April 9, 2021

MEMORANDUM

INFORMAL DISCUSSION #1
MEETING OF 04-15-21

To: Conservation Commission/Inland Wetlands and Watercourses Agency

From: Tom Mocko, Environmental Planner

Re: **Proposed Subdivision of 55 Parker Terrace**, a 26, 951 square foot parcel, into **two frontage lots and** site plan for a **duplex residential dwelling** on the newly created vacant lot – Town Center and Town Center Mixed Use Zone – Dutton Associates, LLC – Trinkaus Engineering, LLC – **Jie Wand, landowner/applicant**

LOCATION: Please refer to the location map on the cover sheet of the plan set within your packet.

PROPOSAL: To subdivide the existing 0.6-acre lot into two lots in order to create a new building lot that will have a duplex house built on it, which requires a special permit. Sanitary sewers and public water supply are available.

REVIEW: This project lies within a higher-elevation floodplain of the Connecticut River; the regulated 100-year flood zone is at 28.0 feet above sea level and the upper limit of the non-regulated 500-year flood zone is at 30.0 feet. The land surface elevations at the site range from 28.2 to 31.45 feet.

The soil type of the site is mapped as the well-drained Agawam fine sandy loam on slopes between 0 and 3 percent. The underlying soils are believed to be that of fine-grained (silts or silt and clay) lake (Hitchcock) deposits.

Please refer to the set of plans within your packet or posted on the Town website. This proposal is rather small and uncomplicated. The project's small size on relatively flat land poses little concern with respect to soil erosion and sedimentation control; effective control measures should be routinely achieved without problems.

Stormwater management should also be attained with the proposed two rain gardens (aka bio-retention systems). Please see the attached, 1-page "Description" excerpt dated February 22, 2021 (aka drainage report) from Trinkaus Engineering, LLC; the Town's Engineering Department is working with the applicant's consultants to resolve some concerns with the content (assumptions and calculations) within the full report/analysis. Once these concerns are resolved, then the Engineering Department will issue its review memorandum to the

Conservation Commission, and then scheduled for its formal recommendation to the Town Plan & Zoning Commission.

No wetlands permit is required.

A "stake-out" plan follows this memorandum. This plan represents where the surveyors accurately staked the new lot's house and rain garden features.

TM:gfm

LOW IMPACT ~ SUSTAINABLE
LID DEVELOPMENT
TRINKAUS ENGINEERING

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http://www.trinkausengineering.com

February 22, 2021

Description:

A new building lot is being created by a "first division" of property. At the current time, there are two drainage areas (Area #1 & Area #2). Under post-development conditions, there are three drainage areas (Area #3 (By-pass area), Area #4 (to Bioretention System #2), & Area #5 (to Bioretention System #1)).

Bioretention #1 will take runoff from the roof drains on the front of the existing house. Runoff from the driveway on the new lot as well as the roof drains will be conveyed to Bioretention #2. These systems will fully infiltrate all runoff into the underlying sandy soils. Summary of pre-development and post-development runoff rates for the WQ Storm, 2-year, 10-year, 25-year, 50-year, and 100-year rainfall event using NOAA 14 data.

Table 1 – Summary Data (all values in cfs)

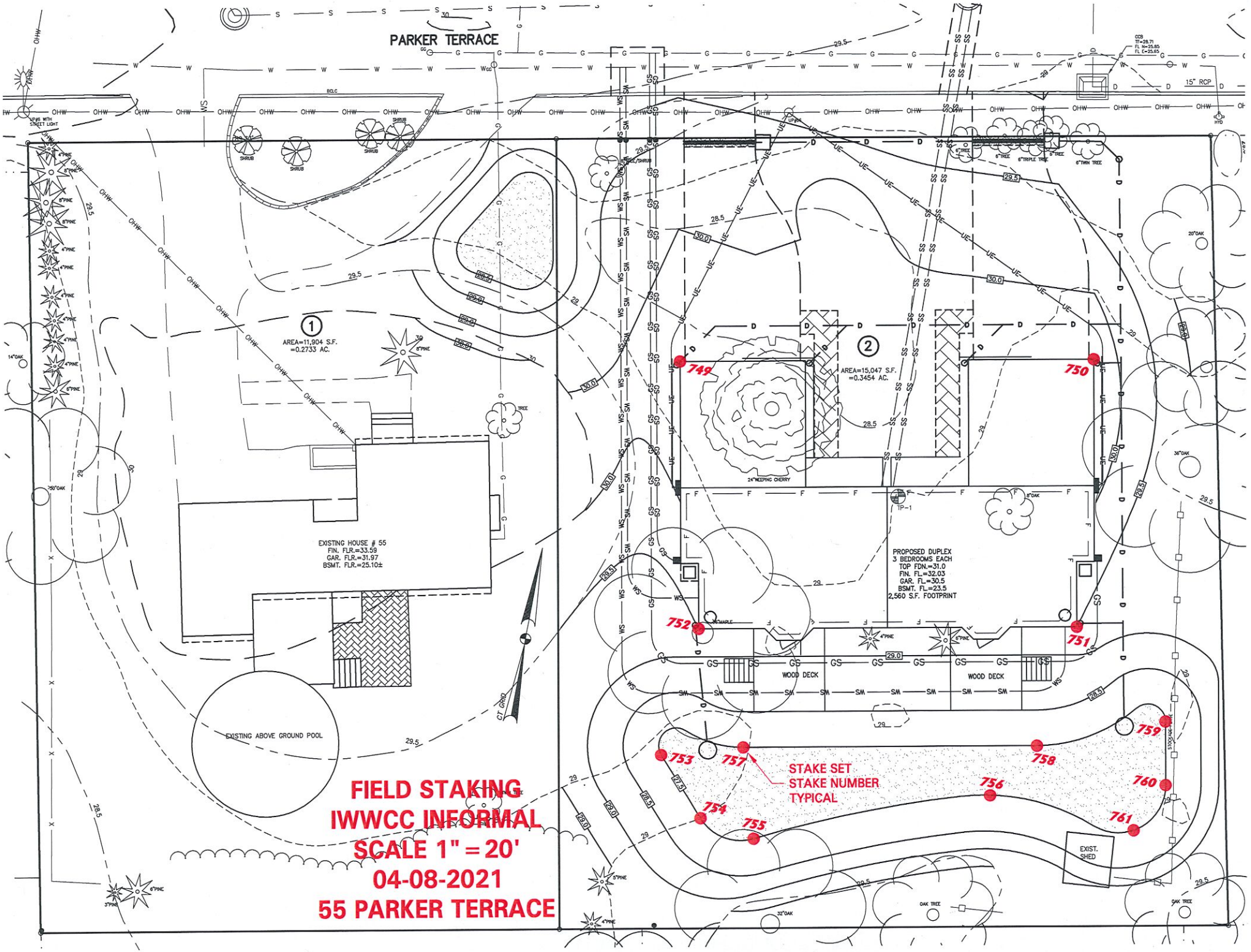
Storm Event	Pre-development	Post-development
WQ Storm	0.0	0.0
2-year	0.0	0.1
10-year	0.1	0.3
25-year	0.3	0.5
50-year	0.5	0.7
100-year	0.8	0.8

Hydrologic analyses were performed using the TR-55 methodology within the HydroCAD program for the required storm events. It is important to understand that the original TR-55 methodology which was calculated by hand using tables and charts only allowed the computation of the peak rate to the nearest whole number and nothing more than that. The computer allows computations with values to the right of the decimal point, but the accuracy of the TR-55 model is limited to the value to the left of the decimal point.

Both bioretention systems will fully infiltrate all runoff up to and including the 100-year rainfall event.

Conclusion:

The two Bioretention systems will not only provide a reduction in the peak rate of runoff, but will filter the runoff reducing non-point source pollutant loads and reduce runoff volumes.


PARKER TERRACE
1
AREA=11,904 S.F.
=0.2733 AC.
2
AREA=15,047 S.F.
=0.3454 AC.
EXISTING HOUSE # 55
FIN. FLR.=33.59
GAR. FLR.=31.97
BSMT. FLR.=25.10±
PROPOSED DUPLEX
3 BEDROOMS EACH
TOP FDN.=31.0
FIN. FL.=32.03
GAR. FL.=30.5
BSMT. FL.=23.5
2,560 S.F. FOOTPRINT
EXISTING ABOVE GROUND POOL
WOOD DECK
WOOD DECK
749
750
751
752
753
754
755
756
757
758
759
760
761
STAKE SET
STAKE NUMBER
TYPICAL
EXIST.
SHED
FIELD STAKING
IWWCC INFORMAL
SCALE 1" = 20'
04-08-2021
55 PARKER TERRACE