



JAMES J. BENES AND ASSOCIATES, INC.

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MEMORANDUM

Date: October 23, 2014

To: Mr. Martin A. Scott
Director of Community Development
Village of Western Springs

From: Daniel H. Schoenberg, PE.
Project Engineer

Re: Project No. 690.169
5400 block Franklin
Side Yard Drainage

Per your request we met with several residents along the 5400 block of Franklin Avenue who reported water entering basements during the extreme storm event of late August. Many residents have lived on this block for some time. Although there have been reports of occasional street flooding, the depth to which water ponded in late August was unprecedented in memory. Village gauges suggest over 4" of rain fell within a 45 minute period which has far less than a 1% chance of happening in any year. This intensity far exceeds the capacity of the storm sewer system. Based upon interviews with neighbors, the water was several feet deep at the lowest point. From what data we gathered water crested on south of 5400 Franklin then flowed overland to the west toward Caroline.

The residence at 5400 Franklin was replaced in 2005. The approved plans showed an overflow path on the south side of the building. Water runoff then drains north to the existing inlet off-lot. The south flow path was lower than the window wells by three to six inches. We re-surveyed the drainage path and discovered that over time the path has changed. The ridge line, that is, the high point to which water can pond has increased. This high point elevation is above the window wells to 5400 Franklin and its garage floor. During the August storm event, water ponded high enough to break the window wells and to enter the garage.

It is essential that an overland flow route be established around the house so water can pass at a lower elevation than today. Several properties are at risk, but 5400 is most vulnerable to ponding water. Water cannot pond higher than its tops of the window wells and garage floor. Attached is an aerial photograph locating this proposed improved overland drainage path. A profile is also attached, providing a view as if the path were sliced longitudinally. The vertical scale of the profile has been greatly exaggerated to illustrate differences in elevation. Several inches of material must be removed in some places. There are many choices in creating a new drainage path. The cross section can be rectangular or trapezoidal. Many surfaces for the path are possible. These surfaces must be resistant to the movement of water, so the use of wood mulch is strongly discouraged. Attached are examples of reinforced drainage paths from other sites.

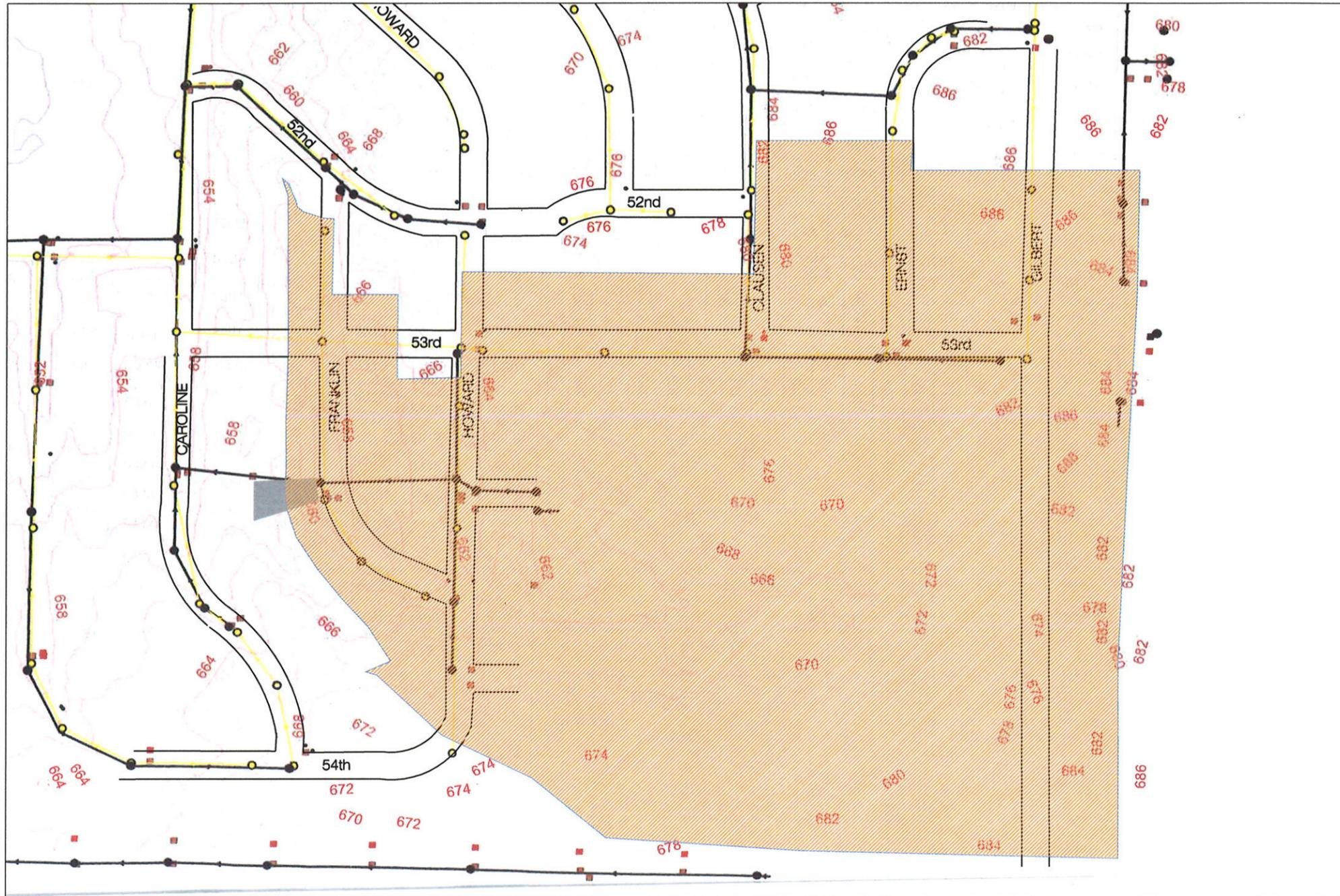
We looked at other possible locations for this overland path, but determined they are too heavily landscaped to attempt cutting a path. The storm sewer system was checked for its condition after the August event. There were no obstructions, but our investigations found the outfall of

the pipe at Flag Creek was underwater by over seven feet which would have reduced the capacity of the pipe system.

We recommend the Village consider a higher capacity inlet grate at the corners of 5400 Franklin, 5323 Caroline and 5329 Caroline less prone to clogging. There were reports that this structure became clogged with leaves and debris during the storm.

The cost of constructing the improvement and procuring any necessary easements, agreements, and permits is the responsibility of the home owner.

Should you have any questions, please call.



690.169



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VILLAGE OF WESTERN SPRINGS

DRAINS TO 5400 FRANKLIN AVENUE

DRAWING NO.
 1 OF 1



690.169

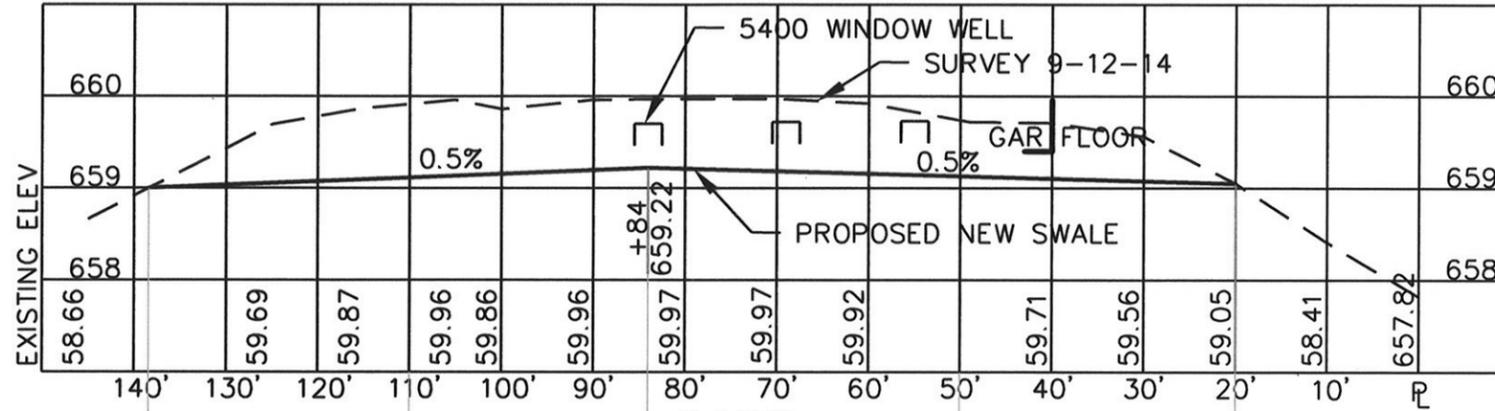
JJB
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VILLAGE OF WESTERN SPRINGS

5400 FRANKLIN AVENUE

DRAWING NO.
... 1 ... OF ... 1 ...

5329



1"=2' VERTICAL
1"=20' HORIZONTAL

5400

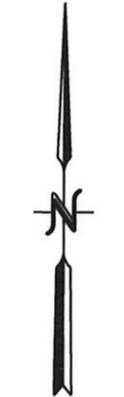
OFF LOT INLET

EXISTING 30" STORM SEWER

5400

FRANKLIN AVENUE

BENCHMARK
RIM=656.67



1"=20'

5333

x659.00

x659.11

x659.22

x659.13

x659.06

PROPOSED IMPROVED OVERLAND FLOW ROUTE

HIGH POINT BELOW GARAGE FLOOR AND WINDOW WELLS

690.169



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5400 FRANKLIN AVENUE

DRAWING NO.

1 OF 1



Drainage Path
5518 S. Garfield Street, Hinsdale



Landscaping detail
5518 S. Garfield Street, Hinsdale



Swale detail
600 52nd Place, Western Springs



Detail near garage
286 Gatesby Road, Riverside



Detail looking downstream
286 Gatesby Road, Riverside