

# Attachment 20

DRAINAGE REPORT  
PREPARED FOR  
TOWN OF WESRON  
WESTON DOG PARK

EXISTING AND PROPOSED SITE CONDITIONS

LOCATED AT DAVIS HILL ROAD

WESTON, CT    COMPUTER UPDATE AUGUST 10, 2017

# TOWN of WESTON, CONNECTICUT



Incorporated 1787

Town Engineer's Office

## NARRATIVE

The subject of this report is a 3.5 acre proposed Dog Park to be located on Davis Hill Road in Weston. The purpose of this report is to determine the existing and proposed runoffs resulting from the proposed site improvements.

## EXISTING CONDITIONS

The subject parcel is located on the west side of Davis Hill Road. The site in question is located about two tenths of a mile south of the intersection of Lords Highway East and Davis hill Road. The parcel is currently vacant. The lot slopes toward Davis Hill Road.

Existing soils at this location, as identified in the Soil Survey of Fairfield County, Connecticut, consist of a combination of Charlton-Hollis and Paxton. The Hydrologic Classification of soils used in this report was "C".

The existing runoff as development from a 50 year type III 24-hr. rainfall event is 21.23 c.f.s.

## PROPOSED CONDITIONS

The proposal for this site is to construct 6,842 square foot gravel and paved parking lot and a 3.5 acre dog park which is to remain in its natural condition.

The proposed runoff from a 50-year rainfall event is 19.55 c.f.s.



## CONCLUSIONS

The proposed diversion of drainage from the parking area by use of swales towards the existing wetland reduces the amount of drainage entering the existing culvert adjacent the park entrance. This system will decrease the net peak runoff during a 50 Year storm to 19.55 c.f.s from its current peak of 22.23 c.f.s.

PRE CONSTRUCTION DRAINAGE  
CALCULATIONS WESTON DOG PARK

**Summary for Subcatchment 1S: (new Subcat)**

Runoff = 21.23 cfs @ 12.30 hrs, Volume= 2.321 af, Depth> 4.35"

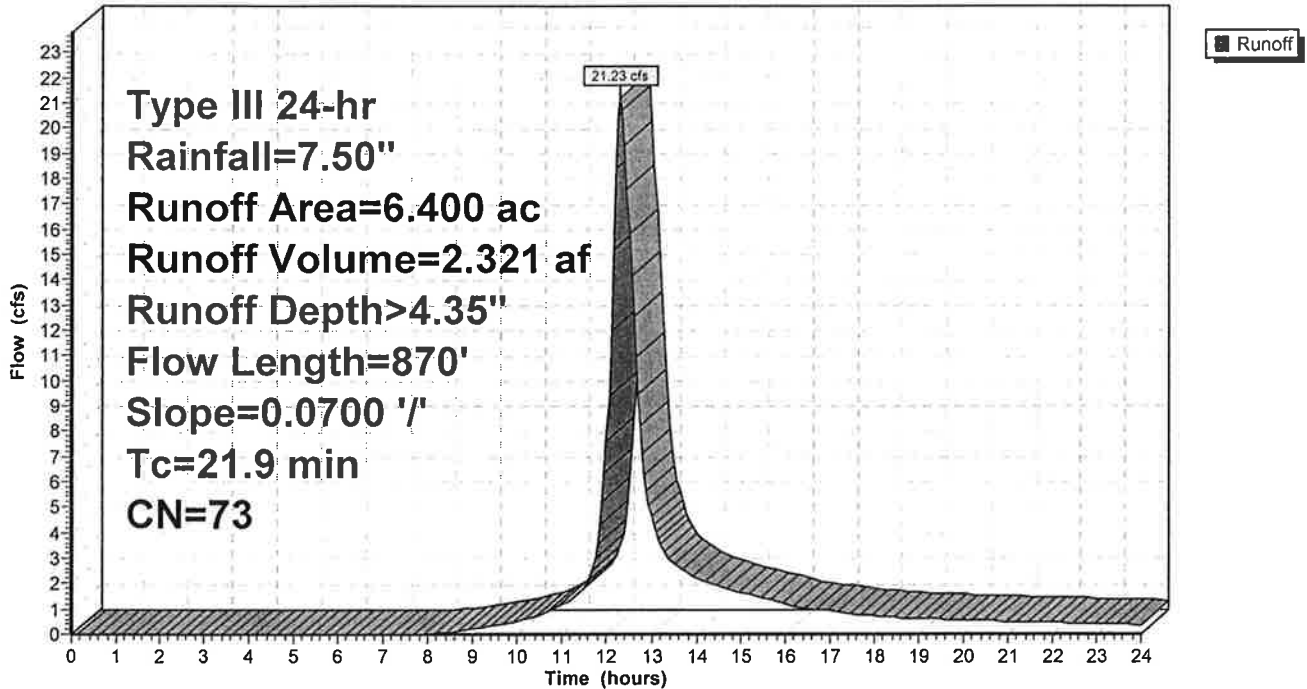
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
 Type III 24-hr Rainfall=7.50"

Area (ac)	CN	Description
* 6.400	73	Woods
6.400		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
21.9	870	0.0700	0.66		Shallow Concentrated Flow, Pre Construction Forest w/Heavy Litter Kv= 2.5 fps

**Subcatchment 1S: (new Subcat)**

Hydrograph



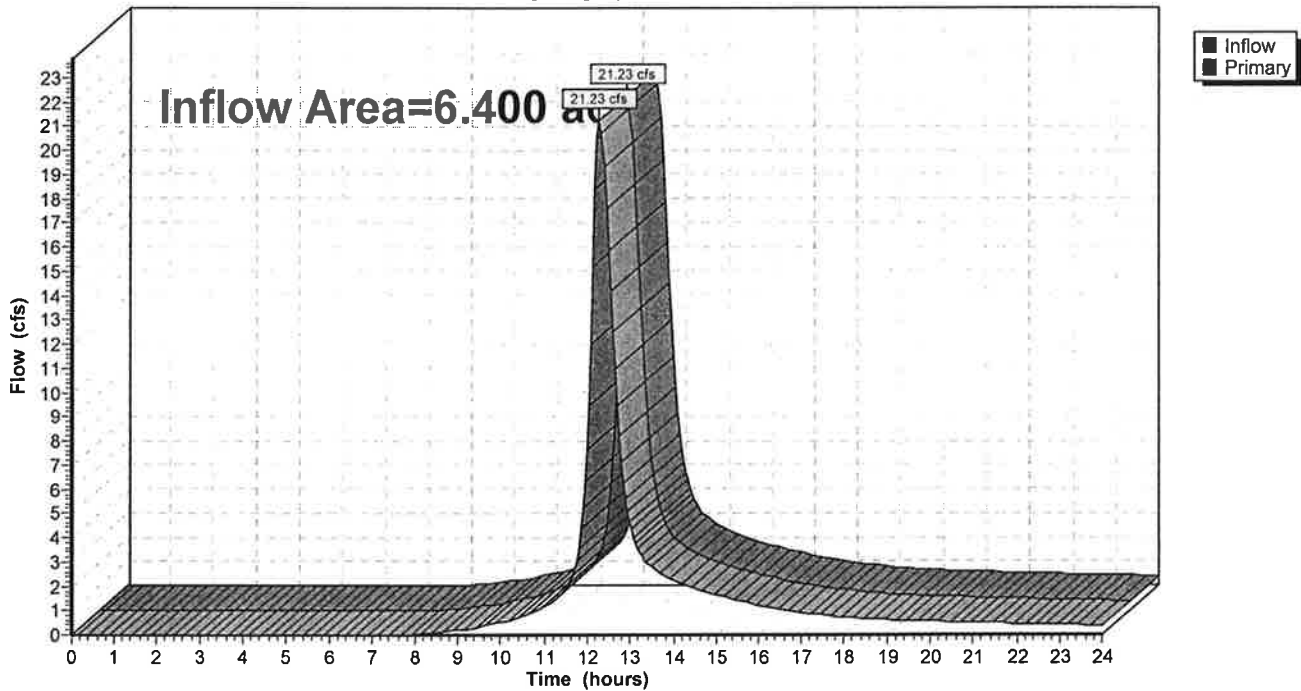
Summary for Link 3L: (new Link)

Inflow Area = 6.400 ac, 0.00% Impervious, Inflow Depth > 4.35"  
Inflow = 21.23 cfs @ 12.30 hrs, Volume= 2.321 af  
Primary = 21.23 cfs @ 12.30 hrs, Volume= 2.321 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: (new Link)

Hydrograph





**Weston Dog Park**

Prepared by Microsoft

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Type III 24-hr Rainfall=7.50"

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Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: (new Subcat)**

Runoff Area=6.400 ac 0.00% Impervious Runoff Depth>4.35"  
Flow Length=870' Slope=0.0700 1' Tc=21.9 min CN=73 Runoff=21.23 cfs 2.321 af

**Link 3L: (new Link)**

Inflow=21.23 cfs 2.321 af  
Primary=21.23 cfs 2.321 af

**Total Runoff Area = 6.400 ac Runoff Volume = 2.321 af Average Runoff Depth = 4.35"**  
**100.00% Pervious = 6.400 ac 0.00% Impervious = 0.000 ac**

**POAT CONSTRUCTION DRAINAGE  
CALCULATIONS WESTON DOG PARK**

**Weston Dog Park Two**

Prepared by Microsoft

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Type III 24-hr Rainfall=7.50"

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**Summary for Subcatchment 1S: (new Subcat)**

Runoff = 19.55 cfs @ 12.39 hrs, Volume= 2.377 af, Depth> 4.46"

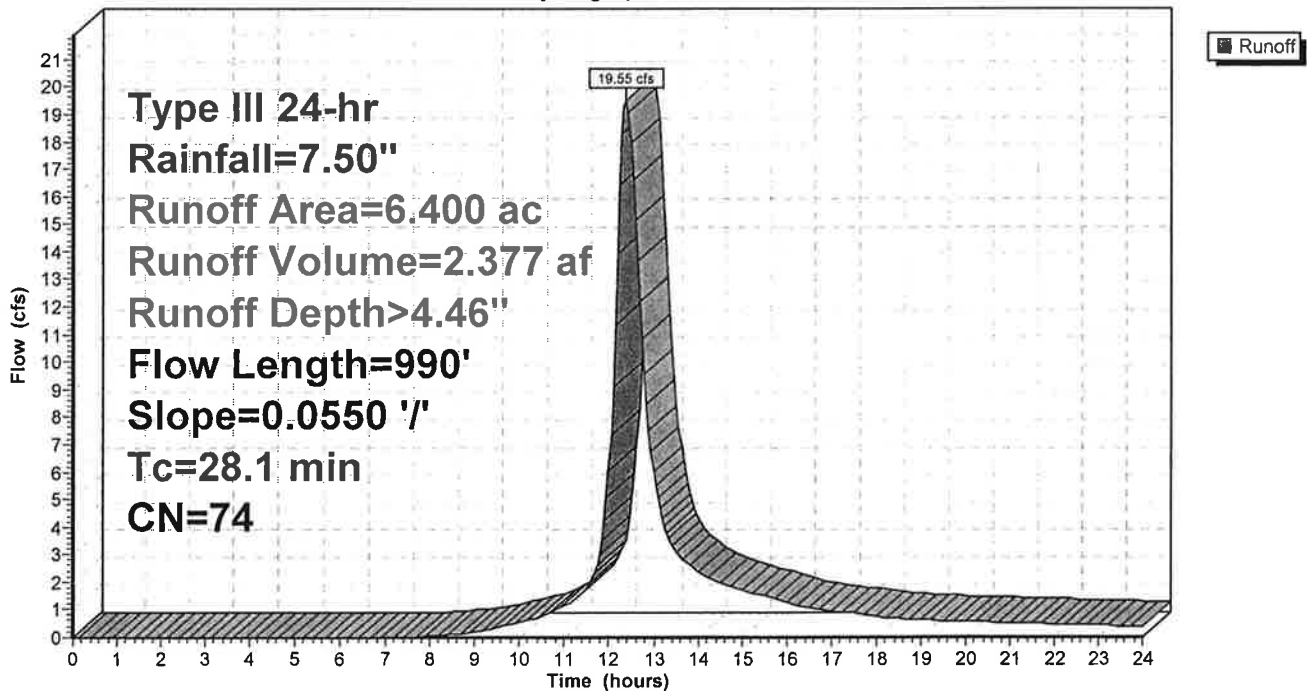
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs  
Type III 24-hr Rainfall=7.50"

Area (ac)	CN	Description
* 6.200	73	wood
* 0.040	98	Paved Acces Drive
* 0.160	89	Gravel Parking
6.400	74	Weighted Average
6.360		99.37% Pervious Area
0.040		0.63% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
28.1	990	0.0550	0.59		Shallow Concentrated Flow, Post Construction Forest w/Heavy Litter Kv= 2.5 fps

**Subcatchment 1S: (new Subcat)**

Hydrograph



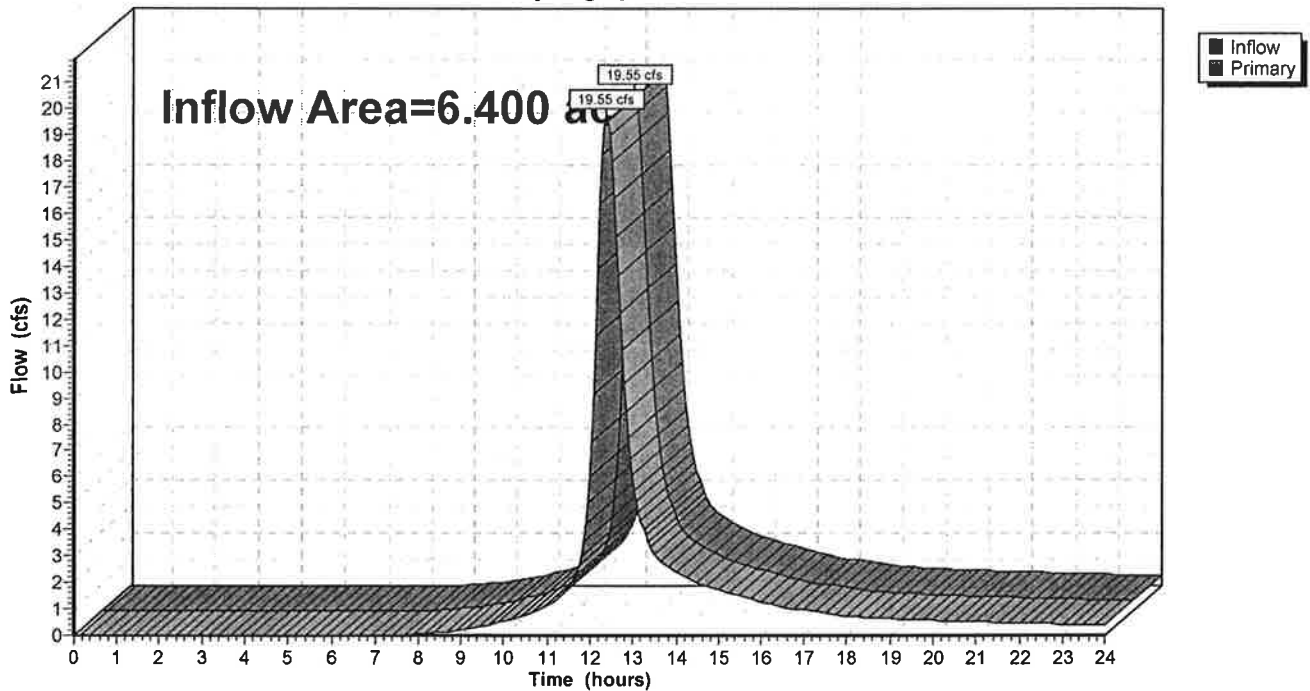
Summary for Link 2L: (new Link)

Inflow Area = 6.400 ac, 0.63% Impervious, Inflow Depth > 4.46"  
Inflow = 19.55 cfs @ 12.39 hrs, Volume= 2.377 af  
Primary = 19.55 cfs @ 12.39 hrs, Volume= 2.377 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 2L: (new Link)

Hydrograph



**Weston Dog Park Two**

Prepared by Microsoft

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Type III 24-hr Rainfall=7.50"

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Page 5

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: (new Subcat)**      Runoff Area=6.400 ac   0.63% Impervious   Runoff Depth=4.46"  
Flow Length=990'   Slope=0.0550 '/'   Tc=28.1 min   CN=74   Runoff=19.55 cfs   2.377 af

**Link 2L: (new Link)**      Inflow=19.55 cfs   2.377 af  
Primary=19.55 cfs   2.377 af

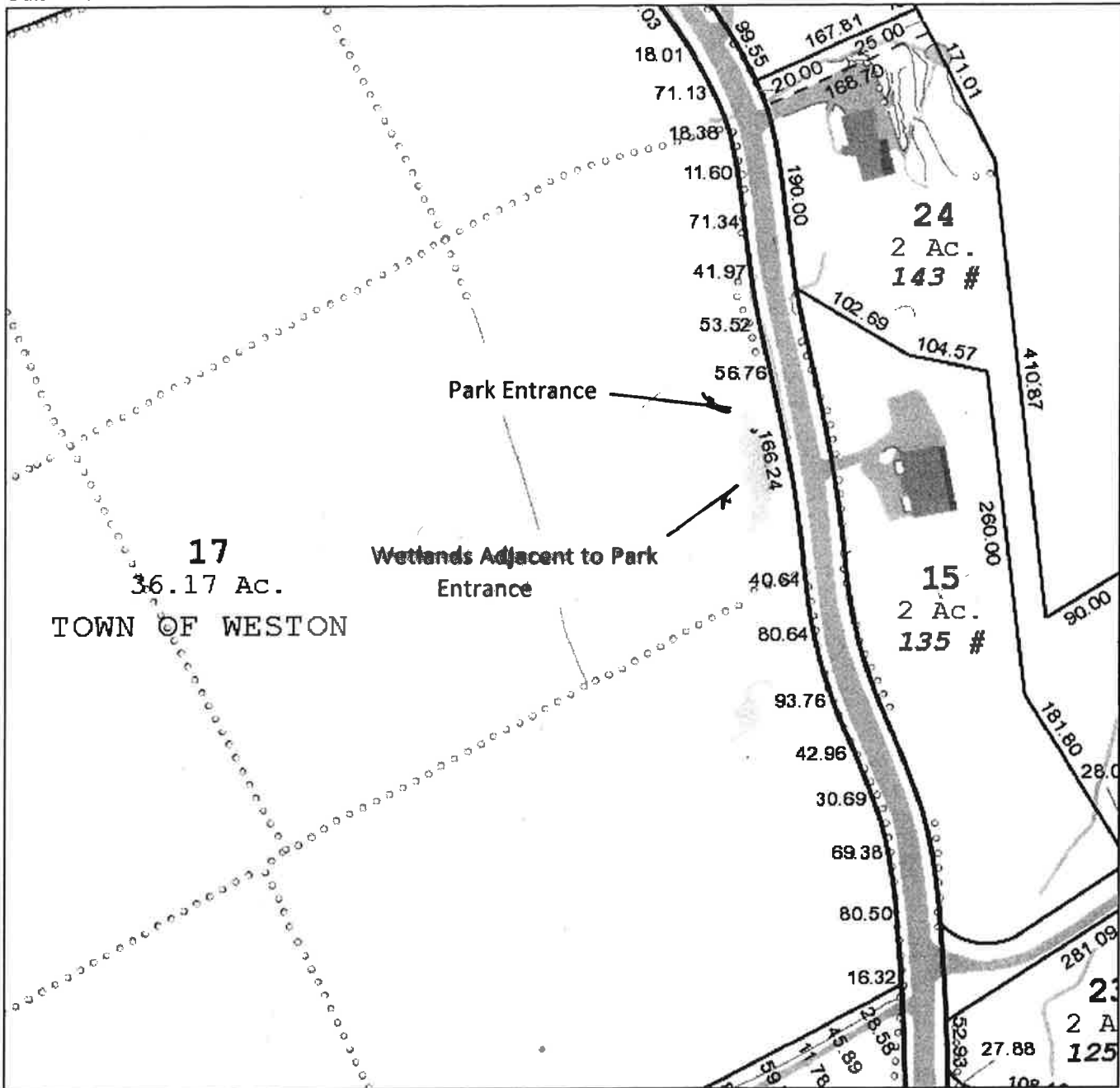
**Total Runoff Area = 6.400 ac   Runoff Volume = 2.377 af   Average Runoff Depth = 4.46"**  
**99.37% Pervious = 6.360 ac   0.63% Impervious = 0.040 ac**

# Town of Weston

Geographic Information System (GIS)



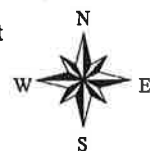
Date Printed: 8/10/2017



### MAP DISCLAIMER - NOTICE OF LIABILITY

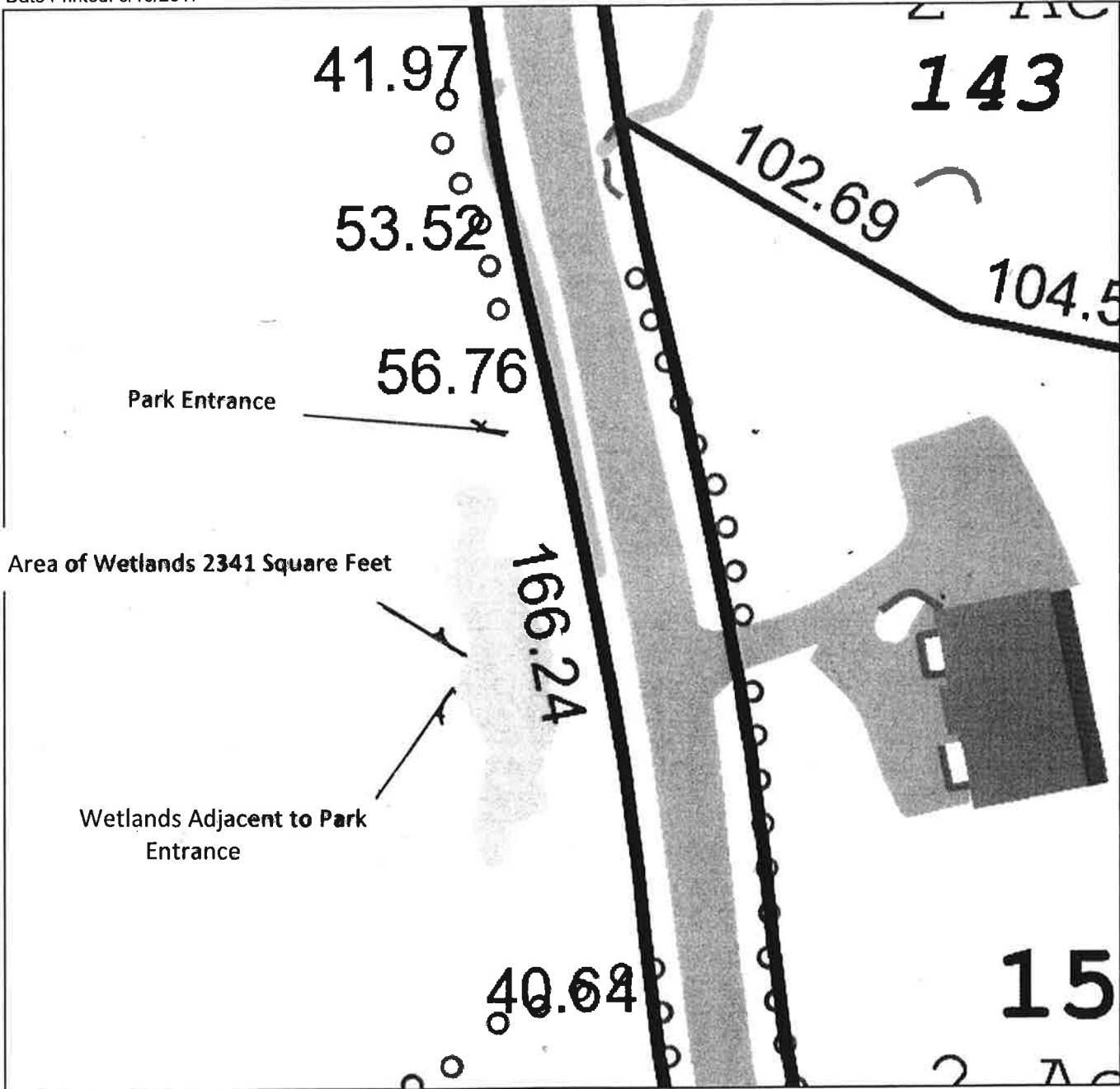
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Approximate Scale: 1 inch = 150 feet





Date Printed: 8/10/2017



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Approximate Scale: 1 inch = 50 feet

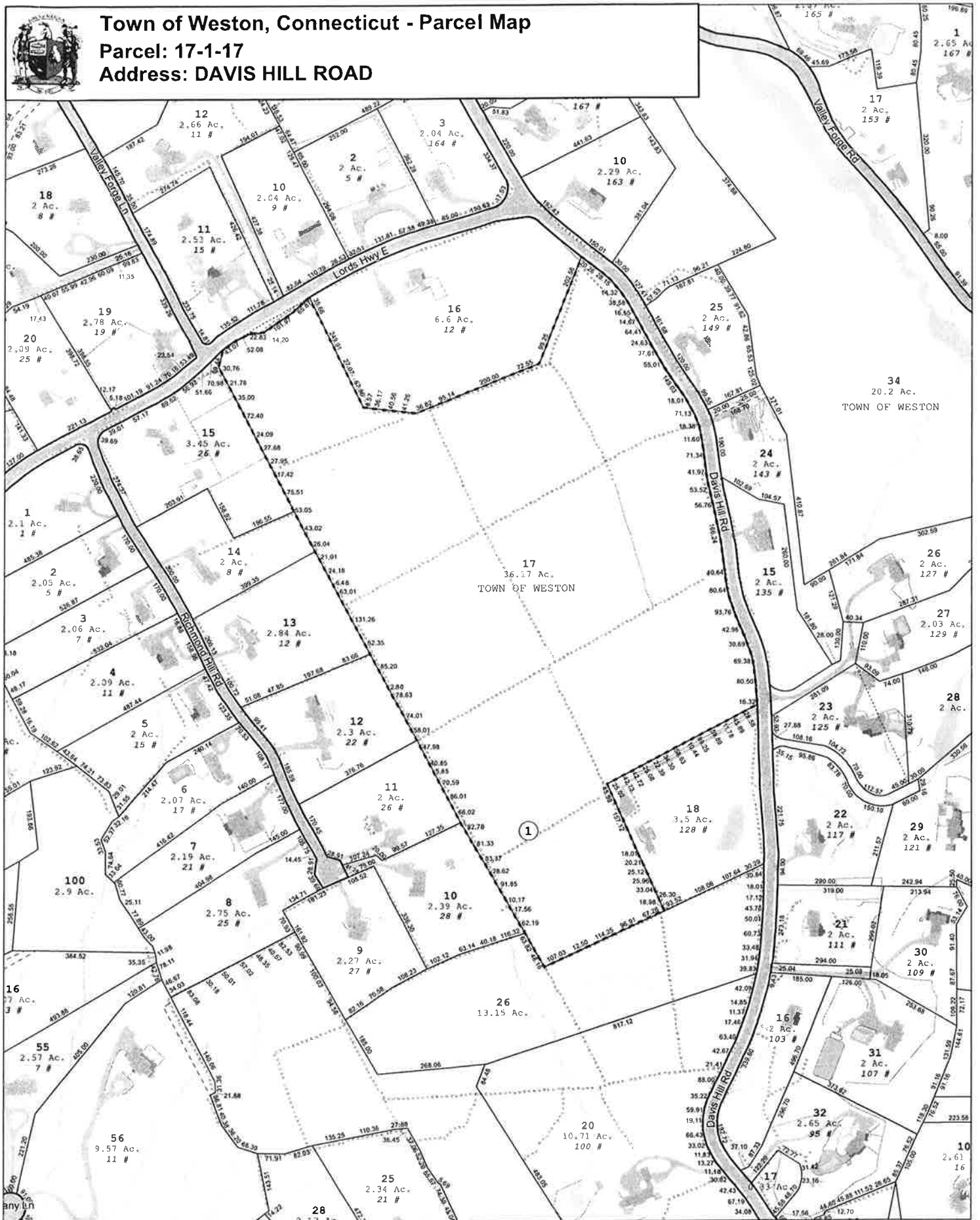




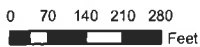
# Town of Weston, Connecticut - Parcel Map

Parcel: 17-1-17

Address: DAVIS HILL ROAD



Approximate Scale:



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Map Produced December 2015





