



KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

101 S Capitol Boulevard, Suite 301, Boise, ID 83702 ☎ 208.338.2683 📠 208.338.2685

MEMORANDUM

Date: January 3, 2012
To: Jay Mazalewski, PE; Teton County
From: Andy Daleiden, PE and Nick Foster
Project: Teton County LDS Church Traffic Study Review
Subject: Findings from Review

Project #: 12241.0



This memorandum summarizes the findings of our review of a traffic study prepared by A-W Engineering for a new LDS church site in Teton County, Idaho, north of the city of Victor. The original study, titled *Traffic Study Report, LDS Church Site – Driggs, Idaho Stake*, has been submitted to Teton County on November 22, 2011. This review is being prepared at the request of Teton County. For organizational purposes, our findings are grouped into three areas:

- Data used in the study;
- Data analysis procedures; and
- Findings of the study.

Study Data

We raise the following concerns with the traffic count and trip generation data used in the study.

1. The average daily traffic (ADT) volume for State Highway (SH) 33 shown is a count from 1999. The Idaho Transportation Department (ITD) has more current count data, from 2010, on its website (Reference 1).
 - a. It is also not clear from the report if the ADT volume shown is from a weekday or a Sunday count. If it is from a weekday, then at an ADT volume of 3500 vehicles, it is lower than the more recent 2010 count that shows an ADT volume of approximately 6000 vehicles.

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- b. Typically, traffic counts are collected within the last 1 to 2 years for a traffic impact study. ITD's *Requirements for Transportation Impact Studies* identifies that traffic volumes can be obtained by setting out traffic recorders or by using existing traffic counts that are not more than one year old (Reference 2).
 2. Increasing the peak hour trip generation estimate by 30% due to the expected larger meeting size is appropriate.
 3. The study notes that the trip generation estimates are based on the Institute of Transportation Engineers (ITE) published reference *Trip Generation, 5th Edition*; however the trip generation appears to be based on the Hefron study included in the appendix. The reference to ITE should be removed.
 - a. Use of the Hefron study in lieu of the ITE manual is appropriate since it is use-specific data. However, if the ITE manual were used, the trip generation should be estimated based on the most recent manual edition, 8th Edition.
 4. The tables on Page 6 are not clear. They appear to be related to trip generation; however, they should be titled to make it clear to the reader.
 - a. In the first table - The second column heading appears to be mislabeled. The data in this column does not appear to be daily trip data. This should be corrected.
 - b. In the first table - It is confusing how the design totals are arrived at and what purpose they serve as they are not referenced again in the report. This should be clarified.
 - c. In the second table - It is not clear what the information in this table represents or how it has been arrived at. It follows a discussion of how little traffic will be generated during the weekday commuter peak hour leading the reader to believe it is a breakdown of daily trip generation from the site to prove this point. However, the numbers in this table do not appear to be consistent with the data in the Hefron study.
 - i. An estimate of weekday p.m. peak hour trip generation for the site should be provided in the study in order to show whether a study of this time period is warranted.

Study Analysis Procedures

The following are our findings related to the analysis procedures in the report, or that should be in the report:

1. The study does not analyze traffic operations at the study intersections. The Local Highway Technical Assistance Council (LHTAC) guidelines provided by the County to the applicant indicate that such an analysis should be performed.
 - a. The SH 33/7000 South intersection should be analyzed for a Sunday morning peak hour when the site's trip generation is expected to be the highest. This analysis should be conducted using the current version of the *Highway Capacity Manual* adopted by ITD.
 - b. This analysis should also examine whether or not turn lanes on SH 33 will be warranted with the build-out of the site according to the turn lane warrants contained in Section 450 of the ITD *Traffic Manual*, which can be found here: [http://itd.idaho.gov/manuals/Online Manuals/Traffic/index.htm](http://itd.idaho.gov/manuals/Online%20Manuals/Traffic/index.htm).
 - i. A similar analysis should also be conducted to determine if turn lanes are warranted on 7000 South at the site access driveways.
 - c. These analyses will require that a peak hour traffic volume count be conducted at the SH 33/7000 South intersection.
2. A figure showing the distribution of site-generated traffic onto 7000 South and SH 33 is not provided. The text indicates that all site-generated traffic is expected to use SH 33 to reach the site. However, it should also provide a directional distribution (i.e. the percentage of traffic coming from/going to the north and the percentage coming from/going to the south).

Study Findings

The following are our comments related to the findings of the study:

1. The study recommends that improvements be made to 7000 South from SH 33 to the site's western access to bring the road up to County standards. This is appropriate.
 - a. However, the report should be revised to indicate whether or not turn lanes are warranted on 7000 South at the site access driveways.

- b. If turn lanes are warranted, the report should indicate the amount of storage space that will be required for queues of turning vehicles.
2. The study indicates that turn lanes will be needed at the intersection of SH 33 and 7000 South (the *SH 33 Corridor Plan* [Reference 3] also indicates that future development will trigger the need for turn lanes at the intersection). It does not, however, indicate whether the project is causing these needs or if they are preexisting conditions. Similarly it does not indicate if the project will be expected to contribute to the construction of these and to what extent it should contribute.
 - a. The report should be revised to clearly estimate the impacts of the project on this intersection, through operational and turn-lane warrant analyses, and from these estimates, provide recommendations for the project's contributions, if any, to these improvements.
 - b. If turn lanes are warranted, the report should indicate the amount of storage space that will be required for queues of turning vehicles.

Conclusion

We recommend the applicant revise the traffic study as noted above. Please do not hesitate to contact us with any questions or comments.

References

1. Idaho Transportation Department. *Highway Data Quest* application.
<http://www3.idaho.gov/cgi-bin/webster.cgi>. Accessed December 21, 2011.
2. Idaho Transportation Department. *Requirements for Transportation Impact Studies*.
<http://itd.idaho.gov/highways/ops/Traffic/PUBLIC%20FOLDER/Traffic%20Impact%20Study/Traffic%20Impact%20Study%20Requirements.pdf>. 2011.
3. W&H Pacific and KMP Planning. *SH 33 Corridor Plan – US 20 to Wyoming Border*. 2002.

TRAFFIC STUDY REPORT

LDS CHURCH - DRIGGS, IDAHO STAKE

Near City of Victor, Teton County, Idaho

Prepared For:

NBW Architects
Idaho Falls, Idaho

Property Owner:

Blackfoot Farms
500 Huntsman Way
Salt Lake City, Utah
801- 584- 5700

Prepared by:

A-W Engineering
Box 139
Victor, ID 83455
208-787-2952

Nov 22, 2011
Revised Jan 10, 2012

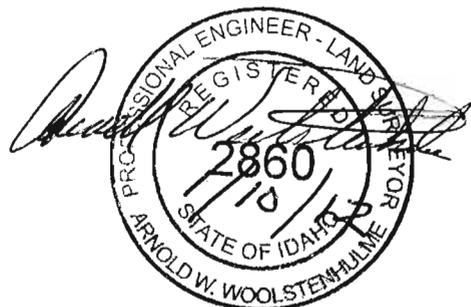


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I. GENERAL PROJECT INFORMATION

LOCATION:

Part of SE 1/4 SW 1/4 Sec 35, Twp. 4 N, Rng. 45 E., B.M. Teton County, Idaho.
(see Map A appendix)

DEVELOPER:

LDS Church, Salt Lake City, Utah

PROPERTY OWNER

Blackfoot Farms
500 Huntsman Way
Salt Lake, City Utah 84108

Client

NPW Architects Phone 208-522-8779 fax 522-8785
P.O. Box 2212
990 John Adams Parkway
Idaho Falls, Idaho 83403
email nbarch@ida.net

ENGINEER / SURVEYOR:

Arnold W. Woolstenhulme, A-W Engineering, 255 South Main St., Victor, Id. 83455
208-787-2952 email aweng@ida.net

PROPOSAL : The LDS Church, Driggs, Idaho Stake is proposing to construct a new two ward chapel in the Victor, Idaho area. The church has proposed developing a 5.5 acre site with building and parking on it. The site is outside of City of Victor limits, but it is situated within the city area of impact. The present plan is to connect into the city of Victor water and sewer systems. The water service is approximately 1 mile Southwest for connection into a new well the city has created. The Victor -Driggs sewer trunk line is about 400 feet east of this building site. The plan at this time is to connect the two entrances from the parking lot onto 7000 South County road. This would place all of the traffic onto a County road that in turn accesses onto the State Highway 33 at the 7000 South intersection.

This project will consist of two separate wards that will overlap meeting times with a three hour block meeting schedule. This means on a typical Sunday two wards will overlap their meeting by one hour. Therefore the peak traffic would be during the period when one ward is meeting and the second ward is starting their meetings.

The data in the Appendix shows a peak 15 minute period of traffic of 44 vehicles per 15 minutes using the traffic at the time 2nd ward would start of 21 vehicles per 15 minutes. This graph of the combined traffic of 55 vehicles in 15 minutes. This would give a peak traffic count of 4 vehicles per minute onto the County road and onto State Highway 33.

See Appendix pages A: 1 and B: 1-6.

The trip generation and parking demand at a LDS church facility is directly dependent on the attendance at Sunday worship meetings. Recent attendance data for all LDS Church facilities were studied and reported on by Heffron Transportation in a study for over one hundred wards in western Washington area. In this study the average Sunday attendance at a three ward building was 536 people, (approximately 179 people per meeting) and the 99 th percentile Sunday attendance was 778 persons (260 people per meeting). Victor 3rd Ward during the past three years has had to 340 people in attendance at a peak summer meeting. *Victor ward counts on Jan 8, 2010 were Victor II Ward= 240 people and Victor III Ward = 275 people in attendance at that meeting which is fairly average.*

The traffic on this County road and the estimated ADT and particularly the peak hourly traffic is not as relevant as adding most other traffic uses. This is due to its use being minor on week days and peaking during times on Sunday when other traffic is at a minimum. Weekday activities at an LDS church typically consist of small meetings during the week in the evenings and on Saturdays. These meetings are typically youth meetings, Scout meetings and other similar small groups. From the Heffron study it showed an average weekday trip generation of 206 vehicles per day with most of these meetings starting after 18:00 (6:00 pm).

From traffic data available at Teton County on 7000 South and data from State of Idaho DOT, the following chart was made.

ROAD NAME OR #	ADT	Peak Hr Traffic
700 South County Road peak year 2007	607 ADT	90 PHT
50 West Frontage Road from AW Data	50 ADT	8 PHT
State Highway 33. - MP 148.4 2010 IDT Report	6400 25% Capacity	700 PHT, 2000 DHV

* ADT = Average Daily Traffic PHT= Peak Hour Traffic, DHV = Design Hr Traffic
 State Highway Peak Hr Traffic = 11 % ADT
 County Road Peak Hr Traffic = 15% of ADT

Many concerns and problems that will be addressed as this project proceeds are discussed in this report. Oversights or problems which are not apparent at this time neither negate the interest of the Engineer or the developer in addressing all concerned problems in a professional manner, nor their interest in having a quality project of which they are proud to be a part.

II. BACKGROUND AND GUIDELINES

The 5.5 acre parcel has been used by the owners for farm ground for the last 100 years to raise hay, grain and for horse and cattle pasture land. This property is surrounded on three sides by farm land and on the east by the Frontage road, Rails for Trails and State Highway 33. The east side of State Highway 33 encompasses more farm land.

Easements that cross the property are:

1. The prescriptive rights Easement for County Road 7000 South.
2. Power and Telephone prescriptive rights easements.

A. PROPOSED PLANNED SITE DEVELOPMENT

Total acres in project:	5.5 acres
Roads in project Count Road R-O-W:	0.30 acres
Acres in remaining farm parcel from which the 5.5 acres was split:	80.0 acres
Zoning in project area	AR 2.5
Churches permitted with Conditional Use Permit	

B. PROPOSED ACCESS ONTO 7000 SOUTH

Two accesses are proposed onto County road 7000 South. These accesses will have about the same impact on the county road with equal traffic using them at the same period of time.

C. EXISTING CONDITIONS OF 7000 SOUTH

- 1- Existing road improved surface is 21 feet wide.
- 2- Existing road base of 24 foot wide
- 3- Borrow pits and shoulders have various slopes and need upgraded.
- 4- Right-of-way - prescriptive and 60 feet wide.

D. CRITICAL AREAS OF CONCERN

1. Traffic generated by this project onto 7000 South County.
2. Traffic ingress and egress to State Hwy 33 at 7000 South County road.
3. Traffic onto the County Frontage Road.

III. TRAFFIC VOLUME AND PATTERN

The purpose of a preliminary traffic study is to provide for an overview and to develop a data base of current traffic generation that is expected from this project. A ten year design period was used in the analysis of future conditions. This is the estimated time period that corresponds to the possible expansion of the building. Based on these findings, assessments of likely future traffic conditions are made. Mitigating measures are then defined to counteract impacts associated with this proposal.

A. PROJECT DESCRIPTION

The project is to evaluate the impact of the traffic that will be generated onto 7000 South if this church facility is constructed at this site. The projected attendance at each of the wards is 340 people during at a peak meeting. This is 30 percent more than was reported in the Heffron Study and therefore the peak and ADT numbers from this report are increased by the 30 percent.

The access will be off County Road "7000 South" and partially onto State Highway 33.

B. DEFINITIONS

Average Daily Traffic (ADT)

The average number of vehicles that travel over a section of road during a typical 24- hour period.

Classification of Roads

A function designation given to a roadway by the county or others that describes the road's capacity and routing purpose. The five common classifications of roads are:

Arterial: A highway that provides for high speed inter-city and inter- county travel.
ADT:+ 4000

Major Collector: A road that serves to collect and distribute traffic between arterial and major residential or commercial areas. ADT: 2,000 - 5000

Minor Collector: A road that serves to collect and distribute traffic between arterial and major collectors to residential and or minor commercial areas. ADT 500 - 5000

Major Local: A street within a residential subdivision or neighborhood intended to carry a small amount of residential traffic to and from the collector street network.
ADT -200-500

Minor Local: A street within a residential subdivision or neighborhood intended to carry the traffic only for that neighborhood. ADT 20-200

Volume: The total number of vehicles that pass over a given section of a road during a specific time period.

C. TRIP GENERATION

1. Trip Generation. *The trip generation data is based on ITD data, Teton County road counts, and the Heffron Report on LDS Church sites. This data is included in the Appendix.*

2. Trip Assignment and Distribution. The destination and origination of this traffic primarily influence the surrounding road system, with the most impact occurring at intersections where conflict due to congestion can occur. The trip assignment and distribution are used to determine and to apply the expected future project traffic to the road system and the primary roadways.

3. Traffic counts received from the Idaho State Highway Department for 2010 data on Highway # 33 at MP 152.4, 2.8 miles southeast of Victor, Id to Wyoming State line.

Source: Idaho Web site; <http://www3.idaho.gov/cgi-bin/webster.cgi>

Jan - Dec 2010 TRAFFIC REPORT ITD 2 lanes

HIGHWAY 33 MP 152.4	ADT	Week high hr 9:00 -14:00 hr	Sunday high 9:00 to 14:00 hr	Percent Sun / week
Highway 33 MP 152.4 Victor	4443	256 vph	240 vph	94%
E Hwy. # 33 .8 mi Driggs on Ski Hill Road	3500	191 vph	217 vph	88 %
Highway 33 MP 148.4 at jct with Co Rd 7000 So .	6400	369 vph *	332 vph *	90 % AW Calc

* AW Eng Interpellated from Idaho Traffic Counts , See Appendix IDT 2010 Report

AW Eng Traffic - Hwy 33 & Co Rd 7000 S. Two lanes, Jan 6, 16:00- 18:00 -Friday

Location of Traffic Count	Total traffic 2 hr	Traffic Direction	Traffic Direction	Vehicles / hour
Highway 33 at 7000 S	1160 vehicles	306 vph South	274 vph South	580 vph
Jct of Hwy 33 & 7000 S	84 vehicles	30 vph West	12 vph East	30 vph to west

AW Eng Traffic - Hwy 33 & Co Rd 7000 S. Two lanes, Jan 8, 12:00- 14:00 - Sunday

Location of Traffic Count	Total Traffic 2 hrs	Traffic Direction	Traffic Direction	vph
Highway 33 at 7000 S	560 vehicles	160 vph	120 vph	280 vph
West Co Rd 7000-Hwy	80 vehicles	17 vph East	23 vph West	23 vph to west

*Parked Vehicles at Victor LDS chapel, Jan 8, Sunday
12:15 Two Ward meeting = 122 Cars
14:00 One Ward meeting = 58 vehicles*

*Victor III = 275 people at Church 11:00 - 14:00 Jan 8
Victor I = 220 people at Church 13:00 to 16:00 Jan 8*

HEFFRON TRAFFIC DATA from there Report on LDS Churches 2 lanes

UNIT	# UNITS	TRIPS/DAY	TOTAL TRIPS
LDS Ward from Heffron Transportation	2 Wards	190 vph	600 v/ d
LDS Victor Ward 2011 + 5% attendance counts	2 Wards	200 vph	700 v/d

Sunday TRAFFIC DATA FOR REPORT ANALYSIS from data shown above, Single lane traffic

UNIT	AW Count	Govt Count	Church #	DHV TRIPS
Traffic ADT on Hwy 33 at 7000 South 346 DHV	160 vph	166 vph ITD	200 vph	366 vph
Traffic on 7000 South West of Hwy 33	23 vph	40 vph Co	200 vph	240 vph
Frontage Road (500 W) at 7000 South	10 vph	no data	20 vph AW	30 vph

Weekday TRAFFIC DATA FOR REPORT ANALYSIS from data shown above, Single lane traffic

UNIT	AW Count	Govt Count	Church #	DHV TRIPS
Traffic ADT on Hwy 33 at 7000 South 346 DHV	306 vph	185 vph ITD	50 vph	235 DHV
Traffic on 7000 South West of Hwy 33	21 vph	90 vph Co	50 vph	140 DHV
Frontage Road (500 W) at 7000 South	10 vph	no data	10 vph AW	20 DHV

DHV = Design Hourly Vehicles

vph = Vehicles per hour v/d = Vehicles per day

D. Project Design Criteria and Traffic Volumes

The LDS Church project is planned for one-half of the traffic onto each of the two access from the new church parking lot. The traffic will be reviewed as *if all church generated traffic is entering on and off State Highway 33 traveling North and South. This would be the worst case scenario for the proposal.* When the new ward boundaries are determined probably one ward will lie east of State Highway 33 and therefore all of the traffic would be heading in that direction.

For residential areas the peak traffic periods typically occur between the hours of 7:00 AM and 9:00 AM every weekday morning and between 4:00 PM and 6:00 PM at week day evenings. The new church building will add very little traffic onto the county road during normal work day peak hour traffic.

From the data shown in the graph for Right and Left Turn Lanes shown in the Highway Capacity Manual adopted by ITD (shown in Appendix) it is apparent that this project exceeds the 12 vph requirement, and it is recommended that this project have turn lanes installed and are willing to participate in constructing said lanes. Section 451.01 of ITD Transportation Manual states that the need for turn lanes on State Highways shall be addressed during Concept Review.

The need for turn lanes is from the following criteria;

The speed limit on this section of highway 33 is 55 mph
The generated traffic form project is 250 vph peak traffic
Traffic counts on Hwy 33 at MP 148.4 are 306 vph peak weekday
Traffic counts on Hwy 33 at MP 148.4 are 166 Sunday
No turn lanes presently exist at site.
Traffic on Highway 33 will continue to increase.
Traffic on County Road 7000 South will continue to increase.
This intersection does not appear to be accident prone from local sources and AW knowledge. having lived in Victor for 60 years and from a brother who lives on 7000 South.

Positive factors in considering effects of proposed project:

- 1- State Hwy is straight and has approximately 1 mile of clear sight distance from the junction with 7000 South.
- 2- *State Highway has 80 foot right of way and another 30 feet to west side along the Rails To Trails pathway.*
- 3- *South is straight and has good sight distance of about 1 mile.*
- 4- *County road 7000 South has 60 foot prescriptive right of way and it would allow turn lanes to be built along side of it.*
- 5- *The applicant for this land split and proposal (Blackfoot Farms)owns most of the 160 acres along the North side of this proposal and could grant further easement and or deed this right of way to the county if necessary.*
- 6- *The Rails for Trails path runs along the State Highway that may be available for future ties into said development if homes are built closer to project.*
7. *Passing opportunities are not critical on this section of Highway 33.*
8. *The traffic distribution is proportional during the day and appear to be fairly equal during peak hours of church traffic based on AW Eng traffic count and observations.*

E. QUALITY OF ENVIRONMENTAL IMPACTS

The proposed project will have very little effect on the environment for air or ground water quality. The project will not create new traffic in the South end of Teton County. It relocates the destination for the existing traffic. It will increase distance driven for some church members and decrease the travel time and distance for others. It is anticipated that with ward boundary changes some church members in the Fox Creek and South Darby area will go to this new church instead of traveling the LDS church building in Driggs. Some of the members in North Victor area will go to this new building instead of traveling to the church in Victor.

Overall the distance driven and travel should average out to very little change. This means there will not be any change in pollution or air quality from this new building site. The air quality in the Victor area is of high quality at the present time except during inversions in the winter when a lot of people are using wood stoves for auxiliary heat. The new building will be a propane heat furnace will not have any wood burning fire place or other stoves.

The water quality from run off should not affect the quality of water in the area. It is planned to install a grass swale drainage system for the asphalt runoff so the pollutants will be filtered out and not percolated into the ground water system. Well records and other data indicates that there is no sub water withing 40 feet of the surface in this area. The percolation of water through the 40 feet of loam gavel will aid in infiltration of material out of the runoff water.

IV. TRAFFIC ANALYSIS

A. Site Access: This site for the proposed church is limited to access only onto the 7000 South County road. With the area of the new church location being chosen by the LDS Church area property managers, access has been limited to only this one road. If the church property was moved east to abut against the frontage County road, access would then be onto two roads instead of just the one. This aids in dispersing some of the traffic onto the frontage road but would only minorly affect the traffic on and off State Highway 33. The LDS church property managers have decided not to pursue this location because moving the building site East would cause it to then fall within the County Scenic Corridor area.

B. Capacity and Level of Service per lane. The capacity of the county road is estimated to be at 200 vph under present conditions, with 10 foot wide lanes and narrow shoulders reducing the capacity of the road by 19 percent or 0.81 factor. From Table II-5 AASHTO Geometric Design book, the 40 mph traffic has 70 percent of the capacity design of 1400 vph under ideal conditions. This would make 7000 South capacity at $0.81 \times .70 \times 1400 \text{ vph} = 800 \text{ vph}$ design for the 10 foot wide lane county road. This would be increased to 1000 vph per lane with 12 foot lanes and improved shoulder at 45 mph speed limit.

C. L.O.S From the AASHTO Geometric Design Guidelines it shows that for local collector roads a Type C Level of Service is appropriate. Level "C" service is in stable flow zone, but most drivers are restricted in freedom to select their own speed. This is the case with 7000 South because of its 10.5 foot wide lanes and its chip seal surface with narrow shoulders.

D. Traffic Safety: Traffic safety on this road with improved lane width and shoulders will be greatly improved. Presently the road is a typical county road for Teton County and does not have many accidents or safety issues on it. One issue on this road is domestic animals and dogs being on the road which is a animal control issue.

E. Traffic Light: Traffic lights for the intersection with State Highway 33 is not a relevant issue at this time nor with the anticipated traffic volume.

F. Site circulation: The site circulation could be improved by moving the project to be adjacent to County Frontage (500 West) road. This does not seem to be an alternative for the LDS church property managers.

V. IMPROVEMENT ANALYSIS

Manual for highway approaches states in Section 451.02 - " In most cases left turn lanes should be provided where there are more than 12 left turns per peak hour. This project definitely exceeds this policy and other numbers indicate that turn lanes should be constructed.

A. The proposed LDS Church on 7000 South County Road will have an impact onto 7000 County road and an impact on State Highway 33 at the intersection with 7000 South.

This study recommends the following improvements be made to 7000 South from the western access point onto 7000 South East to the State Highway intersection as shown in the Appendix Sheet. The project will warrant the improvement of County road 7000 South from State Highway 33 to the western exit from the church parking lot to a 24 foot wide paved surface, with 2 foot shoulders and a 4: to 1 slope into the borrow ditch.

This report shows the need to have the following turn lanes as Shown on Sheet in Appendix.

- 1- Turn lanes into the church parking areas.
- 2- Onto and off County road 7000 South at State Highway 333.
- 3- Right turn lane of from State Highway 33 onto County Road 7000 South.
- 4- Left turn lane of from State Highway 33 onto County Road 7000 South and this would necessitate having a Left turn lane for traffic from North.
- 5- Acceleration merging lane for South bound traffic.

B. Alternative improvements.

The need for a path from the church parking area east to the Rails for Trails path has been evaluated in this study and it does not seem to justify the expense to construct because of lack of any residence withing 1/4 mile of the building site that would utilize this path. The concept of constructing a gravel graded 12 foot wide base for walking path along the north side of the property or the road would be a recommended part of the the reconstruction of the county road as the base if a future path is established.

C. Funding of project.

At this time it is understood the developer will be responsible for all County road improvements and the cost thereof.

Based on an email from Matt Davidson (IDOT PE) that is included in the appendix it appears the State of Idaho Department of Transportation is willing to partner with developer and County in constructing the turn lanes on the State Highway 33.

VI. CONCLUSIONS

A. Site Accessibility:

The site is accessible from County Road 7000 South. This road under its present condition will handle up to 800 vph per lane. With the roadway improvement the theoretical capacity of the road at 45 mph and 24' improved surface would handle 1000 vph per lane.

B. Traffic impacts:

The added 200 vph peak traffic added onto 7000 South is an increase of 120 percent over existing traffic on Sundays. Sundays show less traffic than week days but it is surprising that it is not very much smaller. Some of the existing Sunday traffic will be in one of the wards that attends this new church and there fore would lessen this overall number. A detailed study of the number of LDS church members living west of this new church site was not made.

During week days an increase of 27 percent of existing traffic will be caused by the proposed project on 7000 South. The added traffic and the amount of traffic turning of and onto State Highway 33 is well over the 12 vph that is the standard that would require turn lanes to be considered to be constructed because of the project. This study shows that turn lanes are being required of from State Highway 33.

C. The following are needed improvements:

- 1- Turn lanes into the church parking areas.
- 2- Turn lanes on and off County road 7000 South at State Highway 333.
- 3- Right turn lane of from State Highway 33 onto Co road 7000 South.
- 4- Left turn lane of from State Highway 33 onto Co road 7000 South .
- 5- Acceleration merging lane Hwy 33 for South bound traffic from Co road 7000 S.

Cost for the above work is estimated to be:

Estimated 900 lineal feet of road needs upgraded;

Base improvement and new gravel costs	\$ 16,000
Double Chip and seal road surface	\$ 14,000
Right turn lane into Church	\$ 10,000

Turn Lanes on county Road estimated 240 feet at 14' wide

Base grade and gravel costs	\$ 5,000
Chip & Seal	\$ 5,000

Construct Hwy 33 turn lanes, estimated 2200 linear feet, 24 wide pavement 30 foot base

Base gravel road construction costs;	\$ 50,000
6" Asphalt Pavement	\$ 150,000

D. Compliance with local codes.

Completion and acceptance of this report, the completion of the lot split by Blackfoot Farms and the conditional use requirements which meet Teton County conditions, will allow the LDS church to purchase said property and to start design for roads, parking area, utilities and the church building.

VII. RECOMMENDATION

A. Site Accessibility/Circulation

That the site be evaluated as to the possibility of moving the project site east 330 feet to abut against the frontage road thereby allowing the two parking lot access point being off different county roads.

B. Roadway Improvements:

On Site : Improved parking area and access as shown on LDS Church Site Plan.
Construction of 2 access 30 feet wide with 18" culvert

Off Site County Road

- 1- Turn lanes into the church parking areas.
- 2- Turn lanes on and off County road 7000 South at State Highway 333.

Off Site State Highway 33

- 3- Right turn lane of from State Highway 33 onto Co road 7000 South.
- 4- Left turn lane of from State Highway 33 onto Co road 7000 South .
- 5- Acceleration merging lane Hwy 33 for South bound traffic from Co road 7000 S.

C. Project Phasing; No project phasing is planned for this project.

Schedule for construction Start summer 2012
Completed by Fall of 2013

HIGHWAY DATA QUEST

Idaho Transportation Department

Current Map Data Item: Average Daily Traffic

Seg Code: Rt #: Mp: Date: Data:

Average Daily Traffic

Bridge Sufficiency

Cracking Index

Divided Highway

Functional Class

Average Daily Traffic

vehicles per day

0 to 999 Green

1000 to 4999 Yellow

5000 to 9999 Black

10000 to 99999 Red

Names to Display

Cities Counties

Ready Refresh Map View: District 6 Create:

You may select another size:

800 x 600 GO

For more information:

[See Instructions](#) [See Data Descriptions](#)

Need the latest Java? [Click here.](#) (If you get a small red 'X', you probably need to upgrade your Java plug-in.)

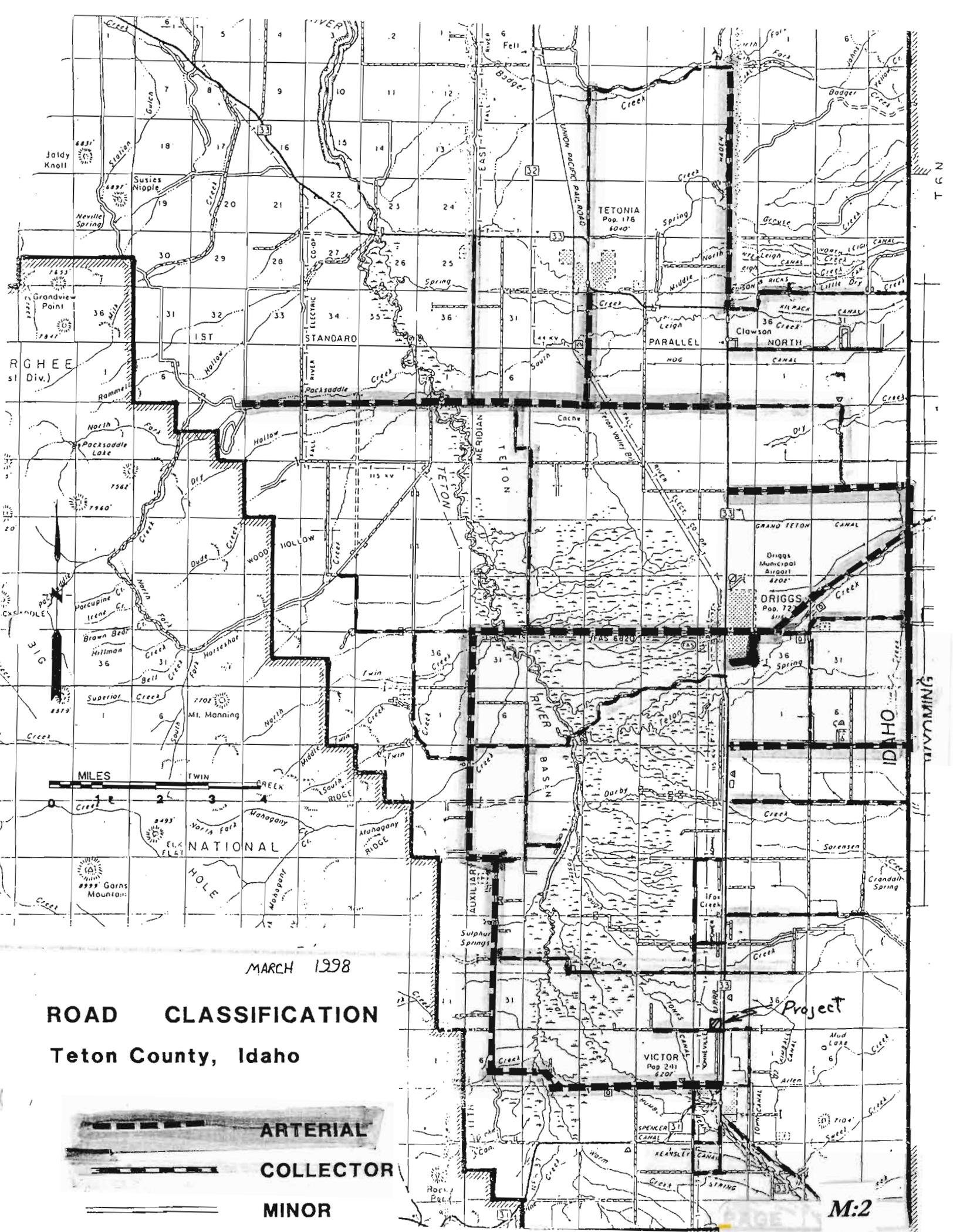
[To ITD's Planning Page](#)

Idaho Transportation Department
 Last Updated: August 7, 2007
 Please send questions or comments to: david.coladner@itd.idaho.gov

Functional class

Highway 33 - Dvirggs-Victor Rural minor-Arterial
 shoulder width 2-3 feet
 Lane width ~12'
 Speed Limit 55' to 64 mph
 3+ Lanes widening

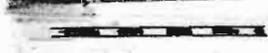
M:1



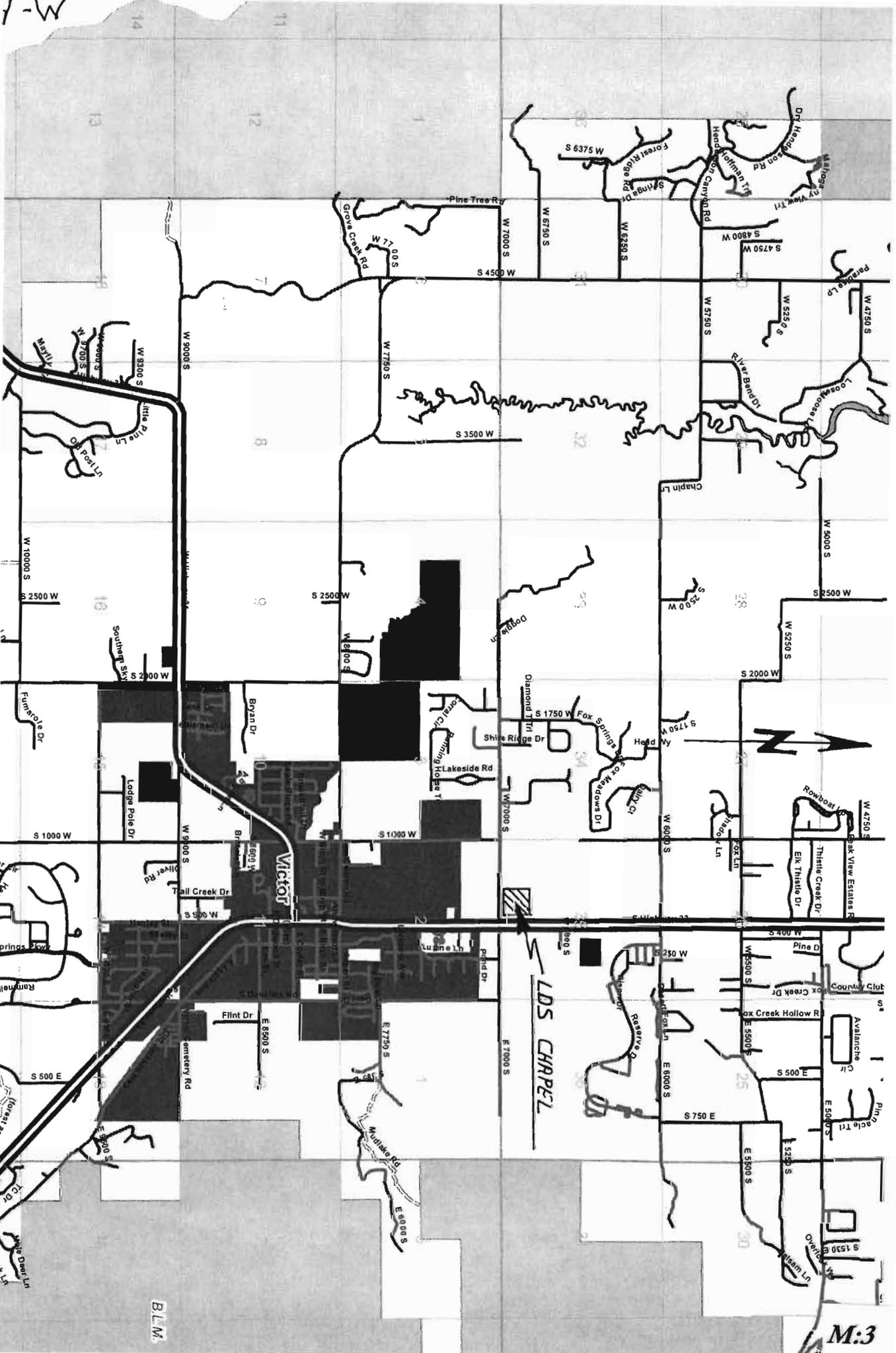
MARCH 1998

ROAD CLASSIFICATION

Teton County, Idaho

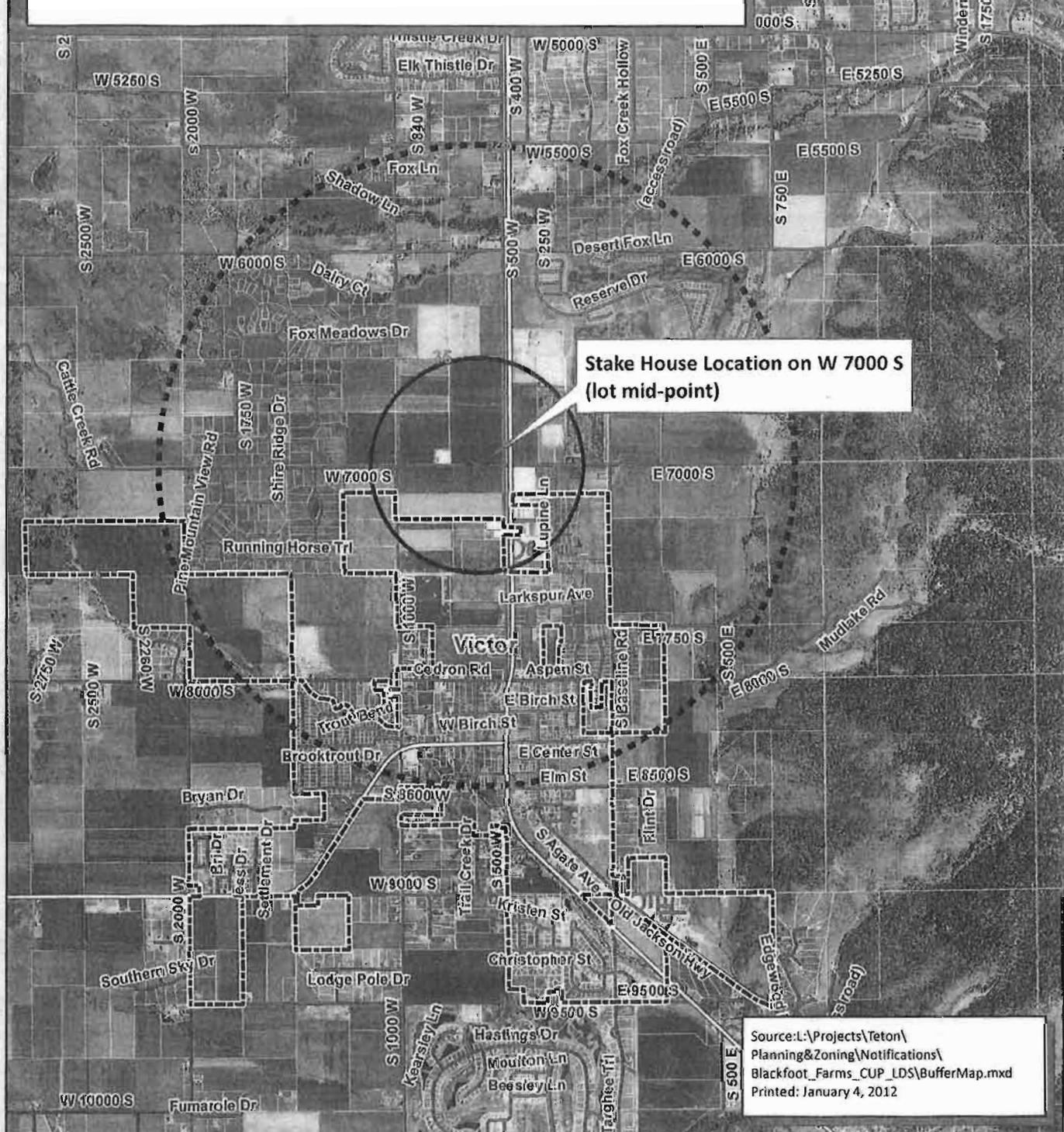
-  ARTERIAL
-  COLLECTOR
-  MINOR

1-W-1



M:3

Home & Subdivision Proximity to Proposed Blackfoot Farms LDS Stake House



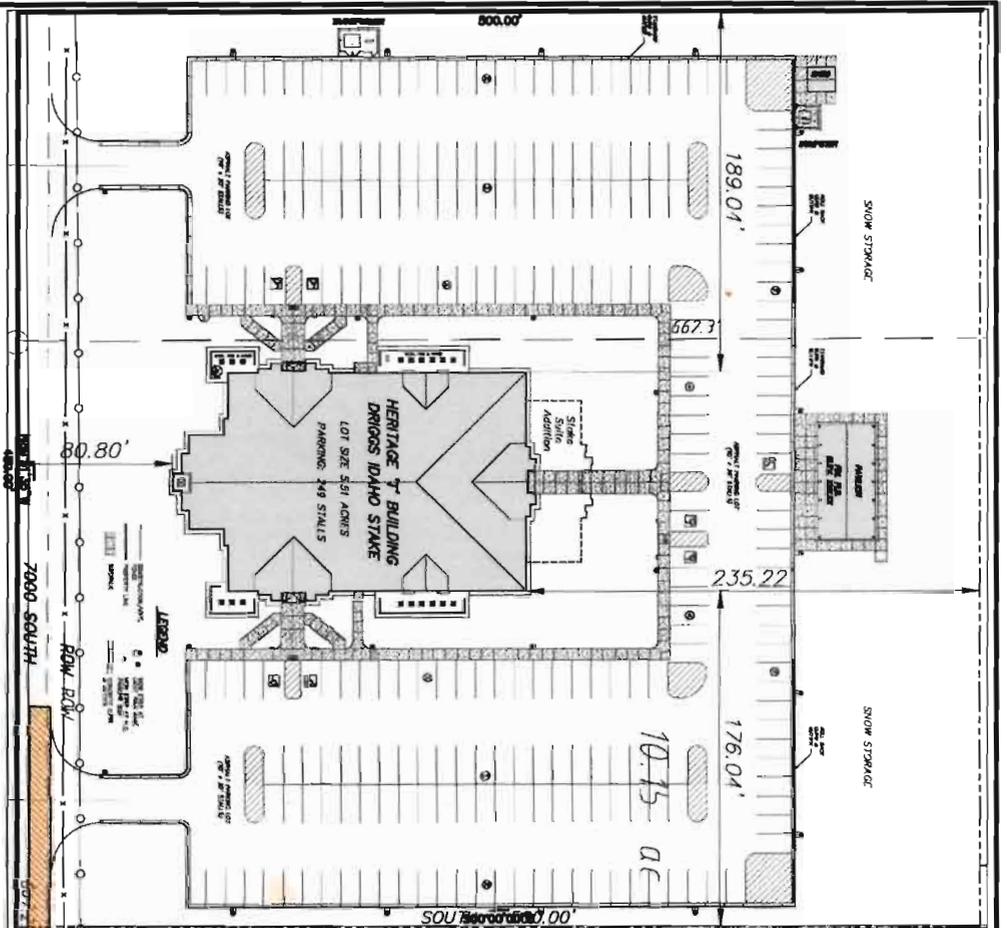
Stake House Location on W 7000 S
(lot mid-point)

Source: L:\Projects\Teton\Planning&Zoning\Notifications\Blackfoot_Farms_CUP_LDS\BufferMap.mxd
Printed: January 4, 2012



- * LDS Stake House Location
- 0.5-mile Radius
- 1.5-mile radius
- ▭ Improved Parcels within 0.5-mi radius (16 total)
- ▨ Subdivisions within 1.5-mile Radius (41 total)
- ▤ Victor City Boundary





A



330.00'

TURN LANES

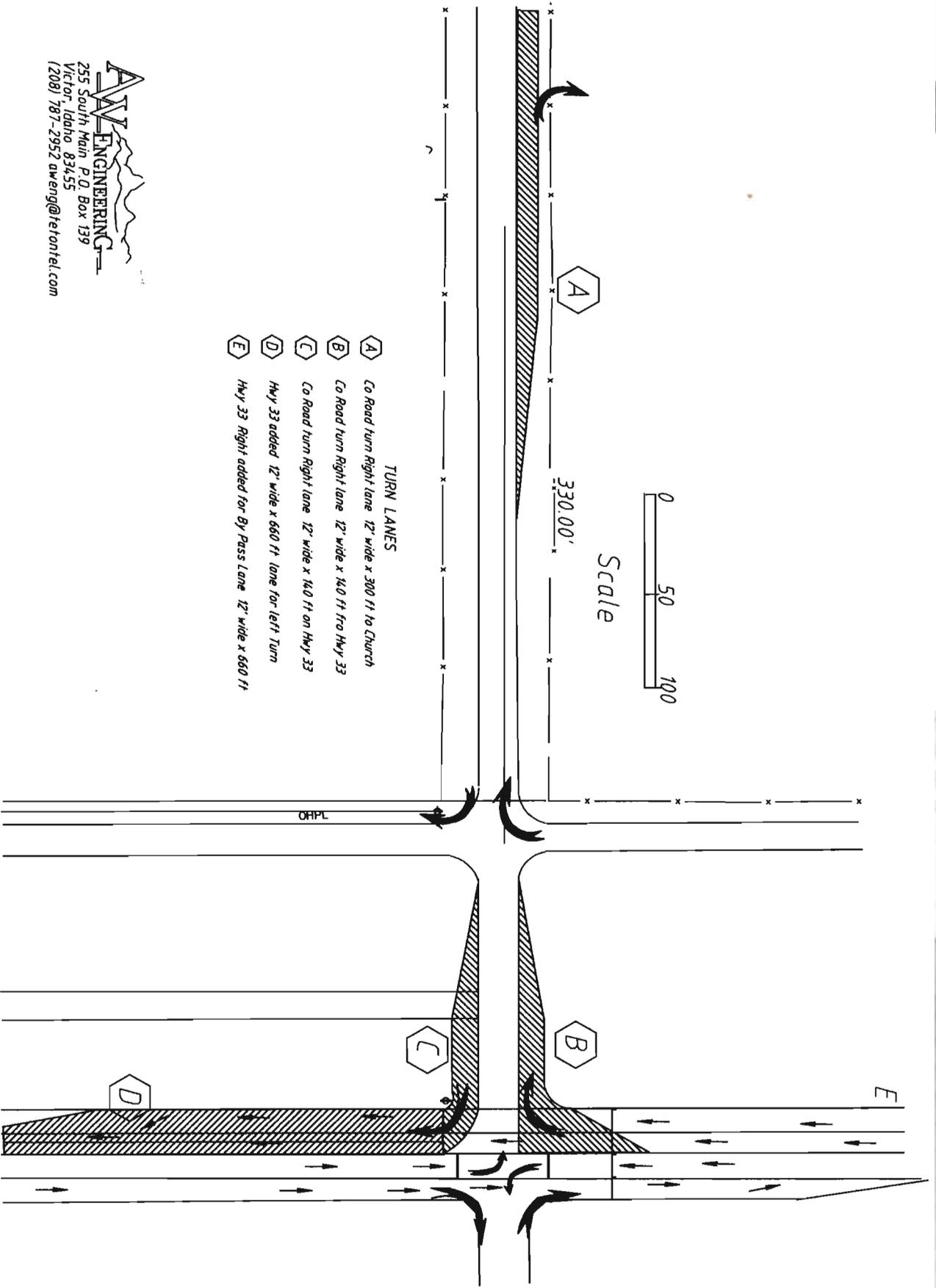
- A Co Road turn Right lane 12' wide x 300 ft to Church
- B Co Road turn Right lane 12' wide x 140 ft fro Hwy 33
- C Co Road turn Right lane 12' wide x 140 ft on Hwy 33
- D Hwy 33 added 12' wide x 660 ft lane for left Turn
- E Hwy 33 Right added for By Pass Lane 12' wide x 660 ft

RAILS TO TRAILS PATHWAY - OLD RR

STATE HIGHWAY 33

AW ENGINEERING
 255 South Main P.O. Box 139
 Victor, Idaho 83455
 (208) 787-2952 aweng@retortel.com

TURN LANES 7000 South - Hwy 33

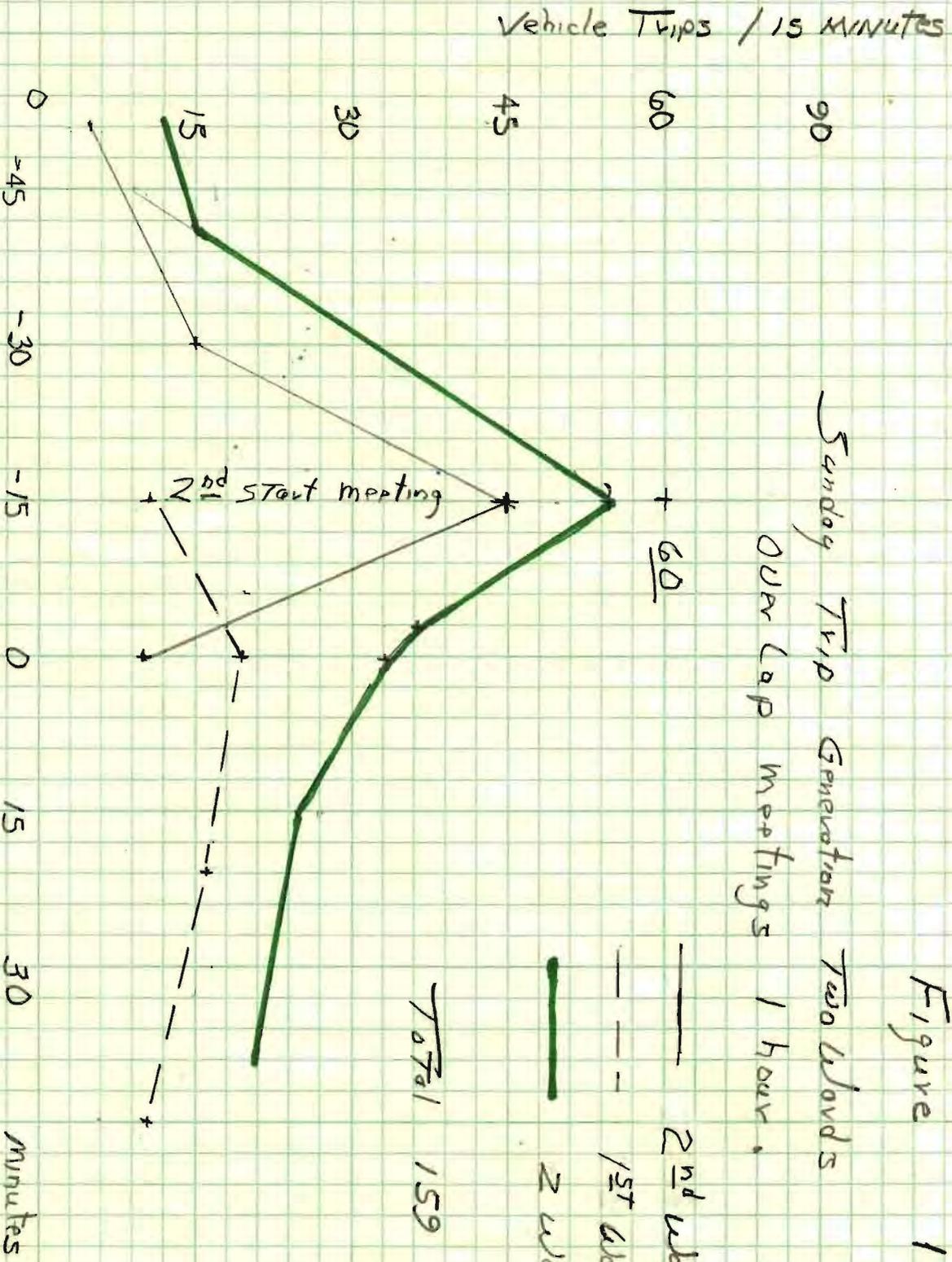


TURN LANES

- (A) Co Road Turn Right lane 12' wide x 300 ft to Church
- (B) Co Road Turn Right lane 12' wide x 14.0 ft fro Hwy 33
- (C) Co Road Turn Right lane 12' wide x 14.0 ft on Hwy 33
- (D) Hwy 33 added 12' wide x 660 ft lane for left Turn
- (E) Hwy 33 Right added for By Pass Lane 12' wide x 660 ft

AW ENGINEERING
 255 South Main, P.O. Box 139
 Victor, Idaho, 83455
 (208) 787-2952 aweng@fetontel.com

TURN LANES 7000 South - Hwy 33



ASU Eng
Figure 1



Teton County Engineer

January 27, 2012

AW Engineering
PO Box 139
255 S Main Street
Victor, ID 83455

RE: for Blackfoot Farms (Driggs Stake)-Traffic Study Report review findings

Dear Mr. Woolstenhulme,

The following comments pertain to the revised Traffic Study Report dated 1/10/2012. This report addressed many but not all of the items identified in the January 3, 2012 Kittelson & Associates review of the original Traffic Study Report dated 11/22/2011.

Kittelson & Associates Comments dated 1/3/2012:

Study Data

1. Addressed
 - a. Addressed
 - b. Addressed
2. The report states the Heffron Study data result were increased by 30%. However it does not appear that the 30% was applied to the anticipated trip generation for Sundays. Additionally the source for the anticipated weekday trip generation should be clarified
3. Addressed
 - a. Addressed
4. See itemized comments
 - a. The Heffron Traffic Data table is still mislabeled
 - b. Addressed
 - c. Addressed

Study Analysis Procedure

1. Addressed
 - a. Addressed
 - b. Addressed (see attached telephone call summary with ITD)
 - i. Addressed
 - c. Addressed
2. No figures were provided.

Study Findings

1. W7000S Improvements

Teton County Engineer – jmaz@co.teton.id.us
Phone: 208-354-0245 • 150 Courthouse Drive, Driggs, Idaho 83422 • Fax: 208-354-8778
www.tetoncountyidaho.com

- a. Addressed
 - b. No storage space/queuing calculations were provided.
2. Addressed (see attached telephone call summary with ITD)
 - a. Addressed
 - b. No storage space/queuing calculations were provided.

Additional Comments from Teton County Engineer

1. Page 2 Table: The current county road names should be used (500W & 7000S)
2. Page 5, 2nd & 3rd Tables: Please label the traffic directions for the Highway 33
3. Page 6, 1st Table:
 - a. The 3rd column is mislabeled (see Kittelson Comments above)
 - b. The report states a 30% increase was added to the Heffron data, however only a 5% increase is shown in this table.
4. Page 6 3rd Table: Please indicate the data source for the 50vph generated by the church.
5. Page 7: Please clarify the data source for the project generated "250 vph peak traffic".
6. The figures provided show a turn lane on 7000S to the east access only. Per the report, traffic will equally split between both accesses on 7000S. Based on these assumptions is a turn lane will be required for the east and west accesses?

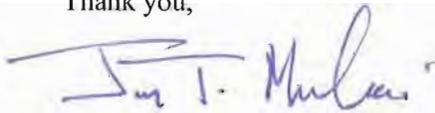
Conclusion

The revised report identifies the impacts of the proposed project and proposes solutions to mitigate these impacts. The proposed improvements for the 7000S/Hwy 33 intersection are, in general, acceptable to the Idaho Transportation Department (see attached correspondence). The proposed improvements for 7000S are, in general, acceptable to me, with the exception that an additional turn lane at the west access appears to be needed. The applicant will need to continue to work with county regarding the design of these improvements. Additionally, all of the proposed improvements should be required as part of the County approval process.

The report contains some technical issues, noted above, that require clarification. The report should be updated to addresses all of the items noted. A final completed report should be submitted with the design plans for the improvements.

If you have any questions or comments, please call.

Thank you,



Jay T. Mazalewski, PE
Teton County Engineer

Cc:
Teton County Planning Department
City of Victor
NBW Architects
Blackfoot Farms, LLC

Jay Mazalewski

From: Jay Mazalewski
Sent: Thursday, January 26, 2012 3:33 PM
To: 'Matt Davison'
Cc: Wendy Danielson; Curt Moore
Subject: Hwy 33 & W7000S - Teton County

Matt,

Thank you for taking the time to speak with me today. I hope this email summarizes our conversation, if I have missed anything please let me know.

You reviewed the revised Traffic Study Report dated 1/10/12 for the LDS Church-Driggs Stake.

In general, you agreed with the recommended improvements for the W7000S and Highway 33 Intersection.

Although the study did not provide all of the requested information, the study contained enough information to warrant the recommended turn lanes. Therefore an update of the study at this time is not necessary from your view.

ITD would like to team up with the applicant and Teton County to ensure the design and construction meets ITD Standards.

ITD may be willing to assist with the intersection design as part of the collaboration.

The level of detail in the construction drawings will depend on who is constructing the intersection.

Some ways the County may assist is through project oversight, inspection, or materials.

ITD will look to the county to ensure that the recommended improvements are constructed as part of this project.

ITD will wait for the County to initiate negotiations regarding collaboration on the intersection improvements.

If you have any questions, please call.

Thank you,
Jay

Jay T. Mazalewski, PE
County Engineer/Public Works Director
150 Courthouse Way
Driggs, ID 83422
208-354-0245