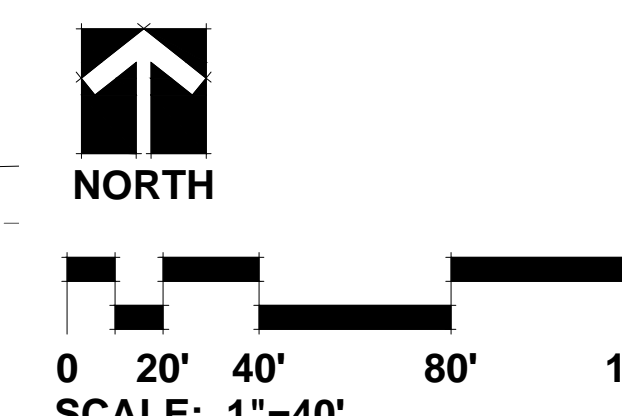
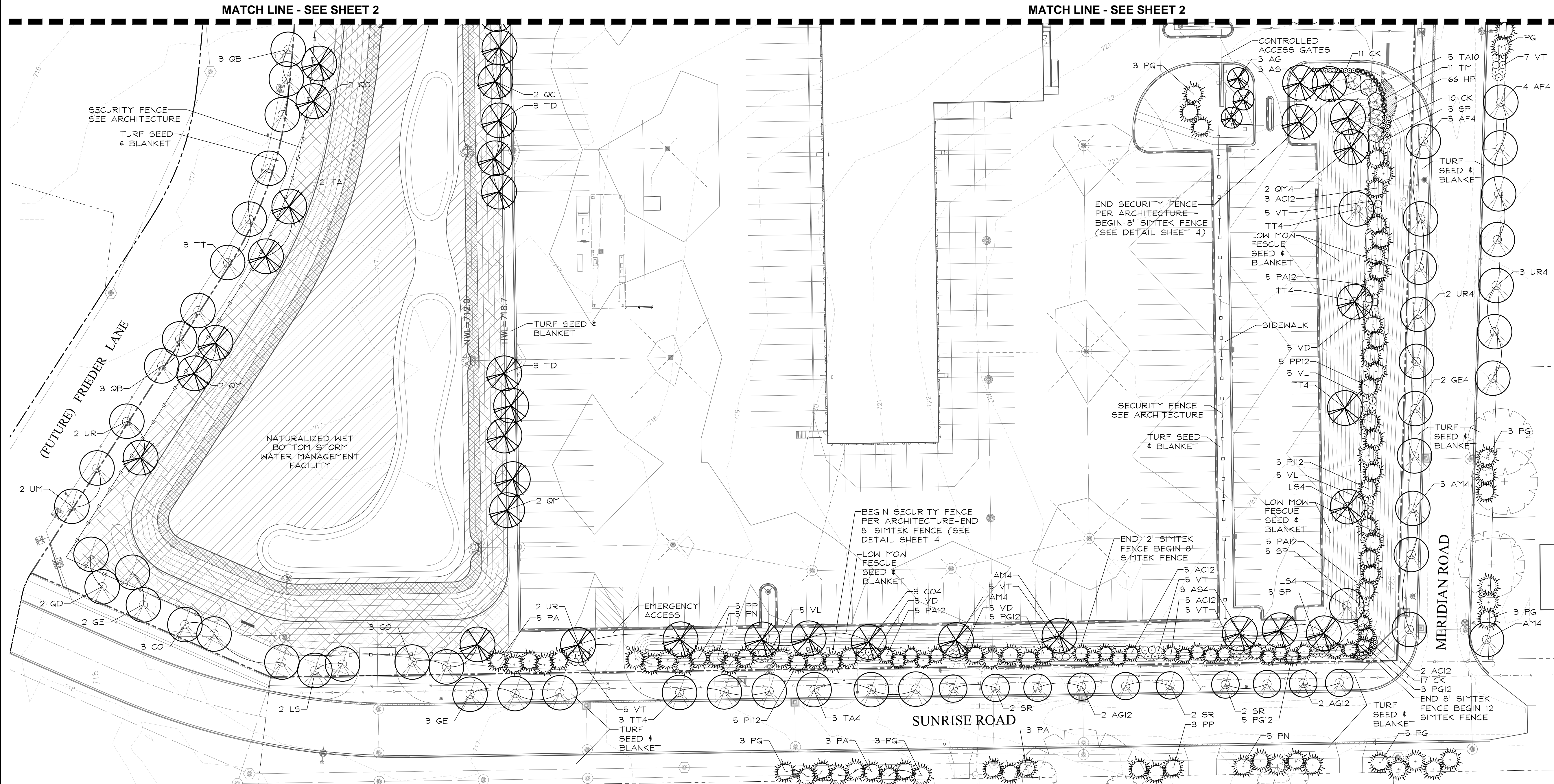
**8' SIMTEK FENCE DETAIL**  
**MODEL#:FP96x96**  
**NOT TO SCALE**



**12' SIMTEK FENCE DETAIL**  
**MODEL#:FP-12-4**  
**NOT TO SCALE**



**SHEET KEY**  **NORT**



**GARY R. WEBER  
ASSOCIATES, INC.**  
LAND PLANNING  
ECOLOGICAL CONSULTING  
LANDSCAPE ARCHITECTURE  
212 SOUTH MAIN STREET  
WHEATON, ILLINOIS 60187  
PHONE: 630-668-7197

**OWNER/APPLICANT:**  
**OLD DOMINION  
FREIGHT LINE, INC**  
500 OLD DOMINION WAY  
THOMASVILLE, NC 27360

**CIVIL ENGINEER:**  
**MANHARD CONSULTING**  
700 SPRINGER DRIVE  
LOMBARD, ILLINOIS 60148



**BUTTERFIELD CENTER FOR BUSINESS & INDUSTRY**  
UNIT 4 - LOT 402  
AURORA, ILLINOIS  
**LANDSCAPE PLAN**



2	6.03.16
1	5.23.16
<b>REVISIONS</b>	

DATE	12.01.15
PROJECT NO.	OD1501
DRAWN	MGM/TRC/GFB
CHECKED	JCT
SHEET NO.	

**3 OF 4**

LANDSCAPE WORK PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

The work shall consist of furnishing, transporting and installing all seeds, plants and other materials required for:

1. The establishment of trees, shrubs, perennial, annual and lawn areas as shown on Landscape Plan;
2. The provision of post-planting management as specified herein;
3. Any remedial operations necessary in conformance with the plans as specified in this document;
4. The design, furnishing and installation of a complete underground sprinkler system; and
5. Permits which may be required.

1.2 QUALITY ASSURANCE

- A. Work shall conform to State of Illinois Horticultural Standards and local municipal requirements.
- B. Quality Control Procedures:
1. Ship landscape materials with certificates of inspection as required by governmental authorities. Comply with governing regulations applicable to landscape materials.
  2. Do not make substitutions. If specified landscape material is not obtainable, submit to Landscape Architect proof of non-availability and proposal for use of equivalent material.
  3. Analysis and Standards: Package standard products with manufacturer's certified analysis.

1.3 SUBMITTALS

- A. Planting Schedule
- Submit three (3) copies of the proposed planting schedule showing dates for each type of planting
- B. Maintenance Instruction - Landscape Work
- Submit two (2) copies of typewritten instructions recommending procedures to be established by the Owner for the maintenance of landscape work for one full year. Submit prior to expiration of required maintenance periods.

Instructions shall include: watering, fertilizing, spraying, mulching and pruning for plant material and trimming grounds. Instructions for watering, fertilizing and mowing grass areas shall be provided ten (10) days prior to request for inspection for final acceptance. Landscape Architect shall receive copies of all instructions when issued.

- C. Submit two (2) copies of soil test of existing topsoil with recommendations for soil additive requirement to Landscape Architect for review and written approval.
- D. Submit two (2) samples of shredded hardwood bark mulch, erosion control blankets, and all other products and materials as specified on plans to Landscape Architect for review and written approval.
- E. Nursery packing lists indicating the species and quantities of material installed must be provided to the Owner and/or City upon request.

1.4 JOB CONDITIONS

- A. Examine and evaluate grades, soils and water levels. Observe the conditions under which work is to be performed and notify Landscape Architect of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Utilities: Review underground utility location maps and plans; notify local utility location service; demonstrate an awareness of utility locations; and certify acceptance of liability for the protection of utilities during course of work. Contractor shall be responsible for any damage to utilities or property.
- C. Excavation: When conditions detrimental to plant growth are encountered such as rubble fill, adverse drainage conditions or obstructions, notify Landscape Architect before planting.

1.5 GUARANTEES

- A. Guarantee seeded and sodded areas through the specified maintenance period and until final acceptance.
- B. Guarantee trees, shrubs, groundcover and perennials for a period of one year after date of acceptance against defects including death and unsatisfactory growth, except for defects resulting from neglect by Owner, abuse or damage by others or unusual phenomena or incidents which are beyond Landscape Installer's control.
- C. Native Planting Area Performance Criteria
- 1st Full Growing Season: 90% of cover crop shall be established. There shall be no bare areas greater than two (2) square feet in seeded areas. At least 25% of vegetation coverage shall be native, non-invasive species. At least 50% of the emergent species, if planted as plugs shall be alive and apparent.
- 2nd Full Growing Season: All areas with the exception of emergent zones shall exhibit full vegetative cover. At least 50% of the vegetation coverage shall be native, non-invasive species.
- 3rd Full Growing Season: At least 75% of vegetation coverage shall be native, non-invasive species. Non-native species shall constitute no more than 25% relative aerial coverage of the planted area. Trivia species (Cattail) can make up to 50% of the emergent area.

LANDSCAPE WORK PART 2 - PLANT MATERIALS

2.1 LAWN SOD

Provide strongly rooted sod, not less than two (2) years old and free of weeds and undesirable native grasses. Provide only sod capable of growth and development when planted (viable, not dormant) and in strips not more than 18" wide x 4' long. Provide sod composed of a 5-way blend of Kentucky Bluegrass such as Midnight, Allure, Viva, Washington, Liberty.

2.2 LAWN SEED MIXTURE

Grass Seed: Provide fresh, clean, new crop seed complying with the tolerance for purity and germination established by the Official Seed Analysis of North America. Provide seed of the grass species, proportions and maximum percentage of weed seed, as specified.

A. Lawn Seed Mixture - 5 lbs./1,000 sq. ft.	
50 % Kentucky Bluegrass 48/85	
15% Cutsen Perennial Ryegrass	
10% Spartan Hard Fescue	
10% Edge Perennial Ryegrass	
10% Express Perennial Ryegrass	
5% Perennial Creeping Red Fescue	
B. Temporary Lawn Seed Mixture - 5 lbs./1,000 sq.ft.	
40% Kentucky Bluegrass 48/85	
40% Perennial Ryegrass	
20% Annual Ryegrass	
C. Low Mow Fescue Seed Mix - Berm	
Common Name	lbs./ AC
Discovery Hard Fescue	75,000
Tiffany Cheatings Fescue	75,000
Florentine Creeping Red Fescue	75,000
Bighorn Sheeps Fescue	75,000
Total:	300,000

2.3 NATIVE PLANTING MIXTURES

Provide fresh, clean, new crop of the species and proportions as specified. Native seed and live plant material shall be obtained from a reputable supplier (approved by Landscape Architect) that has collected from sources east of the Mississippi River within the same EPA Level III Ecoregion as the project site (Central Corn Belt Plains). Any material sourced from outside this ecoregion must be approved by the Landscape Architect prior to installation.

For each species, the amount of seed indicated on the specifications shall mean the total amount of pure live seed (PLS) per acre. Seed tags and PLS testing information shall be provided to the Landscape Architect prior to seeding.

It is the sole responsibility of the Native Landscape Contractor to provide approved seed that meets industry-standard PLS requirements.

A. Temporary Cover Crop

Cover crops shall be installed in all planting areas containing dry mesic, mesic, and wet mesic soils to stabilize soils, and combat weed pressure during the germination and establishment of the native seeding area.

For spring plantings use Seed Oats at the specified rate below:

Botanical Name	Common Name	lbs./AC
Avena sativa	Seed Oats	40.0 lbs.

For fall or dormant plantings, use Regreen at the specified rates below:

Botanical Name	Common Name	lbs./AC
Triticum aestivum	Regreen	50.0 lbs

B. Emergent Plantings - Shoreline and Planting shelf 4" deep - 12" deep

Botanical Name	Common Name	lbs./AC	Plugs/AC
Acorus calamus	Sweet Flag	0.500	494
Allium subacutatum	Water Plantain	1.250	
Eleocharis obtusa	Blunt Spike Rush	0.375	
Eleocharis palustris	Marsh Spike Rush	0.375	
Glyceria grandis	Reed Manna Grass	0.375	
Hibiscus laevis	Rose Mallow	0.250	
Iris virginica shrevei	Blue Flag	0.500	
Iris versicolor	Common Rush	0.500	
Leersia Oryzoides	Rice Cut Grass	1.250	494
Potamogeton nodosus	Pickerelweed	0.250	494
Sagittaria latifolia	Common Arrowhead	1.250	494
Scirpus acutus	Hardstem Bulrush	0.250	986
Scirpus pungens	Chickadees Rush	0.250	
Scirpus validus	Great Bulrush	0.250	986
Sagittaria eurycarpum	Bur Reed	1.000	986
Total:		8.125	5434

Note: If emergent zone is permanently flooded seeding will be impossible and live plugs shall be installed at the specified rate. Plugs are specified at a standard 36 cell flat and shall measure 2.25" x 5" with a volume of 11.30 inches. Substitution of plug size must be approved by the Landscape Architect prior to installation.

C. Wet Meadow Seed Mixture - Lower slopes of basin

Botanical Name	Common Name	lbs./AC
Grasses and Sedges		
Carex bebbii	Bebb's Oval Sedge	0.250
Carex bicularis	Bicknell's Sedge	0.250
Carex brevior	Plains Oval Sedge	0.250
Carex cristatella	Crested Oval Sedge	0.150
Carex molestia	Field Oval Sedge	0.250
Carex normalis	Spreading Oval Sedge	0.250
Carex scoparia	Pointed Broom Sedge	0.140
Carex stipata	Common Fox Sedge	0.250
Carex vulpinoidea	Brown Fox Sedge	0.250
Elymus virginicus	Virginia Wild Rye	3.000
Glyceria striata	Fowl Manna Grass	0.130
Juncus dudleyi	Dudley's Rush	0.003
Juncus torreyi	Torrey's Rush	0.003
Panicum virgatum	Sulch Grass	1.000
Scirpus atrovirens	Dark Green Rush	0.040
Scirpus cyperinus	Nail Grass	0.015
Total Grasses and Sedges:		6.303

Wildflowers/Broadleaves		
Asclepias incarnata	Swamp Milkweed	0.500
Bidens cernua	Nodding Bur Marigold	0.140
Boltonia asteroides	False Aster	0.031
Chamaeneris fasciculata	Partridge pea	1.003
Euthamia graminifolia	Grass-leaved Goldenrod	0.025
Eupatorium perfoliatum	Common Boneset	0.015
Helenium autumnale	Sneezeweed	0.063
Iris virginica shrevei	Blue Flag	1.500
Labellia spiliotica	Great Blue Lobelia	0.031
Mimulus ringens	Monkey Flower	0.003
Symphoricarpon neove-angliae	New England Aster	0.250
Symphytum virginicum	Common Mountain Mint	0.043
Rudbeckia fulgida var. sullivantii	Shouy Black-Eyed Susan	0.250
Zizia aurea	Golden Alexanders	0.050
Total Wildflowers/Broadleaves:		3.97
Total Wet Meadow Seed Mixture:		10.27

D. Low Profile Prairie With Flowers Seed Mixture - Upper Basin Slopes

Botanical Name	Common Name	lbs./AC
Grasses		
Bouteloua curtipendula	Side Oats Grama	8.000
Panicum virgatum	Prairie Sulch Grass	0.125
Elymus canadensis	Prairie Wild Rye	1.000
Schizachyrium scoparium	Little Blue Stem	6.000
Total Grasses:		15.125
Wildflowers/Broadleaves		
Allium cernuum	Nodding Wild Onion	0.140
Amorpha canescens	Lead Plant	0.125
Asclepias tuberosa	Butterflyweed	0.500
Asclepias verticillata	Whorled Milkweed	0.063
Astragalus canadensis	Canada Milk Vetch	0.063
Careopsis palmata	Prairie Cordgrass	0.025
Echinacea pallida	Pale Purple Coneflower	1.000
Echinacea purpurea	Purple Coneflower	0.500
Eryngium yuccifolium	Rattlesnake Master	0.125
Lespedeza capitata	Round-Headed Bush Clover	0.125
Liatris aspera	Rough Blazing Star	0.250
Liatris pycnostachya	Prairie Blazing Star	0.148
Monarda fistulosa	Prairie Bergamot	0.063
Parthenium integrifolium	Kill Quinine	0.016
Penstemon digitalis	Foxglove Beardtongue	0.125
Petalostemum candidum	White Prairie Clover	0.125
Petalostemum purpureum	Purple Prairie Clover	0.156
Potentilla arguta	Prairie Cinqufoil	0.031
Slender Mt Mint		0.031
Ratibida pinnata	Yellow Coneflower	0.125
Rudbeckia fulgida var. sullivantii	Shouy Black-Eyed Susan	0.500
Rudbeckia hirta	Black-Eyed Susan	0.500
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	0.063
Symphoricarpon laevis	Smooth Blue Aster	0.063
Tradescantia ohiensis	Spidertwort	0.063
Verbena stricta	Hoary Vervain	0.125
Zizia aurea	Golden Alexanders	0.050
Total Wildflowers/Broadleaves:		5.140
Total Lo Pro Prairie Seed Mixture:		20.315

Wildflowers/Broadleaves		
Asclepias incarnata	Swamp Milkweed	0.500
Bidens cernua	Nodding Bur Marigold	0.140
Boltonia asteroides	False Aster	0.031
Chamaeneris fasciculata	Partridge pea	1.003
Euthamia graminifolia	Grass-leaved Goldenrod	0.025
Eupatorium perfoliatum	Common Boneset	0.015
Helenium autumnale	Sneezeweed	0.063
Iris virginica shrevei	Blue Flag	1.500
Labellia spiliotica	Great Blue Lobelia	0.031
Mimulus ringens	Monkey Flower	0.003
Symphoricarpon neove-angliae	New England Aster	0.250
Symphytum virginicum	Common Mountain Mint	0.043
Rudbeckia fulgida var. sullivantii	Shouy Black-Eyed Susan	0.250
Zizia aurea	Golden Alexanders	0.050
Total Wildflowers/Broadleaves:		5.140
Total Lo Pro Prairie Seed Mixture:		20.315

Provide plants established and well-rooted in removable containers or integral peat pots and with not less than the minimum number and length of runners required by ANSI Z60.1 for the pot size shown or listed.

2.4 GROUNDCOVERS, PERENNIALS AND ANNUALS

Provide plants established and well-rooted in removable containers or integral peat pots and with not less than the minimum number and length of runners required by ANSI Z60.1 for the pot size shown or listed.

2.5 TREES AND SHRUBS

- A. Name and Variety: Provide nursery grown plant material true to name and variety.
- B. Quality: Provide trees, shrubs and other plants complying with the recommendations and requirements of ANSI Z60.1 "Standard for Nursery Stock" and as further specified.
- C. Deciduous Trees: Provide trees of height and caliper listed or shown and with branching configuration recommended by ANSI Z60.1 for type and species required. Provide single stem trees except where special forms are shown or listed. Provide balled and burlapped (BBB) deciduous trees.
- D. Deciduous Shrubs: Provide shrubs of the height shown or listed and with not less than the minimum number of canes required by ANSI Z60.1 for the type and height of shrub required. Provide balled and burlapped (BBB) deciduous shrubs.
- E. Coniferous Evergreen: Provide evergreens of the sizes shown or listed. Dimensions indicate minimum spread for spreading and semi-spreading type evergreens and height for other types. Provide quality evergreens with well-balanced form complying with requirements for other size relationships to the primary dimension shown. Provide balled and burlapped (BBB) evergreen trees and containerized shrubs.
- F. Inspection: All plants shall be subject to inspection and review at the place of growth or upon delivery and conformity to specification requirements as to quality, right of inspection and rejection upon delivery at the site or during the progress of the work for size and condition of balls or roots, diseases, insects and latent defects or injuries. Rejected plants shall be removed immediately from the site.

2.6 PLANTING SOIL MIXTURE

Provide planting soil mixture consisting of clean uncompacted topsoil (stockpiled at site) for all planting pits, perennial, annual and groundcover areas. Topsoil shall be conditioned based on any recommendations resulting from the soil test in 1.3.C.

2.7 EROSION CONTROL

- A. Erosion Control Blanket-Detention Basins: North American Green S150, or equivalent approved equal.
- B. Shoreline Erosion Control Blanket: North American Green SG150, or approved equal. To be installed per manufacturer's recommendations.
- C. Lawn and Low-Mow Fescue Areas: Futerra EnviroNet color: Green, or approved equal. To be installed per manufacturer's recommendations.

2.8 MULCH

Provide mulch consisting of shredded hardwood. Provide sample to Landscape Architect for approval prior to ordering materials.

LANDSCAPE WORK PART 3 - EXECUTION

3.1 PLANTING SCHEDULE

At least thirty (30) days prior to the beginning of work in each area, submit a planting schedule for approval by the Landscape Architect.

3.2 PLANTINGS

- A. Seeding New Lawns
1. Remove existing grass, vegetation and turf. Dispose of such material legally off-site. Do not turn over into soil being prepared for lawns.
  2. Till to a depth of not less than 6"; apply soil amendments; remove high areas and fill in depressions; till soil to a homogenous mixture of fine texture, remove lumps, clods, stones over 1"

diameter, roots and other extraneous matter. Dispose of such material legally off-site.

3. Seeded lawn areas shall receive an application of commercial fertilizer at the rate of 5 lbs. per 1,000 sq. ft. and shall be 6-24-24. Fertilizer shall be uniformly spread and mixed into the soil to a depth of 1" inches.
4. Do not use wet seed or seed which is moldy or otherwise damaged in transit or storage.
5. Sow seed using a spreader or seeding machine. Do not seed when wind velocity exceeds five (5) miles per hour. Distribute seed evenly over entire area by sowing equal quantity in two directions at right angles to each other.
6. Sow not less than specified rate.
7. Rake lawn seed lightly into top 1" of soil, roll lightly and water with a fine spray.

B. Seeding Native Areas

1. The period for planting prairie seed shall be from April 1 to June 15 or September 15 to just before the first frost. Seeding outside of these timeframes must be approved by the landscape architect.
2. The General Contractor and Native Landscape Contractor shall be responsible for performing all work necessary to achieve and maintain an acceptable seeded prior to seeding. All areas must be properly prepared before seeding begins. Equipment having low unit pressure ground contact shall be utilized within the planting areas.
3. If present, compacted soils shall be disked or raked prior to seeding. Remedial measures for the access area may, at the direction of the Wetland Consultant, involve ripping from 12 to 18 inches of the soil horizon prior to diskling.
4. Prior to seeding, planting areas shall have at least twelve inches of clean un-compacted topsoil. Clumps, clods, stones over 2" diameter, roots and other extraneous matter shall be removed and disposed of legally off-site.
5. Granular mycorrhizal inoculants shall be installed with the seed mix at a rate of 40lbs/ acre. Inoculant can be banded under seed, worked into seed or added into spray tanks. Native areas shall not receive fertilizer.
6. Contractor shall be solely responsible for the proper handling and storage of the seed according to the best seed handling and storage practices, including fungicide treatments and stratification considerations. Owner shall make no compensation for damage to the seed because of improper storage, cleaning, threshing, or screening operations.
7. Except where site conditions preclude their use, seeding shall be performed using a Truax drill, Truax Trillion seeder, or comparable equipment designed specifically for installation of native seed. For areas where site conditions preclude the use of specialized equipment, seed may be installed through hand broadcasting and followed by light raking. Hand broadcast seed shall be spread at twice the specified rate. Other methods of seed installation may be used with prior approval from the Landscape Architect.
8. Prior to starting work, all seeding equipment shall be calibrated and adjusted to sow seeds at the proper seeding rate. In general, the optimum seeding depth is 0.25 inch below the soil surface. Areas where the seed has not been incorporated into the soil to the proper depths will not be accepted, and no compensation for materials or labor for the rejected work will be made by the Owner.
9. Seeding and soil tracking/firming shall not be done during periods of rain, severe drought, high winds, excessive moisture, frozen ground, or other conditions that preclude satisfactory results.
10. Wet mesic and emergent areas shall be planted, and seed allowed to germinate (if possible), prior to flooding with significant amounts of water. Any areas of significant permanent water located within the planting area will receive live plugs in lieu of seed.
11. After the seeding operation is completed, install erosion control blanket per manufacturer's specifications.
12. Emergent plugs shall be planted in natural groupings within designed areas containing saturated soils or shallow inundation. Plants within groupings shall be planted at 2 foot centers.
13. Emergent plugs shall not be planted less than the specified rate and shall be protected with goose enclosures surrounding all natural groupings of plugs.

E. Groundcover and Perennial Beds

Groundcover, perennials, and annuals shall be planted in continuous beds of planting soil mixture a minimum of 8" deep. install per spacing indicated on plan.

F. Trees and Shrubs

1. Set balled and burlapped (BBB) stock plumb and in center of pit or trench with top of ball at an elevation that will keep the root flare exposed upon backfill and mulching. Remove burlap from top and sides of balls; retain on bottoms. When set, place additional topsoil backfill around base and sides of ball and work each layer to settle backfill and eliminate voids and air pockets. When excavation is approximately 2/3 full, water thoroughly before placing remainder of backfill. Repeat watering until no more is absorbed. Water again after placing final layer of backfill.
2. Dish top of backfill to allow for mulching. Provide additional backfill berm around edge of excavations to form shallow saucer to collect water.
3. Mulch pits, trenches and planted areas. Provide not less than 2" thickness of mulch and work into top of backfill and finish level with adjacent finish grades. Maintain exposed root flare at all times.
4. Prune only injured or dead branches from flowering trees, if any. Protect central leader of trees during shipping and pruning operations. Prune shrubs to retain natural character in accordance with standard horticultural practices.
5. Remove and replace excessively pruned or ill-formed stock resulting from improper pruning.
6. The Contractor shall be wholly responsible for assuring that all trees are planted in a vertical and plumb position and remain so throughout the life of this contract and guarantee period. Trees may or may not be staked and guyed depending upon the individual preference of the Contractor; however, any bracing procedure(s) must be approved by the Owner prior to its installation.

3.3 INITIAL MAINTENANCE

- A. Begin maintenance immediately after planting, continuing until final acceptance. A minimum of thirty (30) days.
- B. Maintain planted and seeded areas by watering, rolling/regroing, replanting and implementing erosion control as required to establish vegetation free of eroded or bare areas.
- C. Low Mow Fescue and Native Planting areas are to be mowed only once per spring during the initial three year establishment period.

3.4 NATIVE LANDSCAPED AREAS CONTINUED MONITORING & MAINTENANCE

A. Monitoring

The Owner's Environmental Specialist shall inspect the plantings at least twice per year during the three-year term of the Establishment and Maintenance, to determine compliance with the minimum annual performance criteria (See 1.5C Guarantees). A monitoring report will be provided to the Owner by January 31st following each inspection.

B. Maintenance:

First Season

With the exception of the emergent area, native seeding areas should be mowed to a height of 6" to control annual nonnative and invasive species early in the growing season. Mowing, including weed whiping, should be conducted prior to weed seed production. Mowing height and timing may need to be adjusted per target species. Small quantities of undesirable plant species, shall be controlled by hand pulling prior to the development and maturity of the plant. Hand removal shall include the removal of all above-ground and below-ground stems, roots and flower masses prior to development of seeds. Herbicide should be applied as necessary by a trained and licensed operator that is competent in the identification of native and nonnative herbaceous plants. Debris and litter shall be removed from the native areas and storm structures shall be inspected and maintained as necessary. Supplemental reseeding shall occur in areas that are bare or sparsely vegetated. Native seed mixes shall be hand broadcasted over the soil surface and raked in.

Second Season

Control of undesirable plant species during the second growing season shall consist primarily of precise herbicide application. Mowing and weed whipping shall be conducted as needed during the early growing season and as needed to a height of 6" to 8" inches to prevent annual weeds from producing seed. Debris and litter shall be removed from the native areas and storm structures shall be inspected and maintained as necessary.

Third, Fourth, and Fifth Years:

Seasonal mowing and herbicide will continue as above but should be reduced over time. Debris and litter shall be removed from the native areas and storm structures shall be inspected and maintained as necessary. At the completion of the third growing season (dependent on fuel availability; dominance of graminoid species; and favorable weather conditions), fire may be introduced to the planted areas as a management tool.

State and local permits shall be required prior to controlled burning. Burning shall be conducted by trained professionals experienced in managing smoke in urban environments. Prior to a controlled burn, surrounding property owners as well as local fire and police departments shall be notified. A burn plan detailing preferred wind direction and speed, location of fire breaks, and necessary personnel and equipment shall be prepared and utilized in planning and burn implementation.

The initial burn shall be dependent on fuel availability which is directly related to the quantity and quality of grasses contained within the plant matrix. Timing of the burn shall be determined based on results of the annual monitoring indicating species composition of the management area and other analysis of management goals. Generally, burns shall be scheduled from spring to fall on a rotational basis. Burn frequency shall also be dependent on the species composition within the management area. Generally, a new prairie restoration area shall be burned annually for two years after the second or third growing season after planting and then every 2-3 years thereafter, burning 50-75% of the area.

C. Long Term Wetland and Prairie Management/Maintenance

A final compliance report and Long-Term Operation and Maintenance Plan shall be submitted by the Developer/Owner's Environmental Specialist no less than 60 days prior to the expiration of any landscape Cash Bond or Letter of Credit posted for the native areas. Final acceptance and release shall be determined by the County/City/USACE upon inspection of the site to verify compliance.

The Long -Term Operation and Maintenance Plan shall be written to include guidelines and schedules for burning, mowing, application of herbicide, debris/litter removal and inspection schedule for storm structures and sediment removal.

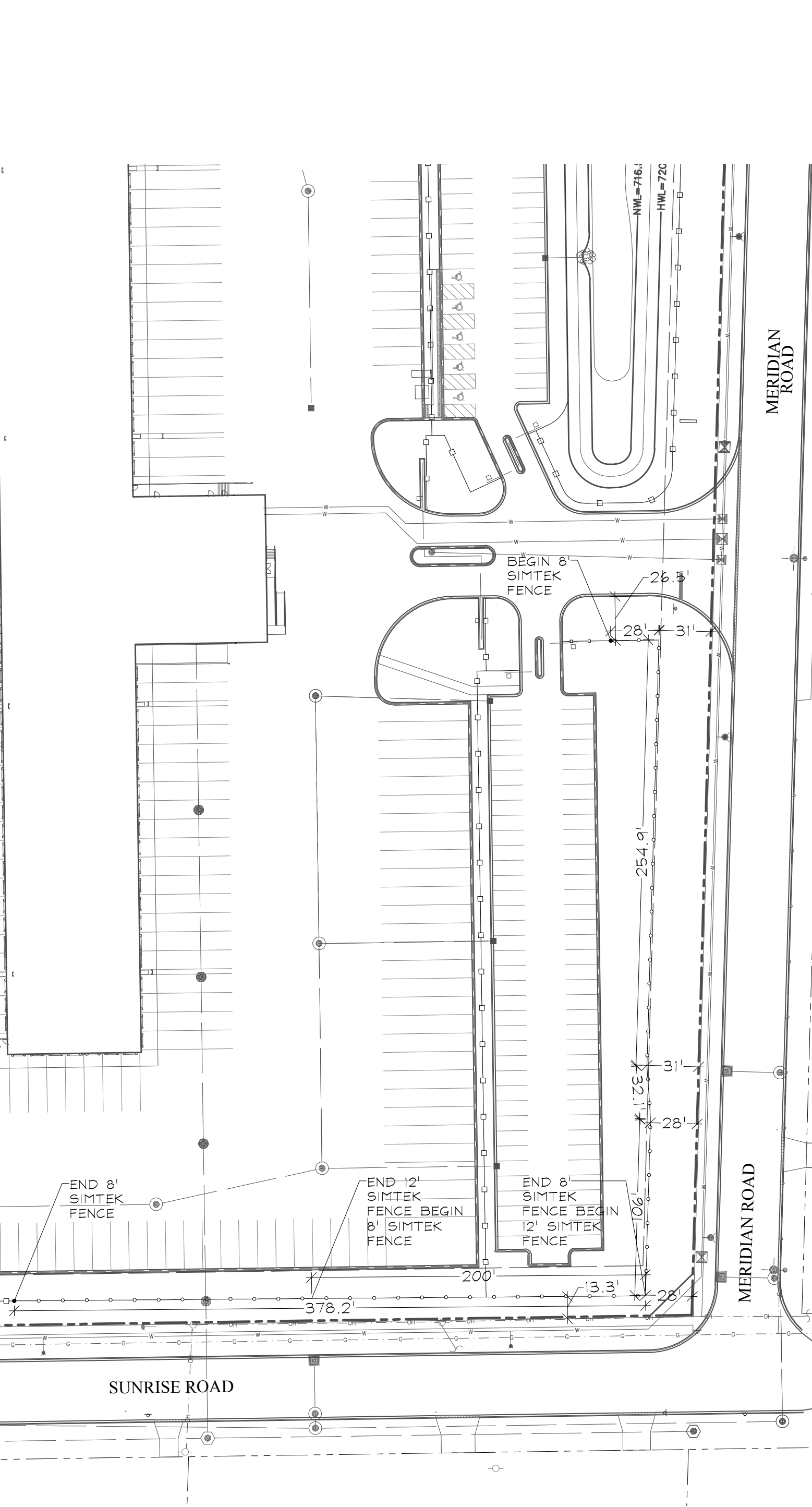
3.5 CLEAN UP AND PROTECTION

- A. During landscape work, store materials and equipment where directed. Keep pavements clean and work areas and adjoining areas in an orderly condition.

- B. Protect landscape work and materials from damage due to landscape operations, operations by other trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work as directed by Landscape Architect.

3.6 INSPECTION AND ACCEPTANCE

- A. The Landscape Architect reserves the right to inspect seeds, plants, trees and shrubs either at place of growth or at site before planting for compliance with requirements for name, variety, size, quantity, quality and mix proportion.
- B. Supply written affidavit certifying composition of seed mixtures and integrity of plant materials with respect to species, variety and source.
- C. Notify the Landscape Architect within five (5) days after completing initial and/or supplemental plantings in each area.
- D. When the landscape work is completed, including maintenance, the Landscape Architect will, upon request, make a final inspection to determine acceptability. After final acceptance, the Owner will be responsible for maintenance.



SIMTEK FENCE LAYOUT DETAIL  
SCALE: 1"=60'

**GRWA**

**GARY R. WEBER**  
**ASSOCIATES, INC.**

LAND PLANNING  
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LANDSCAPE ARCHITECTURE

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**LANDSCAPE SPECIFICATIONS**</