

**GRAND TRAVERSE COUNTY BOARD OF COMMISSIONERS  
STUDY SESSION**

**Wednesday, July 24, 2019  
8:00 a.m.**

**Governmental Center, Commission Chambers  
400 Boardman Avenue  
Traverse City, Michigan 49684**

A Study Session is held for review and discussion of information only. This study session is being held to receive an update regarding the Airport.

*If you are planning to attend and you have a disability requiring any special assistance at the meeting, please notify the County Clerk immediately at 922-4760.*

**AGENDA**

1. OPENING CEREMONIES OR EXERCISES
2. ROLL CALL
3. FIRST PUBLIC COMMENT

Any person shall be permitted to address a meeting of the Board of Commissioners which is required to be open to the public under the provision of the Michigan Open Meetings Act. Public Comment shall be carried out in accordance with the following Board Rules and Procedures:

Any person wishing to address the Board shall state his or her name and address.

No person shall be allowed to speak more than once on the same matter, excluding time needed to answer Commissioners' questions, if any. The Chairperson shall control the amount of time each person shall be allowed to speak, which shall not exceed three (3) minutes. The Chairperson may, at his or her discretion, extend the amount of time any person is allowed to speak.

Public comment will be solicited during the two public comment periods noted in Rule 5.4, Order of Business. However, public comment will generally be received at any time during the meeting regarding a specific topic currently under discussion by the board. Members of the public wishing to comment should raise their hand or pass a note to the clerk in order to be recognized, and shall not address the board until called upon by the chairperson. Please be respectful and refrain from personal or political attacks.

4. Airport Update – Maintaining/Improving Land Use and Obstructions
5. SECOND PUBLIC COMMENT (Refer to Rules under Public Comment above)
6. ADJOURNMENT

# Cherry Capital Airport



AIRPORT UPDATE

MAINTAINING- IMPROVING LAND USE &  
OBSTRUCTIONS

# Northwestern Regional Airport Commission

## NRAC as directed by the Leelanau and Grand Traverse Counties

- ▶ Pursuant to Ch. 7 of the Michigan Aeronautics Code section 134
  - ▶ Acquire, establish, construct, enlarge, improve, maintain, equip, operate, regulate the Cherry Capital Airport and other aeronautical facilities and property incidental to its' operation per Public Act 327 of the Michigan Aeronautics Code
  - ▶ It is expressly understood that the NRAC shall comply with all laws and regulations, municipal, state, and federal

## Public Act 327

- ▶ Directs governmental control to the NRAC to:
  - ▶ Act on behalf of the political subdivisions (Grand Traverse County and Leelanau County) acting jointly by which the NRAC is appointed all the powers of each such political subdivisions granted by this act

# Goals



## ▶ Northwestern Regional Airport Commission Goals

- ▶ Safe
- ▶ Secure
- ▶ Self Sufficient





# TVC – 2018/2019

- ▶ 2018
  - ▶ 96,189 Aircraft Operations
  - ▶ 500,416 Total Passengers
  - ▶ 2.2 Million Pounds of Cargo
- ▶ 2019
  - ▶ Total Passenger Up 12.5%
    - ▶ June Up 24.8%
  - ▶ Airline Operations Up 10.7%
  - ▶ 216,571 Pounds of Cargo in June Up 5.1%



# Airport Finance

- ▶ Operating Budget - \$6.4 million
  - ▶ Supported by landing fees, aircraft and vehicle parking fees, rental fees, land rent, and concessionaire fees –those that use the airport support the airport
  - ▶ NO LOCAL TAX DOLLARS
  - ▶ Cherry Capital Airport is completely self sufficient



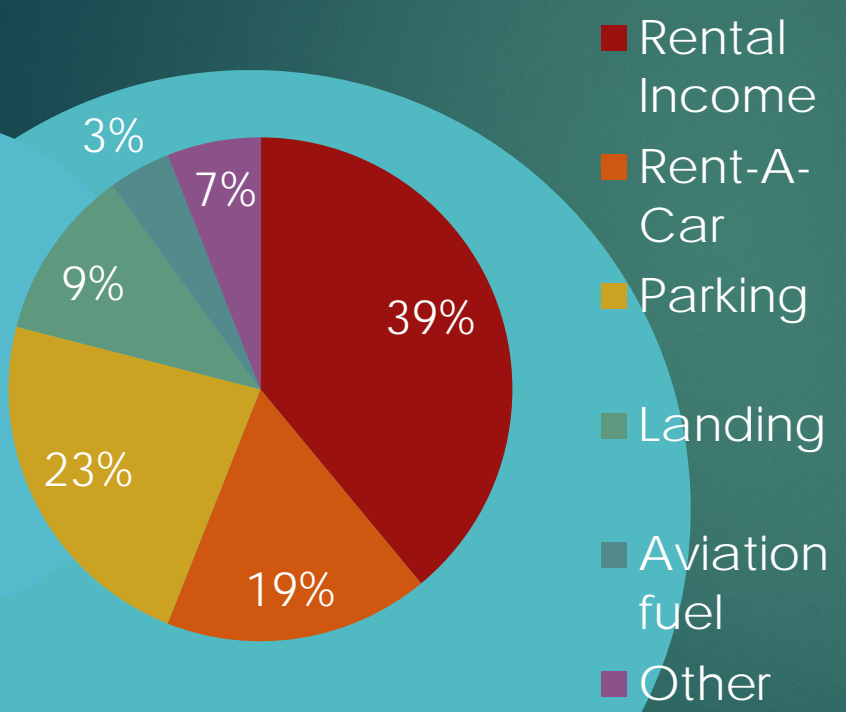
# Airport Finance

- ▶ Capital Budget \$2.0 million per year
  - ▶ Funding
    - ▶ Airport Improvement Program (AIP) money is made up from the tax on an airline ticket
    - ▶ Passenger Facility Charges - \$4.50 per passenger
    - ▶ Funding is from the users of the airport system, no local tax dollars are used to support Cherry Capital Airport

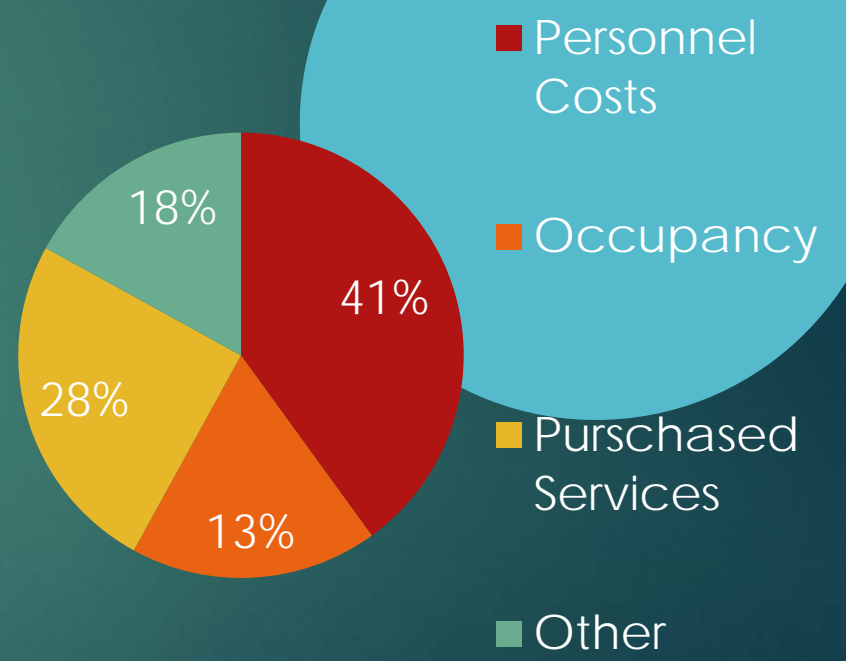




### Operating Revenues



### Operating Expenses

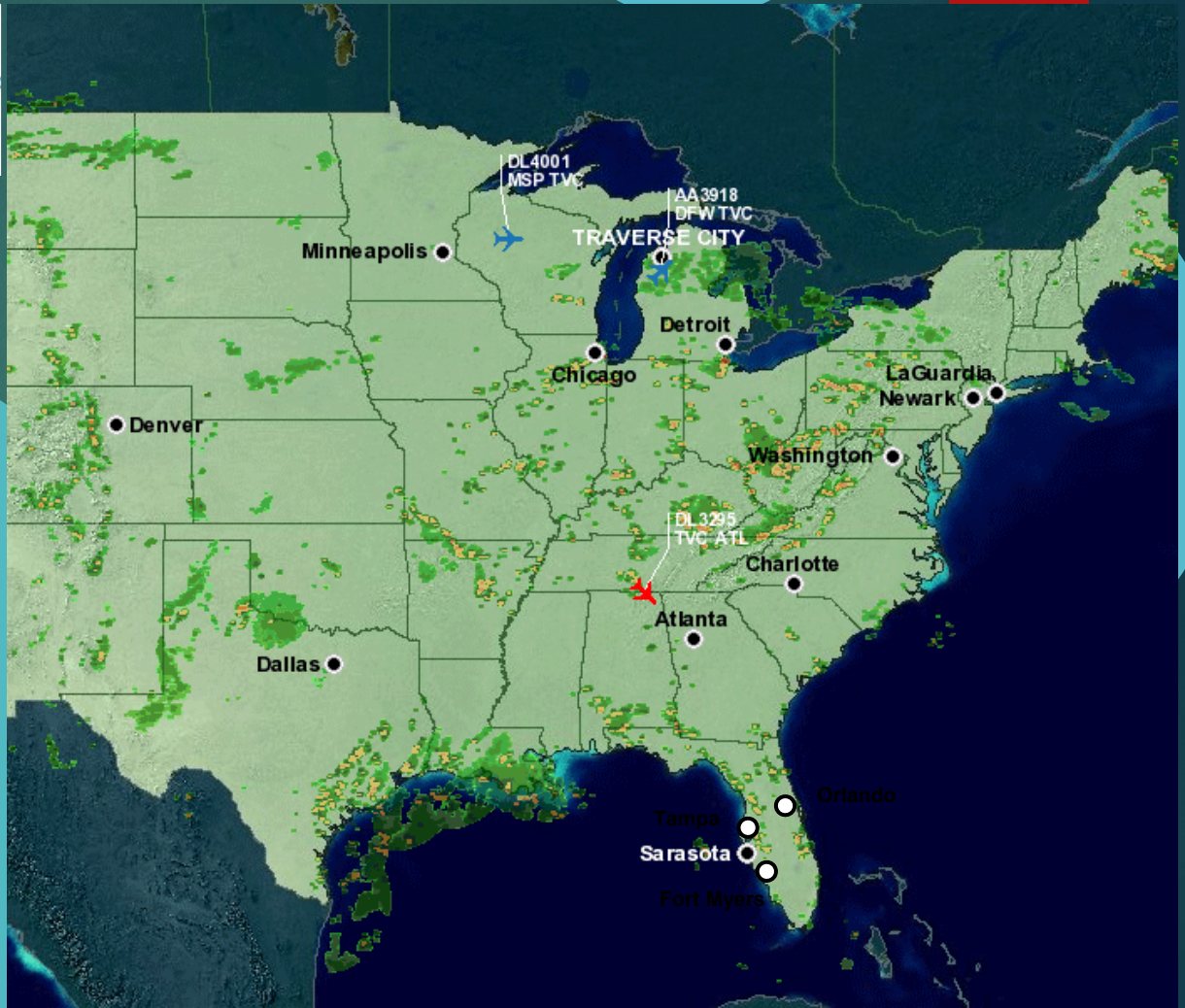




# Airport Economic Impact

- ▶ Michigan Department of Transportation – Office of Aeronautics – Community Benefits Assessment 2017
  - ▶ Determined that TVC annual economic Impact is **\$991,364,000** ranking TVC 3<sup>rd</sup> in the state behind DTW and GRR
  - ▶ Average visitor spending per person is **\$752.00** ranking TVC number 1 in the state
  - ▶ Local jobs **2,199**

# Airline Service – 5 Airlines, 14 Cities





# Compatible Land Use

- ▶ Land use on and in the vicinity of Airports (natural and man made) must be reserved for compatible uses to provide for the health, safety, and general welfare of the public
  - ▶ This is accomplished through Federal Aviation Regulations, Part 77 and 139, Michigan Aeronautics Code, Michigan Zoning Enabling Act
  - ▶ Local zoning also recognizes these hazards and regulates them
    - ▶ East Bay Township
    - ▶ Garfield Township
    - ▶ City of Traverse City
    - ▶ Acme Township
    - ▶ Peninsula Township
    - ▶ Elmwood Township



# FAA Form 7460-1 Notice of Proposed Construction or Alteration

## NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

### § 77.7 Form and time of notice.

(a) If you are required to file notice under § 77.9, you must submit to the FAA a completed FAA Form 7460-1, Notice of Proposed Construction or Alteration, FAA Form 7460-1 is available at FAA regional offices and on the Internet.

(b) You must submit this form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

(c) If you propose construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit notice to the FAA on or before the date that the application is filed with the FCC.

(d) If you propose construction or alteration to an existing structure that exceeds 2,000 ft. in height above ground level (AGL), the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. You must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

(e) The 45-day advance notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health or public safety. You may provide notice to the FAA by any available, expeditious means. You must file a completed FAA Form 7460-1 within 5 days of the initial notice to the FAA. Outside normal business hours, the nearest flight service station will accept emergency notices.

### § 77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

(a) Any construction or alteration that is more than 200 ft. AGL at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(c) Any construction or alteration for which notice is required by any other FAA regulation.

(d) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff areas of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical clearance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

- (1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;
- (2) A military airport under construction, or an airport under construction that will be available for public use;
- (3) An airport operated by a Federal agency or the DOI;
- (4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

## INSTRUCTIONS FOR COMPLETING FAA FORM 7460-1

PLEASE TYPE or PRINT

ITEM #1. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #2. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #3. New Construction would be a structure that has not yet been built.

Alteration is a change to an existing structure such as the addition of a side mounted antenna, a change to the marking and lighting, a change to power and/or frequency, or a change to the height. The nature of the alteration shall be included in ITEM #21 "Complete Description of Proposal".

Existing would be a correction to the latitude and/or longitude, a correction to the height, or if filling on an existing structure which has never been studied by the FAA. The reason for the notice shall be included in ITEM #21 "Complete Description of Proposal".

ITEM #4. If permanent, so indicate. If temporary, such as a crane or derrick, enters the estimated length of time the temporary structure will be up.

ITEM #5. Enter the date that construction is expected to start and the date that construction should be completed.

ITEM #6. Please indicate the type of structure. **DO NOT LEAVE BLANK.**

ITEM #7. In the event that obstruction marking and lighting is required, please indicate type desired. If no preference, check "other" and indicate "See annotations." **DO NOT LEAVE BLANK.** NOTE: High intensity lighting shall be used only for structures over 500 AGL. In the absence of high intensity lighting for structures over 500 AGL, marking is also required.

ITEM #8. If this is an existing tower that has been registered with the FCC, enter the FCC Antenna Structure Registration number here.

ITEM #9 and #10. Latitude and longitude must be geographic coordinates, accurate to within the nearest second or to the nearest hundredth of a second if known. Latitude and longitude derived solely from a hand-held GPS instrument is NOT acceptable. A hand-held GPS is only accurate to within 100 meters (328 feet) 95 percent of the time. This data, when plotted, should match the site depiction submitted under ITEM #20.

ITEM #11. NAD 83 is preferred; however, latitude and longitude may be submitted in NAD 27. Also, in some geographic areas where NAD 27 and NAD 83 are not available other datum may be used. It is important to know which datum is used. **DO NOT LEAVE BLANK.**

ITEM #12. Enter the name of the nearest city and state to the site. If the structure is or will be in a city, enter the name of that city and state.

ITEM #13. Enter the full name of the nearest public-use (not private-use) airport or heliport or military airport or heliport to the site.

ITEM #14. Enter the distance from the airport or heliport listed in #13 to the structure.

ITEM #15. Enter the direction from the airport or heliport listed in #13 to the structure.

ITEM #16. Enter the site elevation above mean sea level and expressed in whole feet rounded to the nearest foot (e.g. 173' rounds to 173', 173.7' rounds to 174'). This data should match the ground contour elevations for site depiction submitted under ITEM #20.

ITEM #17. Enter the total structure height above ground level in whole feet rounded to the next highest foot (e.g. 173.7' rounds to 174'). The total structure height shall include anything mounted on top of the structure, such as antennas, obstruction lights, lightning rods, etc.

ITEM #18. Enter the overall height above mean sea level and expressed in whole feet. This will be the total of ITEM #16 + ITEM #17.

ITEM #19. If an FAA aeronautical study was previously conducted, enter the previous study number.

ITEM #20. Enter the relationship of the structure to roads, airports, prominent terrain, existing structures, etc. Attach an 8-1/2" x 11" non-reduced copy of the appropriate 7.5 minute U.S. Geological Survey (USGS) Quadrangle Map MARKED WITH A PRECISE INDICATION OF THE SITE LOCATION. To obtain maps, contact USGS at 1-888-275-5747 or via internet at <http://libra.loc.gov>. If available, attach a copy of a documented site survey with the surveyor's certification stating the amount of vertical and horizontal accuracy in feet.

ITEM #21. Complete Description of Proposal.

- For transmitting stations, include maximum effective radiated power (ERP) and all frequencies.
- For antennas, include the type of antenna and center of radiation (Attach the antenna pattern, if available).
- For masts, include azimuth relative to true north.
- For overhead wires or transmission lines, include size and configuration of wires and their supporting structures (Attach depiction).
- For each pole/support, include coordinates, site elevation, and structure height above ground level or water.
- For buildings, include site orientation, coordinates of each corner, dimensions, and construction materials.
- For alterations, explain the alteration thoroughly.
- For existing structures, thoroughly explain the reason for notifying the FAA (e.g., corrections, no record or previous study, etc.).

Filing this information with the FAA does not relieve the sponsor of this construction or alteration from complying with any other federal, state or local rules or regulations. If you are not sure what other rules or regulations apply to your proposal, contact local/state aviation or land zoning authorities.

FAA Form 7460-1 (01) Supersedes Previous Editions

Notice Type or Purpose of This Form		Form Approved GSA GEN. REG. NO. 27
<b>Failure to Provide All Requested Information May Delay Processing of Your Notice</b> <b>Notice of Proposed Construction or Alteration</b>		EXP. DATE: 10/31/2011 FORM NO. 7460-1
1. Sponsor (person, company, etc. proposing this action) Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Telephone: _____ Fax: _____		8. Latitude: _____ 9. Longitude: _____ 10. Datum: <input type="checkbox"/> NAD 83 <input type="checkbox"/> NAD 27 <input type="checkbox"/> Other 11. Heliport: City _____ State _____ 12. Nearest Public-use (not private-use) or Military Airport or Heliport: _____ 13. Direction from #13, to structure: _____ 14. Distance from #13, to structure: _____ 15. Site Elevation (AGL): _____ 16. Total Structure Height (AGL): _____ 17. Overall Height (HTG + HTL) (AGL): _____ 18. Previous FAA Aeronautical Study Number (if applicable): _____
2. Sponsor's Representative (if other than #1) Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Telephone: _____ Fax: _____		
3. Notice of: <input type="checkbox"/> New Construction <input type="checkbox"/> Alteration <input type="checkbox"/> Existing 4. Duration: <input type="checkbox"/> Permanent <input type="checkbox"/> Temporary (___ months, ___ days) 5. Work Schedule: Beginning _____ End _____		19. Description of Location: (Attach a USGS 7.5 Minute Quadrangle Map with the precise site marked and any needed survey)
6. Type: <input type="checkbox"/> Antenna Tower <input type="checkbox"/> Crane <input type="checkbox"/> Building <input type="checkbox"/> Power Line <input type="checkbox"/> Landfill <input type="checkbox"/> Water Tank <input type="checkbox"/> Other		
7. Marking/Lighting and Lighting Preference: <input type="checkbox"/> No Lights and Fare <input type="checkbox"/> Dual: Red and High Intensity <input type="checkbox"/> White Medium Intensity <input type="checkbox"/> Dual: Red and High Intensity <input type="checkbox"/> White High Intensity <input type="checkbox"/> Other		20. Complete Description of Proposal Frequency/Power (MW)
8. FCC Antenna Structure Registration Number (if applicable): _____		
I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking and lighting standards, as necessary.		Date: _____ Signature: _____
Date: _____ Signature: _____		

Mail Processing Center  
 Federal Aviation Administration  
 Southwest Regional Office  
 Obstruction Evaluation Group  
 10101 Hillwood Parkway  
 Fort Worth, TX 76117  
 Fax: (817) 222-5920

Website: <https://oesaa.faa.gov>

Form 7460-1 (01) Supersedes Previous Editions

EDITION: 01/2011 (01)

NOV. 0002-00-01-0000



# Federal Regulations and Standards

- ▶ **Federal Aviation Regulation Part 139 – Certification of Airports**

- ▶ In a manner authorized by the Administrator, each certificate holder must ensure that each object in each area within its authority that has been determined by the FAA to be an obstruction is removed, marked, or lighted, unless determined to be unnecessary by an FAA aeronautical study. FAA Advisory Circulars contain methods and procedures for the lighting of obstructions that are acceptable to the Administrator.

- ▶ **Protecting for Federal Aviation Regulation Part 77**

- ▶ The size of each Part 77 imaginary surface is based on the category of each runway.
- ▶ Categories are based on the type of runway – utility or non-utility and type of runway approach – visual, non-precision or precision instrument.
- ▶ This information must be shown on your Airport Layout Plan (ALP) and kept current.
- ▶ The FAA 5010 Airport Master Report (lines 50-58) identify obstruction data related to Part 77 Approach Surface.

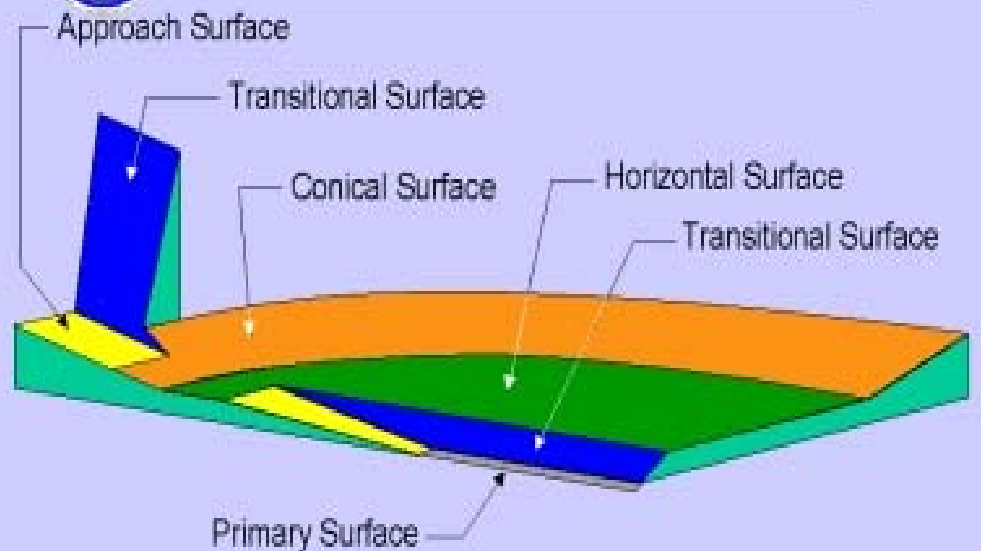
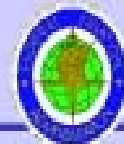
- ▶ **Application of Table 3-2 in FAA's AC 150/5300-13A "Design AC".**

- ▶ Table 3-2 Approach/departure standards table (aka "TSS").
- ▶ Per a specific runway type (nine categories in table) based on visual or instrument approach, type of aircraft, and visibility minimums.
- ▶ More recently updated ALPs are showing the application of TSS. TSS cannot be applied to a runway unless shown on an approved ALP.

OBSTRUCTION IDENTIFICATION SURFACES  
FEDERAL AVIATION REGULATIONS PART 77

DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON - PRECISION INSTRUMENT RUNWAY		PRECISION INSTRUMENT RUNWAY <u>PIR</u>	
		A	B	A	B		
				C	D		
A	WIDTH OF <u>PRIMARY SURFACE</u> AND APPROACH SURFACE WIDTH AT INNER END	250	500	500	500	1,000	1,000
B	RADIUS OF <u>HORIZONTAL SURFACE</u>	5,000	5,000	5,000	10,000	10,000	10,000
		VISUAL APPROACH		NON - PRECISION INSTRUMENT APPROACH		PRECISION INSTRUMENT APPROACH	
		A	B	A	B		
					C	D	
C	APPROACH SURFACE WIDTH AT END	1,250	1,500	2,000	3,500	4,000	16,000
D	APPROACH SURFACE LENGTH	5,000	5,000	5,000	10,000	10,000	*
E	APPROACH SLOPE	20:1	20:1	20:1	34:1	34:1	*

- A - UTILITY RUNWAYS
- B - RUNWAYS LARGER THAN UTILITY
- C - VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
- D - VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
- \* - PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET



## FAR 77 IMAGINARY SURFACES

(Cut-Away View)



**Table 3-2. Approach and Departure Standards Table 1,2**

Runway Type		DIMENSIONAL STANDARDS*					Slope
		Feet (Meters)					
		A	B	C	D	E	
1	Approach end of runways expected to serve small airplanes with approach speeds less than 50 knots. (Visual runways only, day/night).	0 (0)	120 (37)	300 (91)	500 (152)	2,500 (762)	15:1
2	Approach end of runways expected to serve small airplanes with approach speeds of 50 knots or more. (Visual runways only, day/night).	0 (0)	250 (76)	700 (213)	2,250 (686)	2,750 (838)	20:1
3	Approach end of runway expected to serve large airplanes. (Visual runways only, day/night).	0 (0)	400 (122)	1,000 (305)	1,500 (457)	8,500 (2591)	20:1
4	Approach end of runways expected to accommodate instrument approaches having visibility greater than or equal to 3/4 statute mile. <sup>3</sup>	200 (61)	400 (122)	3,400 (1158)	10,000 <sup>4</sup> (3048)	0 (0)	20:1
5	Approach end of runways expected to accommodate instrument approaches having visibility minimums less than 3/4 statute mile.	200 (61)	800 (244)	3,400 (1158)	10,000 <sup>4</sup> (3048)	0 (0)	34:1
6 <sup>5</sup>	Approach end of runways expected to accommodate instrument approaches with vertical guidance.	0 (0)	Runway width 200 (61)	1520 (463)	10,000 <sup>4</sup> (3048)	0 (0)	30:1
7	Departure runway ends used for any instrument operations.	0 <sup>6</sup> (0)	See Figure 3-4.				40:1

\* The letters are keyed to those shown in Figure 3-2 of AC 150/5300-13A.

**General Notes:**

1. This table presents the dimensional standards applicable to varying runway types based on normal conditions (e.g. standard 3-degree glidepath angle). Meeting the requirements of this table will protect the use of the runway in both visual and instrument meteorological conditions near the airport while ensuring maximum runway utility. Final published visibility minimums are determined, in part, by applying the criteria described in FAA Order 8260.3.
2. For planning purposes, objects must remain clear of the surfaces provided in this table. The FAA Flight Procedures Team must mitigate existing obstacles that penetrate instrument procedures that cannot be removed, relocated, or lowered. A modification of standards is not issued for the surfaces described in this table, in accordance with FAA Order 5300.1.
3. Marking and lighting of obstacle penetrations to this surface or the use of a Visual Guidance Slope Indicator (VGSI), may avoid displacing the threshold. Contact the Flight Procedures Team if existing obstacles penetrate this surface.
4. 10,000 feet (3048 m) represents a nominal value for planning purposes. For runways with only straight-in approaches, the length is dependent on the TERPS visual descent point or DA point. For runways with both circling and straight-in approaches, the length is the greater of 10,000 feet or the TERPS visual descent point/DA point.
5. The criteria in Row 6 is required in addition to the applicable approach surface established within the table. Applicable to ILS, GLS, LPV, LNAV/VNAV, and RNP lines of minima.
6. Dimension A is measured relative to the TODA (to include clearway).



# Federal grant assurances directly related to approaches.....

- ▶ Airport sponsors accepting federal AIP funding must agree to certain obligations and conditions associated with receiving the funds. These assurances require the grant recipients to maintain and operate their airports safely & efficiently and in accordance with specified conditions.
- ▶ Effective operation & maintenance of airport (#19)
- ▶ Hazard removal - Protection of approaches to airport (#20)
- ▶ Ensure compatible land use and zoning (#21)
- ▶ Adherence to the approved Airport Layout Plan (#29)



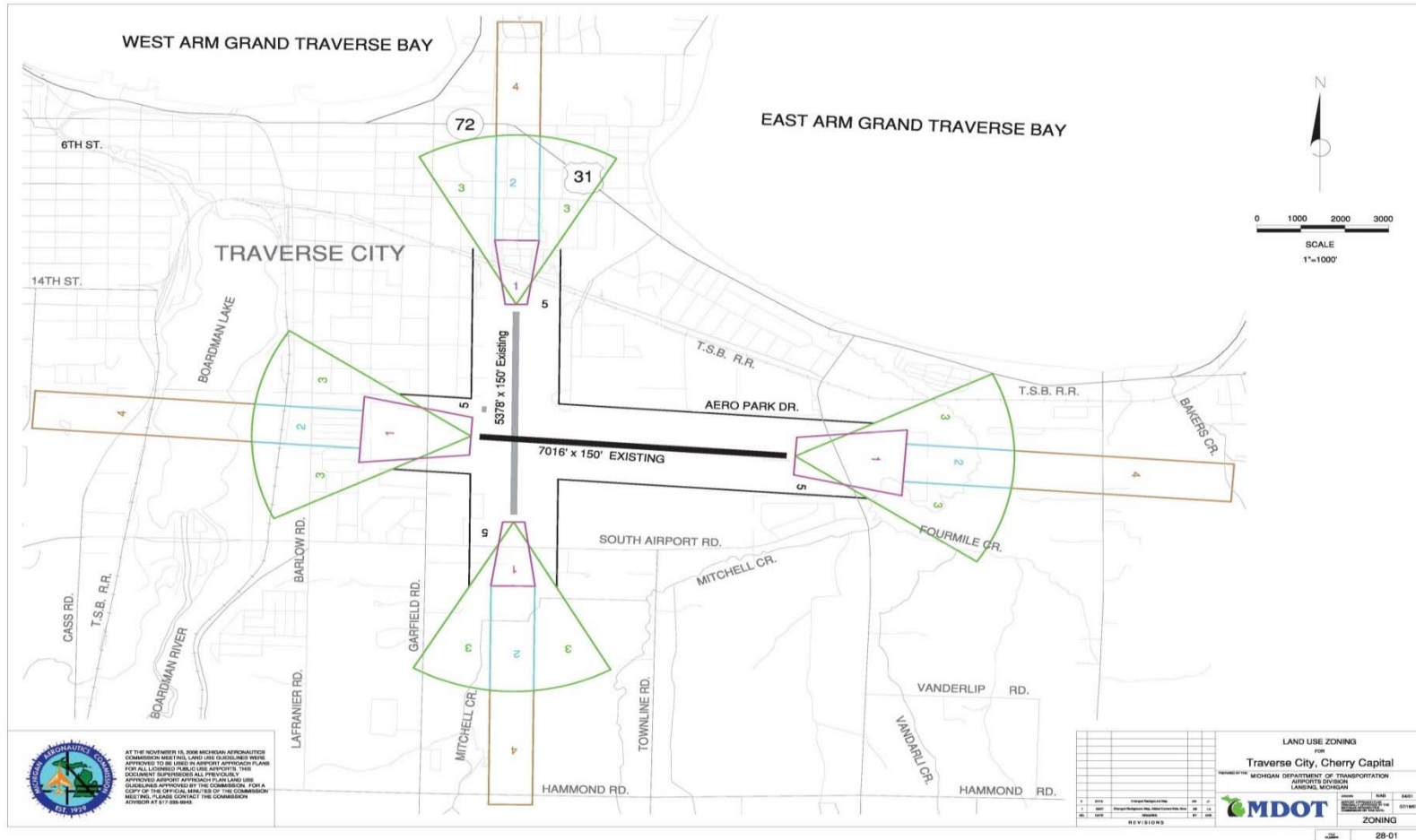
# FAA Airport Inspection

- ▶ When an FAA Airport Inspector does an inspection at your airport, they provide you with an inspection report and an updated FAA 5010 Airport Master Record.
- ▶ They will provide comments about any deficiencies with meeting FAA standards.
- ▶ They are reporting Part 77 Obstruction Data on the Airport Master Record 5010 (lines 50-58) among other data updates. It's important for sponsors to review their inspection report and the 5010 in coordination with their current ALP.
- ▶ It's important to follow through in a timely manner with taking action on those obstructions identified that affect Part 77 Surfaces.

# ALP Obstruction Tables & Approach Sheets

- ▶ The sponsor is required by grant assurances to maintain a current Airport Layout Plan (ALP).
- ▶ ALPs show runway surface obstruction tables. These tables show a proposed disposition (such as remove, lower, relocate, trim, DONH, etc.) for identified obstructions to Part 77 and TSS, if applied.
- ▶ The sponsor is responsible for evaluating their obstruction tables and taking timely action to follow through with the proposed disposition. A review of these tables will be done annually at the MAP meeting.
- ▶ If a Part 77 obstruction cannot be resolved or mitigated with the application of TSS, the sponsor may need to have further evaluation done through a FAA Aeronautical Study.
- ▶ Any identified obstruction to the TSS should be mitigated as soon as possible.
- ▶ The sponsor's ALP should be updated as these obstructions are resolved.

# Michigan Approach Plan For TVC





# Michigan Approach Plan For TVC

- ▶ Land Use Characteristics
- ▶ Land Use Guidelines
- ▶ Land Use Planning Strategies

**ACCIDENT SAFETY ZONES, LAND USE GUIDELINES AND PLANNING STRATEGIES FOR NEW DEVELOPMENT**

Accident Safety Zone	Land Use Characteristics	Land Use Guidelines	Land Use Planning Strategies
Zone 1 Obstruction Zone	Avoid land uses which constitute people exposure or vehicles.	Avoid land uses which constitute people exposure or vehicles.	1. No development. 2. Airport owners should purchase property if possible. 3. Zone 1 land uses, which by their nature, will be developed, should be developed by people for some reason, such as parks, etc.
Restricted vs. Non-Restricted Land Use	Restrict all activities in land uses which constitute people exposure or vehicles.	Restrict all activities in land uses which constitute people exposure or vehicles.	1. Create a height based overlay ordinance around the airport. 2. Airport owners should purchase property if possible. 3. Airport owners should obtain aviation easements. 4. Airport owners should obtain aviation easements from all property owners within the boundary of the airport. 5. Encourage aviation easement deed with all land use activities. 6. Encourage aviation easement deed with all land use activities. 7. Encourage aviation easement deed with all land use activities.
Special Aviation Land Use	Restrict all Special Aviation Land Use.	Restrict all Special Aviation Land Use.	1. Prohibit all Special Aviation Land Use. 2. Prohibit all Special Aviation Land Use. 3. Prohibit all Special Aviation Land Use.

Note: The above information is for informational purposes only. It is not intended to be used as a legal document. For more information, please contact the Michigan Department of Transportation, Bureau of Airport Operations, at 317-338-2866.

**COMPATIBLE LAND USE MATRIX**

Accident Safety Zone	Land Use Characteristics	Land Use Guidelines	Land Use Planning Strategies
Zone 2 Flightpath Zone	Prohibit all activities in land uses which constitute people exposure or vehicles.	Prohibit all activities in land uses which constitute people exposure or vehicles.	1. No development. 2. Airport owners should purchase property if possible. 3. Zone 2 land uses, which by their nature, will be developed, should be developed by people for some reason, such as parks, etc.
Restricted vs. Non-Restricted Land Use	Restrict all activities in land uses which constitute people exposure or vehicles.	Restrict all activities in land uses which constitute people exposure or vehicles.	1. Create a height based overlay ordinance around the airport. 2. Airport owners should purchase property if possible. 3. Airport owners should obtain aviation easements. 4. Airport owners should obtain aviation easements from all property owners within the boundary of the airport. 5. Encourage aviation easement deed with all land use activities. 6. Encourage aviation easement deed with all land use activities. 7. Encourage aviation easement deed with all land use activities.
Special Aviation Land Use	Restrict all Special Aviation Land Use.	Restrict all Special Aviation Land Use.	1. Prohibit all Special Aviation Land Use. 2. Prohibit all Special Aviation Land Use. 3. Prohibit all Special Aviation Land Use.

**COMPATIBLE LAND USE MATRIX**

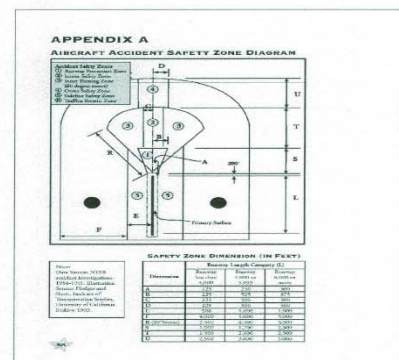
Accident Safety Zone	Land Use Characteristics	Land Use Guidelines	Land Use Planning Strategies
Zone 3 Obstruction Zone	Avoid land uses which constitute people exposure or vehicles.	Avoid land uses which constitute people exposure or vehicles.	1. No development. 2. Airport owners should purchase property if possible. 3. Zone 3 land uses, which by their nature, will be developed, should be developed by people for some reason, such as parks, etc.
Restricted vs. Non-Restricted Land Use	Restrict all activities in land uses which constitute people exposure or vehicles.	Restrict all activities in land uses which constitute people exposure or vehicles.	1. Create a height based overlay ordinance around the airport. 2. Airport owners should purchase property if possible. 3. Airport owners should obtain aviation easements. 4. Airport owners should obtain aviation easements from all property owners within the boundary of the airport. 5. Encourage aviation easement deed with all land use activities. 6. Encourage aviation easement deed with all land use activities. 7. Encourage aviation easement deed with all land use activities.
Special Aviation Land Use	Restrict all Special Aviation Land Use.	Restrict all Special Aviation Land Use.	1. Prohibit all Special Aviation Land Use. 2. Prohibit all Special Aviation Land Use. 3. Prohibit all Special Aviation Land Use.

**COMPATIBLE LAND USE MATRIX**

Accident Safety Zone	Land Use Characteristics	Land Use Guidelines	Land Use Planning Strategies
Zone 4 Obstruction Zone	Avoid land uses which constitute people exposure or vehicles.	Avoid land uses which constitute people exposure or vehicles.	1. No development. 2. Airport owners should purchase property if possible. 3. Zone 4 land uses, which by their nature, will be developed, should be developed by people for some reason, such as parks, etc.
Restricted vs. Non-Restricted Land Use	Restrict all activities in land uses which constitute people exposure or vehicles.	Restrict all activities in land uses which constitute people exposure or vehicles.	1. Create a height based overlay ordinance around the airport. 2. Airport owners should purchase property if possible. 3. Airport owners should obtain aviation easements. 4. Airport owners should obtain aviation easements from all property owners within the boundary of the airport. 5. Encourage aviation easement deed with all land use activities. 6. Encourage aviation easement deed with all land use activities. 7. Encourage aviation easement deed with all land use activities.
Special Aviation Land Use	Restrict all Special Aviation Land Use.	Restrict all Special Aviation Land Use.	1. Prohibit all Special Aviation Land Use. 2. Prohibit all Special Aviation Land Use. 3. Prohibit all Special Aviation Land Use.

**COMPATIBLE LAND USE MATRIX**

Accident Safety Zone	Land Use Characteristics	Land Use Guidelines	Land Use Planning Strategies
Zone 5 Obstruction Zone	Avoid land uses which constitute people exposure or vehicles.	Avoid land uses which constitute people exposure or vehicles.	1. No development. 2. Airport owners should purchase property if possible. 3. Zone 5 land uses, which by their nature, will be developed, should be developed by people for some reason, such as parks, etc.
Restricted vs. Non-Restricted Land Use	Restrict all activities in land uses which constitute people exposure or vehicles.	Restrict all activities in land uses which constitute people exposure or vehicles.	1. Create a height based overlay ordinance around the airport. 2. Airport owners should purchase property if possible. 3. Airport owners should obtain aviation easements. 4. Airport owners should obtain aviation easements from all property owners within the boundary of the airport. 5. Encourage aviation easement deed with all land use activities. 6. Encourage aviation easement deed with all land use activities. 7. Encourage aviation easement deed with all land use activities.
Special Aviation Land Use	Restrict all Special Aviation Land Use.	Restrict all Special Aviation Land Use.	1. Prohibit all Special Aviation Land Use. 2. Prohibit all Special Aviation Land Use. 3. Prohibit all Special Aviation Land Use.



AT THE SEPTEMBER 16, 2008 MICHIGAN AERONAUTICS COMMISSION MEETING, THESE LAND USE GUIDELINES WERE APPROVED AND APPROVED TO BE USED IN AIRPORT APPROACH PLANS FOR ALL LICENSED PUBLIC USE AIRPORTS. THE AIRPORT APPROACH PLANS PREVIOUSLY APPROVED AIRPORT APPROACH PLANS AND USE GUIDELINES APPROVED BY THE COMMISSION. FOR A COPY OF THE OFFICIAL MINUTES OF THE COMMISSION MEETING, PLEASE CONTACT THE COMMISSION OFFICE AT 317-338-2866.

ANY AIRPORT APPROACH PLAN ONLY AUTHORIZED REPRESENTATIVE OF A JURISDICTIONAL GOVERNMENTAL ENTITY MAY REQUEST THAT THE MICHIGAN AERONAUTICS COMMISSION AMEND AN AIRPORT APPROACH PLAN. ALL SUCH REQUESTS MUST BE SUBMITTED TO THE COMMISSION FROM THE AIRPORT APPROACH PLAN. THE REQUESTOR MUST PROVIDE A LETTER TO THE COMMISSION OFFICE AND A COPY OF THE APPROACH PLAN. THE REQUESTOR MUST PROVIDE A LETTER TO THE COMMISSION OFFICE AND A COPY OF THE APPROACH PLAN. THE REQUESTOR MUST PROVIDE A LETTER TO THE COMMISSION OFFICE AND A COPY OF THE APPROACH PLAN.



Item	Description	Quantity	Unit	Price
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**LAND USE GUIDELINES  
STATE OF MICHIGAN  
AIRPORT APPROACH**

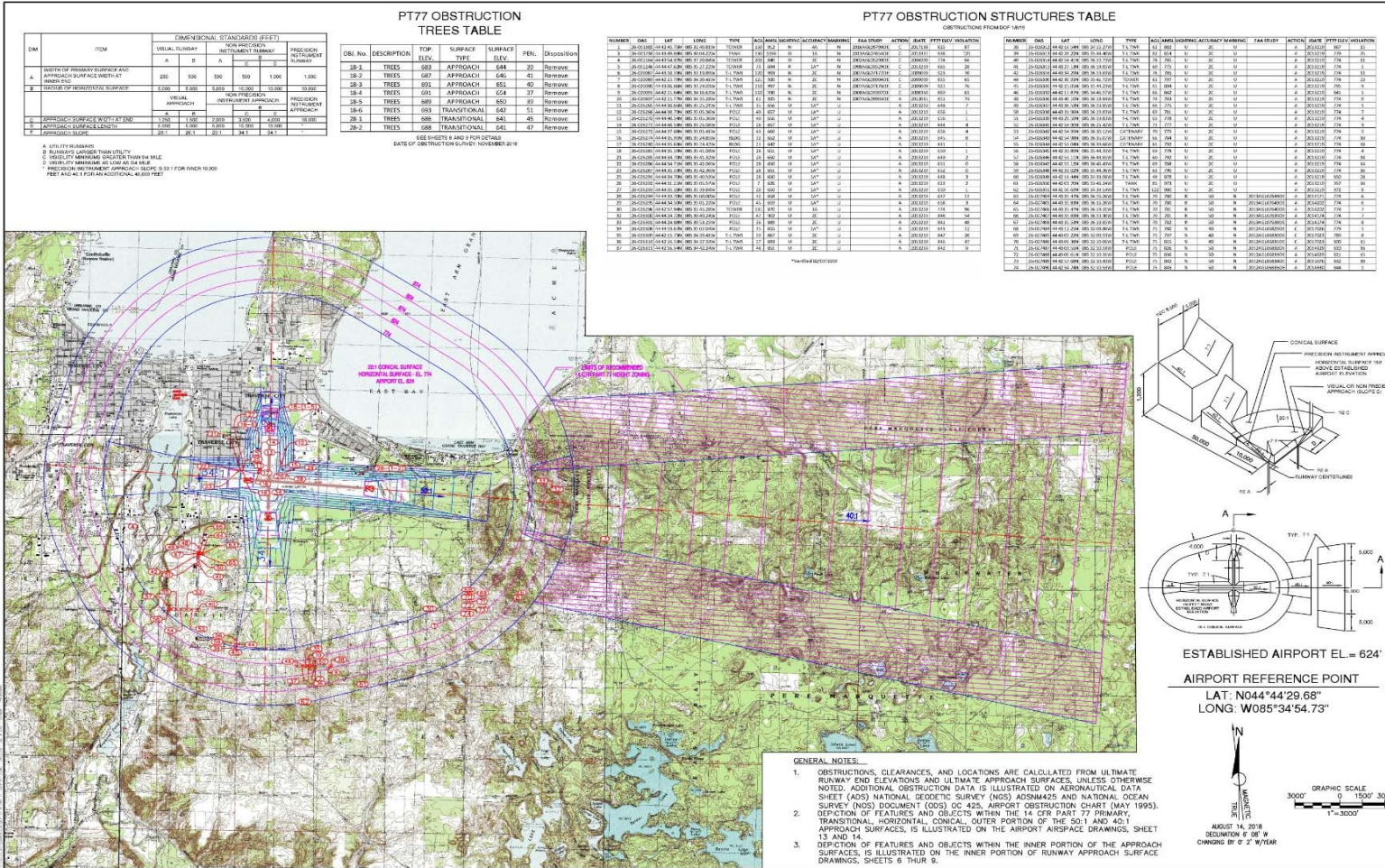
MICHIGAN DEPARTMENT OF TRANSPORTATION  
AIRPORTS DIVISION  
LANSING, MICHIGAN

APPROVED: *[Signature]* 12/26/09

DATE: 12/26/09



# Updated ALP Part 77 Obstruction Plan



DATE	BY	REVISIONS

DATE	BY	DATE	REVISIONS

**PREM & NEWHOF**  
 ENGINEERS ARCHITECTS ENVIRONMENTAL & LANDSCAPE ARCHITECTS

**TVC**  
 TRAVEL VENDOR CONSULTANTS

**CHEERY CAPITAL AIRPORT**  
 TRAVEL SECURITY INCLUDING  
 AIR PART 77 APPROACH SURFACES DRAWING

DRAWING NO. **73/10**



DRAFT

Thank You



**TVC**

*Your Northern Michigan Connection*