# SPRUHAN ENGINEERING, P.C.

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Arlington Department of Planning and Community Development (DPCD)
730 Massachusetts Ave,
Arlington, MA 02476

RE: 1513-1519 Massachusetts Avenue,
Arlington, MA

The purpose of this letter is to give a brief description of the civil engineering design for the proposed project located at 1513-1519 Massachusetts Avenue, Arlington, MA.

The property is located in Massachusetts Avenue Between Lancaster Road and Hilbert Street. The existing property is bounded by residential dwellings on the sides. The existing roof area on the lot is 2039.95 S.F., the existing paved area is 1482.24 S.F., the existing impervious areas are 259.07 S.F., and the existing landscaped areas on the lot are 5,193.74 S.F. There is currently no infiltration system.

The development consists of a proposed 2 story dwelling, 5 Units, 1 garage and commercial level, and landscaped areas. The total proposed development roof will have an area of 4,677.02 S.F, the remaining impervious will have an area of 1181.78 S.F. and the remaining landscaped portion will have a footprint of 3,116.20 S.F.

The building will contain the utilities services described below:

• A new subsurface infiltration system composed of 12 Stormtech units and crushed stone pit below to capture the runoff from the site.
• A new 6'' sewer line connected to the sewer main at Massachusetts Avenue.
• A new 1'' water line connected to the water main at Massachusetts Avenue.
• A new 2'' Fire line connected to the water main at Massachusetts Avenue.
• A new 6'' drain overflow line connected to the drain main at Massachusetts Avenue.

In accordance with Section 2-(D)(1) of the City of Arlington stormwater management rules & regulations, the proposed development requires a major stormwater management permit because it will increase the amount of impervious surface at the Property by more than 1000 SF. Spruhan has designed the proposed stormwater management system to meet these standards.

The proposed infiltration system consists of 12 Stormtech Chambers embedded in a crushed stone pit with an overflow connection to the City's drainage system and is designed to control

the runoff from the site for the 2, 10, 25, and 100-Year 24-hour duration storm events and retain and infiltrate the storm of the large storm event after Arlington city requirements which will substantially improve drainage at the property.

The reduction of run-off for all storm events are show in the table below:

| | **Summary Table** | | | |
|---|---|---|---|---|
| | Runoff Flow Rate | | Volume of Runoff | |
| | EXISTING | PROPOSED | EXISTING | PROPOSED |
| 2-Year Storm | 0.28 cfs | 0.00 cfs | 1,006 cfs | 31 cfs |
| 10-Year Storm | 0.50 cfs | 0.04 cfs | 1,850 cfs | 181 cfs |
| 25-Year Storm | 0.69 cfs | 0.09 cfs | 2,452 cfs | 320 cfs |
| 100-Year Storm | 1.0 cfs | 0.18 cfs | 3,454 cfs | 579 cfs |

The runoff is going to be captured through downspouts. The proposed infiltration system is designed to provide a total storage of 2,511 CF and the total storage required for a 1.0-inch storm is 488.25 CF.

The proposed infiltration system complies with the City of Arlington stormwater management standards.

An Operations & Maintenance plan is provided for the information of the maintenance of the drainage system.

If you have any questions or desire additional information, please feel free to call.

Sincerely,

Edmond Spruhan
617-816-0722

