Memo

To: Acme Township Board of Trustees and Planning Commission
From: Sharon E. Vreeland, Township Manager
Date: 02/14/11
Re: VGT-Phase I SUP #2009-1P Status Update

A letter dated January 6, 2011 from Beckett & Raeder/OHM containing feedback about the 11/2010 version of the Traffic Impact Study (TIS) was provided to the applicant. The letter is attached. We have not yet received a response from the applicant.

On January 11, 2011, a meeting was held at MDOT headquarters in Lansing. Attending were the applicant and their traffic consultant from Progressive AE, MDOT representatives from the Northern Region and from the Lansing units where the VGT traffic-related proposals will be reviewed in detail (most notably the signalization and roundabout units), township representatives including me, Jay Zollinger and Jeff Jocks, John Iacoangeli from Beckett & Raeder and Steve Dearing from OHM. The meeting lasted about 2 ½ hours. The notes memorializing a relatively common understanding of the discussion and required next steps by the applicant to update the traffic impact study (TIS) are also attached. I have expressed a concern to the applicant on behalf of the township about proposed road improvements being discussed in TIS as being made in two phases. MDOT, Road Commission and township staff representatives have informed the applicant consistently throughout our initial review process that we strongly recommend that the township require all road improvements necessary to serve buildout of the ENTIRE VGT project to be made for Phase I opening. If some improvements are done, and then they are ripped out only a few years later to add further improvements, we believe this creates a waste of the money and materials used in the earlier improvements. In brief, every time significant road improvements are made, it creates delays, inconveniences and perhaps even hazards for the public, so we believe that creating these negative impacts once rather than repetitively is preferable. The applicant has requested further discussion regarding this recommendation by your staff and the road agencies.

The township is also in the process of contracting with an engineer to evaluate the current capacity of the relevant portions of the regional sanitary sewer system to handle projected flows from a Meijer store. The study should be complete within about a month.

B R i
Beckett&Raeder
Landscape Architecture
Planning, Engineering &
Environmental Services

Date: 01.17.2011

From: John Iacoangeli
To: **Sharon Vreeland**
ACME TOWNSHIP
6042 Acme Road
Traverse City, MI 49690

Project: **Village at Grand Traverse (VGT-Phase 1 SUP#2009-1P)**

The review for Phase 1: Village at Grand Traverse is segmented into six sections:

1. **Background** – information about the applicant and subject property.
2. **Submission Materials** – list of materials submitted by the applicant for Planning Commission consideration.
3. **Highlights noted in the Special Land Use Permit and Status** – a list of the items noted in the Special Land Use permit dated 10/21/2004 and their applicability or state of compliance at this time.
4. **Context Related Issues** – Items that require resolution by the Applicant or the Planning Commission that determine the broader context of the subject property or the M-72 corridor.
5. **Specific Site Plan Criteria** – a list of applicable zoning provisions and the status of compliance.
6. **Review Letters** – letters prepared by reviewers on specific issues, such as, traffic, fire safety, and environmental matters.

Section 1: Background:

Applicant – The Village at Grand Traverse, LLC

Agent - Anderson Real Estate
3805 Edwards Avenue
Cincinnati, OH 45209

Property - 4550 East M-72, Williamsburg, MI

Zoning - R-3 (Urban Residential) with a SUP for the Village at Grand Traverse Mixed Use Permit.

Proposal - Phase 1: Construction of main corridor roadway and a Meijer Store (21.98 Acres)

- Store (Indoor) 190,161 square feet
- Garden Center 23,856 square feet
- Parking 1,171 spaces square feet (5.47 spaces per 1,000 GFA)

Overall Site - All Phases (182 acres)

	2009 Submission	2010 Submission
Retail	775,500 sq.ft.	765,500 sq.ft.
Civic Uses	40,000 sq.ft.	40,000 sq.ft.
Mixed Use	365,000 sq.ft & 228 units	365,000 sq.ft & 228 units
Hotel	225,000 sq.ft. with 250 rooms	225,000 sq.ft. with 250 rooms
Residential – SF & MF	796 units	816 units
Residential – All Types	1,014	1,044

Access - Primary: M-72
Secondary: Lautner Road
Access easements to adjoining Johnson, Gokey and Andres parcels
TART Trail easement connections

Section 2: Submission Materials:

1. Revised Application Materials
   - Binder with inserts dated November 29, 2010
   - Traffic Impact Study, prepared by Progressive AE, dated November 2010
2. Drawings
   - Sheet 1 of 10 - Site Plan with Phase 1 Improvements (11.08.10)
   - Sheet 2 of 10 – Phase 1 Water and Sewer Plan (08.31.10)
   - Sheet 3 of 10 – Phase 1 Storm Water Plan (08.31.10)
   - Sheet 4 of 10 – Phase 1 Meijer Site Plan (09.01.10)
   - Sheet 5 of 10 – Phase 1 Corridor Plan (08.31.10)
   - Sheet 6 of 10 – Phase 1 Corridor Plan (08.31.10)
   - Sheet 7 of 10 – Phase 1 M-72 Landscaping Plan (no date)
   - Sheet 8 of 10 – Phase 1 Lautner Road Landscaping Plan (no date)
   - Sheet 9 of 10 – Phase 1 Corridor Landscape Development Plan (no date)
   - Sheet 10 of 10 – Phase 1 Meijer Landscape Plan (no date)
   - C800 – Meijer DS1.92 Prototype A Left Store Site Electrical Plan (07.29.2009)
   - C8801 - Meijer DS1.92 Prototype A Left Store Site Photometric Plan (07.29.2009)
   - Sheet 1 of 9 – Overall Existing Survey (08.31.10)
   - Sheet 2 of 9 – Overall Conceptual Site Plan (11.08.10)
   - Sheet 3 of 9 – Overall Conceptual Site Grading Plan (08.31.10)
   - Sheet 4 of 9 – Overall Conceptual Grading Plan NE Quad (08.31.10)
   - Sheet 5 of 9 – Overall Conceptual Grading Plan SE Quad (08.31.10)
   - Sheet 6 of 9 – Overall Conceptual Grading Plan NW Quad (08.31.10)
   - Sheet 7 of 9 – Overall Conceptual Grading Plan SW Quad (08.31.10)
   - Sheet 8 of 9 – Overall Conceptual Water and Sewer Plan (08.31.10)
   - Sheet 9 of 9 – Overall Conceptual Storm Water Plan (.08.31.10)

Section 3: Highlights noted in Special Land Use Permit and Status

1. Phasing	
• Site plan review	*Phase 1 Only*
• Phasing may be altered by market conditions	*To be determined by Phase.*
2. Density and Land Use Mix	
• Noted above	*Subject to phasing and market conditions for the specific land use at time of submission.*
3. Area, Setbacks and Dimensional Standards	
• Parking based on 5 spaces per 1,000 square feet for retail	*Based on size of proposed Meijer building and garden center this will require 1,071 parking spaces.*
• Parking based on 10 spaces per 1,000 square feet for restaurant	*Determination needed if two building pads are in Phase 1 and what type of use.*
• Parking based on 4 spaces per 1,000 square feet for professional office	*Determination needed if two building pads are in Phase 1 and what type of use.*
• Hotel height at 75 feet if 150 feet from M-72	*Not applicable this phase.*
• Other building height increased above 35 feet for underground or under-building parking	*Not applicable this phase*
4. Water and Sewer	
• Sanitary sewer provided by Township.	*Letter and drawings submitted to Township for review.*
• Water; either public or private	*Water provided by agreement through Tribe.*
5. Traffic Circulation	
• All internal roads will be private	*In compliance*
6. Landscaping	
• 100' setback from M-72 with landscaping meeting requirements of the M-72 corridor overlay district.	*In compliance*
• 50' setback from Lautner Road	*In compliance*
• 25' setback along southern property line	*Not noted on drawing.*

7. Limitation on Large Retail	
• Limited to one building not exceeding 210,000 square feet and 25,000 square feet of outdoor sales.	*In compliance. Phase 1 building reduced to 190,161 and garden center to 23,856.*
8. Stormwater Control	
• Use innovative and BMP's	*Comments attached.*
• Reasonable monitoring of Acme Creek	*Comments attached.*
9. Environmental Feature	
• All structures 225'setback from Acme Creek	*Not applicable this phase*
• All detention and parking lots 100' from Acme Creek	*Not applicable this phase*
• Updated wetland delineation	*Not completed.*
10. Dark Sky Feature	
• Incorporated into lighting fixtures	*Photometric plan not per local site plan and does not include internal road system..*
11. Architectural Features	
• Preparation of a Development Manual	*Not acceptable as submitted. Guidelines amended to fit prototype.*
12. Master Condominium Association Bylaws	
• Supplemental provisions to be incorporated	*Determination needed if applicable this phase.*
13. Fire Prevention	
• Comply with requests and recommendations of Grand Traverse Metro Fire.	*Letter attached.*
• On-site water supply	*Letter attached.*
14. Outdoor Storage	
• Contained and screened from view.	*In compliance for Phase 1*

Section 4: Context Related Issues

The first phase of any mixed-use development will set the stage for subsequent phases because many of the broader planning and development aspects of the project are determined as a perquisite for implementation of the first phase. Subsequent phases, subject to market conditions, merely "plug-and-play" into the development as they come on-line. As a result, issues dealing with traffic, environmental matters, infrastructure (roads, water and sewer), non-motorized facilities, and aesthetics need to be decided with the first phase site plan.

1. The traffic impact study (TIS) has been ongoing since the last site plan submittal in late 2009. Since that time the applicant's consultant Progressive AE has been working with the MDOT, Grand Traverse County Road Commission and the Township on the findings. As of the date of this review the traffic impact study is still underway. The options being reviewed through the TIS are the addition of extra lanes with signalization or the incorporation of roundabouts with a boulevard to mitigate the forecasted traffic flows. Either outcome will determine the future context of the M-72 corridor.

2. The Meijer Store, located on the northeast quadrant, is the highest elevation of the 182-acre site. The northeast quadrant has an elevation of approximately 688 feet compared to 610 feet in the southwest quadrant. The proposed first floor elevation (FFE) is 683.5 feet. The proposed parking lot light standard is 32.5 feet above grade, which puts the light source at an elevation of 716 feet or 70 feet higher than proposed residential areas in Phase 4 and 5. Cross sections of proposed improvements, both north to south and east to west, at intervals of 200 feet would be beneficial to determine grade changes and lighting impacts. Tab 6 of the submittal provides a cut-sheet on the proposed light. It is recommended that the height of the light standard in the parking area be reduced with a flat lens and HPS light source.

3. The photometric layout provided in the submission material is based on a Meijer store prototype with a gas station / convenience store. Section 5.15, page 17 of the SUP addresses night sky lighting. A site-specific lighting plan and with associated photometrics should be incorporated into the project drawings much like the storm and drainage plan for approval by the Planning Commission. Furthermore, light and photometric layout has not been provided for the Lautner Road entrance and the internal road connecting M-72 with Lautner Road. Since this road will provide access to the Meijer store it will need lighting. The applicant needs to submit lighting standards for each segment of the roadway assuming that the lighting in the Phase 2 and 3 will be pedestrian in style per the "Character Design Guide for The Village at Grand Traverse."

4. The internal road constructed in Phase 1 does not adhere to the conceptual design. As the internal road winds through Phase 2 and Phase 3 the roadway

contains on-street parking bays that are defined with curb and gutter, which, in turn directs the storm drainage.

5. The layout of the Meijer Store places the loading and unloading bays at the northeast corner of the site and the rear wall of the building will create an uninterrupted façade 550 feet in length along Lautner Road. It appears based on the first floor elevation of the building that the site for the Meijer store and parking lot will be depressed creating a berm around a portion of the perimeter of the property. Cross-sections through the site would assist to determine the amount of soil removal and assessing the visual impact to adjacent property and the M-72 corridor.

6. Section 7.1.3. of the Zoning Ordinance deals with sidewalks and non-motorized pathway and requires same along M-72. Because Phase 1 will determine the context of the overall development and how M-72 functions in the future it is recommended that a consensus be reached between the applicant and public agencies on a cross-section for improvements within the M-72 right-of-way to ensure compliance with this provision and incorporation of Complete Streets guidelines. In addition, a consensus cross-section will ensure that the landscaping provided by the Applicant integrates with the future corridor landscaping.

7. The internal road roundabout is to large and does not meet current design and geometric guidelines.

8. The scope of Phase 1 has changed between the 2009 and the 2010-11 reviews with the addition of two 9,375 square foot buildings along M-72. In the November 29, 2010 submittal letter from Gourdie-Fraser under Item 3 – Market Conditions there is only a reference to a Meijer Store with no reference to two additional retail buildings as part of phase 1. A disclosure on the type of use (retail, office, restaurant, etc.) is needed to compute parking requirements. If two building pads are included in Phase 1 then the Traffic Impact Study needs to reflect these traffic counts in the Phase 1 Peak-Hour Trip Generation.

9. The Applicant has requested public sanitary sewer service from the Township but the review of the plans and system capacity has not been completed and a letter regarding availability has not been issued at this time.

10. Adherence to the Applicant's own building and site development guidelines as agreed to in the SUP and advanced during the Mixed Use Development process is rather disappointing. The proposed elevation and amendment to the building and site development guidelines is unacceptable. We have recommended to the applicant to review the Meijer Store recently built at M-59 and US-23 in

Hartland Township as an appropriate design, which addresses the intent of the "Character Design Guide for The Village at Grand Traverse." [1]

Section 5: Specific Site Plan Criteria

7.2.4	Mining or Removal of Topsoil	*Not Determined*
7.2.5	Outdoor Storage	*In compliance.*
7.2.8 (1)	M-72: Structure Setback (100')	*In compliance.*
7.2.8 (2)	M-72: Parking Setback and Green Zone (50')	*In compliance.*
7.2.8 (3)	M-72: Limited Development Zone (within 300' of highway shall not exceed 40% of lot width)	*In compliance.*
7.2.8 (4)	M-72: Minimum Lot Width (400')	*In compliance.*
7.2.8 (5)	M-72: Vehicular Access (1 access per 400 feet)	*To be determined as part of the TIS.*
7.2.10	Service Drives (1 access along M-72)	*To be determined as part of the TIS.*
7.4.1(4)b	1 free-standing sign, inside the development, not to exceed 32 square feet	*Not in compliance. Proposed sign is 44 square feet with a 22 square feet base.*
7.4.1(4)e	Wall signs exceed 100 square-foot limit	*Not in compliance. Proposed wall sign is 500 square feet.*
7.4.1(4)g	Monument sign displays tenant, not whole development	*Sign plan for entire development, per 5.21 of the SUP should be submitted to the Planning Commission for overall approval.*
7.4.1(8)	Sign illumination appears legal	*In compliance*
7.5	Parking standards given in §5.4 of special-use permit; 5 spaces per 1,000 square feet of retail permitted; gross area gives maximum of 1,071 allowable spaces.	*In compliance*
7.5.4(2)k	Barrier-free spaces required	*In compliance. 21 spaces required; 28 spaces provided*

[1] The Hartland Township Meijer store information accessed from the Hartland Township website is attached to this review.

7.5.4(3)a.1	Landscape buffers at least 10' wide	*In compliance.*
7.5.4(3)a.2	Right-of-way: 1 canopy tree for every 24 feet of frontage	*M-72: 140 required, 122 provided.*
7.5.4(3)a.3	Right-of-way: Hedge or berm 36" height	*Depends on the grading and cross-sections requested.*
7.5.4(3)b.1	Interior Lot Landscaping: 1 tree per 10 parking spaces	*In compliance*
7.5.4(3)b.2	Curbed Planting Islands: 1 at end each row, minimum 7' width and extend the length of the parking space.	*In compliance*
7.5.4(3)b.4	Refuse enclosed, but shrubs or vines not shown	*Recommend variance to waive shrubs and vines*
7.5.4(4)	On-site Snow Storage: 15 sqft for every 100 sqft of parking lot service (15% of parking lot)	*79,300 square feet required; 51,500 square feet provided. Note: 78 parking spaces used as snow storage areas.*
7.5.5	Loading and Unloading Requirements	*94 required – 7 provided Variance recommended.*
7.5.6(4)b.1	Standards for Buffer Strips: 20' wide in all spots	*Buffer behind Andres property as narrow as 9 feet.*
7.5.6(4)b.2	Standards for Buffer Strips: Buffer free of parking, etc.	*In compliance*
7.5.6(4)b.3	Standards for Buffer Strips: Shrubs height	*In compliance*
7.5.6(4)b.5	Standards for Buffer Strips: 1 tree per 20 feet	*In compliance*
7.5.6(4)b.6	Standards for Buffer Strips : Continuous strip at least 6' high	*In compliance*
7.5.6(4)b.7	Standards for Buffer Strips: Berm substitution.	*Depends on grading plan and requested cross-sections*
7.5.6(4)b.8	Standards for Buffer Strips: Provide connectivity between zones.	*Not in compliance. Minimal connectivity between Meijer store and building pads. No sidewalk connections or pavement crossing markings.*
7.5.6(5)	Right-of-Way Landscaping: 1 tree and 5 shrubs per 24 feet of frontage.	*In compliance*

Section 6: Review Letters

- B&R – Environmental Review
- OHM – Traffic Impact Study
- Metro Fire

Date: 01.17.2011

From: Christopher Grobbel, Ph.D.
To: Sharon Vreeland
ACME TOWNSHIP
6042 Acme Road
Traverse City, MI 49690

Project: Village at Grand Traverse (VGT-Phase 1 SUP#2009-1P)

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1) The Acme Township Zoning Ordinance under which the Village at Grand Traverse (VGT) is to be reviewed states in part "the use will be compatible with….the natural environment….and such use is consistent with the public health, safety and welfare of the Township residents…[Section 8.22.4(1)] and that a project "be designed to protect natural resources….and the community as a whole [Section 8.1.3(1)(b), see also Section 8.1.3(4)(f)].

2) The Acme Township Master Plan states in part "environmentally, controlling impervious surface also plays a key role. Numerous watershed studies, including those done for the Acme and Yuba Creek watersheds…indicate that water quality in a watershed declines dramatically when the amount of impervious surface coverage reaches between 10 and 20 percent…In order to maintain impervious surface coverage within the 10-20% range, a developer in the town center would have to set aside enough open space on the site to maintain these limits or else purchase conservation easements on the other land within the watershed, so that when the protected land is added to the developed land, the percentage of impervious surface coverage remains within acceptable limits." The VGT development as proposed will dramatically exceed 20 percent impervious surface.VGT Applicants should address this issue in accordance with the Township Master Plan.

3) For the purposes of reviewing VGT site plans and the potential for impacts in accordance with the Acme Township Zoning Ordinance, plans for overall build-out of proposed phases I though V should be evaluated. Specifically, it is unclear if VGT Phase I site plans propose the construction of dry detention basins #1 through#3 for drainage area #1 only, or all proposed basins during Phase I. Good planning principles and directives from previous court proceedings in this matter have been interpreted and utilized in this matter by considering overall, fully built-out site plans in accessing market plan, traffic impact studies and environmental impact assessments.

4) Proposed stormwater detention basins 3, 4, and 6 propose *slow release* overflow structures intended to discharge treated stormwater to wetlands and tributaries to Acme Creek. Such stormwater basins must be designed to retain

two (2) back to back 100-year 24 hour storm events per Grand Traverse County and Michigan Department of Natural Resources and Environment (DNRE) guidelines.[1]

5) The VGT application proposes six (6) dry stormwater detention basins to treat and dispose of stormwater with overall site build-out. Dry detention basins with three (3) slow releases to wetlands and tributaries to Acme Creek are proposed. It is strongly recommended that stormwater basins incorporate infiltration and innovative treatment technologies such as bioswales, constructed wetlands, etc. and be designed to avoid any overflow surface water discharge to Acme Creek.

6) Any intended overflow to regulated wetlands is considered and wetland "use" by the DNRE and requires a Part 303 wetland permit pursuant to Michigan's Natural Resources and Environmental Protection Act (NREPA), P.A. 451 of 1994 as amended and appurtenant administrative rules and guidance. Such a Part 303 permit should be obtained and disclosed by Applicants prior to final site plan review (SPR) and special land use (SUP) decision-making by the Acme Township.

7) A DNRE Part 303 wetland permit and Grand Traverse County stormwater and soil erosion control permits are also required for the planned wetland crossing at the southwestern portion of the site. Such a Part 303 permit should be obtained and disclosed by Applicants prior to final site plan review (SPR) and special land use (SUP) decision-making by the Acme Township.

8) Site plans indicated "wetland preserve" in at least two locations within southern, southwestern portions of the site plan. If wetlands are to be preserved, detailed plans should be provided to the Township as to what preservation measures are proposed, including but not limited to invasive/exotic species control, wetland restoration, deed restriction, conservation easement, etc.

9) Stormwater plans should be approved by the Grand Traverse County Drain Commissioner prior to final SPR and SUP decision-making by the Acme Township.

10) Stormwater plans should be augmented to fully incorporate DNRE best management practices (BMPs) in accordance with Section 5.11 of the approved SUP dated October 21, 2004.

[1] Pursuant to Land & Water Management Division, MDNRE policy, proposed basins up-gradient of State-regulated wetlands must be designed for two (2) back to back 100-year 24 hour storm events to avoid Wetland Protection Act regulatory requirements, i.e. a Part 303 wetland permit for 100-year 24 hour storm event overflow to regulated wetlands.

11) The results of previous geotechnical soils studies should be disclosed to the Township for evaluation. As native soils will be relied upon for stormwater basins, site-specific infiltration rates should be determined within each proposed basin through on-site percolation testing or other acceptable means. The MDNRE recommends using a 0.5 as a safety factor to determine a design infiltration rate (in/hr).

12) Acme Township final SPR and/or SUP approval, if provided, should be conditioned upon the Applicant's demonstration of adequate soil and groundwater conditions at representative depths within proposed stormwater basins (i.e. the results of soil borings completed to representative depths).

13) Grading plans should be augmented to include calculations of the cubic yardage of soil to be excavated or filled by location at and within proposed stormwater basins at the site.

14) A Soil Erosion & Sedimentation Control Act permit pursuant to Part 91 of NREPA will be required from Grand Traverse County for any earth change greater than 1 acre in size or within 500 feet of any water body. A soil erosion Control permit should be obtained and disclosed by the applicant prior to final SPR and SUP decision-making by the Acme Township.

15) Applicant's rely upon a wetland delineation dated July 21, 2003 while the delineation report itself states on page 6 that the delineation is "good for one year." It is recommended that the site wetland delineation and report be updated and submitted to the Township.

16) To protect groundwater and the high quality of Acme Creek, final SPR and/or SUP approval, if provided, should be conditioned upon the Applicants' submittal of a combined *Stormwater Pollution Prevention, Spill Prevention Control Countermeasure (SPCC) and Pollution Incident Prevention Plan (PIPP)* in accordance with DNRE guidelines.

17) Similarly, final SPR and/or SUP approval, if provided, should be conditioned upon the submittal of a detailed stormwater management system *maintenance plan* and maintenance performance guarantee (as acceptable to the Township and Applicant), including forebay/pre-treatment structures, conveyances and basins.[2]

[2] A stormwater system maintenance plan should be provided for the annual removal and proper disposal of accumulated sediment with light equipment when basin bottoms are dry and desiccated; buffer area, side slope and basin floor plant success assessment and maintenance; and invasive/exotic plant species control. Following sediment removal, infiltration areas should be deep tilled.

18) Acme Township final site plan and/or SUP approval, if provided, should be conditioned upon the augmentation of site plans to include access easements to proposed stormwater basins.

19) It is recommended that adequate visual and noise buffering (i.e. earth berming together with proposed vegetation) be placed at the northeastern corner of the site and along Lautner Road during Phase I (i.e. between proposed stormwater basin #2 and Lautner Road). If the current configuration of the proposed Meijer facility is retained, large blank block walls are envisioned along the east and north sides of the building. It is noted that loading/unloading docks and associated truck traffic are proposed at the northeast corner of the Meijer building, adjacent to an existing residence.

20) *As-built plans* for the proposed stormwater treatment/disposal system, including planned overflow structure elevations between basins should be provided to Acme Township.

21) For the above reasons the application is incomplete and insufficient to allow the Acme Township Planning Commission to make a final decision regarding compliance with the Acme Township Zoning Ordinance.

January 6, 2011

Mr. John Iacoangeli, PCP, AICP
Beckett & Raeder, Inc.
535 West William, Suite 101
Ann Arbor, MI 48103

Re: Village at Grand Traverse – Traffic Impact Study – 2nd Review (Updated)
OHM Job No. 0237-09-0030

As requested, we have reviewed the Traffic Impact Study (TIS) submitted for the proposed Village at Grand Traverse development, located at the southwest corner of M-72 and Lautner Road in Acme Township. The TIS was prepared by Progressive AE and is dated November 2010. *We also received some additional information concerning their evaluation of two intersections on Dec. 28, 2010. Revisions to my previous 2nd review are highlighted as italic text.*

OHM RECOMMENDATION

Upon examination, we found that this study has a few technical issues that may influence the conclusions and recommendations contained therein. Moreover, it does not evaluate one of the highway improvement options the Township and road agencies are particularly interested in. Therefore, at this time, we recommend the TIS not be approved, that the applicant revise the TIS correcting the points noted below, and resubmit for further review.

BACKGROUND INFORMATION

The site is in Acme Township, Grand Traverse County and is currently undeveloped. The Village at Grand Traverse is a proposed mixed use development. The first phase is one of the development anchors, a proposed Meijer store in a 192,000 Sq. Ft. building. We note in passing that this is a reduction of 43,000 sq. ft. compared to the proposed building size of 235,000 sq. ft. that had been the basis of the first review we conducted.

Phase 2 is to include:

- 674,250 sq. ft. of retail
- 91,250 sq. ft. of mixed retail /commercial
- 40,000 sq. ft. civic use space
- 28,000 sq. ft. clubhouse
- 90 single family houses
- 430 multi-family units
- 228 mixed-use residential
- 146 townhouses / row houses
- 250-room hotel
- 150 senior units

Many of the Phase 2 development components have quantities that differ from the earlier review documents. Generally, this version of the development plan has more residential dwelling units and more retail space, i.e. a denser development pattern.

STUDY AREA

This report includes evaluations of the major external intersections that were of concern to the road agencies and the Township. However, the development has certain key intersections within the site that will need to function at a reasonable level of service. The study area should include these locations in the analysis. *The one location that coincides with the intersection of Drive No. 2 (M-72) and Drive No. 5 (Lautner) has been evaluated with RODEL, but this analysis needs to be incorporated into the body of the report.*

- **Provide an operational evaluation of the intersection of the on-site roundabouts and other significant intersections, especially those that coincide with nodes of the ¼ mile grid within the development.**

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SITE ACCESS

In the TIS Introduction, the site characteristics are first outlined. In a departure from the earlier site plans, driveways No. 1, 3 and 4 are now expected to restrict only outbound left turns, instead of all left turns as had been previously shown on the earlier plans. The evaluation within the TIS does not address why this change is requested, nor does the analysis identify the consequences if the change is not approved.

- **Provide additional operational analyses of the effected intersections and driveways assuming no left turns are allowed at Drives No. 1, 3 and 4. The analyses should include the 2012 Phase 1 and 2, and the 2022 Adjacent Development scenarios.**

TRIP GENERATION

There were no questions or problems with the trip generation calculations for Phase 1. However, we were not able to verify for Phase 2 the calculation for trips related to the retail / commercial portion of the development. The source material in ITE Trip Generation offers at least average trip rates and for most land uses there is also a regression equation. The values shown in Table 5 for ITE Code 820 do not match either average rate or the regression equation for the 765,500 sq. ft. anticipated by this development.

- **Provide a verification calculation for the trip generation values shown in Table 5.**

As a separate matter, the trip generation calculation is utilizing the concepts of pass-by trips, diverted trips and internal capture trips. While the first two concepts are explained within the TIS, the latter is not. Since the TIS is intended for use by Planning Commissioners, the Township Board and may be reviewed by the general public, the ideas behind an adjustment for internal capture trips should be explained.

- **Provide a discussion explaining the concept of internal capture trips.**

TRIP DISTRIBUTION

We would have preferred if the trip distribution patterns for new trips would have been based on a formal gravity model using census data. However, it appears that the distribution percentages are the right order of magnitude. As an aside, the figures located in the appendix showing pass-by and diverted trips were well done and very clear.

PHASE 1 POTENTIAL IMPROVEMENTS

The recommendation for M-72 at Lautner Rd is to widen all approaches to add a center lane for left turns, then install a semi-actuated traffic signal (no left turn signal phases at this time). This recommendation should have included a signal warrant analysis, to show this type of control is justified. The TIS could use the time of day trip pattern information available from ITE for shopping centers (Land use code 820).

- **Provide a traffic signal warrant study in support of the recommendation to install one at M-72 / Lautner Rd in Phase 1.**

Regarding the internal site roadways and intersections, the RODEL analysis provided in Dec. for the intersection of Drive No. 2 (M-72) and Drive No. 5 (Lautner) shows that it will work very well as a single lane roundabout with a 50m (164') inscribed circle diameter. This size is a bit large for a one-lane roundabout, large even in the context of handling large WB-67 trucks. We would normally expect to see one-lane roundabouts in the range of 40m to 46m (130' – 150'). Further, Drive No. 2 is currently a 4-lane boulevard, and the illustration of this junction shows a two-lane roundabout. Roundabouts are a case where more is not better, and should have only the number of entry, exit and circulating lanes as is needed.

- **Revise the site plan to reflect a modern single-lane roundabout and one lane approaches at the intersection of Drive No. 2 (M-72) and Drive No. 5 (Lautner).**

PHASE 2 POTENTIAL IMPROVEMENTS

While it is understood that the depictions of the recommended improvements are concept-level only, there

are certain problems with Figures 7 & 8 that need to be resolved. As noted above in the section on Site Access, it is not a given that the Township or MDOT will agree that Drives No. 1, 3 and 4 will be allowed to restrict only outbound left turns, instead of all left turns as had been previously agreed.

- **Provide an illustration of the improvements needed if the minor driveways to M-72 do not allow any left turns and consequently all such movements are relegated to either Lautner Rd or Drive 2.**

SYNCHRO FILES

There are several coding issues with the Synchro / SimTraffic files provided with the TIS. They are:

- The NB speed limit coming out of Node 1005 is set at 30 mph, which seems to be low. This does not significantly impact the models.
- Where detection is assumed, the models should be sure to include detectors, or the phase will not always come up. A few locations noted are at Node 1005 for SB left-turns in the 2012 Phase 1 models and Node 9010 EB left-turns in the 2012 Phase 1 & 2 and 2022 models.
- The models should aim to keep volume to capacity ratios (V/C) below 1.0 for all movements. In the 2012 Phase 1 & 2 models there are multiple locations where the V/C ratio is greater than 1.0.
- The 2022 models have not adequately addressed the capacity issues at many nodes.

RODEL FILES

~~There were RODEL printouts for two intersections, M-72 at US-31 and at Drive No. 2. Both were for Phase 2 traffic. However, the TIS report on page 29 indicates that an evaluation was also done for M-72 at Lautner, which is missing from our copy of the TIS.~~ [*The missing information was provided in Dec.*]
In any case, we noted several problems with the RODEL analysis.

- The analyses done used a 50m (164') inscribed circle diameter for the 2-lane roundabout for M-72 at US-31, and M-72 at Drive No. 2. We feel this is too tight, and a 55m (180') is more appropriate for a 2-lane urban design.
- ~~When~~ The roundabout model for Lautner ~~is developed it~~ should treat it as a 2-lane rural design, due to the high speed of WB approaching traffic. We suggest the use of an inscribed circle diameter in the range of 61m to 67m (200' to 220').
- *Continuing with M-72 at Lautner, at least one dimension used to flare the approaches is inconsistent with good practice. For the north leg, flaring from the one SB lane to the 2-lane entry should be longer than the 10m (33') shown.*
- When approach widths (E) exceed 4.2m per lane, RODEL tends to treat the extra width as an extra lane. So the effective width of a two-lane entry should not normally exceed 8.4m. This is especially an issue with the north leg of US-31 at M-72 being shown as 9.1m (30').
- The RODEL printout for M-72 at Drive 2 erroneously is showing a roundabout with three legs to the north, south and west. We believe the intent was for the legs to be for the east, west and south.
- Normal roundabout design should target a LOS A under a 50% confidence level, then testing the robustness of the design by changing the confidence level to 85% and expecting the LOS to be C or better.
- We would also expect multiple RODEL iterations that would test lane balancing between the multiple entry lanes.

In correcting for these points, we believe that a roundabout placed at M-72 at US-31 will have to have some 3-lane approaches. Also, the approach for Creeks Crossing will need to be two lanes, even though its volume is minimal.

~~Our own preliminary analysis indicates that a simple 2-lane rural design roundabout for M-72 at Lautner Rd should provide excellent LOS.~~

- ~~**Provide a**~~ **Revise the RODEL analysis for the intersection of M-72 at Lautner Rd.**

- **Revise the RODEL analyses for M-72 at US-31 and at Drive No. 2.**

OTHER QUESTIONS, COMMENTS, CONCERNS

The following statements, inconsistencies, and suggested improvements need to be clarified, explained and corrected:

- Executive Summary, page 1 – the development user quantities stated here do not match those used in the analysis. For example, this statement has that the second phase will include 674,000 sq. ft. of additional retail, while the analysis is based on an additional 765,500 sq. ft. The residential dwelling units are also off by a considerable number.
- ~~Executive Summary, page 1 – it claims that at least one internal intersection was analyzed. However, no information of such an analysis is provided in the report proper or the appendixes.~~
- Fig. 8 for M-72 at Lautner, page 27 – The inside lane of the NB dual left directly aligns with the SB through lane. The geometry of the north leg of Lautner should be modified so that SB traffic does not have to jog over a full lane width within the intersection.
- Fig. 8 for Lautner at Drive No. 4, page 27 – The volume of EB left turning traffic from VGT to Lautner Rd is anticipated to be over 600 vph after Phase 2 is complete. We question if enough LT lane storage is available on-site.

If you have any concerns or questions, please feel free to contact us at 734-522-6711.

Sincerely,
Orchard, Hiltz & McCliment, Inc.

Stephen B. Dearing, P.E., PTOE.
Manager of Traffic Engineering Services

GRAND TRAVERSE METRO FIRE DEPARTMENT
FIRE PREVENTION BUREAU

897 Parsons Road ~ Traverse City, MI 49686
Phone: (231) 922-2077 Fax: (231) 922-4918 ~ Website: www.gtfire.org Email: Info@gtfire.org

SITE PLAN REVIEW RECORD

ID # **4135** DATE: **12/13/2010**

PROJECT NAME: **The Village at Grand Traverse phase 1- Meijer store**

PROJECT ADDRESS: **E. M-72 @ S. Lautner Rd.**

TOWNSHIP: **Acme**

APPLICANT NAME: **unknown**

APPLICANT COMPANY: **Village at Grand Traverse LLC**

APPLICANT ADDRESS: **1651 E. Hayes Rd.**

APPLICANT CITY: **Ithaca** STATE: **MI** ZIP: **48857**

APPLICANT PHONE # FAX #

Reviewed By: Brian Belcher, Fire Inspector/Plans Reviewer

This review is based solely on the materials submitted for review and does not encompass any outstanding information. Compliance with all applicable code provisions is required and is the responsibility of the permit holder. Items not listed on the review do not negate any requirements of the code nor the compliance with same. Inspection requests must be made a minimum of 48 hours prior to needed inspection. This plan review is based on the 2006 International Fire Code, as amended.

GRAND TRAVERSE METRO FIRE DEPARTMENT
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SITE PLAN REVIEW

ID # 4135 DATE: 12/13/10

This is a review of the submitted documents for phase 1 of the project (Meijer store) and does not address access, water supplies or any other issues for additional phases of the project. Additional phases will require separate review.
Project is reviewed for conformance to the 2006 International Fire Code adopted as the Acme Township Fire Prevention Ordinance.

1. 501.3 Construction documents.
Construction documents for proposed fire apparatus access, location of fire lanes and construction documents and hydraulic calculations for fire hydrant systems shall be submitted to the fire department for review and approval prior to construction.
- Provide hydraulic calculations for water supply system to insure required fire flows can be met by the proposed system.

2. 501.4 Timing of installation.
When fire apparatus access roads or a water supply for fire protection is required to be installed, such **protection shall be installed and made serviceable prior to and during the time of construction** except when approved alternative methods of protection are provided. Temporary street signs shall be installed at each street intersection when construction of new roadways allows passage by vehicles in accordance with Section 505.2.

3. 508.1 Required water supply.
An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises upon which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction.
- Required fire flow for fire protection is determined by building area and construction type. Provide details of construction type in order to determine fire flow in accordance with table B105.1. Water system shall be capable of the required fire flows plus the largest remote area demand of the sprinkler system together.
- This department highly recommends that the water system be looped and an additional connection to the resort system is made near the west end of the project.
- Plans show 8 inch water main along the north side of the project. It is recommended that this be a minimum of 12 inch. With the planned build out of the entire development the water system must be capable of maintaining the minimum required flows.

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4. C102.1 Fire hydrant locations.
Fire hydrants shall be provided along required fire apparatus access roads and adjacent public streets.
- Plans do not show any hydrants along the front side of the building which exceeds the allowed hydrant spacing. Provide hydrant spacing at no more than 450 feet apart in order to remain consistent throughout our jurisdiction.
- Plans show hydrants on road side of the detention basin on the east side of the store. Hydrants shall be accessible from the store side of the detention basin without having to cross the basin.

5. D102.1 Access and loading.
Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete or other approved driving surface capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds (34 050 kg).

6. D103.6 Signs.
Where required by the fire code official, fire apparatus access roads shall be marked with permanent NO PARKING—FIRE LANE signs complying with Figure D103.6. Signs shall have a minimum dimension of 12 inches (305 mm) wide by 18 inches (457 mm) high and have red letters on a white reflective background. Signs shall be posted on one or both sides of the fire apparatus road as required by Section D103.6.1 or D103.6.2.
D103.6.1 Roads 20 to 26 feet in width.
Fire apparatus access roads 20 to 26 feet wide (6096 to 7925 mm) shall be posted on both sides as a fire lane.
D103.6.2 Roads more than 26 feet in width.
Fire apparatus access roads more than 26 feet wide (7925 mm) to 32 feet wide (9754 mm) shall be posted on one side of the road as a fire lane.
- Roads shall be posted as required above with signs spaced no more than 100 feet apart. Signage locations can be coordinated at a later date.

Meijer

Developer: Meijer
2929 Walker N.W.
Grand Rapids MI 49544

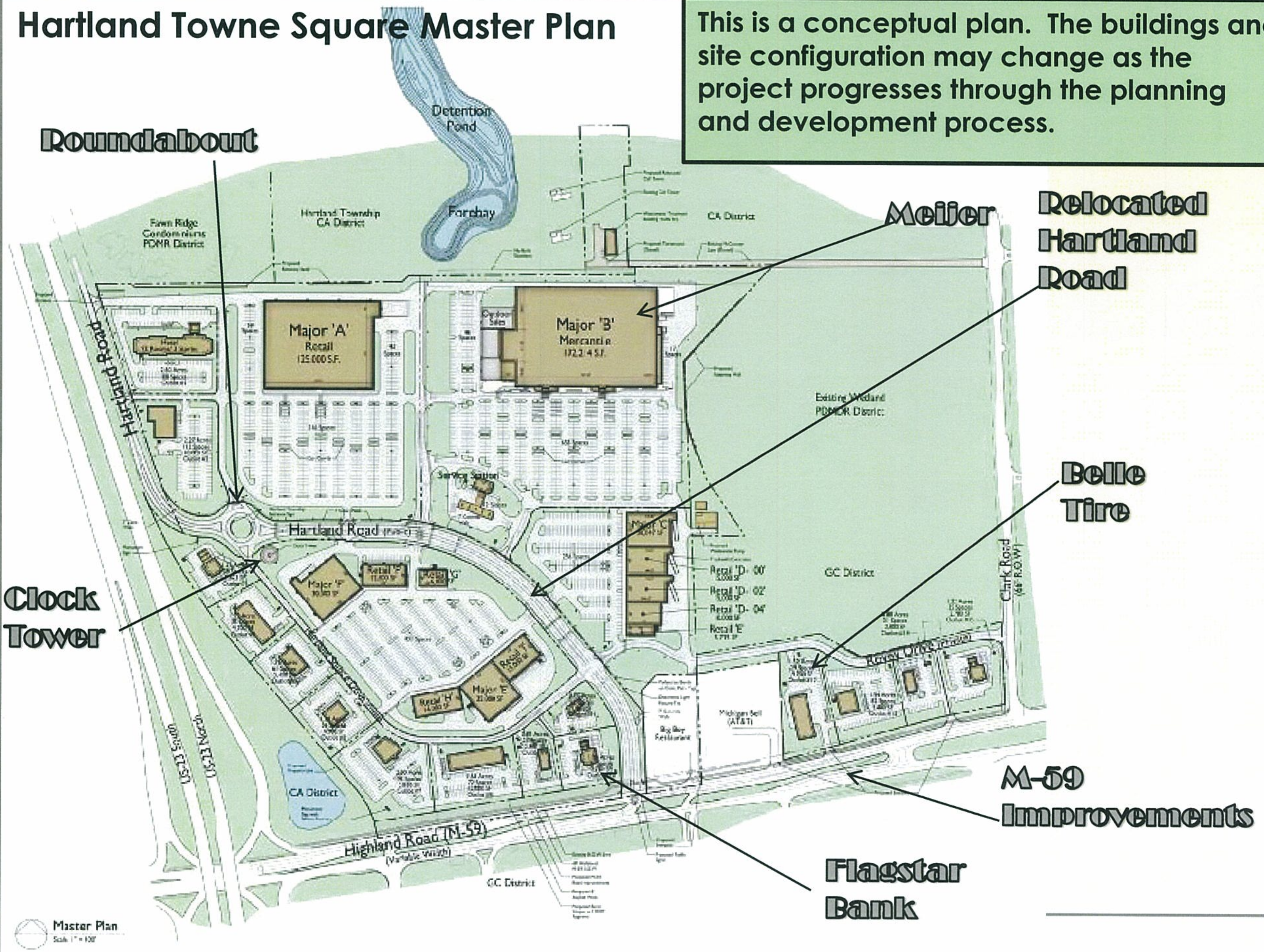
Project: Meijer is located within the Hartland Towne Square development to the north of relocated Hartland Road. The 192,214 square foot building sits on 20.77 acres to the north of relocated Hartland Road. Meijer opened for business in September 2009.

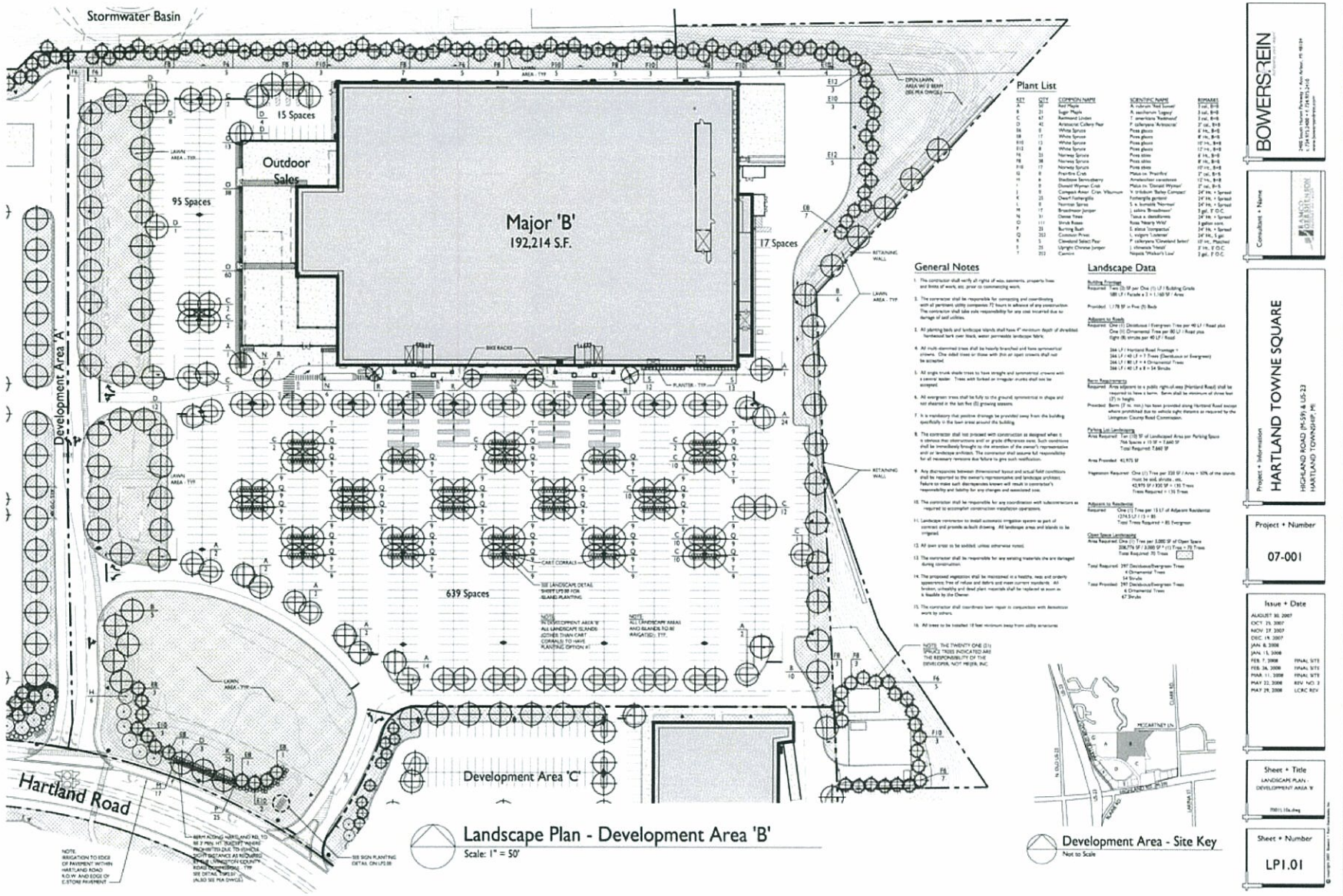
Meijer is also proposing a gas station/convenience to the south of their store at some time in the future.

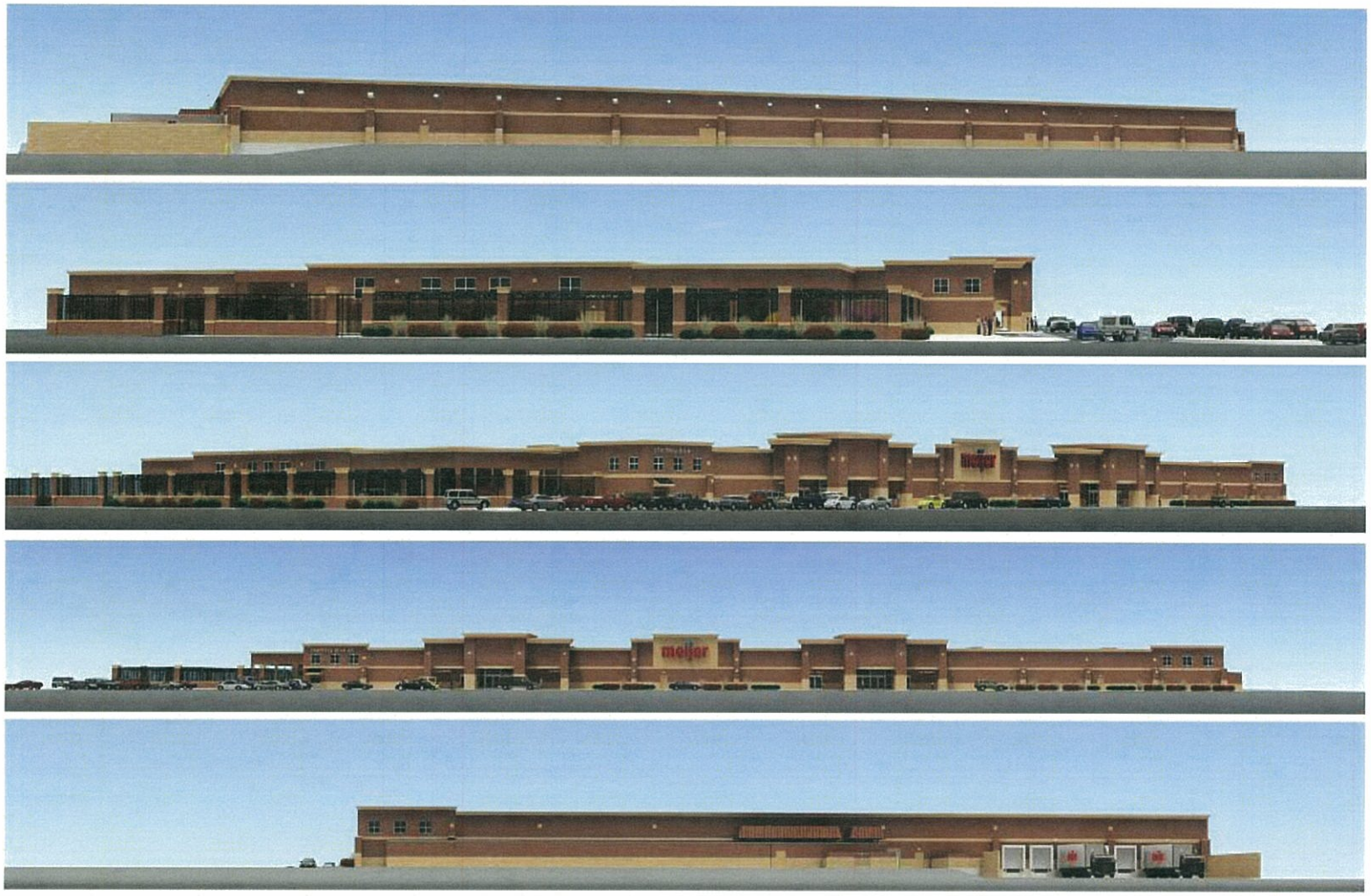
Related Developments: Hartland Towne Square, Hartland Road and M-59 Improvements.

Hartland Towne Square Master Plan

This is a conceptual plan. The buildings and site configuration may change as the project progresses through the planning and development process.




Stormwater Basin
15 Spaces
Outdoor Sales
95 Spaces
Major 'B'
192,214 S.F.
17 Spaces
Development Area 'A'
639 Spaces
Development Area 'C'
Hartland Road
Landscape Plan - Development Area 'B'
Scale: 1" = 50'
Development Area - Site Key
Not to Scale
Plant List
General Notes
Landscape Data
BOWERSREIN
HARTLAND TOWNE SQUARE
HIGHLAND ROAD (M-59) & US-23
HARTLAND TOWNSHIP, MI.
Project + Number
07-001
Issue + Date
Sheet + Title
LANDSCAPE PLAN - DEVELOPMENT AREA 'B'
Sheet + Number
LP1.01



REV.NO. 3 JUNE 18, 2008

ARCHITECTURAL FEATURES

PROPOSED ELEVATIONS - MAJOR B - MEIJER

HARTLAND TOWNE SQUARE HARTLAND TOWNSHIP, MICHIGAN

16

East View of Drive – Pharmacy Drive Through

Garden Center for Meijer

progressive ae

1811 4 Mile Rd NE | Grand Rapids, MI 49525 | 616-361-2664 | www.progressiveae.com

Memorandum

To: Sharon Vreeland – Acme Township
Rise Rasch – MDOT Traverse City TSC

From: Peter C. LaMourie, P.E. PTOE

Date: February 8, 2011

Re: Discussion Summary
Village of Grand Traverse/M-72 Meeting – 01/11/11

File No: 62090101/002

Copy: Steve Schooler, file

The following is a brief summary of the discussions that were held at the January 11, 2011 meeting at MDOT's offices in Lansing. These notes focus on what our understanding is of the tasks needed to revise the Village at Grand Traverse traffic impact study based upon draft TIS review comments and additional input from MDOT staff. For simplicity, the notes generally follow the outline of the January 6, 2011 review memo received from the township's consultant. These notes also include minor revisions provided by review input from attendees by February 4, 2011.

1. *Study Area*. A brief discussion noted that the revised study will need to include analysis of additional internal site intersections. More discussion on this item will be needed with the township/OHM to clarify the extent of those analyses.

2. *Site Access*. The primary discussion item under this topic was the use of direct inbound left turns at the proposed site driveways on M-72 in the draft TIS (based upon input from November 5 meeting at Mt. Pleasant TSC). The revised analyses must assume that the proposed driveways along M-72 function as right-in/right-out only access points. Discussion also noted that the capacity analysis for these unsignalized driveways should be done using HCS software (in addition to overall system Synchro analysis).

3. *Trip Generation*. Revisions will be made to the trip generation analysis (and related analyses) to reflect the single Phase 2 buildout. In addition, text will be added to the revised report that better describes the concept of internally captured trips.

4. *Phase 1 Potential Improvements*. In case a roundabout alternative is not ultimately chosen as the preferred alternative, a volume-related signal warrant analysis will be included for the M-72/Lautner intersection. The use of the Trip Generation manual's shopping center data regarding hourly trip generation breakdown is acceptable to use for the proposed Phase 1 Meijer store traffic. In addition, the next iteration of the overall site plan should reflect the conceptual/rough layout of the proposed internal roundabout and internal roadway transitions to that roundabout.

It is understood that a roundabout alternative is seen by the Township and MDOT as one of the two best long term alternatives, so a roundabout alternative should be included in the Phase 1 analysis, at least in terms of improvements to the M-72/Lautner Road intersection (the main site access (Drive 2) is only expected to experience minimal traffic under Phase 1 conditions).

5. *Phase 2 Potential Improvements*. In addition to the discussion regarding site access (no direct inbound left turns from M-72), lengthy discussion occurred regarding overall improvement alternatives on M-72, not only as they affect M-72 within the vicinity of the site but as a standard for what could/would occur along the M-72 corridor from US-31 east to Williamsburg. It became clear that there was no support, especially from MDOT, for a standard 5+ lane cross section (likely with dual left-turn lanes at one or more locations), from both a capacity standpoint but also from a Complete Streets standpoint. In short, it was decided that the revised analyses should focus on two overall improvement alternatives for M-72; a series of high volume roundabouts that includes a narrow raised median (10 to 15 feet wide) between roundabouts, and a standard indirect left turn boulevard cross section utilizing a 30-foot wide median with loons where deemed necessary to accommodate larger vehicles.

   In regards to the roundabout corridor alternative, setting specific inscribed diameter of the roundabout should be held to a range for now until we get further into the analysis. MDOT's recommended inscribed diameters for a two-lane roundabout are 145 ft to 200 ft. Choosing a diameter will have to take into consideration the desirable speed, capacity, design vehicle, footprint, etc. Modeling and other analysis should be done to see if the roundabout option works before we get into the details too much. Analyses should assume the M-72/Lautner intersection would be designed as a "rural" roundabout, with slightly larger inscribed circle and an extended splitter island to the east with reverse curves to help westbound speed reduction. Discussions indicated that the M-72/main driveway (Drive 2) and M-72/US-31 roundabouts may need to utilize an inscribed circle in the 180-foot range (and a 2-lane approach on the western leg of the latter). Several other design criteria were discussed that can be confirmed through the analysis process. There was also discussion of a possible second site driveway roundabout on M-72 (at Drive 3) if the capacity analyses indicate peak-hour deficiencies with the right-in/right-out operation.

   In regards to the Lautner Rd/Drive 5 intersection, the revised report will assume either a roundabout (if acceptable by the GTCRC) or signal control. It is expected that the analysis results with a signal will indicate that additional internal storage may be needed on the eastbound approach – subsequent site design will need to take that into account.

6. *Synchro files*. Revised analyses will pick up minor node characteristic revisions. The analyses of proposed improvements will attempt to identify measures that allow all movements to function with a v/c ratio of less than 1.0. The 2022 analyses in the revised report will eliminate references to other potential longer term improvements. MDOT staff made reference to several imbalanced traffic volume sections in the model and will provide additional input to PAE via email (copy township) to clarify locations/concerns.

7. *RODEL files*. There were several comments/concerns re the RODEL analyses that were submitted. It explained and accepted that these were just first iterations to define general parameters (eg 1 lane entries v 2 –lane entries). However, there was still concern re that the analyses need to include next iterations to better define specific approach lanes and widths and other design parameters. Discussion included the most appropriate confidence level and LOS for these initial designs – MDOT would like to see at least a LOS of D for 85% confidence level (LOS B preferred).

The above constitutes my understanding of items discussed and/or decisions reached. If there are any additions and/or corrections, please contact me within 7 days.

PCL/smg

62090101/002
Cc: Progressive AE- file