

PRIVATE SANITARY SEWER AND
WATER MAIN EXTENSION PLANS
ALURA APARTMENTS, DISCOVERY PARK

LEE'S SUMMIT, JACKSON COUNTY, MO
SECTION 30, T48N, R31W

DATE: 01/27/2025

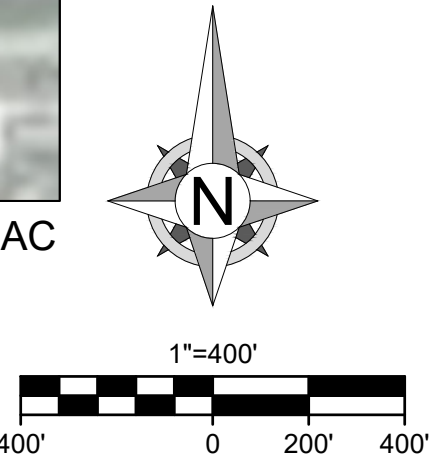
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SURVEY CONTROL:

POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	FULL DESCRIPTION
50	1012389.8190	2822108.7840	990.8100	CTL
51	1011606.5710	2817819.8520	933.2990	CTL
52	1009320.3430	2818811.2690	930.8920	CTL
53	1011007.3400	2823445.2840	988.4360	CTL
54	1014987.4060	2823402.9760	930.4780	CTL
55	1015699.8100	2821686.0380	935.0540	CTL

CP #50: 1/2" IB/CAP ON THE NORTH SIDE OF NW COLBERN ROAD. IT IS IN THE 1ST FIELD ENTRANCE WEST OF NE DOUGLAS STREET
CP#51: SET 1/2" IB/CAP ON THE SW CORNER OF COLBERN ROAD AND MAIN STREET
CP#52: SET 1/2" IB/CAP ON THE SOUTH SIDE OF MAIN STREET WHERE MAIN STREET TURNS EAST ON THE SOUTH SIDE OF I-470
CP#53: SET 1/2" IB/CAP ON THE EAST SIDE OF DOUGLAS JUST SOUTH OF THE I-470 INTERCHANGE. IN THE NW CORNER OF THE PARKING LOT TO THE OLD OUTBACK
CP#54: SET 1/2" IB/CAP ON THE SOUTH SIDE OF NE DOUGLAS ST. (OLD) WHERE IT BENDS BACK NORTH AT THE SE CORNER OF "THE CURE" CHURCH
CP#55: SET 1/2" IB/CAP ON THE EAST SIDE OF DOUGLAS AT DRIVEWAY FOR HOUSE 2545



PROJECT SPECIFICATIONS:

THE SPECIFICATIONS FOR THIS PROJECT SHALL BE THE FOLLOWING:

- MOST CURRENT VERSION OF THE DESIGN AND CONSTRUCTION MANUAL OF THE CITY OF LEE'S SUMMIT, MO.
- MOST CURRENT VERSION OF THE AMERICAN PUBLIC WORKS ASSOCIATION - KANSAS CITY METRO CHAPTER

THE STANDARD SPECIFICATIONS THROUGH AND INCLUDING THE LATEST AMENDMENTS SHALL BE PART OF THESE PROJECT DRAWINGS AND SPECIFICATIONS AND ARE HEREIN BY REFERENCE. THE MORE STRINGENT OF THESE STANDARD SPECIFICATIONS AND THOSE PREPARED BY THE ENGINEER PREPARING THESE PLANS SHALL GOVERN.

CIVIL ENGINEER:

OWN, INC.
8455 COLLEGE BLVD
OVERLAND PARK, KS 66210
EMAIL: JBARTZ@WEAREOWN.COM
PHONE: (816) 777-0400

DEVELOPER:

INTRINSIC DEVELOPMENT
3622 ENDEAVOR AVE., STE. 101
COLUMBIA, MO 65201
CONTACT: JOHN ODLE
PHONE: (573) 615-2252

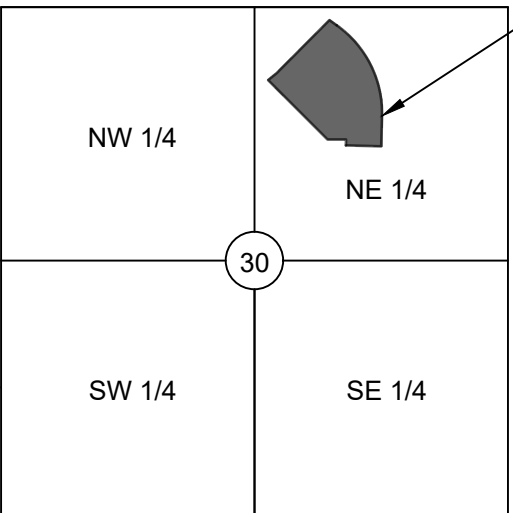
PREPARED AND SUBMITTED BY:

JEFFREY W. BARTZ, P.E.
MISSOURI P.E. NO. 2012022594

DATE

LOCATION MAP

SECTION 30, TOWNSHIP 48N, RANGE 31W
JACKSON COUNTY, MISSOURI
SCALE=NTS



PROJECT LOCATION

LEGAL DESCRIPTION:

LOT 1, ALURA FIRST PLAT



UTILITY CONTACTS:

WATER UTILITIES:

1200 SE HAMLEN RD
LEE'S SUMMIT, MO 64063
PHONE: (816) 969-1900

PUBLIC ROADWAY:

CITY OF LEE'S SUMMIT, MO
220 SE GREEN STREET
LEE'S SUMMIT, MO 64063
PHONE: (816) 969-1800

POWER:

EVERGY
1300 SE HAMLEN RD
LEE'S SUMMIT, MO 64081
PHONE: (816) 347-4320

STORMWATER:

CITY OF LEE'S SUMMIT, MO
220 SE GREEN STREET
LEE'S SUMMIT, MO 64063
PHONE: (816) 969-1800

NATURAL GAS:

SPIRE GAS ENERGY
3025 SW CLOVER DRIVE
LEE'S SUMMIT, MO 64082
PHONE: (816) 985-8888

TELECOMMUNICATIONS:

AT&T
PHONE: 800-286-8313
SPECTRUM
PHONE: 877-772-2253
GOOGLE FIBER
PHONE: 877-454-6959

FEMA FLOOD INFORMATION:

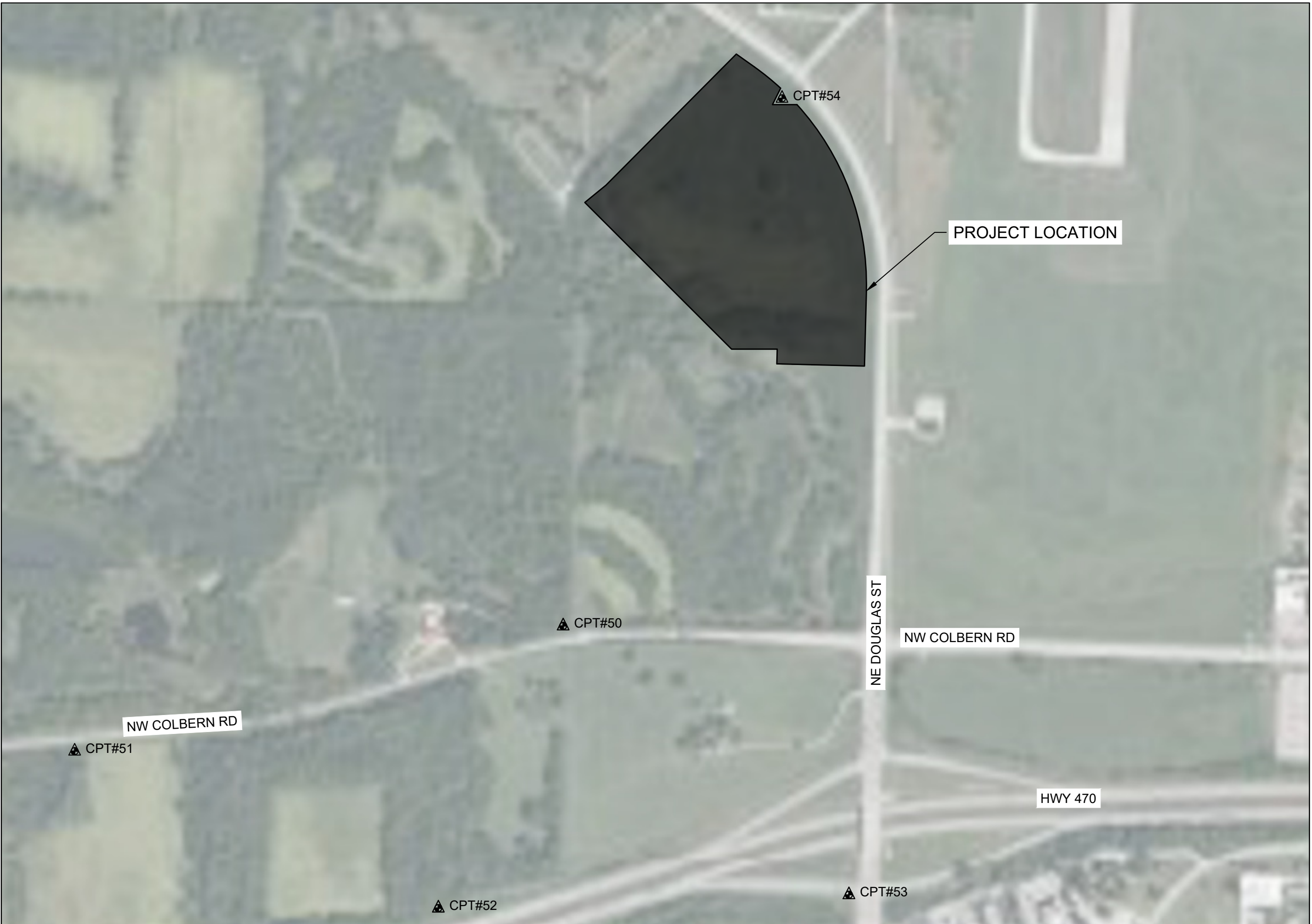
THE ENTIRE SITE IS LOCATED WITHIN ZONE X, *AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE, AS DEPICTED ON THE FEMA FLOOD INSURANCE RATE (FIRM) MAP NUMBER 29095C0409G, REVISION DATE JANUARY 20, 2017.

OIL/GAS WELLS:

NO OIL OR GAS WELLS ARE LOCATED WITHIN PROJECT LIMITS. INFORMATION OBTAINED FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES, GEOLOGICAL SURVEY GEOSCIENCES TTECHNICAL RESOURCE ASEESMENT TOOL (GEOSTRAT).

GENERAL NOTES:

- THE CONTRACTOR IS OBLIGATED TO INSPECT FOR EXISTING CONDITIONS/INSTALLATIONS AND AVAILABLE INFORMATION PRIOR TO SUBMITTING A BID. REFER TO SPECIFICATIONS.
- EXISTING INSTALLATIONS (SUCH AS WATER MAINS/LINES, GAS MAINS/LINES, SEWER MAINS/LINES, TELEPHONE LINES, POWER LINES, AND UTILITY STRUCTURES IN THE VICINITY OF THE WORK TO BE DONE) ARE INDICATED ON THE DRAWINGS ONLY TO THE EXTENT THAT SUCH INFORMATION HAS BEEN MADE AVAILABLE TO OR DISCOVERED BY THE ENGINEER IN PREPARING THE DRAWINGS. THERE IS NO GUARANTEE AS TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION, AND ALL RESPONSIBILITY FOR THE ACCURACY AND COMPLETENESS THEREOF IS EXPRESSLY DISCLAIMED.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR LOCATING ALL EXISTING INSTALLATIONS.
- ANY DELAY, ADDITIONAL WORK, FEES OR EXTRA COST TO THE CONTRACTOR CAUSED BY OR RESULTING FROM DAMAGE TO OR MODIFICATION OF EXISTING INSTALLATIONS BY THE CONTRACTOR OR AFFECTED UTILITY COMPANY SHALL NOT CONSTITUTE A CLAIM FOR EXTRA WORK, ADDITIONAL PAYMENT OR DAMAGES.
- THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONSTRUCTION PRIOR TO SUBMITTING BID. NO EXTRAS WILL BE PAID DUE TO UNANTICIPATED EXISTING CONDITIONS/INSTALLATIONS.
- CROSS-ACCESS RIGHTS THROUGH THE DEVELOPMENT WILL BE CONFERRED BY FINAL PLAT, COVENANTS AND RESTRICTIONS, OR SEPARATE DOCUMENT.
- PROPOSED DETENTION FACILITIES SHALL BE CONSTRUCTED PRIOR TO THE DEVELOPMENT OF ANY PART OF THE SUBJECT DRAINAGE AREA.



WATERSHED: LITTLE CEDAR CREEK - LITTLE BLUE RIVER

DISTURBED AREA: 22.62 AC

GENERAL NOTES:

1. PROPOSED MANHOLES SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DETAILS AND SPECIFICATIONS.
2. ALL WORK IN PUBLIC EASEMENTS AND RIGHT-OF-WAY AND ALL EROSION CONTROL WORK MUST COMPLY WITH THE LATEST EDITION OF THE TECHNICAL PROVISIONS & STANDARD DRAWINGS FOR ROADS AND SEWERS, OF LEE'S SUMMIT, MISSOURI.
3. WATER MAINS AND SANITARY SEWER MAINS/STRUCTURES SHALL HAVE AT LEAST 10' OF HORIZONTAL SEPARATION FROM EDGE OF WATER PIPE TO EDGE OF SEWER PIPE OR SEWER STRUCTURE.
4. WATER MAINS AND SANITARY SEWERS SHALL HAVE AT LEAST 18" OF VERTICAL SEPARATION FROM EDGE OF PIPE TO EDGE OF PIPE. THE CROSSING SHALL BE ARRANGED SO THAT THE SEWER JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE WATER MAIN JOINTS.
5. ALL SEWER MANHOLES WITHIN PROPOSED ASPHALT PAVEMENT SHALL INCLUDE CONCRETE COLLAR TO MATCH MANHOLE RIM FLUSH WITH PAVEMENT PER THE CITY OF LEE'S SUMMIT, MISSOURI STANDARD DETAIL.
6. ALL SANITARY SEWER LATERALS SHALL HAVE A TRENCH CHECK, CONSISTING OF FLOWABLE BACKFILL INSTALLED DURING CONSTRUCTION. TRENCH CHECK SHALL EXTEND TO BOTTOM OF TRENCH, TO WIDTH OF TRENCH TO 12 INCHES ABOVE PIPE. FOR A MINIMUM LENGTH OF 12 INCHES, TRENCH CHECK SHALL BE LOCATED AT LEAST 5 FEET FROM SANITARY SEWER MAIN.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, OR DEVELOPER.
9. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.
10. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSED ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.
11. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MISSOURI, AT THE CONTRACTOR'S EXPENSE.

REFERENCE:

1. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY;
- A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF THE CITY OF LEE'S SUMMIT, MISSOURI.
- B. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- C. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES.
- D. ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF THE CITY OF LEE'S SUMMIT, MISSOURI.

EXISTING CONDITIONS:

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKE THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDE THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.
3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATED EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

CONSTRUCTION:

1. THE CONTRACTOR SHALL DISPOSE OF ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.
2. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.
3. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROADS TO THE SITE AT THE CONCLUSION OF THE PROJECT.

CONSTRUCTION:

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING A MINIMUM OF 7 DAYS PRIOR TO THE REQUIRED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLE CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OF OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAIN ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:
- A. ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
- B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO PERFORMANCE OF THE WORK;
- C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
- D. CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
- E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.
2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
- A. ALL SANITARY SEWER STRUCTURES TO BE INSTALLED WITH THE PROJECT.
- B. ALL WATER METER VAULTS TO BE INSTALLED WITH THE PROJECT.
- C. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

SANITARY SEWER GENERAL NOTES:

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH THE CITY OF LEE'S SUMMIT, MISSOURI.
2. ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3. ALL STRUCTURE DIMENSIONS ARE TO INSIDE FACE OF STRUCTURE.
4. COORDINATES ARE PROVIDED AT CENTER OF STRUCTURE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING THE LID DURING INSTALLATION.
5. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF SANITARY SEWER.
6. SANITARY SEWER TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
7. MANHOLE INVERT CHANNELS SHALL BE SMOOTH, CIRCULAR, AND CONFORMING TO $\frac{1}{4}$ THE ADJACENT PIPE SECTION (INVERT TO CENTER). CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE AND MAINTAIN SHAPE THROUGHOUT. CHANGES IN GRADE OF ADJACENT PIPES SHALL BE TRANSITIONED SMOOTHLY AND EVENLY THROUGH THE MANHOLE.
8. PIPE PENETRATIONS SHALL USE GASKETS TO ENSURE WATERTIGHT SEALS.
9. TRACING TAPE SHALL BE INSTALLED ALONG ALL NON-METALLIC SURFACES OR AS DIRECTED BY LOCAL CODES AND ORDINANCES.
10. SEWER LINE INSPECTIONS AND TESTING MUST BE SCHEDULED A MINIMUM OF TWO FULL BUSINESS DAYS IN ADVANCE. CONTRACTOR SHALL FURNISH ALL TESTING EQUIPMENT. TESTING SHALL INCLUDE:
- A. MANDEREL TEST OF ALL GRAVITY SEWERS. IF THE MANDREL TEST FAILS ON ANY SECTION OF PIPE, THAT SECTION SHALL BE UNCOVERED AND REPLACED.
- B. AIR PRESSURE TEST OF ALL GRAVITY SEWERS.
- C. VACUUM TEST OF ALL MANHOLES.
11. REFER TO CURRENT CITY SPECIFICATIONS FOR MINIMUM PIPE SLOPES.
12. CONTRACTOR MAY BE REQUIRED TO RECONSTRUCT PIPE AND STRUCTURE IF MINIMUM INVERT DROP OR PIPE SLOPE REQUIREMENTS ARE NOT MET.
13. SANITARY STRUCTURES SHALL BE PER CURRENT CITY DETAILS. IF CITY DOES NOT HAVE PUBLISHED DETAILS STRUCTURES SHALL BE PER CURRENT APWA SPECIFICATIONS.
14. GRAVITY SANITARY SEWER AND WATER LINES SHALL BE SEPARATED BY A MINIMUM OF 10' HORIZONTALLY WHEN PARALLEL AND 2' VERTICALLY WHEN CROSSING. WATER LINES SHALL CROSS ABOVE SANITARY SEWERS.
15. RAIN WATER FROM ROOFS, STREETS, AND OTHER AREAS AND GROUNDWATER FROM FOUNDATION DRAINS SHALL BE EXCLUDED FROM ALL NEW SEWERS.

WATER PLAN NOTES:

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH THE UTILITY OWNER AND THE CITY OF LEE'S SUMMIT, MISSOURI.
2. ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM CENTER OF FITTING OR WALL OF VAULT.
3. COORDINATES ARE PROVIDED ALONG PIPE CENTERLINE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODE AND ORDINANCES OR AS AN AID WHEN ORIENTING INSTALLATIONS.
4. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF WATER.
5. WATER PIPE TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
6. ALL PRIVATE WATER LINES SHALL BE A MINIMUM OF 42" AND MAXIMUM OF 60" BELOW THE FINISHED GRADE ELEVATIONS SHOWN HEREIN UNLESS OTHERWISE NOTED.
7. IF AN AS-BUILT OF A WATER LINE IS REQUIRED OR EXPECTED THE CONTRACTOR SHALL NOT BACKFILL THE TRENCH UNTIL AN AS-BUILT SURVEY IS CONDUCTED.
8. DISINFECTION AND PRESSURE TESTING OF WATER LINES SHALL BE PERFORMED AND PAID FOR BY THE CONTRACTOR AND AS REQUIRED BY THE UTILITY OWNER.
9. ALL EXISTING FIRE HYDRANTS ON SITE OR IN THE RIGHT-OF-WAY BETWEEN PROPERTY AND ROADWAY SHALL BE REPAINTED PER LOCAL CODE AND ORDINANCES.
10. TRACING TAPE SHALL BE INSTALLED ALONG ALL NON-METALLIC SURFACES OR AS DIRECTED BY LOCAL CODES AND ORDINANCES.

ESTIMATE OF QUANTITIES				
PRIVATE SANITARY SEWER - LINE F				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
1	8" SANITARY PVC (SDR-26)	L.F.	4308	
2	MANHOLE, STANDARD 4" DIA.	E.A.	12	
3	CONNECT TO EXISTING MANHOLE	E.A.	1	
5	AS-BUILTS	E.A.	1	
PRIVATE WATERMAIN - LINES A & B				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	AS-BUILT
6	6" C900 PVC PIPE	L.F.	9385	
7	6" x 6" TEE	E.A.	4	
8	8" x 6" TEE	E.A.	2	
9	6" - 11.25° BEND	E.A.	2	
10	6" - 22.5° BEND	E.A.	8	
11	6" - 45° BEND	E.A.	31	
12	6" - 90° BEND	E.A.	1	
13	6" GATE VALVE	E.A.	16	
14	FIRE HYDRANT ASSEMBLY (INCLUDING TEE)	E.A.	9	
12	CONNECTION TO EXISTING WATERMAIN	E.A.	2	
13	AS-BUILTS	E.A.	1	

SUMMARY OF QUANTITIES AS INDICATED ABOVE AND ANY QUANTITIES AS SHOWN WITHIN THE PLANS HAVE BEEN PROVIDED FOR PERMITTING PURPOSES ONLY AND ARE NOT INTENDED FOR USE IN PREPARATION OF CONTRACT DOCUMENTS. QUANTITIES INTENDED FOR, BUT NOT LIMITED TO, THE PREPARATION OF PROPOSALS AND BID DOCUMENTS SHALL BE INDEPENDENTLY EVALUATED BY THE ESTIMATING PARTY BASED UPON THE CONTENTS OF THESE PLANS.



Engineering beyond.

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COA# E-137

**PRIVATE SANITARY
SEWER AND WATER
MAIN EXTENSION -
THE VILLAGE AT
DISCOVERY PARK**

ALURA APARTMENTS
THE VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, MISSOURI

REVISIONS		
NO.	DESCRIPTION	DATE

DRAWING INFORMATION

PROJECT NO: 24KC10030

DRAWN BY: PJB

CHECK BY: JWB

ISSUED DATE: 2025-06-28

FIELD BOOK:

ISSUED BY: JEFFREY W BARTZ, PE

LICENSE NO: MO #2012022594

SHEET TITLE

**GENERAL
NOTES**

SHEET NUMBER

C101

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**PRIVATE SANITARY
SEWER AND WATER
MAIN EXTENSION -
THE VILLAGE AT
DISCOVERY PARK**

ALURA APARTMENTS
THE VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, MISSOURI

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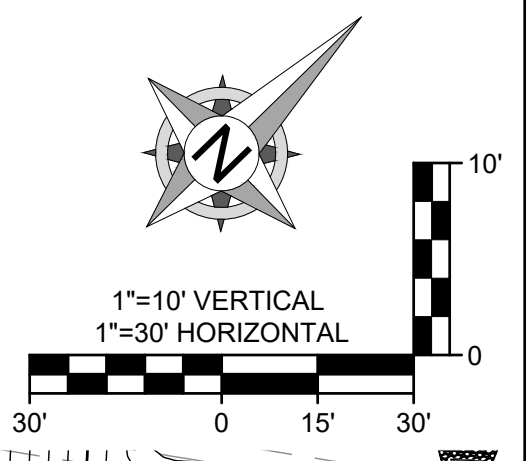
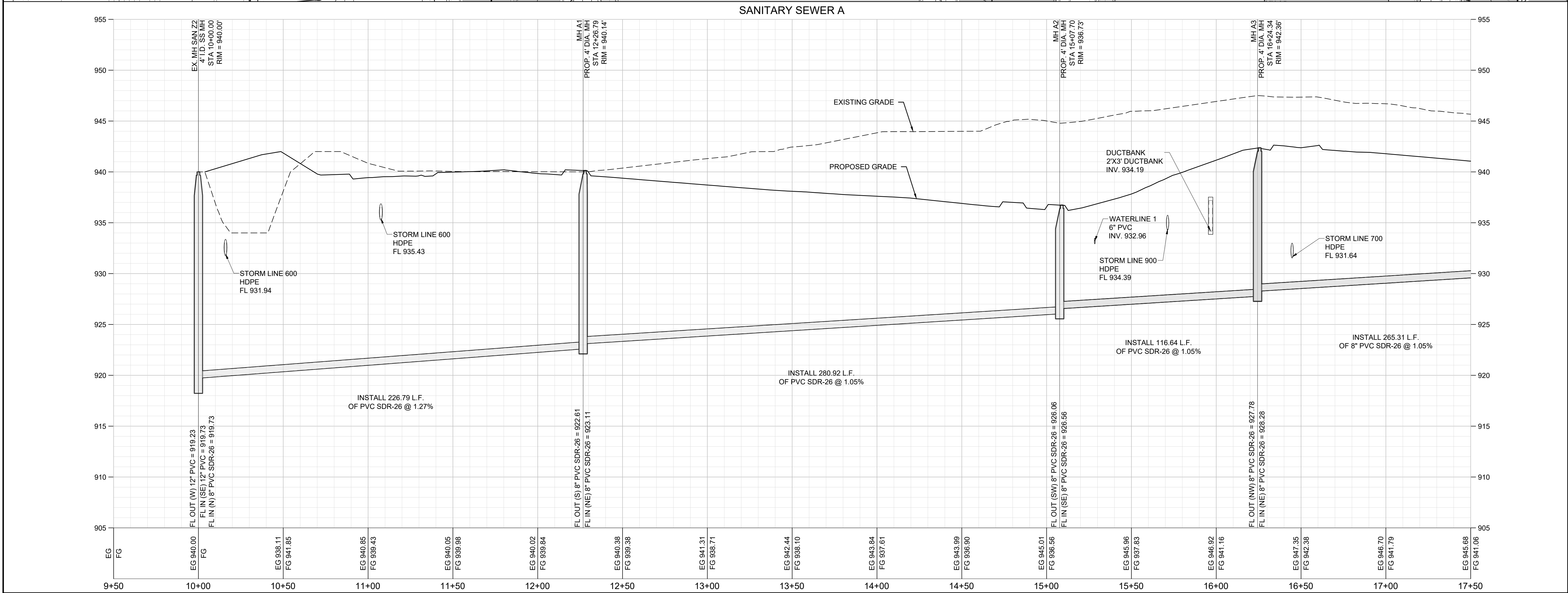
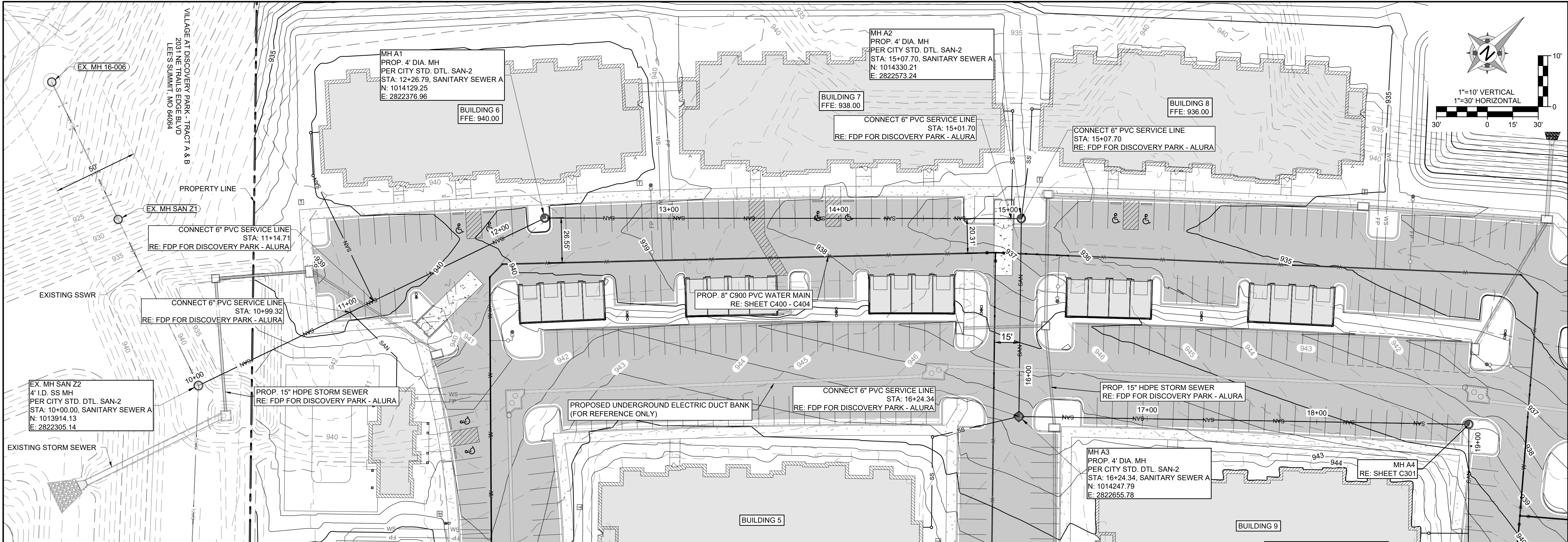
SHEET TITLE

SITE PLAN

SHEET NUMBER

C200

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SHEET TITLE

**SANITARY A
PLAN & PROFILE**

SHEET NUMBER

C300

5 OF 10



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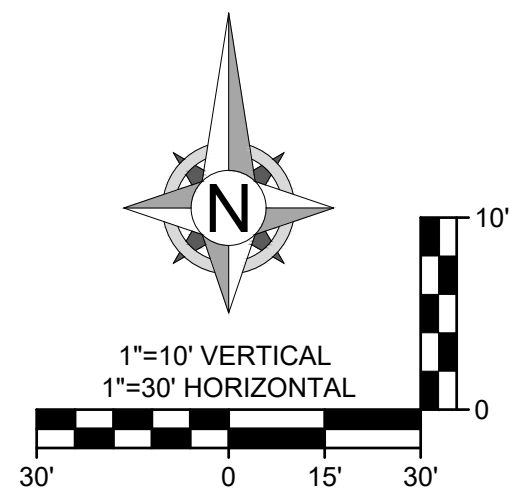
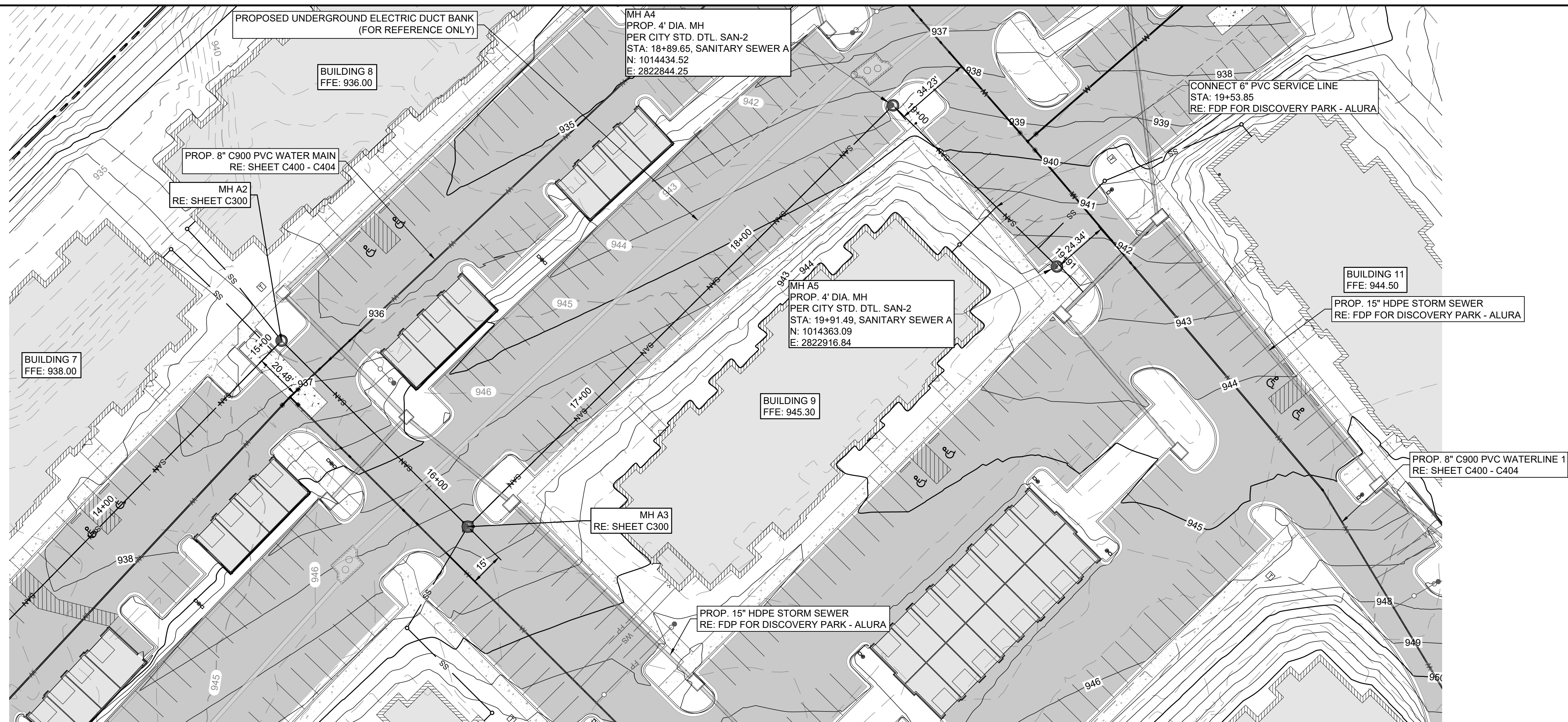
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SANITARY A PLAN & PROFILE

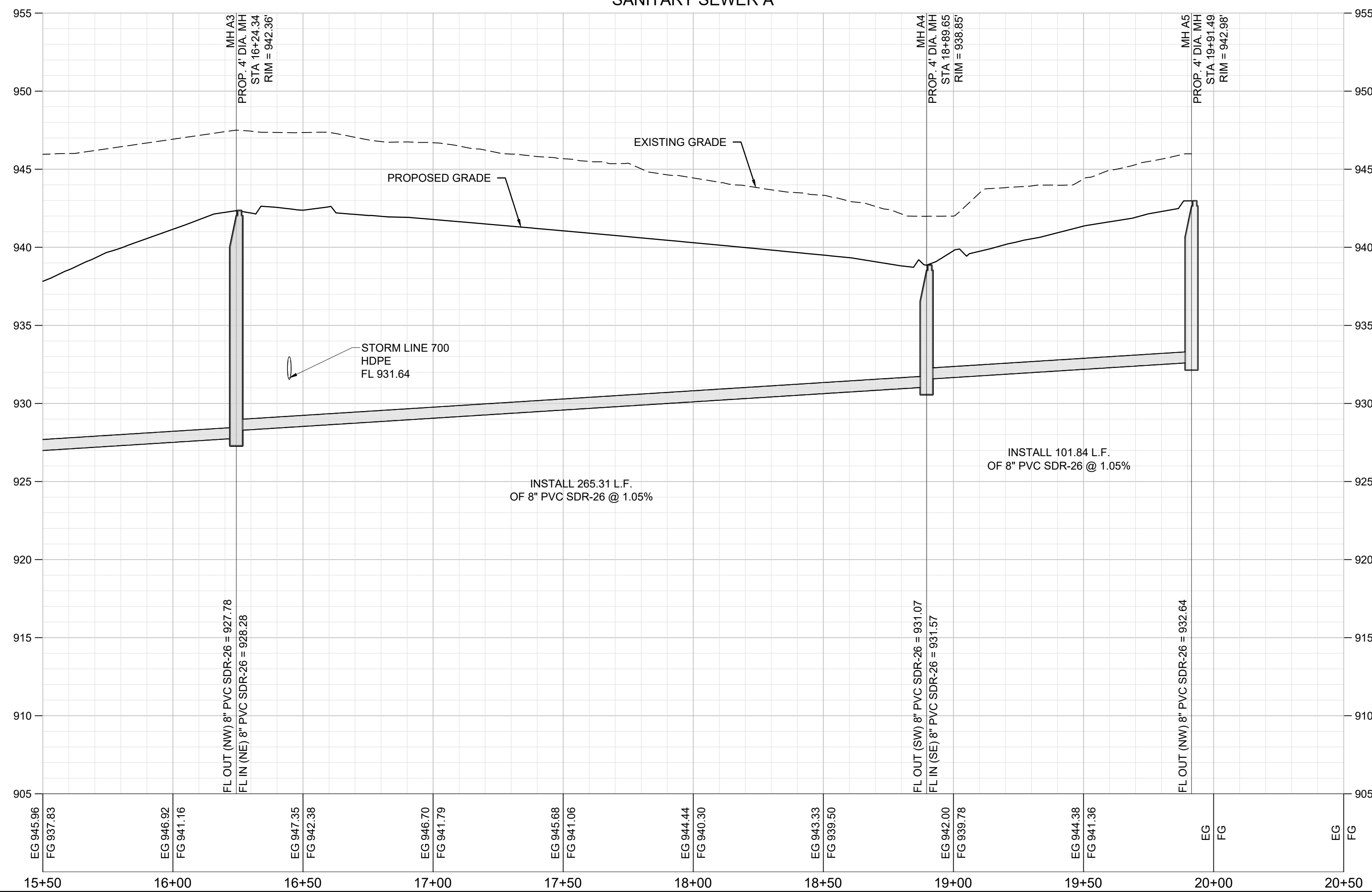
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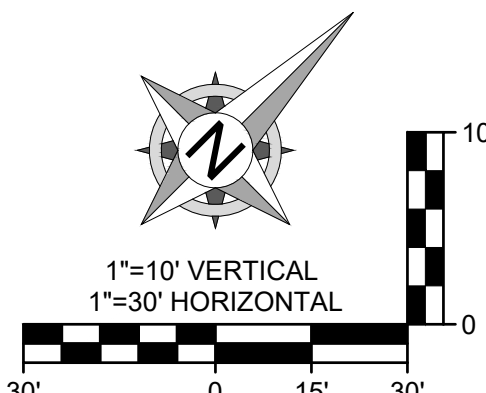
C300

5 OF 10



SANITARY SEWER A





FORMERLY ANDERSON ENGINEERING

PRIVATE SANITARY SEWER AND WATER MAIN EXTENSION - THE VILLAGE AT DISCOVERY PARK

[illegible]

PROJECT NO: 24KC10030

ISSUED BY: JEFFREY W BARTZ, PE
LICENSE NO: MO #2012022594

SANITARY B PLAN & PROFILE

7 OF 10

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THE VILLAGE AT
DISCOVERY PARK**

ALURA APARTMENTS
THE VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, MISSOURI

[illegible]

DRAWING INFORMATION

PROJECT NO: 24KC10030

DRAWN BY: PJB

CHECK BY: JWE

ISSUED DATE: 2025-06-28

FIELD BOOK:

ISSUED BY: JEFFREY W BARTZ, PE

LICENSE NO: MO #2012022594

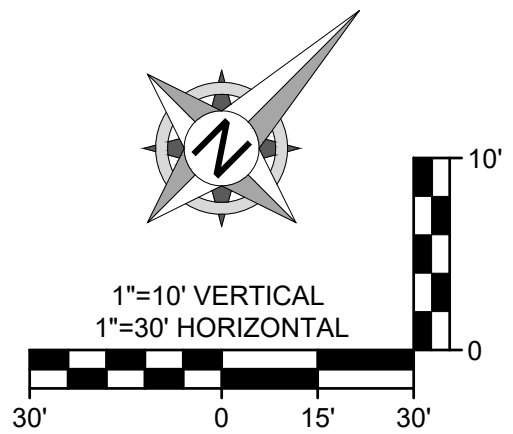
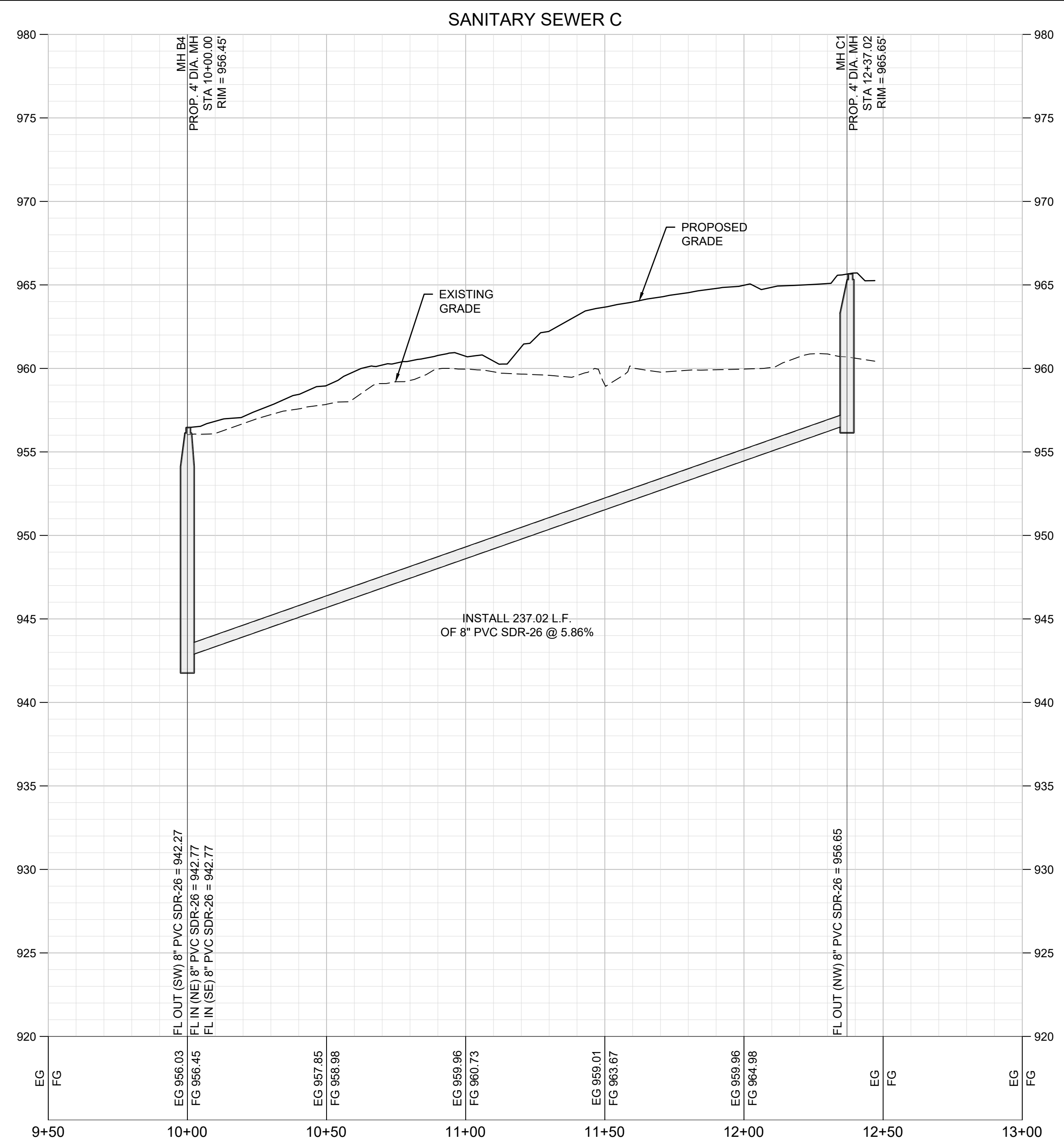
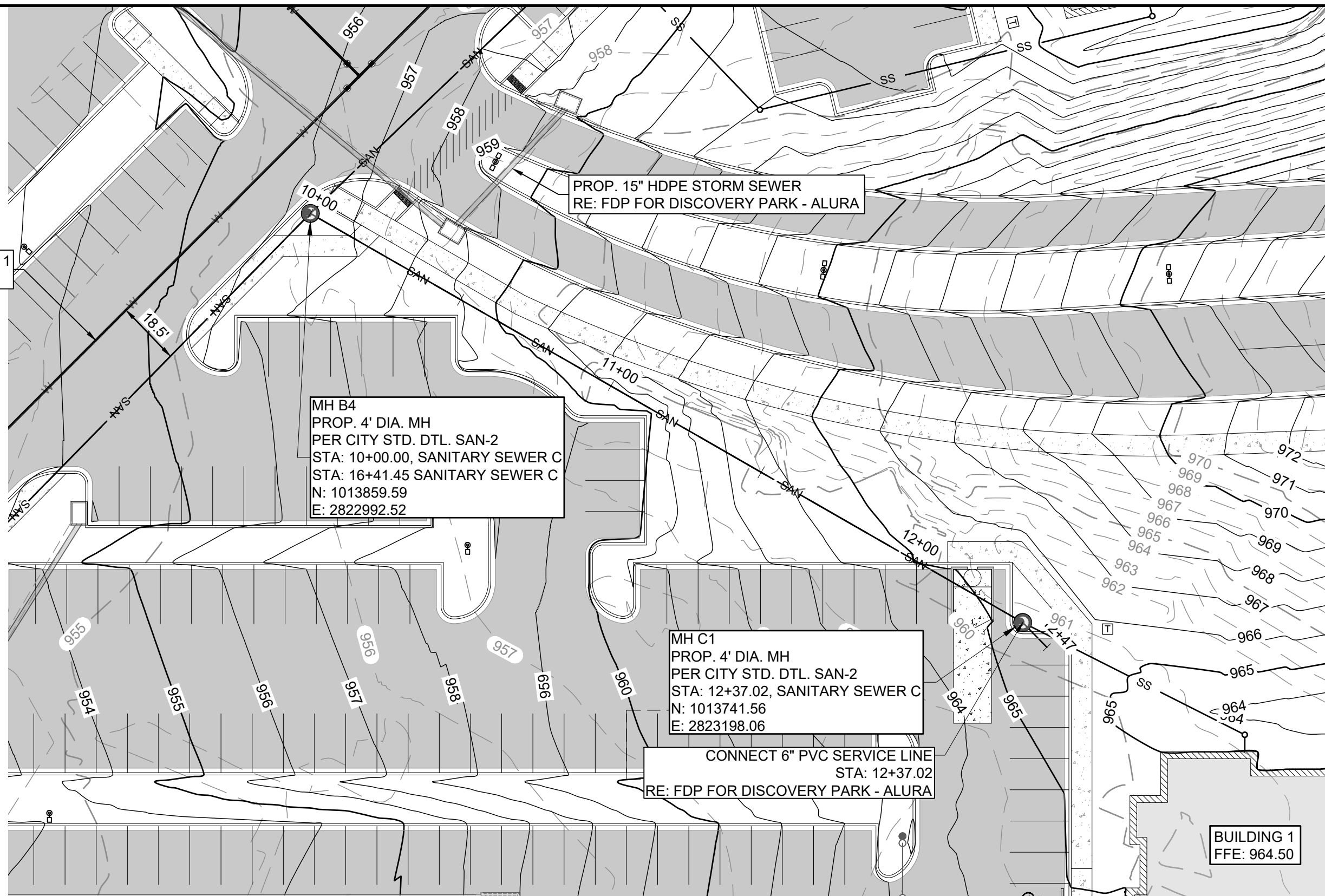
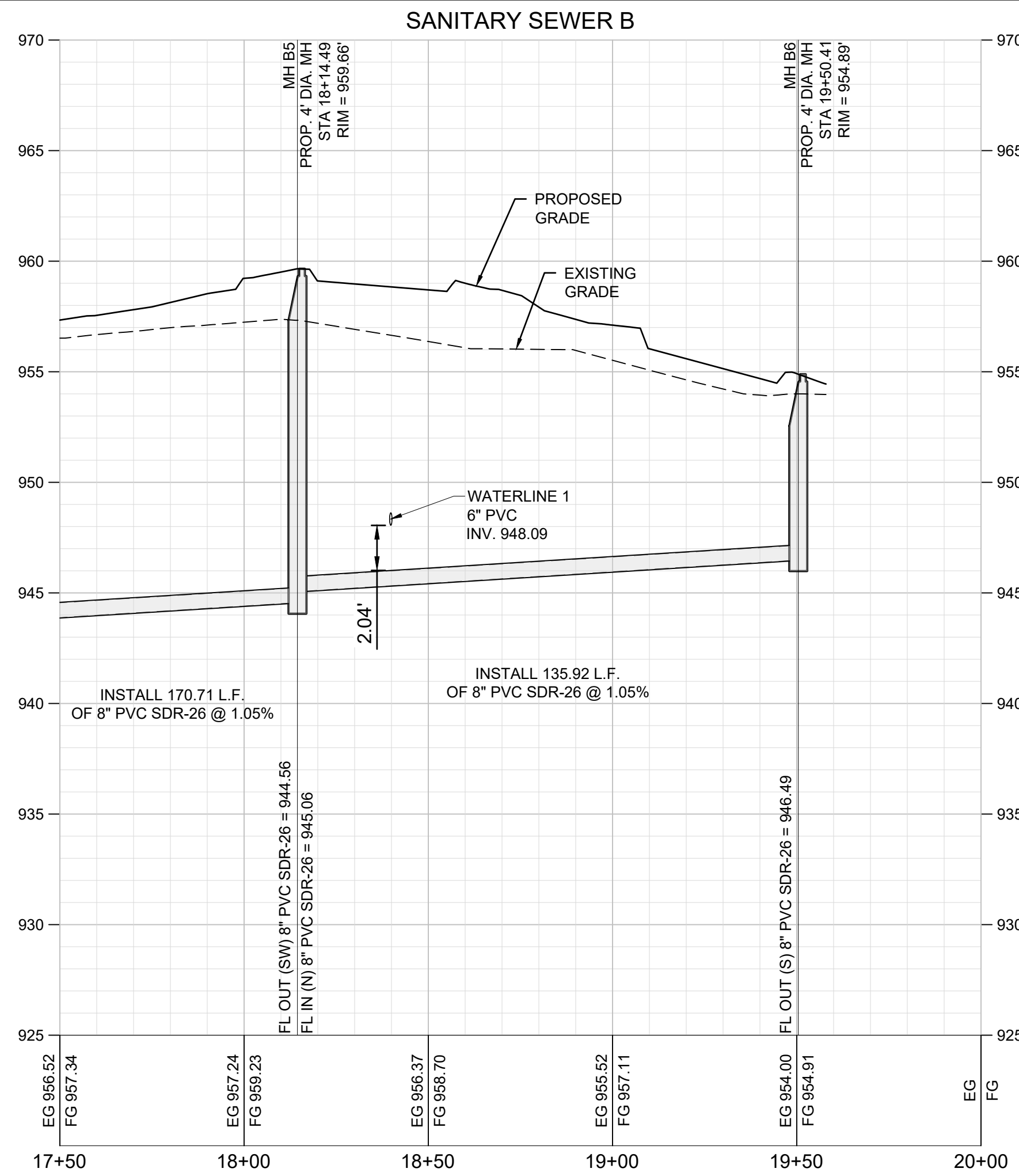
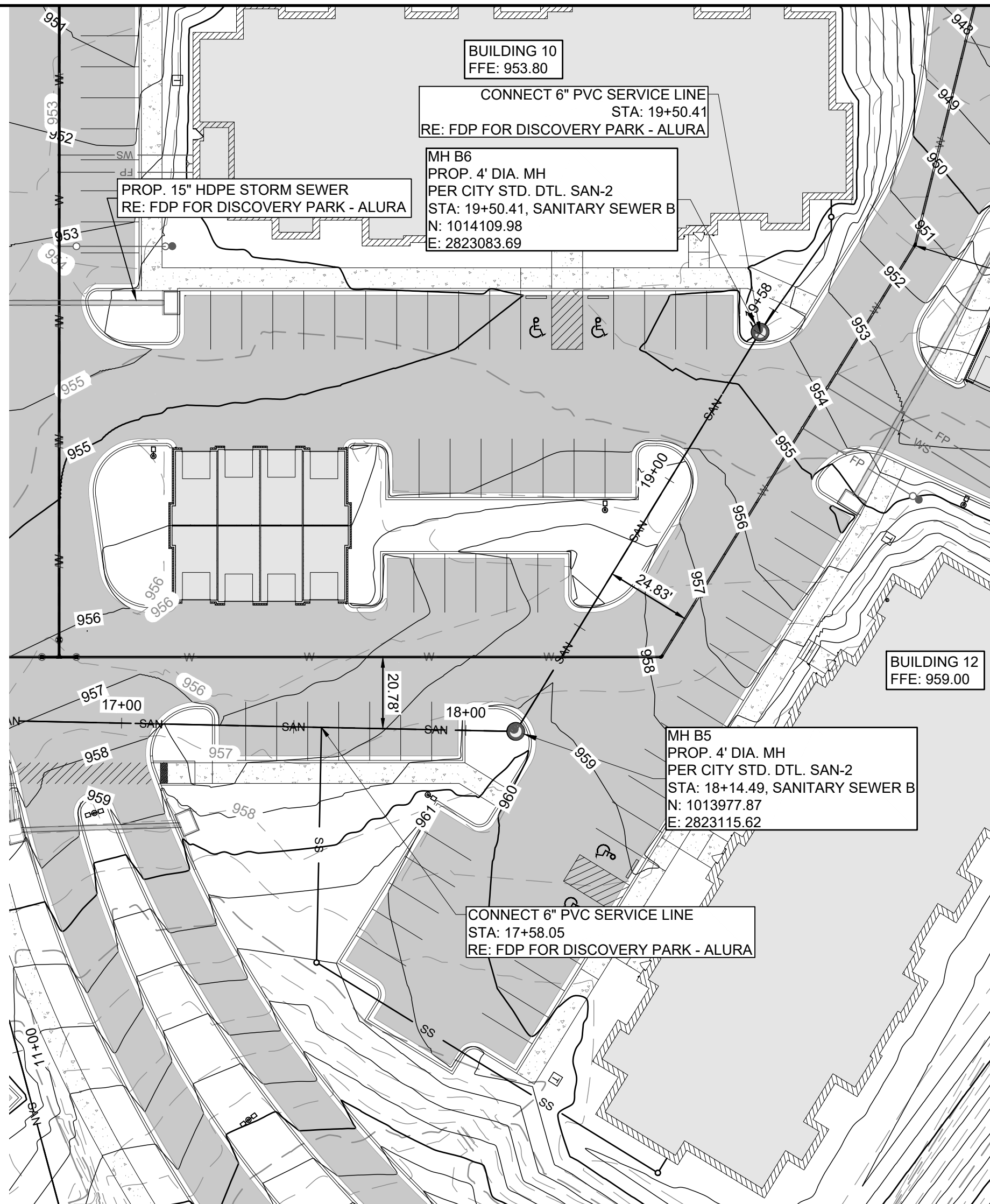
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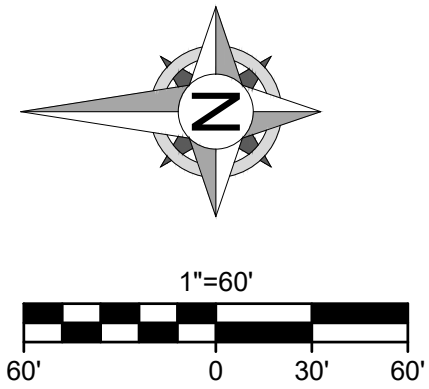
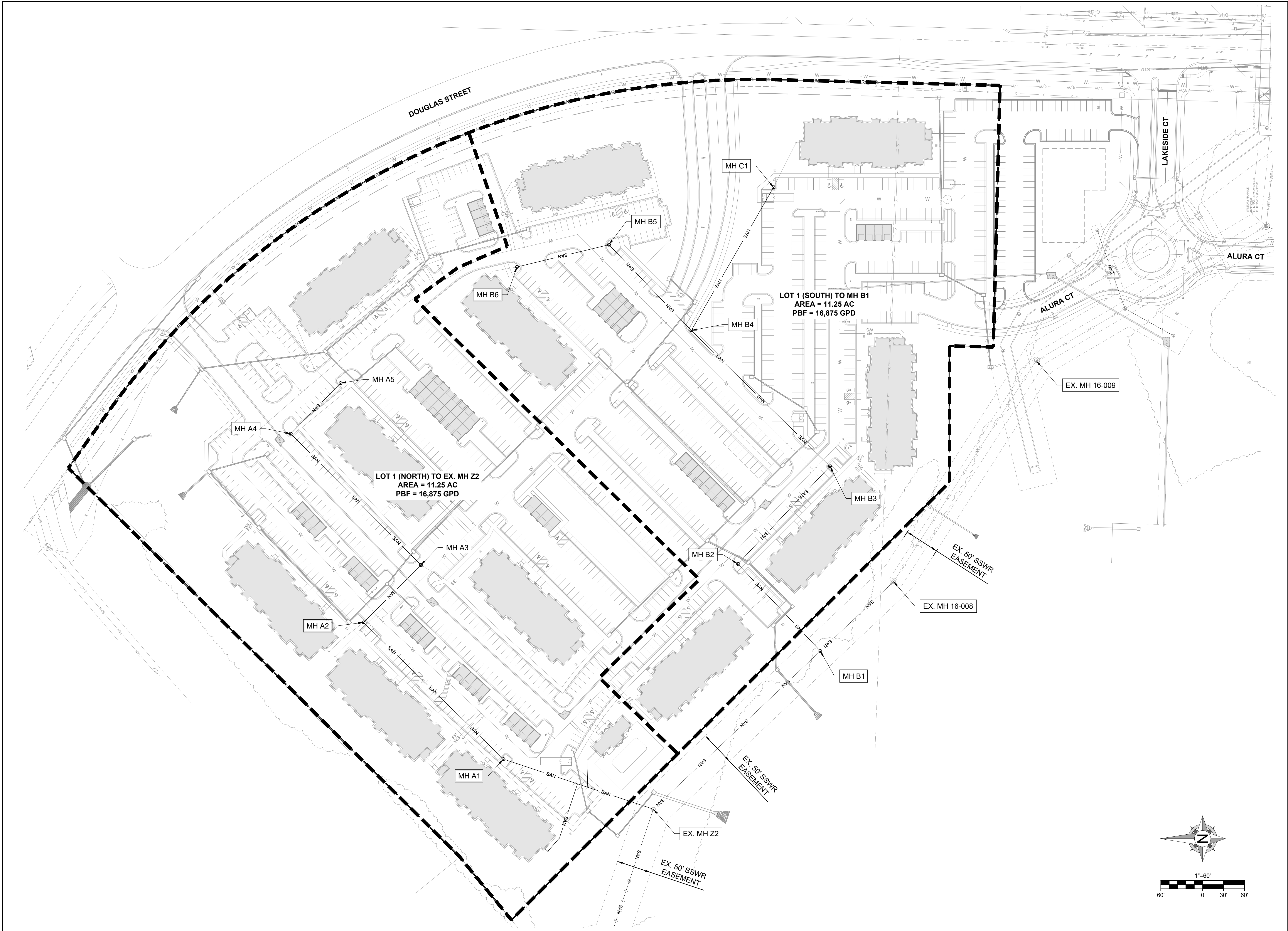
SANITARY B & C PLAN & PROFILE

SHEET NUMBER

C303

8 OF 10







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**PRIVATE SANITARY
SEWER AND WATER
MAIN EXTENSION -
THE VILLAGE AT
DISCOVERY PARK**

ALURA APARTMENTS
THE VILLAGE AT DISCOVERY PARK
LEE'S SUMMIT, MISSOURI

REVISIONS		
NO.	DESCRIPTION	DATE

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SHEET TITLE

DRAINAGE MAP

SHEET NUMBER

C305

10 OF 10

REVISIONS		
NO.	DESCRIPTION	DATE

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LICENSE NO: MO #2012022594	

SHEET TITLE
SSWR CALCULATIONS

SHEET NUMBER
C306
11 OF 10

Sanitary Sewer Design Information (10-yr)												
Upstream Manhole	Downstream Pipe Slope	Downstream Pipe Diameter	Proposed Cumulative Area	Future Cumulative Area	Peak Base Flow	Peak Infiltration Flow	Peak Inflow	Total Peak Flow	Cum. Peak Flow	Downstream Pipe Manning N	Downstream Pipe Capacity (2/3 full)	Downstream Pipe Full Flow
	(%)	(in)	(Ac.)	(Ac.)	(gpd)	(gpd)	(cfs)	(cfs)	(cfs)		(cfs)	(fps)
A5	1.05%	8	3.75	0.00	5625.0	1875.0	0.063	0.07	0.07	0.014	0.91	3.65
A4	1.05%	8	3.75	0.00	5625.0	1875.0	0.063	0.07	0.07	0.014	0.91	3.65
A3	1.05%	8	5.63	0.00	8437.5	2812.5	0.088	0.11	0.11	0.014	0.91	3.65
A2	1.05%	8	9.38	0.00	14062.5	4687.5	0.138	0.17	0.17	0.014	0.91	3.65
A1	1.27%	8	11.25	0.00	16875.0	5625.0	0.162	0.20	0.20	0.014	1.00	4.01
B6	1.05%	8	1.88	0.00	2812.5	937.5	0.035	0.04	0.04	0.014	0.91	3.65
B5	1.05%	8	3.75	0.00	5625.0	1875.0	0.063	0.07	0.07	0.014	0.91	3.65
B4	1.05%	8	5.63	0.00	8437.5	2812.5	0.088	0.11	0.11	0.014	0.91	3.65
B3	2.07%	8	7.50	0.00	11250.0	3750.0	0.113	0.14	0.14	0.014	1.27	5.13
B2	7.10%	8	11.25	0.00	16875.0	5625.0	0.162	0.20	0.20	0.014	2.36	9.49
C1	5.86%	8	1.88	0.00	2812.5	937.5	0.035	0.04	0.04	0.014	2.144	8.62

10-yr Peak Flow Calculation Table (Inflow & Infiltration)							
Upstream Manhole	K	Tc	Intensity (in/hr)	Q	A	W	R
		(min)	(10-yr)	(cfs)	(sf)	(ft)	(ft)
A5	0.004	25.91	4.21	0.063	0.249	1.279	0.194
A4	0.004	25.91	4.21	0.063	0.249	1.279	0.194
A3	0.004	28.70	3.92	0.088	0.249	1.279	0.194
A2	0.004	32.65	3.68	0.138	0.249	1.279	0.194
A1	0.004	34.19	3.61	0.162	0.249	1.279	0.194
B6	0.004	21.75	4.63	0.035	0.249	1.279	0.194
B5	0.004	25.91	4.21	0.063	0.249	1.279	0.194
B4	0.004	28.70	3.92	0.088	0.249	1.279	0.194
B3	0.004	30.86	3.75	0.113	0.249	1.279	0.194
B2	0.004	34.19	3.61	0.162	0.249	1.279	0.194
C1	0.004	21.751	4.63137621	0.035	0.249	1.279	0.194



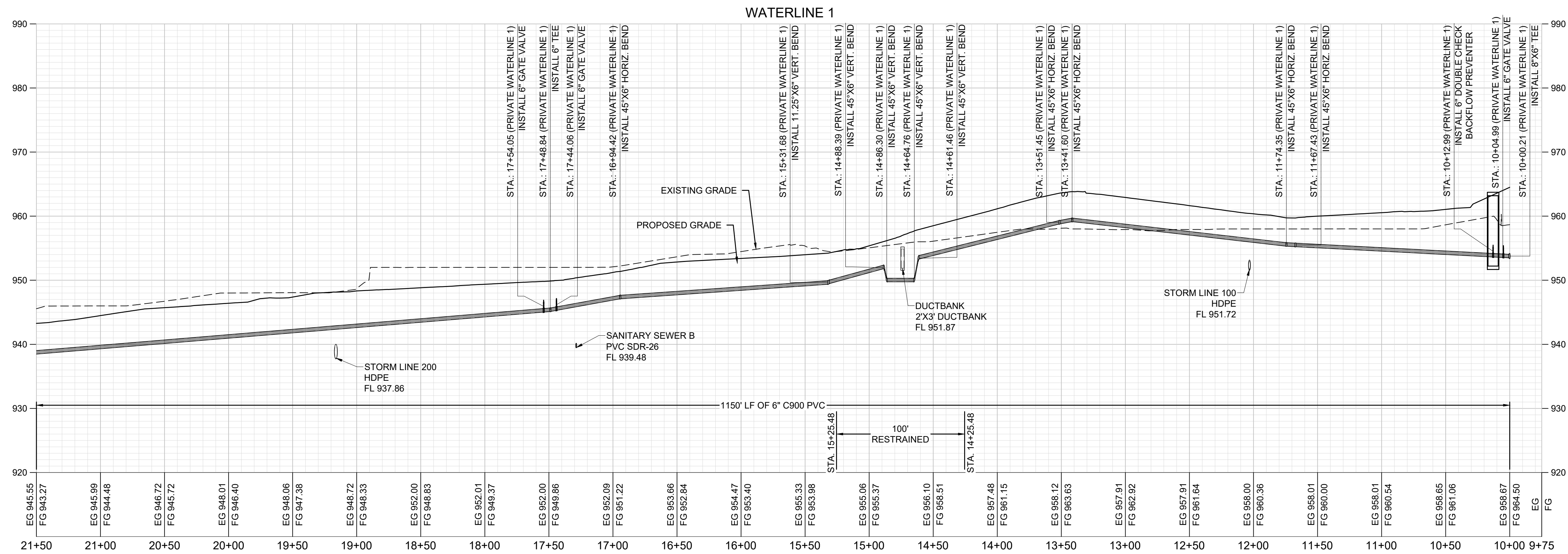
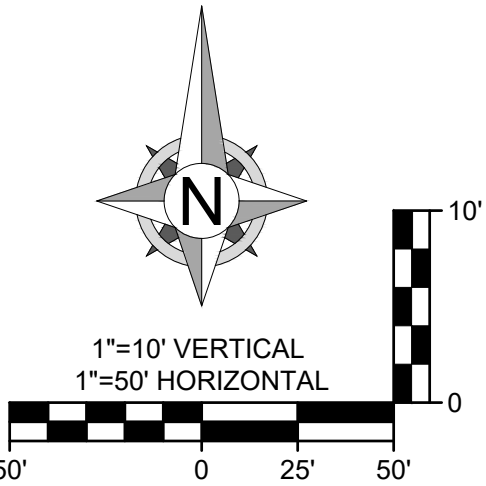
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SEWER AND WATER
MAIN EXTENSION -
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DISCOVERY PARK**

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WATER PLAN & PROFILE - 1

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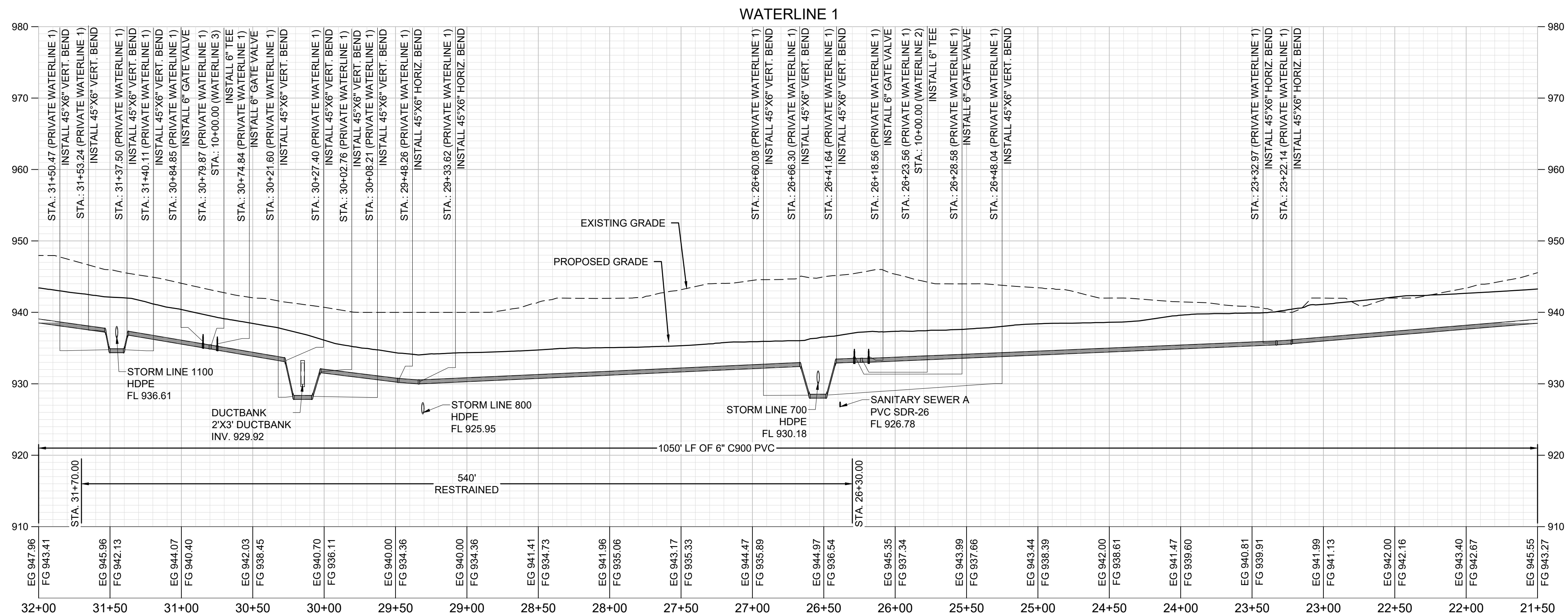
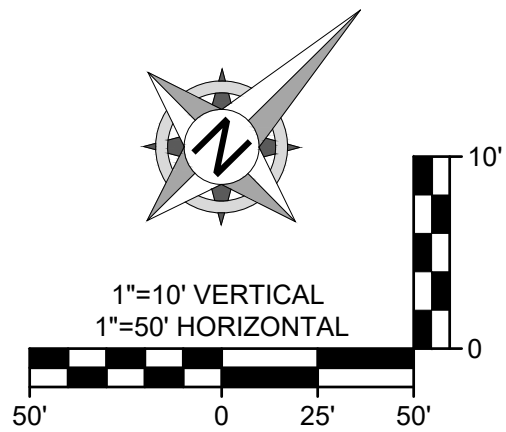


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PRIVATE SANITARY SEWER AND WATER MAIN EXTENSION - THE VILLAGE AT DISCOVERY PARK

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13 OF 10





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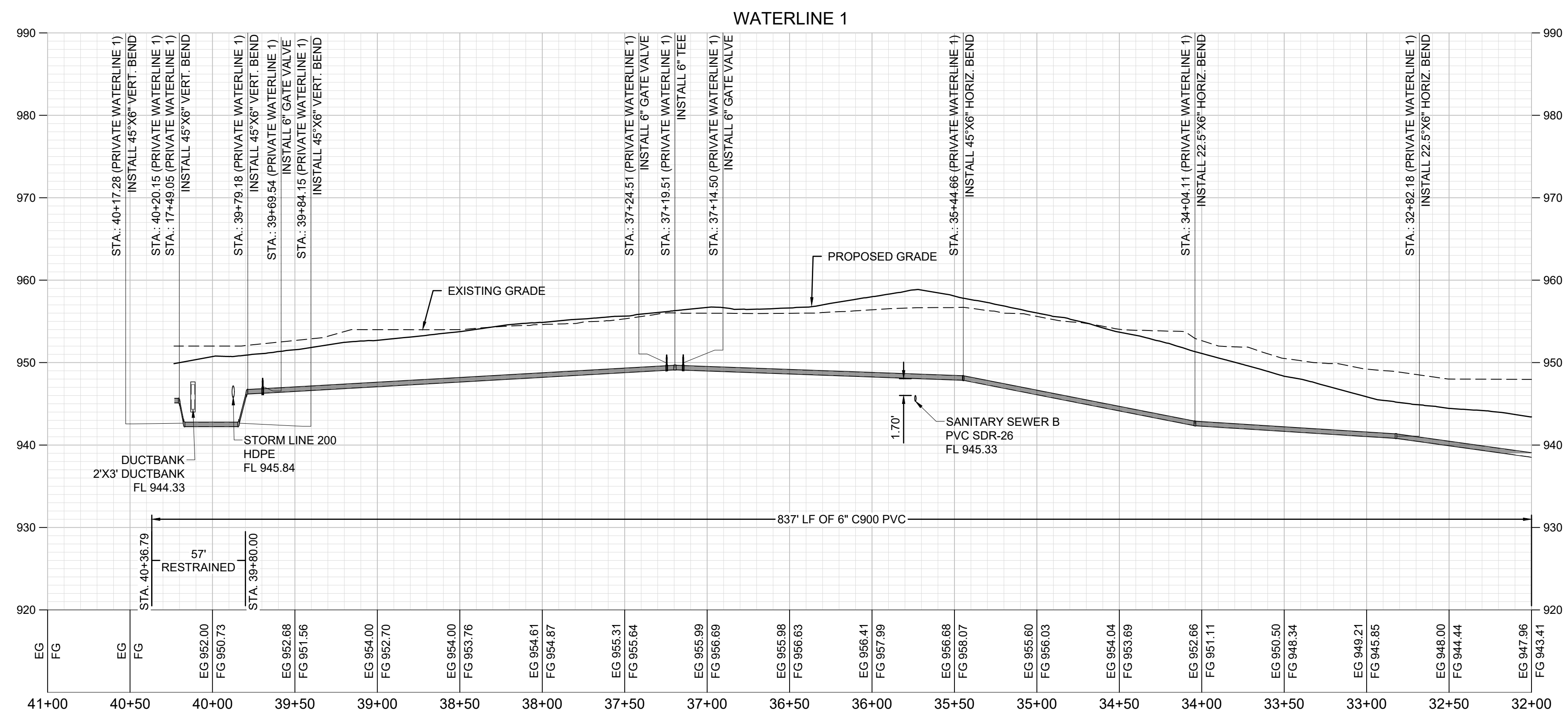
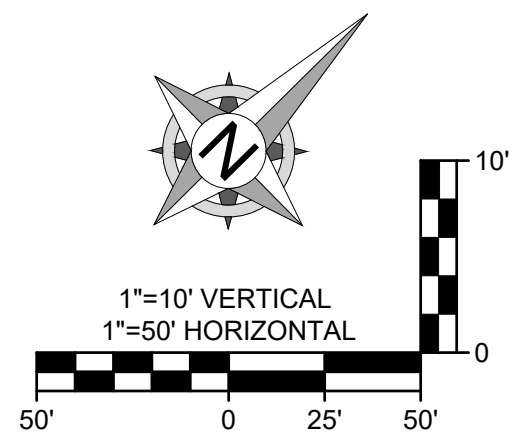
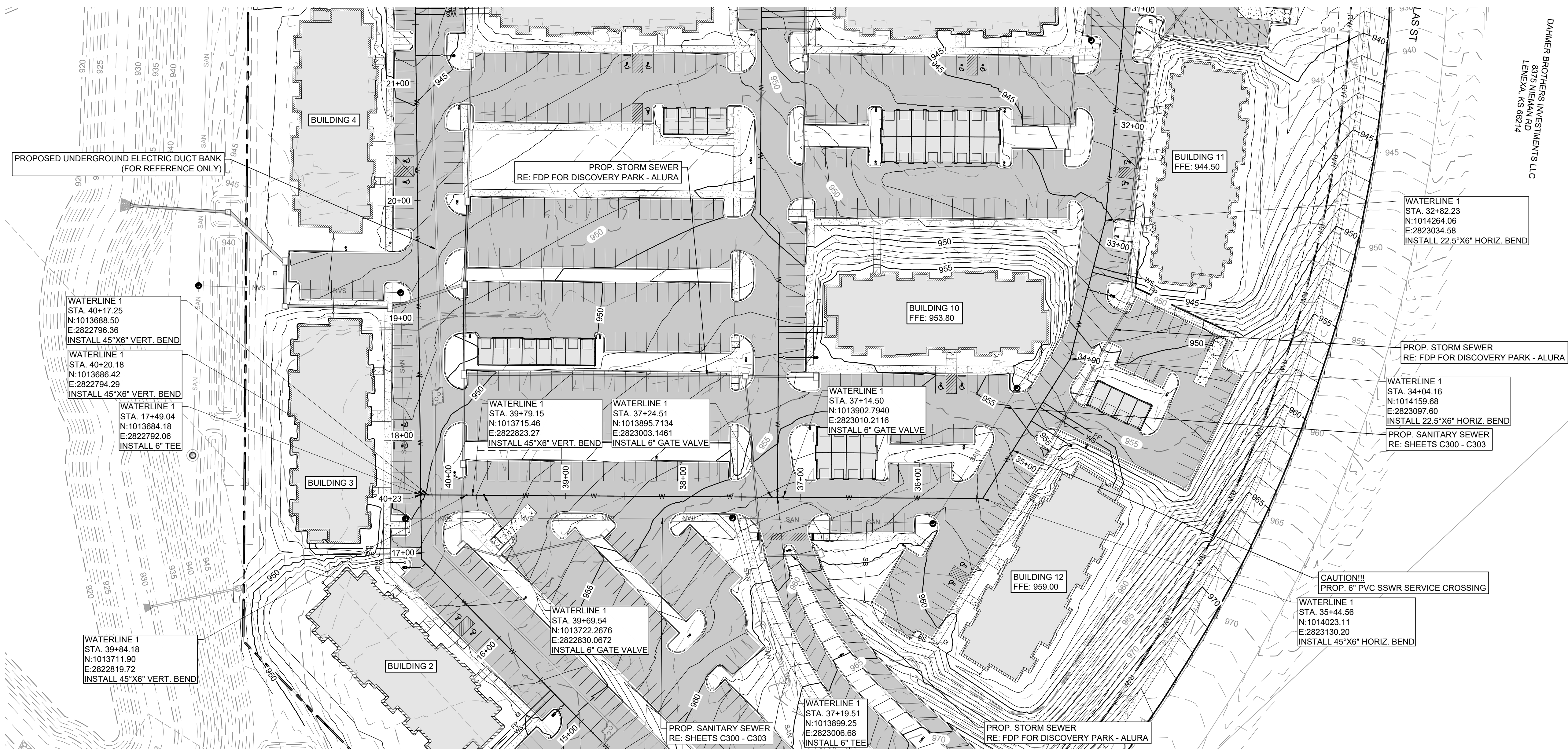
LICENSE NO: MO #2012022594

SHEET TITLE

SHEET NUMBER

C402

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MAIN EXTENSION -
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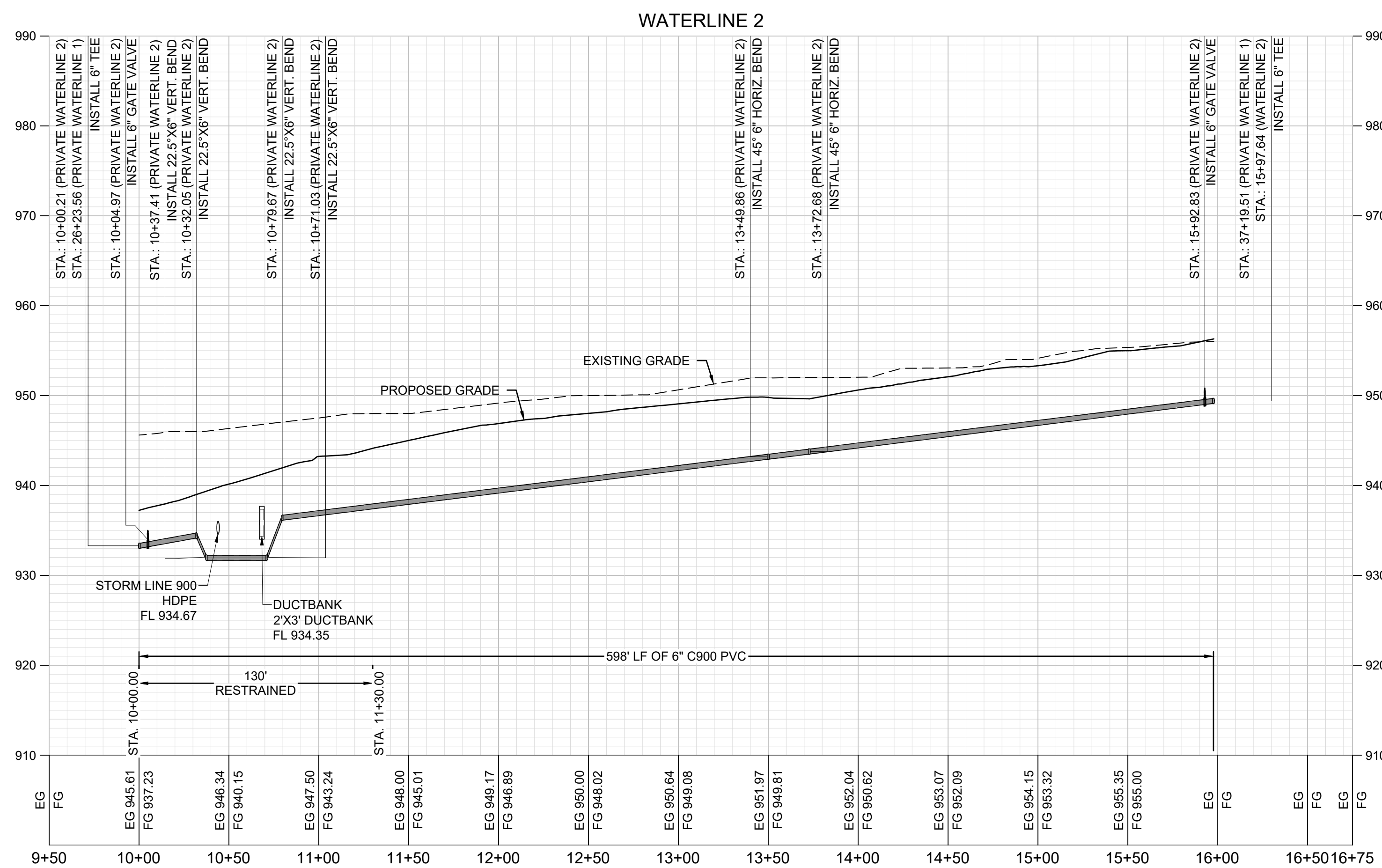
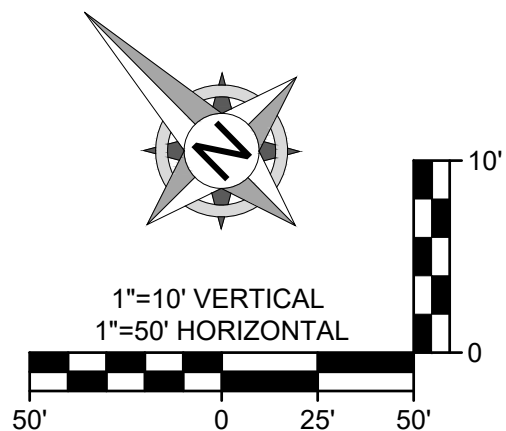
PROJECT NO: 24KC10030

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WATER PLAN & PROFILE - 4

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REVISIONS

DRAWING INFORMATION

FIELD BOOK:

LICENSE NO: MO #2012022594

WATER PLAN & PROFILE - 5

C404

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