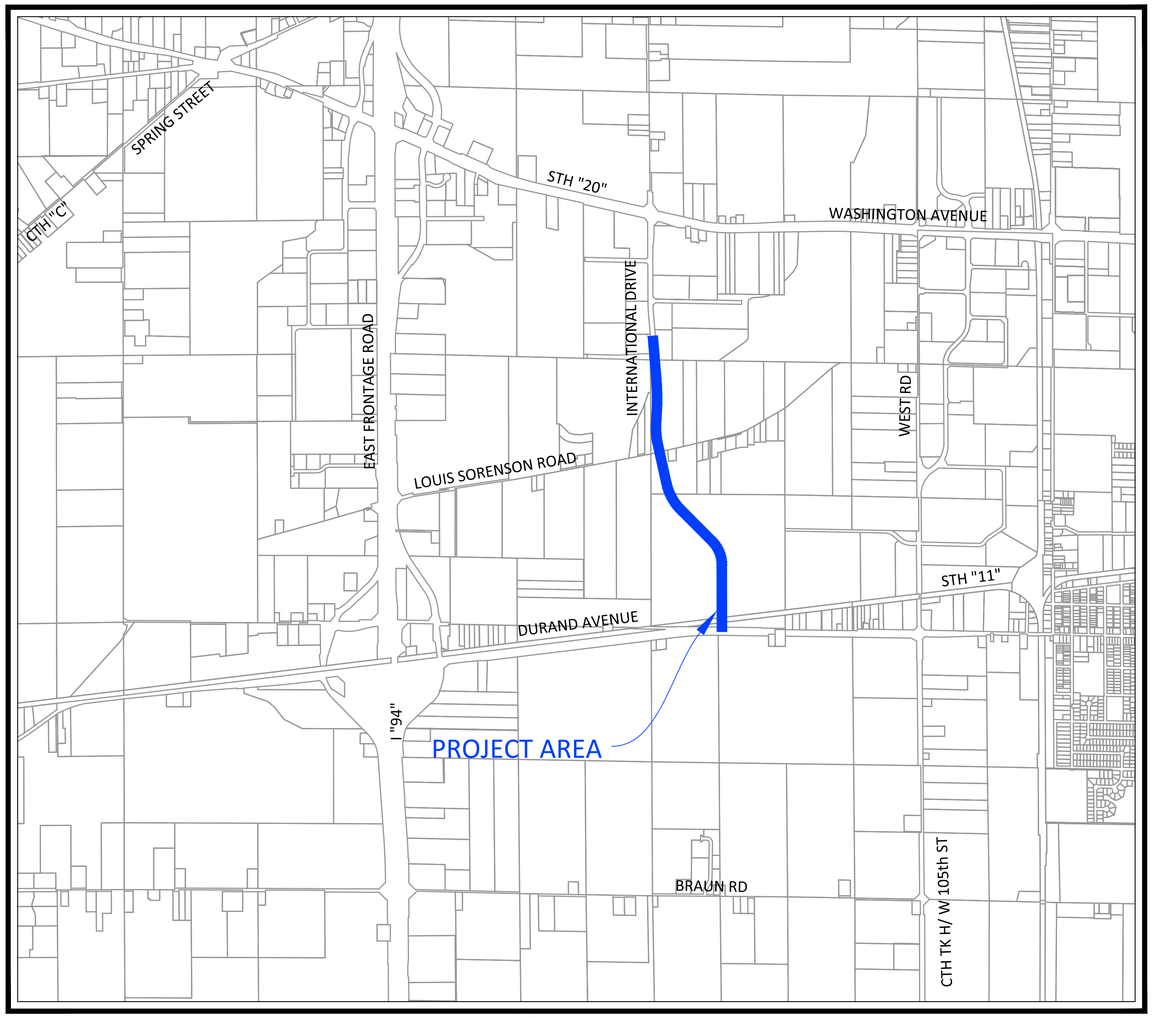
INTERNATIONAL DRIVE WATER MAIN

PROJECT W-18-7

RACINE WATER & WASTE WATER UTILITY

RACINE COUNTY, WISCONSIN

ORIGINAL PLAN SET
IS IN COLOR



LOCATION MAP

TOWN	RANGE	SECTION (s)
T3N	R22E	17, 20

N
W E
S

0 750 1500 3000

SCALE IN FEET

COPYRIGHT © 2017 RUEKERT & MIELKE, INC.

LEGEND - CIVIL ENGINEERING DRAWINGS

- GENERIC MANHOLE
- VENT GENERIC VENT
- SEWER MANHOLE
- CO CLEAN OUT
- SEPTIC SEPTIC SYSTEM
- SEPC SEPTIC TANK COVER
- SEPV SEPTIC VENT
- MWEL MONITORING WELL
- WATER VALVE
- HYDRANT
- YARD HYDRANT
- WATER VALVE MANHOLE
- WATER CURB STOP
- WELL WELL
- SPRINKLER HEAD
- STORM CATCH BASIN
- STORM INLET
- GAS MANHOLE
- GAS VALVE
- GAS METER
- GAS VENT GAS VENT
- GVT GAS VALVE TEST
- GAS CURB STOP
- ELECTRIC BOX
- ELECTRIC MANHOLE
- ELECTRIC METER
- TELEPHONE BOX
- TELEPHONE MANHOLE
- CABLE BOX
- UTILITY POLE
- GUY GUY WIRE
- LIGHT POLE
- YARD LIGHT
- TRAFFIC SIGNAL
- PULL BOX
- ?" SAN SWR SANITARY SEWER
- ?" WM WATER MAIN
- ?" STO SWR STORM SEWER
- G UNDERGROUND GAS MAIN (SURVEYED)
- G UNDERGROUND GAS MAIN (FROM GIS)
- E UNDERGROUND ELECTRIC (SURVEYED)
- E UNDERGROUND ELECTRIC (FROM GIS)
- T UNDERGROUND TELEPHONE
- FO UNDERGROUND FIBER OPTIC
- C UNDERGROUND TV CABLE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL SHOULDER
- EDGE OF CONCRETE
- DITCH
- TOE OF SLOPE
- TOP OF BANK
- FENCE
- GUARD RAIL
- ? CULVERT (SIZE & TYPE NOTED)
- RAILROAD TRACKS
- EDGE OF TREES & BRUSH
- FP FLAG POLE
- MB MAIL BOX
- P POST
- DP DELINEATOR POST
- MP MARKER POST
- SIGN
- PILE PILING
- A/C AIR CONDITIONER
- RAILROAD SIGNAL FLASHER
- RRSB RAILROAD SIGNAL BOX
- RR RAILROAD SPIKE
- STUMP
- DECIDUOUS TREE
- DECIDUOUS MULTIPLE TRUNK TREE
- CONIFEROUS MULTIPLE TRUNK TREE
- CONIFEROUS TREE
- CP CONTROL POINT
- IP IRON PIPE
- IR IRON ROD
- SECTION CORNER
- MONUMENT
- TEST BORING
- PK PK NAIL
- DECORATIVE ROCK
- REVISION LABEL
- WETLANDS
- WZ 000.00 WATER ELEVATION
- PROPOSED SILT FENCE
- PROPOSED SANITARY SEWER (PLAN VIEW)
- PROPOSED STORM SEWER (PLAN VIEW)
- PROPOSED WATER MAIN
- PROPOSED SLOPE INTERCEPT
- PROPOSED DETECTABLE WARNING FIELD
- PROPOSED SANITARY MANHOLE
- PROPOSED SANITARY RISER
- PROPOSED WATER VALVE
- PROPOSED HYDRANT
- PROPOSED YARD HYDRANT
- PROPOSED WATER VALVE MANHOLE
- PROPOSED WATER MAIN REDUCER
- PROPOSED WATER MAIN OFFSET
- PROPOSED WATER MAIN PLUG
- PROPOSED WATER MAIN PLUG W/AIR RELEASE
- PROPOSED WATER MAIN CROSS
- PROPOSED WATER MAIN TEE
- PROPOSED WATER MAIN BEND (ANGLE NOTED)
- PROPOSED LOCATOR BOX
- PROPOSED STORM INLET/CATCH BASIN
- PROPOSED STORM MANHOLE
- PROPOSED DITCH CHECK
- PROPOSED INLET PROTECTION

CHECKED BY: _____

Ruekert • Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

PROJECT NO. 8022–10024.200

www.ruekertmielke.com

Aug 01, 2018 12:09pm
G:\CSD-2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\
RN2234-COVER.dwg
XREFS: G:\SYW\BNLOGO-BRANCH OFFICES.dwg; ..\..\10014_Foxconn Water Supply\dwg\Basemap.dwg; ..\..\10014_Foxconn Water Supply\dwg\Basemap-row.dwg
RN2234

INTERNATIONAL DRIVE WATER MAIN

PROJECT W-18-7

RACINE WATER & WASTE WATER UTILITY

RACINE COUNTY, WISCONSIN

SHEET INDEX

SHEET NO.	LOCATION	DESCRIPTION
	MISCELLANEOUS	
INDEX–01		INDEX SHEET
	TRAFFIC CONTROL	
TC–01		PROPOSED TRAFFIC CONTROL
	WATER MAIN	
WM–01R–2	IN: INTERNATIONAL DRIVE PROPOSED WATER MAIN	FROM: STH 11 / DURAND AVE TO: 700' NORTH OF STH 11 / DURAND AVE
WM–02	IN: INTERNATIONAL DRIVE PROPOSED WATER MAIN	FROM: 700' NORTH OF STH 11 / DURAND AVE TO:1700' NORTH OF STH 11/DURAND AVE
WM–03	IN: INTERNATIONAL DRIVE PROPOSED WATER MAIN	FROM: 1700' NORTH OF STH 11/DURAND AVE TO:1300' SOUTH OF LOUIS SORENSON RD
WM–04	IN: INTERNATIONAL DRIVE PROPOSED WATER MAIN	FROM:1300' SOUTH OF LOUIS SORENSON RD TO:300' SOUTH OF LOUIS SORENSON RD
WM–05R–1	IN: INTERNATIONAL DRIVE PROPOSED WATER MAIN	FROM: 300' SOUTH OF LOUIS SORENSON RD TO: 700' NORTH OF LOUIS SORENSON RD
WM–06R–2	IN: INTERNATIONAL DRIVE PROPOSED WATER MAIN	FROM: 700' NORTH OF LOUIS SORENSON RD TO: 1700' NORTH OF LOUIS SORENSON RD
WM–07R–2	IN: INTERNATIONAL DRIVE PROPOSED WATER MAIN	FROM: 1700' NORTH OF LOUIS SORENSON RD TO: 2300' NORTH OF LOUIS SORENSON RD
WM–08R–1	IN: LOUIS SORENSON ROAD PROPOSED WATER MAIN	FROM: 300' WEST OF INTERNATIONAL DRIVE TO: 300' EAST OF INTERNATIONAL DRIVE
	CONSTRUCTION DETAILS	
DT–01R–1 – DT–05		CONSTRUCTION DETAILS

REVISIONS	
7	
6	
5	
4	
3	
2	
1	
TOWN:	RANGE: SECTION(s):

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN

INDEX SHEET

RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

© COPYRIGHT 2018
RUEKERT & MIELKE INC.

DESIGNED BY: CMG

DRAFTED BY: AK1

CHECKED BY: KRW

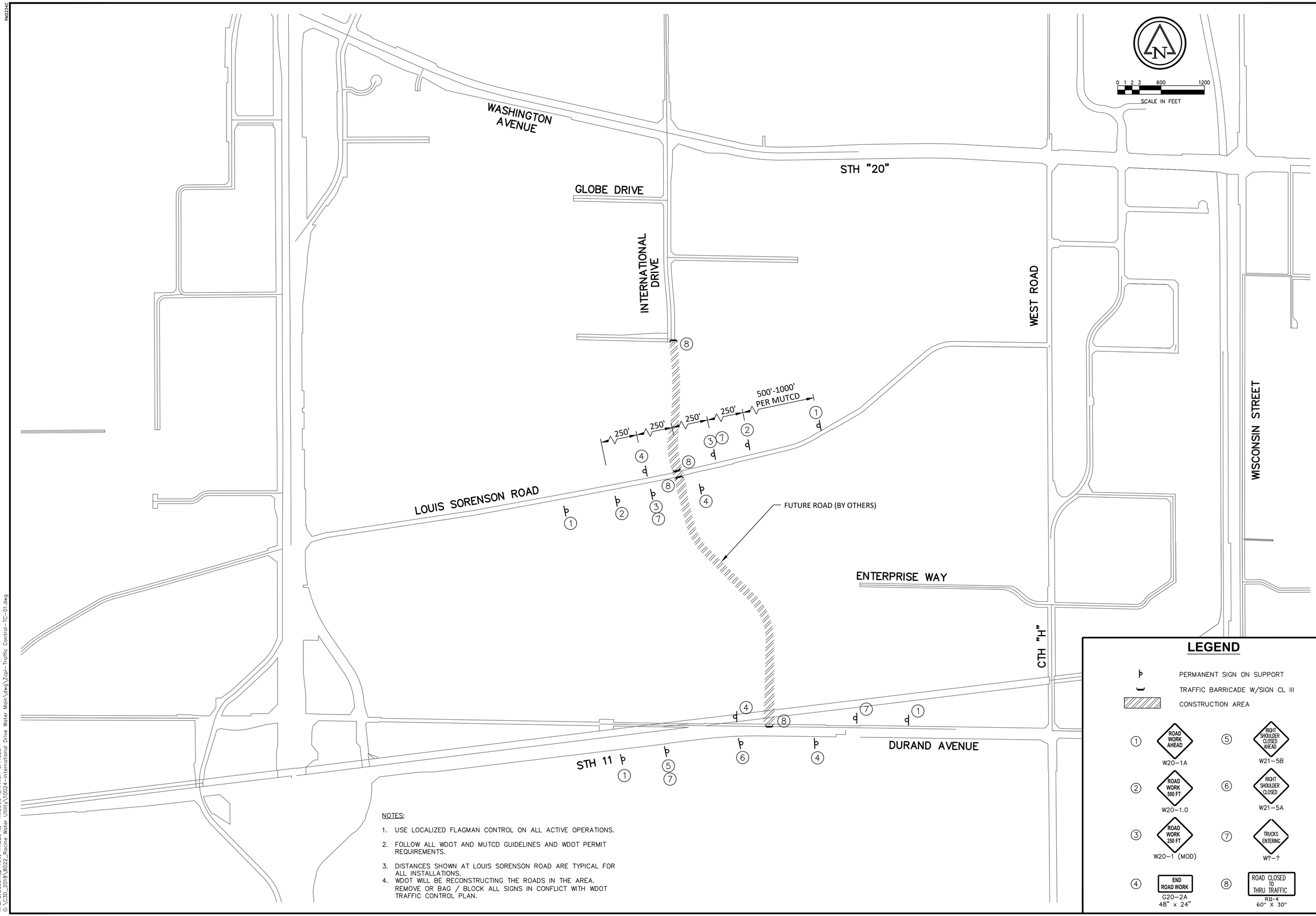
DATE: MARCH 2018

FILE NO.
8022-10024.200

SHEET NO.
INDEX-01

www.ruekertmielke.com

Aug 01, 2018 12:00pm PLOTTED BY: AKreuser SAVED BY: AKreuser
IMAGES: RM_STDWER_Full Overprint.jpg, RM_STDWER_Full Overprint.jpg
XREFS: rm2234c, RMLOGO-BRANCH OFFICES
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zcpl-Index-01.dwg



NOTES:

1. USE LOCALIZED FLAGMAN CONTROL ON ALL ACTIVE OPERATIONS.
2. FOLLOW ALL WDOT AND MUTCD GUIDELINES AND WDOT PERMIT REQUIREMENTS.
3. DISTANCES SHOWN AT LOUIS SORENSON ROAD ARE TYPICAL FOR ALL INSTALLATIONS.
4. WDOT WILL BE RECONSTRUCTING THE ROADS IN THE AREA. REMOVE OR BAG / BLOCK ALL SIGNS IN CONFLICT WITH WDOT TRAFFIC CONTROL PLAN.

REVISIONS	
7	
6	
5	
4	
3	
2	
1	

TOWN: RANGE: SECTION(s):

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
PROPOSED TRAFFIC CONTROL
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

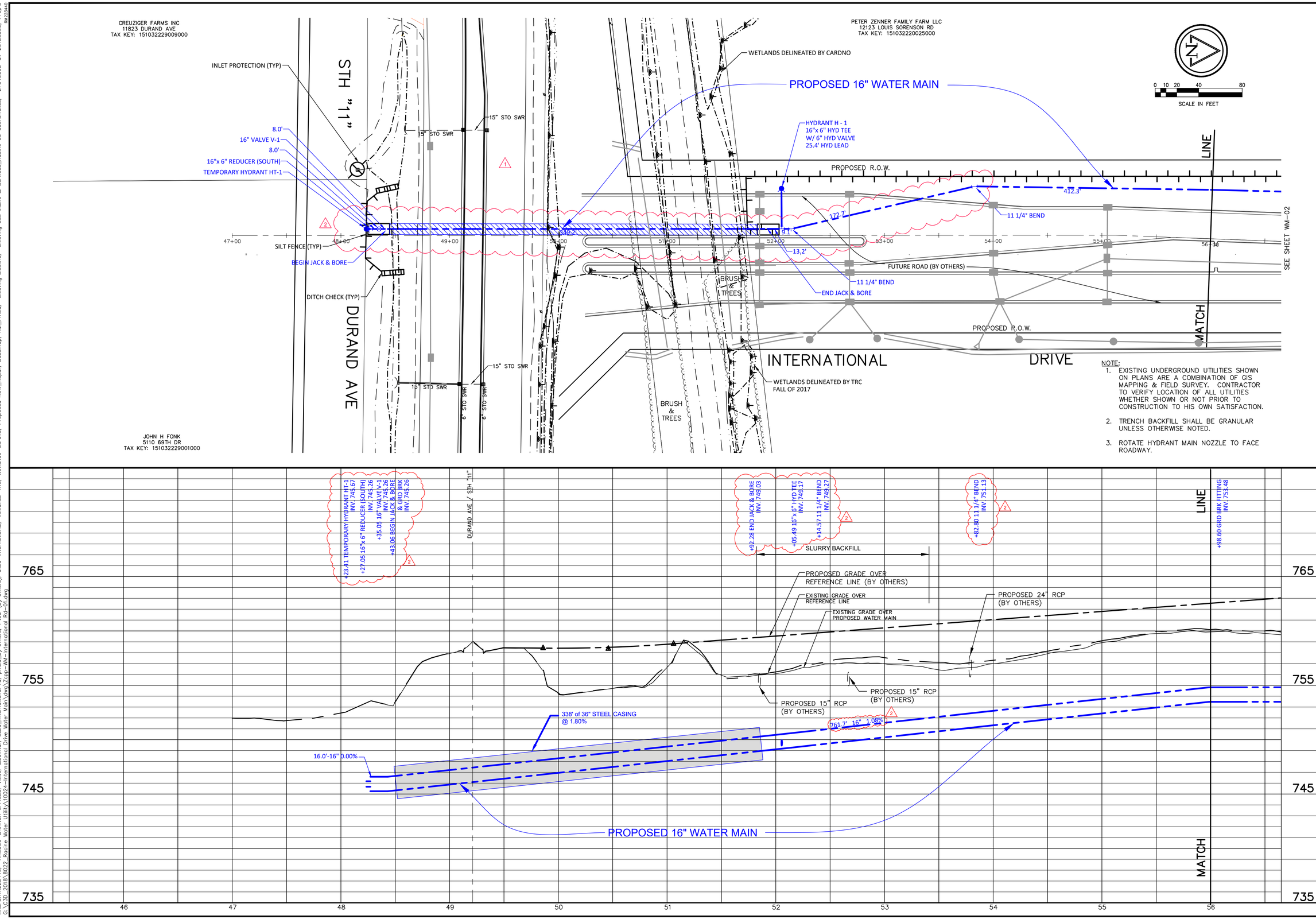
© COPYRIGHT 2018
RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO.
8022-10024.200

SHEET NO.
TC-01

www.ruekertmielke.com

Aug 01, 2018 12:00pm PLOTTED BY:Akreuser SAVED BY:Akreuser
LAYOUT:SHEET TC-01 Layout:PLOT:Full Layout:PAGE:Full Layout
XREFS:Basemap-row, rm2234c, RMLOGO-BRANCH OFFICES
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zcpl-Traffic Control-TC-01.dwg



NOTE:

1. EXISTING UNDERGROUND UTILITIES SHOWN ON PLANS ARE A COMBINATION OF GIS MAPPING & FIELD SURVEY. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES WHETHER SHOWN OR NOT PRIOR TO CONSTRUCTION TO HIS OWN SATISFACTION.
2. TRENCH BACKFILL SHALL BE GRANULAR UNLESS OTHERWISE NOTED.
3. ROTATE HYDRANT MAIN NOZZLE TO FACE ROADWAY.

REVISIONS		
7		
6		
5		
4		
3		
2	07/31/18	REVISIONS FOR CONSTRUCTIONS
1	04/13/18	ADDENDUM NO. 4

TOWN: T3N RANGE: R22E SECTION(s): 20 SW

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
PROPOSED WATER MAIN
IN: INTERNATIONAL DRIVE
FROM: STH 11 / DURAND AVE
TO: 700' NORTH OF STH 11 / DURAND AVE
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

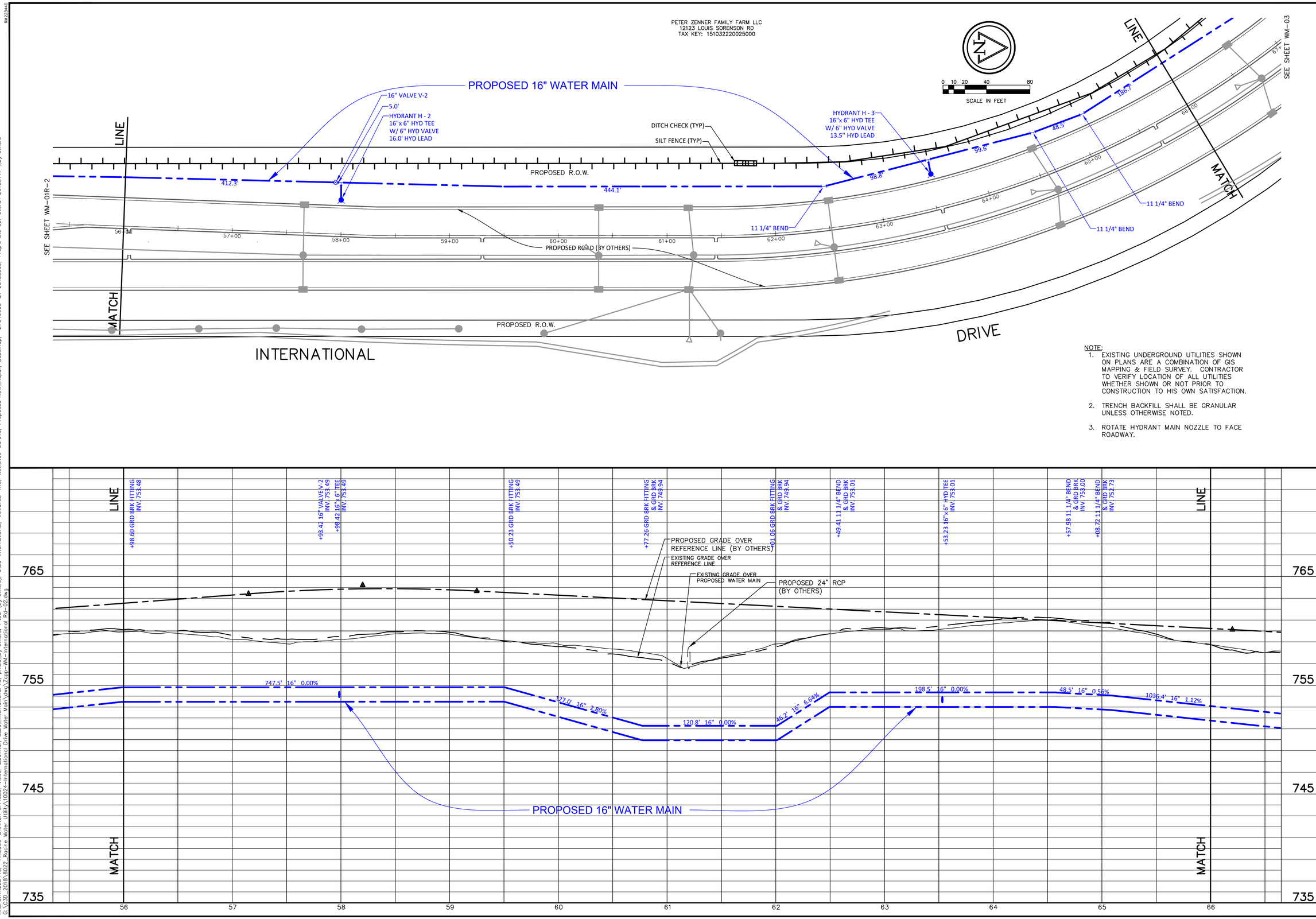
© COPYRIGHT 2018
RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO.
8022-10024.200

SHEET NO.
WM-01R-2

www.ruekertmielke.com

Aug 01, 2018 12:02pm PLOTTED BY: AKreuser LAYOUT: 01R-2 SAVED: 7/31/2018 2:11 PM BY: AKreuser
XREFS: rm22344b; RMLOGO-BRANCH OFFICES; views; albaintdr; acba_international rd; pmba_by others; Pcba-(by others); utba-international; Wetlands-TRC; Wetlands-Cardno; Proposed ROW_Kapur; Basemap; RM_Pmbo; Existing Electric; Existing Gas Mains & Services_Racine Co Coordinates; 27040005-oli-20180306; Prop's sto sw
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zapp-WM-International Rd-01.dwg



NOTE:

1. EXISTING UNDERGROUND UTILITIES SHOWN ON PLANS ARE A COMBINATION OF GIS MAPPING & FIELD SURVEY. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES WHETHER SHOWN OR NOT PRIOR TO CONSTRUCTION TO HIS OWN SATISFACTION.
2. TRENCH BACKFILL SHALL BE GRANULAR UNLESS OTHERWISE NOTED.
3. ROTATE HYDRANT MAIN NOZZLE TO FACE ROADWAY.

REVISIONS	
7	
6	
5	
4	
3	
2	
1	

TOWN: T3N RANGE: R22E SECTION(s): 20 SW

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
PROPOSED WATER MAIN
IN: INTERNATIONAL DRIVE
FROM: 700' NORTH OF STH 11 / DURAND AVE
TO:1700' NORTH OF STH 11/DURAND AVE
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

© COPYRIGHT 2018
RUEKERT & MIELKE INC.

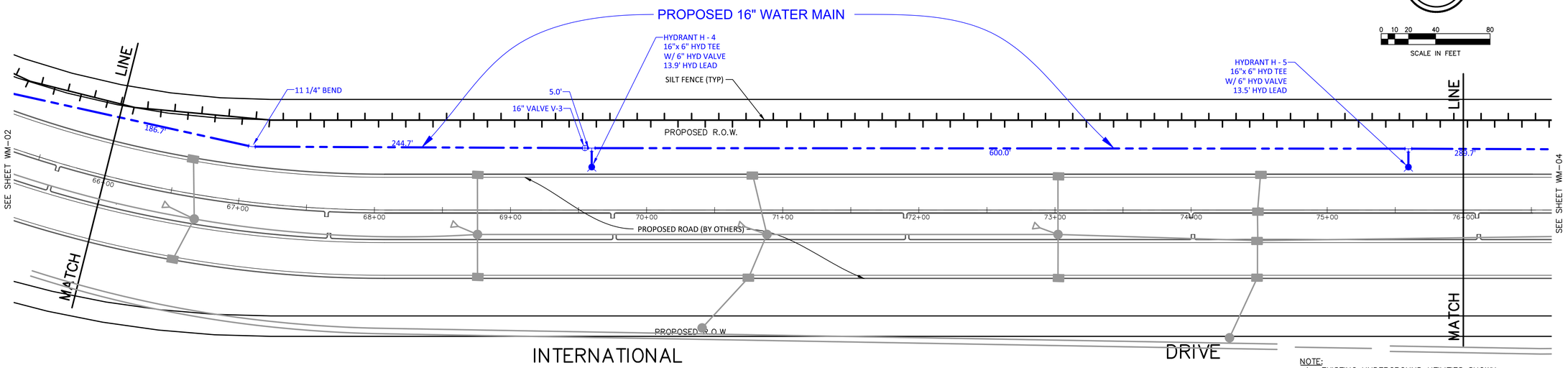
DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO.
8022-10024.200

SHEET NO.
WM-02

www.ruekertmielke.com

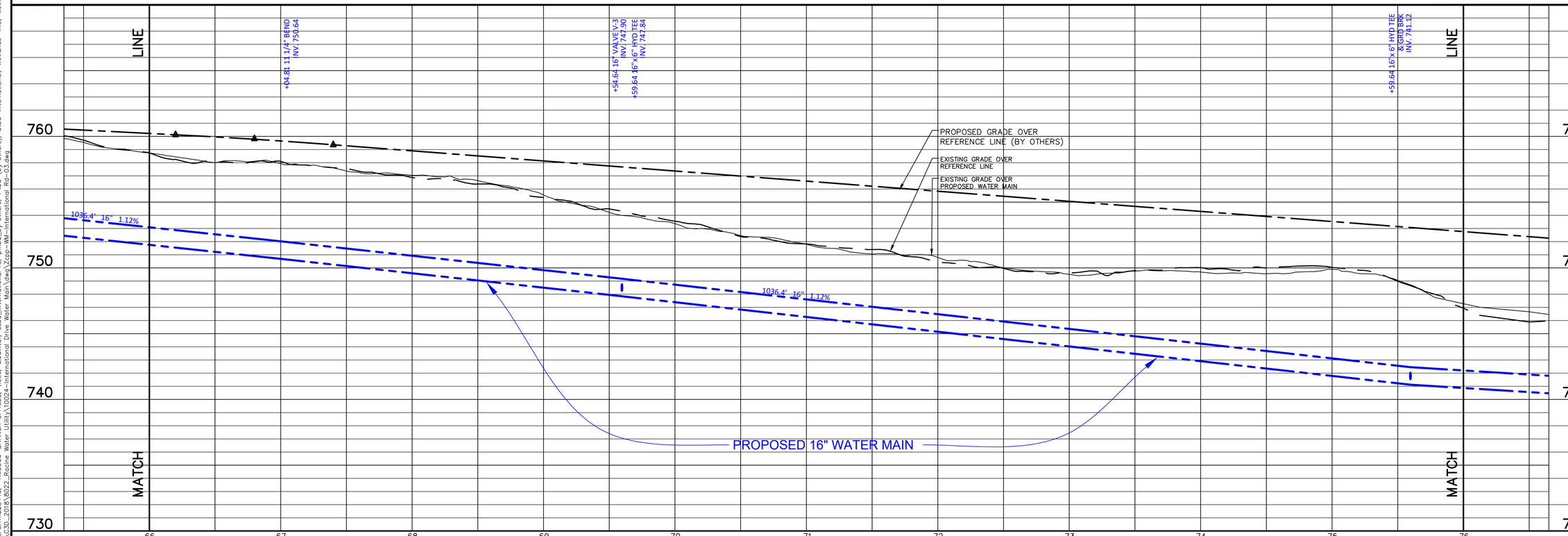
Aug 01, 2018 12:02pm PLOTTED BY:AKreuser SAVED BY:AKreuser
IMAGES:RM_TOWER_FU_Corporate.png
XREFS:rm223440; RMLOGO-BRANCH OFFICES; views; albaintdr; ecba_international rd; pmba_by others; Pcba-(by others); utba-international; Wetlands-TRC; Wetlands-Cardno; Proposed ROW_Kapur; Basemap; 27040005-all-20180306; Prop's sto swr overall 20180717 _by others
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zapp-WM-International Rd-02.dwg
RM223440

PETER ZENNER FAMILY FARM LLC
12123 LOUIS SORENSON RD
TAX KEY: 151032220025000



0 10 20 40 80
SCALE IN FEET

NOTE:
1. EXISTING UNDERGROUND UTILITIES SHOWN ON PLANS ARE A COMBINATION OF GIS MAPPING & FIELD SURVEY. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES WHETHER SHOWN OR NOT PRIOR TO CONSTRUCTION TO HIS OWN SATISFACTION.
2. TRENCH BACKFILL SHALL BE GRANULAR UNLESS OTHERWISE NOTED.
3. ROTATE HYDRANT MAIN NOZZLE TO FACE ROADWAY.



7		
6		
5		
4		
3		
2		
1		
REVISIONS		

TOWN: T3N RANGE: R22E SECTION(s): 20 SW

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
PROPOSED WATER MAIN
IN: INTERNATIONAL DRIVE
FROM: 1700' NORTH OF STH 11/DURAND AVE
TO: 1300' SOUTH OF LOUIS SORENSON RD
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

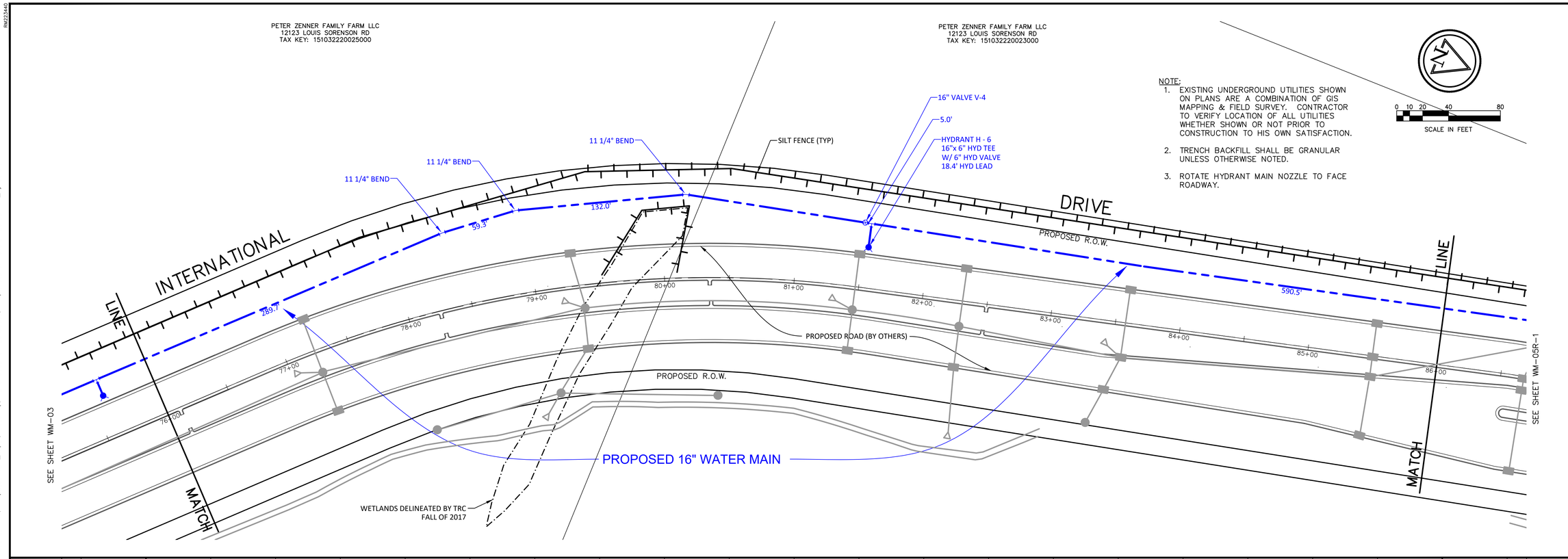
© COPYRIGHT 2018
RUEKERT & MIELKE INC.

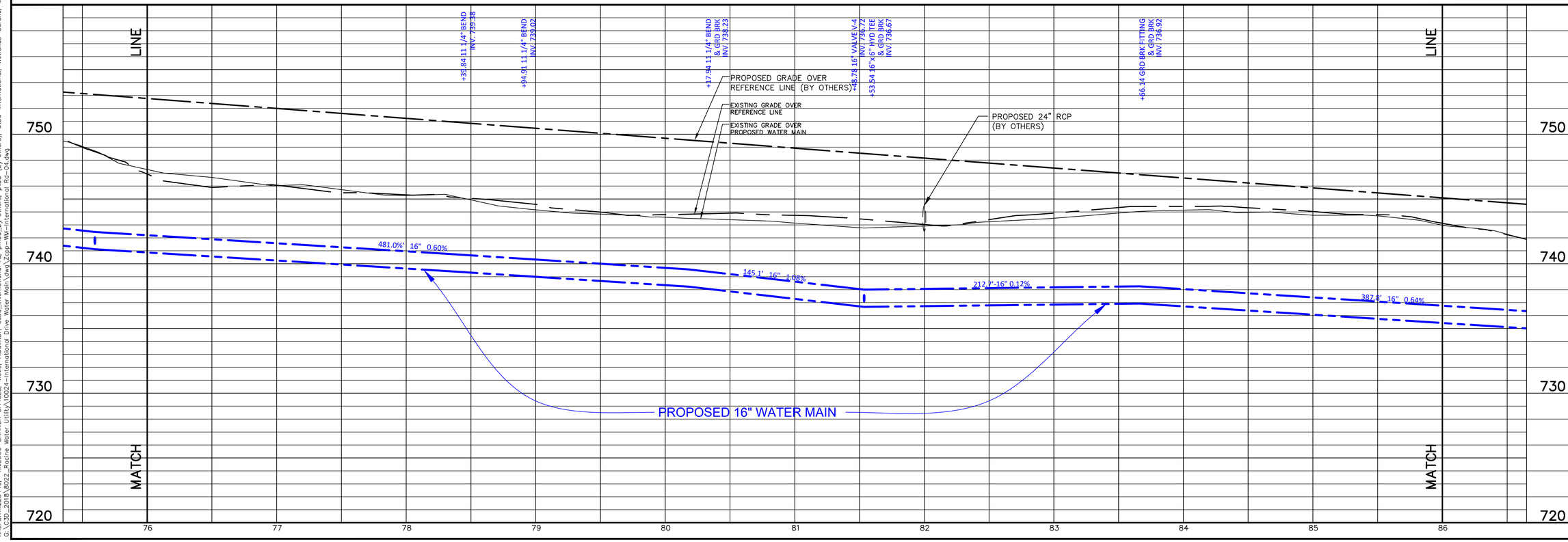
DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO.
8022-10024.200

SHEET NO.
WM-03

www.ruekertmielke.com

Aug 01, 2018 12:04pm PLOTTED BY: AKreuser LAYOUT: 03 WM-03 SAVED BY: AKreuser
XREFS: rm223440; RMLOGO-BRANCH OFFICES; views; albaintdr; ecba_international rd; pmba_by others; Pvba-(by others); utba-international; Wetlands-TRC; Wetlands-Cardno; Proposed ROW_Kapur; Basemap; RM_Pmbo; Existing Electric; Existing Gas Mains & Services_Racine Co Coordinates; 27040005-oli-20180306; Prop's sto sw
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zapp-WM-International Rd-03.dwg
RM223440





7	
6	
5	
4	
3	
2	
1	
REVISIONS	

TOWN: T3N RANGE: R22E SECTION(s): 20 SW, NW

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
PROPOSED WATER MAIN
IN: INTERNATIONAL DRIVE
FROM:1300' SOUTH OF LOUIS SORENSON RD
TO:300' SOUTH OF LOUIS SORENSON RD
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

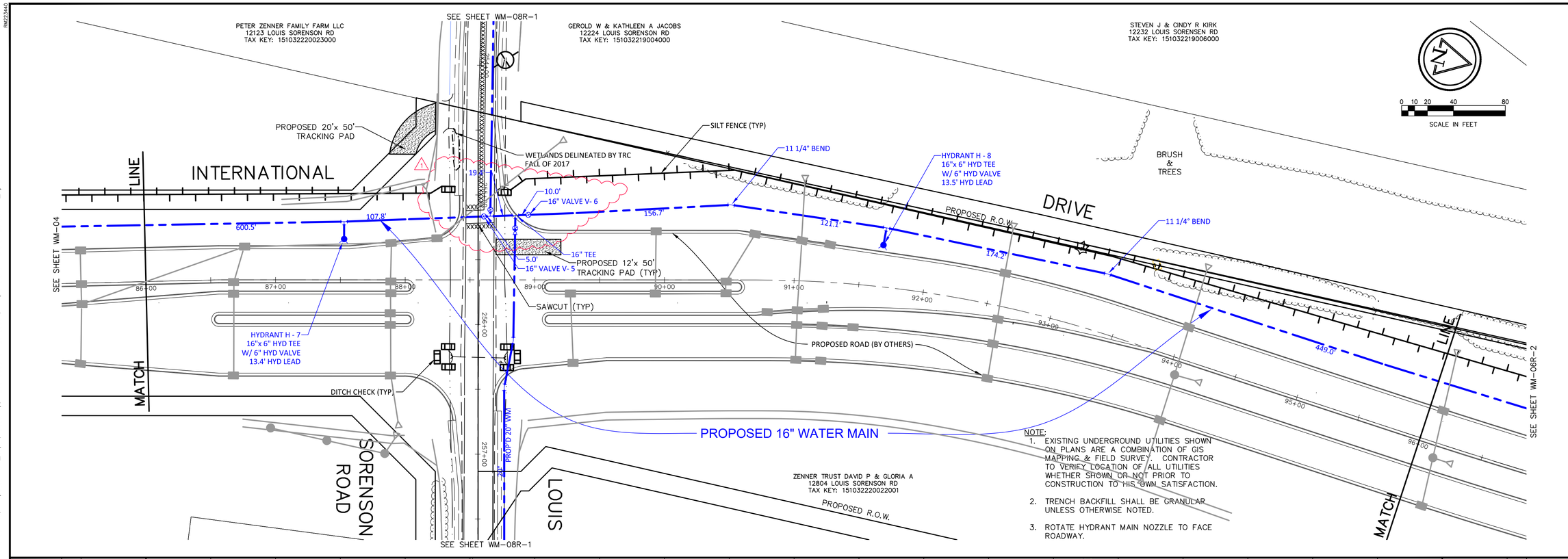
© COPYRIGHT 2018
RUEKERT & MIELKE INC.

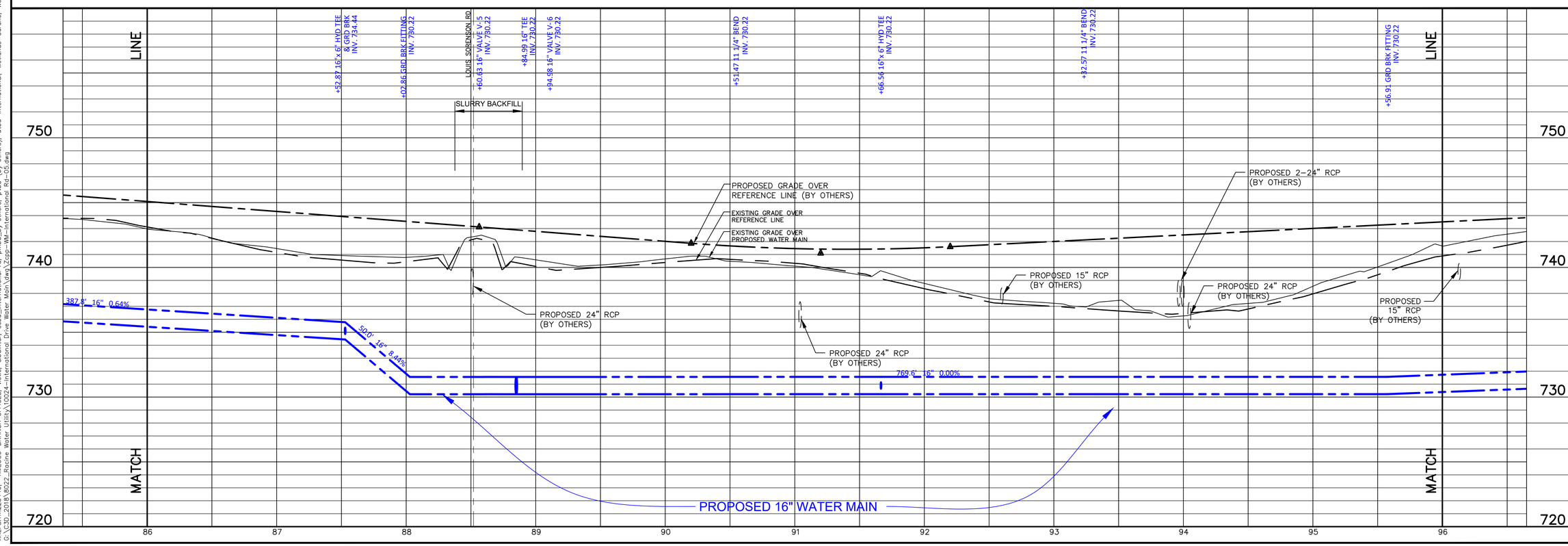
DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO.
8022-10024.200

SHEET NO.
WM-04

www.ruekertmielke.com

Aug 01, 2018 12:04pm PLOTTED BY:AKreuser SAVED BY:AKreuser
LAYOUT:WM-04 VIEW:WM-04 Current Layer: 0
XREFS:rm223440; RMLOGO-BRANCH OFFICES; views; AlbaintDr; ecba_international rd; pmba_by others; pxba-(by others); utba-international; Wetlands-Cardno; Wetlands-TRC; Proposed ROW_Kapur; Basemap; 27040005-all-20180306; Prop's sto swr overall 20180717 _by others
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zapp-WM-International Rd-04.dwg





△	DATE	REVISIONS
7		
6		
5		
4		
3		
2		
1	04/13/18	ADDENDUM NO. 4

TOWN: T3N RANGE: R22E SECTION(s): 20 NW

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
PROPOSED WATER MAIN
IN: INTERNATIONAL DRIVE
FROM: 300' SOUTH OF LOUIS SORENSON RD
TO: 700' NORTH OF LOUIS SORENSON RD
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

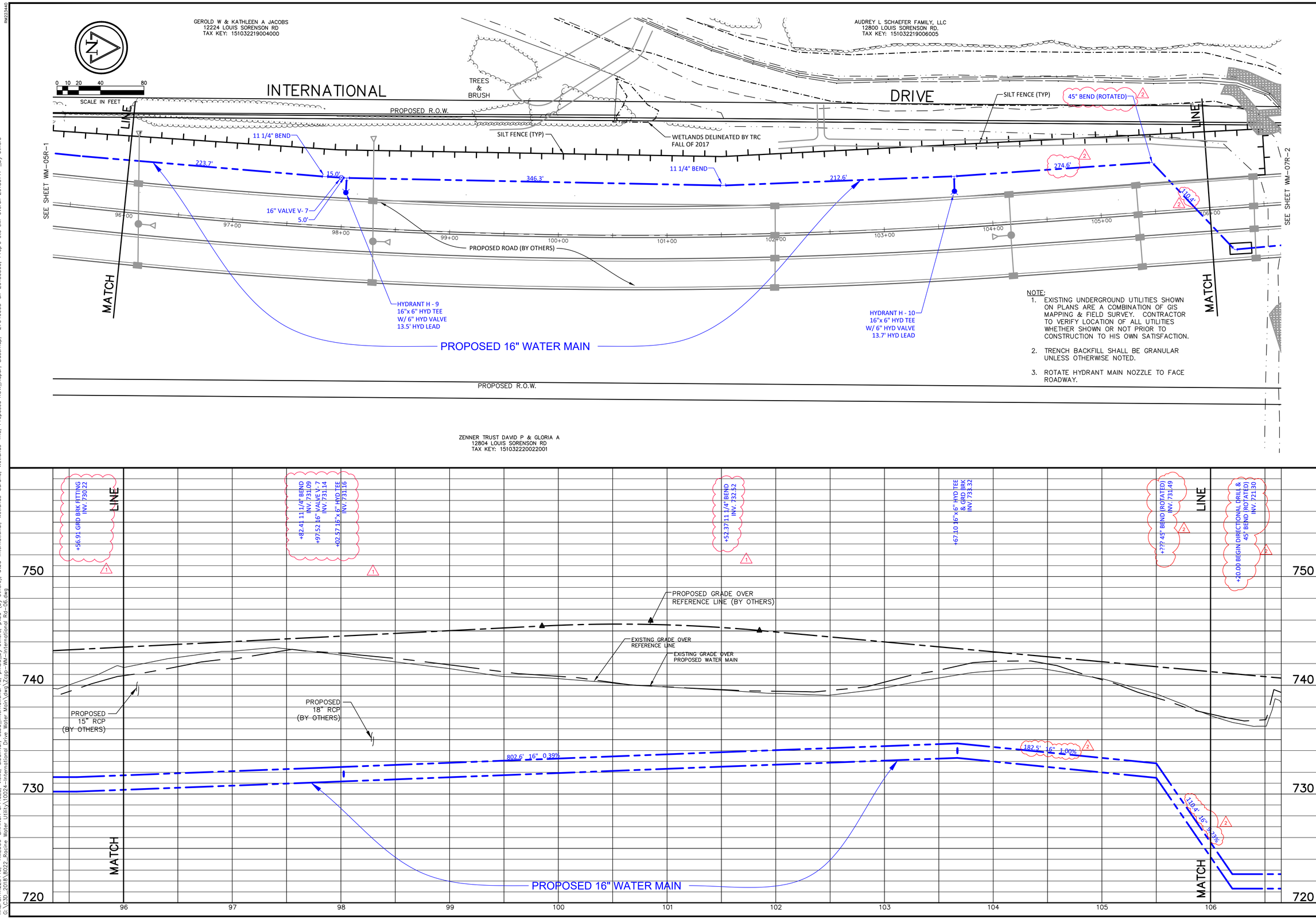
© COPYRIGHT 2018
RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO.
8022-10024.200

SHEET NO.
WM-05R-1

www.ruekertmielke.com

Aug 01, 2018 12:05pm PLOTTED BY:Akreuser SAVED BY:Akreuser
IMAGES: N:\SWEET\Outdoor\Plots\Images\ BASE: N:\SWEET\Outdoor\Plots\
XREFS:rm223440; RMLOGO-BRANCH OFFICES; views; albaintdr; ecba_international cd; pmba_by others; pvka-(by others); utba-international; Wetlands-Cardno; Wetlands-TRC; Proposed ROW_Kapur; Basemap; 27040005-all-20180306; Prop's sto swr overall 20180717 _by others
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zcpp-WM-International Rd-05.dwg
RM223440



NOTE:

1. EXISTING UNDERGROUND UTILITIES SHOWN ON PLANS ARE A COMBINATION OF GIS MAPPING & FIELD SURVEY. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES WHETHER SHOWN OR NOT PRIOR TO CONSTRUCTION TO HIS OWN SATISFACTION.
2. TRENCH BACKFILL SHALL BE GRANULAR UNLESS OTHERWISE NOTED.
3. ROTATE HYDRANT MAIN NOZZLE TO FACE ROADWAY.

REVISIONS		
7		
6		
5		
4		
3		
2	07/31/18	REVISIONS FOR CONSTRUCTION
1	04/13/18	ADDENDUM NO. 4

TOWN: T3N RANGE: R22E SECTION(s): 20 NW

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
PROPOSED WATER MAIN
IN: INTERNATIONAL DRIVE
FROM: 700' NORTH OF LOUIS SORENSON RD
TO: 1700' NORTH OF LOUIS SORENSON RD
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

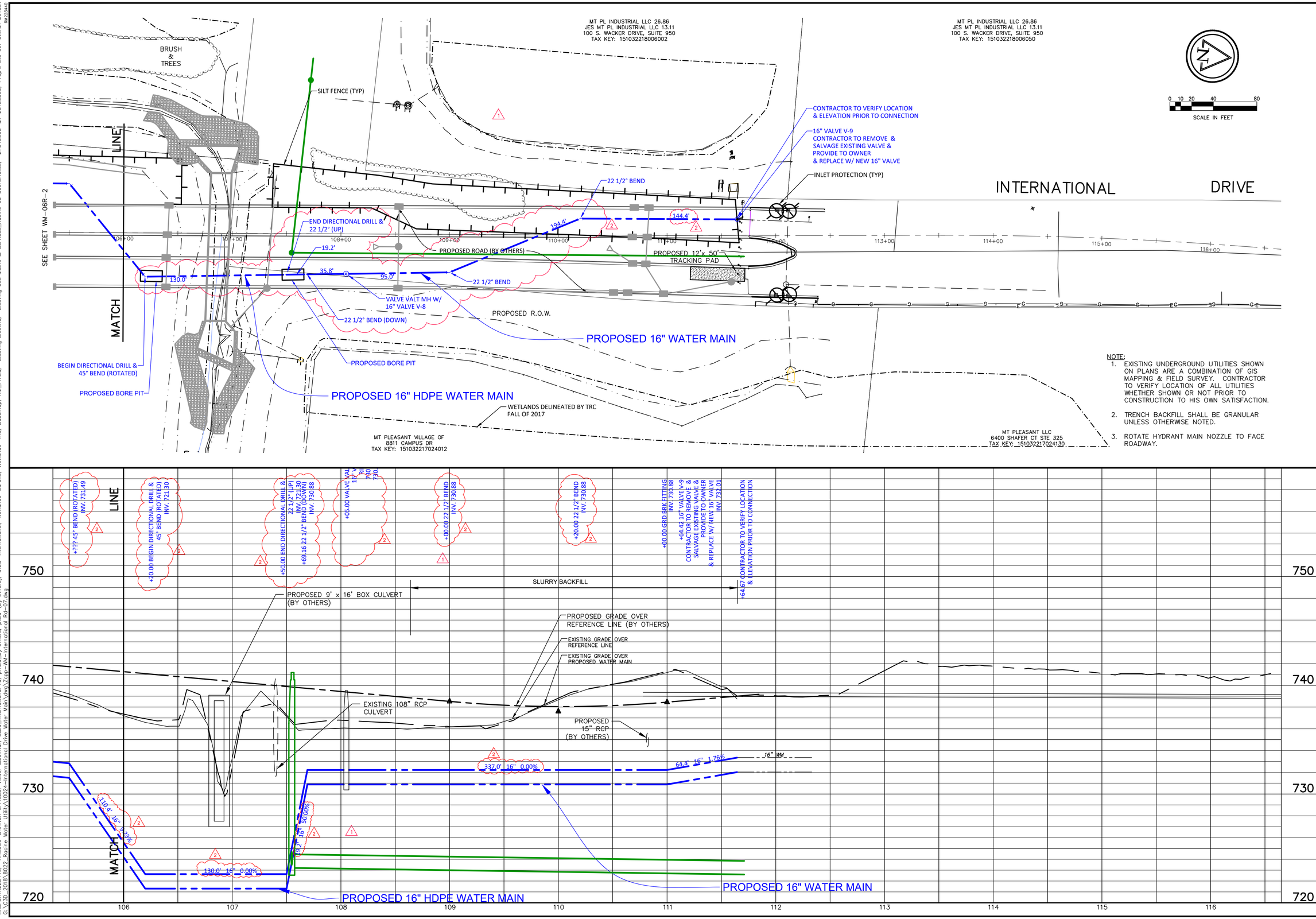
© COPYRIGHT 2018
RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO.
8022-10024.200

SHEET NO.
WM-06R-2

www.ruekertmielke.com

Aug 01, 2018 12:05pm PLOTTED BY:AKreuser SAVED BY:AKreuser
IMAGES:RM_SYMBOLS.jpg;RM_LOGO.jpg
XREFS:rm223440; RMLOGO-BRANCH OFFICES; views; albaintdr; ecba_international cd; pmba_by others; pvka-(by others); utba-International; Wetlands-Cardno; Wetlands-TRC; Proposed ROW_Kapur; Basemap; 27040005-all-20180306; Prop's sto swr overall 20180717 _by others
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zcpp-WM-International Rd-06.dwg
RM223440



7		
6		
5		
4		
3		
2	07/31/18	REVISIONS FOR CONSTRUCTION
1	04/13/18	ADDENDUM NO. 4

REVISIONS

TOWN: T3N RANGE: R22E SECTION(s): 20 NW

Ruekert•Mielke

Waukesha • Kenosha • Madison

Chicago • Global Water Center • Fox Valley

www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
PROPOSED WATER MAIN
IN: INTERNATIONAL DRIVE
FROM: 1700' NORTH OF LOUIS SORENSON RD
TO: 2300' NORTH OF LOUIS SORENSON RD
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

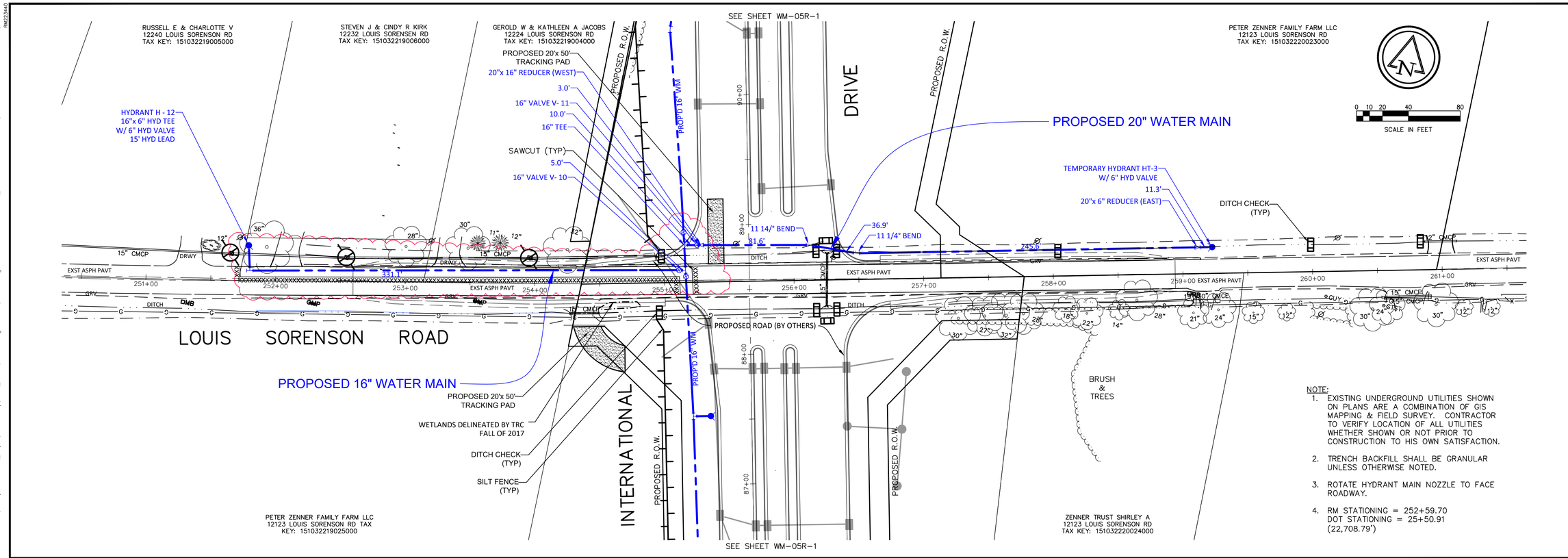
© COPYRIGHT 2018
RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO.
8022-10024.200

SHEET NO.
WM-07R-2

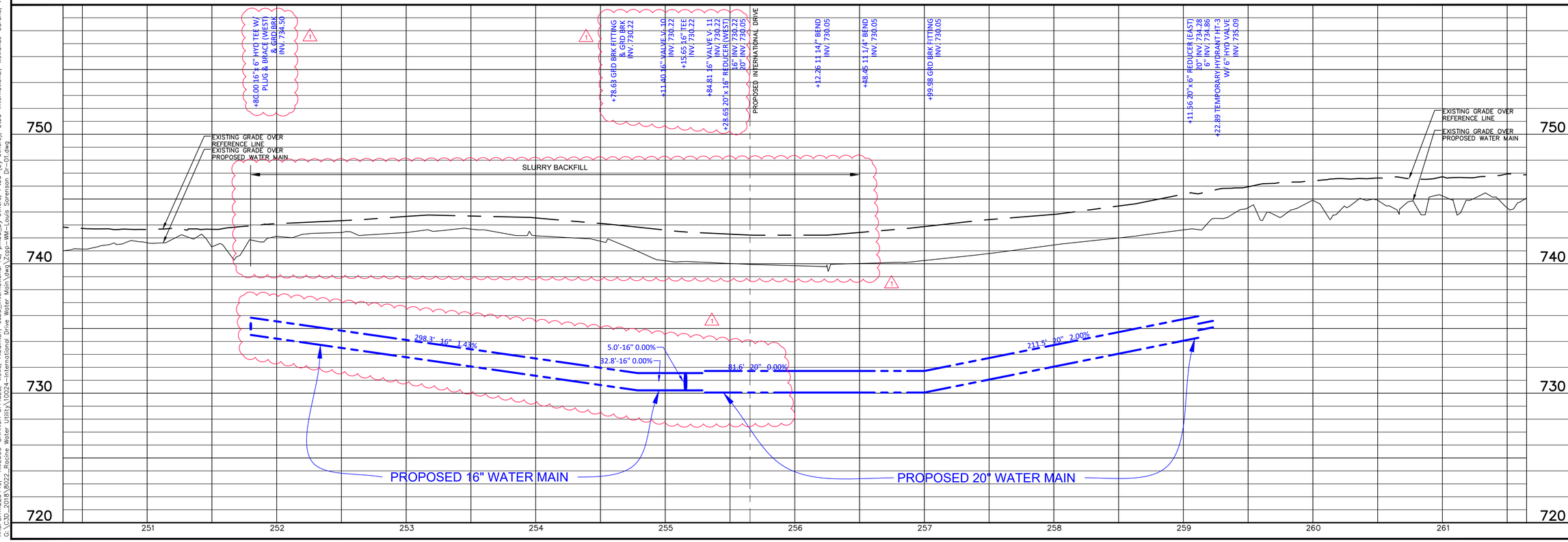
www.ruekertmielke.com

Aug 01, 2018 12:07pm PLOTTED BY:AKreuser SAVED BY:AKreuser
IMAGES: RM_Pmba; Existing Electric; Existing Gas Mains & Services_Racine Co Coordinates; 27040005-all-20180306; Prop's sto swr overall 20180717 _by
XREFS:rm223440; RMLOCG-BRANCH OFFICES; views; albaintdr; ecba_international rd; pmba_by others; pvka-(by others); utba-international; Wetlands-Cardno; Wetlands-TRC; Basemap; RM_Pmba; Existing Electric; Existing Gas Mains & Services_Racine Co Coordinates; 27040005-all-20180306; Prop's sto swr overall 20180717 _by
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zcpp-WM-International Rd-07.dwg



NOTE:

1. EXISTING UNDERGROUND UTILITIES SHOWN ON PLANS ARE A COMBINATION OF GIS MAPPING & FIELD SURVEY. CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES WHETHER SHOWN OR NOT PRIOR TO CONSTRUCTION TO HIS OWN SATISFACTION.
2. TRENCH BACKFILL SHALL BE GRANULAR UNLESS OTHERWISE NOTED.
3. ROTATE HYDRANT MAIN NOZZLE TO FACE ROADWAY.
4. RM STATIONING = 252+59.70
   DOT STATIONING = 25+50.91
   (22,708.79')



7			
6			
5			
4			
3			
2		----	
1	04/13/18	ADDENDUM NO. 4	

REVISIONS

TOWN: T3N RANGE: R22E SECTION(s): 20 NW

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
PROPOSED WATER MAIN
IN: LOUIS SORENSON ROAD
FROM: 300' WEST OF INTERNATIONAL DRIVE
TO: 300' EAST OF INTERNATIONAL DRIVE
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

© COPYRIGHT 2018
RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO.
8022-10024.200

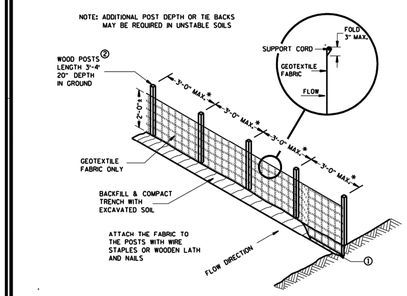
SHEET NO.
WM-08R-1

www.ruekertmielke.com

Aug 01, 2018 12:08pm PLOTTED BY:AKreuser SAVED BY:dklemm
LAYOUT:PM-WM-08R-1 (1) Copyright: Ruekert-Mielke
XREFS:rm22344; RMLOGO-BRANCH OFFICES; views; AlbaintDr; ecba_International rd; pmba_by others; Pnba-(by others); ulba-international; Wetlands-Cardno; Wetlands-TRC; Proposed ROW_Kapur; Basemap; RM_Pmba; Existing Electric; Existing Gas Mains & Services_Racine Co Coordinates; 27040005-all-20180306; Storm Sewer
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zapp-WM-Louis Sorenson Dr-01.dwg

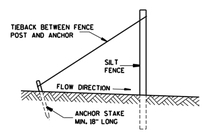
GENERAL NOTES

1. 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.
2. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" x 1½" OF OAK OR HICKORY.
3. 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) TWIST METHOD -- OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES. B) HOOK METHOD -- HOOK THE END OF EACH SILT FENCE LENGTH.

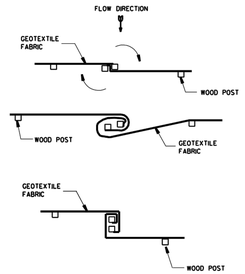


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

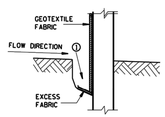
SILT FENCE



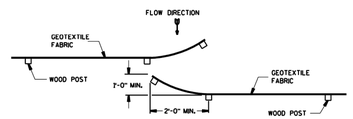
SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



TWIST METHOD



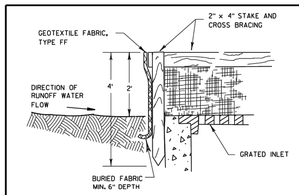
TRENCH DETAIL

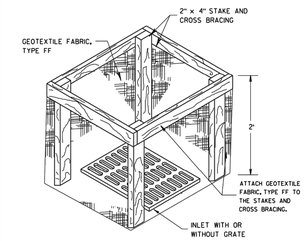


HOOK METHOD
JOINING TWO LENGTHS OF SILT FENCE ④

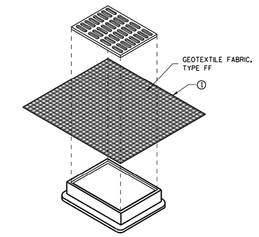
This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.

SILT FENCE

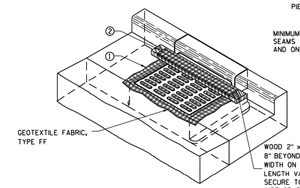




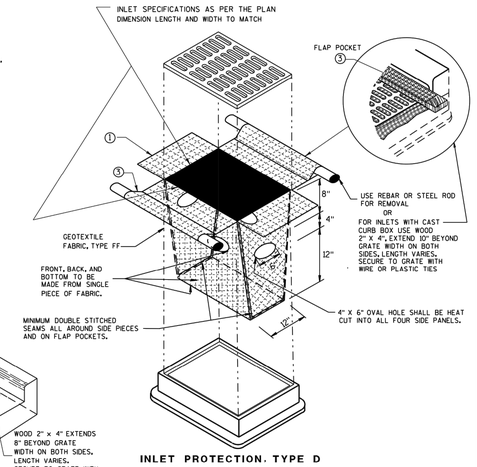
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



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

GENERAL NOTES

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.

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.

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 10-2.

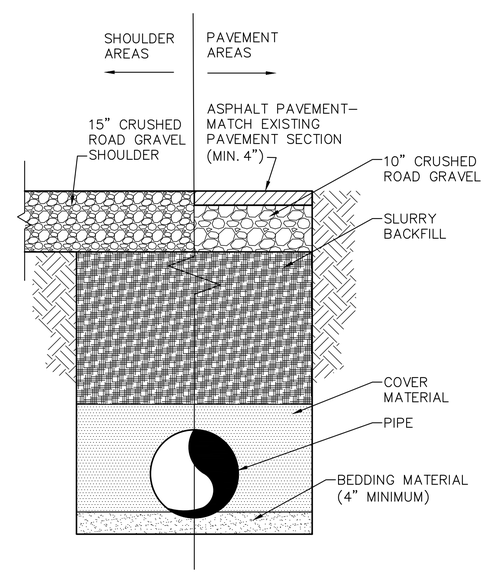
INLET PROTECTION
TYPE A, B, C, AND D

EROSION CONTROL NOTES:

1. INSPECTION OF ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE DONE ONCE PER WEEK AND AFTER EVERY PRECIPITATION EVENT OF 1/2-INCH OR GREATER.
2. CONTRACTOR SHALL REPAIR DEFICIENT EROSION AND SEDIMENT CONTROL MEASURES WITHIN 24-HOURS AFTER INSPECTION. ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES NOT SHOWN ON THIS PLAN MAY BE NECESSARY AS A RESULT OF CONSTRUCTION PRACTICES OR AS DIRECTED BY CITY AND/OR ENGINEER.
3. CONTRACTOR SHALL NOTIFY AND OBTAIN WRITTEN ACCEPTANCE FROM ENGINEER OF PROPOSED CHANGES TO THE EROSION CONTROL PLAN AND/OR SEQUENCE PRIOR TO IMPLEMENTING THE CHANGE.
4. ENGINEER IS UNDER NO OBLIGATION TO ALTER THE CONSTRUCTION SEQUENCE AND/OR EROSION CONTROL PLAN.
5. EXCESS MATERIAL THAT IS HAULED OFF SITE SHALL BE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL OBTAIN PROPER PERMIT APPROVALS FOR EACH FILL SITE. EROSION AND SEDIMENT CONTROL MEASURES, RESTORATION AND STABILIZATION AT FILL SITE IS CONTRACTOR'S RESPONSIBILITY. CONTRACTOR TO NOTIFY OWNER OF ALL FILL AND BORROW SITES.
6. CONTRACTOR SHALL SWEEP STREETS ADJACENT TO PROJECT AT THE END OF EACH DAY.
7. ALL INSTALLATION, MAINTENANCE AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES SHALL COMPLY WITH THE WISCONSIN DNR TECHNICAL STANDARDS AND THE SLOPE PROTECTION AND EROSION CONTROL SPECIFICATION SECTION 312500.
8. IF DEWATERING IS NECESSARY, CONTRACTOR SHALL PROVIDE PROPER DEWATERING SEDIMENT CONTROL DEVICE. DISCHARGE OF SEDIMENT LADEN WATER TO THE STORM SEWER OR SURFACE WATER IS PROHIBITED. DEWATERING STRUCTURE(S) SHALL MEET DNR TECHNICAL STANDARD 1061.
9. PROVIDE WETLAND RESTORATION SEEDING AND MULCH FOR ALL DISTURBED WETLAND AREAS PER SPECIFICATION.

GENERAL CONSTRUCTION SEQUENCE:

1. INSTALL TRAFFIC CONTROL MEASURES.
2. INSTALL AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO ANY LAND DISTURBING ACTIVITIES, AS SHOWN ON DRAWINGS AND DIRECTED BY ENGINEER.
3. STAGE WORK CONSTRUCTION BY WORK LOCATION.
4. BEGIN CONSTRUCTION ACTIVITIES AS SHOWN ON DRAWINGS AND SPECIFICATIONS.
5. COMPLETE WATER MAIN EXTENSION.
6. COMPLETE DITCH GRADING.
7. INSTALL OR ADJUST EROSION CONTROL MEASURES IN NEW FACILITIES. INSTALL ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY.
8. STABILIZE NEWLY GRADED AREAS IMMEDIATELY. 1
9. COMPLETE FINAL RESTORATION INCLUDING BUT NOT LIMITED TO: SEEDING, TOPSOIL, EROSION MAT.
10. REMOVE EROSION AND SEDIMENT CONTROL DEVICES AFTER 80% OF VEGETATION HAS BEEN ESTABLISHED IN ALL RESTORED AREAS. RESTORE DISTURBED AREAS AROUND REMOVED DEVICES, CLEAN OUT STORM WATER STRUCTURES, AND CLEAN SITE.



TYPICAL TRENCH SECTION IN SHOULDER OR ROADWAY NO SCALE

UT-TRENCH-07 4

7			
6			
5			
4			
3			
2			
1	04/13/18	ADDENDUM NO. 4	
REV	DATE	DESCRIPTION	APP

TOWN: RANGE: SECTION(s):

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
CONSTRUCTION DETAILS
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

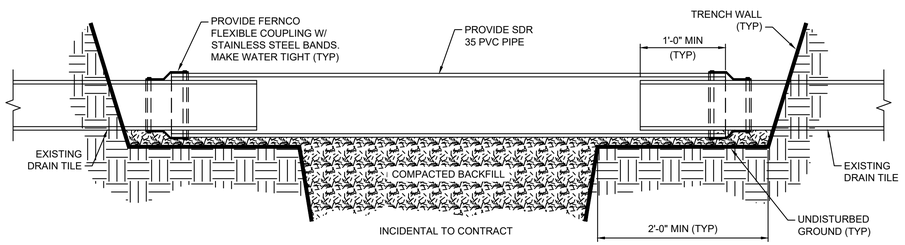
© COPYRIGHT 2018 RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO. 8022-10024.200

SHEET NO. **DT-01R-1**

www.ruekertmielke.com

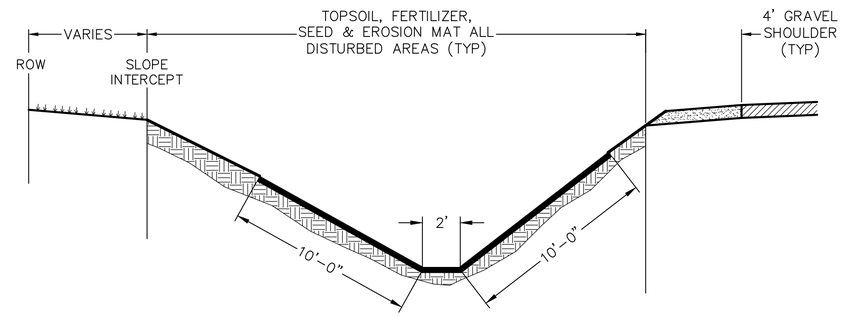
Aug 01, 2018 12:09pm PLOTTED BY:Akreuser SAVED BY:dklemm
WLAYOUT:DT-01R-1 SHEET FULL-SIZE PLOTTED:Arch E
XREFS:m2234c; RMLOGO-BRANCH OFFICES; WT-BR-03; WT-TW-01; WT-HYD-OFFSET; UT-TRENCH-07; Cgdt-Racine Water Utilities; CgdtFormDrainageTileReconnection; EC-DITCH-07; EC-DITCH-05; EC-GNL-03; WT-MH-13
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zcgl-Construction Details-01.dwg
RN2234C



FARM DRAINAGE TILE RECONNECTION DETAIL

NO SCALE

CGDT-FARM DRAINAGE TILE RECONNECTION 36

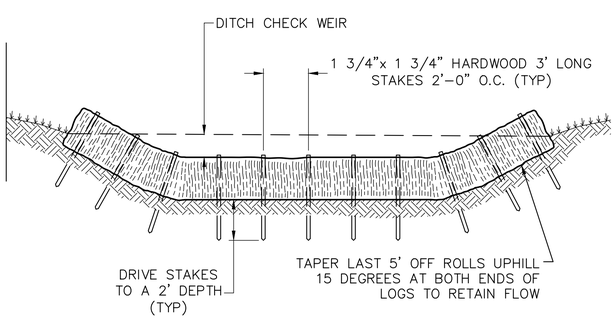


NOTES:
1. PROVIDE RAPID PHOTODEGRADABLE MAT WITH BIODEGRADABLE PEGS.
2. INSTALL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

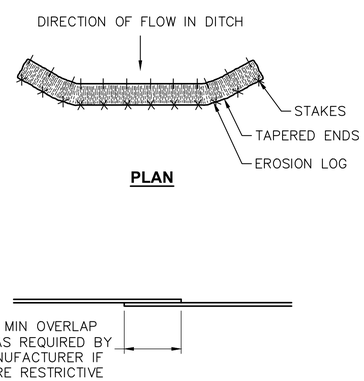
TYPICAL DITCH RESTORATION DETAIL

NO SCALE

EC-DITCH-05 32

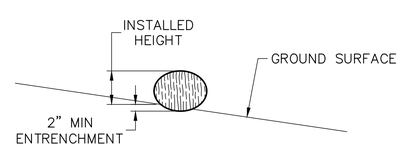


PROFILE



PLAN

TYPICAL PERIMETER CONTROL INSTALLATION



NOTE:
INSTALLED HEIGHT IS MEASURED FROM THE UPSLOPE GROUND SURFACE TO THE TOP OF THE PRODUCT. DUE TO SETTLEMENT AND/ OR DEFORMATION, THE INSTALLED HEIGHT MAY NOT BE EQUIVALENT TO THE NOMINAL DIAMETER OF THE PRODUCT.

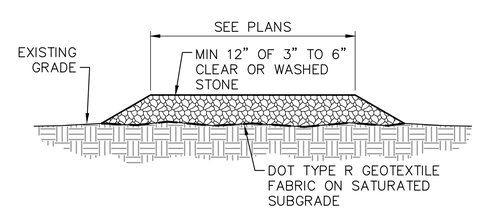
CROSS SECTION

NOTE:
DITCH CHECK SHALL BE INSTALLED SO THAT THE ENDS OF THE CHECK ARE HIGHER IN ELEVATION THAN THE MIDDLE IN ORDER TO FORM A WEIR.

MANUFACTURED DITCH CHECK AND PERIMETER CONTROL DETAIL

NO SCALE

EC-DITCH-07 16



PAD MAY BE POSITIONED AS PERMANENT DRIVEWAY SUBBASE IF PLACED ON MINERAL SOIL AND IT MEETS BEARING & COMPACTION REQUIREMENTS BEFORE BASE PLACEMENT.

TRACKING PAD

NO SCALE

EC-GNL-03 1

REVISIONS	
7	
6	
5	
4	
3	
2	
1	

TOWN: RANGE: SECTION(s):

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
CONSTRUCTION DETAILS
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

© COPYRIGHT 2018 RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO. 8022-10024.200

SHEET NO. DT-02

www.ruekertmielke.com

Aug 01, 2018 12:09pm PLOTTED BY:AKreuser SAVED BY:dklemm
LAYOUT:DT-02 VIEW:Layout1 Current Date/Time
XREFS:rm2234c; RML0GO-BRANCH OFFICES; WT-BR-03; WT-TW-01; WT-HYD-OFFSET; UT-TRENCH-07; Cgdt-Racine Water Utilities; CgdtFarmDrainageTileReconnection; EC-DITCH-07; EC-DITCH-05; EC-GNL-03; WT-MH-13
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zcpl-Construction Details-01.dwg
RN2234C

15C12: Traffic Control for Lane Closure (Suitable for Moving Operations)

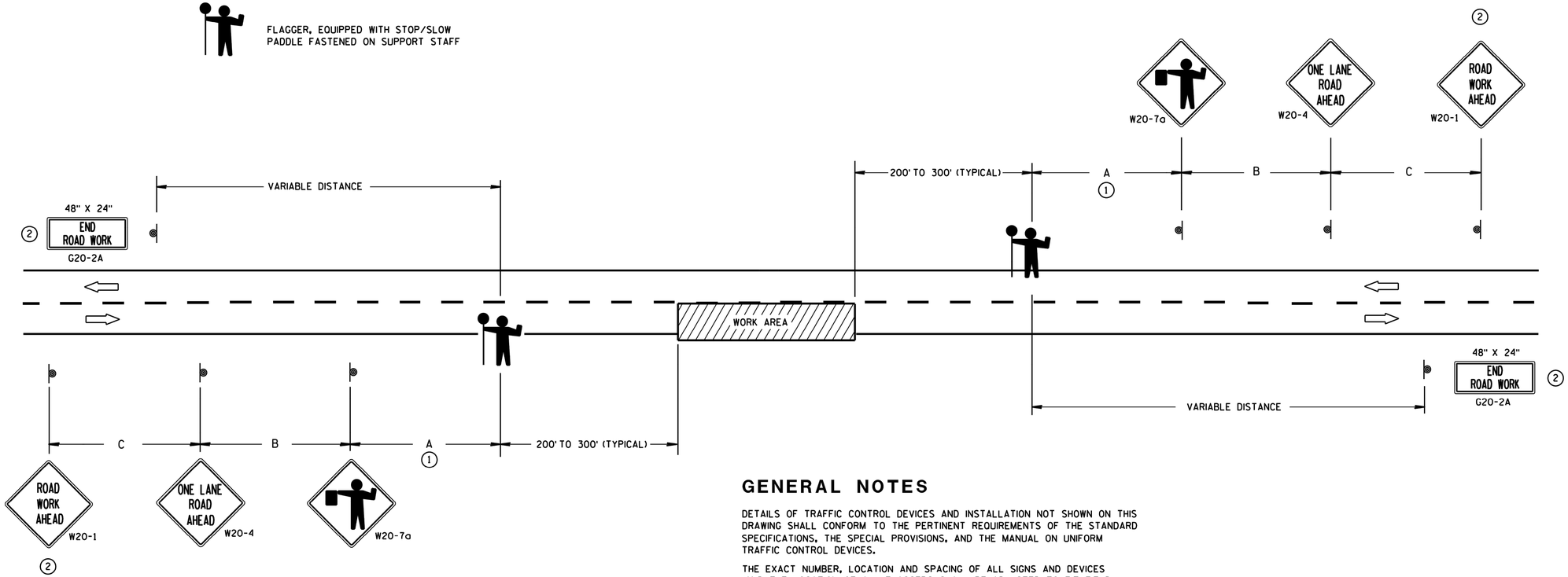
LEGEND

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



1. FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

2. SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER OF DESIGN
FHWA

6

S.D.D. 15 C 12-4

6

S.D.D. 15 C 12-4

REVISIONS	
7	
6	
5	
4	
3	
2	
1	

TOWN: RANGE: SECTION(s):

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
CONSTRUCTION DETAILS
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

© COPYRIGHT 2018
RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO. 8022-10024.200

SHEET NO. DT-03

www.ruekertmielke.com

Aug 01, 2018 12:09pm PLOTTED BY:AKreuser SAVED BY:dklemm
IMAGES: RMLOGO-BRANCH OFFICES; WT-BR-03; WT-TW-01; WT-HYD-OFFSET; UT-TRENCH-07; Cgdt-Racine Water Utilities; CgdtFarmDrainageTileReconnection; EC-DITCH-07; EC-DITCH-05; EC-GNL-03; WT-MH-13
XREFS:rm2234c; RMLOGO-BRANCH OFFICES; WT-BR-03; WT-TW-01; WT-HYD-OFFSET; UT-TRENCH-07; Cgdt-Racine Water Utilities; CgdtFarmDrainageTileReconnection; EC-DITCH-07; EC-DITCH-05; EC-GNL-03; WT-MH-13
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zcpl-Construction Details-01.dwg
RM2234C

15D27: Traffic Control, Shoulder Closure on Divided Roadway, Speeds Greater than 40 M.P.H.

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

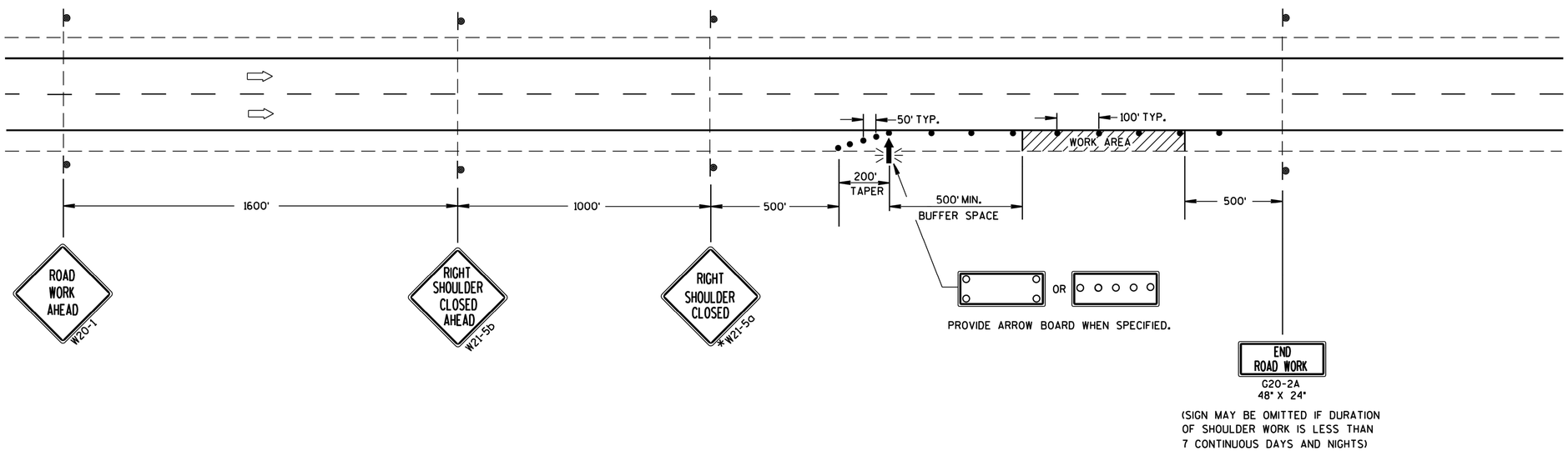
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

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

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER OF DESIGN
FHWA

6

S.D.D. 15 D 27-2

REVISIONS		
7		
6		
5		
4		
3		
2		
1		

TOWN: RANGE: SECTION(s):

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
CONSTRUCTION DETAILS
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

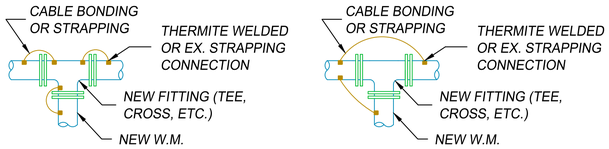
© COPYRIGHT 2018
RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO. 8022-10024.200

SHEET NO. DT-04

www.ruekertmielke.com

Aug 01, 2018 12:09pm PLOTTED BY:AKreuser SAVED BY:dklemm
IMAGES:RM_STDWIDE_LOGO.jpg; Current Page: 6
XREFS:rm2234c; RMLOGO-BRANCH OFFICES; WT-BR-03; WT-TW-01; WT-HYD-OFFSET; UT-TRENCH-07; Cgdt-Racine Water Utilities; CgdtFormDrainageTileReconnection; EC-DITCH-07; EC-DITCH-05; EC-GNL-03; WT-MH-13
G:\CSD_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zcpl-Construction Details-01.dwg
RW2234C

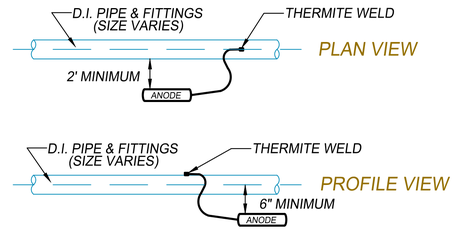


METHOD 1 METHOD 2

NOTE
1. AT VALVE LOCATIONS, CABLE BONDING OR STRAPPING SHALL GO AROUND VALVE.
2. THERMITE WELDED CONNECTIONS SHALL BE COMPLETELY COATED WITH AN APPROVED BITUMASTIC COATING (KOPPERS 50, 505, OR EQUAL)

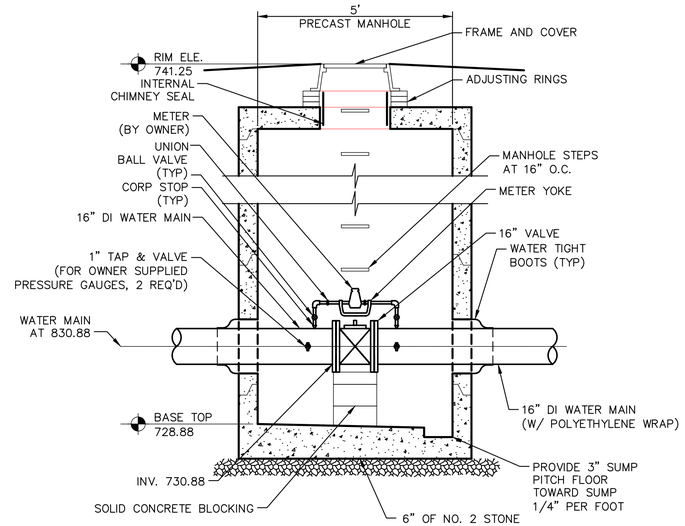
CABLE BONDING OR STRAPPING DETAIL FOR DUCTILE IRON PIPE

N.T.S.



ANNODE CONNECTION DETAIL

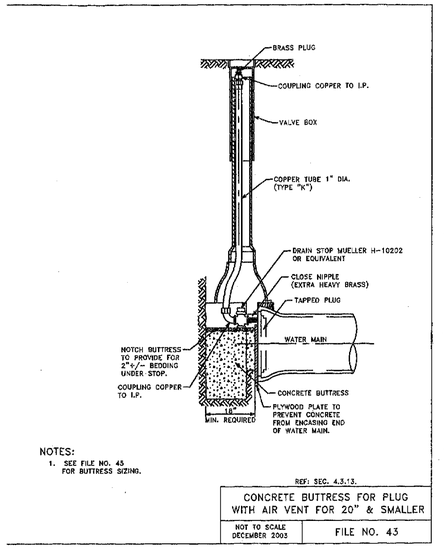
N.T.S.

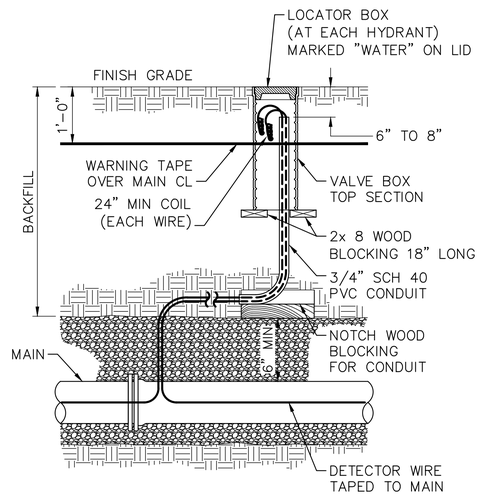


VALVE VAULT MANHOLE-SECTION

NO SCALE

WT-MH-13 24

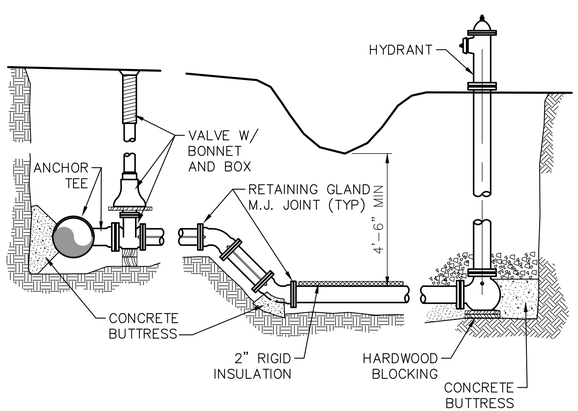




DETECTOR WIRE AND LOCATION BOX AT EACH HYDRANT

NO SCALE

WT-TW-01 16

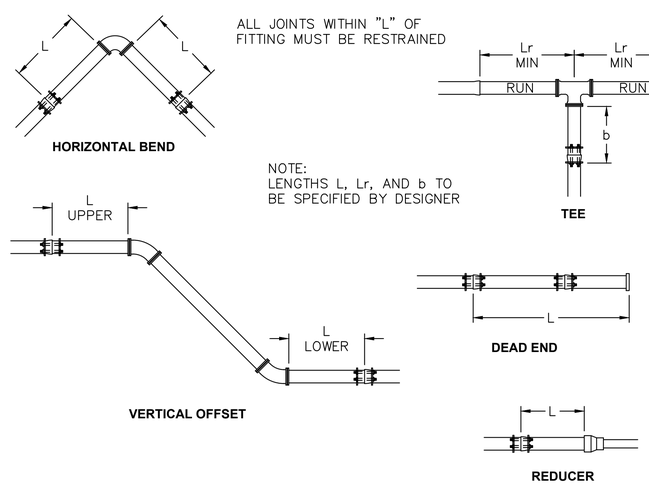


NOTE :
TOP BEND TO HAVE RETAINING GLANDS AND STRAPPING.

TYPICAL OFFSET FOR HYDRANTS

NO SCALE

WT-HYD-OFFSET 32



JOINT RESTRAINT DETAIL

NO SCALE

WT-BR-03 4

JOINT RESTRAINT DISTANCE (FT) PER FITTING

FITTING TYPE	4"	6"	8"	12"	16"	20"	24"	30"	36"
Horizontal Bend - 45°	10	10	12	16	20	26	31	37	44
Horizontal Bend - 11.25°	5	5	5	5	8	8	8	10	12
Horizontal Bend - 22.5°	8	8	8	10	10	15	16	20	23
Horizontal Bend - 90°	16	20	25	32	40	52	63	77	90
Restrain LARGER sized pipe									
Reducer - Diameter x 4"	-	25	50	60	80	130	164	204	244
Reducer - Diameter x 6"	-	-	25	60	100	125	158	199	240
Reducer - Diameter x 8"	-	-	-	50	80	120	149	192	234
Reducer - Diameter x 12"	-	-	-	-	50	100	126	173	219
Reducer - Diameter x 16"	-	-	-	-	-	50	93	147	197
Reducer - Diameter x 20"							51	114	169
Reducer - Diameter x 24"								73	136
Reducer - Diameter x 30"									75
Dead End	40	40	60	90	120	150	170	209	248
Tee or Cross - Run	10	10	10	20	30	40	50	60	70
Tee - 4" Branch	8	6	6	6	6	6			
Tee - 6" Branch	-	8	6	6	6	6			
Tee - 8" Branch	-	-	10	6	6	6			
Tee - 12" Branch	-	-	-	12	6	6	6	6	6
Tee - 16" Branch	-	-	-	-	30	10	6	6	6
Tee - 20" Branch	-	-	-	-	-	50	36	22	8
Tee - 24" Branch							62	50	38
Tee - 30" Branch							95	86	76
Tee - 36" Branch							126	118	110
Vertical Bend - 45° - Upper	12	20	26	40	50	60	73	89	105
Vertical Bend - 45° - Lower	5	5	6	10	12	14	17	20	24
Vertical Bend - 22.5° - Upper	8	10	14	18	24	28	35	43	51
Vertical Bend - 22.5° - Lower	4	5	5	8	8	8	9	11	13
Vertical Bend - 11.25° - Upper	6	6	8	10	12	14	18	21	25
Vertical Bend - 11.25° - Lower	4	4	4	4	4	6	6	6	8

*Un-restrained sleeve fittings not allowed within the above distances

REVISIONS	
7	
6	
5	
4	
3	
2	
1	

TOWN: RANGE: SECTION(s):

Ruekert•Mielke
Waukesha • Kenosha • Madison
Chicago • Global Water Center • Fox Valley
www.ruekertmielke.com

INTERNATIONAL DRIVE WATER MAIN
CONSTRUCTION DETAILS
RACINE WATER & WASTE WATER UTILITY
RACINE COUNTY, WISCONSIN

© COPYRIGHT 2018
RUEKERT & MIELKE INC.

DESIGNED BY: CMG
DRAFTED BY: AK1
CHECKED BY: KRW
DATE: MARCH 2018
FILE NO. 8022-10024.200

SHEET NO. DT-05

www.ruekertmielke.com

Aug 01, 2018 12:09pm PLOTTED BY:Akreuser SAVED BY:dklemm
LAYOUT:DT-05 XREFS:rm2234c; RML0GO-BRANCH OFFICES; WT-BR-03; WT-TW-01; WT-HYD-OFFSET; UT-TRENCH-07; Cgdt-Racine Water Utilities; CgdtFarmDrainageTileReconnection; EC-DITCH-07; EC-DITCH-05; EC-GNL-03; WT-MH-13
G:\C3D_2018\8022_Racine Water Utility\10024-International Drive Water Main\dwg\Zcpl-Construction Details-01.dwg
RN2234C