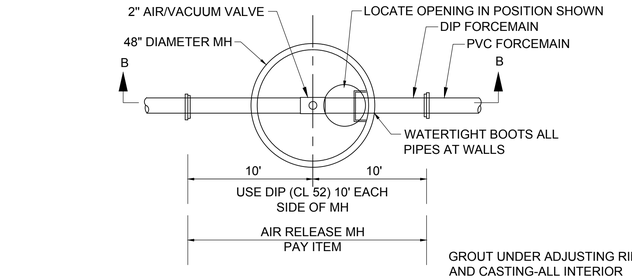
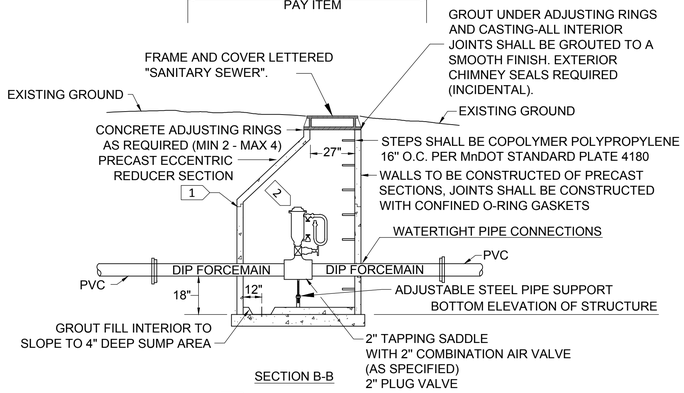




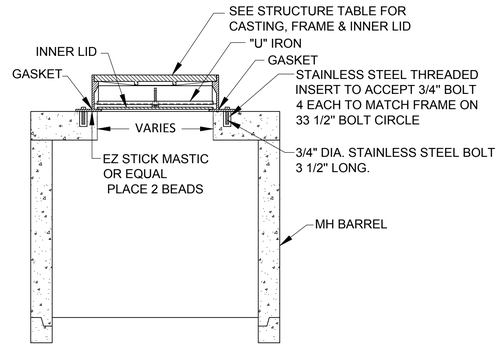
SECTION B-B

KEY NOTES:
1. JOINTS SHALL BE GASKETED
2. 2" COMBINATION AIR VALVE

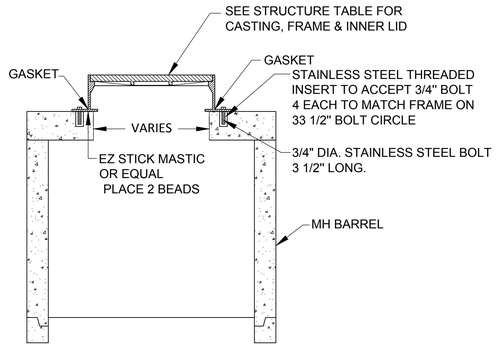
FORCEMAIN AIR RELEASE MH
NOT TO SCALE

WATERMAIN INSULATION
NOT TO SCALE

WATERTIGHT PIPE CONNECTIONS
NOT TO SCALE

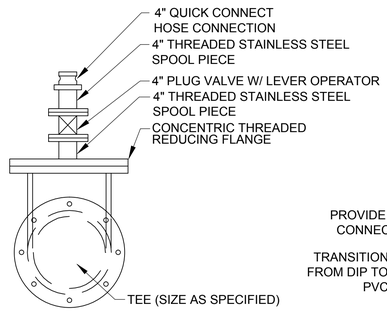


NOTE:
1. SEE STRUCTURE TABLE FOR USE.

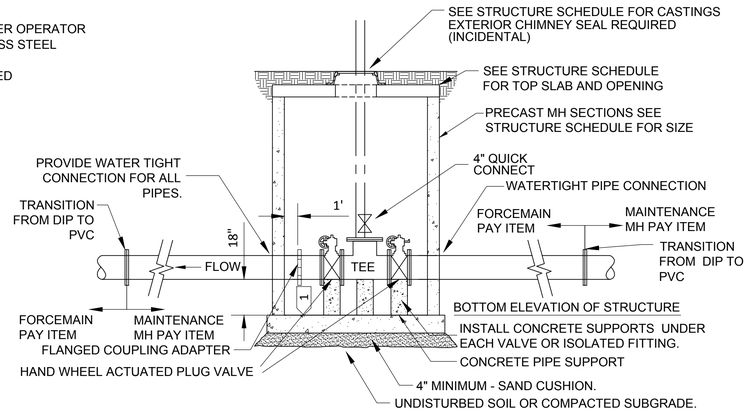


NOTE:
1. SEE STRUCTURE TABLE FOR USE.

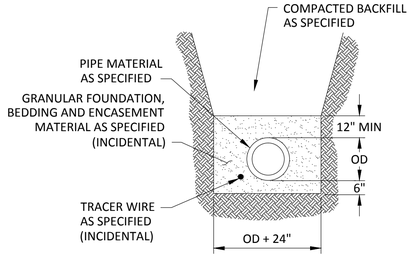
MH CASING & BOLT DOWN CASTING
NOT TO SCALE



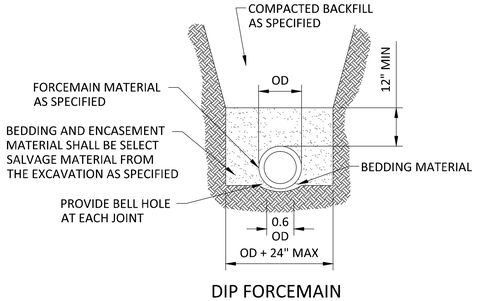
HOSE CONNECTOR
NOT TO SCALE



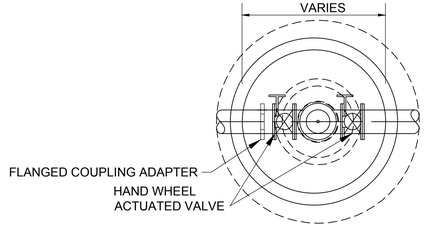
NOTE:
THE FOLLOWING ITEMS SHALL BE CONSIDERED INCIDENTAL FOR WHICH NO DIRECT COMPENSATION SHALL BE MADE (THIS IS A PARTIAL LIST SEE SPECIFICATIONS FOR FULL LIST):
- DEWATERING OPERATIONS
- FOUNDATION MATERIALS PLACED IN LIEU OF DEWATERING
- GRANULAR FOUNDATION MATERIALS
- GRANULAR BEDDING MATERIALS
- GRANULAR ENCASEMENT MATERIALS
- GRANULAR FOUNDATION MATERIALS USED IN UNSTABLE TRENCH CONDITIONS



PVC FORCEMAIN & WATERMAIN TRENCH DETAIL
NOT TO SCALE



DIP FORCEMAIN TRENCH
NOT TO SCALE



NOTE:
1) EXTEND DUCTILE IRON PIPE (CL.52) TO UNDISTURBED SOIL EACH SIDE OF STRUCTURE USE TRANSITION FITTINGS AS REQUIRED. ALL DIP PIPE & FITTINGS SHALL BE WRAPPED WITH POLYETHYLENE ENCASEMENT MATERIAL (INCIDENTAL)

MAINTENANCE MANHOLE
NOT TO SCALE

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

H:\WSTD\C14107572\C3D\Sheets\107572_DET.dwg 4/15/14 3:07 pm

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE: Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE: APRIL 18, 2014 LIC. NO.: 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

WINSTED, MINNESOTA

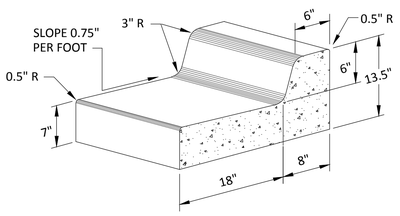
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

DETAILS

SHEET 2.03

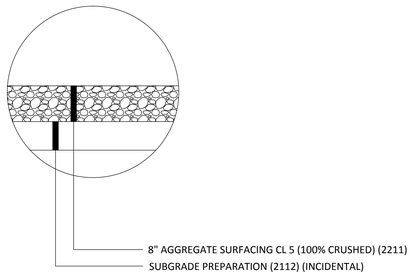
SANITARY SEWER CONSTRUCTION

BID SECTION	ALIGNMENT	STRUC. NO.	STRUC. TYPE	SANITARY MH (48")	SANITARY MH (60")	CASTING	METHOD	STATION	RIM ELEV	BOTTOM OF STRUCTURE	SANITARY MANHOLE (48") (LIN FT)	SANITARY MANHOLE (60") (LIN FT)	CASTING ASSEMBLY (EACH)
BASE BID	KINGSLEY LS FM	A	AIR RELEASE	X		R - 1642	BOLT	33+38.37	980.27	965.52	14.75		1
	KINGSLEY LS FM	B	AIR RELEASE	X		R - 1642	BOLT	30+05.66	980.95	968.60	12.35		1
ALTERNATE BID	DISCHARGE FM	C	AIR RELEASE	X		R - 1642	BOLT	30+05.75	981.45	968.75	12.70		1
	DISCHARGE FM	D	MAINTENANCE		X	R - 1758	BOLT	26+72.73	982.30	969.40		12.90	1
	DISCHARGE FM	E	AIR RELEASE	X		R - 1642	NON-BOLT	26+72.75	982.35	969.62	12.73		1
	DISCHARGE FM	F	MAINTENANCE		X	R - 1758	BOLT	23+44.00	981.40	970.23		11.17	1
	TOTALS										52.53	24.07	6

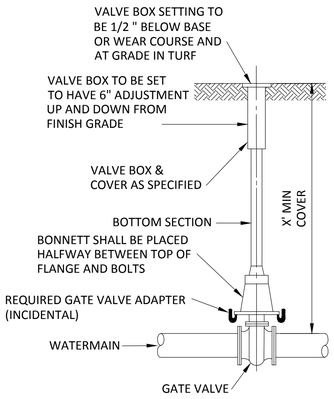


CONCRETE CURB & GUTTER DESIGN B618
NOT TO SCALE

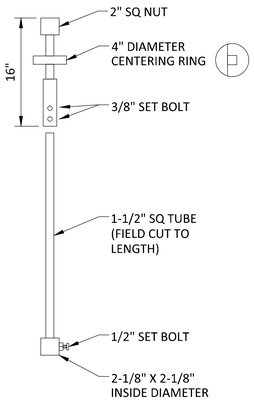
NOTES:
1. VALVE BOX SHALL BE CENTERED ON OPERATING NUTS, STRAIGHT, FREE FROM DEBRIS, AND ALL SECTIONS UNBROKEN
2. VALVES IN EASEMENTS SHALL HAVE CHANNEL POST WITNESS MARKERS WITH REFLECTIVE "GV" SIGN (INCIDENTAL)
3. ALL VALVES SHALL BE FITTED WITH EXTENTION RODS TO 1' BELOW FINISHED GRADE.
4. COMPACTION WITH MECHANICAL TAMPER AROUND VALVE BOX SHALL BE PLACED AND COMPACTED WITH 2' LIFTS TO ACHIEVE 95% COMPACTION
5. GATE VALVES LOCATED WITHIN THE CONCRETE SIDEWALK SHALL INCLUDE A METAL SEPARATOR BETWEEN THE VALVE BOX AND THE CONCRETE



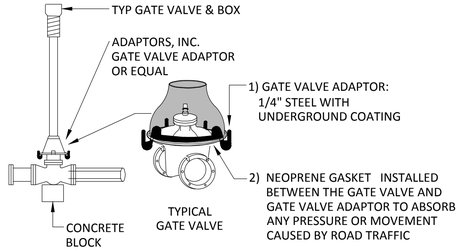
AGGREGATE DRIVEWAY



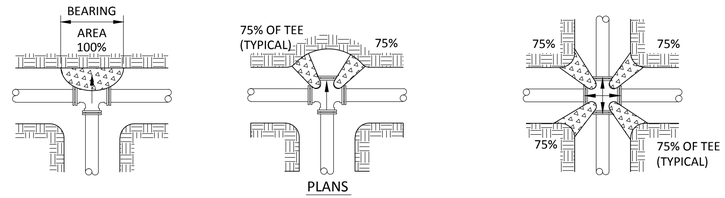
GATE VALVE BOX INSTALLATION
NOT TO SCALE



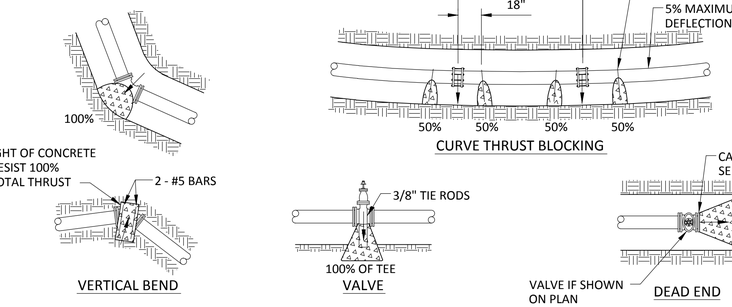
ADJUSTABLE VALVE EXTENSION STEM
NOT TO SCALE



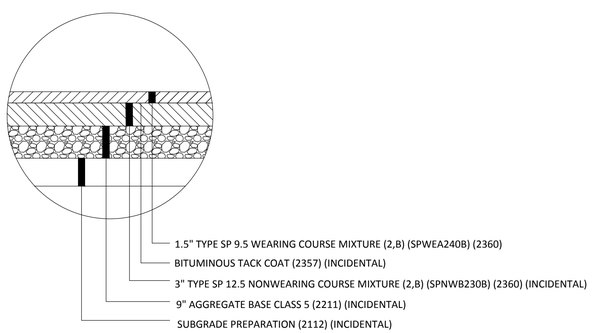
GATE VALVE ADAPTOR
NOT TO SCALE



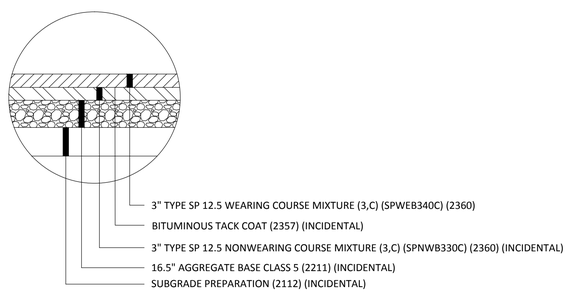
PLANS



VERTICAL BEND
CURVE THRUST BLOCKING
VALVE
DEAD END



PARKING LOT PATCH
NOT TO SCALE



COUNTY ROAD 9 PATCH
NOT TO SCALE

100% BEARING AREA (SQ FT)

PIPE SIZE	DEAD END OR TEE	90° ELBOW	45° ELBOW	22 1/2° ELBOW
4	2.4	3.4	1.9	0.9
6	4.9	6.9	3.8	1.9
8	8.4	11.8	6.4	3.4
10	13.7	19.3	10.5	5.4
12	19.4	27.3	14.9	7.7
14	26.3	37.0	20.1	10.3
16	34.0	47.9	26.2	13.3
18	43.9	61.8	33.7	17.2
20	54.3	76.4	41.7	21.2
24	77.9	109.8	59.8	30.5

NOTE:
BEARING AREAS ARE BASED ON 250 LB MAXIMUM PRESSURE AND SOIL BEARING STRENGTH OF 2000 LB/SQ FT.

ARROWS ( ) INDICATE THRUST DIRECTION

NOTES:

1. FIGURE (100%) AT THRUST BLOCK INDICATES PER CENT OF TOTAL THRUST TO BE APPLIED FOR BEARING AREA.
2. CONCRETE FOR THRUST BLOCKS TO BE 2000 PSI.
3. RESTRAINING RODS ARE REQUIRED AT ALL TEES AND AT BENDS DEFLECTING 22-1/2° OR MORE.
4. WRAP THE PIPE WITH POLYETHYLENE WRAPPING PRIOR TO POURING THE THRUST BLOCK.
5. SEE SOILS REPORT FOR BEARING STRENGTH OF SOIL. IN ABSENCE OF A SOILS REPORT, AN AVERAGE SOIL (SPADABLE MEDIUM CLAY) CAN BE ASSUMED TO HAVE A BEARING STRENGTH OF 2000 PSI.
6. THRUST BLOCKS ARE NOT REQUIRED ON PVC WITH SOLVENT WELDED JOINTS.

SIDE THRUST PER 100 LB/SQ IN PRESSURE PER DEGREE OF DEFLECTION

PIPE SIZE	SIDE THRUST-LB	PIPE SIZE	SIDE THRUST-LB
4	35	14	377
6	72	16	486
8	122	18	665
10	197	20	790
12	278	24	1150

MULTIPLY THRUST BY DEGREE OF DEFLECTION TO OBTAIN TOTAL THRUST

CONCRETE THRUST BLOCKS
NOT TO SCALE

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

H:\WSTD\C14107572\C3D\Sheets\107572_DET.dwg 4/15/14 3:07 pm

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

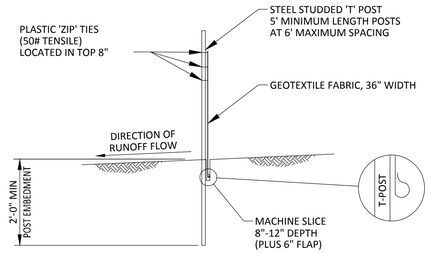
DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

WINSTED, MINNESOTA
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS
DETAILS

SHEET 2.04



SILT FENCE - MACHINE SLICED

NOT TO SCALE

NOTES:
INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER. MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENTS 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 IN THE INLET.

1. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

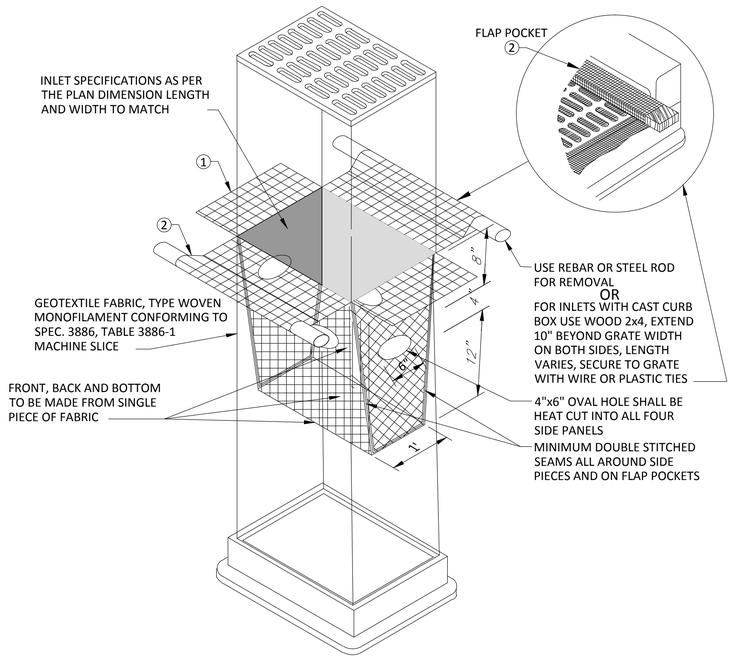
2. FINISHED SIZE, INCLUDING POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2x4.

INSTALLATION NOTES:
DO NOT INSTALL PROTECTION IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

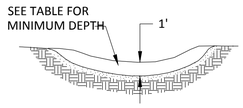
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CLINCH 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.

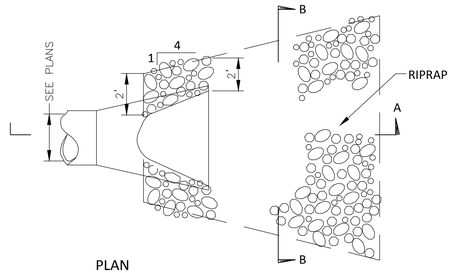


INLET PROTECTION
GEOTEXTILE BAG

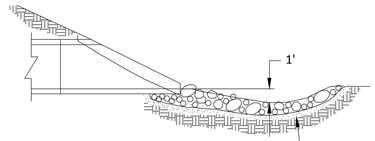
NOT TO SCALE



SECTION B-B

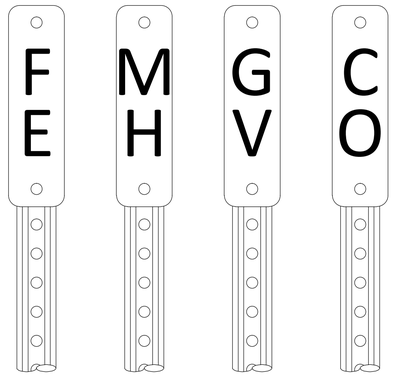


PLAN



SECTION A-A

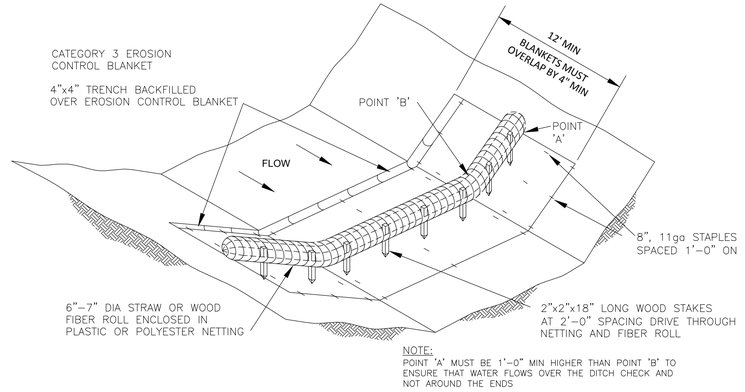
RIPRAP AT PVC CULVERT END



NOTES:
1. 0.063" THICK ALUMINUM SIGN. BLACK LETTERS ON WHITE HIGH INTENSITY REFLECTORIZED BACKGROUND.
2. U-CHANNEL POST, MINIMUM 3 LB/FT 6'-6" LONG, PAINTED GREEN.
3. PLACED AS DIRECTED BY ENGINEER.

STRUCTURE MARKER SIGNS

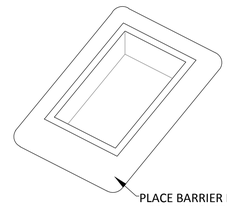
NOT TO SCALE



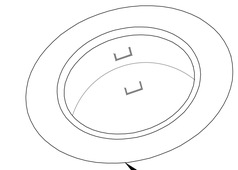
NOTE:
POINT 'A' MUST BE 1'-0" MIN HIGHER THAN POINT 'B' TO ENSURE THAT WATER FLOWS OVER THE DITCH CHECK AND NOT AROUND THE ENDS

DITCH CHECK - BIOROLL

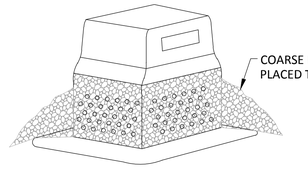
NOT TO SCALE



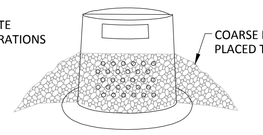
PLACE BARRIER FRAME
ATOP PRE-CAST TOP SLAB



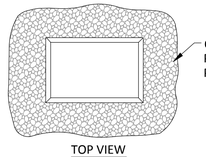
PLACE BARRIER FRAME
ATOP PRE-CAST TOP SLAB



COARSE FILTER AGGREGATE
PLACED TO COVER PERFORATIONS

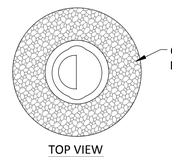


COARSE FILTER AGGREGATE
PLACED TO COVER PERFORATIONS



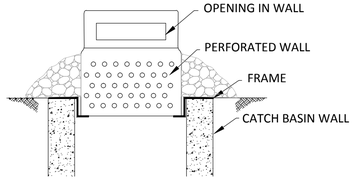
TOP VIEW

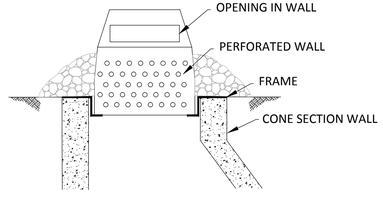
COARSE FILTER AGGREGATE
PLACED TO COVER
PERFORATIONS



TOP VIEW

COARSE FILTER AGGREGATE
PLACED TO COVER PERFORATIONS





INLET PROTECTION
PERFORATED WALL

NOT TO SCALE

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

H:\WSTD\C14107572\C3D\Sheets\107572_DET.dwg 4/15/14 3:07 pm

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE: Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

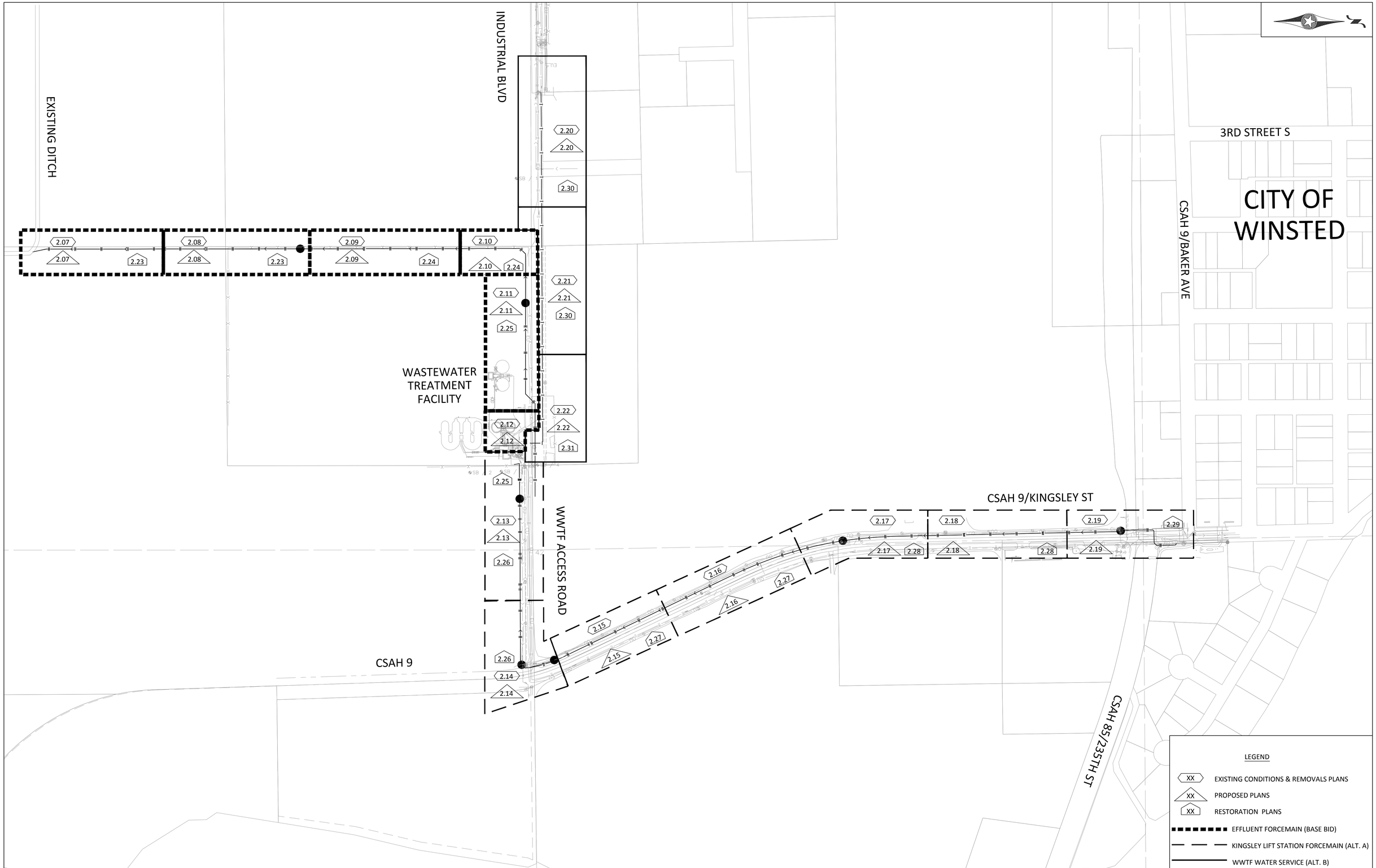
REV.	BY	DATE

WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

DETAILS

SHEET 2.05



SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

0 175 350
SCALE FEET

H:\WSTD\C14107572\C3D\Sheets\107572_GPL.dwg 4/15/14 2:13 pm

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

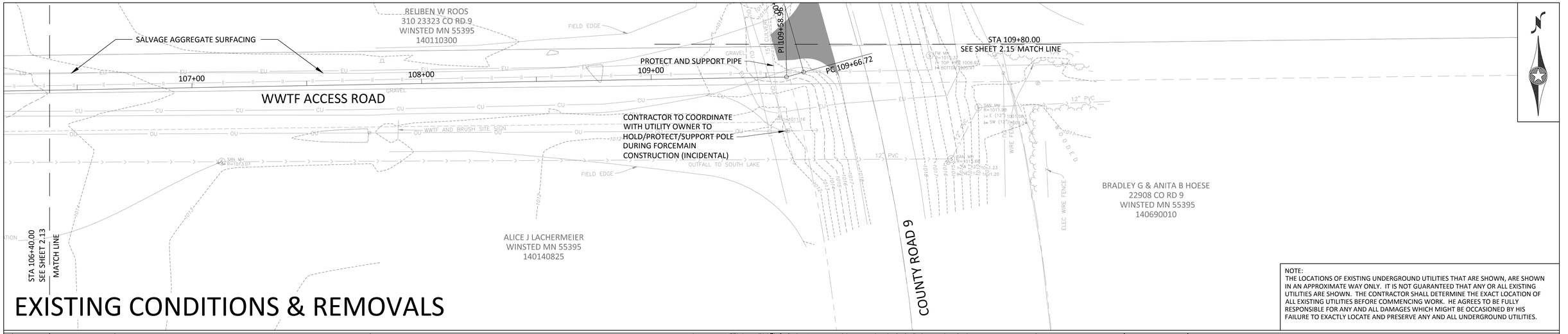
REV.	BY	DATE

WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

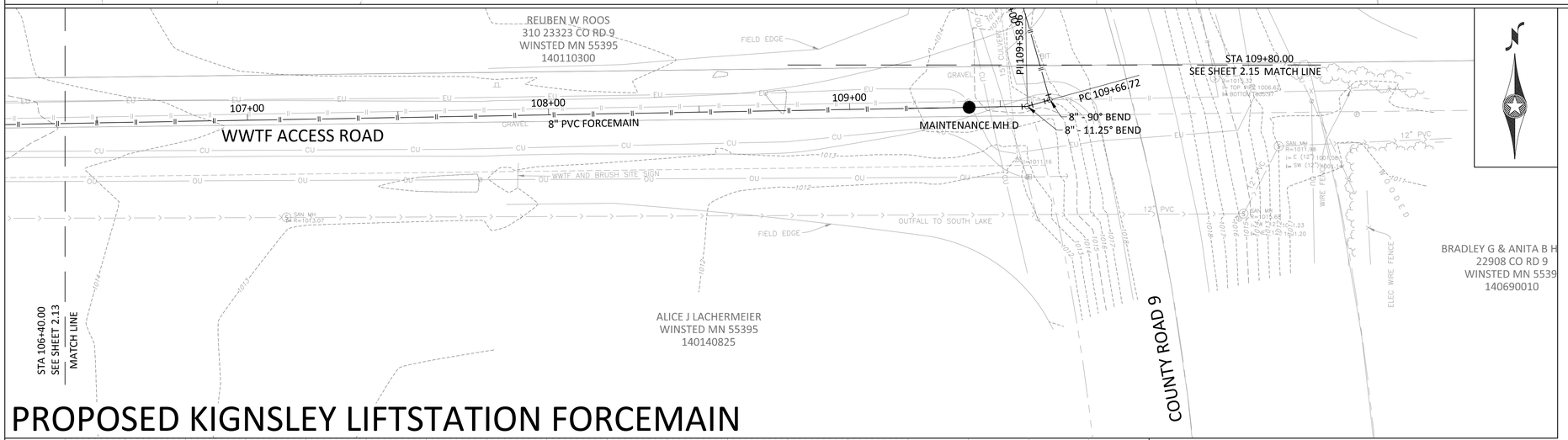
GENERAL PLAN LAYOUT

SHEET 2.06



EXISTING CONDITIONS & REMOVALS

NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES THAT ARE SHOWN, ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED THAT ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

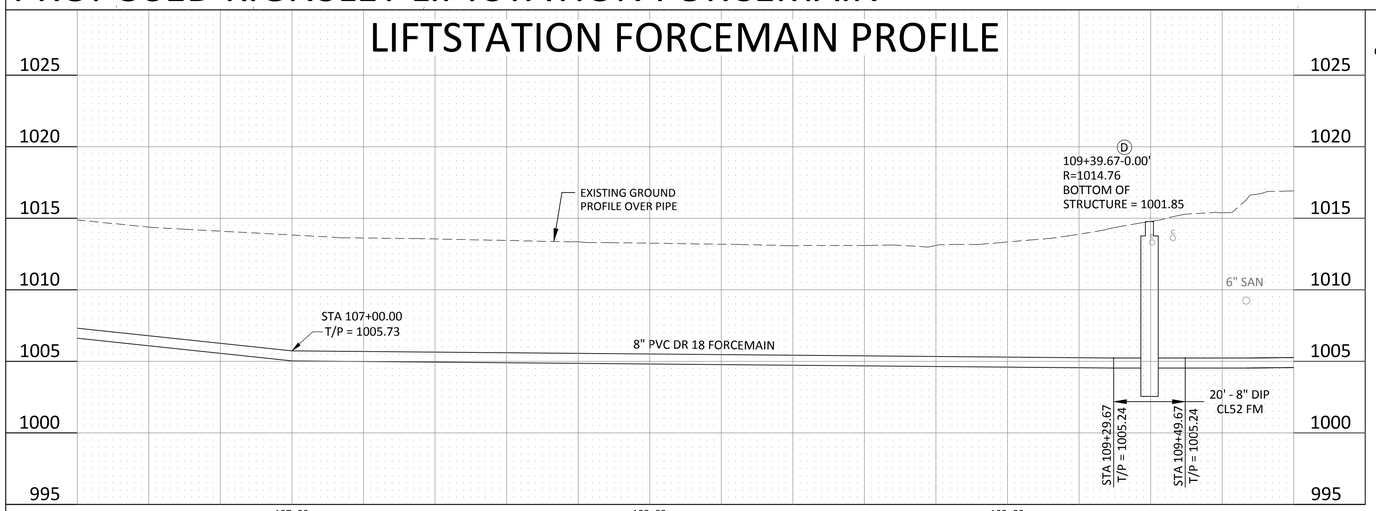


PROPOSED KIGNSLEY LIFTSTATION FORCEMAIN

LEGEND

- CLEAR & GRUB
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE PIPE
- REMOVE CURB & GUTTER
- AIR RELEASE OR MAINTENANCE MANHOLE
- PROPOSED FORCEMAIN
- SALVAGE PIPE

LIFTSTATION FORCEMAIN PROFILE



GENERAL NOTES:

1. ALL EXCAVATION & EQUIPMENT SHALL REMAIN WITHIN ROW, EASEMENTS, OR REMOVAL LIMITS SHOWN. TRENCH BOX OR SHEETING MAY BE REQUIRED. (INCIDENTAL)
2. CONTRACTOR SHALL PROTECT AND SUPPORT AS NECESSARY ALL TREES, BUILDINGS, LANDSCAPING, RETAINING WALLS, WALKWAYS, DRIVEWAYS, CURB & GUTTER, ETC. UNLESS NOTED OTHERWISE IN THE PLAN OR IN THE FIELD BY THE ENGINEER.
3. CONTRACTOR SHALL SALVAGE AND INSTALL OR PROTECT ALL LANDSCAPING INCLUDING BOULDERS, EDGING, LANDSCAPE ROCK, MULCH, BUSHES, PLANTS, LAWN ORNAMENTS, ETC. THAT ARE DISTURBED BY CONSTRUCTION.
4. CONTRACTOR SHALL PROTECT & SUPPORT ALL EXISTING PUBLIC AND PRIVATE UTILITIES (GAS, TELEPHONE, ELECTRIC, CABLE, WATERMAIN, STORM, SANITARY, ETC) AS DIRECTED BY UTILITY OWNER UNLESS OTHERWISE NOTED.
5. TRAFFIC CONTROL WILL BE REQUIRED FOR ALL LANE CLOSURES, TEMPORARY ROAD CLOSURES, OR FOR CONSTRUCTION IMMEDIATELY ADJACENT TO THE TRAVELEED LANE. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE 2005 MUTCD TEMPORARY TRAFFIC CONTROL ZONE LAYOUTS. THE ENGINEER PRIOR TO PLACEMENT SHALL APPROVE ALL TRAFFIC CONTROL LAYOUTS. COORDINATION SHALL BE REQUIRED WITH THE McLEOD COUNTY TRANSPORTATION DEPARTMENT FOR ANY TRAFFIC CONTROL WITHIN COUNTY RIGHT OF WAY.
6. RAISE/LOWER PROPOSED FORCEMAIN AS REQUIRED TO AVOID CONFLICTS W/ EXISTING SANITARY SERVICES, WATER SERVICES, STORM SEWER, UTILITY CROSSINGS, ETC. (INCIDENTAL)
7. TIE ALL VERTICAL BENDS (INCIDENTAL).
8. ANY DEWATERING SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. THE CONTRACTOR SHALL MAKE HIS/HER OWN ASSUMPTIONS AS TO THE NEED FOR DEWATERING OPERATIONS.

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

HORIZ. 0 20 40 SCALE FEET

VERT. 0 5 10 SCALE FEET

H:\WSTD\C14107572\C3D\Sheets\107572_PP.dwg 5/14/14 3:56 pm

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE _____ TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

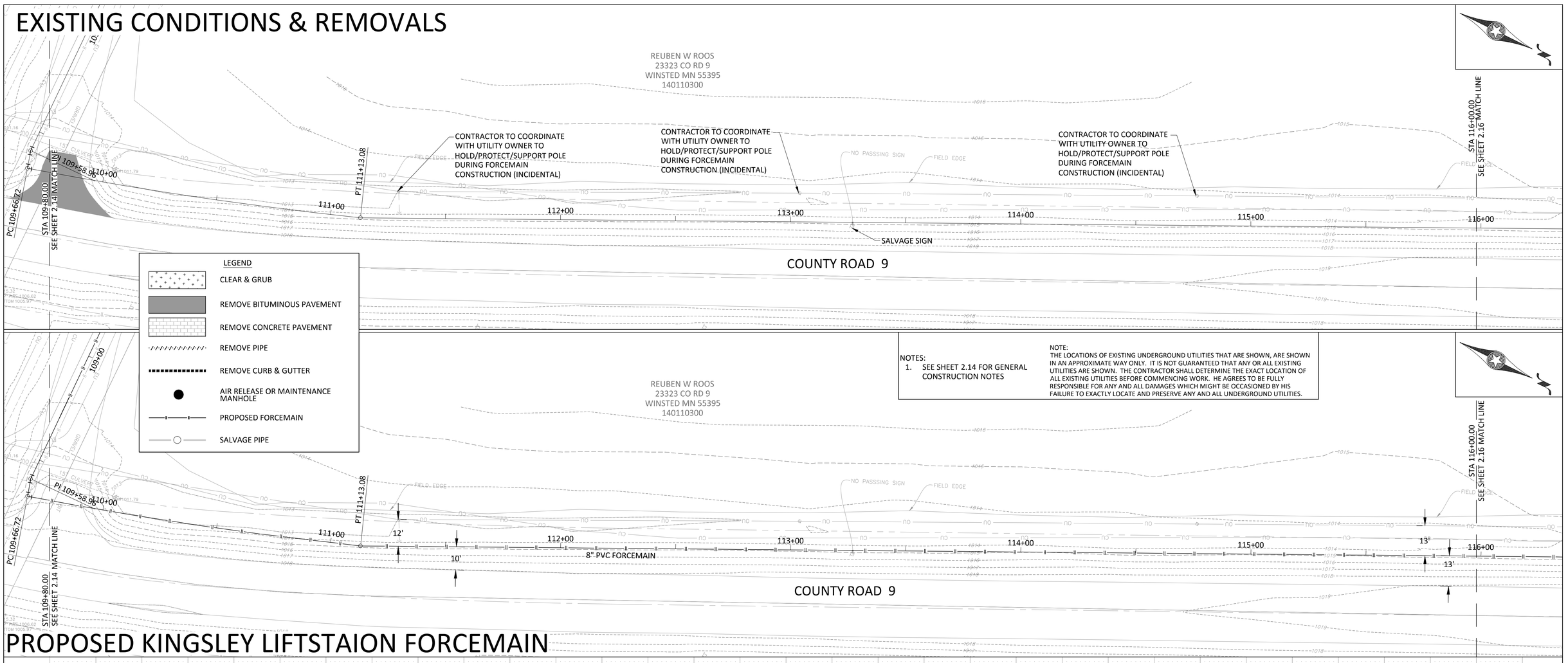
WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

EXISTING CONDITIONS, REMOVALS, AND PROPOSED FORCEMAIN

SHEET 2.14

EXISTING CONDITIONS & REMOVALS



LEGEND

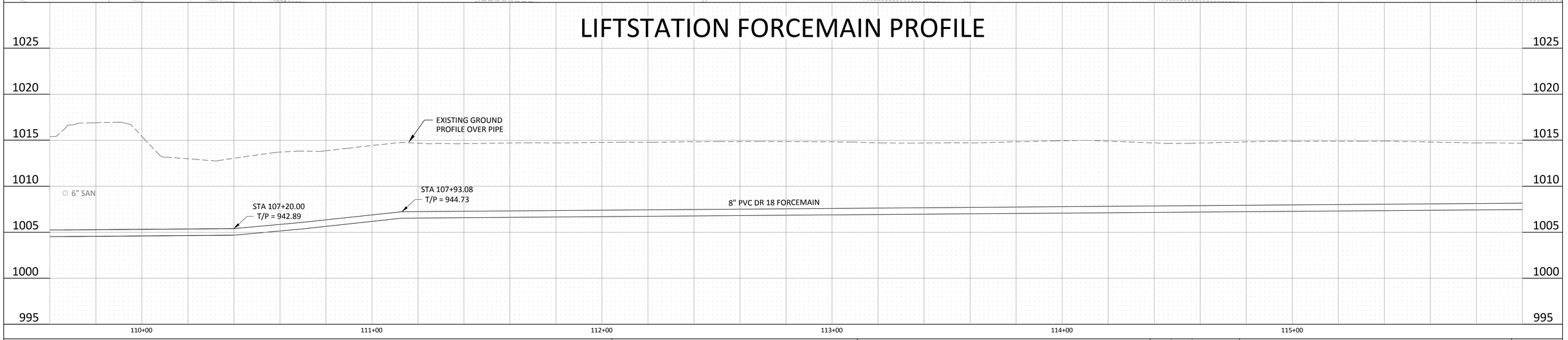
- CLEAR & GRUB
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE PIPE
- REMOVE CURB & GUTTER
- AIR RELEASE OR MAINTENANCE MANHOLE
- PROPOSED FORCEMAIN
- SALVAGE PIPE

NOTES:
1. SEE SHEET 2.14 FOR GENERAL CONSTRUCTION NOTES

NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES THAT ARE SHOWN, ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED THAT ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

PROPOSED KINGSLEY LIFTSTAION FORCEMAIN

LIFTSTATION FORCEMAIN PROFILE



SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

HORIZ. 0 20 40 SCALE FEET

VERT. 0 5 10 SCALE FEET

H:\WSTD\C14107572\C3D\Sheets\107572_PP.dwg 5/14/14 3:56 pm

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

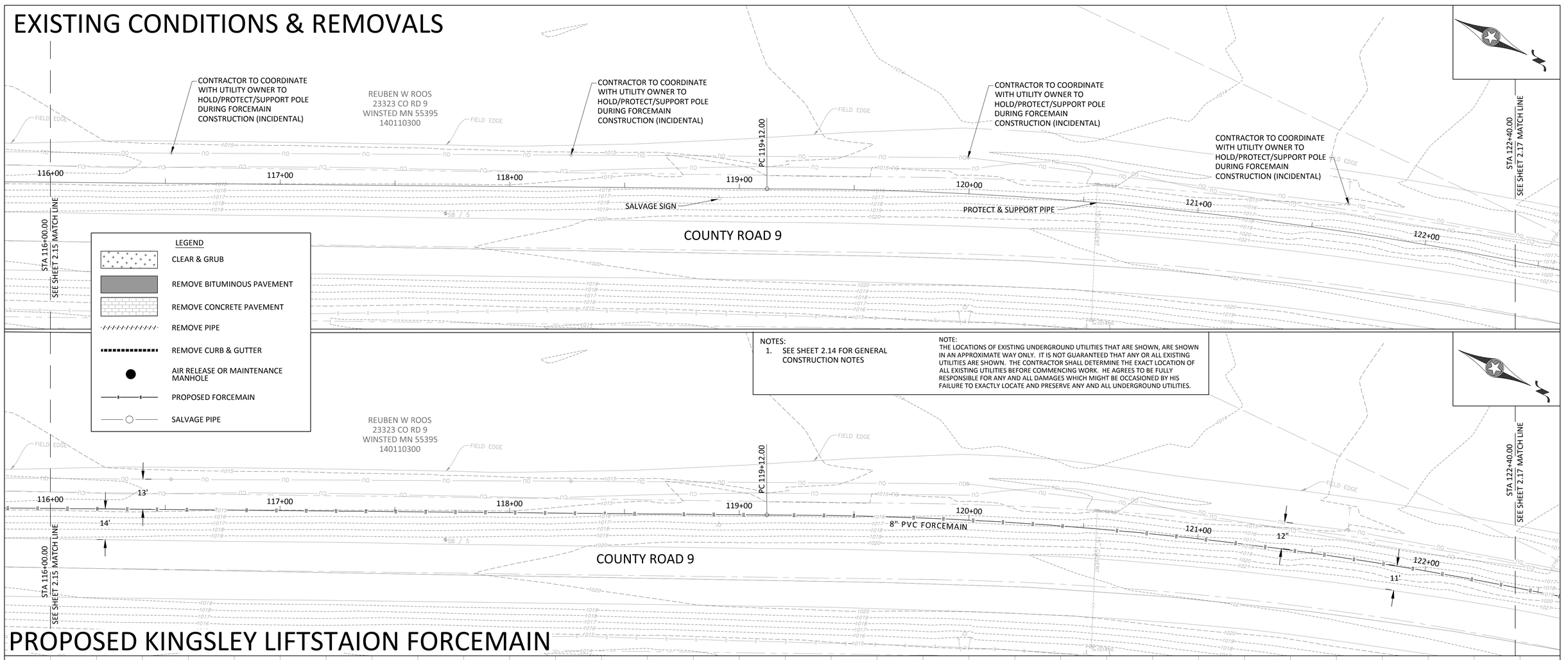
WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

EXISTING CONDITIONS, REMOVALS, AND PROPOSED FORCEMAIN

SHEET 2.15

EXISTING CONDITIONS & REMOVALS

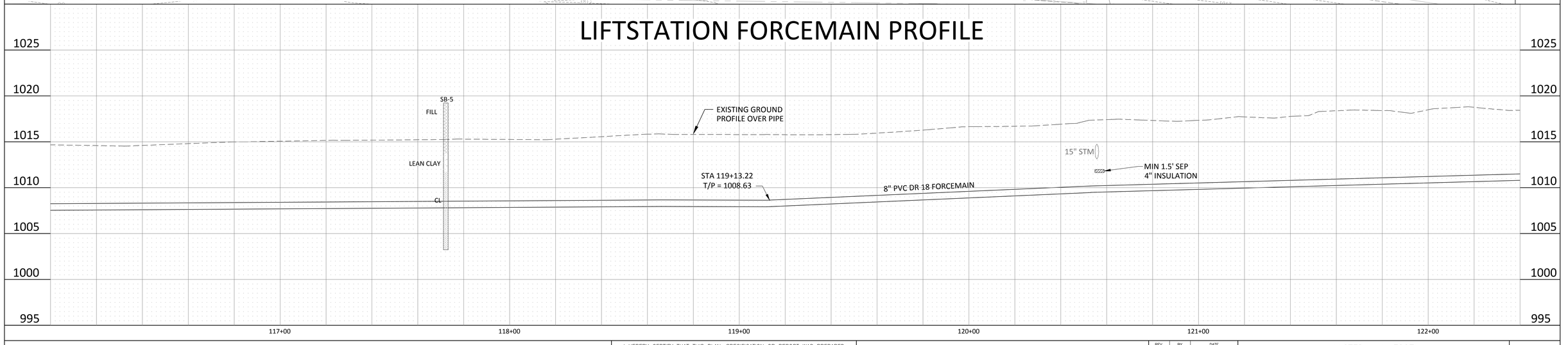


NOTES:
1. SEE SHEET 2.14 FOR GENERAL CONSTRUCTION NOTES

NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES THAT ARE SHOWN, ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED THAT ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

PROPOSED KINGSLEY LIFTSTAION FORCEMAIN

LIFTSTATION FORCEMAIN PROFILE



SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

H:\WSTD\C14107572\C3D\Sheets\107572_PP.dwg 5/9/14 10:52 am

HORIZ. SCALE 0 20 40 FEET

VERT. SCALE 0 5 10 FEET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

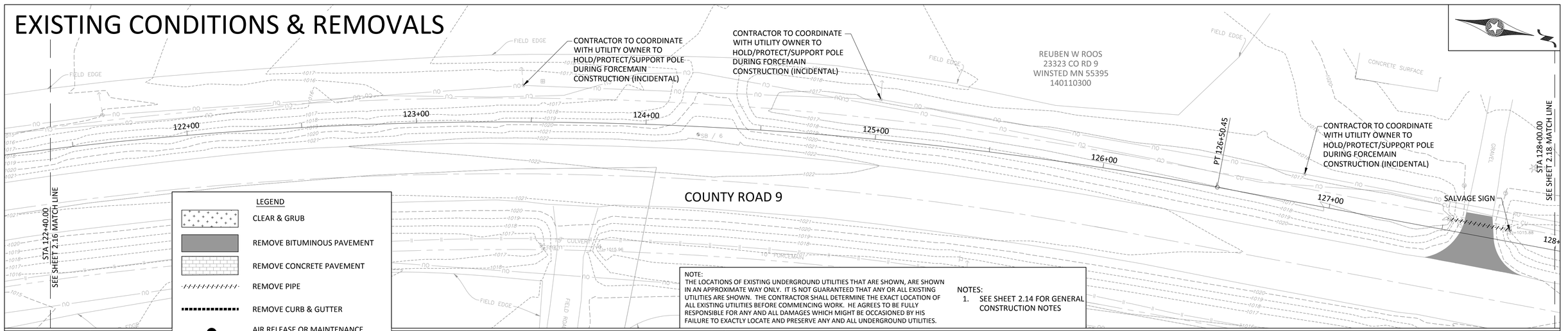
WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

EXISTING CONDITIONS, REMOVALS, AND PROPOSED FORCEMAIN

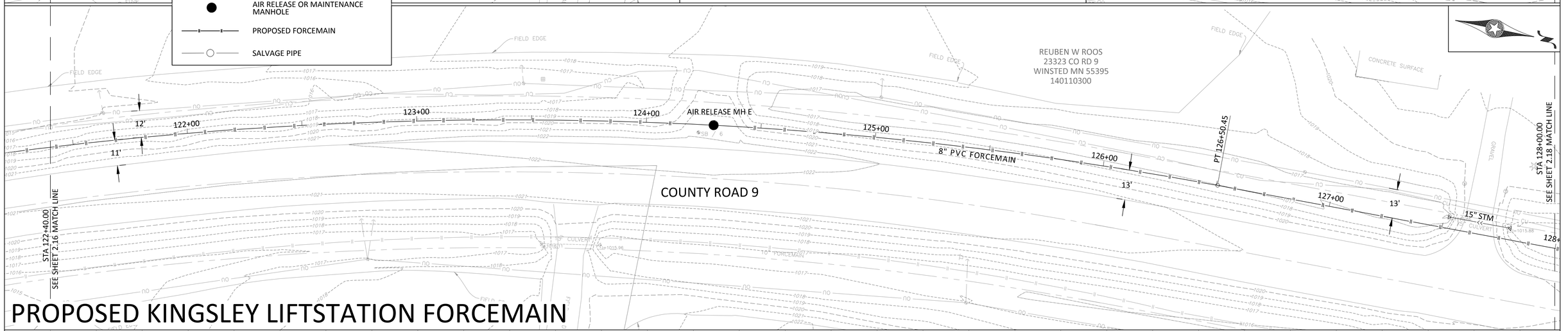
SHEET 2.16

EXISTING CONDITIONS & REMOVALS



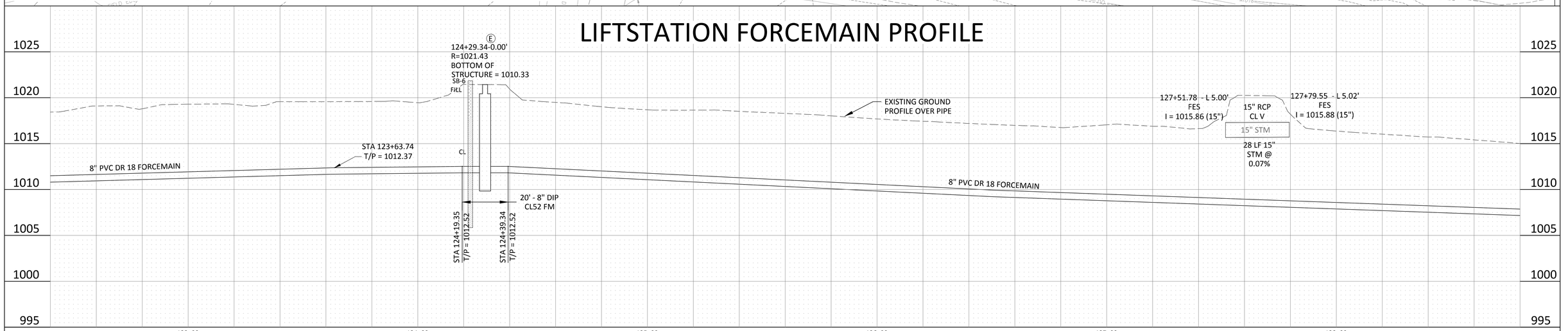
NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES THAT ARE SHOWN, ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED THAT ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTES:
1. SEE SHEET 2.14 FOR GENERAL CONSTRUCTION NOTES



PROPOSED KINGSLEY LIFTSTATION FORCEMAIN

LIFTSTATION FORCEMAIN PROFILE



SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

H:\WSTD\C14107572\C3D\Sheets\107572_PP.dwg 5/9/14 10:52 am

HORIZ. 0 20 40 SCALE FEET

VERT. 0 5 10 SCALE FEET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

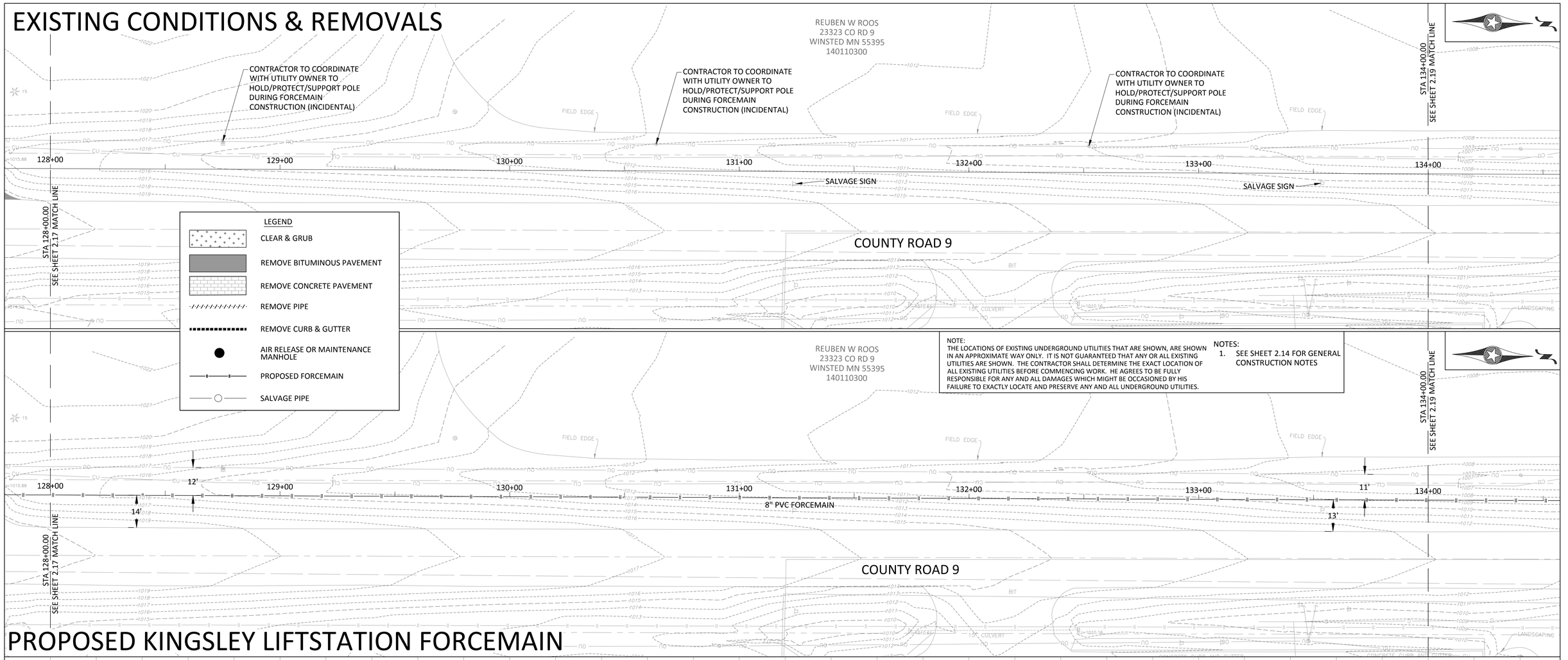
WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

EXISTING CONDITIONS, REMOVALS, AND PROPOSED FORCEMAIN

SHEET 2.17

EXISTING CONDITIONS & REMOVALS

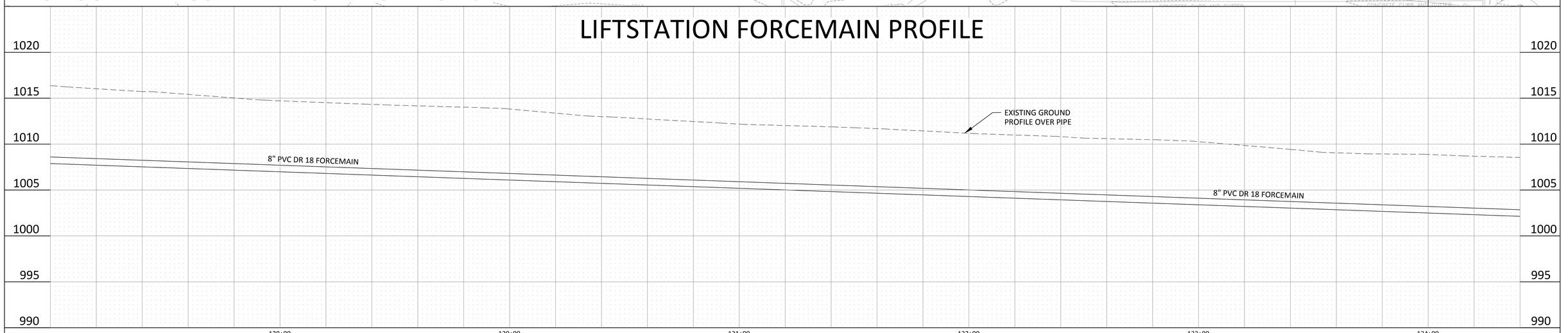


NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES THAT ARE SHOWN, ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED THAT ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTES:
1. SEE SHEET 2.14 FOR GENERAL CONSTRUCTION NOTES

PROPOSED KINGSLEY LIFTSTATION FORCEMAIN

LIFTSTATION FORCEMAIN PROFILE



SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

HORIZ. SCALE 0 20 40 FEET

VERT. SCALE 0 5 10 FEET

H:\WSTD\C14107572\C3D\Sheets\107572_PP.dwg 5/9/14 10:52 am

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

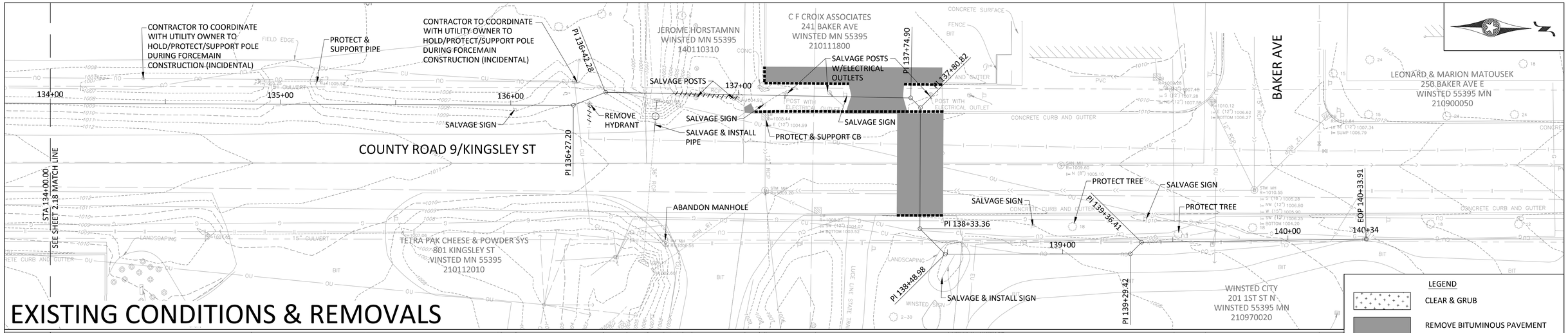
BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

WINSTED, MINNESOTA
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS
EXISTING CONDITIONS, REMOVALS, AND PROPOSED FORCEMAIN

SHEET 2.18

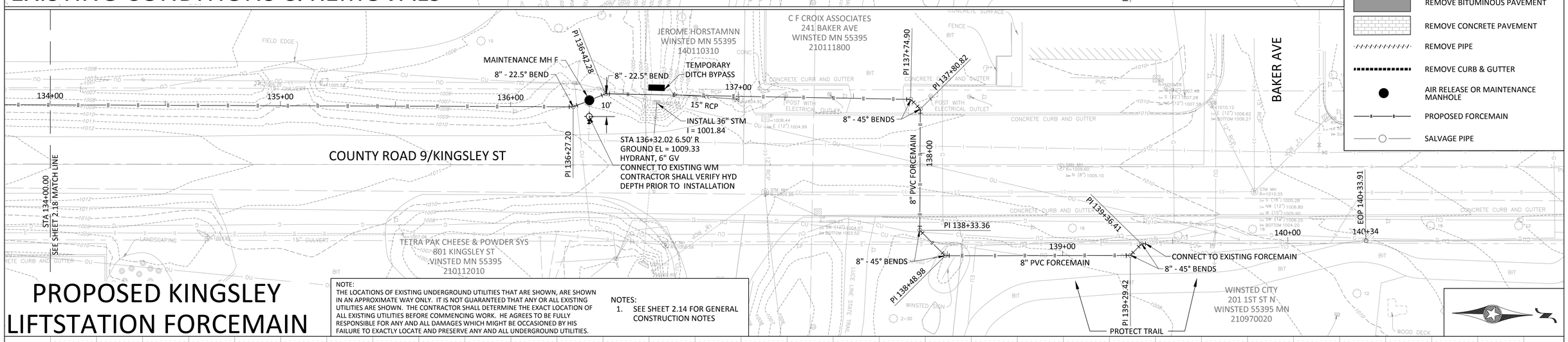
EXISTING CONDITIONS & REMOVALS



LEGEND

- CLEAR & GRUB
- REMOVE BITUMINOUS PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE PIPE
- REMOVE CURB & GUTTER
- AIR RELEASE OR MAINTENANCE MANHOLE
- PROPOSED FORCEMAIN
- SALVAGE PIPE

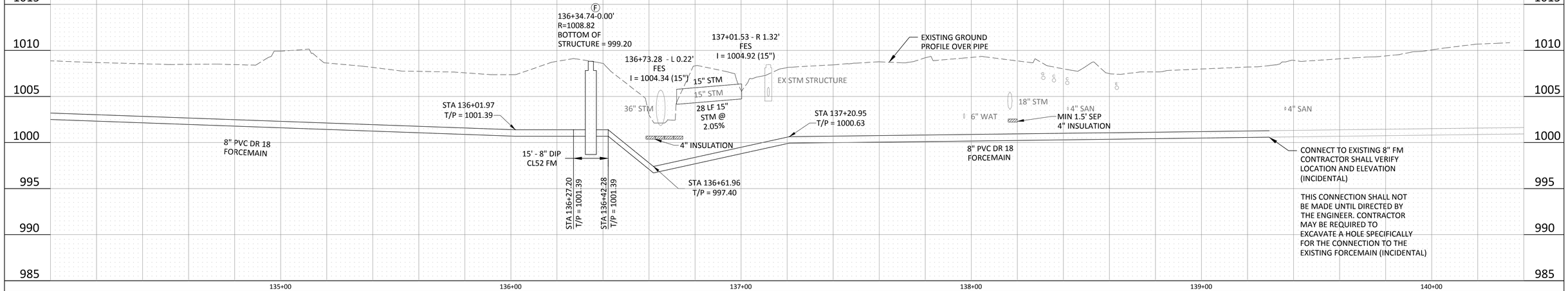
PROPOSED KINGSLEY LIFTSTATION FORCEMAIN



NOTE:
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES THAT ARE SHOWN, ARE SHOWN IN AN APPROXIMATE WAY ONLY. IT IS NOT GUARANTEED THAT ANY OR ALL EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NOTES:
1. SEE SHEET 2.14 FOR GENERAL CONSTRUCTION NOTES

LIFTSTATION FORCEMAIN PROFILE



SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

HORIZ. SCALE 0 20 40 FEET

VERT. SCALE 0 5 10 FEET

H:\WSTD\C14107572\C3D\Sheets\107572_PP.dwg 5/9/14 10:52 am

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE: Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

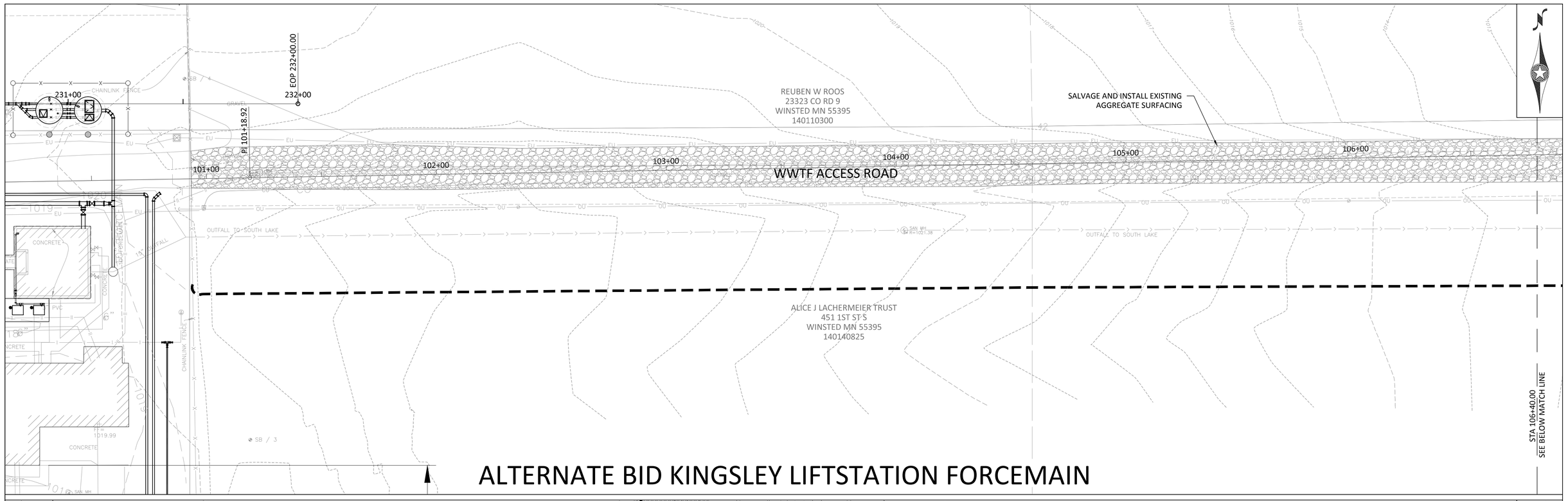
REV.	BY	DATE

WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

EXISTING CONDITIONS, REMOVALS, AND PROPOSED FORCEMAIN

SHEET 2.19



NOTES:
1. SEE SHEET 2.29 FOR RESTORATION NOTES.

LEGEND

- 8" AGGREGATE SURFACING
- STREET PATCH
- CONCRETE CURB & GUTTER
- 4" CONCRETE WALK
- HYDROSEED WITH SEED MIX 350
- HYDROSEED WITH SEED MIX 328
- SILT FENCE
- INLET PROTECTION
- DITCH CHECK

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

H:\WSTD\C14107572\C3D\Sheets\107572_RESTORATION.dwg 5/14/14 3:38 pm

HORIZ. SCALE 0 20 40 FEET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

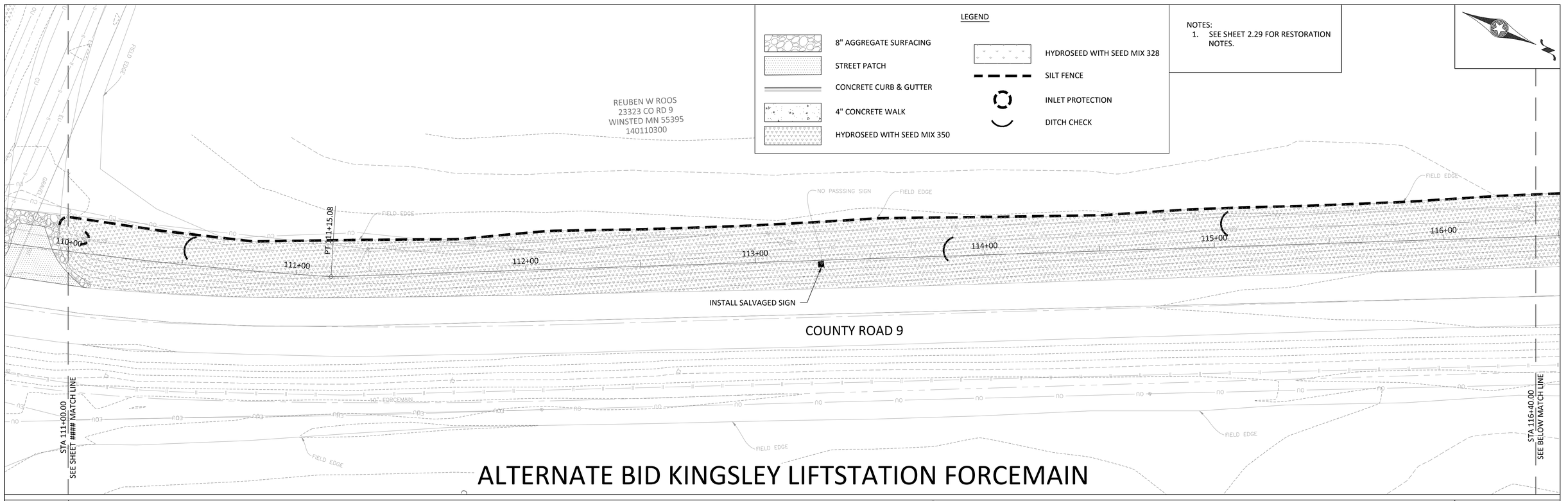
RESTORATION & EROSION CONTROL PLAN

SHEET 2.26

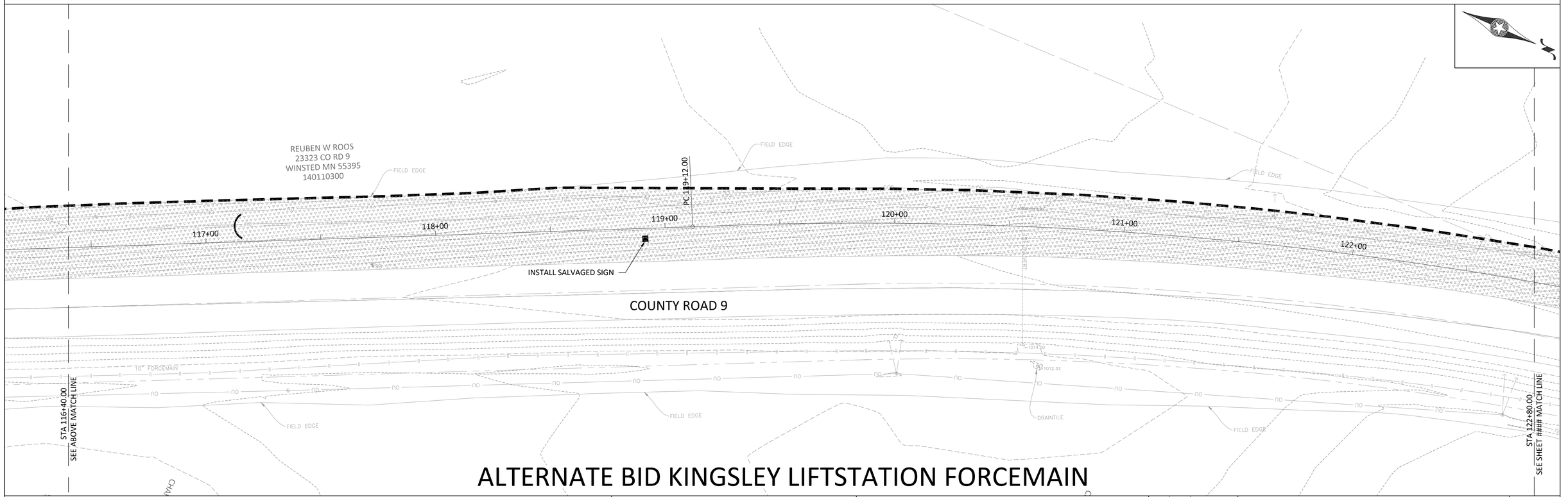
LEGEND

- 8" AGGREGATE SURFACING
- STREET PATCH
- CONCRETE CURB & GUTTER
- 4" CONCRETE WALK
- HYDROSEED WITH SEED MIX 350
- HYDROSEED WITH SEED MIX 328
- SILT FENCE
- INLET PROTECTION
- DITCH CHECK

NOTES:
1. SEE SHEET 2.29 FOR RESTORATION NOTES.



ALTERNATE BID KINGSLEY LIFTSTATION FORCEMAIN



ALTERNATE BID KINGSLEY LIFTSTATION FORCEMAIN

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

HORIZ. SCALE 0 20 40 FEET

H:\WSTD\C14107572\C3D\Sheets\107572_RESTORATION.dwg 5/9/14 10:42 am

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE: Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE: APRIL 18, 2014 LIC. NO.: 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

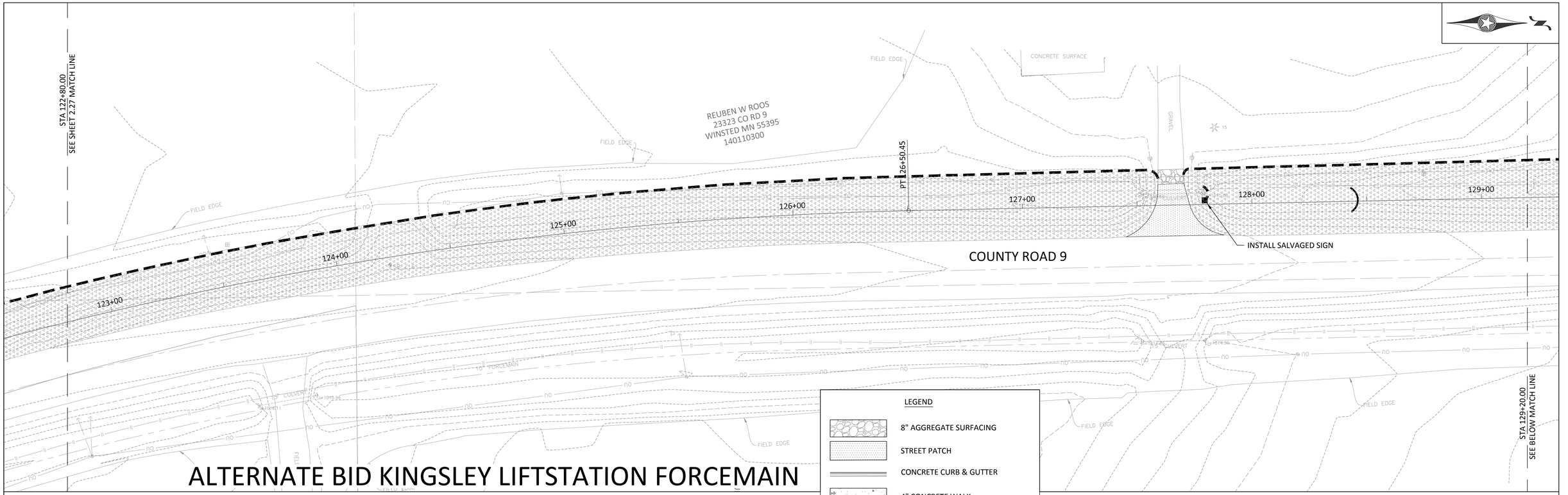
WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

RESTORATION & EROSION CONTROL PLAN

SHEET 2.27

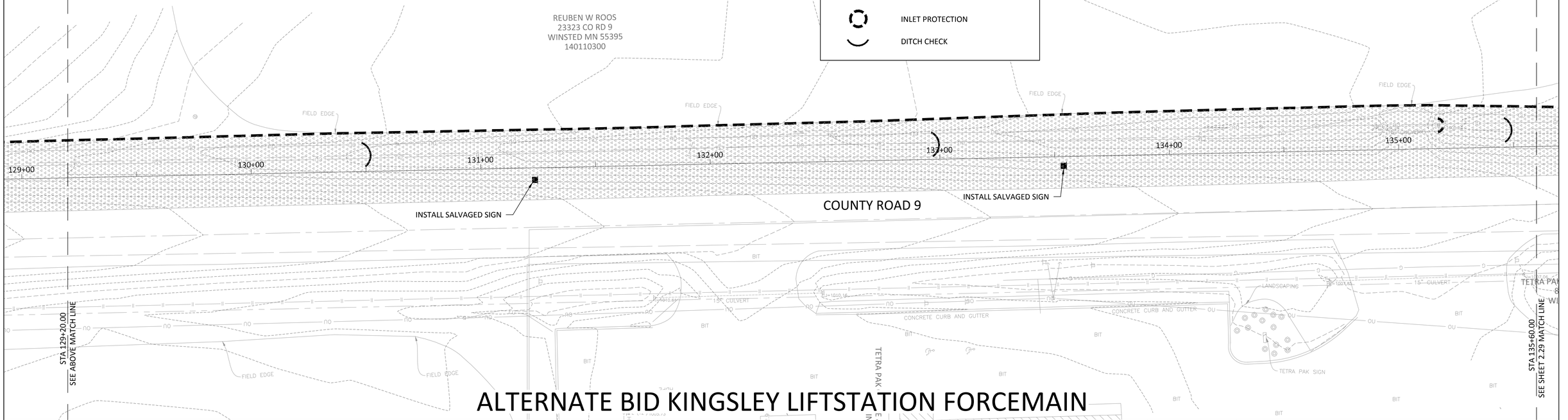
ALTERNATE BID KINGSLEY LIFTSTATION FORCEMAIN



LEGEND

- 8" AGGREGATE SURFACING
- STREET PATCH
- CONCRETE CURB & GUTTER
- 4" CONCRETE WALK
- HYDROSEED WITH SEED MIX 350
- HYDROSEED WITH SEED MIX 328
- SILT FENCE
- INLET PROTECTION
- DITCH CHECK

NOTES:
1. SEE SHEET 2.29 FOR RESTORATION NOTES.



ALTERNATE BID KINGSLEY LIFTSTATION FORCEMAIN

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

HORIZ. SCALE 0 20 40 FEET

H:\WSTD\C14107572\C3D\Sheets\107572_RESTORATION.dwg 5/9/14 10:42 am

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

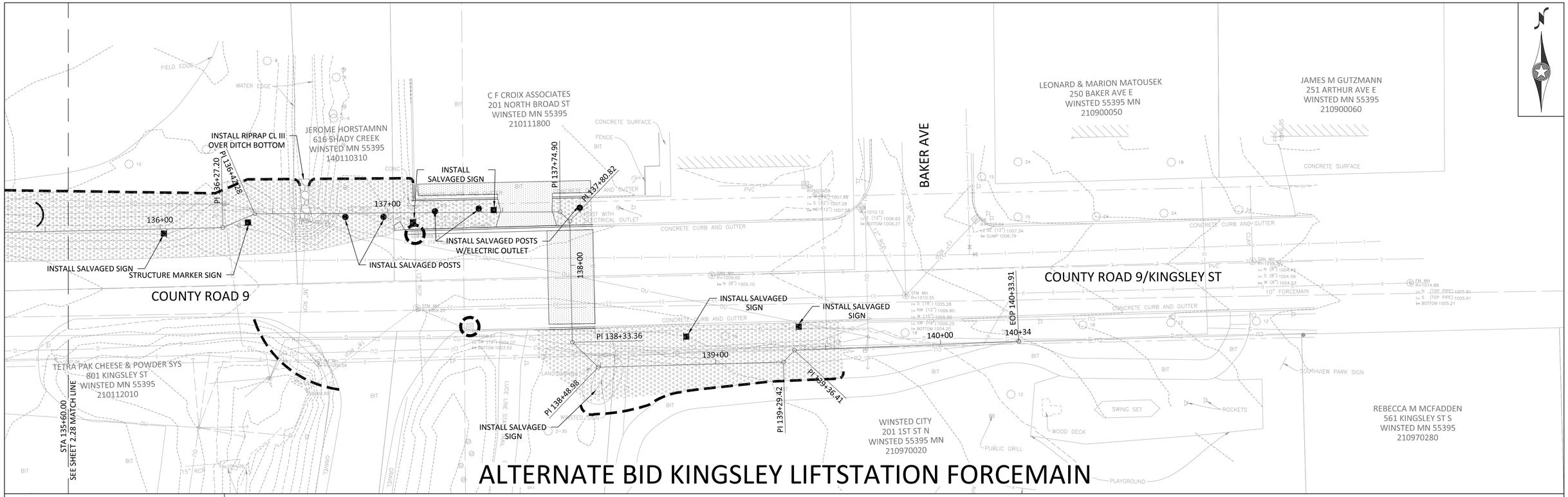
REV.	BY	DATE

WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

RESTORATION & EROSION CONTROL PLAN

SHEET 2.28



LEGEND

- 8" AGGREGATE SURFACING
- STREET PATCH
- CONCRETE CURB & GUTTER
- 4" CONCRETE WALK
- HYDROSEED WITH SEED MIX 350
- HYDROSEED WITH SEED MIX 328
- SILT FENCE
- INLET PROTECTION
- DITCH CHECK

RESTORATION NOTES

1) CONTRACTOR SHALL STRIP ALL INPLACE TOPSOIL IN AREAS TO BE DISTURBED BY CONSTRUCTION AND REUSE AS SLOPE DRESSING

2) PLACE A MINIMUM ON 6 INCHES OF TOPSOIL ON ALL AREAS SCHEDULED FOR PERMANENT TURF ESTABLISHMENT.

3) PROVIDE FERTILIZER TYPE 3, SLOW RELEASE TYPE, 22-5-10, OR EQUIVALENT ON ALL AREAS TO BE SEEDED OR SODDED AT AN APPLICATION RATE OF 350LBS/ACRE

4) ALL PAVEMENT MARKINGS THAT ARE REMOVED DURING CONSTRUCTION MUST BE REPLACED WITH NEW PAVEMENT MARKINGS (INCIDENTAL)

5) THE CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING ALL DITCHES TO PRECONSTRUCTION SLOPES & ELEVATIONS. THE CONTRACTOR SHALL TAKE CARE TO ESTABLISH ALL EXISTING DRAINAGE SWALES AND DITCHES TO PRECONSTRUCTION CONDITION. THE ENGINEER MAY PROVIDE STAKING AT THE REQUEST OF THE CONTRACTOR.

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

HORIZ. SCALE 0 20 40 FEET

H:\WSTD\C14107572\C3D\Sheets\107572_RESTORATION.dwg 5/9/14 10:42 am

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

WINSTED, MINNESOTA

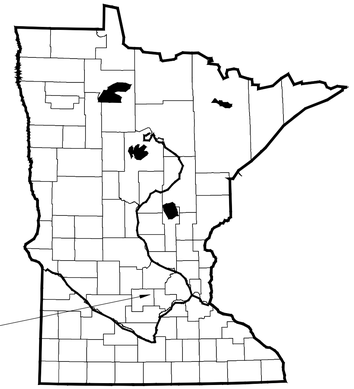
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

RESTORATION & EROSION CONTROL PLAN

SHEET 2.29

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

CITY OF WINSTED
WASTE WATER TREATMENT FACILITY UPGRADE
MCLEOD COUNTY, MINNESOTA



RESPONSIBLE PARTIES:
The Contractor and Owner must apply for coverage under the MPCA's General Storm Water Permit for Construction Activity as required by the National Pollutant Discharge Elimination System (NPDES) Phase II program. Coverage under the permit will begin automatically 7 calendar days after the electronic submittal date or after the postmarked date of a complete application. [Longer time frames apply to sites that disturb areas greater than 50 acres.]

	COMPANY	CONTACT PERSON	CERTIFICATION	PHONE
OWNER:	CITY OF WINSTED	JAKE SAULSBURY		952-448-8838
SWPPP DESIGNER:	BOLTON & MENK, INC.	ROBERT BEAN	2013-2016	952-448-8838
CONTRACTOR:	TBD			
SITE MANAGER:	TBD		CERTIFICATION	
PARTY RESPONSIBLE FOR LONG TERM O&M:	CITY OF WINSTED	DAVE MAYER		320-485-2201

Individuals listed above, including the SWPPP preparer, individual overseeing implementation of, revising, and amending the SWPPP, individuals performing or supervising the installation, maintenance and repair of BMPs must be trained. At least one individual present on the permitted project, or available on site within 72 hours, shall be trained in the applicable job duties. Documentation showing training commensurate with the job duties and responsibilities is required to be included in the SWPPP prior to any work beginning on the site. Copies of the SWPPP preparer information is included in the Project Manual. The Contractor shall provide information for the individual(s) overseeing implementation, supervising installation, maintenance, and repair of BMP's to be included in the Project Manual prior to the start of construction. This information shall be kept up to date until the project NOT is filed.

Documentation shall include:
a. Names of trained personnel associated with this project.
b. Dates of training, names of instructor(s) and entity providing training.
c. Content of training course or workshop including the number of hours trained.
d. As an alternative to a, b, and c listed above, a photocopy of a current Erosion and Stormwater Management card issued by the University of Minnesota can be attached to the SWPPP as suitable documentation of training.

SPECIAL ENVIRONMENTAL CONSIDERATIONS:

Was an environmental review required for this project or any part of a common plan of development or sale that includes all or any portion of this project?	NO
Does any portion of the site have the potential to affect threatened or endangered species or their critical habitat?	NO
Does any portion of this site discharge to a Calcareous fen and the letter of approval from the DNR is located in the Project Manual.	NO
Will any portion of the site potentially affect properties listed on the National Register of Historic Places or a known or discovered archeological site?	NO
Have any Karst features have been identified in the project vicinity?	NO
Is compliance with temporary or permanent stormwater management design requirements infeasible for this project?	NO

GENERAL STORMWATER DISCHARGE REQUIREMENTS
All requirements listed in Part III of the Permit for the design of the permanent stormwater management system and discharge have been included in the preparation of this SWPPP. These include but are not limited to::
1. The expected amount, frequency, intensity, and duration of precipitation.
2. The nature of stormwater runoff and run-on at the site
3. Peak flow rates and stormwater volumes to minimize erosion at outlets and downstream channel and stream bank erosion.
4. The range of soil particle sizes expected to be present on the site.

LEGEND

PROJECT BOUNDARY
SURFACE WATERS
NATIONAL WETLANDS INVENTORY

PROJECT AREAS:

Total Project Size (disturbed area) =	7	ACRES
Existing area of impervious surface =	2.4	ACRES
Post construction area of impervious surface =	2.43	ACRES
Total new impervious surface area created =	0.03	ACRES

Planned Construction Start Date:	7/1/2014
Estimated Construction Completion Date:	9/30/2014

PERMANENT STORMWATER MANAGEMENT SYSTEM:
Type of storm water management used if more than 1 acre of new impervious surface is created:

	Wet Sedimentation Basin
	Infiltration/Filtration
	Regional Pond
	Permanent Storm Water Management Not Required

PROJECT LOCATION:

COUNTY	TOWNSHIP	RANGE	SECTION	LATITUDE	LONGITUDE
MCLEOD	T117N	R27W	11 & 14	44.949484	-94.044375

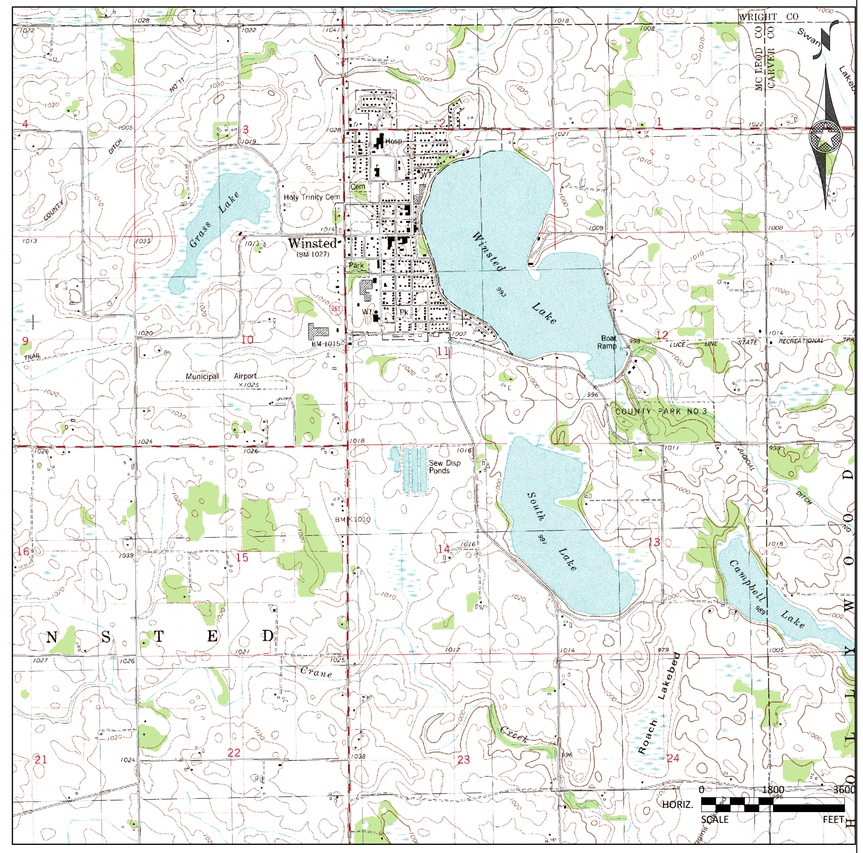
BMP	QUANTITY	UNIT
SILT FENCE	8,454	LIN FT
RIPRAP	56	CU YD
INLET PROTECTION	3	EACH
FILTER LOG TYPE STRAW BIOROLL, 12"	6	LIN FT
HYDROSEED MIX 328	1,301	SQ YD
HYDROSEED MIX 350	19,656	SQ YD

DESCRIPTION OF CONSTRUCTION ACTIVITIES AND STORMWATER MANAGEMENT:
Construction activities include: Site grading and excavation, utility placement, temporary erosion and sediment control, and permanent stabilization.

Project description
The Winsted Waste Water Treatment Facility (WWTF) is being upgraded. Work includes construction of new process building, retrofits and improvements to other existing buildings, installation of new effluent discharge pipe, installation of new water service line, installation of new Kingsley Lift Station forcemain. .

The proposed work will maintain the current drainage patterns and watershed areas.

DOCUMENT RETENTION
The following documentation will be retained for a period of not less than 3-years from the date of submittal of the NOT in compliance with Part III.E of the Permit.
1. The final SWPPP
2. Copies of all stormwater related permits required for the project
3. Records of all inspection and maintenance conducted during construction
4. Copies of all permanent operation and maintenance agreements; including all right-of-way, contracts, covenants and other binding requirements regarding perpetual maintenance, and
5. All required calculations for design of the temporary and permanent BMPs.



RECEIVING WATERS:

Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, are identified on the USGS 7.5 min quad map within one mile of the project boundary. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in this permit for special and impaired waters have been incorporated into this plan. All specific BMPs listed in approvoed TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Appendix A Special Water?	Flows to Impaired Water Within 1 Mile?	USEPA Approved TMDL?
WINSTED	LAKE	NO	YES	MERCURY

IMPLEMENTATION SCHEDULE AND PHASING:
1) Install perimeter sediment control. Contact McLeod County for inspection (320.864.1259)
2) Install inlet protection to off site catchbasins.
3) Clear, grub remove existing surface material and rough grade site.
4) Complete utility construction and new building construction.
5) Ensure final stabilization measures are complete.
6) Submit Notice of Termination (NOT) to MPCA within 30 days of final stabilization.

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

H:\WSTD\C14107572\C3D\Sheets\107572_SWPPP.dwg 4/15/14 2:28 pm

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA
SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN
DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

WINSTED, MINNESOTA
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS
SWPPP

SHEET 2.32

LEGEND

- PROJECT BOUNDARY
- SOIL TYPE
- SURFACE WATERS
- NATIONAL WETLANDS INVENTORY
- STEEP SLOPES (>33.3%)
- DRAINAGE ARROW

SOIL TYPE SUMMARY:

Map Unit Symbol	Soil Name	Hyd. Soil Group	Erodibility
CL	COLAND CLAY LOAM, OCCASIONALLY FLOODED	B/D	PHEL
HM	HAMEL LOAM	C/D	PHEL
IB2	DICKMAN SANDY LOAM, 2 TO 6 PERCENT SLOPES, ERODED	A	HEL
KL	HANLON-KALMARVILLE COMPLEX, FREQUENTLY FLOODED	A/D	PHEL
LA	LE SUEUR-LESTER LOAMS, 1 TO 4 PERCENT SLOPES	B/D	PHEL
LC	LESTER LOAM, 6 TO 12 PERCENT SLOPES	B	PHEL
LD2	LESTER LOAM, 12 TO 18 PERCENT SLOPES, ERODED	B	HEL
LE2	LESTER LOAM, 18 TO 25 PERCENT SLOPES, ERODED	B	HEL
LS	LE SUEUR LOAM	B/D	PHEL
PD	SPARTA LOAMY SAND, 12 TO 18 PERCENT SLOPES	A	NHEL
SV	SPILLVILLE LOAM, OCCASIONALLY FLOODED	B/D	PHEL
W	WATER		

NHEL - Not Highly Erodible Land
PHEL - Potentially Highly Erodible Land
HEL - Highly Erodible Land

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

H:\WSTD\C14107572\C3D\Sheets\107572_SWPPP.dwg 4/15/14 2:28 pm

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

WINSTED, MINNESOTA
WASTEWATER TREATMENT FACILITIES IMPROVEMENTS
SWPPP

SHEET 2.33

STORMWATER POLLUTION PREVENTION PLAN NARRATIVE

Information contained in this SWPPP summarizes requirements of the GENERAL PERMIT AUTHORIZATION TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM/STATE DISPOSAL SYSTEM PROGRAM - Permit No: MN Rl0000l as they apply to this project. All provisions of the permit including those not specifically cited herein shall apply to this project. The Contractor is responsible to be familiar with and comply with all conditions of the permit. The full text of the permit is available at: http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/construction-stormwater/mpca-to-re-issue-construction-stormwater-general-permit.html.

SWPPP AMENDMENTS

Permittee must amend SWPPP as necessary to include additional requirements to correct problems identified or address the following situations.

1. There is a change in design, construction, operation, maintenance, weather or seasonal conditions.
2. Inspections or investigations by site owner or operators, USEPA or MPCA officials determine the SWPPP is not minimizing discharge of pollutants to surface waters or underground waters or discharges are causing water quality standard exceedances.
3. The SWPPP is not achieving the objectives of minimizing pollutants in stormwater discharges associated with construction activity, or the SWPPP is not consistent with the terms and conditions of the permit.
4. The MPCA determines that the project's stormwater discharges may cause, have reasonable potential to cause, or contribute to non-attainment of any applicable water quality standard, or the SWPPP does not incorporate the applicable requirements of the permit.

EROSION PREVENTION PRACTICES:

The location of areas not to be disturbed must be delineated on the project before site work begins.

Disturbance on steep slopes (>33.3%) shall be minimized. Where required, techniques such as phasing and stabilizing practices designed for steep slopes shall be used.

All exposed soils must be stabilized as soon as possible but in no case later than 14 days after the construction activity has temporarily or permanently ceased.

For public waters that have been promulgated "work in water restrictions" during fish spawning time frames, all exposed soil areas that are within 200 feet of the water's edge, and drain to these waters must complete stabilization within 24-hours during the time period.

Stormwater conveyance channels shall be routed around unstabilized areas. Erosion controls and velocity dissipation devices shall be used at outlets within and along the length of any constructed conveyance channel.

The normal wetted perimeter of all ditches or swales, including storm water management pond slopes, that drain waters from the site must be stabilized within 200' of any property edge or discharge point, including storm sewer inlets, within 24 hours of connection.

Stabilization of the remaining portions of any temporary or permanent ditches or swales with 14 calendar days after connecting to a surface water or property edge and construction in that portion of the ditch has temporary or permanently ceased.

Temporary or permanent ditches or swales used as sediment containment during construction do not need to be stabilized during temporary period of use and shall be stabilized within 24 hours after no longer used as sediment containment.

Mulch, hydromulch, tackifier, or similar practice shall not be used in any portion of a temporary or permanent drainage ditch. Refer to erosion and sediment control plan for temporary and permanent stabilization measures for ditches and swales.

Stormwater discharges shall be directed to vegetated areas where feasible. Velocity dissipation devices shall be used at discharge point.

Phased construction will be used to extent practical or as indicated in the plans to minimize exposed soils.

Rapid stabilization shall be of type and quantity indicated in the project specifications. Additional rapid stabilization may be necessary to minimize erosion throughout the duration of the project. Type and quantity shall be determined by the engineer or inspector prior to installation. In extreme cases, the contractor shall use any available rapid stabilization to immediately mitigate erosion, then further remedy the situation with approval by owner or engineer.

SEDIMENT CONTROL PRACTICES:

Practices must be established on all down gradient perimeters and be located up gradient of any buffer zones. Perimeter controls must be in place before up gradient land-disturbing activities begin and shall remain in place until final stabilization.

All sediment controls practices shall be re-installed if they have been adjusted or removed to accommodate short-term activities and replaced immediately after the short term activity has ceased. Short term activities shall be performed as quickly as possible. Sediment control practices shall be re-installed before the next precipitation event even if the activity is not complete.

All storm drains must be protected by appropriate BMPs during construction until all sources to the inlet have been stabilized. Inlet protection may be removed for specific safety concerns identified by the Permittee or jurisdictional authority. The removal shall be documented in the SWPPP and retained on site. Temporary stockpiles must have silt fence or other effective sediment controls and shall not be placed in surface waters or natural buffers.

Vehicle tracking BMPs shall be installed to minimize track out of sediment from the construction site. Method shall be approved by engineer prior to commencement of construction activities. Street sweeping shall be used if vehicle tracking BMPs are not adequate to prevent sediment from being tracked onto the street.

Soil compaction shall be minimized and top soil shall be preserved, unless infeasible or if construction activities dictate soil compaction or top soil stripping.

A 50 foot natural buffer, or redundant BMPs (where a buffer is infeasible) must be maintained when a surface water is located within 50 feet of disturbance activities and site runoff flows to the surface water.

If polymers, flocculants, or other sedimentation treatment chemicals are used on site, 1) conventional erosion and sediment controls shall be used prior to chemical placement, 2) chemicals shall be chosen based on soil types, and expected turbidity, pH, and flow rate of stormwater flowing into the treatment system, and 3) chemicals shall be used with accepted engineering practices and dosing specifications.

TEMPORARY SEDIMENTATION BASINS:

The temporary sedimentation basin shall be constructed and made operational prior to disturbance of 10 or more acres draining to a common location.

Temporary sedimentation basins are required prior to runoff leaving the construction site or entering surface waters when 10 or more acres of disturbed soils drain to a common location. The basin must provide 3,600 cubic feet of storage below the outlet per acre drained. If hydraulic calculations are available, the temporary sedimentation basin must provide a storage volume equivalent to the 2-year, 24-hour storm, but in no case less than 1800 cubic feet per acre drained. The temporary sedimentation basin must be constructed and made operational concurrent with the start of soil disturbance up gradient of the pond. The temporary sedimentation basin shall be designed to prevent short circuiting. The outfall shall be designed to remove floatable debris, allow for complete draw down of the pond for maintenance activities, and have energy dissipation. The emergency spillway shall be stabilized.

Temporary sedimentation basins shall be situated outside of surface waters and any required buffer zone, and must be designed to avoid draining wetlands, unless the impact is in compliance with the requirements of this permit.

Excessive sediment-laden water that is not properly filtered will not be permitted to discharge from site.

DEWATERING AND BASIN DRAINING

Turbid or sediment-laden waters related to de-watering or basin draining shall be discharged to a temporary or permanent sedimentation basin on the project site, if available or another system designed by the contractor and approved by the Engineer must be implemented. A de-watering plan must be submitted by the contractor to the Engineer for approval prior to the commencement of any soil disturbing activities. All work associated with the de-watering plan shall be considered incidental to the project for which no direct compensation shall be made. The temporary or permanent basin may discharge to surface waters if the basin water has been visually checked to ensure adequate treatment has been obtained in the basin and that nuisance conditions will not result from the discharge. Discharge points shall be adequately protected from erosion and proper velocity dissipation provided.

All water from dewatering or basin-draining activities must be discharged in a manner that does not cause nuisance conditions, erosion in the receiving channels or on down slope properties, or inundation in wetlands causing significant adverse impacts to the wetland.

If filters with backwash waters are used, the backwash water shall be hauled away for disposal, returned to the beginning of the treatment process, or incorporated into site in a manner that does not cause erosion. Backwash water may be discharged to sanitary sewer if permission is granted by the sanitary sewer authority.

POLLUTION PREVENTION:

Building products that have the potential to leach pollutants must be under cover to prevent discharge or protected by an effective means designed to minimize contact with storm water.

Pesticides, herbicides, insecticides, fertilizers, treatment chemicals, and landscape materials must be under cover.

Hazardous materials and toxic waste must be properly stored in sealed containers to prevent spills, leaks or other discharge. Restricted access storage areas must be provided to prevent vandalism.

Solid waste must be stored, collected and disposed of in compliance with Minn. R. CH 7035.

Portable toilets must be positioned so that they are secure and will not be tipped or knocked over. Sanitary waste must be disposed of properly in accordance with Minn. R. CH 7041.

Discharge of spilled or leaked chemicals, including fuel, from any area where chemicals or fuel will be loaded or unloaded shall be prevented using drip pans or absorbents. Supplies shall be available at all times to clean up discharged materials and that an appropriate disposal method must be available for recovered spilled materials.

Exterior vehicle or equipment washing on the project site shall be limited to a defined area of the site. Runoff from the washing area shall be contained in a sediment basin or other similarly effective controls and waste from the washing activity must be properly disposed of. No engine degreasing is allowed on site.

Effective containment for all liquid and solid wastes generated by concrete and other washout operations related to construction activity shall be effectively contained. Liquid and solid washout waste shall not contact the ground, and containment must be designed so that it does not result in runoff from the washout operations or areas. A sign must be installed adjacent to each washout facility that requires site personnel to utilize the proper facilities for disposal of concrete and other washout wastes.

INSPECTION & MAINTENANCE:

A trained person shall routinely inspect the entire construction site at least once every 7 days during active construction and within 24-hours after a rainfall event greater than 0.5 inches in 24 hours. Following an inspection that occurs within 24-hours after a rainfall event, the next inspection must be conducted within 7 days.

All inspections and maintenance conducted during construction must be recorded within 24 hours in writing and records must be retained with the SWPPP. Inspection report forms are available in the Project Specifications. Inspection report forms other than those provided shall be approved by the engineer.

Where parts of the project site have permanent cover, but work remains on other parts of the site, inspections may be reduced on these areas to once per month.

Where the site has permanent cover on all exposed areas and no construction activity is occurring anywhere on site, the site must be inspected during non-frozen conditions at least once per month for 12 months. Following the 12th month of permanent cover and no construction activity, inspections shall be terminated until construction activity resumes or notification from MPCA has been issued that erosion has been detected at the site.

During frozen ground conditions, inspections may be suspended and shall resume within 24 hours after runoff occurs or 24 hours prior to resuming construction activity, whichever is first.

Inspection and maintenance shall resume until another Permittee has obtained coverage under this Permit or the project has undergone Final Stabilization, and an NOT has been submitted.

All erosion prevention and sediment control BMPs shall be inspected to ensure integrity and effectiveness during all routine and post-rainfall inspections. All non-functioning BMPs must be repaired, replaced, or supplemented with functional BMPs by the end of the next business day after discovery, or as soon as field conditions allow access.

All perimeter control devices must be repaired, replaced, or supplemented when they become non-functional or the sediment reaches one-half (1/2) of the height of the device. These repairs must be made by the end of the next business day after discovery, or as soon as field conditions allow.

Temporary and permanent sediment basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches one-half (1/2) the storage volume. Drainage and sediment removal must be completed within 72 hours of discovery, or as soon as field conditions allow.

Surface waters, including drainage ditches and conveyance systems, must be inspected for erosion and sediment deposition during each inspection. All deltas and sediment deposited in drainage ways, catch basins, and other drainage systems shall be removed. The removal and stabilization must take place within seven (7) days of discovery unless precluded by legal, regulatory, or physical access constraints. The Permittee is responsible for obtaining all applicable permits prior to conducting any work in surface waters.

Construction site vehicle exit locations must be inspected for evidence of off-site sediment tracking onto paved surfaces. Tracked sediment must be removed from all paved surfaces both on and off site within 24-hours of discovery, or if applicable, within a shorter time to comply with the permit.

Streets and other areas adjacent to the project must be inspected for evidence of off-site accumulations of sediment. If sediment is present, it must be removed in a manner and at a sufficient frequency to minimize off-site impacts.

All infiltration areas must be inspected to ensure that no sediment from ongoing construction activity is reaching the infiltration area and that equipment is not being driven across the infiltration area.

FINAL STABILIZATION:

Final Stabilization is not complete until all of the following requirements have been met:

1. All soil disturbing activities at the site have been completed and all soils are stabilized by a uniform perennial vegetative cover with a density of 70% of its expected final growth density over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions.
2. Permanent stormwater management system is constructed, meets all requirements of the Permit, and is operating as designed. Temporary or permanent sedimentation basins that are to be used as permanent water quality management basins have been cleaned of any accumulated sediment. All sediment has been removed from conveyance systems, and ditches are stabilized with permanent cover.
3. All temporary synthetic and structural erosion prevention and sediment control BMPs have been removed. BMPs designed to decompose on site may be left in place.
4. For residential construction only, individual lots are considered finally stabilized if the structure(s) are finished, temporary erosion protection and down gradient perimeter control has been completed and the residence has been sold to the homeowner. Also, the "Homeowner Fact Sheet" has been provided to the homeowner.

SCALES SHOWN ON DRAWINGS ARE FOR 24"x36" SIZE SHEETS ONLY. DRAWINGS PLOTTED ON ANY OTHER SIZE SHEETS NEED TO HAVE SCALES ADJUSTED ACCORDINGLY

H:\WSTD\C14107572\C3D\Sheets\107572_SWPPP.dwg 4/15/14 2:28 pm

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA

SIGNATURE Joshua Eckstein TYPED OR PRINTED NAME: JOSHUA ECKSTEIN

DATE APRIL 18, 2014 LIC. NO. 48224

BOLTON & MENK, INC.
Consulting Engineers & Surveyors
MANKATO, MN FAIRMONT, MN SLEEPY EYE, MN BURNSVILLE, MN
WILLMAR, MN CHASKA, MN RAMSEY, MN MAPLEWOOD, MN
BAXTER, MN ROCHESTER, MN AMES, IA SPENCER, IA

REV.	BY	DATE

WINSTED, MINNESOTA

WASTEWATER TREATMENT FACILITIES IMPROVEMENTS

SWPPP

SHEET 2.34