Flight Procedures Cover Page	Task Action: FLIGHT CHECK	Task Type: SID	Estimated Chart Date: 05/16/2024	APWS Task ID: 151DE9E42FF74E59A55AB0EE37BB2986	APWS Project ID: DF3B7F66C56B45E89F1E4BF7FD32855D
Procedure: HHOWE FOUR (RNAV) SID		Enroute: YES	Specialist: Mccartney, Michael		Agreement Number:
Airport ID: KDTW			Airport City: DETROIT		State: MI
Facility ID:	Facility Type:	Flight Inspection Remark Type: New FC Slot			

Procedure Comments:
FULL AMENDMENT.

QUALITY 20 CHECKED

ACTIVE AIRPORT DATA UTILIZED.

WAIVER (1):
1. AFS-420 MEMORANDUM "WAIVER TO FAA ORDER 8260.58C PARAGRAPH 1-2-5.C.(3), MAXIMUM BANK ANGLE" DATED 01/31/2023.

KYIP: RWY 27 CONTROLLING OBSTACLE 903 FT MSL TOWER (26-002998) LAT/LONG CHANGED FROM 421431.78N/0833411.47W TO 421431.80N/0833411.49W (MOVED 2.52 FT NORTHWEST); TAKEOFF MINIMUMS DID NOT CHANGE.

KVLL: RWY 28 CONTROLLING OBSTACLES CHANGED FROM 940 FT MSL BLDG 423234.20N/0831235.50W (CLIMB GRADIENT), 1749 FT MSL TOWER 422858.00N/0831219.00W (CLIMB-TO ALTITUDE) TO 905 FT MSL BUILDING (26-003210) 423232.54N/0831234.07W; RETAINED CURRENT TAKEOFF MINIMUMS TO MATCH PUBLISHED ODP.

KMTC: RWY 19 CLIMB GRADIENT INCREASED FROM 234 FT/NM TO 235 FT/NM. CONTROLLING OBSTACLE 1246 FT MSL TOWER (26-001410) LAT/LONG CHANGED FROM 423315.00N/0825315.00W TO 423312.00N/0825315.00W (MOVED 303.71 FT SOUTH). OBSTACLE ACCURACY INCREASED FROM 5D TO 4D.

CANCELS NOTAMS (3): FDC 2/1544, 2/1547, 3/2854.

CONTACT: ERIC SUSKI, AJV-A431, MANAGER, (405) 954-7331.

Digitally signed by
ERIC N SUSKI
Mar 18, 2024

QUALITY 41 CHECKED

Data as of: 01/23/2024 11:13:00 CST

FIPC DME/DME FORM

PROCEDURE:	AIRPORT NAME:	AIRPORT ID:	SPECIAL CONTROL NO:
HHOWE FOUR (RNAV) DEPARTURE	DETROIT METRO WAYNE COUNTY	KDTW	BG-01-221-24

FAC ID: HHOWE4	CITY: DETROIT	ST: MI	ORIG CHART DATE: 05/16/2024

DFL TYPE:	THIRD PARTY:	EST. TIME ON SITE:	REIMB. NUMBER:	PTS TASK ID:
PROC/D	☐ YES	0.5		151DE9E42FF74E59A55AB0EE37BB2986

PREFLIGHT NOTES

REVIEWER: scott wiebe

DATE: 03/07/2024

COMMENTS:

CHECK ONE:
☒ FLT CK REQ ☐ NFCR ☐ REJECT

	YES	NO
CPV COMPLETE?	X	

PROCEDURE RESULTS

INSPECTION DATE:	CREW #:	N #:	INSTRUMENT PROCEDURE STATUS:	ARINC CODING:
03/07/2024	VN219	N69	☒ SAT ☐ SAT W/CHANGES ☐ UNSAT	☐ SAT ☐ SAT/GOLD ☐ UNSAT

FLIGHT INSPECTOR SIGNATURE:	PRINTED NAME:	NOTAM INITIATED?
scott wiebe @ 03/07/2024 18:27	WIEBE, GREGORY SCOTT	☐ YES ☒ NO

FLIGHT INSPECTOR REMARKS:
Procedure Satisfactory for GNSS operations, DME/DME awaiting approval by the applicable AJV Operations Support Group.

DME/DME STATUS:	SPECIALIST SIGNATURE:	PRINTED NAME:
☒ SAT ☐ UNSAT	steven s-ctr rager @ 03/18/2024 12:46	Steven Rager

SPECIALIST REMARKS:
Post Flight DME/DME Analysis has been performed on the KDTW HHOWE4 SID with satisfactory results. All modeled DME's and ESV's were recorded by Flight Inspection or certified by TARGETS and suitable for DME/DME/IRU operations.

IN-FLIGHT OBSTACLE REPORT

OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:

FIPC DME/DME FORM

PROCEDURE:	AIRPORT NAME:	AIRPORT ID:	SPECIAL CONTROL NO:
HHOWE FOUR (RNAV) DEPARTURE	DETROIT METRO WAYNE COUNTY	KDTW	BG-01-221-24

FAC ID: HHOWE4	CITY: DETROIT	ST: MI	ORIG CHART DATE: 05/16/2024

DFL TYPE:	THIRD PARTY:	EST. TIME ON SITE:	REIMB. NUMBER:	PTS TASK ID:
PROC/D	☐ YES	0.5		151DE9E42FF74E59A55AB0EE37BB2986

PREFLIGHT NOTES

REVIEWER: scott wiebe

DATE: 03/07/2024

COMMENTS:

CHECK ONE:

☒ FLT CK REQ ☐ NFCR ☐ REJECT

	YES	NO
CPV COMPLETE?	X	

PROCEDURE RESULTS

INSPECTION DATE:	CREW #:	N #:	INSTRUMENT PROCEDURE STATUS:	ARINC CODING:
03/07/2024	VN219	N69	☒ SAT ☐ SAT W/CHANGES ☐ UNSAT	☐ SAT ☐ SAT/GOLD ☐ UNSAT

FLIGHT INSPECTOR SIGNATURE:	PRINTED NAME:	NOTAM INITIATED?
scott wiebe @ 03/07/2024 18:27	WIEBE, GREGORY SCOTT	☐ YES ☒ NO

FLIGHT INSPECTOR REMARKS:

Procedure Satisfactory for GNSS operations, DME/DME awaiting approval by the applicable AJV Operations Support Group.

DME/DME STATUS:	SPECIALIST SIGNATURE:	PRINTED NAME:
☐ SAT ☐ UNSAT		

SPECIALIST REMARKS:

IN-FLIGHT OBSTACLE REPORT

OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:

Federal Aviation Administration

Memorandum

Date: January 31, 2023

To: Instrument Flight Procedure Service Providers

WADE EK TERRELL Digitally signed by WADE EK TERRELL Date: 2023.01.31 09:21:16 -06'00'

From: Wade E.K. Terrell, Manager, Flight Procedures and Airspace Group

Subject: Waiver to FAA Order 8260.58C paragraph 1-2-5.c.(3), Maximum bank angle

Background: The Performance Based Navigation (PBN) Aviation Rulemaking Committee (PARC) made a recommendation that the FAA adjust the turn parameters used in PBN instrument flight procedure (IFP) design to reflect modern avionics values. The Flight Procedures and Airspace Group analyzed current avionics specifications with the help of several FAA offices and RTCA SC-227 to identify the new bank angles necessary for current IFP design. The Flight Procedures and Airspace Group then conducted an Operational Safety Review (OSR) for this amendment to bank angle criteria. The outcome of the OSR was that no new hazard is introduced into the National Aerospace System (NAS).

Purpose: This memorandum waives FAA Order 8260.58C, United States Standard for Performance Based Navigation (PBN) Instrument Procedure Design, paragraph 1-2-5.c.(3) and authorizes use of a maximum bank angle of 23 degrees above FL195 up to FL245 and a maximum bank angle of 16 degrees above FL245.

This waiver remains in effect until rescinded. No additional waiver request action is required. Please direct all inquiries to Thomas J. Nichols, Standards Section Manager, Flight Procedures and Airspace Group at 405-954-1171 or thomas.j.nichols@faa.gov

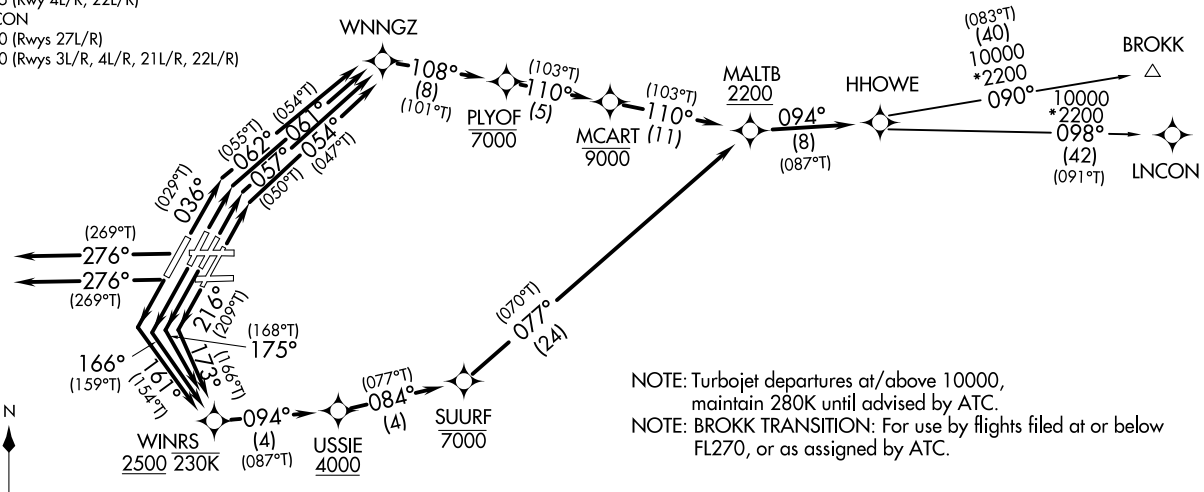
(HHOWE4.HHOWE) FIG
HHOWE FOUR DEPARTURE (RNAV)
AL-119 (FAA)
DETROIT METRO WAYNE COUNTY (DTW)
DETROIT, MICHIGAN

PROTOTYPE-NOT FOR NAVIGATION

RNAV-1 DME/DME/IRU or GPS.
RADAR required.

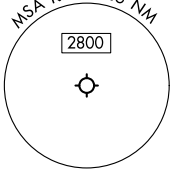
TOP ALTITUDE: 17000

D-ATIS 118.125
CLNC DEL 120.65
CPDLC
GND CON
121.8 (NW) 119.45 (NE)
132.725 (SW) 119.25 (SE)
METRO TOWER
118.4 317.725 (Rwys 3L/R, 21L/R, 27R)
128.75 317.725 (Rwy 27L)
135.0 317.725 (Rwy 4L/R, 22L/R)
DETROIT DEP CON
125.525 284.0 (Rwys 27L/R)
132.025 284.0 (Rwys 3L/R, 4L/R, 21L/R, 22L/R)



NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.

NOTE: BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.



TAKEOFF MINIMUMS:
Rwy 27L/R: Standard
Rwys 3L/R, 4L/R, 21L/R, 22L/R: Standard with minimum climb of 500'/NM to 1146.

NOTE: Chart not to scale.

(CONTINUED ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTION

See Additional Requirements In RNAV Departures AAUP.

TAKEOFF RUNWAY 3L: Climb on heading 036° to intercept course 057° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 2200, thence....
TAKEOFF RUNWAY 3R: Climb on heading 036° to intercept course 054° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 2200, thence....
TAKEOFF RUNWAY 4L: Climb on heading 036° to intercept course 062° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 2200, thence....
TAKEOFF RUNWAY 4R: Climb on heading 036° to intercept course 061° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 2200, thence....
TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 173° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 2200, thence....
TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 175° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 2200, thence....
TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 166° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 2200, thence....
TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 161° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 2200, thence....
TAKEOFF RUNWAYS 27L/R: Climb on heading 276° or as assigned by ATC, for RADAR vectors to cross MALTB at or above 2200, thence....

....on track 094° to HHOWE, then on (transition). Maintain 17000, expect filed altitude 10 minutes after departure.

BROKK TRANSITION (HHOWE4.BROKK)
LNCON TRANSITION (HHOWE4.LNCON)

PROTOTYPE-NOT FOR NAVIGATION

HHOWE THREE DEPARTURE (RNAV)

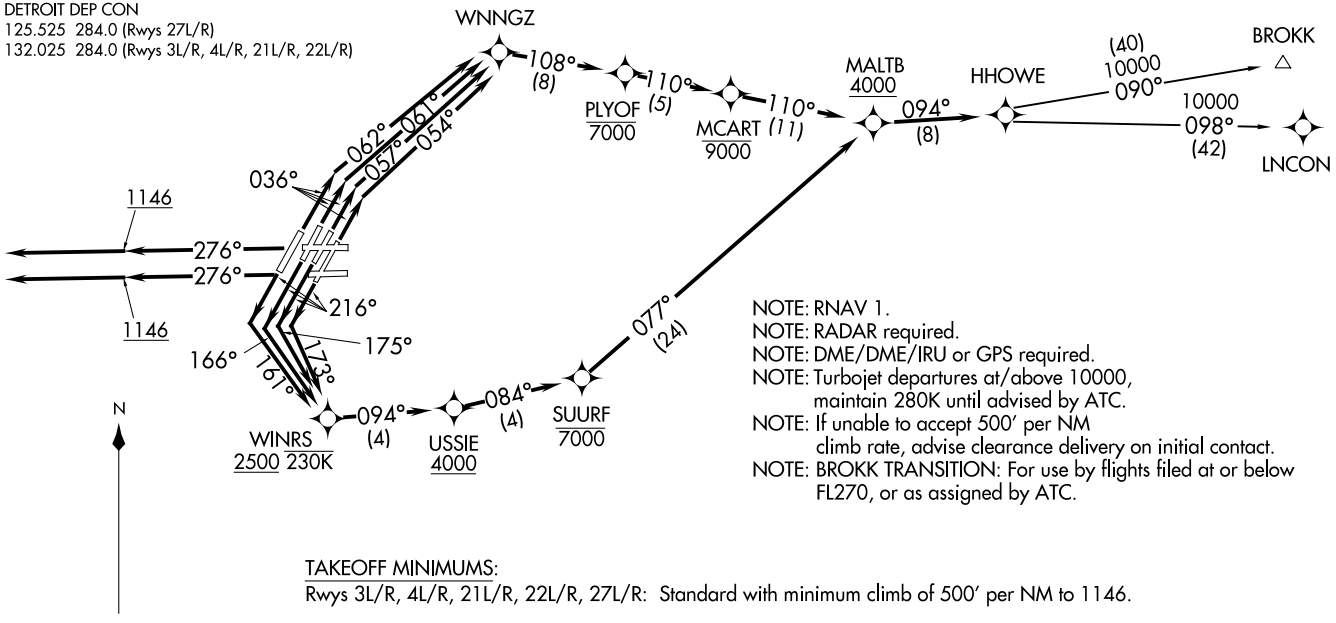
(HHOWE3.HHOWE) 05DEC19

DETROIT METRO WAYNE COUNTY (DTW)

DETROIT, MICHIGAN

D-ATIS 118.125
CLNC DEL 120.65
CPDLC
GND CON
121.8 (NW) 119.45 (NE)
132.725 (SW) 119.25 (SE)
METRO TOWER
118.4 317.725 (Rwys 3L/R, 21L/R, 27R)
128.75 317.725 (Rwy 27L)
135.0 317.725 (Rwy 4L/R, 22L/R)
DETROIT DEP CON
125.525 284.0 (Rwys 27L/R)
132.025 284.0 (Rwys 3L/R, 4L/R, 21L/R, 22L/R)

TOP ALTITUDE: 17000



NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: DME/DME/IRU or GPS required.
NOTE: Turbojet departures at/above 10000, maintain 280K until advised by ATC.
NOTE: If unable to accept 500' per NM climb rate, advise clearance delivery on initial contact.
NOTE: BROKK TRANSITION: For use by flights filed at or below FL270, or as assigned by ATC.

TAKEOFF MINIMUMS:
Rwys 3L/R, 4L/R, 21L/R, 22L/R, 27L/R: Standard with minimum climb of 500' per NM to 1146.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

(HHOWE3.HHOWE) 21112

HHOWE THREE DEPARTURE (RNAV)

AL-119 (FAA)

DETROIT METRO WAYNE COUNTY (DTW)

DETROIT, MICHIGAN

DEPARTURE ROUTE DESCRIPTION

NOTE:See additional requirements in RNAV departures AAUP.

TAKEOFF RUNWAY 3L: Climb on heading 036° to intercept course 057° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 4000, thence....
TAKEOFF RUNWAY 3R: Climb on heading 036° to intercept course 054° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 4000, thence....
TAKEOFF RUNWAY 4L: Climb on heading 036° to intercept course 062° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 4000, thence....
TAKEOFF RUNWAY 4R: Climb on heading 036° to intercept course 061° to WNNGZ, then on track 108° to cross PLYOF at or below 7000, then on track 110° to cross MCART at or below 9000, then on track 110° to cross MALTB at or above 4000, thence....
TAKEOFF RUNWAY 21L: Climb on heading 216° to intercept course 173° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 4000, thence....
TAKEOFF RUNWAY 21R: Climb on heading 216° to intercept course 175° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 4000, thence....
TAKEOFF RUNWAY 22L: Climb on heading 216° to intercept course 166° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 4000, thence....
TAKEOFF RUNWAY 22R: Climb on heading 216° to intercept course 161° to cross WINRS at or above 2500 and at or below 230K, then on track 094° to cross USSIE at or above 4000, then on track 084° to cross SUURF at or below 7000, then on track 077° to cross MALTB at or above 4000, thence....
TAKEOFF RUNWAYS 27L/27R: Climb on heading 276° to 1146, then on heading 276° or as assigned for RADAR vectors to cross MALTB at or above 4000, thence....

....on track 094° to HHOWE, then on (transition). Maintain 17000 or as assigned by ATC, expect filed altitude 10 minutes after departure.

BROKK TRANSITION (HHOWE3.BROKK)
LNCON TRANSITION (HHOWE3.LNCON)

EC-1, 02 NOV 2023 to 30 NOV 2023

ATTENTION ALL USERS PAGE (AAUP)

SIMULTANEOUS RNAV DEPARTURES

The purpose of this briefing is to provide guidance, safe operating practices, and phraseology that will help ensure heightened awareness when conducting parallel RNAV departures at the Detroit Metro Wayne County Airport (DTW). Where applicable, pilots should comply with established company procedures for RNAV operations.

1. **PREFLIGHT:** Expect clearance for RNAV Standard Instrument Departure (SID), if capable of terminal RNAV procedures. If unable to accept the assigned RNAV SID, advise Clearance Delivery on initial contact. Upon assignment of an RNAV SID, crosscheck the charted RNAV SID with the aircraft navigation system against the ATC clearance. Consider the following cross items:

- Ensure correct departure runway is loaded
- Ensure all transitions are loaded correctly
- Ensure sequence of waypoints match the appropriate charts
- Use the LEGS page to verify routing (for navigation systems with ROUTE and LEGS pages)
- Ensure altitude set in the altitude window matches the TOP ALTITUDE of the SID (unless amended by ATC)
- Do not modify or manually construct RNAV procedures
- Advise ATC prior to takeoff if unable verify correct loading or if unable to comply with the SID

2. **BEFORE TAKEOFF:** Ensure the departure runway assigned on taxi is depicted by the navigation system.

- Verify all modifications, including runway changes, in the navigation system with the RNAV SID
- Verify aircraft symbol relative to the runway symbol, lateral track, and depicted route agree with the ATC clearance (electronic navigation map displays)

3. **LINE UP/TAKEOFF:** Expect a takeoff clearance that will include "RNAV to" the first waypoint on the SID, or a heading. If issued a heading, do not delete the SID from the navigation system.

- Clearance: "Delta 123, RNAV to SAAMS, Runway 22L, Cleared for Takeoff"
- Response: "Delta 123, RNAV to SAAMS, Runway 22L, Cleared for Takeoff"
- Verify the correct runway and SID are loaded and the correct lateral navigation mode is available and ready for use after takeoff
- If the takeoff clearance does not match the planned/loaded procedure, request an initial heading from tower or refuse the takeoff clearance until the discrepancy is resolved.

4. **AFTER TAKEOFF:** Unless issued a heading, engage lateral navigation flight guidance as soon as practical and fly the departure precisely.

- Parallel RNAV departures must not encroach on the airspace between parallel runway centerlines without specific ATC clearance
- When possible, track the runway centerline until reaching the departure end of runway
- Strict compliance with the lateral and vertical tracks and charted speed restrictions is imperative
- Once established on the procedure, maintain route centerline, as depicted by onboard lateral navigation indicators and/or flight guidance
- Manually intervene if necessary, to stay on track to avoid transgressing in the direction of a parallel runway, track, or aircraft
- If unable to comply with the SID profile, either laterally or vertically, immediately notify ATC

(CONTINUED ON FOLLOWING PAGE)

EC-1, 05 OCT 2023 to 02 NOV 2023

EC-1, 05 OCT 2023 to 02 NOV 2023

ATTENTION ALL USERS PAGE (AAUP)

(CONTINUED FROM PREVIOUS PAGE)

5. **SPECIFIC INFORMATION:** Runway assignments will be issued on initial contact with Ground Control and will be based on traffic conditions, runway closures, and other operational requirements.

For planning purposes, pilots can anticipate a runway assignment based upon the information below.

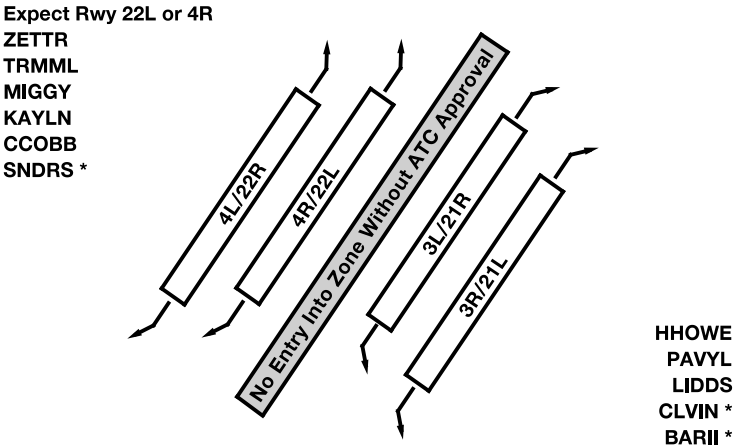
Runway Assignment for Dual Departure Operations

Departing Runways 22L/R, 21L/R
SNDRS, CCOBB, KAYLN, MIGGY, TRMML, ZETTR - Expect Runway 22L
HHOWE, PAVYL, LIDDS, BARII, CLVIN - Expect Runway 21R

Departing Runways 4L/R, 3L/R
SNDRS, CCOBB, KAYLN, MIGGY, TRMML, ZETTR - Expect Runway 04R
HHOWE, PAVYL, LIDDS, BARII, CLVIN - Expect Runway 03L

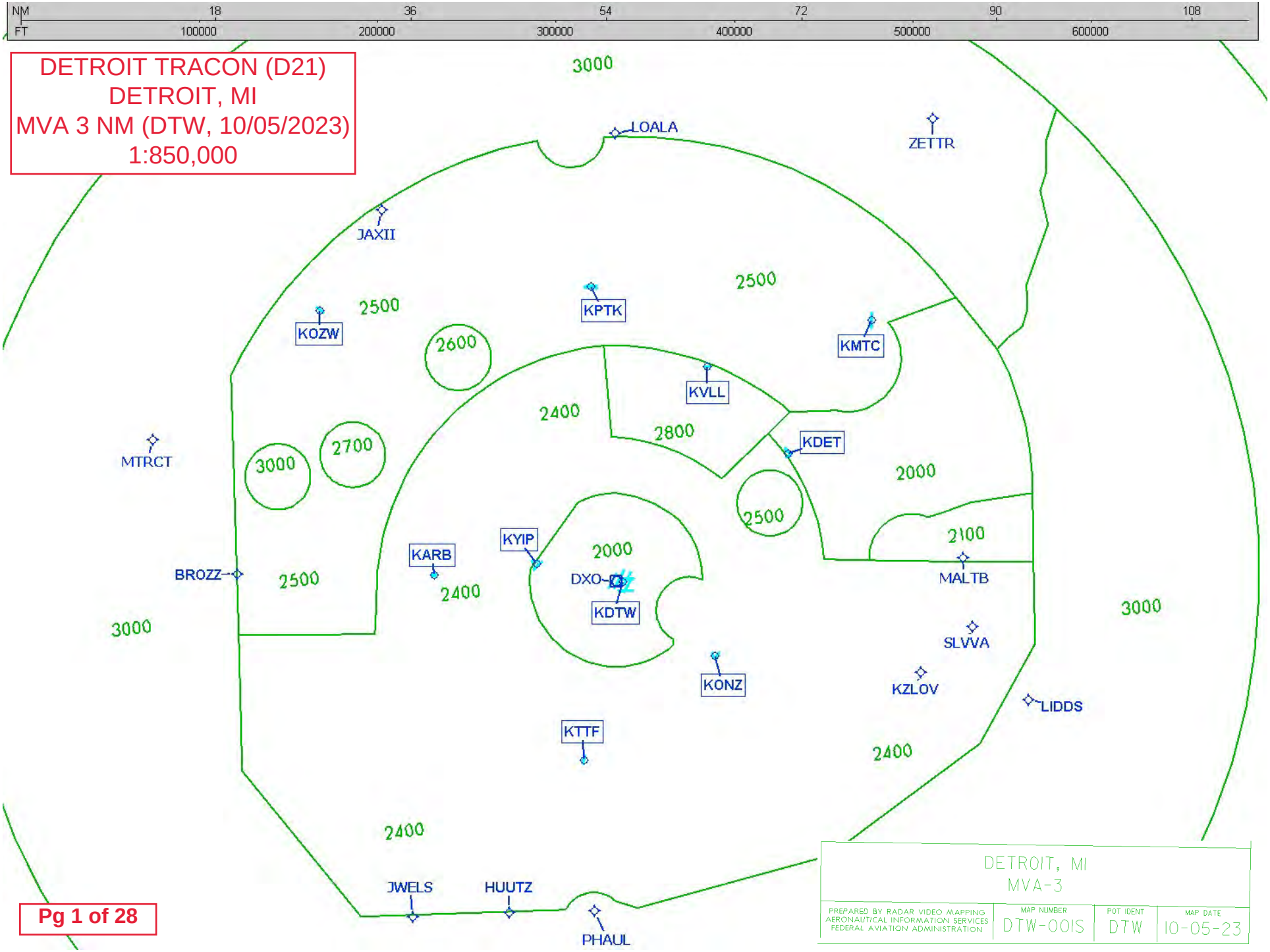
Departing Runways 27L/R (not depicted below)
KAYLN, MIGGY, TRMML, ZETTR, HHOWE - Expect Runway 27R
CCOBB, SNDRS, BARII, CLVIN, LIDDS, PAVYL - Expect Runway 27L

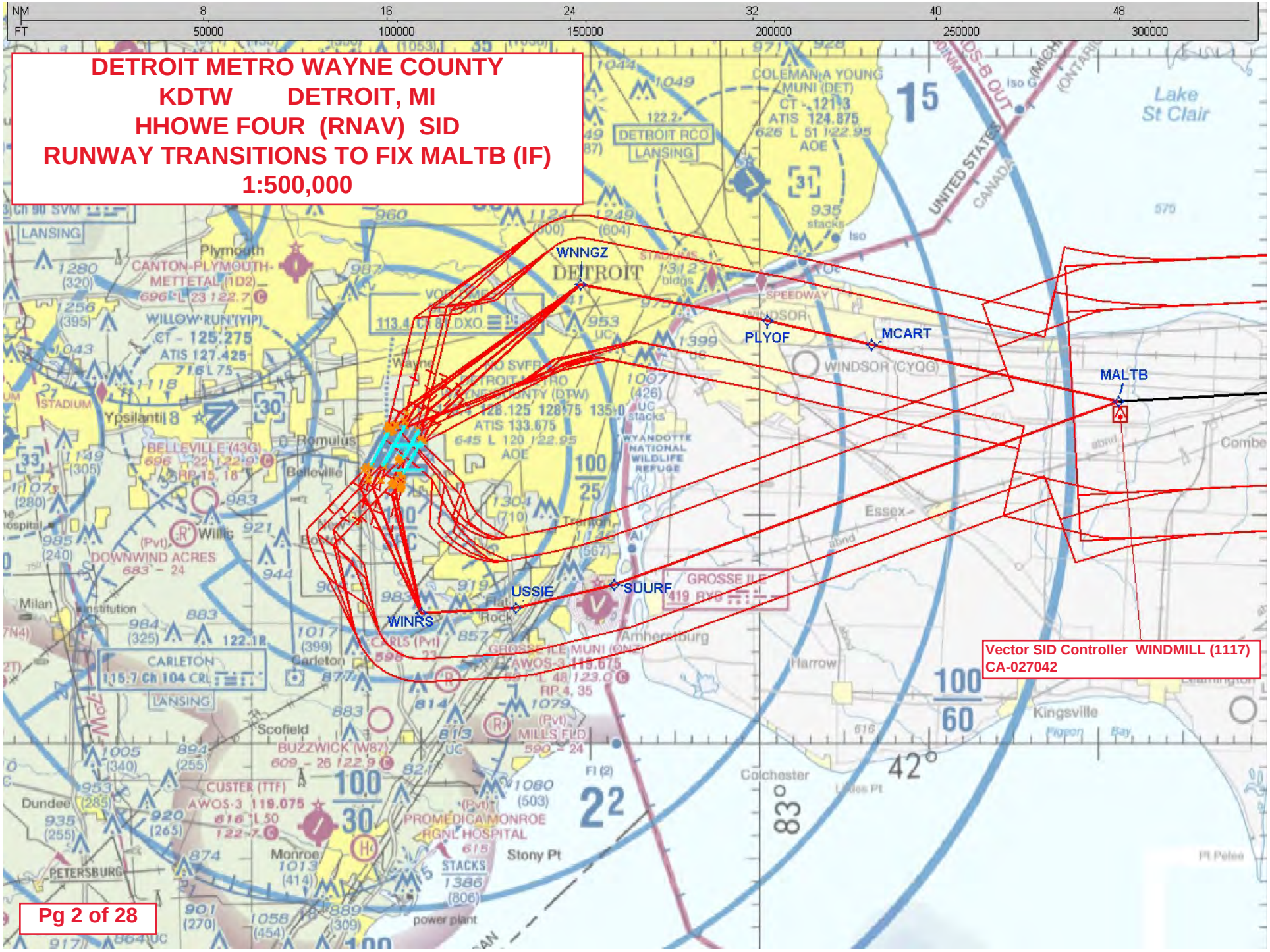
DTW Dual RNAV Departures



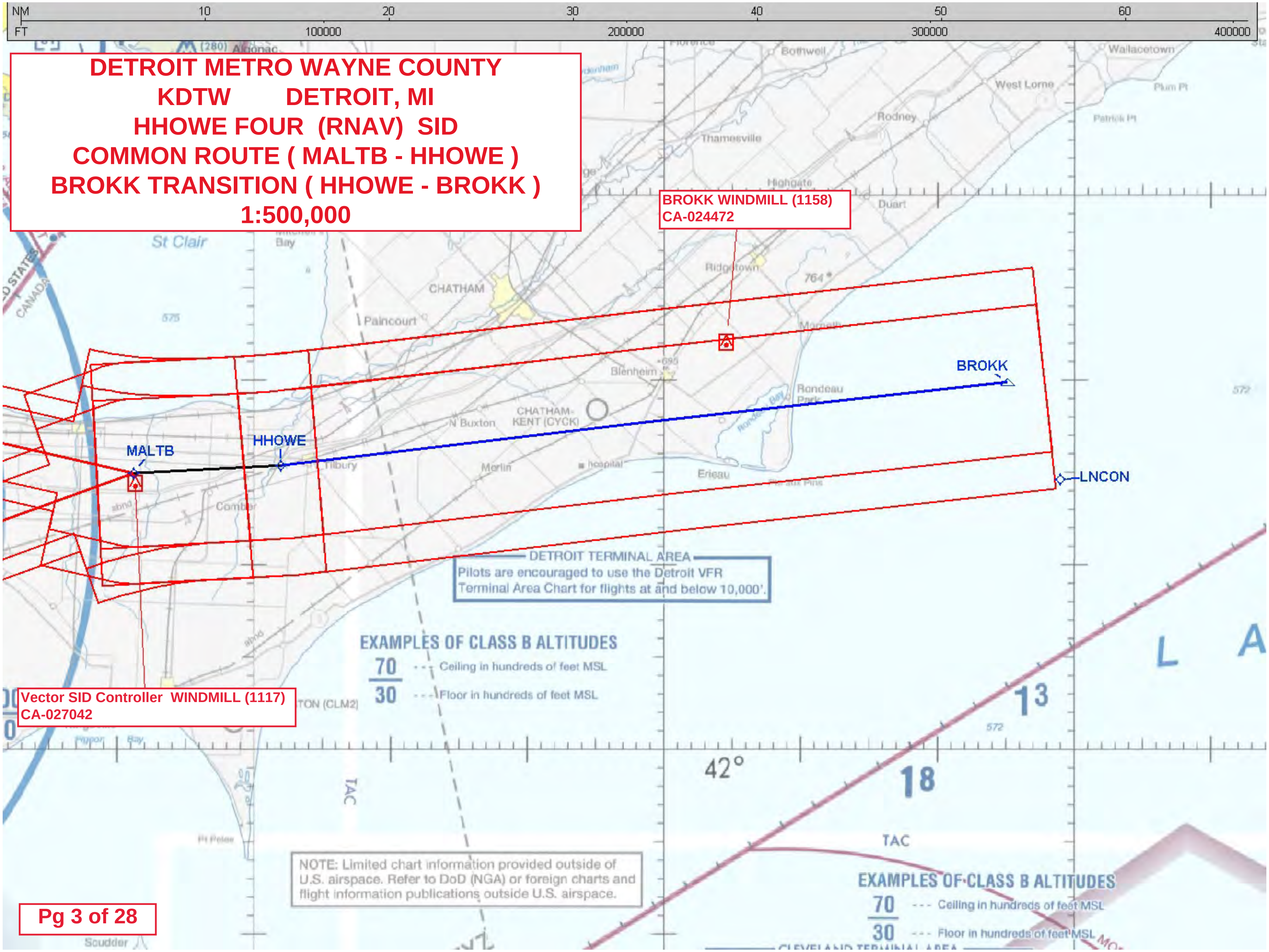
*** Runway assignment may vary depending on traffic and runway closures**

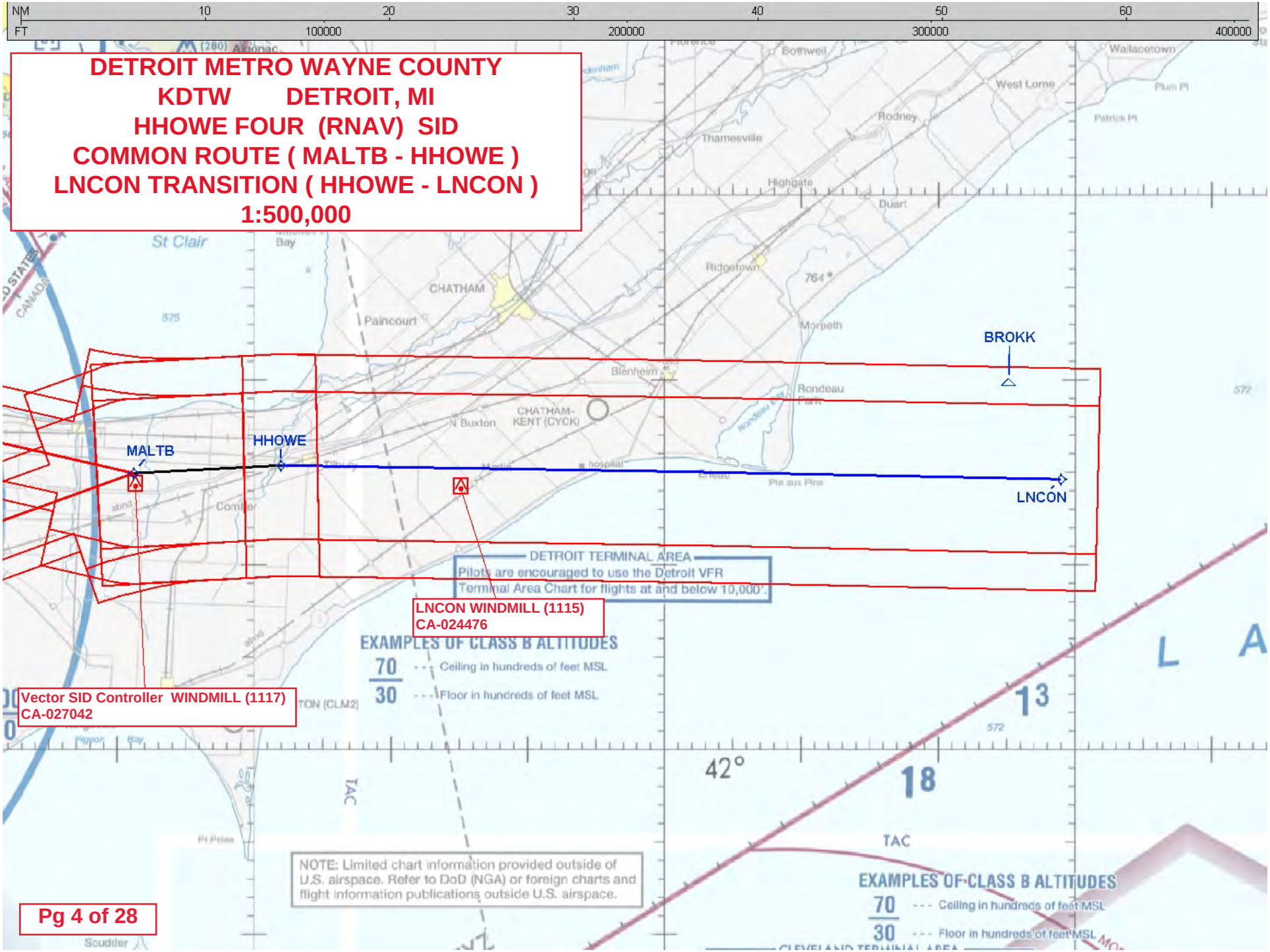
EC-1, 05 OCT 2023 to 02 NOV 2023
EC-1, 05 OCT 2023 to 02 NOV 2023

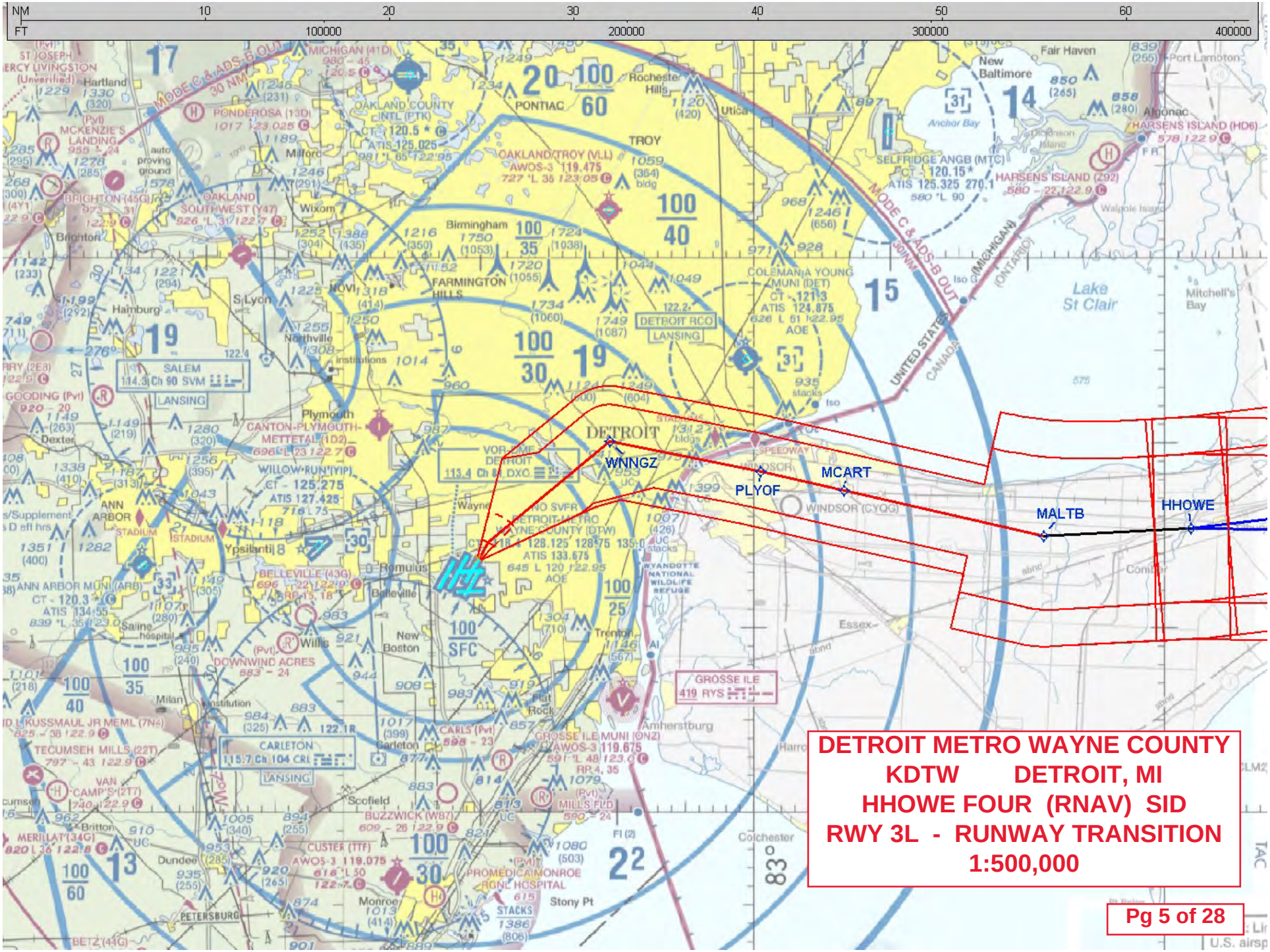

NM 18 36 54 72 90 108
FT 100000 200000 300000 400000 500000 600000
DETROIT TRACON (D21)
DETROIT, MI
MVA 3 NM (DTW, 10/05/2023)
1:850,000
3000
LOALA
ZETTR
JAXII
2500
KPTK
KOZW
2500
2600
KMTC
KVLL
2400
2800
KDET
MTRCT
3000
2700
2000
2500
KYIP
2100
KARB
2000
DXO
MALTB
BROZZ
2500
2400
KDTW
3000
3000
SLVVA
KONZ
KZLOV
LIDDS
KTTF
2400
2400
JWELS
HUUTZ
PHAUL
DETROIT, MI
MVA-3
PREPARED BY RADAR VIDEO MAPPING
AERONAUTICAL INFORMATION SERVICES
FEDERAL AVIATION ADMINISTRATION
MAP NUMBER
DTW-00IS
POT IDENT
DTW
MAP DATE
10-05-23

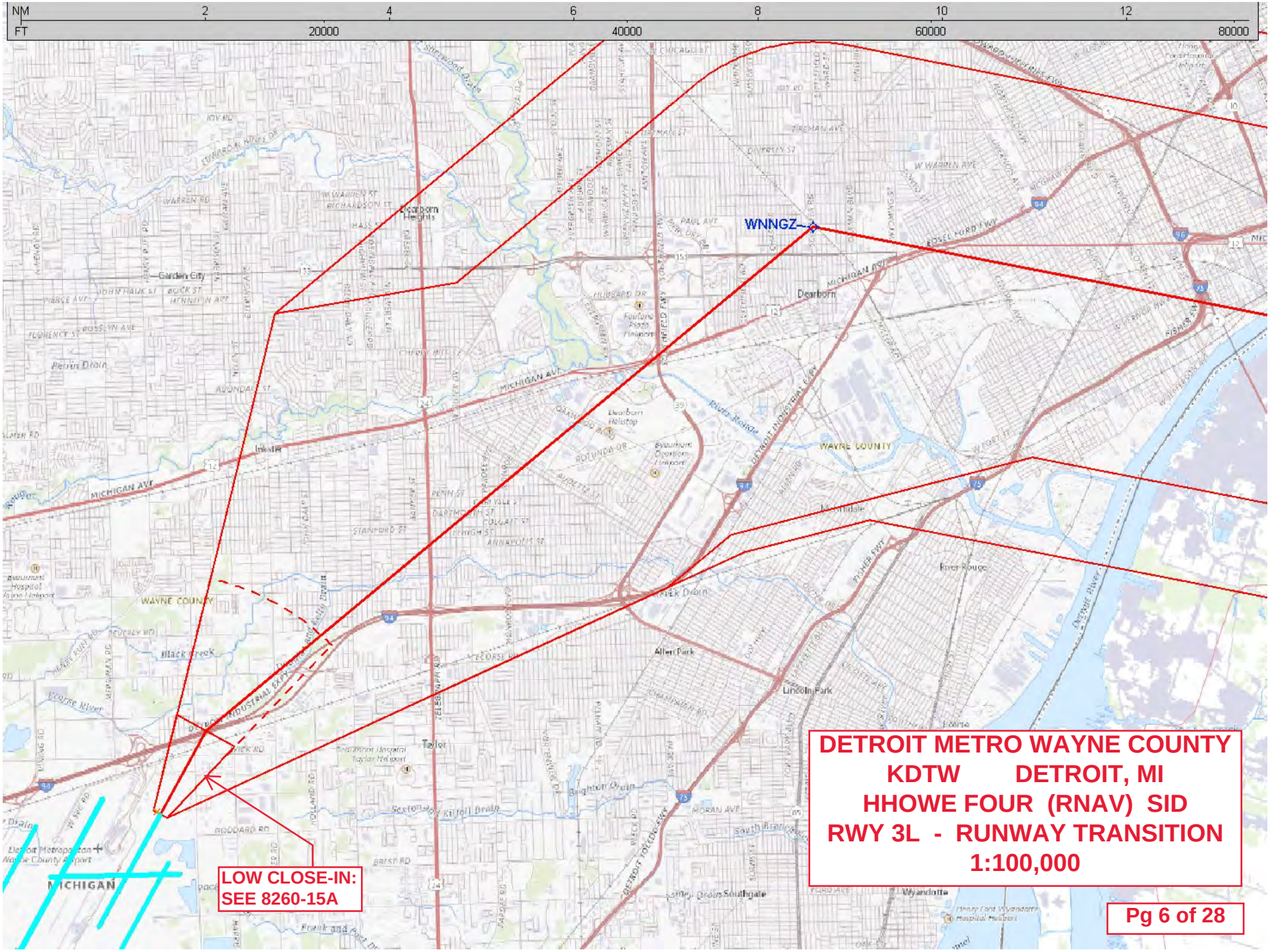

DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RUNWAY TRANSITIONS TO FIX MALTB (IF)
1:500,000
WNNGZ
PLYOF
MCART
MALTB
USSIE
SUURF
WINRS
Vector SID Controller WINDMILL (1117)
CA-027042
Pg 2 of 28

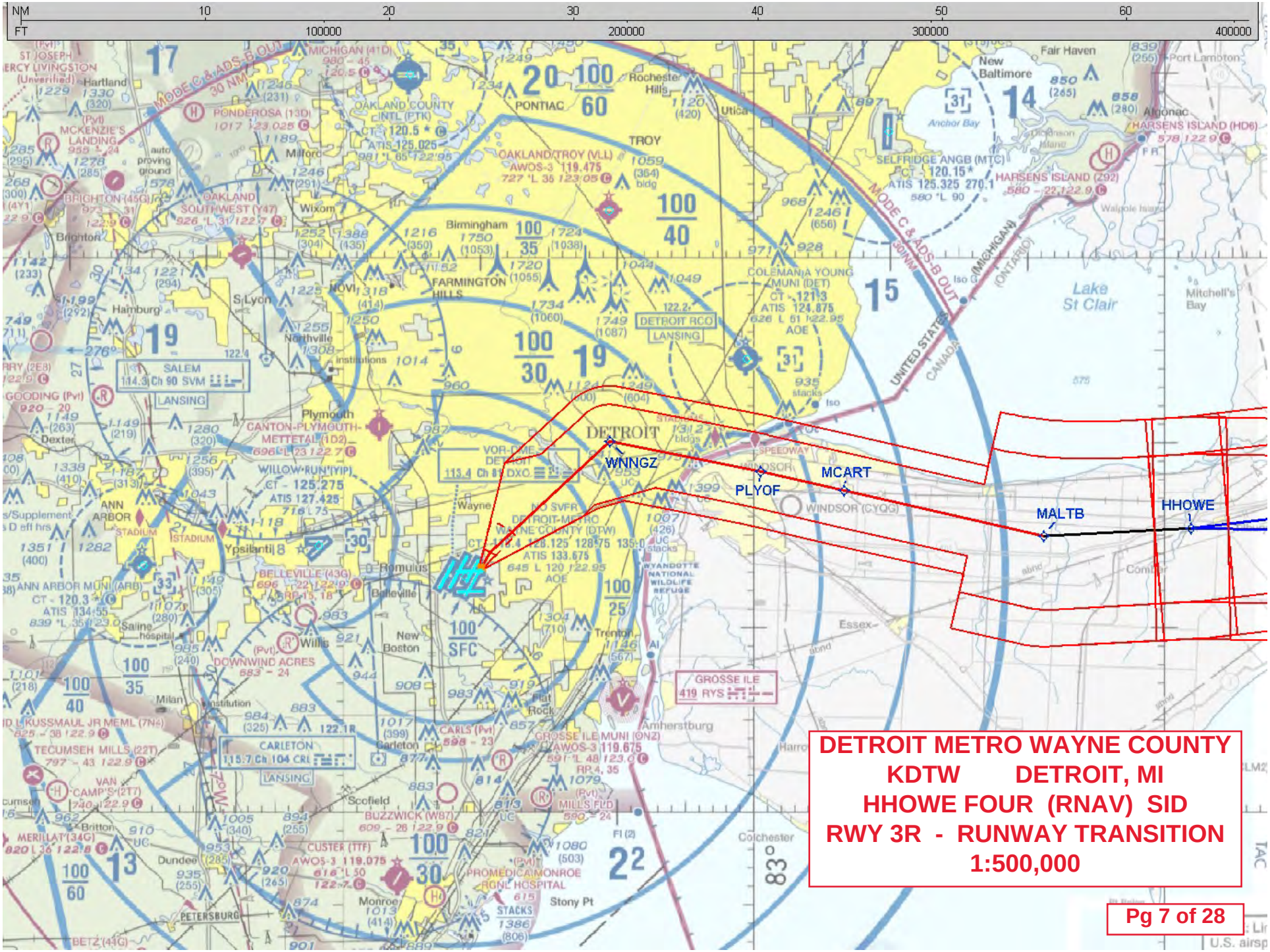
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
COMMON ROUTE (MALTB - HHOWE)
BROKK TRANSITION (HHOWE - BROKK)
1:500,000




DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
COMMON ROUTE (MALTB - HHOWE)
LNCON TRANSITION (HHOWE - LNCON)
1:500,000
NM 10 20 30 40 50 60
FT 100000 200000 300000 400000
MALTB
HHOWE
BROKK
LNCON
DETROIT TERMINAL AREA
Pilots are encouraged to use the Detroit VFR Terminal Area Chart for flights at and below 10,000'.
LNCON WINDMILL (1115)
CA-024476
Vector SID Controller WINDMILL (1117)
CA-027042
EXAMPLES OF CLASS B ALTITUDES
70 --- Ceiling in hundreds of feet MSL
30 --- Floor in hundreds of feet MSL
NOTE: Limited chart information provided outside of U.S. airspace. Refer to DoD (NGA) or foreign charts and flight information publications outside U.S. airspace.
CHATHAM
Paincourt
St Clair
Thamesville
Highgate
Ridgetown
Rodney
West Lorne
Wallacetown
Bothwell
Morpeth
Blenheim
Rondeau Park
CHATHAM-KENT (CYCK)
N Buxton
Comber
Pte aux Pins
Scudder
TAC
42°
18
13


NM 10 20 30 40 50 60
FT 100000 200000 300000 400000
WNNGZ
PLYOF
MCART
MALTB
HHOWE
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 3L - RUNWAY TRANSITION
1:500,000


NM 2 4 6 8 10 12
FT 20000 40000 60000 80000
WNNGZ
LOW CLOSE-IN:
SEE 8260-15A
MICHIGAN
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 3L - RUNWAY TRANSITION
1:100,000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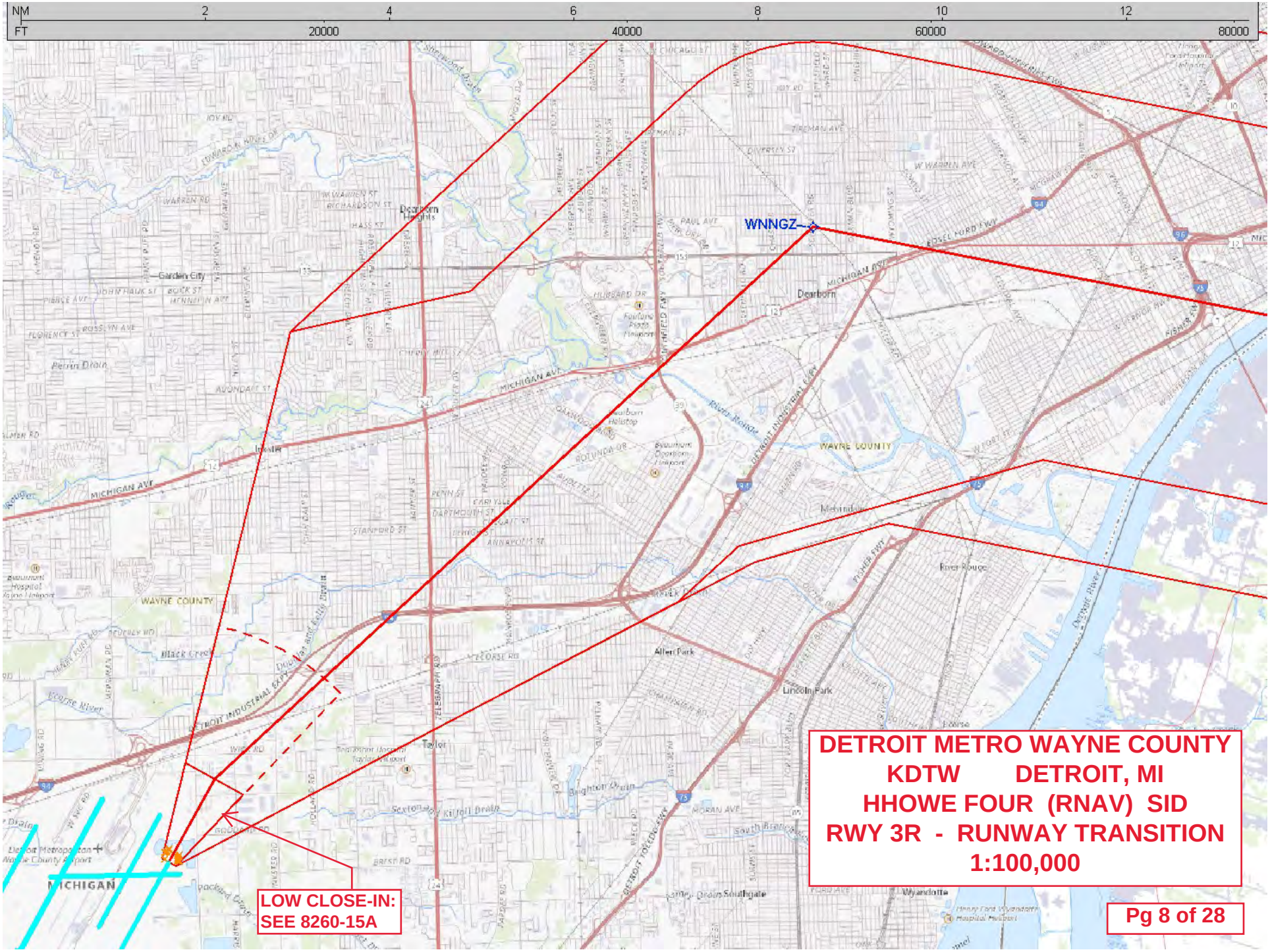
WNNGZ
PLYOF
MCART
MALTB
HHOWE
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 3R - RUNWAY TRANSITION
1:500,000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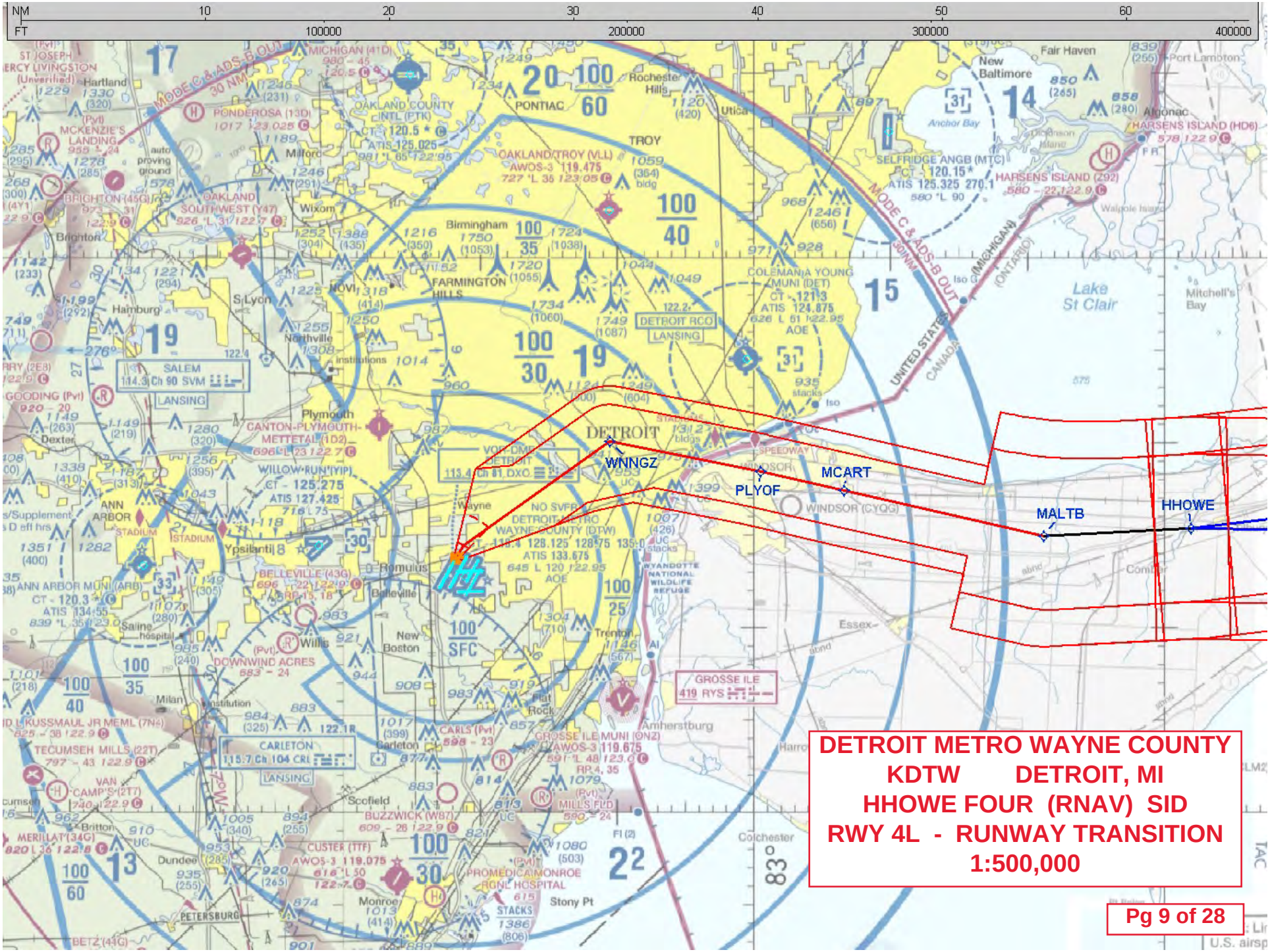
WNNGZ
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 3R - RUNWAY TRANSITION
1:100,000
LOW CLOSE-IN:
SEE 8260-15A
MICHIGAN
Dearborn
Garden City
Dearborn Heights
Taylor
Allen Park
Lincoln Park
River Rouge
Wyandotte
Melvindale
Inkster
WAYNE COUNTY
MICHIGAN AVE
DETROIT INDUSTRIAL EXPY
Pg 8 of 28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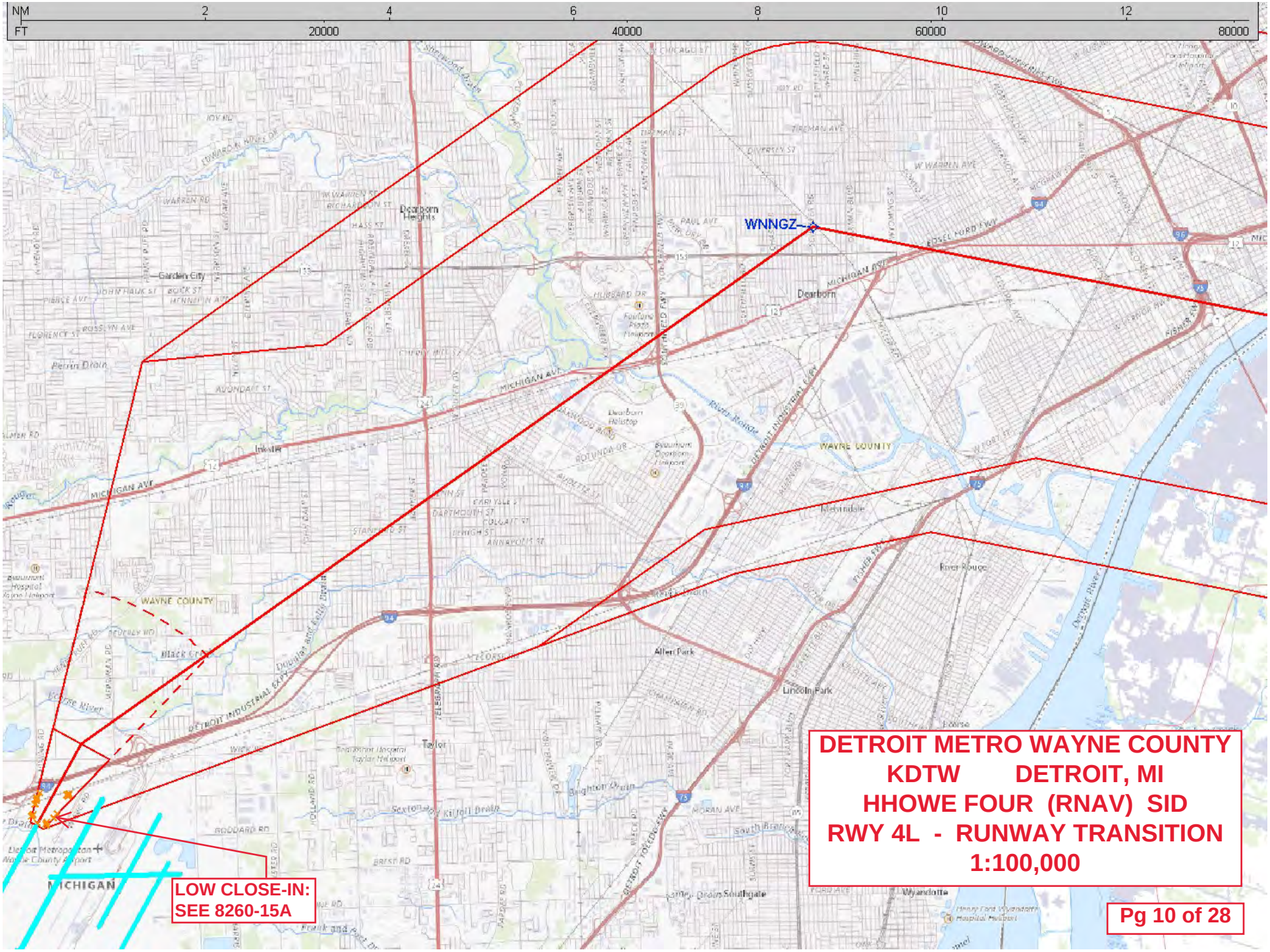
FT 100000 200000 300000 400000
WNNGZ
PLYOF
MCART
MALTB
HHOWE
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 4L - RUNWAY TRANSITION
1:500,000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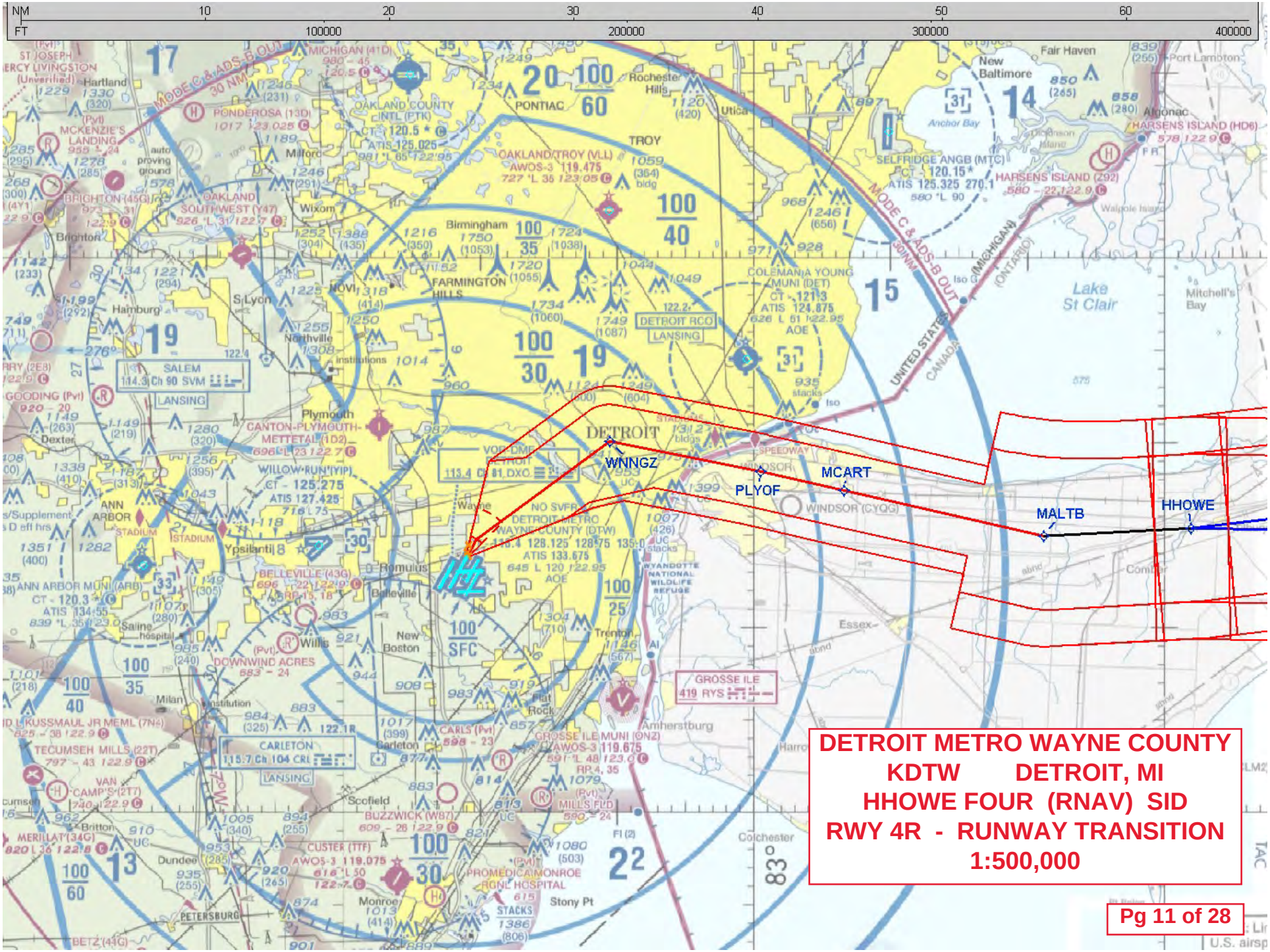
FT 20000 40000 60000 80000
WNNGZ
Dearborn
Dearborn Heights
Garden City
Inkster
Allen Park
Lincoln Park
Taylor
Melvindale
River Rouge
Wyandotte
WAYNE COUNTY
MICHIGAN
LOW CLOSE-IN:
SEE 8260-15A
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 4L - RUNWAY TRANSITION
1:100,000
Pg 10 of 28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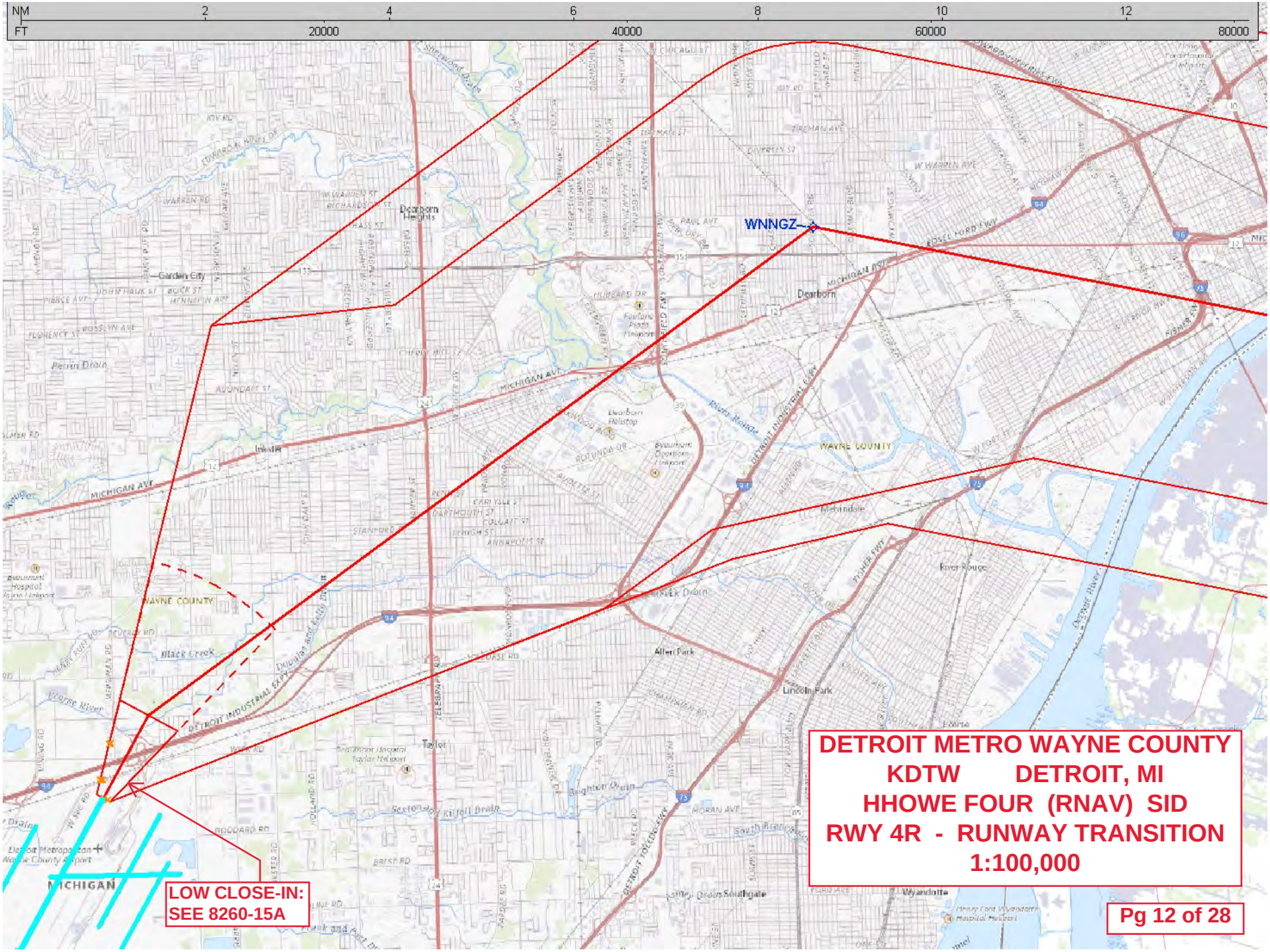
WNNGZ
PLYOF
MCART
MALTB
HHOWE
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 4R - RUNWAY TRANSITION
1:500,000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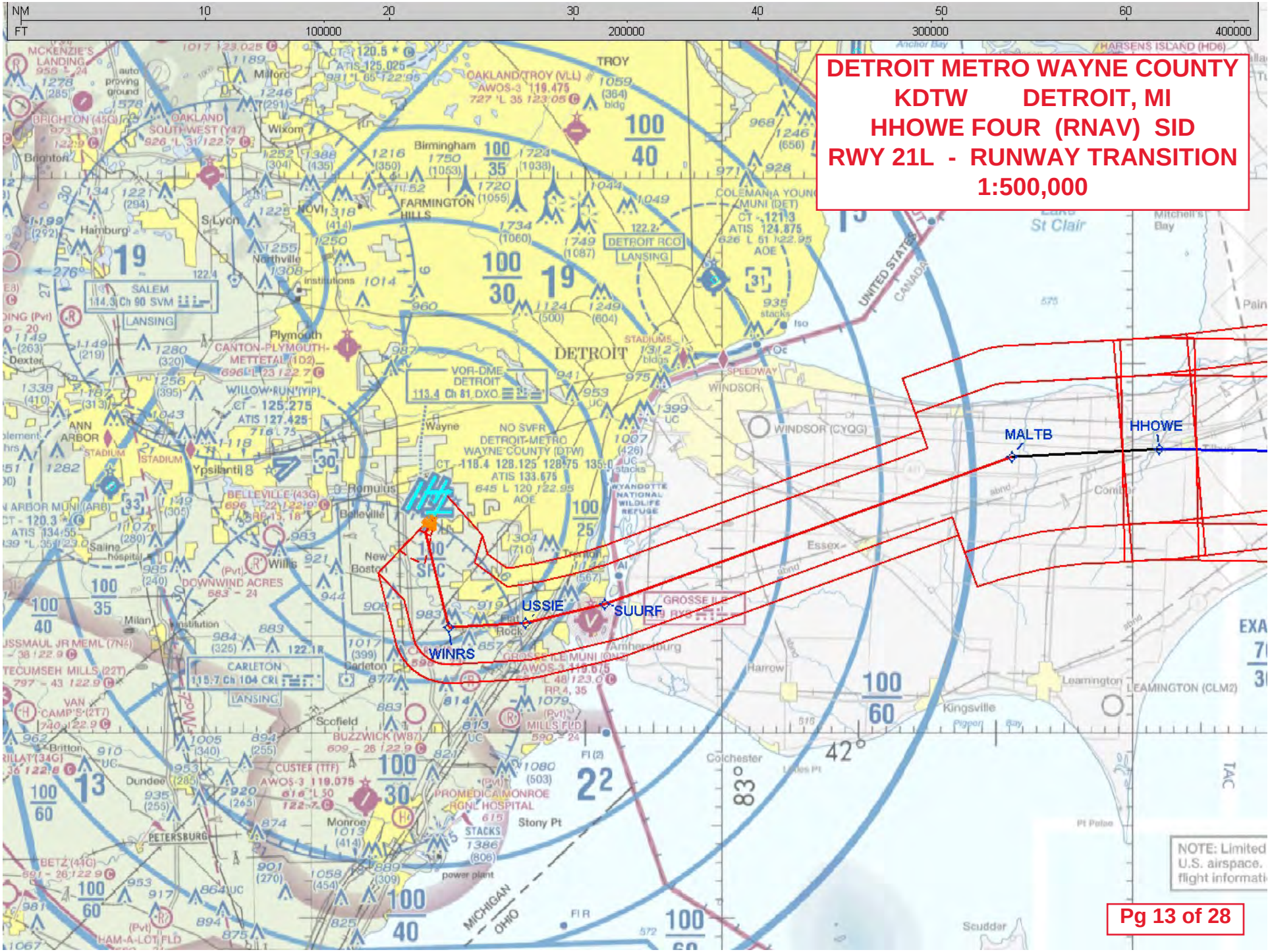
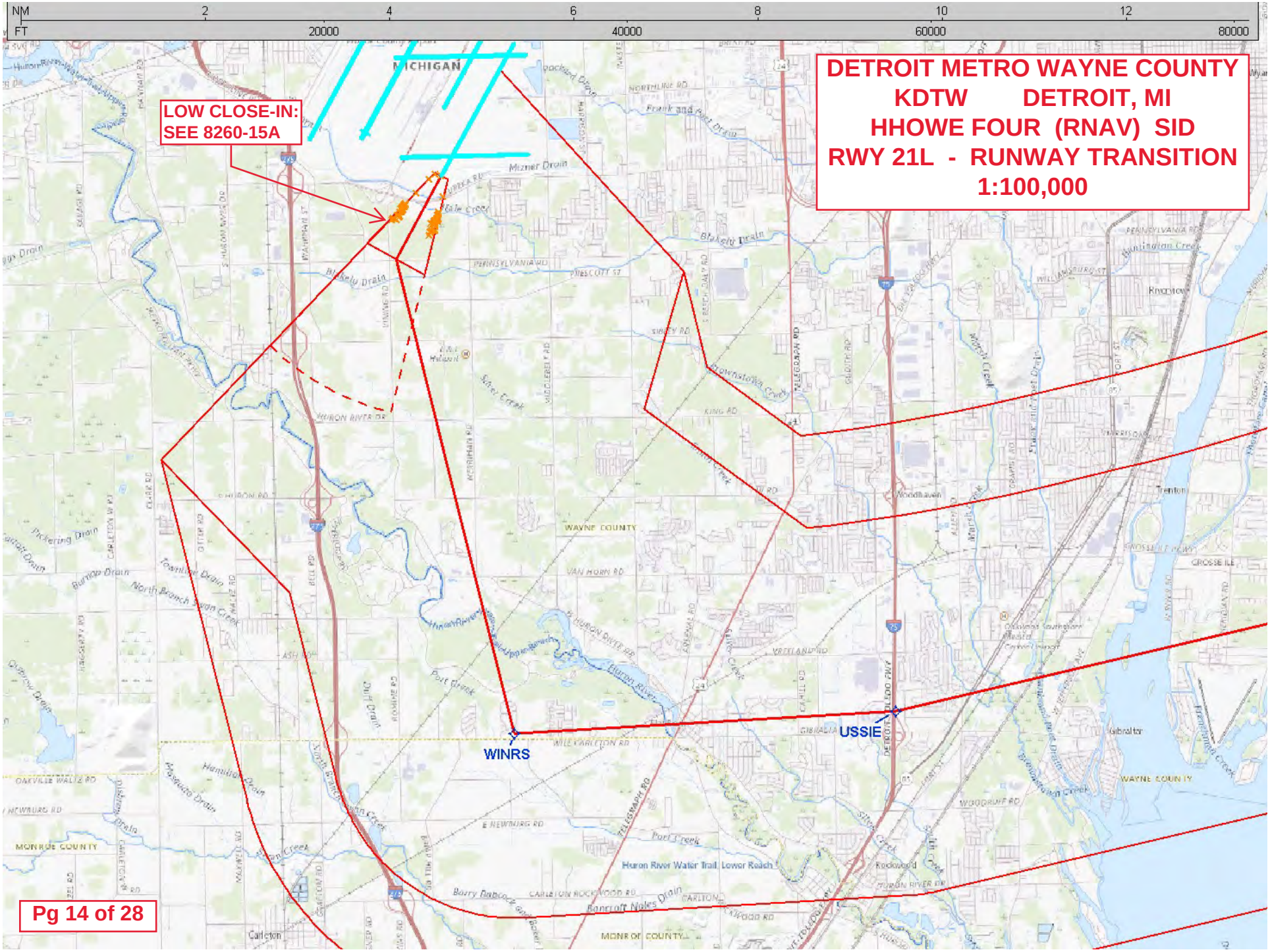
FT 20000 40000 60000 80000
WNNGZ
Dearborn
Dearborn Heights
Garden City
Inkster
Allen Park
Lincoln Park
Taylor
Melvindale
River Rouge
Wyandotte
WAYNE COUNTY
MICHIGAN AVE
DETROIT INDUSTRIAL EXPY
Black Creek
Perrin Drain
Rouge River
Detroit Metropolitan Wayne County Airport
MICHIGAN
LOW CLOSE-IN:
SEE 8260-15A
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 4R - RUNWAY TRANSITION
1:100,000


DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 21L - RUNWAY TRANSITION
1:500,000
MALTB
HHOWE
USSIE
SUURF
WINRS
NOTE: Limited
U.S. airspace.
flight informati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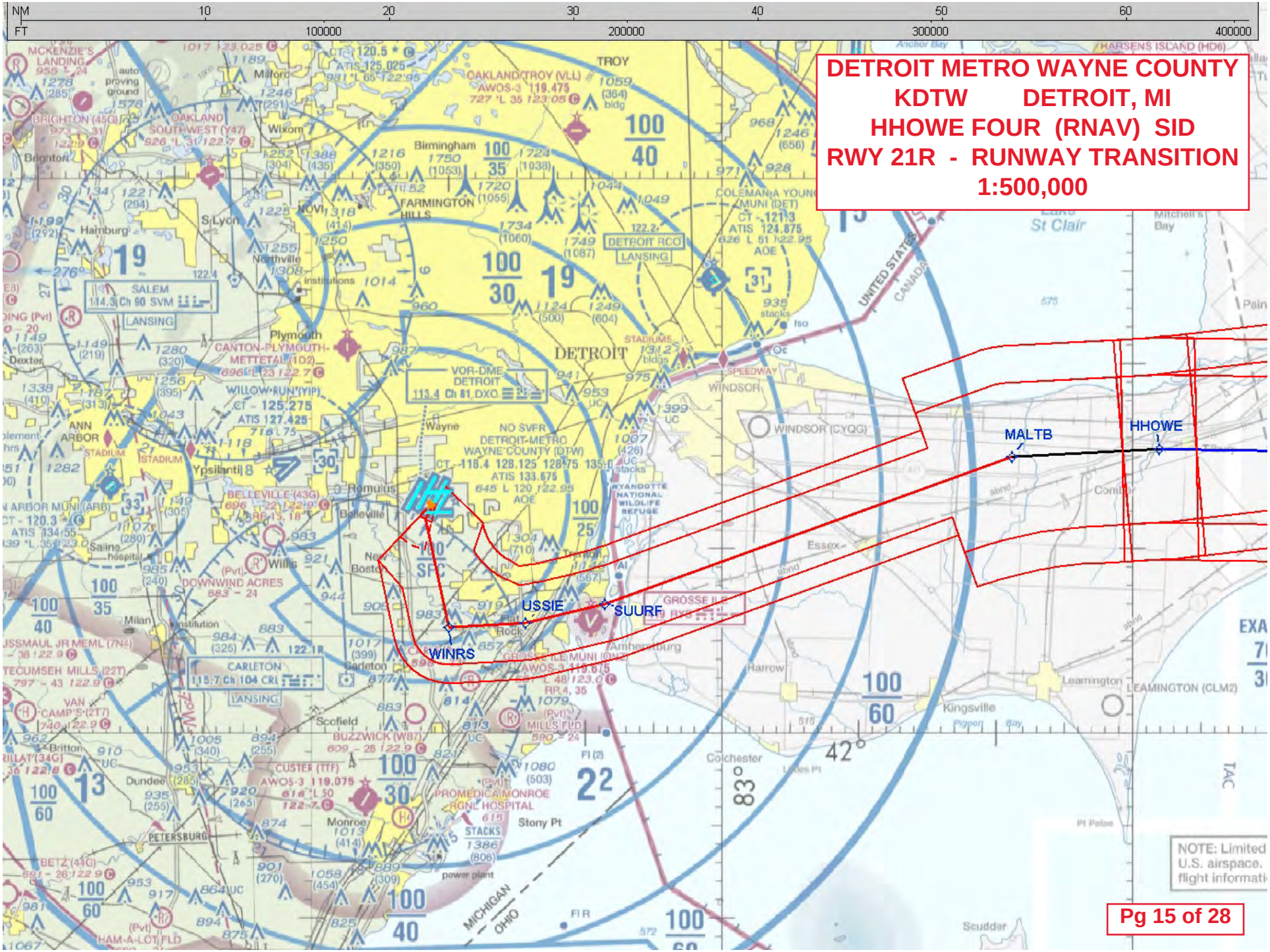
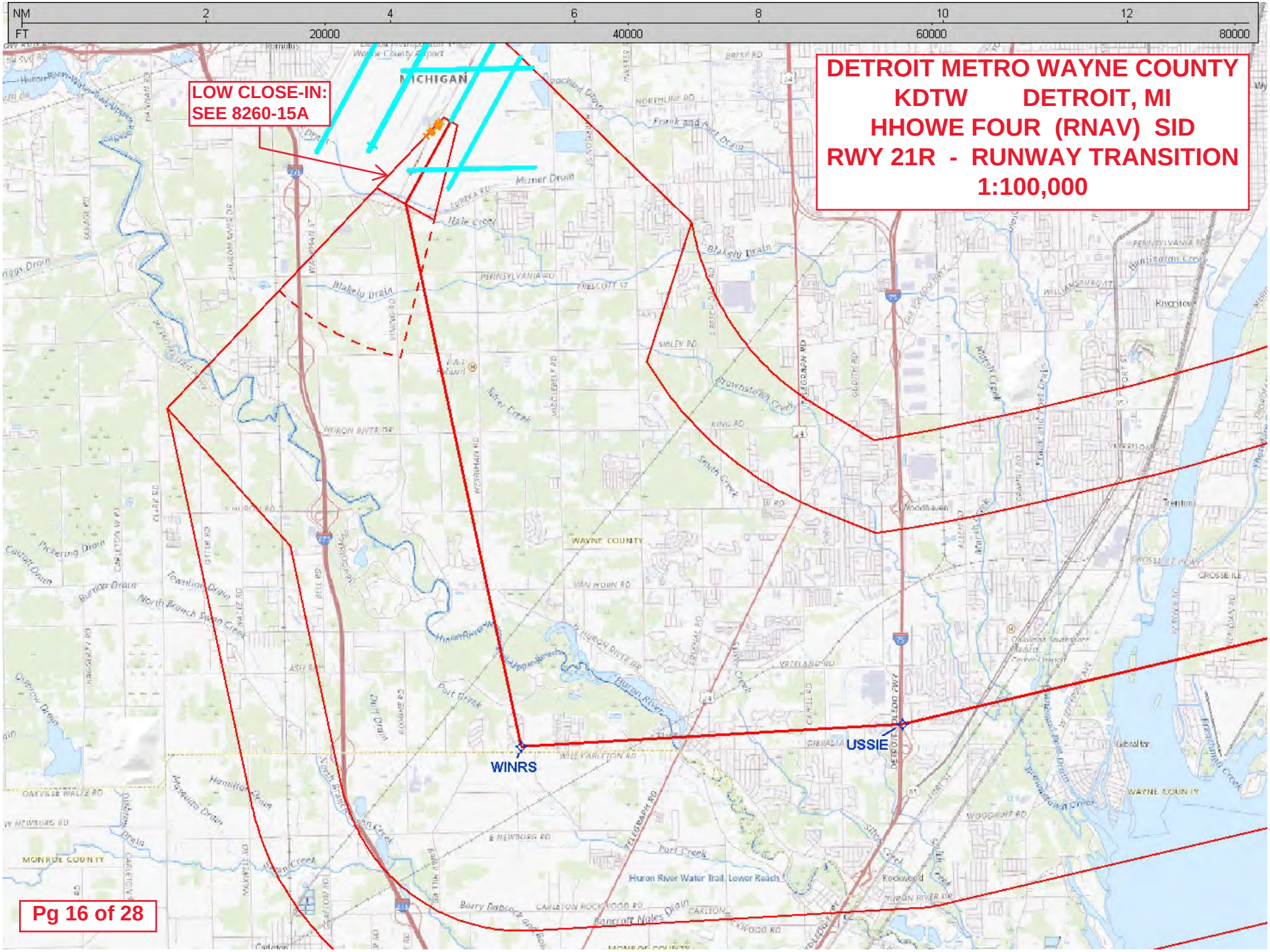
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 21L - RUNWAY TRANSITION
1:100,000
LOW CLOSE-IN:
SEE 8260-15A
WINRS
USSIE
MICHIGAN
WAYNE COUNTY
MONROE COUNTY
Huron River Water Trail Lower Reach
Pg 14 of 28


DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 21R - RUNWAY TRANSITION
1:500,000
MALTB
HHOWE
USSIE
SUURF
WINRS
NOTE: Limited
U.S. airspace.
flight informati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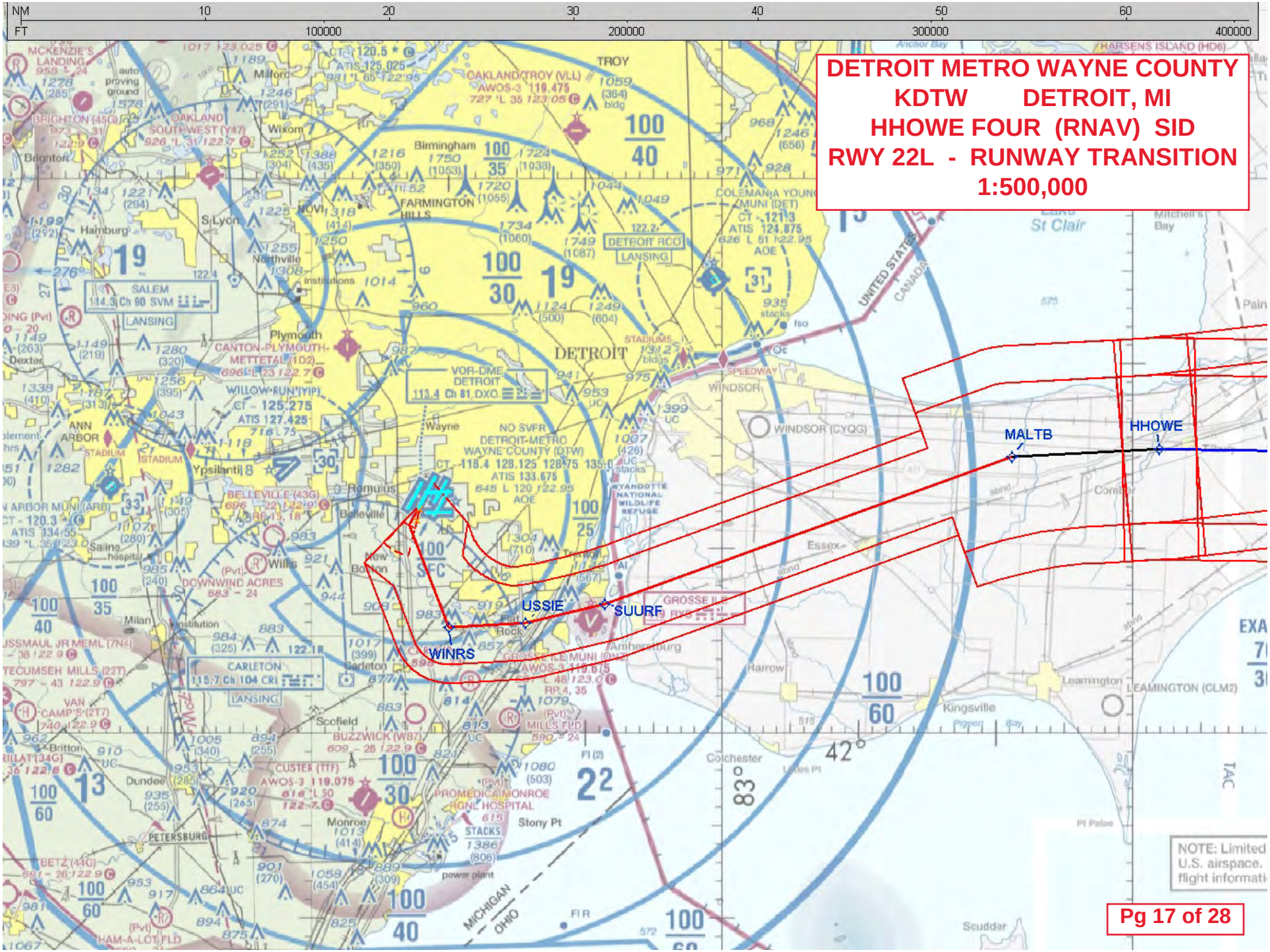
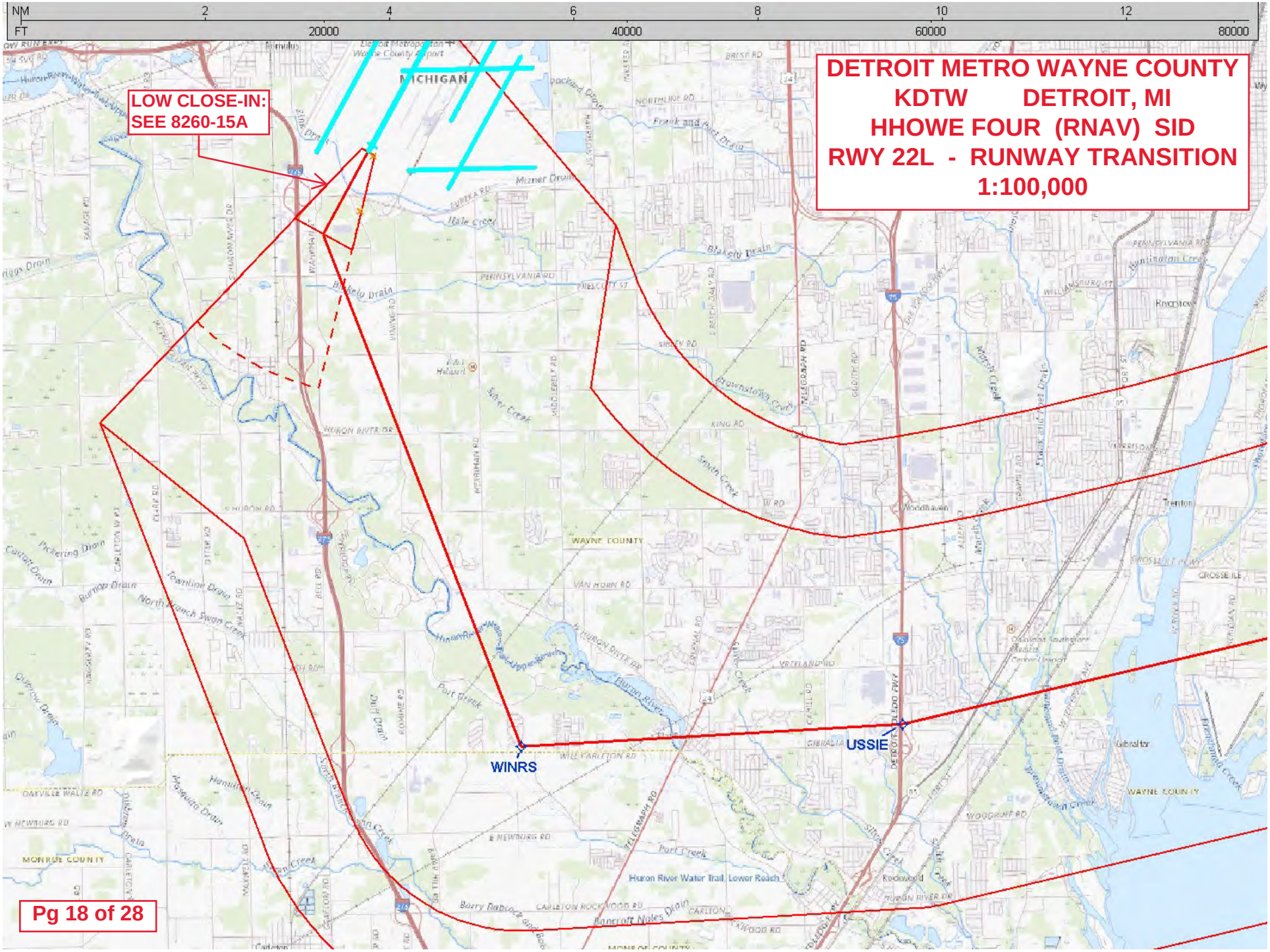
LOW CLOSE-IN:
SEE 8260-15A
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 21R - RUNWAY TRANSITION
1:100,000
WINRS
USSIE
WAYNE COUNTY
MONROE COUNTY
Huron River Water Trail, Lower Reach
Pg 16 of 28


DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 22L - RUNWAY TRANSITION
1:500,000
MALTB
HHOWE
USSIE
SUURF
WINRS
DETROIT
WINDSOR
NOTE: Limited
U.S. airspace.
flight informati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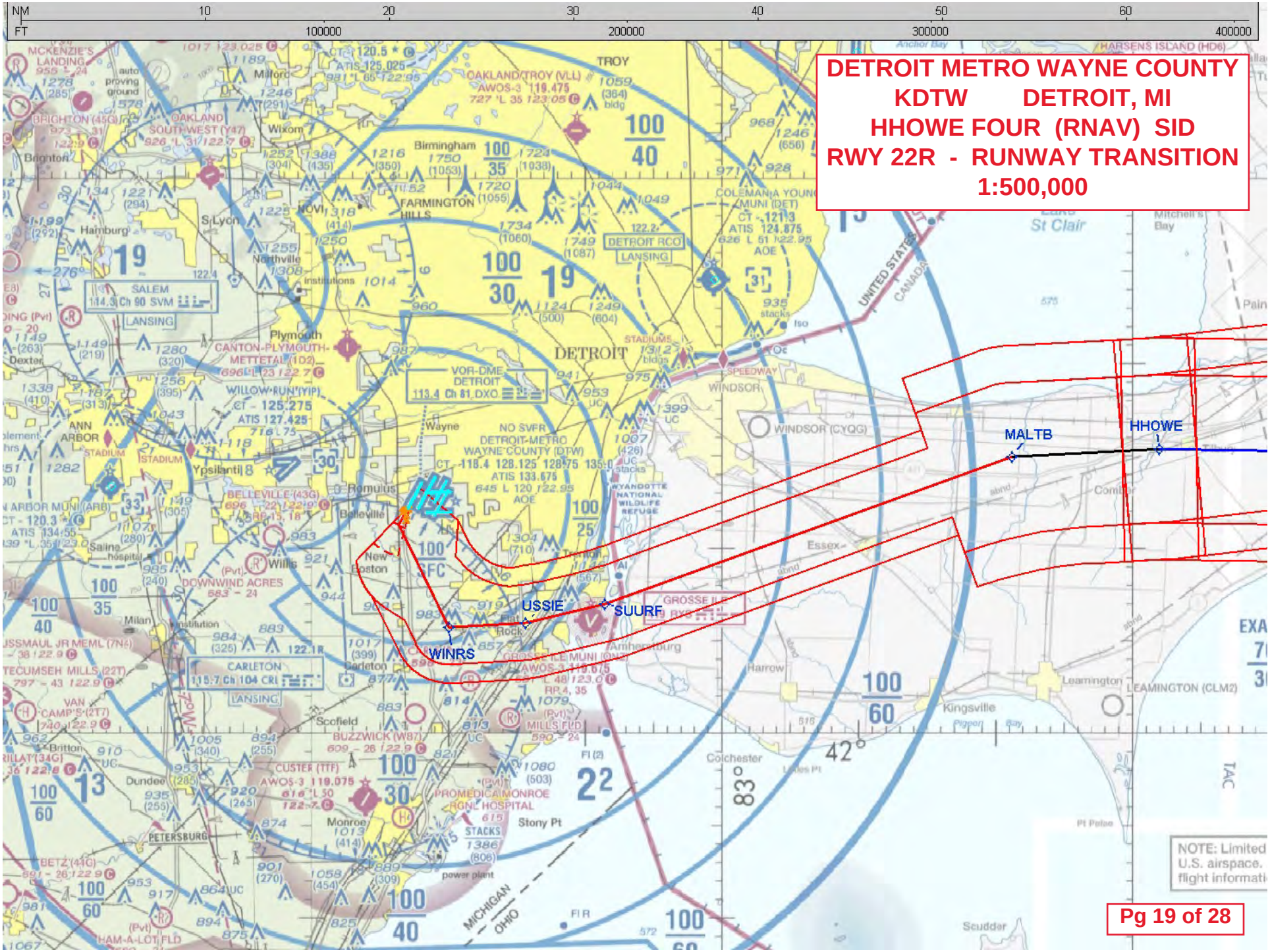
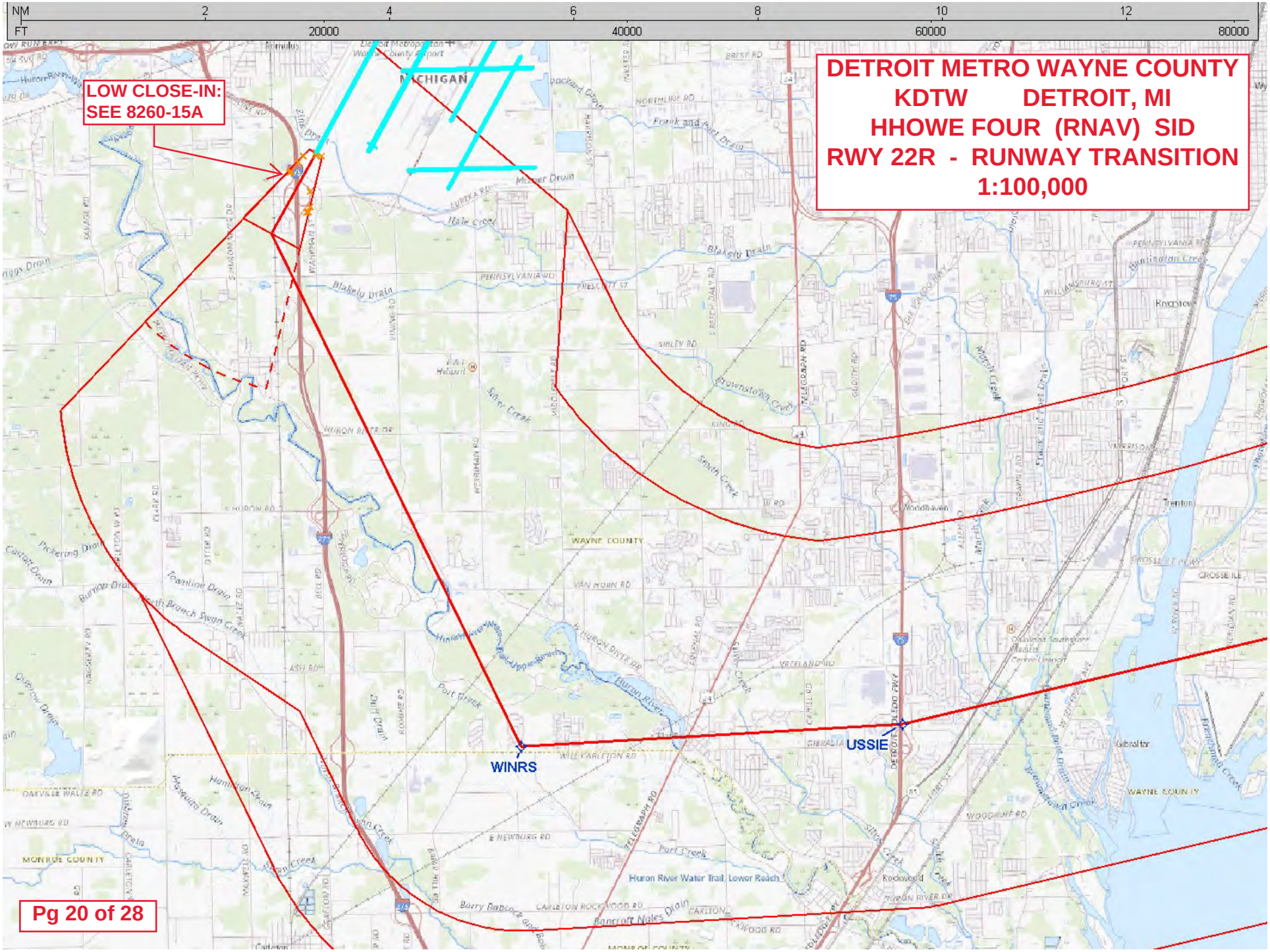
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 22L - RUNWAY TRANSITION
1:100,000
LOW CLOSE-IN:
SEE 8260-15A
WINRS
USSIE
MICHIGAN
WAYNE COUNTY
MONROE COUNTY
Huron River Water Trail, Lower Reach
Pg 18 of 28


DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 22R - RUNWAY TRANSITION
1:500,000
MALTB
HHOWE
USSIE
SUURF
WINRS
NOTE: Limited
U.S. airspace.
flight informati


NM 2 4 6 8 10 12
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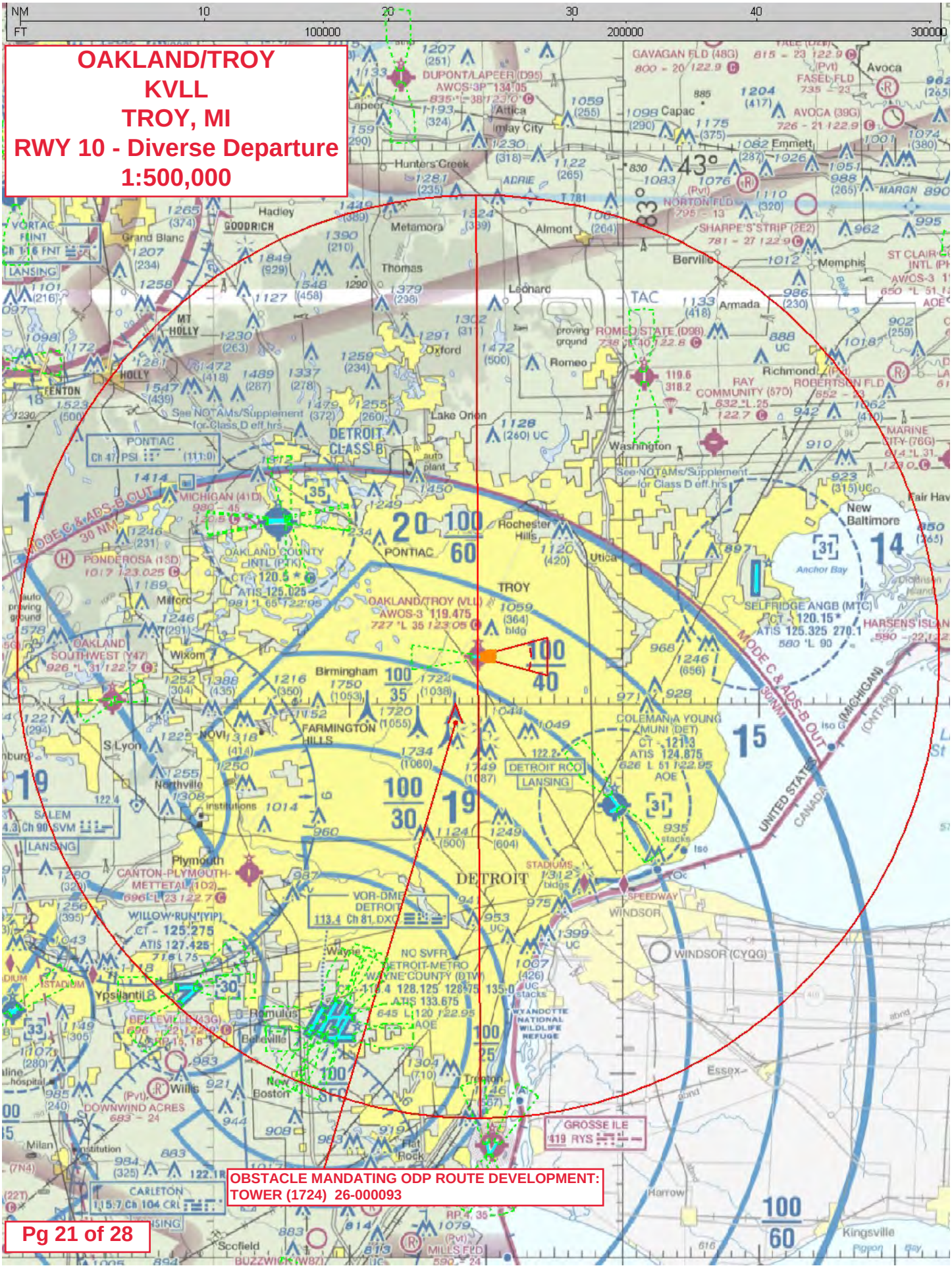
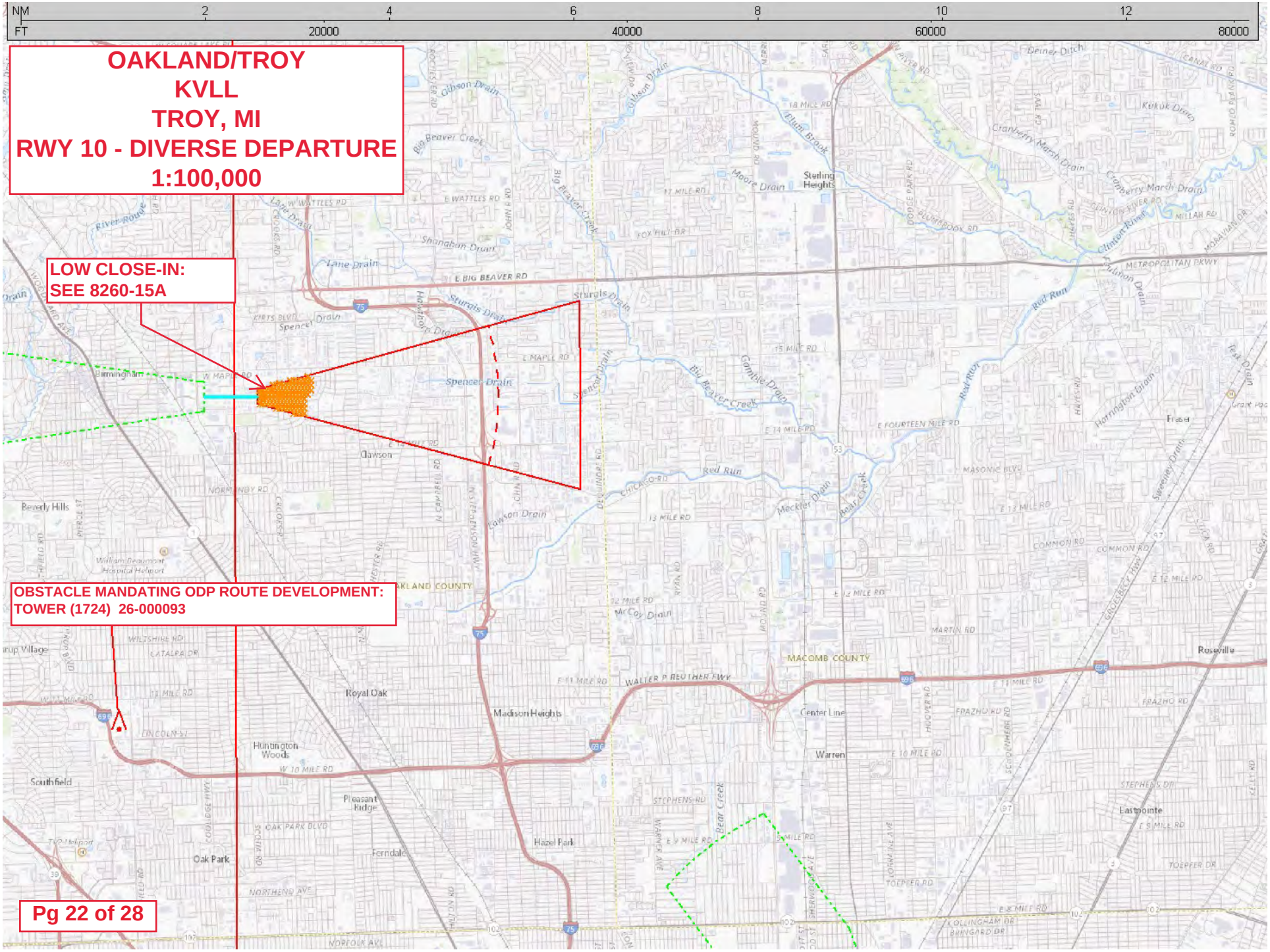
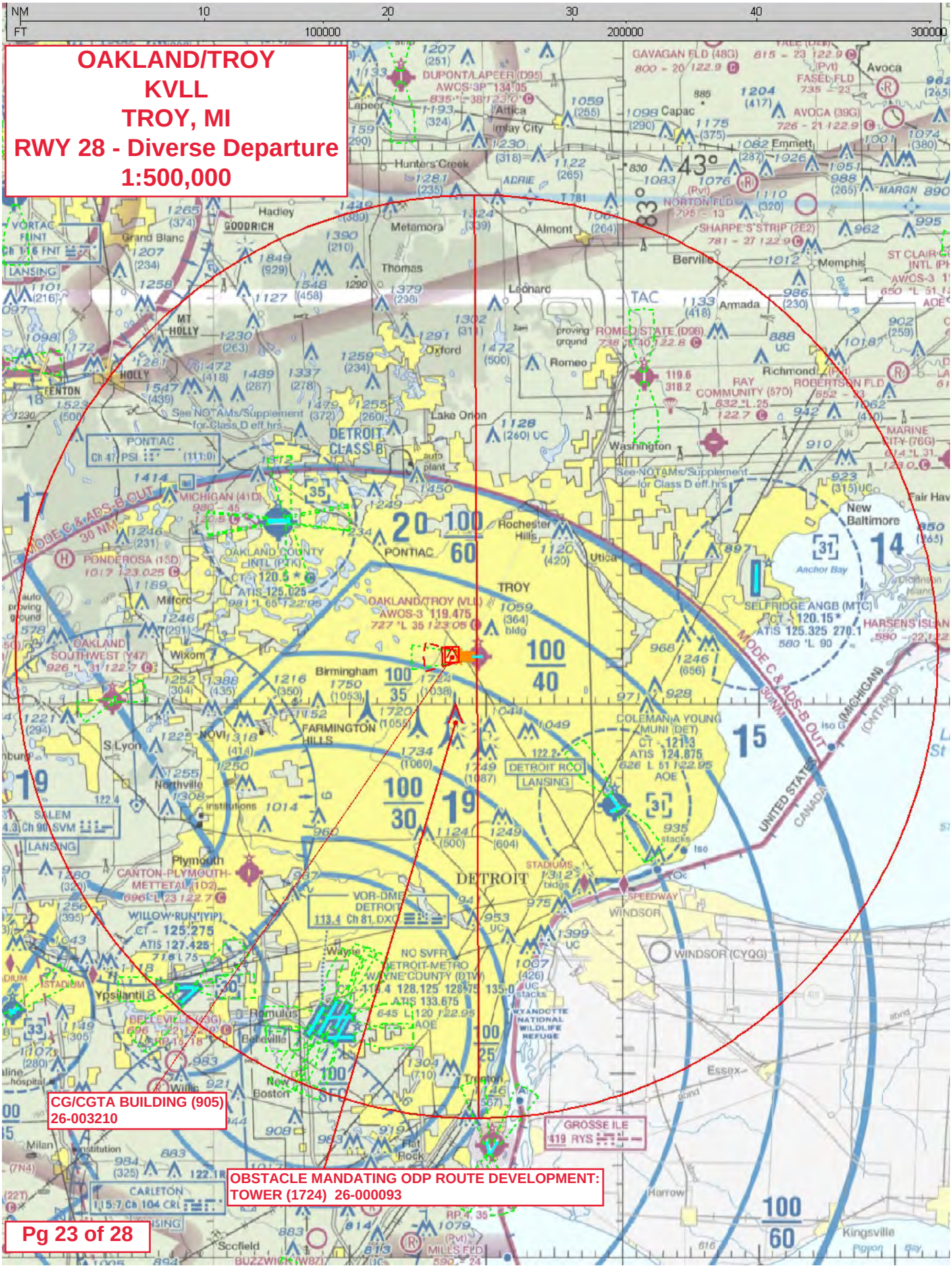
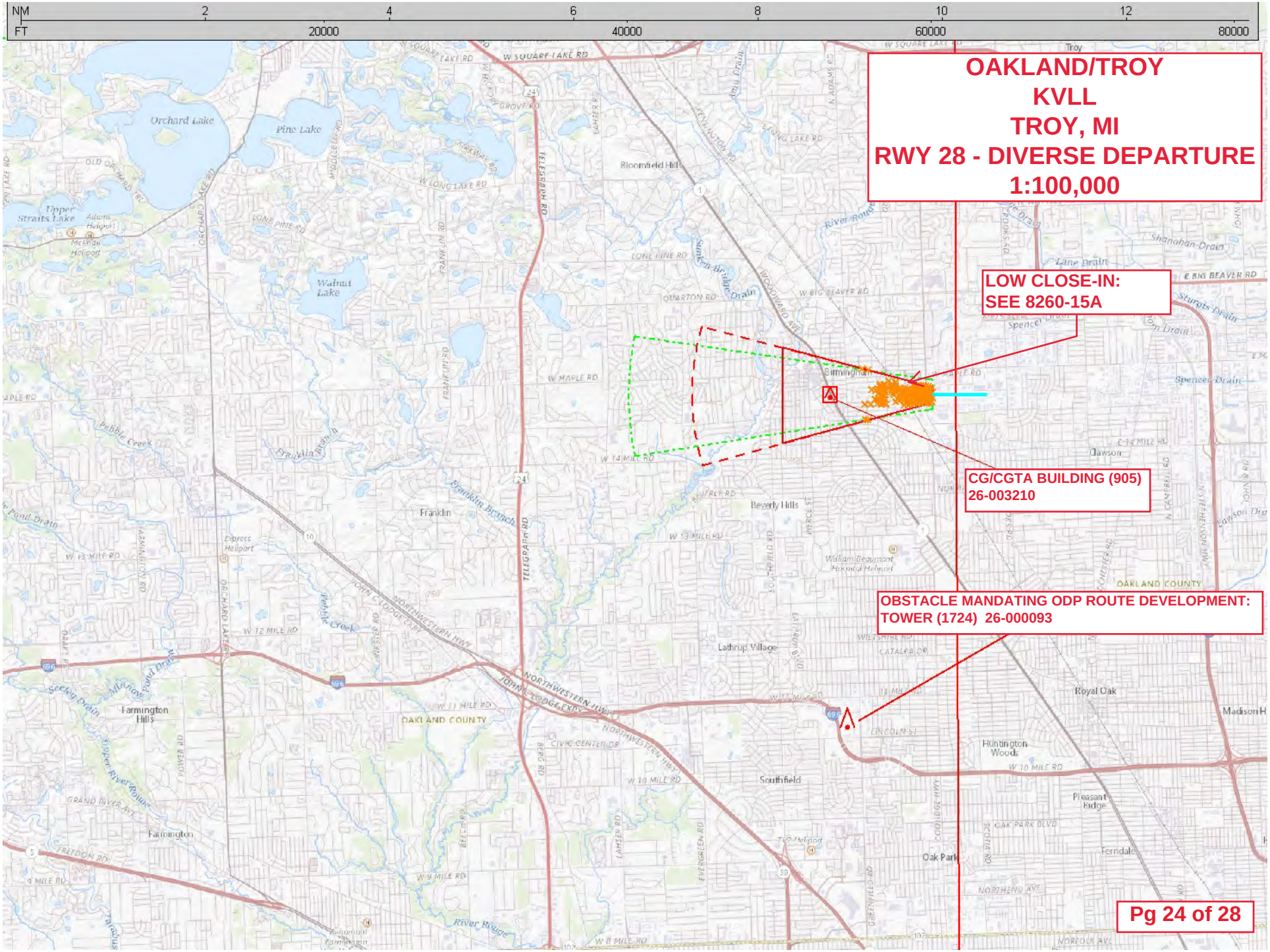
LOW CLOSE-IN:
SEE 8260-15A
DETROIT METRO WAYNE COUNTY
KDTW DETROIT, MI
HHOWE FOUR (RNAV) SID
RWY 22R - RUNWAY TRANSITION
1:100,000
WINRS
USSIE
WAYNE COUNTY
MONROE COUNTY
Huron River Water Trail, Lower Reach
Pg 20 of 28


OAKLAND/TROY
KVLL
TROY, MI
RWY 10 - Diverse Departure
1:500,000
OBSTACLE MANDATING ODP ROUTE DEVELOPMENT:
TOWER (1724) 26-000093


NM 2 4 6 8 10 12
FT 20000 40000 60000 80000
OAKLAND/TROY
KVLL
TROY, MI
RWY 10 - DIVERSE DEPARTURE
1:100,000
LOW CLOSE-IN:
SEE 8260-15A
OBSTACLE MANDATING ODP ROUTE DEVELOPMENT:
TOWER (1724) 26-000093
Pg 22 of 28


OAKLAND/TROY
KVLL
TROY, MI
RWY 28 - Diverse Departure
1:500,000
CG/CGTA BUILDING (905)
26-003210
OBSTACLE MANDATING ODP ROUTE DEVELOPMENT:
TOWER (1724) 26-000093


NM 2 4 6 8 10 12
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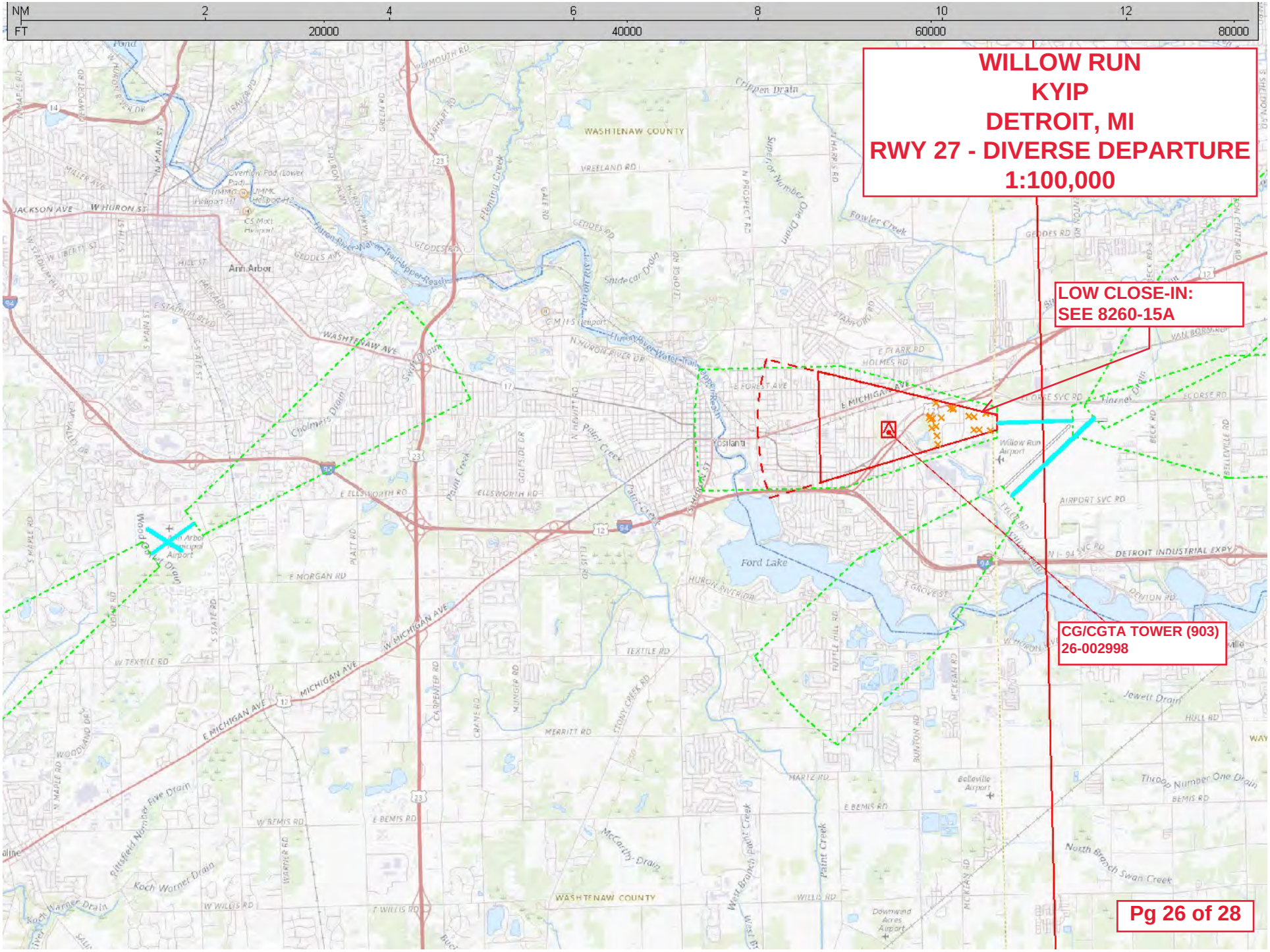
OAKLAND/TROY
KVLL
TROY, MI
RWY 28 - DIVERSE DEPARTURE
1:100,000
LOW CLOSE-IN:
SEE 8260-15A
CG/CGTA BUILDING (905)
26-003210
OBSTACLE MANDATING ODP ROUTE DEVELOPMENT:
TOWER (1724) 26-000093
Orchard Lake
Pine Lake
Upper Straits Lake
Walnut Lake
Bloomfield Hills
Birmingham
Beverly Hills
Franklin
Lathrup Village
Southfield
Farmington Hills
Farmington
Royal Oak
Huntington Woods
Pleasant Ridge
Oak Park
Ferndale
Dawson
OAKLAND COUNTY
W SQUARE LAKE RD
W LONG LAKE RD
LONE PINE RD
QUARTON RD
W BIG BEAVER RD
W MAPLE RD
W 14 MILE RD
W 13 MILE RD
W 12 MILE RD
W 11 MILE RD
W 10 MILE RD
W 9 MILE RD
W 8 MILE RD
TELEGRAPH RD
NORTHWESTERN HWY
JOHN C LODGE EXPY
ORCHARD LAKE RD
FRANKLIN RD
LAHSER RD
Pg 24 of 28


WILLOW RUN
KYIP
DETROIT, MI
RWY 27 - Diverse Departure
1:500,000
NM
FT
10
20
30
40
100000
200000
300000
DETROIT CLASS B
DETROIT CLASS C
TOLEDO CLASS C
MODE C & ADS-B OUT
30-NM
WILLOW RUN (YIP)
CT 125.275
ATIS 127.425
ANN ARBOR
ANN ARBOR MUNI (ARB)
CT 120.3
ATIS 134.55
DETROIT
VOR-DME
DETROIT
113.4 Ch 81 DXO
DETROIT-METRO WAYNE COUNTY (DTW)
CT 118.4 128.125 128.75 135.0
ATIS 133.675
OAKLAND COUNTY INTL (PTK)
CT 120.5
ATIS 125.025
OAKLAND/TROY (VLL)
AWOS-3 119.475
PONTIAC
CT 120.5
ATIS 125.025
SALEM
114.3 Ch 90 SVM
LANSING
CARLETON
115.7 Ch 104 CRL
LANSING
DETROIT RCO
LANSING
CANTON-PLYMOUTH-METTETAL (1D2)
RAYMOND J KUSSMAUL JR MEML (7N4)
TECUMSEH MILLS (22T)
VAN CAMP'S (2T7)
MERILLAT (34G)
BELLEVILLE (43G)
DOWNWIND ACRES
CARLS (Pvt)
BUZZWICK (W87)
CUSTER (TTF)
AWOS-3 119.075
PROMEDICA MONROE REGNL HOSPITAL
DUNDEE (D85)
HAM-A-LOT FLD
SUBURBAN (DUH)
AWOS-3 119.175
TOLEDO APP WITHIN
GROSSE ILE MUNI (ONZ)
AWOS-3 119.675
MILLS FLD
NO SVFR
See NOTAMs/Supplement for Class D eff hrs
MICHIGAN
OHIO
FIR
CG/CGTA TOWER (903)
26-002998
Pg 25 of 28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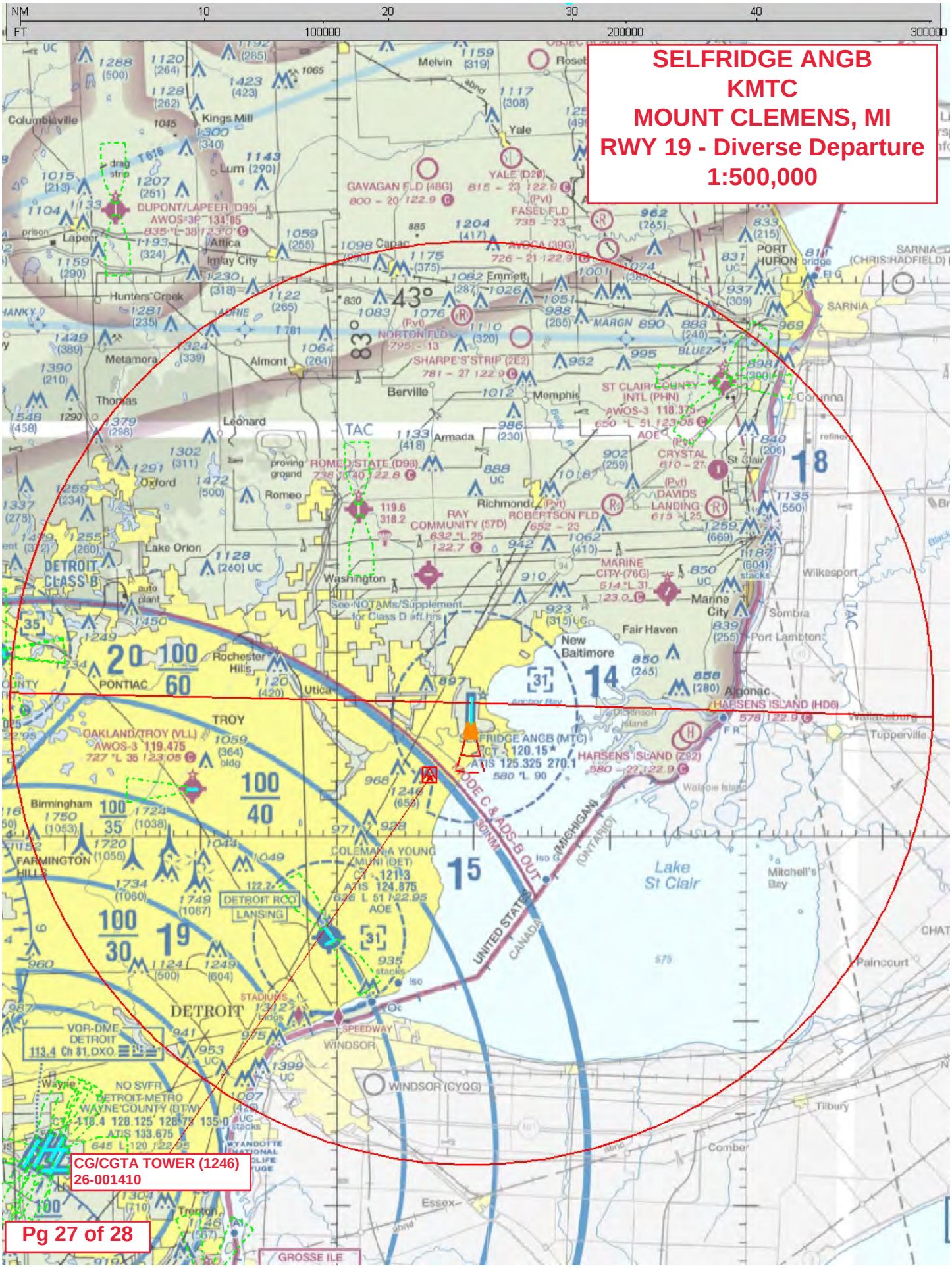
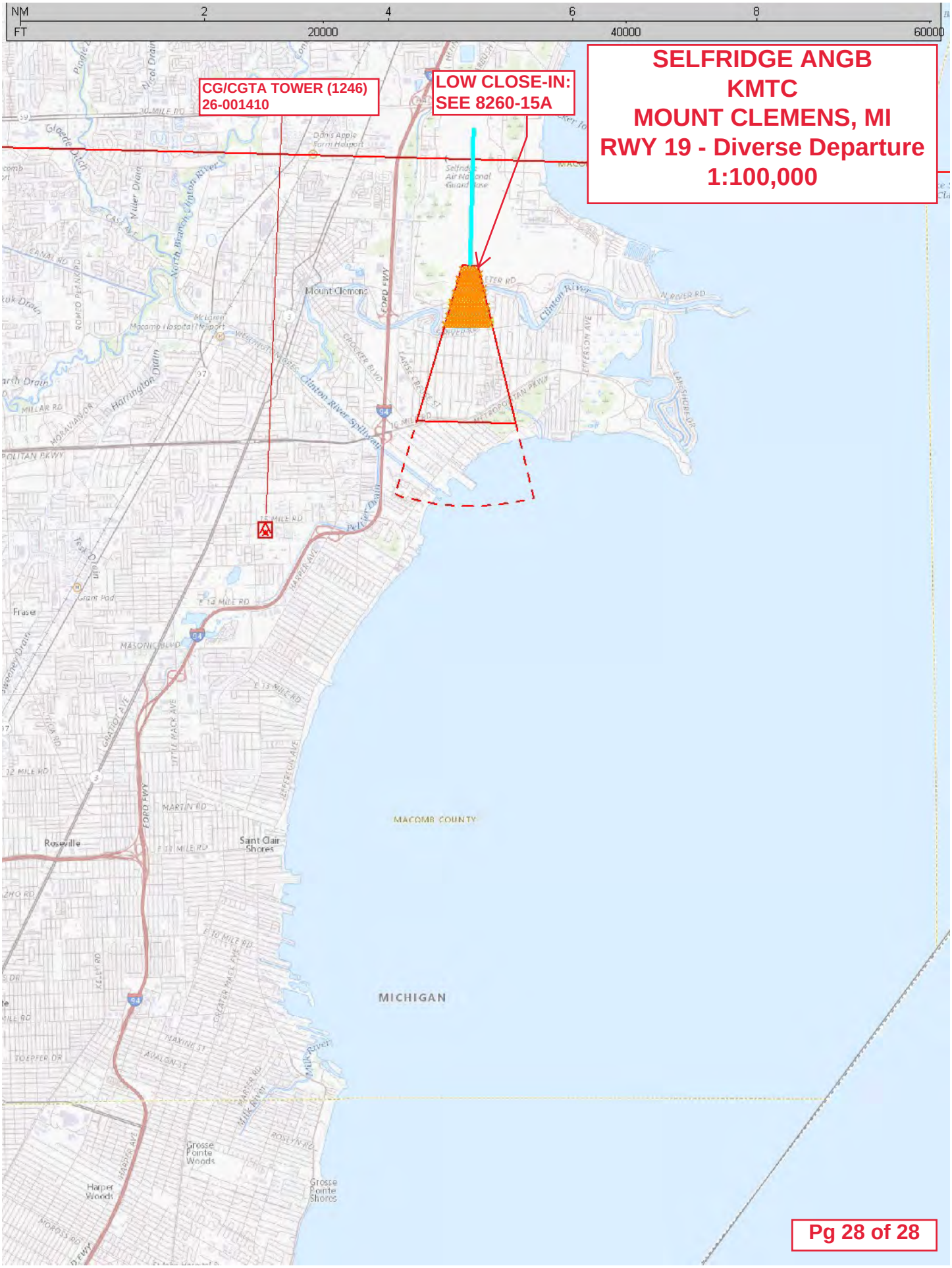
WILLOW RUN
KYIP
DETROIT, MI
RWY 27 - DIVERSE DEPARTURE
1:100,000
LOW CLOSE-IN:
SEE 8260-15A
CG/CGTA TOWER (903)
26-002998
Pg 26 of 28
Ann Arbor
Ypsilanti
Ford Lake
WASHTENAW COUNTY
W HURON ST
JACKSON AVE
WASHTENAW AVE
E MICHIGAN AVE
W MICHIGAN AVE
MICHIGAN AVE
DETROIT INDUSTRIAL EXPY
AIRPORT SVC RD
Willow Run Airport
Ann Arbor Municipal Airport
Belleville Airport
Downwind Acres Airport
Huron River Water Trail
Crippen Drain
Fleming Creek
Swift Drain
Cholmers Drain
Paint Creek
Fowler Creek
Koch Warner Drain
McCarthy Drain
North Branch Swan Creek
Jewell Drain
Thread Number One Drain
Pittsfield Number Five Drain


SELFRIDGE ANGB
KMTC
MOUNT CLEMENS, MI
RWY 19 - Diverse Departure
1:500,000
NM 10 20 30 40
FT 100000 200000 300000
CG/CGTA TOWER (1246)
26-001410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SELFRIDGE ANGB
KMTC
MOUNT CLEMENS, MI
RWY 19 - Diverse Departure
1:100,000
CG/CGTA TOWER (1246)
26-001410
LOW CLOSE-IN:
SEE 8260-15A
Mount Clemens
Clinton River
MACOMB COUNTY
MICHIGAN
Roseville
Saint Clair Shores
Grosse Pointe Woods
Harper Woods
Grosse Pointe Shores
Fraser