

FEDERAL AVIATION ADMINISTRATION
 FLIGHT STANDARDS SERVICE
 STANDARD TERMINAL ARRIVAL (STAR)

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated. Distances are in nautical miles (NM). Graphic depictions attached.

Arrival Name GRAYT (RNAV)	Number TWO	STAR Computer Code GRAYT.GRAYT2	Superseded Number ONE	Dated 09/13/2018	Effective Date 10 OCT 2019
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TRANSITION ROUTES:

Transition Name	Transition Computer Codes	From FIX/NAVAID	To FIX/NAVAID	Course	Distance	MEA	MOCA	MAA	Crossing Altitudes / Fixes
DAYYY	DAYYY.GRAYT2	DAYYY	DAYYY						
			PNNT0	180.96	23.56	10000	2600		
			WLEYE	157.28	11.40	10000	2200	AT/ABOVE FL240	
			YUUPR	157.28	13.18	10000	2100	AT/BELOW FL230	
			THEEE	154.62	18.37	10000	2300		
LEFSA	LEFSA.GRAYT2	LEFSA	LEFSA						
			PNNT0	141.44	27.44	10000	2800		
			WLEYE	157.28	11.40	10000	2200	AT/ABOVE FL240	
			YUUPR	157.28	13.18	10000	2100	AT/BELOW FL230	
			THEEE	154.62	18.37	10000	2300		
			GRAYT	155.07	17.58	9000	2300	BETWEEN 17000 AND FL220	

ARRIVAL ROUTE DESCRIPTION:

FROM GRAYT ON TRACK 161.75/23.48 TO CROSS HYPED BETWEEN 12000 AND 15000 AND AT 250 KIAS, THEN ON TRACK 172.61/6.82 TO CROSS MERFI AT 12000.

LANDING RWY 3L/R: FROM MERFI ON TRACK 172.64/17.95 TO QWYNN, THEN ON TRACK 214.02/3.58 TO CROSS SPRTS AT 12000 AND AT 210 KIAS, THEN ON TRACK 215.68. EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

LANDING RWY 4L/R: FROM MERFI ON TRACK 216.24/9.11 TO ZUBBY, THEN ON TRACK 216.09/3.90 TO CROSS CADLC AT 12000 AND AT 210 KIAS, THEN ON TRACK 218.18. EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

LANDING RWY 27L/R: FROM MERFI ON TRACK 172.54/10.16 TO TMTOM, THEN ON TRACK 095.74/5.00 TO CROSS TUUBR AT 12000 AND AT 210 KIAS, THEN ON TRACK 095.74. EXPECT RADAR VECTORS TO FINAL APPROACH COURSE.

PROCEDURAL DATA NOTES:

NOTE: RADAR REQUIRED

NOTE: RNAV 1

NOTE: DME/DME/IRU OR GPS REQUIRED

NOTE: USE RUNWAY 4L TRANSITION OR AS ASSIGNED BY ATC. EXPECT RUNWAY ASSIGNMENT FROM DETROIT APP CON NO LATER THAN 10 NM FROM MERFI.

NOTE: FOR USE WHEN DTW LANDING NORTH OR WEST. WHEN DTW LANDING SOUTH, FILE AND EXPECT THE LAYKS RNAV STAR.

FIXES AND/OR HOLDING PATTERNS:

CHART HOLDING AT THEEE: HOLD NW, LT, 154.62 INBOUND, 10 NM LEGS.

COMMUNICATIONS:

DTW ATIS, DETROIT APP CON.

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GRAYT (RNAV)	TWO	GRAYT.GRAYT2	ONE	09/13/2018	10 OCT 2019

AIRPORTS SERVED:

DETROIT METROPOLITAN WAYNE COUNTY, DETROIT, MI (KDTW)

LOST COMMUNICATIONS PROCEDURE:

REMARKS:

ADDITIONAL FLIGHT DATA:

DME/DME ASSESSMENT: SAT (RNP 2.0)
 REFERENCE MAGNETIC VARIATION = KDTW 07W/2020
 CHART AT SPRTS TERMINUS: KDTW LDG RWY 3L/R
 CHART AT CADLC TERMINUS: KDTW LDG RWY 4L/R
 CHART AT TUUBR TERMINUS: KDTW LDG RWY 27L/R
 DO NOT CHART MOCAs

FLIGHT INSPECTED BY:

BRYAN VEIT
 Name

FICO
 Organization

7/15/19
 Date

Digitally signed by

JACOB POWERS

Jul 17, 2019

Signature

DEVELOPED BY:

MIKE FERRELL
 Name

CLEVELAND ARTCC METROPLEX LEAD
 Organization

03/18/2019
 Date

Digitally signed by

JACOB POWERS

Jul 17, 2019

Signature

APPROVED BY:

PAT MULQUEEN
 Name

AJV-A440
 Organization

Date

Digitally signed by

JACOB POWERS

Jul 17, 2019

Signature

CHANGES:

1. CHANGED MEA FOR THEEE-GRAYT LEG FROM 10000 TO 9000.
2. ADDED RWY 27L/R RUNWAY TRANSITION.
3. CHANGED CHART NOTE FROM "FOR USE WHEN DTW IS IN NORTH FLOW. WHEN DTW IS IN SOUTH FLOW, FILE AND EXPECT THE LAYKS RNAV STAR TO "FOR USE WHEN DTW LANDING NORTH OR WEST. WHEN DTW LANDING SOUTH, FILE AND EXPECT THE LAYKS RNAV STAR."
4. CHANGED CHART NOTE FROM "USE RUNWAY 4L TRANSITION OR AS ASSIGNED BY ATC. EXPECT RUNWAY ASSIGNMENT FROM DETROIT TRACON PRIOR TO HYPED TO "USE RUNWAY 4L TRANSITION OR AS ASSIGNED BY ATC. EXPECT RUNWAY ASSIGNMENT FROM DETROIT APP CON NO LATER THAN 10 NM FROM MERFI."
5. MOVED CADLC 4 NM NE.
6. REMOVED RECOMMENDED NAVAID.



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REASONS:

1. LOWER MEA NEEDED FOR PROPS AND TURBOPROPS.
2. ADDED 27L/R RUNWAY TRANSITIONS AND ATC REQUESTED RESTRICTIONS.
3. CHANGED WORDING OF CHART NOTE TO LANDING DIRECTION AND STANDARDIZED FOR ALL PROCEDURES.
4. IDENTIFY WHEN TO EXPECT RUNWAY ASSIGNMENT REFERENCE WAYPOINT.
5. CHANGED TO ALIGN WITH CHANGES MADE TO RNAV(RNP) W RWY 4L.
6. NO LONGER REQUIRED.

QUALITY
14
CHECKED

FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
STAR (DATA RECORD)

Arrival Name GRAYT (RNAV)	Number TWO	STAR Computer Code GRAYT.GRAYT2	Superseded Number ONE	Dated 09/13/2018	Effective Date 10 OCT 2019
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FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
En Route Transition									
DAYYY	441010.00N / 0842223.00W	Y		IF					DAYYY.GRAYT2
PNNT0	434644.04N / 0841857.77W	Y	FB	TF	173.96	23.56			
WLEYE	433649.68N / 0841110.97W	Y	FB	TF	150.28	11.40	AT/ABOVE FL240	AT 280K	
YUUPR	432522.23N / 0840212.80W	Y	FB	TF	150.28	13.18	AT/BELOW FL230		
THEEE	430950.38N / 0834846.22W	Y	FB	TF	147.62	18.37			
GRAYT	425454.23N / 0833607.10W	Y	FB	TF	148.07	17.58	17000BFL220	AT 280K	

En Route Transition									
LEFSA	440600.00N / 0844600.00W	Y		IF					LEFSA.GRAYT2
PNNT0	434644.04N / 0841857.77W	Y	FB	TF	134.44	27.44			
WLEYE	433649.68N / 0841110.97W	Y	FB	TF	150.28	11.40	AT/ABOVE FL240	AT 280K	
YUUPR	432522.23N / 0840212.80W	Y	FB	TF	150.28	13.18	AT/BELOW FL230		
THEEE	430950.38N / 0834846.22W	Y	FB	TF	147.62	18.37			
GRAYT	425454.23N / 0833607.10W	Y	FB	TF	148.07	17.58	17000BFL220	AT 280K	

Common Route									
GRAYT	425454.23N / 0833607.10W	Y		IF			17000BFL220	AT 280K	GRAYT.GRAYT2
HYPED	423338.98N / 0832233.95W	Y	FB	TF	154.75	23.48	12000B15000	AT 250K	
MERFI	422702.57N / 0832016.66W	Y	FB	TF	165.61	06.82	AT 12000		

Runway Transition									
MERFI	422702.57N / 0832016.66W	Y		IF			AT 12000		
QWYNN	420938.82N / 0831417.53W	Y	FB	TF	165.64	17.95			
SPRTS	420627.28N / 0831628.71W	Y	FO	TF	207.02	03.58	AT 12000	AT 210K	
KDTW:RWY 3L,RWY 3R				FM	208.68				

Runway Transition									
MERFI	422702.57N / 0832016.66W	Y		IF			AT 12000		



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FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
ZUBBY	421905.14N / 0832616.73W	Y	FB	TF	209.24	09.11			
CADLC	421540.55N / 0832849.94W	Y	FO	TF	209.09	03.90	AT 12000	AT 210K	
KDTW:RWY 4L,RWY 4R				FM	211.18				

Runway Transition

MERFI	422702.57N / 0832016.66W	Y		IF			AT 12000		
TMTOM	421711.90N / 0831651.54W	Y	FB	TF	165.54	10.16			
TUUBR	421718.29N / 0831007.45W	Y	FO	TF	088.74	05.00	AT 12000	AT 210K	
KDTW:RWY 27L,RWY 27R				FM	088.74				

