

GRE NOVEMBER 2016

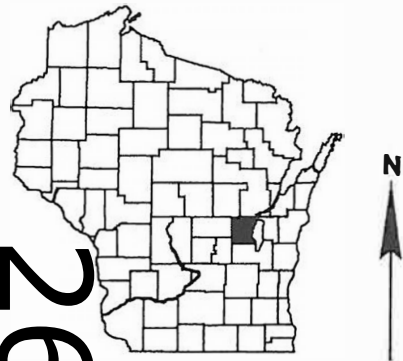
PROJECT ID: 1517-75-87  
WITH: N/A

COUNTY: WINNEBAGO

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 46

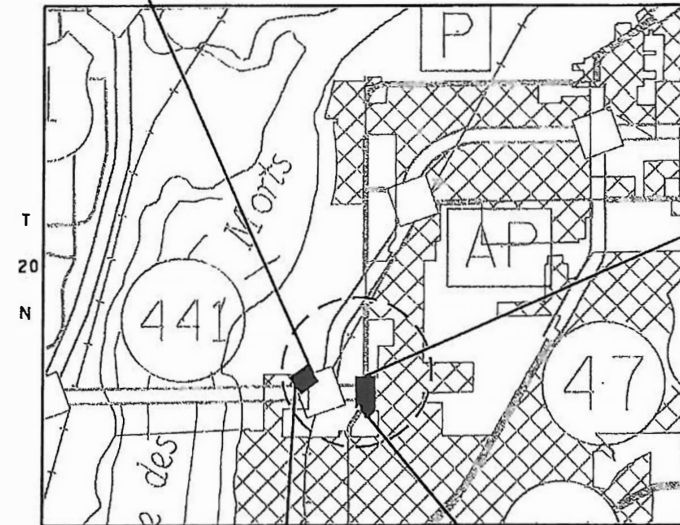


STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
PLAN OF PROPOSED IMPROVEMENT  
**USH 10 - USH 10/STH 441**  
COUNTY CB - ONEIDA STREET  
**USH 10**  
WINNEBAGO COUNTY

STATE PROJECT NUMBER  
**1517-75-87**

END CONSTRUCTION  
STA 196RNW+68.00

R - 17 - E



END PROJECT  
STA 34RNB+00.00

BEGIN CONSTRUCTION  
STA 188RNW+50.00

BEGIN PROJECT  
STA 17RNB+50.00  
X = 817183.57  
Y = 545494.14

LAYOUT  
SCALE 0 .5 MI.

TOTAL NET LENGTH OF ROADWAY CENTERLINE = 0.00 MI.

DESIGN DESIGNATION	RACINE RD RAMP CONNECTOR	CTH P,S of CONNECTOR	CTH P,N of CONNECTOR
A.A.D.T. (2020)	21,700	19,200	7,600
A.A.D.T. (2038)			
D.H.V. (2038)			
D.D.			
T.			
DESIGN SPEED			
ESALS			

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	PL + 58.1
LOT LINE	----
LIMITED HIGHWAY EASEMENT	----
EXISTING RIGHT OF WAY	----
PROPOSED OR NEW R/W LINE	----
PROPOSED JOINT LINE	----
SLOPE INTERCEPT	----
REFERENCE LINE	----
EXISTING CULVERT	----
PROPOSED CULVERT (Box or Pipe)	----
COMBUSTIBLE FLUIDS	CAUTION
MARSH AREA	----
WOODED OR SHRUB AREA	----

PROFILE

GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	36 35.5
CULVERT (Profile View)	0 1
UTILITIES	
COMMUNICATION OVERHEAD	OH
COMMUNICATION UNDERGROUND	C
ELECTRIC OVERHEAD	OH
ELECTRIC UNDERGROUND	E
GAS	G
SANITARY SEWER	SAN
STORM SEWER	SS
WATER	W
UTILITY PEDESTAL	+
POWER POLE	+
TELEPHONE POLE	O

ROCK	----
LABEL	----
36 35.5	----
0 1	----
OH	----
C	----
OH	----
E	----
G	----
SAN	----
SS	----
W	----
+	----
+	----
O	----

STATE PROJECT

1517-75-87

FEDERAL PROJECT

PROJECT

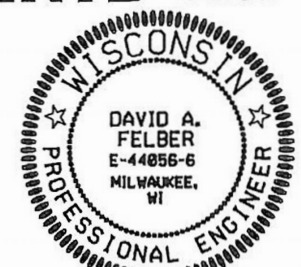
WISC 2016415

CONTRACT

1

ORIGINAL PLANS PREPARED BY

**HNTB** 1144 WEST PARK PLACE  
MILWAUKEE, WI 53224  
(414) 359-2300



7/28/16 *David A. Felber*  
(Date) (Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	KAPUR
Designer	HNTB
Project Manager	SCOTT EBEL
Regional Examiner	
Regional Supervisor	CHAD DE GR AVE

APPROVED FOR THE DEPARTMENT

DATE: 7/28/16 *David A. Felber*  
(Date) (Signature)

E

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE  
NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD 88 (07).

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN  
COUNTY COORDINATE SYSTEM (WCCS), WINNEBAGO COUNTY, NAD83 (1991).



UTILITY CONTACTS

AT&T WISCONSIN

MR. JOSEPH KASSAB  
OSPE  
221 W. WASHINGTON ST 4TH FLOOR  
APPLETON, WI 54911  
(920) 735-3206  
JK527k@ATT.COM

MENASHA UTILITIES - WATER

MR. SCOTT MAURER  
MENASHA UTILITIES  
321 MILWAUKEE ST  
PO BOX 340  
MENASHA, WI 54952-0340  
(920) 967-3430  
MOBILE: (920) 707-3733  
SMAURER@WPPIENERGY.ORG

WE ENERGIES - ELECTRIC AND GAS

MR. LATROY BRUMFIELD  
333 W EVERETT ST A299  
MILWAUKEE, WI 53203  
(414) 221-5617  
MOBILE: (414) 975-9053  
LATROY.BRUMFIELD@WE-ENERGIES.COM

CHARTER COMMUNICATIONS

MR. VINCE ALBIN  
CONSTRUCTION COORDINATOR 3  
3520 DESTINATION DR  
APPLETON, WI 54915  
(920) 831-9249  
MOBILE: (920) 378-0444  
VINCE.ALBIN@CHARTER.COM

TOWN OF MENASHA UTILITY DISTRICT - SANITARY SEWER

MR. JEFF ROTH  
WASTEWATER SUPERINTENDENT  
2340 AMERICAN DR  
NEENAH, WI 54956  
(920) 720-7175  
JEFFR@TOWN-MENASHA.COM

WE ENERGIES - ELECTRIC

MR. CHRIS SCHULZ  
MAJOR PROJECTS ENGINEER  
500 S 116TH ST  
WEST ALLIS, WI 53214  
(414) 944-5553  
CHRIS.SCHULZ@WE-ENERGIES.COM

CITY OF MENASHA - SANITARY

MR. TIM MONTOUR  
ENGINEERING SUPERVISOR  
140 MAIN ST  
MENASHA, WI 54952  
(920) 967-3610  
TMONTOUR@CI.MENASHA.WI.US

TOWN OF MENASHA UTILITY DISTRICT- WATER

MR. JEFF ROTH  
WATER SUPERINTENDENT  
2340 AMERICAN DR  
NEENAH, WI 54956  
(920) 720-7175  
JEFFR@TOWN-MENASHA.COM

WE ENERGIES - GAS

MR. CODY BECKMAN  
P.O. BOX 1699  
APPLETON, WI 54912  
(920) 380-3422  
CODY.BECKMAN@WE-ENERGIES.COM

MENASHA UTILITIES - ELECTRIC

MR. GREG SHULL  
ELECTRIC DISTRIBUTION TECHNICIAN  
MENASHA UTILITIES  
321 MILWAUKEE ST  
P.O. BOX 340  
MENASHA, WI 54952-0340  
(920) 967-3422  
GSHULL@WPPIENERGY.ORG

TDS METROCOM

MR. STEVE JAKUBIEC  
10 COLLEGE AVE STE 218A  
APPLETON, WI 54911  
(920) 882-4166  
MOBILE: (920) 562-7221  
STEVE.JAKUBIEC@TDSTELECOM.COM

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES  
PROJECT OVERVIEW  
CONSTRUCTION DETAILS  
EXISTING UTILITY PLAN  
PLANTING  
LIGHTING PLANS

DESIGN CONTACTS

SCOTT EBEL  
WISDOT - NE REGION  
1940 WEST MASON STREET  
GREEN BAY, WI 54303  
(920) 492-2240  
SCOTT.EBEL@DOT.WI.GOV

DAVID FELBER  
HNTB CORPORATION  
11414 WEST PARK PLACE  
MILWAUKEE, WI 53224  
(414) 359 - 2300  
DFELBER@HNTB.COM

ALIGNMENT IDENTIFIERS	
CDW	CITGO DRIVEWAY
CGS	CITGO GAS STATION DRIVEWAY
CNB	RACINE ROAD CONNECTOR NB
CSB	RACINE ROAD CONNECTOR SB
EB	USH 10 EB / STH 441 NB
PDQ	PDQ DRIVEWAY
RNB	RACINE ROAD NB
RNE	RACINE ROAD NE RAMP
RNW	RACINE ROAD NW RAMP
RRN	USH 10 WB / STH 441 SB RAMP ROUNDABOUT
RRT	RACINE ROAD ROUNDABOUT
RSB	RACINE ROAD SB
RSE	RACINE ROAD SE RAMP
RSEC	RACINE ROAD SE BYPASS
RSW	RACINE ROAD SW RAMP
RSWC	RACINE ROAD SW BYPASS
SDW	SPILSKI DRIVEWAY
TWS	12TH STREET
WB	USH 10 WB / STH 441 SB

DNR AREA LIAISON

JAY SCHIEFELBEIN  
DEPARTMENT OF NATURAL RESOURCES  
2984 SHAWANO AVENUE  
GREEN BAY, WI 54313  
(920) 662-5130  
JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

WINNEBAGO COUNTY  
HIGHWAY COMMISSIONER

ERNIE WINTERS  
901 WEST COUNTY ROAD Y  
P.O. BOX 2764  
OSHKOSH, WI 54903  
(920) 232-1700

COUNTY SURVEYOR

JERRY BOUGIE  
WINNEBAGO COUNTY COURT HOUSE  
445 ALGIMA BLVD  
OSHKOSH, WI 54903  
(920) 236-4839

US ARMY CORP OF ENGINEERS

NICK DOMER  
OLD FORT SQUARE  
211 N. BROADWAY, STE 221  
GREEN BAY, WI 54303  
(920) 448-2824

GENERAL NOTES

NO EXISTING TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

THE LOCATION OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

STOCKPILE EXCESS MATERIAL OR SPOILS ON UPLAND AREAS AWAY FROM WETLANDS, FLOODPLAINS, AND WATERWAYS. STOCKPILED SOIL SHALL BE PROTECTED AGAINST EROSION. IF STOCKPILED MATERIAL IS LEFT FOR MORE THAN FOURTEEN (14) CALENDER DAYS, SEED THE STOCKPILE WITH TEMPORARY SEED.

FERTILIZER SHALL NOT BE USED WITHIN 20' OF NAVIGABLE WATERWAYS OR WETLANDS.

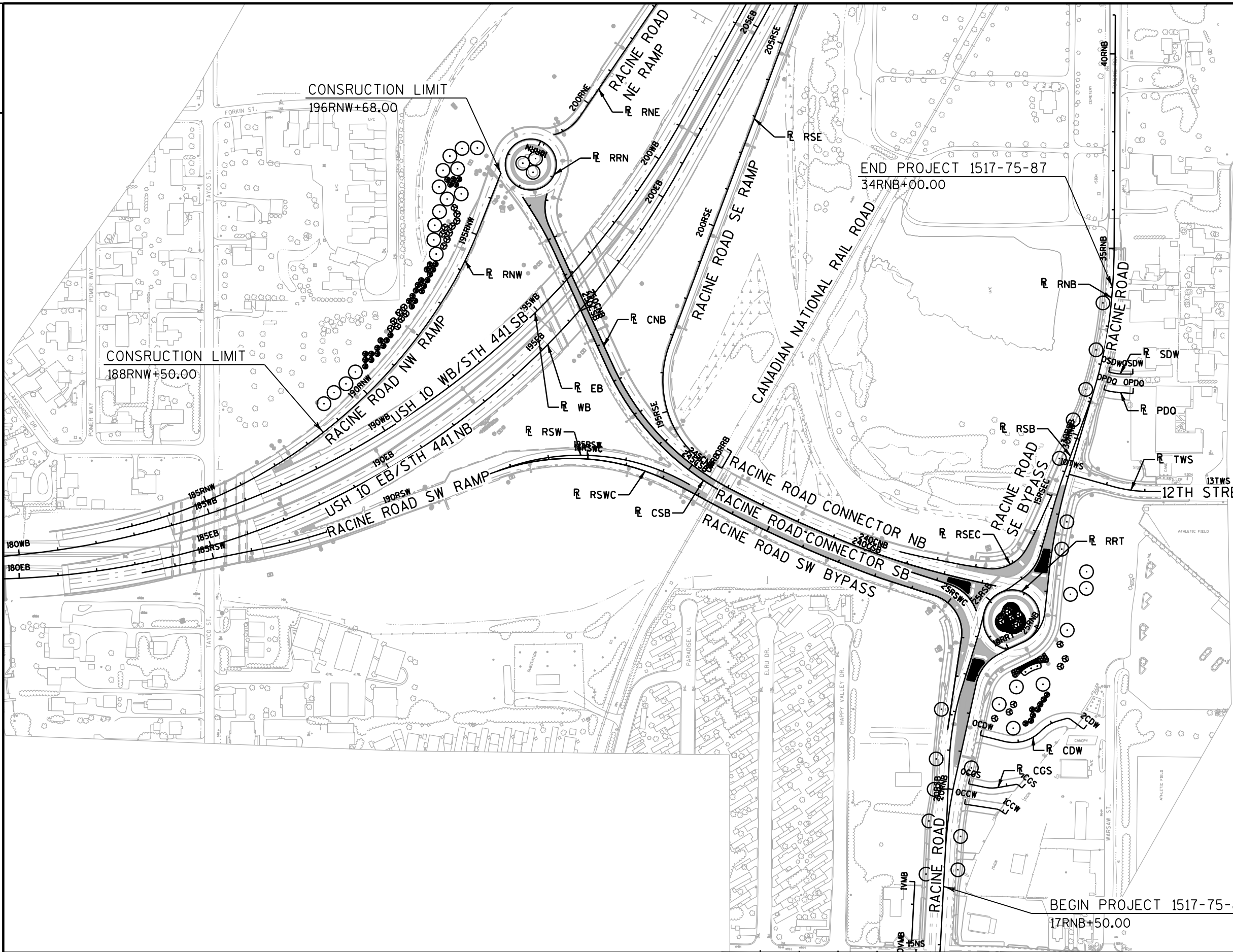
TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. ALL TRAFFIC CONTROL DEVICES AND SETUPS SHALL BE COMPLIANT WITH THE MUTCD.

ABBREVIATIONS

AEW	APRON END WALL
AGG	AGGREGATE
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
C&G	CURB AND GUTTER
C/L	CENTER OR CONSTRUCTION LINE
CMCP	CULVERT PIPE CORRUGATED METAL
CONC	CONCRETE
CP	CULVERT PIPE
CPRC	CULVERT PIPE REINFORCED CONCRETE
CSD	CONCRETE SURFACE DRAIN
CY	CUBIC-YARD
D	DEGREE OF CURVE
Δ	DELTA
DISCH	DISCHARGE
EAT	ENERGY ABSORBING TERMINAL
EOP	EDGE OF PAVEMENT
FE	FIELD ENTRANCE
HMA	HOT MIX ASPHALT
INV	INVERT
L	LENGTH OF CURVE
LHF	LEFT HAND FORWARD
LT	LEFT
MIN	MINIMUM
ML	MATCHLINE
NB	NORTHBOUND
NC	NORMAL CROWN
PAVT	PAVEMENT
PC	POINT OF CURVE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PI	POINT OF INTERSECTION
PLE	PERMANENT LIMITED EASMENT
PT	POINT OF TANGENT
R	RADIUS OF CURVE
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RC	REVERSE CROWN
RCAEW	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE
REQD	REQUIRED
RHF	RIGHT HAND FORWARD
RO	RUN OFF LENGTH
RRSP	RAILROAD SPIKE
RT	RIGHT
SALV	SALVAGED
SAPBC	SALVAGED ASPHALTIC PAVEMENT BASE COARSE
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWINGS
SE	SUPER ELEVATION
SF	SQUARE FOOT
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
STA	STATION
SY	SQUARE YARD
T	TANGENT LENGTH
TLE	TEMPORARY LIMITED EASEMENT
VCL	VERTICAL CURVE LENGTH
VPC	POINT OF VERTICAL CURVE
VPI	POINT OF VERTICAL INTERSECTION
VPT	POINT OF VERTICAL TANGENT

2

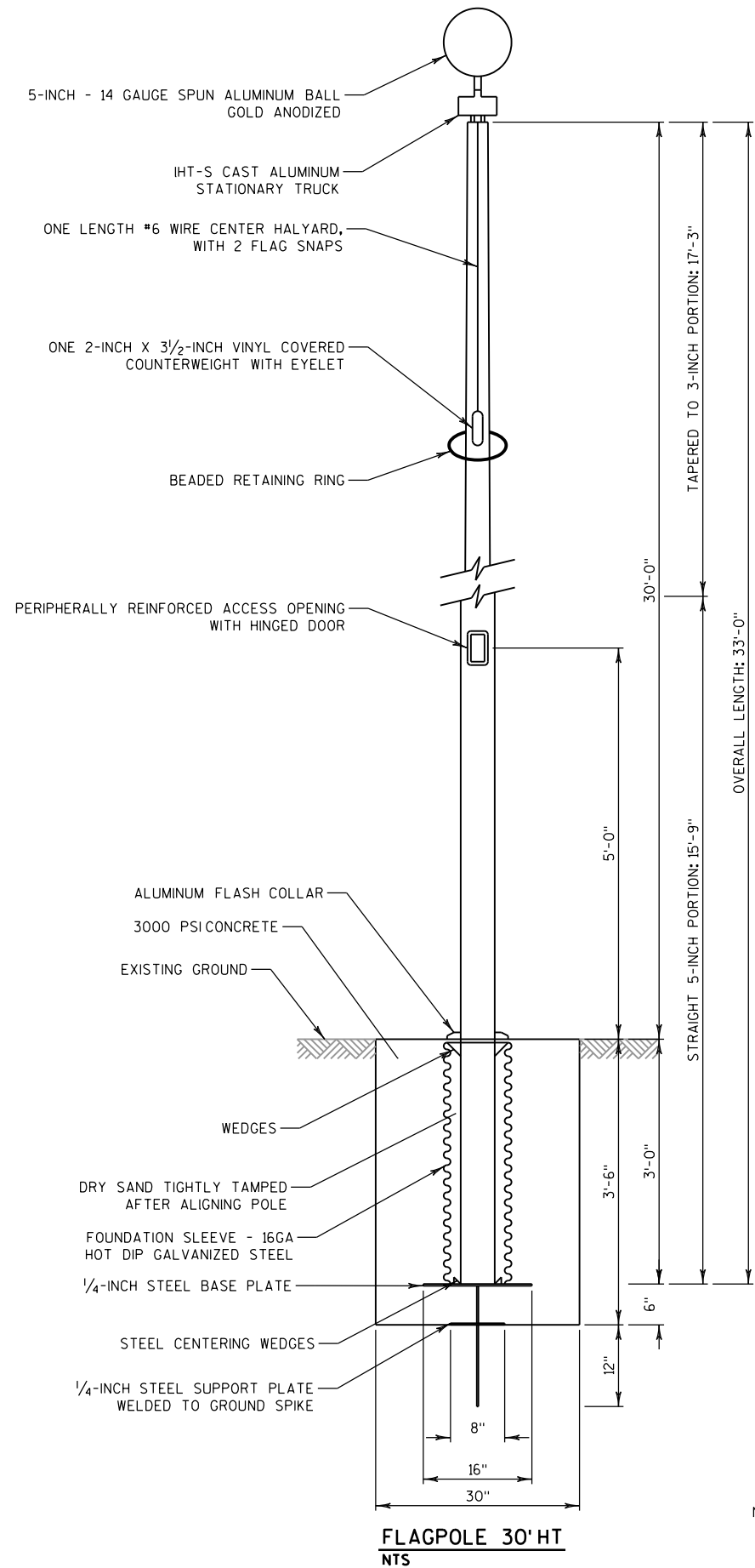
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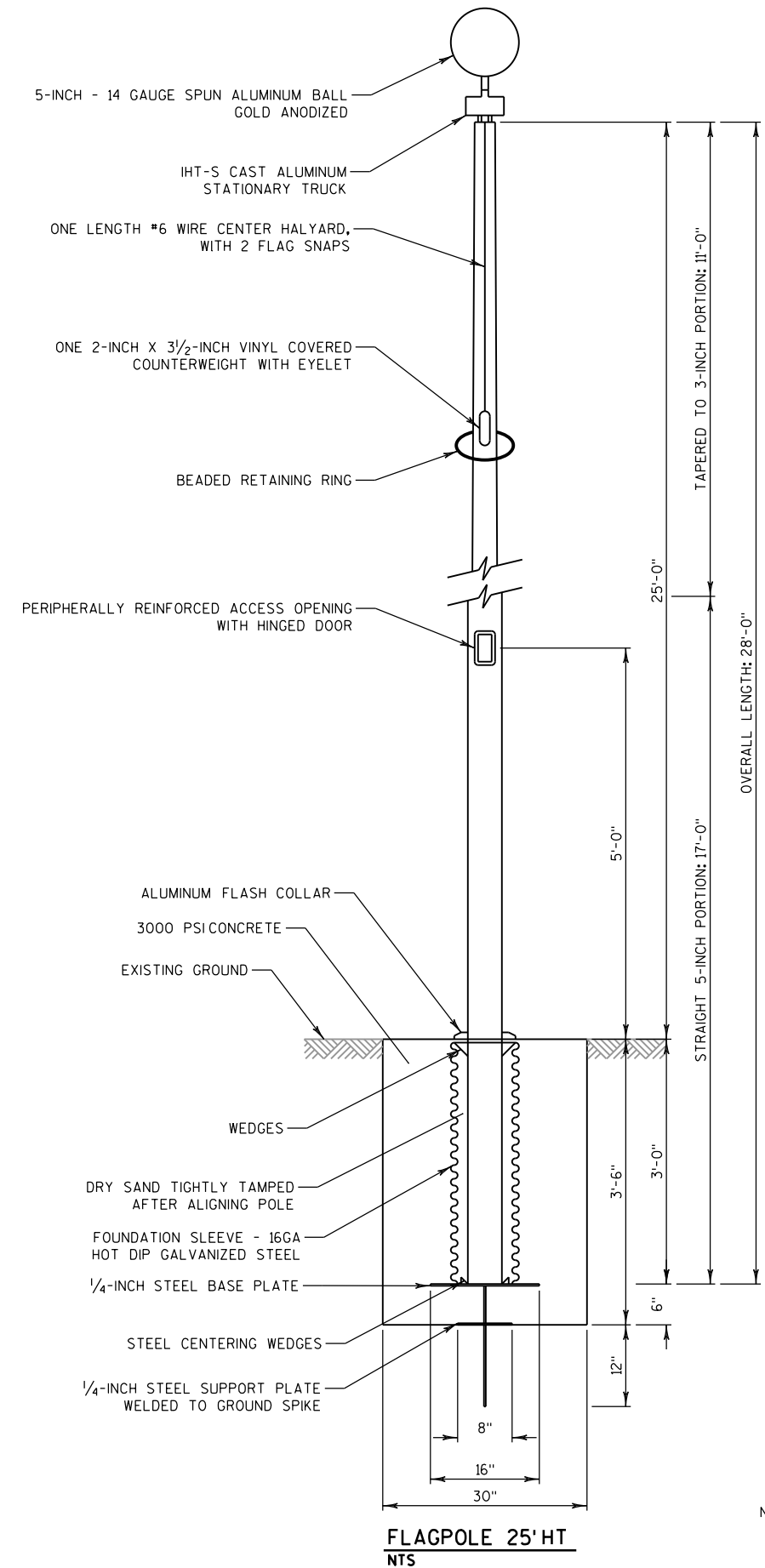
PROJECT NO:1517-75-87	HWY:USH 10	COUNTY:WINNEBAGO	PROJECT OVERVIEW	SHEET	E
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WISDOT/CADDS SHEET 42

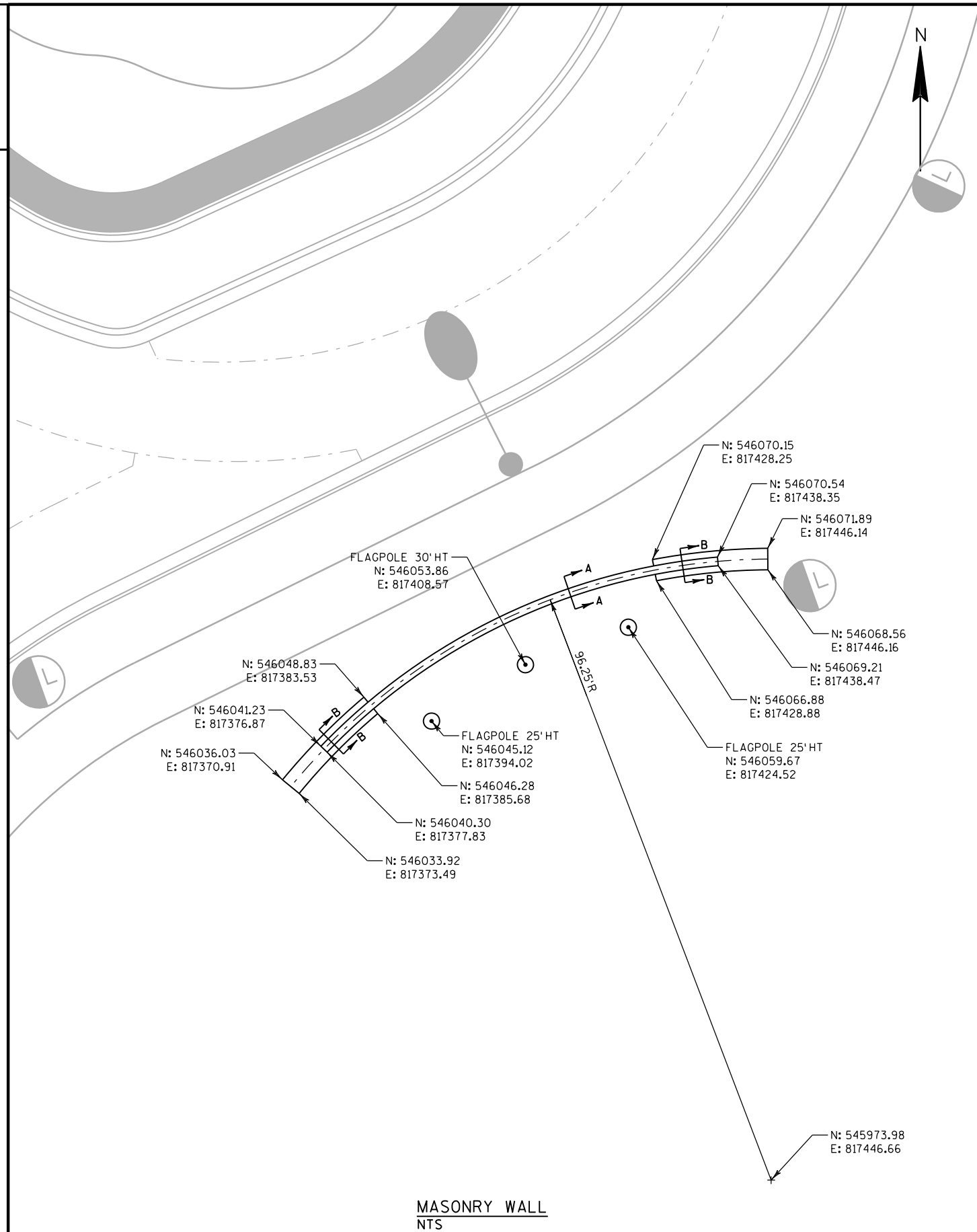


NOTE: ANY DISCREPANCY BETWEEN  
DETAIL SHOWN AND MANUFACTURERS  
RECOMMENDATION, PLEASE FOLLOW  
MANUFACTURERS RECOMMENDATIONS



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RECOMMENDATION, PLEASE FOLLOW  
MANUFACTURERS RECOMMENDATIONS

2



PROJECT NO: 1517-75-87

HWY: USH 10

COUNTY: WINNEBAGO

CONSTRUCTION DETAILS

SHEET

E

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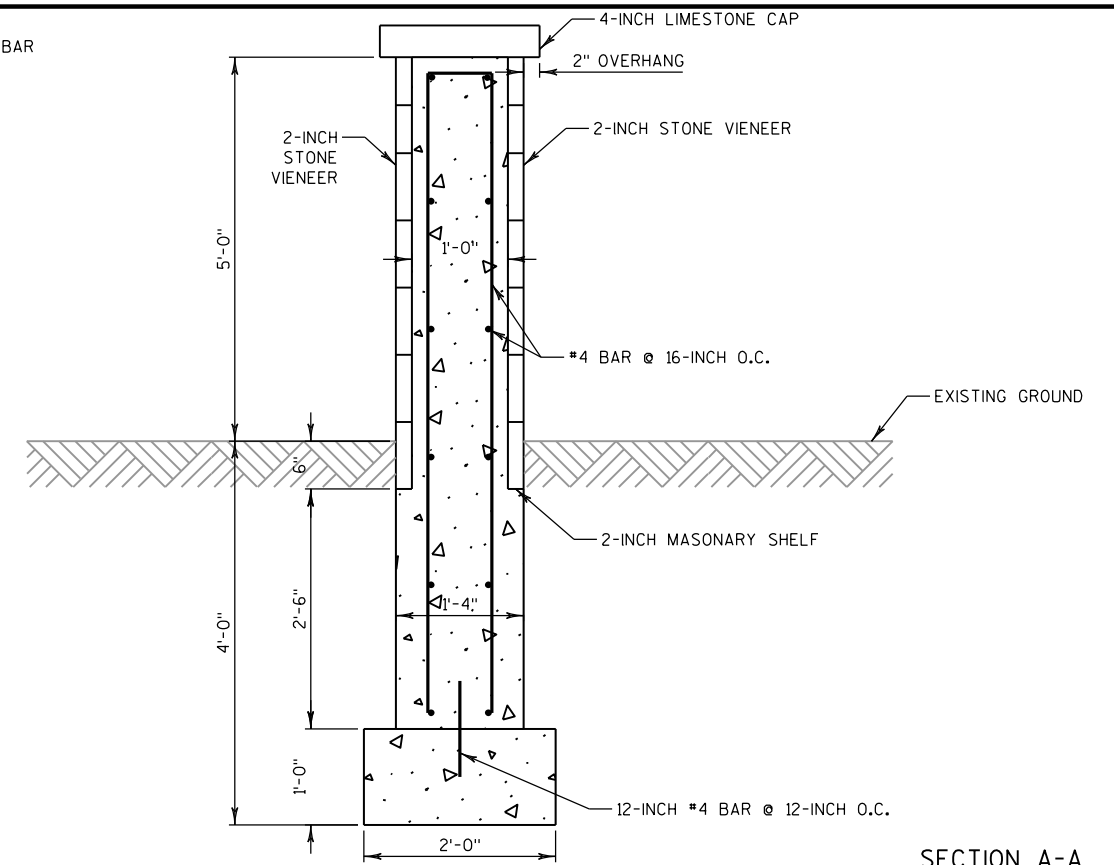
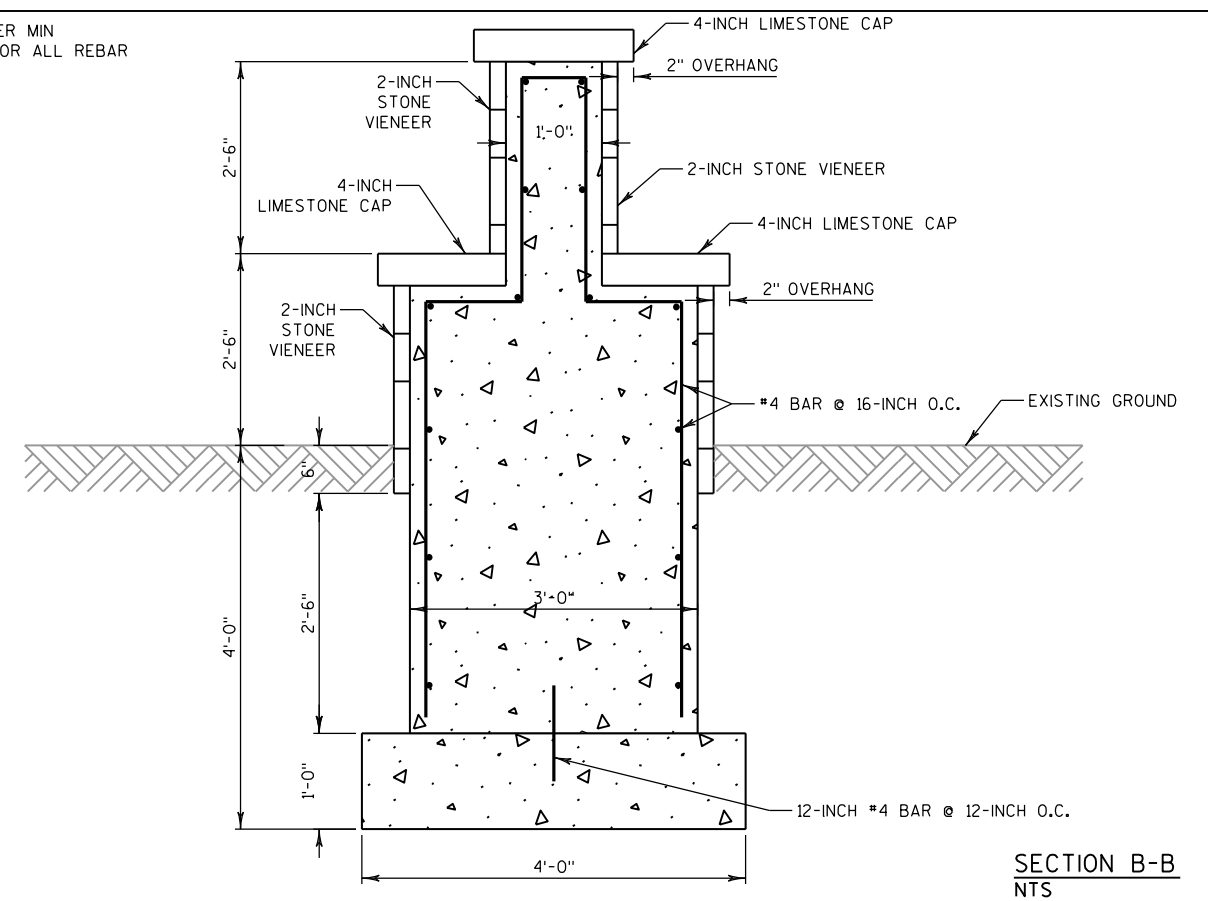
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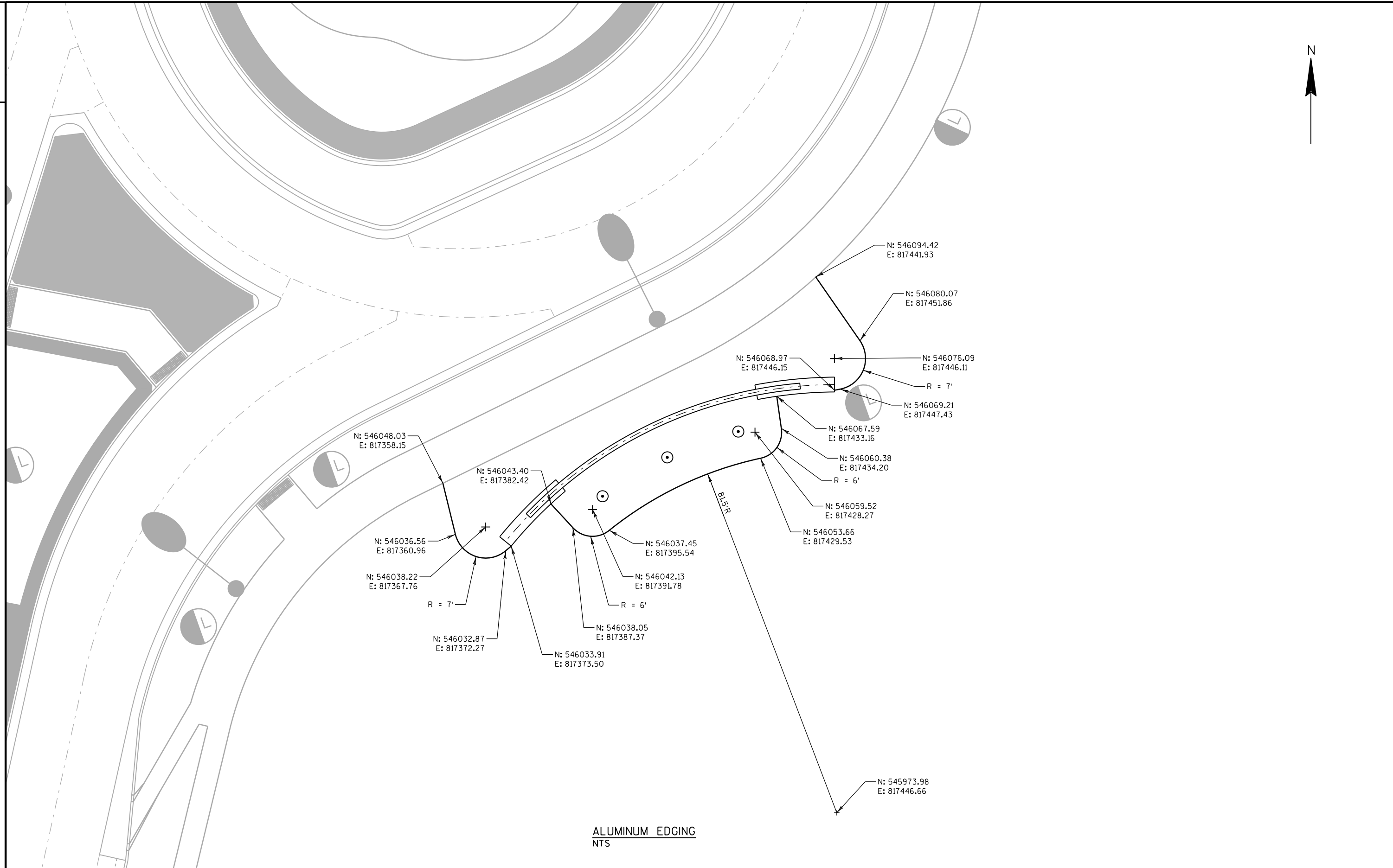
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PLOT NAME :

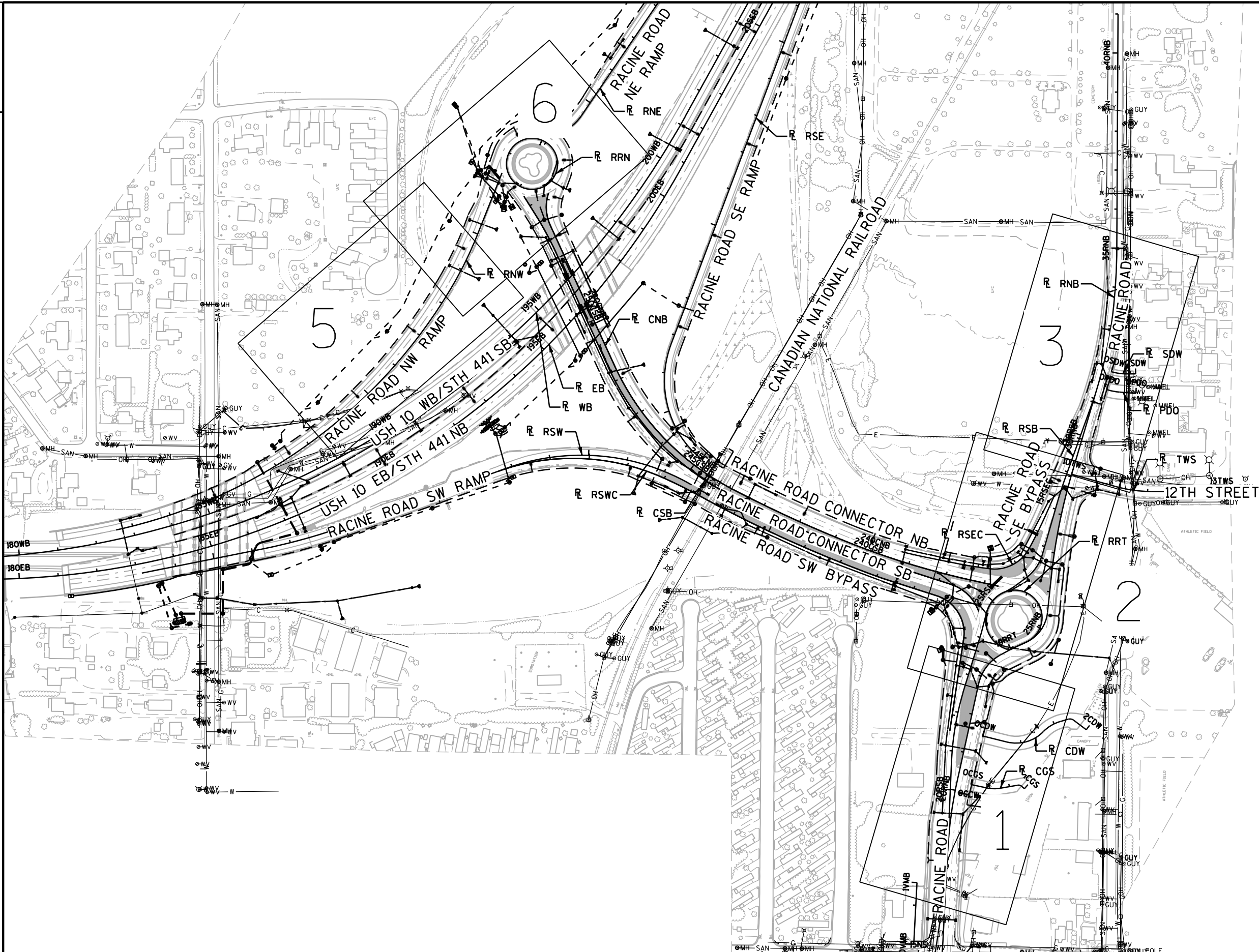
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WISDOT/CADDs SHEET 42

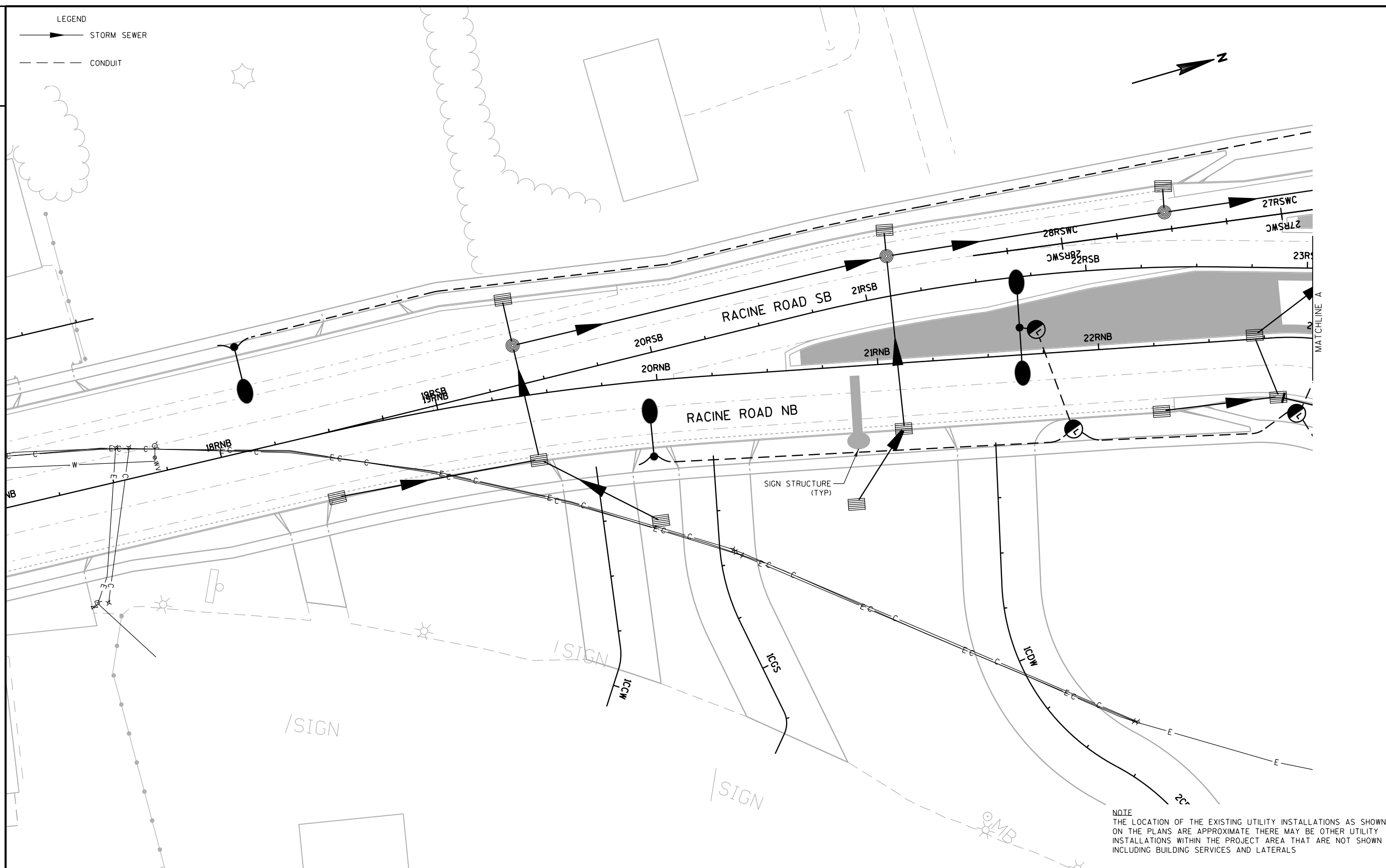
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REQUIRED FOR ALL REBARNOTE: 2-INCH COVER MIN  
REQUIRED FOR ALL REBAR



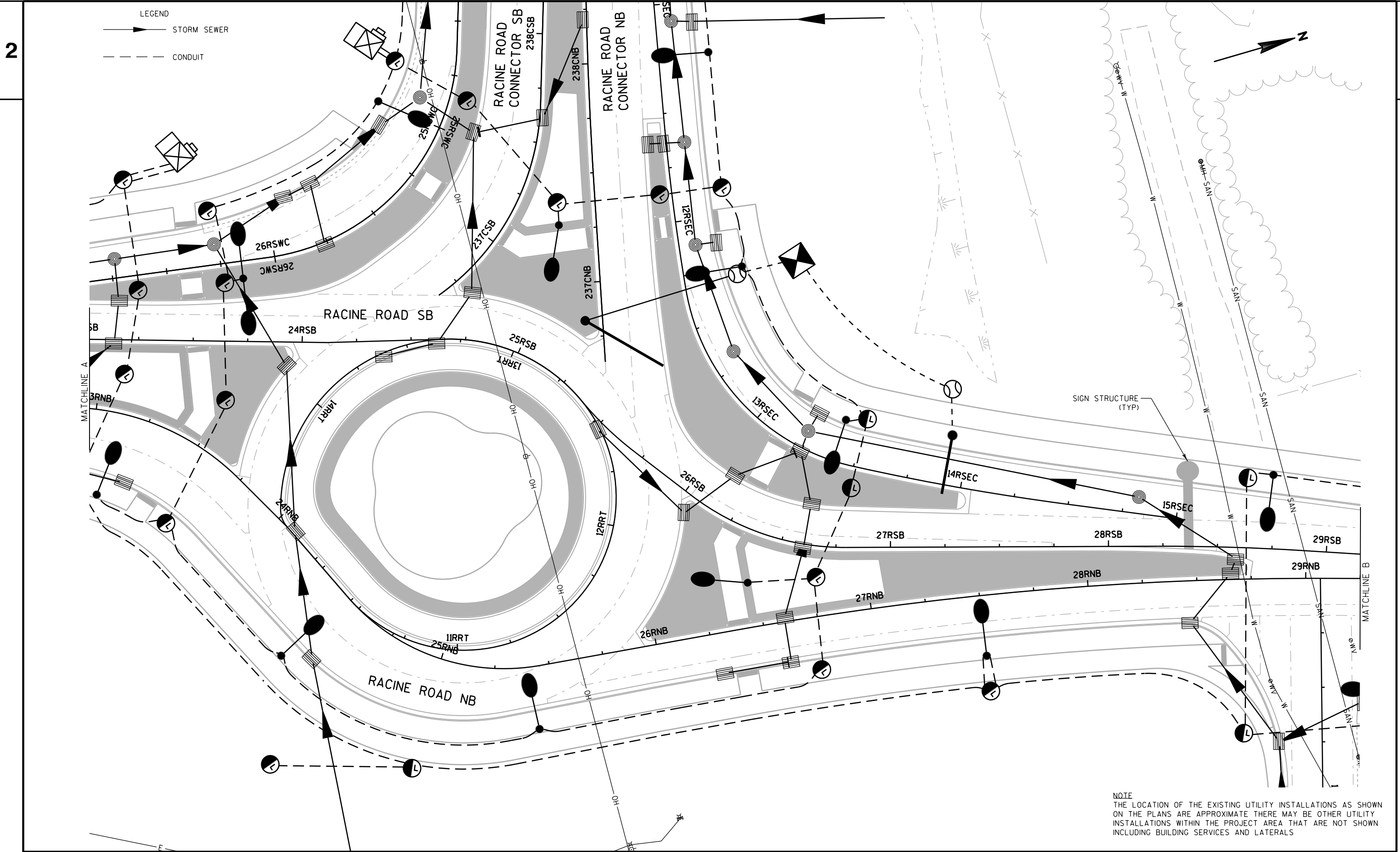






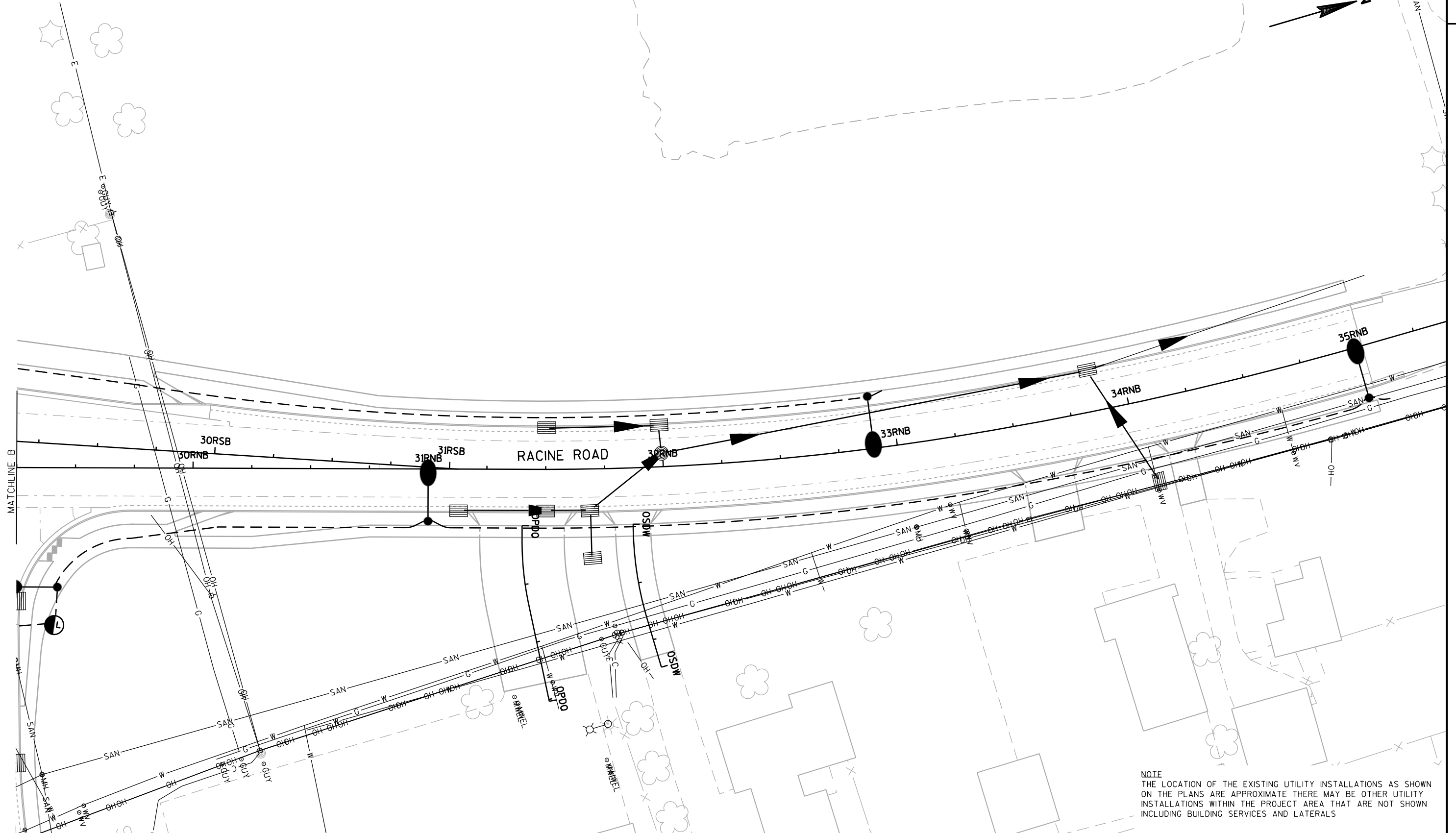


PROJECT NO: 1517-75-87	HWY: USH 10	COUNTY: WINNEBAGO	EXISTING UTILITY PLAN	SHEET	E
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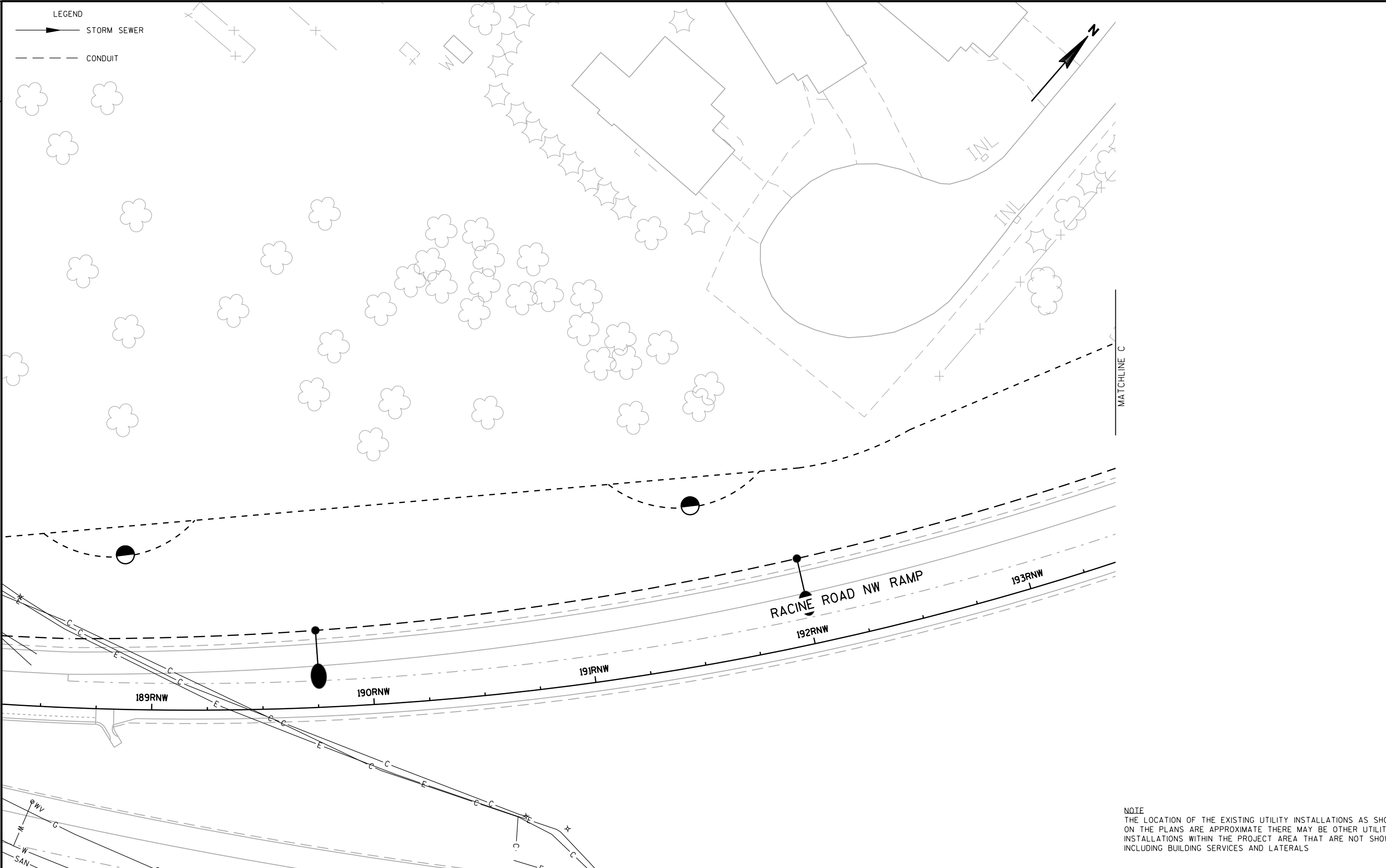


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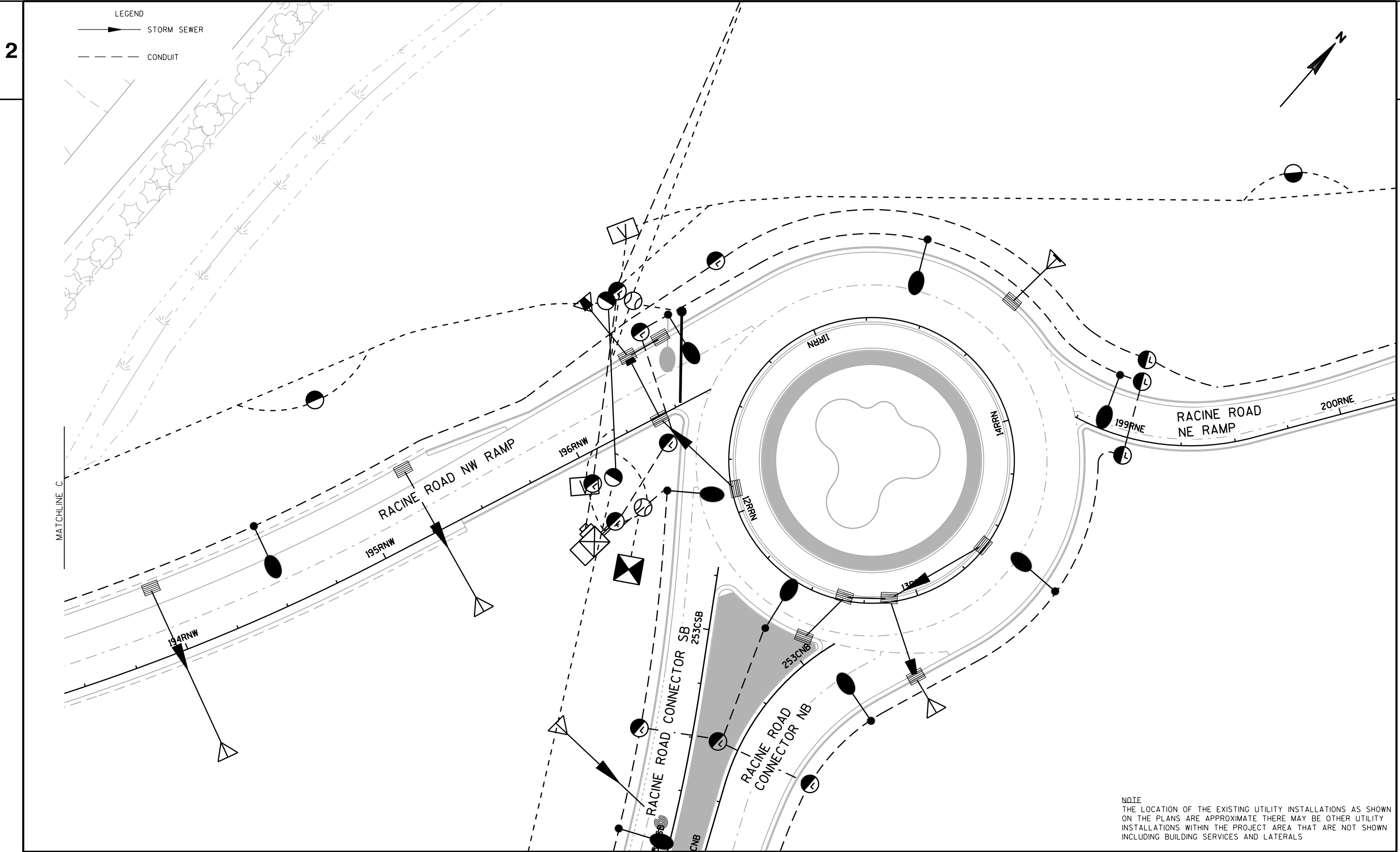
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- CONDUIT



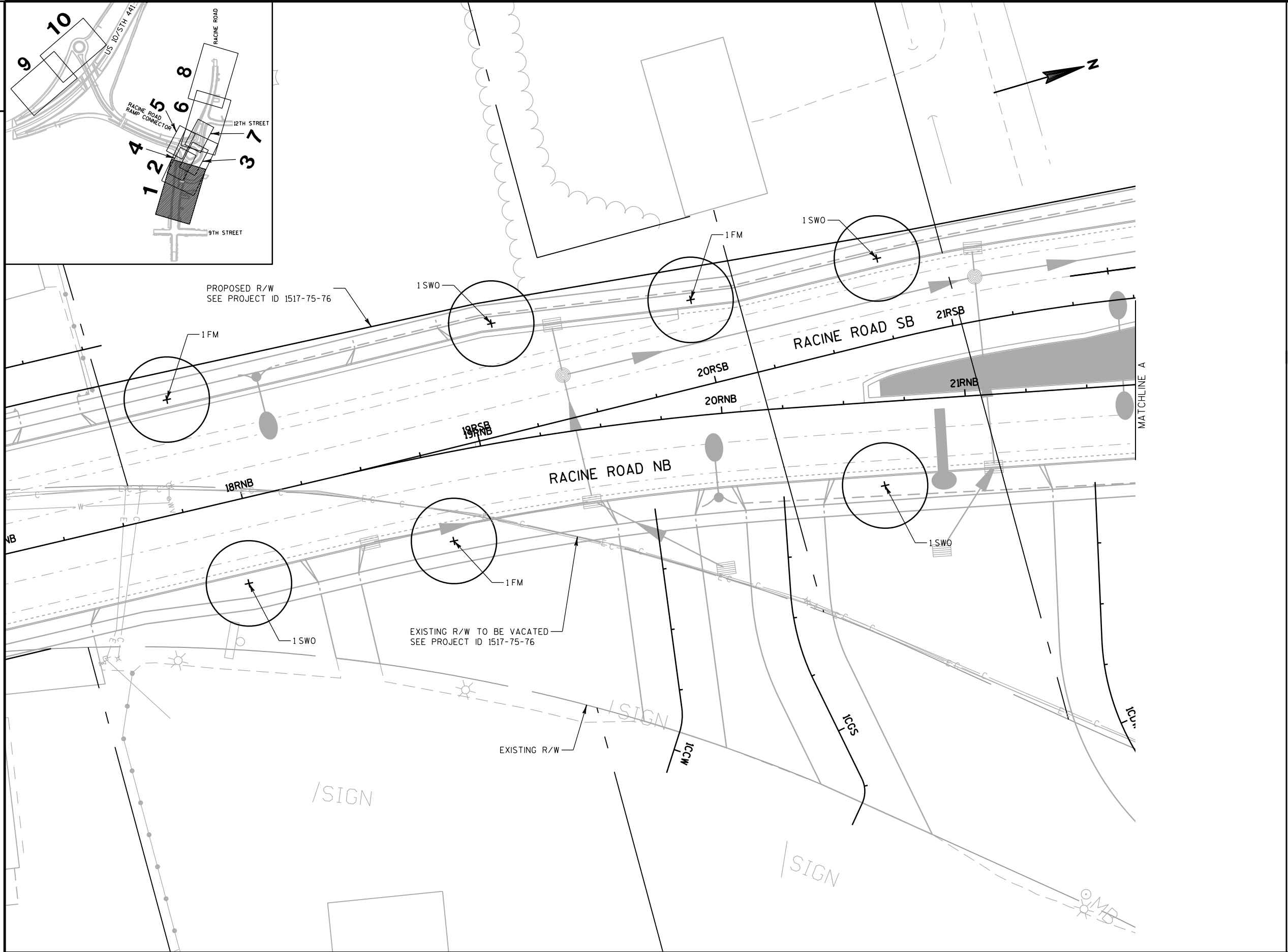
NOTE  
THE LOCATION OF THE EXISTING UTILITY INSTALLATIONS AS SHOWN  
ON THE PLANS ARE APPROXIMATE THERE MAY BE OTHER UTILITY  
INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN  
INCLUDING BUILDING SERVICES AND LATERALS



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ON THE PLANS ARE APPROXIMATE THERE MAY BE OTHER UTILITY  
INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN  
INCLUDING BUILDING SERVICES AND LATERALS







PLANT KEY

SYM.	ABBR.	COMMON NAME	
DECIDUOUS TREES (SHADE)			
	CH	HACKBERRY - COMMON	
	KC	COFFEETREE - KENTUCKY ESPRESSO	
	FM	MAPLE - FREEMAN AUTUMN BLAZE	
	SM	MAPLE - SUGAR	
	BO	OAK - BUR	
	SWO	OAK - SWAMP WHITE	
DECIDUOUS TREES (ORNAMENTAL)			
	SS	CRABAPPLE - 'SPRING SNOW'	
	TCH	HAWTHORN - THORNLESS COCKSPUR	
	HH	HOPHORNBEAM	
EVERGREEN			
	T	LARCH, AMERICAN (TAMARACK)	
	ERC	RED CEDAR, EASTERN	
	WS	SPRUCE, WHITE	
SHRUBS			
	DBH	HONEYSUCKLE - DWARF BUSH	
	GLS	SUMAC - GRO LOW	
PERENNIALS, GRASSES & GROUNDCOVERS			
	ATC	ACHILLEA - TERRA COTTA	
	AP	ASTER - PROFESSOR KIPPENBURG	
	PC	CONEFLOWER - PURPLE	
	GS	GOLDENROD - STIFF	
	BMG	GRASS - BLUE MOORE	
	KFG	GRASS - KARL FORESTER REED	
	PDG	GRASS - PRAIRIE DROPSEED	
	LBG	GRASS - LITTLE BLUESTEM	
	SP	SALVIA - PERENNIAL	
	AS	SEDUM - AUTUMN JOY	
	BES	SUSAN - BLACK EYED	
	LEGEND		
	EXISTING TREE		
	EXISTING CONCRETE SIDEWALK SPECIAL 5 - INCH		
EXISTING LIGHT POLE, ARM MOUNT LUMINAIRE			
NOTE: 1. ADJUST PLANTING LOCATION MIN. 2'-0" LATERAL CLEARANCE FROM ALL MARKED UTILITY LINES AND FACE OF CURB 2. MULCH IS INCIDENTAL TO TREE PLANTING, SEE PLANT DATA CHART 3. CONTRACTOR SHALL MARK PLANT LOCATIONS. PLANTINGS SHALL NOT PROCEED WITHOUT APPROVAL OF THE ENGINEER.			
SHEET 1 OF 10			

PROJECT NO: 1517-75-87

HWY: USH 10

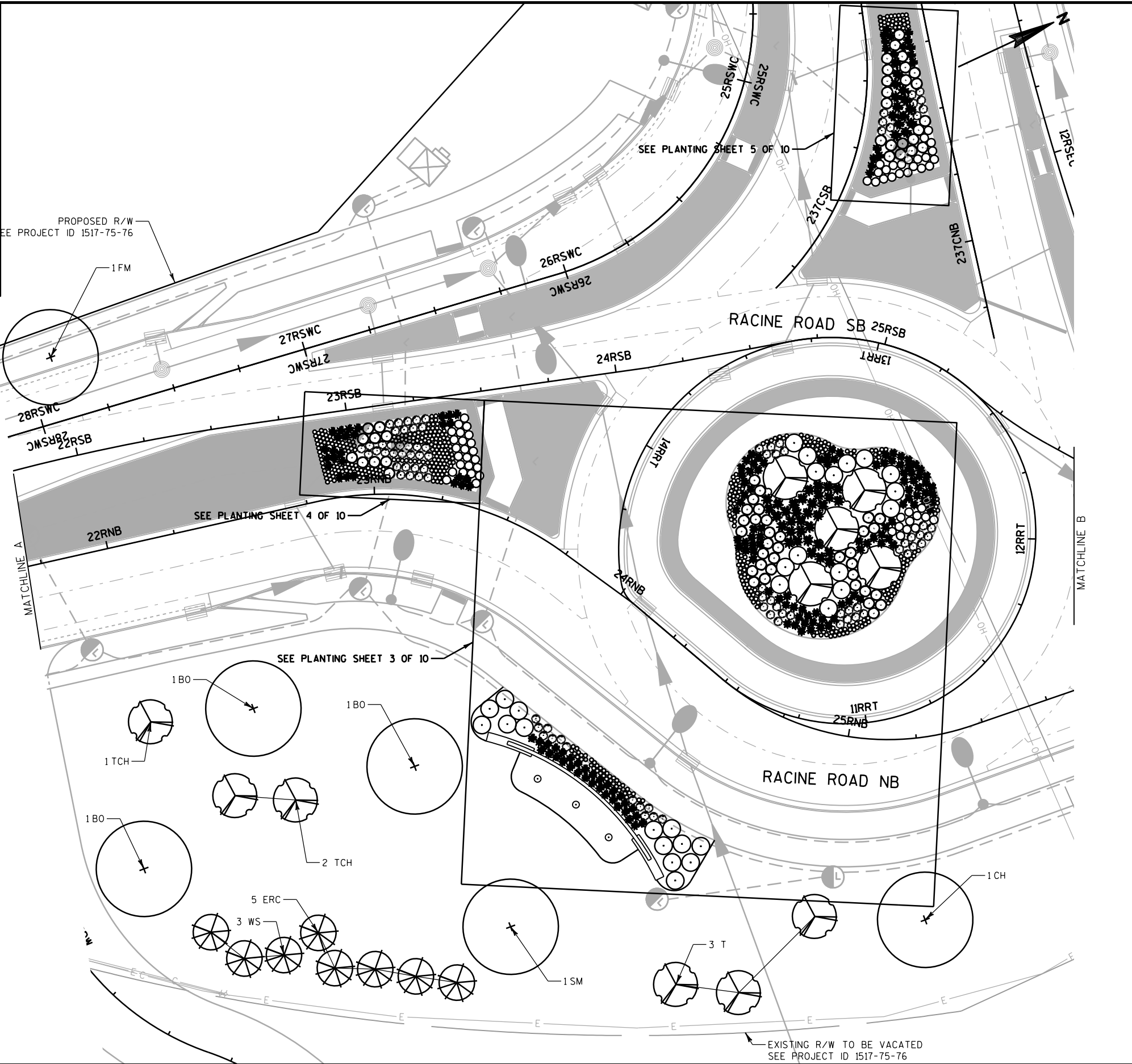
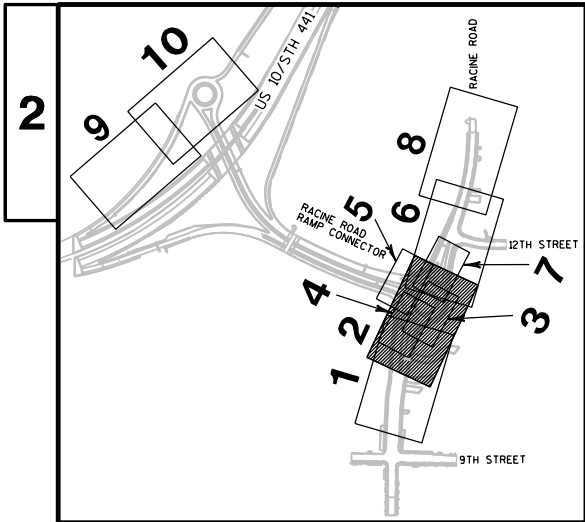
COUNTY: WINNEBAGO

PLANTING

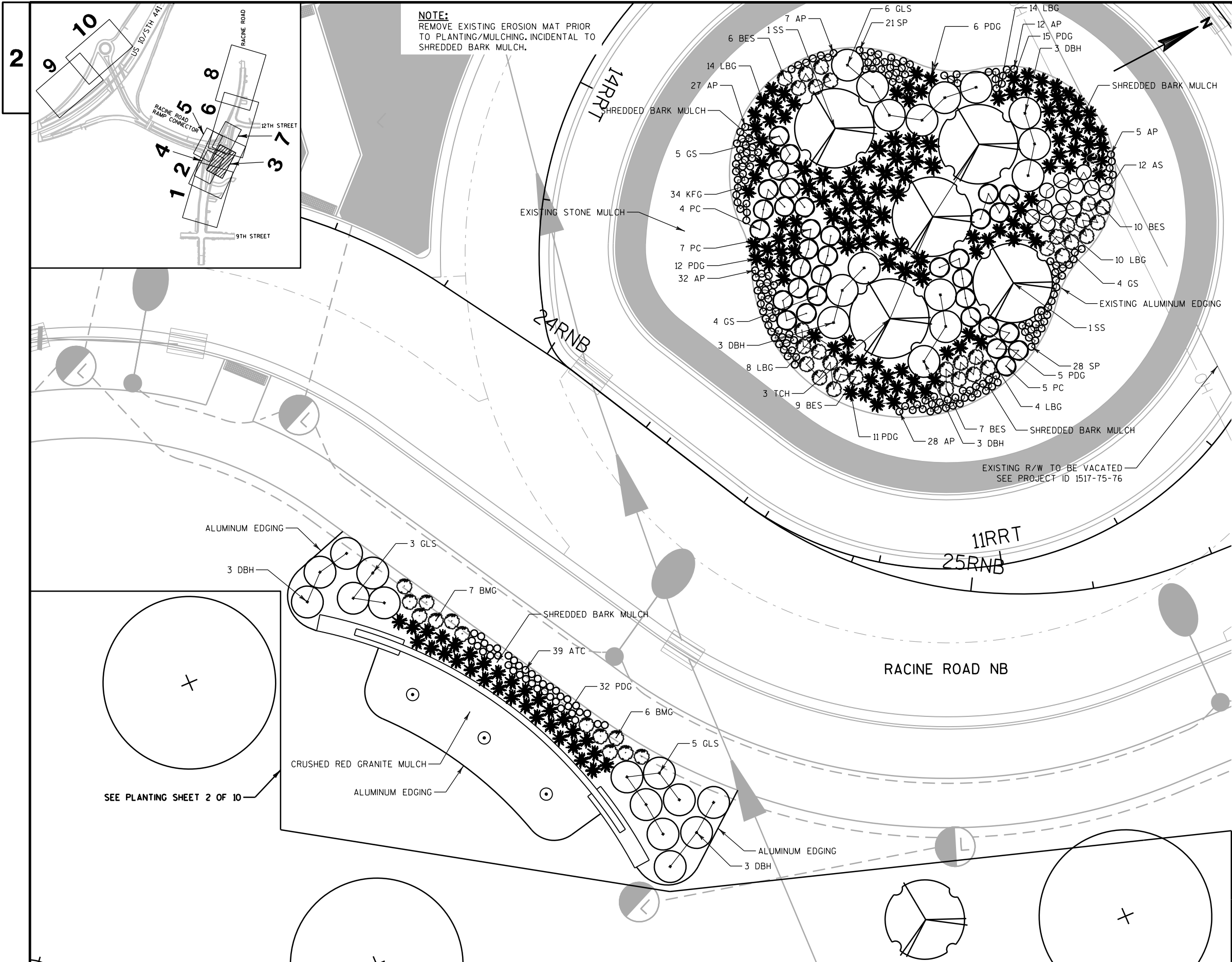
SHEET

E





PLANT KEY		
SYM.	ABBR.	COMMON NAME
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	CH	HACKBERRY - COMMON
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	ERC	REDCEDAR, EASTERN
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SHRUBS		
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LEGEND		
	EXISTING TREE	
	EXISTING CONCRETE SIDEWALK SPECIAL 5 - INCH	
	EXISTING LIGHT POLE, ARM MOUNT LUMINAIRE	
NOTE:		
1. ADJUST PLANTING LOCATION MIN. 2'-0" LATERAL CLEARANCE FROM ALL MARKED UTILITY LINES AND FACE OF CURB		
2. MULCH IS INCIDENTAL TO TREE PLANTING, SEE PLANT DATA CHART		
3. CONTRACTOR SHALL MARK PLANT LOCATIONS. PLANTINGS SHALL NOT PROCEED WITHOUT APPROVAL OF THE ENGINEER.		
SHEET 2 OF 10		



PLANT KEY		
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	KC	COFFEETREE - KENTUCKY ESPRESSO
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	SP	SALVIA - PERENNIAL
	AS	SEDUM - AUTUMN JOY
	BES	SUSAN - BLACK EYED

**LEGEND**

EXISTING TREE

EXISTING CONCRETE SIDEWALK  
SPECIAL 5 - INCH

EXISTING LIGHT POLE,  
ARM MOUNT LUMINAIRE

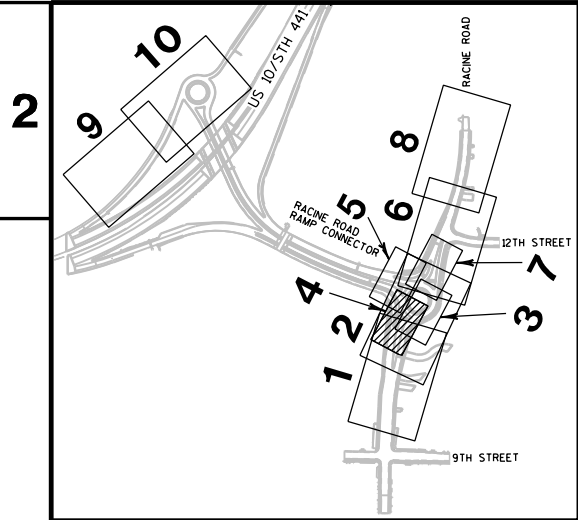
NOTE:

1. ADJUST PLANTING LOCATION MIN. 2'-0" LATERAL CLEARANCE FROM ALL MARKED UTILITY LINES AND FACE OF CURB

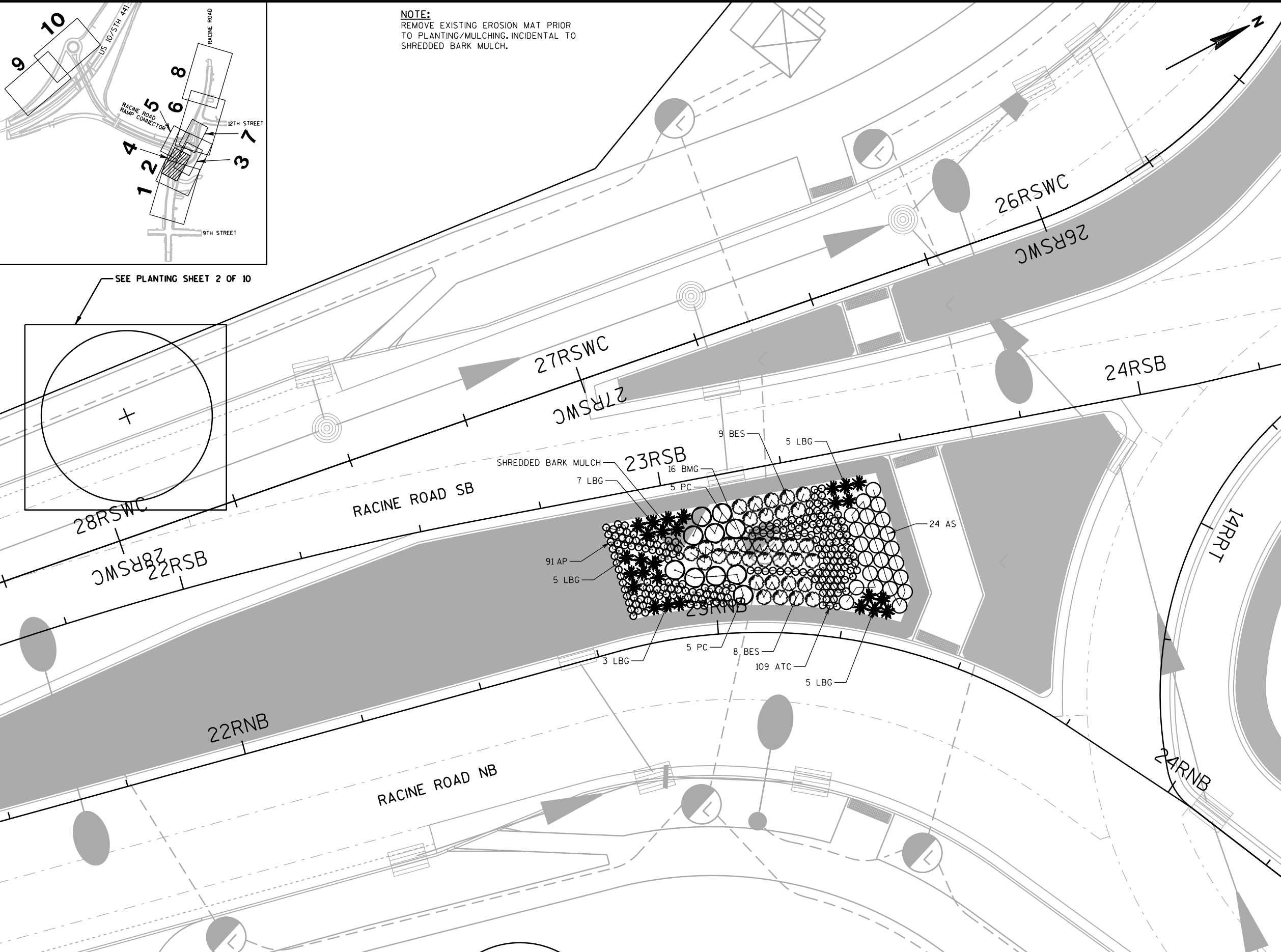
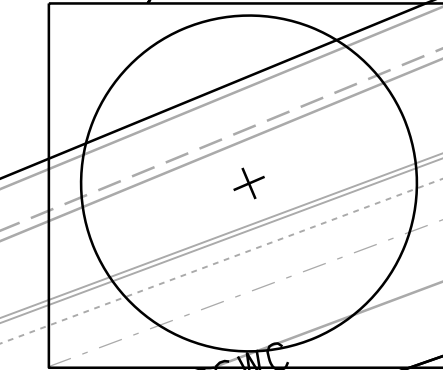
2. MULCH IS INCIDENTAL TO TREE PLANTING, SEE PLANT DATA CHART

3. CONTRACTOR SHALL MARK PLANT LOCATIONS. PLANTINGS SHALL NOT PROCEED WITHOUT APPROVAL OF THE ENGINEER.

SHEET 3 OF 10



NOTE:  
REMOVE EXISTING EROSION MAT PRIOR  
TO PLANTING/MULCHING, INCIDENTAL TO  
SHREDDED BARK MULCH.



PLANT KEY

SYM.	ABBR.	COMMON NAME	
DECIDUOUS TREES (SHADE)			
	CH	HACKBERRY - COMMON	
	KC	COFFEETREE - KENTUCKY ESPRESSO	
	FM	MAPLE - FREEMAN AUTUMN BLAZE	
	SM	MAPLE - SUGAR	
	BO	OAK - BUR	
	SWO	OAK - SWAMP WHITE	
DECIDUOUS TREES (ORNAMENTAL)			
	SS	CRABAPPLE - 'SPRING SNOW'	
	TCH	HAWTHORN - THORNLESS COCKSPUR	
	HH	HOPHORNBEAM	
EVERGREEN			
	T	LARCH, AMERICAN (TAMARACK)	
	ERC	RED CEDAR, EASTERN	
	WS	SPRUCE, WHITE	
SHRUBS			
	DBH	HONEYSUCKLE - DWARF BUSH	
	GLS	SUMAC - GRO LOW	
PERENNIALS, GRASSES & GROUNDCOVERS			
	ATC	ACHILLEA - TERRA COTTA	
	AP	ASTER - PROFESSOR KIPPENBURG	
	PC	CONEFLOWER - PURPLE	
	GS	GOLDENROD - STIFF	
	BMG	GRASS - BLUE MOORE	
	KFG	GRASS - KARL FORESTER REED	
	PDG	GRASS - PRAIRIE DROPSEED	
	LBG	GRASS - LITTLE BLUESTEM	
	SP	SALVIA - PERENNIAL	
	AS	SEDUM - AUTUMN JOY	
	BES	SUSAN - BLACK EYED	
	LEGEND		
	EXISTING TREE		
EXISTING CONCRETE SIDEWALK SPECIAL 5 - INCH			
EXISTING LIGHT POLE, ARM MOUNT LUMINAIRE			
NOTE: 1. ADJUST PLANTING LOCATION MIN. 2'-0" LATERAL CLEARANCE FROM ALL MARKED UTILITY LINES AND FACE OF CURB 2. MULCH IS INCIDENTAL TO TREE PLANTING, SEE PLANT DATA CHART 3. CONTRACTOR SHALL MARK PLANT LOCATIONS. PLANTINGS SHALL NOT PROCEED WITHOUT APPROVAL OF THE ENGINEER.			
SHEET 4 OF 10			

PROJECT NO: 1517-75-87

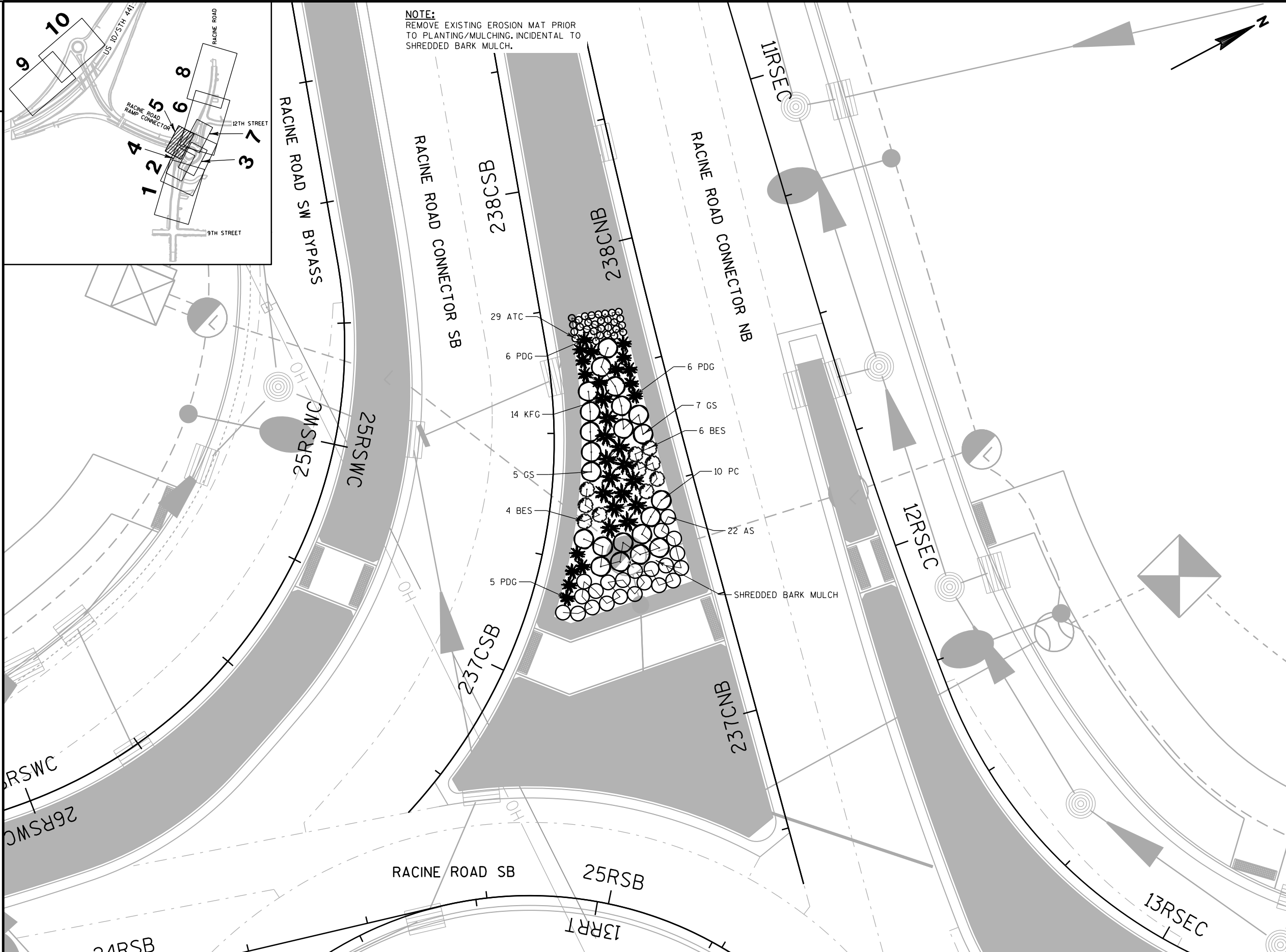
HWY: USH 10

COUNTY: WINNEBAGO

PLANTING

SHEET

E



NOTE:  
REMOVE EXISTING EROSION MAT PRIOR  
TO PLANTING/MULCHING, INCIDENTAL TO  
SHREDDED BARK MULCH.

PLANT KEY

SYM.	ABBR.	COMMON NAME	
DECIDUOUS TREES (SHADE)			
	CH	HACKBERRY - COMMON	
	KC	COFFEETREE - KENTUCKY ESPRESSO	
	FM	MAPLE - FREEMAN AUTUMN BLAZE	
	SM	MAPLE - SUGAR	
	BO	OAK - BUR	
	SWO	OAK - SWAMP WHITE	
DECIDUOUS TREES (ORNAMENTAL)			
	SS	CRABAPPLE - 'SPRING SNOW'	
	TCH	HAWTHORN - THORNLESS COCKSPUR	
	HH	HOPHORNBEAM	
EVERGREEN			
	T	LARCH, AMERICAN (TAMARACK)	
	ERC	REDCEDAR, EASTERN	
	WS	SPRUCE, WHITE	
SHRUBS			
	DBH	HONEYSUCKLE - DWARF BUSH	
	GLS	SUMAC - GRO LOW	
PERENNIALS, GRASSES & GROUNDCOVERS			
	ATC	ACHILLEA - TERRA COTTA	
	AP	ASTER - PROFESSOR KIPPENBURG	
	PC	CONEFLOWER - PURPLE	
	GS	GOLDENROD - STIFF	
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	KFG	GRASS - KARL FORESTER REED	
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	LBG	GRASS - LITTLE BLUESTEM	
	SP	SALVIA - PERENNIAL	
	AS	SEDUM - AUTUMN JOY	
	BES	SUSAN - BLACK EYED	
	LEGEND		
	EXISTING TREE		
EXISTING CONCRETE SIDEWALK SPECIAL 5 - INCH			
EXISTING LIGHT POLE, ARM MOUNT LUMINAIRE			
NOTE: 1. ADJUST PLANTING LOCATION MIN. 2'-0" LATERAL CLEARANCE FROM ALL MARKED UTILITY LINES AND FACE OF CURB 2. MULCH IS INCIDENTAL TO TREE PLANTING, SEE PLANT DATA CHART 3. CONTRACTOR SHALL MARK PLANT LOCATIONS. PLANTINGS SHALL NOT PROCEED WITHOUT APPROVAL OF THE ENGINEER.			
SHEET 5 OF 10			

PROJECT NO: 1517-75-87

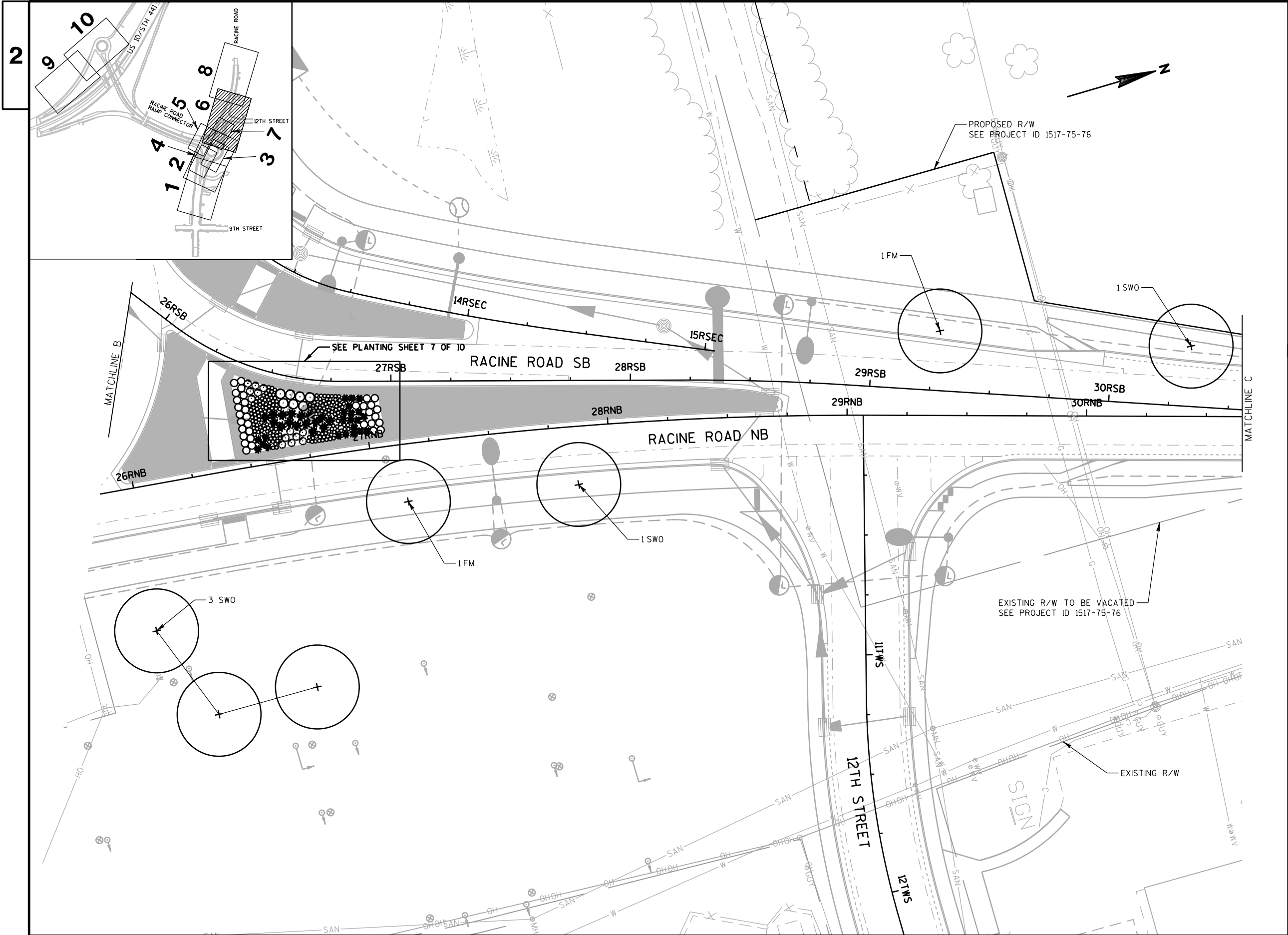
HWY: USH 10

COUNTY: WINNEBAGO

PLANTING

SHEET

E



PLANT KEY

SYM.	ABBR.	COMMON NAME
DECIDUOUS TREES (SHADE)		
+	CH	HACKBERRY - COMMON
	KC	COFFEETREE - KENTUCKY ESPRESSO
	FM	MAPLE - FREEMAN AUTUMN BLAZE
	SM	MAPLE - SUGAR
	BO	OAK - BUR
	SWO	OAK - SWAMP WHITE
DECIDUOUS TREES (ORNAMENTAL)		
☸	SS	CRABAPPLE - 'SPRING SNOW'
	TCH	HAWTHORN - THORNLESS COCKSPUR
	HH	HOPHORNBEAM
EVERGREEN		
🌲	T	LARCH, AMERICAN (TAMARACK)
	ERC	RED CEDAR, EASTERN
	WS	SPRUCE, WHITE
SHRUBS		
○	DBH	HONEYSUCKLE - DWARF BUSH
	GLS	SUMAC - GRO LOW
PERENNIALS, GRASSES & GROUNDCOVERS		
○	ATC	ACHILLEA - TERRA COTTA
	AP	ASTER - PROFESSOR KIPPENBURG
	PC	CONEFLOWER - PURPLE
	GS	GOLDENROD - STIFF
	BMG	GRASS - BLUE MOORE
	KFG	GRASS - KARL FORESTER REED
	PDG	GRASS - PRAIRIE DROPSEED
	LBG	GRASS - LITTLE BLUESTEM
	SP	SALVIA - PERENNIAL
	AS	SEDUM - AUTUMN JOY
	BES	SUSAN - BLACK EYED

LEGEND

☸

EXISTING TREE

■

EXISTING CONCRETE SIDEWALK  
SPECIAL 5 - INCH

○

EXISTING LIGHT POLE,  
ARM MOUNT LUMINAIRE

NOTE:

1. ADJUST PLANTING LOCATION MIN. 2'-0" LATERAL CLEARANCE FROM ALL MARKED UTILITY LINES AND FACE OF CURB

2. MULCH IS INCIDENTAL TO TREE PLANTING, SEE PLANT DATA CHART

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SHEET 6 OF 10

PROJECT NO: 1517-75-87

HWY: USH 10

COUNTY: WINNEBAGO

PLANTING

SHEET

E

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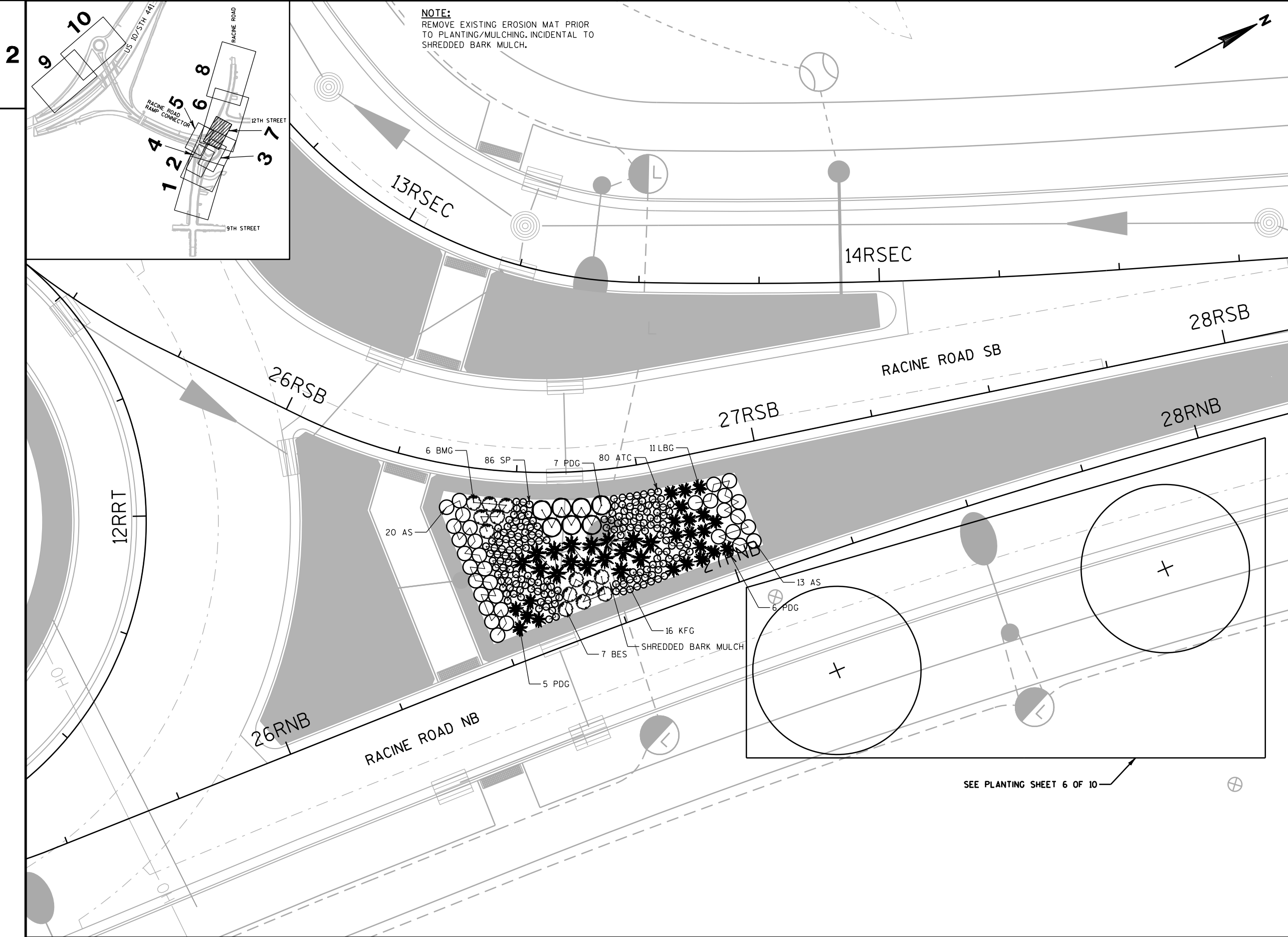
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PLOT BY : dfelber

PLOT NAME : \$FILE\$

PLOT SCALE : 40:1

WISDOT/CADDs SHEET 42



PLANT KEY

SYM.	ABBR.	COMMON NAME
DECIDUOUS TREES (SHADE)		
+	CH	HACKBERRY - COMMON
	KC	COFFEETREE - KENTUCKY ESPRESSO
	FM	MAPLE - FREEMAN AUTUMN BLAZE
	SM	MAPLE - SUGAR
	BO	OAK - BUR
	SWO	OAK - SWAMP WHITE
DECIDUOUS TREES (ORNAMENTAL)		
⬤	SS	CRABAPPLE - 'SPRING SNOW'
	TCH	HAWTHORN - THORNLESS COCKSPUR
	HH	HOPHORNBEAM
EVERGREEN		
⬤	T	LARCH, AMERICAN (TAMARACK)
	ERC	RED CEDAR, EASTERN
	WS	SPRUCE, WHITE
SHRUBS		
○	DBH	HONEYSUCKLE - DWARF BUSH
	GLS	SUMAC - GRO LOW
PERENNIALS, GRASSES & GROUNDCOVERS		
○	ATC	ACHILLEA - TERRA COTTA
	AP	ASTER - PROFESSOR KIPPENBURG
	PC	CONEFLOWER - PURPLE
	GS	GOLDENROD - STIFF
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	KFG	GRASS - KARL FORESTER REED
	PDG	GRASS - PRAIRIE DROPSEED
	LBG	GRASS - LITTLE BLUESTEM
	SP	SALVIA - PERENNIAL
	AS	SEDUM - AUTUMN JOY
	BES	SUSAN - BLACK EYED

LEGEND

⬤

EXISTING TREE

■

EXISTING CONCRETE SIDEWALK  
SPECIAL 5 - INCH

⬤

EXISTING LIGHT POLE,  
ARM MOUNT LUMINAIRE

NOTE:

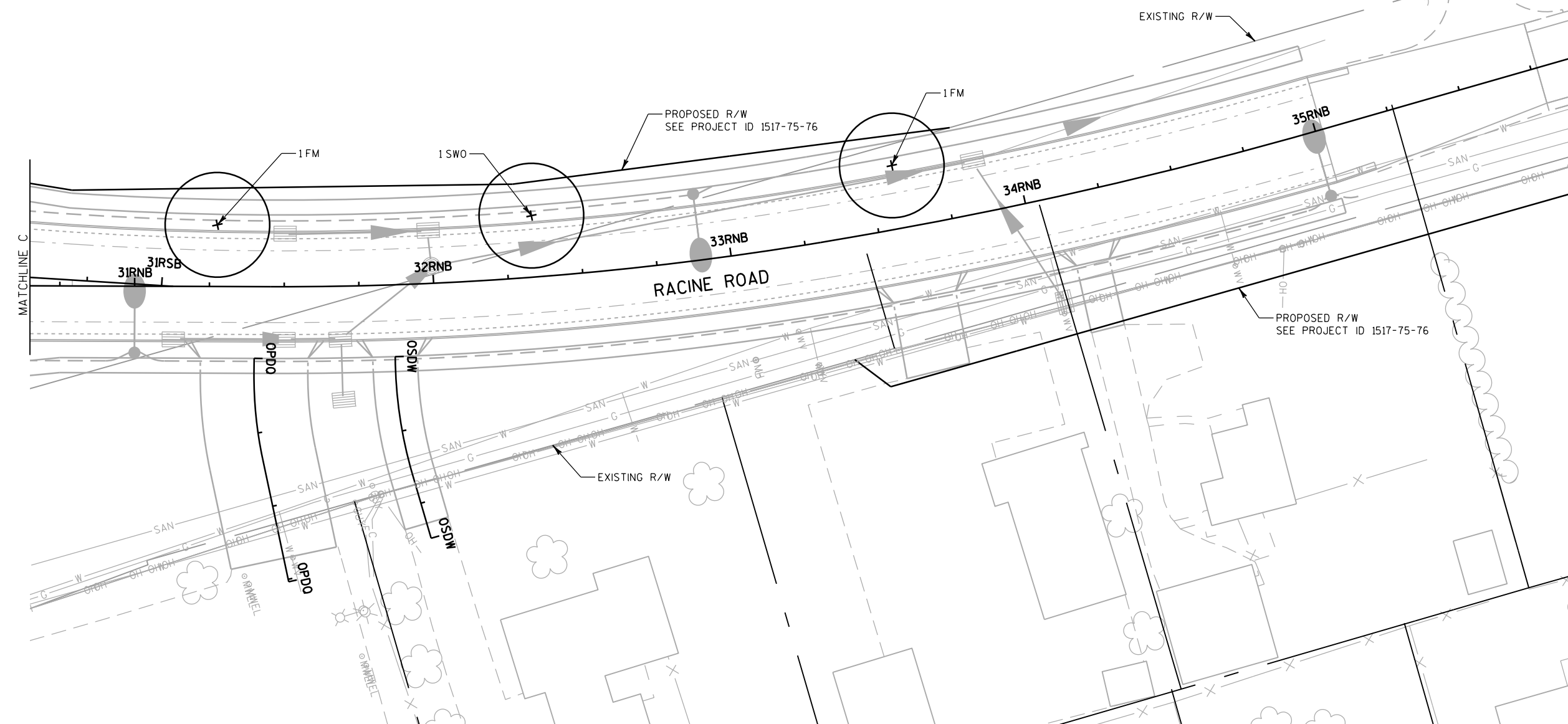
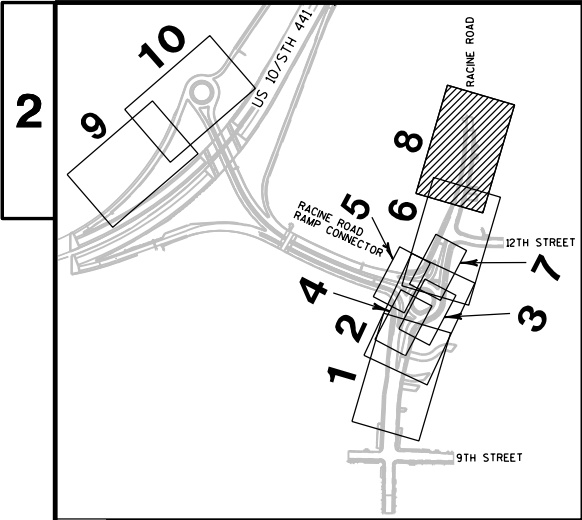
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SHEET 7 OF 10





PLANT KEY		
SYM.	ABBR.	COMMON NAME
DECIDUOUS TREES (SHADE)		
	CH	HACKBERRY - COMMON
	KC	COFFEETREE - KENTUCKY ESPRESSO
	FM	MAPLE - FREEMAN AUTUMN BLAZE
	SM	MAPLE - SUGAR
	BO	OAK - BUR
	SWO	OAK - SWAMP WHITE
DECIDUOUS TREES (ORNAMENTAL)		
	SS	CRABAPPLE - 'SPRING SNOW'
	TCH	HAWTHORN - THORNLESS COCKSPUR
	HH	HOPHORNBEAM
EVERGREEN		
	T	LARCH, AMERICAN (TAMARACK)
	ERC	REDCEDAR, EASTERN
	WS	SPRUCE, WHITE
SHRUBS		
	DBH	HONEYSUCKLE - DWARF BUSH
	GLS	SUMAC - GRO LOW
PERENNIALS, GRASSES & GROUNDCOVERS		
	ATC	ACHILLEA - TERRA COTTA
	AP	ASTER - PROFESSOR KIPPENBURG
	PC	CONEFLOWER - PURPLE
	GS	GOLDENROD - STIFF
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	KFG	GRASS - KARL FORESTER REED
	PDG	GRASS - PRAIRIE DROPSEED
	LBG	GRASS - LITTLE BLUESTEM
	SP	SALVIA - PERENNIAL
	AS	SEDUM - AUTUMN JOY
	BES	SUSAN - BLACK EYED

**LEGEND**

EXISTING TREE

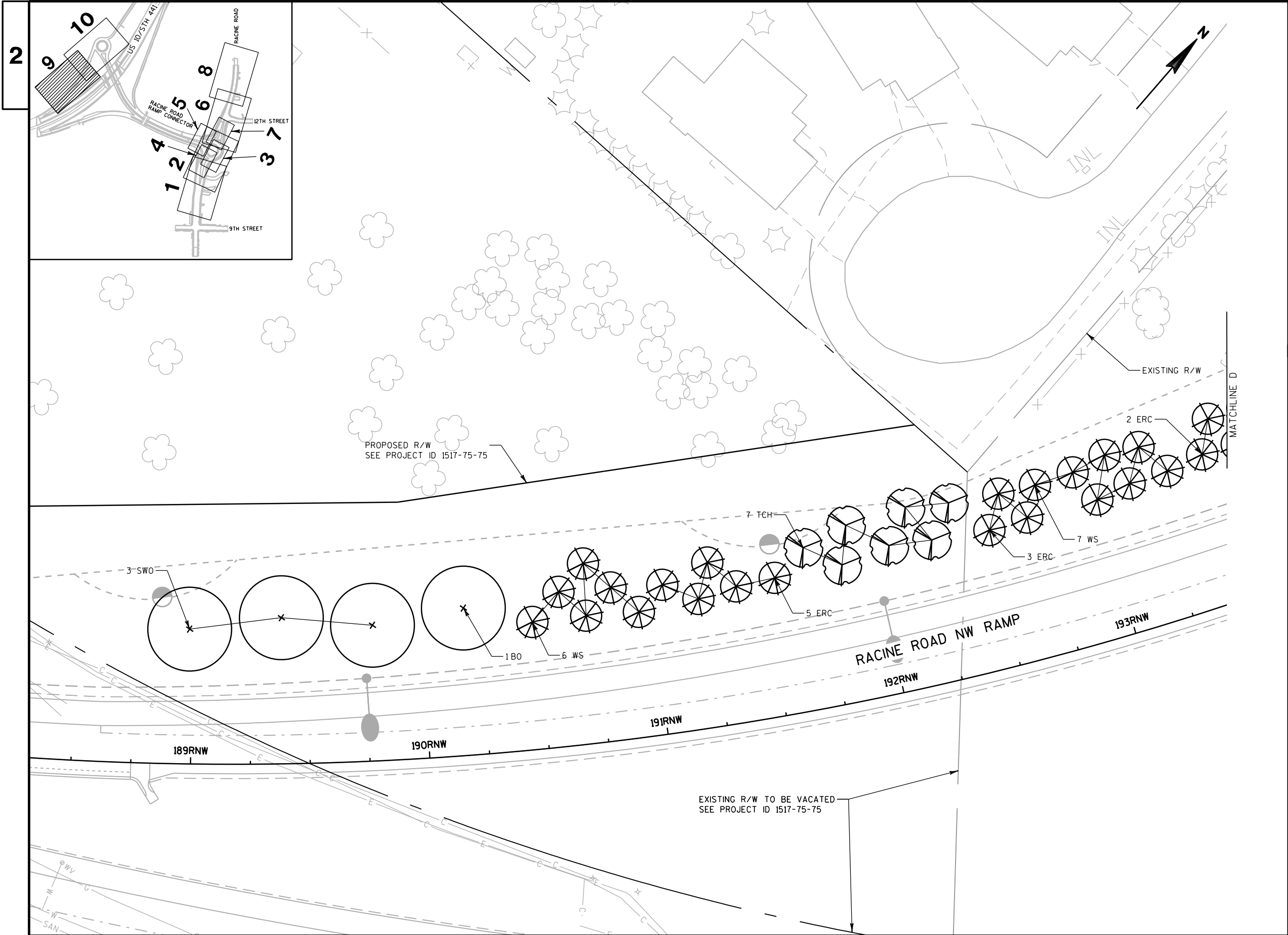
EXISTING CONCRETE SIDEWALK  
SPECIAL 5 - INCH

EXISTING LIGHT POLE,  
ARM MOUNT LUMINAIRE

**NOTE:**  
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SHEET 8 OF 10





PLANT KEY

SYM.	ABBR.	COMMON NAME
DECIDUOUS TREES (SHADE)		
+	CH	HACKBERRY - COMMON
	KC	COFFEETREE - KENTUCKY ESPRESSO
	FM	MAPLE - FREEMAN AUTUMN BLAZE
	SM	MAPLE - SUGAR
	BO	OAK - BUR
	SWO	OAK - SWAMP WHITE
DECIDUOUS TREES (ORNAMENTAL)		
☐	SS	CRABAPPLE - 'SPRING SNOW'
	TCH	HAWTHORN - THORNLESS COCKSPUR
	HH	HOPHORNBEAM
EVERGREEN		
☼	T	LARCH, AMERICAN (TAMARACK)
	ERC	RED CEDAR, EASTERN
	WS	SPRUCE, WHITE
SHRUBS		
○	DBH	HONEYSUCKLE - DWARF BUSH
	GLS	SUMAC - GRO LOW
PERENNIALS, GRASSES & GROUNDCOVERS		
○	ATC	ACHILLEA - TERRA COTTA
	AP	ASTER - PROFESSOR KIPPENBURG
	PC	CONEFLOWER - PURPLE
	GS	GOLDENROD - STIFF
	BMG	GRASS - BLUE MOORE
	KFG	GRASS - KARL FORESTER REED
	PDG	GRASS - PRAIRIE DROPSEED
	LBG	GRASS - LITTLE BLUESTEM
	SP	SALVIA - PERENNIAL
	AS	SEDUM - AUTUMN JOY
	BES	SUSAN - BLACK EYED

LEGEND

☼

EXISTING TREE

■

EXISTING CONCRETE SIDEWALK  
SPECIAL 5 - INCH

○

EXISTING LIGHT POLE,  
ARM MOUNT LUMINAIRE

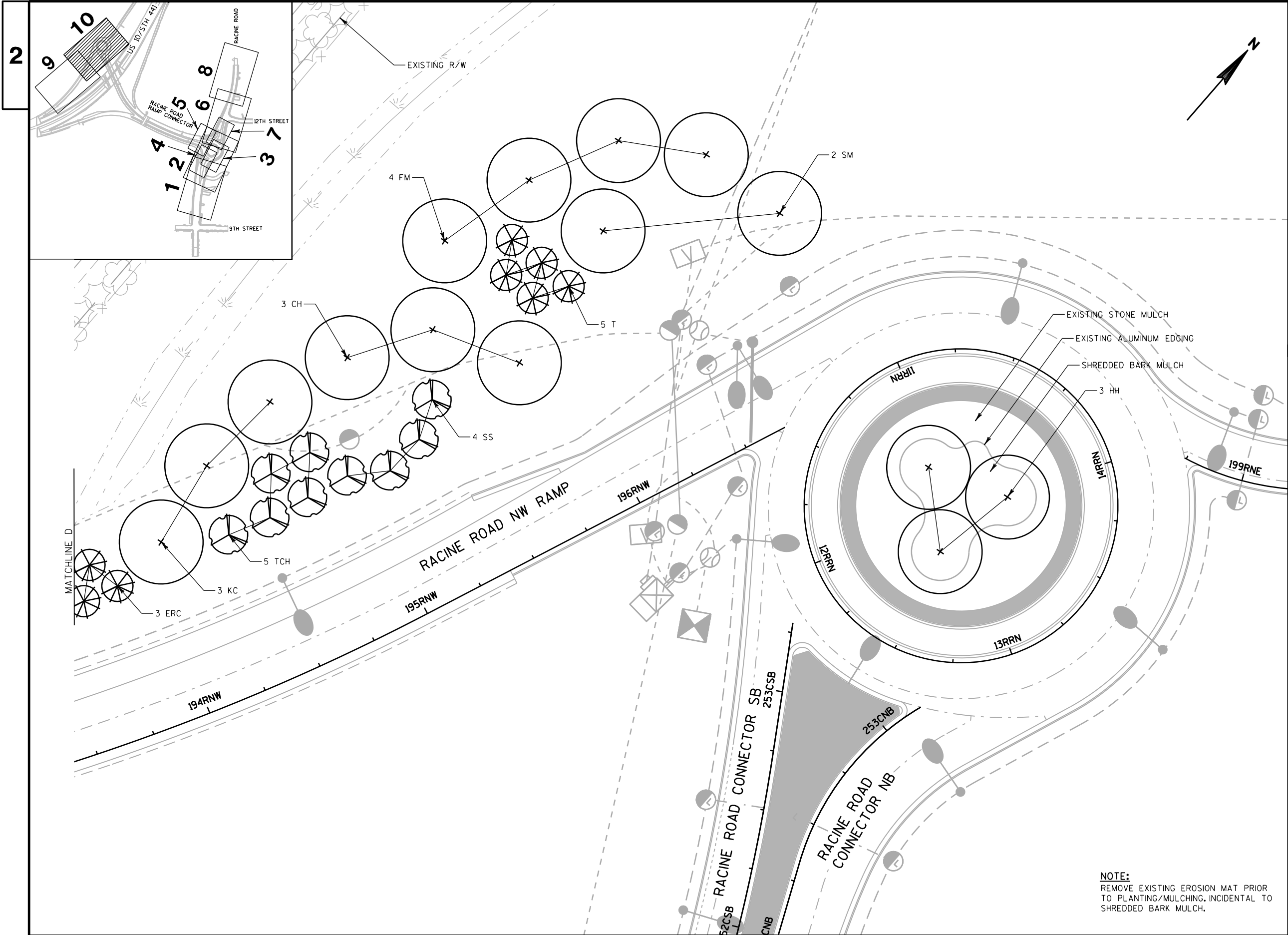
NOTE:

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SHEET 9 OF 10



PLANT KEY		
SYM.	ABBR.	COMMON NAME
DECIDUOUS TREES (SHADE)		
	CH	HACKBERRY - COMMON
	KC	COFFEETREE - KENTUCKY ESPRESSO
	FM	MAPLE - FREEMAN AUTUMN BLAZE
	SM	MAPLE - SUGAR
	BO	OAK - BUR
	SWO	OAK - SWAMP WHITE
DECIDUOUS TREES (ORNAMENTAL)		
	SS	CRABAPPLE - 'SPRING SNOW'
	TCH	HAWTHORN - THORNLESS COCKSPUR
	HH	HOPHORNBEAM
EVERGREEN		
	T	LARCH, AMERICAN (TAMARACK)
	ERC	REDCEDAR, EASTERN
	WS	SPRUCE, WHITE
SHRUBS		
	DBH	HONEYSUCKLE - DWARF BUSH
	GLS	SUMAC - GRO LOW
PERENNIALS, GRASSES & GROUNDCOVERS		
	ATC	ACHILLEA - TERRA COTTA
	AP	ASTER - PROFESSOR KIPPENBURG
	PC	CONEFLOWER - PURPLE
	GS	GOLDENROD - STIFF
	BMG	GRASS - BLUE MOORE
	KFG	GRASS - KARL FORESTER REED
	PDG	GRASS - PRAIRIE DROPSEED
	LBG	GRASS - LITTLE BLUESTEM
	SP	SALVIA - PERENNIAL
	AS	SEDUM - AUTUMN JOY
	BES	SUSAN - BLACK EYED

**LEGEND**

EXISTING TREE

EXISTING CONCRETE SIDEWALK  
SPECIAL 5 - INCH

EXISTING LIGHT POLE,  
ARM MOUNT LUMINAIRE

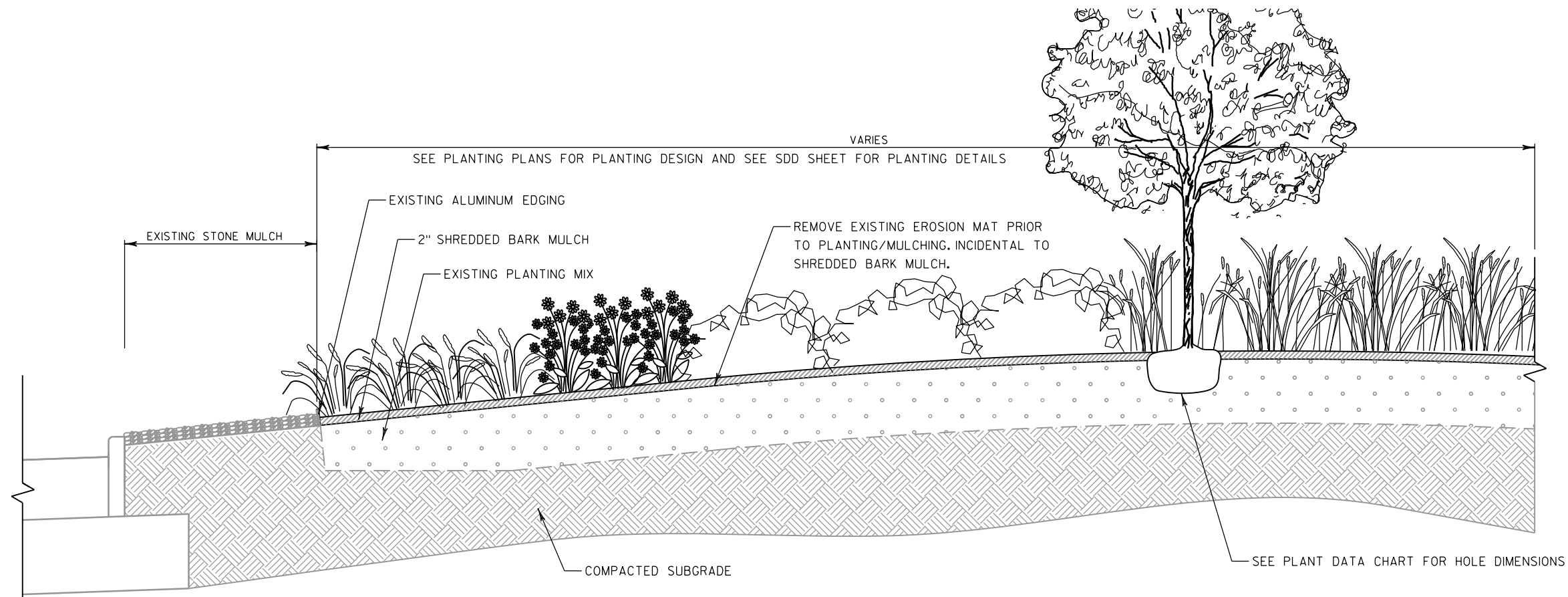
**NOTE:**

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SHEET 10 OF 10



ROUNDBOUT LANDSCAPE SECTION, TYPICAL  
NOT TO SCALE

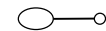
## PLANT KEY

SYM.	ABBR.	COMMON NAME
DECIDUOUS TREES (SHADE)		
	CH	HACKBERRY - COMMON
	KC	COFFEETREE - KENTUCKY ESPRESSO
	FM	MAPLE - FREEMAN AUTUME BLAZE
	SM	MAPLE - SUGAR
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	SWO	OAK - SWAMP WHITE
DECIDUOUS TREES (ORNAMENTAL)		
	SS	CRABAPPLE - 'SPRING SNOW'
	TCH	HAWTHORN - THORNLESS COCKSPUR
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EVERGREEN		
	T	LARCH, AMERICAN (TAMARACK)
	ERC	REDCEDAR, EASTERN
	WS	SPRUCE, WHITE
SHRUBS		
	DBH	HONEYSUCKLE - DWARF BUSH
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PERENNIALS, GRASSES & GROUNDCOVERS		
	TCA	ACHILLEA - TERRA COTTA
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	PDG	GRASS - PRAIRIE DROPSEED
	LBG	GRASS - LITTLE BLUESTEM
	SP	SALVIA - PERENNIAL
	AS	SEDUM - AUTUMN JOY
	BES	SUSAN - BLACK EYED

## LEGEND



EXISTING TREE

EXISTING CONCRETE SIDEWALK  
SPECIAL 5 - INCHEXISTING LIGHT POLE,  
ARM MOUNT LUMINAIRE

## NOTE:

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2. MULCH IS INCIDENTAL TO TREE PLANTING, SEE PLANT DATA CHART
3. CONTRACTOR SHALL MARK PLANT LOCATIONS. PLANTINGS SHALL NOT PROCEED WITHOUT APPROVAL OF THE ENGINEER.

SYM.	COMMON NAME	SCIENTIFIC NAME	AVE. MATURE HEIGHT	SIZE WHEN PLANTED	ROOT ZONE MODE	MINIMU M BALL OR POT		MINIMU M HOLE		BRACE OR GUY	FERT. UNITS REQ'D	RODENT  PROT'CT REQ'D	MULCH  RING DIAM.
						DIAM.	DEPTH	SIZE DIAM.	DEPTH				
	DECIDUOUS TREES (SHADE)												
CH*	Hackberry - Common	Celtis occidentalis	50'	2 1/2" CAL	B&B	28"	17"	52"	17"	GUY	4	NO	64"
KC*	Coffeetree - Kentucky 'Espresso'	Gymnocladus dioica	50'	2 1/2" CAL	B&B	28"	17"	52"	17"	GUY	4	NO	64"
FM*	Maple - Freeman 'Autumn Blaze'	Acer x freemanii 'Autumn Blaze'	50'	2 1/2" CAL	B&B	28"	17"	52"	17"	GUY	4	NO	64"
SM*	Maple - Sugar	Acer saccharum	50'	2 1/2" CAL	B&B	28"	17"	52"	17"	GUY	4	NO	64"
BO*	Oak - Burr	Quercus macrocarpa	40'	2 1/2" CAL	B&B	28"	17"	52"	17"	GUY	4	NO	64"
SWO*	Oak - Swamp White	Quercus bicolor	40'	2 1/2" CAL	B&B	28"	17"	52"	17"	GUY	4	NO	64"

DECIDUOUS TREES (ORNAMENTAL)													
SS*	Crabapple - 'Spring Snow'	Malus 'Spring Snow'	15'	2" CAL	B&B	24"	14"	48"	14"	BRACE	3	YES	BEDLIMITS
TCH*	Hawthorn - Thornless Cockspur	Crataegus crus-galli inermis	15'	2" CAL	B&B	24"	14"	48"	14"	BRACE	3	YES	BEDLIMITS
HH*	Hophornbeam	Ostrya virginiana	15'	2" CAL	B&B	24"	14"	48"	14"	BRACE	3	YES	BEDLIMITS

EVERGREENS													
T	Tamarack	Larix laricina	30'	7' HT	B&B	24"	14"	48"	14"	BRACE	3	NO	60"
ERC	Redcedar - Eastern	Juniperus virginiana	30'	6'HT	B&B	22"	13"	46"	13"		3	NO	60"
WS	Spruce - White	Picea glauca	40'	6'HT	B&B	22"	13"	46"	13"		3	NO	60"

SHRUBS													
DBH	Honeysuckle - Dwarf Bush	Dervilla lonicera	4'	18" HT	Cont.	10"	6.5"	34"	6.5"	n/a	n/a	NO	BEDLIMITS
GLS	Sumac - Gro Low	Rhus aromatic 'Gro Low'	4'	18" HT	Cont.	10"	6.5"	34"	6.5"	n/a	n/a	NO	BEDLIMITS

PERENNIALS, GRASSES & GROUNDCOVERS													
AP	Aster - Professor Kippenburg	Aster nov-beligii 'Professor Kippenburg'	1'-5"	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS
PC	Coneflower - Purple	Echinacea purpurea	4'	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS
ATC	Achillea Terra Cotta	Achillea Terra Cotta	16"	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS
GS	Goldenrod - Stiff	Solidago rigida	3'	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS
BMG	Grass - Blue Moore	Blue Moore Grass	3'	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS
KFG	Grass - Karl Forester Reed	Calamagrostis x acutiflora 'Karl Foerster'	4'	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS
PDG	Grass - Prairie Dropseed	Sporobolus heterolepis	2'	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS
LBG	Grass - Little bluestem	Schizachryium scoparium 'Carousel'	1'-5"	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS
SP	Salvia - Perennial	Salvia 'Victoria'	1'-5"	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS
AS	Sedum - Autumn Joy	Sedum x 'Autumn Joy'	2'	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS
BES	Susan - Black Eyed	Rudbeckia hirta	3'	#1	Cont.	9"	6"	18"	6"	n/a	n/a	NO	BEDLIMITS

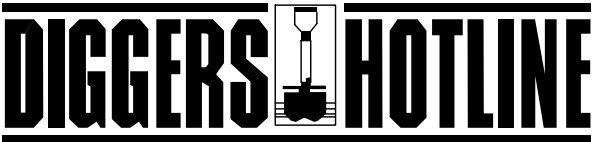
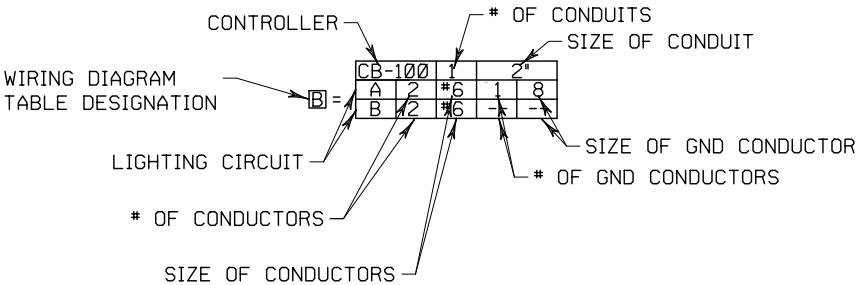
\*Require Watering Bag

2

2

LIGHTING PLAN LEGEND

- EXISTING LIGHT POLE LOCATION
- FLAG POLE LIGHTS
- FLAG POLE (BY OTHERS)
- EXISTING CONTROL CABINET FOR LOCAL LIGHTING CONTROL
- CONDUIT RIGID NONMETALLIC
- EXISTING 24"X42" NON-CONDUCTIVE PULL BOX



Call 811 3 Work Days Before You Dig  
or Toll Free (800) 242-8511  
Hearing Impaired TDD (800) 542-2289  
www.DiggersHotline.com

LIGHTING GENERAL NOTES

- VERIFY ALL OF THE INFORMATION SHOWN ON THE CONTRACT DRAWINGS WHICH WOULD AFFECT THE WORK UNDER THIS CONTRACT.
- ALL NEW CONDUITS, CABLE DUCTS, DIRECT BURIAL CABLES, AND ACCESSORIES ARE INDICATED DIAGRAMMATICALLY ON THE DRAWINGS. THE ACTUAL LOCATIONS IN THE FIELD SHALL MEET WITH APPROVAL OF THE ENGINEER.
- PERFORM THE ELECTRICAL WORK IN ACCORDANCE WITH WISDOT LATEST STANDARDS, THE SPECIAL PROVISIONS AND APPLICABLE SECTIONS OF THE WISDOT STANDARD SPECIFICATIONS (LATEST EDITION).
- INSTALL CONDUITS AT A MINIMUM 24" DEPTH BELOW GRADE AND POSITIONED IN THE FIELD TO AVOID CONFLICT WITH ROADWAY UNDERDRAINS AND OTHER EXISTING AND PROPOSED UTILITIES. INCREASE DEPTH OF DUCT AND CONDUIT AS REQUIRED AT NO ADDITIONAL COST. COORDINATE RACEWAY DEPTH WITH THE ELECTRICAL DETAILS AND THE ENGINEER.
- ALL CONDUIT USED FOR BORED CABLE RUNS UNDER PAVEMENTS SHALL BE POLYVINYL CHLORIDE (PVC), SCHEDULE 40 IN CONFORMANCE WITH SECTION 652.2.3 OF THE WISDOT SPECIFICATIONS.
- CAP CONDUIT ON BOTH ENDS UNTIL CABLING IS PLACED. FINISH AND INSTALL A MANUFACTURER APPROVED CAP FOR ALL CONDUITS. DUCT TAPE AND OTHER TAPE IS NOT ACCEPTABLE MEANS OF CONDUIT CAP. EXTEND CONDUIT ONE FOOT BEYOND THE BACK OF CURB EDGE OR TWO FEET BEYOND SHOULDER IF NO CURB.
- FURNISH AND INSTALL CABLE PULL STRINGS OR WIRES IN ALL CONDUITS. PULL WIRES MUST BE ACCESSIBLE AND ANCHORED AT EACH CONDUIT END FOR EASY FUTURE ACCESS.
- LIGHTING SYMBOLS ARE ENLARGED FOR CLARITY, USE CENTER OF SYMBOL TO LOCATE EQUIPMENT IN THE FIELD.
- PITCH CONDUIT TOWARDS PULL BOXES FOR DRAINAGE. IF THE CONTRACTOR IS UNABLE TO PROVIDE A PITCH TO PULL BOXES FOR PVC CONDUIT, DRILL ONE 1/4-INCH-DIAMETER DRAIN HOLE IN THE CONDUIT AT EACH LOW POINT AND PLACE SUMPS UNDER THE DRAIN HOLES.

LIGHTING PLANS PREPARED BY:



1555 N Rivercenter Dr, Suite 214  
Milwaukee, WI 53212  
(414) 944-6080



7/21/2016

(Date)

(Signature)

EXISTING 120/240 VOLT, 1-PHASE SERVICE PEDESTAL RACINE ROAD

LOCATION: STA: 26RSWC+50, 50' RT

EXISTING RACINE ROAD ROADWAY LIGHTING CABINET (CB-700) - CITY OF MENASHA

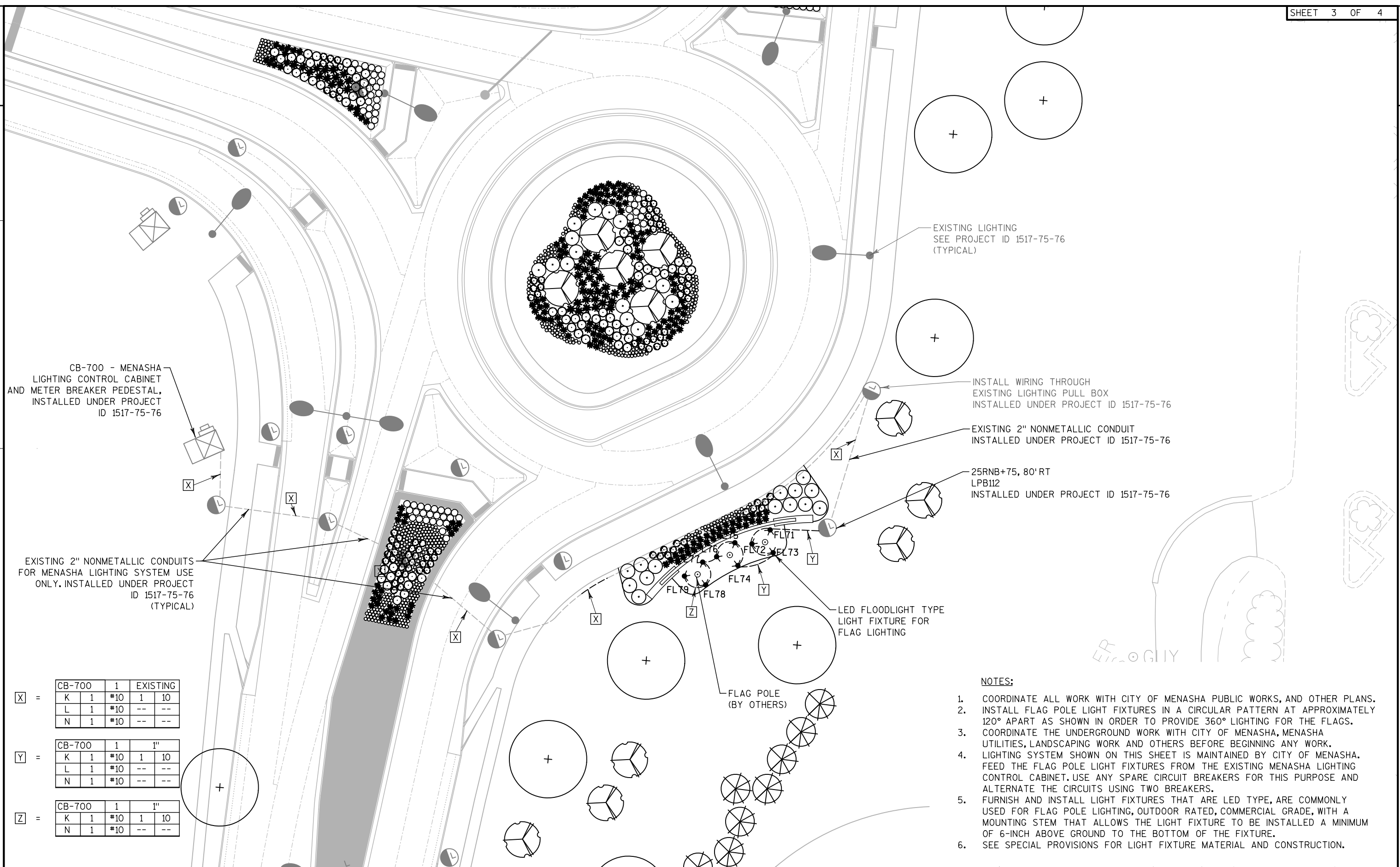
Electrical Panel: CB-700													
Rating: 100A				RACINE ROAD LIGHTING CABINET PANELBOARD						INSTALLED UNDER			
Voltage: 120/240 Volts, 1 Phase 3 Wire				MENASHA CABINET						CONTRACT: 1517-75-76			
Feeder Conductors: 2 AWG				LIGHTING LOAD									
Main Brkr: 100 A -2P (IN METER PEDESTAL)													
Ckt	Brkr Amps	Brkr Poles 1 or 2	Description	VA		A	B	VA		Description	Brkr Poles 1 or 2	Brkr Amps	Ckt
1	30	2	CIRCUIT A	91		X				CIRCUIT B	2	30	2
3					91		X						4
5	30	2	CIRCUIT C	182		X		91		CIRCUIT D	2	30	6
7					182		X		91				8
9	30	2	CIRCUIT E	273		X		273		CIRCUIT F	2	30	10
11					273		X		273				12
13	30	2	SPARE			X				SPARE	2	30	14
15							X						16
17	30	2	SPARE			X				SPARE	2	30	18
19							X						20
21	20	1	SPARE			X		1125		FLAG POLE LIGHTS	1	20	22
23	20	1	SPARE				X		1125	FLAG POLE LIGHTS	1	20	24
TOTALS				546	546			1489	1489	TOTALS			
BUS A: 2035													
BUS B: 2035													
LOAD: 4070													
4.07 KVA DEMAND													

NOTES:

1. LOADS SHOWN ARE FOR INFORMATION ONLY AND WILL VARY BY FIXTURE AND MANUFACTURER.
2. PANELBOARD IS EXISTING INSIDE LIGHTING CABINET INSTALLED UNDER A PREVIOUS CONTRACT.
3. DISTRIBUTE LOAD OF NEW FLAGPOLE LIGHT FIXTURES EVEN,Y BETWEEN PHASES.
4. WIRE NEW LIGHT FIXTURES TO SPARE BREAKERS; DON'T WIRE TO CIRCUITS WITH EXISTING ROADWAY LIGHTING LOAD.
5. USE 1-POLE CIRCUIT BREAKERS FOR 120V LIGHT FIXTURES, AND USE 2-POLE CIRCUIT BREAKERS FOR 240V LIGHT FIXTURES. DESIGN AND WIRING SHOWN ON PLANS IS BASED ON 120V LIGHT FIXTURE VOLTAGE.
6. USE A MINIMUM OF 2 CIRCUIT BREAKERS TO FEED NEW FLAGPOLE LIGHTS.

2

2



[X] =	CB-700	1	EXISTING
	K	1	#10 1 10
	L	1	#10 -- --
	N	1	#10 -- --
[Y] =	CB-700	1	1"
	K	1	#10 1 10
	L	1	#10 -- --
	N	1	#10 -- --
[Z] =	CB-700	1	1"
	K	1	#10 1 10
	L	1	#10 -- --
	N	1	#10 -- --

- NOTES:
- COORDINATE ALL WORK WITH CITY OF MENASHA PUBLIC WORKS, AND OTHER PLANS.
  - INSTALL FLAG POLE LIGHT FIXTURES IN A CIRCULAR PATTERN AT APPROXIMATELY 120° APART AS SHOWN IN ORDER TO PROVIDE 360° LIGHTING FOR THE FLAGS.
  - COORDINATE THE UNDERGROUND WORK WITH CITY OF MENASHA, MENASHA UTILITIES, LANDSCAPING WORK AND OTHERS BEFORE BEGINNING ANY WORK.
  - LIGHTING SYSTEM SHOWN ON THIS SHEET IS MAINTAINED BY CITY OF MENASHA. FEED THE FLAG POLE LIGHT FIXTURES FROM THE EXISTING MENASHA LIGHTING CONTROL CABINET. USE ANY SPARE CIRCUIT BREAKERS FOR THIS PURPOSE AND ALTERNATE THE CIRCUITS USING TWO BREAKERS.
  - FURNISH AND INSTALL LIGHT FIXTURES THAT ARE LED TYPE, ARE COMMONLY USED FOR FLAG POLE LIGHTING, OUTDOOR RATED, COMMERCIAL GRADE, WITH A MOUNTING STEM THAT ALLOWS THE LIGHT FIXTURE TO BE INSTALLED A MINIMUM OF 6-INCH ABOVE GROUND TO THE BOTTOM OF THE FIXTURE.
  - SEE SPECIAL PROVISIONS FOR LIGHT FIXTURE MATERIAL AND CONSTRUCTION.



2

2

FLAG POLE  
(BY OTHERS)

FL79

FL78

FL77

FL76

FL75

FL72

FL71

FL73

FL74

CABLE IN CONDUIT  
AS SHOWN ON OTHER  
PLANS (TYP.)LED FLOOD LIGHT TYPE LUMINAIRE  
FOR FLAG LIGHTING

## NOTES:

1. LIGHTING LAYOUT SHOWN IS BASED ON THE PREDATOR LIGHT FIXTURE MODEL AS MANUFACTURED BY HOLOPHANE. THE LUMINAIRE USED IS A MEDIUM LED FLOODLIGHT WITH CATALOG NUMBER PMLED-3-4K-10A-AS-45-1-K.
2. INSTALL FLAG POLE LIGHT FIXTURES IN A CIRCULAR PATTERN AT APPROXIMATELY 120° APART AS SHOWN IN ORDER TO PROVIDE 360° LIGHTING FOR THE FLAGS.
3. COORDINATE WITH CITY OF MENASHA REGARDING AIMING OF FIXTURES AND DEMONSTRATE FLOOD LIGHT OPERATION AND LIGHT LEVELS AFTER DARK. MAKE ANY NECESSARY ADJUSTMENTS TO SATISFY CITY OF MENASHA PERSON IN CHARGE AND OBTAIN THEIR APPROVAL OF THE INSTALLATION.
4. FLOOD LIGHT LUMINAIRE VOLTAGE AS DESIGNED IS 120V (PHASE-NEUTRAL).

DATE 26AUG16		E S T I M A T E O F Q U A N T I T I E S			
LINE					1517-75-87
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	619. 1000	Mobilization	EACH	1. 000	1. 000
0020	625. 0100	Topsoil	SY	1, 200. 000	1, 200. 000
0030	627. 0200	Mulching	SY	1, 200. 000	1, 200. 000
0040	628. 1104	Erosion Bales	EACH	10. 000	10. 000
0050	628. 1504	Silt Fence	LF	500. 000	500. 000
0060	628. 1520	Silt Fence Maintenance	LF	500. 000	500. 000
0070	628. 1905	Mobilizations Erosion Control	EACH	2. 000	2. 000
0080	628. 1910	Mobilizations Emergency Erosion Control	EACH	2. 000	2. 000
0090	628. 2004	Erosion Mat Class I Type B	SY	100. 000	100. 000
0100	628. 7010	Inlet Protection Type B	EACH	10. 000	10. 000
0110	628. 7015	Inlet Protection Type C	EACH	10. 000	10. 000
0120	629. 0210	Fertilizer Type B	CWT	1. 000	1. 000
0130	630. 0120	Seeding Mixture No. 20	LB	32. 000	32. 000
0140	632. 0101	Trees (species) (size) (root) 001. Hackberry - Common, B&B, 2 1/2-Inch CAL	EACH	4. 000	4. 000
0150	632. 0101	Trees (species) (size) (root) 003. Coffeetree - Kentucky 'Espresso', B&B, 2 1/2 - Inch CAL	EACH	3. 000	3. 000
0160	632. 0101	Trees (species) (size) (root) 005. Maple - Freeman 'Autumn Blaze', B&B, 2 1/2 - Inch CAL	EACH	12. 000	12. 000
0170	632. 0101	Trees (species) (size) (root) 007. Maple - Sugar, B&B, 2 1/2 - Inch CAL	EACH	3. 000	3. 000
0180	632. 0101	Trees (species) (size) (root) 009. Oak - Burr, B&B, 2 1/2 - Inch CAL	EACH	4. 000	4. 000
0190	632. 0101	Trees (species) (size) (root) 011. Oak - Swamp White, B&B, 2 1/2-Inch CAL	EACH	13. 000	13. 000
0200	632. 0101	Trees (species) (size) (root) 013. Crabapple - 'Spring Snow', B&B, 2 - Inch CAL	EACH	6. 000	6. 000
0210	632. 0101	Trees (species) (size) (root) 015. Hawthorn - Thornless Cockspur, B&B, 2 - Inch CAL	EACH	18. 000	18. 000
0220	632. 0101	Trees (species) (size) (root) 017. Hophornbeam, B&B, 2 - Inch CAL	EACH	3. 000	3. 000
0230	632. 0101	Trees (species) (size) (root) 021. Tamarack, B&B, 7 Foot Ht	EACH	8. 000	8. 000
0240	632. 0101	Trees (species) (size) (root) 023. Redcedar - Eastern, B&B, 6 Foot Ht	EACH	18. 000	18. 000
0250	632. 0101	Trees (species) (size) (root) 025. Spruce - White, B&B, 6 Foot Ht	EACH	16. 000	16. 000
0260	632. 0201	Shrubs (species) (size) (root) 027. Honeysuckle - Dwarf Bush, Cont., 18 Inch Ht	EACH	15. 000	15. 000
0270	632. 0201	Shrubs (species) (size) (root) 029. Sumac - Gro Low, Cont 18 Inch Ht	EACH	14. 000	14. 000
0280	632. 9101	Landscape Planting Surveillance and Care Cycles	EACH	24. 000	24. 000
0290	643. 0100	Traffic Control (project) (1517-75-87)	EACH	1. 000	1. 000
0300	652. 0210	Conduit Rigid Nonmetallic Schedule 40 1-Inch	LF	145. 000	145. 000
0310	655. 0615	Electrical Wire Lighting 10 AWG	LF	786. 000	786. 000
0320	655. 0620	Electrical Wire Lighting 8 AWG	LF	2, 338. 000	2, 338. 000
0330	SPV. 0060	Special 001. Perennial (Aster - Professor Kippenburg, Cont. #1)	EACH	111. 000	111. 000
0340	SPV. 0060	Special 002. Perennial (Coneflower - Purple, Cont. #1)	EACH	36. 000	36. 000

DATE 26AUG16		E S T I M A T E O F Q U A N T I T I E S				
LINE						1517-75-87
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY	
0350	SPV.0060	Speci al 003. Perennial (Achillea - Terra Cotta, Cont. #1)	EACH	257.000	257.000	
0360	SPV.0060	Speci al 004. Perenni al (Gol denrod - Sti ff, Cont. #1)	EACH	25.000	25.000	
0370	SPV.0060	Speci al 005. Perennial (Grass - Blue Moore, Cont. #1)	EACH	35.000	35.000	
0380	SPV.0060	Speci al 006. Perennial (Grass - Karl Forester Reed, Cont. #1)	EACH	64.000	64.000	
0390	SPV.0060	Speci al 007. Perennial (Grass - Prair ie Dropseed , Cont. #1)	EACH	116.000	116.000	
0400	SPV.0060	Speci al 008. Perennial (Grass - Li ttle Bluestem, Cont. #1)	EACH	81.000	81.000	
0410	SPV.0060	Speci al 009. Perenni al (Sal via - Perenni al , Cont. #1)	EACH	135.000	135.000	
0420	SPV.0060	Speci al 010. Perennial (Sedum - Autumn Joy, Cont. #1)	EACH	91.000	91.000	
0430	SPV.0060	Speci al 011. Perenni al (Susan - Black Eyed, Cont. #1)	EACH	66.000	66.000	
0440	SPV.0060	Speci al 012. Fl agpol e 25' HT	EACH	2.000	2.000	
0450	SPV.0060	Speci al 013. Fl agpol e 30' HT	EACH	1.000	1.000	
0460	SPV.0060	Speci al 014. Wateri ng Bag	EACH	66.000	66.000	
0470	SPV.0060	Speci al 015. Masonry Wal l	EACH	1.000	1.000	
0480	SPV.0060	Speci al 350. Fl ag Pol e Li ght Fi xture	EACH	9.000	9.000	
0490	SPV.0090	Speci al 001. Al umi num Edgi ng	LF	135.000	135.000	
0500	SPV.0105	Speci al 001. Survey Project (1517-75-87)	LS	1.000	1.000	
0510	SPV.0180	Speci al 002. Shredded Bark Mul ch	SY	1,293.000	1,293.000	
0520	SPV.0180	Speci al 003. Crushed Red Grani te Mul ch	SY	85.000	85.000	

3

MOBILIZATION

		619.1000 MOBILIZATION
CATEGORY	PROJECT NUMBER	EACH
1000	1517-75-87	1
TOTALS		1

TRAFFIC CONTROL PROJECT

		643.0100 TRAFIC CONTROL (1517-75-87)
CATEGORY	PROJECT NUMBER	EACH
1000	1517-75-87	1
TOTALS		1

3

EROSION CONTROL

			628.1104 EROSION BALES	628.1504 SILT FENCE	628.1520 SILT FENCE MAINTENANCE	628.1905 MOBILIZATIONS EROSION CONTROL	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL	628.2004 EROSION MAT CLASS I TYPE B	628.7010 INLET PROTECTION TYPE B	628.7015 INLET PROTECTION TYPE C
CATEGORY	PROJECT NUMBER	UNDISTRIBUTED	EACH	LF	LF	EACH	EACH	SY	EACH	EACH
1000	1517-75-87	UNDISTRIBUTED	10	500	500	2	2	100	10	10
TOTALS			10	500	500	2	2	100	10	10

RESTORATION

			625.0100 TOPSOIL	627.0200 MULCHING	629.0210 FERTILIZER TYPE B	630.0120 SEED MIXTURE NO. 20
CATEGORY	PROJECT NUMBER	UNDISTRIBUTED	SY	SY	CWT	LB
1000	1517-75-87	UNDISTRIBUTED	1200	1200	1	32
TOTALS			1200	1200	1	32

SURVEY PROJECT (1517-75-87)

		SPV.0105.001 SURVEY PROJECT (1517-75-87)
CATEGORY	PROJECT NUMBER	EACH
1000	1517-75-87	1
TOTALS		1

3

3

WIRING

WIS 441 Lighting - Contract 1517-75-87

CATEGORY	SYSTEM	CB/POLE/PB	FROM	CB/POLE/PB	TO	# OF CONDUITS	# OF PHASE CONDUCTORS	# OF NEUTRAL CONDUCTORS	# OF GROUND CONDUCTORS	652.0210 CONDUIT RIGID NONMETALLIC SCHEDULE 40 1- INCH LF	655.0615 ELECTRICAL WIRE LIGHTING 10 AWG LF	655.0620 ELECTRICAL WIRE LIGHTING 8 AWG LF
1100	FLAG POLE LIGHTING	CB-700	STA 26+35	LPB101	STA 26+65	1	2	1	1	-	46	138
		LPB101	STA 26+65	LPB102	STA 26+65	1	2	1	1	-	67	201
		LPB102	STA 26+65	LPB103	STA 23+18	1	2	1	1	-	55	165
	CITY OF MENASHA	LPB103	STA 23+18	LPB104	STA 22+91	1	2	1	1	-	71	213
		LPB104	STA 22+91	LPB107	STA 25+02	1	2	1	1	-	223	669
		LPB107	STA 25+02	LPB112	STA 25+75	1	2	1	1	-	85	255
		LPB112	STA 25+75	FL71	SEE PLANS	1	2	1	1	25	39	117
		FL71	SEE PLANS	FL72	SEE PLANS	1	2	1	1	15	25	75
		FL72	SEE PLANS	FL73	SEE PLANS	1	2	1	1	20	30	90
		FL73	SEE PLANS	FL74	SEE PLANS	1	2	1	1	15	25	75
		FL74	SEE PLANS	FL75	SEE PLANS	1	2	1	1	15	25	75
		FL75	SEE PLANS	FL76	SEE PLANS	1	2	1	1	15	25	75
		FL76	SEE PLANS	FL77	SEE PLANS	1	2	1	1	15	25	75
		FL73	SEE PLANS	FL78	SEE PLANS	1	2	1	1	15	25	75
		FL78	SEE PLANS	FL79	SEE PLANS	1	1	1	1	10	20	40
PROJECT TOTAL										145	786	2338

LUMINAIRES

WIS 441 Lighting - Contract 1517-75-87

CATEGORY	SYSTEM	LOCATION	STATION	SPV.0060.350 FLAG POLE LIGHT FIXTURE SPECIAL
				EACH
1100	FLAG POLE LIGHTING	FL71	SEE PLANS	1
		FL72	SEE PLANS	1
		FL73	SEE PLANS	1
		FL74	SEE PLANS	1
		FL75	SEE PLANS	1
		FL76	SEE PLANS	1
		FL77	SEE PLANS	1
		FL78	SEE PLANS	1
		FL79	SEE PLANS	1
PROJECT TOTAL				9

ALL ITEMS ARE CATEGORY 1100 UNLESS OTHERWISE SPECIFIED.

CATEGORY 1400			PLANTING SHEET NUMBERS										TOTALS
BID ITEMS	SYM.	COMMON NAME	1	2	3	4	5	6	7	8	9	10	EACH
DECIDUOUS TREES (SHADE)													
632.0101.001	CH*	Hackberry - Common		1								3	4
632.0101.003	KC*	Coffeetree - Kentucky 'Espresso'										3	3
632.0101.005	FM*	Maple - Freeman 'Autumn Blaze'	3	1				2		2		4	12
632.0101.007	SM*	Maple - Sugar		1								2	3
632.0101.009	BO*	Oak - Burr		3							1		4
632.0101.011	SWO*	Oak - Swamp White	4					5		1	3		13
DECIDUOUS TREES (ORNAMENTAL)													
632.0101.013	SS*	Crabapple - 'Spring Snow'			2							4	6
632.0101.015	TCH*	Hawthorn - Thornless Cockspur		3	3						7	5	18
632.0101.017	HH*	Hophornbeam										3	3
EVERGREENS													
632.0101.021	T	Tamarack		3								5	8
632.0101.023	ERC	Redcedar - Eastern		5							10	3	18
632.0101.025	WS	Spruce - White		3							13		16
SHRUBS													
632.0201.027	DBH	Honeysuckle - Dwarf Bush			15								15
632.0201.029	GLS	Sumac - Gro Low			14								14

\* Use Water Bag

CATEGORY 1400			PLANTING SHEET NUMBERS										TOTALS
BID ITEMS	SYM.	COMMON NAME	1	2	3	4	5	6	7	8	9	10	EACH
PERENNIALS, GRASSES & GROUNDCOVERS													
SPV.0060.001	AP	Aster - Professor Kippenburg			111								111
SPV.0060.002	PC	Coneflower - Purple			16	10	10						36
SPV.0060.003	ATC	Achillea - Terra Cotta			39	109	29		80				257
SPV.0060.004	GS	Goldenrod - Stiff			13		12						25
SPV.0060.005	BMG	Grass - Blue Moore			13	16			6				35
SPV.0060.006	KFG	Grass - Karl Forester Reed			34		14		16				64
SPV.0060.007	PDG	Grass - Prairie Dropseed			81		17		18				116
SPV.0060.008	LBG	Grass - Little bluestem			50	20			11				81
SPV.0060.009	SP	Salvia - Perennial			49				86				135
SPV.0060.010	AS	Sedum - Autumn Joy			12	24	22		33				91
SPV.0060.011	BES	Susan - Black Eyed			32	17	10		7				66

3

3

LANDSCAPE ITEMS

		632.9101 LANDSCAPE PLANTING SURVEILLANCE AND CARE CYCLES	SPV.0090.001 ALUMINUM EDGING	SPV.0180.002 SHREDDED BARK MULCH	SPV.0180.003 CRUSHED RED GRANITE MULCH
CATEGORY	PROJECT NUMBER	EACH	LF	SY	SY
1400	1517-75-87	24	135	1,293	85
TOTALS		24	135	1293	85

		SPV.0060.012 FLAGPOLE 25' HT	SPV.0060.013 FLAGPOLE 30' HT	SPV.0060.014 WATERING BAG
CATEGORY	PROJECT NUMBER	EACH	EACH	EACH
1400	1517-75-87	2	1	66
TOTALS		2	1	66

MASONRY WALL

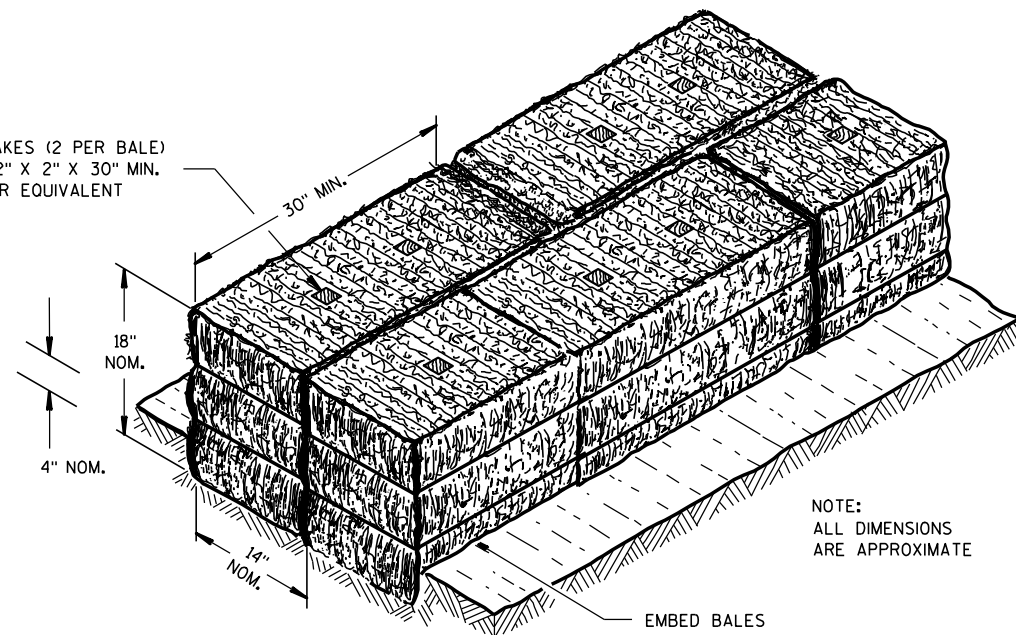
		SPV.0060.015 MASONRY WALL
CATEGORY	PROJECT NUMBER	EACH
4000	1517-75-87	1
TOTALS		1



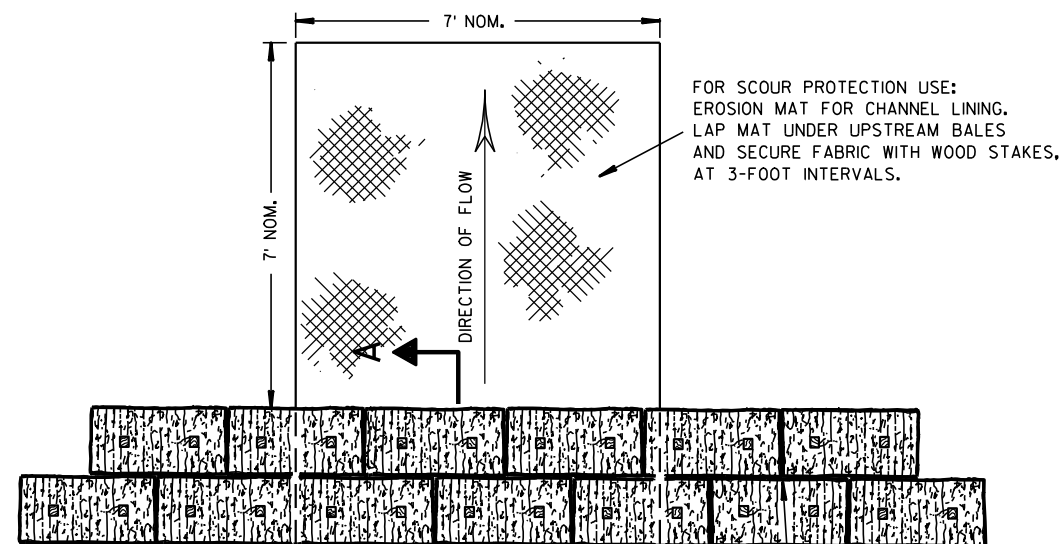
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
09B02-09	CONDUIT
14A02-01	TREE PLANTING DETAIL
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-03A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

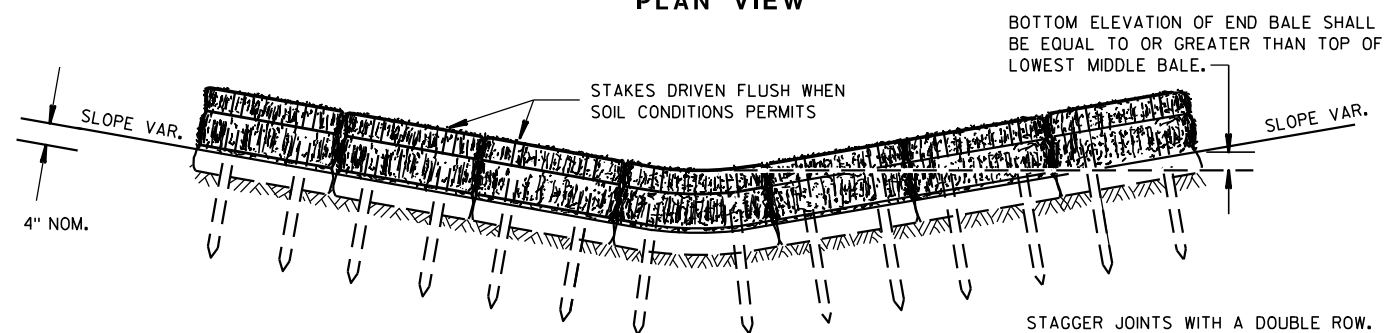
WOOD STAKES (2 PER BALE)  
NOMINAL 2" X 2" X 30" MIN.  
LENGTH OR EQUIVALENT



SECTION A-A



PLAN VIEW



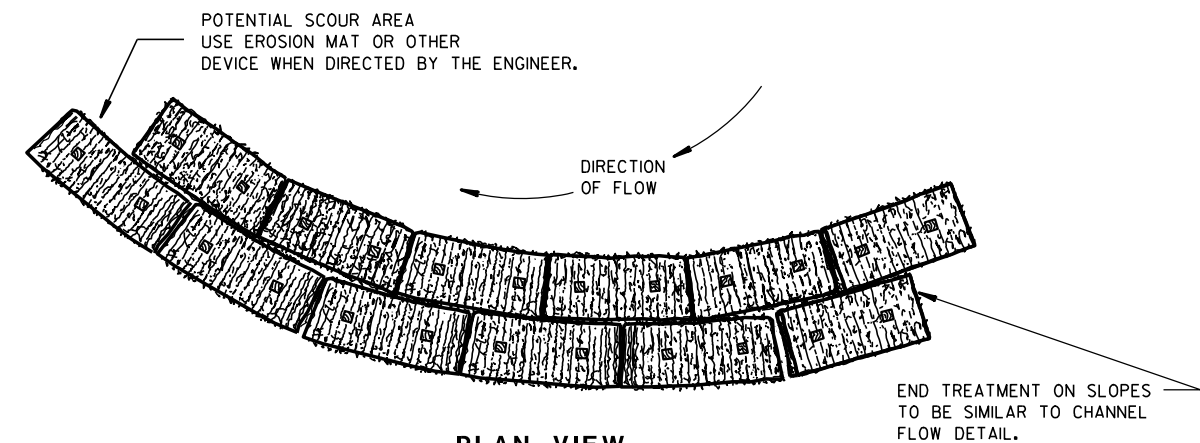
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

## GENERAL NOTES

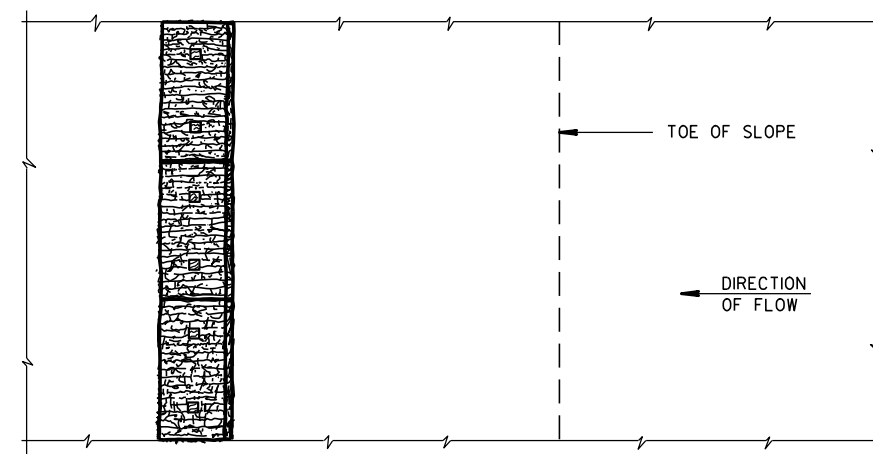
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

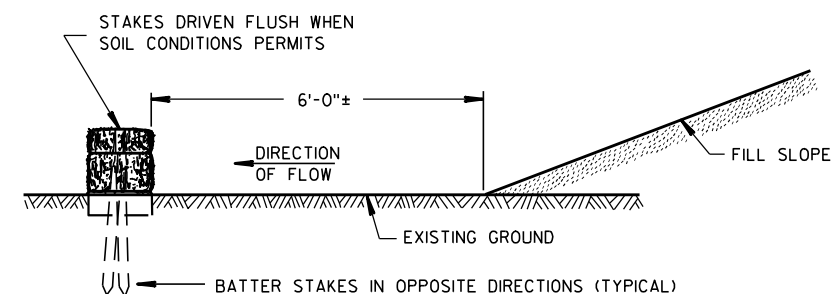


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02  
DATE

FHWA

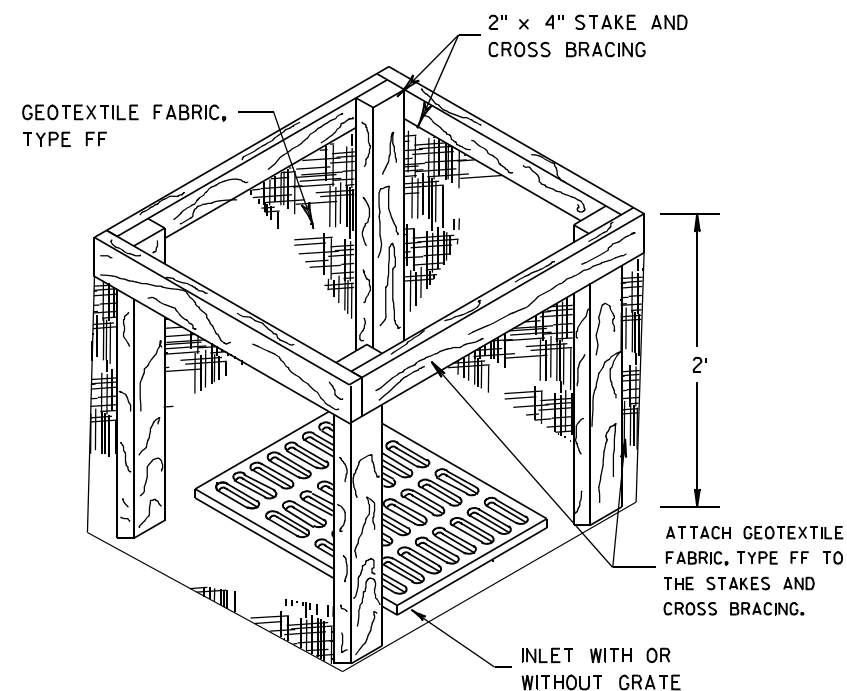
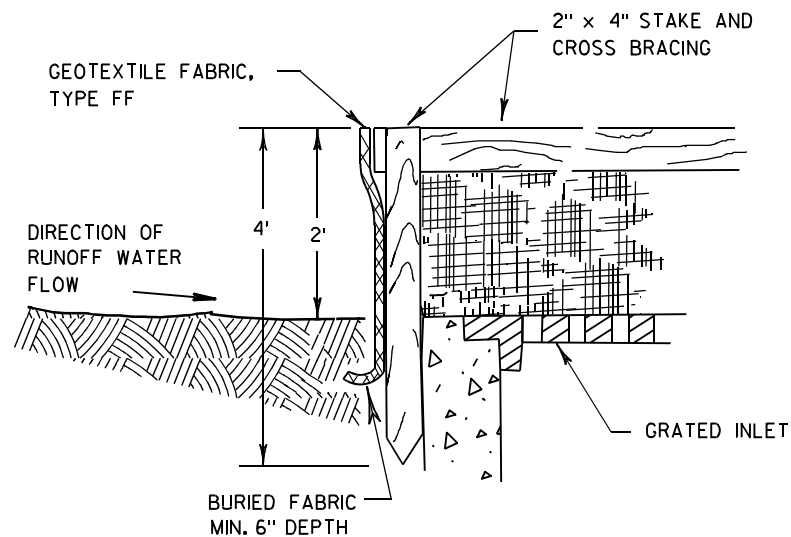
/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



<b>SILT FENCE</b>	
<b>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</b>	
<b>APPROVED</b> <u>4-29-05</u> DATE	<u>/S/ Beth Cannestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



**INLET PROTECTION, TYPE A**

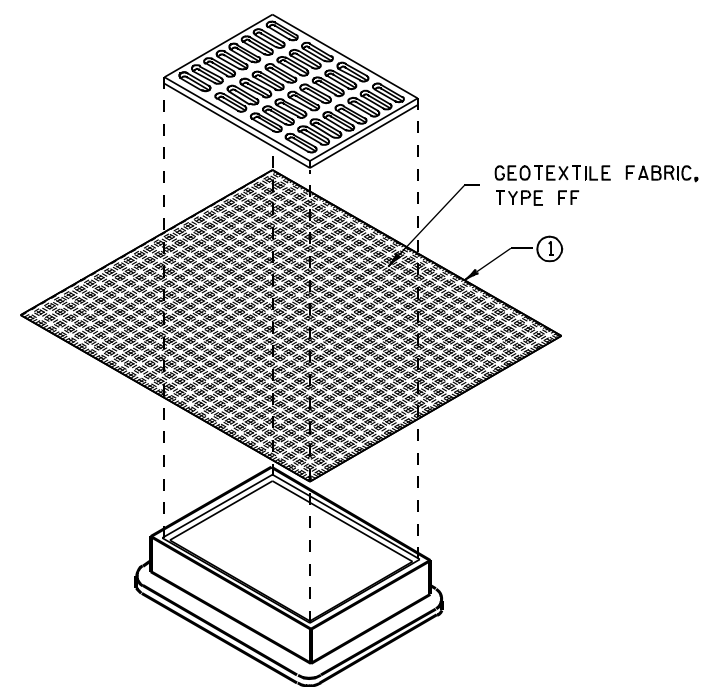
**GENERAL NOTES**

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

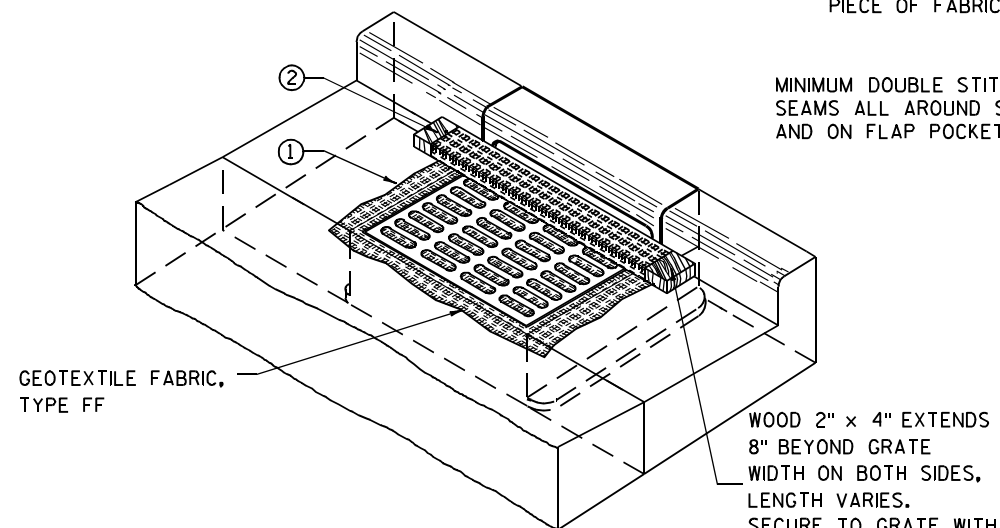
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

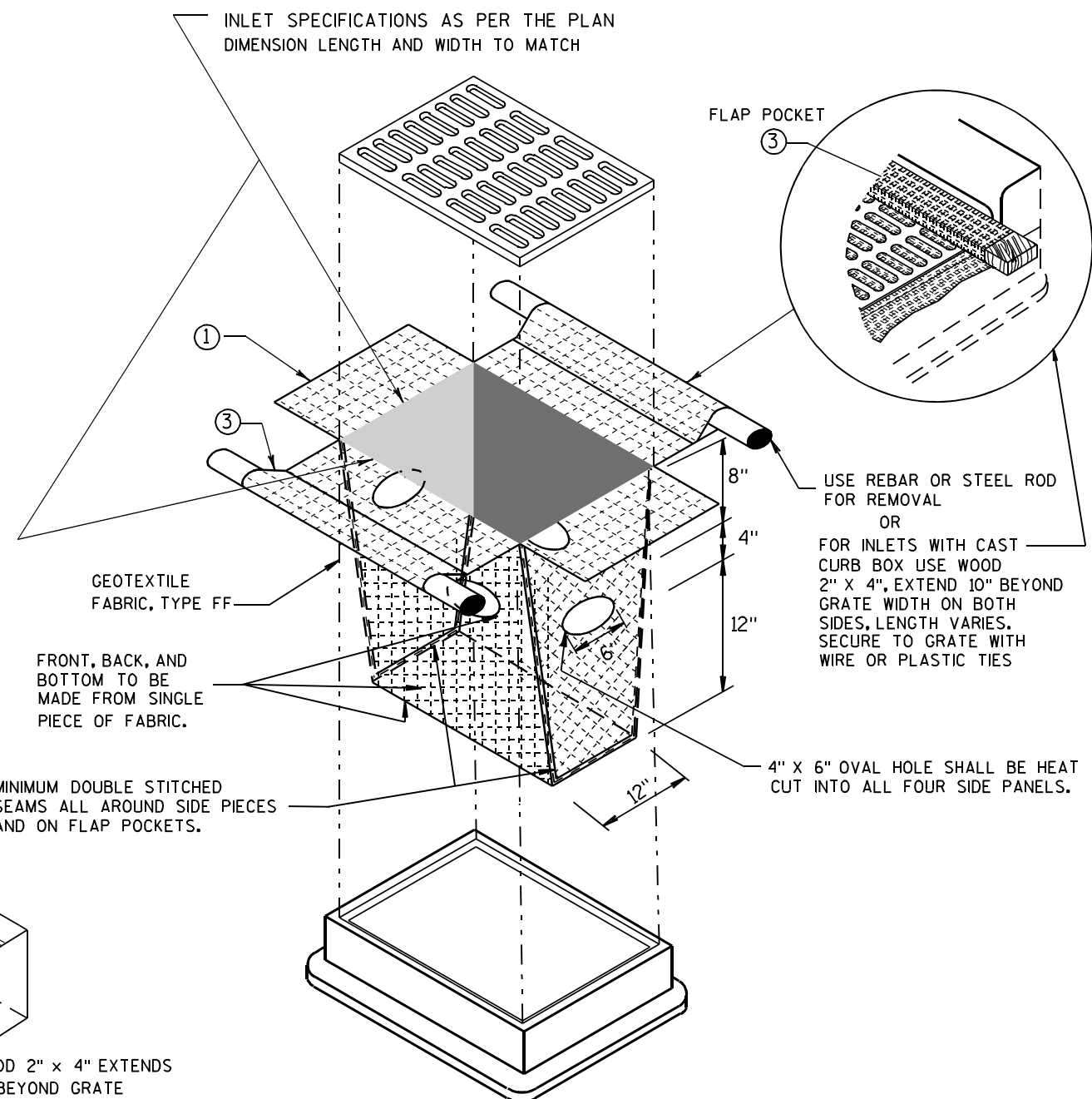
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**TYPE D**

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLower THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



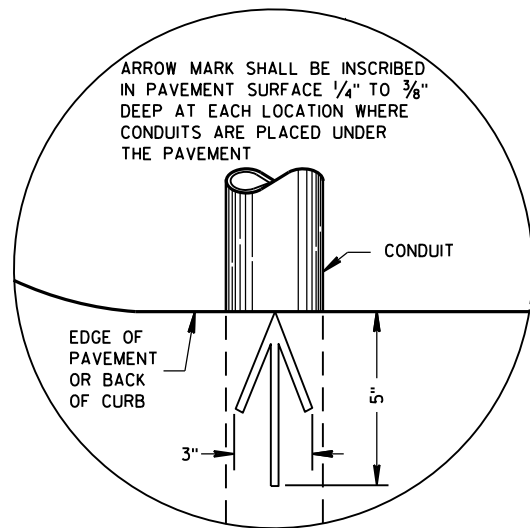
**INLET PROTECTION, TYPE D**

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

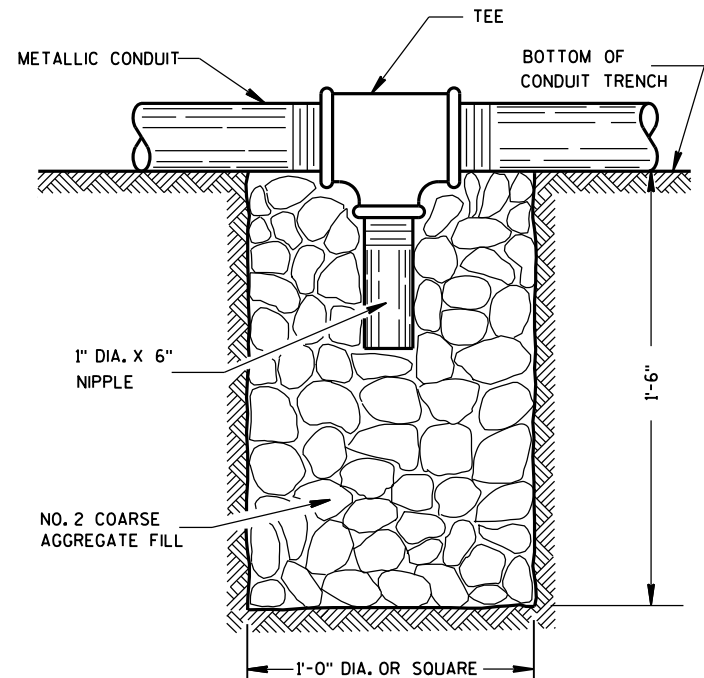
**INLET PROTECTION  
TYPE A, B, C, AND D**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
10/16/02 /S/ Beth Cannestra  
DATE  
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

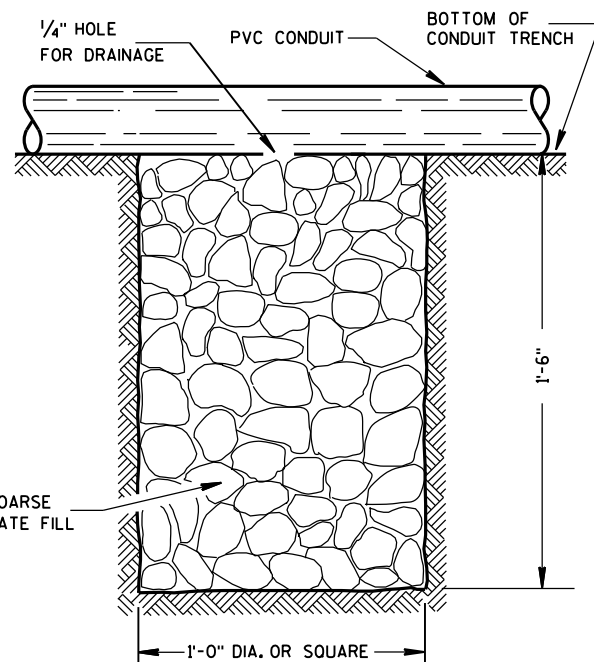


PLAN VIEW  
ARROW MARK



NOTE: INSTALL AT LOCATIONS WHERE METALLIC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR METALLIC CONDUIT



NOTE: INSTALL AT LOCATIONS WHERE PVC CONDUITS CANNOT BE PITCHED TO DRAIN INTO A PULL BOX.

DRAIN SUMP FOR PVC CONDUIT

## GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

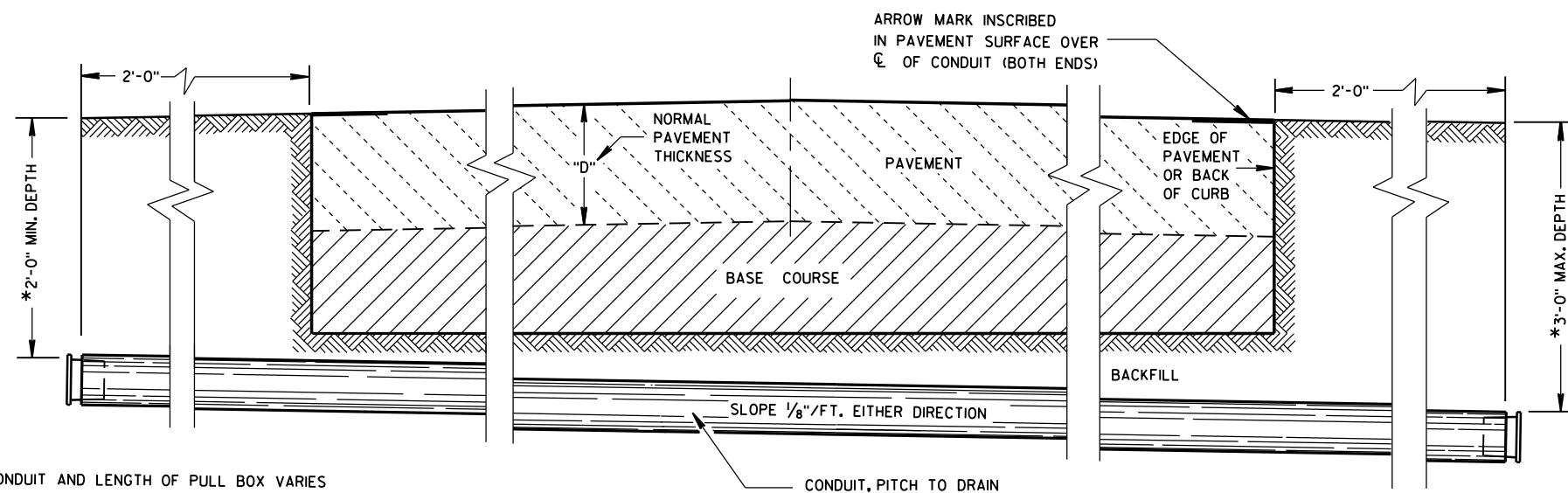
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.



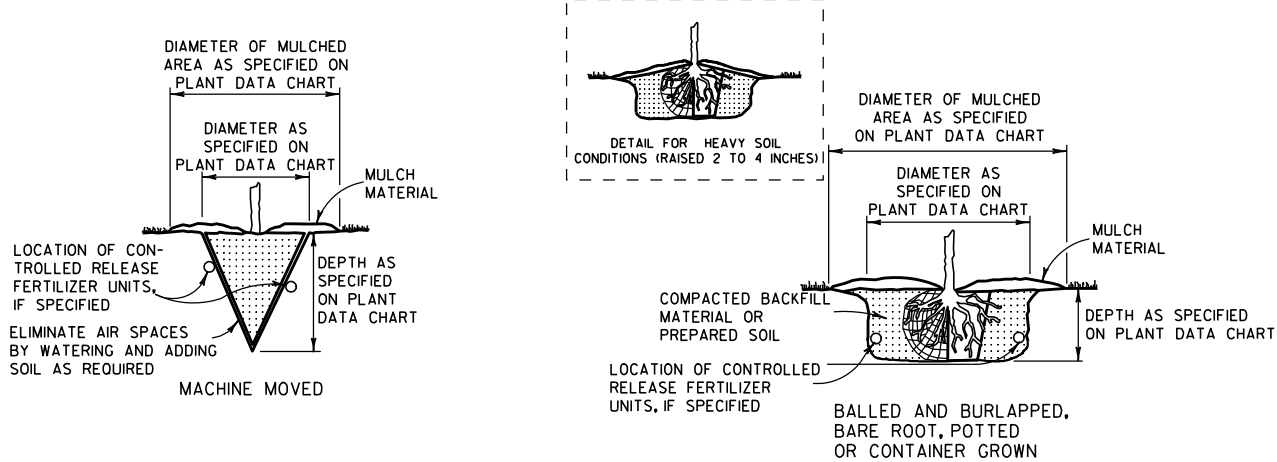
\*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

SIDE ELEVATION  
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

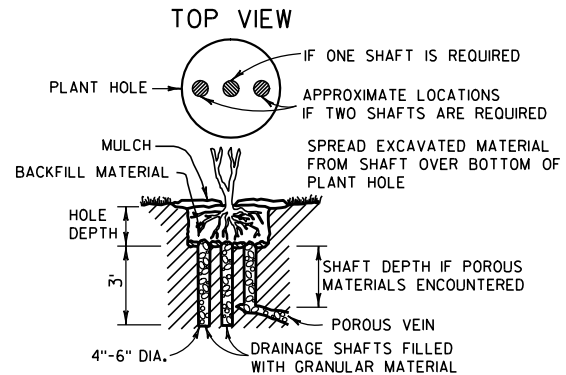
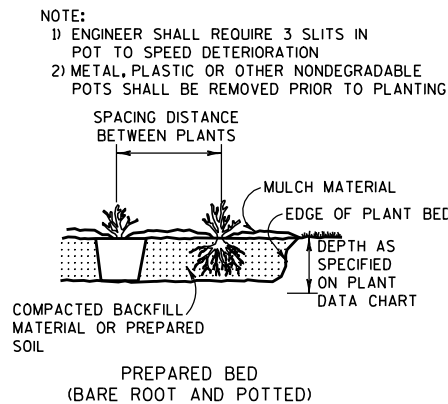
## CONDUIT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
June, 2015 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL ENGINEER  
FHWA

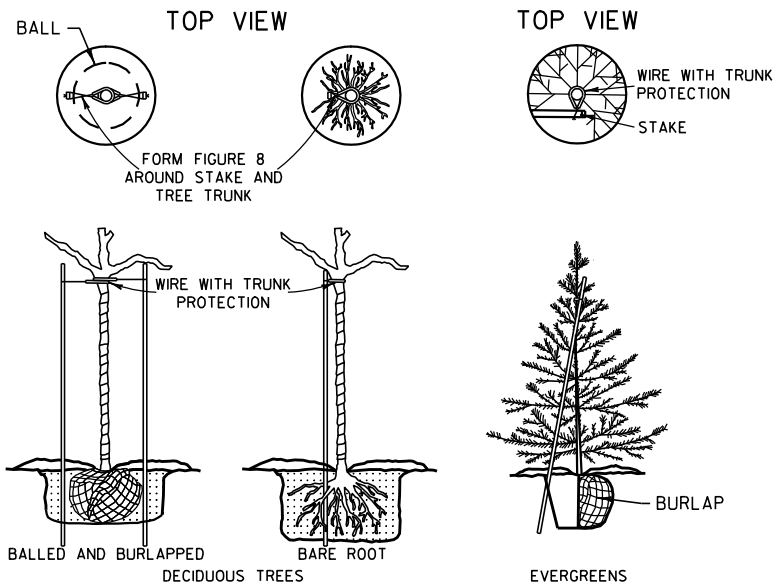
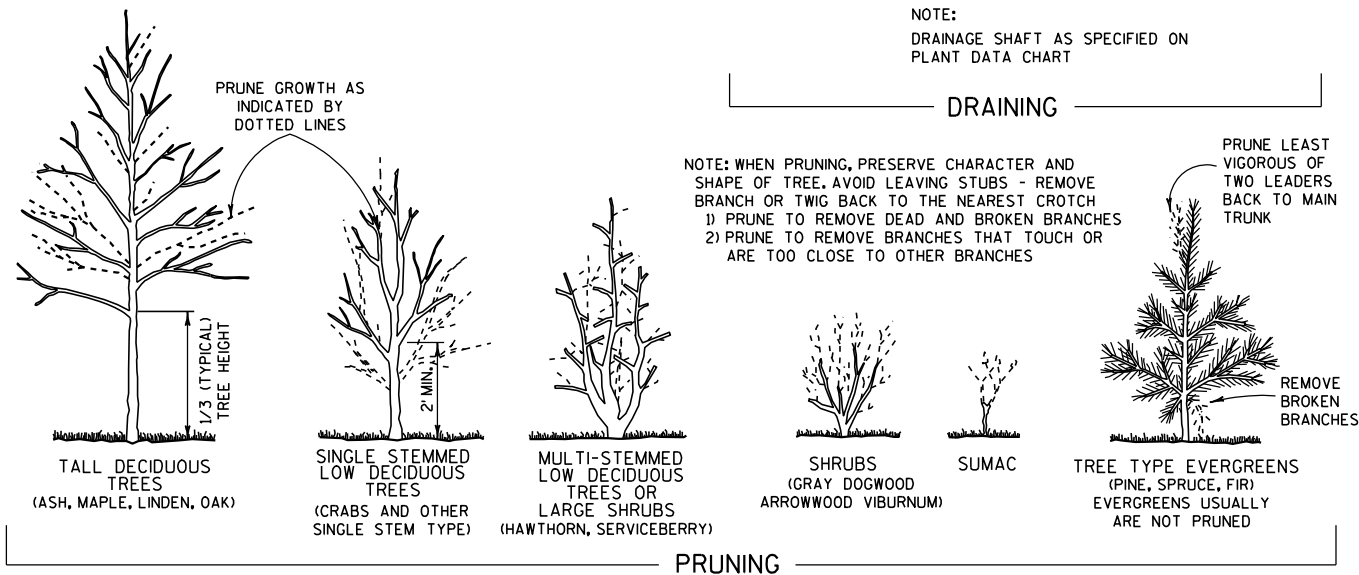
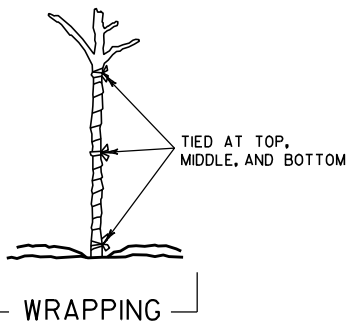
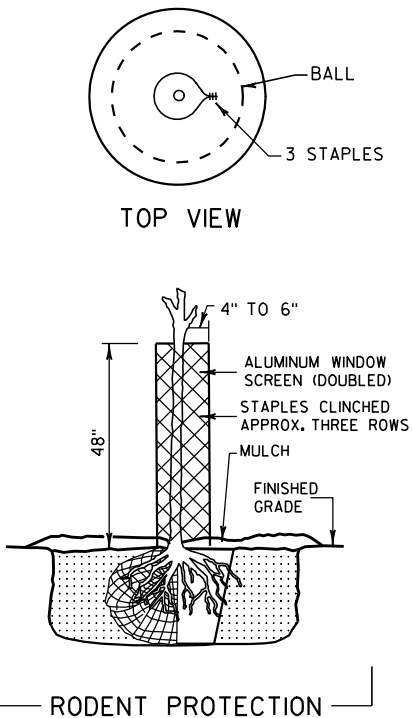
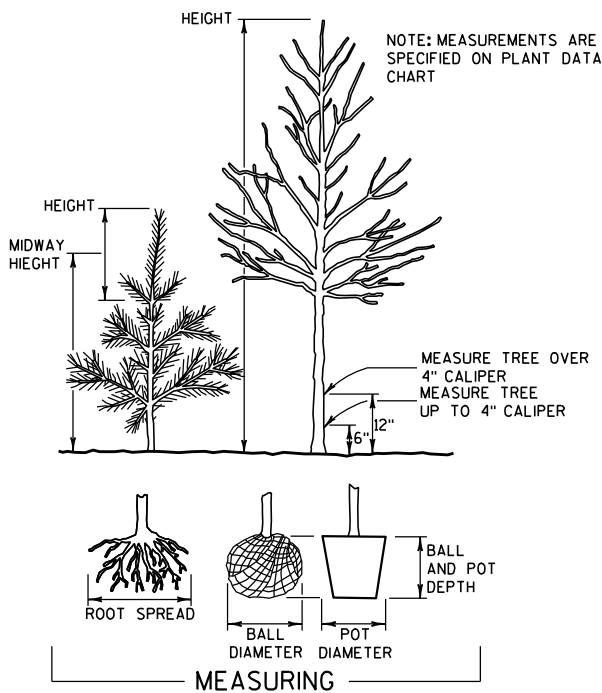


ACCOMMODATE ROOTS (SMOOTH AND STAGHORN SUMAC)

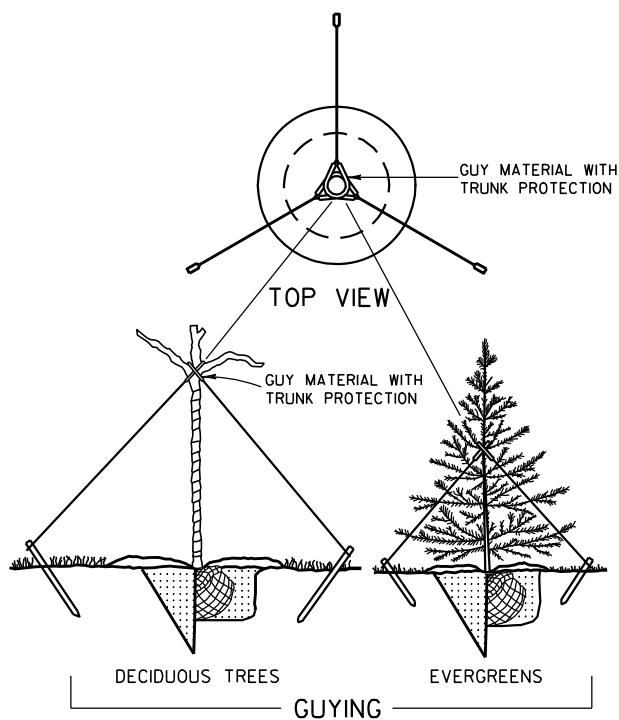


NOTE:  
DRAINAGE SHAFT AS SPECIFIED ON PLANT DATA CHART

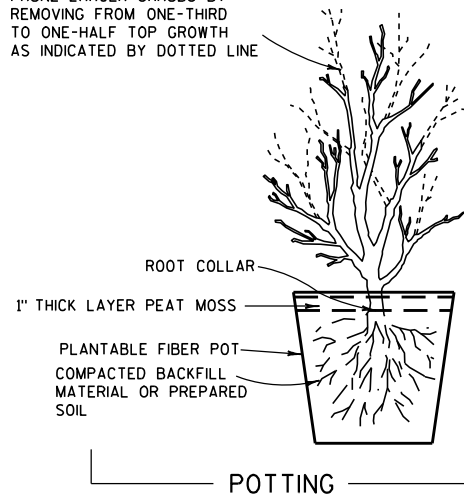
DRAINING



NOTE: BRACING STAKE  
1) SHALL BE DRIVEN INTO THE GROUND AS CLOSE TO THE TREE AS POSSIBLE WITHOUT DAMAGING THE BRANCHES.  
2) MAY BE DRIVEN AT SUCH AN ANGLE THAT IT DOES NOT PENETRATE THE BALL OR POT.  
3) SHALL NOT PROTRUDE ABOVE THE TOP OF THE TREE; AND  
4) SHALL HAVE A HOLE NEAR THE TOP TO HOLD THE WIRE IN PLACE.



PRUNE LARGER SHRUBS BY REMOVING FROM ONE-THIRD TO ONE-HALF TOP GROWTH AS INDICATED BY DOTTED LINE



NOTES

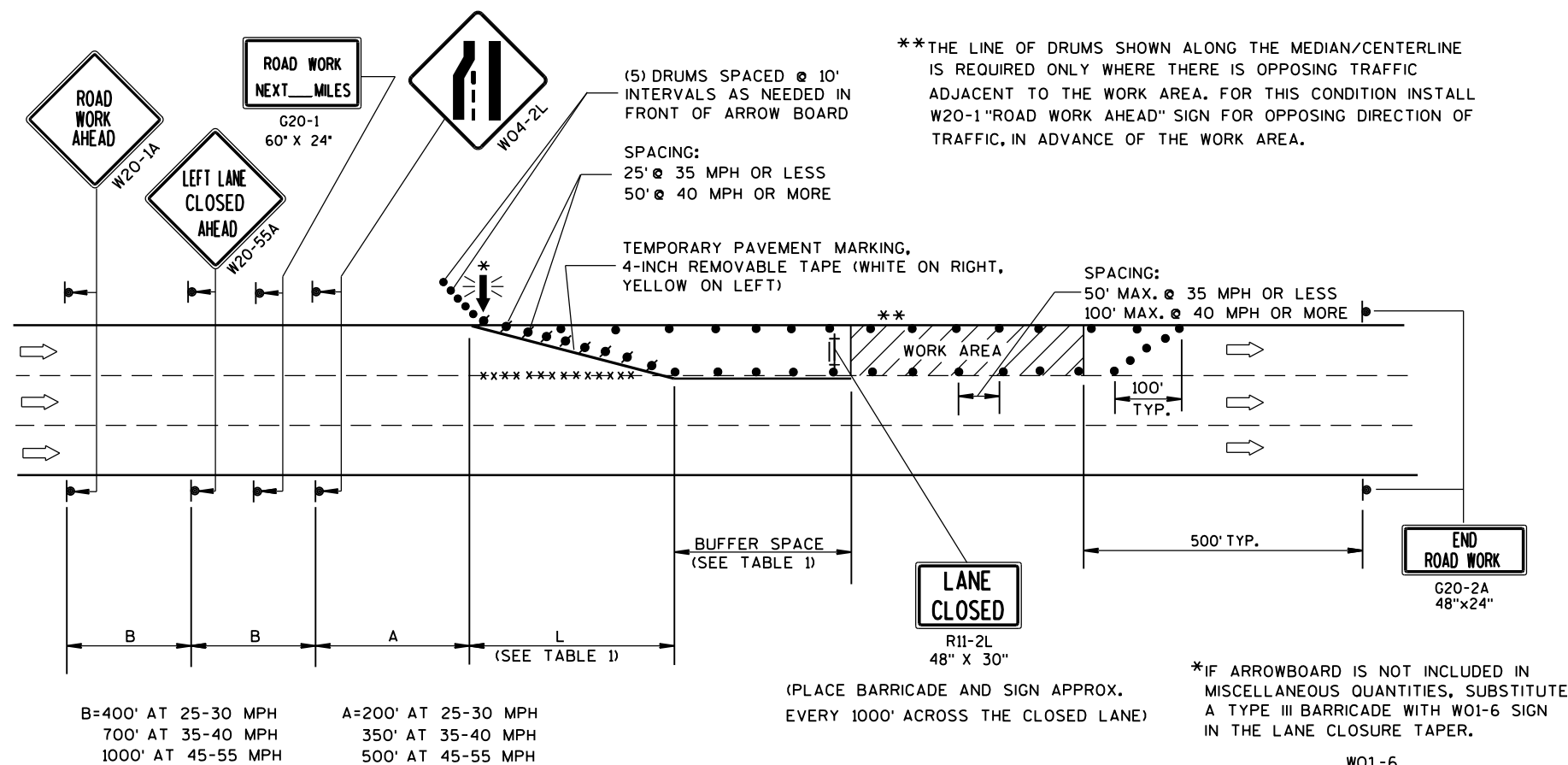
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

BRACING, WRAPPING, GUYING, RODENT PROTECTION, FERTILIZER AND MULCH SHALL BE USED ONLY WHEN SPECIFIED ON THE PLANT DATA CHART (PART OF PLAN) OR SPECIAL PROVISIONS.

TREE PLANTING DETAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
4/11/94 /S/ Rory L. Rhinesmith  
DATE CHIEF METHODS DEVELOPMENT ENGINEER  
FHWA





GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

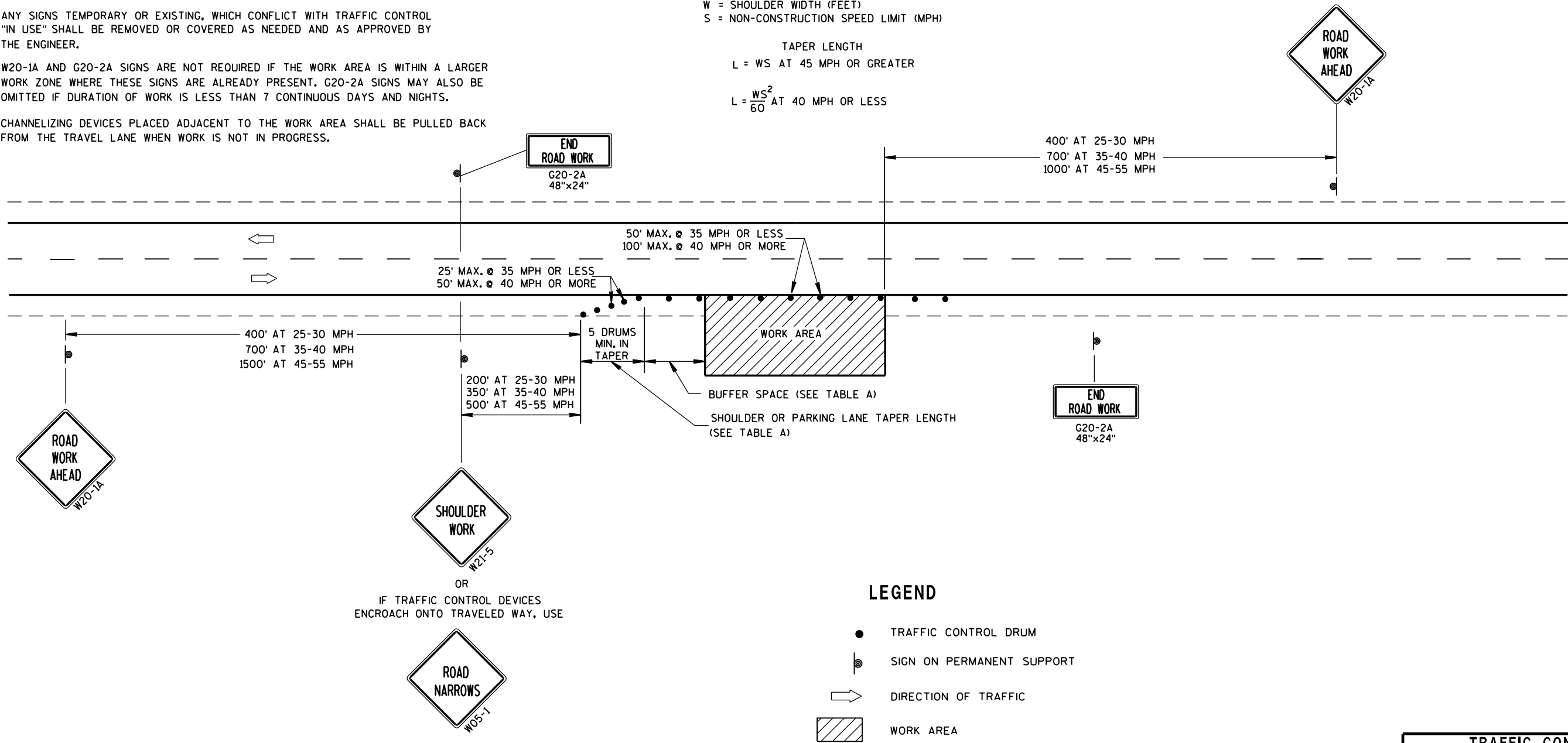
SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S	W	4	6	8	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET)  
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH  
L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$  AT 40 MPH OR LESS

SHOULDER TAPER LENGTH =  $\frac{1}{3}L$



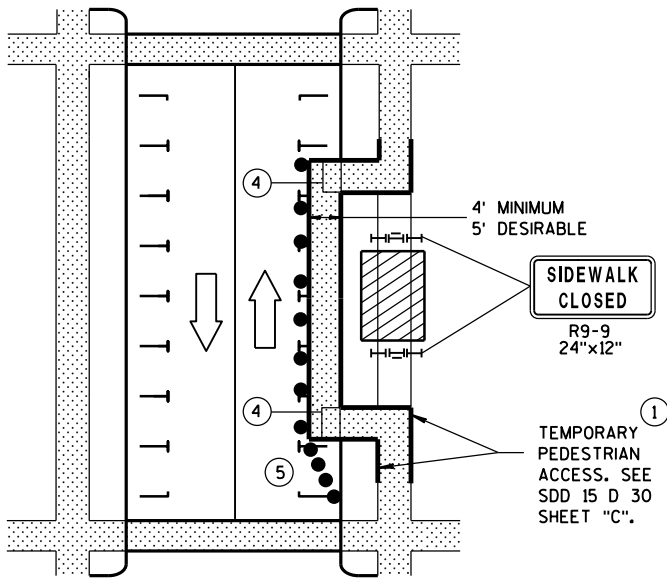
LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED July 14, 2015 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

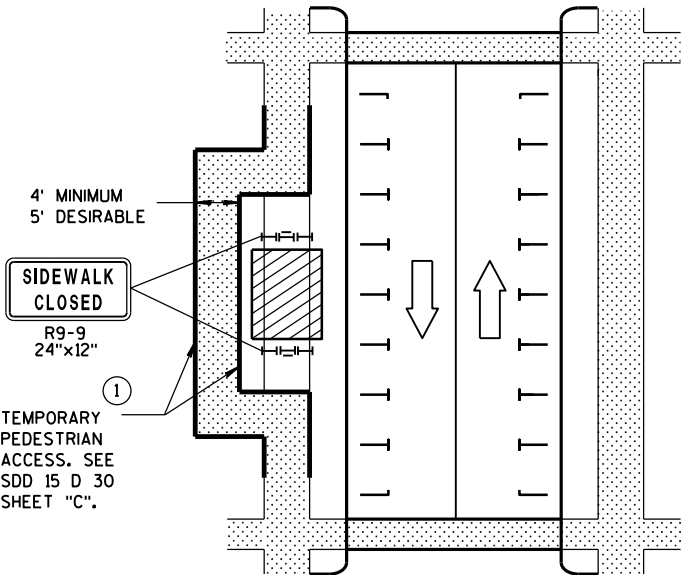


NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

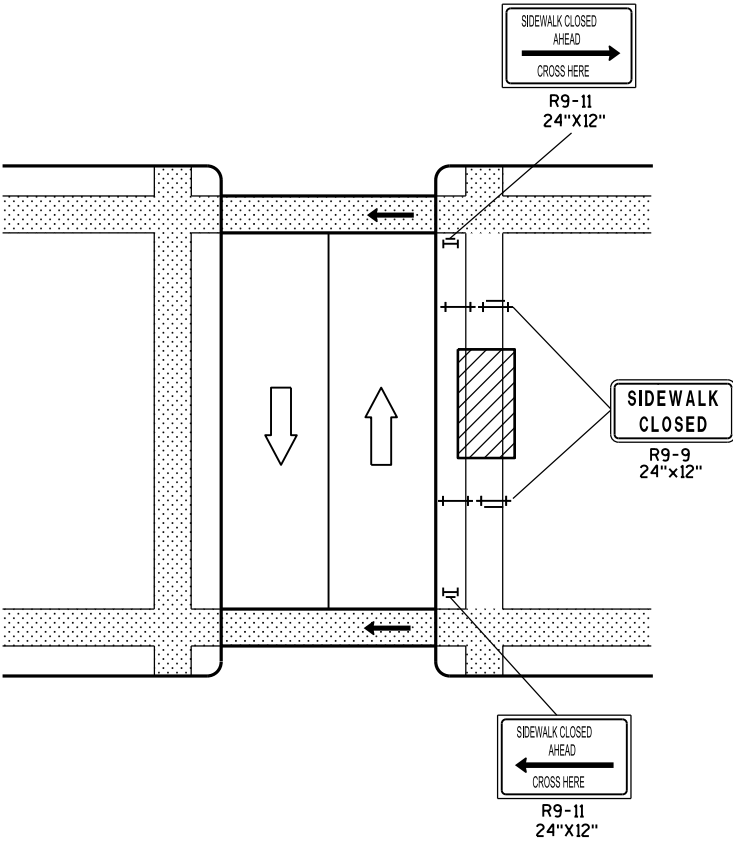


MID-BLOCK SIDEWALK CLOSURE  
IN PARKING LANE

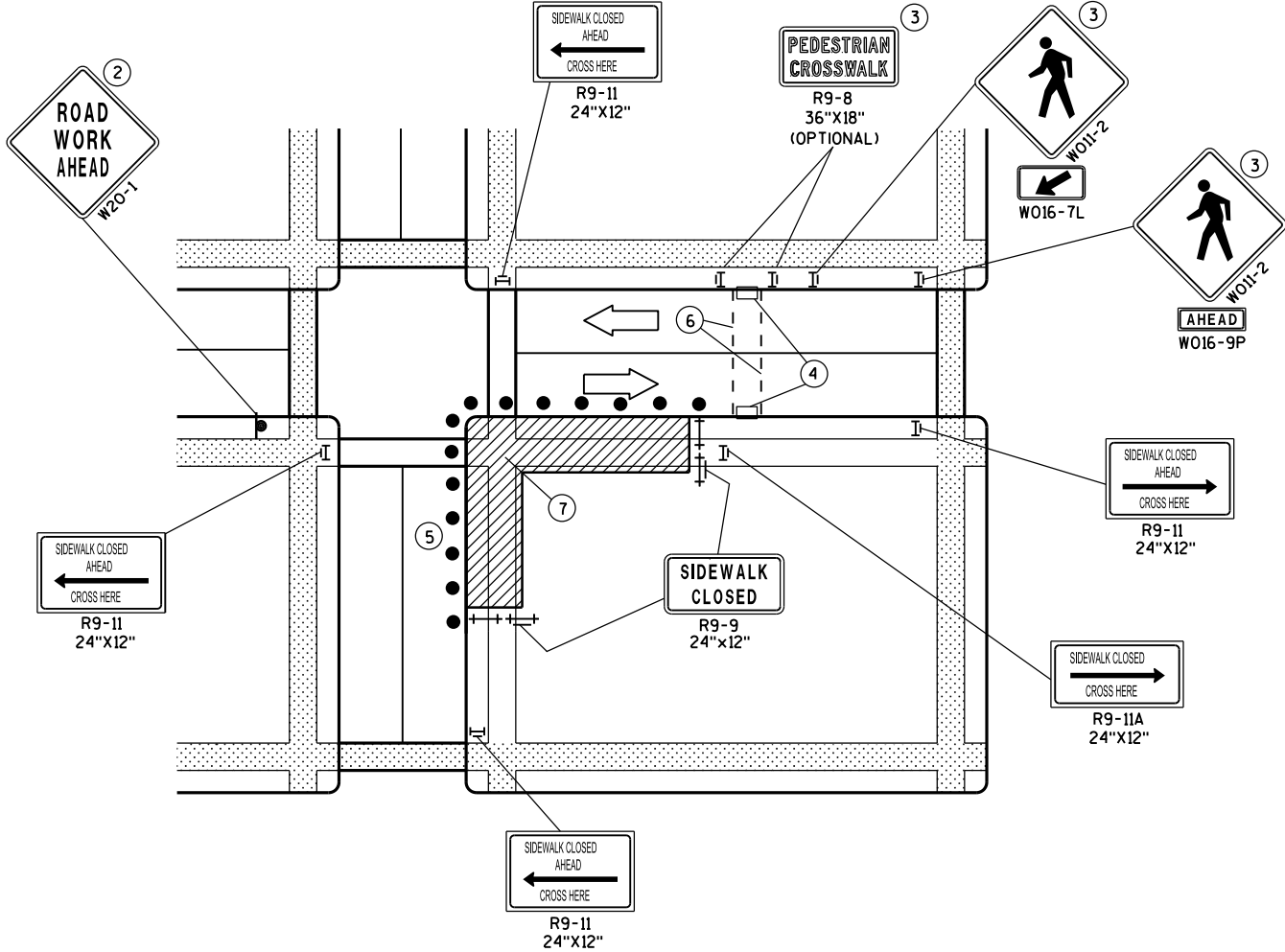
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

FOR NIGHTTIME CLOSURE USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

- ① IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE.
- ② "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.
- ③ IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND W011-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.
- ④ TEMPORARY CURB RAMPS. SEE SDD 15 D 30 SHEET "B".
- ⑤ DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.
- ⑥ TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.
- ⑦ LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

LEGEND

	SIGN ON PERMANENT SUPPORT		DIRECTION OF TRAFFIC
	UNDER PEDESTRIAN TRAFFIC		TRAFFIC CONTROL DRUM
	WORK AREA		
	PEDESTRIAN CHANNELIZATION DEVICE		
	TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)		
	TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)		

TRAFFIC CONTROL,  
PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



## ***Wisconsin Department of Transportation***

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