# FINAL DEVELOPMENT PLAN SAINT LUKE'S EAST HOSPITAL - ASC EXPANSION & RENOVATION

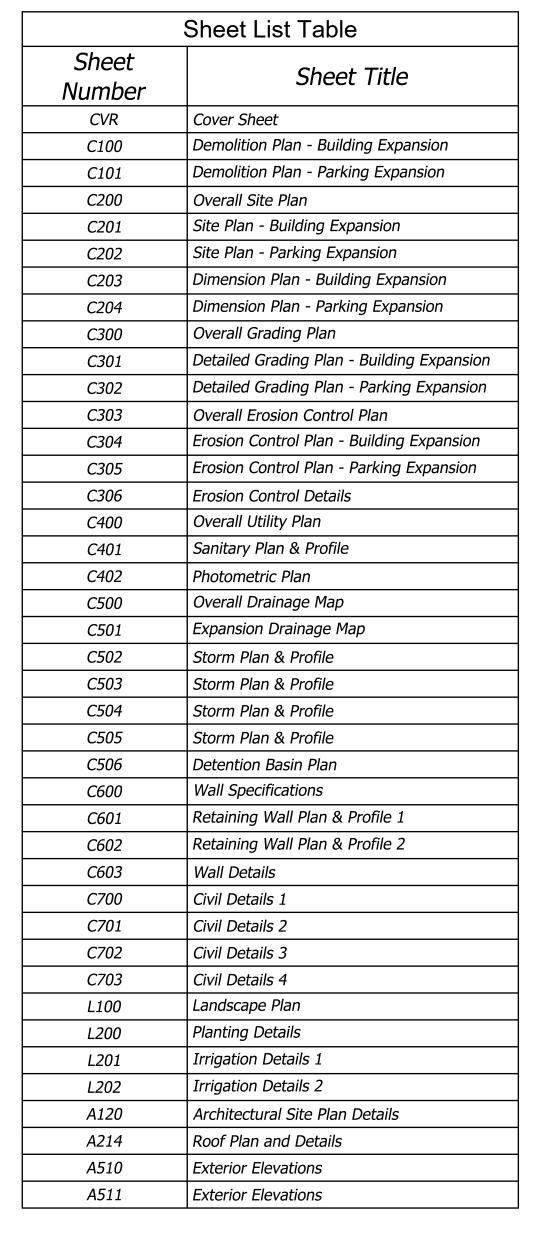
# LEE'S SUMMIT, MO 64086

100 NE SAINT LUKE'S BLVD.

### **GENERAL NOTES**

- 1. All work in public easement and Right-of-Way shall be installed per the requirements and specifications of the City of Lee's Summit, Missouri.
- 2. All existing topographic, survey, and utility information shown was provided to BHC in the form of an Topographic Survey prepared by BHC and dated July 12, 2022. Contractors shall satisfy themselves as to the existing conditions of the site and have all utilities located prior to commencing construction.
- 3. The Contractor shall be required to obtain all Federal, State, and Local permits required for this project prior to commencing construction.
- 4. Any work adjacent to or crossing existing streets requires proper traffic control devices. Traffic control devices shall be placed in accordance with the Manual of Uniform Traffic Control Devices (MUTCD).
- 5. The contractor shall be required to demolish, remove and dispose of all existing structures, pavements, and features necessary to construct the improvements shown hereon. Any waste materials generated during construction shall be removed from the site by the Contractor and disposed of in accordance with all local, State, and Federal regulations governing such disposal.
- 6. The contractor shall prevent any trash, debris, or liquid wastes from being disposed of in sanitary sewers, storm sewers, or open drainage systems.
- 7. The Contractor shall be solely responsible to protect adjacent property, structures, and other improvements from damage during construction. In the event of damage to adjacent property, structures, or improvements, the contractor shall repair or replace such damage to the Owners's satisfaction at the Contractor's expense
- 8. Contractors at the site shall be solely responsible for jobsite safety for all aspects of work shown hereon.
- 9. All work and materials used in the construction of the improvements shown hereon shall comply with all referenced standards, specifications, and plan notes.
- 10. All buildings are shown as a reference only. All buildings shall be located and constructed per the Architectural drawings prepared by others.
- 11. Contractor shall be responsible for contacting all utility companies for field locations of underground utilities affected by the contract. All existing utilities indicated on these plans are according to the best information available to the engineer; however, all utilities actually existing may not be shown. Utilities damaged through the negligence of the contractor to obtain the location of same shall be repaired or replaced at the expense of the contractor.
- 12. Coordinate with facility representative as to when construction activities may be performed to work with the
- 13. Any and all hazards shall be properly identified and barricaded from access during all non-construction periods.
- 14. A Right-of-Way permit is required from the City of Lee's Summit, Missouri Public Works Department for any work within the public right-of-way.





### **UTILITY CONTACTS**

PLANNING AND DEVELOPMENT 220 SE GREEN STREET LEE'S SUMMIT, MO 64063 TEL: (816) 969-1600

220 SE GREEN STREET LEE'S SUMMIT, MO 64063 TEL: (816) 969-1200 FAX: (816) 969-1201

CODES ADMINISTRATION

**PUBLIC WORKS** 220 SE GREEN STREET LEE'S SUMMIT, MO 64063

FAX: (816) 969-1619

**WATER UTILITIES** CITY HALL 1200 SE HAMBLEN RD LEE'S SUMMIT, MO 64063 TEL: (816) 969-1900 TEL: (816) 969-1800 FAX: (816) 969-1935 FAX: (816) 969-1809

LEE'S SUMMIT FIRE DEPARTMENT 207 SE DOUGLAS ROAD LEE'S SUMMIT, MO 64063

TEL: (816) 969-1300 TELEPHONE COMPANY

TEL: (800) 464-7928

ELECTRIC COMPANY EVERGY

MISSOURI GAS ENERGY TEL: (816) 756-5252

TEL: (888) 471-5275

All existing utility locations shown are approximate only and are not guaranteed to be accurate or all inclusive. Contractor shall be responsible for contacting all utility companies and verifying the actual field locations of all utilities prior to any construction activity. Contractor shall keep all utility locations current. Utilities damaged through the negligence of the contractor to obtain the proper field locations shall be the responsibility of the contractor to repair or replace at their

expense and at the direction of the utility company. The contractor shall pothole and survey all utility crossings prior to construction of any portion of storm sewer, sanitary sewer laterals, underdrains, conduit and any other subsurface element of the project. The survey information shall be forwarded to the project engineer for review. The contractor shall not begin construction on any subsurface element on the project without the approval of the project engineer. Utility coordination, potholing/surveying shall be subsidiary to other bid items.

### **BENCHMARKS**

(DATUM: NAVD88)

CHISELED SQUARE ON THE FRONT FACE OF A DUAL MANHOLE CURB INLET, LOCATED 49.8 FEET NORTHWEST OF THE NORTHEAST CORNER OF THE NORTH END OF SAINT LUKE'S HOSPITAL

ELEVATION= 982.88

**BENCHMARK NUMBER: 2** 

CHISELED SQUARE ON THE FRONT FACE OF A CURB INLET, LOCATED ±97.4 FEET SOUTHWEST OF THE SOUTHEAST CORNER ON THE NORTH END SAINT LUKE'S HOSPITAL.

ELEVATION= 979.35

### **FLOOD STATEMENT**

The subject property lies within Flood Zone "X" (unshaded) (Areas determined to be outside the 0.2% annual chance floodplain.), as shown on the Jackson County, Missouri and Incorporated Areas Flood Insurance Rate Map (F.I.R.M.). Map Number: 29095C0409G

Panel No: 409 of 625 Map Revised Date: January 20, 2017

**NOTE:** This statement is provided for informational purposes only and shall in no way constitute a basis for a flood certificate. No field work was performed to establish the boundaries of this zone. The information was derived by scaling the subject property on the above referenced map.

### **SURVEYOR OF RECORD**

712 STATE AVE. KANSAS CITY, KANSAS 66101

P (913) 663-1900 F (913) 663-1633 CONTACT: BRENT THOMPSON BRENT.THOMPSON@IBHC.COM

OVERLAND PARK, KANSAS 66210 P (913) 663-1900

F (913) 663-1633 CONTACT: KURT YODER EMAIL: KURT.YODER@IBHC.COM

### ARCHITECT OF RECORD

ACI BOLAND ARCHITECTS 1710 WYANDOTTE ST. KANSAS CITY, MISSOURI 64108 P (816) 763-9600 CONTACT: SAMUEL BECKMAN SBECKMAN@ACIBOLAND.COM

### **CIVIL ENGINEER**

7101 COLLEGE BOULEVARD, SUITE 400

### OWNER/DEVELOPER

SAINT LUKE'S 4401 WORNALL ROAD KANSAS CITY, MISSOURI 64111 (816) 932-3200 CONTACT: TJ STEINKIRCHNER EMAIL: TSTEINKIRCHNER@SAINTLUKESKC.ORG

Kurt M. Yoder, Civil Engineer License - Missouri #2021020064

BOLAND ARCHITECTS

ACI/Boland, Inc. Kansas City | St. Louis 1710 Wyandotte Kansas City, MO 64108 T: 816.763.9600

Licensee's Certificate of Authority Number Missouri: #000958

#### CIVIL CONSULTANT

7101 College Blvd, Suite 400 Overland Park, KS 66210 Licensee's Certificate of Authority Number: Missouri: #000958

STRUCTURAL CONSULTANT Structural Engineering Associates, Inc. 1000 Walnut, Suit 1570 Kansas City, MO 64106

### MEP CONSULTANT

1600 Baltimore Ave, Suite 300 Kansas City, MO 64108 816.842.8437

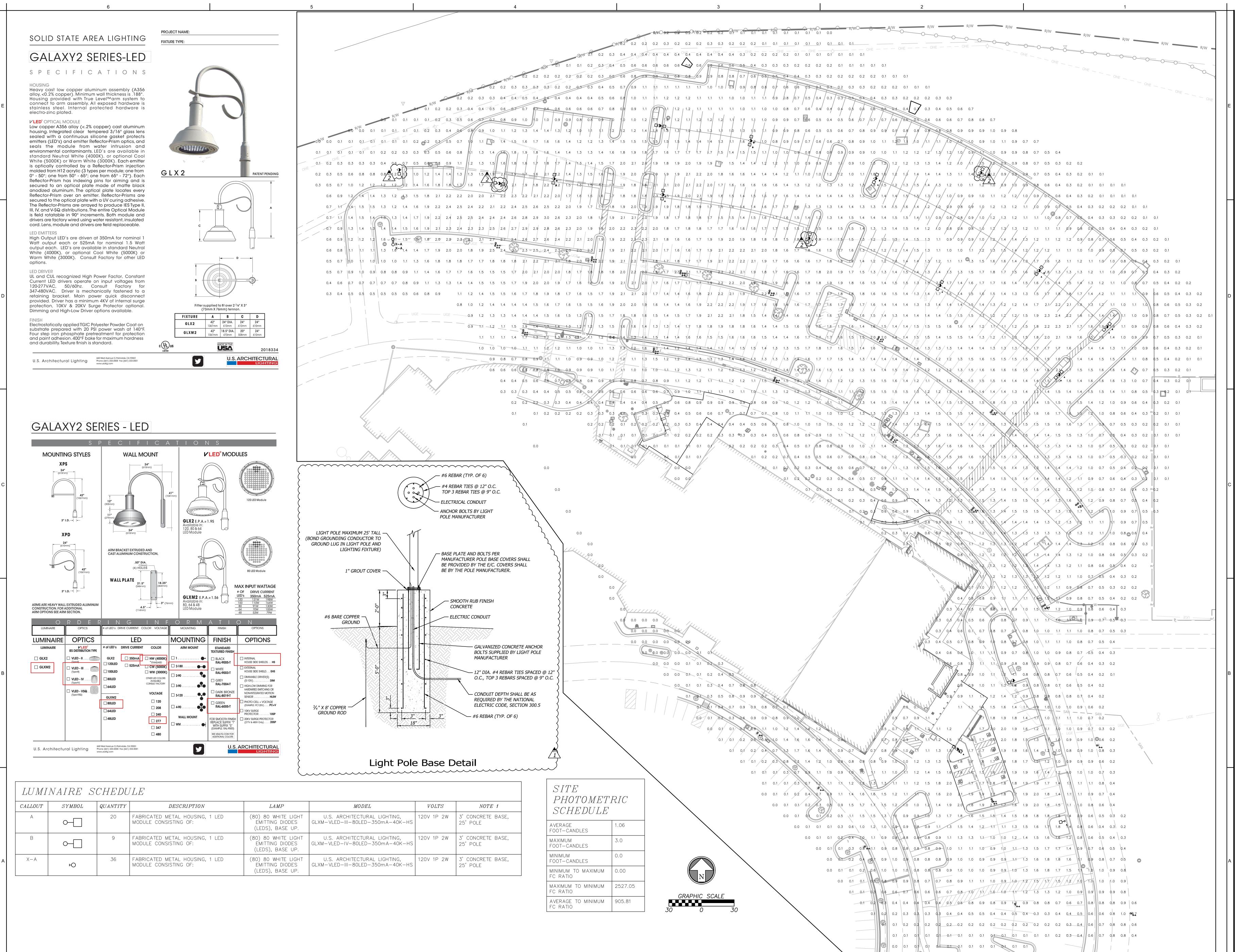
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12/22/2022 3-21037 Job Number Drawn By

Checked By

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**COVER SHEET** 



BOLAND ARCHITECTS

1710 Wyandotte Kansas City, MO 64108 T: 816.763.9600 Licensee's Certificate of Authority Number:

ACI/Boland, Inc.

Kansas City | St. Louis

Missouri: #000958

CIVIL CONSULTANT

7101 College Blvd, Suite 400 Overland Park, KS 66210 913.663.1900 Licensee's Certificate of Authority Number: Missouri: #000958 **I STRUCTURAL CONSULTANT** 

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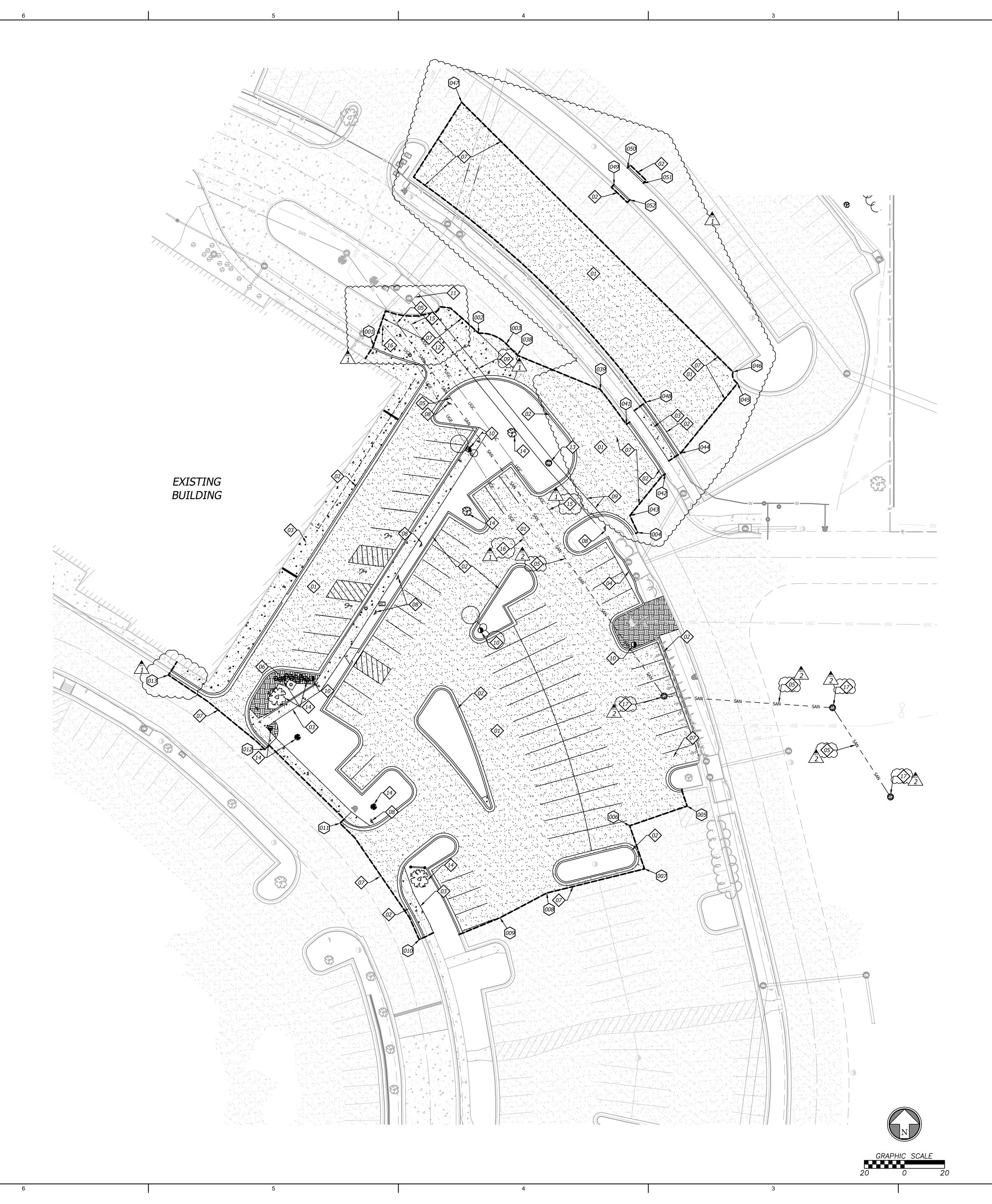
816.842.8437

Job Number Drawn By Checked By

12/22/2022 3-21037

01/20/2023 Addendum 01 02/03/2023 Addendum 02

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Points			
PNT#	NORTHING	EASTING	
001	1010665.3769	2822810.6325	
002	1010671.4699	2822863.1137	
003	1010666.1269	2822876.9259	
004	1010572.1577	2822942.4315	
005	1010435.8537	2822967.0927	
006	1010426.0022	2822938.4413	
007	1010404.5284	2822945.8249	
008	1010392.4896	2822897.0912	
009	1010380.1714	2822873.7746	
010	1010369.3130	2822833.4996	
011	1010427.2440	2822794.0161	
012	1010464.0188	2822756.5423	
013	1010501.1511	2822708.4314	
014	1010706.6061	2822646.3877	
015	1010732.6511	2822605.9793	
016	1010760.7079	2822695.2189	
017	1010771.5610	2822698.8321	
018	1010782.5031	2822656.5943	
019	1010774.9504	2822655.5117	
020	1010778.8381	2822628.3895	
021	1010778.1508	2822626.6281	
022	1010767.6407	2823010.5209	
023	1010753.4676	2822995.7218	
024	1010788.6900	2822960.5369	
025	1010802.5162	2822973.3625	
026	1010914.7347	2822800.0240	
027	1010897.0483	2822792.5862	

028	1010915.7557	2822742.4019
029	1010933.9612	2822748.3452
030	1010962.3994	2822609.6211
031	1010943.7337	2822606.8999
032	1010950.9468	2822557.4230
033	1010969.6020	2822560.1426
034	1010981.9767	2822476.0482
035	1010963.2161	2822473.3131
036	1010968.1229	2822375.0897
037	1010971.6933	2822374.9029
038	1010660.4453	2822882.4242
039	1010643.4554	2822923.7777
041	1010626.0421	2822936.8403
042	1010601.3424	2822956.1582
043	1010580.5733	2822938.5358
044	1010611.6168	2822963.7764
045	1010646.4939	2822992.1340
046	1010652.1942	2822989.8989
047	1010786.5773	2822854.6110
048	1010637.1026	2822946.4726
049	1010745.5526	2822930.6172
050	1010753.8369	2822937.2920
051	1010746.2034	2822945.2360
052	1010737.9624	2822938.6043

### **GENERAL NOTES**

- 1. Contractor shall verify the location, size, material and depth of all utilities prior to any excavation or construction activity.
- 2. All materials shall be removed and disposed of off-site. It is the contractors responsibility to meet all applicable laws and regulations pertaining to the disposal of construction/demolition material.
- 3. The Contractor shall ensure that any structures to remain which are damaged during demolition operations shall be repaired to meet current code, at no additional cost to the owner.
- 4. The Contractor shall remove any and all existing debris which is encountered from the existing site. This shall include, but shall not be limited to, footings, concrete slabs, conduits, granular subgrade, utility services, and/or unsuitable structural fill material as determined by the owner's engineer. The cost for these removals shall be considered incidental to the project. Said debris shall become property of the contractor and it shall be the responsibility of the contractor to dispose of properly off-site.
- 5. It shall be the Contractor's responsibility to meet all applicable laws and regulations pertaining to the disposal of construction/demolition material.
- 6. The Contractor shall be responsible for obtaining and payment of any permits for demolition that pertain to this project.
- 7. All protection fencing shall be installed prior to demolition/construction activity. The Contractor shall provide a 6-foot security fence around the entire job site with locked gated access points, if required by the owner or the city.
- 8. All existing utilities removed during construction shall have their trenches backfilled with structural fill and be compacted to the requirements for structural fill.
- 9. All removals required to properly perform the work (whether shown on the plans or not) shall be performed by the Contractor at no additional cost to the owner.

### **DEMOLITION NOTES**

- 01 REMOVE & DISPOSE OF EXISTING ASPHALT.
- 02 REMOVE & DISPOSE OF EXISTING CURB.
- 03 REMOVE AND DISPOSE OF CONCRETE SIDEWALK.
- 04 REMOVE THROAT ON WEST SIDE OF INLET. FILL WEST INLET OPENING WITH MORTAR TO CLOSE OFF OPENING.
- 05 REMOVE AND DISPOSE OF ENOUGH 8" PVC SANITARY LATERAL TO ALLOW PLACEMENT OF NEW
- MANHOLE. ABANDON REMAINING SANITARY MAIN AND FILL WITH FLOWABLE FILL.
- 06 EXISTING UTILITY TUNNEL ACCESS LID. REMOVE ACCESS LID.
- 07 SAW CUT EXISTING PAVEMENT TO FULL DEPTH AND CLEAN EDGE.
- 08 REMOVE & DISPOSE OF EXISTING PARKING SIGNS.
- ( 09 REMOVE AND DISPOSE OF ENOUGH 60" RCP STORM MAIN TO ALLOW PLACEMENT OF NEW JUNCTION BOX. REMOVE 60" RCP STORM MAIN TO THE WEST.
- 10 REMOVE EXISTING LIGHT POLE.
- 11 PLUG SOUTHEAST PIPE OPENING WITH BRICK AND MORTAR.
- 12 REMOVE & DISPOSE OF CONCRETE PAVEMENT.
- 13 EXISTING 8x8 CONCRETE STORM JUNCTION BOX. REMOVE & DISPOSE OF LID AND TOP 2 FT OF STRUCTURE. FILL STRUCTURE WITH FLOWABLE FILL.
- 14 REMOVE AND DISPOSE OF EXISTING LANDSCAPING.
- 15 ABANDON TELECOMMUNICATION LINE WHERE BUILDING EXPANSION WILL BE. REMOVE IF IT WILL BE IN THE WAY OF NEW FOOTINGS. SEE C400 FOR RELOCATION.
- 16 ABANDON POWER LINE WHERE BUILDING EXPANSION WILL BE. REMOVE IF IT WILL BE IN THE WAY OF NEW FOOTINGS. SEE C400 FOR RELOCATION.
- { 17 PRIVATE SANITARY MANHOLE IS TO BE ABANDONED. REMOVE LID, RISER RINGS, AND TOP CONE.\_ { FILL REMAINING STRUCTURE WITH FLOWABLE FILL.

### COORDINATE LEGEND

POINT LOCATION INDICATOR

### **DEMOLITION LEGEND**

ASPHALT PAVEN

ASPHALT PAVEMENT TO BE REMOVED

CONCRETE SIDEWALK TO BE REMOVED

CONCRETE PAVEMENT TO BE REMOVED

EXISTING TREE LINE

. EXISTING TREE LINE TO BE REMOVED



Kurt M. Yoder, Civil Engineer License - Missouri #2021020064

ACI BOLAND ARCHITECTS

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e's, ENOVATION

EAST HOSPITAL

EXPANSION & REI

VE Saint Luke's Blvd

Summit, MO 64086

Date
Job Number
Drawn By
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 Number
 Date
 Description

 01
 01/20/2023
 Addendum 01

 02
 02/03/2023
 Addendum 02

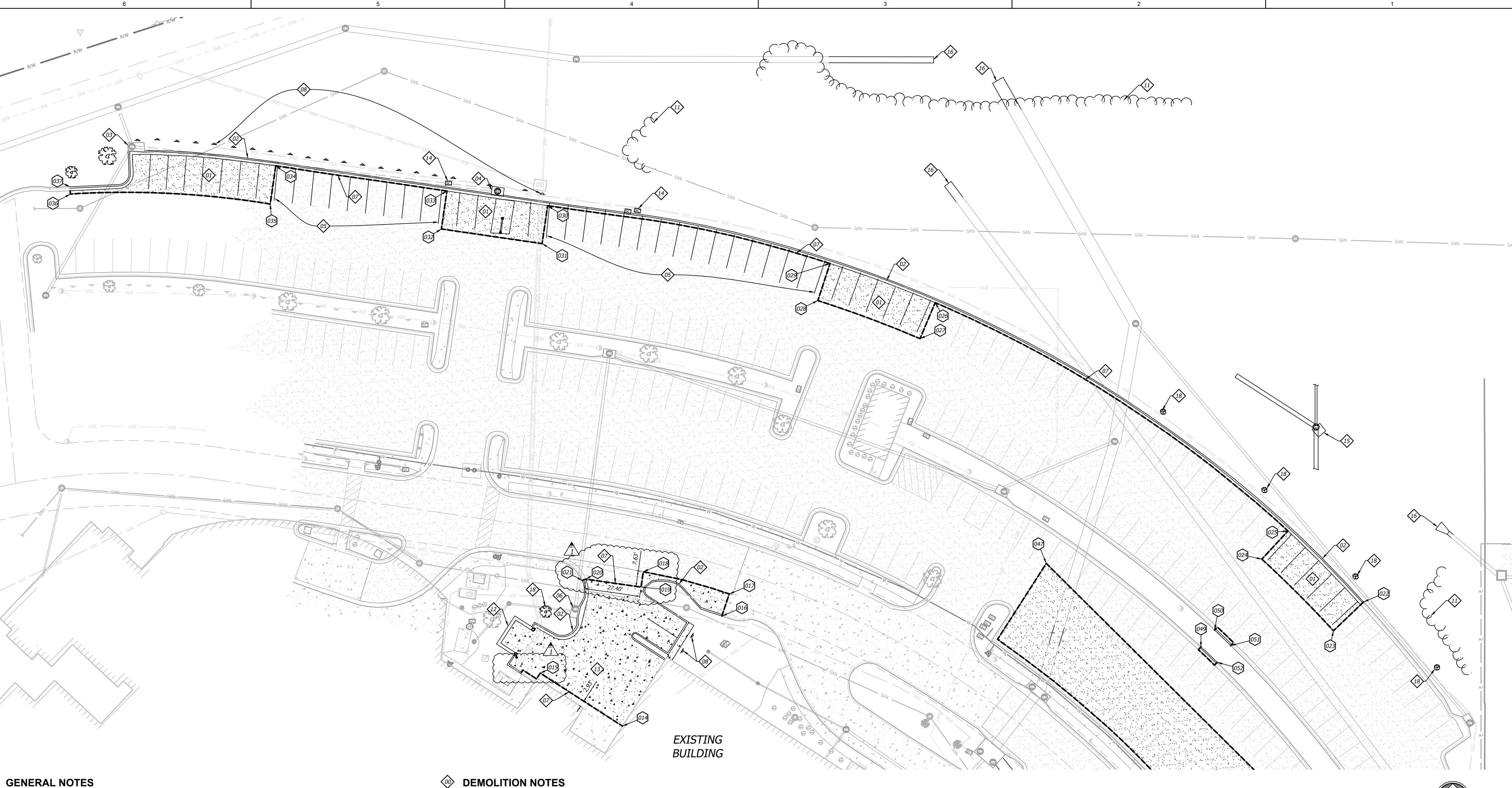
02/03/2023 Addendum 02

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DEMOLITION PLAN -

**BUILDING EXPANSION** 

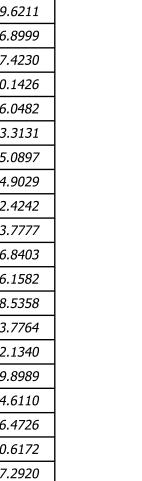


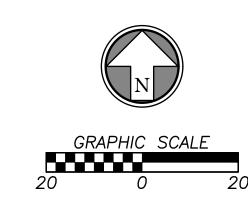
- 1. Contractor shall verify the location, size, material and depth of all utilities prior to any excavation or construction activity.
- All materials shall be removed and disposed of off-site. It is the contractors responsibility to meet all applicable laws and regulations pertaining to the disposal of construction/demolition
- 3. The Contractor shall ensure that any structures to remain which are damaged during demolition operations shall be repaired to meet current code, at no additional cost to the owner.
- 4. The Contractor shall remove any and all existing debris which is encountered from the existing site. This shall include, but shall not be limited to, footings, concrete slabs, conduits, granular subgrade, utility services, and/or unsuitable structural fill material as determined by the owner's engineer. The cost for these removals shall be considered incidental to the project. Said debris shall become property of the contractor and it shall be the responsibility of the contractor to dispose of properly off-site.
- It shall be the Contractor's responsibility to meet all applicable laws and regulations pertaining to the disposal of construction/demolition material.
- 6. The Contractor shall be responsible for obtaining and payment of any permits for demolition that pertain to this project.
- 7. All protection fencing shall be installed prior to demolition/construction activity. The Contractor shall provide a 6-foot security fence around the entire job site with locked gated access points, if required by the owner or the city.
- 8. All existing utilities removed during construction shall have their trenches backfilled with structural fill and be compacted to the requirements for structural fill.
- 9. All removals required to properly perform the work (whether shown on the plans or not) shall be performed by the Contractor at no additional cost to the owner.

- 01 REMOVE & DISPOSE OF EXISTING ASPHALT.
- 02 REMOVE & DISPOSE OF EXISTING CURB.
- 03 CURB INLET TO REMAIN. REMOVE THROAT AND REBUILD THROAT. PLUG STORM MAIN OPENING FROM THE EAST WITH BRICK AND MORTAR.
- 04 REMOVE CURB INLET. ABANDON STORM MAIN TO THE WEST.
- 05 REMOVE PARKING STALL STRIPING FROM PAVEMENT. PAVEMENT TO REMAIN HERE.
- 06 REMOVE CURB INLET TOP. CURB INLET IS TO BE CONVERTED TO AN AREA GRATE INLET. SEE
- 07 SAW CUT EXISTING PAVEMENT TO FULL DEPTH AND CLEAN EDGE.
- 08 REMOVE & DISPOSE OF EXISTING PARKING SIGNS.
- 09 NOT USED.
- 10 REMOVE EXISTING LIGHT POLE.
- 11 CLEAR TREES AND BRUSH TO ALLOW FOR GRADING.
- 12 REMOVE & DISPOSE OF TRASH ENCLOSURE.
- 13 REMOVE & DISPOSE OF CONCRETE PAVEMENT.
- 14 REMOVE SPRINKLER EQUIPMENT
- 15 REMOVE & DISPOSE OF CONCRETE STORM PIPES AND OUTLET STRUCTURE
- 16 REMOVE & DISPOSE OF CONCRETE STORM PIPES AND HEADWALLS TO ALLOW FOR PLACEMENT OF JUNCTION BOXES. SEE STORM PLANS FOR LOCATIONS OF JUNCTION BOXES.
- 17 NOT USED.
- 18 REMOVE AND DISPOSE OF EXISTING LANDSCAPING.

	Points	
PNT#	NORTHING	EASTING
001	1010665.3769	2822810.6325
002	1010671.4699	2822863.1137
003	1010666.1269	2822876.9259
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049	1010745.5526	2822930.6172
050	1010753.8369	2822937.2920
051	1010746.2034	2822945.2360
052	1010737.9624	2822938.6043





## **DEMOLITION LEGEND**

---- SAW CUT LINE CONCRETE PAVEMENT TO BE REMOVED

ASPHALT PAVEMENT TO BE REMOVED CONCRETE SIDEWALK TO BE REMOVED

EXISTING TREE LINE

. EXISTING TREE LINE TO BE REMOVED

Kurt M. Yoder, Civil Engineer

License - Missouri #2021020064

BOLAND

ARCHITECTS

Licensee's Certificate of Authority Number:

Licensee's Certificate of Authority Number:

STRUCTURAL CONSULTANT

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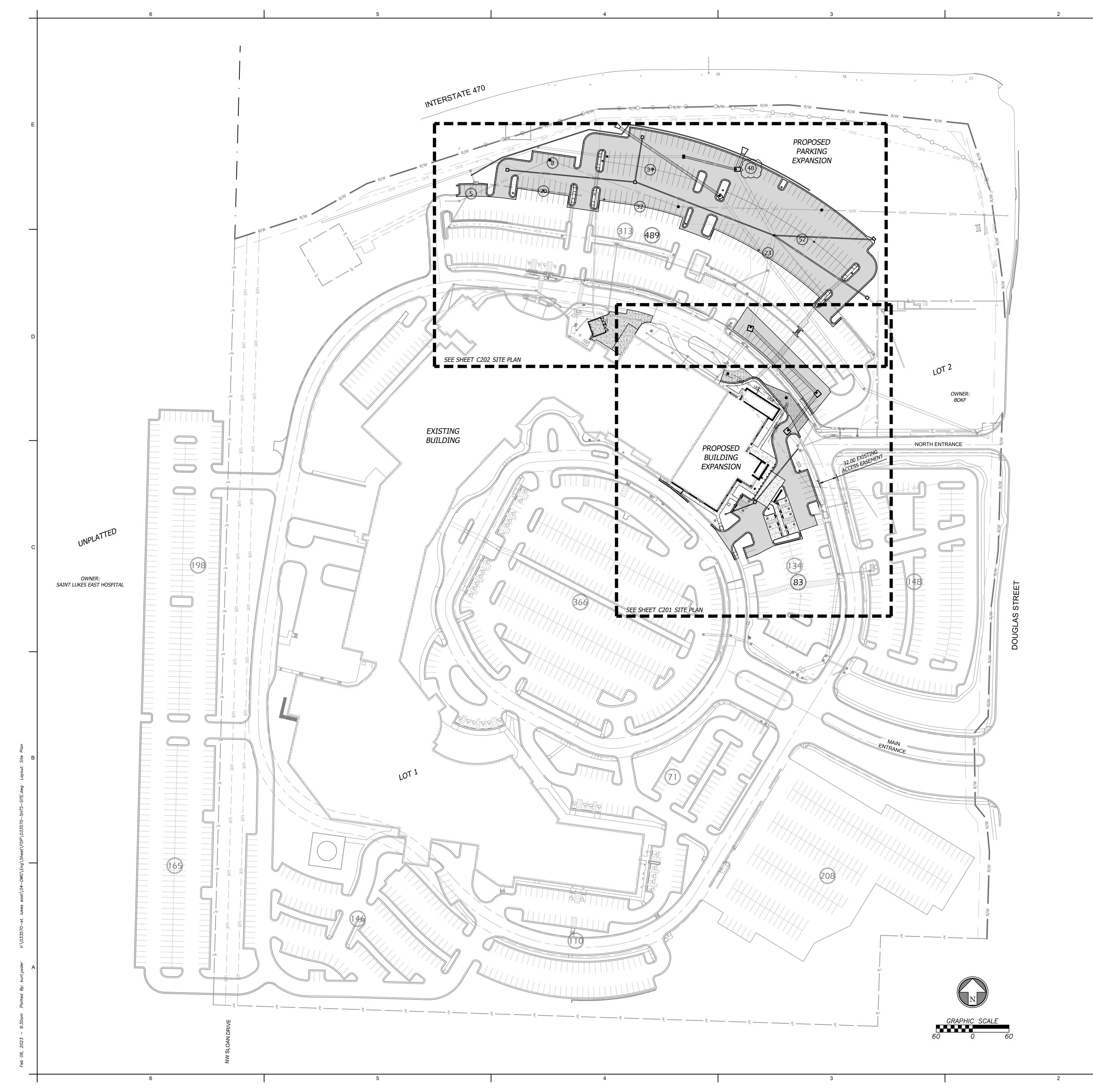
12/22/2022 3-21037 Job Number

Drawn By Checked By

Number Date Description 01 01/20/2023 Addendum 01

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**DEMOLITION PLAN -**PARKING EXPANSION



### **GENERAL NOTES**

- 1. CONTAINING THE NET AREA OF 1,753,967 SQ. FT. OR 40.266 ACRES.
- ELEVATIONS ARE BASED ON USGS DATUM, NAVD 88. 3. CONTOURS ARE SHOWN AT 1 FEET INTERVALS.
- 4. ALL STREETS, STORM SEWER, SANITARY SEWERS AND WATER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT, MISSOURI, DESIGN AND CONSTRUCTION
- 5. TYPE "CG-1" CONCRETE CURB & GUTTER SHALL BE USED THROUGHOUT THIS PROJECT. SEE
- KCAPWA STANDARD DETAIL (C-1). 6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT DESIGN AND
- CONSTRUCTION MANUAL, CITY ORDINANCE NO. 5813 7. THE WATER & SANITARY SEWER UTILITY CONTACT IS WATER UTILITIES DEPARTMENT, OPERATIONS DIVISIONS AT (816) 969-1940.

#### **BENCHMARKS**

BENCHMARK NUMBER: 1

CHISELED SQUARE ON THE FRONT FACE OF A DUAL MANHOLE CURB INLET, LOCATED 49.8 FEET NORTHWEST OF THE NORTHEAST CORNER OF THE NORTH END OF SAINT LUKE'S HOSPITAL.

ELEVATION= 982.88

BENCHMARK NUMBER: 2 CHISELED SQUARE ON THE FRONT FACE OF A CURB INLET, LOCATED ±97.4 FEET SOUTHWEST OF THE SOUTHEAST CORNER ON THE NORTH END SAINT LUKE'S HOSPITAL.

ELEVATION= 979.35

#### **LEGAL DESCRIPTION**

LOT 1 OF SAINT LUKE'S HOSPITAL OF LEE'S SUMMIT LOTS 1 AND 2

A SUBDIVISION IN THE CITY OF LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

	SITE DATA	
	EXISTING	PROPOSED
SITE		
SITE AREA	40.2	7 AC
	1,753,	967 SF
IMPERVIOUS AREA	1,094,938 SF (62.4%)	1,177,915 SF (67.2%)
PERVIOUS AREA	653,391 SF (37.4%)	570,414 SF (33.0%)
BUILDING		
BUILDING AREA	593,626 SF	655,840 SF
FLOOR AREA RATIO	0.34	0.37
ENERGY CENTER	18,49	95 SF
BASEMENT	14,50	00 SF
EMERGENCY CENTER	13,2.	12 SF
DIAGNOSTIC	24,40	00 SF
3-STORY MOB	59,49	99 SF
2-STORY HOSPITAL ADDITION	38,4.	36 SF
3-STORY HOSPITAL ADDITION	55,50	00 SF
HOSPITAL	251,0	18 SF
SURGERY CENTER	15,50	63 SF
2ND STORY ON SURGERY CENTER	18,68	82 SF
O.R. EXPANSION	7,78	9 SF
EMERGENCY ROOM EXPANSION	3,74	2 SF
CATH LAB ADDITION	3,76	8 SF
EMERGENCY ROOM EXPANSION	5,45	34 SF
2-STORY SURGERY CENTER	24,85	52 SF
RADIATION ONCOLOGY/UROLOGY	2,92	0 SF
O.R. HOSPITAL ADDITION	<u>'</u>	47 SF
FLEX FACILITY EXPANSION	24,94	49 SF
3-STORY SURGERY CENTER		62,214 SF
PARKING		
REQUIRED:		
1.8 SPACES PER BED (242 BEDS)		436
5 SPACES PER 1000 SF OFFICE SPACE (178,000 SF)		890
TOTAL REQUIRED PARKING		1326
PARKING STALLS	1,859	(1,983)
HANDICAP STALLS	36	41

## **ZONING**

CP-2 (PLANNED GENERAL BUSINESS DISTRICT)

### SITE LEGEND

EXISTING PARKING STALL COUNT PROPOSED PARKING STALL COUNT

ASPHALT PAVEMENT CONCRETE PAVEMENT CONCRETE SIDEWALK

STANDARD CURB & GUTTER RETAINING WALL

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OVERALL SITE PLAN

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Missouri: #000958

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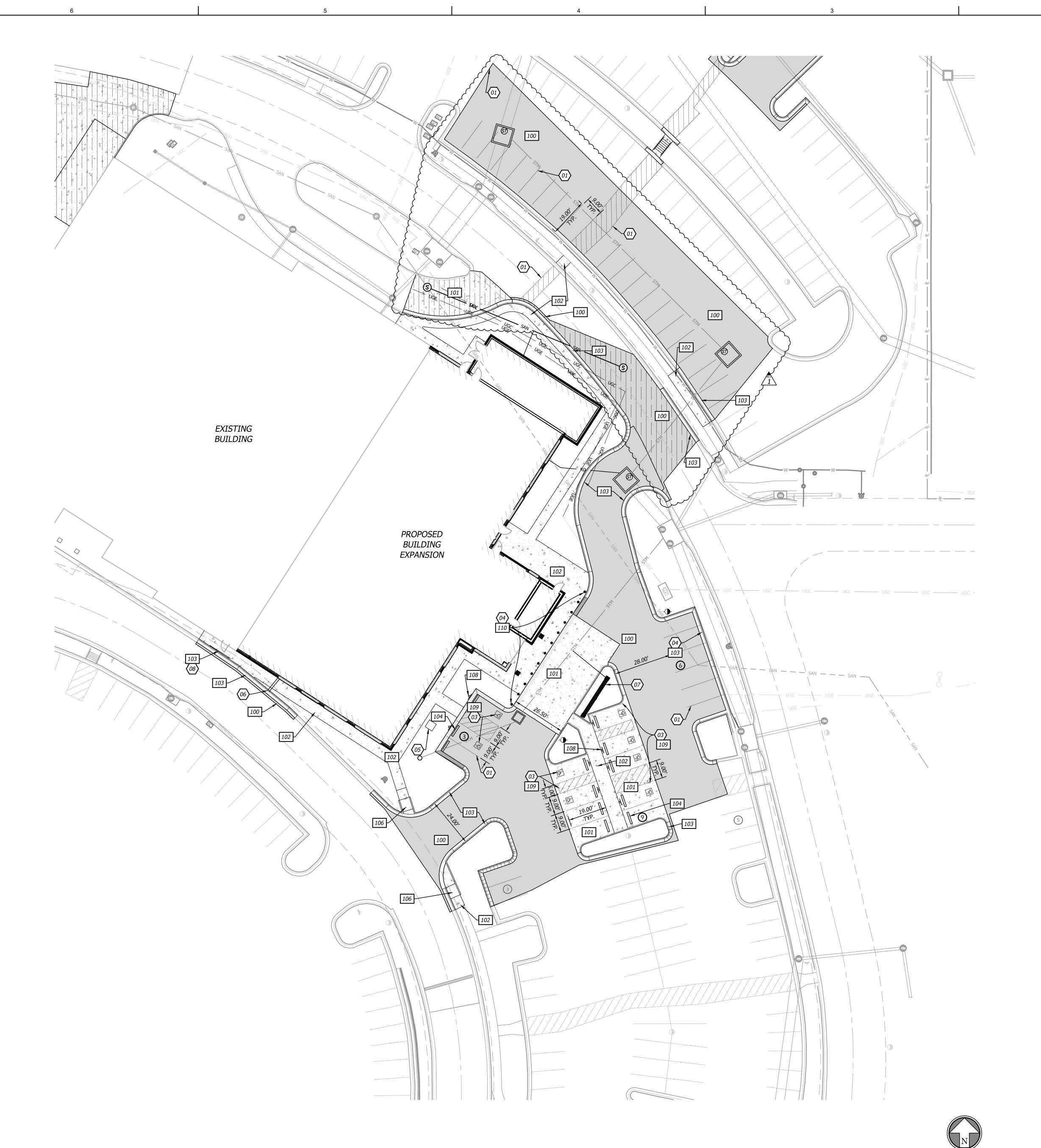
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- 01 LEAD FREE, WATER-BORNE EMULSION BASED TRAFFIC PAINT FOR PARKING LOT STRIPING (WHITE ON
- ASPHALT & YELLOW ON CONCRETE).
  PROPOSED SITE LIGHTING; REFER TO LIGHTING PLANS.
- ADA PARKING AREA. 1.5% MAXIMUM SLOPE IN ANY DIRECTION. INSTALL CONCRETE BOLLARDS 6 FT APART.
- PROPOSED ACCESS LID TO EXISTING TUNNEL. DESIGN OF CONCRETE ACCESS AND LID BY STRUCTURAL. PROPOSED 6" TRENCH DRAIN THROUGH SIDEWALK WITH SOLID LID FOR OVERFLOW DRAIN FROM
- BUILDING. TRENCH DRAIN TO DRAIN TO PAVEMENT THROUGH CURB. TRENCH DRAIN TO BE EVERGRATE T-06C DIAMOND CONNECTED TO AN EVERGRATE C-646T CURB OPENING OR APPROVED EQUAL.
  PROPOSED CANOPY AND FOOTING. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
- 08 INSTALL 12 FT LENGTH OF HANDRAIL CENTERED ON THE BUILDING DOOR. HAND RAIL POSTS ARE TO BE 4" MINIMUM FROM BACK OF CURB PARALLEL WITH BUILDING WALL.

### **DETAILS**

SEE CONSTRUCTION DETAILS - SHEETS C700-C702

- 100 ASPHALT PAVEMENT
- 101 CONCRETE PAVEMENT
- 102 CONCRETE SIDEWALK SECTION
- 103 CONCRETE CURB & GUTTER
- 104 CONCRETE WHEEL STOP SIDEWALK RAMP
- (ADA) HANDICAP PARKING SIGNAGE
- 109 (ADA) HANDICAP PARKING STRIPING
- 110 STEEL/CONCRETE BOLLARD 111 HANDRAIL

### **ZONING**

CP-2 (PLANNED COMMUNITY COMMERCIAL)

### SITE LEGEND

EXISTING PARKING STALL COUNT

EXISTING BUILDING

- PROPOSED PARKING STALL COUNT

DRY CURB & GUTTER

TRANSITION CURB ASPHALT PAVEMENT

HEAVY DUTY ASPHALT PAVEMENT

CONCRETE SIDEWALK

HEAVY DUTY CONCRETE PAVEMENT



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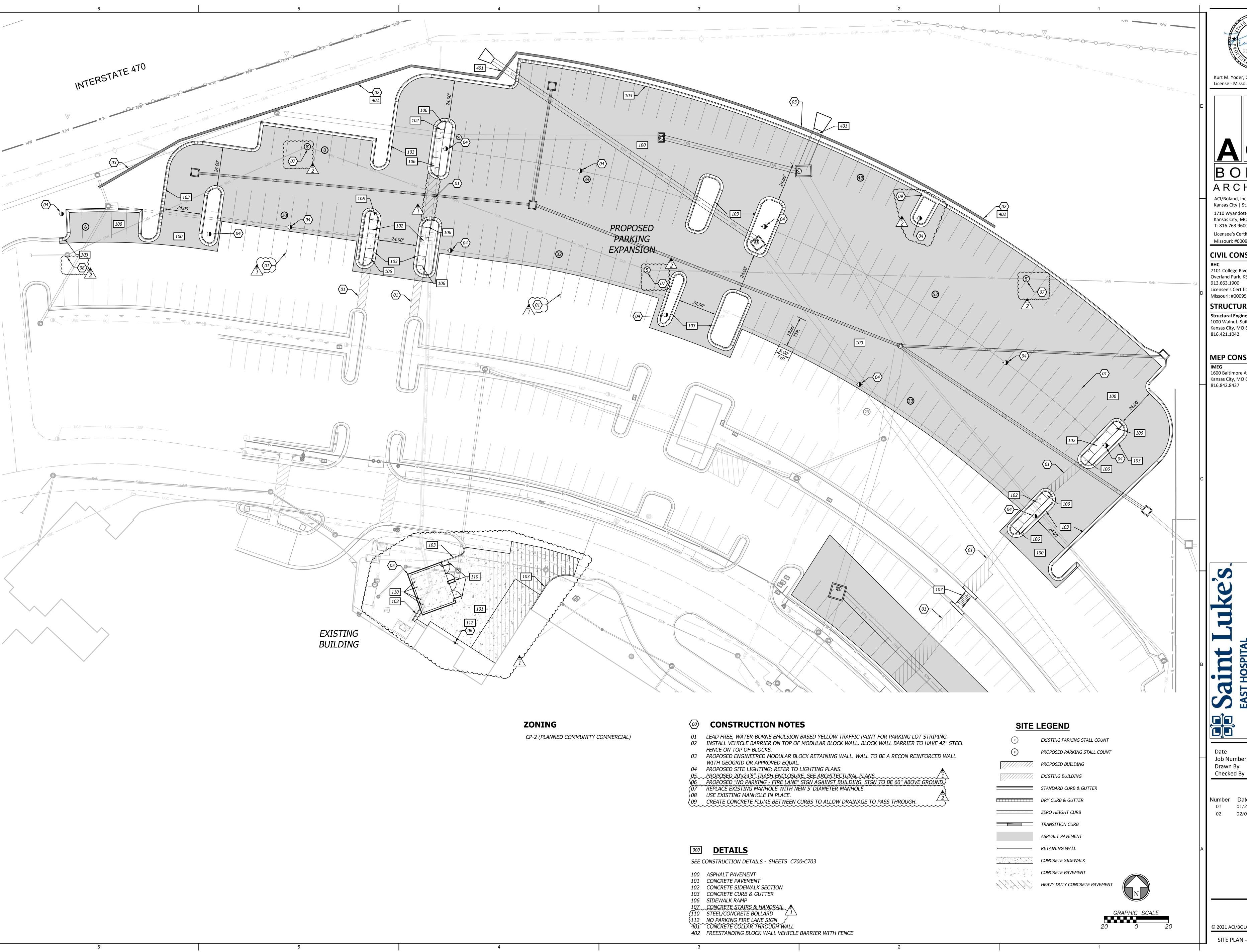
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SITE PLAN - BUILDING EXPANSION



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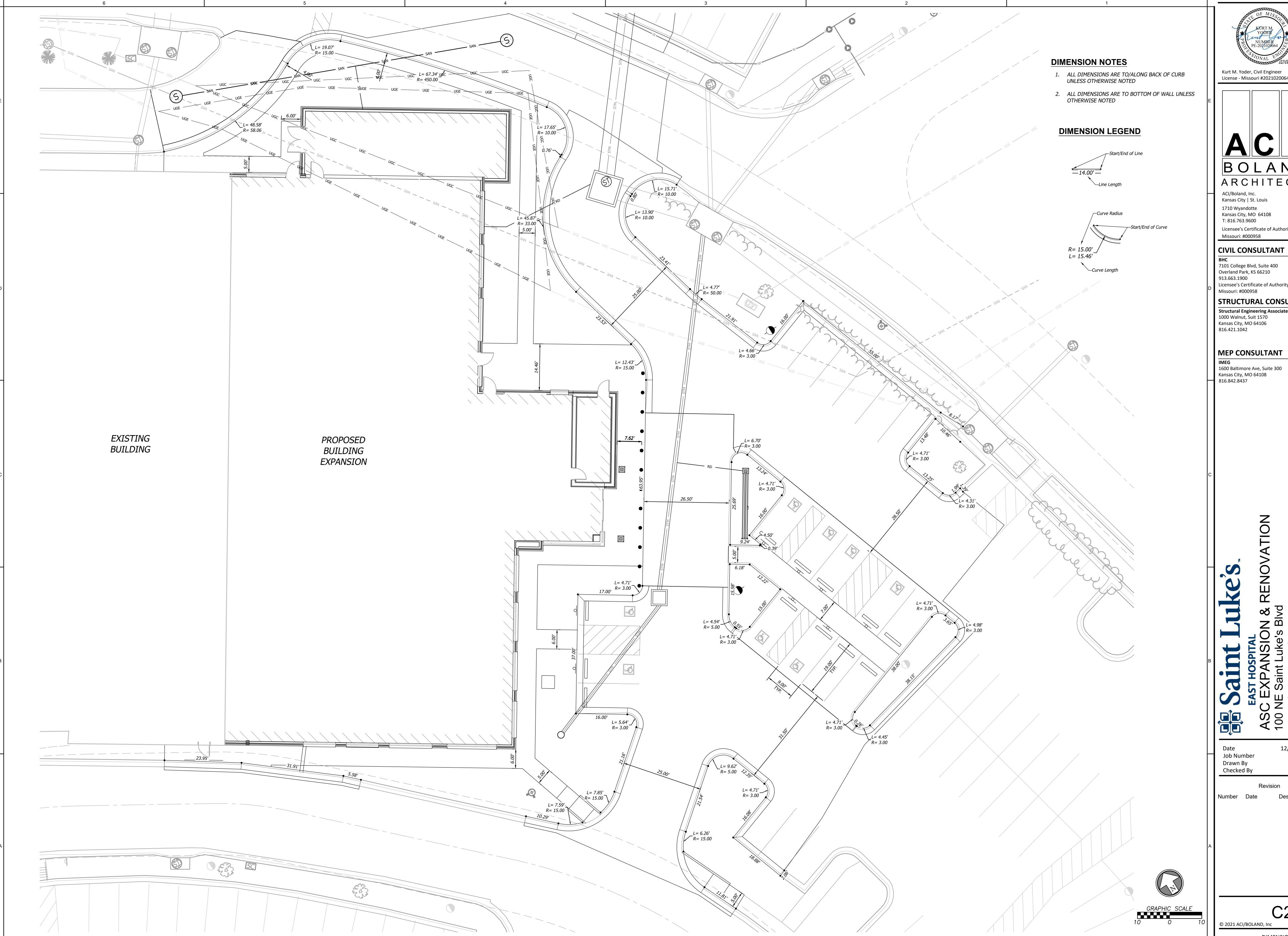
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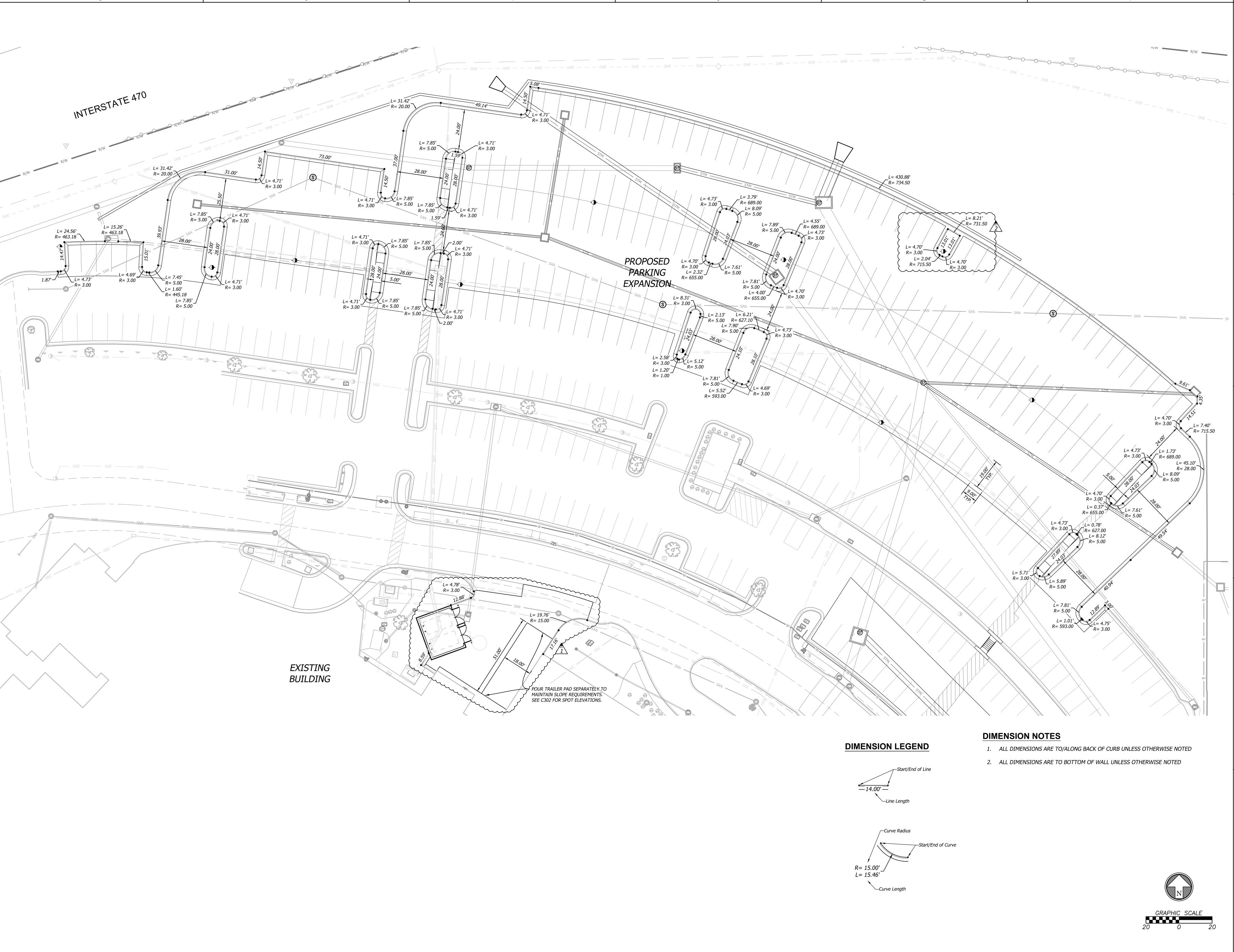
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DIMENSION PLAN -BUILDING EXPANSION





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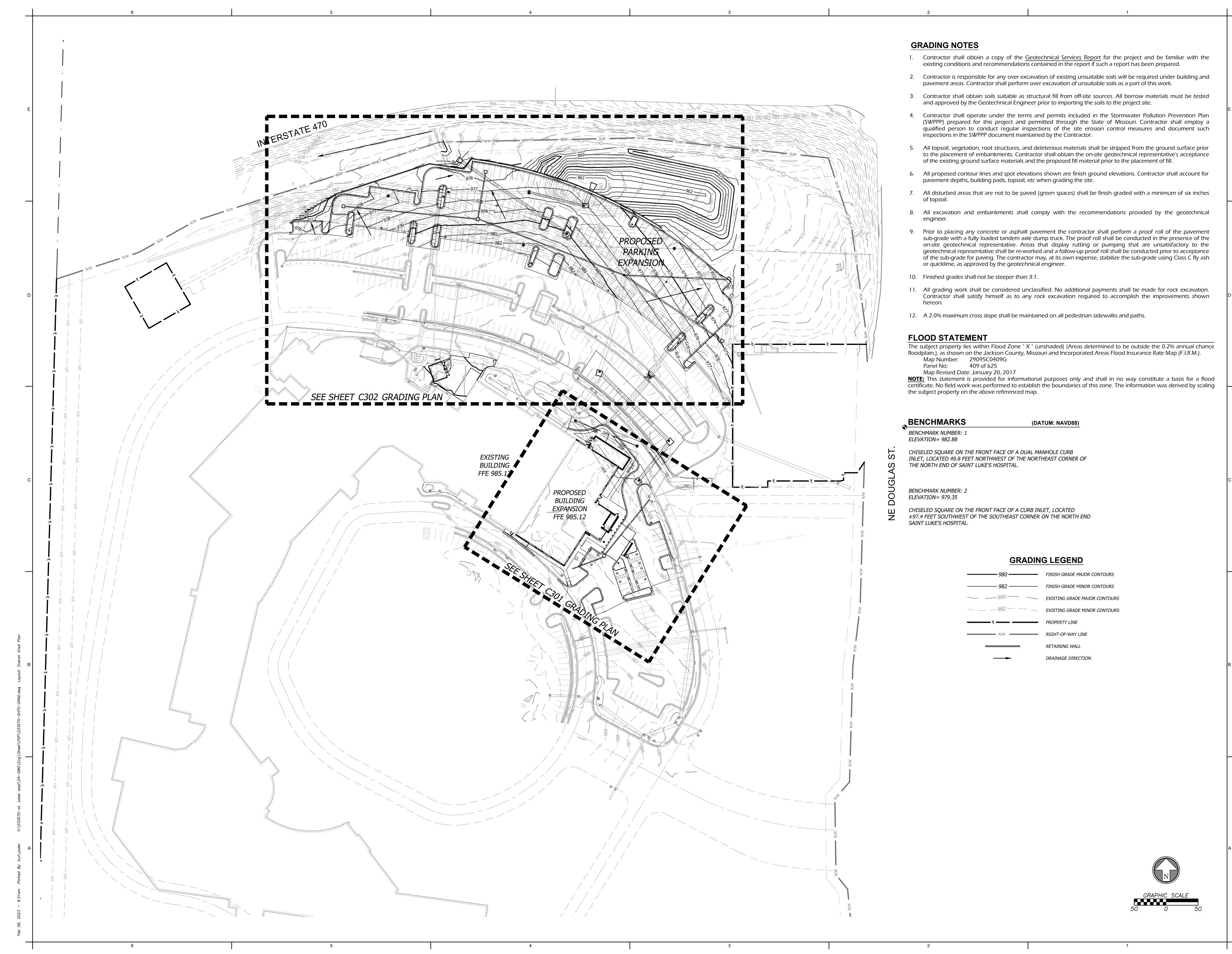
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DIMENSION PLAN -PARKING EXPANSION







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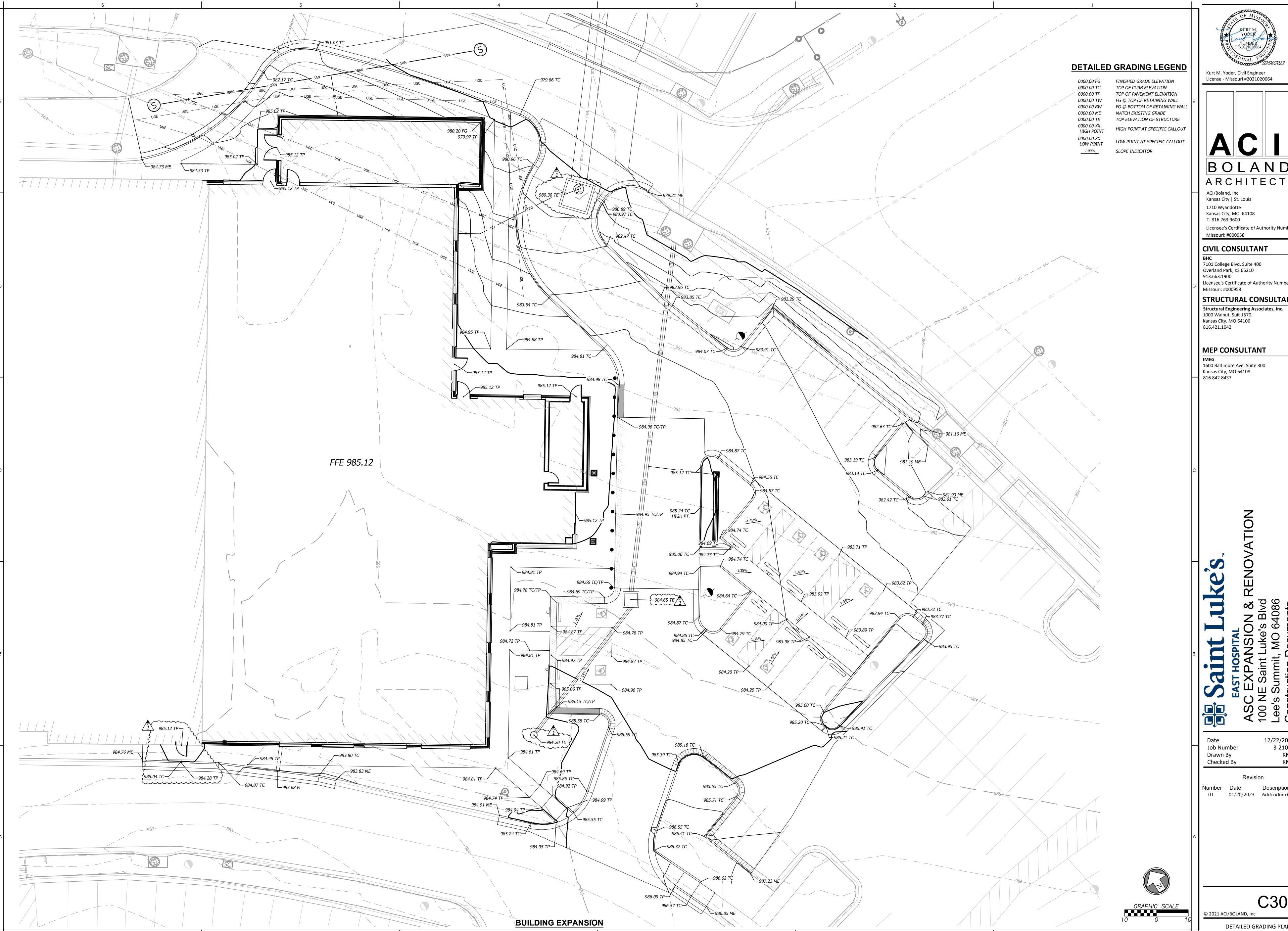
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OVERALL GRADING PLAN





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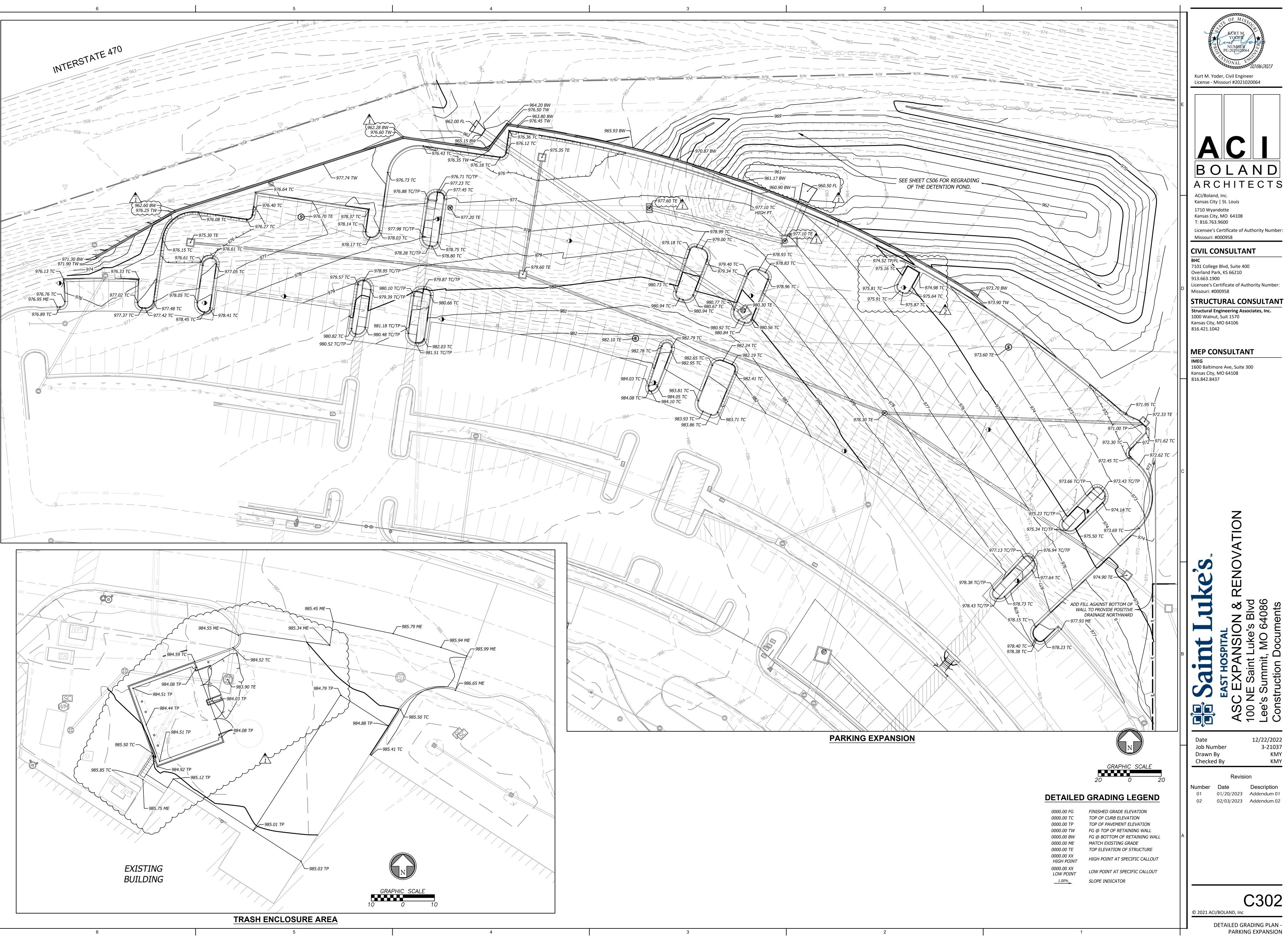
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DETAILED GRADING PLAN -BUILDING EXPANSION



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### **EROSION AND SEDIMENT CONTROL GENERAL NOTES**

1. Prior to Land Disturbance activities, the contractor shall:

• Delineate the outer limits of any natural stream corridor designated with construction fencing.

• Install perimeter controls and request the inspection of the pre-construction erosion and sediment control measures designated on the approved erosion and sediment control plan. Land disturbance work shall not proceed until there is

• Identify the limits of construction on the ground with easily recognizable indications such as construction staking, construction fencing, and placement of physical barriers or other means acceptable to the City inspector and in conformance with the erosion and sediment control plan.

2. The contractor shall comply with all requirements of the Storm Water Pollution Prevention Plan, including but not limited to: • The contractor shall seed, mulch, or otherwise stabilize any disturbed area where the land disturbance activity has ceased for more than 14 days.

• The contractor shall perform inspections of erosion and sediment control measures at the following minimum intervals: o During active construction phases - at least once per week

o During periods of inactivity - at least once per 14 days o After each rainfall event of ½ inch or more - within 24 hours of the rain event

• The contractor shall maintain an inspection log including the inspector's name, date of inspection, observations as to the effectiveness of the erosion and sediment control measures, actions necessary to correct deficiencies, when the deficiencies were corrected, and the signature of the person performing the inspection. The inspection log shall be

available for review by the regulatory authority. • The contractor shall have the erosion and sediment control plan routinely updated to show all changes and amendments to the plan. A copy of the erosion and sediment control plan shall be kept on site and made available for review by the regulatory authority.

3. Unless otherwise noted in the plans, all seeding must conform to Division Il-Construction and Materials Specification-Section 2150 published by the Kansas City Metropolitan Chapter of the American Public Works Association dated May 21, 2008. Permanent seeding shall be installed after completion of final grading except when seeding will occur outside of the acceptable seeding season as specified in Section 2150. When temporary seeding is installed, permanent seeding shall be installed at the next seeding season. Temporary seeding shall not be used as a stabilization measure for a period exceeding 12 months. The Permit will not be closed until permanent seeding has been established to a minimum of 70% density over the entire disturbed area.

4. The contractor shall maintain installed erosion and sediment control devices in a manner that preserves their effectiveness for preventing sediment from leaving the site or entering a sensitive area such as a natural stream corridor, areas of the site intended to be left undisturbed, a storm sewer, or an on-site drainage channel.

5. The contractor is responsible for providing erosion and sediment control for the duration of a project. If the City determines that the BMPs in place do not provide adequate erosion and sediment control at any time during the project, the contractor shall install additional or alternate measures that provide effective control.

6. Concrete wash or rinse water from concrete mixing equipment, tools and/or ready-mix trucks, tools, etc. may not be discharged into or be allowed to run directly into any existing water body or storm inlet. One or more locations for concrete wash out will be designated on site, such that discharges during concrete washout will be contained in a small area where waste concrete can solidify in place.

7. Chemicals or materials capable of causing pollution may only be stored onsite in their original container. Materials stored outside must be in closed and sealed water-proof containers and located outside of drainage ways or areas subject to flooding. Locks and other means to prevent or reduce vandalism shall be used. Spills will be reported as required by law and immediate actions taken to contain them.

8. Silt fences and erosion control BMPs which are shown along the back of curb must be installed within two weeks of curb backfill and prior to placement of base asphalt. Exact locations of these erosion control methods may be field adjusted to minimize conflicts with utility construction; however, anticipated disturbance by utility construction shall not delay

9. Interior Silt Fence as necessary during construction. Portions may be limited as vegetation is established and hardscape is installed. Entire length may be installed at the contractor's option to aid in stabilizing slopes.

10. Private Erosion & Sediment Control inspections are required in accordance with NPDES schedule and requirements. After inspections, provide the City of Lee's Summit with reports and documentation.



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OVERALL EROSION CONTROL PLAN

### **EROSION AND SEDIMENT CONTROL GENERAL NOTES**

See Sheet C303 for Erosion Control Notes.



**EROSION CONTROL LEGEND** 

FINAL SEEDING (SOD &/OR LANDSCAPING) INLET PROTECTION FILTER BAGS

— — SF — SILT/SEDIMENT FENCE

EROSION & SEDIMENT CONTROL STAGING CHART					
Phase	Project Stage	BMP Plan Ref. No.	BMP Description	Remove After Stage:	Notes:
Phase I (PRE-CON)	A — Place BMP's Prior to Land Disturbance	01)	Perimeter Silt Fence	Ε	Place as shown on plan
		02)	Construction Entrance & Staging Area	D	Place as shown on plan
		03	Concrete Wash—Out	D	Place as shown on plan
		04)	Existing Inlet Protection	Ε	Place as shown on plan
Phase II (MID-CON)	B — After Stripping, Grubbing, & Mass Grading	05)	Interior Silt Fence	E	Place as shown on plan
	C — After Utility Storm Sewer Construction	06)	Storm Inlet Protection	D	Place as shown on plan
Phase III (POST—CON)	D — After Construction of Building and Parking Lot	07)	Steep Slope Protection	E	Place as shown on plan
	E — Final Grading, Paving & Landscaping	08	Final Seeding, Sod, and Landscaping	N/A	Silt fencing & inlet protect may be removed once seed & sodded areas are established on 80% of site.

## 000 **DETAILS**

SEE EROSION CONTROL DETAIL SHEET FOR THE FOLLOWING

400 TEMPORARY CONSTRUCTION ENTRANCE

401 FILTER FABRIC SILT FENCE

403 CONCRETE WASH-OUT

402 STORM INLET PROTECTION

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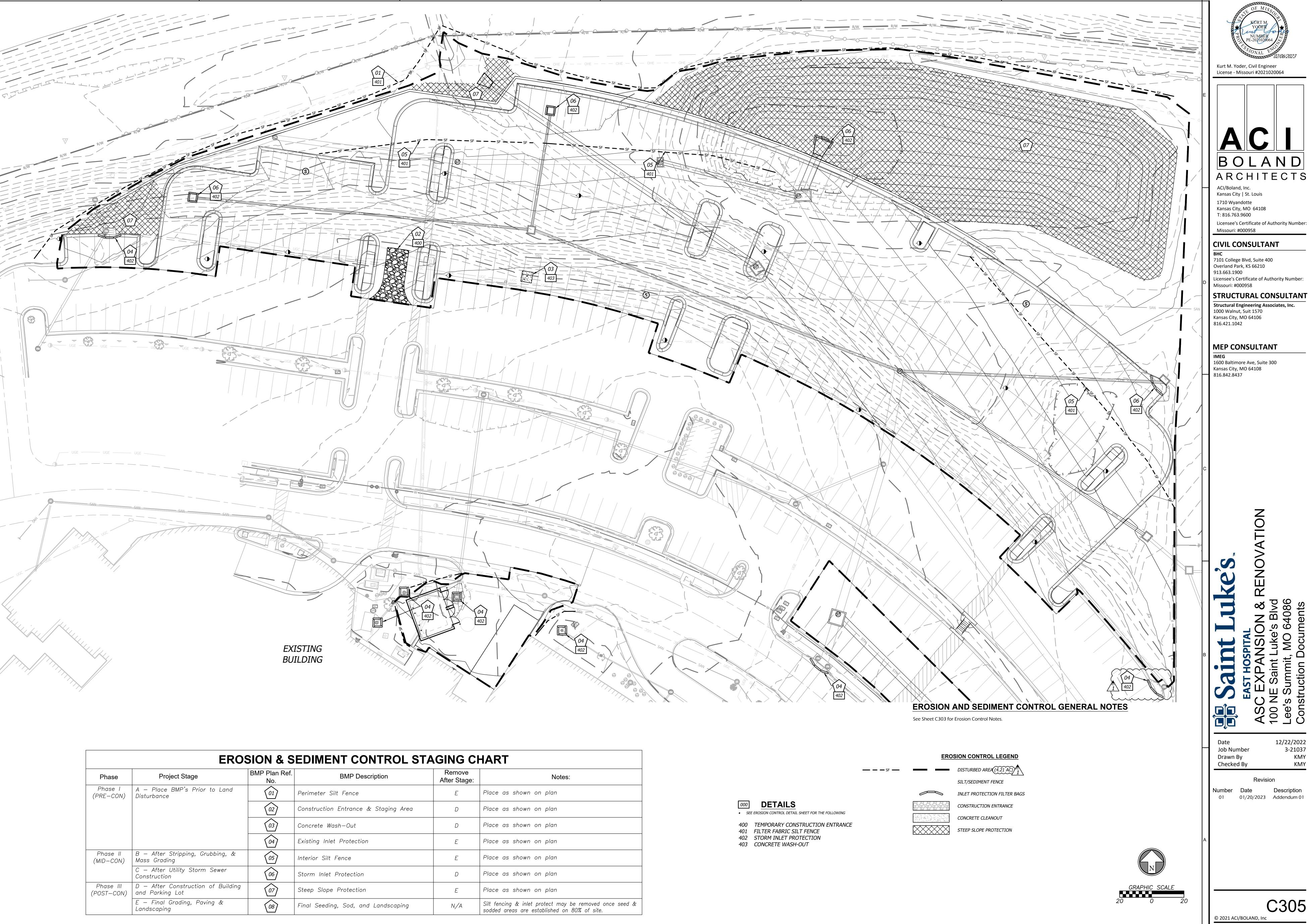
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- BUILDING EXPANSION

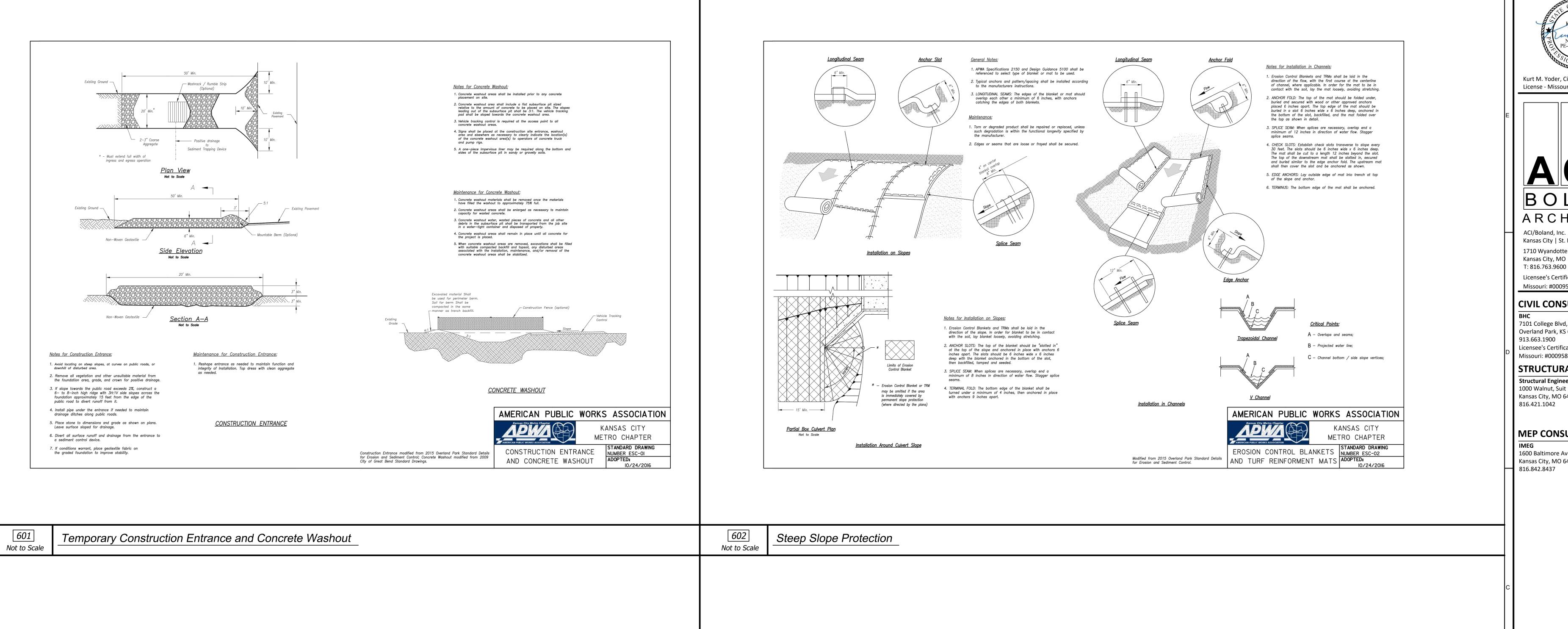


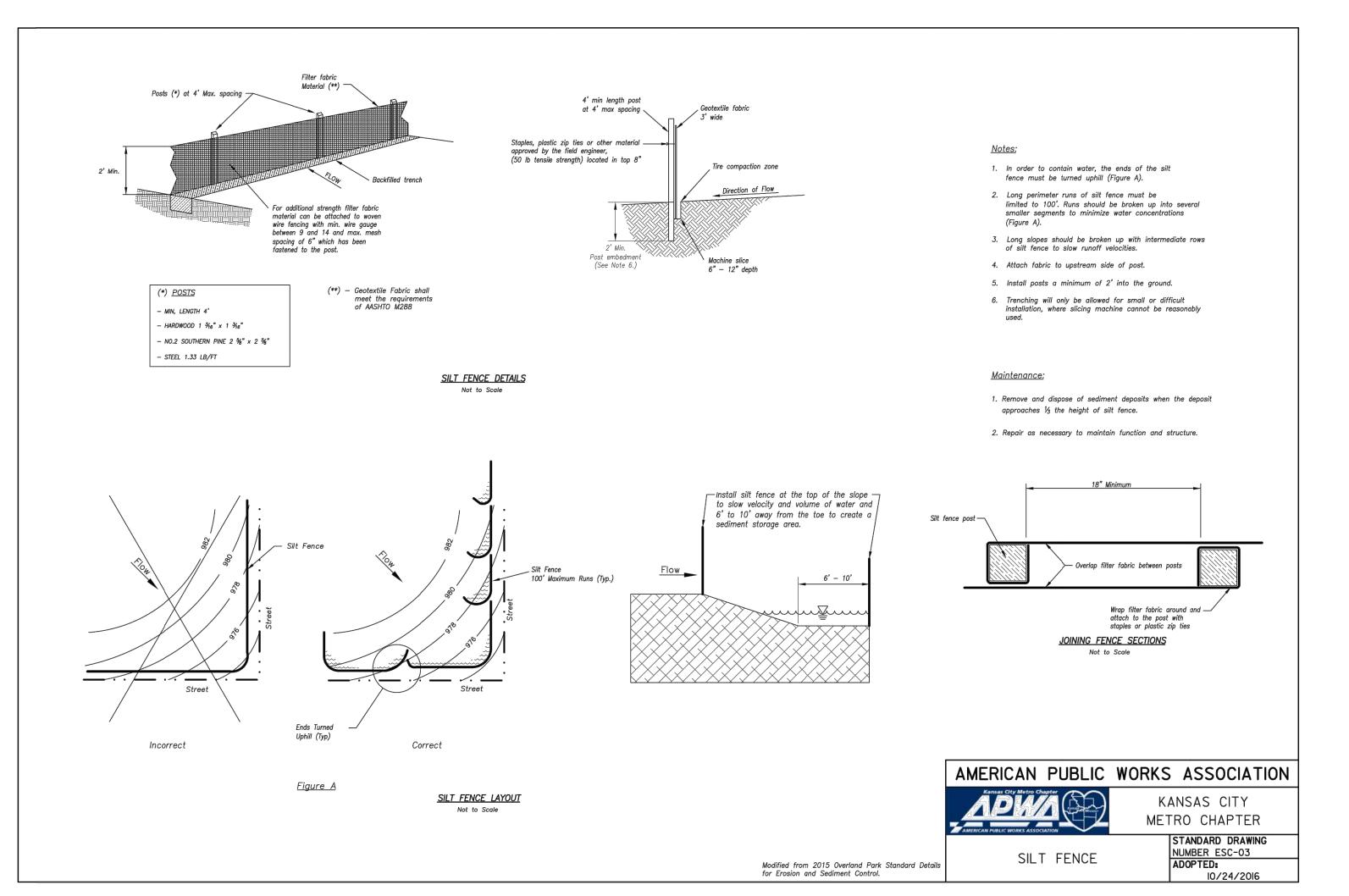


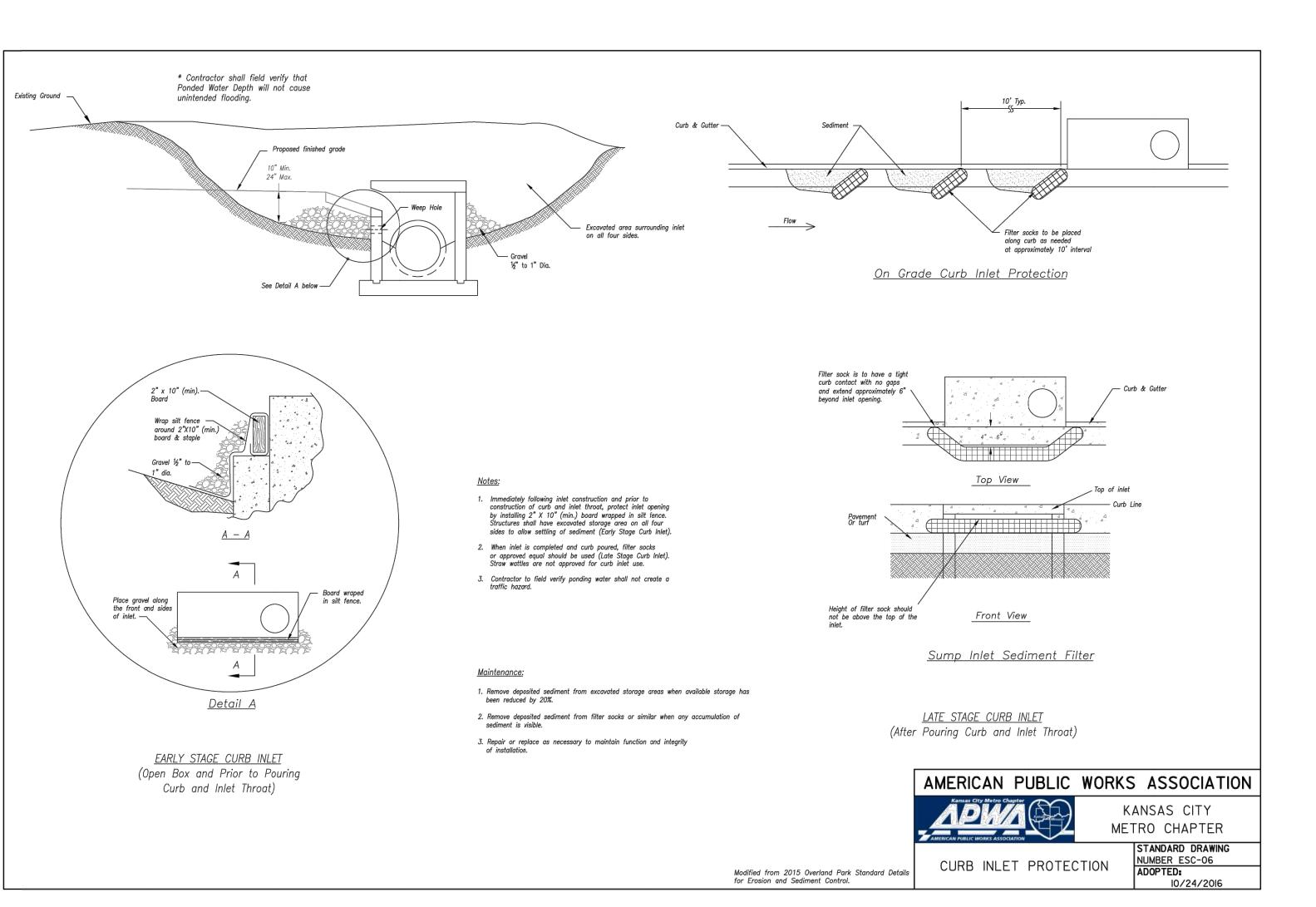
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C305

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Revision

Number Date

C306

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**EROSION CONTROL** DETAILS

603 Silt Fence

Not to Scale

604 Not to Scale

Inlet Protection

### **CONSTRUCTION NOTES**

E - ELECTRIC SERVICE INFORMATION

POWER HOOKUP FOR MOBILE TRAILER IN THIS AREA. SEE ELECTRICAL PLAN FOR SPECS.
POWER HOOKUP ON EACH SIDE OF TRASH ENCLOSURE FOR TRASH COMPACTORS. SEE ELECTRICAL

PLAN FOR SPECS. 03 POWER LINE TO BE RELOCATED AROUND BUILDING. CONTRACTOR TO COORDINATE WITH EVERGY

FOR ROUTE AND EASEMENT RELOCATION.

C - COMMUNICATION INFORMATION

01 TELECOMMUNICATION LINE TO BE RELOCATED AROUND BUILDING. CONTRACTOR TO COORDINATE WITH TELECOMMUNICATION COMPANY FOR ROUTE AND EASEMENT RELOCATION.

SS - SANITARY SEWER INFORMATION - CITY OF LEE'S SUMMIT

02 REPLACE EXISTING MANHOLE. INSTALL CONE AND 5' DIA MANHOLE, INCLUDING NEW BARREL SECTION(S) AS NEEDED. SEE DETAIL 302 ON SHEET C703.

EXISTING TOP ELEVATION = 969.64

03 MANHOLE WAS NOT LOCATED BY SURVEY SO EXACT LOCATION IS UNKNOWN. MANHOLE MAY BE BURIED. REPLACE EXISTING MANHOLE. INSTALL CONE AND NEW 5' DIA MANHOLE, INCLUDING NEW BARREL SECTION(S) AS NEEDED. SEE DETAIL 302 ON SHEET C703. EXISTING FLOW LINE ~ 958.7 (PER GIS INFORMATION) EXISTING TOP ELEVATION ~ 967 (PER GIS INFORMATION)

04 REPLACE EXISTING MANHOLE. INSTALL CONE AND 5' DIA MANHOLE, INCLUDING NEW BARREL SECTION(S) AS NEEDED. SET CONE, RISER RINGS, AND LID. SEE DETAIL 302 ON SHEET C703. EXISTING FLOW LINE = 957.06

05 EXISTING MANHOLE TO REMAIN IN PLACE WITH NO IMPROVEMENTS DONE.

EXISTING TOP ELEVATION = 976.67

06 INSTALL 6" PVC OUT OF BUILDING AND RISER DOWN INTO PROPOSED SANITARY MAIN. FL @ MAIN = 971.12 FL OUT OF BUILDING = 981.00

07 REVISED EASEMENT TO BE RECORDED AFTER SANITARY MANHOLES ARE RAISED.

### **UTILITY NOTES**

50 0 50

- 1. CONTRACTOR SHALL REFER TO ALL SPECIFICATIONS, GUIDELINES, AND INSTALLATION DRAWINGS
- 3. CONTRACTOR TO ENSURE 6" MINIMUM SEPARATION BETWEEN UTILITIES AT CROSSINGS. CONTRACTOR TO CALL CIVIL IF ANY CONFLICTS BETWEEN UTILITIES ARE FOUND.



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ST - STORM SEWER INFORMATION - CITY OF LEE'S SUMMIT

01 SEE STORM SHEETS FOR STORM IMPROVEMENTS.

01 SEE C401 FOR PRIVATE SANITARY MAIN RELOCATION.

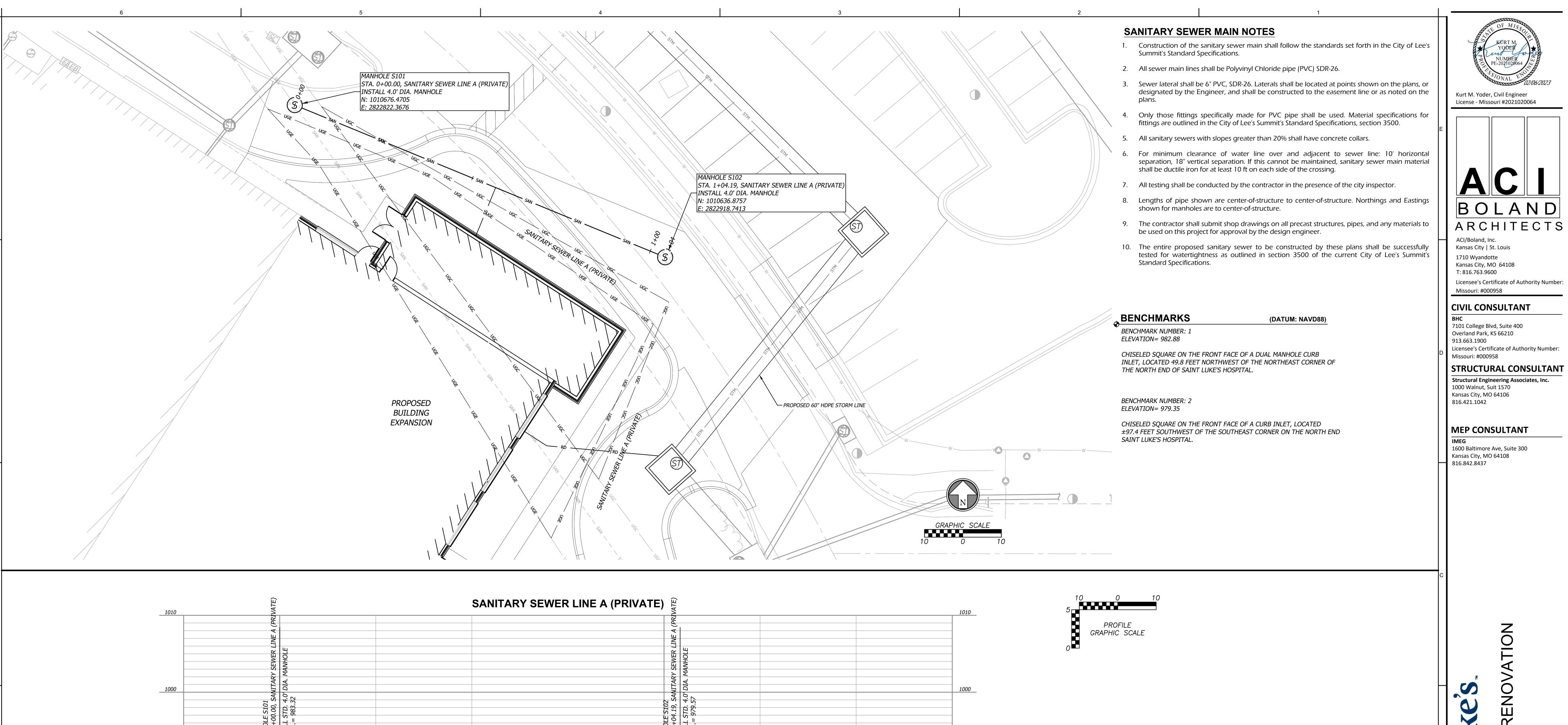
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PROPOSED TOP ELEVATION = 973.63

PROPOSED TOP ELEVATION = 982.14

EXISTING TOP ELEVATION = 966.01 PROPOSED TOP ELEVATION = 976.71

EXISTING FLOW LINE = 955.82



<u>2</u> .....

INSTALL

104.19 L.F.

@ 1.00%

-0+25

(PRIVATE) 2

1+00

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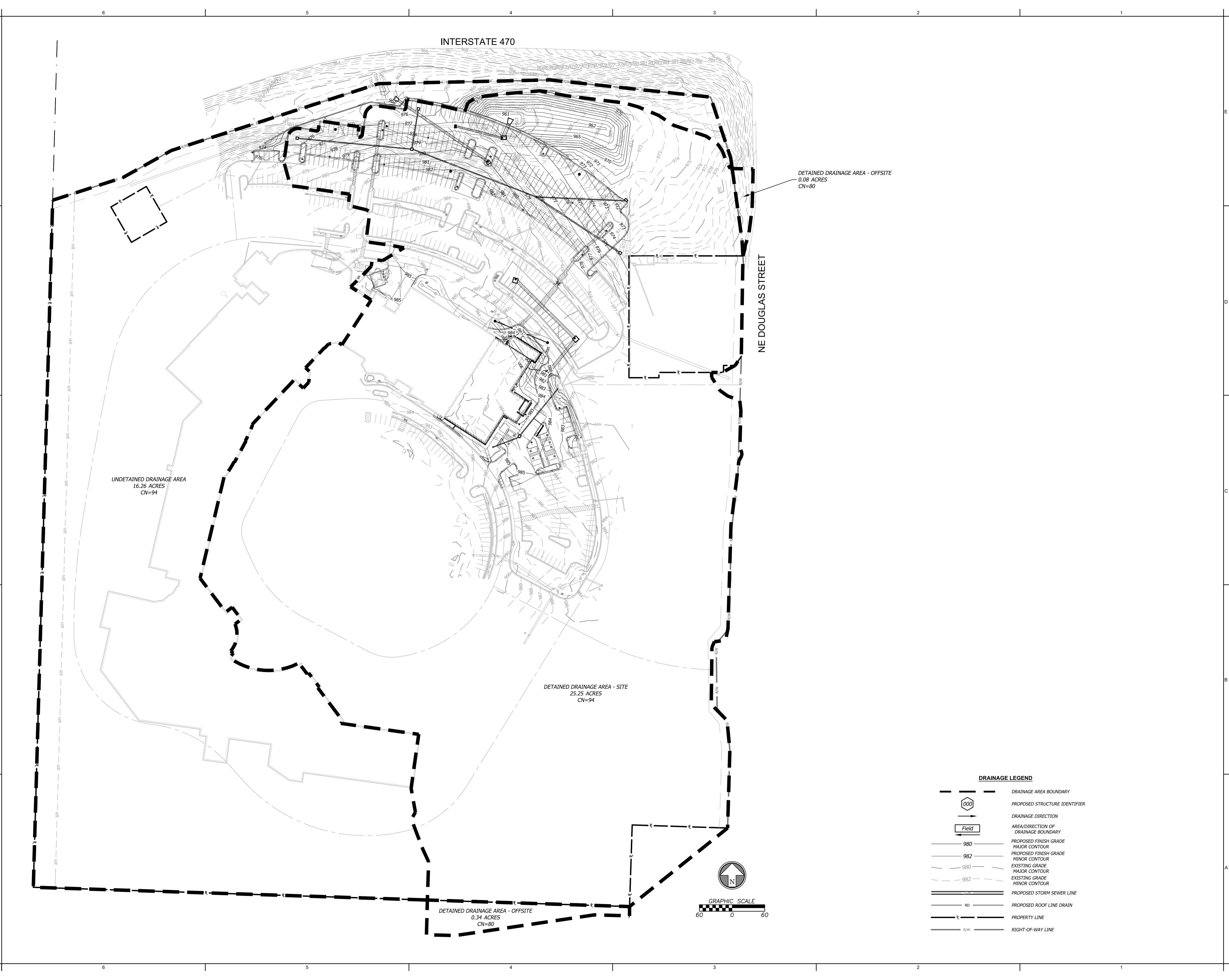
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SANITARY PLAN & PROFILE





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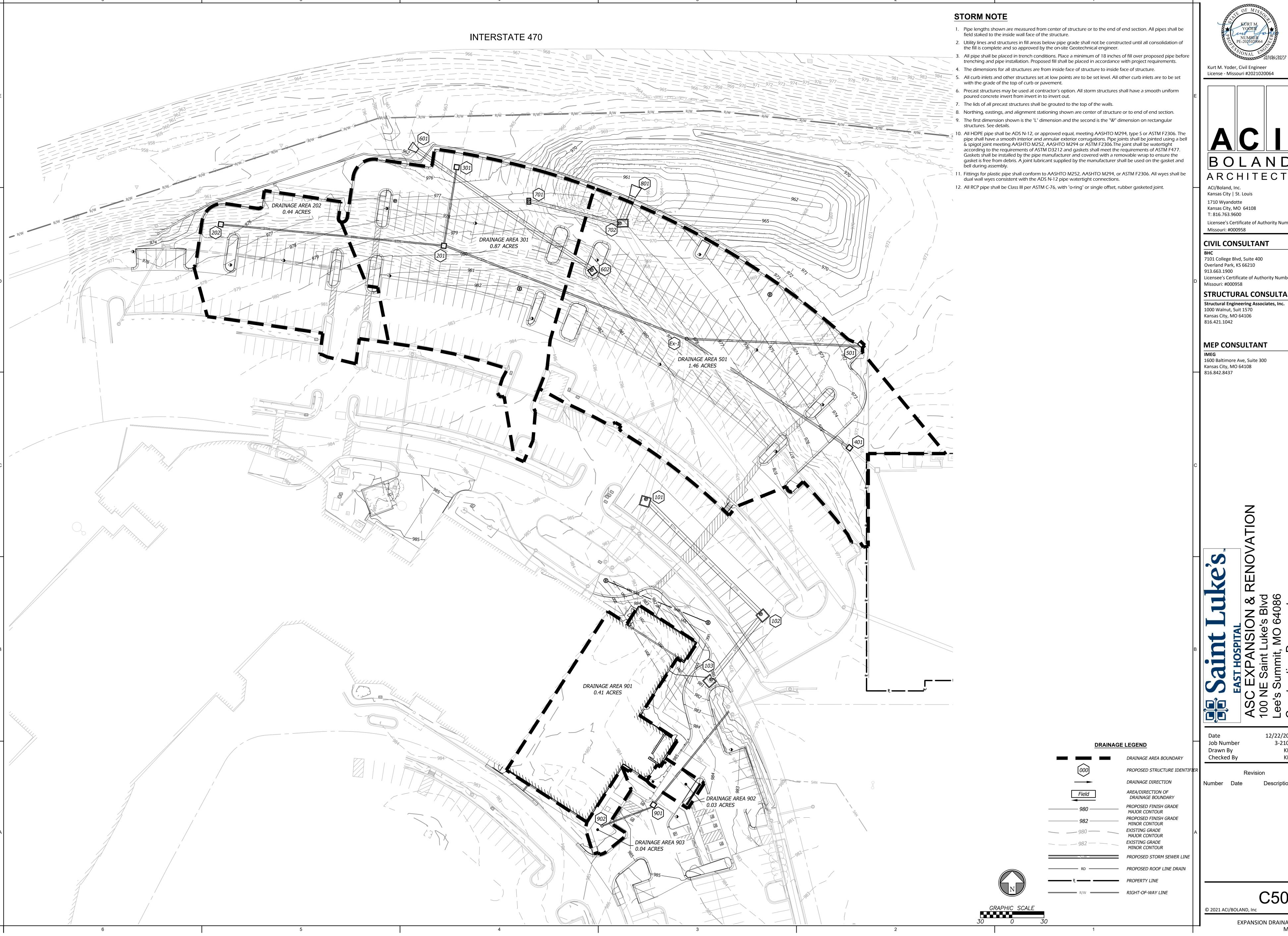
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C500

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OVERALL DRAINAGE MAP





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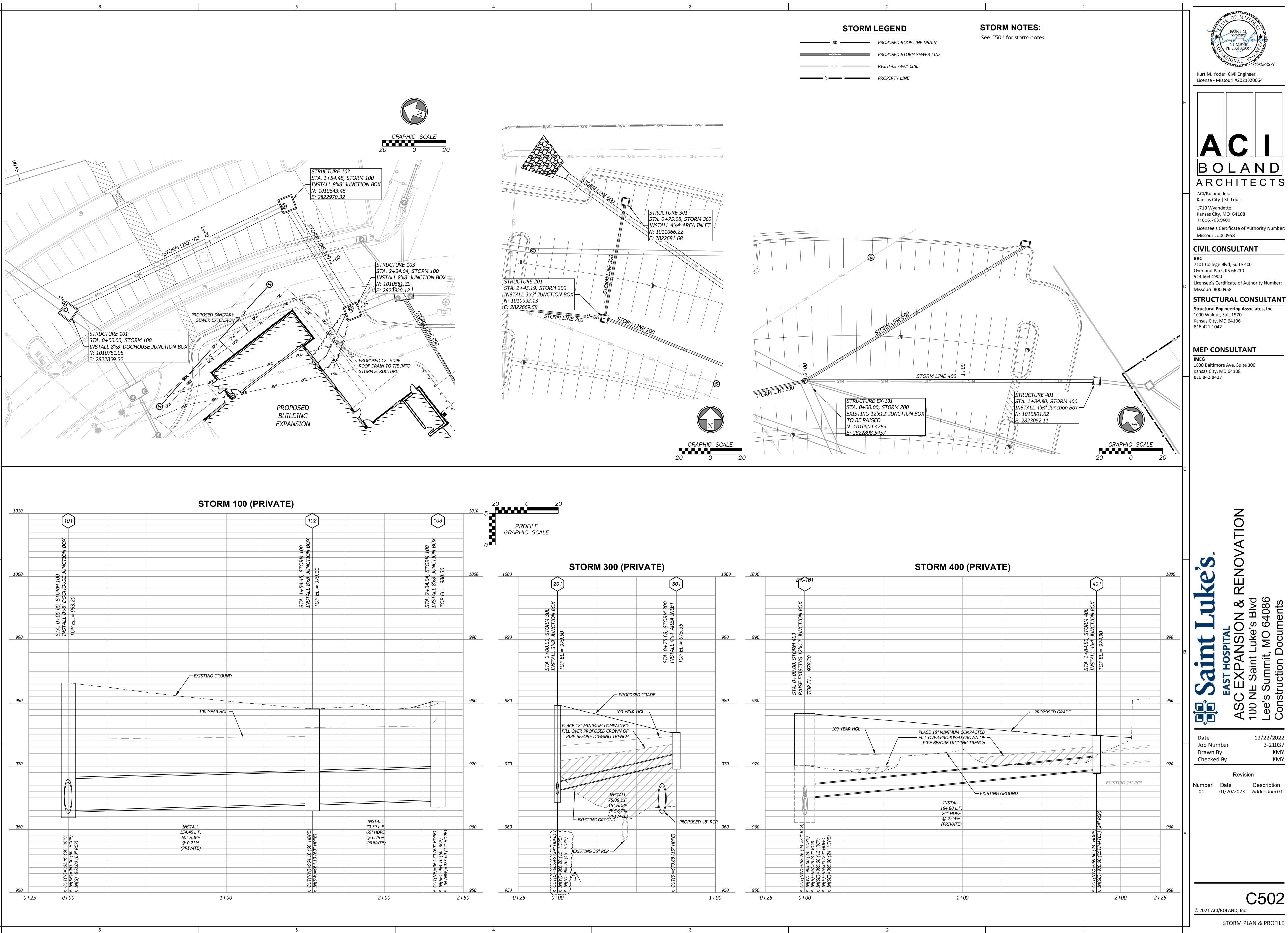
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C501

EXPANSION DRAINAGE MAP



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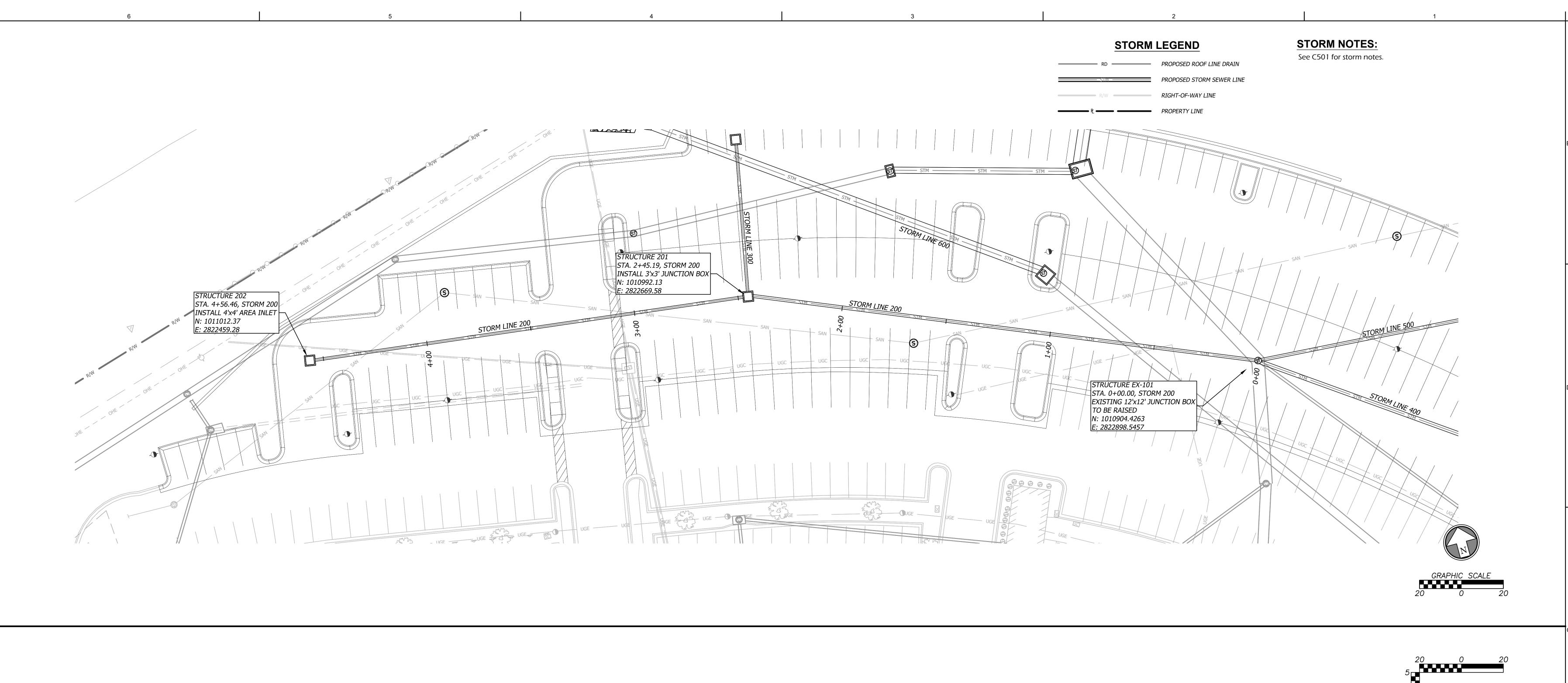
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C502

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STORM 200 (PRIVATE)

\$\left(\text{in}(\text{W}) = 966.20 (15" \text{HDPE}) \\ \text{in}(\text{N}) = 966.20 (15" \text{HDPE}) \\ \text{in}(\text{OUT(E)} = 965.45 (24" \text{HDPE}) \\ \text{in}(\text{Sign}) \\ \text{in}(\te

PLACE 18" MINIMUM COMPACTED

— FILL OVER PROPOSED CROWN OF

PIPE BEFORE DIGGING TRENCH

2+00

PLACE 18" MINIMUM COMPACTED

FILL OVER PROPOSED CROWN OF
PIPE BEFORE DIGGING TRENCH

► EXISTING 12" DIP

4+00

960

*4+75* 

INSTALL 211.27 L.F.

15" HDPE

@ 2.13%

EXISTING 12" DIP

3+00

– PROPOSED GRADE

EXISTING GROUND

INSTALL 245.19 L.F. 24" HDPE @ 1.00% 1

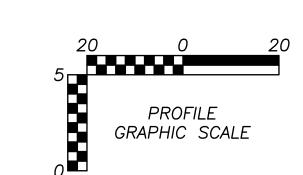
1+00

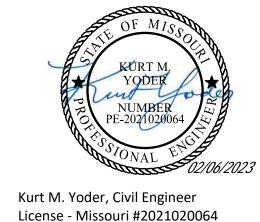
EXISTING 12" PVC —

1 IN(W)=963.00 (24" HDPE) 1 IN(S)=962.28 (42" RCP) 1 IN(SE)=965.08 (12" RCP) 1 IN(E)=965.00 (24" HDPE) 1 IN(SE)=965.00 (24" HDPE) 2 IN(SE)=965.00 (24" HDPE) 2 IN(SE)=965.00 (24" HDPE)

0+00

-0+25





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7101 College Blvd, Suite 400 Overland Park, KS 66210 913.663.1900 Licensee's Certificate of Authority Number: Missouri: #000958 STRUCTURAL CONSULTANT

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MEP CONSULTANT

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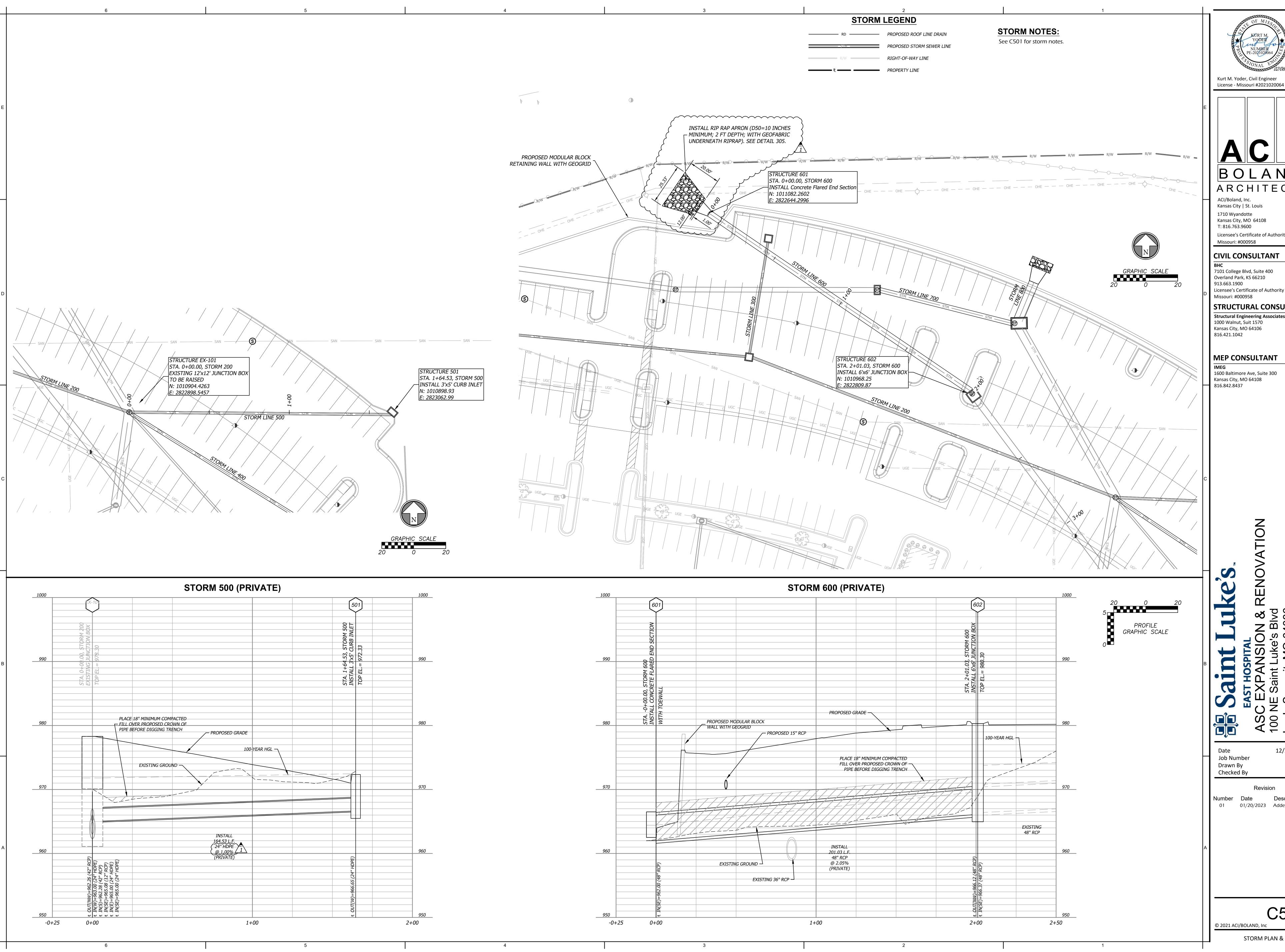
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Kurt M. Yoder, Civil Engineer

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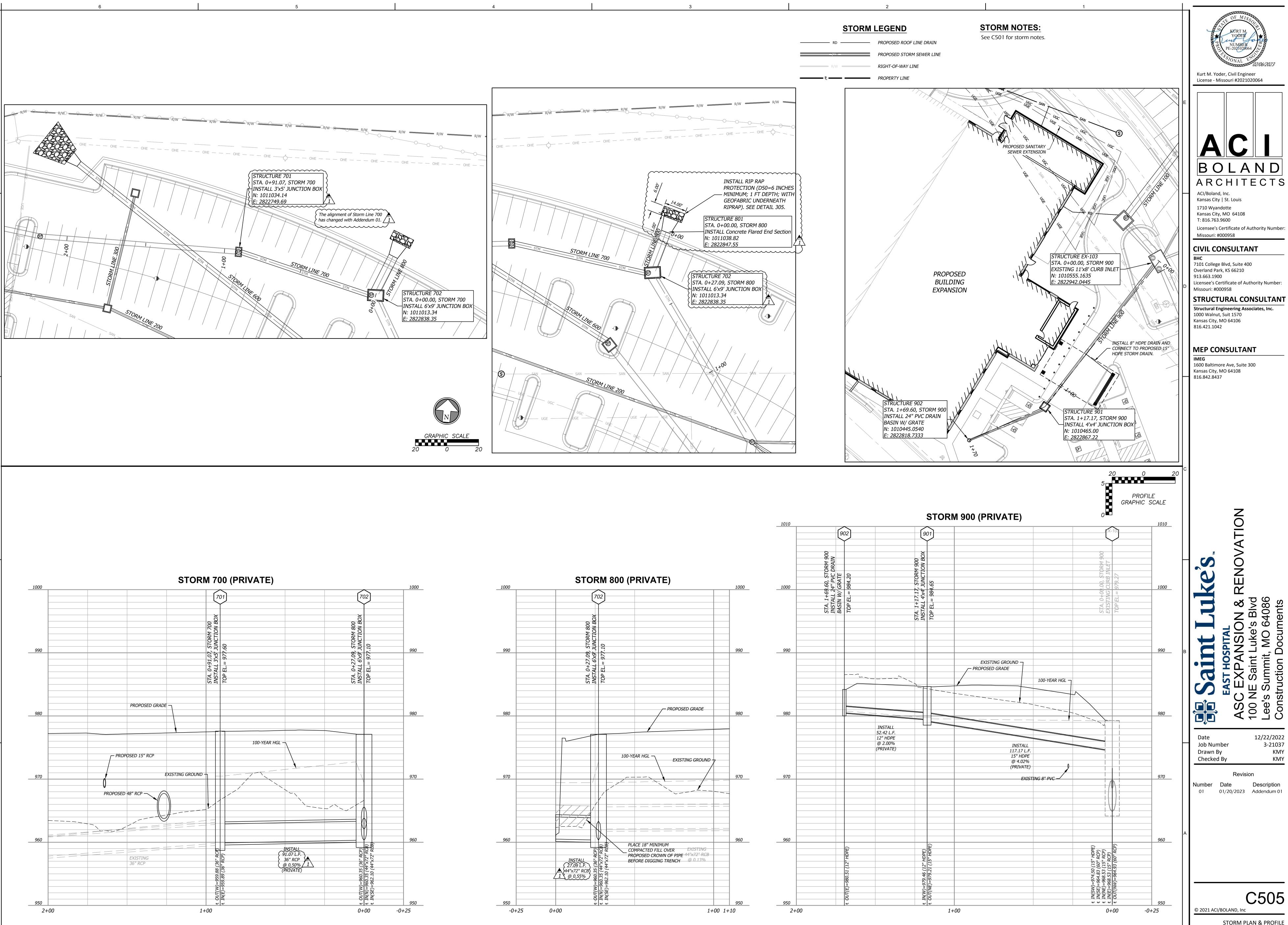
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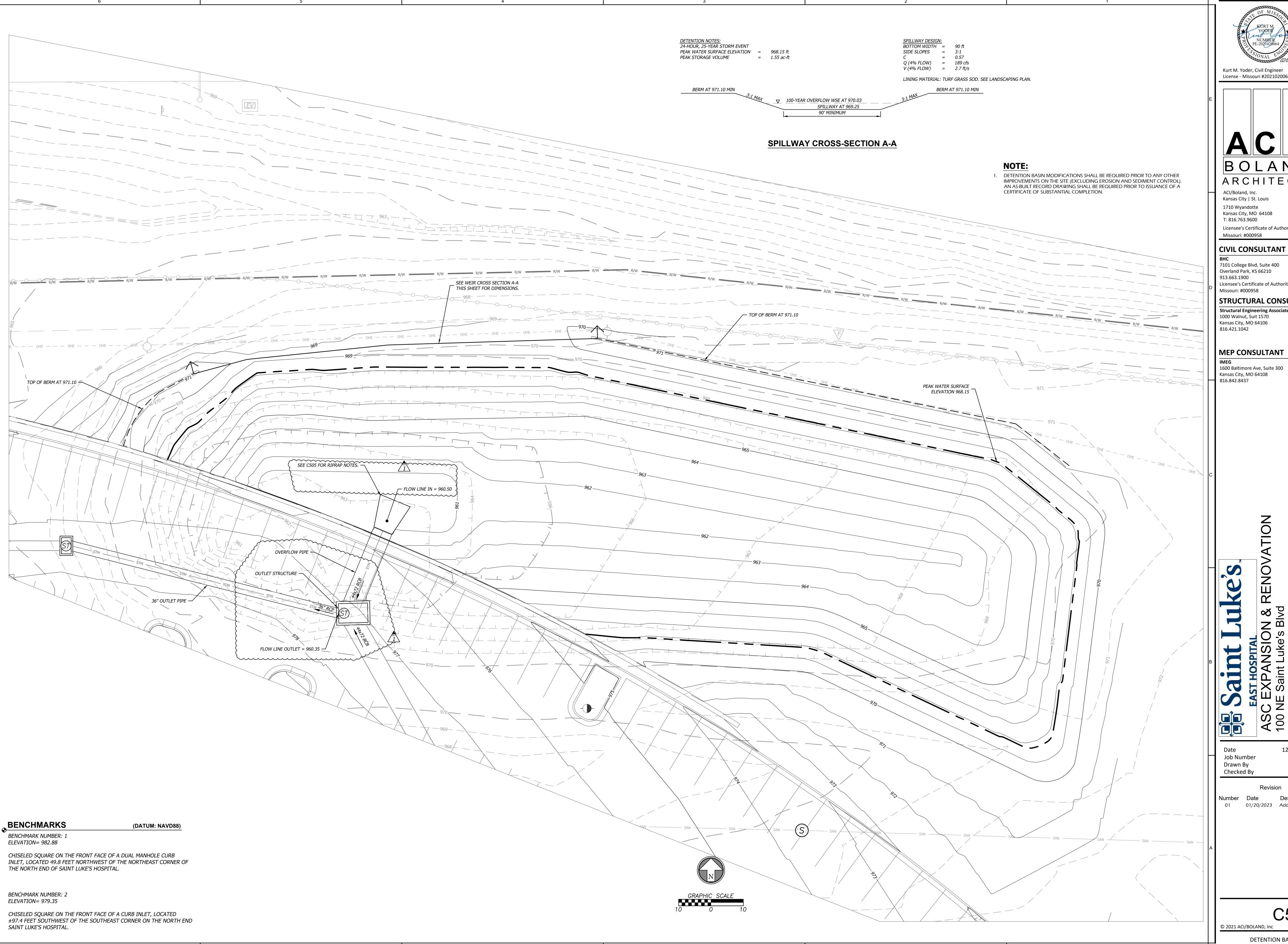
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**DETENTION BASIN PLAN** 

#### **SECTION 32 32 16** PRECAST MODULAR BLOCK RETAINING WALL

#### **PART 1 GENERAL**

#### 1.1 SUMMARY

- A. Section Includes: Furnishing materials and labor required for the design and construction of a ReCon precast modular block retaining wall.
- B. Related Sections:

#### 1. Section 312000 Earth Moving

#### 1.2 REFERENCES

- A. Precast Modular Block Units:
- 1. ASTM C-33 Specification for Concrete Aggregates 2. ASTM C-39 Test Method for Compressive Strength of Cylindrical Concrete Specimens
- 3. ASTM C-94 Specification for Ready-Mixed Concrete 4. ASTM C-138 Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
- ASTM C-143 Test Method for Slump of Hydraulic-Cement Concrete
- 6. ASTM C-260 Specification for Air-Entraining Admixtures for Concrete
- ASTM C-494 Specification for Chemical Admixtures for Concrete 8. ASTM C1611 Test Method for Slump Flow of Self-Consolidating Concrete
- 9. ASTM C-1776 Standard Specification for Wet-Cast Precast Modular Block Retaining Wall Units B. Drain Pipe:
- 1. ASTM D-3034 Standard Specification for Type PSM (Vinyl Chloride) (PVC) Sewer Pipe and Fittings 2. ASTM F-2648 Standard Specification for 2 to 60 inch [50 to 1500 mm] Annular Corrugated Profile Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications
- C. Geosynthetics:
- ASTM D-4595 Tensile Properties of Geotextiles Wide Width Strip 2. ASTM D-4873 Standard Guide for Identification, Storage and Handling of Geosynthetics
- 3. ASTM D-5262 Unconfined Tension Creep Behavior of Geosynthetics 4. ASTM D-5321 Standard Test Method for Determining the Coefficient of Soil and Geosynthetic or
- Geosynthetic and Geosynthetic Friction by the Direct Shear Method 5. ASTM D-5818 Standard Practice for Obtaining Samples of Geosynthetics from a Test Section for Assessment of Installation Damage
- 6. ASTM D-5970 Standard Test Method for Deterioration of Geotextiles from Outdoor Exposure 7. ASTM D-6637 Standard Test Method for Determining Tensile Properties of Geogrids by the Single- or Multi-Rib Tensile Method
- 8. ASTM D-6638 Standard Test Method for Determining Connection Strength Between Geosynthetic Reinforcement and Segmental Concrete Units
- 9. ASTM D-6706 Standard Test Method for Measuring Geosynthetic Pullout Resistance in Soil D. Engineering Design:
- 1. NCMA Design Manual for Segmental Retaining Walls, Current Edition
- AASHTO LRFD Bridge Design Specifications, Current Edition International Building Code (IBC), Current Edition
- 4. Minimum Design Loads for Buildings and Structures, ASCE 7, Current Edition
- E. Soils: ASTM D-422 Standard Test Method for Particle-Size Analysis of Soils
- 2. ASTM D-448 Standard Classification for Sizes of Aggregates for Road and Bridge Construction
- 3. ASTM D-698 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/f3) (600 kN-m/m3)

PRECAST MODULAR BLOCK RETAINING WALL SECTION 32 32 16 - 1

#### ReCon Specification (April 2017)

- 4. ASTM D-1241 Standard Specification for Materials for Soil-Aggregate Subbase, Base and Surface
- 5. ASTM D-1556 Standard Test Method for Density and Unit Weight of Soil in Place by the Sand Cone
- 6. ASTM D-1557 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/f3) (2700 kN-m/m3)
- 7. ASTM D-2487 Standard Classification of Soils for Engineering Purposes (Unified Soil Classification
- Drained Conditions 9. ASTM D-4318 Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- 10. ASTM D-4767 Test Method for Consolidated-Undrained Triaxial Compression Test for Cohesive Soils

8. ASTM D-3080 Standard Test Method for Direct Shear Test of Soils Under Consolidated

11. ASTM D-6938 Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth) 12. ASTM D-G51 Standard Test Method for Measuring pH of Soil for Use in Corrosion Testing

### F. ReCon Construction Detail Drawings: <a href="https://www.reconwalls.com">www.reconwalls.com</a>

- A. ReCon Retaining Wall Unit: Concrete, modular facing block provided by an authorized manufacturer under license to ReCon Retaining Wall Systems, Inc.
- B. Geogrid: A geosynthetic material manufactured of high tensile materials specifically for the purpose of
- reinforcing and creating a structural soil mass. C. Drainage Aggregate: Clean, crushed rock located within and immediately behind ReCon units to facilitate
- drainage and avoid compaction in close proximity to ReCon wall units. D. Reinforced Soil: Soil zone extending from the Drainage aggregate zone to the back of the embedded
- E. Foundation Soil: Soil zone immediately beneath the retaining wall facing units, the wall leveling pad and the
- reinforced soil zone. F. Retained Soil: Soil immediately behind retaining wall facing and drainage aggregate for modular gravity
- structures or behind the reinforced soil for wall that utilize geogrid. G. Construction Drawings: Approved final plan for construction prepared and stamped by the wall design engineer licensed to practice in the state where the retaining wall is located.

1.3 DEFINITIONS

- A. Contractor shall submit Manufacturer's product data and installation instructions for approval. B. Contractor shall submit Manufacturer's test reports certifying that the ReCon units manufactured at their production facility meet the requirements of this specification and the requirements of the Construction
- C. Unless provided within these project documents and/or the project drawings, contractor shall submit two sets of the Construction Drawings for all ReCon retaining walls on the project. 1. The design shall be prepared by a Professional Engineer licensed to practice in the state where the
- retaining wall is located. 2. The design shall be per NCMA Design Guidelines for Segmental Retaining Walls, or the AASHTO Standard Specifications for Highway Bridges, whichever is applicable as determined by the retaining wall design engineer.
- 3. Construction Drawings shall include:
- The retaining wall layout and retaining wall heights.
- b. Proper placement, lengths and types of geogrid reinforcement where necessary. c. Typical wall sections.

PRECAST MODULAR BLOCK RETAINING WALL SECTION 32 32 16 - 2

#### ReCon Specification (April 2017)

ReCon Specification (April 2017)

- d. Types, locations and properties of all drainage materials, appurtenances and special installation requirements not covered in this specification.
- e. Retaining wall elevation views. f. Any soils information or testing conducted in addition to that included within the project drawings
- g. Design assumptions. D. If geogrid reinforcement is required in the final engineered construction drawings, submit manufacturer's
- product literature, product testing reports and a twelve inch or larger sample of each type to be used in wall
- E. Submit gradation reports for aggregates used for the wall leveling pad, unit / drainage fill and for select reinforced fill if required in the final engineered wall design.

### F. All submittals must be provided and reviewed prior to the start of retaining wall construction.

- A. Contractor shall inspect all products at delivery to determine that the proper materials have been delivered
- and are usable. Damaged material shall not be incorporated into the work. B. ReCon retaining wall units shall be stored in a location and manner that protects against excessive
- weathering and damage. C. Contractor shall prevent ReCon units from excessive soiling and coming in contact with substances which
- may stain or adhere to the finished visual surfaces of the unit. D. Faces of the ReCon Block shall be free of excessive chipping, cracking and stains.

#### 1.6 QUALITY ASSURANCE

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Installer Qualifications: Contractor shall have successfully installed at least three projects similar to that of this project within the last two years. Contractor shall maintain at least one mechanic on site at all times
- that worked on one or more of these previous installations. B. Owner shall employ the services of an independent geotechnical or materials engineering firm to provide soil testing and quality assurance inspection for wall construction and soils work. Contractor shall provide any quality control testing or inspection not provided by the Owner.
- C. Retaining Wall Design Engineer Qualifications: The Retaining Wall Design Engineer shall be licensed to practice in the state in which the project located. Additionally, the Retaining Wall Design Engineer shall be independently capable of performing all retaining wall analysis calculations (internal and external stability, seismic analysis, water analysis, and global stability) and have designed at least three wall projects similar to that of this project.

#### PART 2 PRODUCTS

#### 2.1 MANUFACTURERS

- A. Only licensed and authorized manufacturers of: ReCon Wall Systems, Inc.
- 7600 West 27th St., #229 St Louis Park, MN 55426
- (952) 922-0027 Phone (952) 922-0028 Fax

www.reconwalls.com

#### 2.2 MATERIALS

 A. ReCon retaining wall units. 1. The block unit shall consist of concrete with the average 28-day compressive strength of no less than

> PRECAST MODULAR BLOCK RETAINING WALL SECTION 32 32 16 - 3

#### ReCon Specification (April 2017)

- 2. Concrete shall have air entrainment by volume (as measured in the plastic state in accordance with
- ASTM C172) of: a. 5.5 – 8.5 percent, or

by 16-inches for half unit.

- b. In conformity with ASTM C94, latest revision. 3. Exterior dimensions of the face shall be 48-inches by 16-inches for full and corner unit, and 24-inches
- 4. Depth of unit should be as per Construction Drawings and is available in depths from 24-inches up to 84-inches (dimensions in inches: 24, 39, 45, 60, 66, 72, 78, 84).
- ReCon Units used shall maintain tolerances of:
- a. Height: +/- 3/16-inch b. Width: +/- 1/2-inch unless field cut for fitting purposes.
- c. Depth: No less than the unit design depth (i.e. 24-inch, 39-inch, etc.) with the textured face portion of the block is considered as 4-inches
- 6. Special shape units should be obtained and used where indicated on the final engineered construction drawings. Reference ReCon Drawing #101 for overview of standard unit types.
- ReCon Unit Face Texture a. Shall be "North Shore Granite"
- B. Geogrid Reinforcement: Geosynthetic reinforcement shall be high tensile geogrid or geotextile manufactured specifically for soil reinforcement applications.
- 1. Construction Drawings shall indicate the type, strength, location and lengths of reinforcement used. 2. The geosynthetic manufacturer shall provide all relevant testing to the wall design engineer for incorporation in the wall design and shall be included in the submittal for the Construction Drawings.
- 3. No substitutions of geosynthetic shall be allowed that was not evaluated in the Construction Drawings.
- C. Base Leveling Pad: The wall base leveling pad material shall consist of a compacted crushed stone base or non-reinforced concrete as indicated in the Construction Drawings. D. Drainage Aggregate: Drainage aggregate shall consist of clean 3/4" crushed stone or gravel meeting the
- requirements of the Construction Drawings. E. Reinforced Soil: All reinforced soil, borrow or imported, shall meet all requirements of the Construction
- Drawings. Reinforced soils, by gradation, shall have no more than 35 percent passing the number 200 sieve for walls less than 20-feet in height and no more than 15 percent passing the number 200 sieve for

G. Unit Adhesive: Adhesive shall be a premium, construction grade suitable for concrete and exterior

- walls greater than 20-feet in height. F. Drainage Pipe: If required in Construction Drawings, drainage pipe shall be perforated or slotted PVC pipe
- manufactured in accordance with ASTM D-3034 or ASTM D-2412. Drainage pipe may also be covered with

2.3 FINISHES

A. ReCon retaining wall color

Finished wall shall be left in natural (as-cast) color.

### **PART 3 EXECUTION**

#### 3.1 EXAMINATION

- A. Verify locations of utilities and existing structures prior to excavation.
- B. Examine the Project site and evaluate conditions where the ReCon retaining wall will be constructed. Notify the proper supervising authority in writing of any conditions that may interfere with the proper construction of the ReCon wall or delay completion.
- C. Promptly notify the wall design engineer of site conditions which may affect wall performance, soil conditions observed other than those assumed, or other conditions that may require a reevaluation of the wall design.

PRECAST MODULAR BLOCK RETAINING WALL SECTION 32 32 16 - 4

ReCon Specification (April 2017)

- 3.2 EXCAVATION
- A. Contractor shall excavate to the lines and grades shown on the construction drawings. The contractor shall be careful not to disturb the base beyond the lines indicated.
- B. Foundation soils shall be excavated as required for footing base / leveling pad dimensions shown on the construction drawings, or as directed by the wall engineer. C. Over-excavated areas shall be filled with suitable base or backfill material and compacted to 95 percent

#### standard proctor. 3.3 FOUNDATION SOILS PREPARATION

- A. Foundation soils shall be evaluated by a Geotechnical Engineer or Owners Representative to ensure that
- the bearing soils meet or exceed the design conditions or assumptions. B. Compact foundation soil zone to 95 percent standard proctor prior to installing base / leveling pad.

- 3.4 BASE / LEVELING PAD A. Base shall be located as indicated on the Construction Drawings and shall have a minimum thickness of 6-
- inches. Base materials are to be as specified by the wall engineer (generally crushed stone, 3/4-inch
- B. Width of the base pad must extend a minimum of 6-inches in front and 6-inches in back of the ReCon Base
- C. Base material shall be compacted so as to provide a smooth, hard surface on which to place the first
- course of units. D. Compact base material to 95 percent of standard proctor.
- units shall no exceed 1/2-inch. F. Contractor may elect to substitute a portion of the specified granular base materials with a lean,
- unreinforced concrete topping. G. When a reinforced footing is required by the Construction Drawings, it shall be located below the frost line.

E. Base shall be prepared to ensure full contact of the wall unit with base material. Spacing or gaps between

### 3.5 UNIT INSTALLATION

- A. First course of units shall be Base Block units and shall be placed in full contact with the base material. B. Check units for level from side-to-side, front to back, and check to maintain unit batter front-to-back.
- C. Place unit faces in contact side to side and avoid any gaps greater than 1/2-inch.
- D. Fill and compact fill to grade in front of embedded units prior to compaction behind the wall units. E. Fill voids between ReCon units with 3/4-inch clean crushed rock to a distance of one foot behind the unit depth unless otherwise instructed in the Construction Drawings.
- F. Sweep and clean the top of each course before setting additional courses. G. Lay each successive course making sure that the bottom recess is in full contact with the unit locators of
- the course below. Pull unit forward as far as possible. Backfill and compact soil behind the units. H. Check and maintain level and wall batter by use of shims when necessary. I. Follow ReCon recommended procedures to maintain acceptable running bond when constructing curved
- walls and / or corners. Build in accordance with Construction Drawings or ReCon Construction Detail J. Handle units with proper lifting devices that have been certified for the loads associated with the weights of the units. Avoid applying forces to the lifting loops in excess of the normal force associated with the weight

of the unit (i.e., avoid dynamic loads from bouncing or swinging of a unit). If the unit is to be transported

PRECAST MODULAR BLOCK RETAINING WALL

SECTION 32 32 16 - 5

over a significant distance in the field, it is recommended that a CABLE be used in lieu of a chain.

### ReCon Specification (April 2017)

- 3.6 GEOGRID INSTALLATION
- A. Install geosynthetic reinforcement in accordance with manufacturer's recommendations and the B. Locate geosynthetic reinforcement at elevations and to the lengths shown on the Construction Drawings.
- C. Prior to installation of geosynthetic reinforcement, level and compact backfill material to the level of the reinforcement layer. D. Reinforcement design strength direction must be oriented perpendicular to wall face. E. Position reinforcement on ReCon units over the tongue and groove and to within 2-inches of the front
- and groove. The next course of units must be slid forward such that the back edge of the groove on this unit is up against the back edge of the tongue on the lower unit with the geogrid pinched between the tongue and groove. Hold in place by installing the next course of units.

exposed face. The next course of units shall be placed such that the geogrid is deformed over the tongue

- F. Remove all wrinkles or folds in reinforcement by pulling taut prior to backfill placement. Secure using soil staples, stakes or hand tension until reinforcement is covered with sufficient fill to maintain tensioned
- G. Reinforcement shall be continuous throughout the embedment length. Splicing along reinforcement

#### strength direction is not allowed. H. Position reinforcement sections side-by-side to provide 100 percent coverage along wall face.

I. Where curved wall sections cause overlap areas in reinforcement, maintain at least 3-inches of soil

3.7 REINFORCED BACKFILL PLACEMENT

between layers where overlap occurs.

- A. Wall fill material shall be placed in lifts no greater than 8-inches in depth and shall be less if necessary to
- achieve necessary compaction. B. Compact backfill material to 95 percent of standard proctor. C. Only hand-operated compaction equipment shall be used within 3-feet of the back of the ReCon unit.
- Heavy-duty compaction equipment should be kept a minimum of 5-feet from the back of the ReCon unit to
- D. Wherever possible, backfill should be placed beginning at the face of the wall. Backfill shall be placed, spread, and compacted in a manner that minimizes the development of wrinkles, folds or movement of E. Tracked construction equipment shall not be operated directly on the geogrid. A minimum backfill thickness

of 6-inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles

2. Ensure other trades do not operate heavy equipment or excavate near the wall and reinforced soil

- should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid. F. Rubber tired equipment may pass over the geogrid reinforcement at slow speeds, (less than 10 MPH).
- Avoid sudden braking and sharp turning. G. At the conclusion of each day's work, slope backfill at both the crest and bottom of wall away from wall face to prevent surface drainage from scouring or ponding.
- H. During wall construction, the General Contractor shall be responsible for coordination of other project site operations so as to avoid adjacent construction site drainage from affecting wall construction area. I. Upon completion of wall construction work, the General Contractor shall:

1. Ensure finished grading directs normal drainage away from the finished wall.

### 3.8 OTHER CONSTRUCTION DETAILS

A. ReCon provides a number of Construction Detail Drawings (see Section 1.2F) which can be found on ReCon's website (www.reconwalls.com) and should be referred to for guidance on wall specific applications.

PRECAST MODULAR BLOCK RETAINING WALL

SECTION 32 32 16 - 6

- 3.9 SITE TOLERANCES
- A. Straight walls 1. Vertical Alignment: +/- 1.5-inches over any 12-feet distance and no more than +/- 3-inches over the
- entire length of wall.

checks of the installer's work.

- B. Horizontal Alignment Control:
- 2. Corners and radius location: +/- 1-foot to theoretical location indicated on the Grading Plan. 3. Radii: +/- 2-feet from theoretical lines indicated on the Grading Plan.

C. Quality Assurance should include foundation soil inspection, frequent backfill compaction testing,

### C. Wall Batter at Completion of Work: +/- 2-degrees from the design batter and no batter less than 2-degrees.

- 3.10 FIELD QUALITY CONTROL
- A. Contractor shall be responsible for proper installation and quality control of all ReCon wall components and appurtenant materials. B. Owner shall, at their expense, retain a qualified professional to monitor and perform quality assurance

### verification of geotechnical design parameters and compliance with Construction Drawings and Project

- 3.11 CLEANING
- A. After completion of wall installation, remove construction debris and restore any adjacent finished areas affected by wall construction to their pre-construction state.

B. Wash wall face to remove soiling and stains. Do not use acid or detergents that my "burn" or discolor face.

PRECAST MODULAR BLOCK RETAINING WALL

SECTION 32 32 16 - 7

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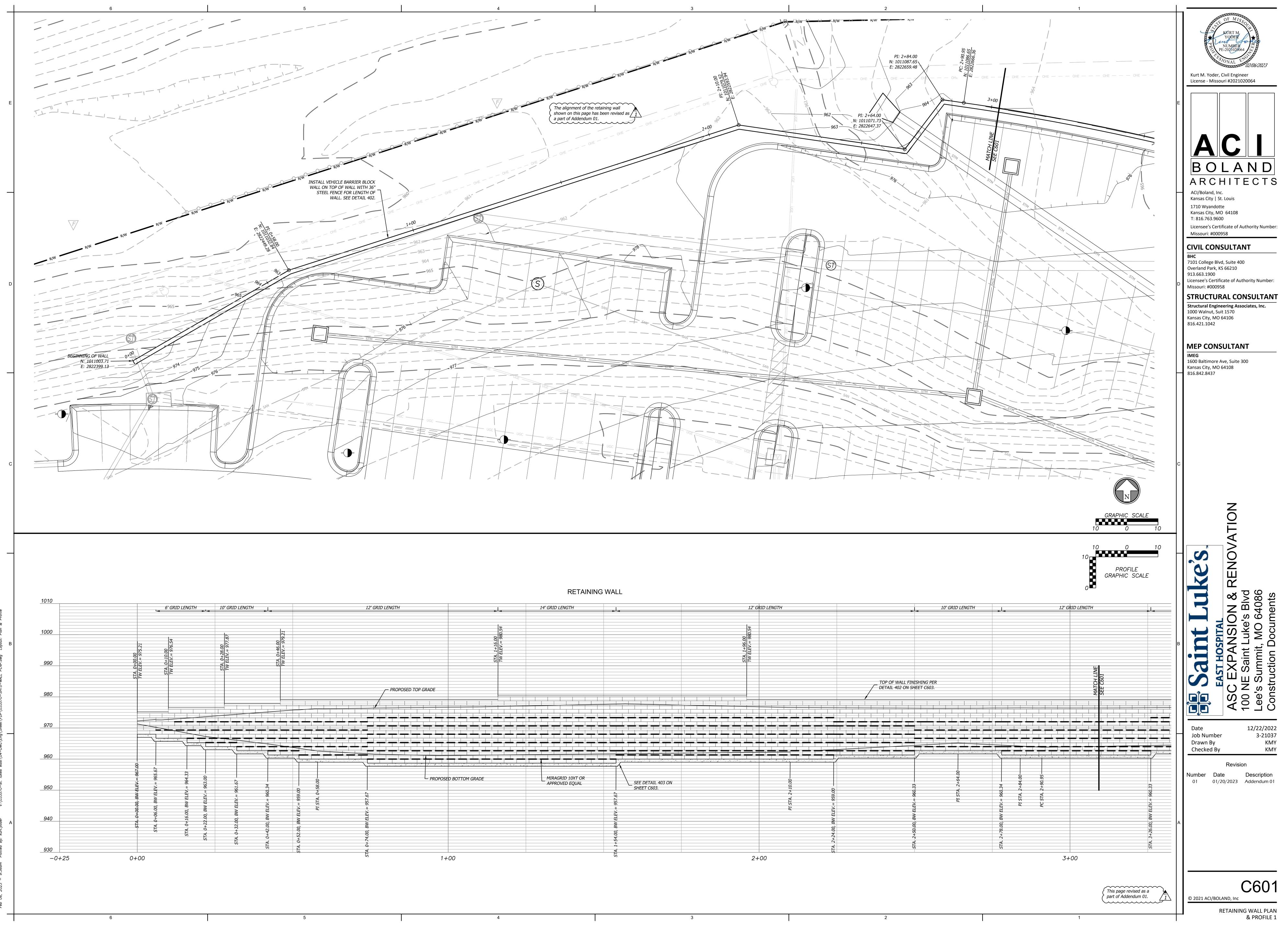
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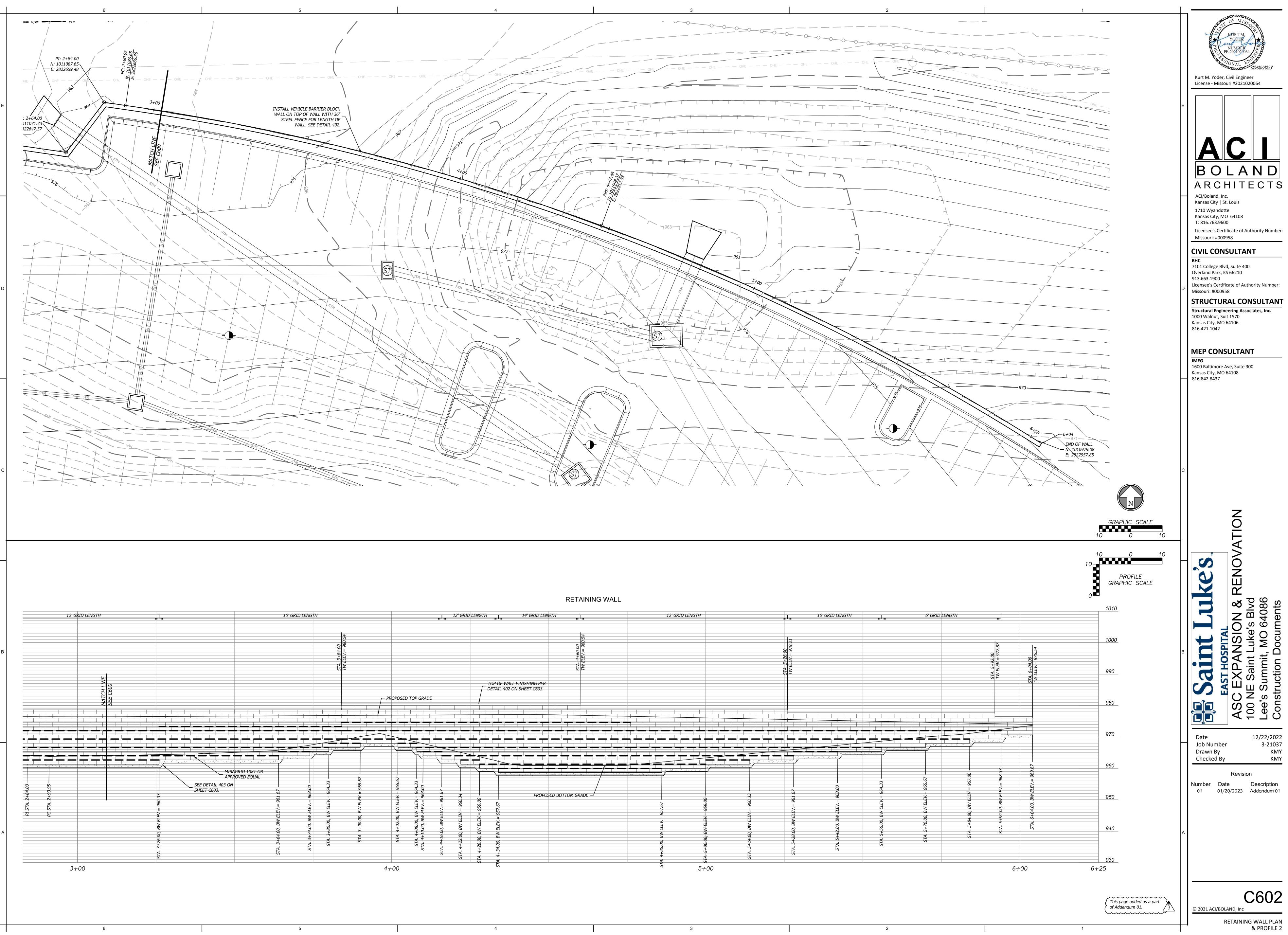
WALL SPECIFICATIONS

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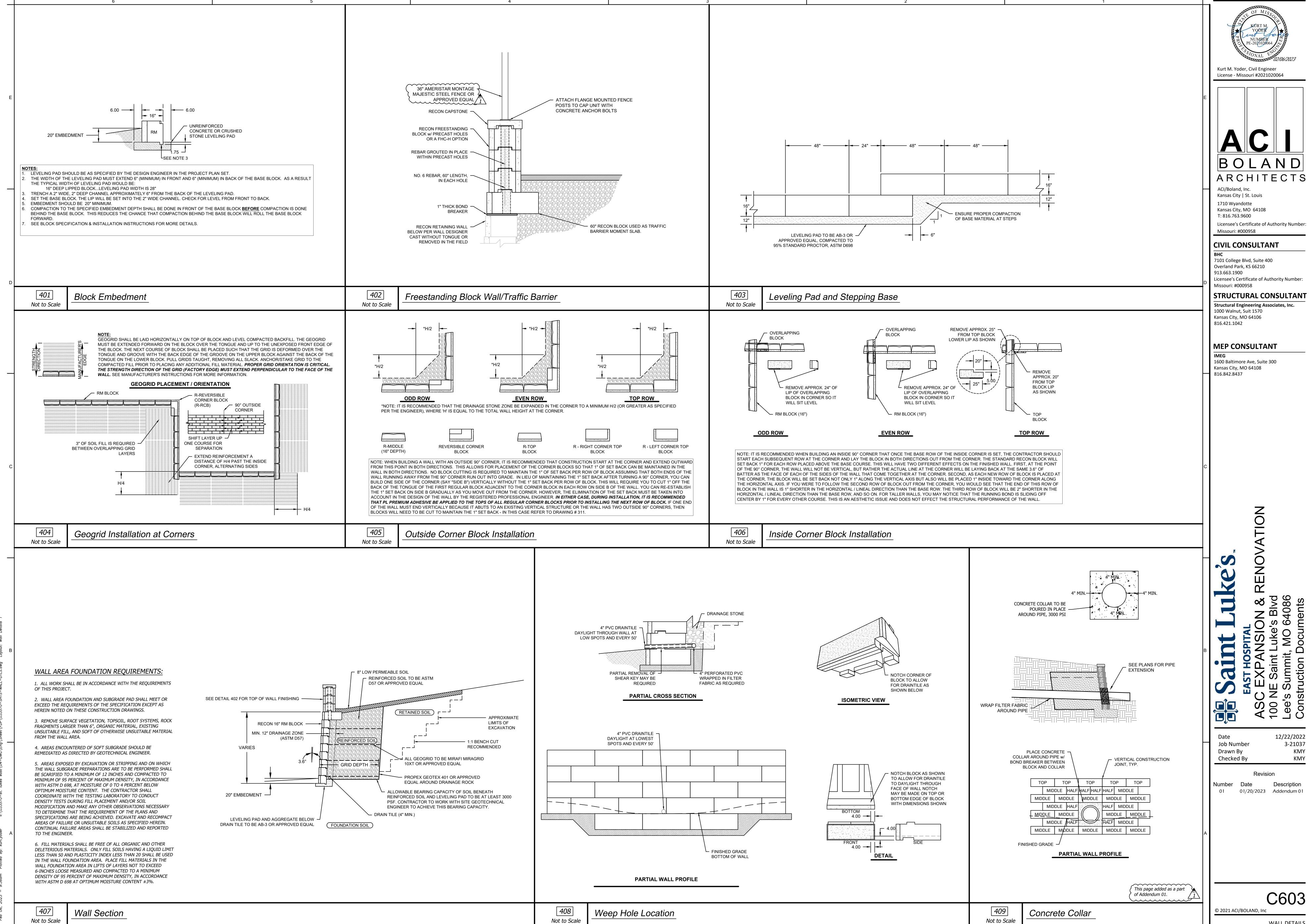
RETAINING WALL PLAN & PROFILE 1



RETAINING WALL PLAN & PROFILE 2

C602

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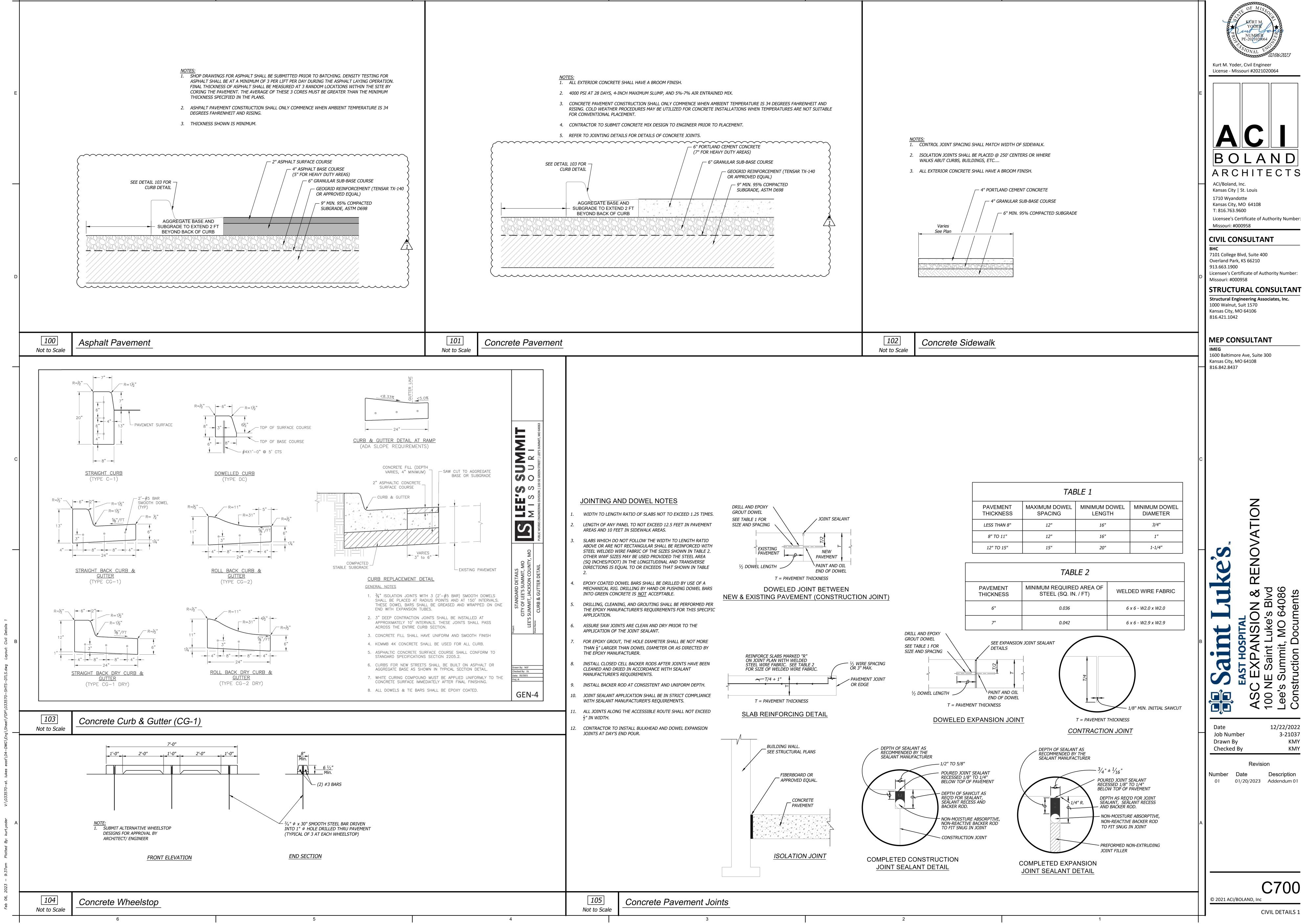
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WALL DETAILS

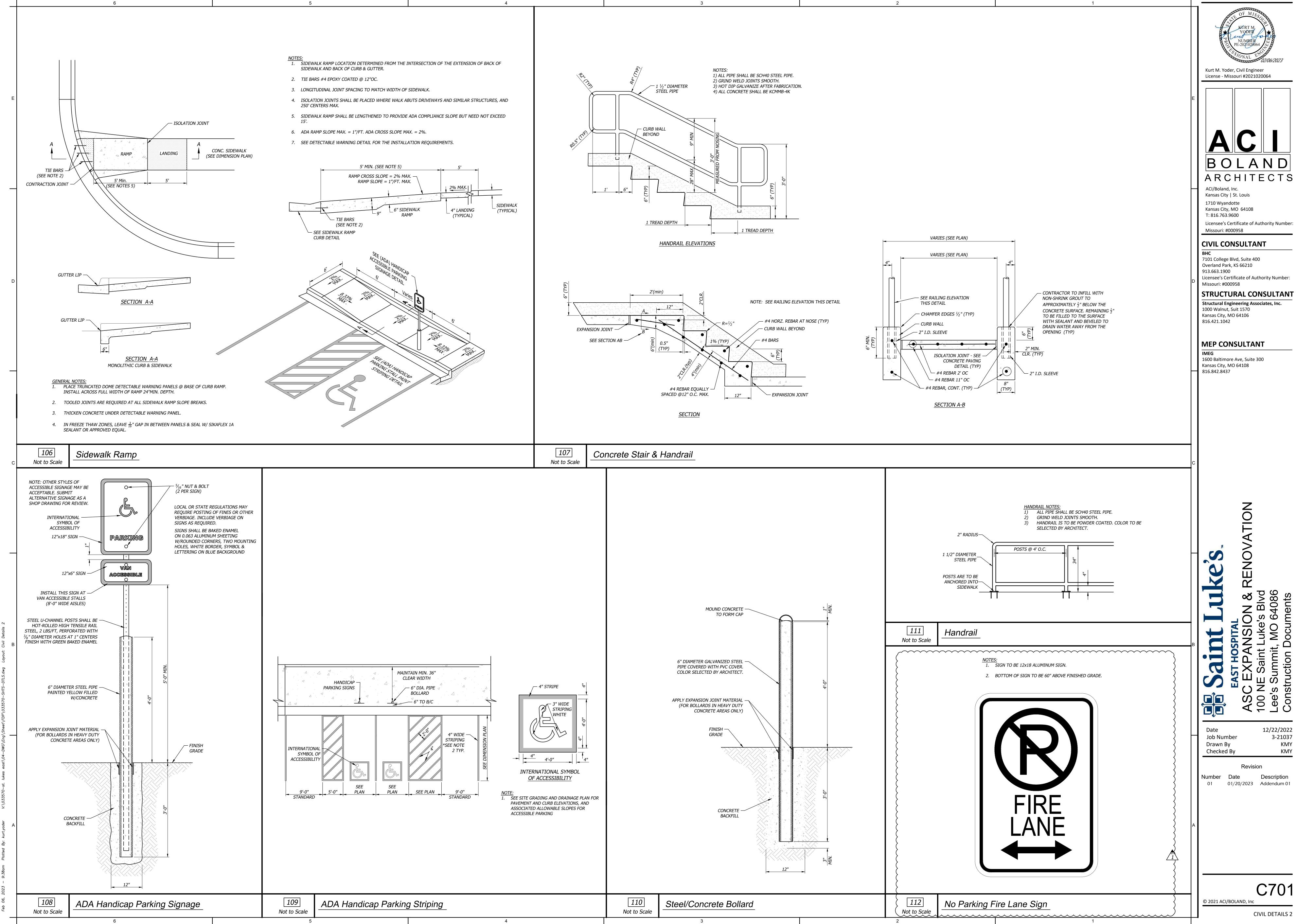


CIVIL DETAILS 1

12/22/2022

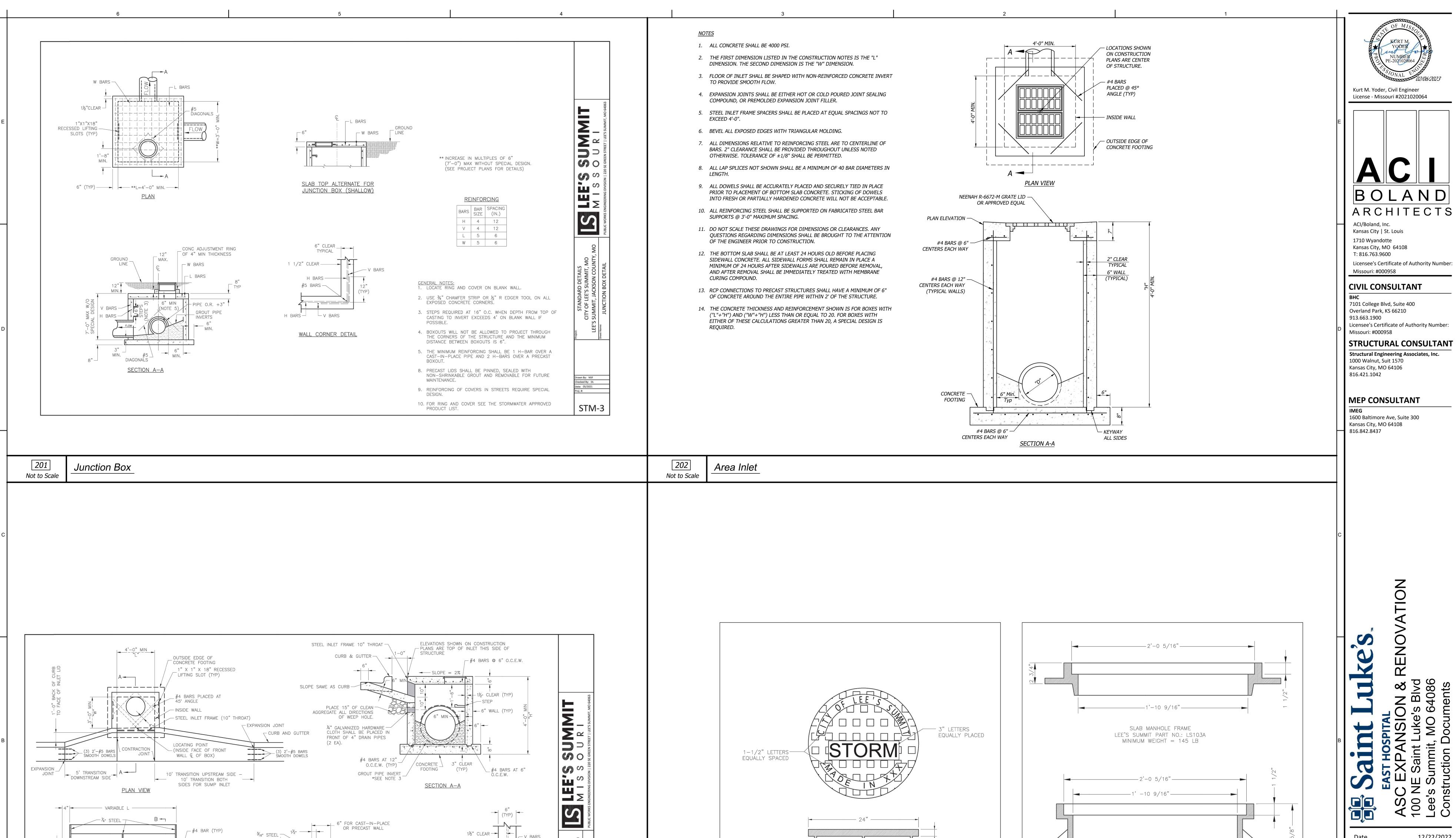
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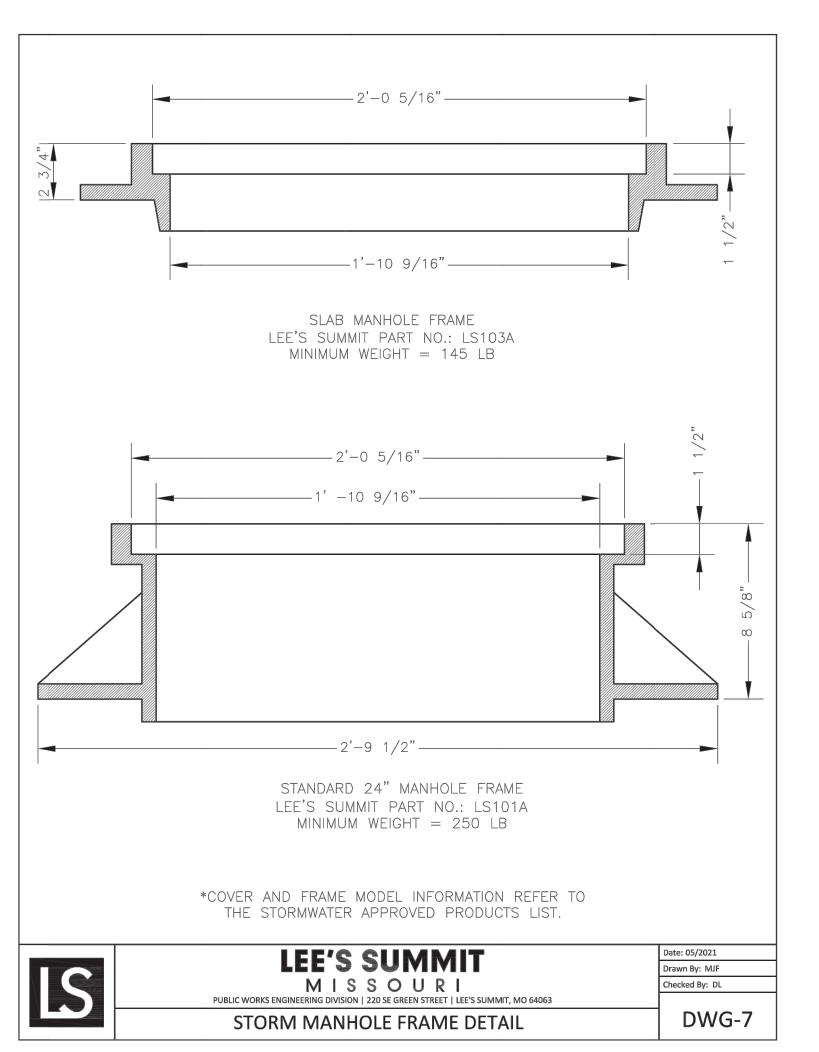
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C702

CIVIL DETAILS 3

3-21037

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\_\_\_\_\_ 1'-9 ¾" —

STANDARD 24" MANHOLE COVER MINIMUM WEIGHT = 160 LB

NOTE: PICK HOLES NOT SHOWN

\*COVER AND FRAME MODEL INFORMATION REFER TO

rawn By: MJF

ecked By: DL

STM-6

THE STORMWATER APPROVED PRODUCT LIST.

**LEE'S SUMMIT** 

MISSOURI

PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE COVER DETAIL

Not to Scale

Curb Inlet

CONCRETE CURB DOWELS (#4 BARS) SHALL

BE CENTERED VERTICALLY AND HORIZONTALLY

CONCRETE TOP SLAB (#4 BARS)

STEEL FRAME NOTES:
1. ALL WELDS SHALL BE PERFORMED IN ACCORDANCE WITH APPROPRIATE AWS SPECIFICATIONS AND

2. ALL WELDS ON EXPOSED SURFACES SHALL BE DRESSED SO AS TO PROVIDE A PLEASING FINISHED

3. THE ENTIRE FRAME SHALL BE PAINTED A SINGLE COAT OF CHEM-PRIME #37H-78 PRIMER (GRAY) OR

AT 1'-0" CENTERS MAX

<u>PLAN VIEW</u>

 $\frac{3}{4}$ "ø smooth round bar $^{-1}$ 

PROCEDURES.

- STIFFENERS AT 3'-0" CTR. MAX

THE SECOND DIMENSION IS THE "W" DIMENSION.

4. LOCATE MH RING AND COVER ON BLANK WALL IF POSSIBLE.

6. BEVEL ALL EXPOSED EDGES WITH 34"CHAMFER OR 12" TOOLED EDGE.

10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

L= 1½" X 1½" X ¼" X 2"

└ 1'—¹¼6"

SECTION B-B

H BARS -

#5 BARS —

└ V BARS

WALL CORNER DETAIL

STM-1

H BARS ─

<u>GENERAL NOTES:</u>
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION.

5. STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.

9. LIFTING RINGS SHALL BE REMOVED AND SEALED WITH NON-SHRINKABLE GROUT

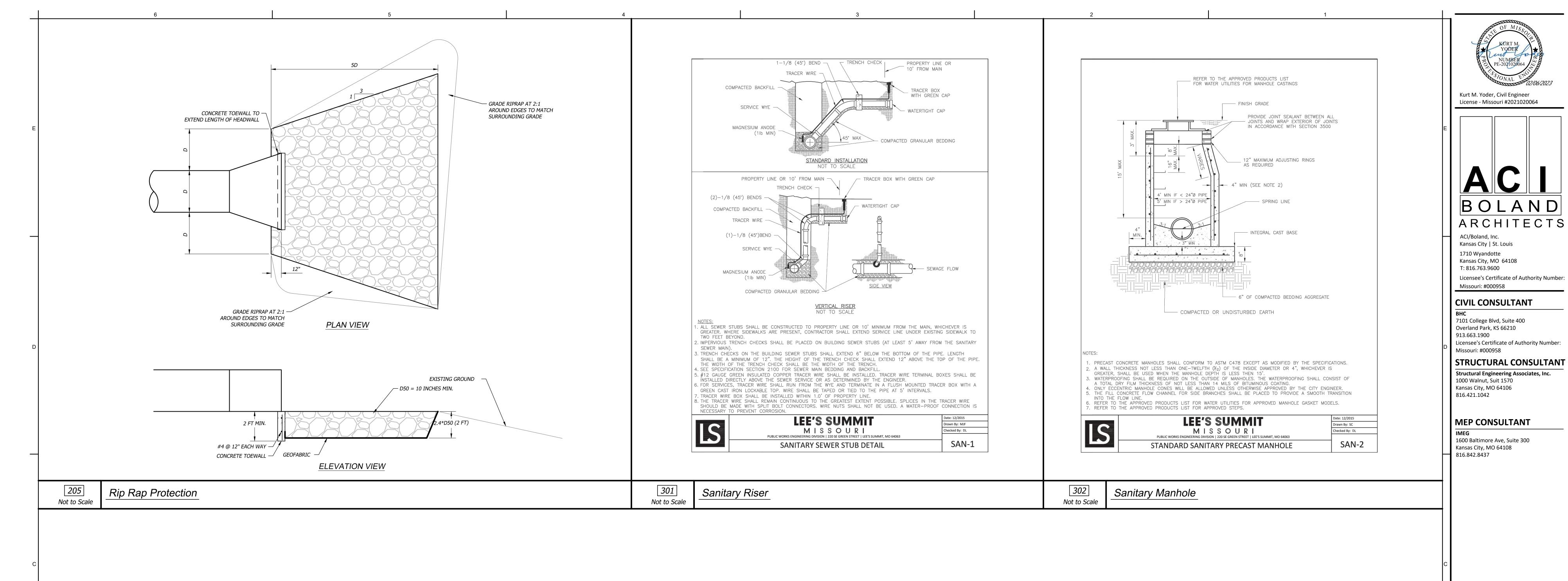
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL. 3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.

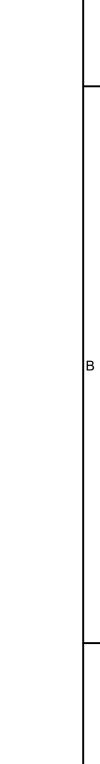
7. ON-GRADE INLETS SHALL CONFORM TO THE STREET GRADE AND SUMP INLETS SHALL BE LEVEL.

8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR

Not to Scale

Storm Manhole Detail





3-21037 Job Number KMY KMY Checked By

12/22/2022

01 01/20/2023 Addendum 01

Drawn By

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**CIVIL DETAILS 4** 

Not to Scale

WITH A SHOVEL.

SEE PAVING DETAILS

TAMPED BACKFILL

WARNING TAPE

GRANULAR BACKFILL

Pipe Bedding

"D" X 2 (MIN.)

PIPE BEDDING

1. GRANULAR FILL SHALL BE 1/2" CLEAN ROCK OR SAND/GRAVEL BEDDING, PLACED IN 6" LIFTS AND COMPACTED BY SLICING

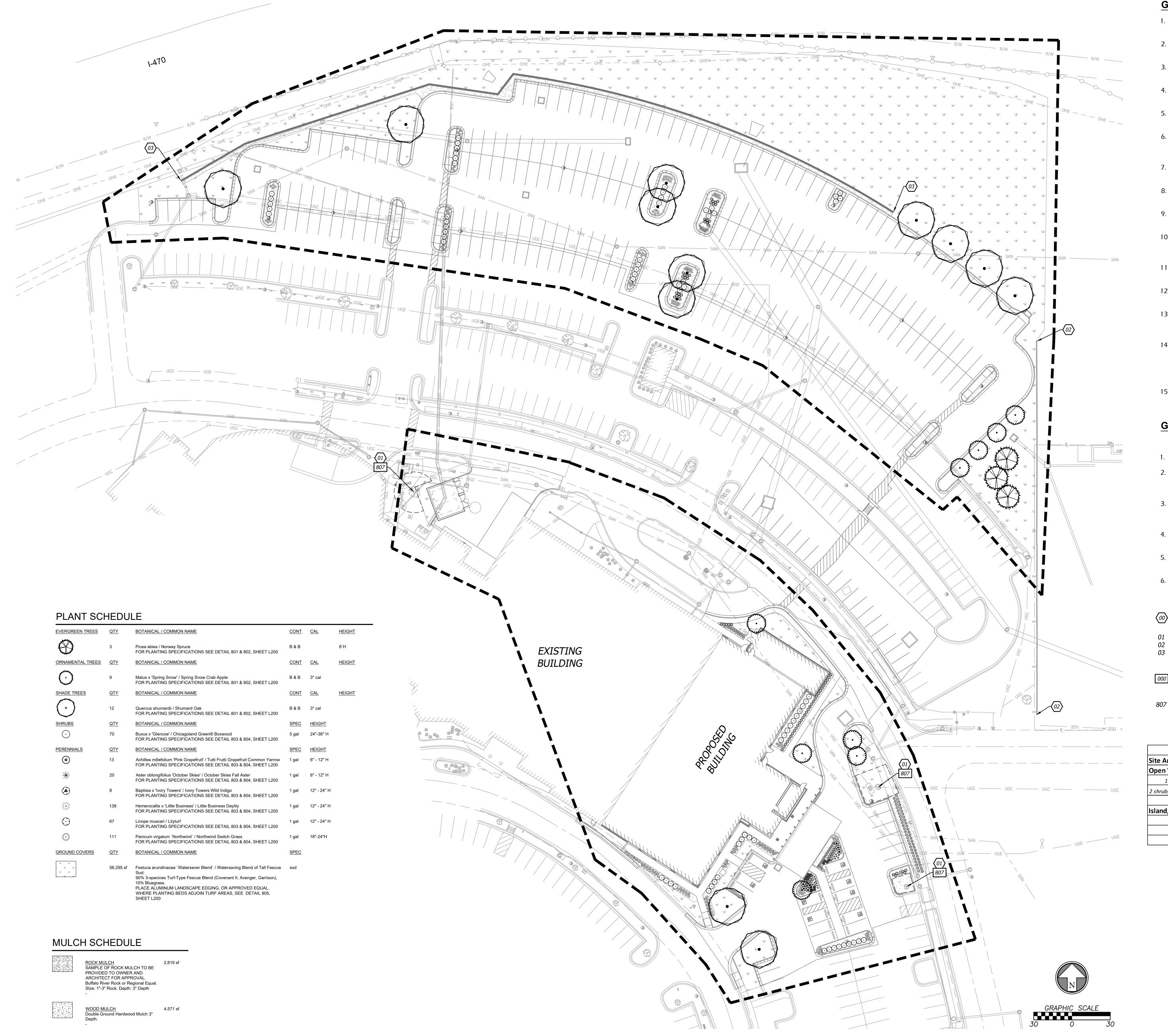
2. TAMPED FILL SHALL BE FINELY DIVIDED, JOB EXCAVATED

COMPACTED TO 95% DENSITY, STANDARD PROCTOR.

MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND STONES,

3. ALL PIPE COVERED PRIOR TO INSPECTION SHALL BE UNCOVERED AT THE CONTRACTOR'S EXPENSE.

2" IN EARTH, 6"



### **GENERAL LANDSCAPE NOTES**

- 1. The Contractor shall verify and coordinate all final grades with the Landscape Architect and or design team prior to completion.
- 2. Location and placement of all plant material shall be coordinated with the Landscape Architect prior to installation.
- 3. Location of all utilities are approximate, the Contractor shall field verify
- locations prior to commencement of construction operations. 4. Refer to Civil Drawings for all grading and berming, erosion control, storm
- drainage, utilities and site layout.
- 5. The Contractor shall arrange and conduct a pre-construction meeting onsite with Landscape Architect prior to work.
- 6. Plant quantities are for information only, drawing shall prevail if conflict occurs. Contractor is responsible for calculating own quantities and bid accordingly.
- 7. The Contractor is to notify Landscape Architect after staking is complete and before plant pits are excavated.
- 8. Tree locations in areas adjacent to drives, walks, walls and light fixtures may be field adjusted as approved by Landscape Architect.
- 9. The Contractor shall report subsurface soil or drainage problems to the Landscape Architect.
- 10. The plan is subject to changes based on plant size and material availability. All changes or substitutions must be approved by the City of Lee's Summit, Missouri and the Landscape Architect.
- 11. Aluminum landscape edging to be used on all landscape beds adjoining turf areas as noted on landscape plans.
- 12. Landscape Contractor shall be responsible for watering all plant material until the time that a permanent water source is ready.
- 13. The Contractor shall show proof of procurement, sources, quantities, and varieties for all shrubs, perennials, ornamental grasses, and annuals within 21 days following the award of the contract.
- 14. Contractor shall provide full maintenance for newly landscaped areas for a period of 30 days after the date of final acceptance. At the end of the maintenance period, a healthy, well-rooted, even-colored, viable turf and landscaped area must be established. The landscaped areas shall be free of weeds, open joints, bare areas, and surface irregularities.
- 15. Landscape Contractor shall provide rock mulch sample to owner for

#### **GENERAL IRRIGATION NOTES**

- Irrigation plan to be provided during permitting phase of development
- 1. Irrigation plan to not interfere with any proposed improvements shown.
- 2. Irrigation system design to be based on available psi. Minimum operating pressure for spray heads shall be 30 psi and minimum operating pressure for drip zones shall be 40 psi.
- 3. The contractor shall be responsible for providing uninterrupted, 110 v electrical service to the controller and for all hook-ups. All exposed low voltage wire shall be enclosed in a conduit.
- 4. Place valve boxes 12" minimum from and parallel to curbs and walks, grouped valves to be equally spaced.
- 5. Install all mainlines to 1% minimum slope to drain valves located at low points of main system.
- 6. Irrigation controller and rain sensor shall be located in owner approved

### LANDSCAPE PLAN KEYNOTES

- EXISTING TREE. DO NOT DISTURB. PROTECT IN PLACE.
- EXISTING RETAINING WALL. DO NOT DISTURB. PROTECT IN PLACE.
- 03 PROPOSED RETAINING WALL. SEE CIVIL.

## **DETAIL KEYNOTES**

- SEE SHEET L200 FOR DETAIL SPECIFICATIONS
- 807 TREE PROTECTION DETAIL.

### SITE DATA

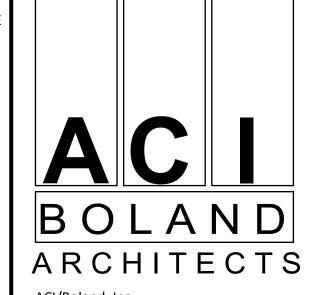
	Quantity	Required	Existing	Provided	Total
Site Area (SF)	86,236				
Open Yard Area					
1 tree / 5,000 SF of total lot area		17.25	2	24	26
2 shrubs per 5,000 sqft of total lot area		34.49	n/a	35	35
groundcover on all open areas		Υ	n/a	Υ	Υ
Island/Interior Landscape					
total LA are 5% of parking area	86,236	4311.8		15,865	15,865
parking area shrubs		Υ		359	359
parking spaces >10	246		48	246	294

### **LEGEND**

SIM	PROPOSED STORM SEWER LINE
RD	PROPOSED ROOF LINE DRAIN
	PROPERTY LINE
R/W	RIGHT-OF-WAY LINE
	LIMITS OF DISTURBANCE

— — — — — — TREE PROTECTION





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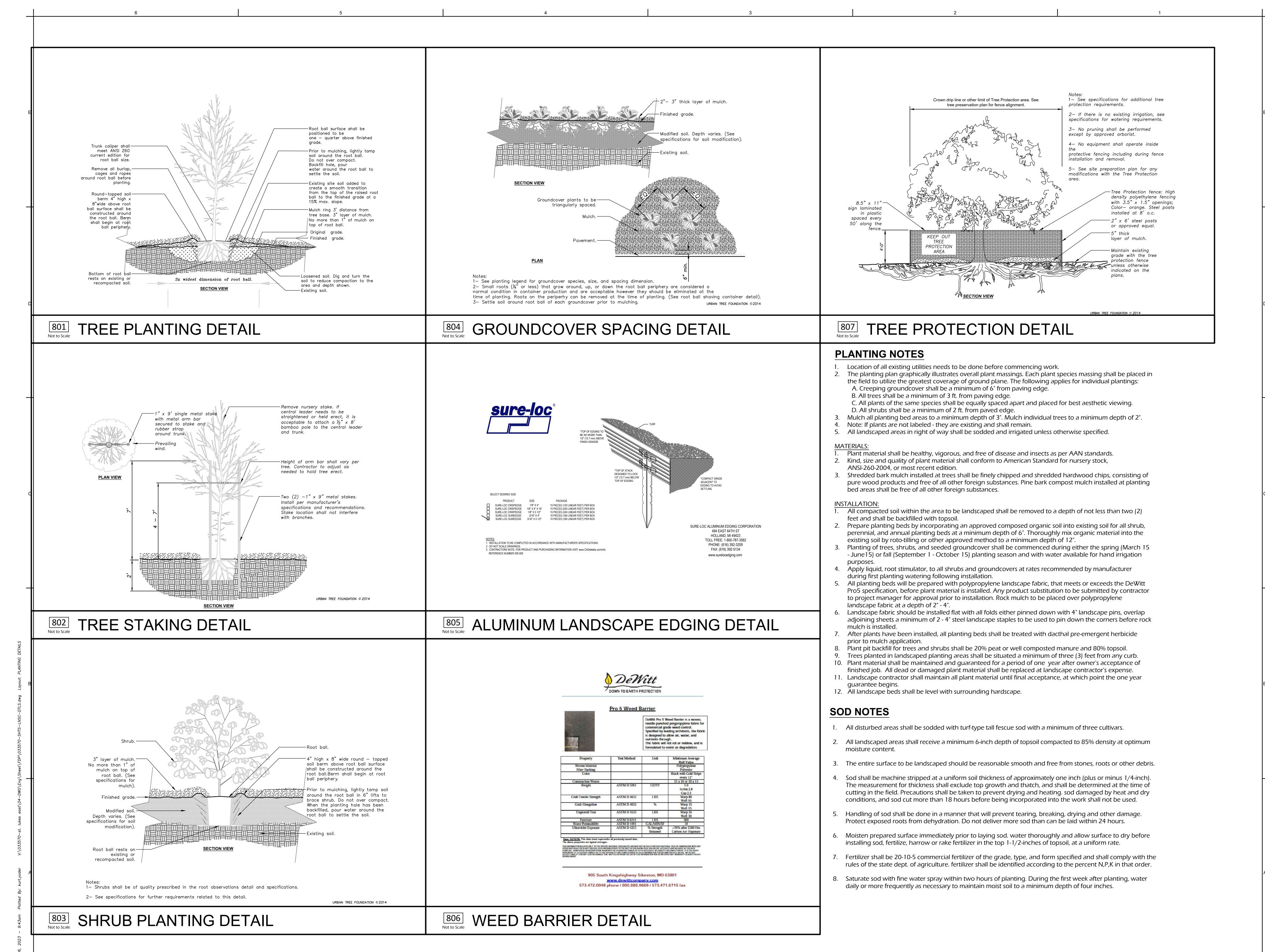
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LANDSCAPE PLAN





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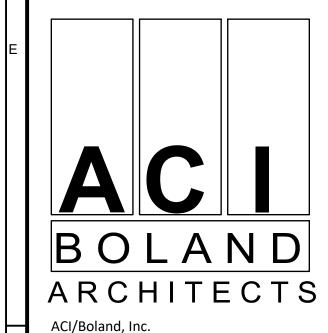
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PLANTING DETAILS

#### **IRRIGATION NOTES**

- The system design assumes a minimum available static pressure for the irrigation system of 75 psi at the 1 inch meter. Contractor to verify pressure and flow on site prior to construction and report and discrepancies between these assumptions and actual field conditions in writing to the owner's representative.
- 2. Read thoroughly and become familiar with the specifications and instillation details for this and related work prior to construction.
- 3. Coordinate location and marking of underground utilities prior to construction. Notify the owner's representative of any conflict with any underground utility.
- Do not proceed with the instillation of the irrigation system when it is obvious in the field that obstructions or grade differences existing that might not have been considered in the engineering, or if discrepancies in construction details, legend, notes, or specifications are discovered. Bring all such obstructions or discrepancies to the attention of the owner's representative in writing prior to construction.
- These drawings are diagrammatic. therefore, the following should be noted:
- A. Avoid conflicts between the irrigation system, planting materials and architectural features. Instill irrigation pipe and wiring in landscaped areas whenever possible.
- B. Use only standard tees and elbow fittings. use of cross type fittings is not permitted.
- C. Irrigation pipe and valves may be shown outside of the planting area, in the hardscape, or outside of property lines for graphic clarity only. Install all irrigation components within landscapes areas or through sleeving and within the property boundary.
- 6. Provide the following components to the owner's representative prior to the completion of the
- A. Two operating keys for each type of manually operated valves.
- B. Two of each servicing wrench or tool needed for complete access, adjustment, and repair of all sprinklers and emitters.
- Select nozzles for spray and rotary sprinklers with arcs that provide complete and uniform coverage with minimum overspray for the site conditions. To minimize overspray, install pressure compensating nozzles or pressure compensating screens if uniform lateral pressure cannot be attained with pressure adjustment at the remote control valve. Carefully adjust the radius of the throw and arc of coverage of each spray and rotary sprinkler to provide the best performance.
- The irrigation contractor is responsible for coordinating with the general contractor for the instillation of irrigation sleeving. All sleeving will be schedule 40 PVC. All pipe and wire will be installed in separate sleeves at all paved surfaces, sidewalks, driveways, walls, footings, and hardscape areas. All sleeves may not be shown and/or sized in the plans. The general contractor is responsible for coordinating with the irrigation contractor for the instillation of all required sleeving, proper sizing, and coordinating instillation of sleeving with other trades. Any pipe or wire which passes beneath existing hardscape where sleeving was not installed, requires horizontal boring by the irrigation contractor. Sleeve and conduit sizes shall be a minimum of twice the aggregate diameter of all pipe and wire contained within sleeve or conduit pipe. Minimum sleeve size is 2-inch. Indicate all sleeve locations on "as-built" record drawings.
- Coordinate and install all electrical power to the irrigation control system in accordance with the national electric code and all applicable local electric utility codes.
- 10. Gate valves shall be ported to provide for full flow. Labeled and nominal size of valve opening shall be the same.
- 11. All materials and workmanship shall be true to type, form, finish and of the highest standards of the trade. Damaged or inferior materials shall be removed from the site without delay.
- 12. Install pressure regulating module for all drip valve assemblies, set discharge pressure to 35 psi.
- 13. Install irrigation pipe and components a minimum of 8 feet from tree root balls. Pipe routings
- shown on drawings are diagrammatic. 14. Provide #12-1 AWG bare copper tracing wire along the entire mainline routing. Provide 24 inch
- coil of tracing wire in each valve box along mainline routing.
- 15. Contractor shall furnish and install material and equipment pertaining to the irrigation system herein specified or shown on the drawings. This shall include all items necessary to complete
- 16. Irrigation contractor to cap all flush ends hand tight prior to backfill.
- 17. Irrigation contractor shall coordinate work with planting plans to avoid conflicting locations between piping and plant pits.
- 18. All materials shall be installed as detailed in the plans. If the contract drawings and/or specifications do not thoroughly describe the method or techniques to be used, then the contractor shall install as per manufacturers specifications. If a contradiction occurs, notify the landscape architect immediately.
- 19. Irrigation contractor to use Teflon tape on all threaded joints.
- 20. No pipes shall be installed parallel and directly over another line.
- 21. Brand each valve box with 1" lettering showing zone number and controller letter. This stamp is to match the zone and controller associates with the valve's operation.
- 22. Contractor shall perform the following:
- A. Visit site and verify existing grades, construction and conditions.
- B. Notify landscape architect of discrepancies between plan and field conditions.
- C. Restore contractor damaged existing work to the satisfaction of the engineer or landscape architect without cost to the owner.
- D. Be satisfied that the plan can be constructed, functional and complete.
- 23. All equipment shall be maintained while under construction. Maintenance includes: water scheduling, replacement of defective or damaged equipment, adjustment and re-adjustment of heads and other equipment
- 24. Contractor to ensure the following:
  - A. Lines and valves are to be placed within planting beds and project limits. These plans are schematic. contractor shall size all pipe.
  - B. 100% coverage of irrigation system to all plants regardless of size or type and shall confirm all non-irrigated areas prior to submitting a bid.
- 25. Install two (2) spare #14-1 AWG control wires for each unused station and one spare #12-1 AWG common wire from the respective controller to this location for use as a spare wires in each remote control valve box along the entire wire routing for this controller. Seal wire ends water tight and contain within valve box at this location.
- 26. Should field adjustments be made to the site plan, irrigation contractor shall make all necessary adjustments to the irrigation system to ensure proper functionality. Landscape architect is to be notified of any and all changes made to the irrigation system, prior to instillation of said





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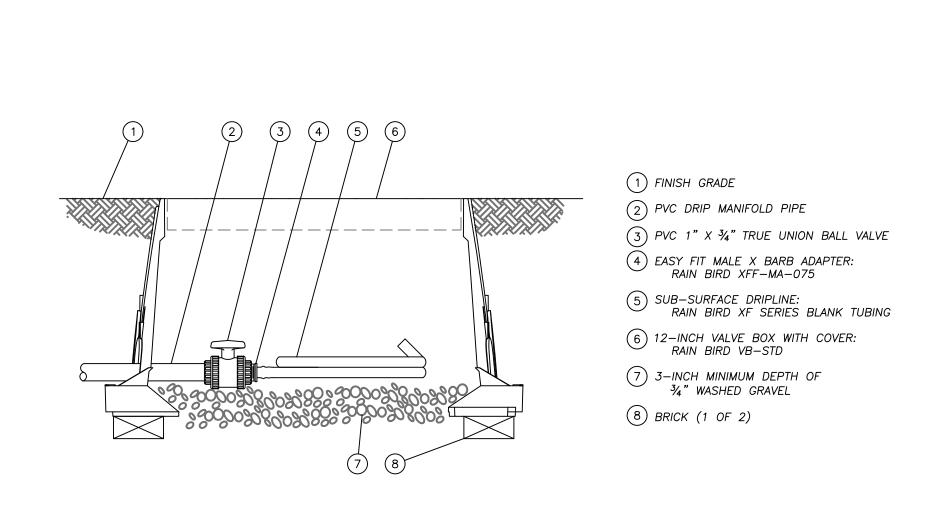
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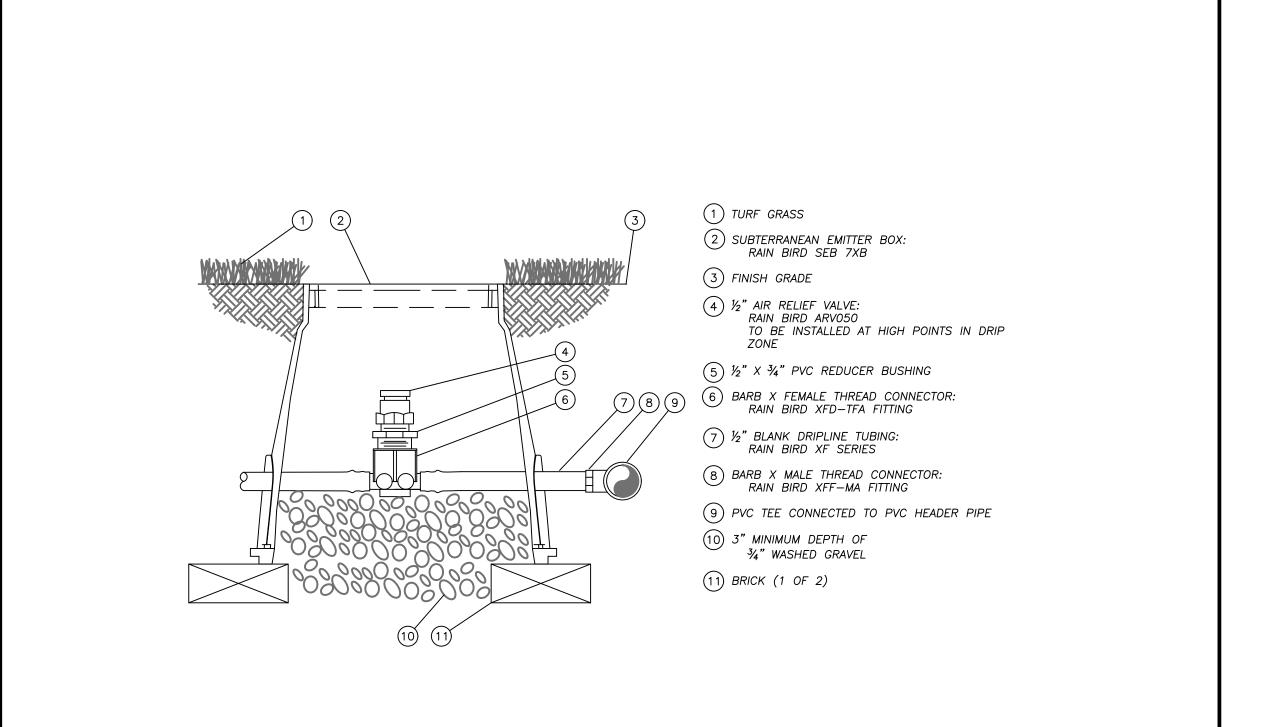
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**IRRIGATION DETAILS 1** 

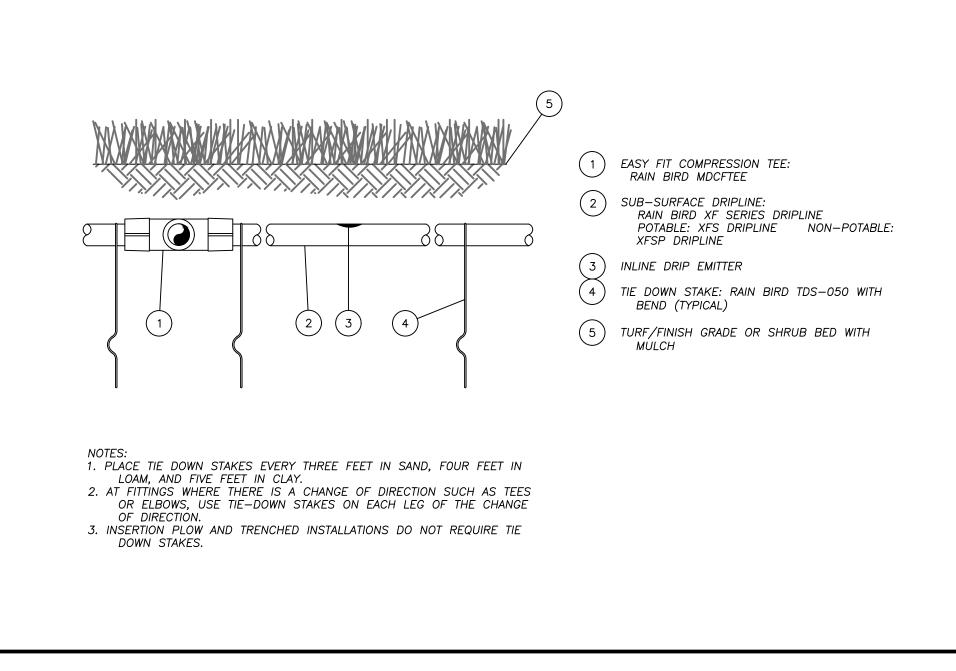
## 907 TYPICAL ISLAND DRIPLINE LAYOUT DETAIL





# 908 DRIPLINE FLUSH POINT W/BALL VALVE DETAIL





909 XFS SUB-SURFACE DRIPLINE BURIAL DETAIL



BOLAND ARCHITECTS

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**IRRIGATION DETAILS 2**