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Stormwater Management Report

For the Proposed:

FedEx Gateway Building Expansion

Located at:

40 Kennedy Road
South Windsor, Connecticut

Prepared for Submission to:

Town of South Windsor, Connecticut

April 26, 2023

Prepared for:

FedEx Ground Package Systems, Inc.
1000 FedEx Drive
Moon Township, PA 15108

Prepared by:

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Hartford, Connecticut 06103
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BL Project Number: 2001752.14

Contents

Executive Summary

This report has been prepared in support of a Site Plan Modification Application for the proposed building expansion located at 40 Kennedy Road in South Windsor, Connecticut. The overall property is a 60.83-acre parcel in the Industrial (I) Zoning District of South Windsor and is currently operating as a FedEx Ground distribution center with associated paved parking, utility connections, stormwater management system, and landscaping. The Project scope will include the modifications to the Gateway Building on site which serves as an accessory use to the overall development. This building is used as the vehicular and pedestrian entrance to the secure facility site. The building expansion will require some minor modifications to the existing site parking areas, site lighting and sidewalk network. There will be minor modifications to the rim elevation of a catch basin as part of this project. The proposed building expansion site modifications will maintain the existing drainage patterns that exist on site today. There will be an overall decrease in impervious cover within the project area.

The proposed stormwater management system revisions are designed to be in general compliance with the 2002 State of Connecticut Guidelines for Soil Erosion and Sediment Control, the 2004 Connecticut Stormwater Quality Manual, and Town of South Windsor regulations.

Existing Site Conditions and Hydrologic Conditions

General Site Information

The project work area on the property is currently developed. The site is occupied by buildings, paved parking areas, drive aisles, walkways, and landscaped areas/islands. The proposed site area to be modified typically drains to the catch basins in the center of the parking area adjacent to the Gateway Building. The existing drainage structures eventually discharge into the operational stormwater basin on site.

No wetlands or watercourses are located within the surrounding project area limit of disturbance. Per the FEMA National Flood Hazard Layer FIRMette Map, the site resides in FEMA Flood Zone X (unshaded). This is defined as "areas determined to be outside the 0.2% annual chance floodplain. Zone X may have ponding and local drainage problems that don't warrant a detailed study or designation as base floodplain. A copy of the FEMA FIRMette Map is included in Appendix A for reference.

Existing Hydrologic Conditions

The following is a brief analysis of the existing project area as shown in the enclosed Existing Drainage Mapping (ED-1) Map, located in Appendix B. This map shows the limits of the proposed

building expansion and site plan modifications. The remainder of the property outside these limits will remain undisturbed as it exists today.

Existing Drainage Mapping (ED-1): The existing portion of the site that is located within the proposed project's construction limits that was analyzed totals 0.55 acres and is approximately 87.3% impervious. There are two catch basins located in the center of the drive aisles adjacent to the Gateway Building that collect and convey stormwater runoff to the existing operational stormwater basin on site. This portion of the site mainly consists of paved parking, building roof area, and concrete walkways. Pervious cover in this area exists within perimeter landscaped areas and parking lot islands.

Developed Site Conditions and Hydrologic Conditions

General Site Information

The project scope will add ±2,500 S.F. to the existing Gateway Building. The proposed project will extend the current Gateway Building to the south of the site and into the existing parking lot. The adjacent parking area will be modified to maintain a landscaped buffer between the building and the parking area and to maintain full traffic circulation through the parking area. There will be a total reduction to the parking totals on site of 14 passenger car spaces. The total number of ADA parking spaces will be maintained on site. There will be a large landscaped area to the south of the proposed building expansion that will decrease the impervious coverage on site to less than the existing conditions. The existing drainage patterns will remain the same as in the existing condition with all structures eventually draining to the existing stormwater basin.

Developed Hydrologic Conditions

The intent of the proposed site drainage is to mimic the existing drainage patterns to the maximum extent practical. Impervious area runoff on site within the project area will be clean or unchanged. The remainder of the on-site stormwater management system will not be modified by the proposed building expansion. Catch basins in the project area will be cleaned out upon construction completion. The following is a brief description of the surface cover as shown on the enclosed Proposed Drainage Mapping (PD-1) Map, in Appendix B.

Proposed Drainage Area 11 (PDA-11): This portion of the site that is located within the proposed project's construction limits that was analyzed totals 0.55 acres and is approximately 85.3% impervious. As in the existing conditions, this area will consist of the building roof areas, paved parking areas, and associated landscaped island areas. The proposed drainage system will maintain

the existing hydraulic patterns, with stormwater runoff being captured by on-site catch basins before flowing through the stormwater system as it did previously in existing conditions.

Table 1 – Pre and Post Development Drainage Characteristics.

Site Development Conditions	Total Area (square feet)	Impervious Area (square feet)	Impervious Cover (%)
Existing	23,995	20,945	87.3
Proposed	23,995	20,460	85.3
Difference	**-**	**- 485**	**- 2.0%**

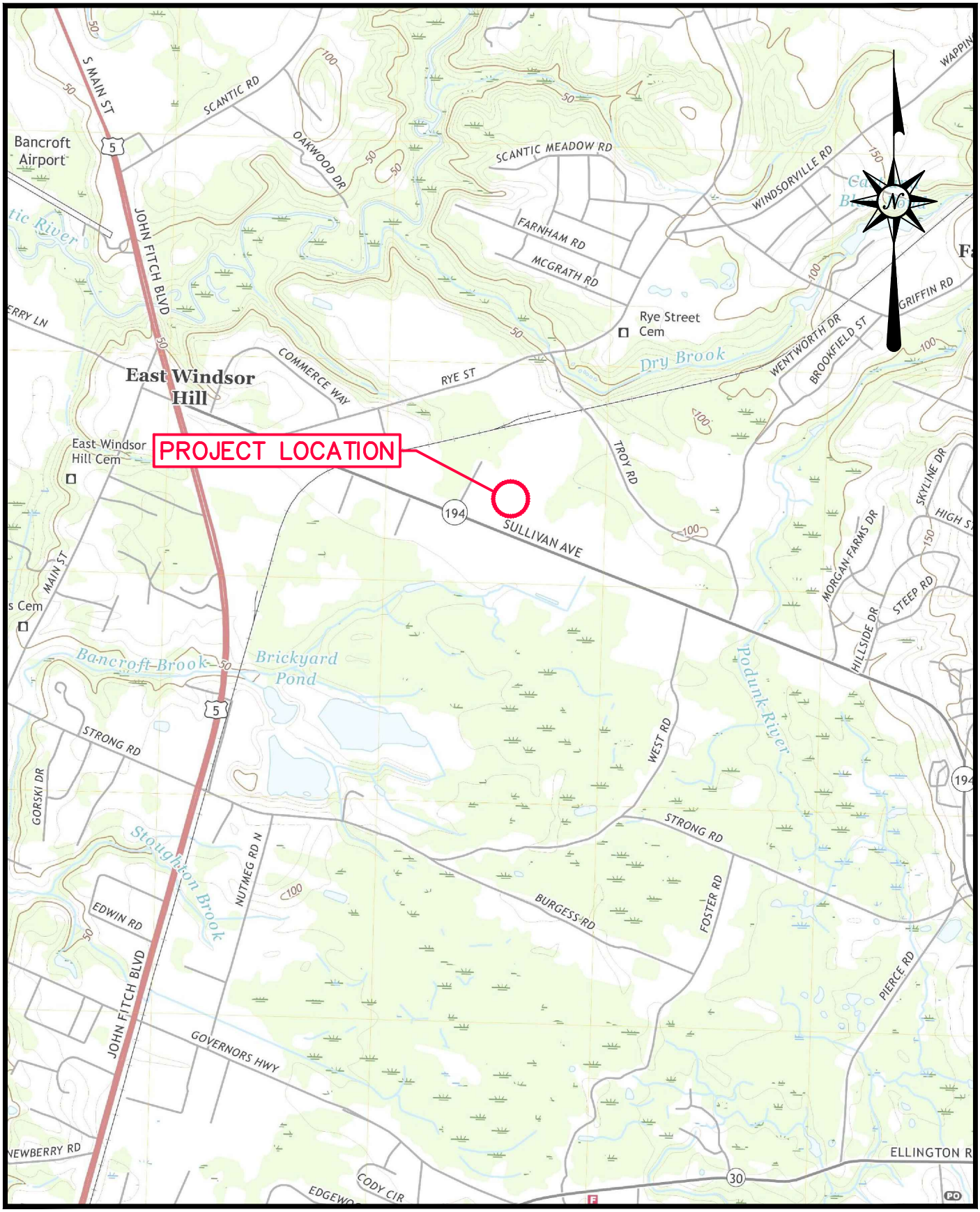
Summary

The proposed impervious surfaces on the site have been decreased which will reduce the runoff from the site. The existing stormwater management system will remain in place and continue to operate as originally designed. The remainder of the property will be unchanged and continue to function as it does today. All post development stormwater will be captured by the existing catch basin network and discharged through the stormwater management system as it does today. There will be no impact to the Town drainage system.

APPENDIX A

LOCATION MAPS

Figure 1: USGS Location Map
Figure 2: Aerial Location Map
Figure 3: FEMA Federal Insurance Rate Map



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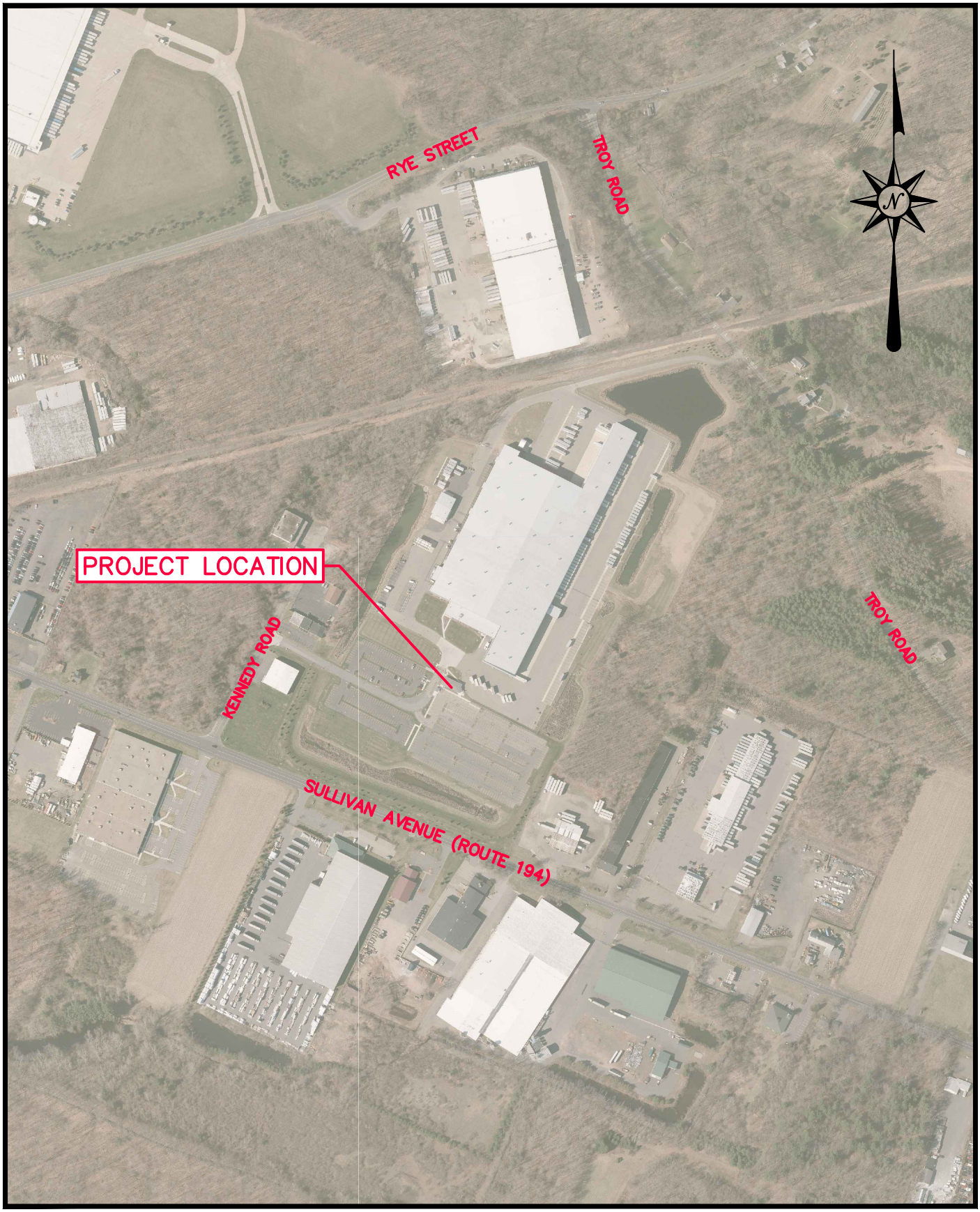
PROPOSED FEDEX GATEWAY BUILDING EXPANSION

40 KENNEDY ROAD
SOUTH WINDSOR, CT 06074

Designed	Z.T.Z.
Drawn	Z.T.Z.
Checked	J.A.B.
Scale	1"=2,000'
Project No.	2001752.14
Date	1/10/2023

FIGURE 1

USGS LOCATION MAP



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Drawn	Z.T.Z.
Checked	J.A.B.
Scale	1"=500'
Project No.	2001752.14
Date	1/10/2023

FIGURE 2
AERIAL LOCATION MAP

National Flood Hazard Layer FIRMette

FEMA

72°35'19"W 41°51'28"N

72°34'42"W 41°51'1"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

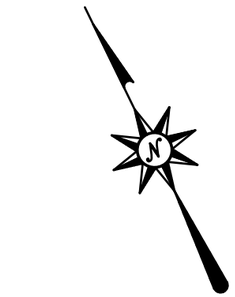
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/30/2022 at 10:03 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

APPENDIX B

DRAINAGE MAPS

ED-1 – Existing Drainage Mapping
PD-1 – Proposed Drainage Mapping



GRAPHIC SCALE

30 15 0 30

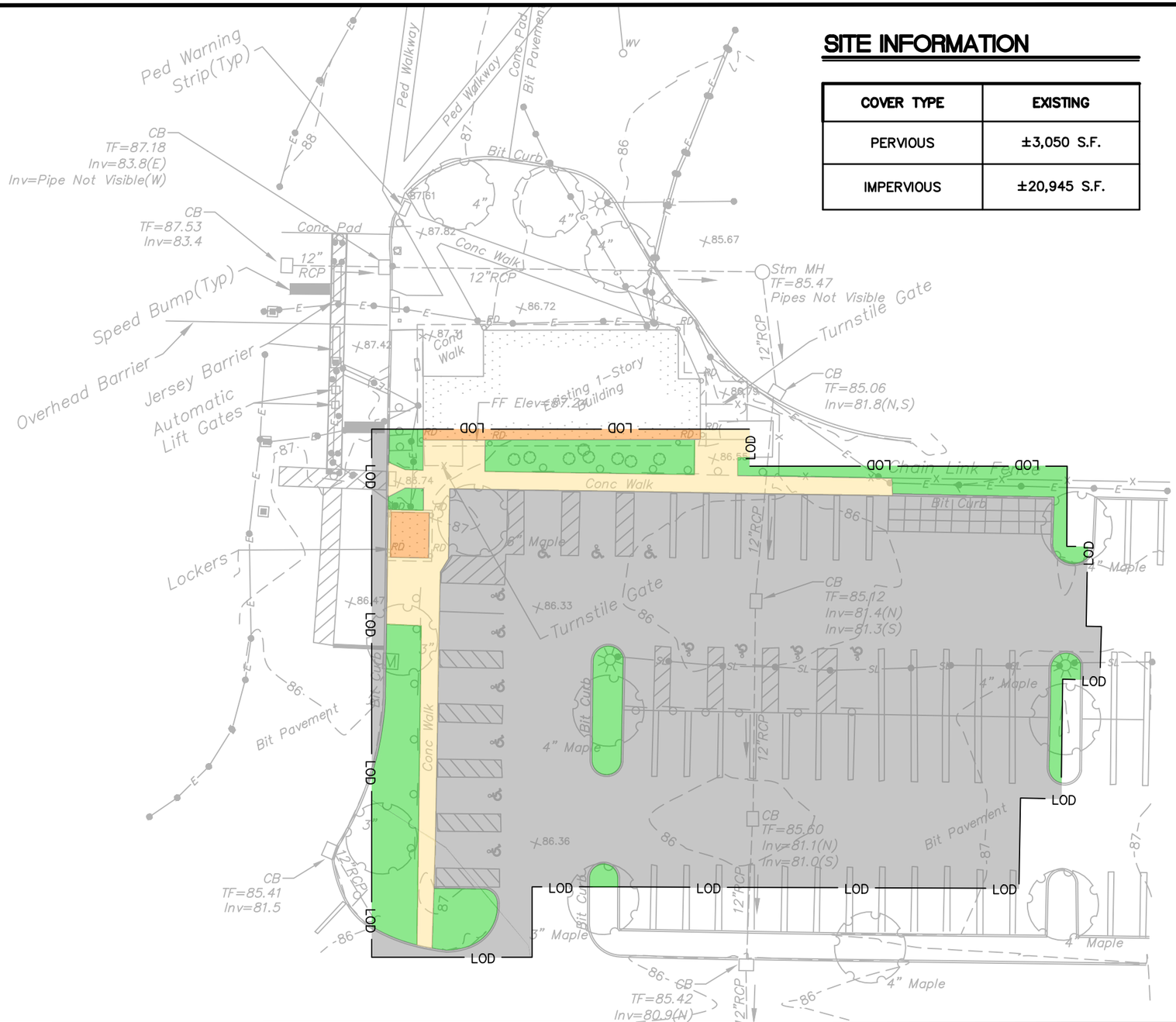
SCALE IN FEET

HYDROLOGY LEGEND

LOD	PROJECT LIMIT OF DISTURBANCE
	PAVEMENT COVER
	CONCRETE COVER
	BUILDING COVER
	PERVIOUS COVER (MULCH/GRASS)

SITE INFORMATION

COVER TYPE	EXISTING
PERVIOUS	±3,050 S.F.
IMPERVIOUS	±20,945 S.F.



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EXISTING DRAINAGE MAPPING

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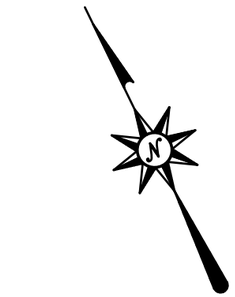
ED-1



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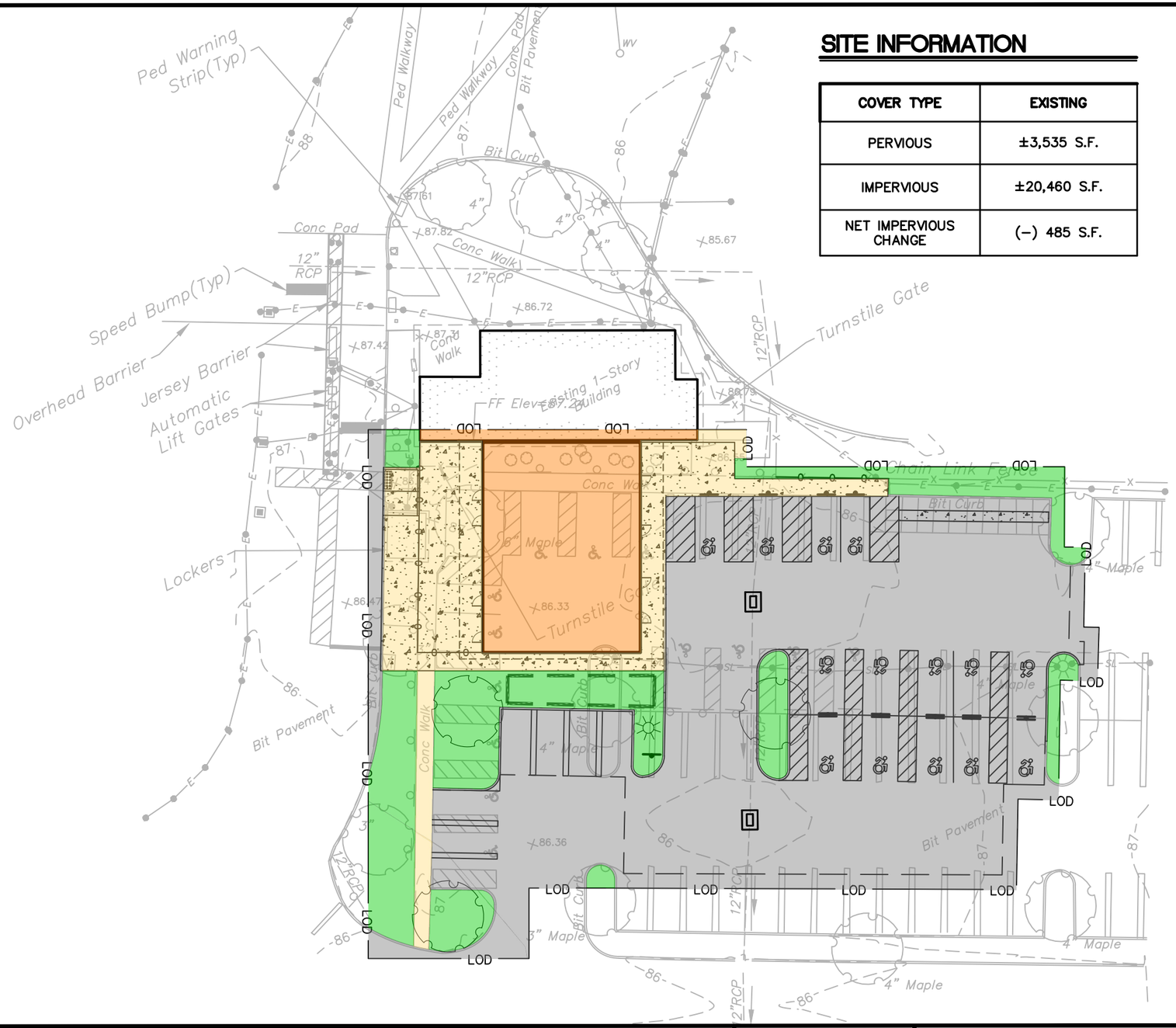

SITE INFORMATION

COVER TYPE	EXISTING
PERVIOUS	±3,535 S.F.
IMPERVIOUS	±20,460 S.F.
NET IMPERVIOUS CHANGE	(–) 485 S.F.

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PD-1