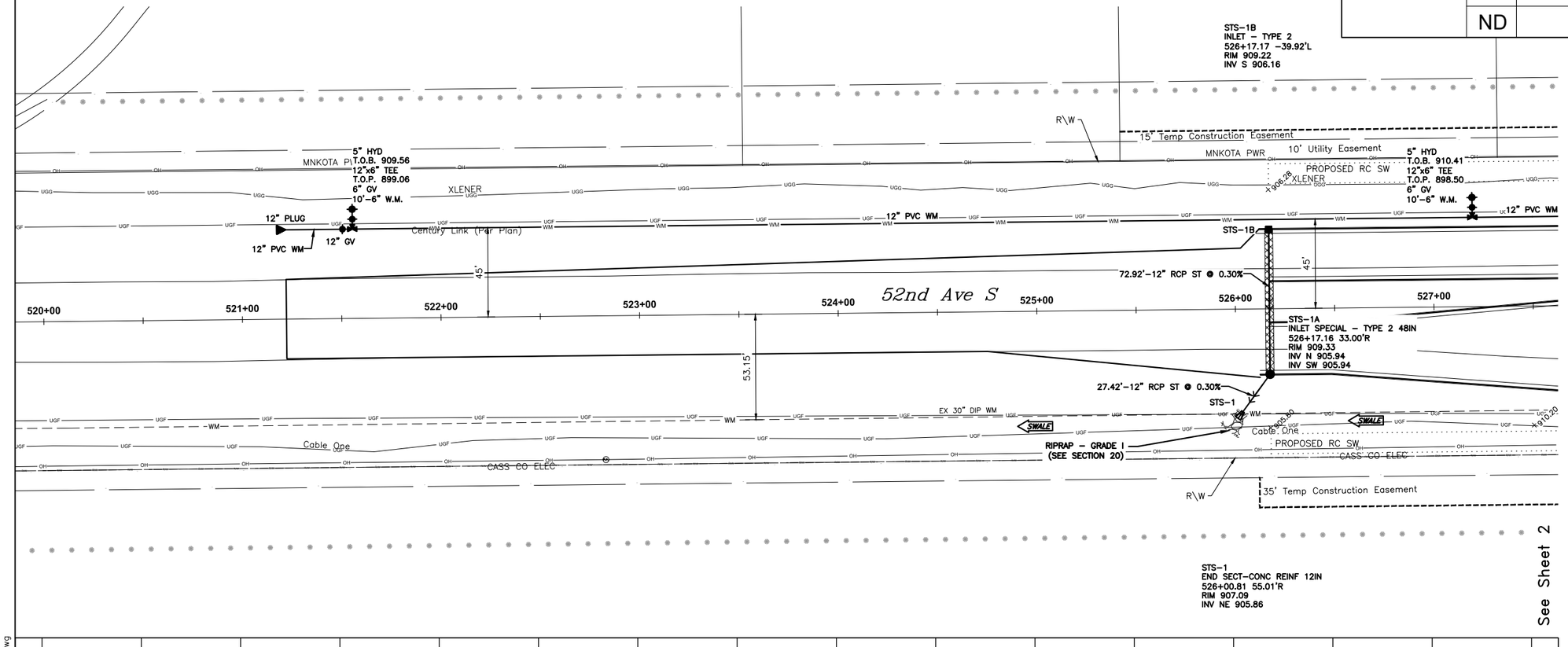
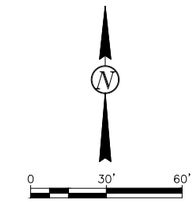
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	1



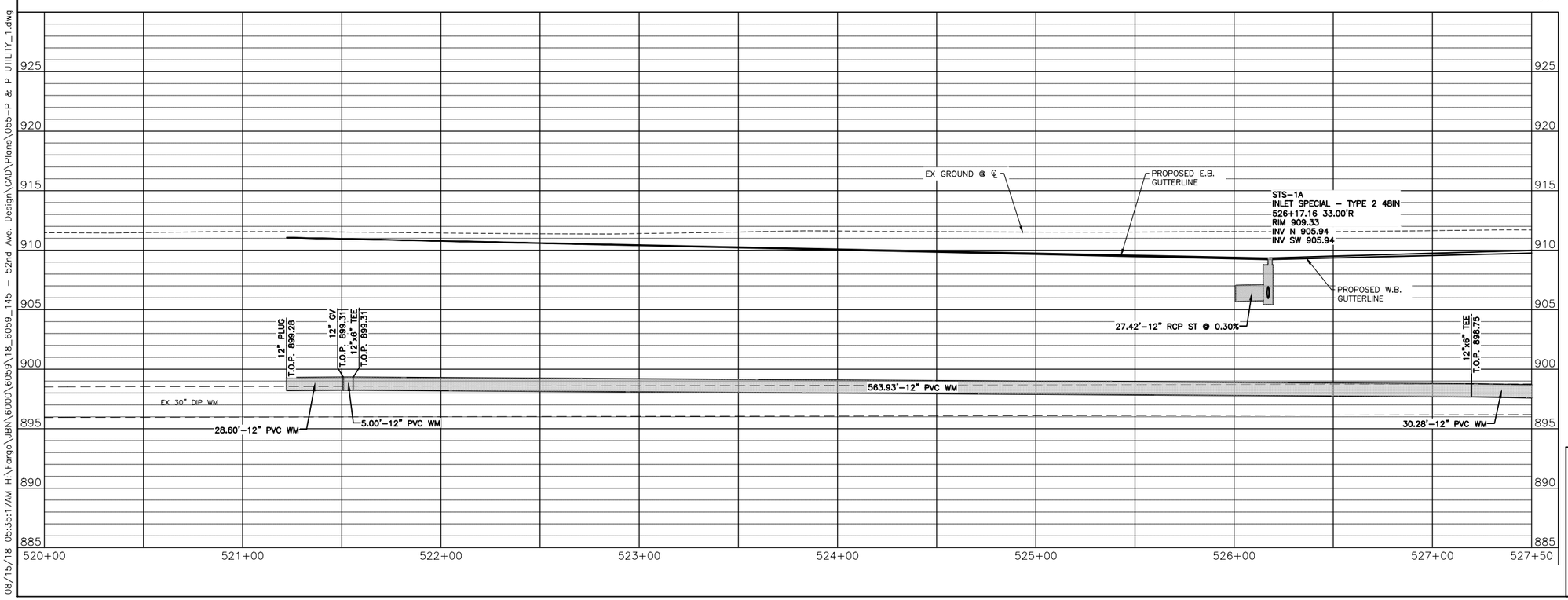


NOTES:
1. ALL WATER MAIN TO HAVE A MINIMUM 7.5' OF COVER.

+xx.xx SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0115	PIPE CONC REINF 12IN CL III-STORM DRAIN		
		1B TO 1A	73	LF
		1A TO 1	27	LF
		TOTAL	100	LF
714	3000	END SECT-CONC REINF 12IN		
		1	1	EA
722	3510	INLET TYPE 2		
		1B	1	EA
722	3701	INLET SPECIAL-TYPE 2 48IN		
		1A	1	EA
724	0210	FITTINGS-DUCTILE		
		STA 520+00 TO STA 527+50	266	LBS
724	0300	GATE VALVE & BOX 6IN		
		STA 520+00 TO STA 527+50	2	EA
724	0314	GATE VALVE & BOX 12IN		
		STA 520+00 TO STA 527+50	1	EA
724	0410	HYDRANT-INSTALL 5IN		
		STA 520+00 TO STA 527+50	2	EA
724	0810	WATERMAIN 6IN PVC		
		STA 520+00 TO STA 527+50	20	LF
724	0850	WATERMAIN 12IN PVC		
		STA 520+00 TO STA 527+50	628	LF



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Drainage Layout - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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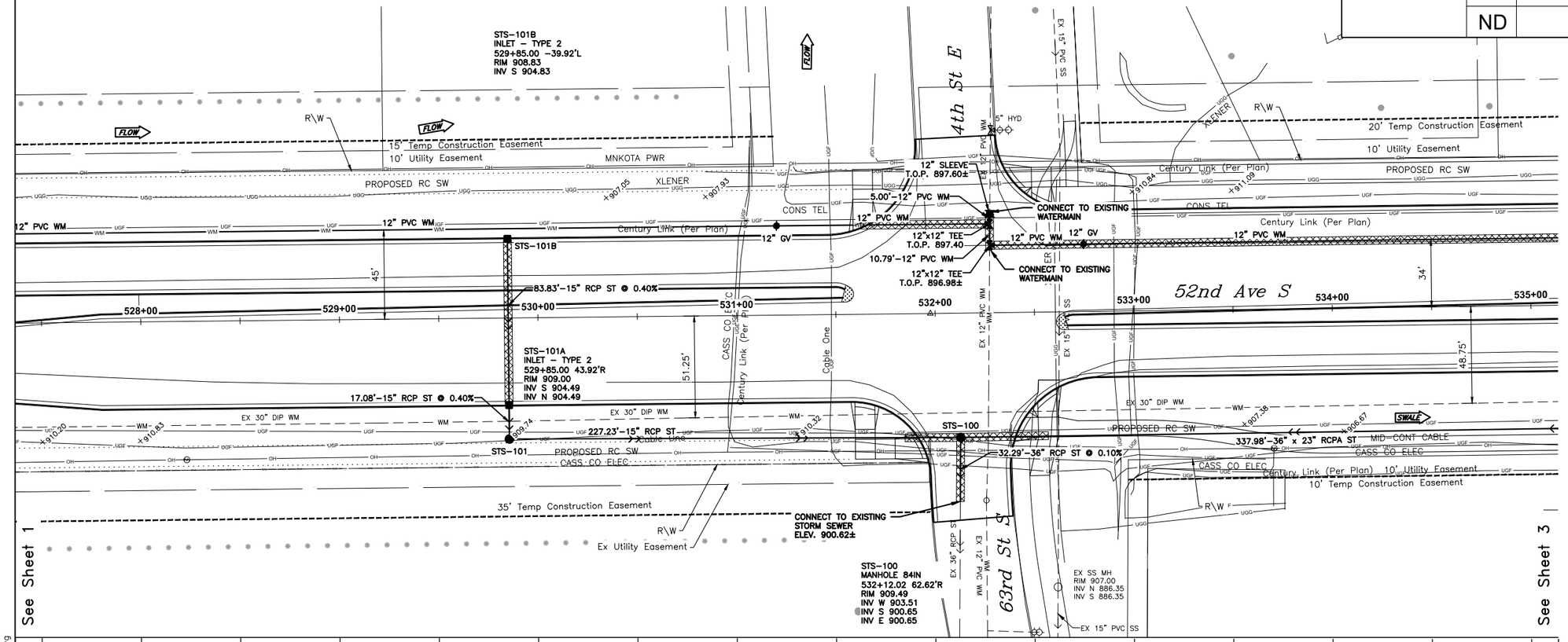
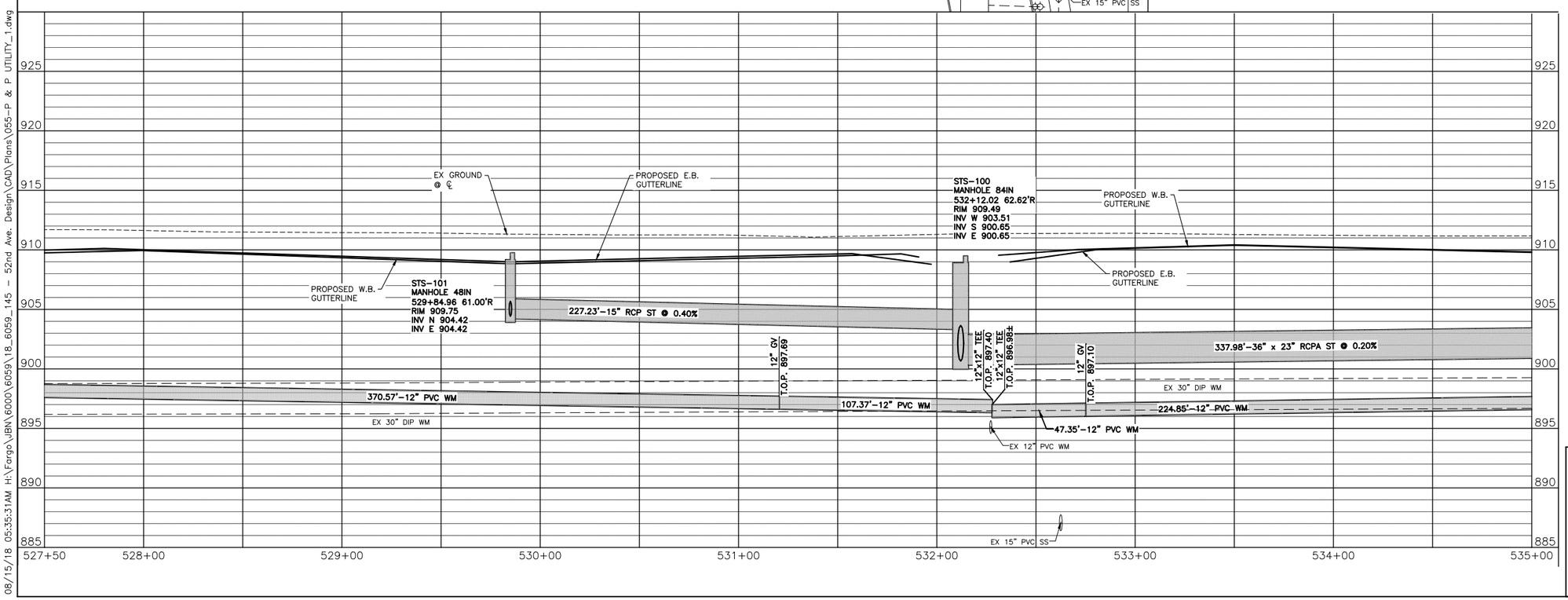
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	2





NOTES:
1. ALL WATER MAIN TO HAVE A MINIMUM 7.5' OF COVER.

+930.56 SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN		
		101B TO 101A	84	LF
		101A TO 101	17	LF
		101 TO 100	227	LF
		TOTAL	328	LF
714	0910	PIPE CONC REINF 36IN CL III-STORM DRAIN		
		100 TO EX 36" RCP	32	LF
714	2118	PIPE CONC REINF ARCH 36IN X 23IN CL III-STORM DRAIN		
		102A TO 100	338	LF
722	0100	MANHOLE 48IN		
		101	1	EA
722	0130	MANHOLE 84IN		
		100	1	EA
722	1100	MANHOLE RISER 48IN		
		101	4.04	LF
722	1130	MANHOLE RISER 84IN		
		100	7.01	LF
722	3510	INLET TYPE 2		
		101A	1	EA
		101B	1	EA
		TOTAL	2	EA
724	0210	FITTINGS-DUCTILE		
		STA 527+50 TO STA 535+00	396	LBS
724	0314	GATE VALVE & BOX 12IN		
		STA 527+50 TO STA 535+00	2	EA
724	0850	WATERMAIN 12IN PVC		
		STA 527+50 TO STA 535+00	766	LF

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Drainage Layout - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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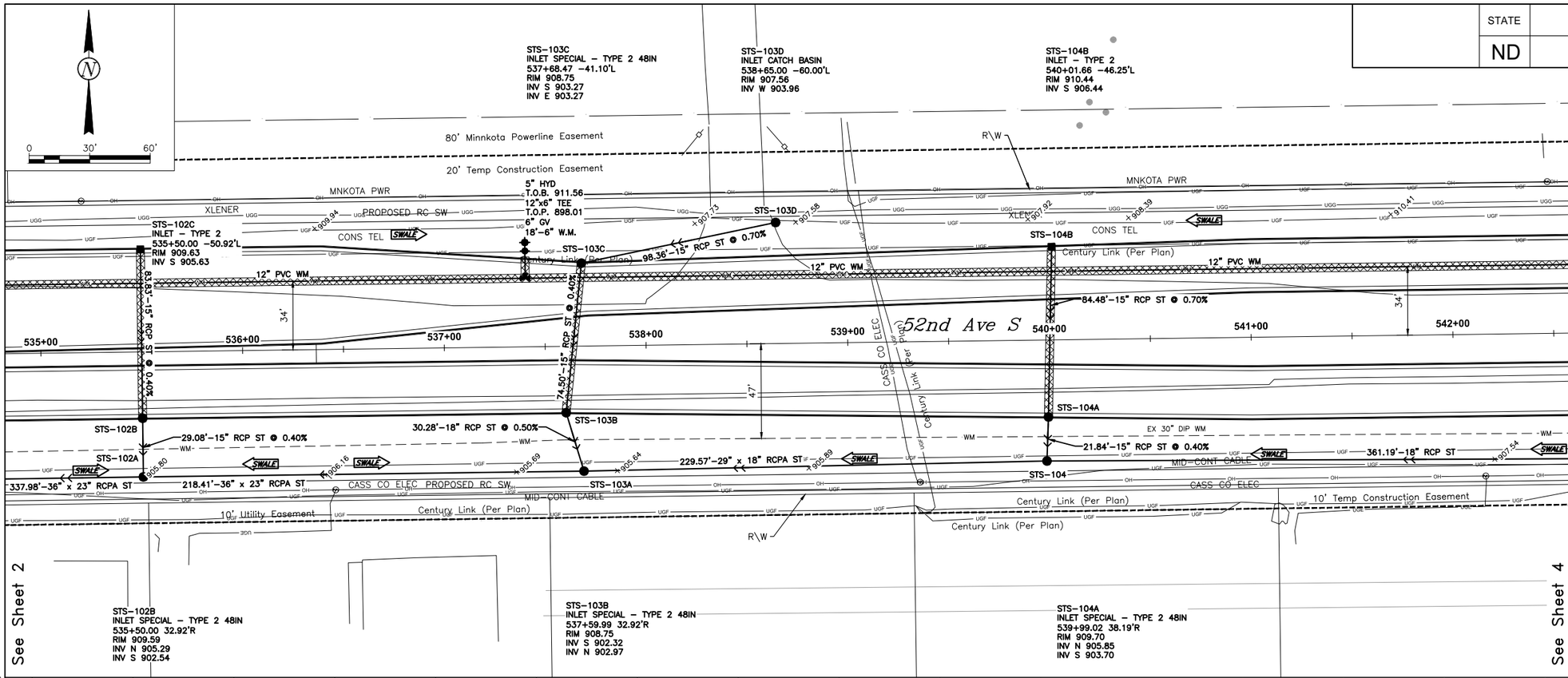
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	3



NOTES:
1. ALL WATER MAIN TO HAVE A MINIMUM 7.5' OF COVER.

+xxxx SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III–STORM DRAIN		
		102C TO 102B	84	LF
		102B TO 102A	29	LF
		103D TO 103C	98	LF
		103C TO 103B	75	LF
		104B TO 104A	84	LF
		104A TO 104	22	LF
		TOTAL	392	LF
714	0315	PIPE CONC REINF 18IN CL III–STORM DRAIN		
		103B TO 103A	30	LF
		105 TO 104	361	LF
		TOTAL	391	LF
714	2111	PIPE CONC REINF ARCH 29INx18IN CL III–STORM DRAIN		
		104 TO 103A	230	LF
714	2118	PIPE CONC REINF ARCH 36INx23IN CL III–STORM DRAIN		
		103A TO 102A	218	LF
722	0110	MANHOLE 60IN		
		104	1	EA
722	1110	MANHOLE RISER 60IN		
		104	3.30	LF
722	3510	INLET TYPE 2		
		102C	1	EA
		104B	1	EA
		TOTAL	2	EA
722	3701	INLET SPECIAL–TYPE 2 48IN		
		102B	1	EA
		103B	1	EA
		103C	1	EA
		104A	1	EA
		TOTAL	4	EA
722	4005	INLET CATCH BASIN		
		103D	1	EA
722	4112	INLET SPECIAL CATCH BASIN–72IN		
		102A	1	EA
722	4114	INLET SPECIAL CATCH BASIN–84IN		
		103A	1	EA
724	0210	FITTINGS–DUCTILE		
		STA 535+00 TO STA 542+50	110	LBS
724	0300	GATE VALVE & BOX 6IN		
		STA 535+00 TO STA 542+50	1	EA
724	0410	HYDRANT–INSTALL 5IN		
		STA 535+00 TO STA 542+50	1	EA
724	0810	WATERMAIN 6IN PVC		
		STA 535+00 TO STA 542+50	18	LF
724	0850	WATERMAIN 12IN PVC		
		STA 535+00 TO STA 542+50	750	LF

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Drainage Layout - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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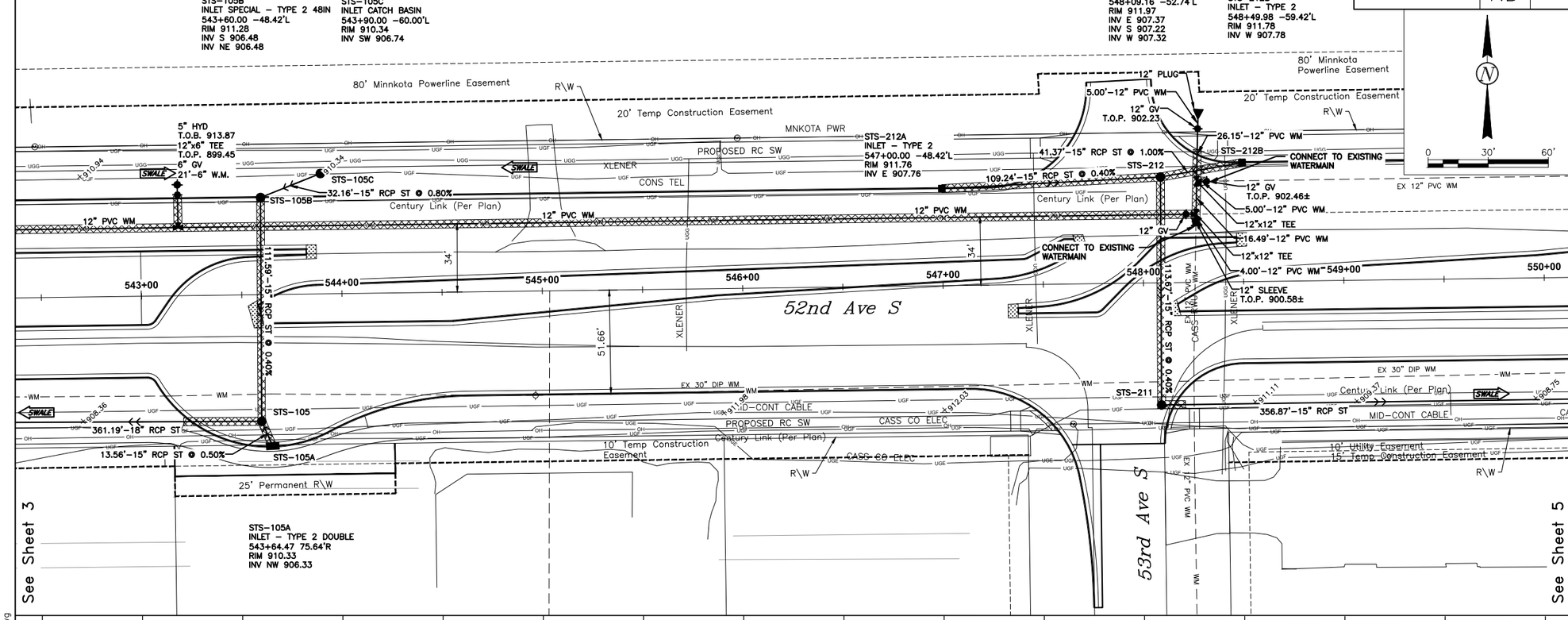
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	4

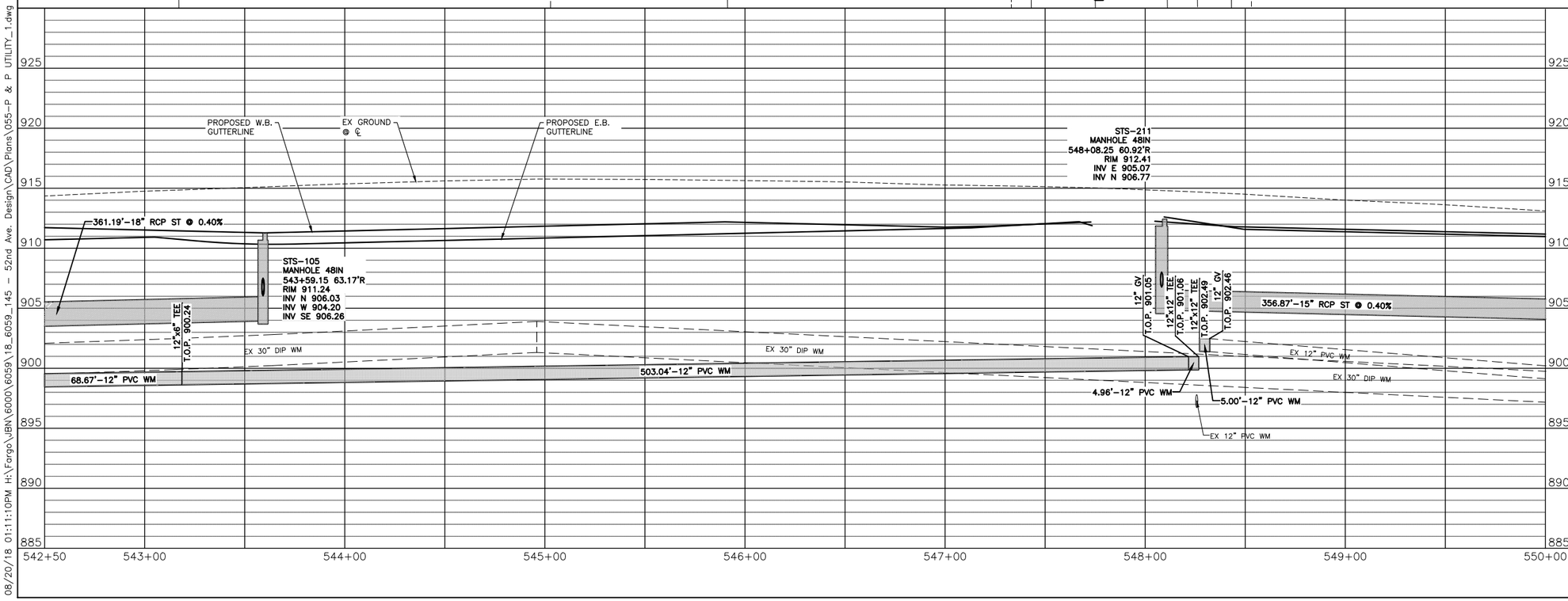


NOTES:
1. ALL WATER MAIN TO HAVE A MINIMUM 7.5' OF COVER.

+XX.XX SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN		
		105C TO 105B	32	LF
		105B TO 105	112	LF
		105A TO 105	14	LF
		211 TO 210A	357	LF
		212 TO 211	114	LF
		212A TO 212	109	LF
		212B TO 212	41	LF
		TOTAL	779	LF
722	0100	MANHOLE 48IN		
		105	1	EA
		211	1	EA
		212	1	EA
		TOTAL	3	EA
722	1100	MANHOLE RISER 48IN		
		105	5.29	LF
		211	5.55	LF
		212	2.96	LF
		TOTAL	13.80	LF
722	3510	INLET TYPE 2		
		212A	1	EA
		212B	1	EA
		TOTAL	2	EA
722	3520	INLET TYPE 2 DOUBLE		
		105A	1	EA
722	3701	INLET SPECIAL-TYPE 2 48IN		
		105B	1	EA
722	4005	INLET CATCH BASIN		
		105C	1	EA
724	0210	FITTINGS-DUCTILE		
		STA 542+50 TO STA 550+00	552	LBS
724	0300	GATE VALVE & BOX 6IN		
		STA 542+50 TO STA 550+00	1	EA
724	0314	GATE VALVE & BOX 12IN		
		STA 542+50 TO STA 550+00	3	EA
724	0410	HYDRANT-INSTALL 5IN		
		STA 542+50 TO STA 550+00	1	EA
724	0810	WATERMAIN 6IN PVC		
		STA 542+50 TO STA 550+00	21	LF
724	0850	WATERMAIN 12IN PVC		
		STA 542+50 TO STA 550+00	633	LF



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Drainage Layout - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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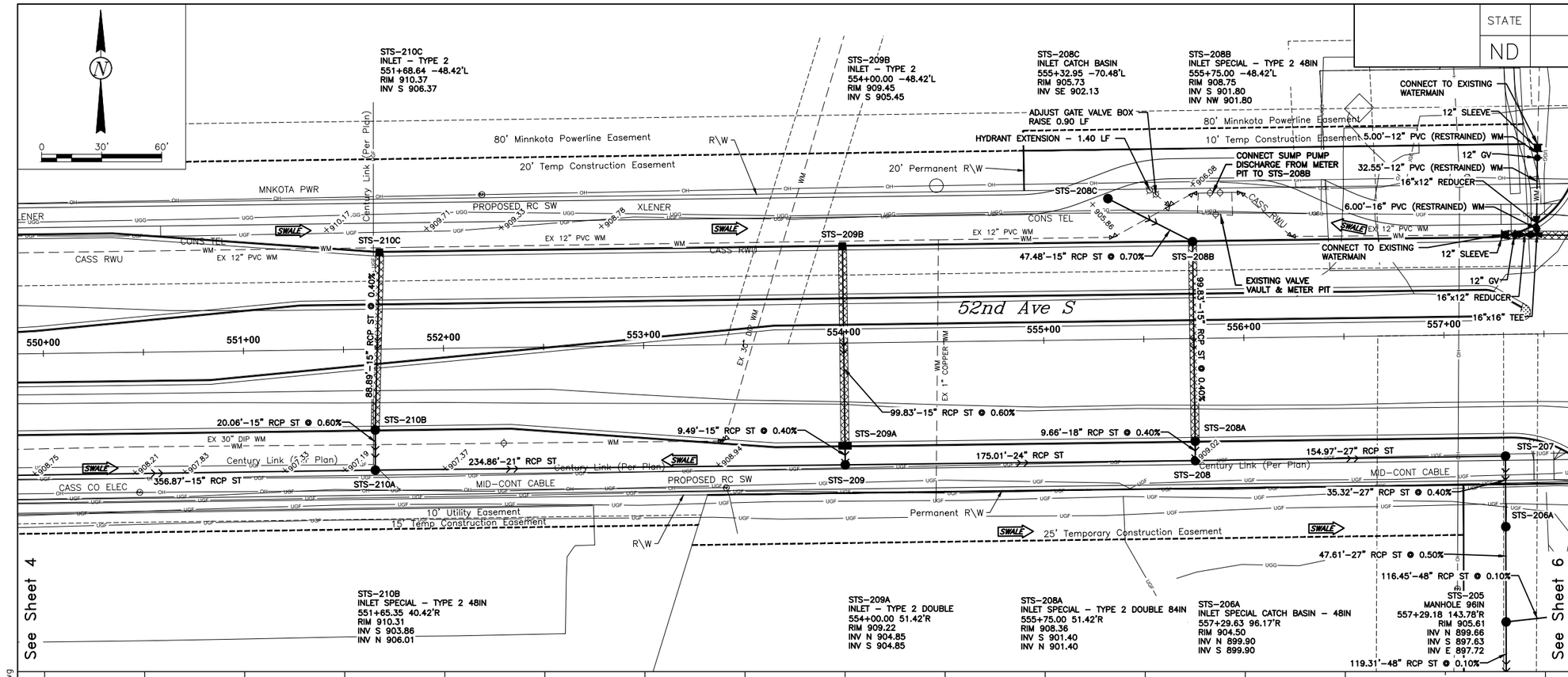
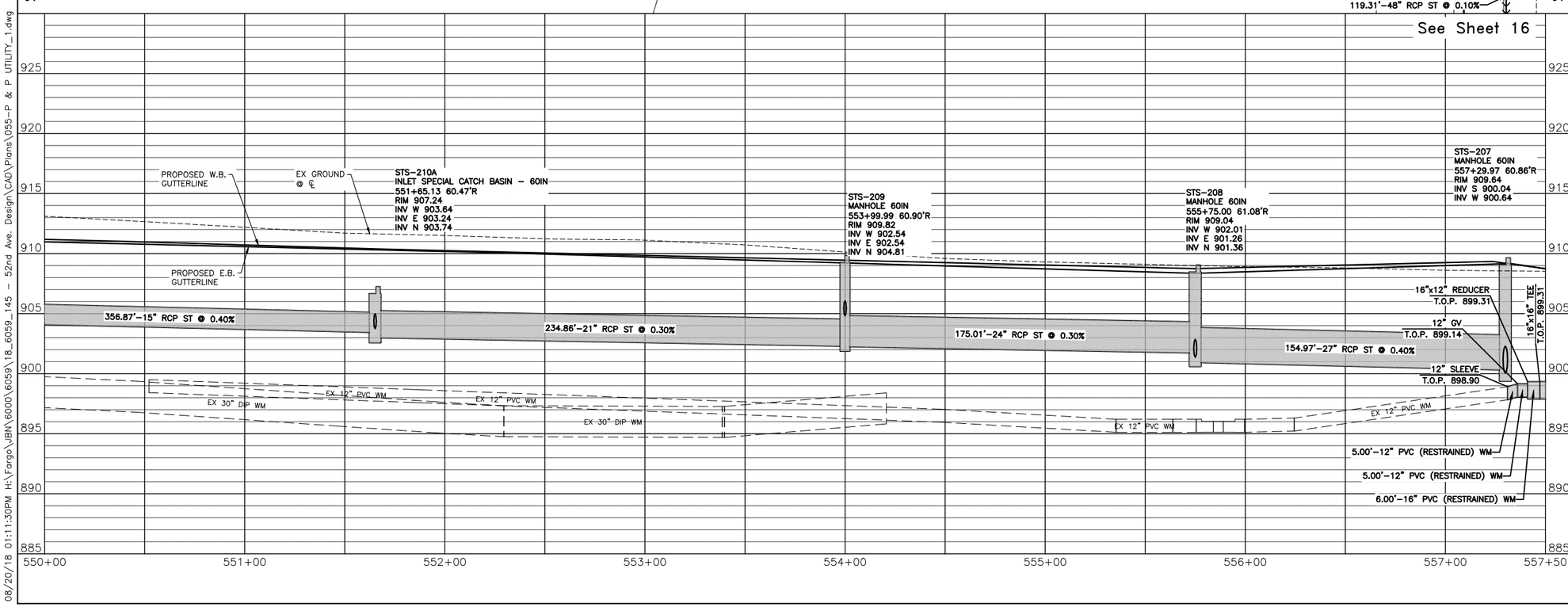
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	5





NOTES:
1. ALL WATER MAIN TO HAVE A MINIMUM 7.5' OF COVER.

+xx.xx SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III–STORM DRAIN		
		210C TO 210B	89	LF
		210B TO 210A	20	LF
		209B TO 209A	100	LF
		209A TO 209	10	LF
		208C TO 208B	47	LF
		208B TO 208A	100	LF
		TOTAL	365	LF
714	0315	PIPE CONC REINF 18IN CL III–STORM DRAIN		
		208A TO 208	10	LF
714	0405	PIPE CONC REINF 21IN CL III–STORM DRAIN		
		210A TO 209	235	LF
714	0620	PIPE CONC REINF 24IN CL III–STORM DRAIN		
		209 TO 208	175	LF
714	0710	PIPE CONC REINF 27IN CL III–STORM DRAIN		
		208 TO 207	155	LF
722	0110	MANHOLE 60IN		
		207	1	EA
		208	1	EA
		209	1	EA
		TOTAL	3	EA
722	1110	MANHOLE RISER 60IN		
		207	8.35	LF
		208	6.53	LF
		209	6.00	LF
		TOTAL	20.88	LF
722	3510	INLET TYPE 2		
		209B	1	EA
		210C	1	EA
		TOTAL	2	EA
722	3520	INLET TYPE 2 DOUBLE		
		209A	1	EA
722	3701	INLET SPECIAL–TYPE 2 48IN		
		208B	1	EA
		210B	1	EA
		TOTAL	2	EA
722	3825	INLET SPECIAL–TYPE 2 DOUBLE 84IN		
		208A	1	EA
722	4005	INLET CATCH BASIN		
		208C	1	EA
722	4110	INLET SPECIAL CATCH BASIN–60IN		
		210A	1	EA
722	6140	ADJUST GATE VALVE BOX		
		STA 550+00 TO STA 557+50	1	EA
724	0210	FITTINGS–DUCTILE		
		STA 550+00 TO STA 557+50	698	LBS
724	0314	GATE VALVE & BOX 12IN		
		STA 550+00 TO STA 557+50	2	EA
724	0426	HYDRANT EXTENSION		
		STA 550+00 TO STA 557+50	1.40	LF
724	0850	WATERMAIN 12IN PVC		
		STA 550+00 TO STA 557+50	48	LF
724	0852	WATERMAIN 16IN PVC		
		STA 550+00 TO STA 557+50	12	LF

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Drainage Layout - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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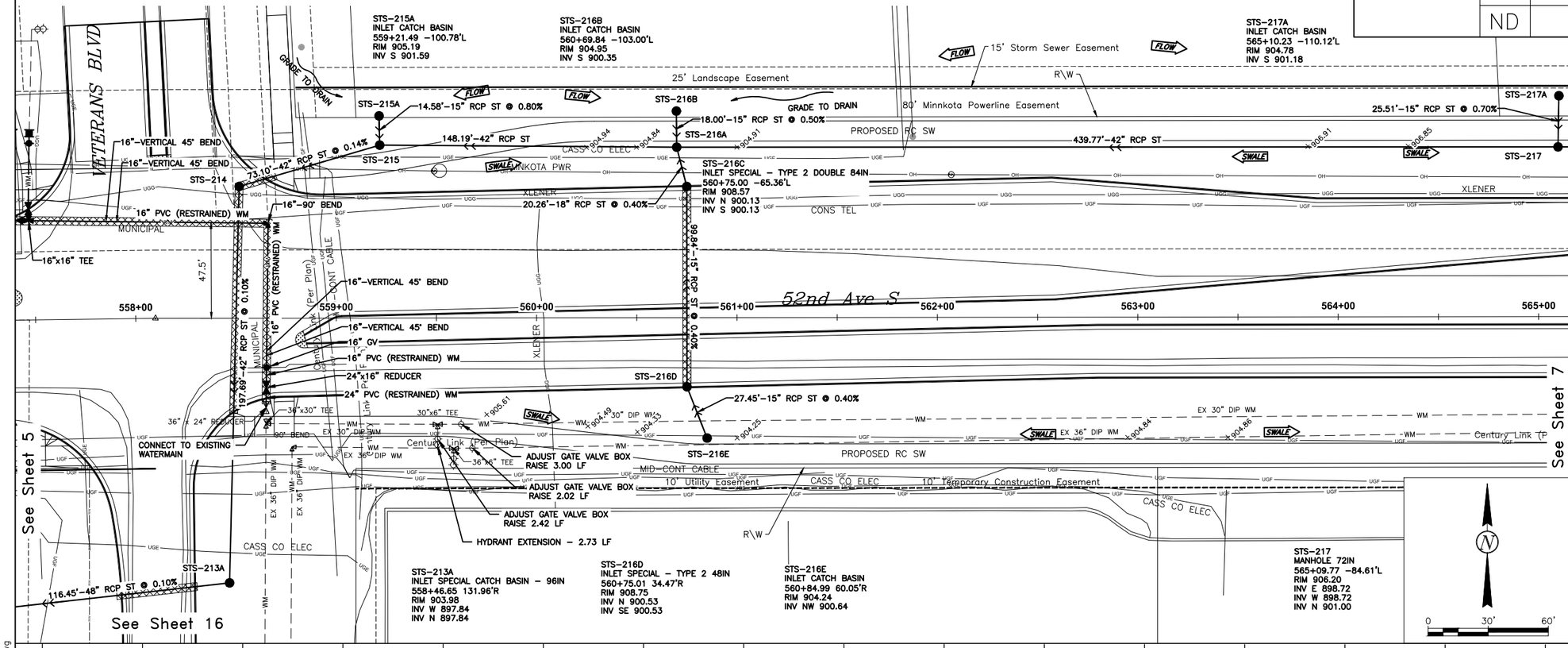
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	6

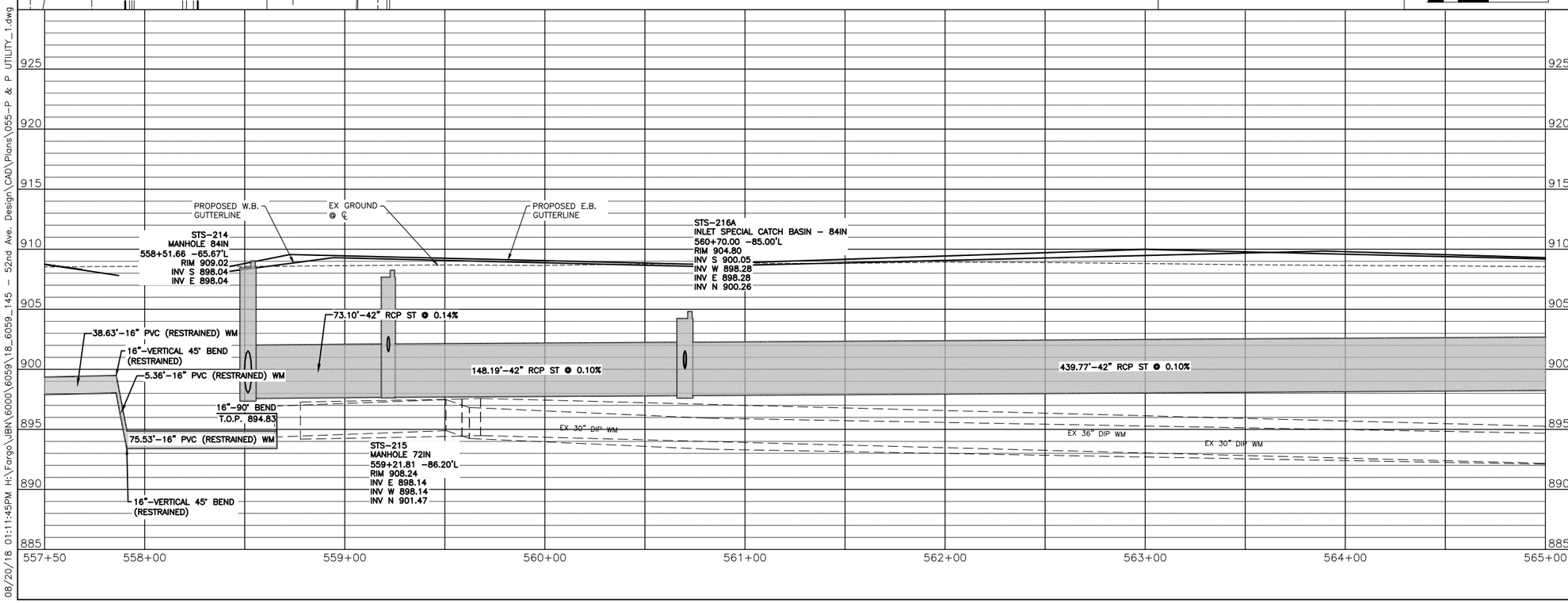


NOTES:
1. ALL WATER MAIN TO HAVE A MINIMUM 7.5' OF COVER.

+xxx.xx SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN		
		216E TO 216D	27	LF
		216D TO 216C	100	LF
		216B TO 216A	18	LF
		215A TO 215	15	LF
		TOTAL	160	LF
714	0315	PIPE CONC REINF 18IN CL III-STORM DRAIN		
		216C TO 216A	20	LF
714	1010	PIPE CONC REINF 42IN CL III-STORM DRAIN		
		217 TO 216A	440	LF
		216A TO 215	148	LF
		215 TO 214	73	LF
		TOTAL	661	LF
722	0120	MANHOLE 72IN		
		215	1	EA
722	0130	MANHOLE 84IN		
		214	1	EA
722	1120	MANHOLE RISER 72IN		
		215	8.89	LF
722	1130	MANHOLE RISER 84IN		
		214	9.19	LF
722	3701	INLET SPECIAL-TYPE 2 48IN		
		216D	1	EA
722	3825	INLET SPECIAL-TYPE 2 DOUBLE 84IN		
		216C	1	EA
722	4005	INLET CATCH BASIN		
		215A	1	EA
		216B	1	EA
		216E	1	EA
		TOTAL	3	EA
722	4114	INLET SPECIAL CATCH BASIN-84IN		
		216A	1	EA
722	6140	ADJUST GATE VALVE BOX		
		STA 557+50 TO STA 565+00	3	EA
724	0210	FITTINGS-DUCTILE		
		STA 557+50 TO STA 565+00	1392	LBS
724	0317	GATE VALVE & BOX 16IN		
		STA 557+50 TO STA 565+00	1	EA
724	0426	HYDRANT EXTENSION		
		STA 557+50 TO STA 565+00	2.73	LF
724	0852	WATERMAIN 16IN PVC		
		STA 557+50 TO STA 565+00	202	LF
724	0870	24IN WATERMAIN		
		STA 557+50 TO STA 565+00	10	LF



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52nd Ave S - West of 63rd St S to 45th St S

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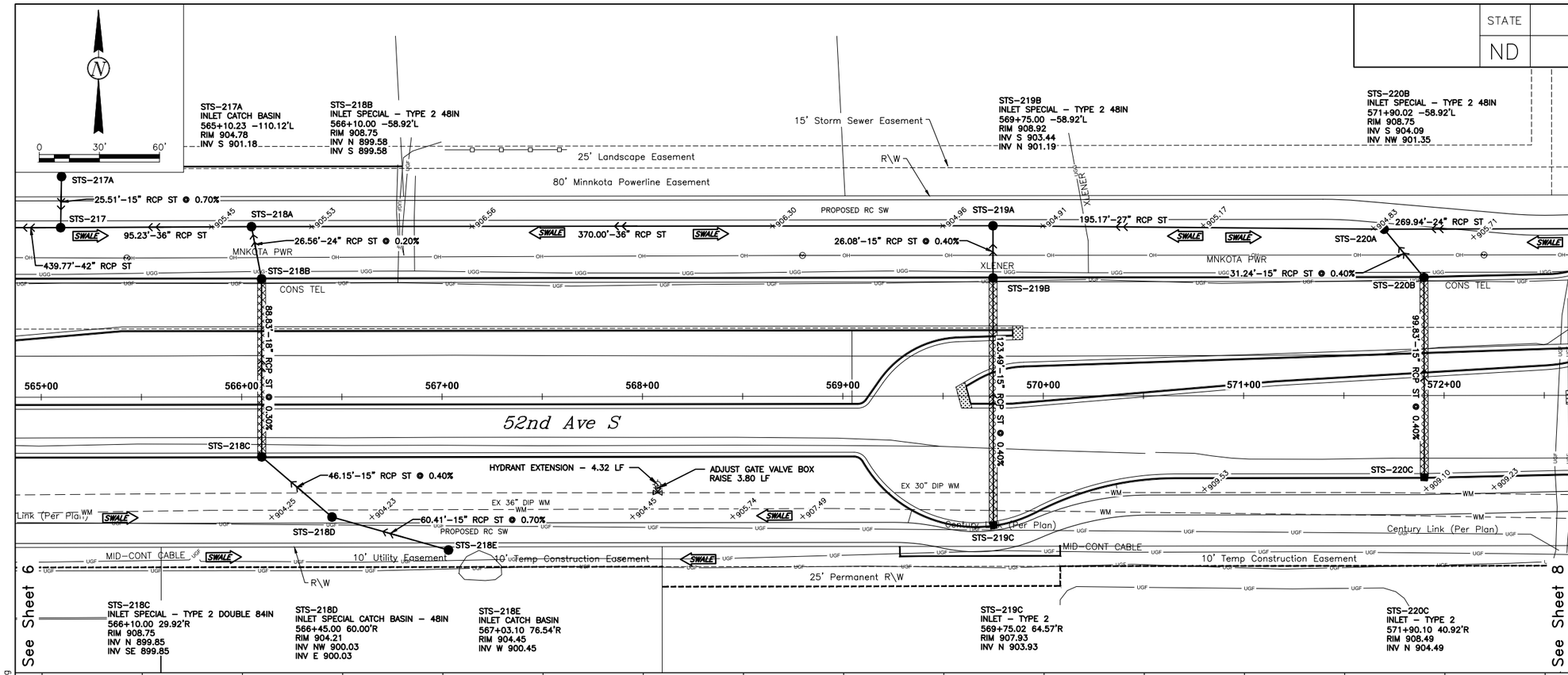
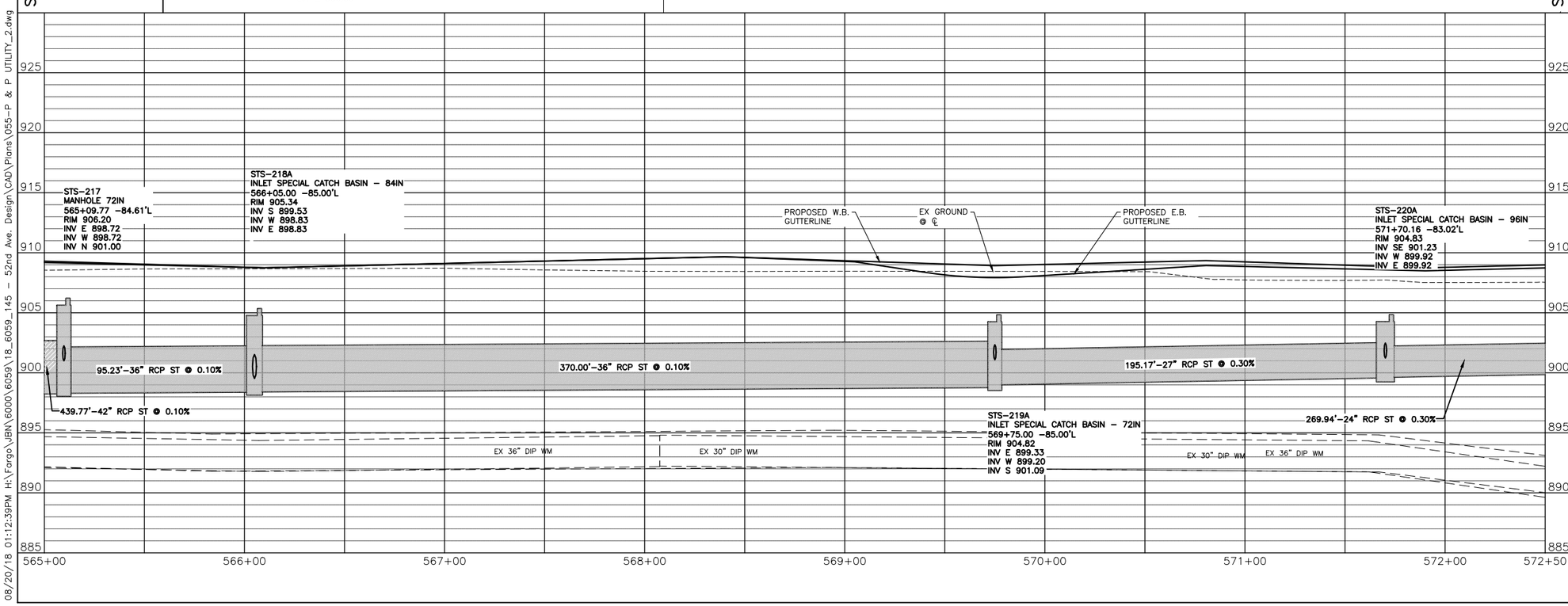
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	7





+903.45 SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN		
		220C TO 220B	100	LF
		220B TO 220A	31	LF
		219C TO 219B	123	LF
		219B TO 219A	26	LF
		218E TO 218D	60	LF
		218D TO 218C	46	LF
		217A TO 217	26	LF
		TOTAL	412	LF
714	0315	PIPE CONC REINF 18IN CL III-STORM DRAIN		
		218C TO 218B	89	LF
714	0620	PIPE CONC REINF 24IN CL III-STORM DRAIN		
		218B TO 218A	27	LF
714	0710	PIPE CONC REINF 27IN CL III-STORM DRAIN		
		220A TO 219A	195	LF
714	0910	PIPE CONC REINF 36IN CL III-STORM DRAIN		
		219A TO 218A	370	LF
		218A TO 217	95	LF
		TOTAL	465	LF
722	0120	MANHOLE 72IN		
		217	1	EA
722	1120	MANHOLE RISER 72IN		
		217	6.27	LF
722	3510	INLET TYPE 2		
		219C	1	EA
		220C	1	EA
		TOTAL	2	EA
722	3701	INLET SPECIAL-TYPE 2 48IN		
		218B	1	EA
		219B	1	EA
		220B	1	EA
		TOTAL	3	EA
722	3825	INLET SPECIAL-TYPE 2 DOUBLE 84IN		
		218C	1	EA
722	4005	INLET CATCH BASIN		
		217A	1	EA
		218E	1	EA
		TOTAL	2	EA
722	4108	INLET SPECIAL CATCH BASIN-48IN		
		218D	1	EA
722	4112	INLET SPECIAL CATCH BASIN-72IN		
		219A	1	EA
722	4114	INLET SPECIAL CATCH BASIN-84IN		
		218A	1	EA
722	4116	INLET SPECIAL CATCH BASIN-96IN		
		220A	1	EA
722	6140	ADJUST GATE VALVE BOX		
		STA 565+00 TO STA 572+50	1	EA
724	0426	HYDRANT EXTENSION		
		STA 565+00 TO STA 572+50	4.32	LF

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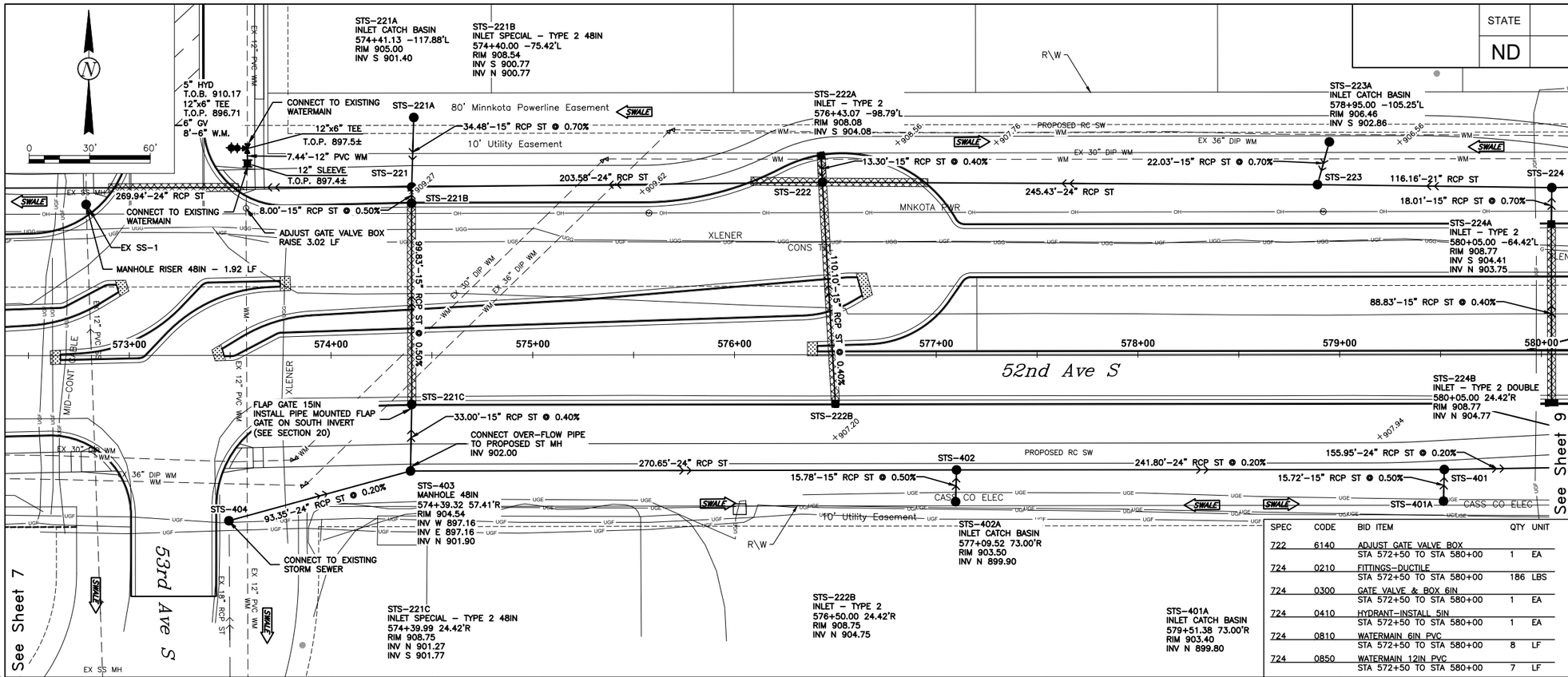
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	8



SPEC	CODE	BID ITEM	QTY	UNIT
722	6140	ADJUST GATE VALVE BOX STA 572+50 TO STA 580+00	1	EA
724	0210	FITTINGS-DUCTILE STA 572+50 TO STA 580+00	186	LBS
724	0300	GATE VALVE & BOX 6IN STA 572+50 TO STA 580+00	1	EA
724	0410	HYDRANT-INSTALL 5IN STA 572+50 TO STA 580+00	1	EA
724	0810	WATERMAIN 6IN PVC STA 572+50 TO STA 580+00	8	LF
724	0850	WATERMAIN 12IN PVC STA 572+50 TO STA 580+00	7	LF

NOTES:
1. ALL WATER MAIN TO HAVE A MINIMUM 7.5' OF COVER.

+xxx.xx SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN		
		223A TO 223	22	LF
		222B TO 222	110	LF
		222A TO 222	13	LF
		221A TO 221	34	LF
		221C TO 221B	100	LF
		221B TO 221	8	LF
		403 TO 221C	33	LF
		401A TO 401	16	LF
		402A TO 402	16	LF
		TOTAL	352	LF
714	0405	PIPE CONC REINF 21IN CL III-STORM DRAIN		
		224 TO 223	116	LF
714	0620	PIPE CONC REINF 24IN CL III-STORM DRAIN		
		223 TO 222	245	LF
		222 TO 221	204	LF
		221 TO 220A	270	LF
		404 TO 403	93	LF
		403 TO 402	271	LF
		402 TO 401	242	LF
		TOTAL	1325	LF
714	9909	FLAP GATE 15IN		
		221C	1	EA
722	0100	MANHOLE 48IN		
		401	1	EA
		402	1	EA
		403	1	EA
		TOTAL	3	EA
722	0110	MANHOLE 60IN		
		221	1	EA
		222	1	EA
		223	1	EA
		404	1	EA
		TOTAL	4	EA
722	1100	MANHOLE RISER 48IN		
		401	9.64	LF
		402	8.67	LF
		403	6.17	LF
		1 (SANITARY)	1.92	LF
		TOTAL	26.40	LF
722	1110	MANHOLE RISER 60IN		
		221	7.40	LF
		222	5.30	LF
		223	5.26	LF
		404	7.80	LF
		TOTAL	25.76	LF
722	3510	INLET TYPE 2		
		222A	1	EA
		222B	1	EA
		TOTAL	2	EA
722	3701	INLET SPECIAL-TYPE 2 48IN		
		221B	1	EA
		221C	1	EA
		TOTAL	2	EA
722	4005	INLET CATCH BASIN		
		221A	1	EA
		223A	1	EA
		401A	1	EA
		402A	1	EA
		TOTAL	4	EA

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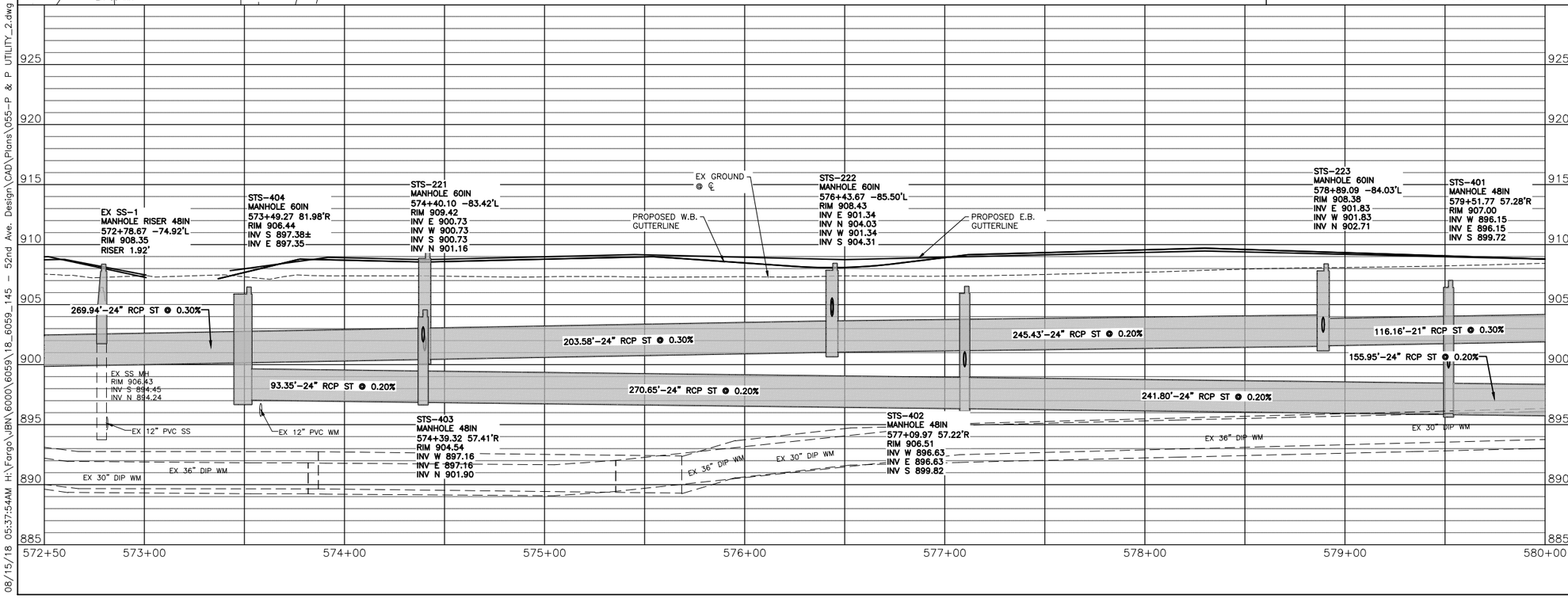

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Drainage Layout - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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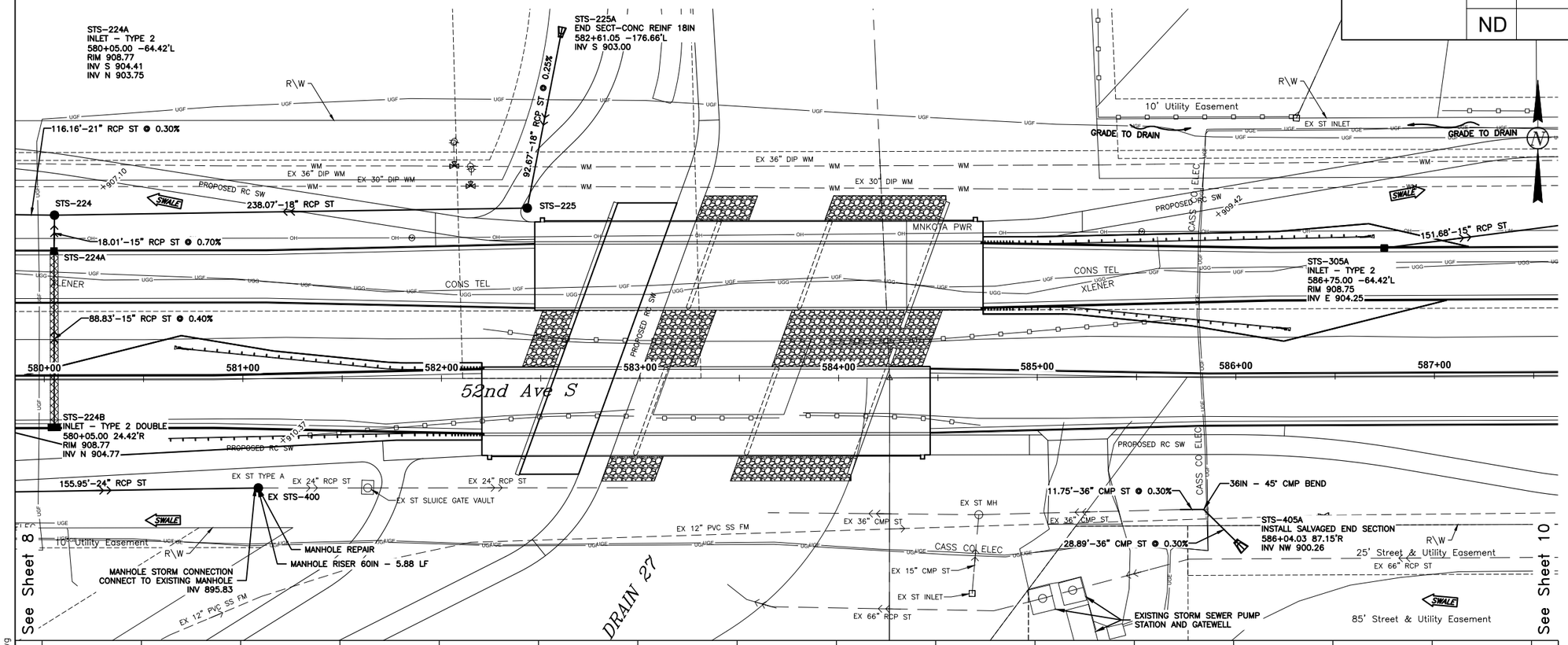
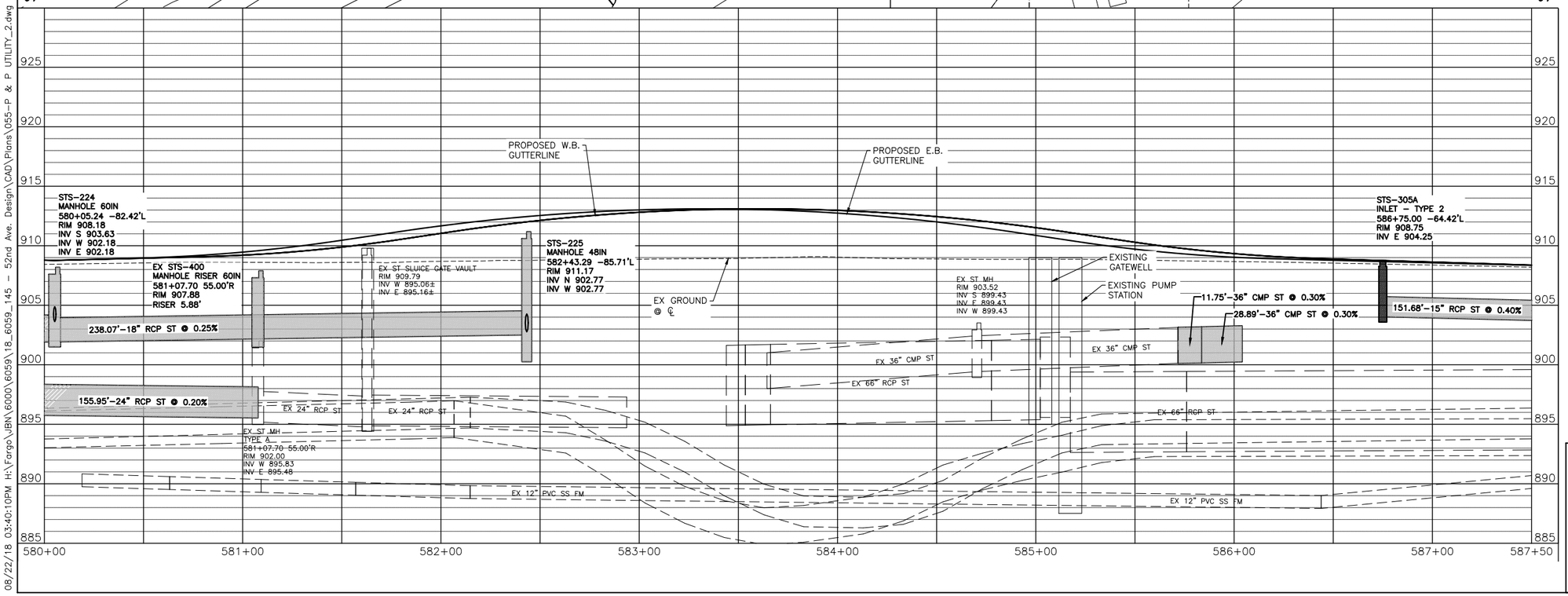
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	9





0 30' 60'

+xx.xx SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN		
		224B TO 224A	89	LF
		224A TO 224	18	LF
		305A TO 304	152	LF
		TOTAL	259	LF
714	0315	PIPE CONC REINF 18IN CL III-STORM DRAIN		
		225A TO 225	93	LF
		225 TO 224	238	LF
		TOTAL	331	LF
714	0620	PIPE CONC REINF 24IN CL III-STORM DRAIN		
		401 TO 400	156	LF
714	3010	END SECT-CONC REINF 18IN		
		225A	1	EA
714	5045	PIPE CORR STEEL .064IN 36IN		
		405A TO EX 36" CMP	41	LF
722	0100	MANHOLE 48IN		
		225	1	EA
722	0110	MANHOLE 60IN		
		224	1	EA
722	1100	MANHOLE RISER 48IN		
		225	9.11	LF
722	1110	MANHOLE RISER 60IN		
		224	4.67	LF
		400	5.88	LF
		TOTAL	10.55	LF
722	2490	MANHOLE STORM CONNECTION		
		400	1	EA
722	3410	MANHOLE REPAIR		
		400	1	EA
722	3510	INLET TYPE 2		
		224A	1	EA
		305A	1	EA
		TOTAL	2	EA
722	3520	INLET TYPE 2 DOUBLE		
		224B	1	EA

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52nd Ave S - West of 63rd St S to 45th St S

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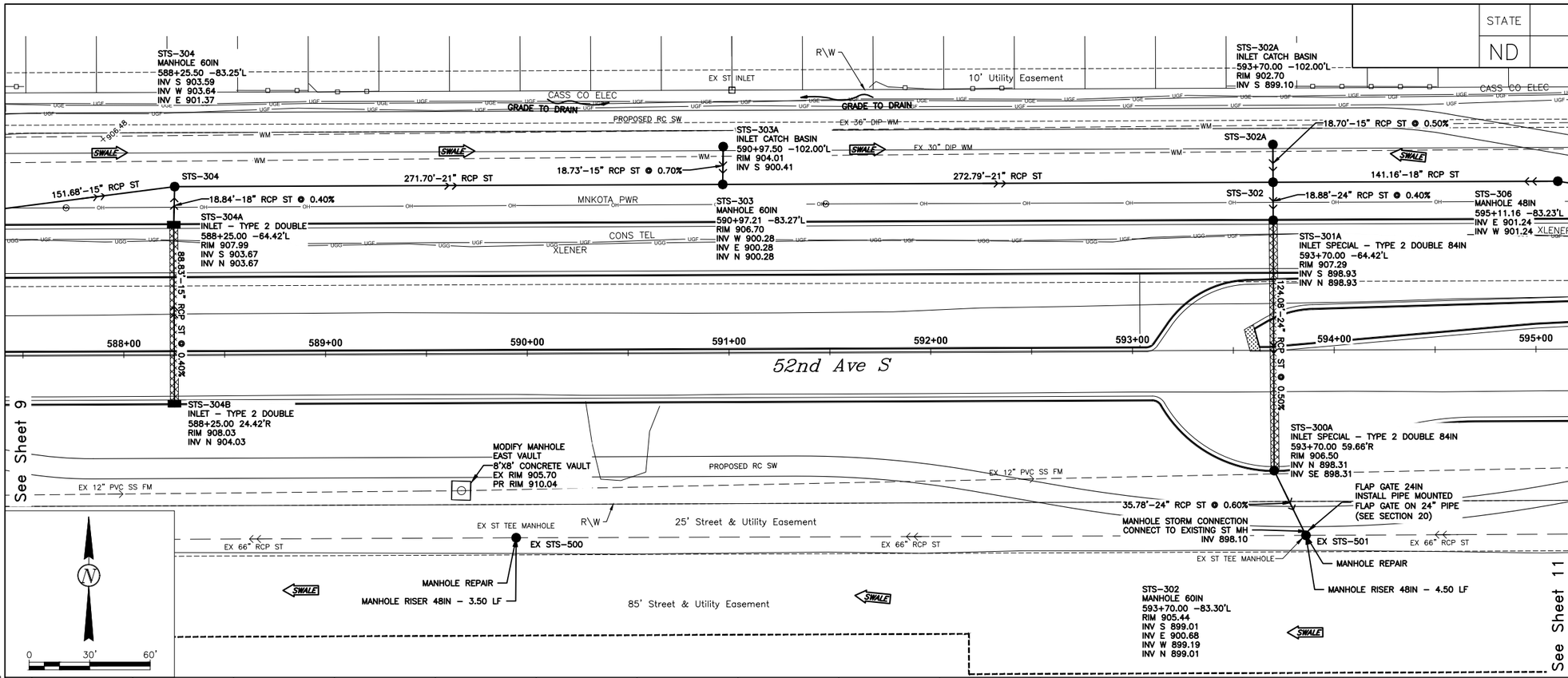
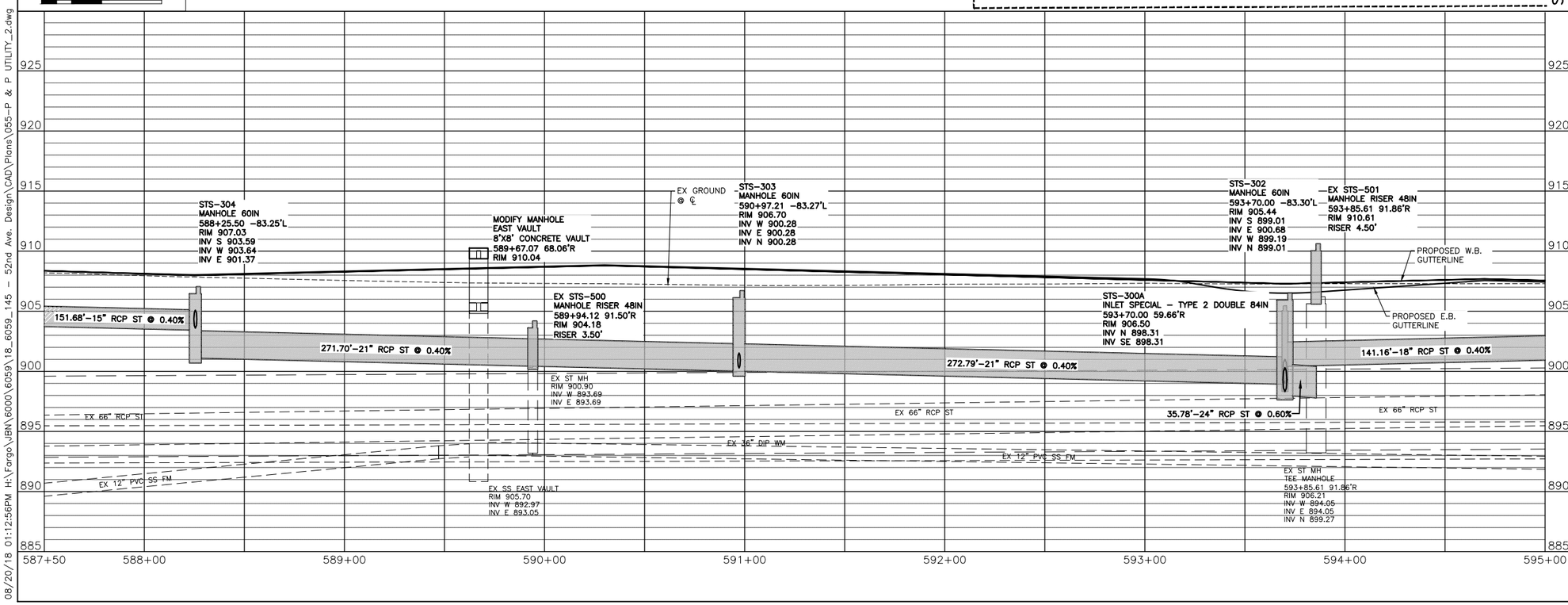
ND	SU-8-984(164)	55	10





+XX.XX SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN		
		304B TO 304A	89	LF
		303A TO 303	19	LF
		302A TO 302	19	LF
		TOTAL	127	LF
714	0315	PIPE CONC REINF 18IN CL III-STORM DRAIN		
		304A TO 304	19	LF
		306 TO 302	141	LF
		TOTAL	160	LF
714	0405	PIPE CONC REINF 21IN CL III-STORM DRAIN		
		304 TO 303	272	LF
		303 TO 302	273	LF
		TOTAL	545	LF
714	0620	PIPE CONC REINF 24IN CL III-STORM DRAIN		
		302 TO 301A	19	LF
		301A TO 300A	124	LF
		300A TO 501	36	LF
		TOTAL	179	LF
714	9912	FLAP GATE 24IN		
		501	1	EA
722	0110	MANHOLE 60IN		
		302	1	EA
		303	1	EA
		304	1	EA
		TOTAL	3	EA
722	1100	MANHOLE RISER 48IN		
		500	3.50	LF
		501	4.50	LF
		TOTAL	8.00	LF
722	1110	MANHOLE RISER 60IN		
		302	5.14	LF
		303	5.09	LF
		304	4.34	LF
		TOTAL	14.57	LF
722	2490	MANHOLE STORM CONNECTION		
		501	1	EA
722	3410	MANHOLE REPAIR		
		500	1	EA
		501	1	EA
		TOTAL	2	EA
722	3520	INLET TYPE 2 DOUBLE		
		304A	1	EA
		304B	1	EA
		TOTAL	2	EA
722	3825	INLET SPECIAL-TYPE 2 DOUBLE 84IN		
		300A	1	EA
		301A	1	EA
		TOTAL	2	EA
722	4005	INLET CATCH BASIN		
		302A	1	EA
		303A	1	EA
		TOTAL	2	EA
910	0570	MODIFY MANHOLE		
		EAST VAULT	1	EA

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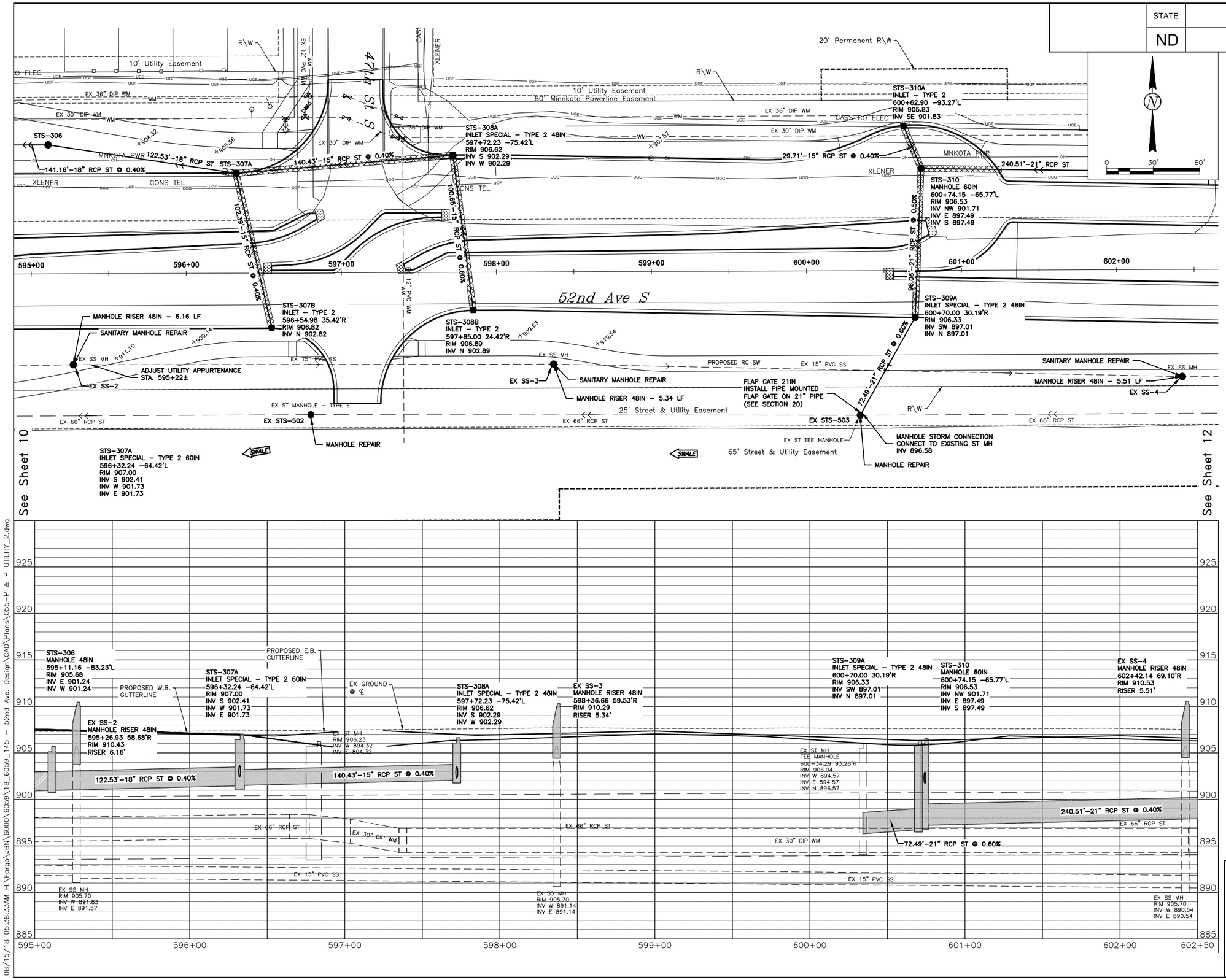
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	11



+xx.xx SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III-STORM DRAIN		
		308B TO 308A	101	LF
		308A TO 307A	140	LF
		307B TO 307A	102	LF
		310A TO 310	30	LF
		TOTAL	373	LF
714	0315	PIPE CONC REINF 18IN CL III-STORM DRAIN		
		307A TO 306	123	LF
714	0405	PIPE CONC REINF 21IN CL III-STORM DRAIN		
		311 TO 310	241	LF
		310 TO 309A	96	LF
		309A TO 503	72	LF
		TOTAL	409	LF
714	9911	FLAP GATE 21IN		
		503	1	EA
722	0100	MANHOLE 48IN		
		306	1	EA
722	0110	MANHOLE 60IN		
		310	1	EA
722	1100	MANHOLE RISER 48IN		
		306	3.19	LF
		2 (SANITARY)	6.16	LF
		3 (SANITARY)	5.34	LF
		4 (SANITARY)	5.51	LF
		TOTAL	20.20	LF
722	1110	MANHOLE RISER 60IN		
		310	7.21	LF
722	2490	MANHOLE STORM CONNECTION		
		503	1	EA
722	3300	SANITARY MANHOLE REPAIR		
		2 (SANITARY)	1	EA
		3 (SANITARY)	1	EA
		4 (SANITARY)	1	EA
		TOTAL	3	EA
722	3410	MANHOLE REPAIR		
		502	1	EA
		503	1	EA
		TOTAL	2	EA
722	3510	INLET TYPE 2		
		307B	1	EA
		308B	1	EA
		310A	1	EA
		TOTAL	3	EA
722	3701	INLET SPECIAL-TYPE 2 48IN		
		308A	1	EA
		309A	1	EA
		TOTAL	2	EA
722	3761	INLET SPECIAL-TYPE 2 60IN		
		307A	1	EA
722	6240	ADJUST UTILITY APPURTENANCE		
		STA. 595+22±	1	EA

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Drainage Layout - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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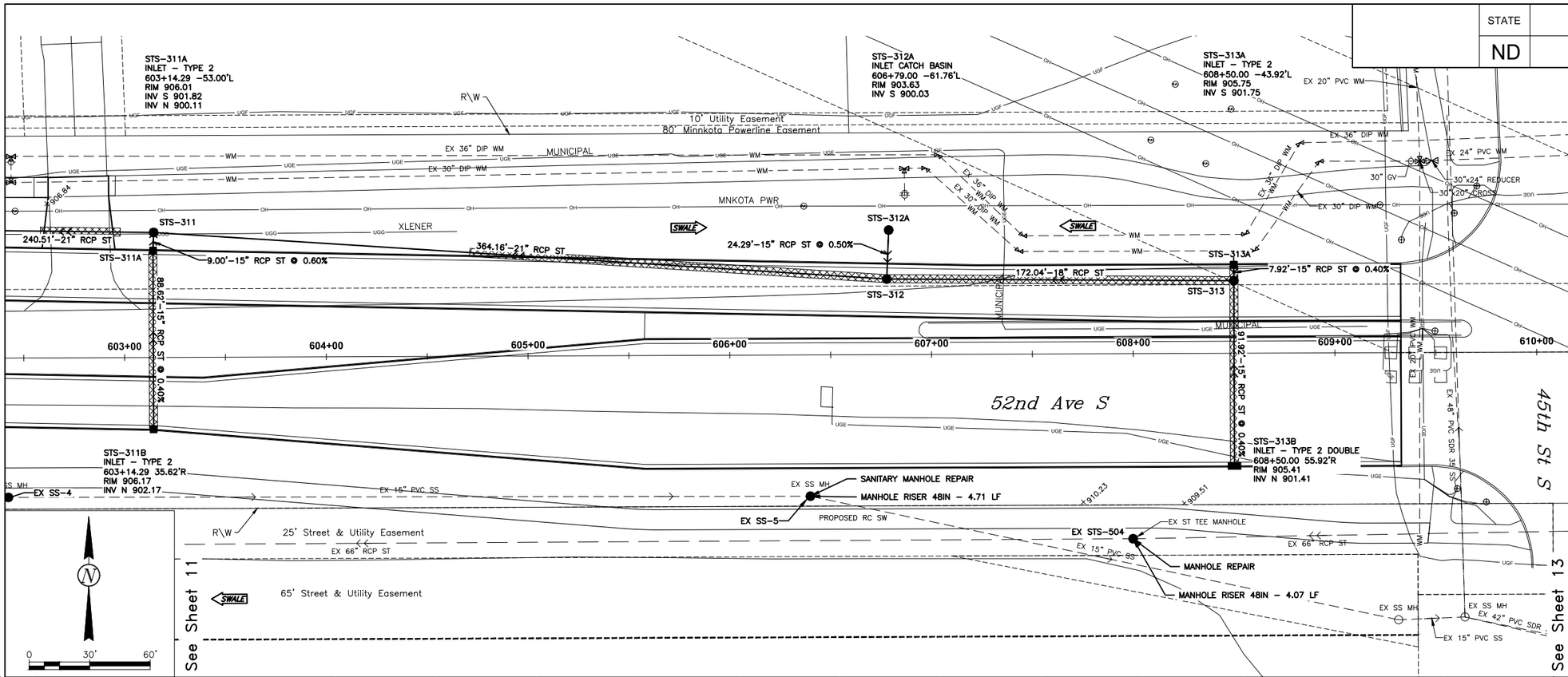
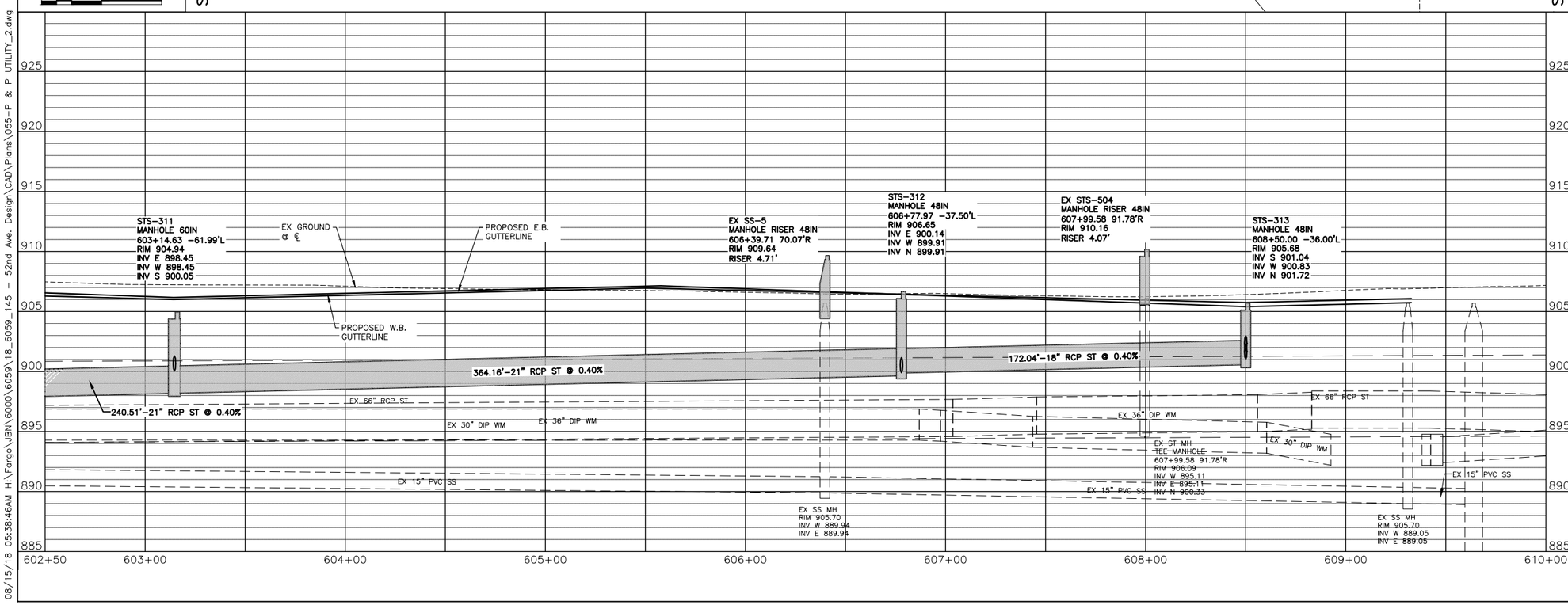


+xx.xx SPOT ELEVATION

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0210	PIPE CONC REINF 15IN CL III–STORM DRAIN		
		311B TO 311A	89	LF
		311A TO 311	9	LF
		312A TO 312	24	LF
		313A TO 313	8	LF
		313B TO 313	92	LF
		TOTAL	222	LF
714	0315	PIPE CONC REINF 18IN CL III–STORM DRAIN		
		313 TO 312	172	LF
714	0405	PIPE CONC REINF 21IN CL III–STORM DRAIN		
		312 TO 311	364	LF
722	0100	MANHOLE 48IN		
		312	1	EA
		313	1	EA
		TOTAL	2	EA
722	0110	MANHOLE 60IN		
		311	1	EA
722	1100	MANHOLE RISER 48IN		
		312	4.99	LF
		313	3.10	LF
		504	4.07	LF
		5 (SANITARY)	4.71	LF
		TOTAL	16.87	LF
722	1110	MANHOLE RISER 60IN		
		311	5.16	LF
722	3300	SANITARY MANHOLE REPAIR		
		5 (SANITARY)	1	EA
722	3410	MANHOLE REPAIR		
		504	1	EA
722	3510	INLET TYPE 2		
		311A	1	EA
		311B	1	EA
		313A	1	EA
		TOTAL	3	EA
722	3520	INLET TYPE 2 DOUBLE		
		313B	1	EA
722	4005	INLET CATCH BASIN		
		312A	1	EA



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Drainage Layout - 52nd Ave S

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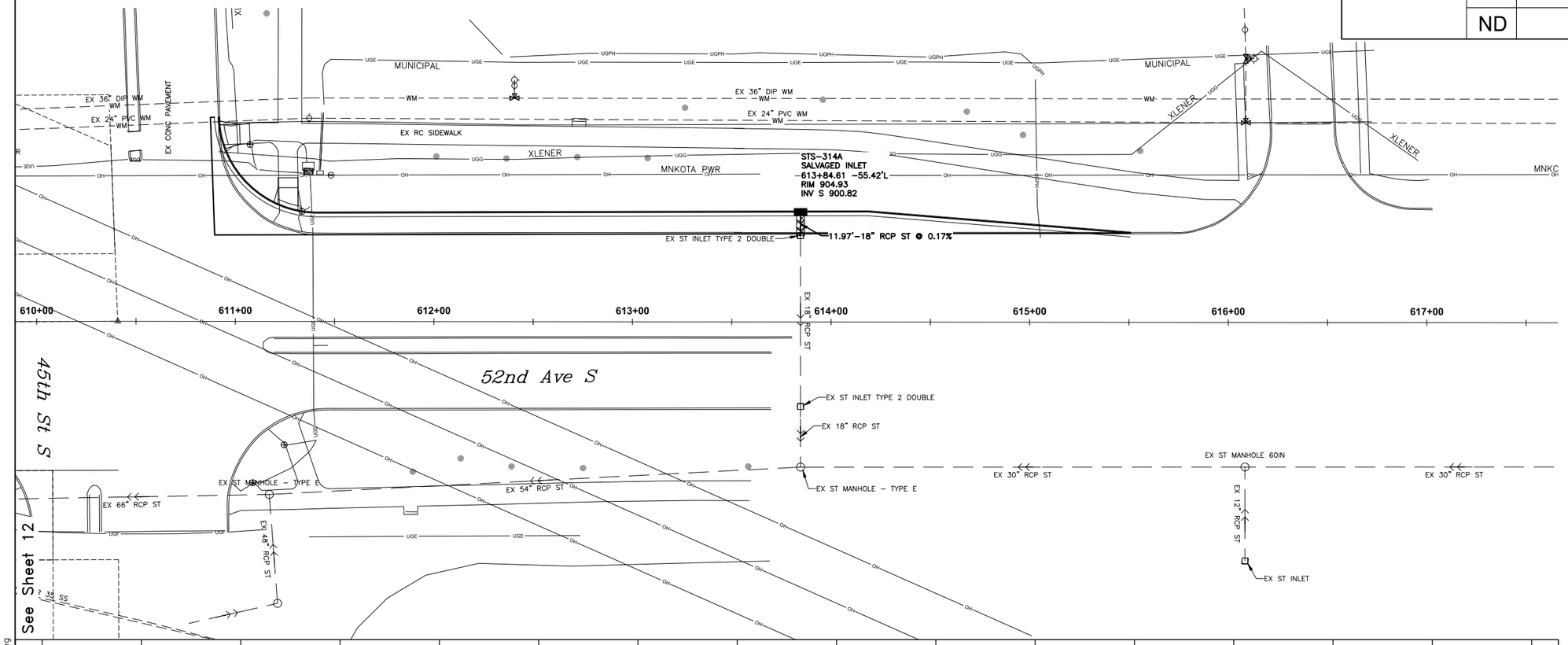
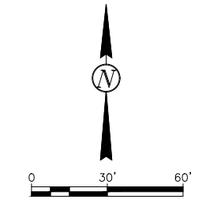
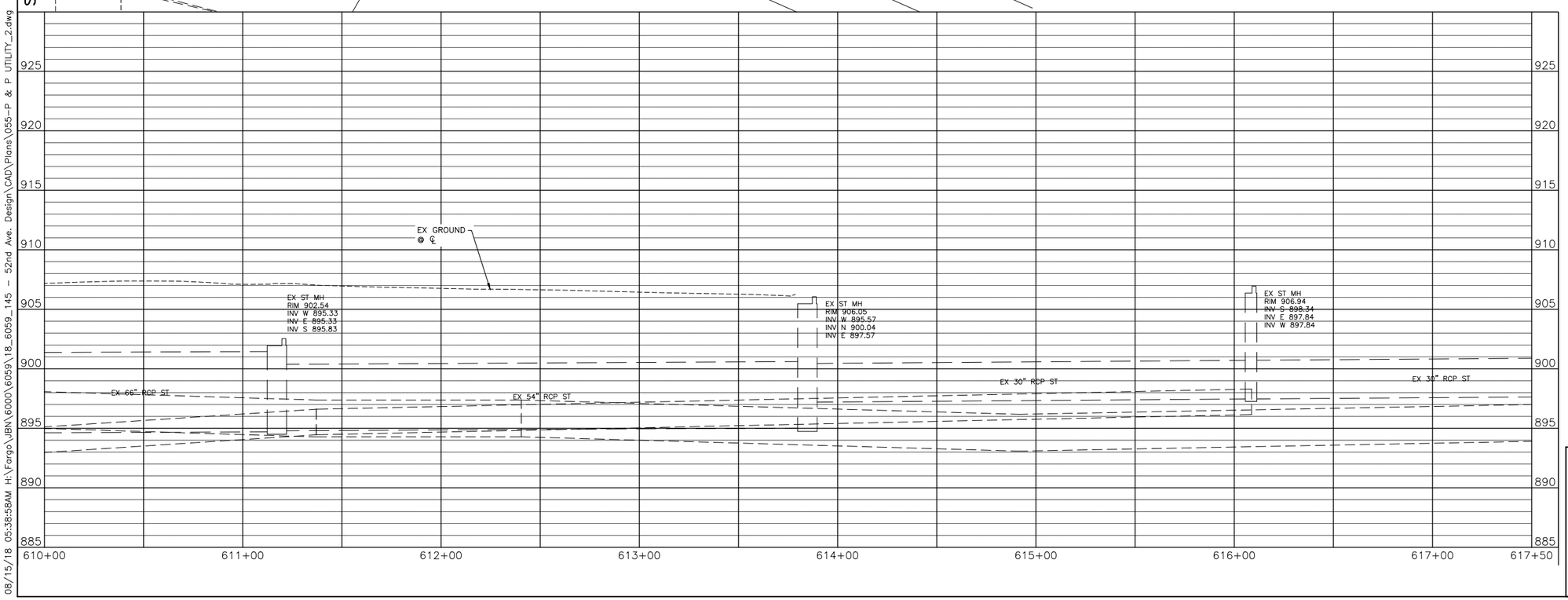
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	13





GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0315	PIPE CONC REINF 18IN CL III-STORM DRAIN 314A TO EX 18" RCP	12	LF



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Drainage Layout - 52nd Ave S

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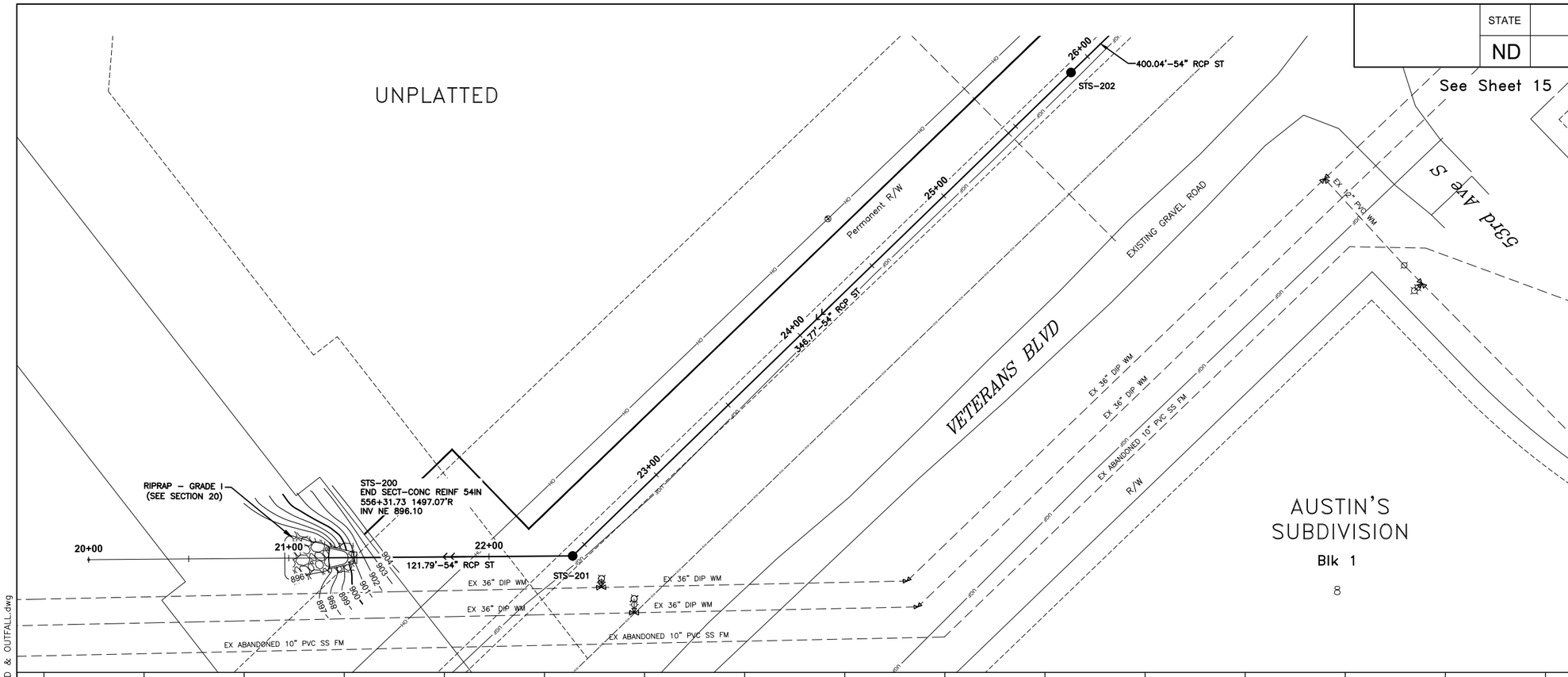
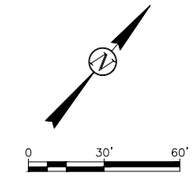
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	14





SPEC	CODE	BID ITEM	QTY	UNIT
714	1212	PIPE CONC REINF 54IN CL III-STORM DRAIN		
		202 TO 201	347	LF
		201 TO 200	122	LF
		TOTAL	469	LF
714	3050	END SEC-CONC REINF 54IN		
		200	1	EA
722	0130	MANHOLE 84IN		
		201	1	EA
		202	1	EA
		TOTAL	2	EA
722	1130	MANHOLE RISER 84IN		
		201	7.86	LF
		202	7.28	LF
		TOTAL	15.14	LF

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Drainage Layout - Veterans Blvd

52nd Ave S - West of 63rd St S to 45th St S

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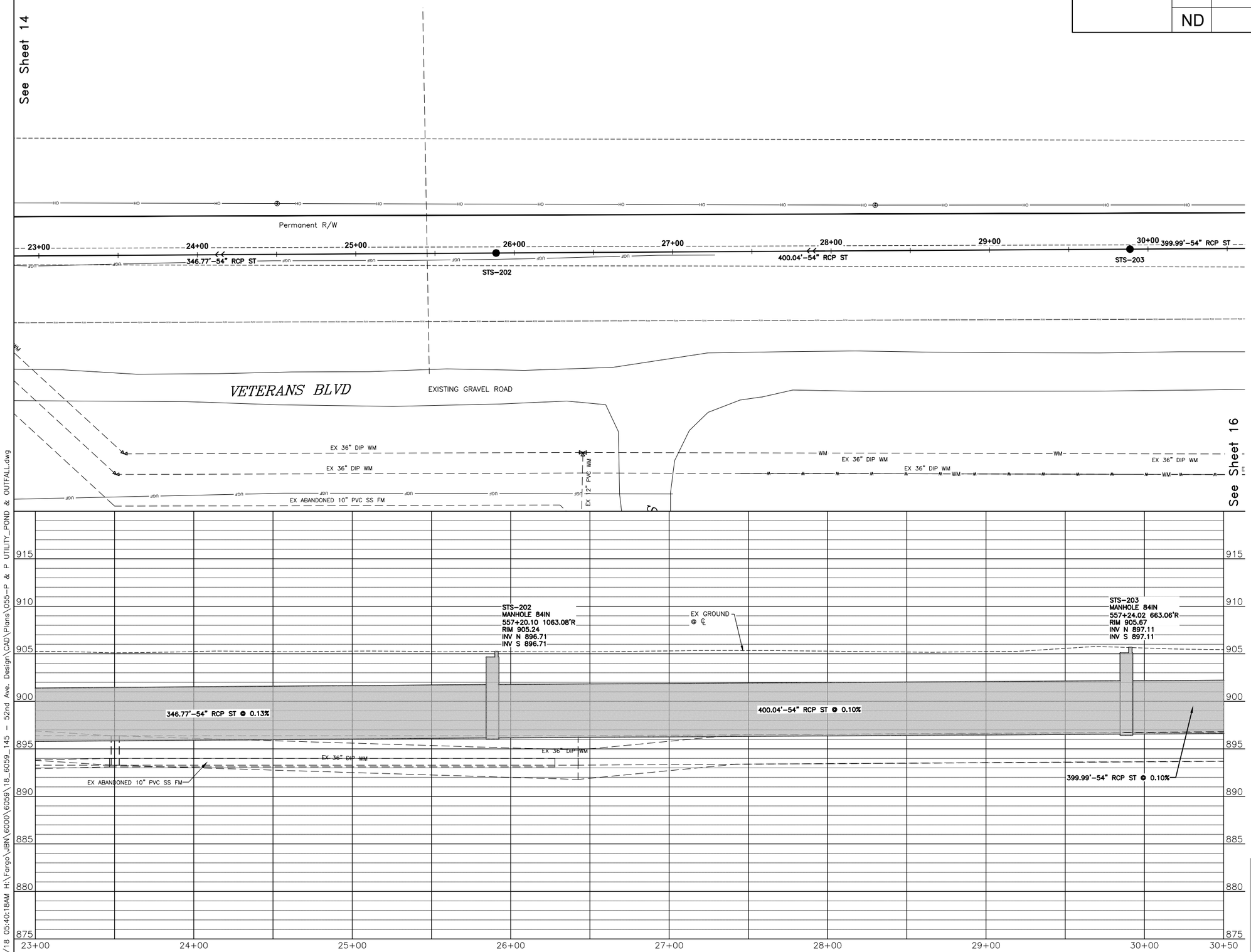
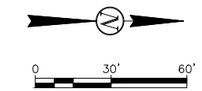
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	15





SPEC	CODE	BID ITEM	QTY	UNIT
714	1212	PIPE CONC REINF 54IN CL III-STORM DRAIN 203 TO 202	400	LF
722	0130	MANHOLE 84IN 203	1	EA
722	1130	MANHOLE RISER 84IN 203	7.31	LF

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Drainage Layout - Veterans Blvd

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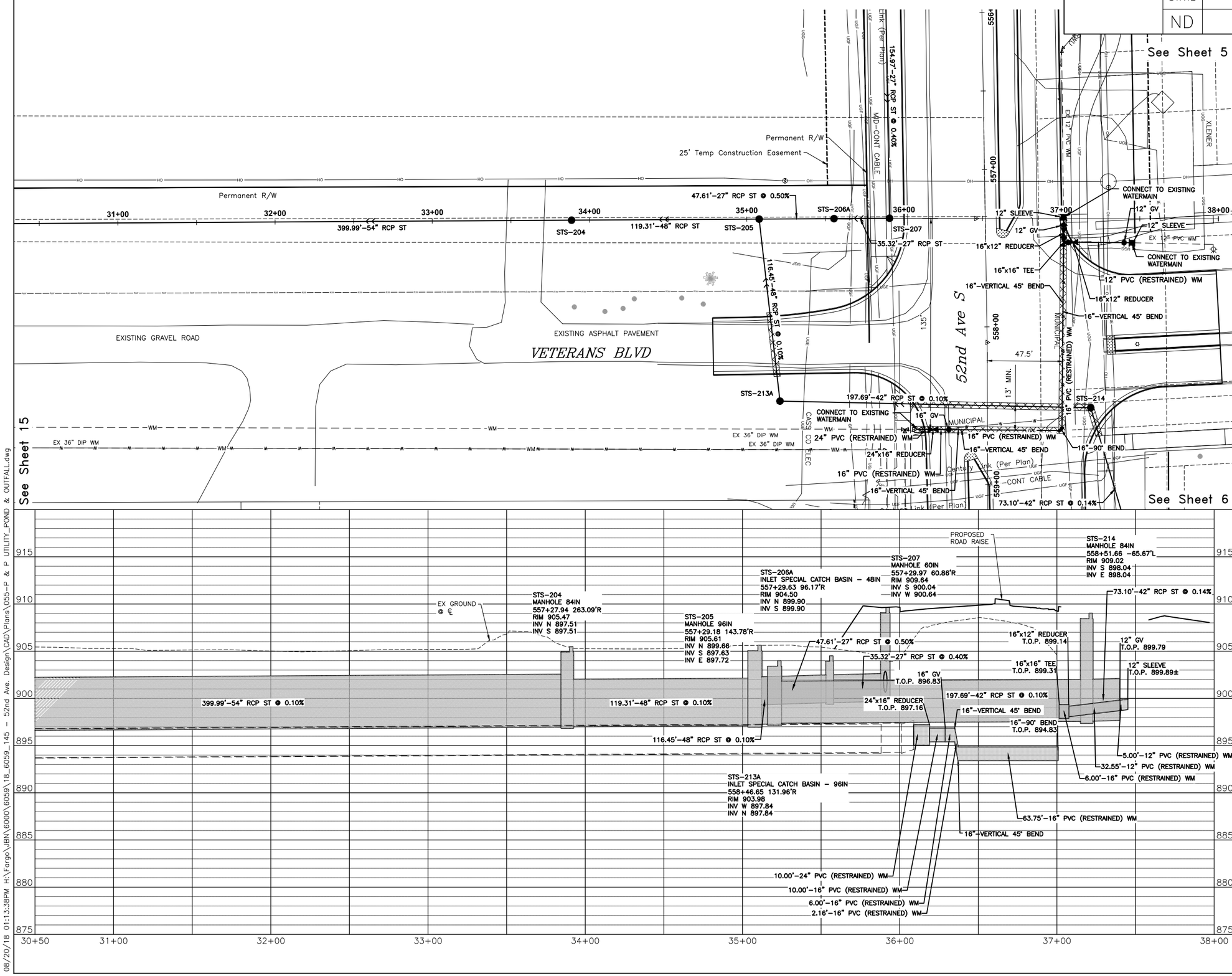
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	55	16



0 30' 60'

NOTES:
1. ALL WATER MAIN TO HAVE A MINIMUM 7.5' OF COVER.

GRAVEL BACKFILL (SEE SECTION 20)

SPEC	CODE	BID ITEM	QTY	UNIT
714	0710	PIPE CONC REINF 27IN CL III-STORM DRAIN		
		207 TO 206A	35	LF
		206A TO 205	48	LF
		TOTAL	83	LF
714	1010	PIPE CONC REINF 42IN CL III-STORM DRAIN		
		214 TO 213A	198	LF
714	1110	PIPE CONC REINF 48IN CL III-STORM DRAIN		
		205 TO 204	119	LF
		213A TO 205	116	LF
		TOTAL	235	LF
714	1212	PIPE CONC REINF 54IN CL III-STORM DRAIN		
		204 TO 203	400	LF
722	0130	MANHOLE 84IN		
		204	1	EA
722	0140	MANHOLE 96IN		
		205	1	EA
722	1130	MANHOLE RISER 84IN		
		204	6.71	LF
722	1140	MANHOLE RISER 96IN		
		204	6.74	LF
722	4108	INLET SPECIAL CATCH BASIN-48IN		
		206A	1	EA
722	4116	INLET SPECIAL CATCH BASIN-96IN		
		213A	1	EA

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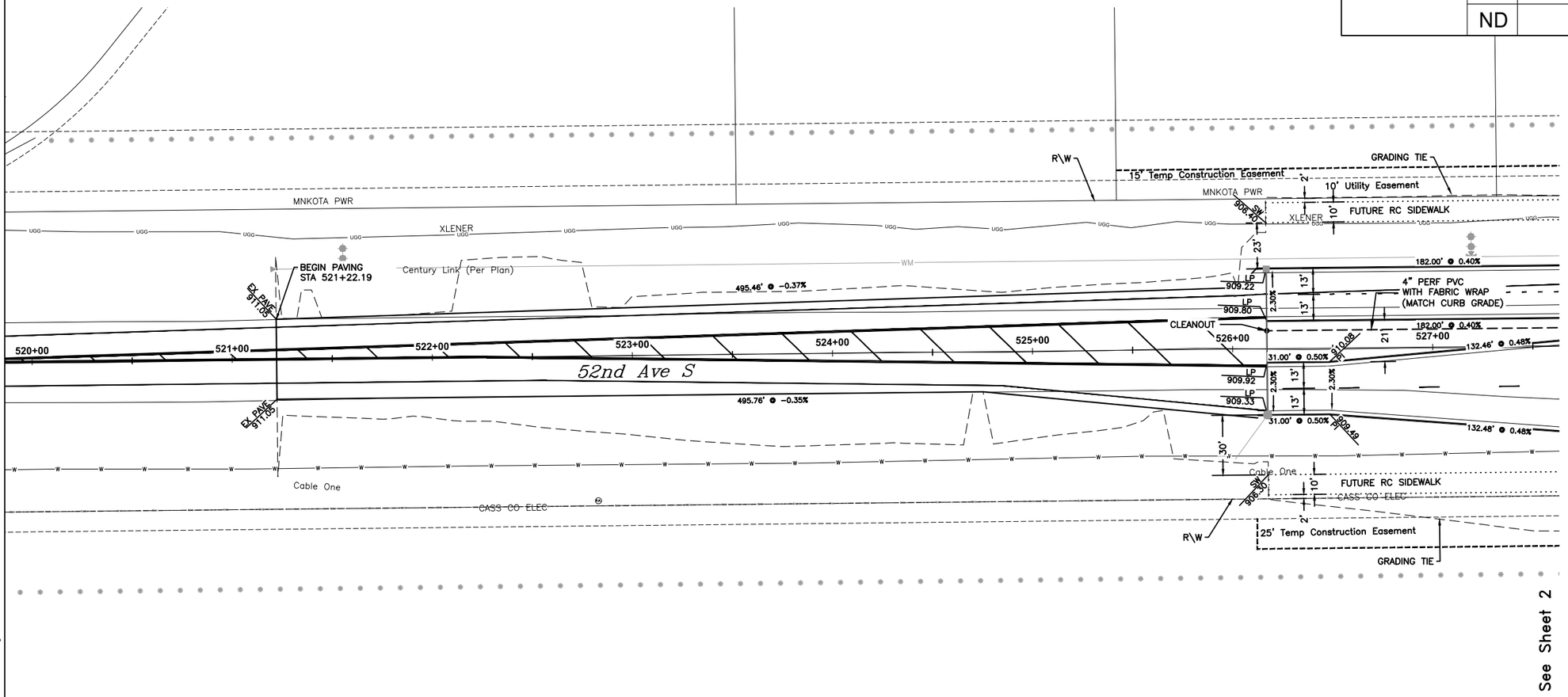
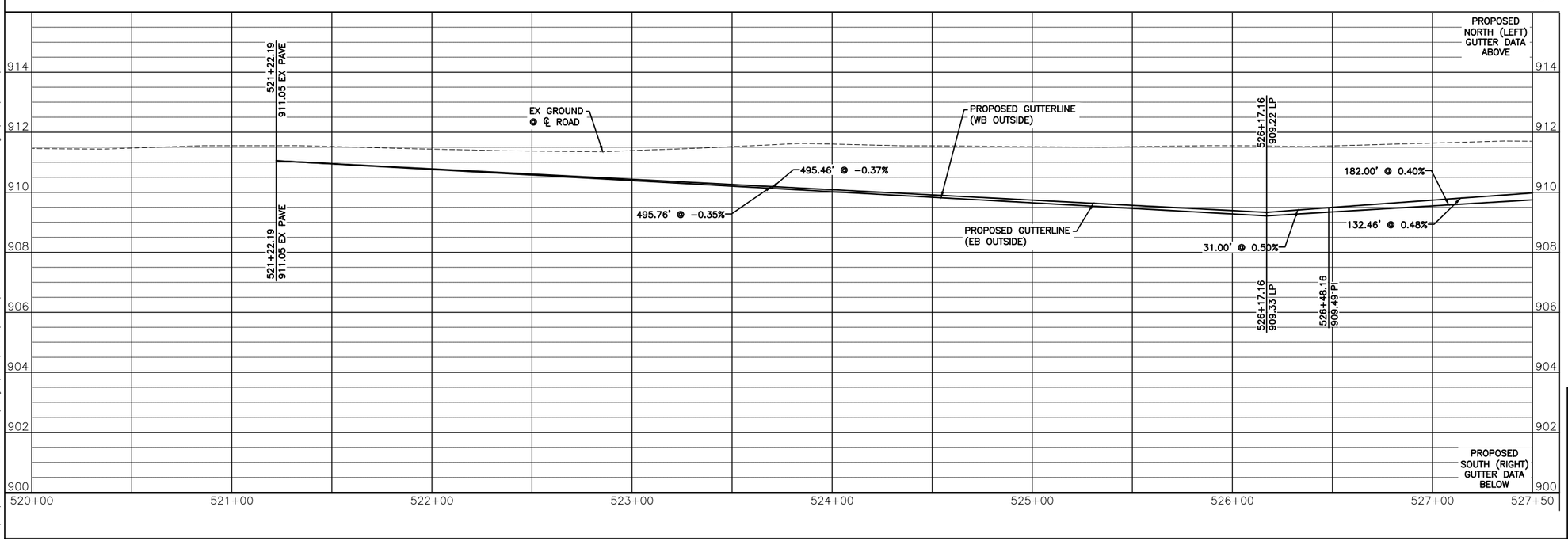
Drainage Layout - Veterans Blvd

52nd Ave S - West of 63rd St S to 45th St S

08/20/18 01:13:38PM H:\Fargo\JBN\6000\6059\18_6059_145 - 52nd Ave. Design\CAD\Plans\055-P & P UTILITY_POND & OUTFALL.dwg

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	60	1





NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

IMPRESSIONED CONCRETE

5" SIDEWALK

6" SIDEWALK

MEDIAN NOSE

THE CITY OF Fargo FAR MORE

Proj. No. 6059-0145
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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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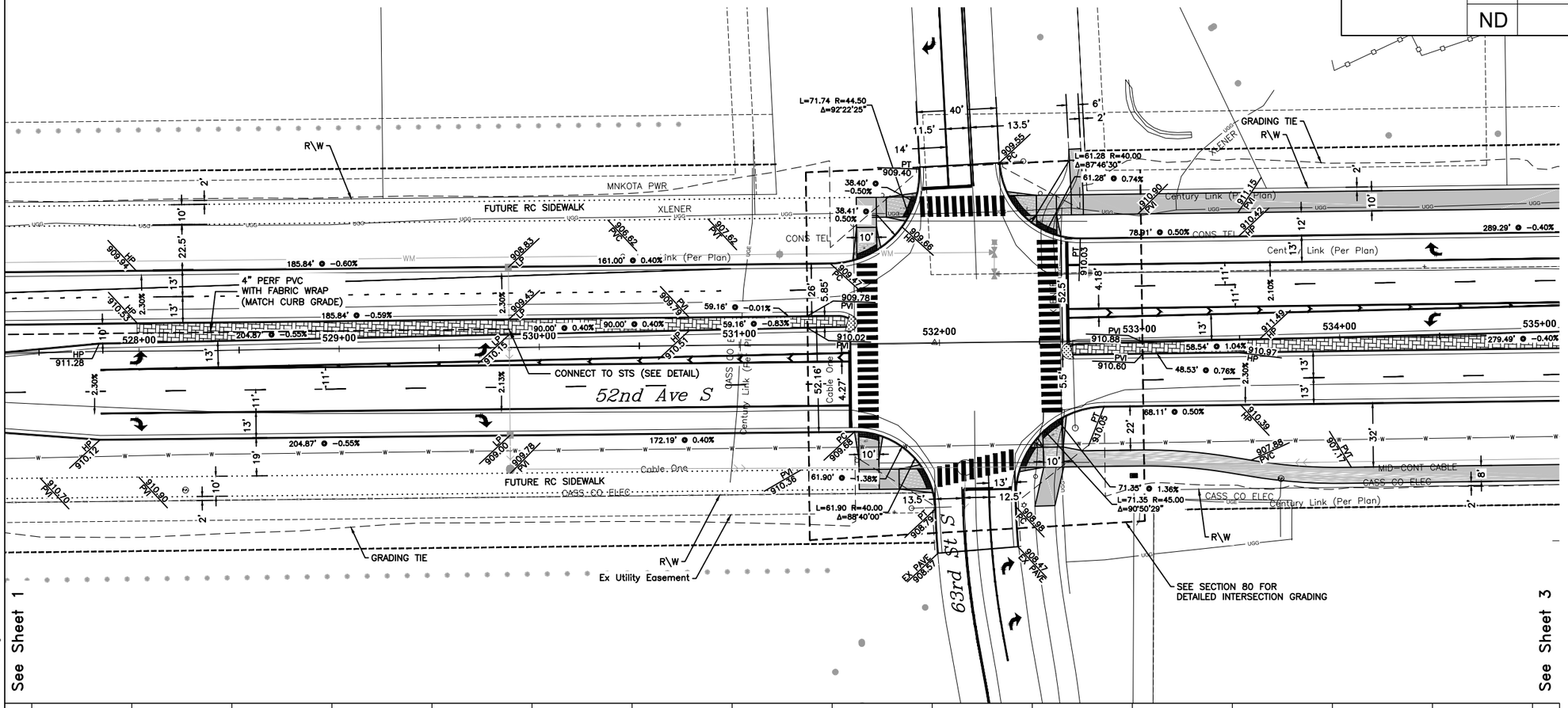
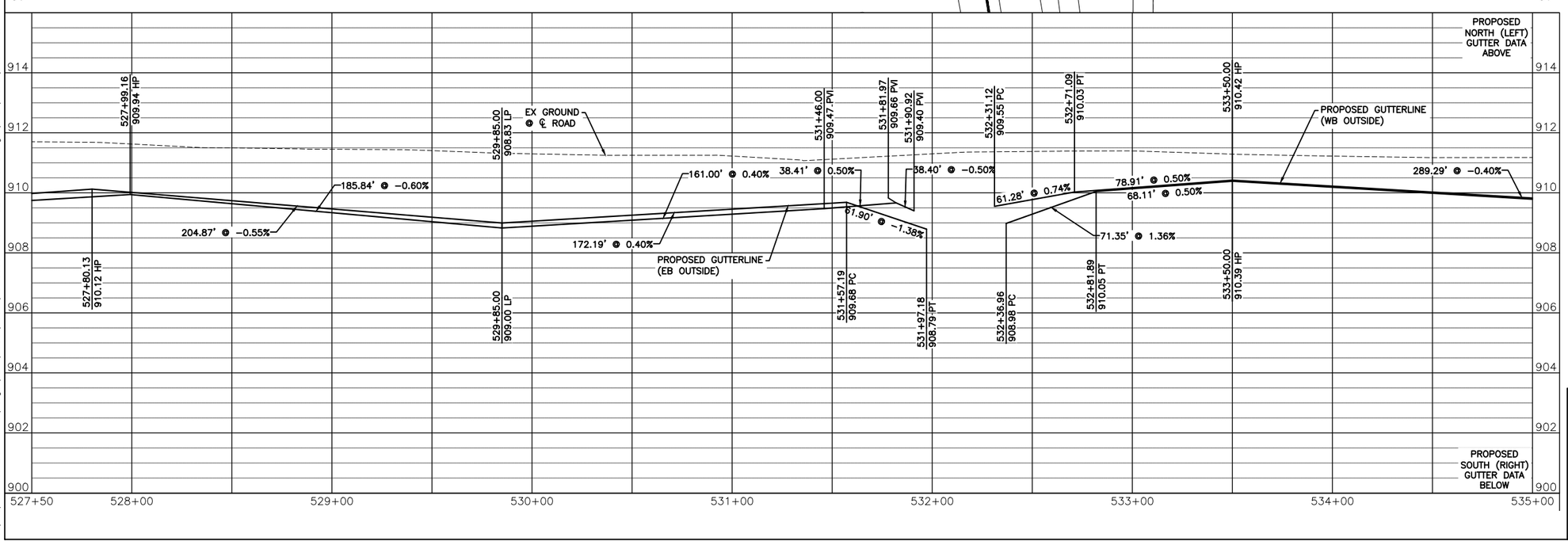
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	60	2





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IMPRESSIONED CONCRETE

5" SIDEWALK

6" SIDEWALK

MEDIAN NOSE

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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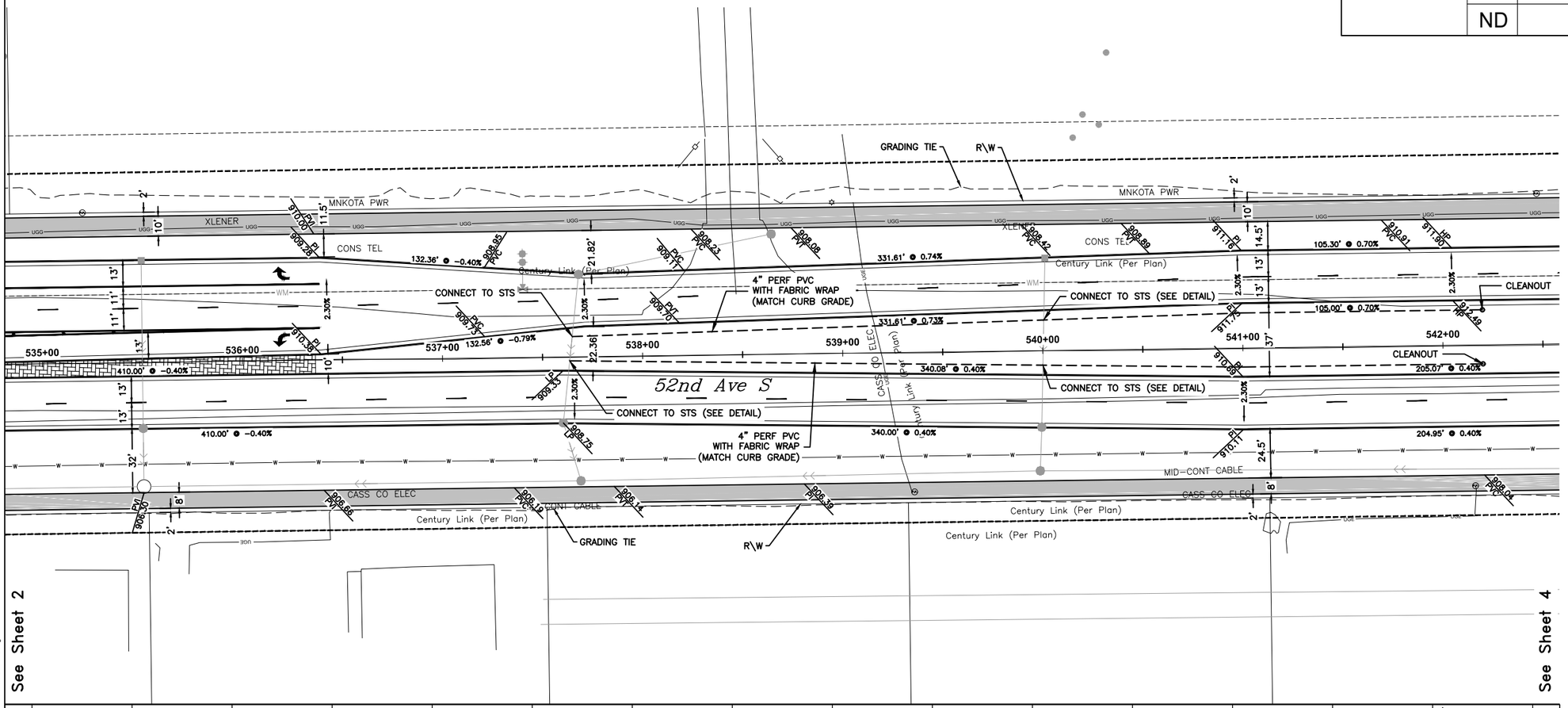

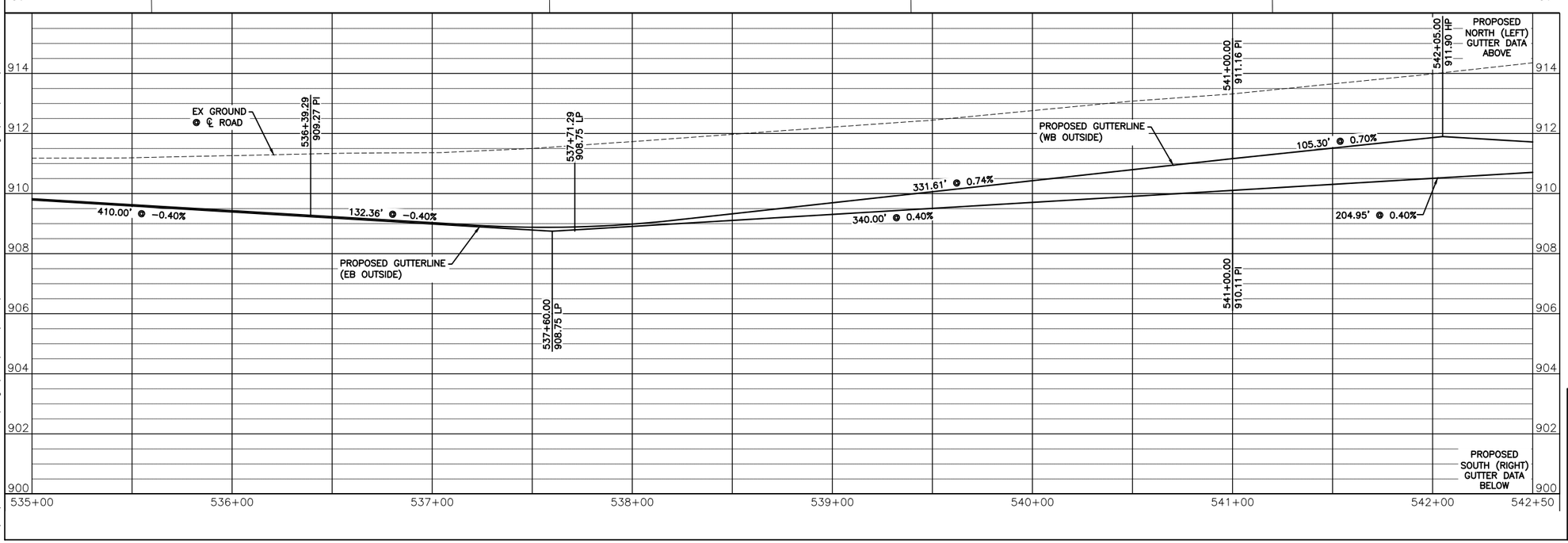

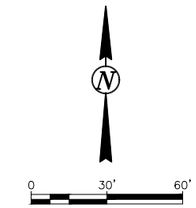

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IMPRESSIONED CONCRETE

5" SIDEWALK

6" SIDEWALK

MEDIAN NOSE

THE CITY OF Fargo FAR MORE

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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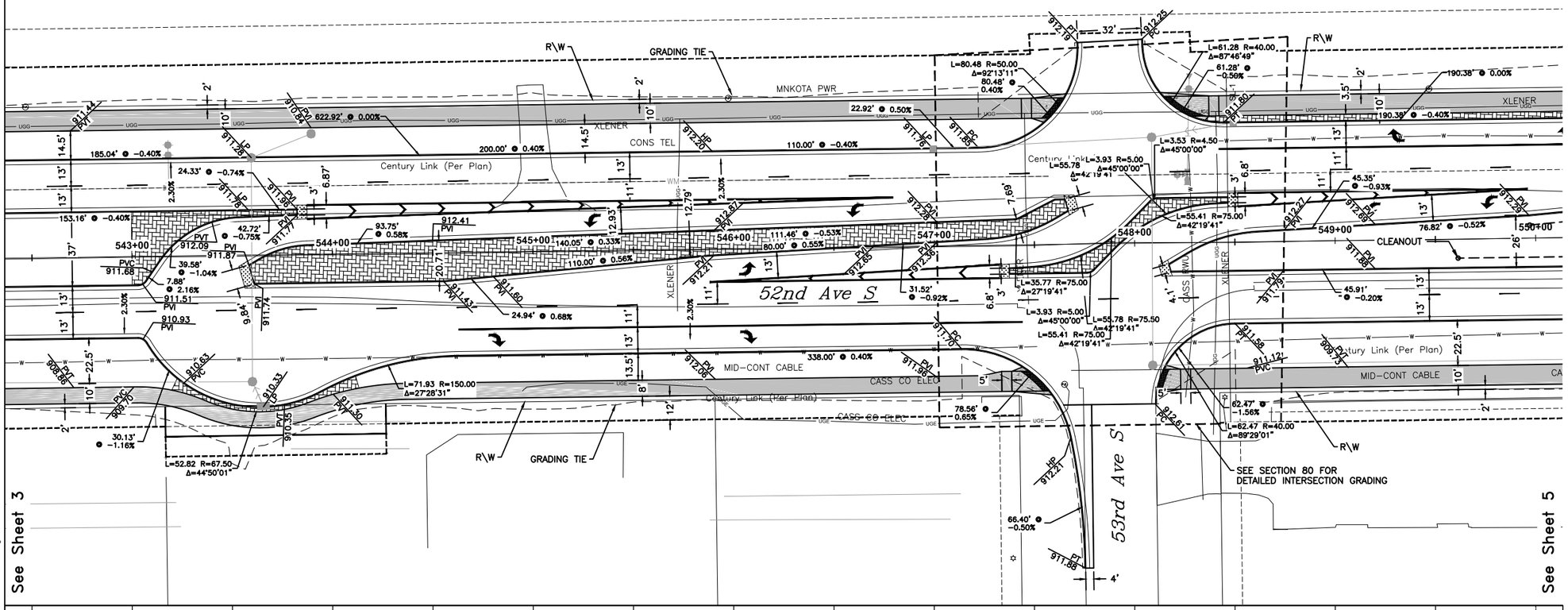

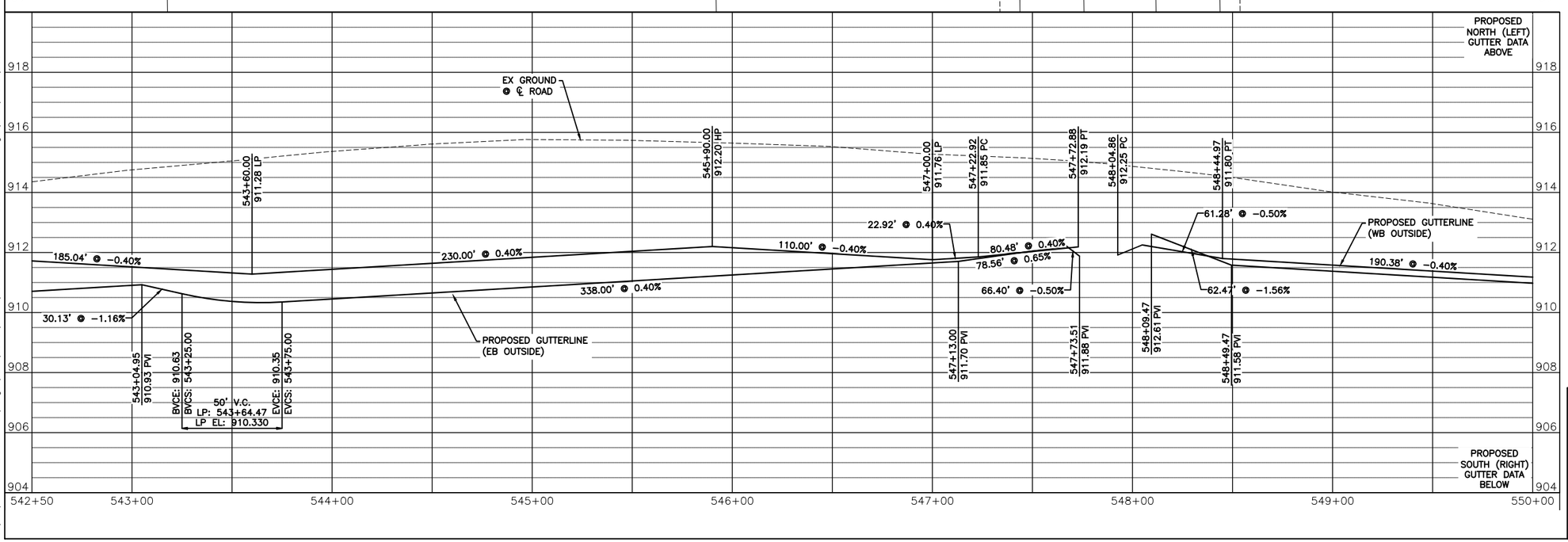

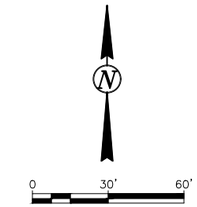

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IMPRESSIONED CONCRETE

5" SIDEWALK

6" SIDEWALK

MEDIAN NOSE

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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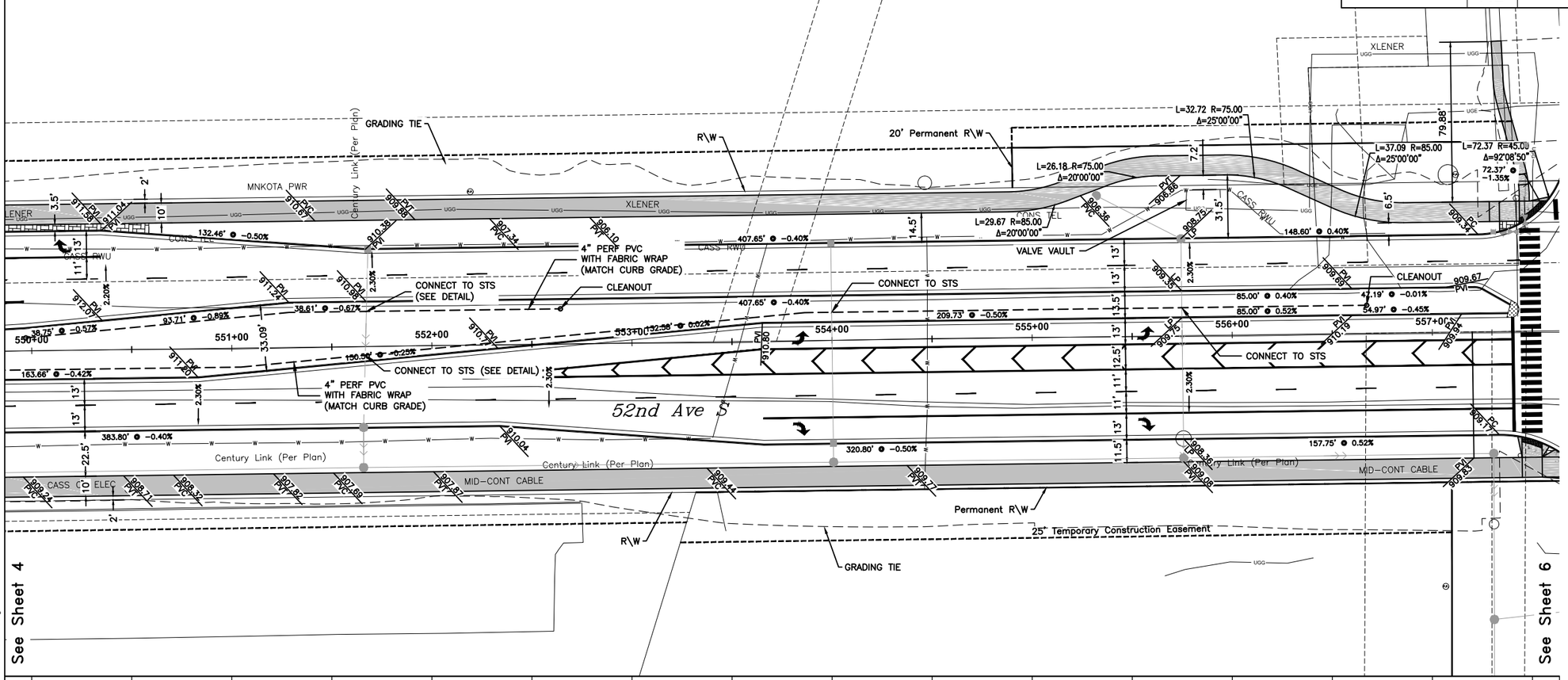
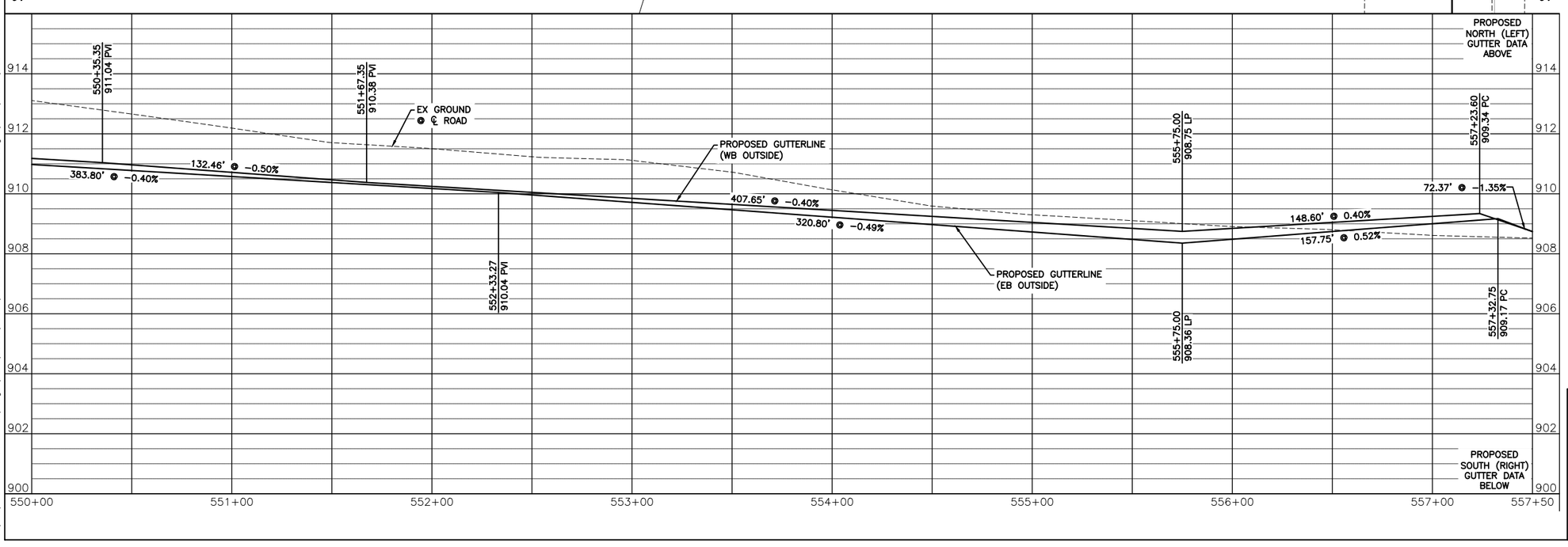
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	60	5





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IMPRESSIONED CONCRETE

5" SIDEWALK

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MEDIAN NOSE

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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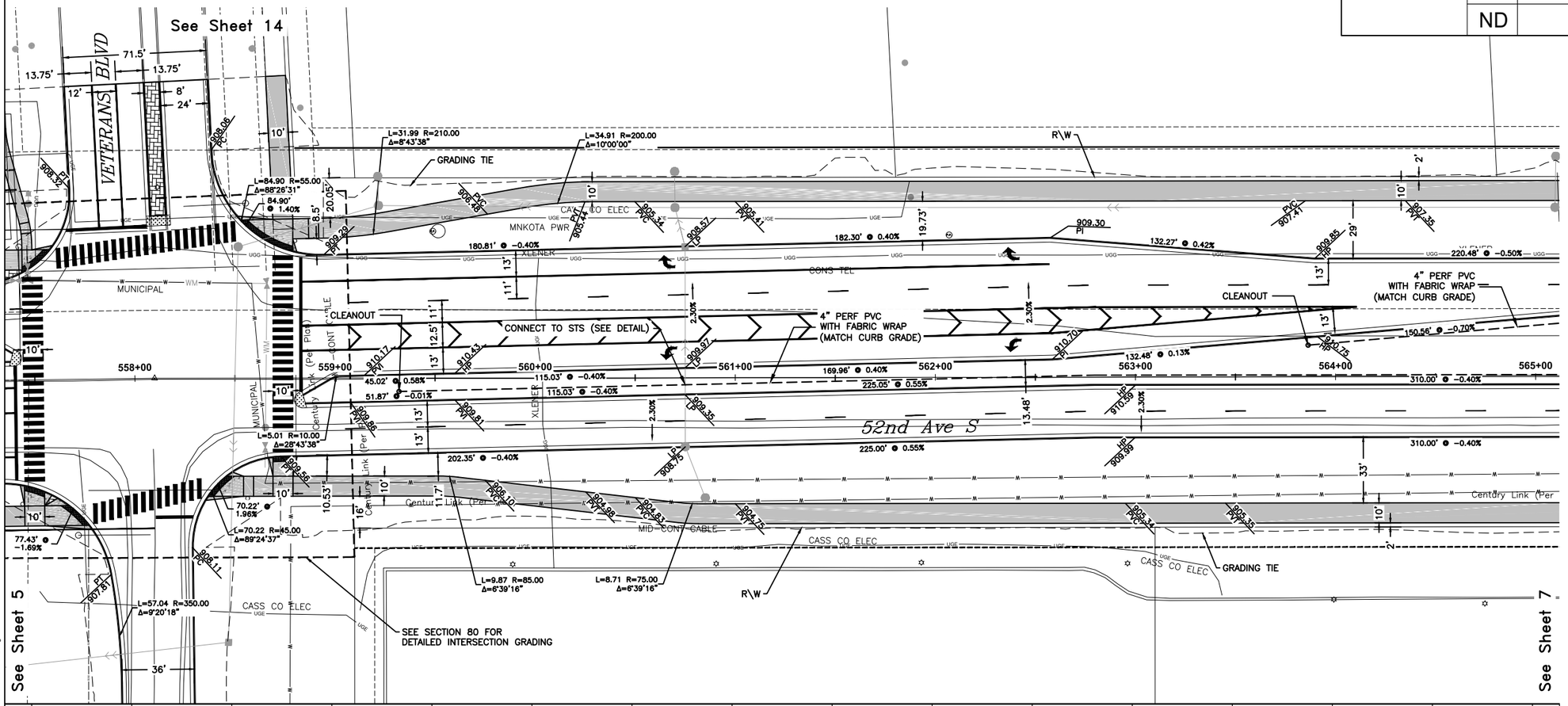

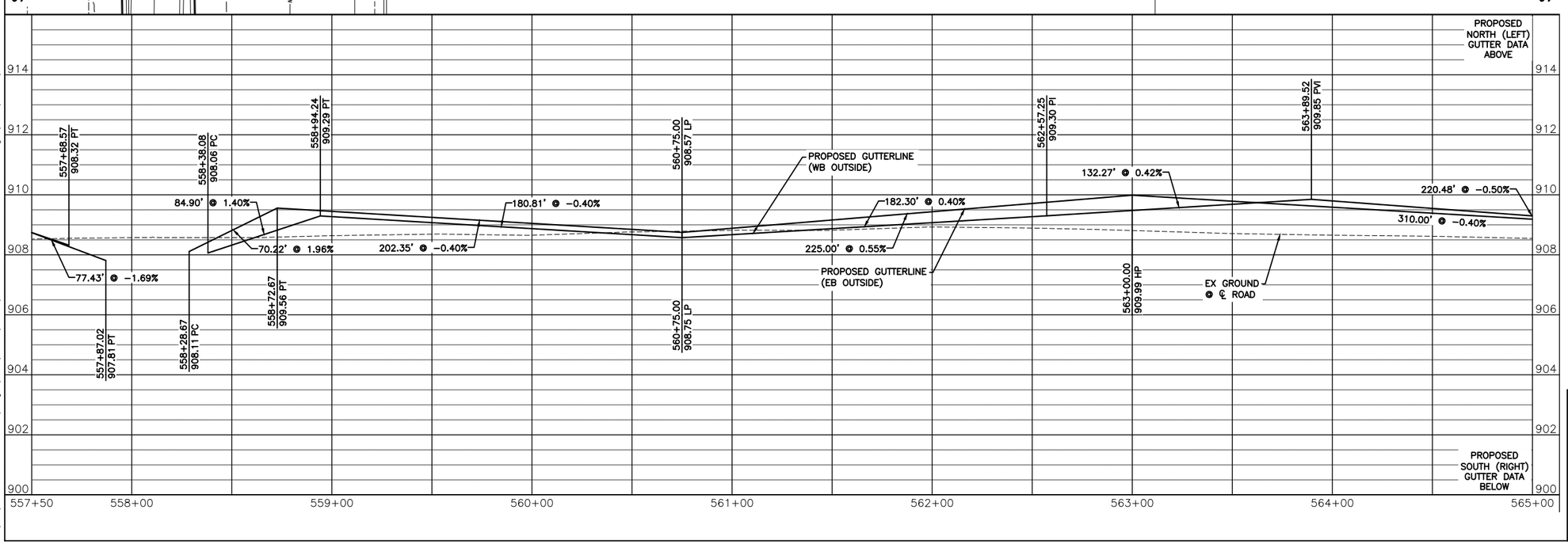

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MEDIAN NOSE

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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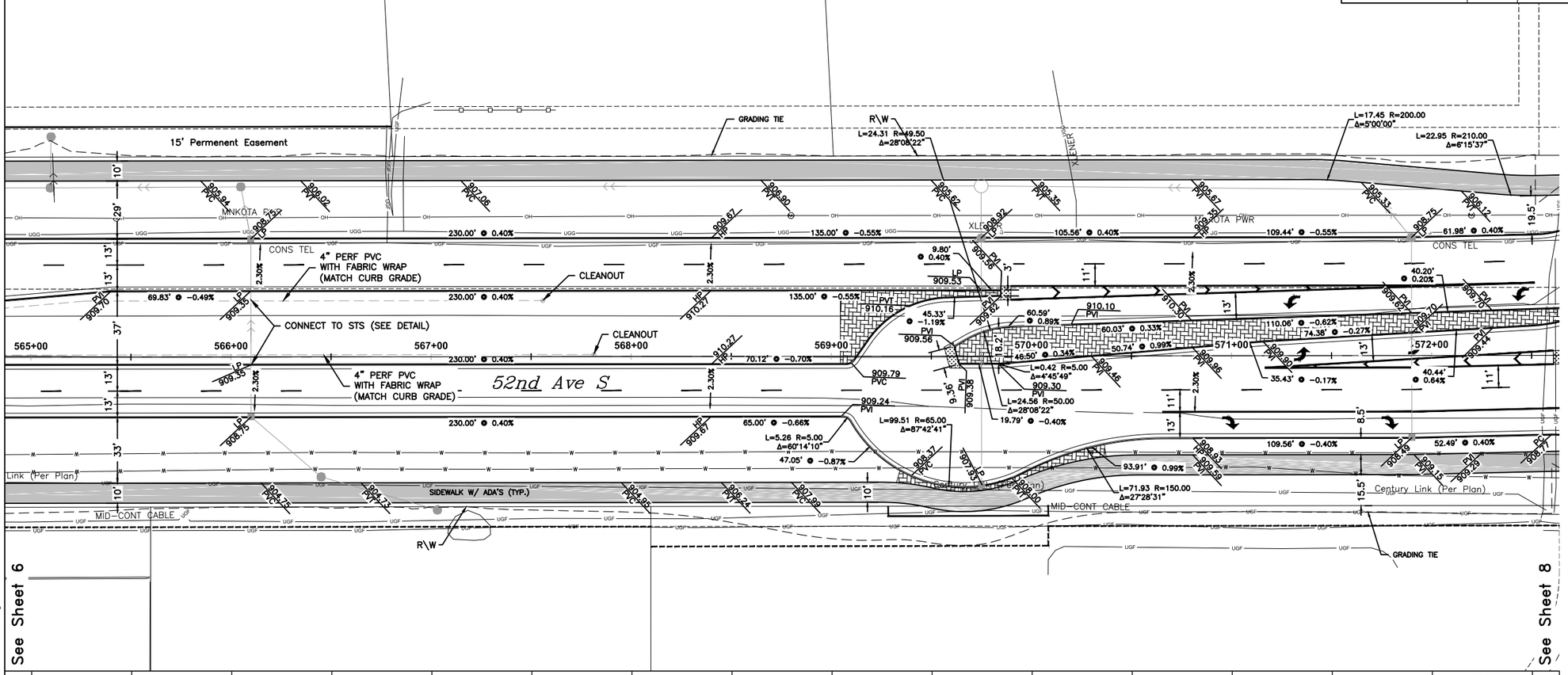

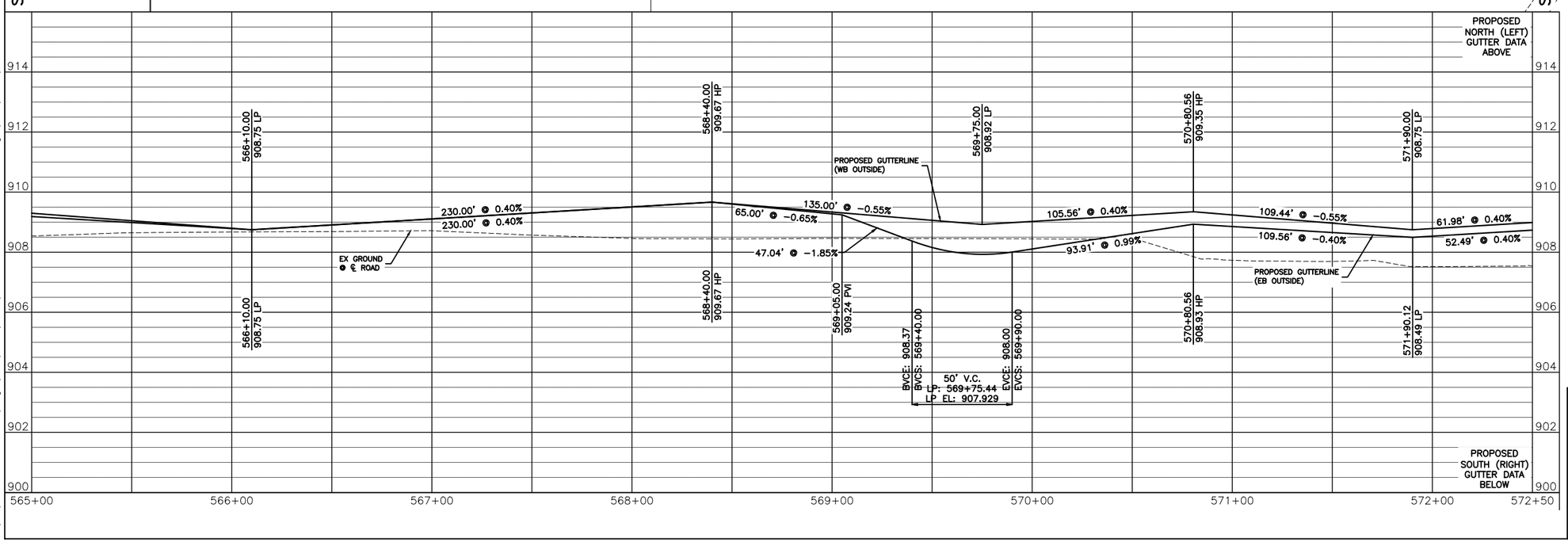

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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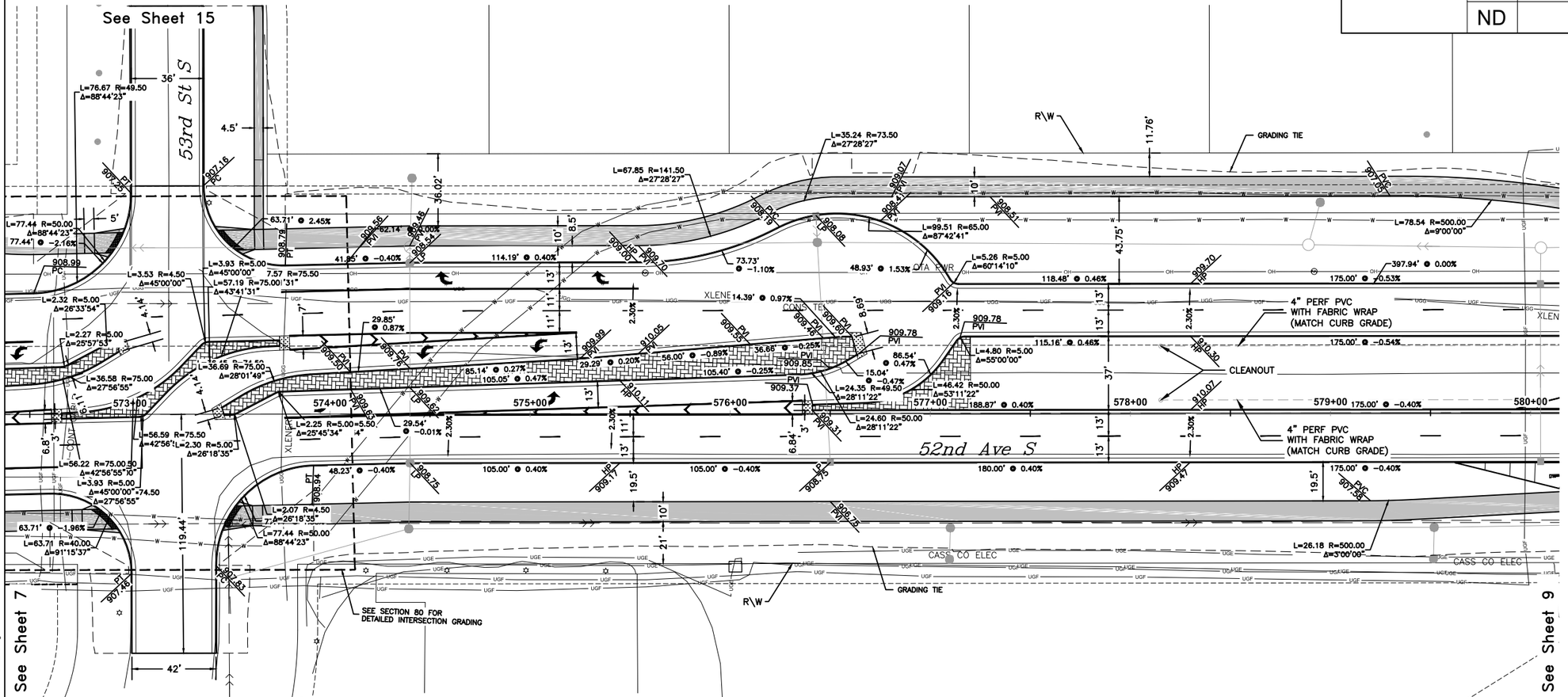
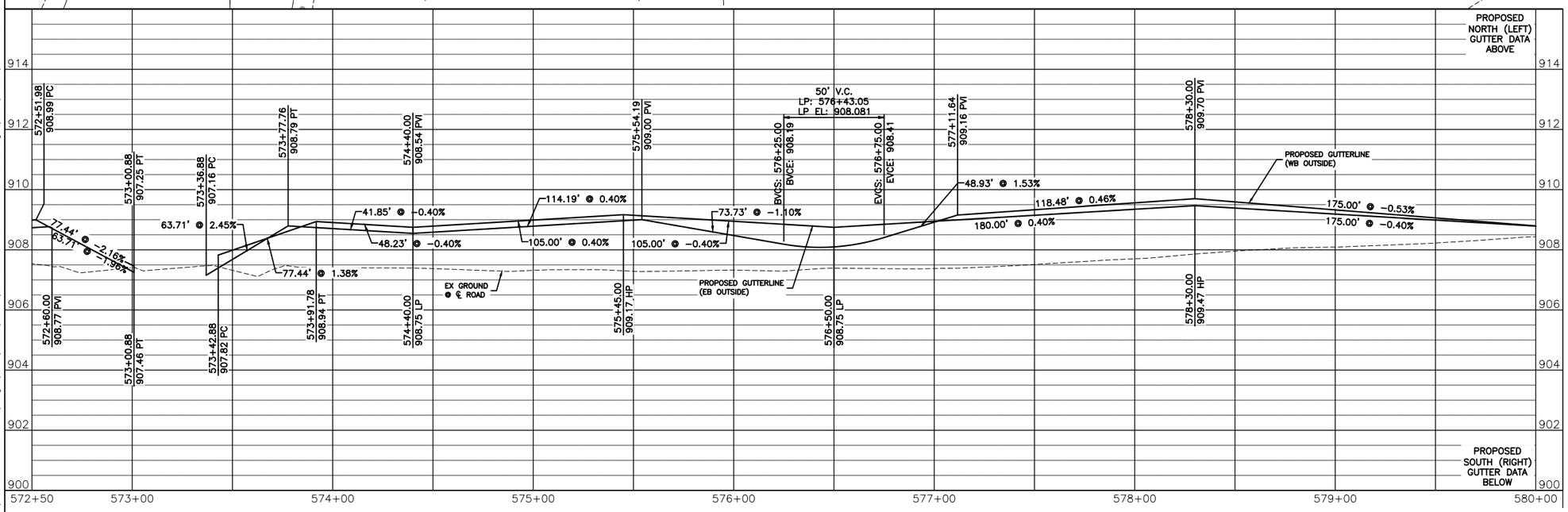
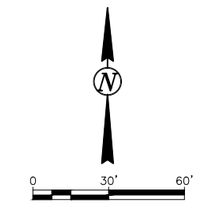
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	60	8







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IMPRESSIONED CONCRETE

5" SIDEWALK

6" SIDEWALK

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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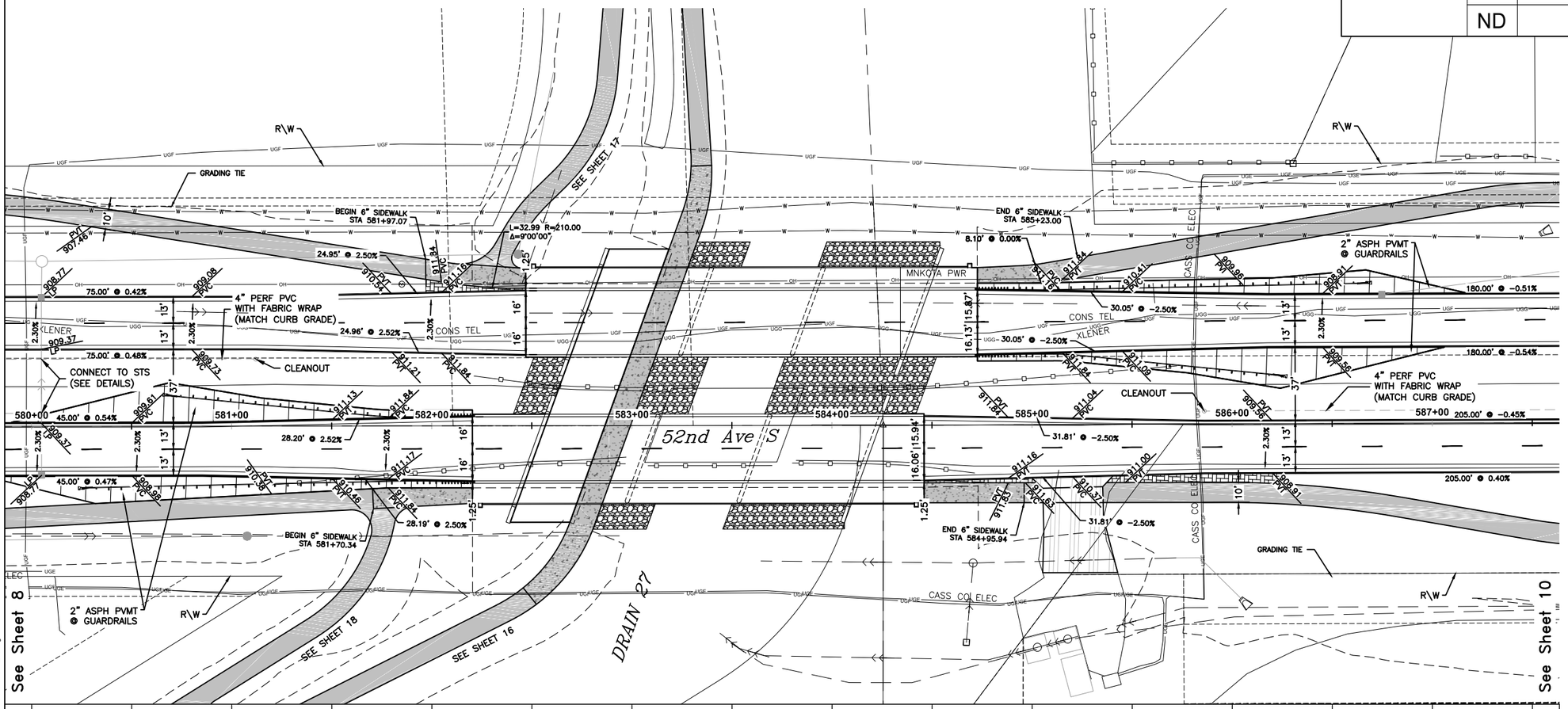
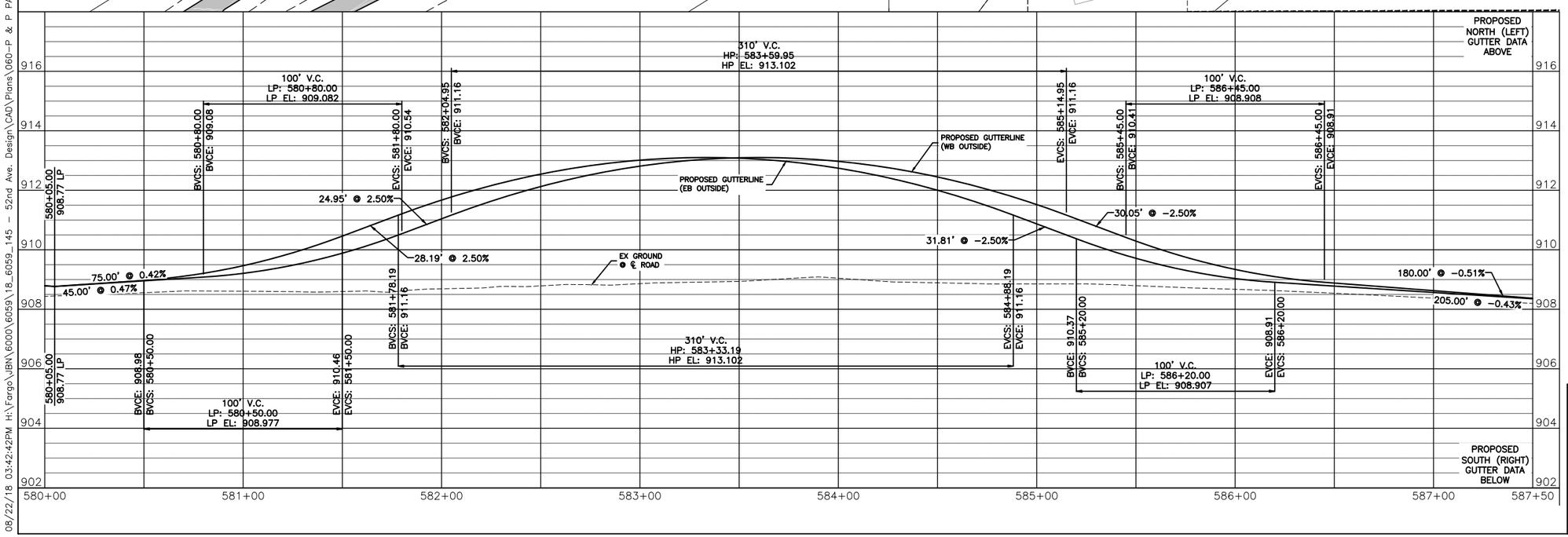
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	60	9





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MEDIAN NOSE

THE CITY OF Fargo FAR MORE

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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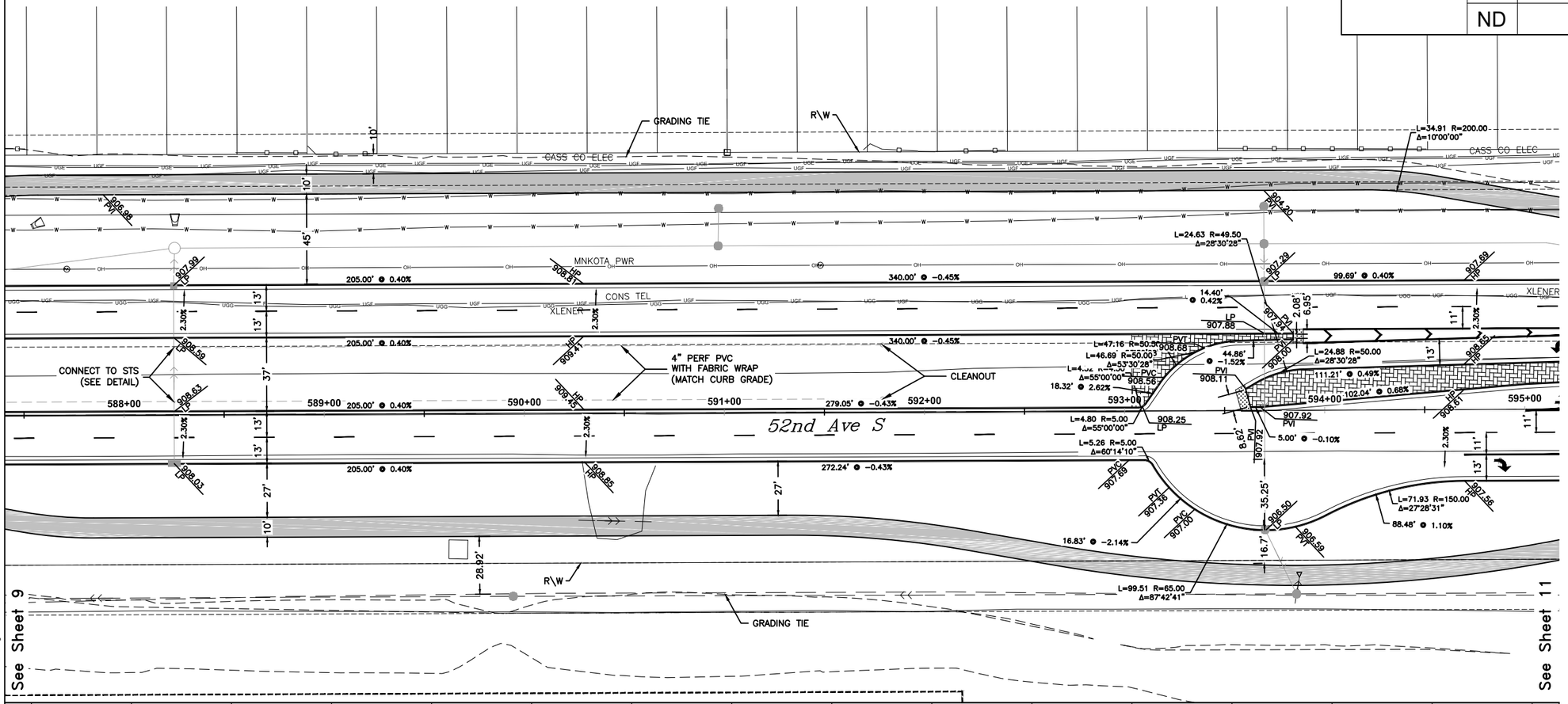
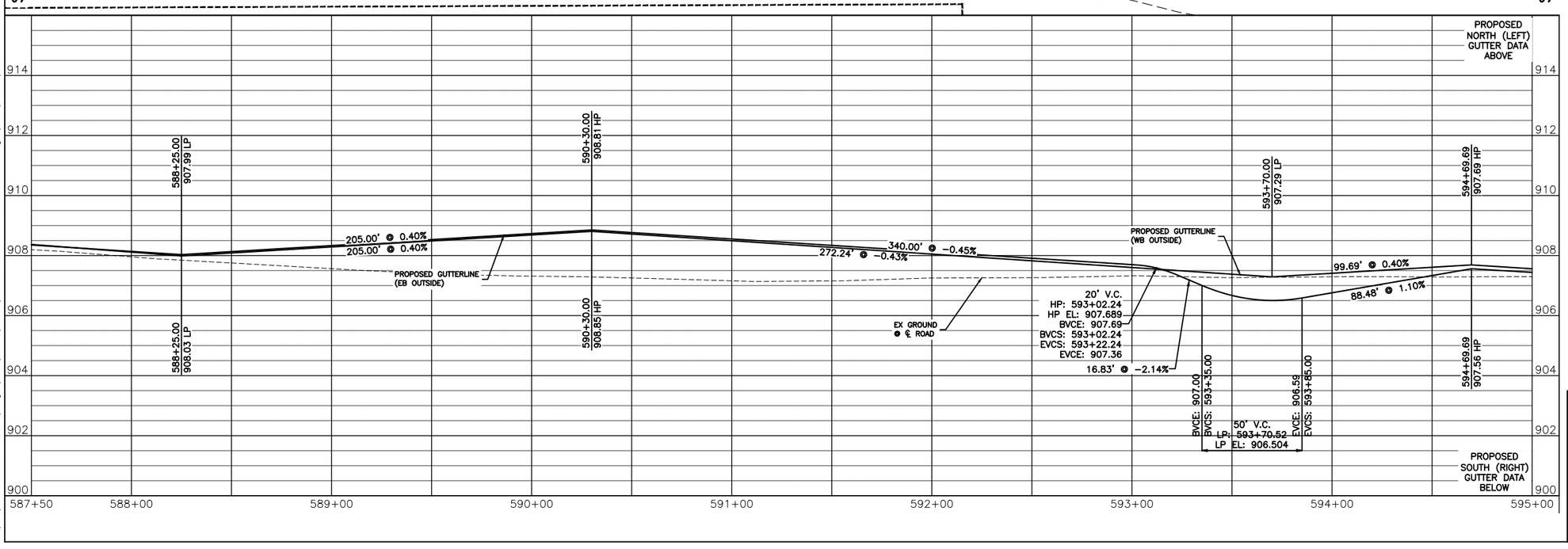
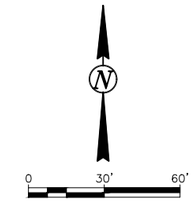
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	60	10







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IMPRESSIONED CONCRETE

5" SIDEWALK

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MEDIAN NOSE

THE CITY OF Fargo FAR MORE

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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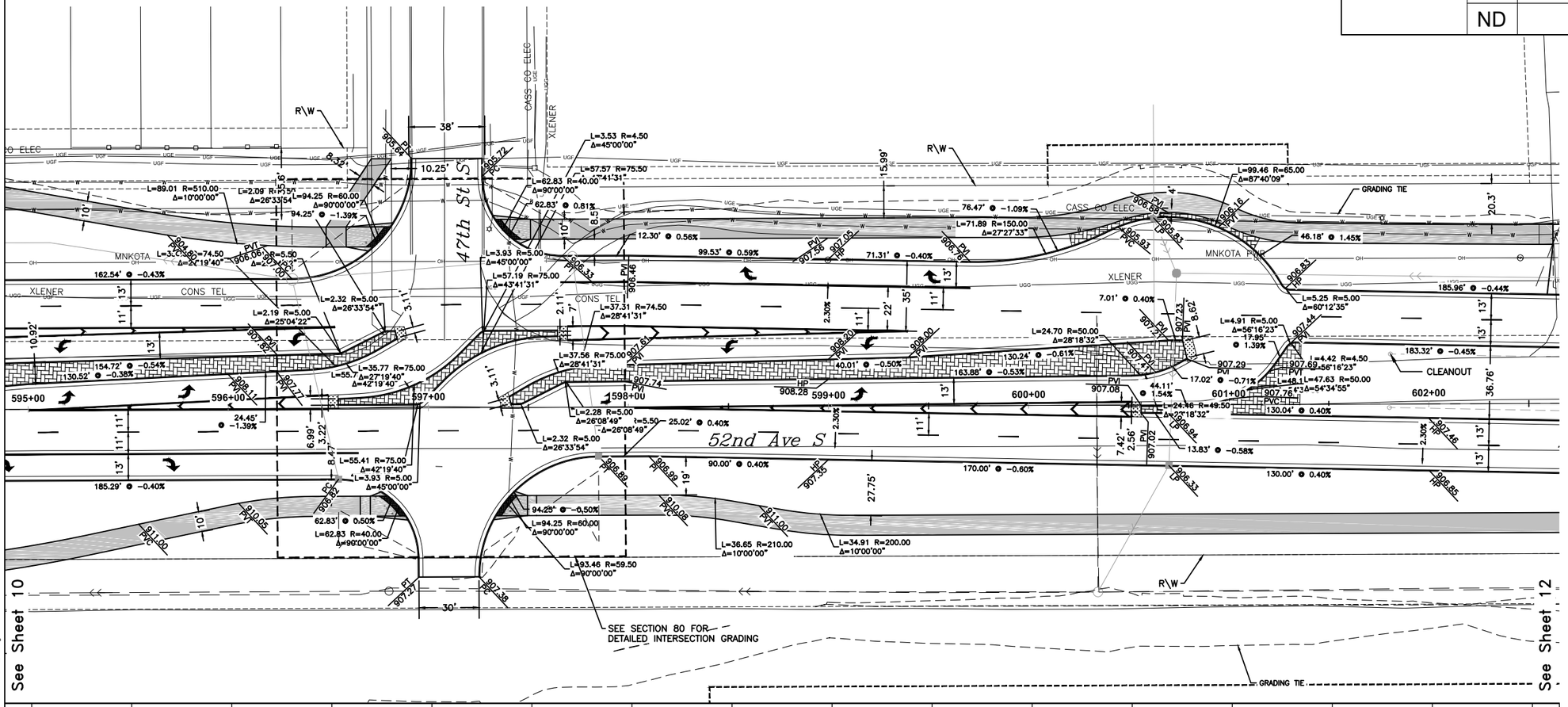
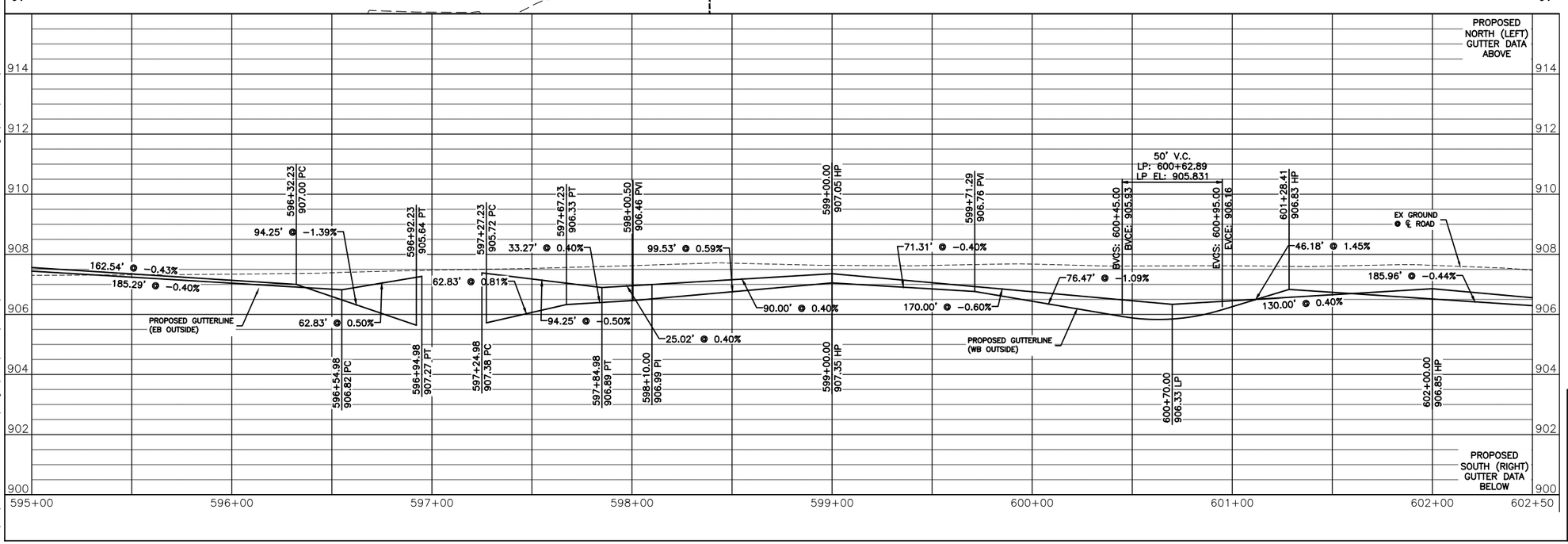
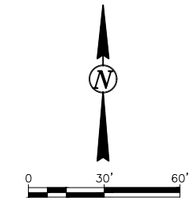
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	60	11







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IMPRESSIONED CONCRETE

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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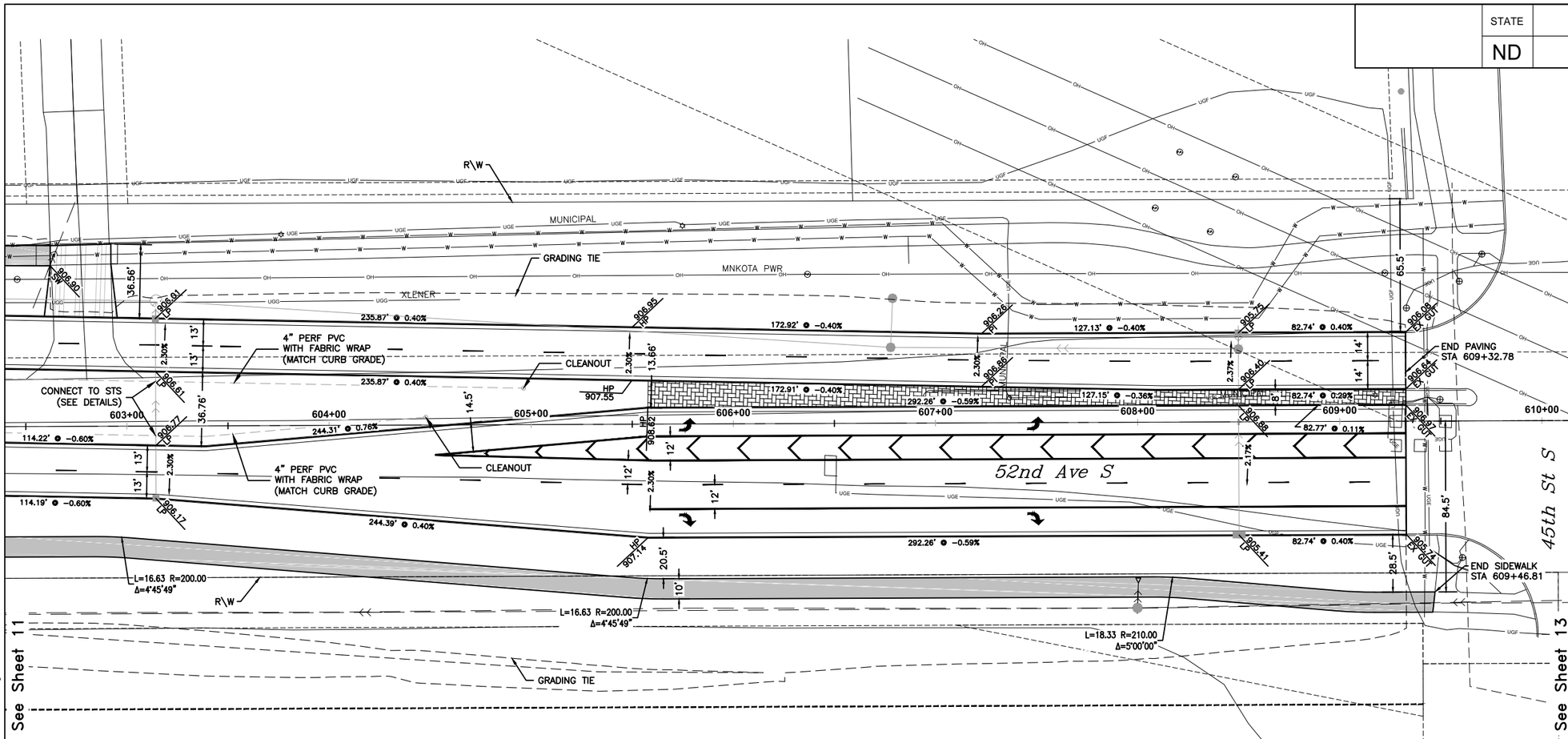

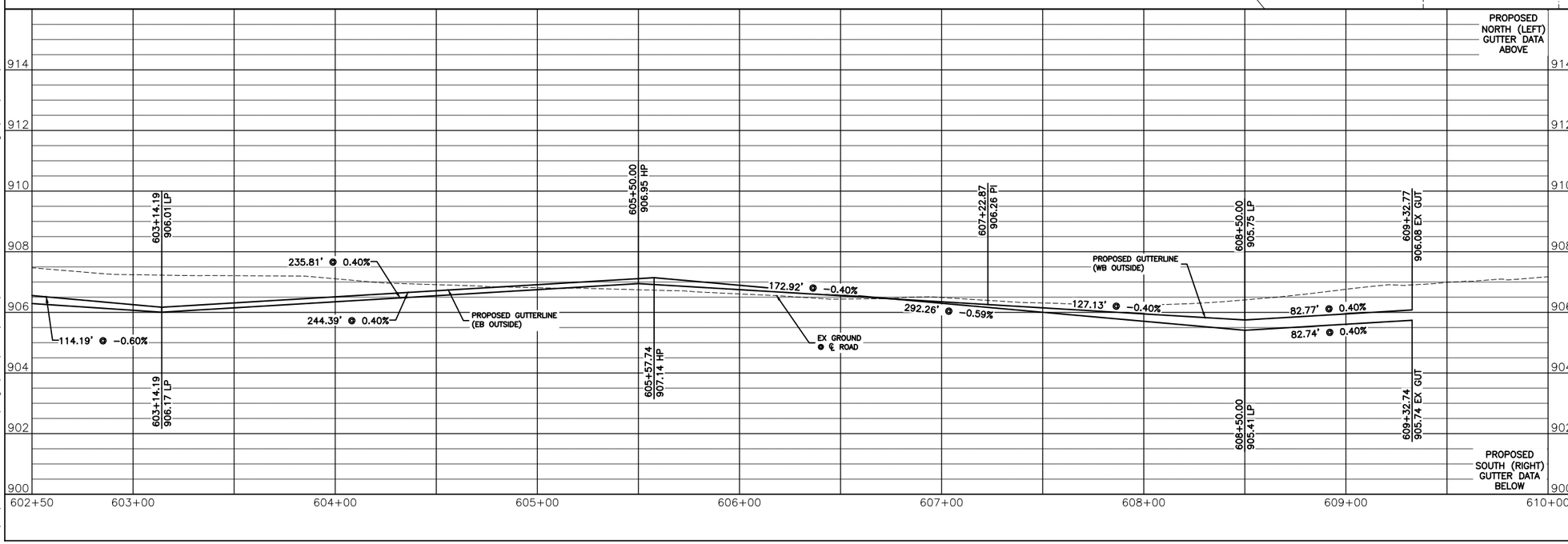

0 30' 60'

NOTES:

1. ALL GRADES ARE FLOWLINE GRADES SHOWN AT FACE OF CURB UNLESS OTHERWISE NOTED.
2. ALL CURB IS STANDARD TYPE I UNLESS OTHERWISE NOTED.

IMPRESSIONED CONCRETE

5" SIDEWALK

6" SIDEWALK

MEDIAN NOSE

THE CITY OF Fargo FAR MORE

Proj. No. 6059-0145
Houston Engineering Inc.
Ph: 701.237.5065

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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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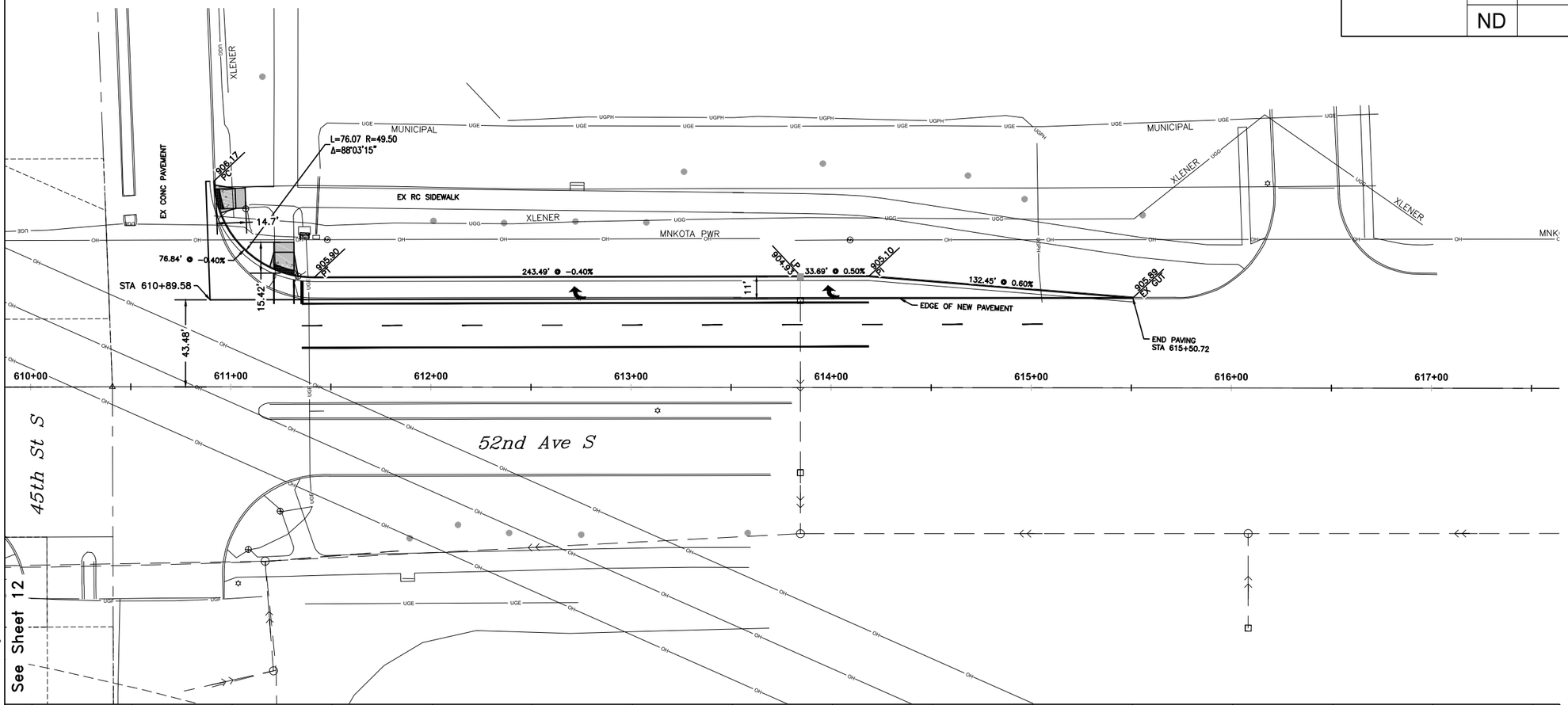
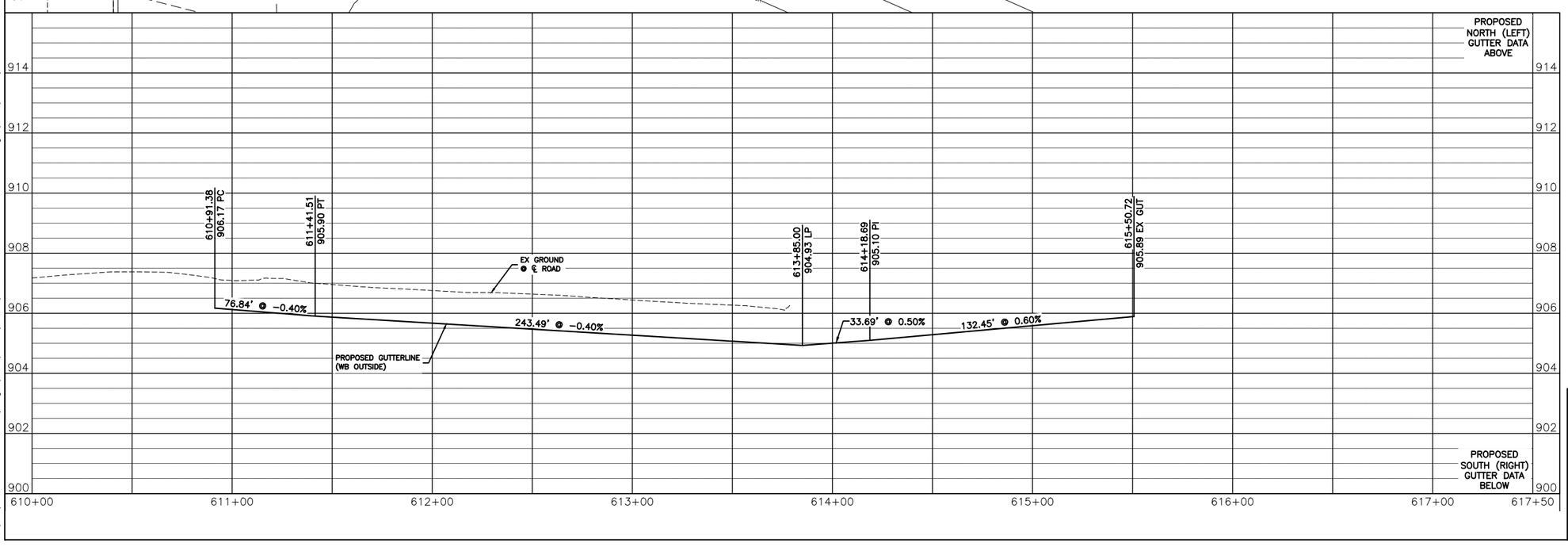
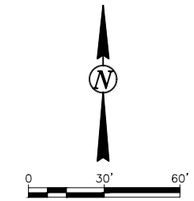
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	*SU-8-984(164)*	60	13







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Plan & Profile - 52nd Ave S

52nd Ave S - West of 63rd St S to 45th St S

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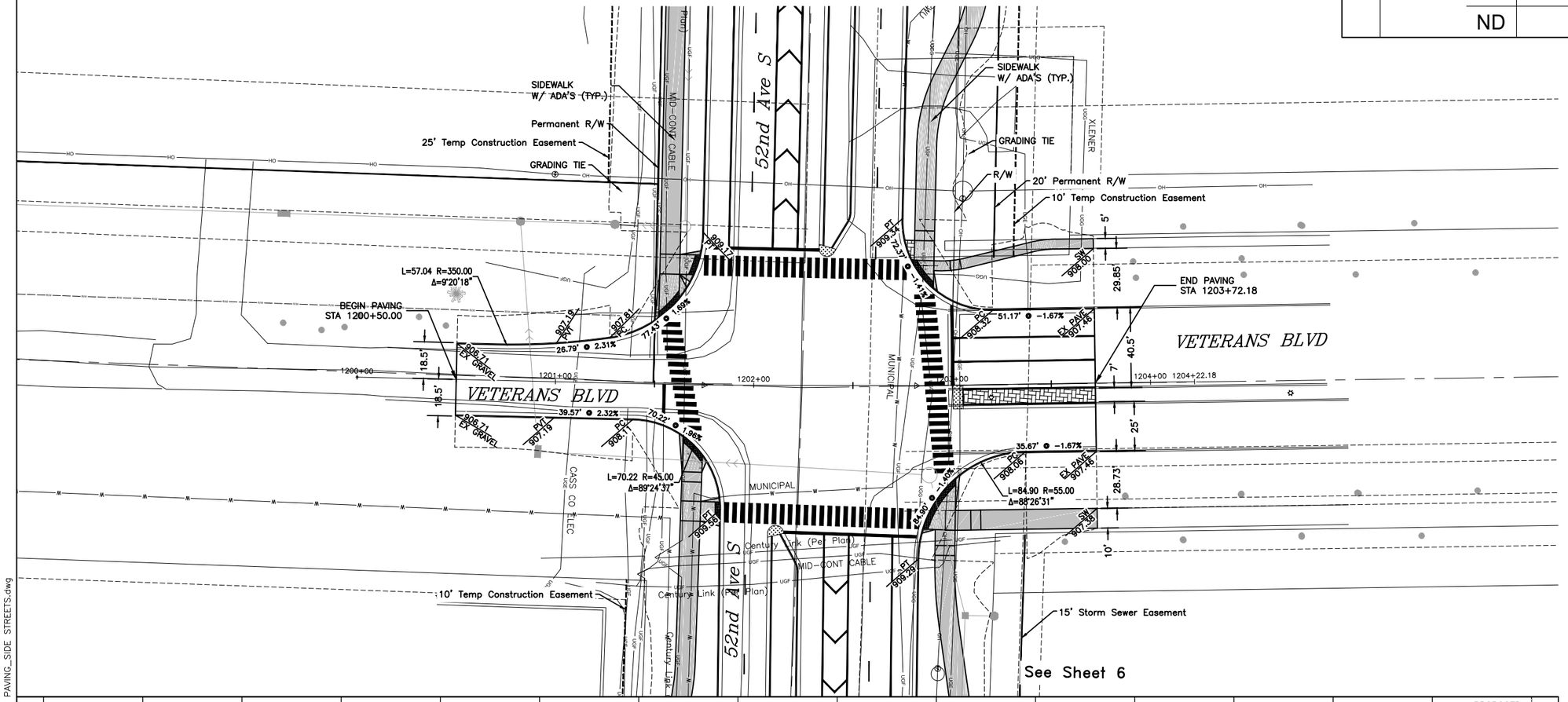
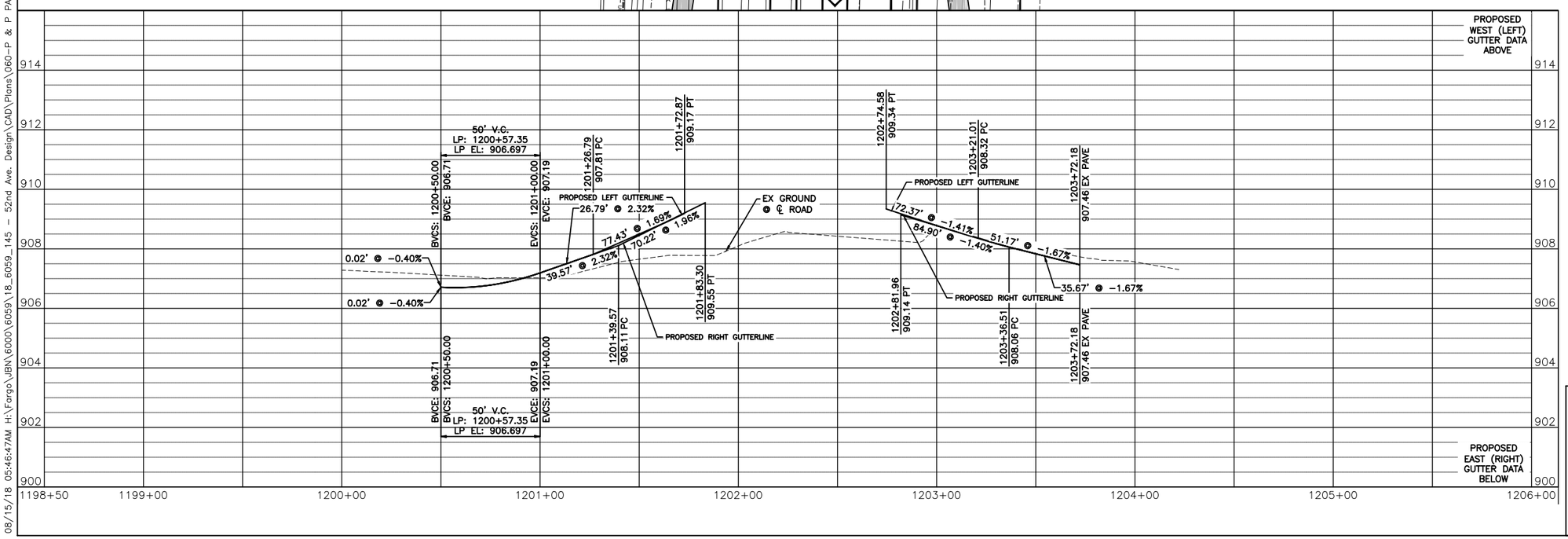
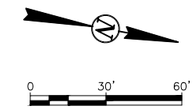
ND	SU-8-984(164)	60	14







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Plan & Profile - Veterans Blvd

52nd Ave S - West of 63rd St S to 45th St S

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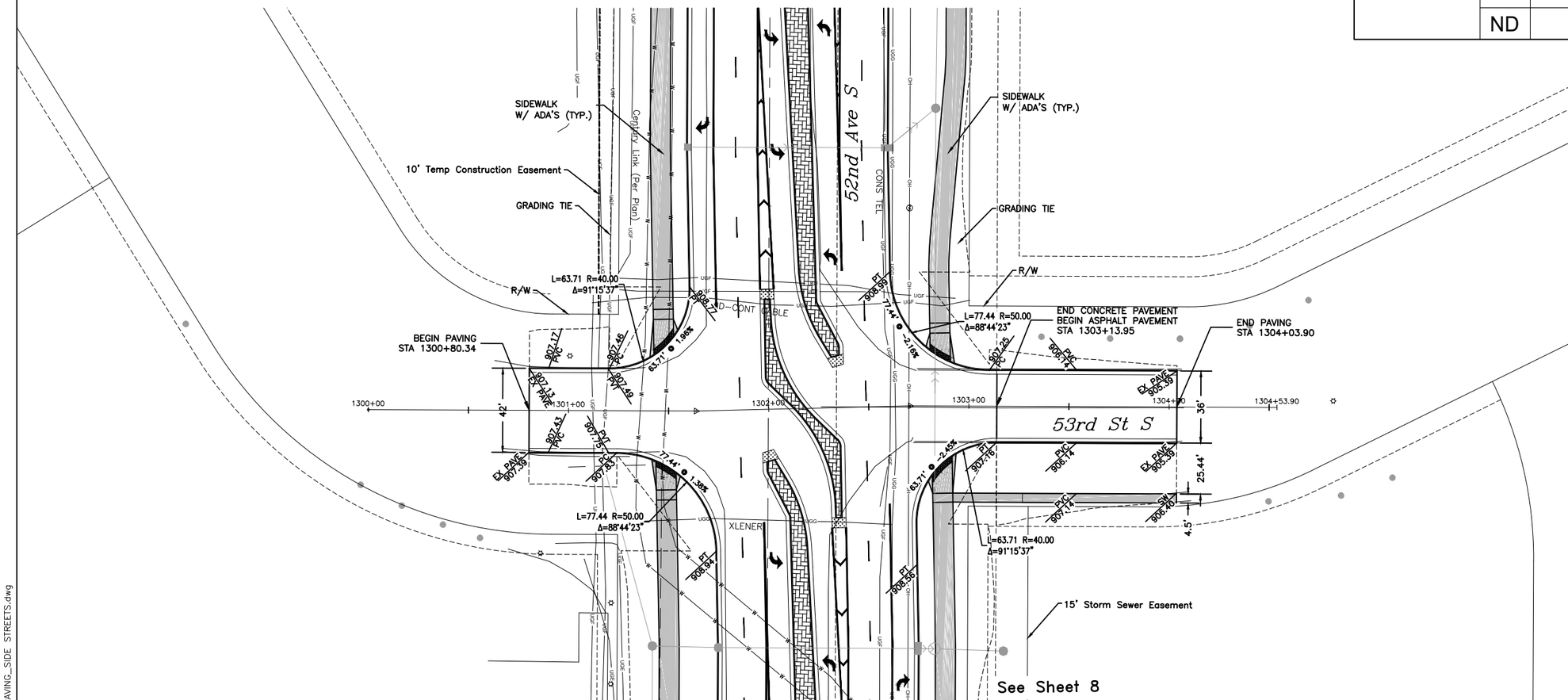
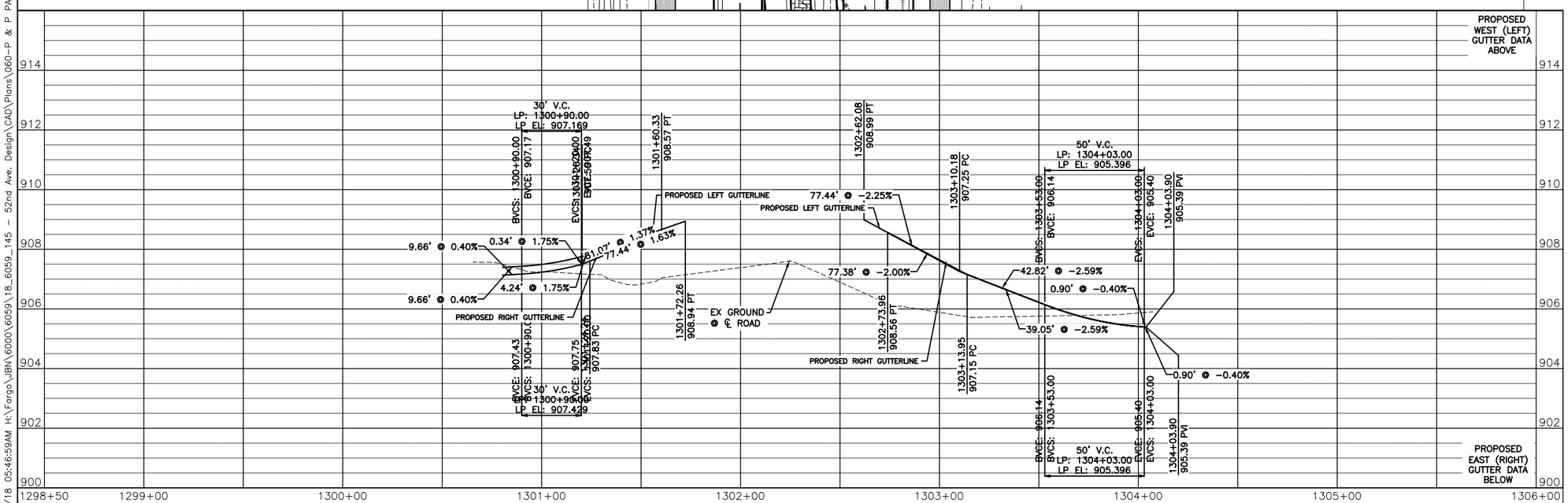
ND	SU-8-984(164)	60	15





0 30' 60'

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Plan & Profile - 53rd St S

52nd Ave S - West of 63rd St S to 45th St S

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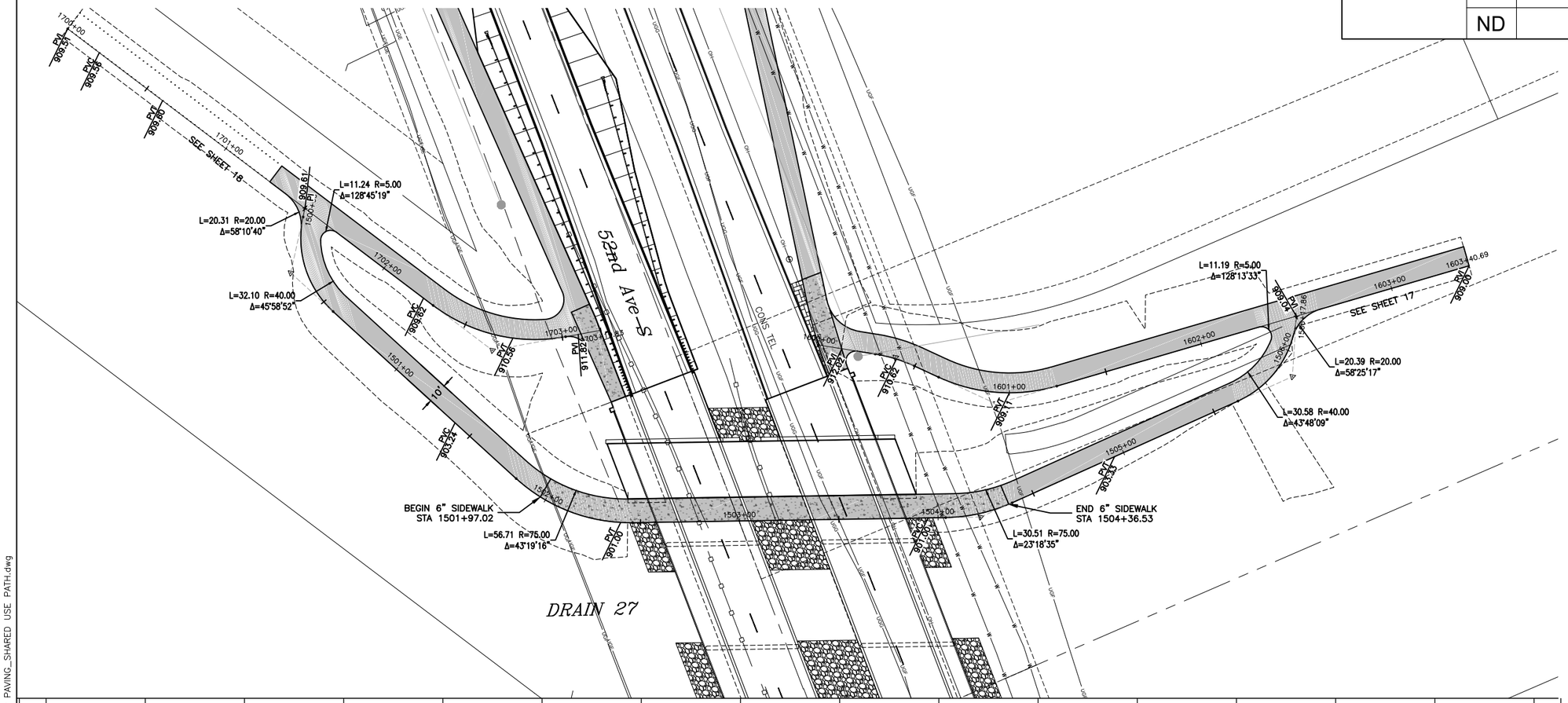
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	60	16

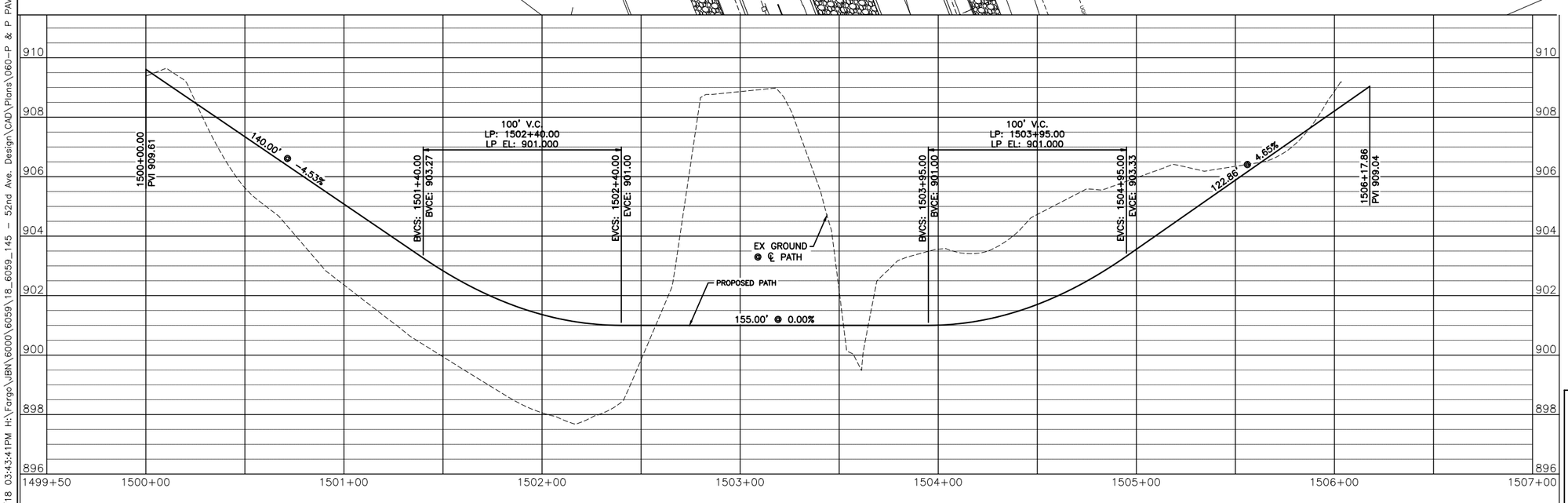


IMPRESSIONED CONCRETE

5" SIDEWALK

6" SIDEWALK

MEDIAN NOSE



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Plan & Profile - Sidewalk

52nd Ave S - West of 63rd St S to 45th St S

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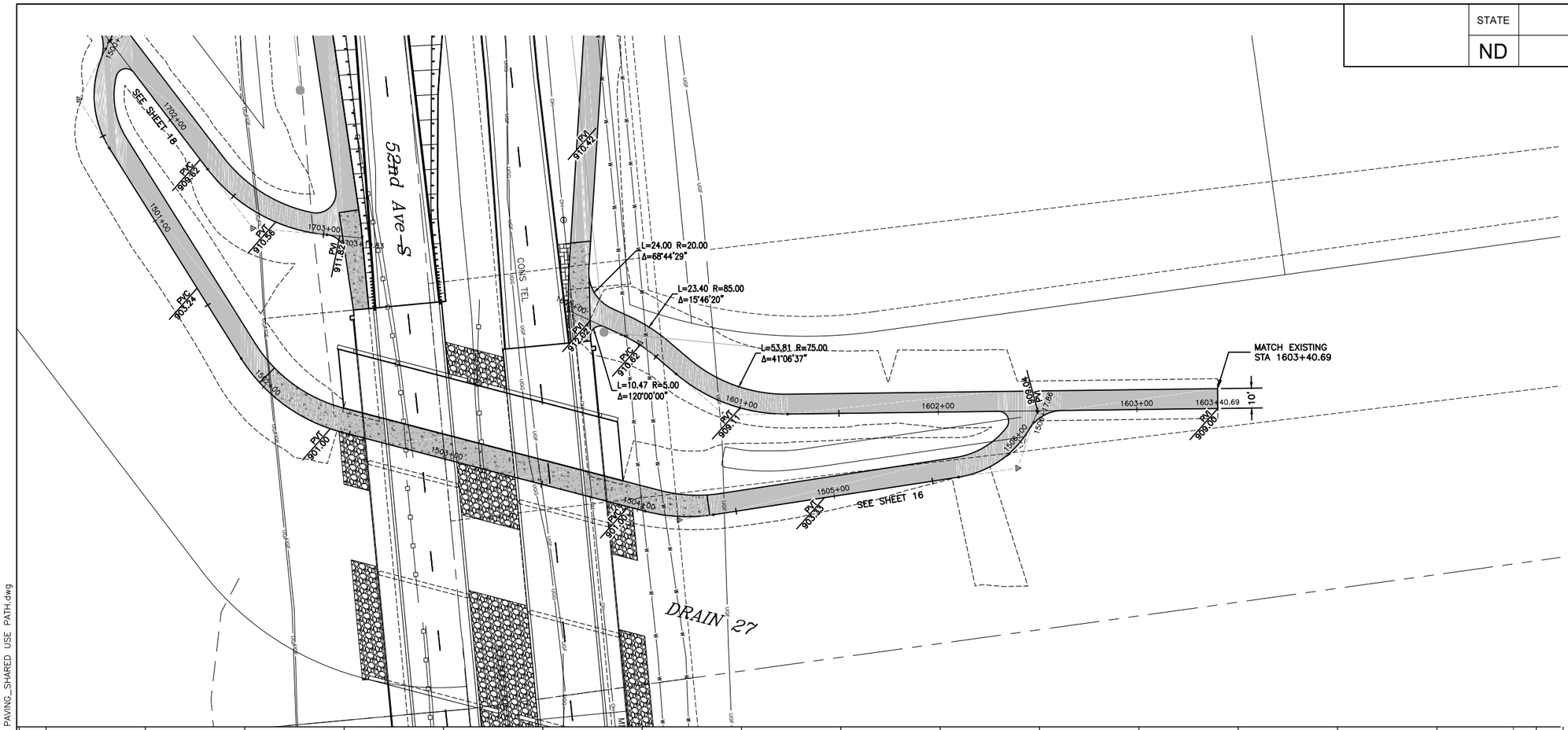
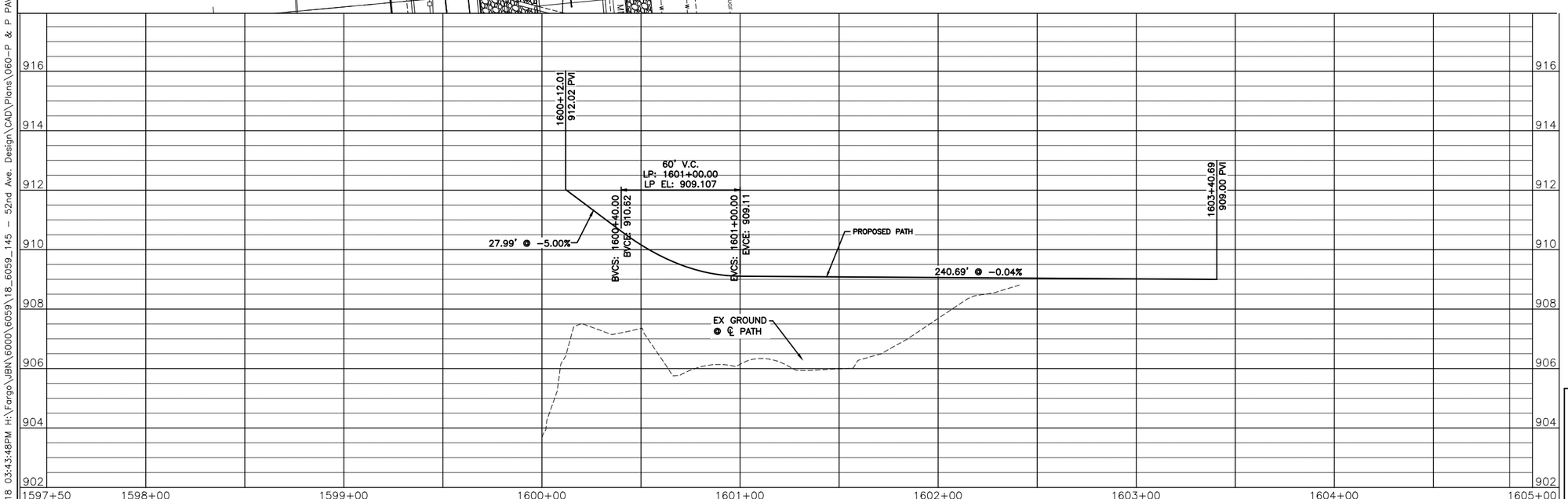
ND	SU-8-984(164)	60	17





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Plan & Profile - Sidewalk

52nd Ave S - West of 63rd St S to 45th St S

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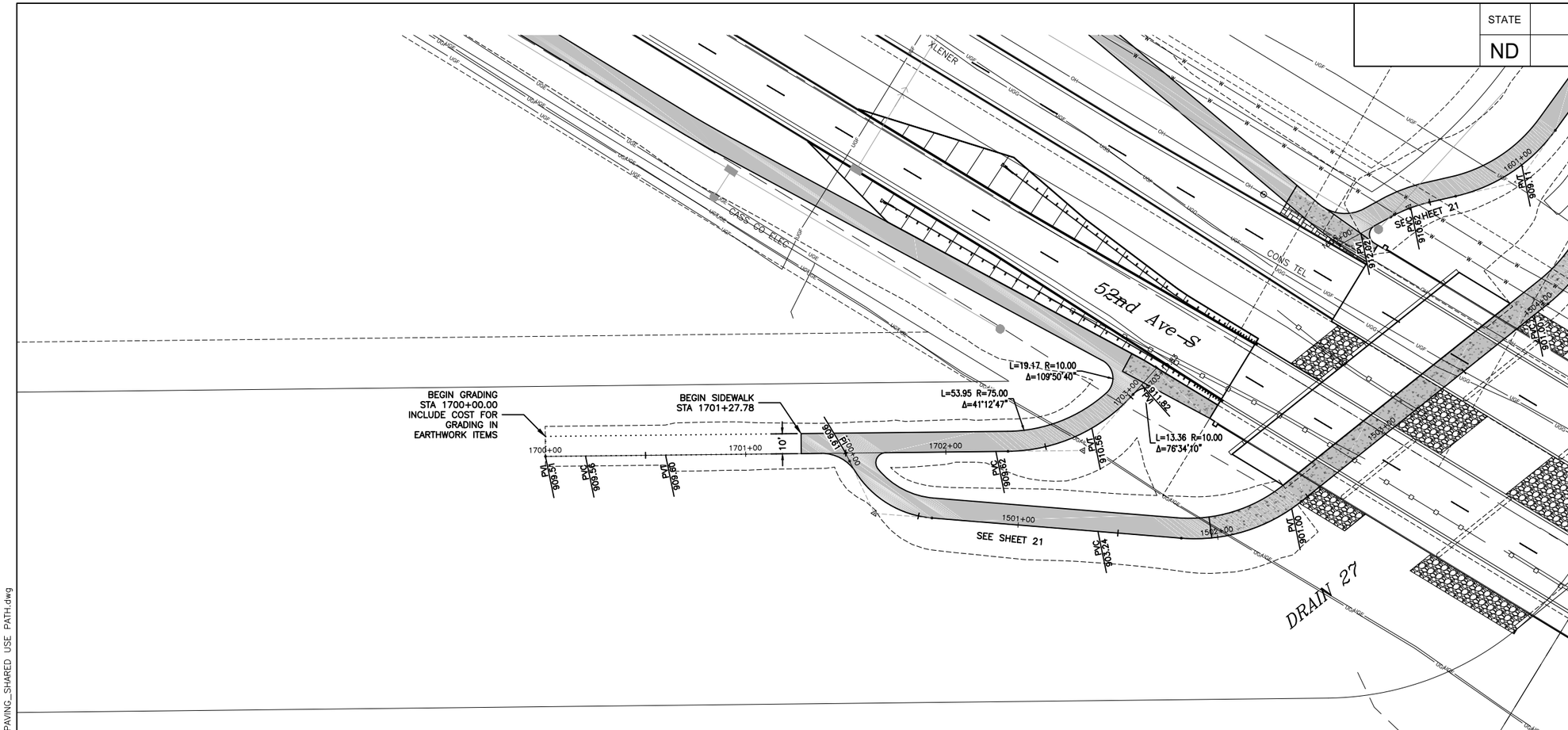
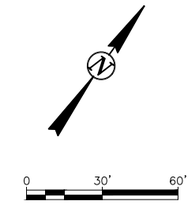
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	60	18





IMPRESSIONED CONCRETE

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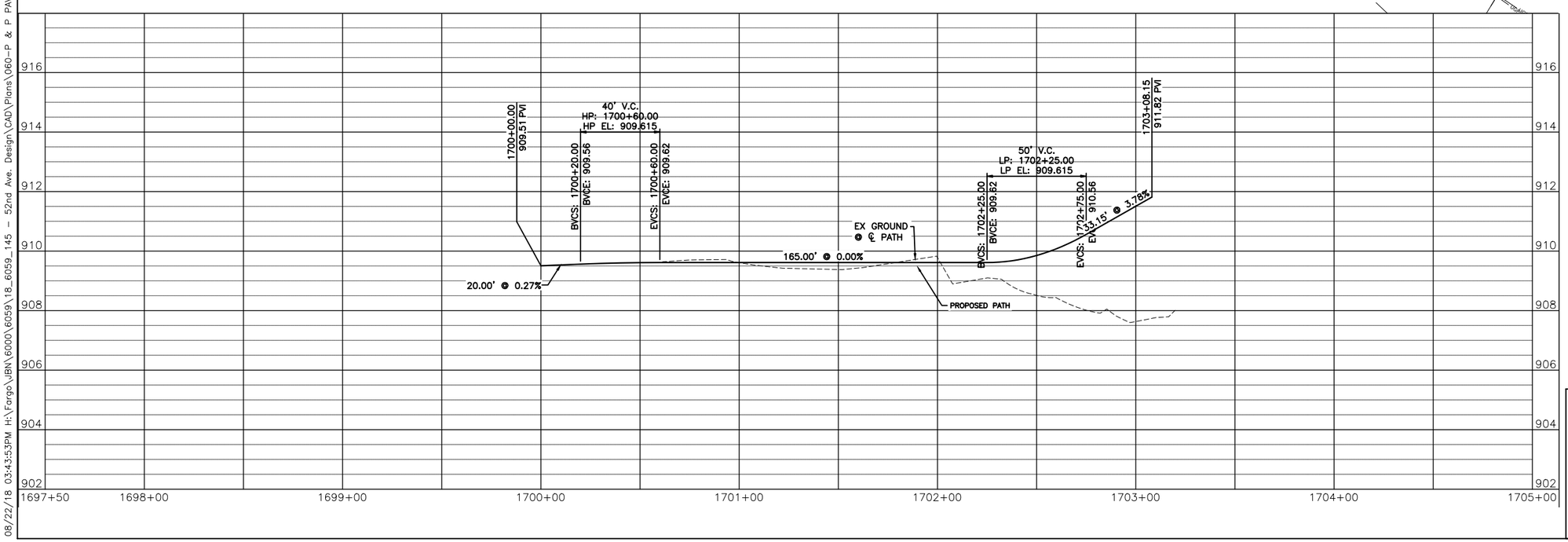

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Plan & Profile - Sidewalk

52nd Ave S - West of 63rd St S to 45th St S

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	75	1

Wetland Impact Table

Wetland Number	Location	Wetland Feature	USACE Jurisdictional Wetlands[1]	Wetland Impacts Acre(s)		USFWS Easement Impacts Acre(s)		Wetland Mitigation								
								Mitigation Required			USACE/11990 Bank		11990 Bank		USFWS Bank	
				Temp.	Perm.	Temp.	Perm.	EO 11990	USACE	USFWS	Location	Acre(s)	Location	Acre(s)	Location	Acre(s)
1	Sec. 31, T139N, R49W	Artificial	Preamble	-	-	-	-	-	-	-		-		-		-
2	Sec. 6, T138N, R49W	Artificial	Preamble	-	-	-	-	-	-	-		-		-		-
3	Sec. 6, T138N, R49W	Artificial	Y	-	-	-	-	-	-	-		-		-		-
4a	Sec. 32, T139N, R49W	Artificial	Y	-	0.08	-	-	-	N	-		-		-		-
4b	Sec. 32, T139N, R49W	Artificial	Y	-	0.01	-	-	-	N	-		-		-		-
4c	Sec. 33, T139N, R49W	Artificial	Y	-	0.44	-	-	-	N	-		-		-		-
4d	Sec. 33, T139N, R49W	Artificial	Y	-	0.13	-	-	-	N	-		-		-		-
4e	Sec. 33, T139N, R49W	Artificial	Y	-	0.01	-	-	-	N	-		-		-		-
5a	Sec. 5, T138N, R49W	Artificial	Preamble	-	0.08	-	-	-	N	-		-		-		-
5b	Sec. 4, T138N, R49W	Artificial	Preamble	-	0.19	-	-	-	N	-		-		-		-
6a	Sec. 4, T138N, R49W	Artificial	Y	-	0.11	-	-	-	N	-		-		-		-
6b	Sec. 4, T138N, R49W	Artificial	Y	-	0.08	-	-	-	N	-		-		-		-
7	Sec. 33, T139N, R49W	Artificial	Y	-	0.20	-	-	-	N	-		-		-		-
8	Sec. 4, T138N, R49W	Artificial	Y	-	0.09	-	-	-	N	-		-		-		-
9	Sec. 33, T139N, R49W	Artificial	Preamble	-	0.08	-	-	-	N	-		-		-		-
10	Sec. 4, T138N, R49W	Artificial	Preamble	-	0.06	-	-	-	N	-		-		-		-
				0	**1.56**	**0**	**0**					**0.0**		**0.0**		**0.0**

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Wetlands Mitigation and Environmental

52nd Ave S – West of 63rd St S to 45th St S

Other Waters Impact Table

Other Waters											Other Water Mitigation				
			Size				Impacts to Other Waters				Mitigation Required				
							Acre(s)		Linear Feet						
Number	Location	Type	Acre(s)	Linear Feet	Feature	USACE Jurisdictional[1]	Temp	Perm	Temp	Perm	EO 11990	USACE	USFWS	Mitigation Location; ratio	Method
OW 1	Sec. 31, T139N, R49W	River	0.43	179	Natural	Yes	-	-	-	-	-	-	-	NA	NA
OW 2	Sec. 4, T138N, R49W	Municipal Drain	0.15	188	Artificial	Yes	0.06	0.01	103	29	N	N	N	NA	NA
		Totals	**0.58**	**367**			**0.06**	**0.01**	**103**	**29**					

[1] A wetland Jurisdictional Determination was issued by the USACE on 12/13/2017; NWO-2017-2188-BIS.

Impact Summary Table

Permanent Impact Summary		Temporary Impacts and additional information	
Wetland Type	**Total (Acres)**	**Wetland Type**	**Total (Acres/Lf)**
Natural/JD	0.00	**Temporary JD**	0.00
Natural/Non-JD	0.00	**Non-JD Temporary**	0.00
Artificial/JD	1.15	**Permanent JD > 0.10**	0.00
Artificial /Non-JD	0.41	**Permanent OW**	0.01
Total	**1.56**	**Temporary OW**	0.06

Mitigation Summary Table

	Location	Onsite Acre(s)	11990 Bank Acre(s)	USACE/11990 Bank Acre(s)	USFWS Bank Acre(s)
USACE Only					
EO 11990 Only					
USACE/11990					
USFWS					
	Total	**0.00**	**0.00**	**0**	**0.0**

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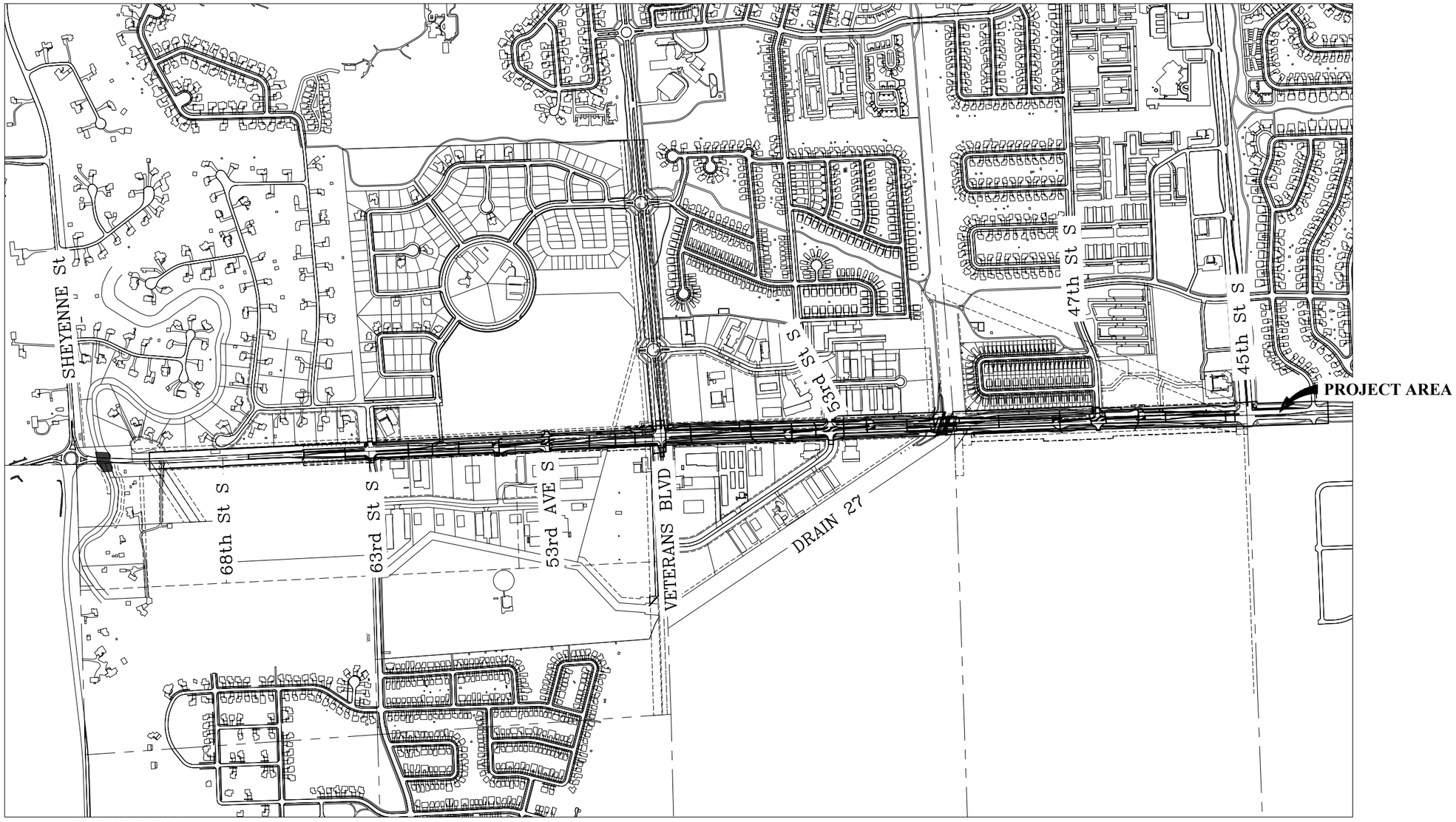
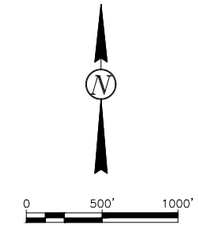
Wetlands Mitigation and Environmental

52nd Ave S – West of 63rd St S to 45th St S

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	75	3





OWNER:
CITY OF FARGO
ENGINEERING DEPARTMENT
200 NORTH 3RD ST
FARGO, ND 58102
ATTN: JEREMY GORDEN
(O): 701-241-1545
(F): 701-241-8101
Email: jgorden@cityoffargo.com

THE CITY OF Fargo FAR MORE

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Wetland Impacts

52nd Ave S - West of 63rd St S to 45th St S

PROJECT DESCRIPTION:

THIS PROJECT CONSISTS OF THE FOLLOWING IMPROVEMENTS: WATER MAIN, STORM SEWER, CONCRETE CURB & GUTTER, CONCRETE PAVEMENT, BRIDGE REPLACEMENT, LIGHTING & INCIDENTALS.

TOTAL SITE AREA:

THE TOTAL SITE AREA IMPACTED BY CONSTRUCTION IS 42 ACRES.

EXISTING SITE CONDITIONS:

- EXISTING TWO LANE ASPHALT ROADWAY WITH VERY FLAT ROAD DITCHES.

CRITICAL AREAS:

CRITICAL EROSION AREAS INCLUDE AREAS WHERE SLOPES EXCEED 5:1. CUT AND FILL SLOPES FOR THIS PROJECT IS DESIGNED AT A 5:1 MAXIMUM. OTHER CRITICAL AREAS INCLUDE LOCATIONS DESIGNED TO RECEIVE CONCENTRATED RUNOFF (SWALES & PIPE OUTFALLS). ADDITIONAL POINTS OF CONCERN ARE LOCATED AT THE INGRESS AND EGRESS LOCATIONS FOR CONSTRUCTION TRAFFIC. THESE AREAS WILL BE PROTECTED FROM EROSION BY MEASURES INDICATED ON THE PLANS.

FLOOD CERTIFICATE:

PORTIONS OF THIS PROJECT LIE WITHIN ZONE AE & X PER FIRM PANEL 38017C0767G AND 38017C0786G EFFECTIVE JANUARY 16, 2015.

RECEIVING WATERS:

STORM WATER FROM THIS SITE WILL BE COLLECTED IN AN EXISTING STORM SEWER SYSTEM. THE ULTIMATE RECEIVING WATERS FOR THIS PROJECT WILL BE THE SHEYENNE RIVER AND DRAIN 27.

GENERAL NOTES:

- REFER TO SPECIAL INSTRUCTIONS SHEETS FOR ADDITIONAL PROVISIONS REQUIRED TO BE ADDED BY THE CONTRACTOR WITHIN THIS ESC PLAN SHEET AS WELL AS SWPPP RESPONSIBILITIES AND PERMITTING REQUIREMENTS.
- CONTRACTOR SHALL INSPECT SITE EROSION CONTROL WEEKLY AND AFTER EACH RAIN EVENT MEASURING ¼".
- CONTRACTOR SHALL MAINTAIN A LOG OF ALL COMPLETED INSPECTIONS.
- NO ON-SITE SURFACE WATERS AND NO DIRECT DISCHARGE TO SURFACE WATERS UNDER PROJECT.
- A COPY OF THE INSPECTION LOG, EROSION CONTROL PLAN, AND SWPPP SHALL REMAIN ON SITE AT ALL TIMES.
- THE OFFICIAL RAIN GAGE FOR THIS SITE IS LOCATED AT: HECTOR INTERNATIONAL AIRPORT
- CONTRACTOR SHALL NOTIFY CITY EROSION INSPECTOR ONCE REPAIRS/MODIFICATIONS HAVE BEEN MADE AND SHALL KEEP A LOG OF ALL MODIFICATIONS/REPAIRS ON SITE.
- A COMPLETED N.O.T. SHALL BE SUBMITTED BY THE CONTRACTOR TO THE STATE AND THE CITY OF FARGO PRIOR TO FINAL ACCEPTANCE.
- CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES ON THIS SITE UNTIL FINAL ACCEPTANCE.
- CONTRACTOR SHALL UPDATE THIS EROSION CONTROL PLAN AS NEEDED TO REFLECT MEASURES IMPLEMENTED IN THE FIELD DURING CONSTRUCTION.
- ON-SITE CONVEYANCES ARE STORM DRAIN SYSTEM.

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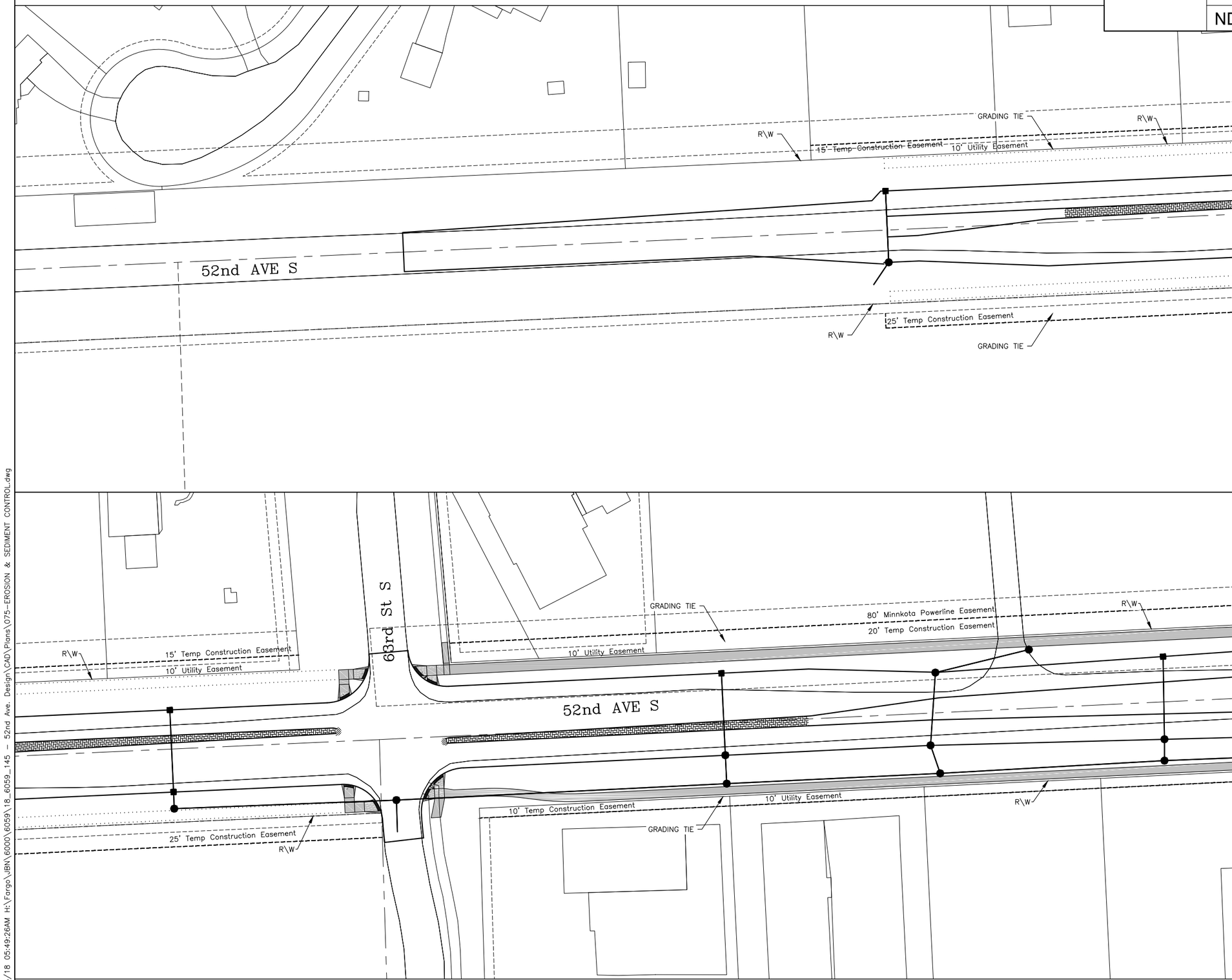
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	75	4



N

0 50' 100'

LEGEND:

PERMANENT IMPACT

TEMPORARY IMPACT

THE CITY OF Fargo FAR MORE

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Wetland Impacts

52nd Ave S - West of 63rd St S to 45th St S

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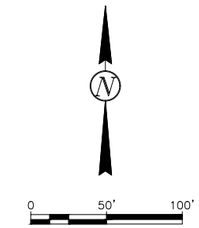
STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	75	5



LEGEND:

PERMANENT IMPACT

TEMPORARY IMPACT

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Houston Engineering Inc.
Ph: 701.237.5065

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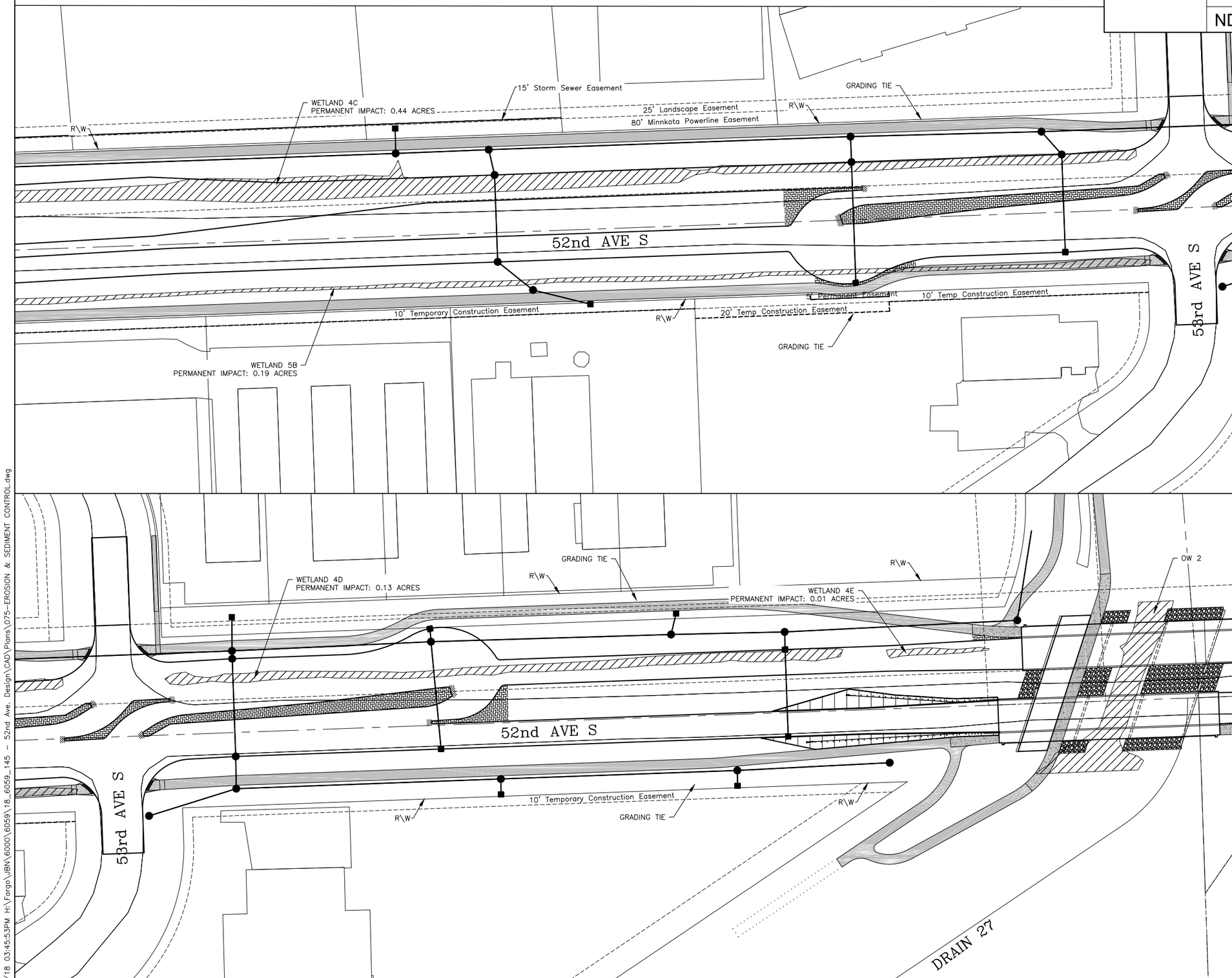
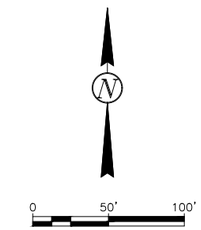
Wetland Impacts

52nd Ave S - West of 63rd St S to 45th St S

08/15/18 05:49:34AM H:\Fargo\JBN\6000\6059_18_6059_145 – 52nd Ave. Design\CAD\Plans\075-EROSION & SEDIMENT CONTROL.dwg

STATE	PROJECT NO.	SECTION NO.	SHEET NO.
ND	SU-8-984(164)	75	6





LEGEND:

- PERMANENT IMPACT
- TEMPORARY IMPACT

THE CITY OF Fargo FAR MORE

Proj. No. 6059-0145
Houston Engineering Inc.
Ph: 701.237.5065

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Wetland Impacts

52nd Ave S - West of 63rd St S to 45th St S

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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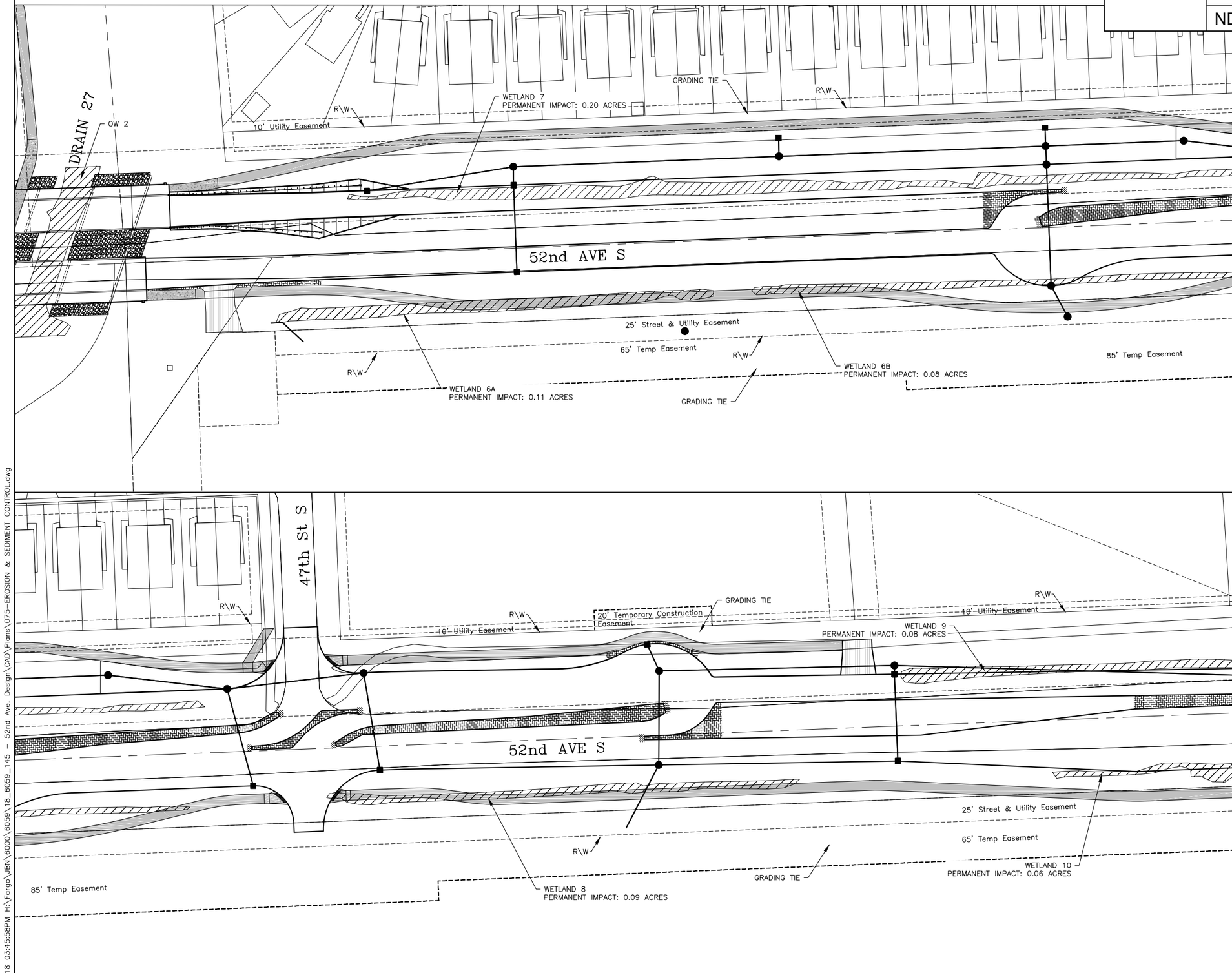

N

0 50' 100'

LEGEND:

PERMANENT IMPACT

TEMPORARY IMPACT

THE CITY OF Fargo FAR MORE

Proj. No. 6059-0145
Houston Engineering Inc.
Ph: 701.237.5065

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Wetland Impacts

52nd Ave S - West of 63rd St S to 45th St S

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STATE	PROJECT NO.	SECTION NO.	SHEET NO.
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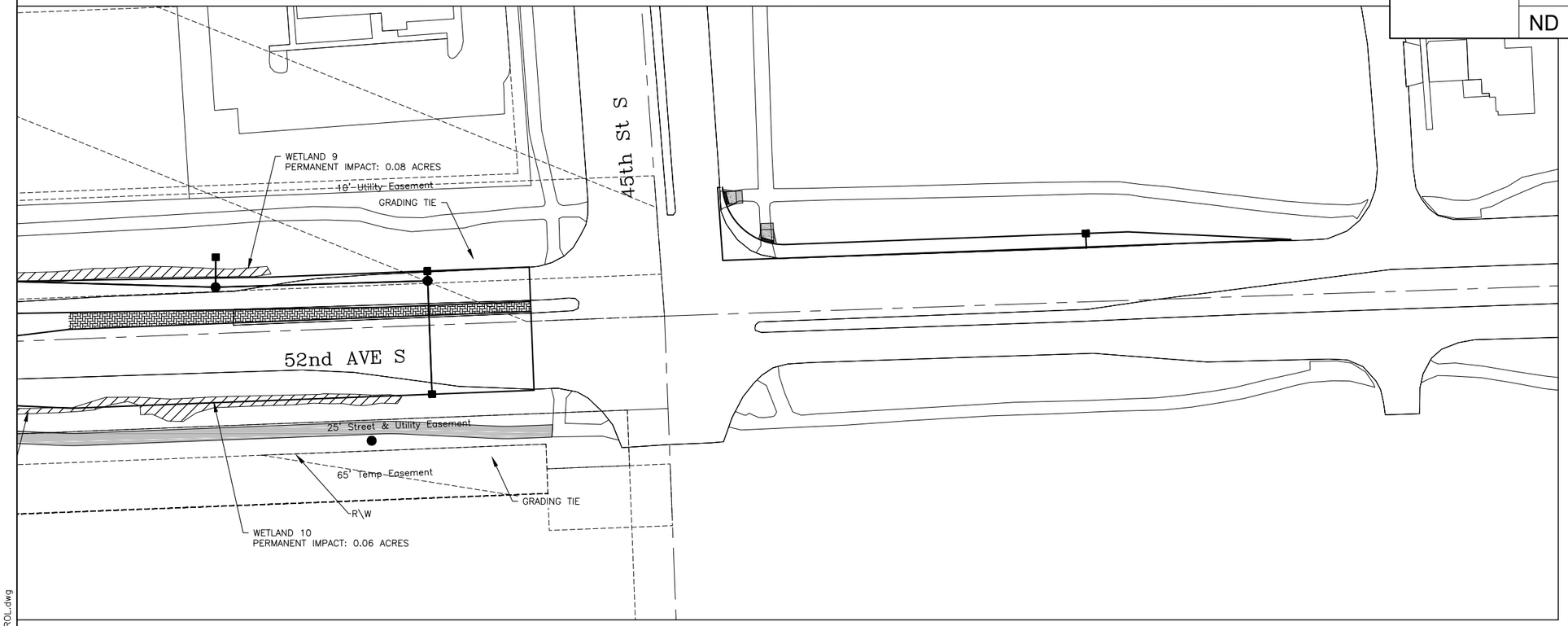

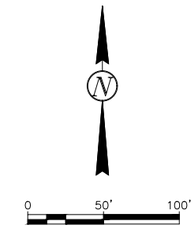

LEGEND:

PERMANENT IMPACT

TEMPORARY IMPACT

THE CITY OF Fargo FAR MORE

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