



Technical Memorandum

Date : March 20, 2026

To : City of Waukesha Engineering Staff

From : Trio Engineering, LLC

Subject: **Proposed Intersection Geometry at Country Crest Land, ProHealth Access Drive, and Future Residential Road.**

CC: City of Waukesha, Smart Family Trust, and ProHealth.

Purpose

Provide background for and benefits of the **Proposed Tee Intersection** at Country Crest Lane and the southern entrance into the ProHealth Campus. While tee intersections are common within the City, the unique context of two legs being public road and one leg being a private drive warrants additional supporting information. **Overall, the primary goal of this geometry is to direct traffic from USH 18 to the ProHealth Campus and to discourage cut-through traffic through future residential areas.**

Background

- The Smart Family Trust has coordinated with City staff for many years regarding development of this land. The current road layout, including the proposed tee intersection, has been the proposed plan since 2020.
 - WisDOT requires USH 18 access to align with Country Crest Lane, as shown on the plan. *Torhorst Road will not be the through public road.*
 - This road geometry was followed for installation of the sanitary sewer to Woodland Hills in 2022
- The current project proposes to construct a new public road to USH 18 and install the regional storm water management in this area. The project will provide access from USH 18 to the expanded ProHealth campus along Meadowbrook Road (STH 318).
 - ProHealth will work with the City separately on plans for their campus.
- The ProHealth campus will be the primary traffic generator for this segment of road.
- The Smart family envisions a future residential development along the steeply sloped public road between the Proposed Tee Intersection and Coldwater Creek Drive.
 - The goal is to give this residential development an identity separate from ProHealth.
 - The geometry intends to calm traffic, slowing speeds and discouraging cut-through in the residential area.

Benefits

1. **Separation of residential and institutional traffic** – In the full buildout, per the preliminary TIA, the existing ProHealth facility and any future institutional expansion will generate more traffic volume than the future single-family development (See Table 1.). In accordance with the traffic study that was completed for the entire Smart parcel and Pro Healthcare site, 37% (current and future) of all traffic will travel to the Pro Healthcare site, whereas only 7% of traffic is anticipated to travel to the future residential lots located directly west of Pro Healthcare. This intersection has been designed in such a way to efficiently direct the higher volume of traffic toward the institutional lands and reduce the amount of unnecessary traffic through the residential area; limiting the potential vehicle/pedestrian conflicts and creating a safe neighborhood for families and children.
2. **Safety** - The design prioritizes safety by limiting non-residential traffic volumes to the primary traffic route. Encouraging medical facility traffic away from the residential zone reduces potential vehicle conflicts. Less vehicles through a residential area equals a safer roadway. Additionally, the local topography requires roadway grades of 7% through the residential area. Steeper road slopes pose heightened risk and challenges during poor weather conditions. Minimizing traffic volume on this specific segment will improve long-term safety.
3. **Discourage Cut-Through Traffic** - At full build-out, the roadway network would create a connection between two state highways. Without mitigation, this connection may attract regional drivers seeking to bypass primary intersections and placing an undue burden on local city streets.

The proposed tee intersection with a stop sign on the north leg provides:

- a. Increased travel time for through movements
- b. Reduced route attractiveness for non-local traffic
- c. Natural traffic calming at a critical junction

This design serves as a passive but effective measure to discourage use of the residential roadway as a shortcut, thereby protecting local street function.

4. **Successful Application in Other Communities** - This intersection strategy has been successfully implemented in larger Wisconsin communities, including Madison, where similar designs are used to:
 - a. Separate land uses
 - b. Direct higher-volume traffic to appropriate corridors
 - c. Maintain residential street integrity

These precedents demonstrate that tee intersections can be an effective tool when applied in context-sensitive design scenarios.

Table 1

Smart Property Full Buildout Trip Generation Table ¹											
	Land Use	ITE Code	Proposed Size	Weekday Daily		AM Peak			PM Peak		
				Trips	Share	In	Out	Total	In	Out	Total
S. of Coldwater	Continuing Care Retirement Community	255	120 Units	300 (2.47)	7%	15 (65%)	5 (35%)	20 (0.15)	10 (39%)	15 (61%)	25 (0.19)
	Medical-Dental Office Building (Stand-alone)	720	20,000 SF	720 (36.00)	18%	45 (79%)	10 (21%)	55 FCE	25 (30%)	55 (70%)	80 FCE
	Single-Family Detached Housing	210	24 Units	270 FCE	7%	5 (26%)	15 (74%)	20 FCE	15 (63%)	10 (37%)	25 FCE
N. of Coldwater	Mixed-Residential	255	120 Units	300 (2.47)	7%	15 (65%)	5 (35%)	20 (0.15)	10 (39%)	15 (61%)	25 (0.19)
	Medical-Dental Office Building (Stand-alone)	720	20,000 SF	720 (36.00)	18%	45 (79%)	10 (21%)	55 FCE	25 (30%)	55 (70%)	80 FCE
	Single-Family Detached Housing	210	83 Units	850 FCE	21%	15 (26%)	50 (74%)	65 FCE	55 (63%)	30 (37%)	85 FCE
	Single-Family Attached Housing	215	60 Units	410 FCE	10%	5 (25%)	20 (75%)	25 FCE	20 (59%)	10 (41%)	30 FCE
	Total New Trips			3,570		145	115	260	160	190	350
	Existing Pro-Health Trips			443	12%	20	0	20	10	35	45

¹ ITE Trip Rates (X.XX) and/or Fitted Curve Equations (FCE) are from the ITE Trip Generation Manual, 11th Edition.

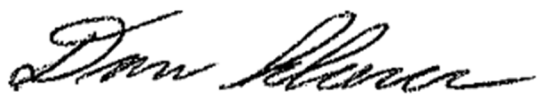
Conclusion:

Although tee intersections like this are not standard within the City of Waukesha, the proposed configuration is well-justified based on:

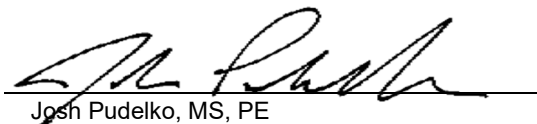
- Effective separation of institutional and residential traffic
- Improved safety outcomes due to reduced traffic volumes and challenging topography
- Discouragement of regional cut-through traffic
- Successful precedent in comparable Wisconsin communities
- Existing City infrastructure (sanitary sewer) already built, accepted, and in place based on prior approvals from this layout and design
- Prior coordination with City staff

For this specific application, the proposed design represents a context-sensitive solution that balances operational efficiency, safety, and neighborhood preservation.

We respectfully request consideration and approval of this intersection configuration based on the benefits outlined above and prior approvals and easements that were granted when the sanitary sewer was built. Please let us know if you have any questions, comments or input on the information provided herein.



Dan Scherer, PE



Josh Pudenko, MS, PE

SITE PLAN

Smart Property

