



Drainage Complaint Analysis:

500 Glass Street-

City of City of Mount
Pleasant



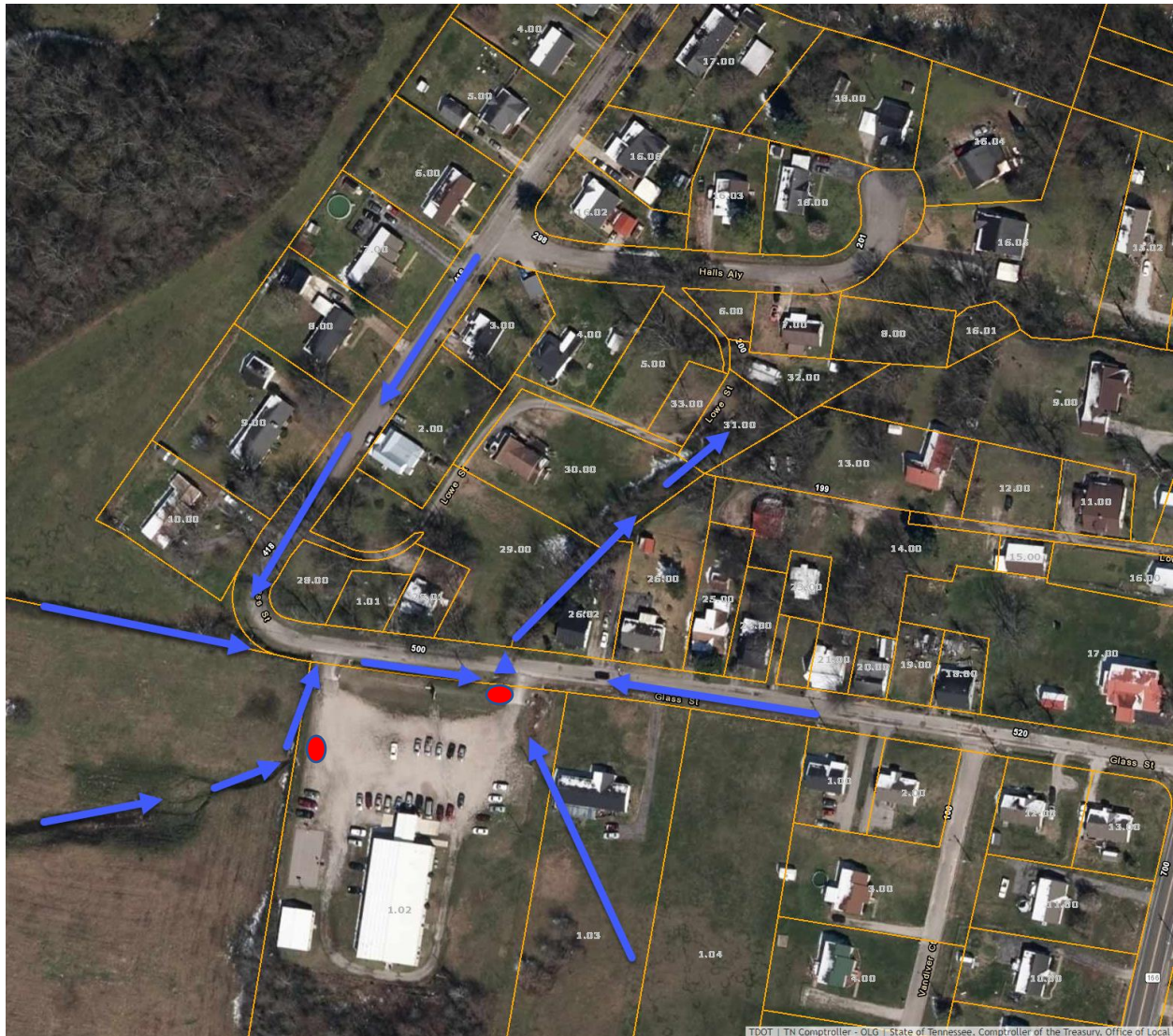
Municipal Technical Advisory Service
INSTITUTE *for* PUBLIC SERVICE

The Municipal Technical Advisory Service was asked to review and analyze a drainage complaint received by the City of Mount Pleasant in response to “flooding” on Glass Street in Mount Pleasant.

Based on my field visit and the responses what I have been told by the City, the flooding occurs during relatively short, but extremely intense rainfall events.

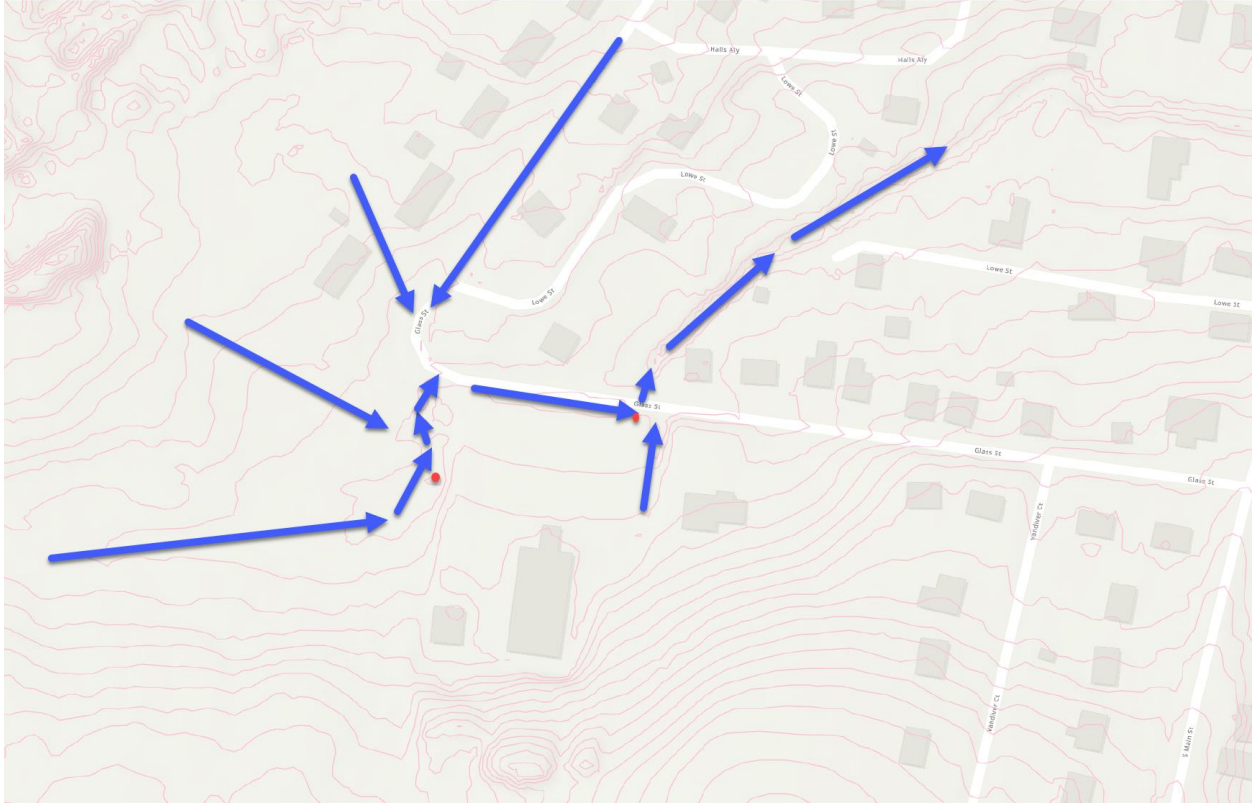
These brief, intense rains have exceeded the capacity of the drainage infrastructure associated with the city street in the area of concern. The stormwater in the side ditches has overtopped the culvert of a driveway entrance and caused scouring and subsequent damage to the entrance.

The complainant is the Glass Street Church of Christ, which is located at 500 Glass Street.



Pic. 1

The Church has two entrances on Glass Street. An aerial view of the location is provided in Pic. 1. The blue arrows generally depict the direction that drainage flows.



Pic. 2

Pic. 2 provides a 2 foot contour map of the subject area and confirms the drainage patterns depicted in Pic. 1.

My field visit and questions answered about the historic drainage of the property leads me to believe that original drainage patterns on the Church property were changed when the Church developed the property, and these changes are the cause of the “flooding” on the Church property.

The two entrances that the Church maintains on Glass Street are shown in Pic. 1. The complaint, as I understand it, is that water that flows down the portion of Glass Street that runs roughly northeast to southwest, along with the other drainage from areas to the west and southwest, is overwhelming and scouring and eroding the west entrance to the property.

Now, as I understand further, the ditch that runs in a northeasterly direction until it reaches the western property line of the Church and turns north, used to continue across the Church property and connect the two red dots shown in Pic. 1. The portion of the ditch between the red dots was filled and the flow was subsequently diverted to the northwest corner of the property. When the ditch was in its original channel, the flow was carried under Glass Street in a large culvert and from there it continued in a ditch flowing in a northeasterly direction as shown in Pic. 1.



Pic. 3



Pic. 4



Pic. 5

In Pic. 3, 4, and 5, the driveway culvert that replaced the large natural channel originally carrying drainage across the property to the large culvert running northeast under Glass Street is shown. In my professional opinion the driveway culvert shown is inadequate to meet the drainage requirements at this location.

The arrows in Pic. 1 and Pic. 2 depict the flows that come from several directions to combine and then attempt to flow through the pipe beginning at the headwall on the west corner of the west entrance to the property. These combined flows flow through said culvert and, in the event of a large enough rainfall event, overflow the culvert, into a shallow swale running easterly on the south side of Glass Street in front of the Church. Please note that in Pic 5 the opening of the culvert is obscured by overgrown vegetation in the ditch that likely is also contributing to poor flow of the drainage system while serving as an impediment or partial obstruction during storm events.



Pic. 6

The shallow swale terminates at the entrance (Pic. 6) to a structure that functions to drain the swale to its west, carry drainage under the east entrance to the property, drain a ditch on the east property line

(Pic. 7) of the Church and directs all of the drainage into the previously mentioned large culvert that runs under Glass Street at this point to connect with the ditch flowing in a northeasterly direction.

It was also noted that the drainage inlets within the site itself were not able to function as designed, because the design included a paved parking lot with a curb. The paving and the curb has never been installed, so the inlet opening are at an elevation above the surrounding ground surface. Between that and no other stormwater management provisions on the property, the interior drainage of the property itself also contributes to the problems.



Pic. 7

This then, leads me to the conclusion that the drainage problems at 500 Glass Street are directly attributable to the actions of the property owner and not the fault or responsibility of the City.

Any work on the part of the City to address this problem for the property owner would violate Tennessee's Public Purpose Doctrine.

Article II, § 29, of the Tennessee Constitution provides that "The General Assembly shall have power to authorize the several counties and incorporated towns in this State, to impose taxes for County and Corporation purposes, respectively..." From this clause the courts have developed the public purpose doctrine, which dictates that public funds can be used only for public purposes. Courts have reasoned that as taxes can be levied for only corporation or public purposes, expenditures can legally be made for only those same purposes. A public purpose that will justify the expenditure of public funds generally means an activity that serves as benefit to the community as a whole and at the same time is directly related to a function of government. Pack v. Southern Bell Tel. & Tel. Co. 387 S.W.2d 789 (1965). Incidental benefit to an individual or individuals will not invalidate an expenditure, but the primary purpose must be to benefit the public. City of Chattanooga v. Harris, 223 Tenn. 51, 442 S.W.2d 602 (1969).

Conversely, any damage to Glass Street or other property owners caused by the drainage situation that this property owner is responsible for would be the Church's liability.

