

# Final Development Plan

NW ¼ Section 16, Township 47 North, Range 31 West  
Lee's Summit, Jackson County, Missouri

## GENERAL NOTES:

- 1 - ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL AS ADOPTED BY ORDINANCE 5813.
- 2 - ALL REQUIRED EASEMENTS WITHIN THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR ON THE FINAL PLAT.
- 3 - ANY REQUIRED EASEMENT LOCATED OUTSIDE OF THE BOUNDARY OF THIS PROJECT SHALL BE PROVIDED FOR BY SEPARATE INSTRUMENT PRIOR TO ISSUANCE OF CONSTRUCTION PERMITS.
- 4 - THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.
- 5 - THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816 623.9888 OF ANY CONFLICT WITH THE IMPROVEMENTS PROPOSED BY THESE PLANS AND SITE CONDITIONS.
- 6 - THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND OBTAIN THE APPROPRIATE BLASTING PERMITS FOR A REQUIRED BLASTING. IF BLASTING IS ALLOWED, ALL BLASTING SHALL CONFORM TO STATE REGULATIONS AND LOCAL ORDINANCES.

## UTILITY COMPANIES:

THE FOLLOWING LIST OF UTILITY COMPANIES IS PROVIDED FOR INFORMATION ONLY. WE DO NOT OFFER ANY GUARANTEE OR WARRANTY THAT THIS LIST IS COMPLETE OR ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES THAT MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION AND VERIFYING THE ACTUAL LOCATION OF EACH UTILITY LINE. THE CONTRACTOR SHALL NOTIFY ENGINEERING SOLUTIONS AT 816.623.9888 OF ANY CONFLICT WITH PROPOSED IMPROVEMENTS.

EVERGY - 298-1196  
MISSOURI GAS ENERGY - 756-5281  
SOUTHWESTERN BELL TELEPHONE - 761-5011  
COMCAST CABLE - 785-1100  
WILLIAMS PIPELINE - 422-6300  
CITY OF LEE'S SUMMIT PUBLIC WORKS - 969-1800  
CITY OF LEE'S SUMMIT PUBLIC WORKS INSPECTIONS - 969-1800  
CITY OF LEE'S SUMMIT WATER UTILITIES - 969-1900  
MISSOURI ONE CALL (DIG RITE) - 1-800-344-7483

## PROPERTY DESCRIPTION

Lot 294, Newberry Landings 1st Plat

## OIL - GAS WELLS

ACCORDING TO EDWARD ALTON MAY JR'S ENVIRONMENTAL IMPACT STUDY OF ABANDONED OIL AND GAS WELLS IN LEE'S SUMMIT, MISSOURI IN 1995, THERE ARE NOT OIL AND GAS WELLS WITHIN 185 FEET OF THE PROPERTY AS SURVEYED HEREON.

## FLOOD INFORMATION:

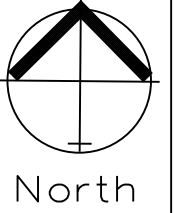
SITE IS LOCATED ON FIRM PANEL 29095C0438G, DATED JANUARY 20, 2017 THE SITE IS LOCATED IN ZONE "X".

## INDEX OF SHEETS:

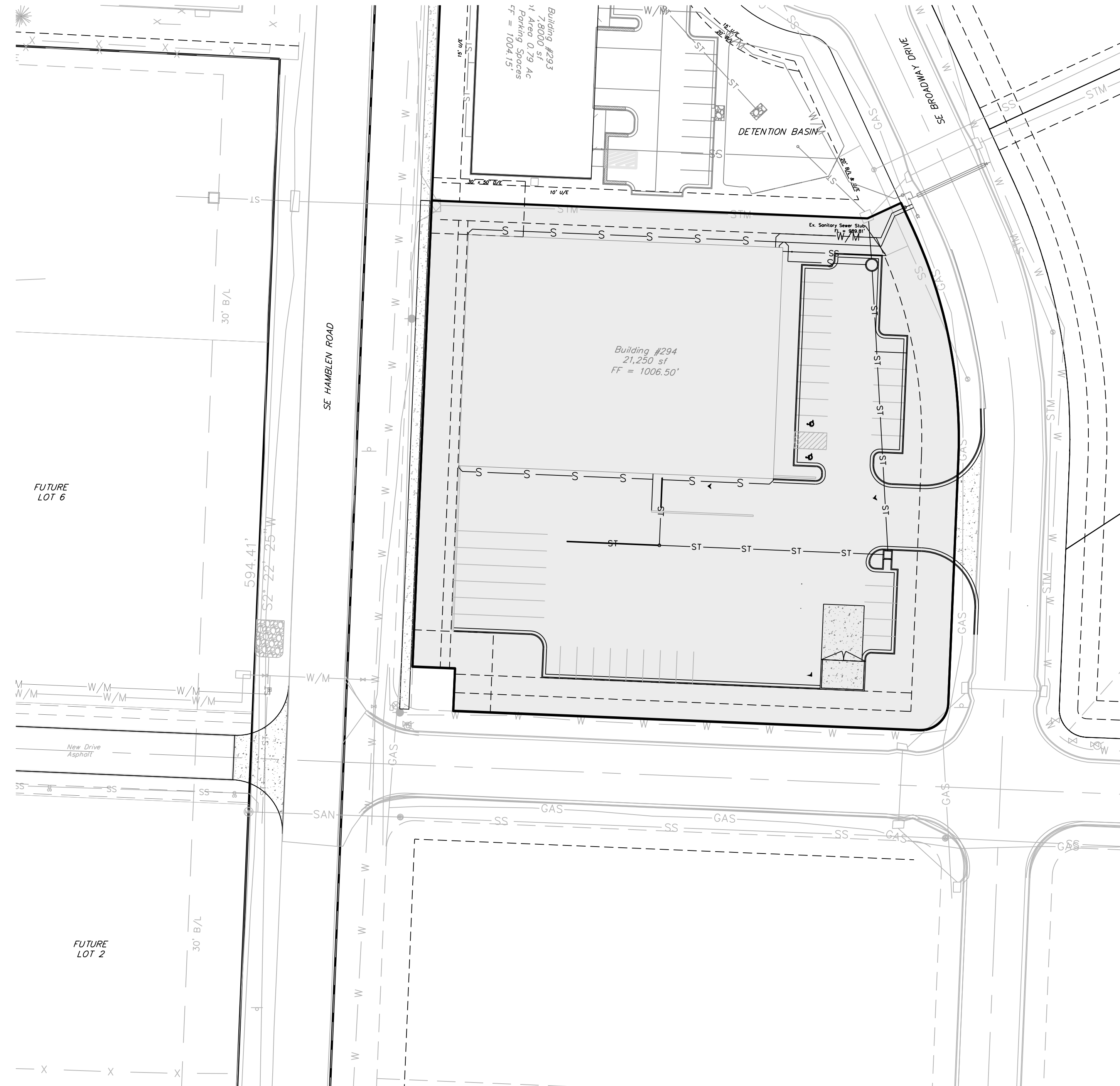
- C.001 ~ COVER SHEET
- C.050 ~ ESC PHASE 1 PLAN
- C.051 ~ ESC PHASE 2 PLAN
- C.052 ~ ESC PHASE 3 PLAN
- C.100 ~ SITE PLAN
- C.101 ~ DIMENSION PLAN
- C.200 ~ GRADING PLAN
- C.201 ~ SPOT ELEVATIONS
- C.202 ~ PRE-DEVELOPMENT DRAINAGE AREAS
- C.203 ~ POST-DEVELOPMENT DRAINAGE AREAS
- C.300 ~ ROOF DRAIN PLAN
- C.400 ~ UTILITY PLAN GENERAL LAYOUT
- C.401 ~ STANDARD DETAIL SHEET
- L.100 ~ LANDSCAPE PLAN
- L.100 ~ LANDSCAPE DETAILS



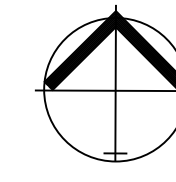
Vicinity Map



Professional Registration  
Missouri  
Engineering 200602188-D  
Surveying 200500319-D  
Kansas  
Engineering E-1695  
Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821



ALL PAVING ON THE PARKING LOT WILL COMPLY WITH THE UNIFIED DEVELOPMENT ORDINANCE ARTICLE 12 IN TERMS OF PAVING THICKNESS AND BASE



## FINAL DEVELOPMENT PLAN

SCALE: 1" = 40'

## Site Data Table :

Lot Area:	77,968 sq. ft. (1.79 Ac.)
Building Area - Warehouse	17,937.50 sq. ft. (0.41 Acres)
Building Area - Office	3,312.50 sq. ft. (0.08 Acres)
Total Building Area	21,250 sq. ft. (0.49 Acres)
Parking/Sidewalk	31,750 sq. ft. (0.73 Acres)
Impervious Area	53,000 sq. ft. (1.22 Acres) 67.98% of Site
Floor-Area-Ratio	27.25%
Total Parking	
Provided	32 Standard (1 ADA Accessible 1 ADA Van Accessible)
Required	
Office:	4 Spaces per 1000 sq.ft. = 3.31 x 4 = 14 Spaces
Warehouse/Storage:	1 Spaces per 1000 sq.ft. = 17.94 x 1 = 18 Spaces
Total:	32 Spaces
Current Zoning:	PI - Planned Industrial
Current Use:	Vacant
Proposed Use	Commercial Office / Warehouse

## Sanitary Sewer Service

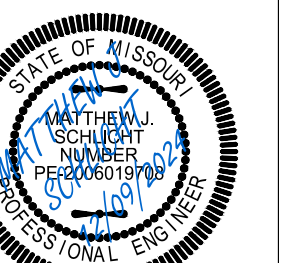
Sanitary service will be provided from the existing sanitary sewer located on the east side of property.

## Water Service

Water service will be provided from the existing main located on the east side of the property.

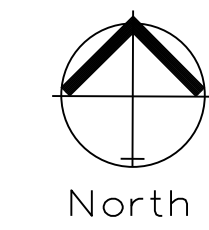
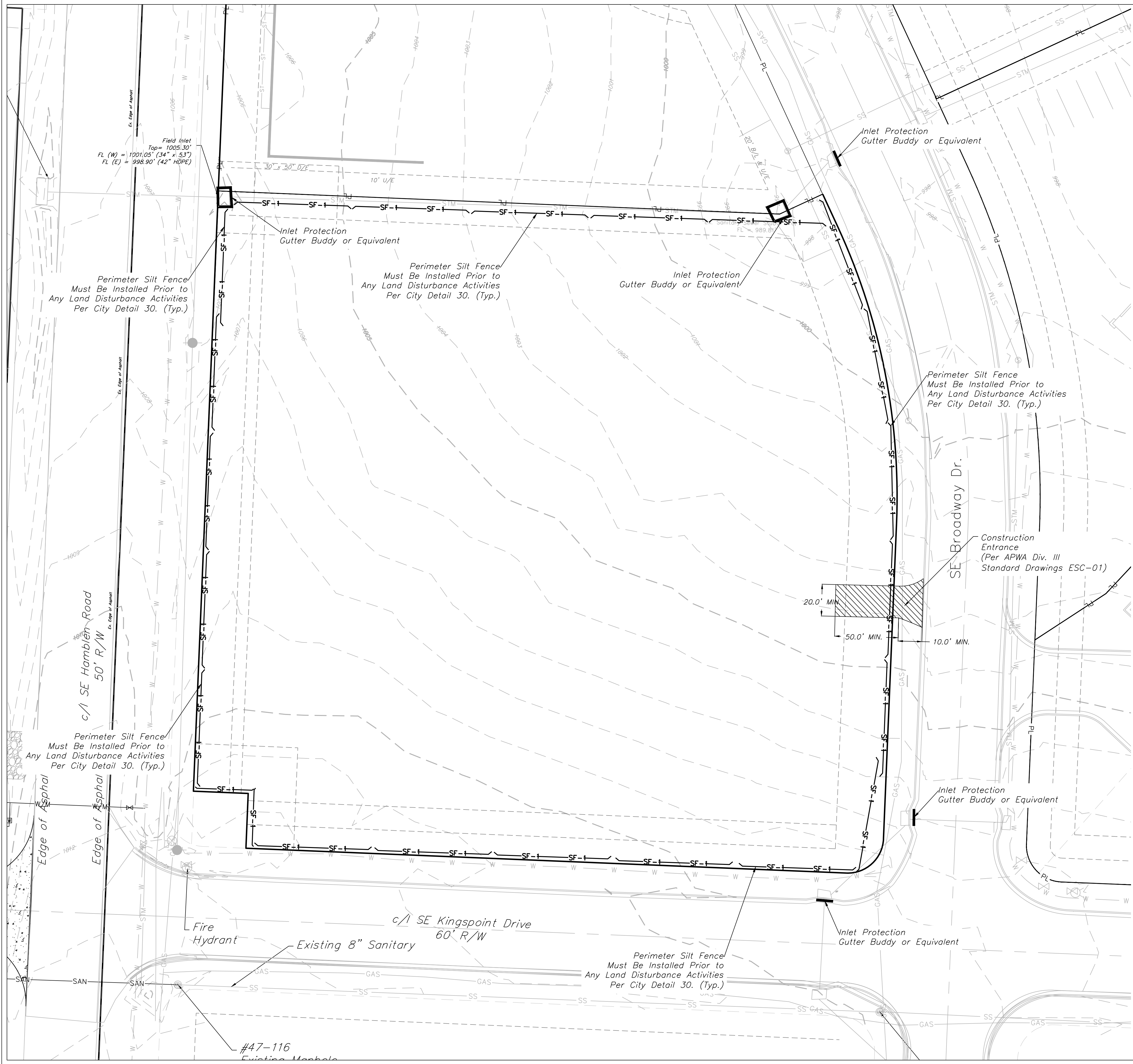
Project:  
NEWBERRY  
LANDING, LSMO  
Issue Date:  
January 4, 2024

FINAL DEVELOPMENT PLAN  
Construction Plans for:  
Lot 294, Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

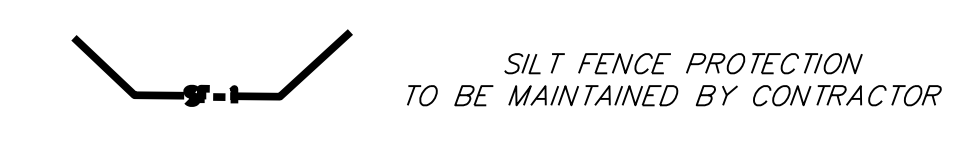


Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226

REVISIONS  
12-09-2024



PRE CLEARING PLAN  
SCALE: 1" = 20'



**LEGEND**  
PHASE 1 SILT FENCE — SF-1 — SF-1  
PHASE 2 SILT FENCE — SF-2 — SF-2

**MAINTENANCE:**  
TO MAINTAIN THE EROSION AND SEDIMENT CONTROLS, THE FOLLOWING PROCEDURES WILL BE PERFORMED:  
**SEDIMENT CAPTURE DEVICES:** SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC FENCES. WHEN THE DEPTH OF ACCUMULATED SEDIMENT REACHES ABOUT ONE-THIRD THE HEIGHT OF THE STRUCTURE.  
**STORM SEWER INLETS:** ANY SEDIMENT IN THE STORM SEWER INLETS WILL BE REMOVED AND DISPOSED OF PROPERLY.  
**TEMPORARY CONTROLS:** ALL TEMPORARY CONTROLS WILL BE REMOVED AFTER THE DISTURBED AREAS HAVE BEEN STABILIZED.

**INSPECTION PROCEDURES:**  
INSPECTIONS WILL BE DONE BY THE RESPONSIBLE PERSON(S) AT LEAST ONCE EVERY WEEK AND WITHIN 24 HOURS EACH STORM EVENT PRODUCING ANY AMOUNT OF RAINFALL. AREAS THAT HAVE BEEN RESEEDED WILL BE INSPECTED REGULARLY AFTER SEED GERMINATION TO ENSURE COMPLETE COVERAGE OF EXPOSED AREAS. DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED SHALL HAVE ALL POLLUTION CONTROL MEASURES INSPECTED FOR PROPER INSTALLATION, OPERATION AND MAINTENANCE. LOCATIONS WHERE STORM WATER LEAVES THE SITE SHALL BE INSPECTED FOR EVIDENCE OF EROSION OR SEDIMENT DEPOSITION. ANY DEFICIENCIES SHALL BE NOTED IN A REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE INSPECTION. THE PERMITTEE SHALL PROMPTLY NOTIFY THE SITE CONTRACTORS RESPONSIBLE FOR OPERATION AND MAINTENANCE OF POLLUTION CONTROL DEVICES OF DEFICIENCIES.

IF THE EXISTING GROUND COVER IS NATURAL GRASS, DISTURBED AREAS SHALL BE TEMPORARILY SEEDDED WITH WHEAT/RYE AT A RATE OF 1.5 POUNDS PER 1000 SQUARE FEET. PERMANENT SEEDING SHALL CONSIST OF 80% IN THREE EQUAL PARTS OF THIN BLADE, TURF-TYPE, TALL FESCUE AND 10% BLUEGRASS SEED AT A RATE OF 10 POUNDS PER 1000 SQUARE FEET. BOTH TEMPORARY AND PERMANENT SEEDED AREAS SHALL BE MULCHED AND WATERED TO MAINTAIN THE PROPER MOISTURE LEVEL OF THE SOIL TO ESTABLISH GRASS. NEW GRASS SHALL BE WATERED AND MAINTAINED UNTIL IT REACHES A HEIGHT OF 3 INCHES. ANY BARE AREAS SHALL BE RESEEDDED.

ALL EROSION CONTROL DEVICES SHALL BE REMOVED BY GENERAL CONTRACTOR AFTER SITE STABILIZATION IS COMPLETE AND APPROVED BY ENGINEER.

THE DEVELOPER WILL DESIGNATE A QUALIFIED PERSON OR PERSONS TO PERFORM THE FOLLOWING INSPECTIONS:  
**STABILIZATION MEASURES:** DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION WILL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. AFTER A PORTION OF THE SITE IS FINALLY STABILIZED, INSPECTIONS WILL BE CONDUCTED AT LEAST ONCE EVERY MONTH THROUGHOUT THE LIFE OF THE PROJECT. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION MEASURES.  
**STRUCTURAL CONTROLS:** FILTER FABRIC FENCES AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN WILL BE INSPECTED REGULARLY FOR PROPER POSITIONING, ANCHORING, AND EFFECTIVENESS IN TRAPPING SEDIMENTS. SEDIMENT WILL BE REMOVED FROM THE UPSTREAM OR UPSLOPE SIDE OF THE FILTER FABRIC. CONTRACTOR CAN CONTACT ENGINEERING SOLUTIONS FOR COPIES OF THE INSPECTION FORM TO BE USED FOR STABILIZATION MEASURES.  
**DISCHARGE POINTS:** DISCHARGE POINTS OR LOCATIONS WILL BE INSPECTED TO DETERMINE WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT AMOUNTS OF POLLUTANTS FROM ENTERING RECEIVING WATERS.  
**CONSTRUCTION ENTRANCE:** LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE WILL BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING.

A LOG OF EACH INSPECTION SHALL BE KEPT. THE INSPECTION REPORT IS TO INCLUDE THE FOLLOWING MINIMUM INFORMATION: INSPECTOR'S NAME, DATE OF INSPECTION, OBSERVATIONS RELATIVE TO THE EFFECTIVENESS OF THE POLLUTION CONTROL DEVICES, ACTIONS TAKEN OR NECESSARY TO CORRECT DEFICIENCIES, AND LISTING OF AREAS WHERE LAND DISTURBANCE OPERATIONS HAVE PERMANENTLY OR TEMPORARILY STOPPED. THE INSPECTION REPORT SHALL BE SIGNED BY THE PERMITTEE OR BY THE PERSON PERFORMING THE INSPECTION IF DULY AUTHORIZED TO DO SO.

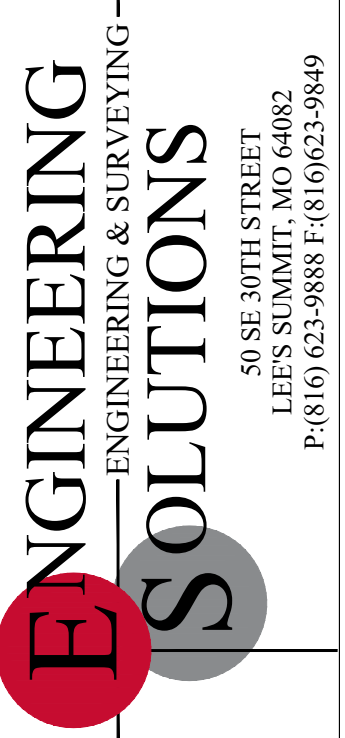
**EROSION CONTROL DESCRIPTION:**  
1.) SILT FENCE SHALL BE PLACED AT THE PERIMETER OF THE GRADING AND AT INTERMEDIATE AREAS THROUGHOUT THE SITE AS SHOWN ON THE PLAN. INLET SEDIMENT TRAPS SHALL BE PLACED SURROUNDING ALL STORM INLETS  
2.) INSTALL TEMPORARY CONSTRUCTION ENTRANCE AS SHOWN ON PLAN  
3.) INSTALL SEDIMENT TRAPS PER PLAN AND PER DETAIL

**EROSION CONTROL PROCEDURE:**  
1.) SILT FENCE AND TEMPORARY CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE PERIMETER OF THE GRADED AREAS PRIOR TO BEGINNING OF CLEARING OR DEMOLITION OPERATIONS. THE CONTRACTOR SHALL INSTALL SILT FENCE AS SHOWN ON PLANS AS GRADING PROGRESSES.  
2.) SEDIMENT TRAPS SHALL BE CLEANED AND MAINTAINED THROUGHOUT THE PROJECT

**TEMPORARY CONSTRUCTION ENTRANCE NOTES:**  
A.) INSTALLATION  
1.) AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC STREETS. IF POSSIBLE, LOCATE WHERE PERMANENT ROADS WILL EVENTUALLY BE CONSTRUCTED  
2.) REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE AND CROWN FOR POSITIVE DRAINAGE  
3.) IF SLOPE TOWARDS THE PUBLIC ROAD EXCEEDS 2% CONSTRUCT A 6 TO 8 INCH HIGH RIDGE WITH 3H : 1V SIDE SLOPES ACROSS THE FOUNDATION APPROXIMATELY 15 FEET FROM THE EDGE OF THE PUBLIC ROAD TO DIVERT RUNOFF AWAY FROM IT.  
4.) INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES ALONG PUBLIC ROADS  
5.) PLACE STONE TO DIMENSIONS AND GRADES AS SHOWN ON PLANS. LEAVE SURFACE SMOOTH AND SLOPED FOR DRAINAGE  
6.) DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE  
7.) IF WET CONDITIONS ARE ANTICIPATED PLACE GEOTEXTILE FABRIC ON THE GRADED FOUNDATION TO IMPROVE STABILITY  
B.) TROUBLESHOOTING  
1.) CONSULT WITH A QUALIFIED DESIGN PROFESSIONAL IF ANY OF THE FOLLOWING OCCUR:  
- INADEQUATE RUNOFF CONTROLS TO THE EXTENT THAT SEDIMENT WASHES ONTO PUBLIC ROADS  
- INSTALL DIVERSIONS OR OTHER RUNOFF CONTROL MEASURES  
- SMALL STONE, THIN PAD, OR ABSENCE OF GEOTEXTILE FABRIC RESULTS IN RUTS AND MUDDY CONDITIONS AS STONE IS PRESSED INTO SOIL - INCREASE STONE SIZE OR PAD THICKNESS OR ADD GEOTEXTILE FABRIC  
- PAD TOO SHORT FOR HEAVY CONSTRUCTION TRAFFIC - EXTEND PAD BEYOND THE MINIMUM 50 FOOT LENGTH AS NECESSARY  
C.) INSPECTION AND MAINTENANCE  
1.) INSPECT STONE PAD AND SEDIMENT DISPOSAL AREA WEEKLY AND AFTER ANY RAIN EVENT  
2.) RESHAPE PAD AS NEEDED FOR PROPER DRAINAGE AND RUNOFF CONTROL  
3.) TOP DRESS WITH CLEAN 2 AND 3 INCH STONE AS NEEDED  
4.) IMMEDIATELY REMOVE MUD OR SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROADWAY. REPAIR ANY BROKEN ROAD PAVEMENT IMMEDIATELY  
5.) REMOVE ALL TEMPORARY ROAD MATERIALS FROM AREAS WHERE PERMANENT VEGETATION WILL BE ESTABLISHED

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

NOTES: The Land Disturbance Plans indicates the final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.



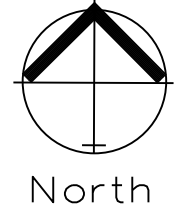
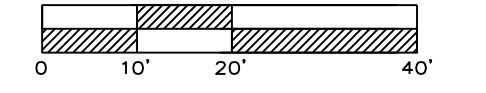
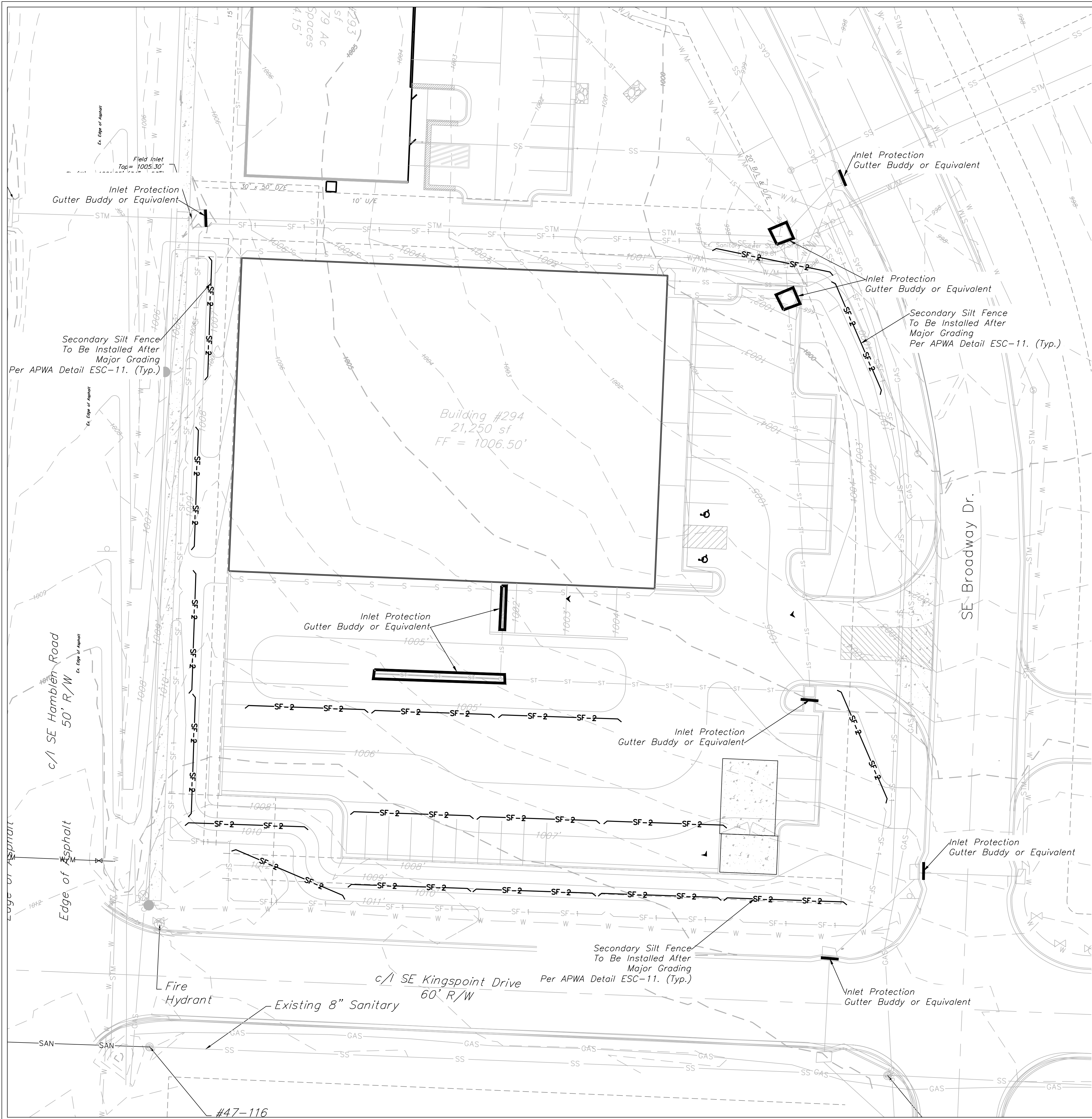
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Project: Newberry Landings, LSMO  
Issue Date: January 4, 2024  
Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

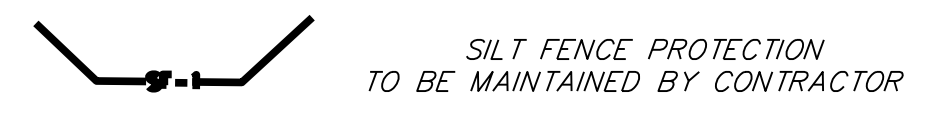
ESC PHASE 1 PLAN  
Construction Plans for:  
Lot 294, Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226

REVISIONS  
12-09-2024



**INACTIVE AREA STABILIZATION PLAN**  
SCALE: 1" = 20'



SILT FENCE PROTECTION  
TO BE MAINTAINED BY CONTRACTOR

**LEGEND**

PHASE 1 SILT FENCE — SF-1 — SF-1 —

PHASE 2 SILT FENCE — SF-2 — SF-2 —

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**DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.**

**NOTES:** The Land Disturbance Plans indicates the final placement of erosion control devices. The contractor(s) may proceed with construction prior to the final placement of these devices by providing additional devices to control erosion on their items of work. These devices shall be maintained until the final devices are in place.



**ENGINEERING SOLUTIONS**  
ENGINEERING & SURVEYING  
50 SE 30TH STREET  
LEES SUMMIT, MO 64082  
P: (816) 623-9888 F: (816) 623-9849

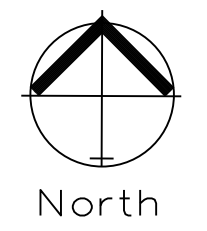
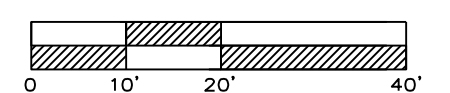
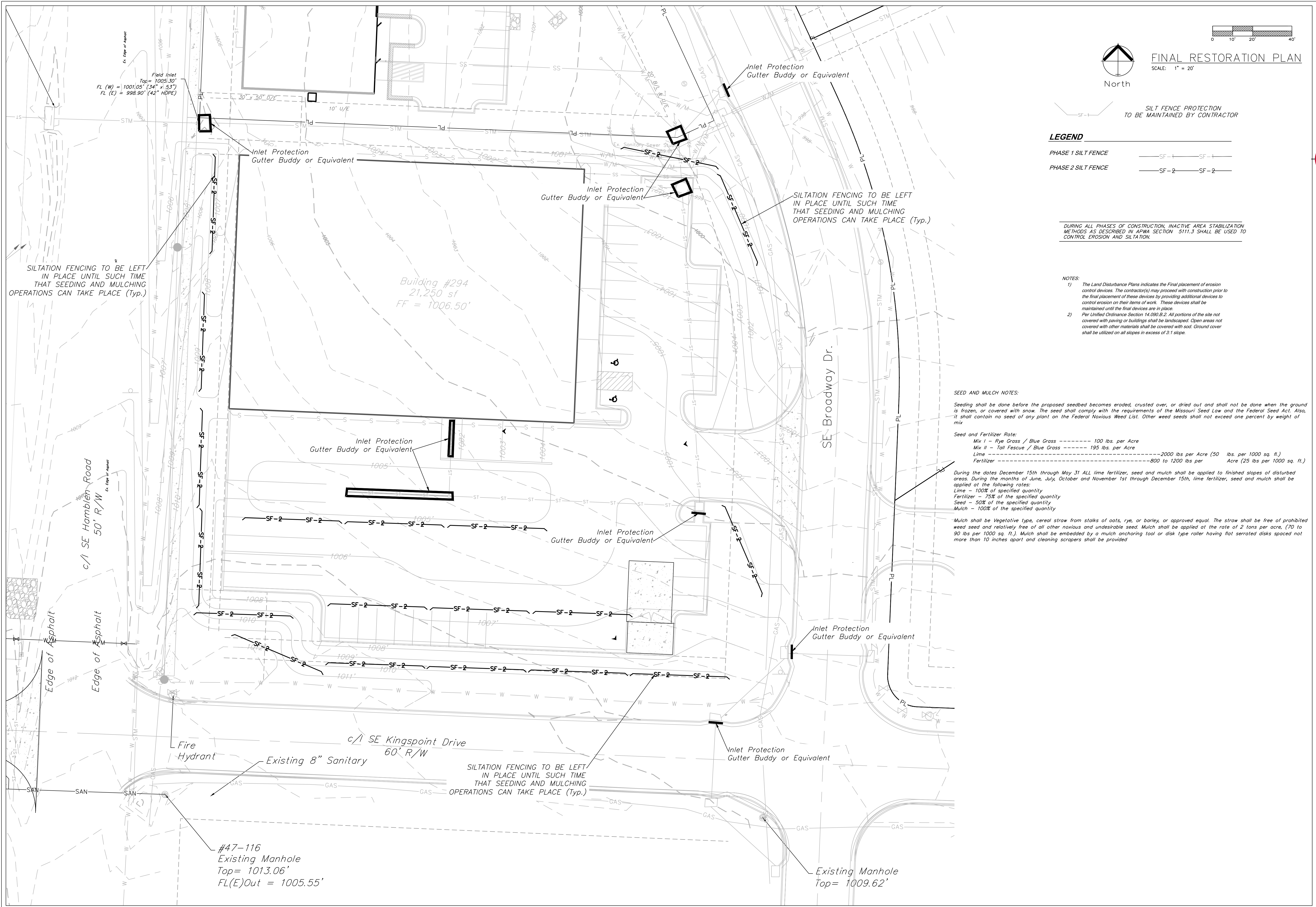
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Engineering 6254  
Nebraska  
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Project:  
NEWBERRY LANDINGS, LSNMO  
Issue Date:  
January 4, 2024

ESC PHASE 2 PLAN  
Construction Plans for:  
Lot 294, Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226

REVISIONS  
12-09-2024



**FINAL RESTORATION PLAN**

SCALE: 1" = 20'

SILT FENCE PROTECTION TO BE MAINTAINED BY CONTRACTOR

**LEGEND**

- PHASE 1 SILT FENCE ——— SF-1 ——— SF-1
- PHASE 2 SILT FENCE ——— SF-2 ——— SF-2

DURING ALL PHASES OF CONSTRUCTION, INACTIVE AREA STABILIZATION METHODS AS DESCRIBED IN APWA SECTION 5111.3 SHALL BE USED TO CONTROL EROSION AND SILTATION.

- NOTES:**
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  - 2) Per Unified Ordinance Section 14.090.B.2. All portions of the site not covered with paving or buildings shall be landscaped. Open areas not covered with other materials shall be covered with sod. Ground cover shall be utilized on all slopes in excess of 3:1 slope.

**SEED AND MULCH NOTES:**

Seeding shall be done before the proposed seedbed becomes eroded, crusted over, or dried out and shall not be done when the ground is frozen, or covered with snow. The seed shall comply with the requirements of the Missouri Seed Law and the Federal Seed Act. Also, it shall contain no seed of any plant on the Federal Noxious Weed List. Other weed seeds shall not exceed one percent by weight of mix.

**Seed and Fertilizer Rate:**  
 Mix I - Rye Grass / Blue Grass ----- 100 lbs. per Acre  
 Mix II - Tall Fescue / Blue Grass ----- 195 lbs. per Acre  
 Lime ----- 2000 lbs per Acre (50 lbs. per 1000 sq. ft.)  
 Fertilizer ----- 800 to 1200 lbs per Acre (25 lbs per 1000 sq. ft.)

During the dates December 15th through May 31 ALL lime fertilizer, seed and mulch shall be applied to finished slopes of disturbed areas. During the months of June, July, October and November 1st through December 15th, lime fertilizer, seed and mulch shall be applied at the following rates:  
 Lime - 100% of specified quantity  
 Fertilizer - 75% of the specified quantity  
 Seed - 50% of the specified quantity  
 Mulch - 100% of the specified quantity

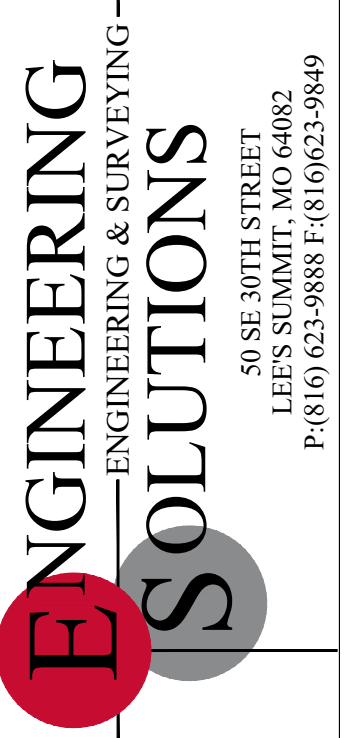
Mulch shall be Vegetative type, cereal straw from stalks of oats, rye, or barley, or approved equal. The straw shall be free of prohibited weed seed and relatively free of all other noxious and undesirable seed. Mulch shall be applied at the rate of 2 tons per acre, (70 to 90 lbs per 1000 sq. ft.). Mulch shall be embedded by a mulch anchoring tool or disk type roller having flat serrated disks spaced not more than 10 inches apart and cleaning scrapers shall be provided.

SILTATION FENCING TO BE LEFT IN PLACE UNTIL SUCH TIME THAT SEEDING AND MULCHING OPERATIONS CAN TAKE PLACE (Typ.)

SILTATION FENCING TO BE LEFT IN PLACE UNTIL SUCH TIME THAT SEEDING AND MULCHING OPERATIONS CAN TAKE PLACE (Typ.)

#47-116 Existing Manhole  
 Top = 1013.06'  
 FL(E)Out = 1005.55'

Existing Manhole  
 Top = 1009.62'



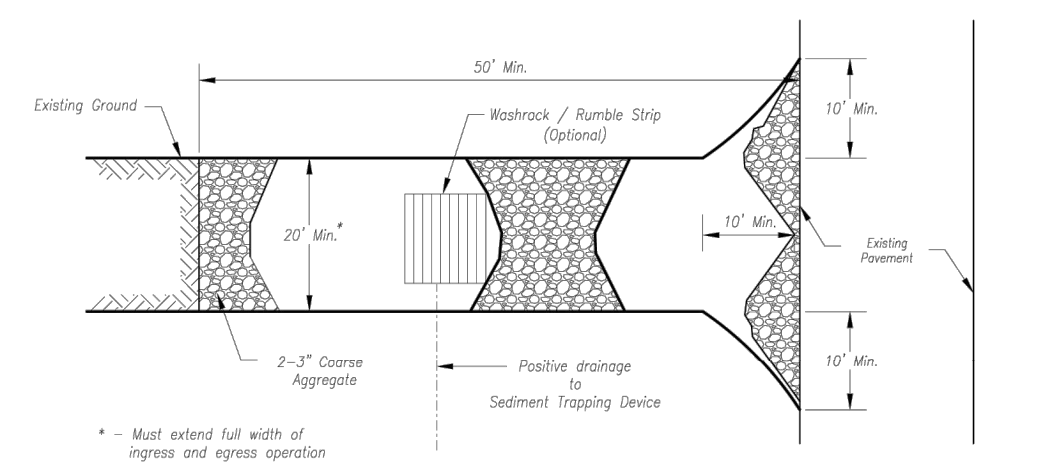
Professional Registration  
 Missouri  
 Engineering 200502188-D  
 Surveying 200500319-D  
 Kansas  
 Engineering E-1895  
 Surveying LS-218  
 Oklahoma  
 Engineering 6254  
 Nebraska  
 Engineering CA2821

Project: NEWBERRY LANDINGS, LSMO  
 Issue Date: January 4, 2024

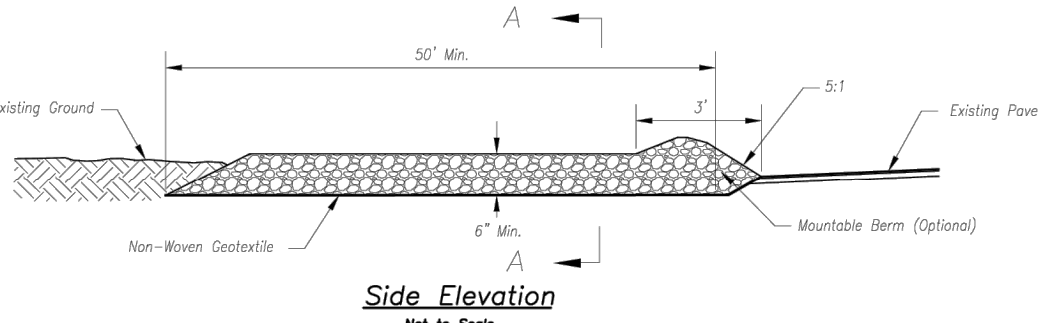
ESC Phase 3 Plan  
 Construction Plans for:  
 Lot 294, Newberry Landings First Plat  
 Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht  
 MO PE 2006019708  
 KS PE 19071  
 OK PE 25226

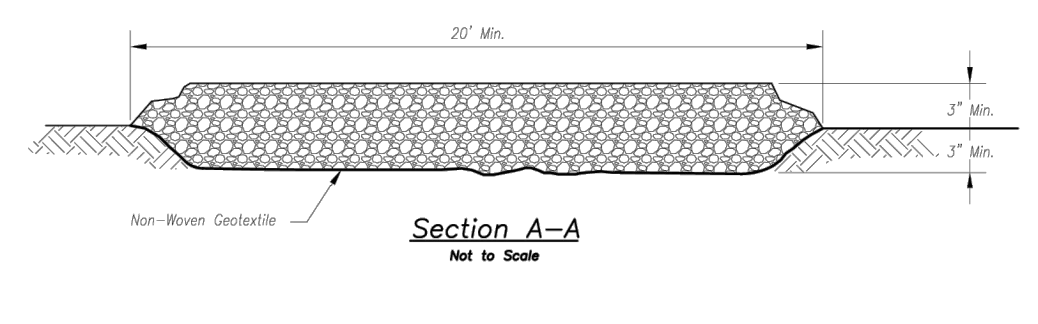
REVISIONS  
 12-09-2024



Plan View  
Not to Scale



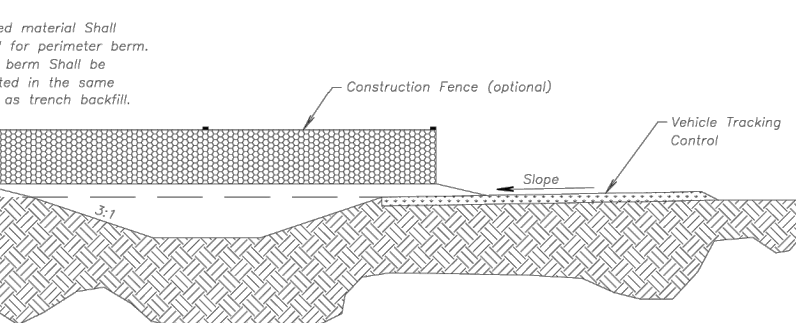
Side Elevation  
Not to Scale



Section A-A  
Not to Scale

- Notes for Concrete Washout:**
1. Concrete washout areas shall be installed prior to any concrete placement of site.
  2. Concrete washout areas shall include a filter subsurface pit sized relative to the amount of concrete to be placed on site. The slope leading out of the subsurface pit shall be 2:1. The entire trapping post shall be sloped towards the concrete washout area.
  3. Erosion trapping control is required at the access point to all concrete washout areas.
  4. Signs shall be placed at the construction site entrance, washout area and elsewhere as necessary to clearly indicate the location(s) of the concrete washout area(s) to operators of concrete truck and paving rigs.
  5. A one-piece impervious liner may be required along the bottom and sides of the subsurface pit in sandy or gravelly soils.

- Maintenance for Concrete Washout:**
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
  2. Concrete washout areas shall be enticed as necessary to maintain capacity for washed concrete.
  3. Concrete washout areas, washed concrete and all other debris in the subsurface pit shall be transported from the job site in a well-sealed container and disposed of properly.
  4. Concrete washout areas shall remain in place until all concrete for the project is placed.
  5. When concrete washout areas are removed, excavations shall be filled with suitable compacted backfill and topped, any disturbed areas associated with the installation, maintenance, and/or removal of the concrete washout areas shall be stabilized.



**CONCRETE WASHOUT**

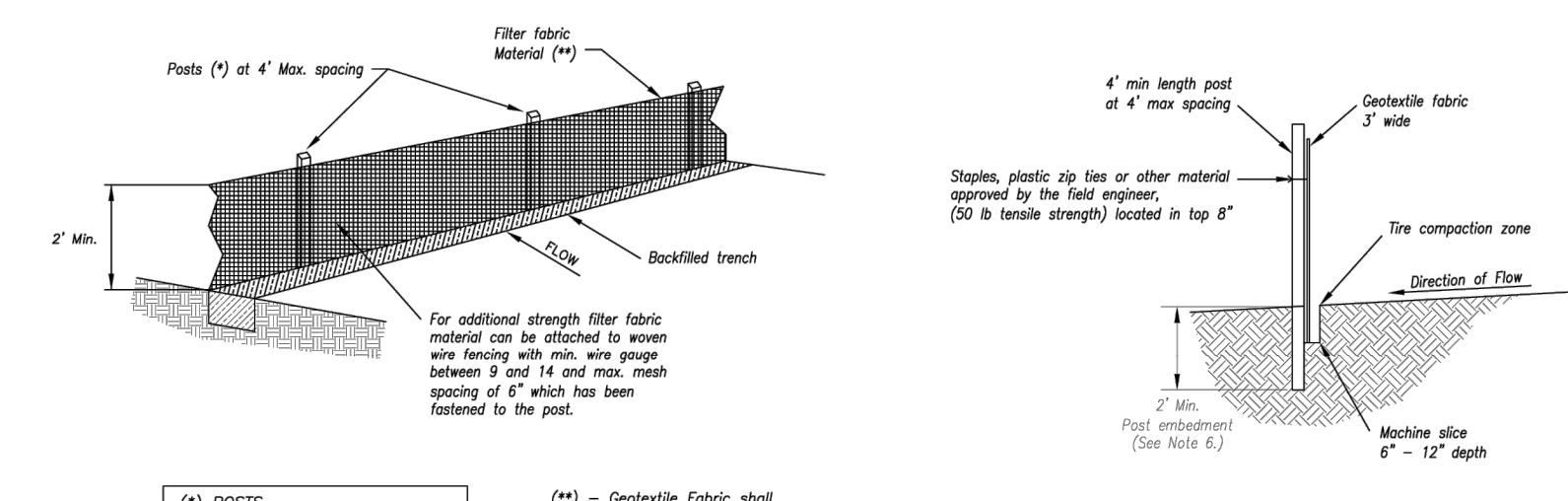
AMERICAN PUBLIC WORKS ASSOCIATION  
**APWA** KANSAS CITY METRO CHAPTER  
 CONSTRUCTION ENTRANCE AND CONCRETE WASHOUT  
 STANDARD DRAWING NUMBER ESC-01 ADOPTED: 10/24/2016

- Notes for Construction Entrance:**
1. Avoid locating on steep slopes, or curves on public roads, or downhill of disturbed area.
  2. Remove all vegetation and other unsuitable material from the foundation area, grade, and crown for positive drainage.
  3. If slope towards the public road exceeds 2%, construct a 6- to 8-inch high ridge with 3/4\"/>

- Maintenance for Construction Entrance:**
1. Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

**CONSTRUCTION ENTRANCE**

Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.



- (\*) EGOSIS**
- MIN. LENGTH 4'
  - HARDWOOD 1 1/2\"/>

(\*) - Geotextile Fabric shall meet the requirements of ASTM D2888

**SILT FENCE DETAILS**  
Not to Scale

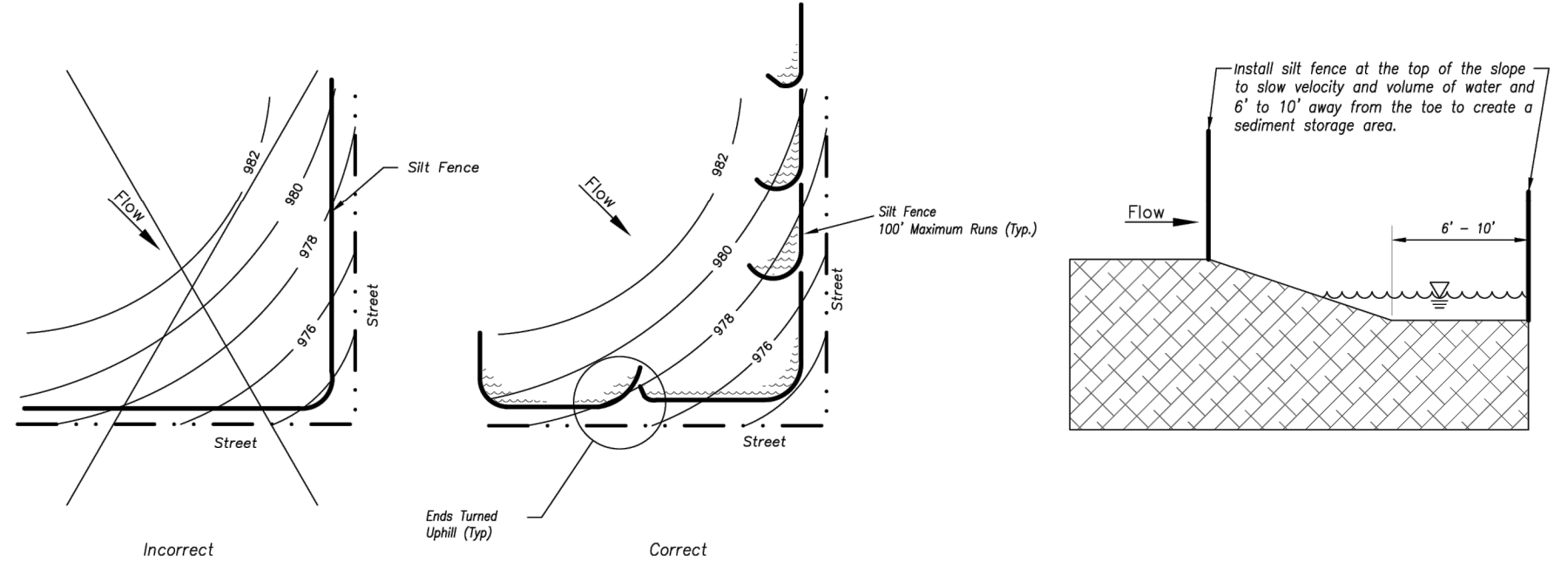
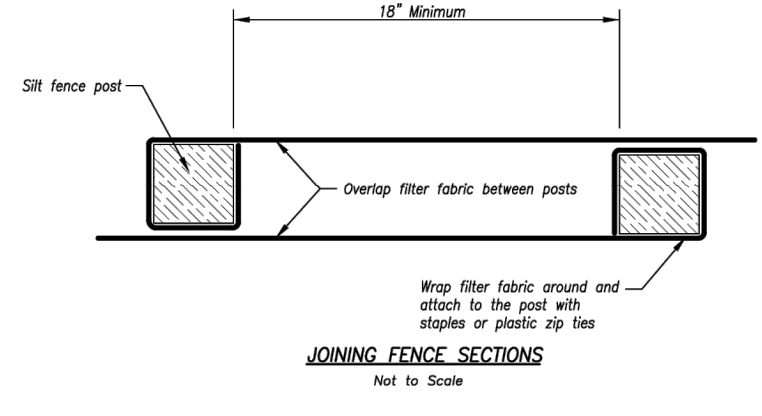


Figure A  
SILT FENCE LAYOUT  
Not to Scale

- Notes:**
1. In order to contain water, the ends of the silt fence must be turned uphill (Figure A).
  2. Long perimeter runs of silt fence must be limited to 100'. Runs should be broken up into several smaller segments to minimize water concentrations (Figure A).
  3. Long slopes should be broken up with intermediate rows of silt fence to slow runoff velocities.
  4. Attach fabric to upstream side of post.
  5. Install posts a minimum of 2' into the ground.
  6. Trenching will only be allowed for small or difficult installation, where slicing machine cannot be reasonably used.

**Maintenance:**

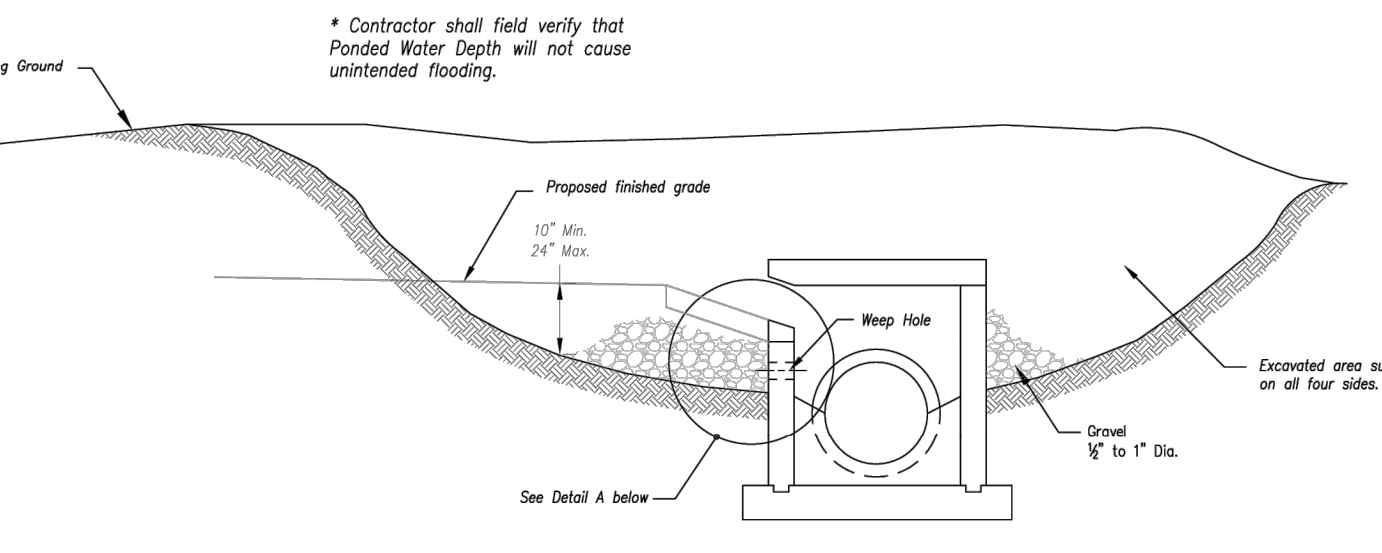
1. Remove and dispose of sediment deposits when the deposit approaches 1/3 the height of silt fence.
2. Repair as necessary to maintain function and structure.



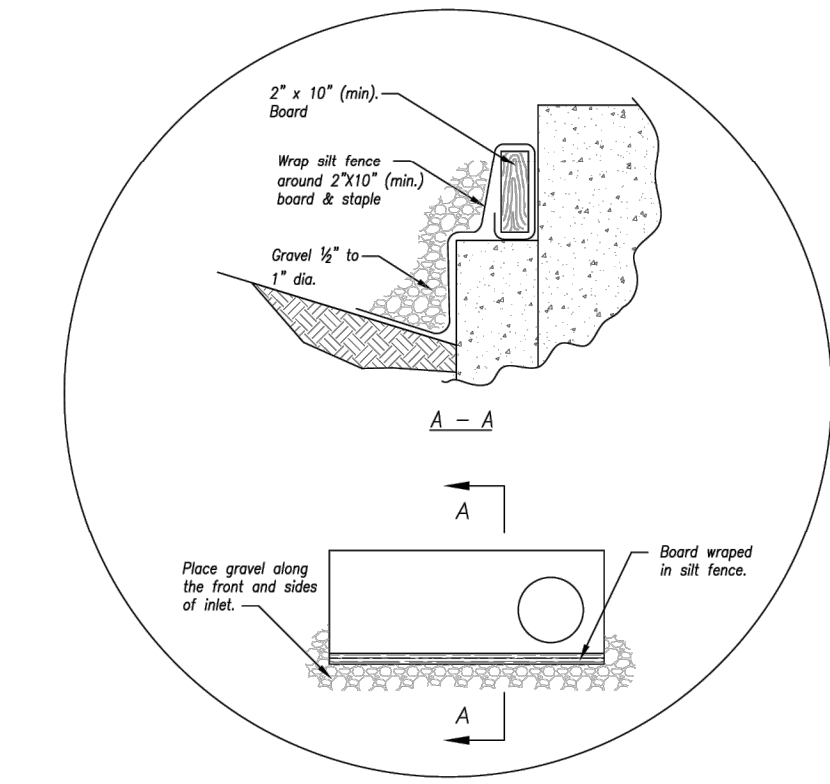
JOINING FENCE SECTIONS  
Not to Scale

AMERICAN PUBLIC WORKS ASSOCIATION  
**APWA** KANSAS CITY METRO CHAPTER  
 SILT FENCE  
 STANDARD DRAWING NUMBER ESC-03 ADOPTED: 10/24/2016

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.



**On Grade Curb Inlet Protection**

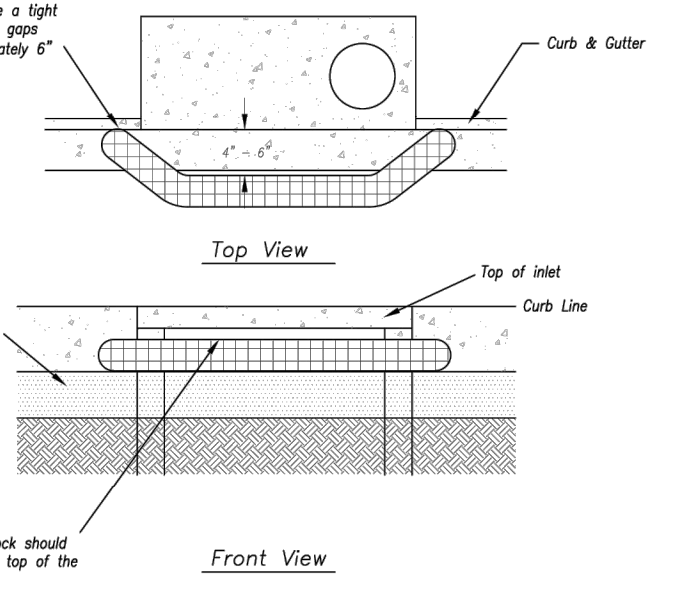


Detail A

- Notes:**
1. Immediately following inlet construction and prior to construction of curb and inlet throat, protect inlet opening by installing 2\"/>

**Maintenance:**

1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

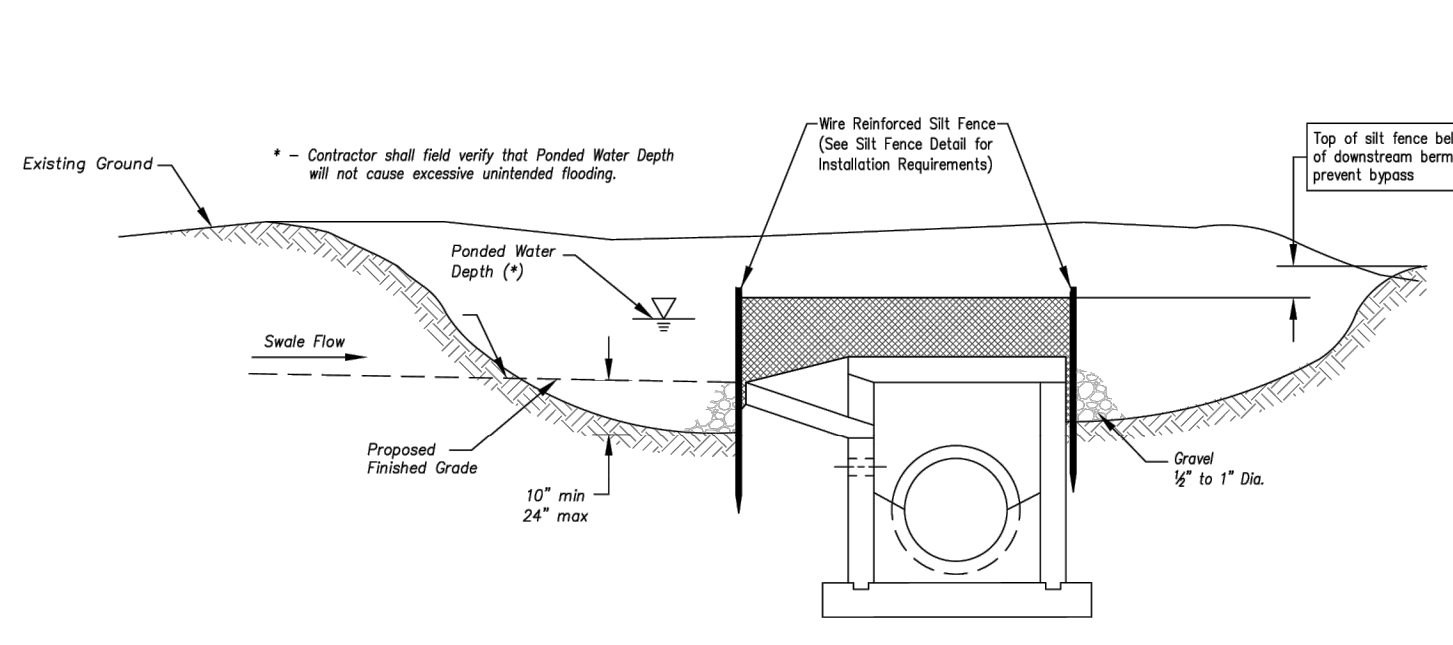


Sump Inlet Sediment Filter

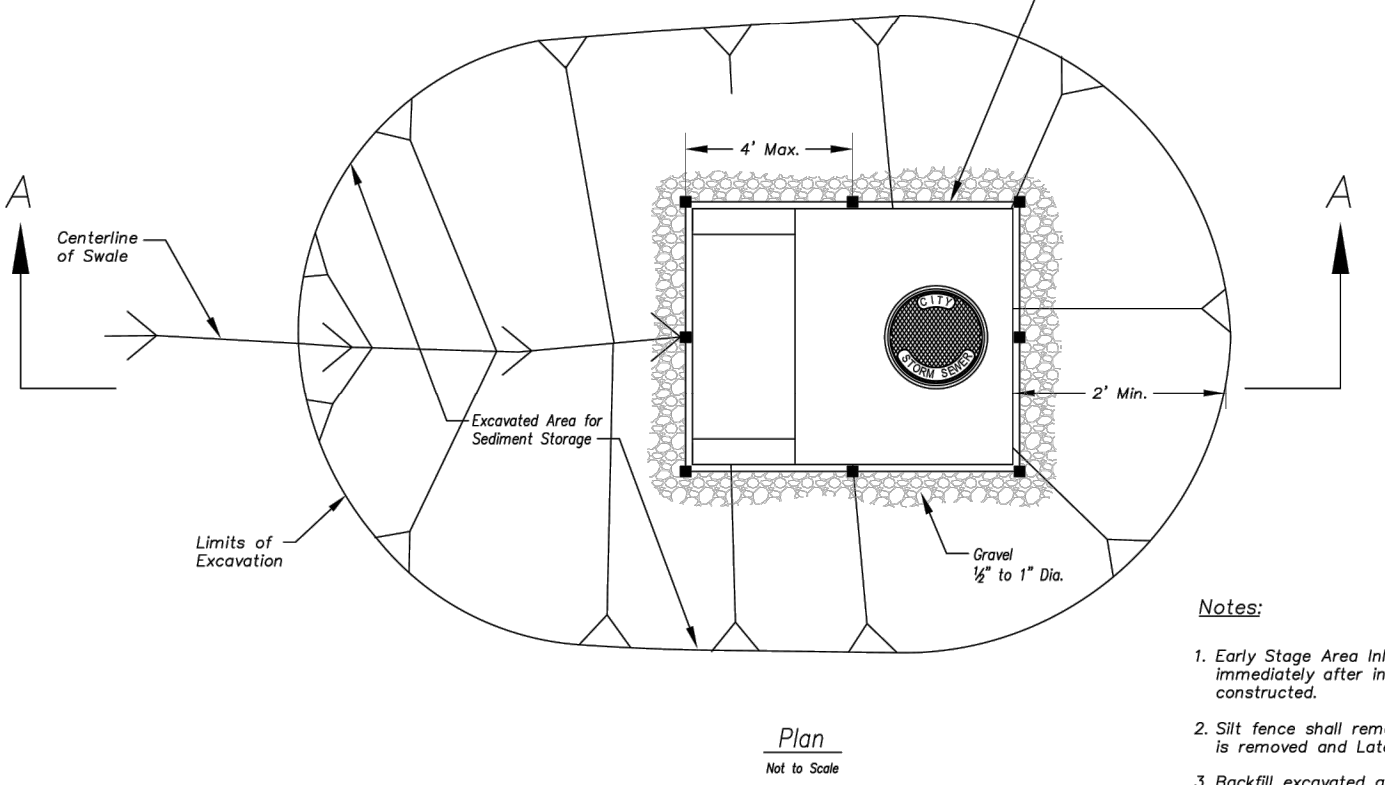
**LATE STAGE CURB INLET (After Pouring Curb and Inlet Throat)**

AMERICAN PUBLIC WORKS ASSOCIATION  
**APWA** KANSAS CITY METRO CHAPTER  
 CURB INLET PROTECTION  
 STANDARD DRAWING NUMBER ESC-06 ADOPTED: 10/24/2016

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.



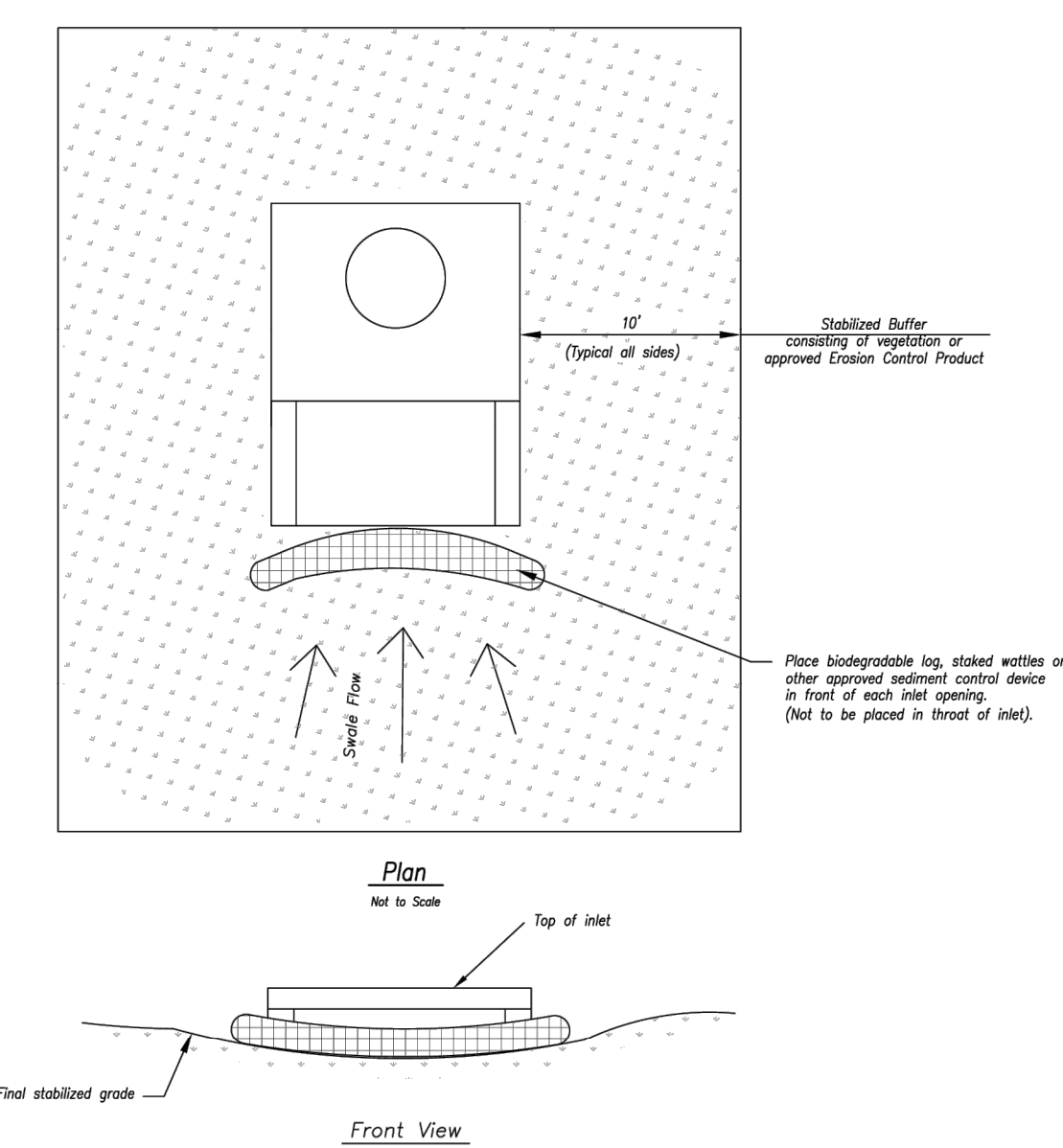
Section A-A  
Not to Scale



Plan  
Not to Scale

**EARLY STAGE AREA INLET (All open boxes and inlets not at final grade)**

- Notes:**
1. Early Stage Area Inlet Sediment Barrier to be installed immediately after inlet or junction box is constructed.
  2. Silt fence shall remain in place until excavated area is removed and Late Stage Area Inlet is being installed.
  3. Backfill excavated area ONLY after final grading of the site. Stabilization of the site is to immediately follow.
  4. Wire reinforced silt fence may be used in place of silt fence attached to wood frame.



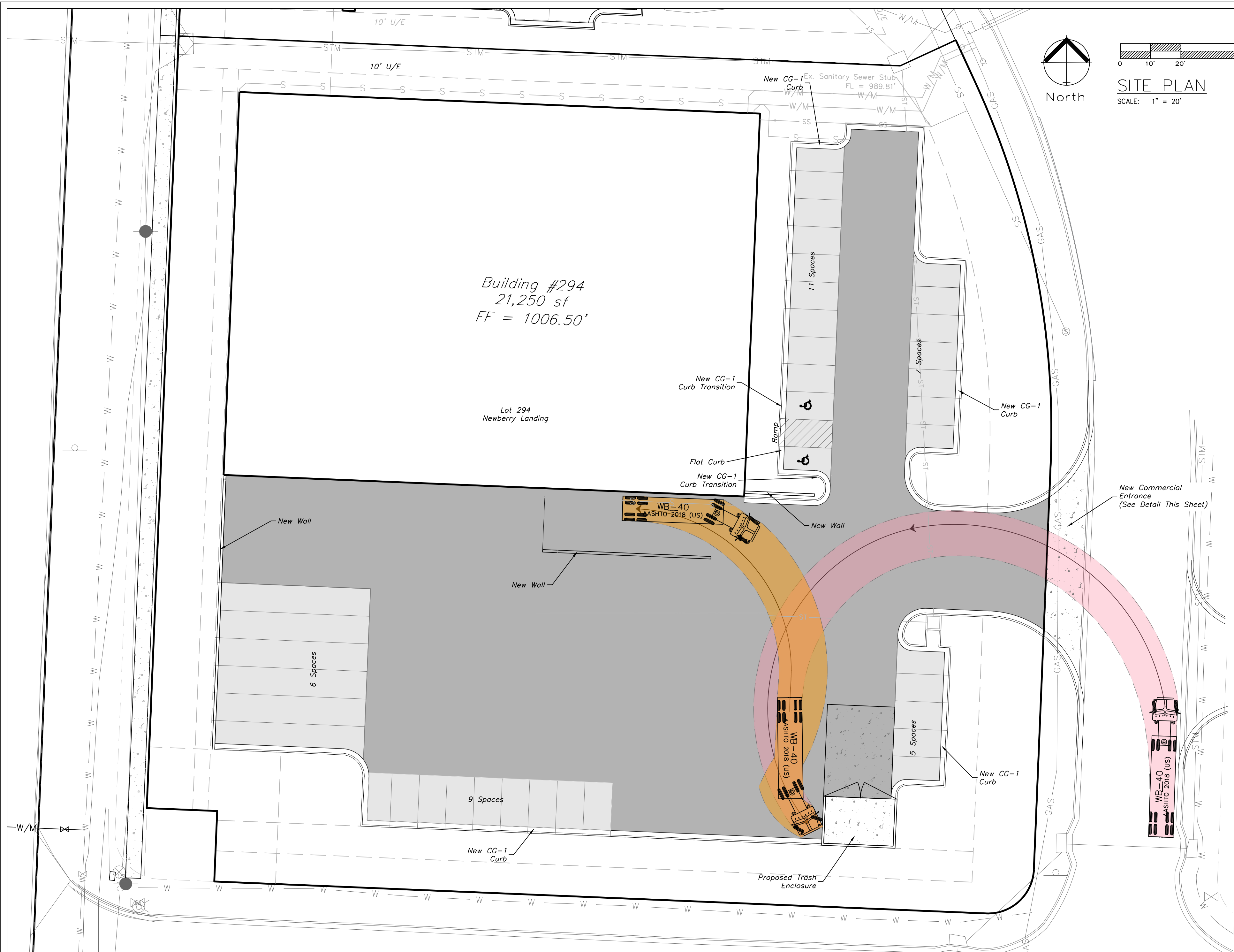
**LATE STAGE AREA INLET (Area inlets at final grade and existing inlets)**

**Maintenance:**

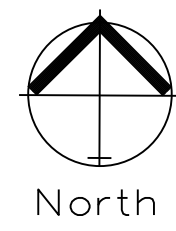
1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

AMERICAN PUBLIC WORKS ASSOCIATION  
**APWA** KANSAS CITY METRO CHAPTER  
 AREA INLET AND JUNCTION BOX PROTECTION  
 STANDARD DRAWING NUMBER ESC-07 ADOPTED: 10/24/2016

Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

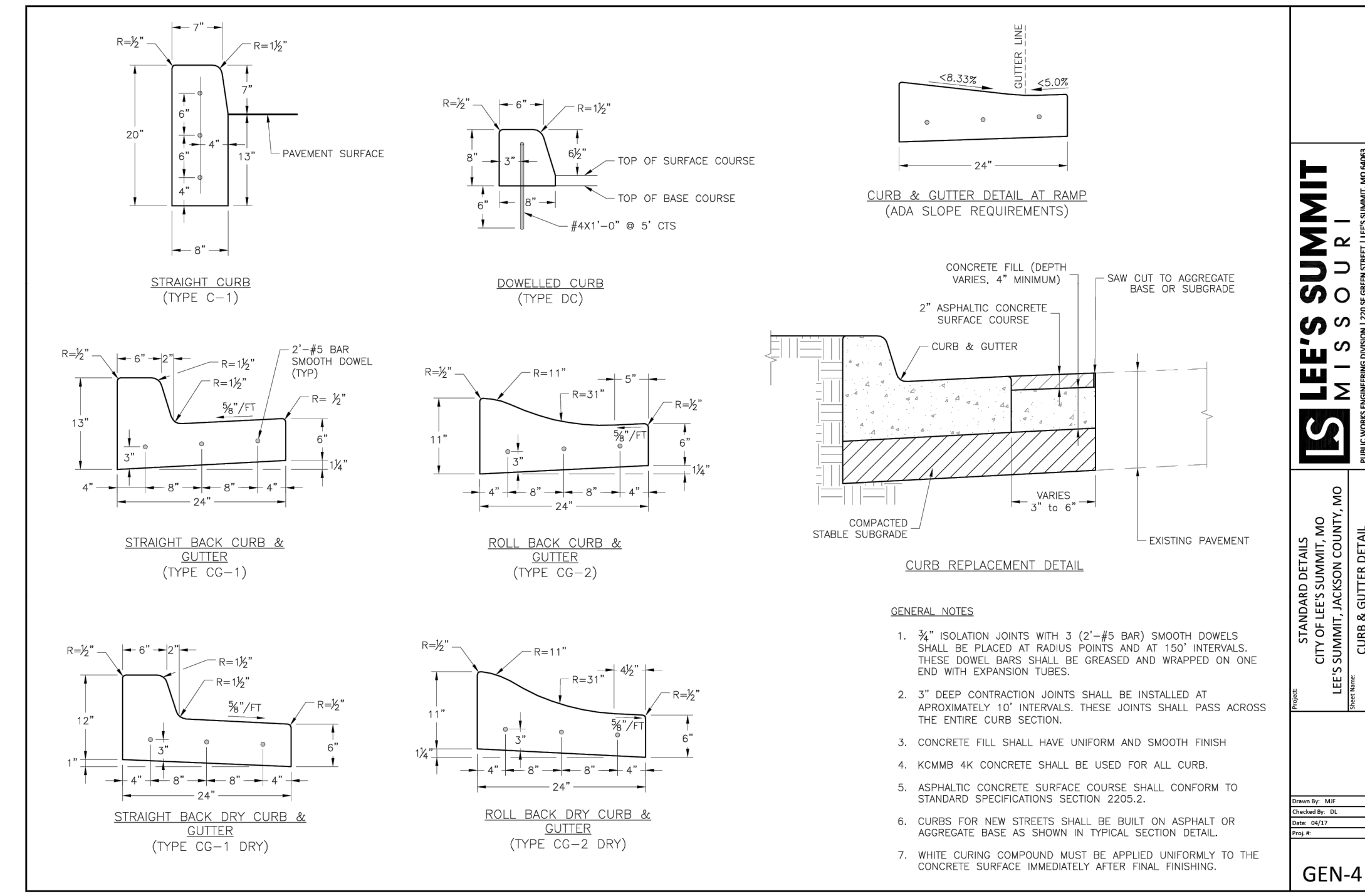


**SITE PLAN**  
SCALE: 1" = 20'



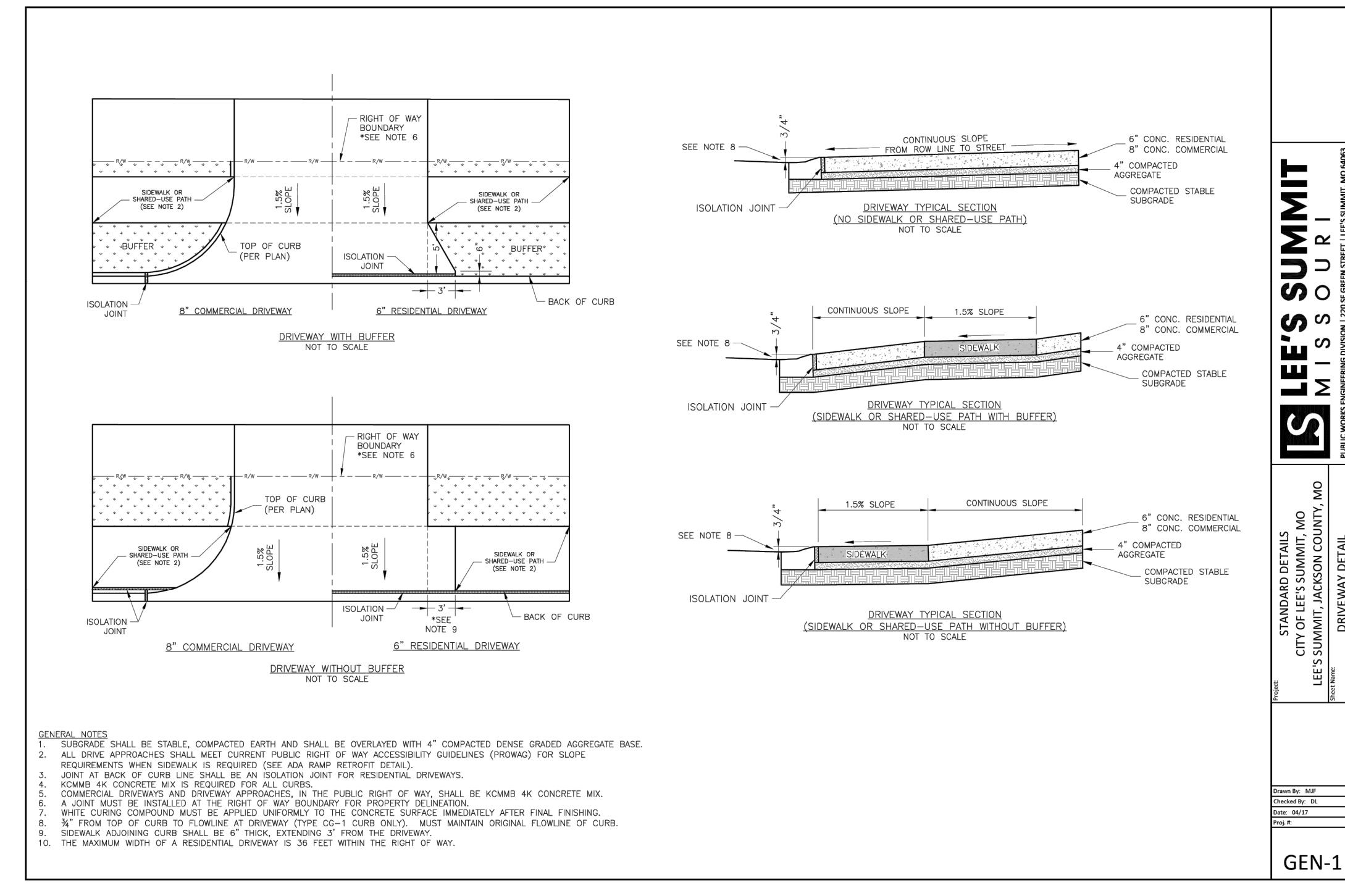
North

SCALE: 1" = 20'



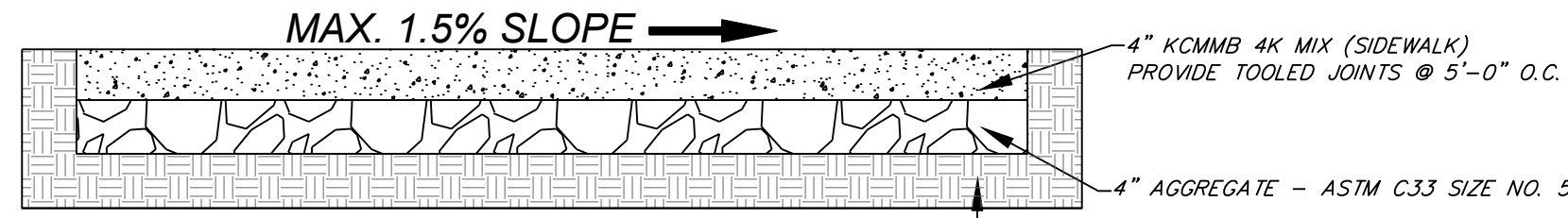
**LEE'S SUMMIT MISSOURI**  
CITY OF LEE'S SUMMIT, MO  
LEE'S SUMMIT, JACKSON COUNTY, MO  
CURB & GUTTER DETAIL

GEN-4

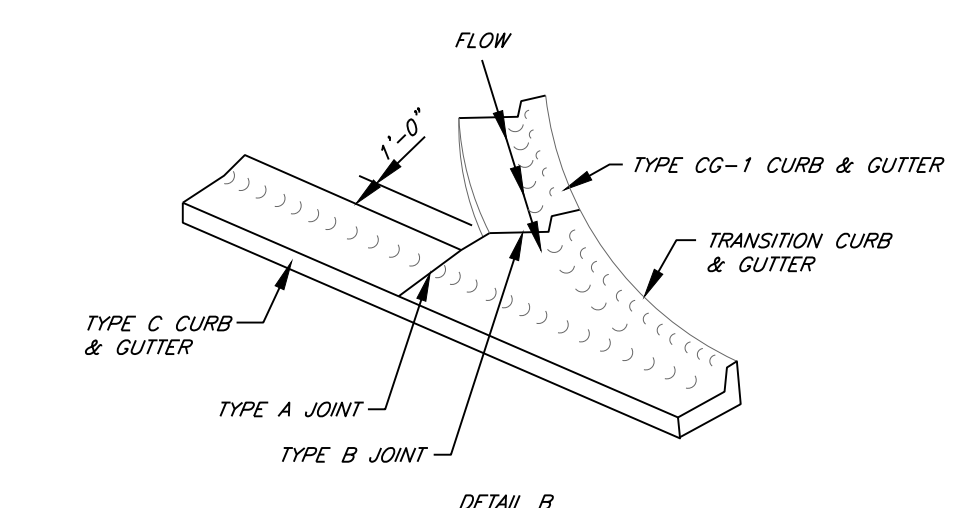


**LEE'S SUMMIT MISSOURI**  
CITY OF LEE'S SUMMIT, MO  
LEE'S SUMMIT, JACKSON COUNTY, MO  
DRIVEWAY DETAIL

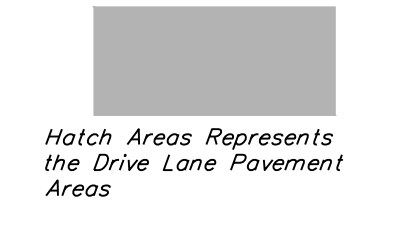
GEN-1



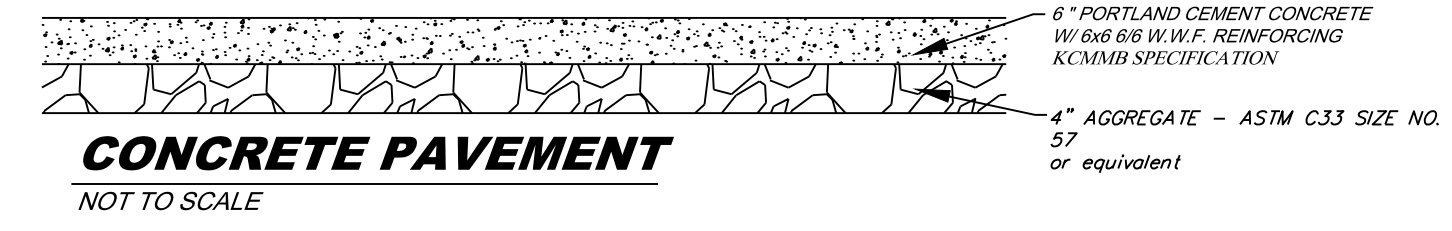
**SIDEWALK DETAIL**  
NOT TO SCALE



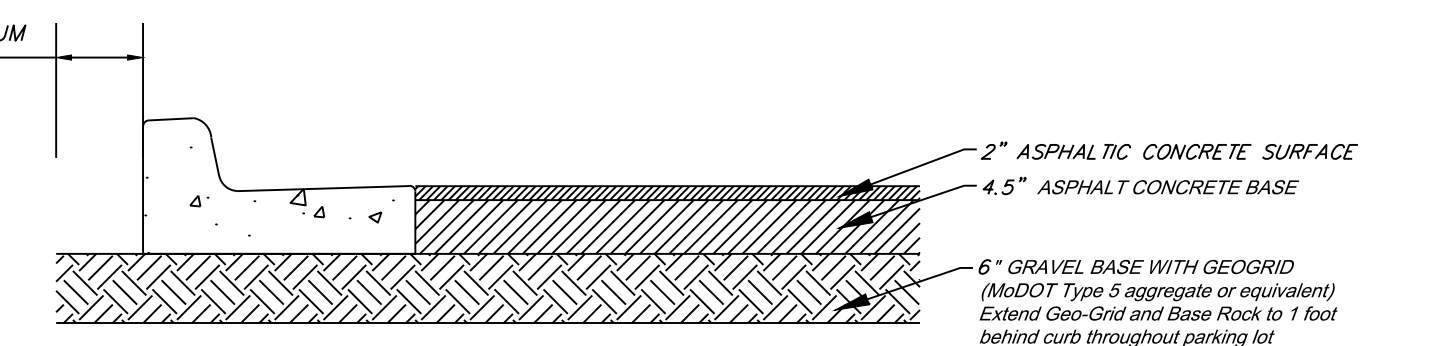
NOTE:  
REFERENCE ARTICLE 12, SECTION 12.120 PART F, OF THE UNIFIED DEVELOPMENT ORDINANCE FOR THICKNESS



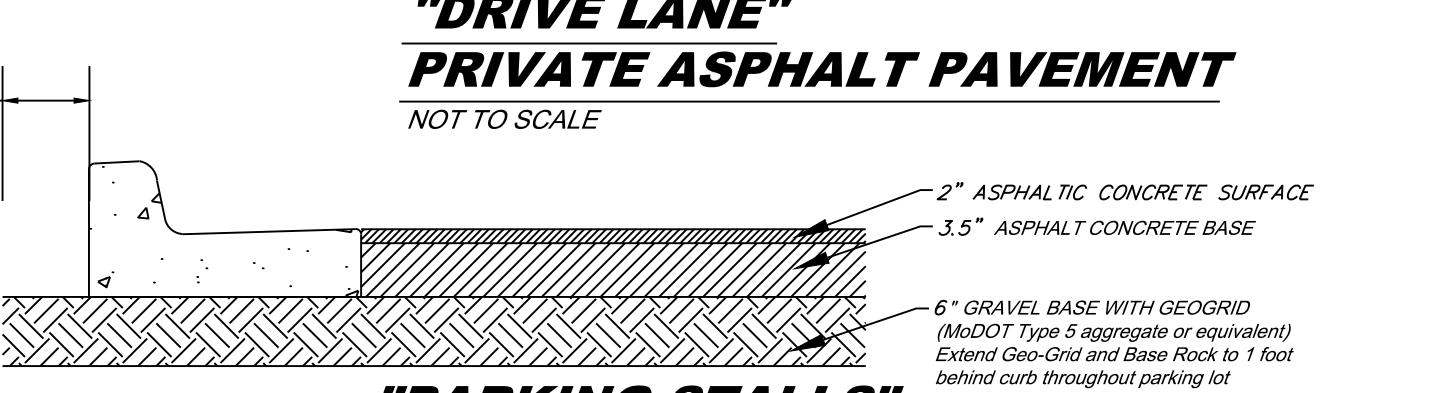
NOTE:  
-ALL ASPHALT MATERIALS SHALL CONFORM TO THE KCMBB ASPHALT MATERIAL SPECIFICATION, CURRENT EDITION  
-ALL CONCRETE MATERIALS FOR PAVING, CURB AND GUTTER, SIDEWALKS, PATHS, COMMERCIAL DRIVEWAYS AND OTHER PAVEMENTS SHALL CONFORM TO THE KCMBB SPECIFICATIONS.



**CONCRETE PAVEMENT**  
NOT TO SCALE

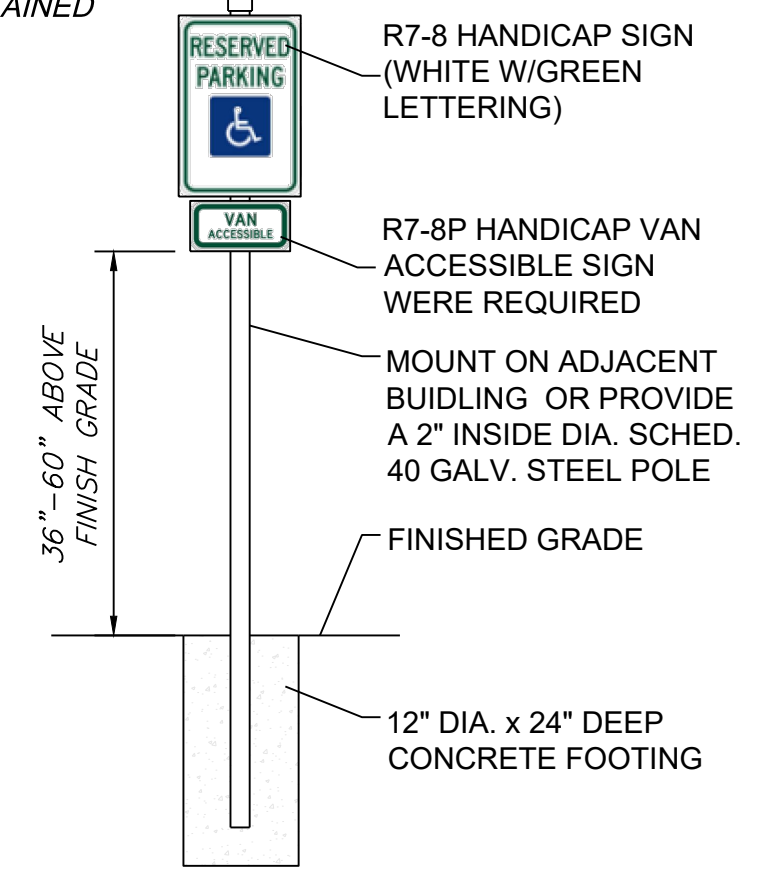


**"DRIVE LANE" PRIVATE ASPHALT PAVEMENT**  
NOT TO SCALE

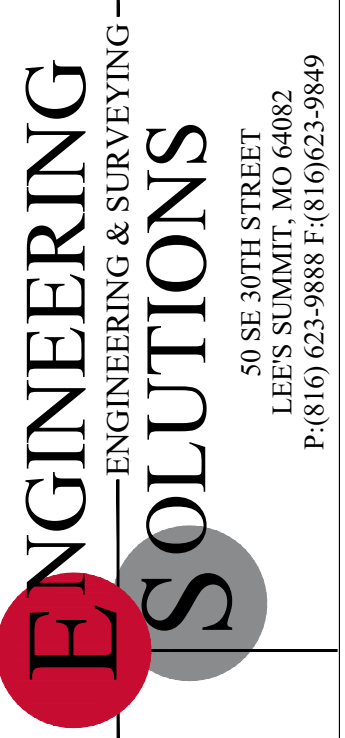


**"PARKING STALLS" PRIVATE ASPHALT PAVEMENT**  
NOT TO SCALE

SIGN MAY BE WALL MOUNTED DIRECTLY TO BUILDING. DIMENSIONS MUST BE MAINTAINED



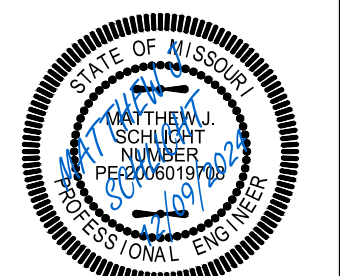
**HANDICAP SIGN DETAIL**  
NOT TO SCALE



Professional Registration  
Missouri  
Engineering 2005002198-D  
Surveying 200500319-D  
Kansas  
Engineering E-1695  
Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821

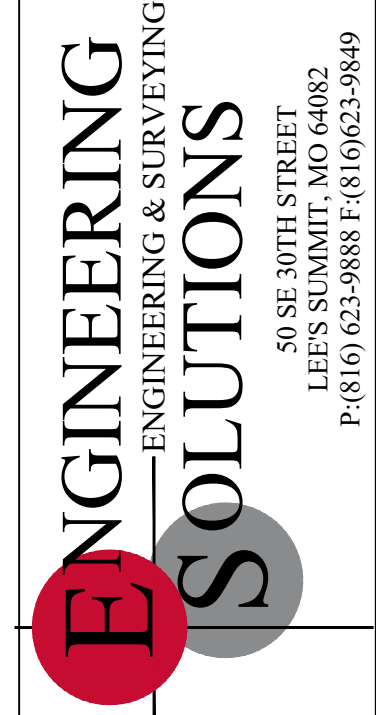
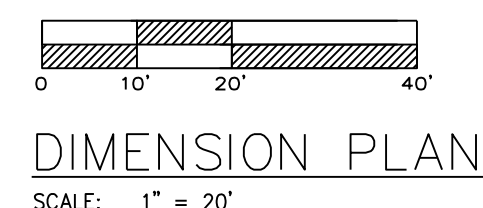
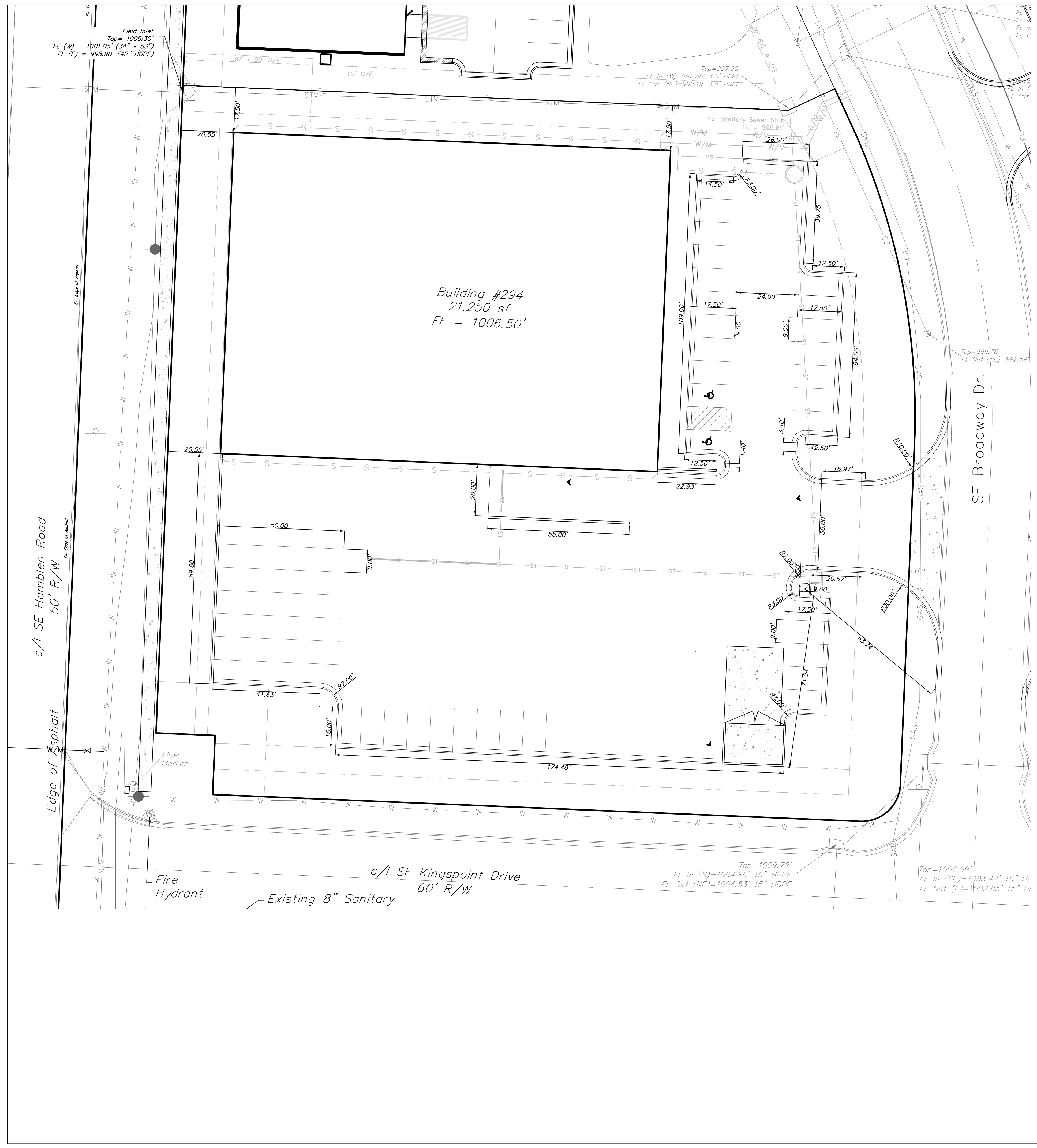
Project:  
NEWBERRY LANDING, LSMO  
Issue Date:  
January 4, 2024

Project:  
NEWBERRY LANDING, LSMO  
Issue Date:  
January 4, 2024



Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226

REVISIONS  
12-09-2024

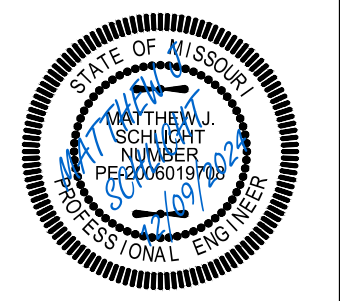


Professional Registration  
Missouri  
Engineering 200502188-D  
Surveying 200500319-D  
Kansas  
Engineering E-1695  
Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821

Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

Project:  
NEWBERRY  
LANDING, LSMO  
Issue Date:  
January 4, 2024

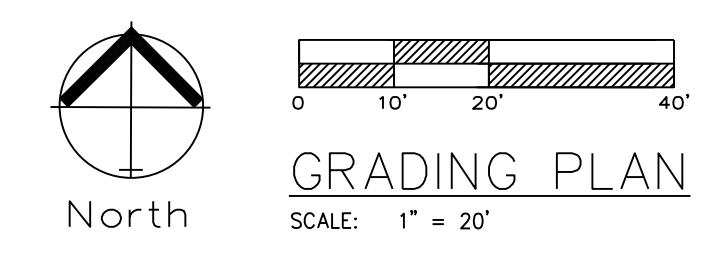
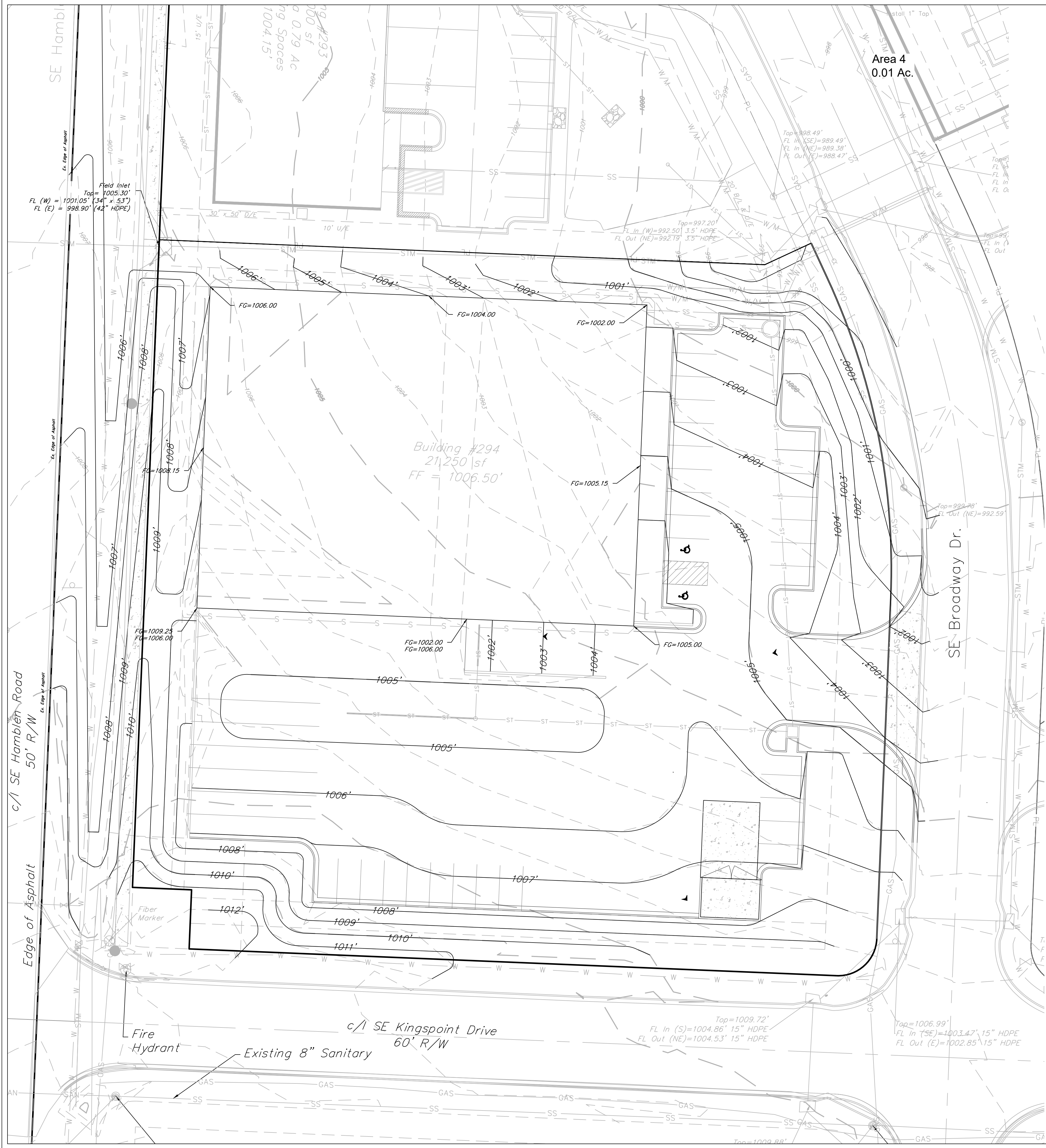
DIMENSION PLAN  
Construction Plans for:  
Lot 294, Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri



Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226

REVISIONS

12-09-2024	



- Notes**
1. Contractor is responsible for verifying all existing utility locations prior to excavation
  2. There are no known natural or artificial water storage detention areas, or wetlands in the area designated for construction
  3. No part of the project lies within the 100 year flood plain
  4. All erosion and sediment control measures need to be implemented prior to construction
  5. Additional erosion control may be required by the City Engineer, Design Engineer or Owner at any time problematic areas are noted in the field or existing measures are found to be ineffective
  6. Soil Stabilization of disturbed areas shall be completed within 14 days of construction inactivity
  7. Contractor responsible for all density testing of roadway subgrade and granular base
  8. Contractor responsible to provide Engineering Solutions an Asbuilt topographic survey of the site to verify grades.



Professional Registration  
 Missouri  
 Engineering 200502188-D  
 Surveying 200500319-D  
 Kansas  
 Engineering E-1695  
 Surveying LS-218  
 Oklahoma  
 Engineering 6254  
 Nebraska  
 Engineering CA2821

Project:  
 NEWBERRY  
 LANDINGS, LSMO  
 Issue Date:  
 January 4, 2024

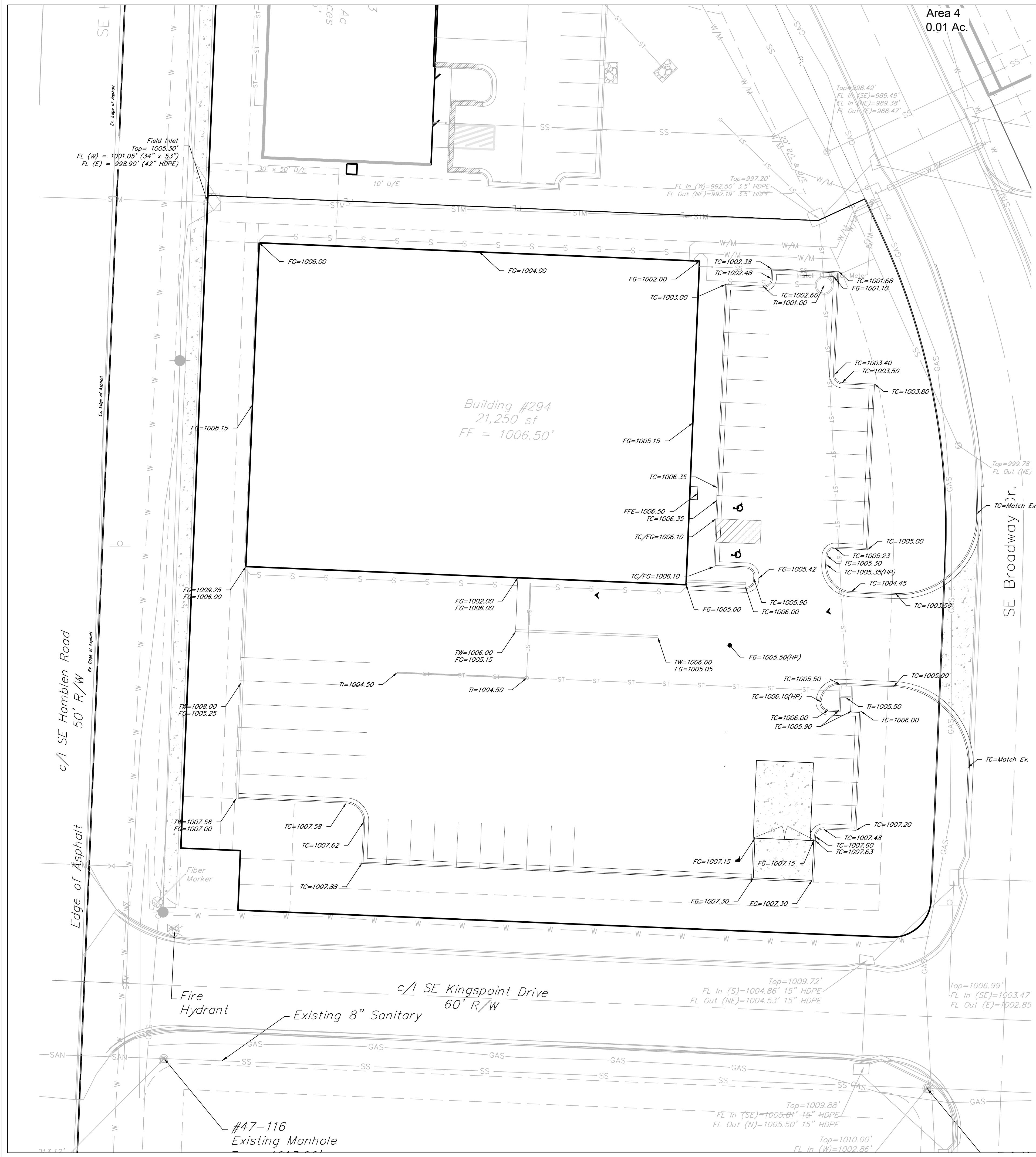
Newberry Landings First Plat  
 Lee's Summit, Jackson County, Missouri

GRADING PLAN  
 Construction Plans for:  
 Lot 294, Newberry Landings First Plat  
 Lee's Summit, Jackson County, Missouri

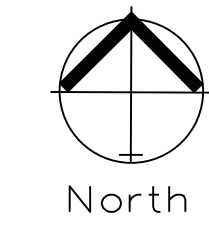
Matthew J. Schlicht  
 MO PE 2006019708  
 KS PE 19071  
 OK PE 25226

REVISIONS  
 12-09-2024





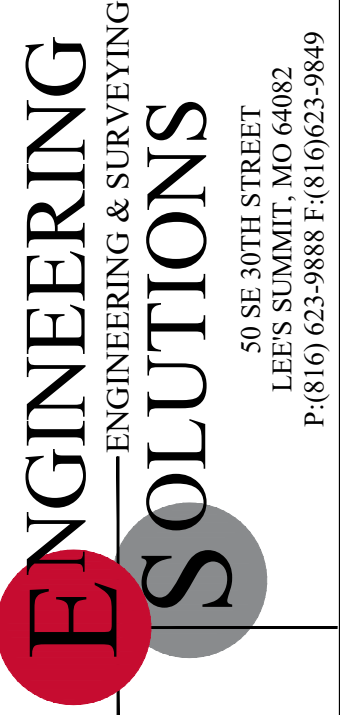
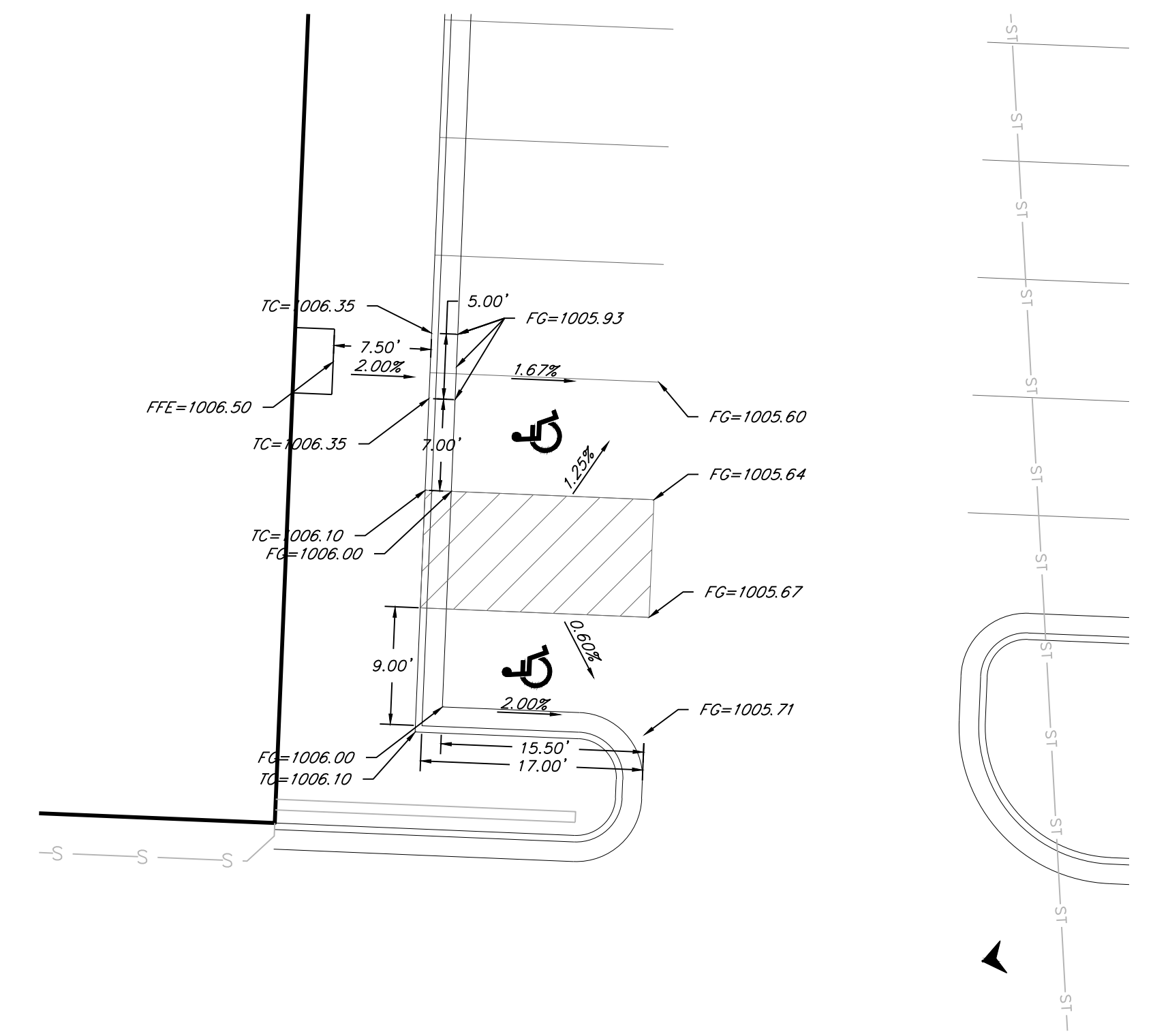
Area 4  
0.01 Ac.



SPOT ELEVATIONS  
SCALE: 1" = 20'



ADA ELEVATIONS  
SCALE: 1" = 10'



Professional Registration  
Missouri  
Engineering 200502188-D  
Surveying 200500319-D  
Kansas  
Engineering E-1695  
Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821

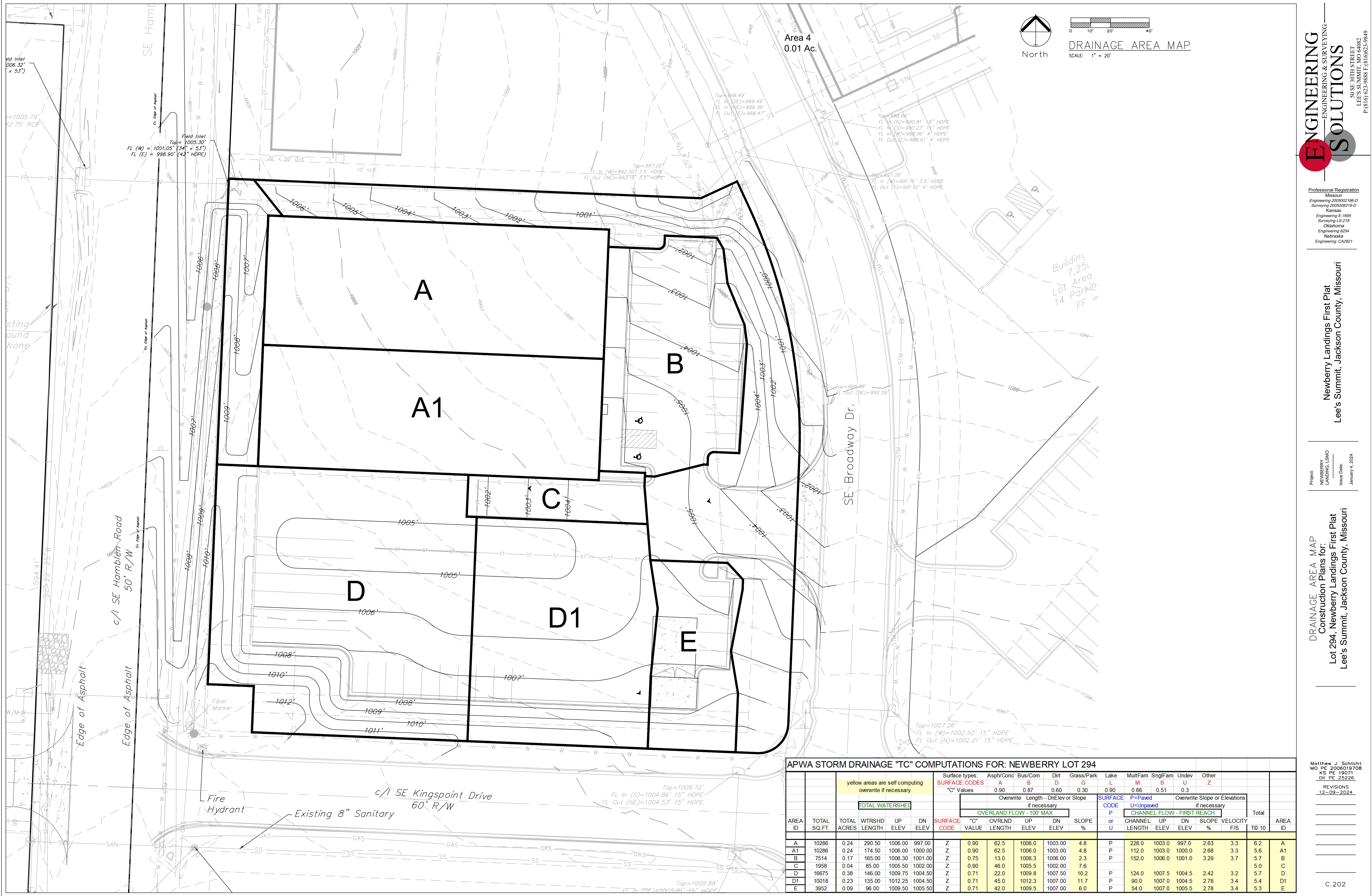
Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

Project:  
NEWBERRY  
LANDING, LSMO  
Issue Date:  
January 4, 2024

SPOT ELEVATIONS  
Construction Plans for:  
Lot 294, Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226

REVISIONS  
12-09-2024



North  
 0 10' 20' 40'  
 DRAINAGE AREA MAP  
 SCALE: 1" = 20'

Area 4  
 0.01 Ac.

Building  
 7.25'  
 Lot Area  
 14 Parking  
 FF =



Professional Registration  
 Missouri  
 Engineering 200502188-D  
 Surveying 200500319-D  
 Kansas  
 Engineering E-1895  
 Surveying LS-218  
 Oklahoma  
 Engineering 6254  
 Nebraska  
 Engineering CA2821

Project:  
 NEWBERRY  
 LANDINGS, LSMO  
 Issue Date:  
 January 4, 2024

Newberry Landings First Plat  
 Lee's Summit, Jackson County, Missouri

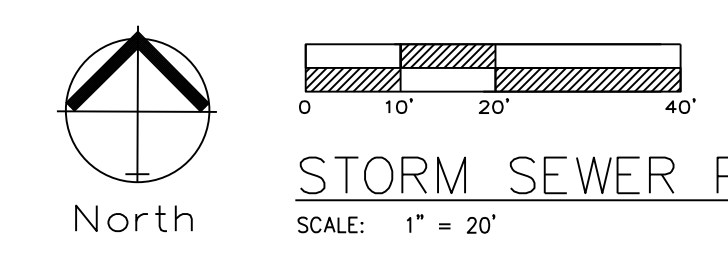
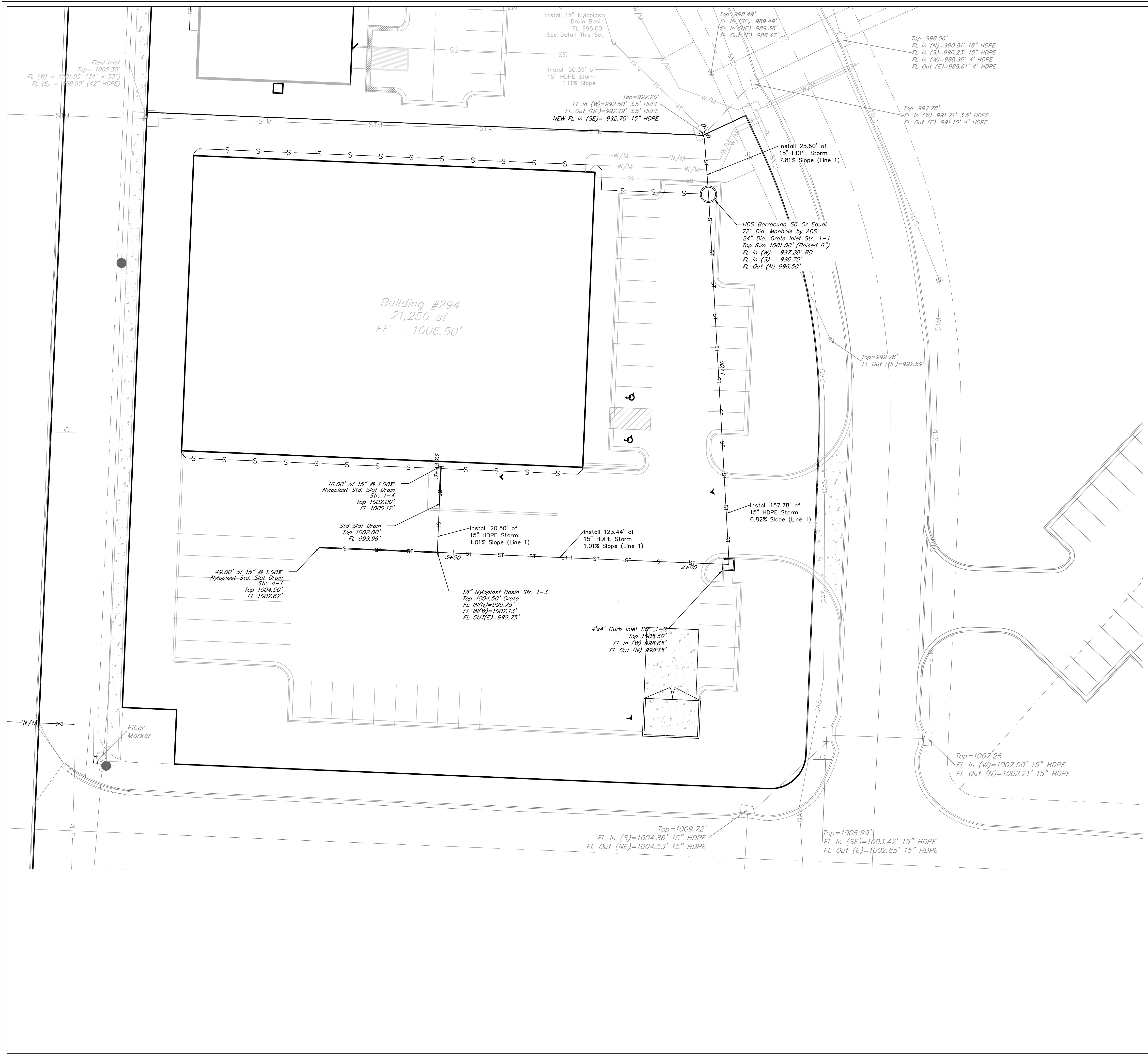
DRAINAGE AREA MAP  
 Construction Plans for:  
 Lot 294, Newberry Landings First Plat  
 Lee's Summit, Jackson County, Missouri

Matthew J. Schlicht  
 MO PE 2006019708  
 KS PE 19071  
 OK PE 25226

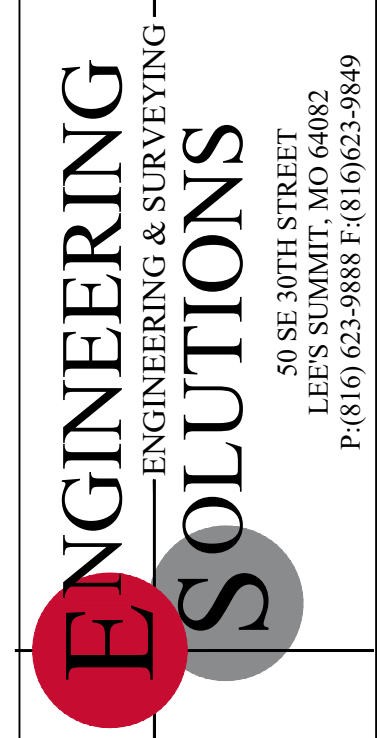
REVISIONS  
 12-09-2024

APWA STORM DRAINAGE "TC" COMPUTATIONS FOR: NEWBERRY LOT 294

AREA ID	TOTAL SQ.FT.	TOTAL ACRES	WTRSHD LENGTH	UP ELEV	DN ELEV	SURFACE CODE	SURFACE TYPES				SLOPE %	SURFACE CODE	Paved			SLOPE VELOCITY F/S	Total T@ 10	AREA ID	
							Asph/Conc	Bus/Com	Dirt	Grass/Park			L	M	S				U
A	10286	0.24	290.50	1006.00	997.00	Z	0.90	62.5	1006.0	1003.00	4.8	P	228.0	1003.0	997.0	2.63	3.3	6.2	A
A1	10286	0.24	174.50	1006.00	1000.00	Z	0.90	62.5	1006.0	1003.00	4.8	P	112.0	1003.0	1000.0	2.68	3.3	5.6	A1
B	7514	0.17	165.00	1006.30	1001.00	Z	0.75	13.0	1006.3	1006.00	2.3	P	152.0	1006.0	1001.0	3.29	3.7	5.7	B
C	1958	0.04	85.00	1005.50	1002.00	Z	0.90	46.0	1005.5	1002.00	7.6	P						5.0	C
D	16675	0.38	146.00	1009.75	1004.50	Z	0.71	22.0	1009.8	1007.50	10.2	P	124.0	1007.5	1004.5	2.42	3.2	5.7	D
D1	10018	0.23	135.00	1012.25	1004.50	Z	0.71	45.0	1012.3	1007.00	11.7	P	90.0	1007.0	1004.5	2.78	3.4	5.4	D1
E	3952	0.09	96.00	1009.50	1005.50	Z	0.71	42.0	1009.5	1007.00	6.0	P	54.0	1007.0	1005.5	2.78	3.4	5.3	E



- NOTES:
- TRENCH DRAINS SHALL BE ADS STANDARD DURASLOT OR APPROVED EQUAL.
  - DURASLOT DRAINS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS.
  - DURASLOT DRAINS SHALL BE INSTALLED FOR HS-20 HEAVY DUTY TRAFFIC. SEE DETAIL SHEET C.303. CONCRETE SHALL BE A KCMBB 4,000 PSI MIX. PLACE NO.4 REBAR TOP AND BOTTOM OF DRAIN EACH SIDE WITH 3" CLEAR SPACING.
  - THE HYDRODYNAMIC SEPARATOR (HDS) SHALL BE AS MANUFACTURED BY ADS, MODEL BARRACUDA 56 OR APPROVED EQUAL. SEE DETAIL SHEET C.303.
  - THE NYLOPLAST DRAIN BASIN SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS FOR HS-20 HEAVY DUTY TRAFFIC. SEE DETAIL SHEET C.303. PLACE EIGHT (8) TOTAL NO.4 REBAR IN CONCRETE COLLAR TWO (2) EACH SIDE MID SLAB, 3" CLEAR.



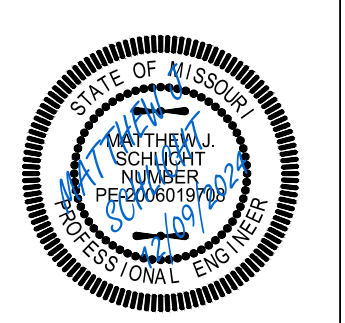
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Missouri  
Engineering 200502188-D  
Surveying 20050319-D  
Kansas  
Engineering E-1695  
Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821

Project:  
NEWBERRY LANDING, LSMO  
Issue Date:  
January 4, 2024

Project:  
NEWBERRY LANDING, LSMO  
Issue Date:  
January 4, 2024

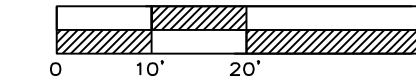
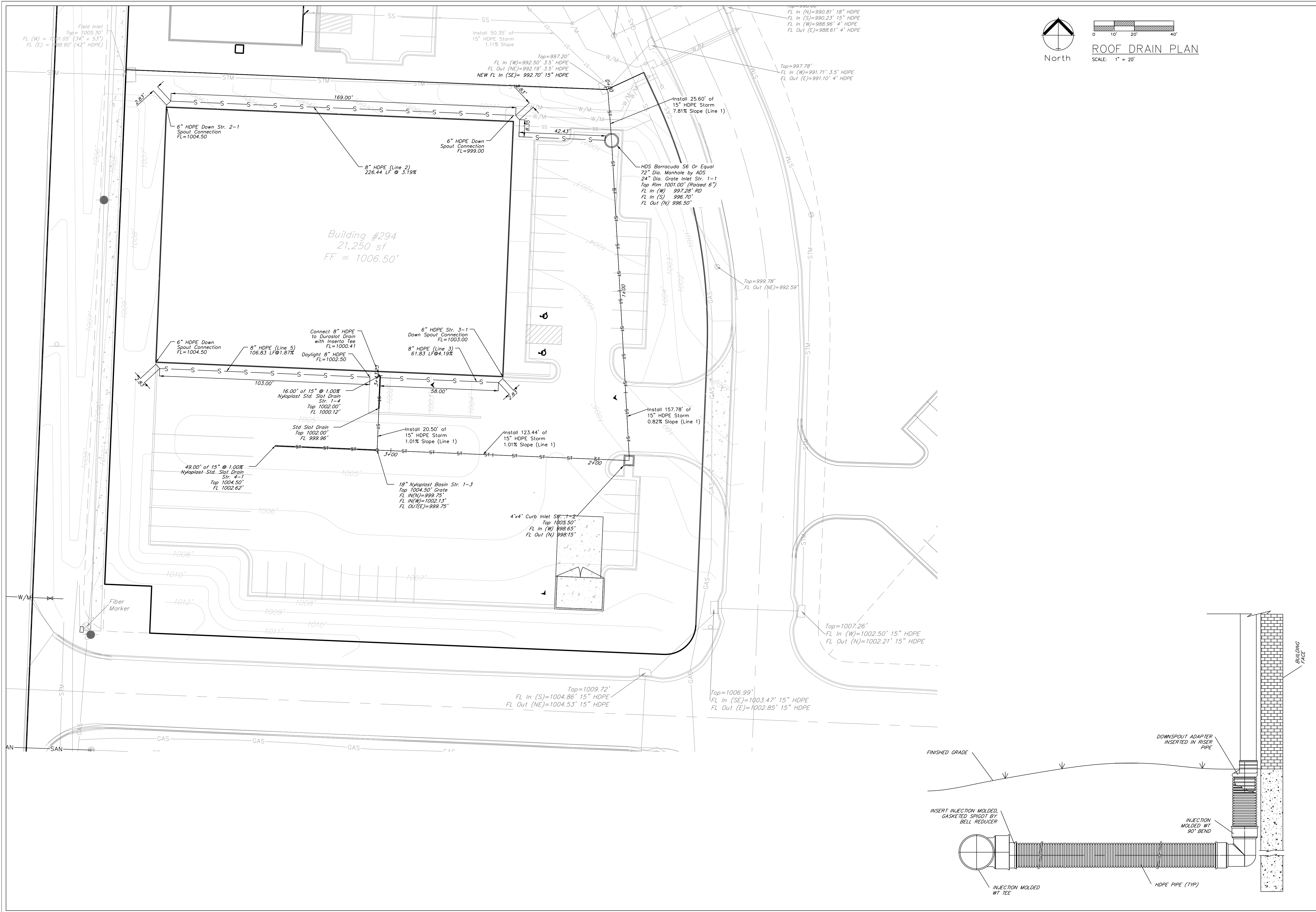
Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

ROOF DRAIN PLAN  
Construction Plans for:  
Lot 294, Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

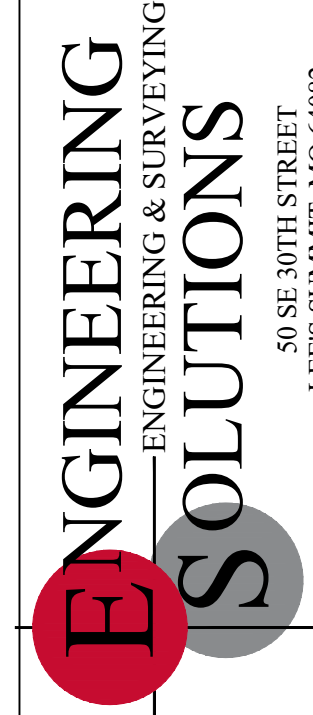


Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226

NO.	DATE	DESCRIPTION
1	12-09-2024	REVISIONS



ROOF DRAIN PLAN  
SCALE: 1" = 20'

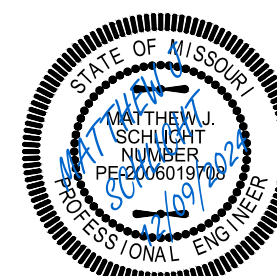


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Missouri  
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Kansas  
Engineering E-1695  
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Engineering CA2821

Project: Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

Project: NEWBERRY LANDING, LSMO  
Issue Date: January 4, 2024

ROOF DRAIN PLAN  
Construction Plans for:  
Lot 294, Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri



Matthew J. Schlicht  
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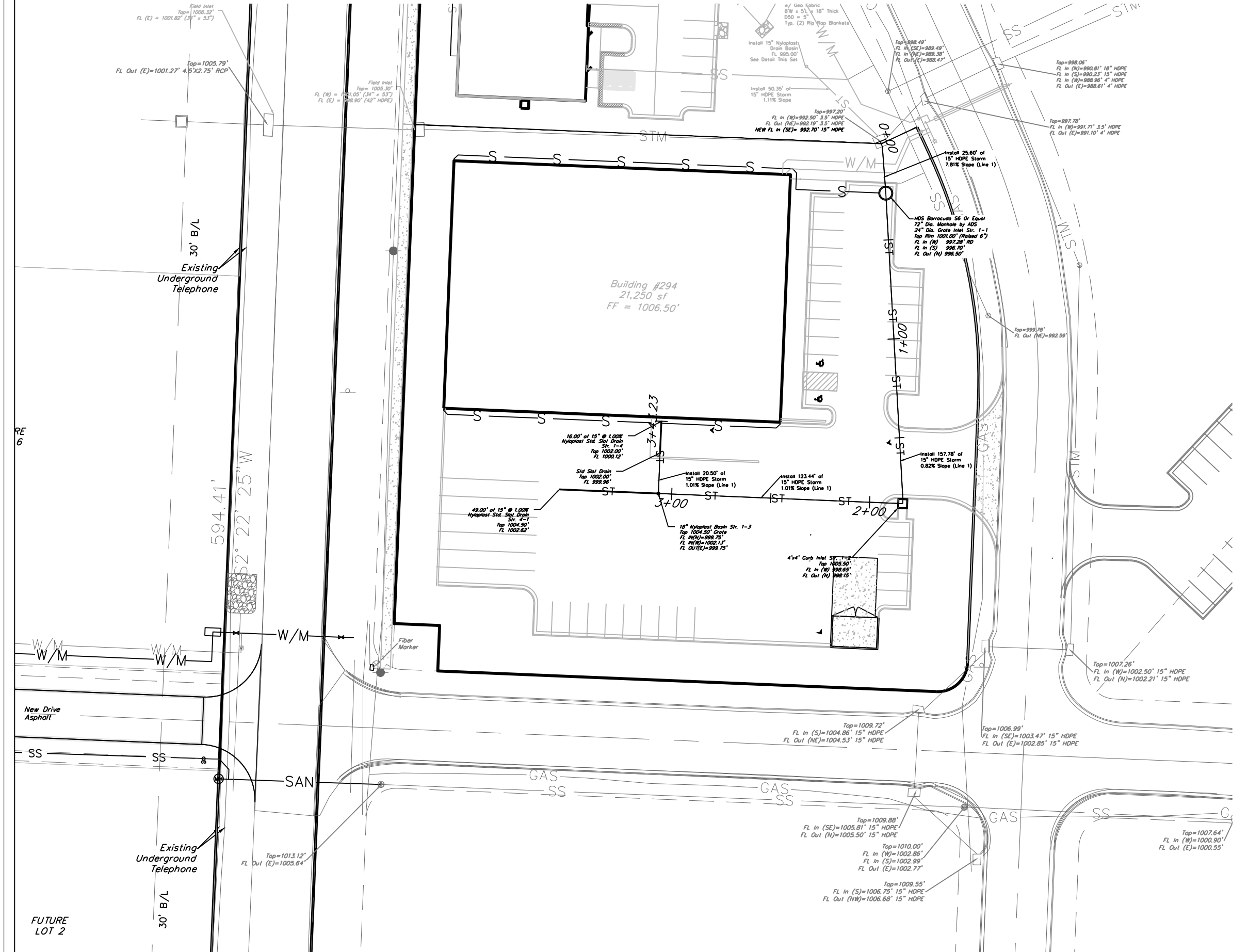
REVISIONS  
12-09-2024

NO.	DATE	DESCRIPTION

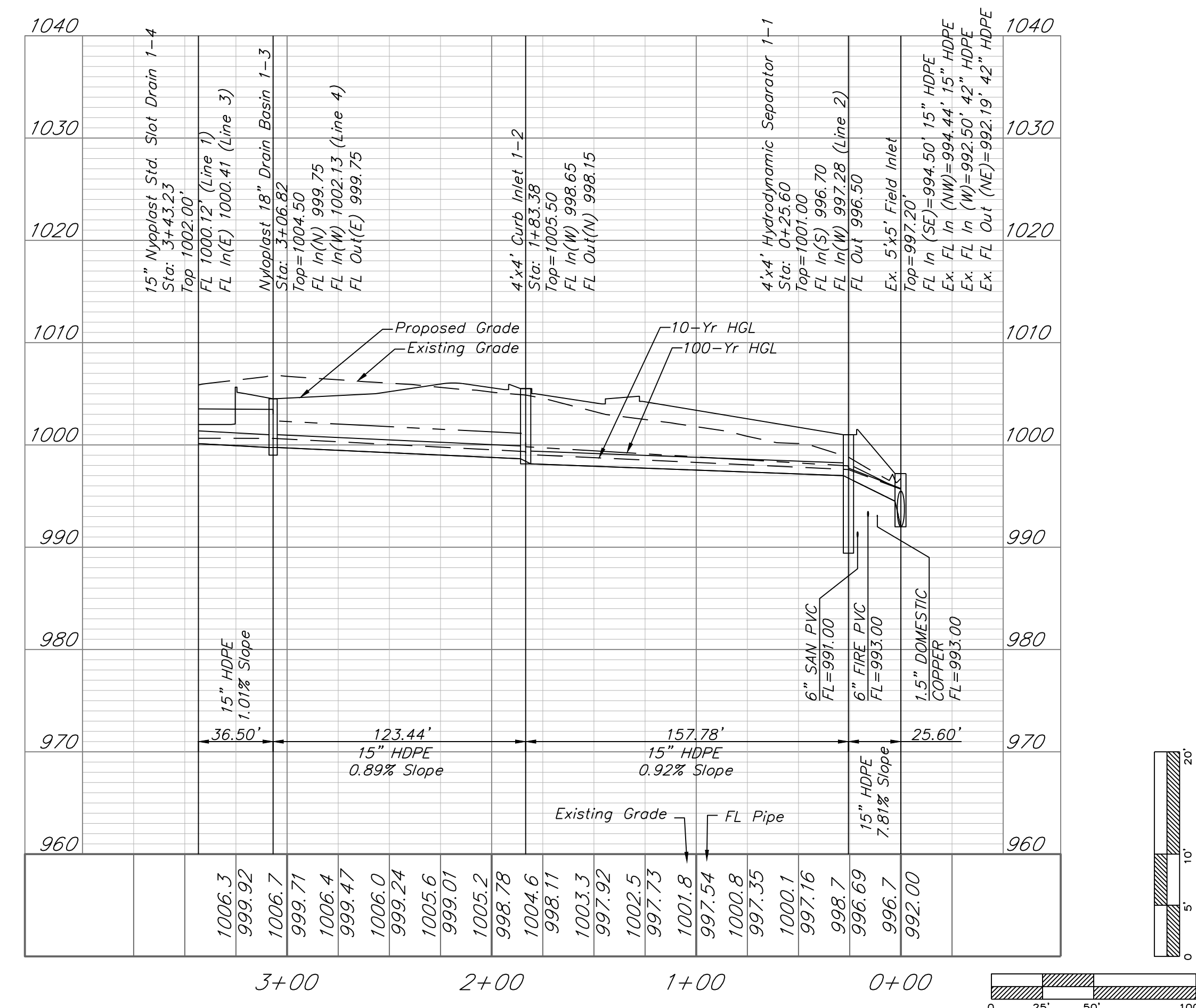
STORM SEWER PLAN & PROFILE  
SCALE: 1" = 50'

North

0 25' 50' 100'



STORM LINE 1

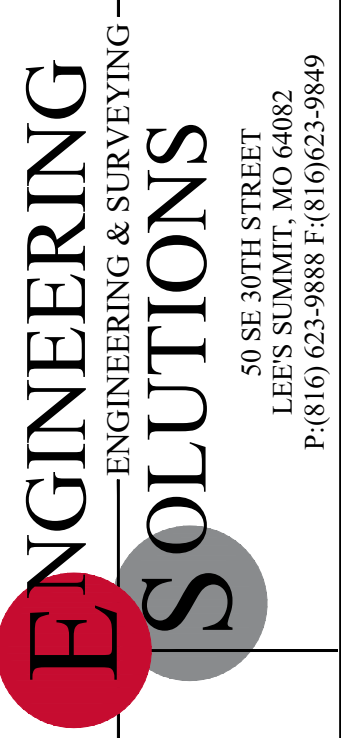


10-YR Structure																						
D.S. Str.	Str. No.	Area (ac)	InletTime (min)	Int. (in/hr)	RunoffCoeff. (C)	Q=CIA (cfs)	QCaptured (cfs)	QBypassed (cfs)	JunctType	CurbHeight (in)	CurbLength (ft)	GrateArea (sqft)	GrateLength (ft)	GrateWidth (ft)	GutterSlope (ft/ft)	GutterWidth (ft)	CrossSlope, Sw (ft/ft)	CrossSlope, Sx (ft/ft)	LocalDepr. (in)	InletDepth (ft)	GutterDepth (ft)	GutterSpread (ft)
Ex.	1-1	0.17	5.7	7.14	0.75	0.91	0	0	Dp-Grate	.....	.....	2	2	1	Sag	2	0.02	0.02	.....	0.14	0.14	N/A
1-1	1-2	0.09	5.3	7.26	0.71	0.46	0.46	0	Curb	5.8	4	.....	.....	.....	Sag	2	0.05	0.02	9	0.9	0.15	4.44
1-2	1-3	0.23	5.7	7.14	0.71	1.17	0	0	Dp-Grate	.....	.....	1.77	1.33	1.33	Sag	2	0.02	0.02	.....	0.17	0.17	N/A
1-3	1-4	0.2	5	7.34	0.9	1.32	1.32	0	Dp-Grate	.....	.....	2.4	0.15	16	Sag	2	0.02	0.02	.....	0.06	0.06	N/A
1-1	2-1	0.24	6.2	7	0.9	1.51	.....	.....	MH	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1-4	3-1	0.08	5.6	7.17	0.9	0.52	.....	.....	MH	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1-3	4-1	0.38	5.7	7.14	0.71	1.93	1.93	0	Dp-Grate	.....	.....	7.35	0.15	49	Sag	2	0.02	0.02	.....	0.03	0.03	N/A

10-YR Pipe																						
D.S. Str.	U.S. Str.	LineLength (ft)	Incr.Area (ac)	TotalArea (ac)	RunoffCoeff. (C)	IncrC x A	TotalC x A	InletTime (min)	TimeConc (min)	RnfallInt (in/hr)	TotalRunoff (cfs)	TotalFlow (cfs)	CapacFull (cfs)	Veloc (ft/s)	PipeSize (in)	PipeSlope (%)	Inv ElevDn (ft)	Inv ElevUp (ft)	HGLDn (ft)	HGLUp (ft)	Grnd/RimDn (ft)	Grnd/RimUp (ft)
Ex.	1-1	25.6	0.17	1.39	0.75	0.13	1.09	5.7	6.9	6.8	7.44	7.44	23.46	6.41	15	7.81	994.50	996.50	995.67	997.59	0.00	1001.00
1-1	1-2	157.78	0.09	0.98	0.71	0.06	0.75	5.3	6.4	6.9	5.2	5.2	8.05	5.47	15	0.92	996.70	998.15	997.59	999.07	1001.00	1005.50
1-2	1-3	123.44	0.23	0.89	0.71	0.16	0.69	5.7	6.1	7	4.82	4.82	7.92	5.96	15	0.89	998.65	999.75	999.35	1000.64	1005.50	1004.50
1-3	1-4	36.5	0.2	0.28	0.9	0.18	0.25	5	5.9	7.1	1.79	1.79	8.45	2.96	15	1.01	999.75	1000.12	1000.64	1000.65	1004.50	1002.00
1-1	2-1	183.01	0.24	0.24	0.9	0.22	0.22	6.2	6.2	7	1.51	1.51	3.12	6.8	8	3.95	997.28	1004.50	997.61	1005.07	1001.00	1001.00
1-4	3-1	61.83	0.08	0.08	0.9	0.07	0.07	5.6	5.6	7.2	0.52	0.52	3.21	3.73	8	4.19	1000.41	1003.00	1000.65	1003.34	1002.00	1005.00
1-3	4-1	49	0.38	0.38	0.71	0.27	0.27	5.7	5.7	7.1	1.93	1.93	8.39	4.62	15	1	1002.13	1002.62	1002.54	1003.17	1004.50	1004.50

100-YR Structure																						
D.S. Str.	Str. No.	Area (ac)	InletTime (min)	Int. (in/hr)	RunoffCoeff. (C)	Q=CIA (cfs)	QCaptured (cfs)	QBypassed (cfs)	JunctType	CurbHeight (in)	CurbLength (ft)	GrateArea (sqft)	GrateLength (ft)	GrateWidth (ft)	GutterSlope (ft/ft)	GutterWidth (ft)	CrossSlope, Sw (ft/ft)	CrossSlope, Sx (ft/ft)	LocalDepr. (in)	InletDepth (ft)	GutterDepth (ft)	GutterSpread (ft)
Ex.	1-1	0.17	5.7	12.57	0.75	1.6	1.6	0	Dp-Grate	.....	.....	2	2	1	Sag	2	0.02	0.02	.....	0.2	0.2	N/A
1-1	1-2	0.09	5.3	12.75	0.71	0.81	0.81	0	Curb	5.8	4	.....	.....	.....	Sag	2	0.05	0.02	9	0.94	0.19	6.47
1-2	1-3	0.23	5.7	12.57	0.71	2.05	2.05	0	Dp-Grate	.....	.....	1.77	1.33	1.33	Sag	2	0.02	0.02	.....	0.25	0.25	N/A
1-3	1-4	0.2	5	12.9	0.9	2.32	2.32	0	Dp-Grate	.....	.....	2.4	0.15	16	Sag	2	0.02	0.02	.....	0.08	0.08	N/A
1-1	2-1	0.24	6.2	12.34	0.9	2.67	.....	.....	MH	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1-4	3-1	0.08	5.6	12.61	0.9	0.91	.....	.....	MH	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1-3	4-1	0.38	5.7	12.57	0.71	3.39	3.39	0	Dp-Grate	.....	.....	7.35	0.15	49	Sag	2	0.02	0.02	.....	0.05	0.05	N/A

100-YR Pipe																						
D.S. Str.	U.S. Str.	LineLength (ft)	Incr.Area (ac)	TotalArea (ac)	RunoffCoeff. (C)	IncrC x A	TotalC x A	InletTime (min)	TimeConc (min)	RnfallInt (in/hr)	TotalRunoff (cfs)	TotalFlow (cfs)	CapacFull (cfs)	Veloc (ft/s)	PipeSize (in)	PipeSlope (%)	Inv ElevDn (ft)	Inv ElevUp (ft)	HGLDn (ft)	HGLUp (ft)	Grnd/RimDn (ft)	Grnd/RimUp (ft)
Ex.	1-1	25.6	0.17	1.39	0.75	0.13	1.09	5.7	6.9	12	13.16	13.16	23.46	10.76	15	7.81	994.50	996.50	995.74	997.73	0.00	1001.00
1-1	1-2	157.78	0.09	0.98	0.71	0.06	0.75	5.3	6.5	12.2	9.14	9.14	8.05	7.45	15	0.92	996.70	998.15	997.95	999.82	1001.00	1005.50
1-2	1-3	123.44	0.23	0.89	0.71	0.16	0.69	5.7	6.2	12.3	8.45	8.45	7.92	6.88	15	0.89	998.65	999.75	1001.11	1002.36	1005.50	1004.50
1-3	1-4	36.5	0.2	0.28	0.9	0.18	0.25	5	6	12.4	3.13	3.13	8.45	2.55	15	1.01	999.75	1000.12	1003.47	1003.52	1004.50	1002.00
1-1	2-1	183.01	0.24	0.24	0.9	0.22	0.22	6.2	6.2	12.3	2.67	2.67	3.12	8.86	8	3.95	997.28	1004.50	997.75	1005.15	1001.00	1001.00
1-4	3-1	61.83	0.08	0.08	0.9	0.07	0.07	5.6	5.6	12.6	0.91	0.91	3.21	2.6	8	4.19	1000.41	1003.00	1003.67	1003.88	1002.00	1005.00
1-3	4-1	49	0.38	0.38	0.71	0.27	0.27	5.7	5.7	12.6	3.39	3.39	8.39	3.33	15	1	1002.13	1002.62	1003.47	1003.46	1004.50	1004.50



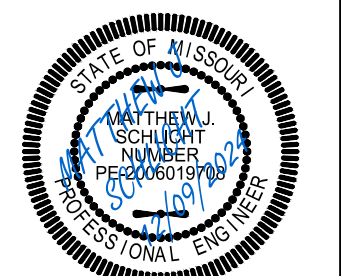
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Engineering 200502188-D  
Surveying 200500319-D  
Kansas  
Engineering E-1895  
Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821

Project:  
NEWBERRY LANDING, LSNMO  
Issue Date:  
January 4, 2024

Professional Registration  
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Engineering 200502188-D  
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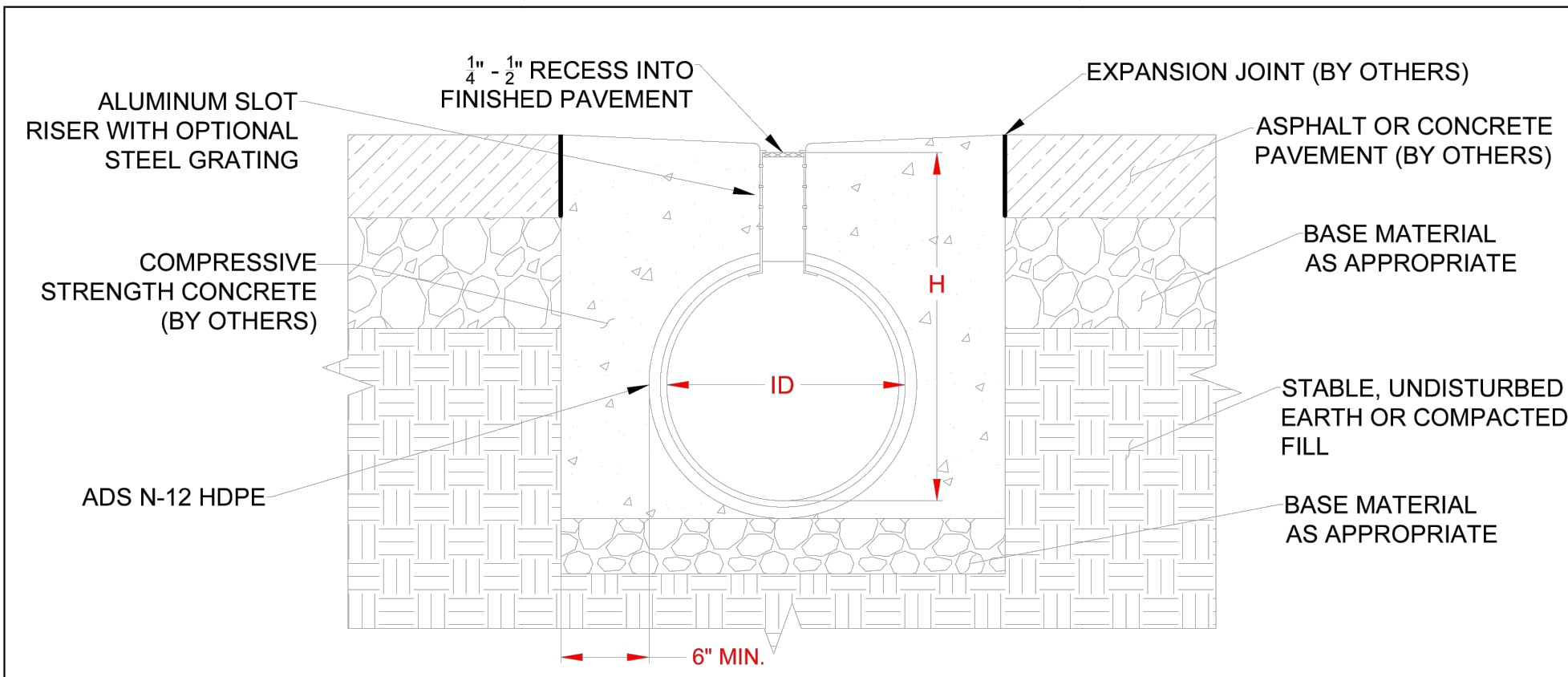
Project:  
NEWBERRY LANDING, LSNMO  
Issue Date:  
January 4, 2024

STORM PLAN & PROFILE  
Construction Plans for:  
Lot 294, Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri



Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 24226

REVISIONS  
12-09-2024



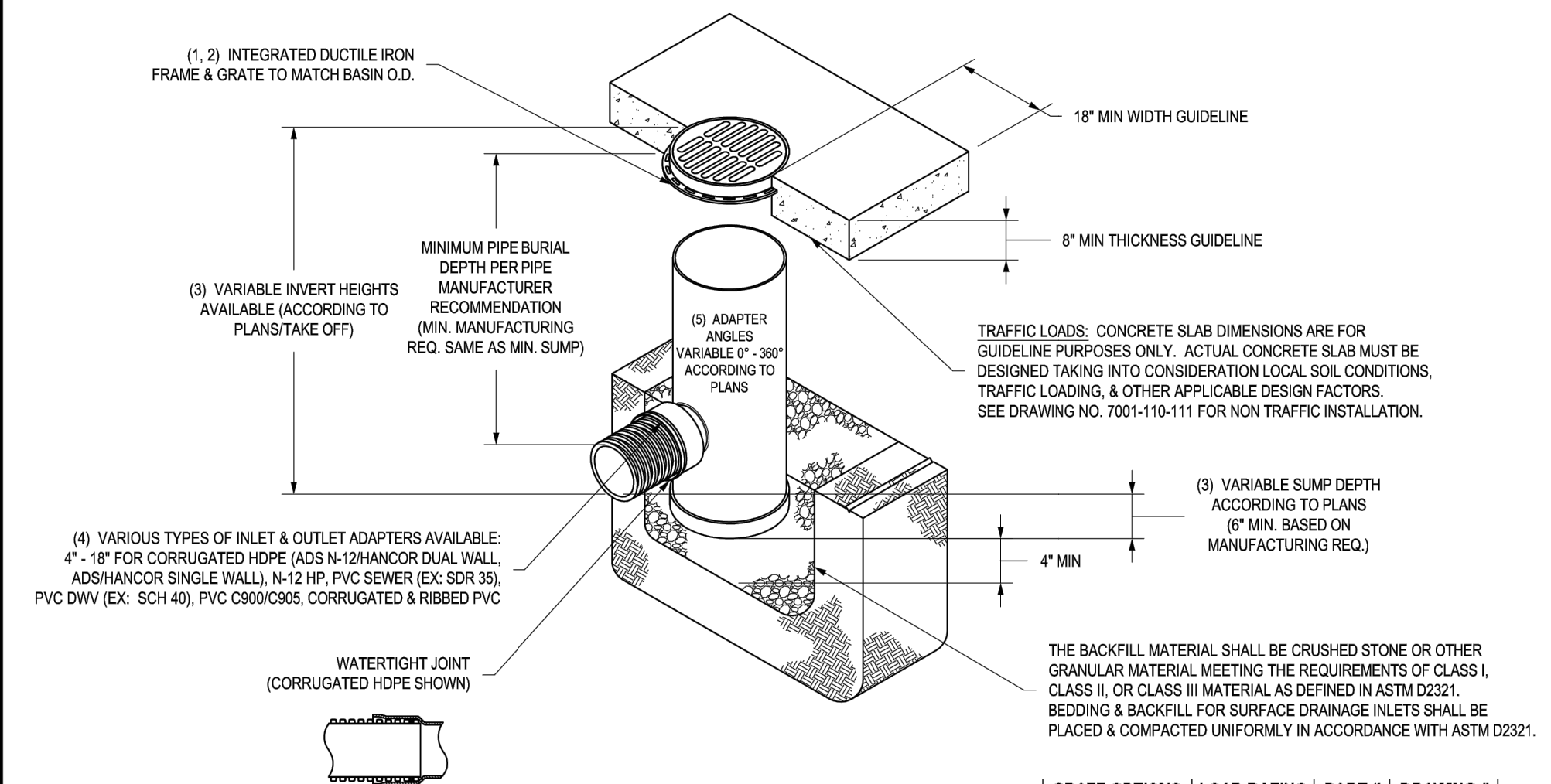
Nominal Diameter, ID, in. (mm)	Depth of Invert, H, in. (mm)	
	Minimum	Maximum
4 (100)	10.75 (273)	28.50 (724)
6 (150)	13.00 (330)	30.50 (775)
8 (200)	15.00 (381)	32.50 (826)
10 (250)	17.00 (432)	34.50 (876)
12 (300)	19.50 (495)	48.50 (1232)
15 (375)	22.50 (572)	51.50 (1308)
18 (450)	25.50 (648)	54.50 (1384)
24 (600)	31.75 (806)	60.50 (1537)
30 (750)	38.75 (984)	66.50 (1689)
36 (900)	44.75 (1137)	72.50 (1842)

- NOTES:**
- BACKFILL DESIGN SHOULD BE USED FOR HS-20 LOADING APPLICATIONS.
  - SITE ENGINEER TO PROVIDE SITE SPECIFIC DETAILS, SUCH AS CONCRETE STRENGTH.
  - REFER TO ADS TECH NOTE 2.11 FOR ADDITIONAL DESIGN INFORMATION.

NO.	DATE	BY	DESCRIPTION
0			
1	07-05-2023		Initial Issue

ADVANCED DRAINAGE SYSTEMS, INC. (ADS) HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEET OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

**NYLOPLAST 18" DRAIN BASIN: 2818AG \_\_ X**



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS 1110	1899CUP	7001-110-272
STANDARD	MEETS 1120	1896CUP	7001-110-271
EGG CRACK COVER	MEETS 1120	1896COC	7001-110-274
DCIM	N/A	1896COC	7001-110-310
DRIP-PI GRATE	LIGHT DUTY	1857C	7001-110-274

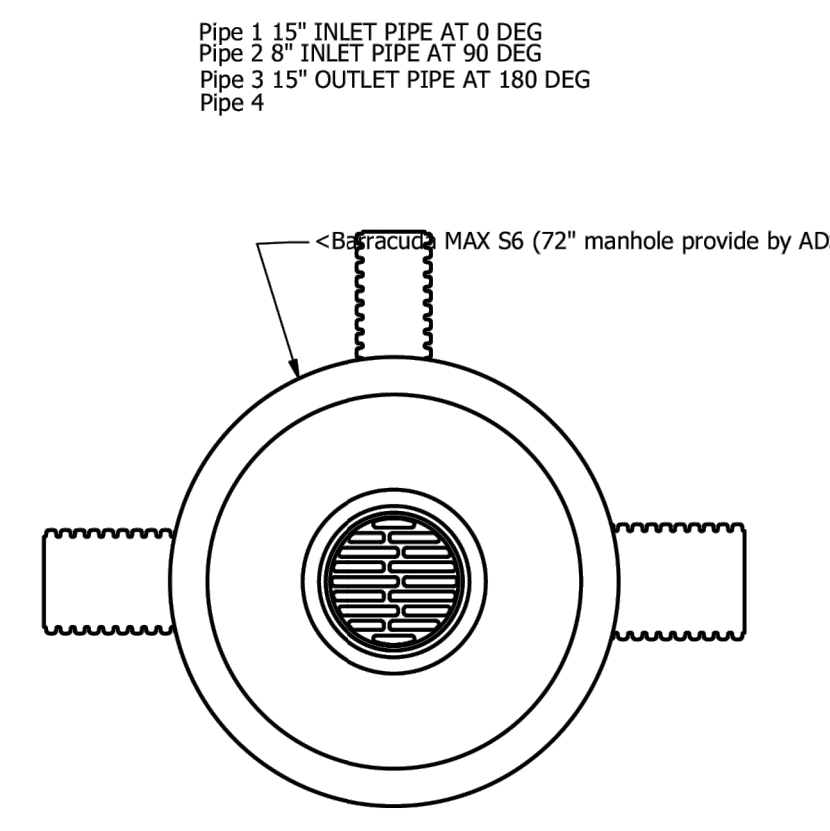
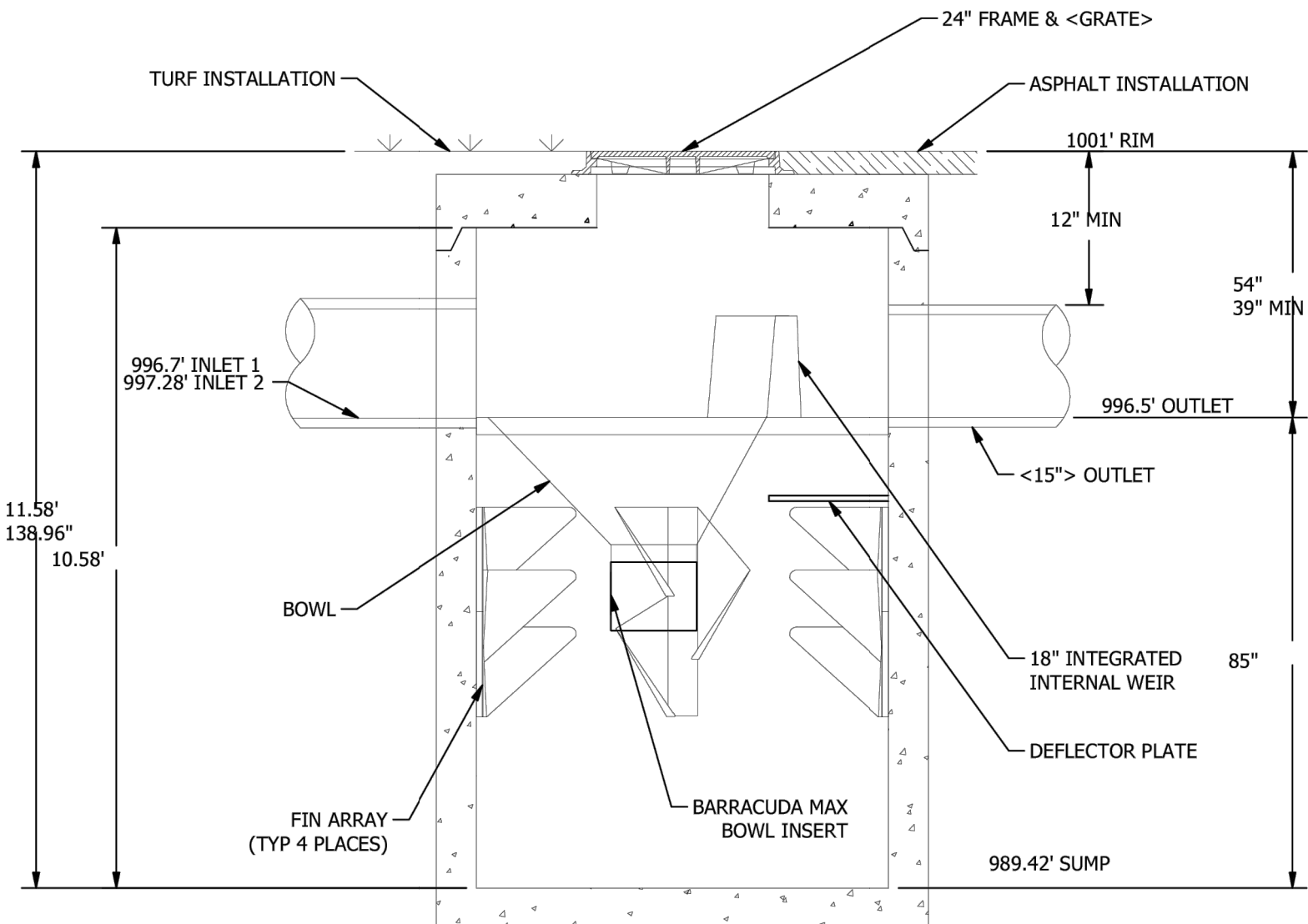
- GRATESOLID COVER SHALL BE DUCTILE IRON PER ASTM A538 GRADE 70-60-05.
- FRAMES SHALL BE DUCTILE IRON PER ASTM A538 GRADE 70-60-05.
- DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 64" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
- DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL) N-12 HP, & PVC SEWER.
- ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 300°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-042.

DESIGNED BY	DATE	04-03-08
REVIEWED BY	DATE	03-14-16
DWG NO.	7001-110-191	

UNIT ID	HDS
PEAK FLOW RATE (CF/S)	11.13
TREATMENT FLOW RATE (CF/S)	2.03

**PRODUCT SPECIFICATIONS**

- THE STORMWATER TREATMENT UNIT SHALL BE AN INLINE UNIT CAPABLE OF CONVEYING 100% OF THE DESIGN PEAK FLOW. IF PEAK FLOW RATES EXCEED MAXIMUM HYDRAULIC RATE, THE UNIT SHALL BE INSTALLED OFFLINE.
- THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 80% OF THE SUSPENDED SOLIDS ON AN ANNUAL AGGREGATE REMOVAL BASIS. SAID REMOVAL SHALL BE BASED ON FULL SCALE THIRD PARTY TESTING USING OK-110 MEDIA GRADATION OR EQUIVALENT AND 300 mg/L INFLUENT CONCENTRATION. SAID FULL SCALE TESTING SHALL HAVE INCLUDED SEDIMENT CAPTURE BASED ON ACTUAL TOTAL MASS COLLECTED BY THE STORMWATER TREATMENT UNIT.
- OR
- THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS USING A MEDIA MIX WITH #50-#75 MICRON AND 200 MG/L INFLUENT CONCENTRATION.
- OR
- THE BARRACUDA UNIT SHALL BE DESIGNED TO REMOVE AT LEAST 50% OF TSS PER CURRENT NJDEP/NJCAT HDS PROTOCOL.



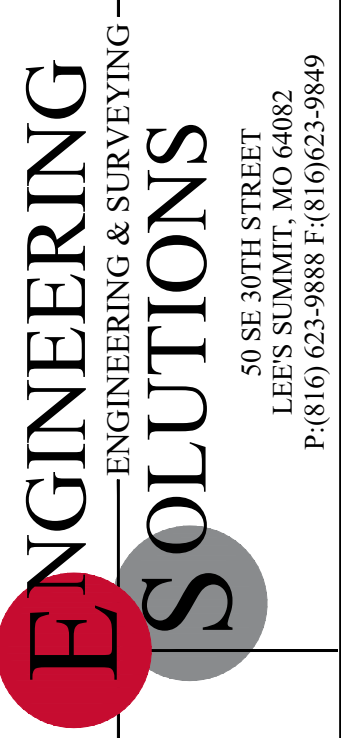
NEWBERRY LOT 294  
LEES SUMMIT, MO

DATE: 11/28/24  
PROJECT #: [ ]  
CHECKED: XX

**Barracuda Max Stormwater Separator**

NOT TO SCALE

2 OF 2



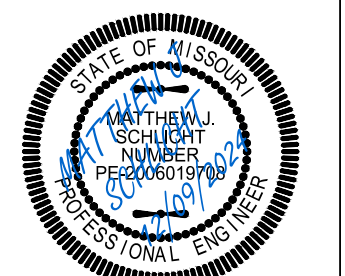
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Surveying LS-218  
Oklahoma  
Engineering 6254  
Nebraska  
Engineering CA2821

Project:  
Newberry Landings, LSMO  
Issue Date:  
January 4, 2024

Storm Sewer Details  
Construction Plans for:  
Lot 294, Newberry Landings First Plat  
Lee's Summit, Jackson County, Missouri

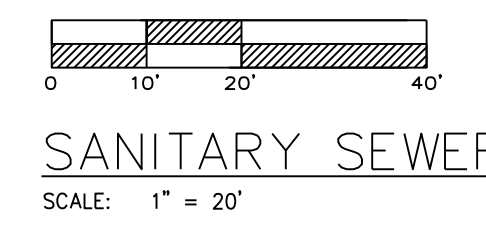
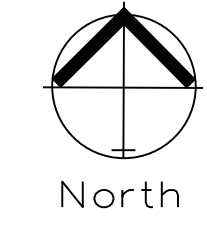
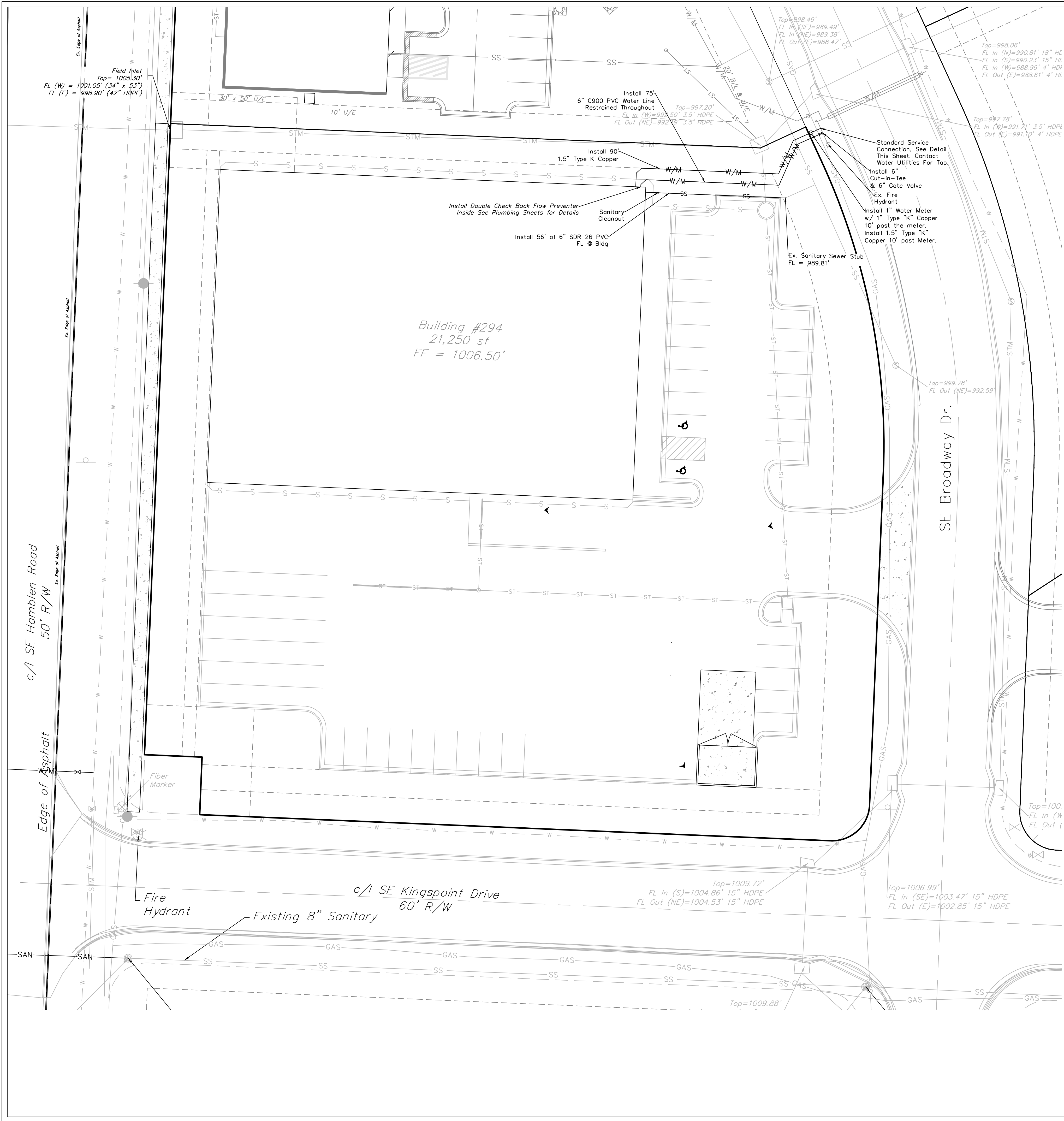
Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 24326

REVISIONS  
12-09-2024

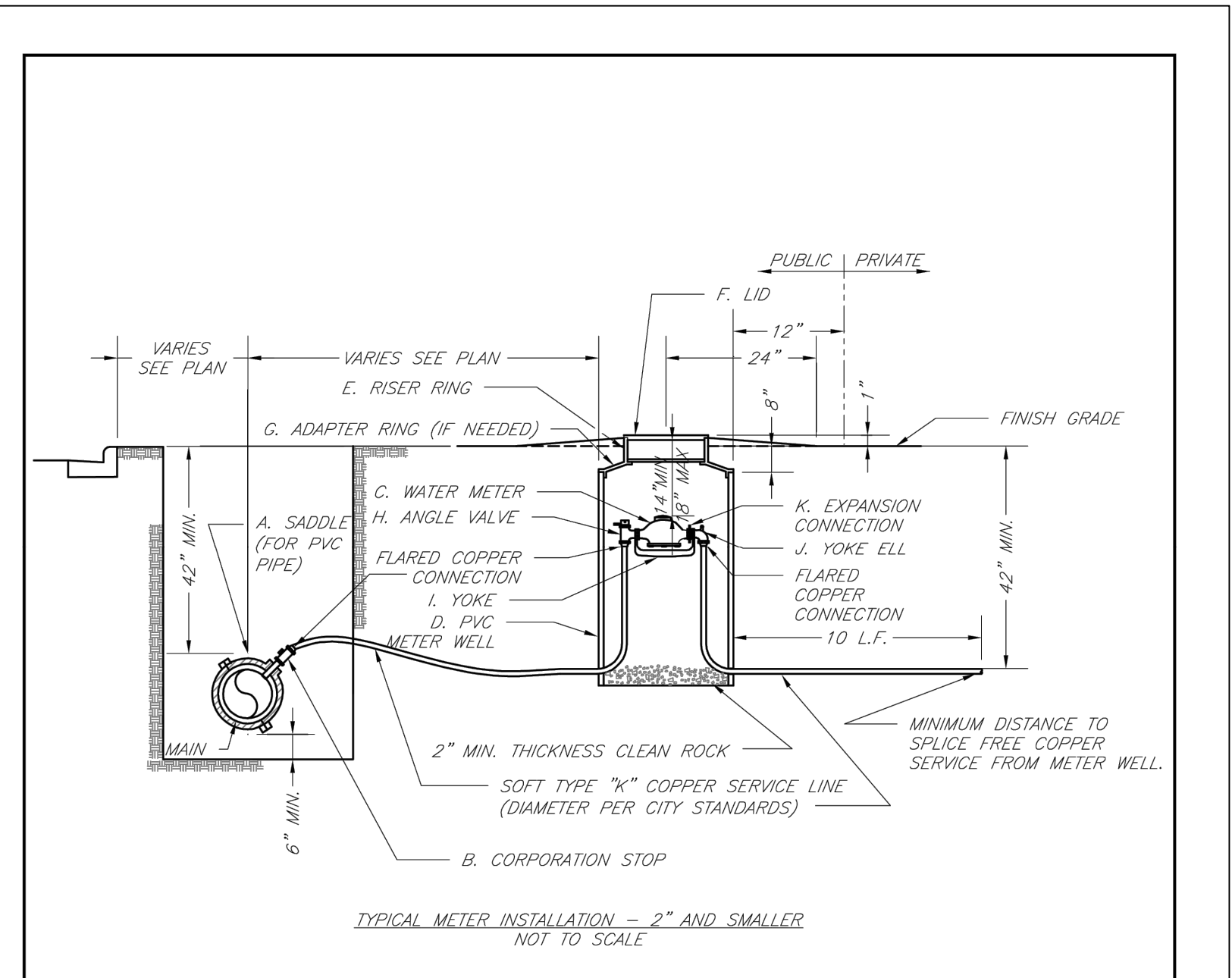


Matthew J. Schlicht  
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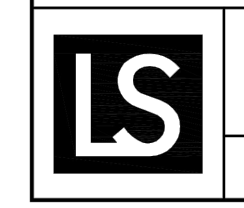
REVISIONS  
12-09-2024



**SANITARY SEWER/WATER GENERAL LAYOUT**  
SCALE: 1" = 20'



- NOTES:**
- METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
  - IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
  - CITY TO FURNISH ITEMS A-K.
  - NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
  - 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
  - EXCAVATION FOR TAP TO EXPOSE 4 LINEAR FEET OF MAIN.
  - NO SPLICES ALLOWED BETWEEN METER AND MAIN.
  - SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
  - LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
  - CONTACT WATER UTILITIES, 816-969-1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"



**LEE'S SUMMIT MISSOURI**  
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64083  
**SERVICE CONNECTION/METER WELL**

Date:	02/13
Drawn By:	JN
Checked By:	DL
File:	WAT-11
Rev:	1/14
Rev:	

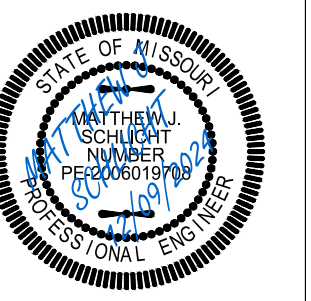


Professional Registration  
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**Newberry Landings First Plat**  
Lee's Summit, Jackson County, Missouri

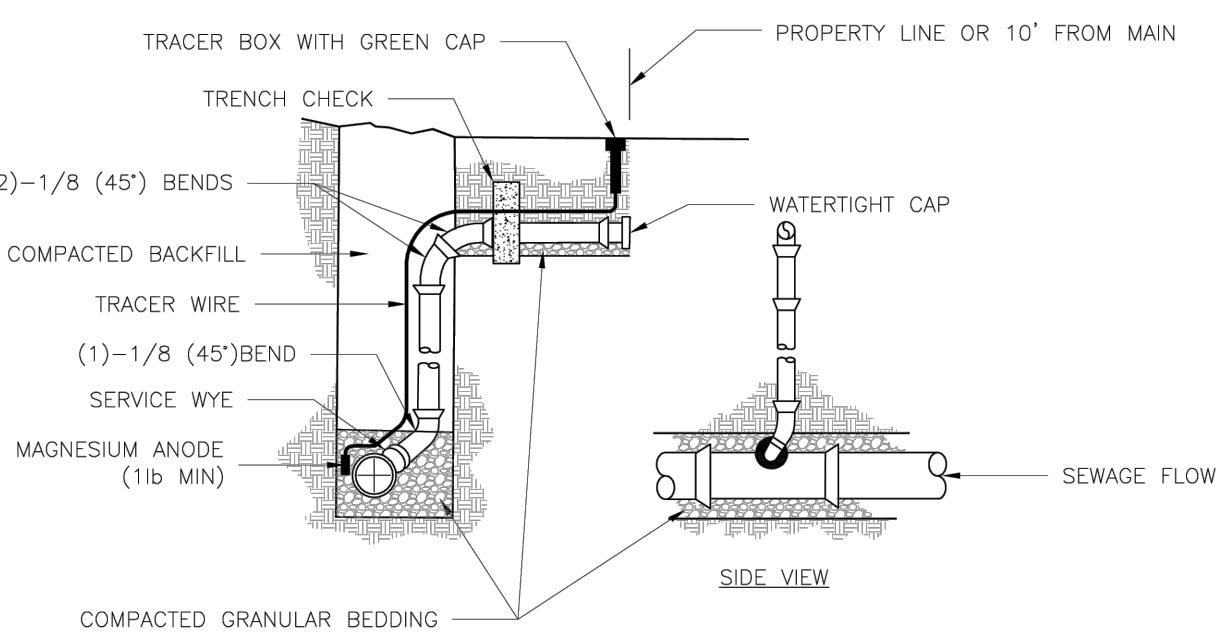
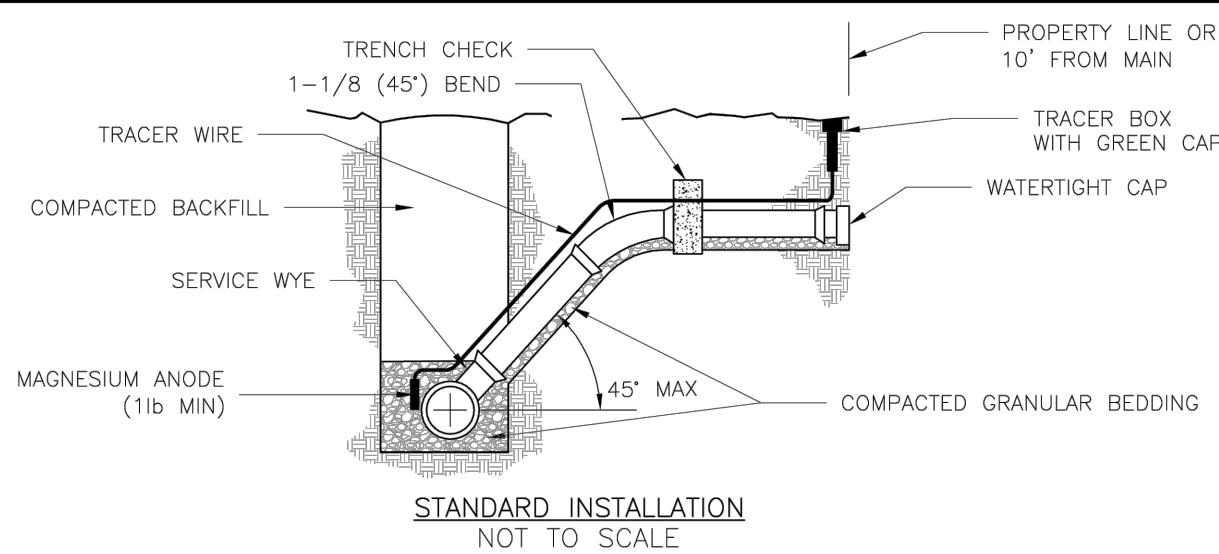
Project:  
NEWBERRY LANDING, LSMO  
Issue Date:  
January 4, 2024

UTILITY PLAN GENERAL LAYOUT  
Construction Plans for:  
**Lot 294, Newberry Landings First Plat**  
Lee's Summit, Jackson County, Missouri



Matthew J. Schlicht  
MO PE 2006019708  
KS PE 19071  
OK PE 25226

REVISIONS  
12-09-2024



- NOTES:**
1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN, WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
  2. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY FROM THE SANITARY SEWER MAIN).
  3. TRENCH CHECKS ON THE BUILDING SEWER STUBS SHALL EXTEND 6" BELOW THE BOTTOM OF THE PIPE. LENGTH SHALL BE A MINIMUM OF 12". THE HEIGHT OF THE TRENCH CHECK SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE. THE WIDTH OF THE TRENCH CHECK SHALL BE THE WIDTH OF THE TRENCH.
  4. SEE SPECIFICATION SECTION 2100 FOR SEWER MAIN BEDDING AND BACKFILL.
  5. #12 GAUGE GREEN INSULATED COPPER TRACER WIRE SHALL BE INSTALLED. TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED DIRECTLY ABOVE THE SEWER SERVICE OR AS DETERMINED BY THE ENGINEER.
  6. FOR SERVICES, TRACER WIRE SHALL RUN FROM THE WYE AND TERMINATE IN A FLUSH MOUNTED TRACER BOX WITH A GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.
  7. TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.
  8. THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE. SPLICES IN THE TRACER WIRE SHOULD BE MADE WITH SPLIT BOLT CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION.

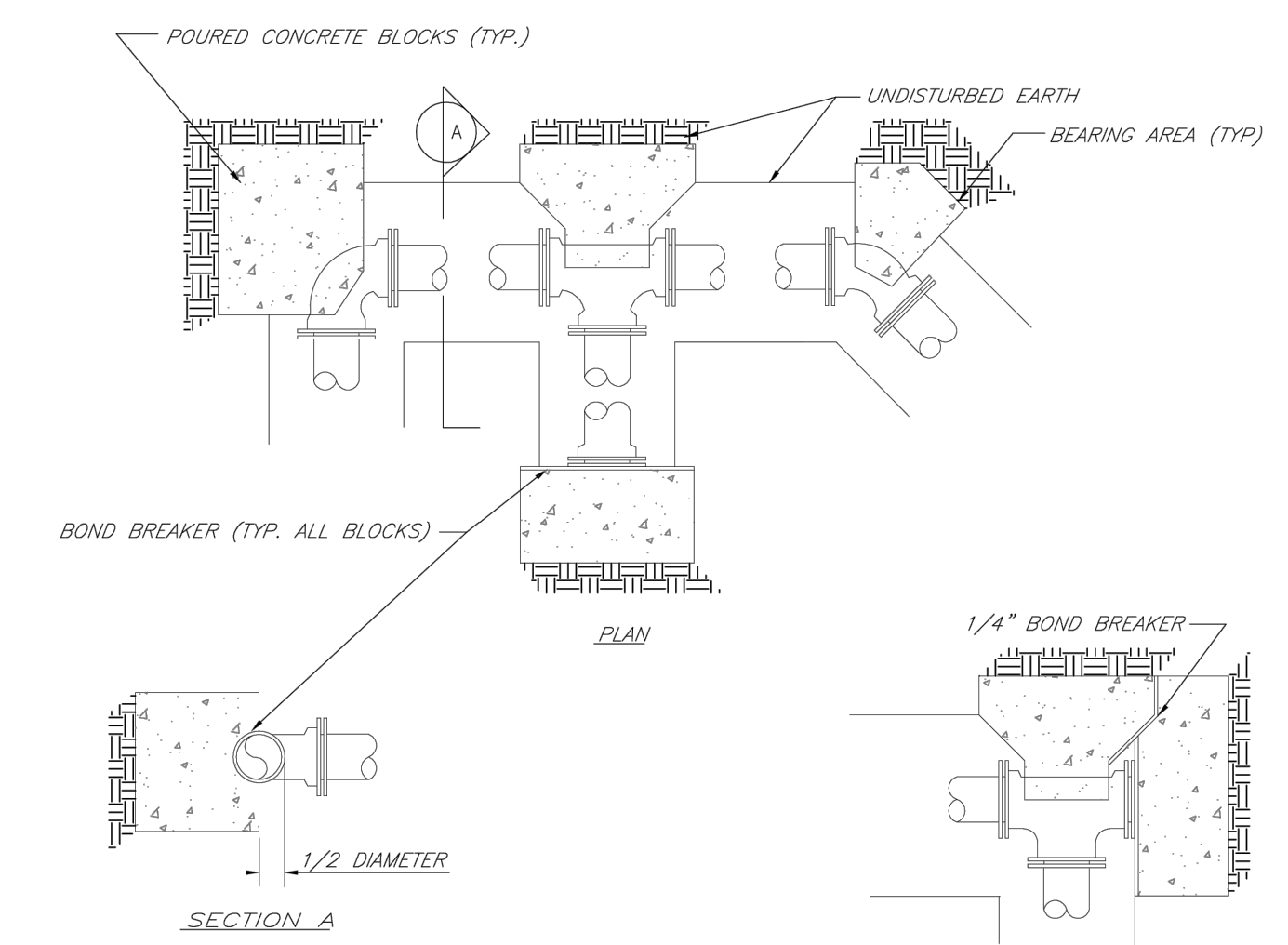
**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063  
**BUILDING SEWER STUB AND RISER**

Date: 02/13  
 Drawn By: SC  
 Checked By: DL  
 FILE: SAN-1  
 Rev: 10/15  
 Rev: 12/15

**REQUIRED CONCRETE BEARING AREA (SQUARE FEET - SF)**

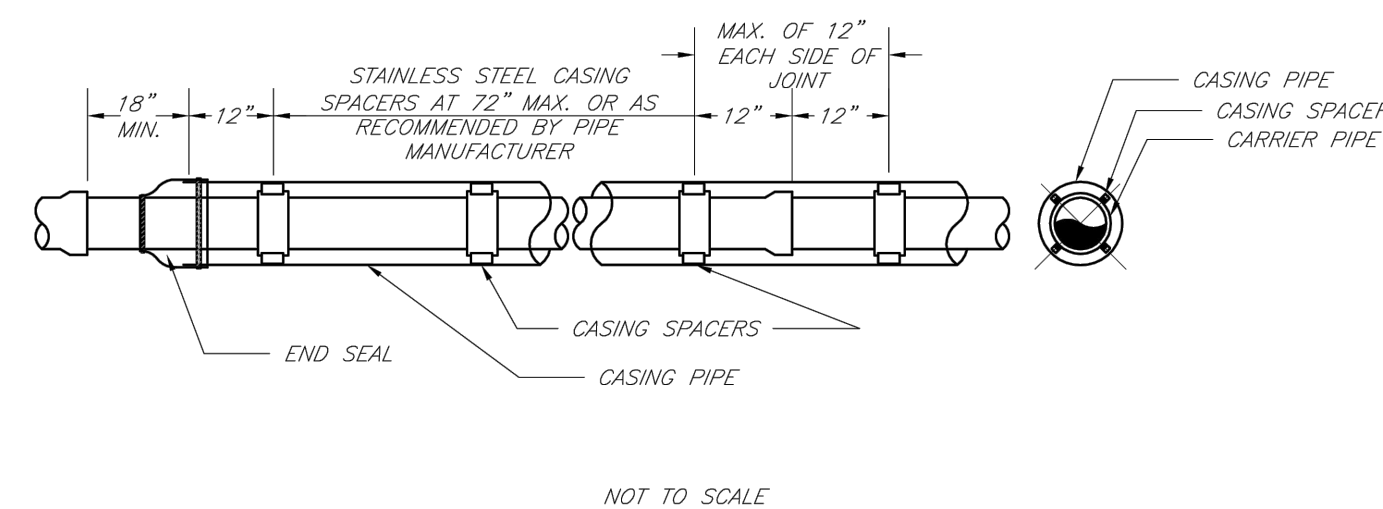
NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	4.7	6.7	4.0	4.0	4.0
8	8.4	11.8	6.4	4.0	4.0
10	13.1	18.5	10.0	5.1	4.0
12	18.8	26.7	14.4	7.4	4.0
14	25.7	36.3	19.6	10.0	5.0
16	33.5	47.4	25.6	13.1	6.6
18	42.4	60.1	32.5	16.5	8.3
20	REST. JT.	REST. JT.	40.1	20.4	10.3
24	REST. JT.	REST. JT.	REST. JT.	29.4	14.8

- NOTES:**
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
  2. MECA LOGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
  3. BEARING AREA MUST BE AGAINST UNDISTURBED SOIL.
  4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.



**LEE'S SUMMIT MISSOURI**  
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**HORIZONTAL THRUST BLOCKS**

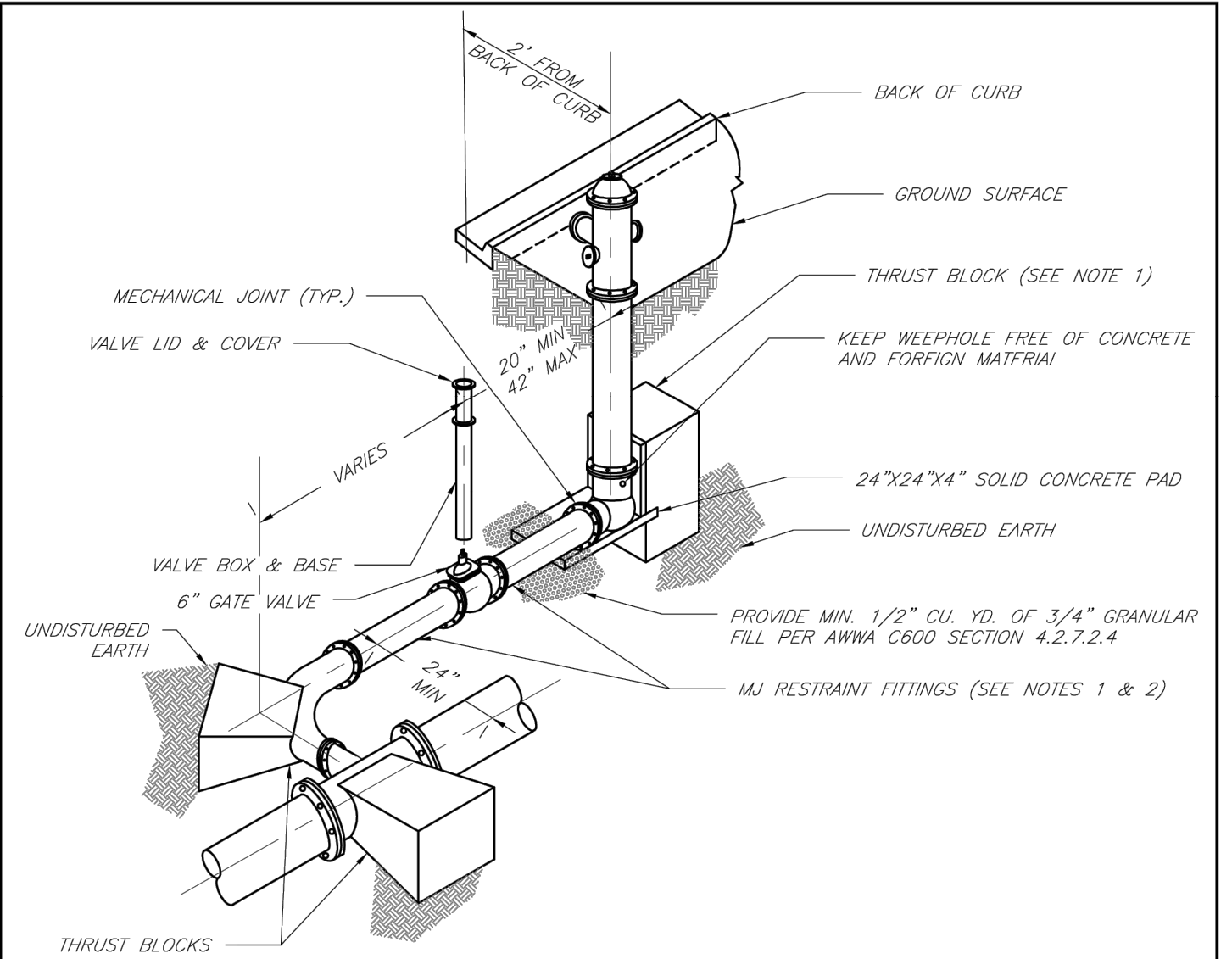
Date: 02/13  
 Drawn By: JN  
 Checked By: DL  
 FILE: WAT-1  
 Rev: 1/14  
 Rev:



- NOTES:**
1. REFER TO SPECIFICATION SECTION 3900 FOR ADDITIONAL INFORMATION.
  2. LENGTH, DIAMETER, AND WALL THICKNESS TO BE SHOWN ON CONSTRUCTION PLANS.

**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063  
**WATER CASING PIPE DETAIL**

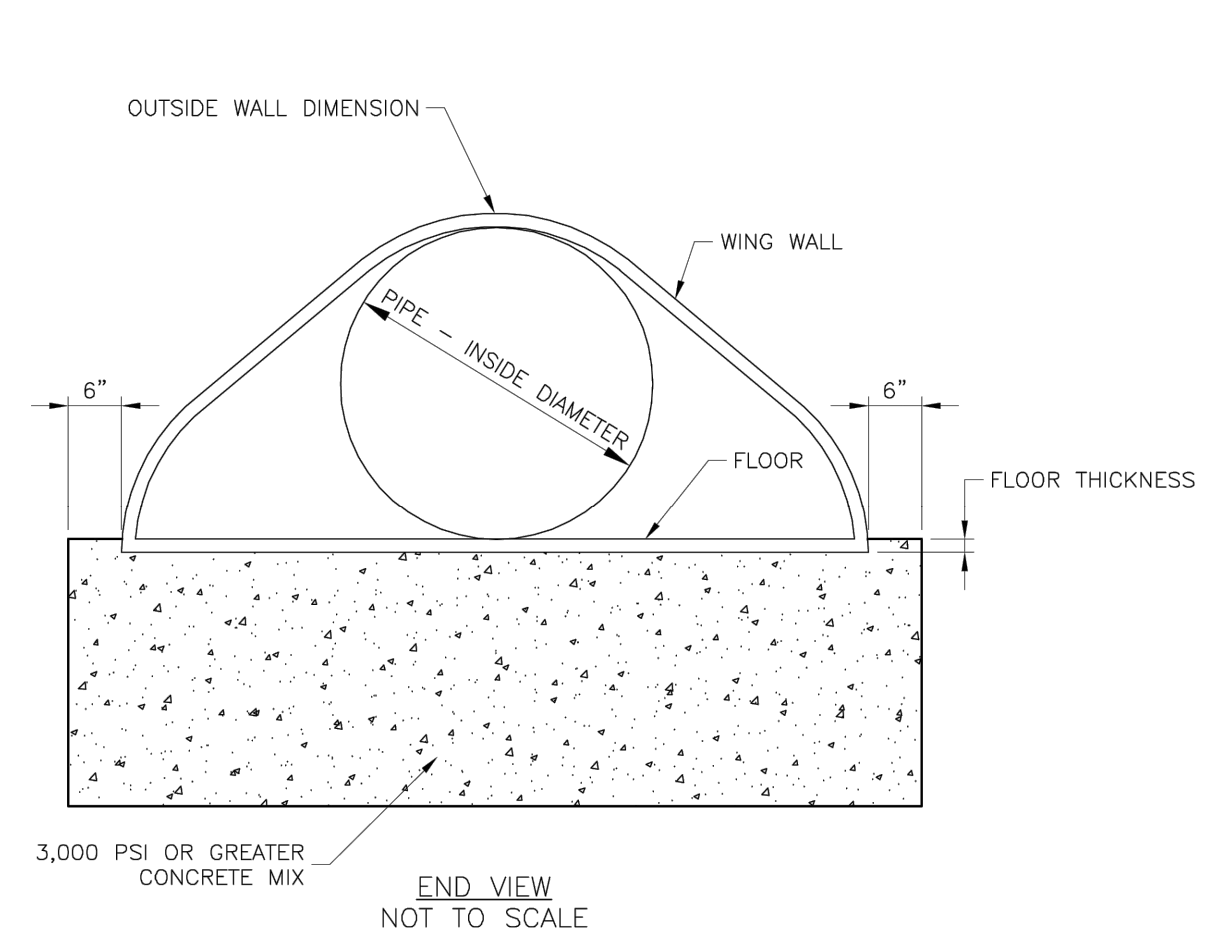
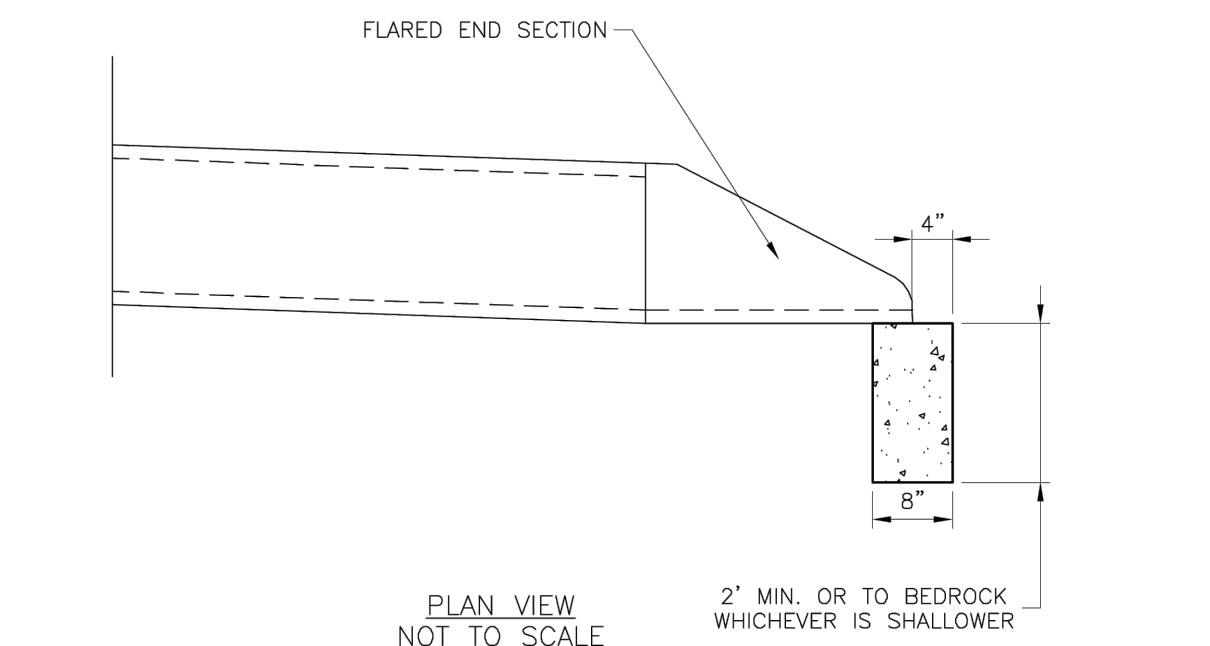
Date: 02/13  
 Drawn By: JN  
 Checked By: DL  
 FILE: WAT-5  
 Rev: 1/14  
 Rev:



- NOTES:**
1. WHEN RETAINER GLANDS ARE USED IN LIEU OF MECHANICAL JOINT (MJ) RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
  2. GATE VALVE MAY BE BOLTED DIRECTLY TO MJ RESTRAINT TEE.
  3. SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID, AND COVER.
  4. BOTTOM HYDRANT FLANGE SHALL BE 2" TO 6" ABOVE FINISHED GRADE.
  5. FOR STREETS WITHOUT CURBS FIRE HYDRANTS SHALL BE PLACED WITHIN 1 FOOT OF THE R/W LINE, BUT NOT MORE THAN 10' FROM EDGE OF PAVEMENT. FIRE HYDRANT SHALL NOT BE PLACED IN BOTTOM OF DITCH.
  6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

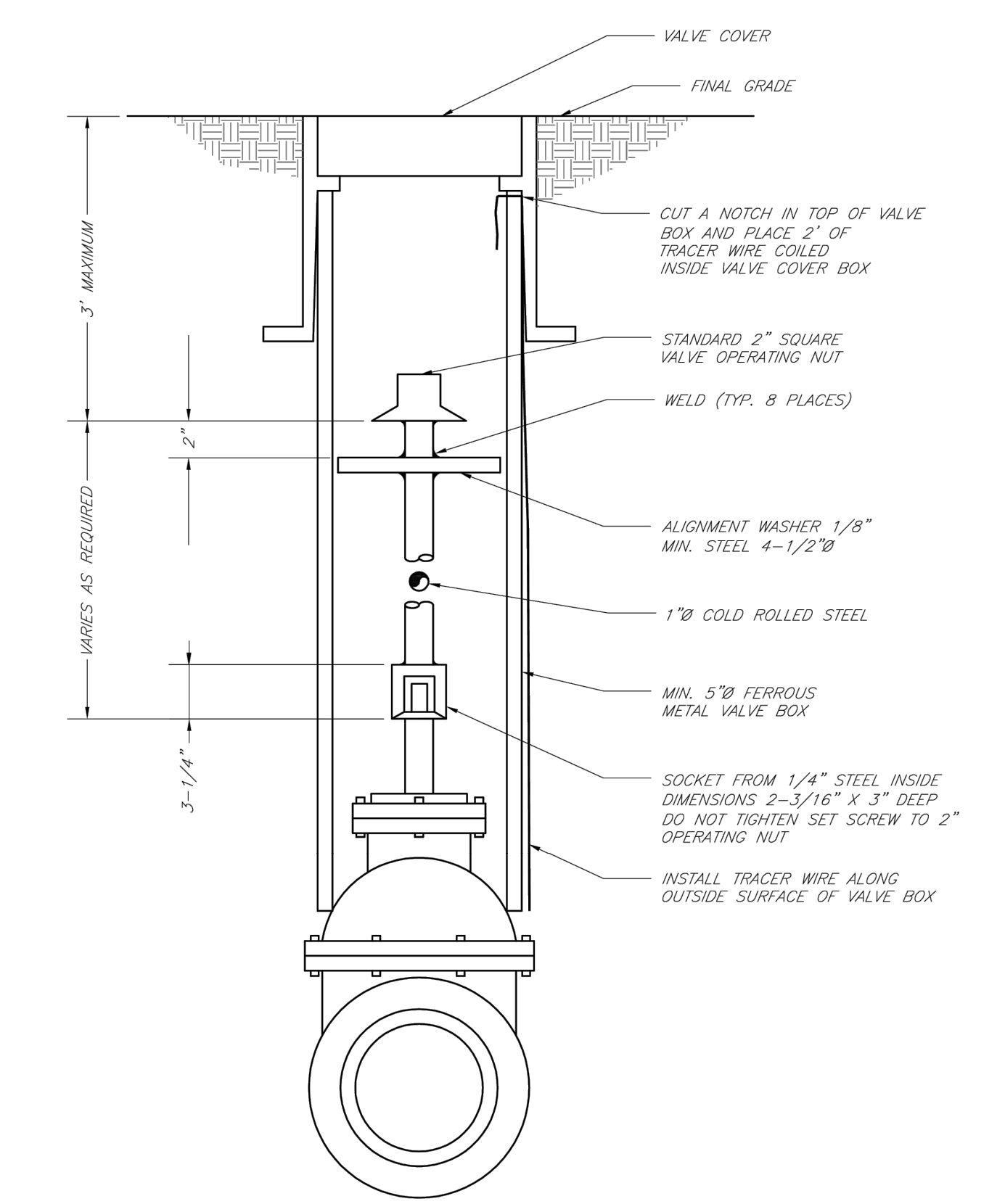
**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063  
**HYDRANT WITH 90 DEGREE BEND**

Date: 02/13  
 Drawn By: JN  
 Checked By: DL  
 FILE: WAT-8  
 Rev: 1/14  
 Rev:



**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063  
**FLARED END SECTION SUPPORT DETAIL**

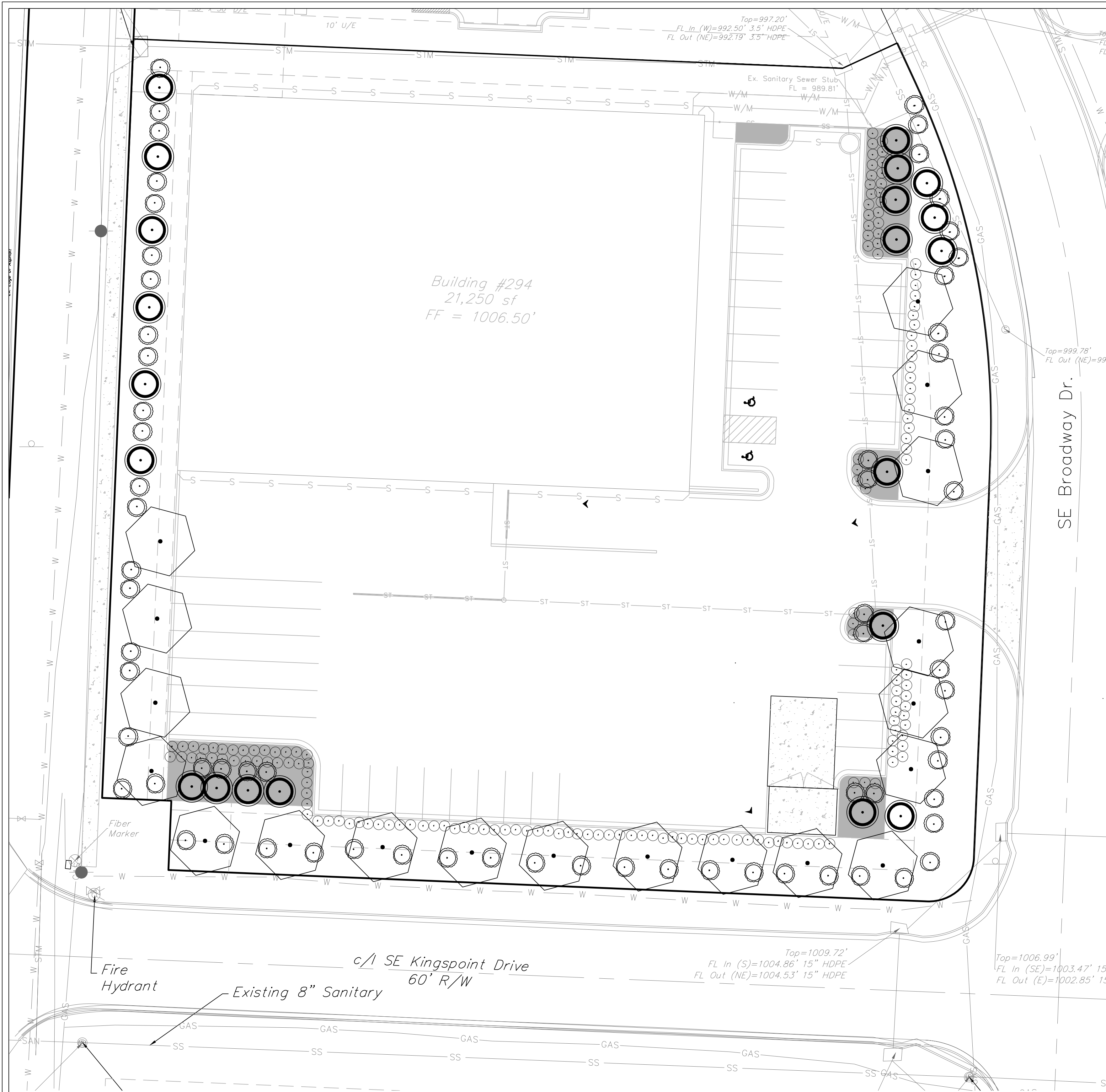
Date: 04/17  
 Drawn By: MIF  
 Checked By: DL  
**STM-5**



**LEE'S SUMMIT MISSOURI**  
 PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063  
**VALVE STEM EXTENSION AND VALVE BOX**

Date: 02/13  
 Drawn By: JN  
 Checked By: DL  
 FILE: WAT-9  
 Rev: 1/14  
 Rev:





LANDSCAPE PLAN

SCALE: 1" = 20'

North

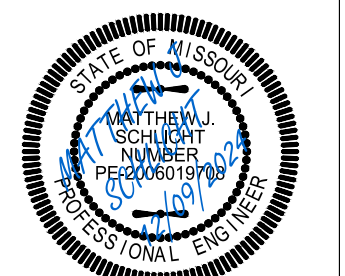
LANDSCAPE WORKSHEET

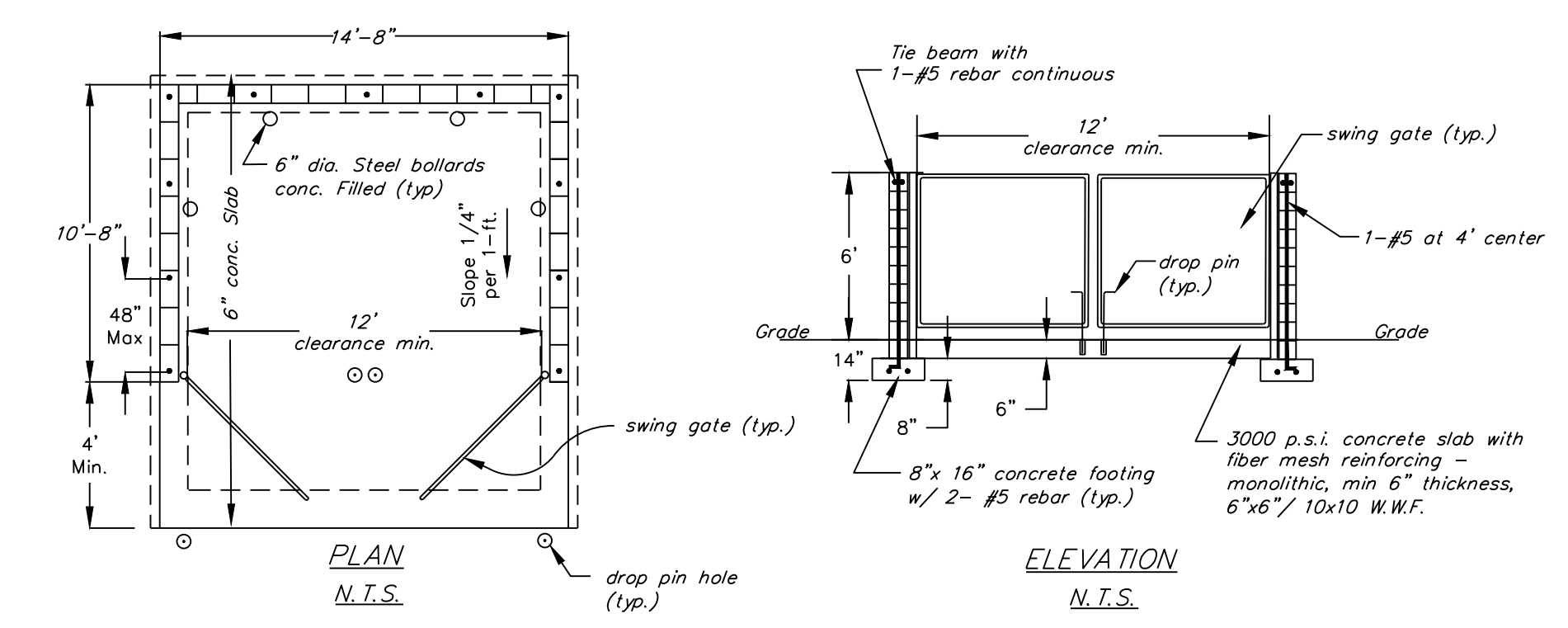
	ORDINANCE REQUIREMENT	REQUIRED FOR THIS SITE	PROPOSED LANDSCAPE
14.090.A.1 Street Frontage Trees (SE Broadway Drive)	1 tree per 30 feet of street frontage	287 ft. of street frontage /30= 10 trees required	10 Trees Provided
14.090.A.3 Street Frontage Shrubs (SE Broadway Drive)	1 shrub per 20 feet of street frontage	287 ft. of street frontage /20= 15 shrubs required	20 shrubs provided
14.090.A.1 Street Frontage Trees (SE Kingspoint Drive)	1 tree per 30 feet of street frontage	310 ft. of street frontage /30= 10 trees required	10 Trees Provided
14.090.A.3 Street Frontage Shrubs (SE Kingspoint Drive)	1 shrub per 20 feet of street frontage	310 ft. of street frontage /20= 15 shrubs required	20 shrubs provided
14.090.A.1 Street Frontage Trees (SE Hamblen Road)	1 tree per 30 feet of street frontage	252 ft. of street frontage /30= 9 trees required	9 Trees Provided
14.090.A.3 Street Frontage Shrubs (SE Hamblen Road)	1 shrub per 20 feet of street frontage	252 ft. of street frontage /20= 13 shrubs required	18 shrubs provided
14.090.B.1 Open Yard Shrubs	2 shrubs per 5000 sq. ft. of total lot area excluding building footprint	77,968 sq. ft. of total lot area minus 21,250 sq. ft. of bldg. footprint= 56,718 sq. ft. /5,000 x 2 = 23 shrubs	23 shrubs
14.090.B.3 Open Yard Trees	1 tree per 5000 sq. ft. of total lot area excluding building footprint.	77,968 sq. ft. of total lot area minus 21,250 sq. ft. of bldg. footprint= 56,718 sq. ft. /5,000 = 11 trees	11 Required 0 Existing 11 Provided
14.110. Parking Lot Landscape	5% of entire parking area (spaces, aisles & drives); 1 island at end of every parking bay, min. 9' wide	31,750 sq. ft. of parking area x .05 = 1,588 sq. ft. of landscape parking lot islands required	2,430 sq. ft.
14.120 Screening of Parking Lot, Road	12 shrubs per 40 linear feet (must be 2.5 feet tall; berms may be combined with shrubs)	445 linear feet/40 x 12 134 shrubs required.	134 shrubs provided

\*STREET SHRUBS ARE SATISFIED WITH PARKING LOT SCREENING REQUIREMENTS.  
 \*\*ONLY ORNAMENTAL TREES AND SHRUBS MAY BE PLANTED WITHIN UTILITY EASEMENTS.  
 \*\*\*ALL GROUND MOUNTED MECHANICAL EQUIPMENT SHALL BE SCREENED PER UDO.

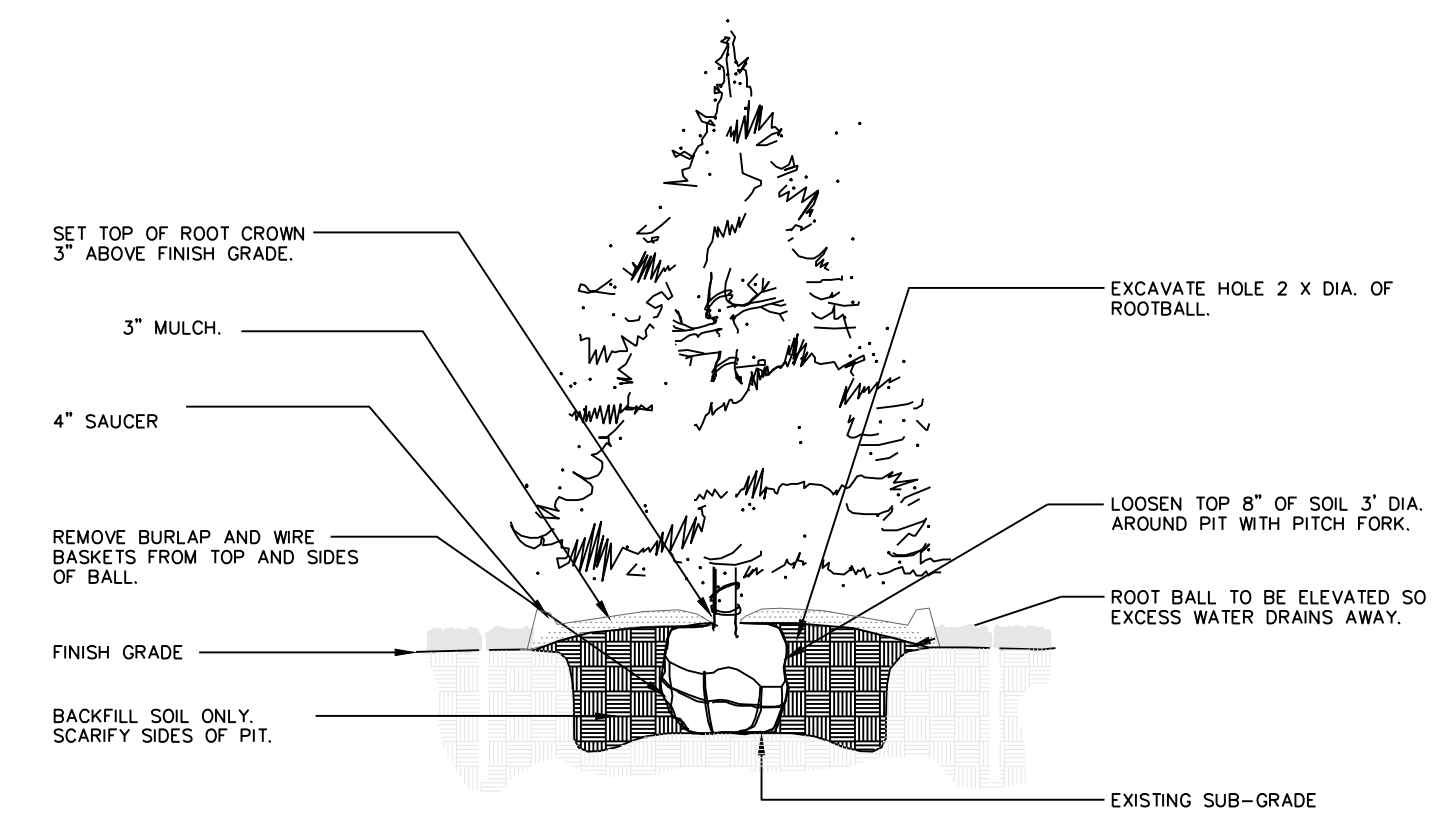
**PLANTING SCHEDULE:**  
 IS FOR PHASE 1 ONLY. AT FULL BUILD THE UNIFIED DEVELOPMENT ORDINANCE REQUIREMENTS SHALL BE MET.

SYMBOL	QUANT.	KEY	NAME	SIZE
tree	19	TA	AMERICAN BASSWOOD LINDEN TILIA AMERICANA	3.0" CAL
evergreen	68	SR	SKYROCKET JUNIPER JUNIPERUS SCOPULORUM "SKYROCKET"	8' HL
tree	21	RB	OKLAHOMA REDBUD CERCIS RENIFORMIS "OKLAHOMA"	3.0" CAL
shrub	157	BB	BURNING BUSH EUONYMUS ALATA "COMPACTUS"	2 Gallon Pot

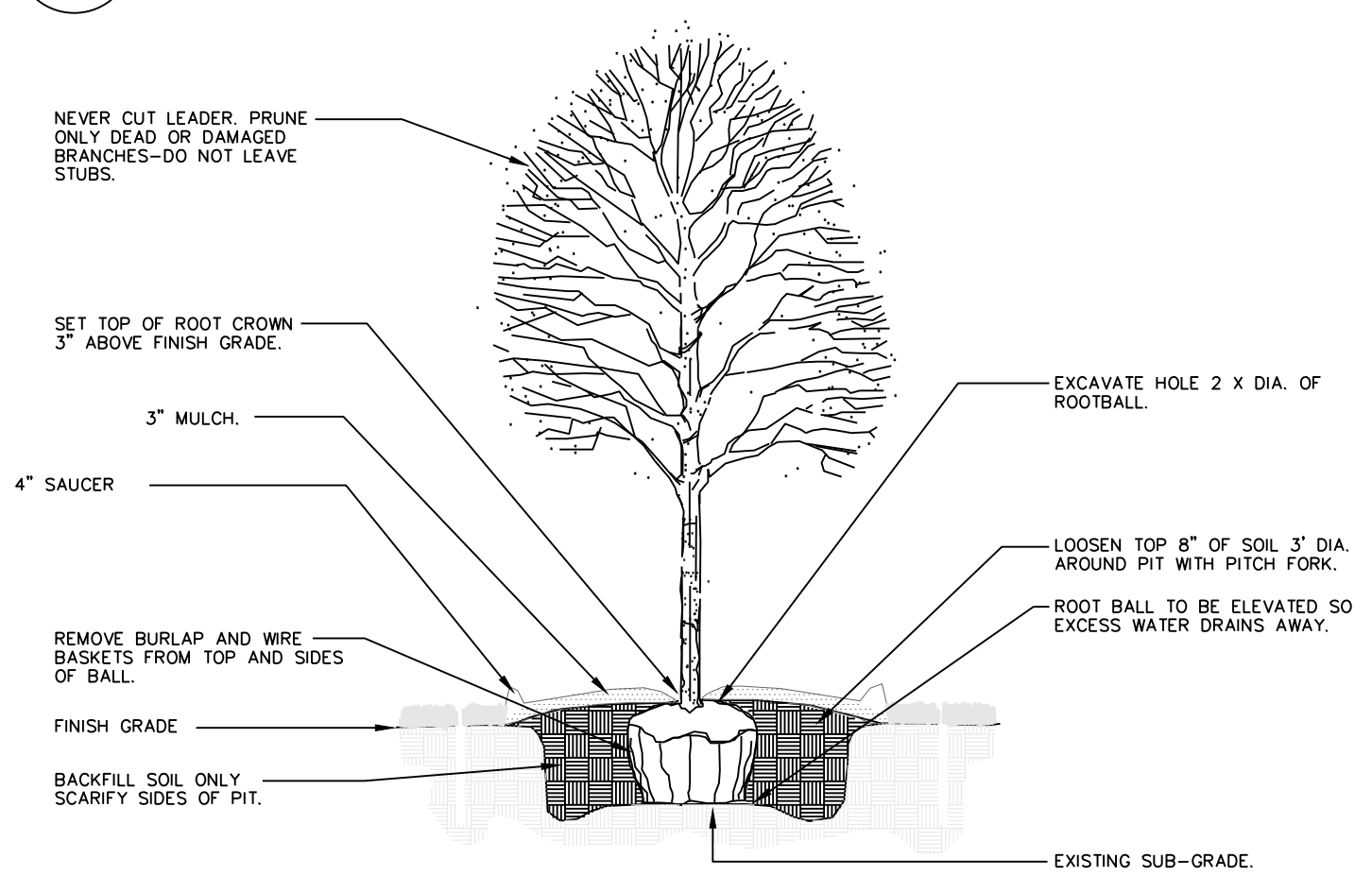




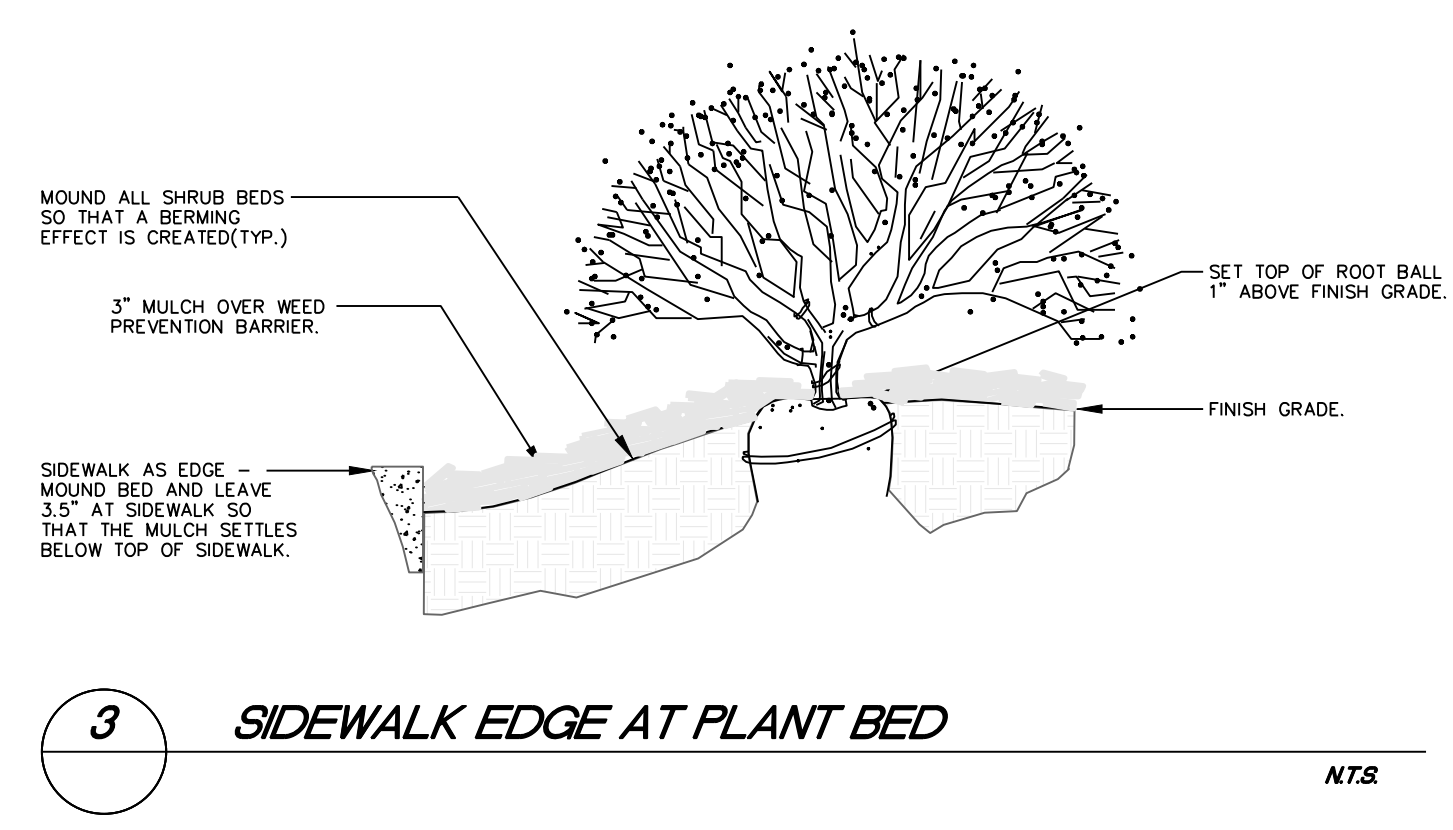
DUMPSTER ENCLOSURE SINGLE  
NON-TRAFFIC BEARING  
N.T.S.



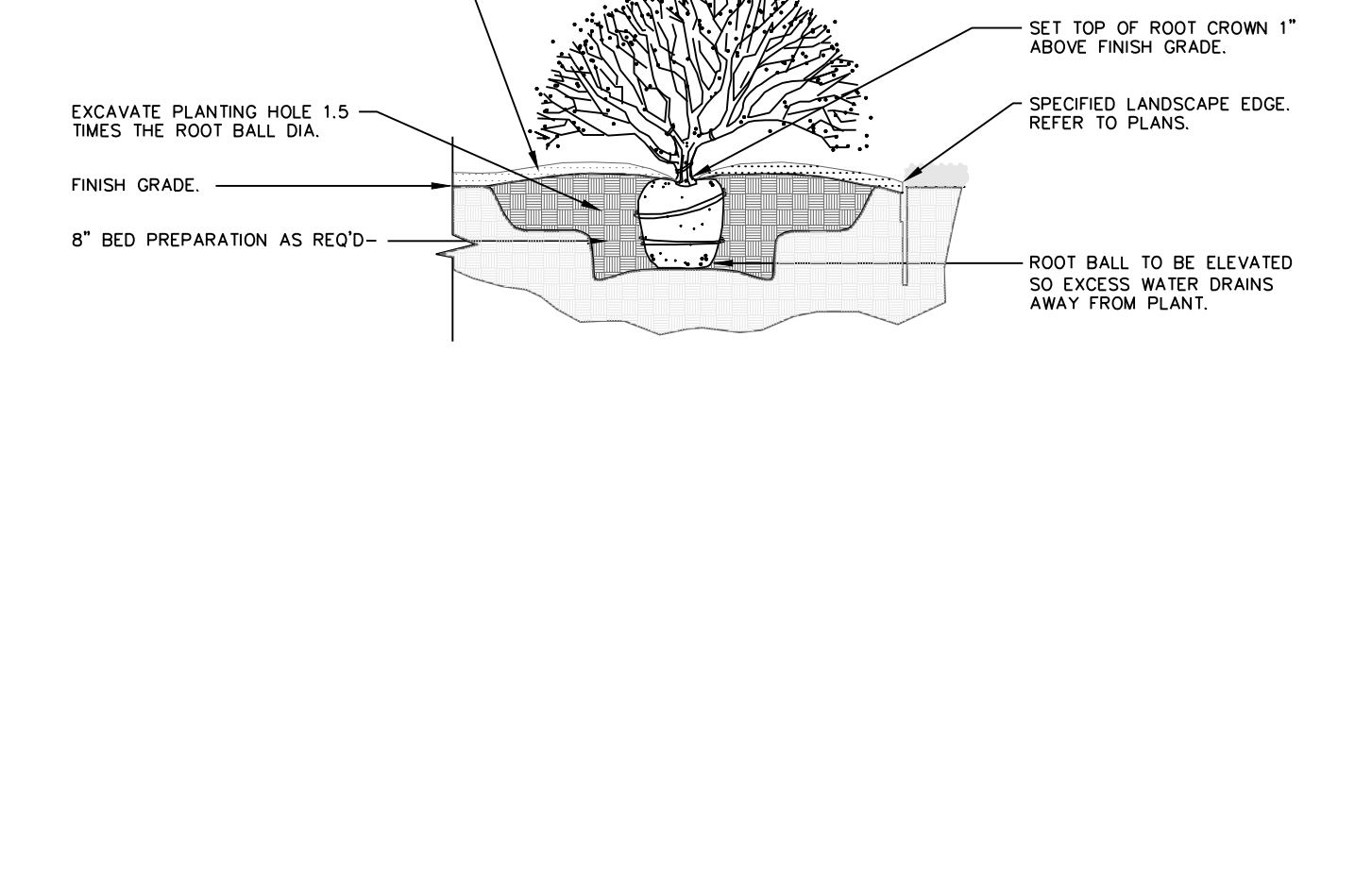
1 EVERGREEN TREE PLANTING  
N.T.S.



2 DECIDUOUS TREE PLANTING  
N.T.S.



3 SIDEWALK EDGE AT PLANT BED  
N.T.S.



4 LAWN AND TURF AREAS  
N.T.S.

**GENERAL LANDSCAPE NOTES:**  
**PLANT MATERIAL**

- ALL PLANT MATERIAL SHALL BE FIRST CLASS REPRESENTATIVES OF SPECIFIED SPECIES, VARIETY OR CULTIVAR. IN HEALTHY CONDITION WITH NORMAL, WELL DEVELOPED BRANCHES AND ROOT PATTERNS. PLANT MATERIAL MUST BE FREE OF OBJECTIONABLE FEATURES. PLANTS SHALL COMPLY IN ALL APPLICABLE RESPECTS WITH PROPER STANDARDS AS SET FORTH IN THE AMERICAN ASSOCIATION OF NURSERYMEN'S "AMERICAN STANDARD OF NURSERY STOCK", AND 260.1-2004.
- SHRUBS SHALL BE CONTAINER GROWN AND WILL BE FREE OF DISEASE AND PESTS. NO BARE ROOT. ALL PLANT BEDS TO BE MULCHED TO A DEPTH OF 3" WITH DARK BROWN, HARDWOOD MULCH. PLANTING BEDS ARE TO BE FREE OF WEEDS AND GRASS. TREAT BEDS WITH A PRE-EMERGENT HERBICIDE PRIOR TO PLANTING AND MULCH PLACEMENT. APPLY IN ACCORDANCE WITH STANDARD TRADE PRACTICE.
- HOLE AREA FOR TREE TO BE TWICE (2x) THE DIAMETER OF THE ROOT BALL AND ROOT BALL SHALL BE SLIGHTLY MOUNDED FOR WATER RUN-OFF.
- ALL PLANT MATERIALS SHALL BE PROTECTED FROM THE DRYING ACTION OF THE SUN AND WIND AFTER BEING DUG, WHILE BEING TRANSPORTED, AND WHILE AWAITING PLANTING. BALLS OF PLANTS WHICH CANNOT BE PLANTED IMMEDIATELY SHALL BE PROTECTED FROM DRYING ACTION BY COVERING THEM WITH MOIST MULCH. PERIODICALLY, APPLY WATER TO MULCH-COVERED BALLS TO KEEP MOIST. IF PLANTING SHOULD OCCUR DURING GROWING SEASON, APPLY ANTI-DESICCANT TO LEAVES BEFORE TRANSPORT TO REDUCE THE LIKELIHOOD OF WINDBURN. REAPPLY ANTI-DESICCANT AFTER PLANTING TO REDUCE TRANSPIRATION. REMOVE TWINE AND BURLAP FROM ROOT BALLS. SOIL ON TOP OF CONTAINERIZED OR BALLED PLANTS IS TO BE REMOVED UNTIL ALL PLANTS' ROOT FLARES ARE EXPOSED. THIS IS THE NATIVE SOIL LINE AT WHICH PLANTING DEPTHS SHOULD BE MEASURED.
- AFTER PLANTING IS COMPLETED, PRUNE MINIMALLY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES. PRUNE IN SUCH A MANNER AS NOT TO CHANGE THE NATURAL HABIT OR SHAPE OF THE PLANT. MAKE CUTS BACK TO BRANCH COLLAR, NOT FLUSH. DO NOT PAINT ANY CUTS WITH TREE PAINT. CENTRAL LEADERS SHALL NOT BE REMOVED.
- QUARANTEE TREES, SHRUBS, GROUND COVER PLANTS FOR ONE CALENDAR YEAR FOLLOWING PROVISIONAL ACCEPTANCE OF THE OVERALL PROJECT. DURING THE QUARANTEE PERIOD, PLANTS THAT DIE DUE TO NATURAL CAUSES OR THAT ARE UNHEALTHY OR UNSIGHTLY IN CONDITION, SHALL BE REPLACED BY THE CONTRACTOR.

**LAWN AND TURF AREAS**

- ALL LAWN AREAS TO BE SODDED AS SHOWN ON PLANS. SOD SHALL COMPLY WITH US DEPT. OF AGRICULTURE RULES AND REGULATIONS UNDER THE FEDERAL SEED ACT AND EQUAL IN QUALITY TO STANDARDS FOR CERTIFIED SEED. SOD SHALL BE HEALTHY, THICK TURF HAVING UNDERGONE A PROGRAM OF REGULAR FERTILIZING, MOWING AND WEED CONTROL. SEED AND SOD SHALL BE A TURF-TYPE TALL FESCUE (3 WAY) BLEND. SEED BLEND SHALL CONSIST OF THE FOLLOWING:

TURF-TYPE TALL FESCUE	90%
KENTUCKY BLUEGRASS	10%

**INSTALLATION**

- THE INSTALLATION OF ALL PLANT MATERIALS SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT, MO. AND LANDSCAPE INDUSTRY STANDARDS.
- ALL LANDSCAPE AREAS TO BE FREE OF ALL BUILDING DEBRIS AND TRASH, BACK FILLED WITH CLEAN FILL SOIL AND TOP DRESSED WITH 4" OF TOPSOIL. TOPSOIL SHALL HAVE A PH RANGE OF 5.5 TO 7 AND A 4% ORGANIC MATTER MINIMUM ASTM D5286.
- PLANT BEDS TO BE "MOUNDED". ALL PLANT MATERIAL, PLANT BEDS, MULCH AND DUG EDGE ARE TO BE INSTALLED PER LANDSCAPE PLANS, DETAILS, AND MANUFACTURER'S RECOMMENDATIONS.
- REESTABLISH FINISH GRADES TO WITHIN ALLOWABLE TOLERANCES ALLOWING 3/4" FOR SOD AND 3" FOR MULCH IN PLANT BEDS. HAND RAKE ALL AREAS TO SMOOTH EVEN SURFACES FREE OF DEBRIS, CLODS, ROCKS, AND VEGETATIVE MATTER GREATER THAN 1".
- ALL PLANT BEDS, SHRUBS AND TREES SHALL BE MULCHED WITH 3" OF DARK BROWN, HARDWOOD MULCH, EXCEPT IF NOTED AS ROCK. DARK BROWN, HARDWOOD MULCH SHALL BE INSTALLED OVER DEWITT PRO 5 WEED CONTROL FABRIC IN PLANT BEDS ONLY.
- CONTRACTOR IS RESPONSIBLE FOR INITIAL WATERING UPON INSTALLATION.
- DUG EDGES ARE TO BE DUG WHERE MULCH BEDS ARE ADJACENT TO TURF AREAS. NO EDGING IS REQUIRED ADJACENT TO PAVEMENT OR CURB.
- THE EXACT LOCATION OF ALL UTILITIES, STRUCTURES, AND UNDERGROUND UTILITIES SHALL BE DETERMINED AND VERIFIED ON SITE BY THE LANDSCAPE CONTRACTOR PRIOR TO INSTALLATION OF THE MATERIALS. DAMAGE TO EXISTING UTILITIES AND/OR STRUCTURES SHALL BE REPLACED TO THEIR ORIGINAL CONDITION BY THE LANDSCAPE CONTRACTOR AT NO COST TO THE OWNER.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR OBTAINING NECESSARY PERMITS AND APPROVALS AND RETO INSPECTIONS BY LEGAL AUTHORITIES.
- PROVISIONS SHALL BE MADE FOR READILY ACCESSIBLE IRRIGATION WITHIN 100' MAX. OF ALL LANDSCAPED AREAS INCLUDING ALL PLANT BEDS, INDIVIDUAL TREES, AND TURF AREAS. ALL LAWN AREAS (AS SHOWN ON PLANS) WILL BE IRRIGATED BY AN AUTOMATIC SPRINKLER SYSTEM. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND INSTALLATION OF ALL IRRIGATION COMPONENTS, SLEEVING, PIPE AND CONTROL DESIGN DRAWINGS OF IRRIGATION SYSTEM SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT AND OWNER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
- ANY SUBSTITUTIONS OR DEVIATIONS SHALL BE REQUESTED IN WRITING BY THE CONTRACTOR FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION OF PLANT MATERIALS. ALL PLANTS ARE TO BE LOCATED AS SPECIFIED ON DRAWINGS.

**MAINTENANCE BY OWNER**

- ALL SHRUBS ARE TO BE MAINTAINED IN THEIR NATURAL SHAPE TO ALLOW EVENTUAL GROWTH INTO A HEDGE.
- MAINTAIN NATURAL HABIT OF ALL SPECIFIED PLANT MATERIAL.
- NEW SOD TO BE THOROUGHLY WATERED UNTIL ROOTS "TAKE HOLD" OF SOD BED. CONTINUE WATERING AS REQUIRED, UNTIL COMPLETELY ESTABLISHED.

**IRRIGATION PERFORMANCE SPECIFICATION:**

- THE FOLLOWING CRITERIA SHALL BE CONSIDERED MINIMUM STANDARDS FOR DESIGN AND INSTALLATION OF LANDSCAPE IRRIGATION SYSTEM:
- GENERAL - IRRIGATION SYSTEM TO INCLUDE DRIP IRRIGATION OF SHRUB BEDS ADJACENT TO BUILDINGS, SPRAY HEADS IN THE PARKING ISLANDS, AND ROTORS AROUND THE PERIMETER OF THE PARKING LOTS. HEADS SHALL THROW AWAY FROM BUILDING AND ACID SPRAYING OVER SIDEWALKS.
  - IRRIGATION SYSTEM SHALL CONFORM TO ALL INDUSTRY STANDARDS AND ALL FEDERAL, STATE AND LOCAL LAWS GOVERNING DESIGN AND INSTALLATION.
  - WATERLINE TYPW, SIZE LOCATION, PRESSURE AND FLOW SHALL BE FIELD VERIFIED PRIOR TO SYSTEM DESIGN AND INSTALLATION.
  - ALL MATERIALS SHALL BE FROM NEW STOCK FREE OF DEFECTS AND CARRY A MINIMUM ONE YEAR WARRANTY FROM THE DATE OF SUBSTANTIAL COMPLETION.
  - THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED IN SUCH A WAY THAT ALL SYSTEM COMPONENTS OPERATE WITHIN THE GUIDELINES ESTABLISHED BY THE MANUFACTURER.
  - LAWN AREA AND SHRUB BEDS SHALL BE ON SEPARATE CIRCUITS.
  - PROVIDE WATER TAP, METER SET, METER VAULT AND ALL OTHER OPERATIONS NECESSARY TO PROVIDE WATER FOR IRRIGATION SHALL CONFORM TO LOCAL WATER GOVERNING AUTHORITY GUIDELINES AND STANDARDS.
  - BACKFLOW PREVENTION SHALL BE PROVIDED IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.
  - IRRIGATION CONTROLLER TO BE LOCATED IN UTILITY ROOM INSIDE BUILDING, AS IDENTIFIED BY OWNER.
  - IRRIGATION CONTROLLER STATIONS SHALL BE LABELED TO CORRESPOND WITH THE CIRCUIT IT CONTROLS.
  - CONTRACTOR SHALL PROVIDE TO THE OWNER WRITTEN OPERATION INFORMATION FOR ALL SYSTEM COMPONENTS.
  - CONTRACTOR SHALL PROVIDE TO THE OWNER ALL KEYS, ACCESS TOOLS, WRENCHES AND ADJUSTING TOOLS NECESSARY TO GAIN ACCESS, ADJUST AND CONTROL THE SYSTEM.
  - CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.
  - AN AUTOMATIC RAIN SHUT-OFF OR MOISTURE DEVICE SHALL BE INSTALLED.
  - INSTALL SCHEDULE 40 PVC SLEEVES UNDER ALL CURBS, PAVING AND SIDEWALKS. SLEEVES TO BE TWICE THE SIZE OF THE LINE IT HOUSES.
  - INSTALL MANUAL DRAIN VALVES AT LOWEST POSSIBLE ELEVATION ON IRRIGATION MAIN TO ALLOW GRAVITY DRAINING OF MAIN DURING WINTER MONTHS. PROVIDE QUICK COUPLERS AT MULTIPLE LOCATIONS TO ALLOW FOR EASY "BLOWING OUT" OF LATERAL AND MAIN LINES.
  - ZONES OR NOZZLES SHALL BE DESIGNED WITH MATCHED PRECIPITATION RATES.
  - MINIMUM LATERAL DEPTH IS 15" AND MAIN DEPTH IS 18".
  - SUBMIT DESGN DRAWING WITH BID TO ALLOW OWNER TO EVALUATE SYSTEM. INCLUDE CUT SHEETS OF ALL COMPONENTS AND ZONE TABLE ILLUSTRATING FLOWS AND ANTICIPATED PRESSURE AT FURTHEST HEAD.
  - AN "AS-BUILT" SCALED DRAWING SHALL BE PROVIDED TO THE OWNER BY THE CONTRACTOR AND SHALL INCLUDE UT NOT BE LIMITED TO THE FOLLOWING:
    - AS CONSTRUCTED LOCATION OF ALL COMPONENTS
    - COMPONENT NAME, MANUFACTURER, MODEL INFORMATION, SIZE AND QUANTITY
    - PIPE SIZE AND QUANTITY
    - INDICATION OF SPRINKLER HEAD SPRAY PATTERN
    - CIRCUIT IDENTIFICATION SYSTEM
    - DETAILED METHOD OF WINTERIZED SYSTEM
- SUBMIT AS-BUILT DRAWING IN FULL SIZE DRAWING FORM AS WELL AS PDF ELECTRONIC FORMAT. (SCANNING FULL SIZE COPY OF PLAN IS ACCEPTABLE IF IT CAN BE PRINTED TO SCALE.