

# **DRAINAGE REPORT**

## **52 National Drive Building Addition**

PREPARED FOR

**New England Traffic Solutions**

PREPARED BY

**DUTTON ASSOCIATES, LLC**

67 EASTERN BOULEVARD

GLASTONBURY, CT 06033

DATED: JANUARY 24<sup>th</sup>, 2022

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## SUMMARY

### SITE DESCRIPTION:

The site, 52 National Drive is a 2.5086-acre parcel located on the southerly side of National Drive. The parcel was created in 1667 as an "industrial subdivision" by the Town of Glastonbury. It was first developed in 1980 by Tyrol & Wethey in 1980 as an office development. Much of the site is wetlands (1.65 acres 65.8%) and Salmon Brook crosses the property about 2/3rds back from National Drive. The Salmon Brook sanitary sewer interceptor line also crosses the property just northerly of the brook. The rear portion of the property is encumbered by a private conservation easement (1.991 acres). Additionally, the site contains a drainage easement in favor of the easterly abutter along its easterly property line. Wetland soils have been delineated by Cynthis Rabinowitz, Soils Scientist and field surveyed by Dutton Associates, LLC. The soils are Limerick, upland soils are undeaths as the site has been disturbed from the wetland limits north to National Drive.

### PROPOSAL

The site is currently under contract for purchase by New England Traffic Solutions who assembles and sells traffic control boxes and signals. No manufacturing occurs. The buyer needs additional warehouse space and is proposing a 3,000 s.f. warehouse addition to the existing building on its south side. The existing parking area contains enough parking to service the completed facility and no additional pavement is proposed. When the site was first constructed, no provisions were made with regard to stormwater quality. In addition to the proposed building addition, the plan contains new stormwater quality enhancements in accordance with the water quality manual. No detention systems are proposed due to its proximately to Salmon Brook. The plan includes a modest 1,153 s.f. increase in impervious area, mainly from the building addition.

The proposed stormwater quality enhancements consist of a stone infiltration area with a level spreader for flows exceeding the water quality treatment volume. The system is located along the edge of the existing parking area. The existing curb along the edge of the parking area will be removed to allow sheet flow into the stone infiltration area. Additionally, the roof drains from the existing building will be piped into a concrete leaching chamber located within the infiltration area.

Because the site is being "redeveloped" and the existing site contains more than 40% impervious area outside of the inland wetland limits, the required water quality volume for treatment is reduces to 50% (per town WQV memo). The minimum WQV required is  $1560 \times .50 = 780$  CU-FT, the system as currently proposed provides 991 CU FT of WQV storage, see the chart below.

| Total WQV Area | Impervious Coverage     | 100% WQV      | WQV provided |
|----------------|-------------------------|---------------|--------------|
| 39,354 sq. ft. | 18,637 sq. ft. (47.35%) | 1,560 cu. ft. | 991 cu. Ft.  |

|             |               |   |             |                  |
|-------------|---------------|---|-------------|------------------|
| PREPARED BY | DATE PREPARED | <b>DUTTON ASSOCIATES, LLC</b><br>67 EASTERN BOULEVARD<br>GLASTONBURY, CONNECTICUT 06033<br>TEL: (860)-633-9401 FAX: (860)-633-8851<br>EMAIL: JIMD@DUTTONASSOCIATESLLC.COM | JOB NUMBER  | PAGE NUMBER<br>2 |
| CHECKED BY  | DATE CHECKED  |   | CLIENT NAME | TOTAL PAGES      |

WQN Calc:

$$WQN = \frac{(1)(R)(A)}{12}$$

$$A = 39,354 \text{ ft}^2 = 0.9034 \text{ ac}$$

$$I = 18,637 \text{ ft}^2 = 47.35$$

$$R = 0.05 + 0.009(I) = 0.05 + 0.009(47.35) = 0.476$$

$$WQN = \frac{(1)(0.476)(0.9034 \text{ ac})}{12} = 0.036 \text{ ac-ft} = 1560 \text{ ft}^3$$

Drainage Area Volume

| section              | Area                  | Volume                          |
|----------------------|-----------------------|---------------------------------|
| A-A<br>36' length    | 20.47 ft <sup>2</sup> | 746.64 ft <sup>3</sup>          |
| B-B<br>36' length    | 21.01 ft <sup>2</sup> | 766.08 ft <sup>3</sup>          |
| C-C<br>36' length    | 21.55 ft <sup>2</sup> | 796.14 ft <sup>3</sup>          |
| D-D<br>23.22' length | 22.68 ft <sup>2</sup> | 507.19 ft <sup>3</sup>          |
| E-E                  | 20.47 ft <sup>2</sup> |                                 |
|                      |                       | $\Sigma = 2810.05 \text{ ft}^3$ |

Stone voids = 35%

Galley size = 1' x 4' x 8' x 1 units = 32 ft<sup>3</sup>

$$2810.05 - 32 = 2778.05 \text{ ft}^3 \times 35\% \text{ voids} = 972.3 \text{ ft}^3$$

$$\text{Galley volume} = 140 \text{ gal/unit} \times \frac{1 \text{ ft}^3}{7.48 \text{ gal}} \times 1 \text{ unit} = 18.7 \text{ ft}^3$$

$$\text{total volume} = 991 \text{ ft}^3$$

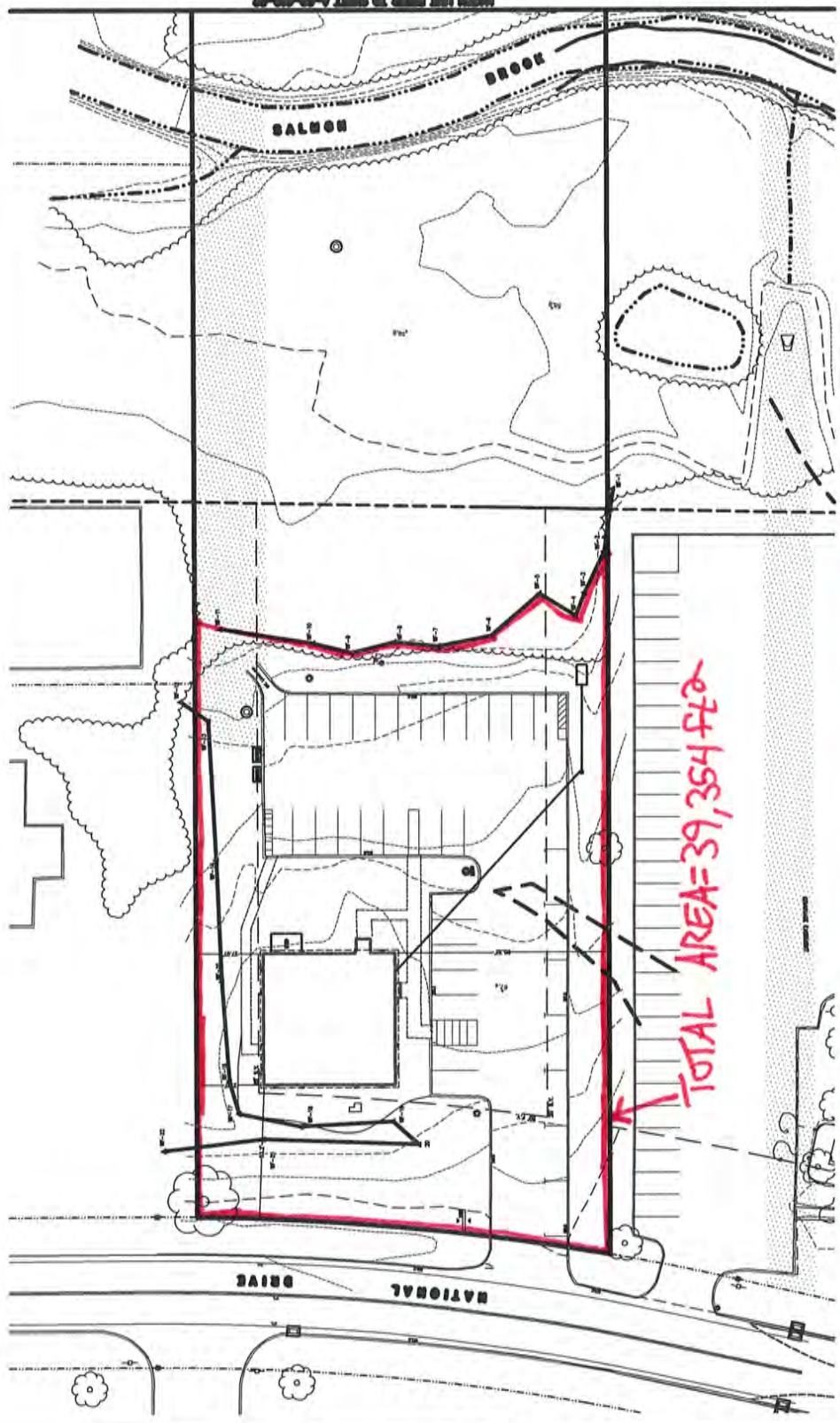
$$\text{Total WQV} = 1560 \text{ ft}^3$$

need 780 ft<sup>3</sup> of storage



**THE LITTLE AND BROWN, INC.**  
REGISTERED PROFESSIONAL ENGINEER  
IN THE STATE OF MICHIGAN  
EXPIRES 12/31/2011

**DUTTON ASSOCIATES, LLC**  
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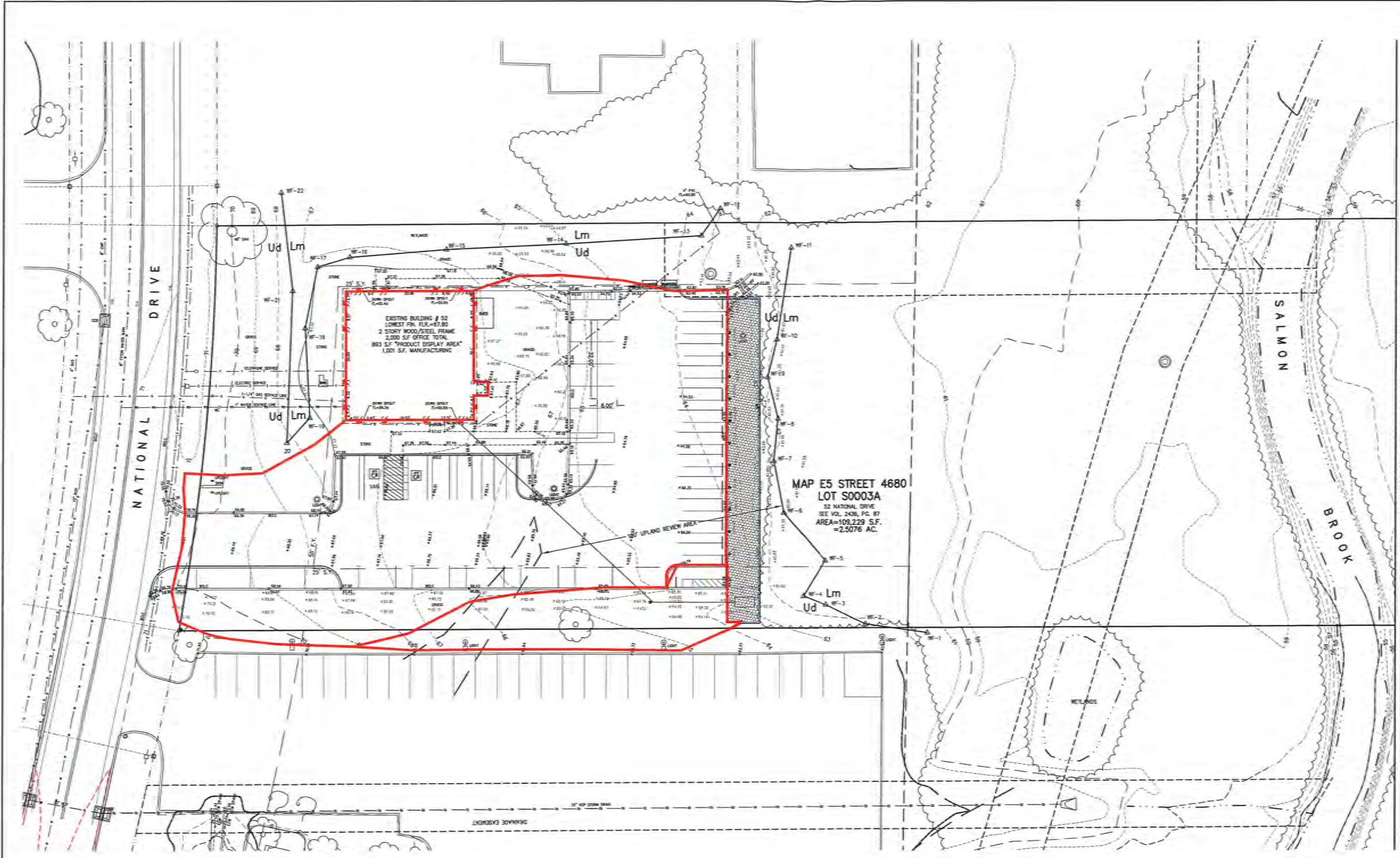
TOTAL AREA = 39,354 ft<sup>2</sup>

EX. IMPERVIOUS COVERAGE = 18,637 ft<sup>2</sup>  
= 47.35%

|                                   |      |
|-----------------------------------|------|
| <b>THE LITTLE AND BROWN, INC.</b> |      |
| PROJECT / ADDRESS                 | DATE |
| CLIENT NAME                       | DATE |
| PROJECT NUMBER                    | DATE |
| PROJECT TYPE                      | DATE |
| PROJECT LOCATION                  | DATE |
| PROJECT DESCRIPTION               | DATE |
| PROJECT STATUS                    | DATE |
| PROJECT CONTACT                   | DATE |
| PROJECT PHONE                     | DATE |
| PROJECT FAX                       | DATE |
| PROJECT EMAIL                     | DATE |
| PROJECT WEBSITE                   | DATE |
| PROJECT ADDRESS                   | DATE |
| PROJECT CITY                      | DATE |
| PROJECT STATE                     | DATE |
| PROJECT ZIP                       | DATE |
| PROJECT COUNTY                    | DATE |
| PROJECT TOWNSHIP                  | DATE |
| PROJECT RANGE                     | DATE |
| PROJECT SECTION                   | DATE |
| PROJECT QUARTER                   | DATE |
| PROJECT MERIDIAN                  | DATE |
| PROJECT TIER                      | DATE |
| PROJECT DISTRICT                  | DATE |
| PROJECT COUNTY                    | DATE |
| PROJECT STATE                     | DATE |
| PROJECT ZIP                       | DATE |
| PROJECT COUNTY                    | DATE |
| PROJECT TOWNSHIP                  | DATE |
| PROJECT RANGE                     | DATE |
| PROJECT SECTION                   | DATE |
| PROJECT QUARTER                   | DATE |
| PROJECT MERIDIAN                  | DATE |
| PROJECT TIER                      | DATE |
| PROJECT DISTRICT                  | DATE |

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MATCH LINE REFER TO SHEET A-20-010-S2



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**SITE LAYOUT AND UTILITIES PLAN  
 PROPOSED BUILDING ADDITION  
 52 NATIONAL DRIVE  
 PREPARED FOR  
 NEW ENGLAND TRAFFIC SOLUTIONS  
 GLASTONBURY, CONNECTICUT**

REVISIONS:

DATE: 10/26/2021  
 SCALE: 1" = 20'  
 SHEET 7 of 8  
**A-20-010-S/L**  
 FILE: 202202.DWG

**TOWN PLAN & ZONING COMMISSION APPROVAL**

PROPOSED BUILDING ADDITION / 52 NATIONAL DRIVE, LLC PE / DR-1

PROJECT / APPLICANT: 52 NATIONAL DRIVE ZONE

PROJECT ADDRESS: 52 NATIONAL DRIVE

SPECIAL PERMIT SECTION: 12.0 T.P.A.Z. CHAIRMAN

SPECIAL PERMIT APPROVAL DATE: COMMUNITY DEVELOPMENT DIRECTOR

FILE NO.:

NOTE: ALL SHEETS OF THIS PLAN SET ARE LOCATED IN THE OFFICE OF COMMUNITY DEVELOPMENT.

**UNDERGROUND UTILITY NOTE:**  
 UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENTAL AGENCIES, FROM PAROLE TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED AS APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO THE UNDERSIGNED. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG 1-800-322-4455 OR 811.

**INSPECTION NOTE:**  
 THE CONTRACTOR SHALL NOTIFY THE TOWN OF GLASTONBURY ENGINEERING DIVISION 24 HOURS PRIOR TO BEGINNING ANY STORM DRAINAGE, SANITARY SEWER INSTALLATION, ROADWAY PREPARATION, PAVING, SIDEWALK, CURBING, OR ANY EXCAVATION IN THE TOWN RIGHT-OF-WAY TO SCHEDULE INSPECTIONS. THE DIVISION CAN BE REACHED BETWEEN 8:30 AM - 4:30 PM MONDAY THROUGH FRIDAY AT (860)-652-7755.

REFERENCE IS MADE TO MAPS TITLED:

"MAP PREPARED FOR GLASTONBURY INDUSTRIAL PARK, INC. GLASTONBURY, CONN. PREPARED BY JOHN LUCKS, JR., L.S.#2744 SCALE: 1"=100' DATE: 3-28-87 REVISED THROUGH: 3-6-1979 BY LUCKS & BECKERMAN, C.E.'S PARCELS L & W SHOWN."

"PLAT PLAN PREPARED FOR N.A.C.M. GLASTONBURY, CT. PREPARED BY LUCKS & BECKERMAN CIVIL ENGINEERS-PLANNERS-LAND SURVEYORS GLASTONBURY, CONN. FILE NAME B-79-87-SP SCALE: 1"=40' DATE: 9-5-79."

THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-306-1 THROUGH 20-306-20 AND THE "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPTEMBER 26, 1996, AS AMENDED.

THE TYPE OF SURVEY PERFORMED IS A COMPILED PLAN.

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THIS SURVEY DOES NOT REFLECT A PROPERTY BOUNDARY OPINION.

THIS SURVEY CONFORMS TO HORIZONTAL ACCURACY CLASS A-2.

THIS SURVEY CONFORMS TO TOPOGRAPHIC ACCURACY CLASS T-2.

THIS MAP WAS PREPARED FOR THE PURPOSE OF PRELIMINARY SITE DESIGN.

TOPOGRAPHIC INFORMATION SHOWN PER TOWN OF GLASTONBURY AERIAL PHOTOGRAMMETRY UPLOADED BY LIMITED FIELD SURVEY.

"TO MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON"

THIS MAP IS NOT VALID UNLESS IT BEARS THE LIVE SIGNATURE AND SEAL OF THE UNDERSIGNED SURVEYOR.