

IH 41 TYPICAL SECTION (5-1-D): THE MAINLINE TYPICAL SECTION TO THE EAST OF COUNTY E CONSISTS OF A 36.5' MEDIAN (14' INSIDE SHOULDERS WITH 56-INCH SINGLE FACE BARRIERS). THE NORTHBOUND MAINLINE HAS 3 - 12' LANES AND 1 - 12' AUXILIARY LANE. THE SOUTHBOUND MAINLINE HAS 3 - 12' LANES. THE SEPARATION BETWEEN THE SOUTHBOUND MAINLINE AND THE C-D ROAD CONSIST OF A 26.5' MEDIAN (14' OUTSIDE MAINLINE SHOULDER AND 6' INSIDE C-D ROAD SHOULDER WITH 42-INCH SINGLE FACE BARRIERS AT A MINIMUM). THE NORTHBOUND MAINLINE AND C-D ROAD EACH HAS 12' OUTSIDE SHOULDERS WITH BARRIER OR RETAINING WALLS FOR PORTIONS OF THE TYPICAL SECTION DUE TO TIGHT RIGHT-OF-WAY CONSTRAINTS.

IH 41 RAMPS, C-D ROADS AND AUXILIARY LANES (5-1-E): THE COUNTY E NORTHBOUND ON-RAMP TO IH 41 IS A PARALLEL ENTRANCETYPE THAT TURNS INTO AN AUXILIARY LANE TO THE NORTH SYSTEM INTERCHANGE IH 41 NORTHBOUND TO WIS 441 SOUTHBOUND RAMP.

DRAFT

5-1-N

TWO RECEIVING LANES FROM
NB CTH E LEFT TURN

END SEGMENT 4

IH 41 SB ON RAMP

EXISTING RIGHT OF WAY

LANE CONFIGURATION UPDATE. NO
CHANGE IN GEOMETRICSGEOMETRIC DEFICIENCY (5-1-O):
START OF DEFICIENT
VERTICAL GRADE
ACTUAL 0.10%
DESIRED 0.50%
MINIMUM 0.30%GEOMETRIC DEFICIENCY (5-1-O):
END OF DEFICIENT
VERTICAL GRADE
ACTUAL 0.10%
DESIRED 0.50%
MINIMUM 0.30%

5-1-D

IH 41 SB OFF RAMP

IH 41 SB

IH 41 NB

IH 41 NB

IH 41 NB OFF RAMP

PROPOSED IH 41

IH 41 NB ON RAMP

5-1-E

UTILITIES (5-1-U):

GEOMETRIC DEFICIENCY (5-1-O):
DEFICIENT VERTICAL CURVE
GRADE CHANGE 0.30%

UTILITIES (5-1-W):

B-44-172
RECONSTRUCTDUAL LEFT TURN LANES FROM
OFF RAMP TO NB CTH E

BEGIN SEGMENT 5

E. TRACIA LN

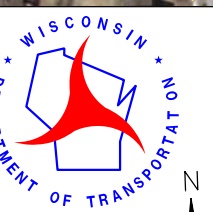
N. MARCOS LN

N. JUANITA LN

COMMERCE CT

LEGEND

- APPROXIMATE UTILITY CROSSING
- EXISTING ROW
- PROPOSED ROW
- EXISTING ROADWAYS
- PROPOSED LOCAL ROADS
- PROPOSED IH 41
- PROPOSED STRUCTURE
- PROPOSED CONCRETE BARRIER
- PROPOSED LOCAL SIDEWALK
- ROADWAY OBLITERATION
- PROPOSED NOISE WALL



0 100' 200'

2
IH 41 ALIGNMENT (5-1-A): BOTH THE IH 41 NORTHBOUND AND SOUTHBOUND ALIGNMENTS ARE SEPARATED THRU THE INTERCHANGE TO CREATE ENOUGH MEDIAN CLEARANCE FOR THE WIS 441 NORTHBOUND FLYOVER RAMP PIER FOUNDATION. ALL OF THE IH 41 SOUTHBOUND CURVE RADII THRU THE INTERCHANGE ARE 14,000- FEET ALLOWING THE TYPICAL SECTION TO REMAIN AS A NORMAL CROWN SECTION.

IH 41 ALIGNMENT (5-1-B): THE IH 41 NORTHBOUND'S SHARPEST CENTER CURVE RADIUS THRU THE INTERCHANGE IS 3500- FEET (4.9% SUPERELEVATION) WITH THE OTHER TWO CURVE RADII AT 14,000- FEET ALLOWING TRANSITION TO A NORMAL CROWN SECTION. FURTHER EVALUATION FOR THE IH 41 NORTHBOUND CENTER CURVE INDICATED THAT A 6,000- FOOT (3.2% SUPERELEVATION) WOULD WORK WHILE STILL PROVIDING ENOUGH MEDIAN CLEARANCES FOR WIS 441 NORTHBOUND FLYOVER RAMP PIER FOUNDATIONS.

IH 41 RAMPS, C-D ROADS AND AUXILIARY LANES (5-1-F): THE NORTH SYSTEM INTERCHANGE IH 41 NORTHBOUND TO WIS 441 SOUTHBOUND RAMP AS SHOWN HAS A MINIMUM RADIUS OF 1340', MEETING A 60-MPH DESIGN SPEED AND HAS A 6.0% MAXIMUM SUPERELEVATION. THE RAMP WILL REQUIRE A 1700' LONG RETAINING WALL THAT VARIES IN HEIGHTS AS TALL AS 15' ALONG THE ENTIRE LENGTH TO MINIMIZE THE RIGHT-OF-WAY IMPACTS IN THE SOUTHWEST QUADRANT OF THE INTERCHANGE (APPROXIMATELY 20,900 SF OF WALL FACE).

IH 41 RAMPS, C-D ROADS AND AUXILIARY LANES (5-1-J): THE STRETCH OF C-D ROAD BETWEEN THE SOUTHBOUND IH 41 TO SOUTHBOUND WIS 441 LOOP RAMP AND THE NORTHBOUND WIS 441 TO SOUTHBOUND IH 41 FLYOVER RAMP IS APPROXIMATELY 2000- FEET LONG MEASURED FROM THE DIVERGE GORE OF THE LOOP RAMP TO THE MERGE GORE WITH THE FLYOVER RAMP. THE C-D CONTAINS TWO CURVES. THE FIRST AN 8000- FOOT RADIUS CURVE WITH REVERSE CROWN SLOPE AND THE SECOND IS A 3500- FOOT RADIUS CURVE WITH 4% SUPERELEVATION THE OPPOSITE DIRECTION FROM THE FIRST CURVE. THE TWO CURVES ARE SEPARATED BY A 480- FOOT TANGENT SEGMENT THAT WILL PROVIDE SUPERELEVATION TRANSITION FROM ONE CURVE TO THE OTHER.

GEOMETRIC DEFICIENCY (5-1-O):
START OF DEFICIENT
VERTICAL GRADE
ACTUAL 0.25%
DESIRED 0.50%
MINIMUM 0.30%

PROPOSED IH 41

5-1-J

EXISTING RIGHT OF WAY

E. ENTERPRISE AVE

N. PROVIDENCE AVE

DRAFT

5-1-A

IH 41 SB

IH 41 NB

UTILITIES (5-1-U):

IH 41 CENTERLINE LOCATION REQUIRES FURTHER
DESIGN REFINEMENT TO OPTIMIZE REAL ESTATE
AND CONSTRUCTION COSTS FOR THE 41-441
SYSTEM INTERCHANGE AND CD LANE SYSTEM

5-1-L

5-1-K

5-1-B

5-1-F

IH 41 RAMPS, C-D ROADS AND AUXILIARY LANES (5-1-K): THE WIS 441 NORTHBOUND FLYOVER RAMP IS PRIMARILY ON STRUCTURE WITH LONG RETAINING WALLS ON EITHER BRIDGE END EMBANKMENT. THE STRUCTURE IS ANTICIPATED TO BE SIMILAR TO THE BROWN COUNTY IH 41/WIS 29 INTERCHANGE TUB GIRDER STRUCTURES OR SIMILAR TO WINNEBAGO COUNTY US 10/WIS 441 INTERCHANGE CURVED GIRDER STRUCTURE WITH SPAN LENGTHS UP TO 260- FEET. LENGTHS ARE NEEDED TO SPAN ACROSS THE 68- FOOT IH 41 SOUTHBOUND AND 66- FOOT IH 41 NORTHBOUND ROADWAY CROSS SECTION AT A LARGE SKEW ANGLE. THE RAMP MAINTAINS A CONSISTENT CROSS SECTION OF 8' INSIDE SHOULDER, 15' RAMP LANE, AND 10' OUTSIDE SHOULDER WIDTHS. THE RAMP LAYOUT AS SHOWN MAINTAINS A 60 MPH DESIGN SPEED (1340' MINIMUM RADIUS) WITH 6.0% SUPERELEVATION.

IH 41 RAMPS, C-D ROADS AND AUXILIARY LANES (5-1-L): THE WIS 441 NORTHBOUND FLYOVER RAMP WEST ABUTMENT IS DIRECTLY ADJACENT TO IH 41 SOUTHBOUND MAINLINE ON THE SOUTH SIDE AND DIRECTLY ADJACENT TO THE C-D ROAD ON THE NORTH SIDE. THE RAMP REQUIRES TWO RETAINING WALLS WITH CONCRETE BARRIER, ONE ON EITHER SIDE OF THE RAMP EMBANKMENT FILL. THE NORTHBOUND FLYOVER RAMP SUPERSTRUCTURE THICKNESS IS ANTICIPATED TO BE 10- FEET REQUIRING A 27- FOOT DISTANCE FROM PROFILE GRADE LINE TO CRITICAL CLEARANCE POINT ALONG THE IH 41 SOUTHBOUND LANES (ASSUMED TO BE ALONG IH 41 SOUTHBOUND OUTSIDE SHOULDER). THE RAMP GRADE IS PROJECTED TO BE APPROXIMATELY 3.0% AND WILL REQUIRE A MINIMUM OF 630- FOOT LONG RETAINING WALLS ALONG BOTH SIDES OF THE EMBANKMENT TO CLIMB TO THE REQUIRED BRIDGE GRADE. IT IS ANTICIPATED THAT THE C-D ROAD PROFILE ALONG THE NORTH SIDE OF THE FLYOVER RETAINING WALL WILL BE RAISED ON FILL TO MATCH INTO THE FLYOVER RAMP PROFILE MORE QUICKLY TO THE EAST. THIS WILL ALLOW THE ONE LANE OF THE C-D AND THE ONE LANE OF THE FLYOVER MERGE INTO A COMBINED TWO- LANE SECTION SOONER, MAXIMIZING THE WEAVE SECTION DISTANCE BETWEEN THE MERGE POINT AND THE COUNTY E OFF- RAMP. THE RETAINING WALL LOCATED BETWEEN THE FLYOVER RAMP AND IH 41 SOUTHBOUND LANES WILL BE A TALLER RETAINING WALL WITH HEIGHTS APPROACHING THE FLYOVER RAMP PROFILE MINUS THE IH 41 SOUTHBOUND LANES PROFILE (~27 FEET). THE RETAINING WALL LOCATED BETWEEN THE FLYOVER RAMP AND THE C-D ROAD WILL BE A SHORTER RETAINING WALL WITH HEIGHTS RANGING FROM THE FLYOVER RAMP PROFILE TO THE C-D ROAD PROFILE. OUTSIDE OF THE C-D ROAD, ANOTHER SHORTER RETAINING WALL WILL BE REQUIRED TO REDUCE RIGHT-OF-WAY IMPACTS TO SEVERAL INDUSTRIAL PARCELS ALONG THE NORTH PROPERTY LINE.

IH 41 RAMPS, C-D ROADS AND AUXILIARY LANES (5-1-M): THE C-D ROAD BETWEEN THE WIS 441 NORTHBOUND FLYOVER RAMP MERGE AREA AND THE COUNTY E OFF- RAMP ACTS AS A TWO- LANE WEAVE SECTION FOR APPROXIMATELY 1200- FEET. BY PLACING THE NORTHBOUND FLYOVER RAMP ADJACENT TO THE IH 41 SOUTHBOUND LANES, THE MAJORITY OF THE TRAFFIC FROM THE SINGLE C-D LANE ENTRANCE WILL ALREADY BE IN THE CORRECTLY ASSIGNED LANE FOR EXITING AT COUNTY E. THE SIGNIFICANT WEAVE MOVEMENT WILL BE FOR NORTHBOUND FLYOVER RAMP TRAFFIC TO MERGE INTO THE OUTSIDE C-D ROAD LANE TO EXIT AT COUNTY E. ONLY A VERY FEW ERRANT VEHICLES ON THE C-D ROAD SYSTEM ARE ANTICIPATED TO WEAVE THE OPPOSITE DIRECTION TO GET BACK ONTO IH 41 SOUTHBOUND. A RETAINING WALL ALONG THE OUTSIDE SHOULDER FOR THE C-D ROAD SYSTEM IS ANTICIPATED TO MINIMIZE RIGHT-OF-WAY IMPACTS TO THE COMMERCIAL INDUSTRIAL PARCELS ALONG THE IH 41 NORTH SIDE.

UTILITIES (5-1-U): TDS METROCOM HAS BURIED A FIBER OPTIC FACILITY LOCATED ALONG THE SOUTHERLY R/W LINE BETWEEN COUNTY E AND THE NORTH SYSTEM INTERCHANGE.

LEGEND

- - - - - APPROXIMATE UTILITY CROSSING
- - - - - EXISTING ROW
- - - - - PROPOSED ROW
- - - - - EXISTING ROADWAYS
- - - - - PROPOSED LOCAL ROADS
- - - - - PROPOSED IH 41
- - - - - PROPOSED STRUCTURE
- - - - - PROPOSED CONCRETE BARRIER
- - - - - PROPOSED LOCAL SIDEWALK
- - - - - ROADWAY OBLITERATION
- - - - - PROPOSED NOISE WALL



N

0 100' 200'

RIGHT-OF-WAY IMPACTS (5-1-P): THE IH 41 NORTHBOUND TO WIS 441 SOUTHBOUND SYSTEM RAMP IMPACTS MULTIPLE BUSINESSES WITHIN THE SOUTHWEST QUADRANT OF THE INTERCHANGE. STRIP ACQUISITIONS TOTALING APPROXIMATELY 1.8 ACRES FROM LAMINATIONS, C3 CORPORATION, AND GANNETT WISCONSIN NEWSPAPERS ARE REQUIRED FOR CONSTRUCTION OF THE RAMP AND ASSOCIATED RETAINING WALL STRUCTURES. IN ADDITION TO STRIP ACQUISITION, THE PARKING LOT AND CIRCULATION AREA FOR GANNETT WISCONSIN NEWSPAPERS IS IMPACTED BY THE RAMP AND RETAINING WALL.

RIGHT-OF-WAY IMPACTS (5-1-T): WITH THE ADDITION OF THE C-D ROAD SYSTEM BETWEEN COUNTY E AND THE IH 41 SOUTHBOUND TO WIS 441 SOUTHBOUND LOOP RAMP, APPROXIMATELY 2.0 ACRES IS REQUIRED ALONG THE NORTH SIDE OF IH 41 SOUTHBOUND MAINLINE. PROPERTIES IMPACTED CONSIST OF COMMERCIAL AND INDUSTRIAL PARCELS. RETAINING WALLS WILL BE REQUIRED ALONG THE RIGHT-OF-WAY TO MINIMIZE IMPACTS TO THE PARCELS.

UTILITIES (5-1-U): TDS METROCOM HAS BURIED A FIBER OPTIC FACILITY LOCATED ALONG THE SOUTHERLY R/W LINE BETWEEN COUNTY E AND THE NORTH SYSTEM INTERCHANGE.

UTILITIES (5-1-V): WE ENERGIES HAS A BURIED ELECTRIC LINE UNDER THE NW QUADRANT RAMPS AT THE IH 41 & WIS 441 INTERCHANGE.

FURTHER ANALYSIS RECOMMENDATIONS (5-1-AB): FURTHER REVIEW IS RECOMMENDED TO DETERMINE IF SHIFTING THE MAINLINE ALIGNMENT TO THE SOUTH SLIGHTLY WOULD BALANCE C-D ROAD IMPACTS ALONG THE NORTH RIGHT-OF-WAY LINE BETWEEN THE NORTH SYSTEM INTERCHANGE AND THE COUNTY E INTERCHANGE.

FURTHER ANALYSIS RECOMMENDATIONS (5-1-AC): THE IH 41 NORTHBOUND TO WIS 441 SOUTHBOUND SYSTEM RAMP IMPACTS COULD BE MINIMIZED BY REDUCING THE DESIGN SPEED FOR THE CENTER PORTION OF THE RAMP TO 55 MPH (1065-FOOT RADIUS CURVE) WHILE STILL MAINTAINING 60 MPH DESIGN SPEEDS AT THE INITIAL IH 41 NORTHBOUND EXIT CURVE AND WIS 441 SOUTHBOUND ENTRANCE CURVE. ALL SUPERELEVATION WOULD STILL BE A MAXIMUM OF 6.0%. ALTHOUGH STILL LOCATED TO THE OUTSIDE OF THE EXISTING RAMP, THIS ALTERNATIVE WOULD MINIMIZE THE RIGHT-OF-WAY ACQUISITION, PARKING LOT IMPACTS, AND RETAINING WALL NEEDS ALONG THE OUTSIDE OF THE RAMP.

DRAFT

UTILITIES (5-1-V):

N. PROVIDENCE AVE

E. ENTERPRISE AVE

EXISTING RIGHT OF WAY

5-1-T

PROPOSED IH 41

IH 41 SB

IH 41 NB

UTILITIES (5-1-U):

IH 41 CENTERLINE LOCATION REQUIRES FURTHER DESIGN REFINEMENT TO OPTIMIZE REAL ESTATE AND CONSTRUCTION COSTS FOR THE 41-441 SYSTEM INTERCHANGE AND CD LANE SYSTEM

5-1-AB

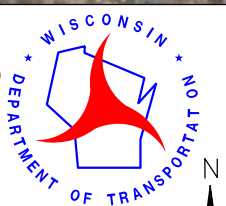
GEOMETRIC DEFICIENCY (5-1-0):
START OF DEFICIENT
VERTICAL GRADE
ACTUAL 0.25%
DESIRED 0.50%
MINIMUM 0.30%

5-1-R

5-1-AC

LEGEND

- - - - - APPROXIMATE UTILITY CROSSING
- - - - - EXISTING ROW
- - - - - PROPOSED ROW
- - - - - EXISTING ROADWAYS
- - - - - PROPOSED LOCAL ROADS
- - - - - PROPOSED IH 41
- - - - - PROPOSED STRUCTURE
- - - - - PROPOSED CONCRETE BARRIER
- - - - - PROPOSED LOCAL SIDEWALK
- XXXXX ROADWAY OBLITERATION
- - - - - PROPOSED NOISE WALL



0 100' 200'

MATCHLINE SEGMENT 5 / SECTION 1 / SHEET 1

MATCHLINE SEGMENT 5 / SECTION 1 / SHEET 3

5-1-S

41-441 CENTERLINE LOCATION
REQUIRES FURTHER DESIGN
REFINEMENT TO OPTIMIZE
REAL ESTATE AND
CONSTRUCTION COSTS FOR
THE 41-441 SYSTEM
INTERCHANGE AND CD
LANE SYSTEM

GEOMETRIC DEFICIENCY (5-1-0):
END OF DEFICIENT VERTICAL GRADE
ACTUAL 0.25%
DESIRED 0.50%
MINIMUM 0.30%

UTILITIES (5-1-Y):
B-44-132
RECONSTRUCT

IH 41 ALIGNMENT (5-1-C): THE SHIFTING OF THE IH 41 NORTHBOUND AND SOUTHBOUND ALIGNMENTS TO THE SOUTH ALLOWS THE C-D ROAD SYSTEM TO ALSO SHIFT TO THE SOUTH, MINIMIZING THE IMPACT TO THE DETENTION POND LOCATED ON THE NORTH SIDE OF IH 41 BETWEEN THE SYSTEM LOOP RAMP AND FRENCH ROAD.

IH 41 RAMPS, C-D ROADS AND AUXILIARY LANES (5-1-G); THE NORTH SYSTEM INTERCHANGE WIS 441 NORTHBOUND
 TO IH 41 NORTHBOUND RAMP AS SHOWN HAS A MINIMUM RADIUS OF 1340', MEETING A 60-MPH DESIGN SPEED, AND
 HAVING A 6.0% MAXIMUM SUPERELEVATION. THE RAMP HAS A PARALLEL TYPE ENTRANCE ONTO IH 41. THE RAMP
 WILL REQUIRE A 1300' LONG RETAINING WALL THAT VARIES IN HEIGHTS AS TALL AS 34' ALONG THE ENTIRE
 LENGTH TO MINIMIZE THE RIGHT-OF-WAY IMPACTS IN THE SOUTHEAST QUADRANT OF THE INTERCHANGE (APPROXIMATELY 34,500 SF OF WALL FACE). THE RAMP AS
 SHOWN DOES GO THROUGH A LOW LYING WETLAND AREA ADJACENT TO LOCAL BUSINESSES THAT WILL REQUIRE ADDITIONAL CONSTRUCTION CONSIDERATION.

IH 41 RAMPS, C-D ROADS AND AUXILIARY LANES (5-1-I): AS THE C-D ROAD APPROACHES FRENCH ROAD, A SECOND LANE IS DEVELOPED TO SEPARATE THE IH 41 SOUTHBOUND TO WIS 441 SOUTHBOUND MOVEMENT FROM THE IH 41 SOUTHBOUND TO COUNTY E OFF-RAMP MOVEMENT. THE SECOND LANE IS APPROXIMATELY 1500' PRIOR TO THE LOOP RAMP TO WIS 441 SOUTHBOUND. THE LOOP RAMP HAS A MINIMUM DESIGN SPEED OF 35-MPH (380' RADIUS CURVE). IT REDUCES DESIGN SPEED STARTING AT THE C-D ROAD GORE AREA FROM 60-MPH DESIGN SPEED TO 50-MPH, THEN TO 40-MPH, AND FINALLY TO 35-MPH FOR APPROXIMATELY HALF OF THE RAMP LENGTH PRIOR TO ACCELERATING THROUGH THE SAME INCREMENTS BACK TO 60-MPH FOR THE WIS 441 SOUTHBOUND ENTRANCE APPROXIMATELY AT THE BRIDGE OVER IH 41.

RIGHT-OF-WAY IMPACTS (5-1-0): THE WIS 441 NORTHBOUND TO IH 41 NORTHBOUND SYSTEM RAMP IMPACTS MULTIPLE BUSINESSES (1.35 ACRES), SOME FARM LAND (0.50 ACRES) AND INCLUDES A TEMPORARY STORAGE BUILDING BUSINESS WITHIN THE SOUTHEAST QUADRANT OF THE INTERCHANGE. NO RELOCATIONS ARE REQUIRED BUT SOME IMPACTS TO THE STORAGE BUSINESS PARKING LOT CIRCULATION ARE SHOWN FOR THE RAMP RELOCATION WITH RETAINING WALL. REDUCING THE HEIGHT OF THE RETAINING WALL WOULD CAUSE ADDITIONAL RIGHT-OF-WAY IMPACTS.

RIGHT-OF-WAY IMPACTS (5-1-R): WITH THE ADDITION OF THE C-D ROAD SYSTEM TO THE EAST OF THE IH 41 SOUTHBOUND TO WIS 441 SOUTHBOUND LOOP RAMP, APPROXIMATELY 3.5 ACRES IS REQUIRED ALONG THE NORTH SIDE OF IH 41 SOUTHBOUND MAINLINE. PROPERTIES IMPACTED CONSIST OF FARMLAND AND LIGHT MANUFACTURING USES. RETAINING WALLS MAY BE REQUIRED ALONG INDUSTRIAL PARCEL RETENTION PONDS BUT ARE NOT INCLUDED WITH THE COST ESTIMATE AT THIS TIME.

UTILITIES (5-1-Z):

UTILITIES (5-1-X):

5-1-I

5-1-R

5-1-R

—IH_41SB

—H—41NB—

PROPOSED IH 41

UTILITIES (5-1-U):

EXISTING RIGHT OF WAY

GEOMETRIC
DEFICIENCY (5-1-0):
START OF DEFICIENT
VERTICAL GRADE
ACTUAL 0.10%
DESIRED 0.50%
MINIMUM 0.30%

RIGHT-OF-WAY IMPACTS (5-1-S): SIMILAR TO THE EXISTING LOOP RAMP, OUTSIDE CONCRETE BARRIER IS SHOWN ALLOWING STEEPER SIDE SLOPES FOR REDUCED RIGHT-OF-WAY IMPACTS. THE CONCRETE BARRIER ALSO PROVIDES GLARE REDUCTION FOR SURROUNDING PROPERTIES, ALTHOUGH WITH THE NEW RAMP GEOMETRY, APPROXIMATELY 1.0 ACRE OF IMPACTS IS ANTICIPATED.

UTILITIES (5-1-U): TDS METROCOM HAS BURIED A FIBER OPTIC FACILITY LOCATED ALONG THE SOUTHERLY R/W LINE BETWEEN COUNTY E AND THE NORTH SYSTEM INTERCHANGE. [REDACTED]

UTILITIES (5-1-X): ANR PIPELINE HAS A BURIED 12-INCH GAS CROSSING AND AN ABANDONED 6-INCH LINE APPROXIMATELY 2040 FEET EAST OF FRENCH ROAD.

UTILITIES (5-1-Y): US SIGNAL HAS OVERHEAD FIBER OPTIC LOCATED APPROXIMATELY 100 FEET EAST OF THE FRENCH ROAD.

UTILITIES (5-1-Z): WE ENERGIES HAS TWO OVERHEAD ELECTRIC LINES APPROXIMATELY 150 FEET EAST OF FRENCH ROAD.

FURTHER ANALYSIS RECOMMENDATIONS (5-1-AD): THE WIS 441 NORTHBOUND TO IH 41 NORTHBOUND SYSTEM RAMP IMPACTS COULD BE MINIMIZED BY REDUCING THE DESIGN SPEED FOR THE CENTER PORTION OF THE RAMP TO 55 MPH (1065-FOOT RADIUS CURVE) OR 50 MPH (835-FOOT RADIUS CURVE) WHILE STILL MAINTAINING 60 MPH DESIGN SPEEDS AT THE INITIAL EXIT CURVE FROM WIS 441 NORTHBOUND AND ENTRANCE CURVE TO IH 41 NORTHBOUND. ALL SUPERELEVATION WOULD BE AT 6.0% MAXIMUM. RAMP LAYOUT ALSO AFFECTS THE FRENCH ROAD BRIDGE LENGTH. ALTHOUGH NOT DESIRABLE, AN ACCEPTABLE SHORTER RADIUS MAY REDUCE THE LENGTH OF THE BRIDGE BY ONE SPAN OR REDUCE THE BEAM SIZE BY CREATING SHORTER SPAN REQUIREMENTS. FURTHER ANALYSIS IS WARRANTED TO EVALUATE IMPACTS AND RESULTING COSTS.

LEGEND

- - - - - APPROXIMATE UTILITY CROSSING
 - - - - - EXISTING ROW
 - - - - - PROPOSED ROW
 - - - - - EXISTING ROADWAYS
 - - - - - PROPOSED LOCAL ROADS
 - - - - - PROPOSED IH 41
 - - - - - PROPOSED STRUCTURE
 - - - - - PROPOSED CONCRETE BARRIER
 - - - - - PROPOSED LOCAL SIDEWALK
 [X] ROADWAY OBLITERATION
 - - - - - PROPOSED NOISE WALL



N

MATCHLINE SEGMENT 5 / SECTION 3 / SHEET 2

PROJECT NO: 1130-31-00

HWY: IH 41

COUNTY: OUTAGAMIE

PLAN: IH 41 SEGMENT 5 / SECTION 1 / SHEET 3

PAGE

1

FILE NAME : J:\44386\+1\Short Term Solutions\Amendment #5\CDS\0243_PO.dgn

PLOT DATE : 8/30/2019

PLOT BY : nbennett

PLOT NAME :

PLOT SCALE : 100:1

IH 41 RAMPS, C-D ROADS AND AUXILIARY LANES (5-1-H): APPROXIMATELY 3500' EAST OF THE NORTH SYSTEM INTERCHANGE ALONG IH 41 SOUTHBOUND LANES, A SINGLE LANE TAPERED OFF-RAMP STARTS A C-D ROAD WITH A 60 MPH DESIGN SPEED. ACCESS TO BOTH WIS 441 SOUTHBOUND AND COUNTY E WILL BE PROVIDED FROM SOUTHBOUND IH 41 VIA THE C-D SYSTEM. IN TOTAL, THE C-D SYSTEM CONNECTS THE FOLLOWING FIVE MOVEMENTS:

- (1) IH 41 SOUTHBOUND TO WIS 441 SOUTHBOUND
- (2) WIS 441 NORTHBOUND TO IH 41 SOUTHBOUND
- (3) IH 41 SOUTHBOUND TO COUNTY E OFF-RAMP
- (4) WIS 441 NORTHBOUND TO COUNTY E OFF-RAMP
- (5) COUNTY E ON-RAMP TO IH 41 SOUTHBOUND

UTILITIES (5-1-U): TDS METROCOM HAS BURIED A FIBER OPTIC FACILITY LOCATED ALONG THE SOUTHERLY R/W LINE BETWEEN COUNTY E AND THE NORTH SYSTEM INTERCHANGE.

UTILITIES (5-1-AA): WE ENERGIES HAS A 138 KV OVERHEAD ELECTRIC LINE APPROXIMATELY 2600 FEET EAST OF FRENCH ROAD AND ABOUT 2600 FEET WEST OF HOLLAND ROAD.

MATCHLINE SEGMENT 5 / SECTION 1 / SHEET 3

MATCHLINE SEGMENT 5 / SECTION 2 / SHEET 1

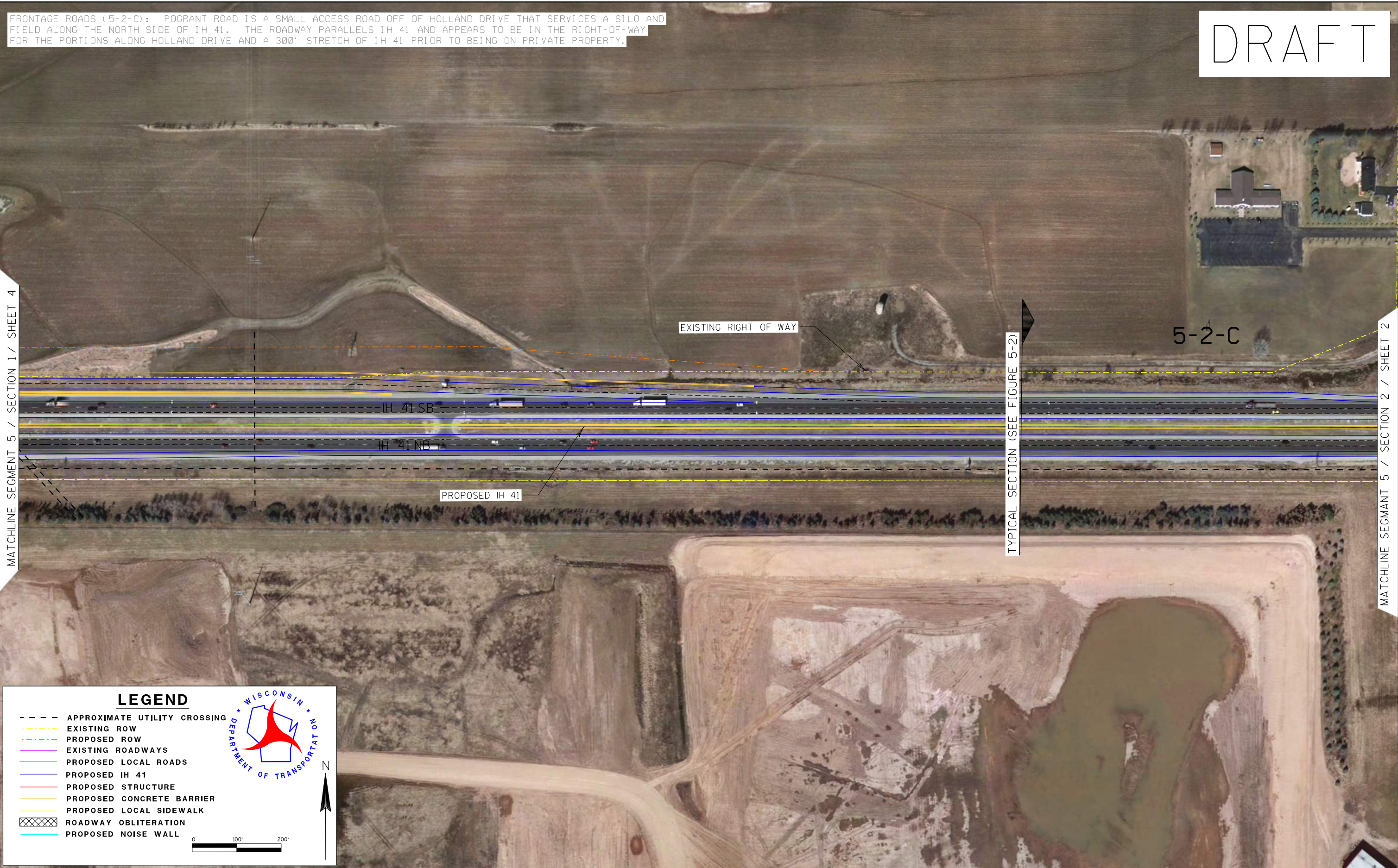


FRONTAGE ROADS (5-2-C): POGRANT ROAD IS A SMALL ACCESS ROAD OFF OF HOLLAND DRIVE THAT SERVICES A SILO AND FIELD ALONG THE NORTH SIDE OF IH 41. THE ROADWAY PARALLELS IH 41 AND APPEARS TO BE IN THE RIGHT-OF-WAY FOR THE PORTIONS ALONG HOLLAND DRIVE AND A 300' STRETCH OF IH 41 PRIOR TO BEING ON PRIVATE PROPERTY.

DRAFT

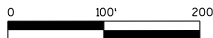
MATCHLINE SEGMENT 5 / SECTION 1 / SHEET 4

MATCHLINE SEGMENT 5 / SECTION 2 / SHEET 2



LEGEND

- - - - - APPROXIMATE UTILITY CROSSING
- - - - - EXISTING ROW
- - - - - PROPOSED ROW
- - - - - EXISTING ROADWAYS
- - - - - PROPOSED LOCAL ROADS
- - - - - PROPOSED IH 41
- - - - - PROPOSED STRUCTURE
- - - - - PROPOSED CONCRETE BARRIER
- - - - - PROPOSED LOCAL SIDEWALK
- - - - - ROADWAY OBLITERATION
- - - - - PROPOSED NOISE WALL



UTILITIES (5-2-E): ATT LEGACY HAS BURIED FIBER OPTIC LOCATED APPROXIMATELY 100 FEET EAST OF HOLLAND ROAD.

UTILITIES (5-2-F): WE ENERGIES HAS A BURIED GAS FACILITY APPROXIMATELY 120 FEET EAST OF HOLLAND ROAD.

FURTHER ANALYSIS RECOMMENDATIONS (5-2-G): IF THE SMALL ACCESS ROAD OFF HOLLAND DRIVE IS STILL REQUIRED, IT IS RECOMMENDED TO RELOCATE THE ACCESS ROAD FURTHER TO THE NORTH OUT OF THE EXISTING IH 41 RIGHT-OF-WAY.

DRAFT

MATCHLINE SEGMENT 5 / SECTION 2 / SHEET 1

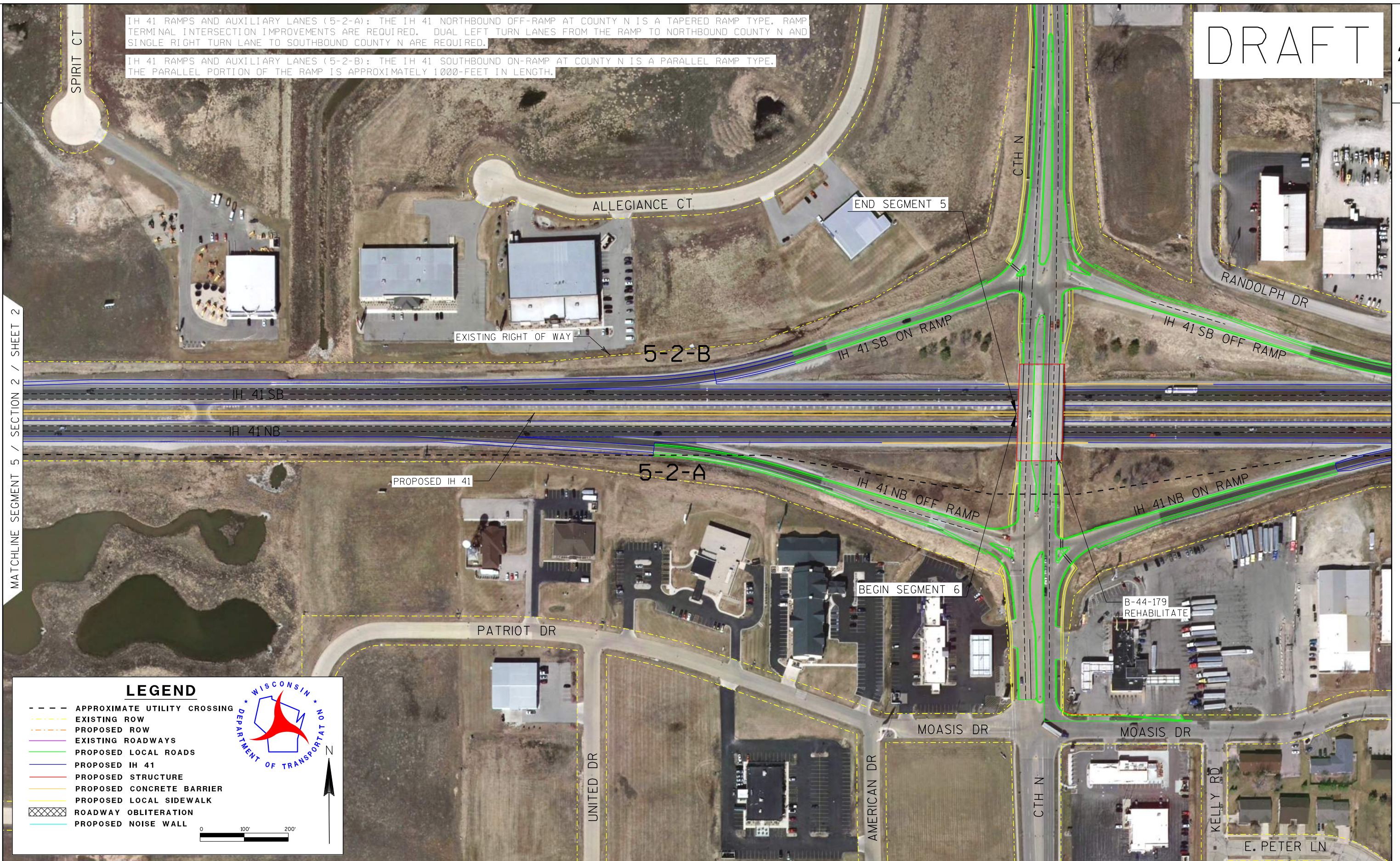
MATCHLINE SEGMENT 5 / SECTION 2 / SHEET 3



IH 41 RAMPS AND AUXILIARY LANES (5-2-A): THE IH 41 NORTHBOUND OFF-RAMP AT COUNTY N IS A TAPERED RAMP TYPE. RAMP TERMINAL INTERSECTION IMPROVEMENTS ARE REQUIRED. DUAL LEFT TURN LANES FROM THE RAMP TO NORTHBOUND COUNTY N AND SINGLE RIGHT TURN LANE TO SOUTHBOUND COUNTY N ARE REQUIRED.

IH 41 RAMPS AND AUXILIARY LANES (5-2-B): THE IH 41 SOUTHBOUND ON-RAMP AT COUNTY N IS A PARALLEL RAMP TYPE. THE PARALLEL PORTION OF THE RAMP IS APPROXIMATELY 1000-FEET IN LENGTH.

DRAFT



DRAFT

UTILITIES (5-3-Q): ATT LEGACY HAS BURIED FIBER OPTIC CABLE AT THE RR TRACKS NORTH OF WIS 96.

UTILITIES (5-3-R): WE ENERGIES HAS A BURIED ELECTRIC FACILITY NEAR THE RR TRACKS APPROXIMATELY 330 FEET NORTH OF STH 96.

UTILITIES (5-3-S): WE ENERGIES HAS A BURIED ELECTRIC FACILITY APPROXIMATELY 1060 FEET NORTH OF STH 96.

UTILITIES (5-3-T): WE ENERGIES HAS A BURIED GAS MAIN FACILITY APPROXIMATELY 960 FEET NORTH OF STH 96.

END SEGMENT 8

BEGIN SEGMENT 5

5-3-D

5-3-A

5-3-I

5-3-E

5-3-K

5-3-J

5-3-O

5-3-P

B-44-128
RECONSTRUCTB-44-127
RECONSTRUCT

WIS 96 WISCONSIN AVE

CANADIAN NATIONAL RR

UTILITIES (5-3-R):

UTILITIES (5-3-Q):

UTILITIES (5-3-S):

UTILITIES (5-3-T):

EXISTING RIGHT OF WAY

FRENCH RD

00 H13

WIS 441 ALIGNMENT (5-3-A): THE WIS 441 ALIGNMENT IS ON EXISTING ALIGNMENT FROM THE STRUCTURE, THROUGH COUNTY 00 (NORHLAND AVENUE) INTERCHANGE.

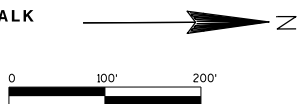
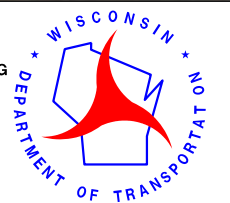
WIS 441 TYPICAL SECTION (5-3-D): THE EXISTING WIS 441 MAINLINE TYPICAL SECTION JUST NORTH OF THE FOX RIVER BRIDGE THAT WILL BE TIED INTO CONSISTS OF A 28'-4" MEDIAN (MATCHING 12' INSIDE SHOULDERS WITH 56-INCH SINGLE FACE BARRIERS) AND 3-12' LANES IN THE NORTHBOUND AND SOUTHBOUND DIRECTIONS. BOTH NORTHBOUND AND SOUTHBOUND HAVE 12' OUTSIDE SHOULDERS.

WIS 441 TYPICAL SECTION (5-3-E): AS SHOWN ON THE EXHIBITS, THE 28'-4" MEDIAN SECTION WAS HELD FROM THE FOX RIVER BRIDGE TO APPROXIMATELY 1800' SOUTH OF COUNTY 00. FROM THAT POINT THE MEDIAN SECTION INCREASES TO 39-FOOT (12' INSIDE SHOULDERS WITH CONCRETE BARRIER) AND CONTINUES THROUGH TO THE SEPARATION POINT OF THE TWO RAMP MOVEMENTS.

WIS 441 RAMPS (5-3-I): THE WIS 441 SOUTHBOUND ON-RAMP IMPROVEMENTS SHOWN AT COUNTY 00 IS A DUAL LANE PARALLEL TYPE ON-RAMP HAVING 300-FOOT OF ACCELERATION DISTANCE PLUS 360-FOOT TAPER ON THE OUTSIDE LANE. THE INSIDE LANE 960-FOOT OF ACCELERATION DISTANCE PLUS 360-FOOT TAPER

LEGEND

- APPROXIMATE UTILITY CROSSING
- EXISTING ROW
- PROPOSED ROW
- EXISTING ROADWAYS
- PROPOSED LOCAL ROADS
- PROPOSED IH 41
- PROPOSED STRUCTURE
- PROPOSED CONCRETE BARRIER
- PROPOSED LOCAL SIDEWALK
- ROADWAY OBLITERATION
- PROPOSED NOISE WALL



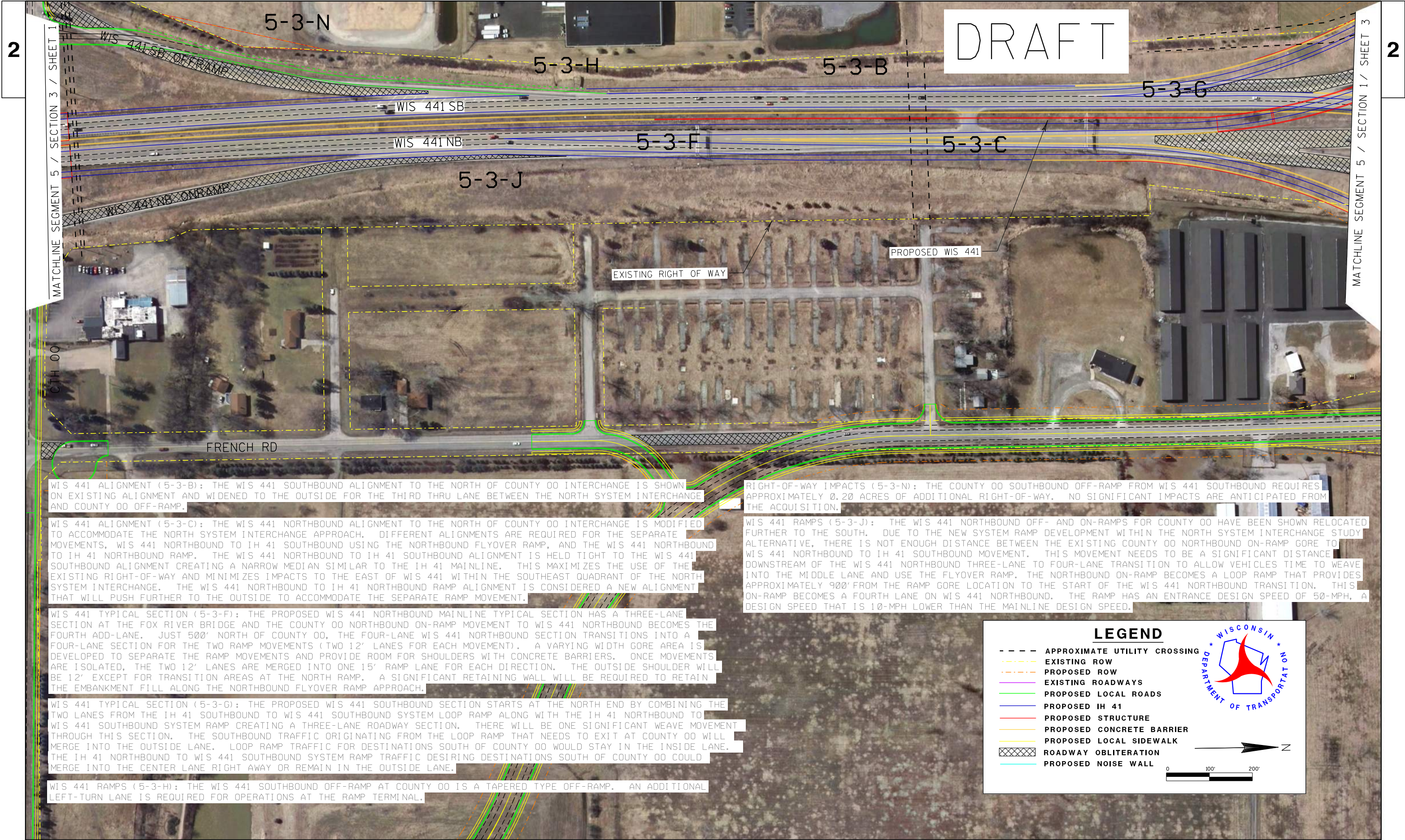
WIS 441 RAMPS (5-3-J): THE WIS 441 NORTHBOUND OFF- AND ON-RAMPS FOR COUNTY 00 HAVE BEEN SHOWN RELOCATED FURTHER TO THE SOUTH. DUE TO THE NEW SYSTEM RAMP DEVELOPMENT WITHIN THE NORTH SYSTEM INTERCHANGE STUDY ALTERNATIVE, THERE IS NOT ENOUGH DISTANCE BETWEEN THE EXISTING COUNTY 00 NORTHBOUND ON-RAMP GORE TO WIS 441 NORTHBOUND TO IH 41 SOUTHBOUND MOVEMENT. THIS MOVEMENT NEEDS TO BE A SIGNIFICANT DISTANCE DOWNSTREAM OF THE WIS 441 NORTHBOUND THREE-LANE TO FOUR-LANE TRANSITION TO ALLOW VEHICLES TIME TO WEAVE INTO THE MIDDLE LANE AND USE THE FLYOVER RAMP. THE NORTHBOUND ON-RAMP BECOMES A LOOP RAMP THAT PROVIDES APPROXIMATELY 900' FROM THE RAMP GORE LOCATION TO THE START OF THE WIS 441 NORTHBOUND TRANSITION. THIS ON-RAMP BECOMES A WIS 441 NORTHBOUND ADD-LANE. THE RAMP HAS AN ENTRANCE DESIGN SPEED OF 50-MPH, A DESIGN SPEED THAT IS 10-MPH LOWER THAN THE MAINLINE DESIGN SPEED.

WIS 441 RAMPS (5-3-K): DUE TO THE RELOCATION OF THE WIS 441 NORTHBOUND ON-RAMP FOR COUNTY 00, THE COUNTY 00 NORTHBOUND OFF-RAMP FROM WIS 441 WAS ALSO MOVED SIGNIFICANTLY DOWNSTREAM TO A LOCATION JUST NORTH OF THE WIS 441 NORTHBOUND FOX RIVER BRIDGE. THIS RAMP IS A PARALLEL TYPE OFF-RAMP THAT PARALLELS THE NORTHBOUND LOOP ON-RAMP TERMINATING AT COUNTY 00. THE RAMP HAS AN INITIAL CURVE 50-MPH DESIGN SPEED.

RIGHT-OF-WAY IMPACTS (5-3-M): THE COUNTY 00 SOUTHBOUND ON-RAMP TO WIS 441 SOUTHBOUND REQUIRES APPROXIMATELY 0.80 ACRES OF ADDITIONAL RIGHT-OF-WAY. THE PROPOSED RIGHT-OF-WAY LINE WILL BE VERY CLOSE TO AN EXISTING BUILDING ON ADJACENT PARCEL.

RIGHT-OF-WAY IMPACTS (5-3-O): THE RELOCATED COUNTY 00 NORTHBOUND OFF AND ON-RAMPS WILL REQUIRE SIGNIFICANT RIGHT-OF-WAY ACQUISITION FOR THE NEW GEOMETRY. IT WILL ALSO INCLUDE THE ACQUISITION OF A PORTION OF THE EXISTING FRENCH ROAD. APPROXIMATELY 18 ACRES WILL BE NEEDED.

RIGHT-OF-WAY IMPACTS (5-3-P): DUE TO THE COUNTY 00 NORTHBOUND RAMP RELOCATIONS, FRENCH ROAD WILL NEED TO BE RELOCATED FURTHER TO THE EAST TO PROVIDE THE PROPER DESIGN DISTANCE BETWEEN INTERCHANGE TERMINAL AND ADJACENT SIGNALIZED INTERSECTION. RELOCATION OF FRENCH ROAD WILL REQUIRE 3.3 ACRES SOUTH OF COUNTY 00 AND 8.4 ACRES NORTH OF COUNTY 00 (11.7 ACRES TOTAL).



WIS 441 ALIGNMENT (5-3-B): THE WIS 441 SOUTHBOUND ALIGNMENT TO THE NORTH OF COUNTY 00 INTERCHANGE IS SHOWN ON EXISTING ALIGNMENT AND WIDENED TO THE OUTSIDE FOR THE THIRD THRU LANE BETWEEN THE NORTH SYSTEM INTERCHANGE AND COUNTY 00 OFF-RAMP.

WIS 441 ALIGNMENT (5-3-C): THE WIS 441 NORTHBOUND ALIGNMENT TO THE NORTH OF COUNTY 00 INTERCHANGE IS MODIFIED TO ACCOMMODATE THE NORTH SYSTEM INTERCHANGE APPROACH. DIFFERENT ALIGNMENTS ARE REQUIRED FOR THE SEPARATE MOVEMENTS, WIS 441 NORTHBOUND TO IH 41 SOUTHBOUND USING THE NORTHBOUND FLYOVER RAMP, AND THE WIS 441 NORTHBOUND TO IH 41 NORTHBOUND RAMP. THE WIS 441 NORTHBOUND TO IH 41 SOUTHBOUND ALIGNMENT IS HELD TIGHT TO THE WIS 441 SOUTHBOUND ALIGNMENT CREATING A NARROW MEDIAN SIMILAR TO THE IH 41 MAINLINE. THIS MAXIMIZES THE USE OF THE EXISTING RIGHT-OF-WAY AND MINIMIZES IMPACTS TO THE EAST OF WIS 441 WITHIN THE SOUTHEAST QUADRANT OF THE NORTH SYSTEM INTERCHANGE. THE WIS 441 NORTHBOUND TO IH 41 NORTHBOUND RAMP ALIGNMENT IS CONSIDERED A NEW ALIGNMENT THAT WILL PUSH FURTHER TO THE OUTSIDE TO ACCOMMODATE THE SEPARATE RAMP MOVEMENT.

WIS 441 TYPICAL SECTION (5-3-F): THE PROPOSED WIS 441 NORTHBOUND MAINLINE TYPICAL SECTION HAS A THREE-LANE SECTION AT THE FOX RIVER BRIDGE AND THE COUNTY 00 NORTHBOUND ON-RAMP MOVEMENT TO WIS 441 NORTHBOUND BECOMES THE FOURTH ADD-LANE. JUST 500' NORTH OF COUNTY 00, THE FOUR-LANE WIS 441 NORTHBOUND SECTION TRANSITIONS INTO A FOUR-LANE SECTION FOR THE TWO RAMP MOVEMENTS (TWO 12' LANES FOR EACH MOVEMENT). A VARYING WIDTH GORE AREA IS DEVELOPED TO SEPARATE THE RAMP MOVEMENTS AND PROVIDE ROOM FOR SHOULDERS WITH CONCRETE BARRIERS. ONCE MOVEMENTS ARE ISOLATED, THE TWO 12' LANES ARE MERGED INTO ONE 15' RAMP LANE FOR EACH DIRECTION. THE OUTSIDE SHOULDER WILL BE 12' EXCEPT FOR TRANSITION AREAS AT THE NORTH RAMP. A SIGNIFICANT RETAINING WALL WILL BE REQUIRED TO RETAIN THE EMBANKMENT FILL ALONG THE NORTHBOUND FLYOVER RAMP APPROACH.

WIS 441 TYPICAL SECTION (5-3-G): THE PROPOSED WIS 441 SOUTHBOUND SECTION STARTS AT THE NORTH END BY COMBINING THE TWO LANES FROM THE IH 41 SOUTHBOUND TO WIS 441 SOUTHBOUND SYSTEM LOOP RAMP ALONG WITH THE IH 41 NORTHBOUND TO WIS 441 SOUTHBOUND SYSTEM RAMP CREATING A THREE-LANE ROADWAY SECTION. THERE WILL BE ONE SIGNIFICANT WEAVE MOVEMENT THROUGH THIS SECTION. THE SOUTHBOUND TRAFFIC ORIGINATING FROM THE LOOP RAMP THAT NEEDS TO EXIT AT COUNTY 00 WILL MERGE INTO THE OUTSIDE LANE. LOOP RAMP TRAFFIC FOR DESTINATIONS SOUTH OF COUNTY 00 WOULD STAY IN THE INSIDE LANE. THE IH 41 NORTHBOUND TO WIS 441 SOUTHBOUND SYSTEM RAMP TRAFFIC DESIRING DESTINATIONS SOUTH OF COUNTY 00 COULD MERGE INTO THE CENTER LANE RIGHT AWAY OR REMAIN IN THE OUTSIDE LANE.

WIS 441 RAMPS (5-3-H): THE WIS 441 SOUTHBOUND OFF-RAMP AT COUNTY 00 IS A TAPERED TYPE OFF-RAMP. AN ADDITIONAL LEFT-TURN LANE IS REQUIRED FOR OPERATIONS AT THE RAMP TERMINAL.

RIGHT-OF-WAY IMPACTS (5-3-N): THE COUNTY 00 SOUTHBOUND OFF-RAMP FROM WIS 441 SOUTHBOUND REQUIRES APPROXIMATELY 0.20 ACRES OF ADDITIONAL RIGHT-OF-WAY. NO SIGNIFICANT IMPACTS ARE ANTICIPATED FROM THE ACQUISITION.

WIS 441 RAMPS (5-3-J): THE WIS 441 NORTHBOUND OFF- AND ON-RAMPS FOR COUNTY 00 HAVE BEEN SHOWN RELOCATED FURTHER TO THE SOUTH. DUE TO THE NEW SYSTEM RAMP DEVELOPMENT WITHIN THE NORTH SYSTEM INTERCHANGE STUDY ALTERNATIVE, THERE IS NOT ENOUGH DISTANCE BETWEEN THE EXISTING COUNTY 00 NORTHBOUND ON-RAMP GORE TO WIS 441 NORTHBOUND TO IH 41 SOUTHBOUND MOVEMENT. THIS MOVEMENT NEEDS TO BE A SIGNIFICANT DISTANCE DOWNSTREAM OF THE WIS 441 NORTHBOUND THREE-LANE TO FOUR-LANE TRANSITION TO ALLOW VEHICLES TIME TO WEAVE INTO THE MIDDLE LANE AND USE THE FLYOVER RAMP. THE NORTHBOUND ON-RAMP BECOMES A LOOP RAMP THAT PROVIDES APPROXIMATELY 900' FROM THE RAMP GORE LOCATION TO THE START OF THE WIS 441 NORTHBOUND TRANSITION. THIS ON-RAMP BECOMES A FOURTH LANE ON WIS 441 NORTHBOUND. THE RAMP HAS AN ENTRANCE DESIGN SPEED OF 50-MPH, A DESIGN SPEED THAT IS 10-MPH LOWER THAN THE MAINLINE DESIGN SPEED.

LEGEND

APPROXIMATE UTILITY CROSSING

EXISTING ROW

PROPOSED ROW

EXISTING ROADWAYS

PROPOSED LOCAL ROADS

PROPOSED IH 41

PROPOSED STRUCTURE

PROPOSED CONCRETE BARRIER

PROPOSED LOCAL SIDEWALK

ROADWAY OBLITERATION

PROPOSED NOISE WALL

WISCONSIN

DEPARTMENT OF TRANSPORTATION

0

100'

200'

→

N

PROJECT NO:1130-31-00

HWY: IH 41

COUNTY:OUTAGAMIE

PLAN: IH 41 SEGMENT 5 / SECTION 3 / SHEET 2

PAGE

E

FILE NAME : J:\44386\1\Short Term Solutions\Amendment #5\CDS\0252A_PO.dgn

PLOT DATE : 8/21/2019

PLOT BY : nbennett

PLOT NAME :

PLOT SCALE : 100:1

