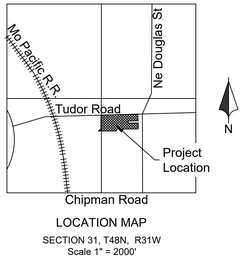
EVREN APARTMENTS

Lee's Summit, Jackson County, Missouri
Section 31, Township 48N, Range 31W

Construction Documents



LOCATION MAP
SECTION 31, T48N, R31W
Scale 1" = 2000'

Legal Description:

All that part of the Southeast Quarter of Section 31, Township 48 North, Range 31 West, in the City of Lee's Summit, Jackson County, Missouri, being more particularly described as follows: Beginning at the Southeast Corner of Lot 2A, New Lee's Summit Police and Court Facility, a subdivision of land in the City of Lee's Summit, Jackson County, Missouri; thence N 87°44'22" W, a distance of 227.00 feet; thence S 01°47'50" W, a distance of 106.00 feet; thence S 87°44'22" E, a distance of 227.10 feet, to a point on the West right-of-way line of NE Douglas Street, as now established,; thence S 01°47'13" W, along said west right-of-way line, a distance of 210.65 feet; thence N 87°44'22" W, a distance of 595.16 feet; thence S 01°39'56" W, a distance of 98.11 feet; thence N 87°41'50" W a distance of 557.31 feet, to a point on the East right-of-way line of NW Commerce Drive, as now established; thence along said East right-of-way line for the following four (4) courses; thence Northeasterly on a curve to the left, said curve having an initial tangent bearing of N 54°18'46" E, and a radius of 280.00 feet, an arc distance of 255.67 feet; thence N 01°59'41" E, a distance of 86.24 feet; thence n 87° 44'32" w, a distance of 5.00 feet; thence N 01°59'47" E, a distance of 288.45 feet, to a point on the South right-of-way line of NE Tudor Road, as now established; thence along said South right-of-way line for the following seven (7) courses ; thence S 89°24'16" E, a distance of 294.23 feet,; thence Easterly on a curve to the left, said curve having an initial tangent bearing of S 89°24'46" E, and a radius of 2055.00 feet, an arc distance of 53.07 feet; thence N 89°06'56" E, a distance of 401.11 feet; thence S 85°35'40" E, a distance of 117.21 feet; thence Easterly on a curve to the left, said curve having an initial tangent bearing of S 88°24'34" E and a radius of 1936.00 feet, an arc distance of 17.84 feet; thence S 87°52'53" E, a distance of 133.38 feet; thence S 43°02'31" E, a distance of 42.53 feet, to a point on the West right-of-way line of NE Douglas Street, as now established; thence S 01°47'50" W, along said West right-of-way, a distance of 181.57 feet; to the Point of Beginning, containing 567,567 square feet or 13.0295 acres, more or less, of unplatted land.

NOTE

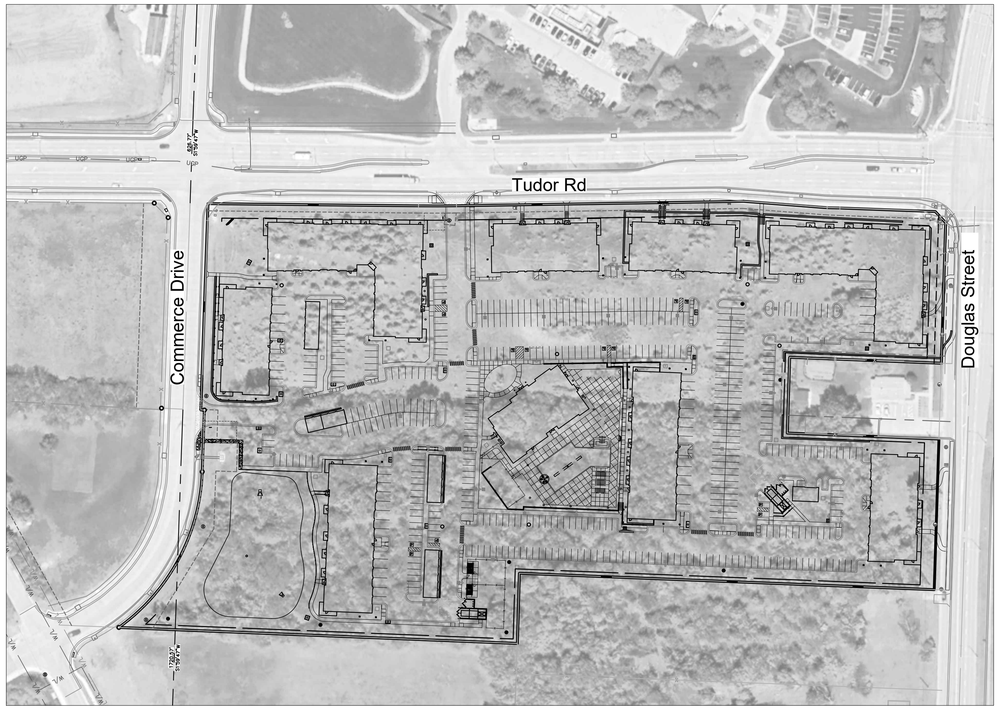
According to the ALTA/NSPS LAND TITLE SURVEY, revised September 10th 2024, no oil/gas wells are indicated to be on the property.

FLOOD PLAIN NOTE

According to the FEMA Flood Insurance Rate Map Number 29095C0417G, revised January 20th 2017, this tract lie in: OTHER AREAS, ZONE X, defined as areas determined to be outside the 0.2% annual chance floodplain.

The information concerning locations of underground utilities shown hereon which are not visible from the surface, has been taken from the records and field locations of the various utility companies and has not been field verified by this company. These locations are not to be construed as accurate or exact.

811 Know what's below. Call before you dig.



UTILITIES

WATER & SANITARY SEWER
City of Lee's Summit Water Utilities
1200 SE Hamblen Road
Lee's Summit, MO
Phone:816.969.1900

ELECTRICITY
Evergy
Phone: 816.471.5275

GAS
Missouri Gas Energy
PO Box 219255
Kansas City, Missouri 64141
Phone: 816.756.5252

TELEPHONE
AT&T
Phone: 800.288.2020

Time Warner Cable
Phone: 816.222.5952

CABLE TV
Comcast
Phone: 816.795.1100

Time Warner Cable
Phone: 816.358.8833

LEGEND

Existing Section Line	Proposed Right-of-Way
Existing Right-of-Way Line	Proposed Property Line
Existing Lot Line	Proposed Lot Line
Existing Easement Line	Proposed Easement
Existing Curb & Gutter	Proposed Curb & Gutter
Existing Sidewalk	Proposed Sidewalk
Existing Storm Sewer	Proposed Storm Sewer
Existing Storm Structure	Proposed Storm Structure
Existing Waterline	Proposed Fire Hydrant
Existing Gas Main	Proposed Waterline
Existing Sanitary Sewer	Proposed Sanitary Sewer
Existing Sanitary Manhole	Proposed Sanitary Manhole
Existing Contour Major	Proposed Contour Major
Existing Contour Minor	Proposed Contour Minor
	Future Curb and Gutter
U/E Utility Easement	
SS/E Sanitary Sewer Easement	A/E Access Easement
D/E Drainage Easement	T/E Temporary Easement

Sheet List Table

Sheet Number	Sheet Title
C01	Title Sheet
C02	Existing Conditions
C03	General Notes
C04	General Layout
C05	Dimension Plan
C06	Dim Plan North_1
C07	Dim Plan North_2
C08	Dim Plan North_3
C09	Dim Plan North_4
C10	Dim Plan South_1
C11	Dim Plan South_2
C12	Dim Plan South_3
C13	Dim Plan South_4
C14	Pavement Plan
C15	Curb Schedule
C16	Grading Plan
C17	Spot Grading North_1
C18	Spot Grading North_2
C19	Spot Grading North_3
C20	Spot Grading North_4
C21	Spot Grading South_1
C22	Spot Grading South_2
C23	Spot Grading South_3
C24	Spot Grading South_4
C25	Grading Details_1
C26	Grading Details_2
C27	Grading Details_3
C28	Grading Details_4
C29	Wall Grading Details_1
C30	Wall Grading Details_2
C31	Private San Plan & Profile A
C32	Service Line Plan
C33	Drainage Area Map
C34	Drainage Calculations
C35	Storm Plan & Profile 1
C36	Storm Plan & Profile 2
C37	Storm Plan & Profile 3
C38	Storm Plan & Profile 4
C39	Storm Plan & Profile 5
C40	Storm Plan & Profile 6
C41	Roof Drain Plan & Profile 1
C42	Roof Drain Plan & Profile 2
C43	Roof Drain Plan & Profile 3
C44	Roof Drain Plan & Profile 4
C45	Roof Drain Plan & Profile 5
C46	Roof Drain Plan & Profile 6
C47	Roof Drain Plan & Profile 7
C48	Roof Drain Plan & Profile 8
C49	Detention Basin Plan
C50	Sediment Basin Plan
C51	Sediment Basin Details
C52	Water Line General Layout
C53	Private Water Line Plan & Profile 1
C54	Private Water Line Plan & Profile 2
C55	Private Water Line Plan & Profile 3
C56	Fire Protection Plan
C57	Fire Lane Plan
C58	Utility Plan Bldg 1
C59	Utility Plan Bldg 2
C60	Utility Plan Bldg 3
C61	Utility Plan Bldg 4
C62	Utility Plan Bldg 5
C63	Utility Plan Bldg 6
C64	Utility Plan Bldg 7
C65	Utility Plan Bldg 8
C66	Utility Plan Clubhouse
C67	Erosion Control Plan I
C68	Erosion Control Plan II
C69	Erosion Control Plan III
C70	Erosion Control Details
C71	Standard Details I
C72	Standard Details II
C73	Standard Details III
C74	Standard Details IV
C75	Standard Details V
C76	Standard Details VI
C77	Standard Details VII
C78	Standard Details VIII

Consultant/Applicant:
Renaissance Infrastructure Consulting
Contact: Mick Slutter, P.E.
400 E, 17th Street
Kansas City, Mo. 64108
(816) 800-0950

Prepared For:
LSMO Tudor Apartments, LLC
Contact: Ryan Adams, VP
10000 College Blvd Overland Park, Kansas
radams@cityscaperesidential.com

Construction Documents
24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Title Sheet

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17TH STREET KANSAS CITY, MISSOURI 64108
816.800.0950 WWW.RIC-CONSULT.COM

MO Certificate of Authority: E-2010033830

STATE OF MISSOURI MITCHELL SLUTTER NUMBER PE-2002003418 PROFESSIONAL ENGINEER 05/12/25 MITCHELL E. SLUTTER PE-2002003418

Sheet C01

cporter
May 08, 2025 - 11:28am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP-TITLE-01.dwg

Existing Fiber Optic Line
Existing Curb & Gutter and Sidewalk to be removed
Existing Hydrant
Existing Water Valve
Existing Water Main
Existing Water Valve
Existing Water Valve
Existing Misc. Equipment
Existing Gas Main
Existing Boundary
Existing 10' U/E To Be Vacated
Existing 25' Building Setback To Be Vacated
Existing Water Meter removal / disconnect
Existing Water Meter
Existing Curb & Gutter and Sidewalk to be removed
Remove 26 L.F. Existing 30" HDPE. Repair Existing Curb Inlet Per City Standards
Remove Existing Area Inlet
Existing Fiber Optic Line
Utility Easement
Trees to be removed
Existing Fence Line to be removed
Existing Boundary
Existing 40' Right-Of-Way
Existing Underground Telecom. Line
Water Meter Pit removal / disconnect
Existing Overhead Power Line
NE TUDOR RD.
NW COMMERCE DR.
NE DOUGLAS ST.
626.77' S1°59'47"W
1720.57' S1°59'47"W
40' RIGHT-OF-WAY DEDICATION BK. 555, PG. 20
NORTH
1"=40'
0 20' 40'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Existing Conditions

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
WWW.RIC-CONSULT.COM
MO Certificate of Authority, E-2010033830

STATE OF MISSOURI
MITCHELL ELI SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C02

cporter
May 06, 2025 - 11:26am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- ex-cond-01.dwg

ADA ACCESSIBLE ROUTE NOTES

1. All Accessible route construction shall conform to the latest version of the ADA Standards for Accessible Design published by the Department of Justice and the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way published by the United States Access Board.
2. Other than ramps and ramp runs, walking surfaces must have running slopes not steeper than 1:20.
3. The cross slope of walking surfaces shall not be steeper than 2%.
4. The minimum width for a linear segment of accessible route shall be 36 inches.
5. Where the accessible route makes a 180 degree turn around an element which is less than 48 inches wide, clear width shall be 42 inches minimum approaching the turn, 48 inches minimum at the turn and 42 inches leaving the turn.
6. An accessible route with a clear width less than 60 inches shall provide passing spaces at intervals of 200 feet maximum. Passing spaces shall be 60 inch by 60 inch minimum.
7. Ramp runs shall have a running slope not steeper than 1:12.
8. Ramp runs with a rise greater than 6 inches shall have handrails.
9. Ramp landings with a maximum slope of 1:48 shall be provided before and after ramp runs.
10. The maximum rise of a ramp run shall be 30 inches.
11. The maximum counter slope between the pavement and the curb at a curb ramp shall be 1:20.
12. Curb ramp landings with a maximum slope of 1:48 shall be provided at the top of curb ramps with a clear width of 60 inches.
13. Detectable warning surfaces complying with the latest ADA Standards shall be provided at pedestrian street crossings and refuge islands.
14. Passenger loading zones shall be provided adjacent to any ADA Accessible stall and have a 2% maximum slope in all directions.
15. Contractor to field verify existing site conditions and contact the engineer if field conditions do not match plan prior to construction.

LAYOUT & PAVING NOTES

1. All construction shall conform to the City of Lee's Summit minimum design standards.
2. Contractor shall keep a full set of City of Lee's Summit Standard Details onsite at all times.
3. The contractor shall check existing grades, dimensions, and inverts in the field and report any discrepancies to the architect/engineer prior to beginning work.
4. The contractor shall verify the exact location of all existing utilities, take care to protect utilities that are to remain, and repair contractor caused damage according to current local standards and at the contractor's expense. Coordinate all construction with the appropriate utility company.
5. The contractor shall contact the City's Development Services Engineering Inspection to schedule an inspection coordination meeting with a Field Engineering Inspector prior to any land disturbance work at (816) 969-1200.
6. Prior to installing, constructing, or performing any work in the public right of way or on the public storm sewer line (including concrete pavement or connecting private drainage systems to the storm sewer), contact Development Services at 816-969-1200 for inspection of the work. Contact must be made at least 24 hours prior to start of the work.
7. Provide a smooth transition between existing pavement and new pavement. Field adjustment of final grades may be necessary. Adjust all utilities prior to installation of pavement.
8. The contractor shall protect all trees to remain, in accordance with the specifications. Do not operate or store heavy equipment, nor handle, nor store materials within the drip lines of trees or outside the limit of grading.
9. Concrete walks and pads shall have a broom finish. All concrete shall be 4,000 p.s.i. unless otherwise noted. Curb ramps, sidewalk slopes, and driveway ramps shall be constructed in accordance with all current local requirements. If applicable, the contractor shall request inspection of sidewalk and ramp forms prior to placement of concrete.
10. All damage to existing asphalt pavement to remain which results from new construction shall be replaced with like materials at contractor's expense.
11. Dimensions are to the back of curb, or edge of concrete, unless otherwise noted.
12. Maintain one set of as-built drawings on the job site for distribution to the engineer upon completion.
13. For all asphalt pavement, the contractor shall have no more than 30% recycled material in the base course and no recycled material in the surface course.

PAVEMENT MARKING AND SIGNAGE NOTES

1. Parking stall marking stripes shall be four inch (4") wide white stripes. Handicap stall marking shall be furnished at locations shown on plans.
2. Traffic control devices and pavement markings shall conform to the requirements of the "Manual of Uniform Traffic Control Devices."
3. Traffic control and pavement markings shall be painted with a white Sherwin Williams TM2125 HOTLINE Fast Dry or approved equal. The pavement marking shall be applied in accordance with manufacturers recommendations. Apply on a clean, dry surface and at a surface temperature of not less than 70°f and the ambient air temperature shall not be less than 60°f and rising. Two coats shall be applied.

WRITTEN SEQUENCING

1. Implement Pre-Construction Plan:
   All temporary structural BMP's shown on the BMP plan must be in place before any site disturbance. Clearing necessary to place temporary structural BMP's is the minimum required for installation. Coordinate clearing necessary to place temporary structural BMP's with local weather forecast so that clearing and placement may be completed within a forecast dry period. Stabilize all erosion control measures after installation. Temporary Barrier Fence shall be in Place, around areas not to be disturbed, prior to any construction activities. This area includes Stream Corridor.
2. Clear and Stabilize Work Areas:
   Grade contractor areas and place all-weather surface on contractor areas.
3. Clearing and Grubbing:
   After Phase I BMP's are installed, contractor may clear, grub, and demo required areas as necessary.

GRADING NOTES

1. All construction shall conform to the City's minimum design standards.
2. Spot Grades shown herein shall govern over finished grades.
3. The contractor shall provide evidence that his insurance meets the requirements of the Project.
4. All traffic control shall be in conformance with the Manual of Uniform Traffic Control Devices (MUTCD).
5. The contractor is responsible for the protection of all property corners and section corners. Any property corners and/or section corners disturbed or damaged by construction activities shall be reset by a Registered Land Surveyor licensed in the State of Missouri, at the contractor's expense.
6. The contractor shall be responsible for the restoration of the right-of-way and for damaged improvements such as curbs, driveways, sidewalks, streetlight and traffic signal junction boxes, traffic signal loop lead ins, signal poles, irrigation systems, etc. Damaged improvements shall be repaired in conformance with the latest City standards and to the City's satisfaction.
7. The contractor is responsible for providing erosion and sediment control BMPs to prevent sediment from reaching paved areas, storm sewer systems, drainage courses and adjacent properties. In the event the prevention measures are not effective, the contractor shall remove any debris, silt, or mud and restore the right-of-way, or adjacent properties to original or better condition.
8. The contractor shall sod all disturbed areas within the public street right-of-way unless otherwise noted on the plans or if specific written approval is granted by the City.
9. All public street sidewalk ramps constructed will be required to comply with the Americans with Disabilities Act (ADA).
10. All work shall be confined within easements and/or construction limits as shown on the plans.
11. Curb stakes and hubs shall be provided at all high points, low points, ADA ramp openings, and on each side of all curb inlets when setting string line.
12. All National Pollution Discharge Elimination System (NPDES) standards shall be met.
13. Public and Private utility facilities shall be moved or adjusted as necessary by the owners to fit the new construction unless otherwise noted on the plans. The Contractor is responsible for the cost of utility relocations unless otherwise indicated on the plans.

EARTHWORK NOTES:

1. CONTOURS AND ELEVATIONS: Existing and proposed contours are shown on plans at one feet (1') contour intervals, unless otherwise noted. Proposed contours and elevations shown represent approximate finish grade.
2. CLEARING AND GRUBBING: Prior to the start of grading and earthwork, the areas to be graded shall be stripped of all vegetation, organic matter, and topsoil, to a minimum depth of four inches (4") or as otherwise directed by the Geotechnical Engineer. Stripping materials shall not be incorporated into structural fills. Topsoil materials shall not be used in building and pavement areas.
3. TOPSOIL: Prior to the start of grading, the contractor shall strip all topsoil from areas to be graded and stockpile at a location on or adjacent to the site as directed by the owner. At completion of grading operations and related construction, the contractor will be responsible for redistribution of topsoil over all areas disturbed by the construction activities. Topsoil shall be placed to a minimum depth of six inches (6") and in accordance with specifications for landscaping. Subgrade below turf areas shall have a minimum 6" depth of soil free of rock larger than 3".
4. SUBGRADE PREPARATION: Prior to placement of new fill material, the existing subgrade shall be proof rolled and approved under the direction of the Geotechnical Engineer or his representative.
5. proof rolling: Prior to the placement of new fill material, the existing subgrade shall be proof rolled and approved under the direction of the Geotechnical Engineer. Unsuitable areas identified by the proof rolling areas shall be undercut and replaced with controlled structural fill or treated with fly ash per the Geotechnical report.
6. EARTHWORK:
   A. GEOTECHNICAL: All earthwork shall conform to the recommendations of the Geotechnical report.
   B. SURFACE WATER: Surface water shall be intercepted and diverted during the placement of fill.
   C. FILLS: All fills shall be considered controlled or structural fill and shall be free of vegetation, organic matter, topsoil, and debris. All fill required for project shall be provided by the Contractor. Material Shall be pre-approved by the Engineer prior to placement.
   D. EXISTING SLOPES: Where fill material is to be placed on existing slopes greater than 5:1 (horizontal to vertical), existing slope shall be benched providing a minimum vertical face of twelve inches (12"). Fill material shall be placed and compacted in horizontal lifts not exceeding nine inched (9") (loose fit measurement), unless otherwise approved by the Geotechnical Engineer.
   E. COMPACTION REQUIREMENTS: Earth fill material shall be placed and compacted to a minimum density of ninety five percent (95%) of the material's maximum dry density as determined by ASTM D698 (standard proctor compaction). The moisture content at the time of placement and compaction shall be within a range of -2% to 3% above the optimum moisture content as defined by the standard proctor compaction procedure. The moisture contents shall be maintained within this range until completion of the work. Where compaction of earth fill by a large roller is impractical or undesirable, the earth fill shall be hand compacted with small vibrating rollers or mechanical tampers.
7. TESTING AND INSPECTION: Testing and inspection services required to make tests required by the specifications and to observe the placement of fills and other work performed on this project shall be provided by a commercial testing laboratory (Geotechnical Engineer) selected by the owner. The cost of testing will be the owner's responsibility.
8. SEEDING: All areas disturbed by earthwork operations outside the right-of-way shall be seeded after substantial completion of grading operations.

SITE UTILITY NOTES

1. The contractor is specifically cautioned that the location and/or elevation of existing utilities as Shown on these plans is based on records of the various utility Companies, und where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to coordinate with and relocate and/or remove all existing utilities which conflict with the proposed improvements shown on the plans.
2. The construction of storm sewers on this project shall conform to the requirements of Lee's Summit Technical Specifications and Design Criteria.
3. The contractor shall field verify the exact location and elevation of the existing storm sewer locations and the existing elevations at locations where the proposed storm sewer collects or releases to existing ground. If discrepancies are encountered from the information shown on the plans. The contractor shall contact the design engineer. No pipes shall be laid until direction is received from the design engineer.
4. It will be the contractors responsibility to field adjust the top of all manholes and boxes as necessary to match the grade of the adjacent area. Tops of existing manholes shall be raised as necessary to be flush with proposed pavement elevations, and to be 6-inches above finished ground elevations in non-paved areas. No separate or additional compensation will be made to the contractor for making final adjustments to the manholes and boxes.
5. Inlet locations, horizontal pipe information and vertical pipe information is shown to the center of the structure. Deflection angles shown for storm sewer pipes are measured from the center of the curb inlets and manholes. The contractor shall adjust the horizontal location of the pipes to go to the face of the boxes. All roof drains shall be connected to storm sewer structures. Provide cleanouts on roof drain lines at 100' max. spacing and at all bend points.
6. The contractor shall be responsible for furnishing and installing all fire and domestic water lines, meters, back flow devices, pits, valves and all other incidentals required for a complete operable fire protection and domestic water system, if not furnished or installed by the City of Lee's Summit. Coordinate with the City of Lee's Summit. All costs associated with the complete water system for the building shall be the responsibility of the contractor. All work shall conform to the requirements of Lee's Summit.
7. The contractor shall be responsible for furnishing and installing all sanitary sewer service lines from the building to the public line. The contractor shall refer to the architectural plans for specific locations and elevations of the service lines of the building connection. All work shall conform to the requirements of Lee's Summit.
8. The contractor is responsible for securing all permits, bonds and insurance required by the contract documents, Lee's Summit, and all other governing agencies (including local, county, state and federal authorities) having jurisdiction over the work proposed by the construction documents. The cost for all permit bonds and insurance shall be the contractors responsibility and shall be included in the bid for the work.
9. By the use of these construction documents the contractor hereby agrees that he/she shall be solely responsible for the safety of the construction workers and the public. The contractor agrees to hold the engineer and owner harmless for any and all injuries, claims, losses or damages related to the project.
10. The contractor shall be responsible for furnishing all materials, tools and equipment and installation of electrical power, telephone and gas service from a point of connection from the public utility lines to the building structure. This will include all conduits, service lines, meters, concrete pads and all other incidentals required for a complete and operational system as required by the owner and the public utilities. Refer to building plans for exact tie-in locations of all utilities. Contractor shall verify connection points prior to installation of utility line.
11. All fill material is to be in place, compacted, and consolidated before installation of proposed utilities. On-site geotechnical engineer shall provide written confirmation that this requirement has been met and that utilities may proceed in the fill areas. All utilities are to be placed in trench conditions.
12. Contractor shall notify the utility authorities inspectors 49 hours before connecting to any existing line.
13. Storm sewer roof drains(st) shall be as follows (unless otherwise shown on plans).
    -PVC SDR 35 per ASTM D3034, for pipes less than 12' deep.
    -PVC SDR 26 per ASTM D3034, for pipes 12' to 20' deep.
14. Waterlines shall be as follows (unless otherwise shown on plans):
    -for 8" and larger: C900 DR18 Pipe per AWWA
    -between 2" and 6": CTS SDR9 Tubing per ASTM D2737 and AWWA C901
    -For smaller than 2":copper tube Type "K" per ANSI 816.22
15. Fire line size is shown for reference only, fire protection engineer shall verify all sizes and fire flow demand prior to construction.
16. Minimum trench width shall be 2.5 feet.
17. Contractor shall maintain a minimum of 42" of cover on all waterlines. Water mains and service lines shall be constructed in accordance with the City's Specifications Section 3900.
18. All waterlines shall be kept ten feet (10') apart (parallel) from sanitary sewer lines or manholes. Or when crossing, an 18" vertical clearance (outside edge of pipe to outside edge of pipe) of the waterline above the sewer line is required. See City Design Criteria Section 6900.D.c for Additional Requirements.
19. Trench Drain shall be ACO S200K or approved equal.
20. Trench Drain shall be installed in accordance with the manufacturer's installation instructions and recommendations.
21. In the event of a vertical conflict between waterlines, sanitary lines, storm lines and gas lines (existing and proposed), the sanitary line shall be ductile iron pipe with mechanical joints at least 10 feet on both sides of the crossing (or encased in concrete the same distance), the waterline shall have mechanical joints with appropriate thrust blocking as required to provide a minimum of 18" clearance. Meeting requirements ANSI A21.10 or ANSI 21.11 (AWWA C151)(Class 50).
22. All underground storm, sanitary, water and other utility lines shall be installed, inspected and approved before backfilling. Failure to have inspection approval prior to backfill will constitute rejection of work.
23. All necessary inspections and/or certifications required by codes and/or utility service companies shall be performed prior to announced building possession and the final connection of service. Contractor shall coordinate with all utility companies for installation requirements and specifications.
24. refer to building plans for site lighting electrical plan, irrigation, parking lot security system and associated conduit requirements. Coordinate with Owner that all required conduits are in place and tested prior to paving.
25. When a building utility Connection from site utilities leading up to the building cannot be made immediately, temporarily mark all such utility terminations.

GENERAL NOTES

1. All work in public easements and right of way and all erosion control work must comply with the latest edition of the Design and Construction Manual, of Lee's Summit, Jackson County, Missouri. If any general notes conflict with the Technical Provisions & Standard Drawings for Roads and Sewers, of Lee's Summit, Jackson County, Missouri, the Cities standards shall override.
2. The contractor shall provide evidence that his insurance meets the requirements of Lee's Summit, Missouri.
3. All traffic control shall be in conformance with the Manual of Uniform Traffic Control Devices (MUTCD).
4. The contractor is responsible for the protection of all property corners and section corners. Any property corners and/or section corners disturbed or damaged by construction activities shall be reset by a Registered Land Surveyor licensed in the State of Missouri, at the contractor's expense.
5. The contractor shall be responsible for the restoration of the right-of-way and for damaged improvements such as curbs, driveways, sidewalks, street light and traffic signal junction boxes, traffic signal loop lead ins, signal poles, irrigation systems, etc. Damaged improvements shall be repaired in conformance with the latest City standards and to the City's satisfaction.
6. The contractor is responsible for providing erosion and sediment control BMPs to prevent sediment from reaching paved areas, storm sewer systems, drainage courses and adjacent properties. In the event the prevention measures are not effective, the contractor shall remove any debris, silt, or mud and restore the right-of-way, or adjacent properties to original or better condition.
7. The contractor shall remove existing trees and shrubbery within the right-of-way adjacent to future thoroughfare improvements.
8. The contractor shall sod all disturbed areas within the public street right-of-way unless otherwise noted on the plans or if specific written approval is granted by the City.
9. All public street sidewalk ramps constructed will be required to comply with the Americans with Disabilities Act (ADA) and Lee's Summit, Missouri sidewalk details.
10. All work shall be confined within easements and/or construction limits as shown on the plans.
11. Curb stakes and hubs shall be provided at all high points, low points, ADA ramp openings, and on each side of all curb inlets when setting string line.
12. Any existing and/or temporary storm sewer pipes and box culverts to be abandoned in place shall be grouted using a slurry grout mixture meeting a 7-day compressive strength of 100-150 psi. The slurry grout mixture of fly ash, cement, fine aggregate, forming agents and water shall be approved by the City and shall possess adequate flow characteristics to fill all voids.
13. All existing utilities indicated on the drawings are according to the best information available to the engineer; however, all utilities actually existing may not be shown. The contractor shall be responsible for contacting all utility companies for an exact field location of each utility prior to any construction. All utilities, shown and un-shown, damaged through the negligence of the contractor shall be repaired or replaced by the contractor at his expense.
14. The contractor will be responsible for all damages to existing utilities, pavement, fences, structures, and other features not designated for removal. The contractor shall repair all damages at his expense.
15. By use of these construction documents the contractor hereby agrees that he shall be solely responsible for the safety of the construction workers and the public. The contractor agrees to hold the engineer and owner harmless for any and all injuries, claims, losses, or damages related to the project.
16. The contractor will be responsible for providing all signage, barricades, lighting, etc., as required for temporary traffic control during the construction of this project. Maintenance of the temporary traffic control devices will be the contractor's responsibility. All traffic control in conduction with construction in the right-of-way shall be in conformance with the City Traffic Control Requirements.
17. Geogrid, footings, or other elements of the retaining wall(s) cannot encroach into the right of way, public easements, or adjacent private property.
18. All building and life safety issues shall comply with the 2018 International Fire Code and local amendments as adopted by Lee's Summit, Missouri
19. Contractor shall be responsible for obtaining all permits including land disturbance, right-of-way, hauling, etc., with Development services prior to construction.
20. Contractor shall restore all disturbed right-of-way upon project completion.
21. Prior to construction, contractor shall install pre-construction erosion control measures.

EROSION CONTROL NOTES

1. All work in public easements and right-of-way and all erosion control work must comply with the latest edition of the Design and Construction Manual of Lee's Summit, Missouri. If any of the general notes conflict with the Design and Construction Manual of Lee's Summit, Missouri the City's standards shall override.
2. The contractor shall provide all materials, tools, equipment, and labor as necessary to install and maintain adequate erosion control, keep the streets clean of mud and debris, and prevent soil from leaving the project site. The contractor's erosion control measures shall conform to Lee's Summit, Missouri Design and Construction Manual.
3. Erosion control plan modifications shall be required if the plan fails to substantially control erosion and offsite sedimentation.
4. The contractor shall be responsible for maintaining erosion control devices and removing sediment until a minimum of 70% of permanent vegetation has become stabilized and established. Erosion control devices shall remain in place until the 70% established vegetation is met, or the duration of the project, whichever is the later date.
5. The contractor shall temporarily seed and mulch all disturbed areas if there has been no construction activity on them for a period of fourteen (14) calendar days.
6. Install "J' Hooks on silt fence every 100 LF
7. Contractor to install all Phase I erosion control devices prior to construction.
8. Contractor shall replace disturbed area with seed or sod, as indicated on the plans, and shall be installed within 14 days after paving completion and final topsoil grading.
9. Topsoil replacement shall be 6" thick.
10. Silt fence to be installed in accordance with Lee's Summit, Missouri Standard Details.
11. Refer to APWA 2150 for good housekeeping and spill measures.
12. The Contractor shall inspect erosion control devices every 7 days and within 24 hours of a storm of 0.5 inches or more. The Contractor shall repair damage, clean out sediment, and add additional erosion control devices as needed, as soon as practicable, after inspection. The Contractor shall also inspect and assure that all sediment control devices are in working condition prior to any forecasted rainfall.

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

General Notes

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.ric-consult.com
400 E 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C03

cporter
May 06, 2025 - 11:20am
Z:\RIC Design\2024\24-0166\DwgSheets\FDP\24-0166 fdp-gen-lay-01.dwg

LOT 1A
LEE'S SUMMIT POLICE AND COURT FACILITY

626.77'
S1°59'47"W

NE TUDOR RD.

Proposed Public Water Main (See Public Plans) Typ.
Ex. 10.0' Sidewalk
Prop. Water Backflow Preventer in Vault
Exist. 10' Utility Esmt.
Ex. 10.0' Sidewalk
Exist. Fire Hydrant
Interlocking Conc. Block Retaining Wall (Typ.)
Exist. Water Main
Proposed Building Setback Line
10' Waterline Esmt Dedicated Per Plat
24'x28' Water U/E Dedicated Per Plat
Exist. San. Sewer Esmt.
Proposed Building Setback Line
Proposed Building Setback Line
Proposed Building Setback Line
Ex. 5' Sidewalk
NW COMMERCE DR.
BLDG. 3
4 STORY
BLDG. TYPE B
FF=1015.93
BLDG. 5
4 STORY
BLDG. TYPE A
FF=1021.48
BLDG. 8
4 STORY
BLDG. TYPE A
FF=1027.38
BLDG. 6
4 STORY
BLDG. TYPE B
FF=1031.68
Prop. Hydrant
Parking Lot Light (Typ.)
Proposed Parking Setback Line
NE DOUGLAS ST.
TRACT 4
Summit Park
BLDG. 1
4 STORY
BLDG. TYPE A
FF=1014.33
DETACHED GARAGE 1
FF=1015.51
Transformer
Prop. Private San MH
Interlocking Conc. Block Retaining Wall (Typ.)
Transformer
Private San. Sewer Main
Prop. San MH
Proposed Building Setback Line
24'x28' Water U/E Dedicated Per Plat
GAMES
CLUBHOUSE
1 STORY
FF=1018.92
BLDG. 4
4 STORY
BLDG. TYPE D
(SPLIT)
LOT 3 SUMMIT PARK
OWNER: MAKOL PROPERTIES, LLC
Public San. Sewer Main
Prop. Water Backflow Preventer in Vault
DETACHED GARAGE 2
FF=1011.36
FF=1011.99
20' San Sewer Esmt Dedicated Per Plat
SPA
POOL
PICKLEBALL
GRILL STRUCTURE
FF=1030.28
FF=1019.51
Transformer
DETACHED GARAGE 3
FF=1014.16
Proposed Parking Setback Line
LOT 11
SUMMIT PARK
Existing Utility Easement
MAINTENANCE
FF=1038.16
TRASH
BLDG. 7
4 STORY
BLDG. TYPE A
FF=1041.96
Proposed Building Setback Line
Waterline Esmt
BLDG. 2
4 STORY
BLDG. TYPE C
FF=1012.33
Ex. 5' Sidewalk
DETENTION
Prop. Storm End Section
DETACHED GARAGE 4
FF=1014.28
Parking Lot Light (Typ.)
Prop. San MH
Prop. San MH
Proposed Parking Setback Line
20' San Sewer Esmt Dedicated Per Plat
DOG PARK
DOG PARK
TRASH
LOT 4
SUMMIT PARK
Prop. San MH
Prop. Private Storm, Typ.
LOT 10
SUMMIT PARK
OWNER: LARRY E. & BEATRICE M. FINKEMEIER
Prop. Private Fire Hydrant, Typ.
Parking Lot Light (Typ.)
Prop. San MH
20.57'
S9°47"W
Proposed Public Sanitary Sewer MH (See Public Plans) Typ.

BUILDING & SITE DATA

Lot Area	13.03 AC/ 567,567 Sq Ft
Existing Zoning	RP-4
Number of Units	358 Units
Density (Units / Acre)	27.47 DU / AC
Total Building Sq. Footage	399,133 SF
Building Type A (38,552 SF Per Building)	154,208 SF
Building Type B (79,582 SF Per Building)	159,164 SF
Building Type C (54,124 SF Per Building)	54,124 SF
Building Type C(Split) (62,018 SF Per Building)	62,018 SF
Floor Area Ratio (Far) (121,782 SF / 567,567 SF)	0.21
Open Space	79%
% Impervious (388,685 SF / 567,567 SF)	68.5%
% Pervious	31.5%

PARKING CALCULATIONS

Parking Calculations (City Standards)

Required	Parking	716 Spaces
1 BDR.	211 x 1.50 =	314
2 BDR.	147 x 1.50 =	221
Visitor	358 x 0.50 =	179

PROVIDED TOTAL PARKING	622 Spaces*
Standard	347
Compact	157
Garage (Attached)	95
Garage (Detached)	23
REQUIRED ADA PARKING	
ADA Parking Stalls 622*.02	13
PROVIDED ADA PARKING	
ADA Parking Stalls	13
Surface	11
Garage	2
TOTAL	13

* Reduction to 622 spaces from 716 approved by Planning Commission in re-zoning and PDP process. refer to Lee's Summit Ordinance No. 9539.

NORTH
1"=40'
0 20' 40'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

General Layout

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

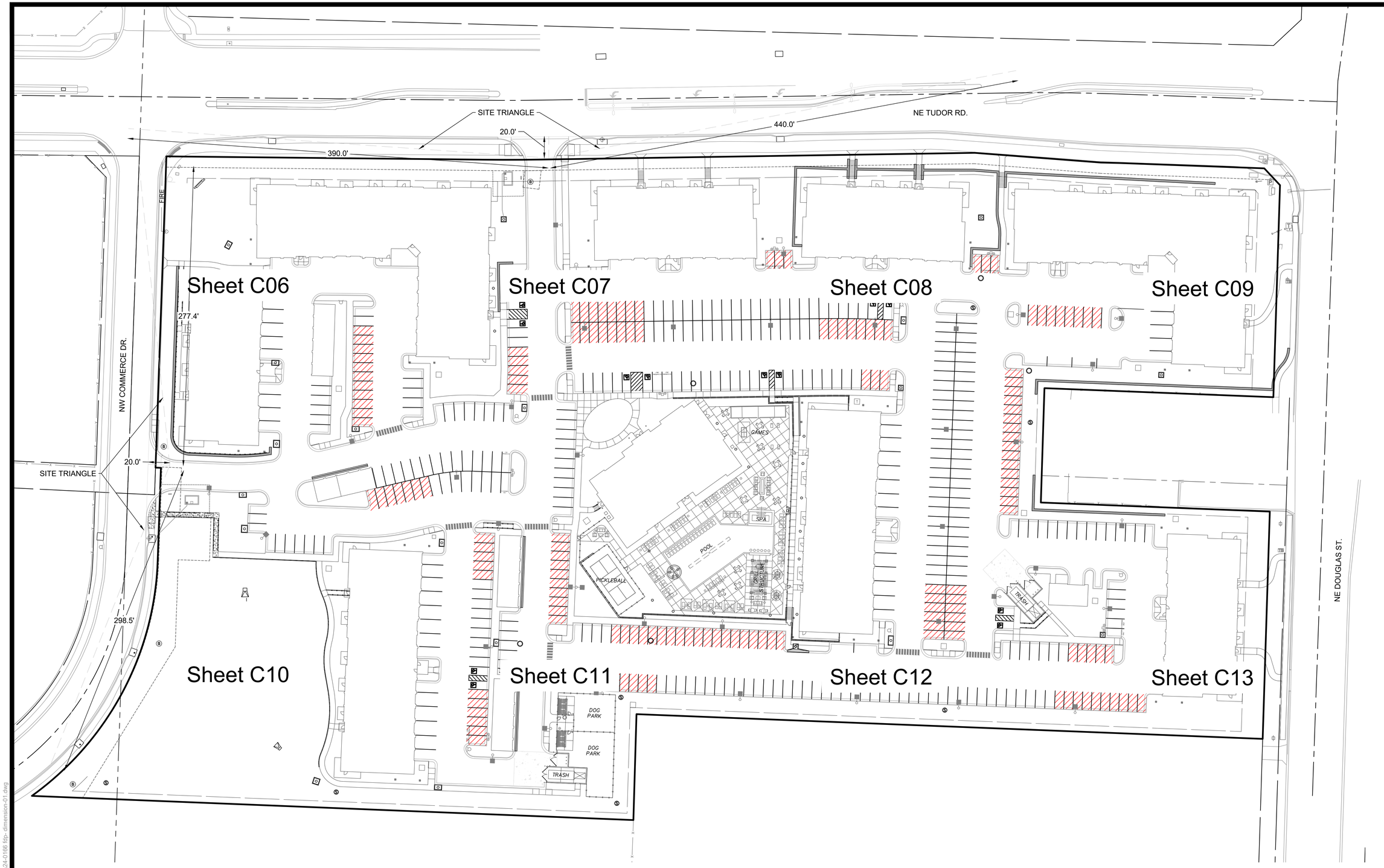
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17th STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
www.RIC-CONSULT.com
MO Certificate of Authority: E-2010033830

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
08/12/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C04

cporter
May 08, 2025 - 11:26am
Z:\RIC Design\2024\24-0166\Dwgt\Sheets\FDP\C24-0166 fdp-gnrl-lay-01.dwg



Denotes Compact Parking Space - 8.5' Width

NORTH

1"=40'

0 20' 40'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Dimension Plan

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

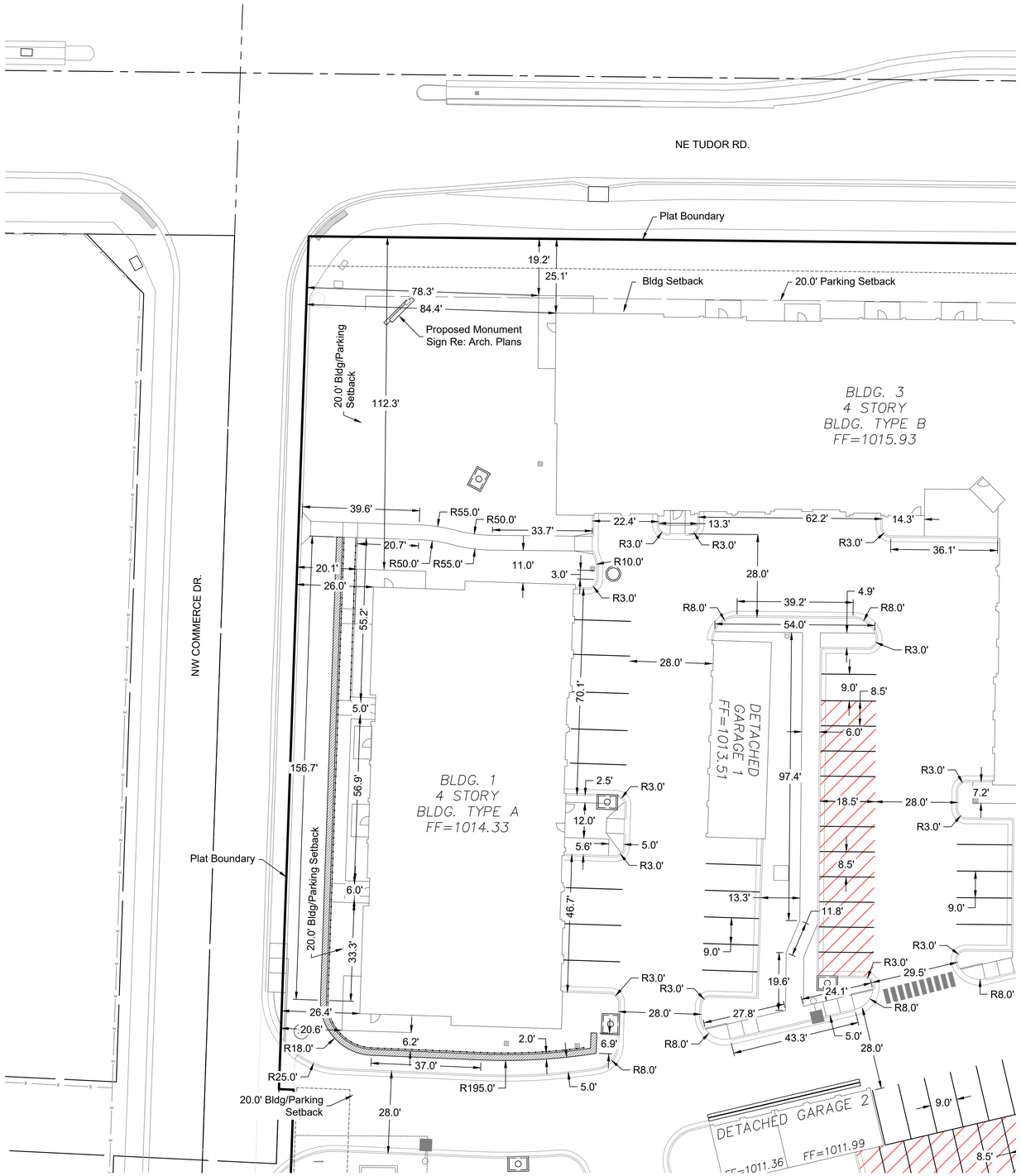
DRAWN BY TUA | CHECKED BY CMP

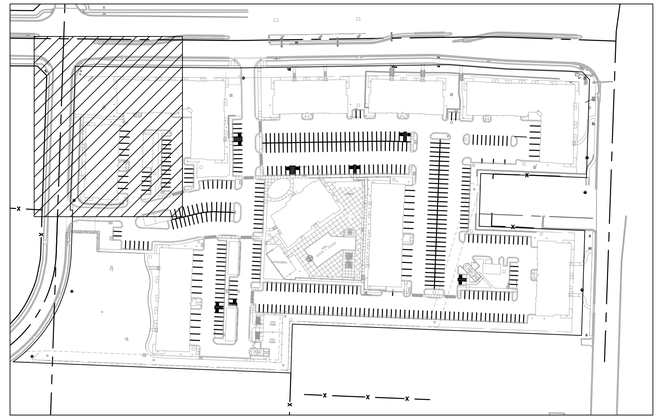
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL KUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER-PE-2002003418

Sheet
C05

cporter
May 06, 2025 - 11:26am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- dimension-01.dwg





VICINITY MAP
n.t.s

Denotes Compact
Parking Space - 8.5' Width

N O R T H

1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Dim Plan North_1

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

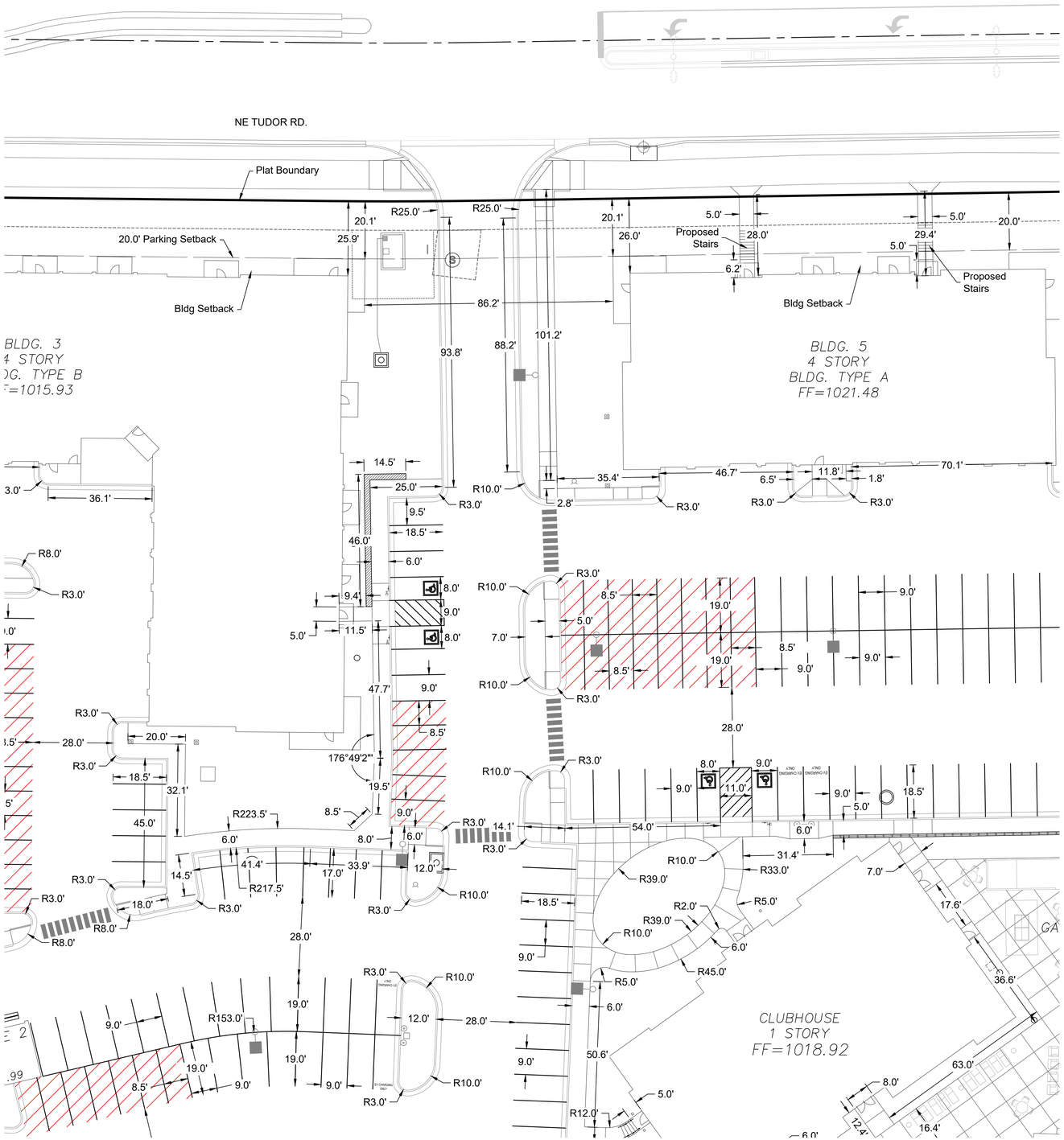
DRAWN BY TUA
CHECKED BY CMP

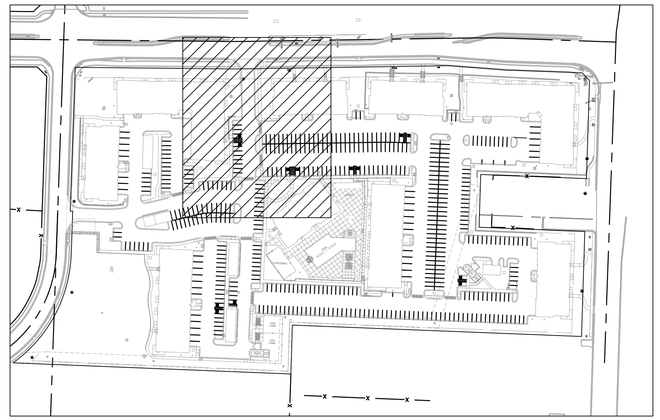
Renaissance Infrastructure Consulting
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
www.RIC-CONSULT.COM
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL KUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
11/20/25

Sheet
C06

cporter
May 08 , 2025 - 11:26am
Z:\RIC Design\2024\24-0166\DwgSheets\FDP\24-0166 fdp- dimension-01.dwg





VICINTY MAP
n.t.s

Denotes Compact Parking Space - 8.5' Width

N O R T H

1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Dim Plan North_2

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

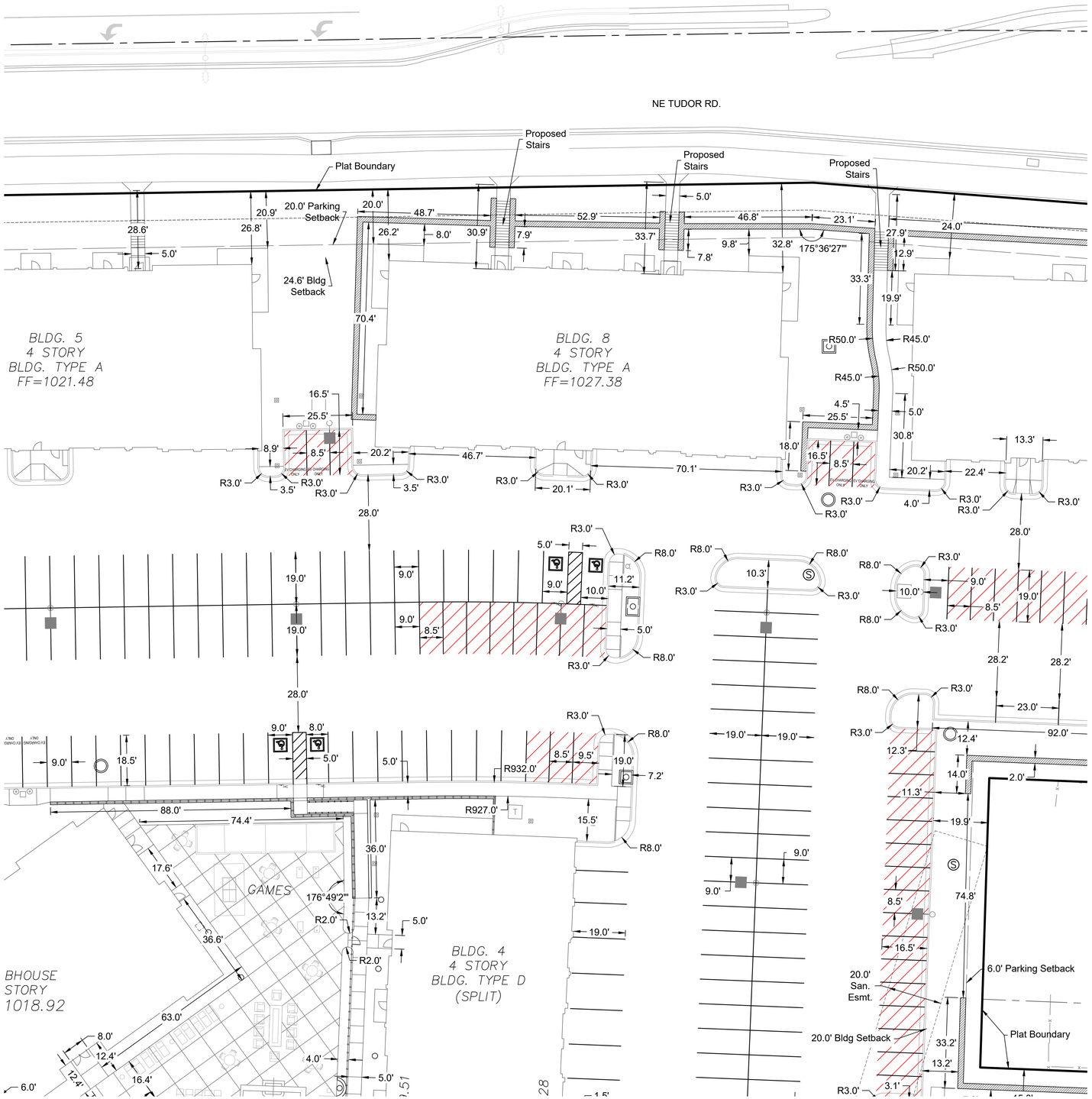
DRAWN BY TUA
CHECKED BY CMP

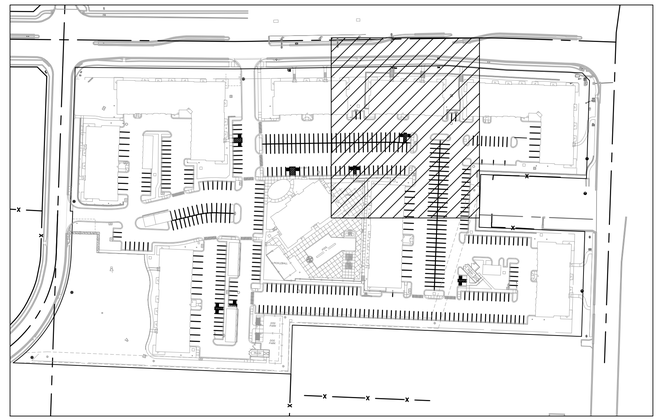
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL ELLIOTT SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
10/23/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C07

cporter
May 08, 2025 - 11:26am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- dimension-01.dwg





VICINTY MAP
n.t.s

Denotes Compact Parking Space - 8.5' Width

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Dim Plan North_3

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

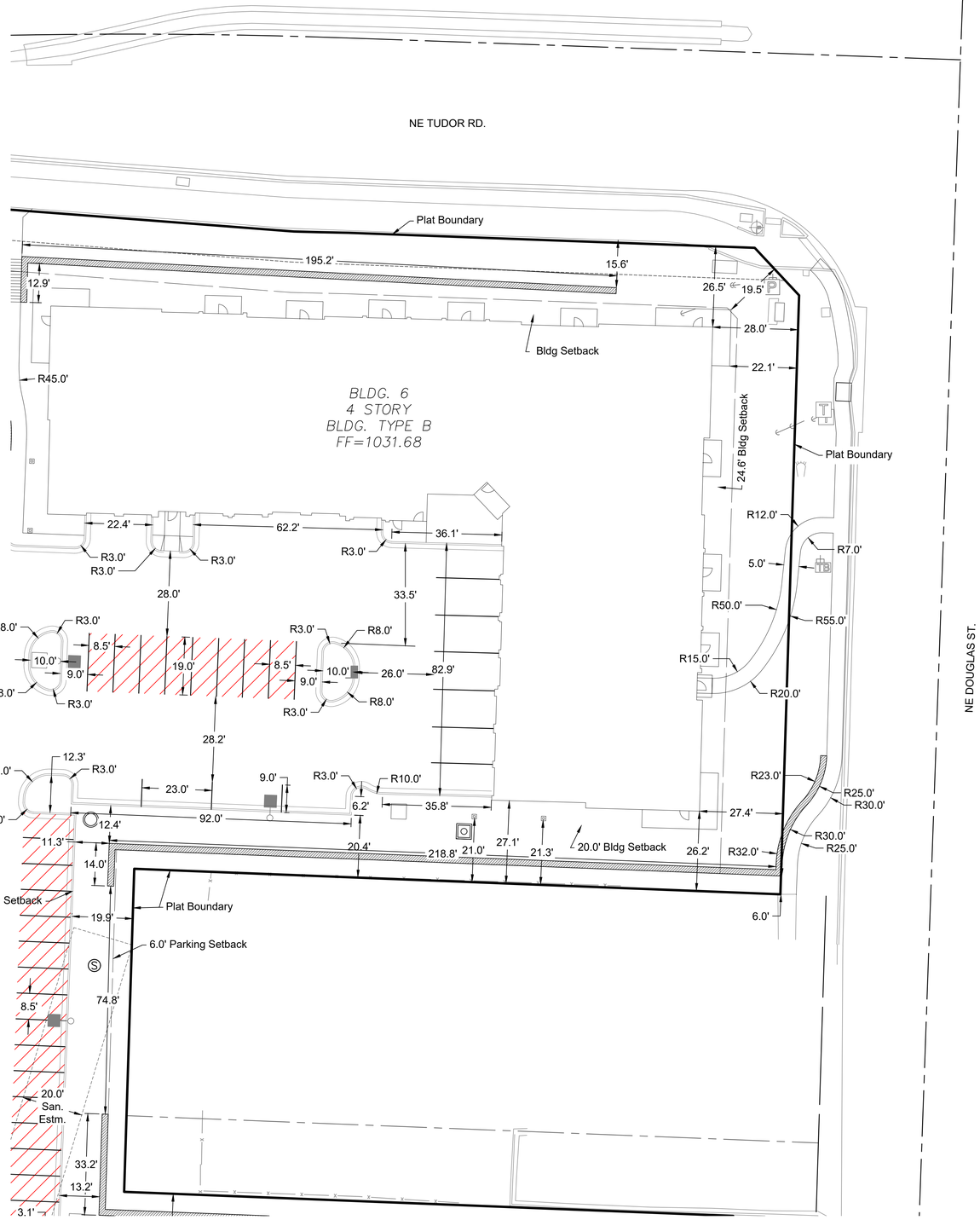
DRAWN BY TUA | CHECKED BY CMP

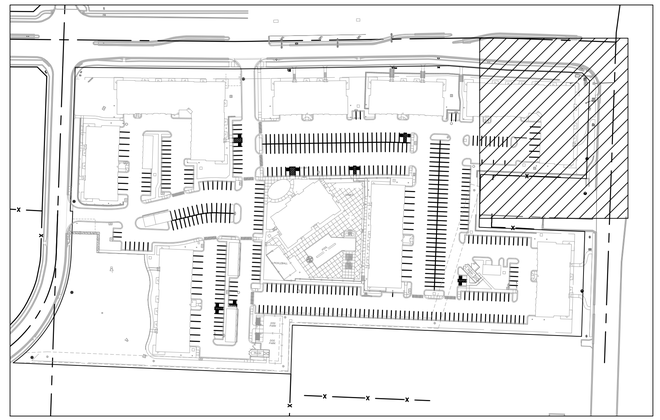
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-consult.com
400 E 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
05/12/25

Sheet
C08

cporter
May 08 , 2025 - 11:27am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- dimension-01.dwg





VICINTY MAP
n.t.s

Denotes Compact
Parking Space - 8.5' Width

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Dim Plan North_4

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

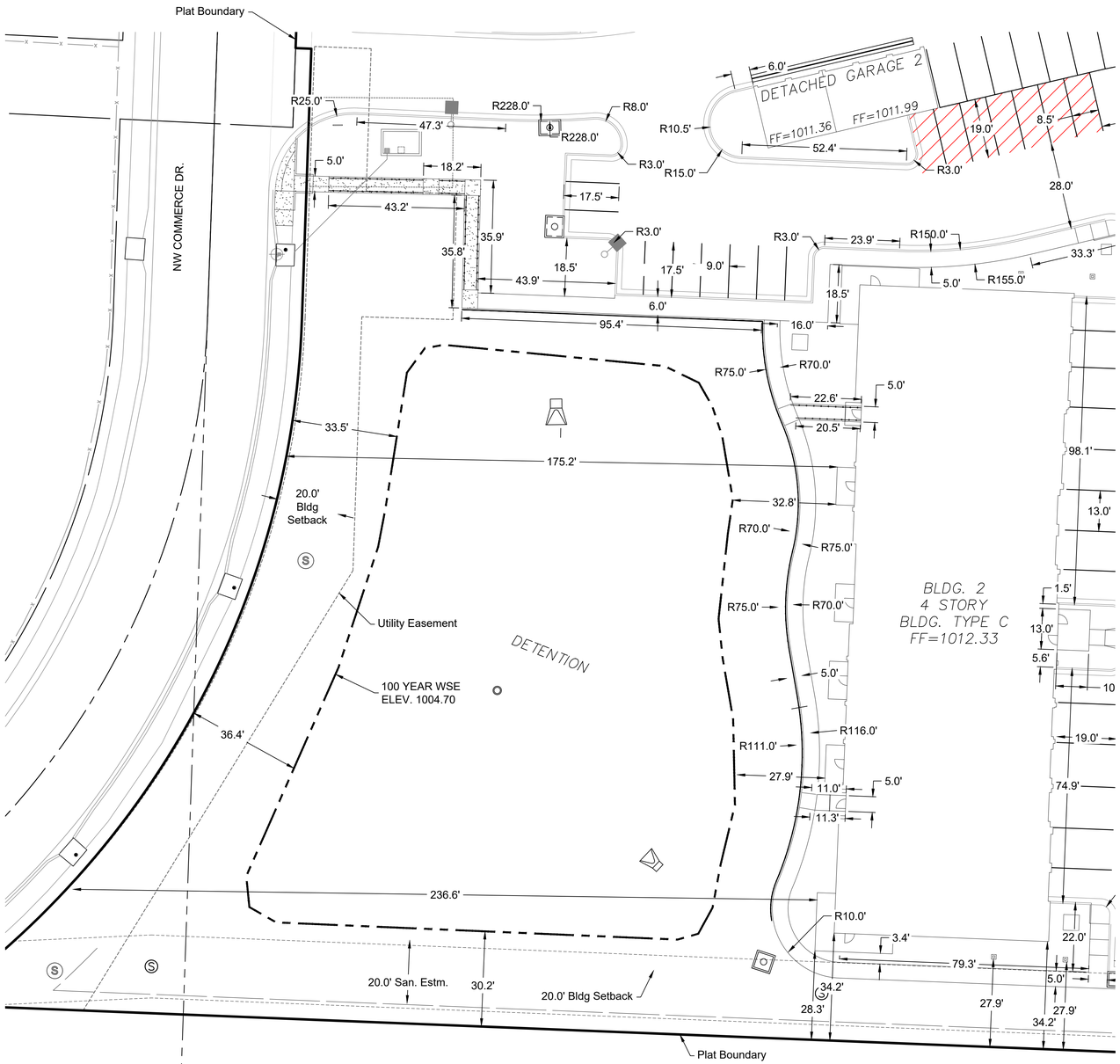
DRAWN BY: TUA
CHECKED BY: CMP

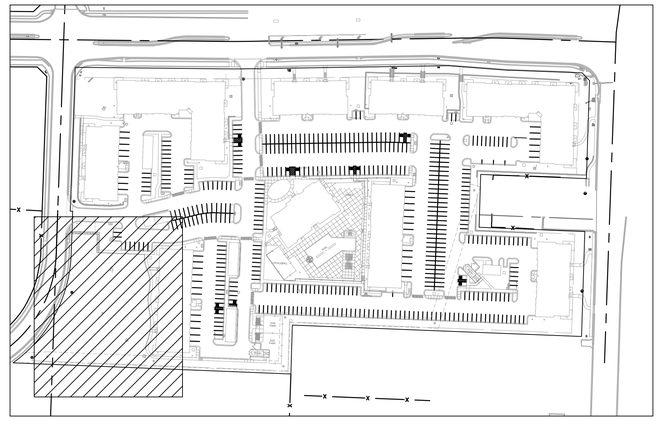
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E. 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER
PE-2002003418
PROFESSIONAL ENGINEER
2025.05.12
MITCHELL E. SLUTTER PE-2002003418

Sheet
C09

cporter
May 08, 2025 - 11:27am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- dimension-01.dwg





VICINITY MAP
n.t.s

Denotes Compact
Parking Space - 8.5' Width

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Dim Plan South_1

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

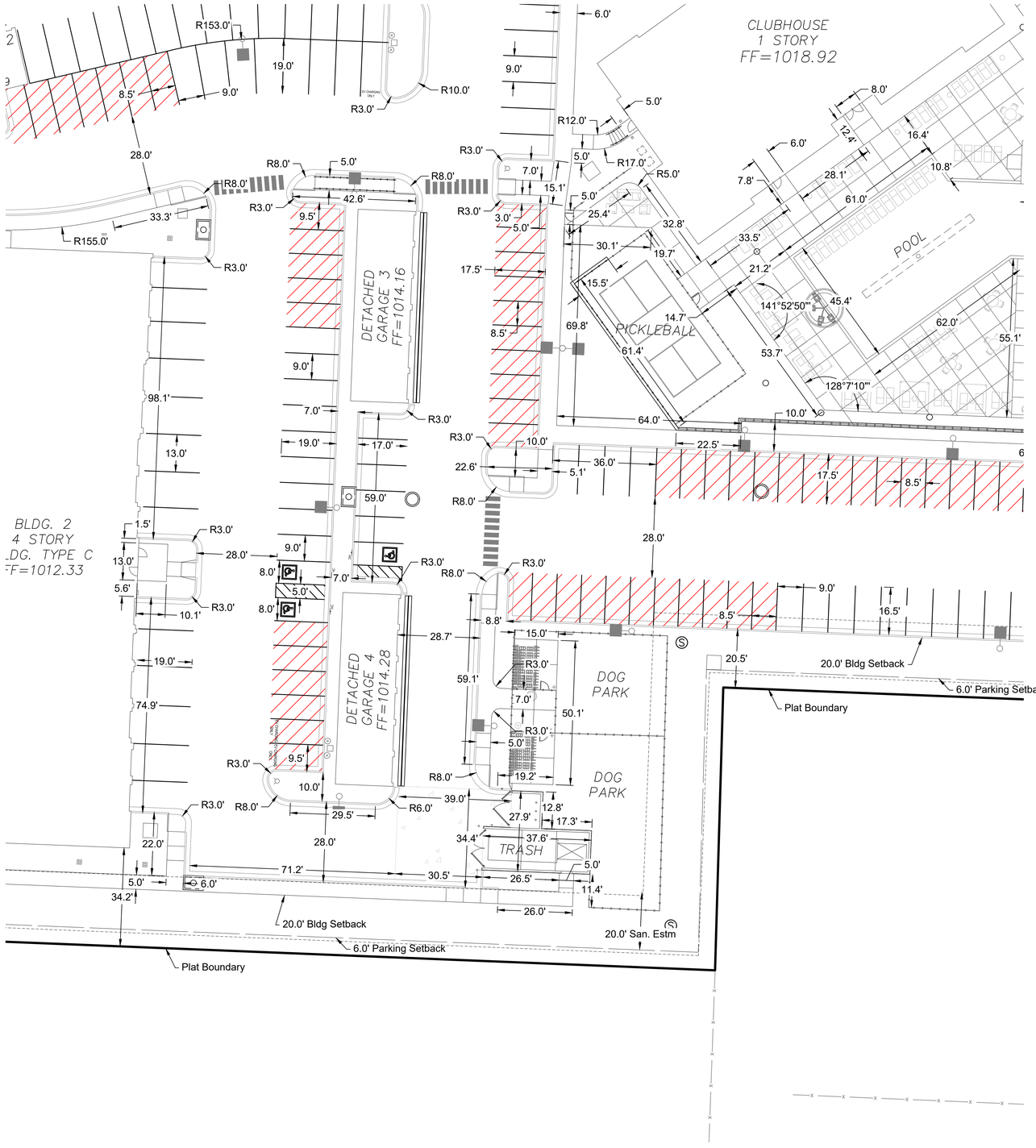
DRAWN BY TUA | CHECKED BY CMP

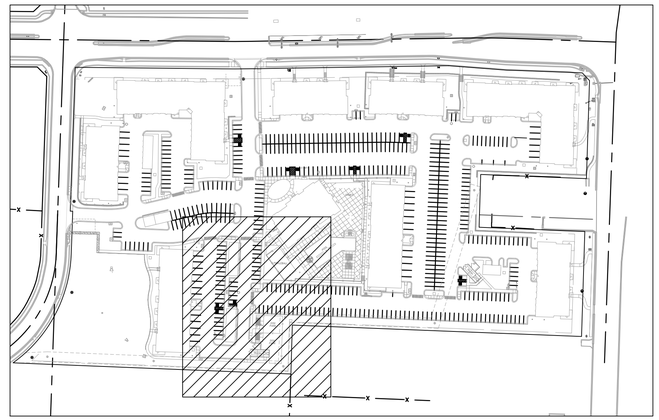
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033830

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
12/5/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C10

cporter
May 08 , 2025-11:27am
Z:\RIC Design\2024\24-0166\Dwgt\Sheets\FDP\24-0166 fdp- dimension-01.dwg





VICINTY MAP
n.t.s

Denotes Compact
Parking Space - 8.5' Width

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Dim Plan South_2

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

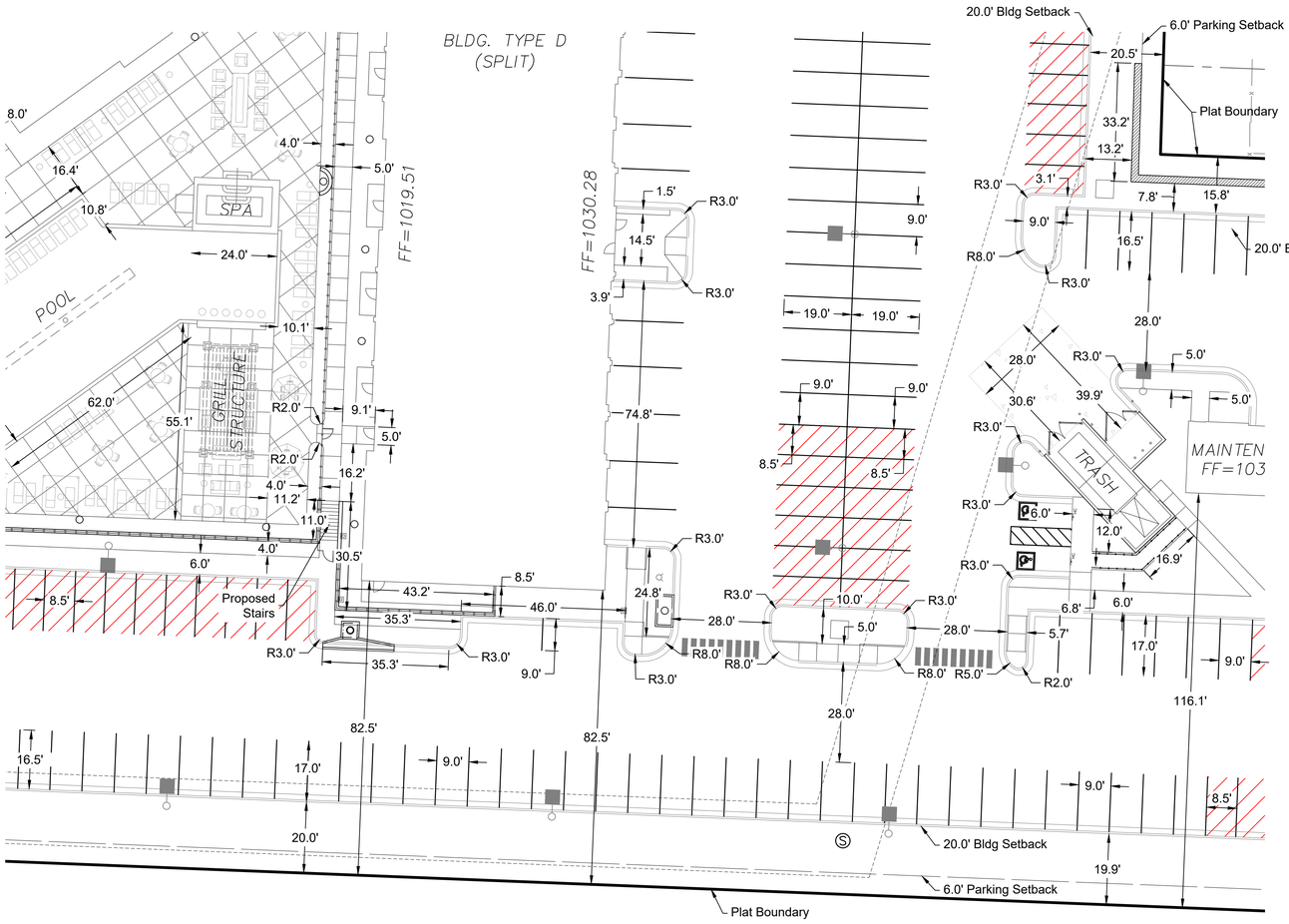
DRAWN BY TUA
CHECKED BY CMP

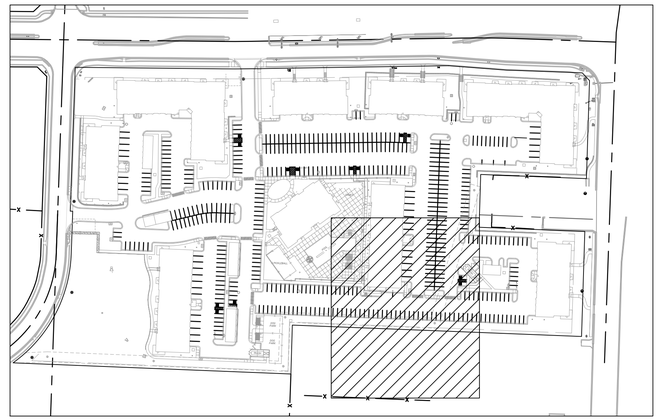
Renaissance Infrastructure Consulting
400 E 17th Street
Kansas City, Missouri 64108
816.800.0950
www.ric-consult.com
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C11

cporter
May 08, 2025 - 11:27am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- dimension-01.dwg





VICINTY MAP
n.t.s

Denotes Compact
Parking Space - 8.5' Width

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Dim Plan South_3

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

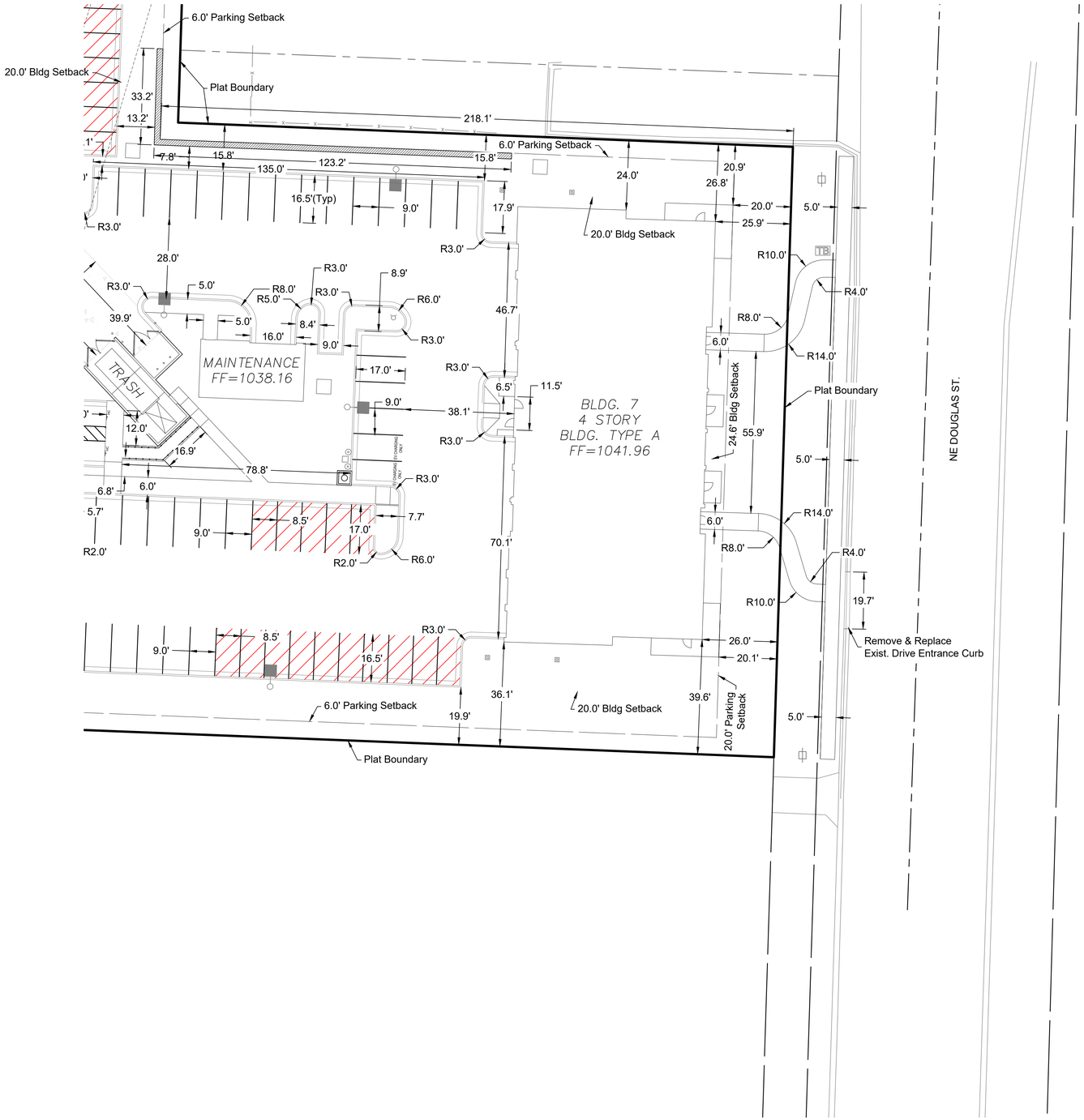
DRAWN BY TUA
CHECKED BY CMP

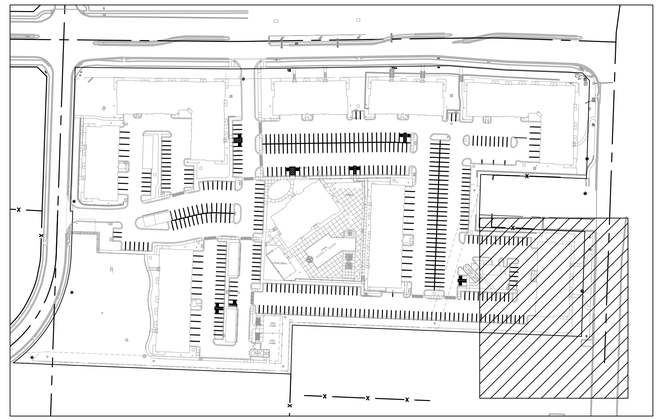
Renaissance Infrastructure Consulting
816.800.0950
www.ric-consult.com
400 E 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority, E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
10/2/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C12

cporter
May 06, 2025 - 11:27am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- dimension-01.dwg





VICINTY MAP
n.t.s

Denotes Compact
Parking Space - 8.5' Width

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Dim Plan South_4

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

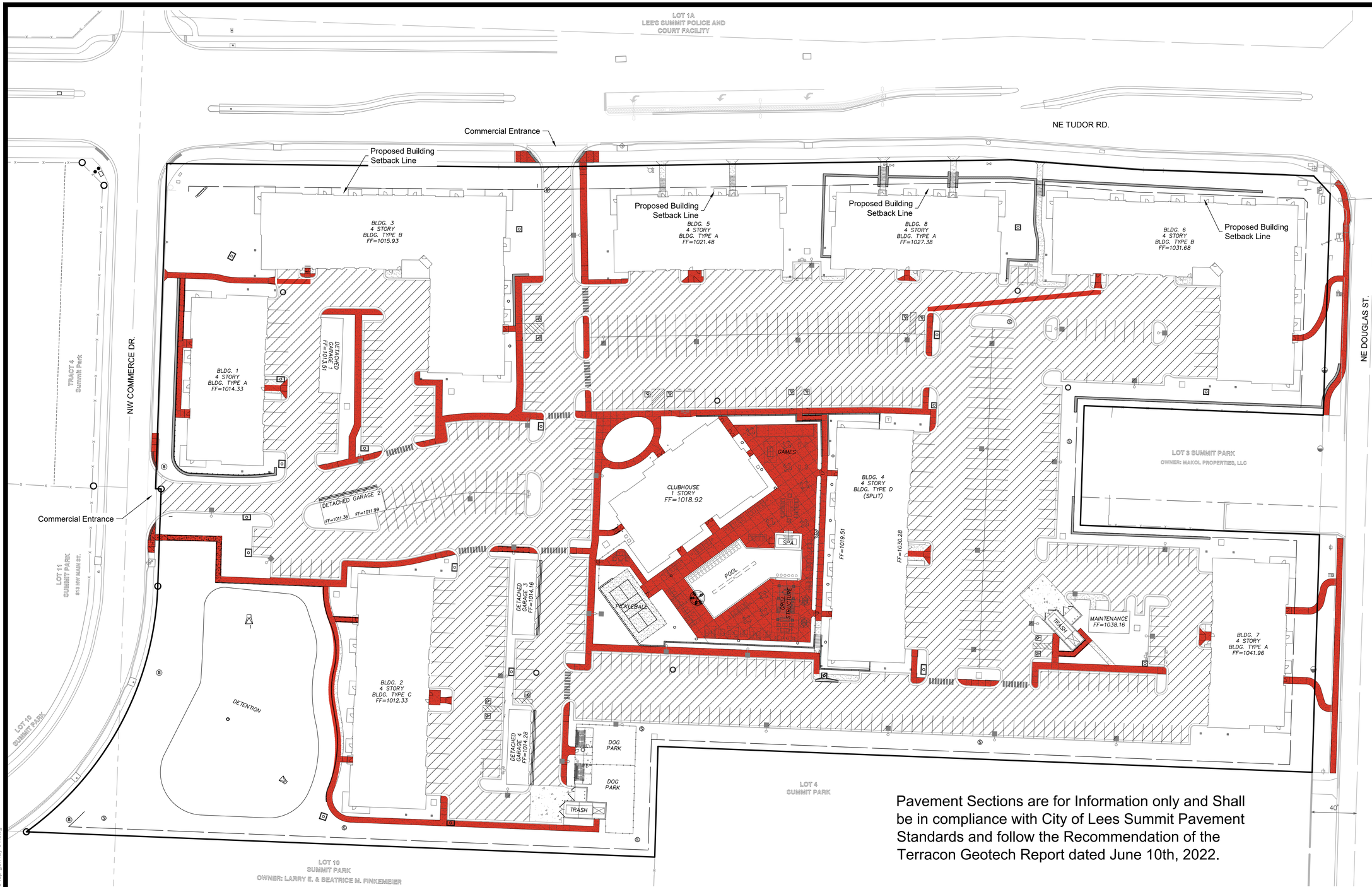
DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
12/3/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C13

cporter
May 08, 2025-11:27am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- dimension-01.dwg



Pavement Sections are for Information only and Shall be in compliance with City of Lees Summit Pavement Standards and follow the Recommendation of the Terracon Geotech Report dated June 10th, 2022.

Asphalt Pavement Section

2" KCMMB AC Surface Course

4" KCMMB AC Base Course

6" Compacted Aggregate Base w/ Geogrid MoDOT Type 5 or similar

Compacted Subgrade

Trash Enclosure Pavement

7" KCMMB 4K Concrete

4" Compacted Aggregate Base (ASTM C33 Size No. 57 or similar)

Compacted Subgrade

Commercial Driveway

8" KCMMB 4K Concrete

4" Compacted Aggregate Base

Compacted Subgrade

Sidewalk Pavement

4" KCMMB 4K Concrete

4" Compacted Aggregate Base

Compacted Subgrade

NORTH

1"=40'

0 20' 40'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Pavement Plan

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
WWW.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010038630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
12/3/25
MITCHELL E. SLUTTER PE 2002003418

Sheet
C14

cporter
May 08, 2025 - 11:27am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp-gen-lay-01.dwg

LOT 1A
LEE'S SUMMIT POLICE AND
COURT FACILITY

NE TUDOR RD.

NW COMMERCE DR.

NE DOUGLAS ST.

TRACT 4
Summit Park

LOT 11
SUMMIT PARK
913 NW MAIN ST.

LOT 10
SUMMIT PARK

Proposed Building
Setback Line

BLDG. 1
4 STORY
BLDG. TYPE A
FF=1014.33

BLDG. 2
4 STORY
BLDG. TYPE C
FF=1012.33

BLDG. 3
4 STORY
BLDG. TYPE B
FF=1015.93

BLDG. 4
4 STORY
BLDG. TYPE D
(SPLIT)

BLDG. 5
4 STORY
BLDG. TYPE A
FF=1021.48

BLDG. 6
4 STORY
BLDG. TYPE B
FF=1031.68

BLDG. 7
4 STORY
BLDG. TYPE A
FF=1041.96

BLDG. 8
4 STORY
BLDG. TYPE A
FF=1027.38

CLUBHOUSE
1 STORY
FF=1018.92

GAMES

SPA

POOL

GRILL
STRUCTURE

PICKLEBALL

DETACHED GARAGE 1
FF=1013.51

DETACHED GARAGE 2
FF=1011.36
FF=1011.99

DETACHED GARAGE 3
FF=1014.16

DETACHED GARAGE 4
FF=1014.28

DETENTION

DOG
PARK

DOG
PARK

TRASH

TRASH

MAINTENANCE
FF=1038.16

FF=1019.51

FF=1030.28

40'

LOT 3 SUMMIT PARK
OWNER: MAKOL PROPERTIES, LLC

LOT 4
SUMMIT PARK

LOT 10
SUMMIT PARK
OWNER: LARRY E. & BEATRICE M. FINKEMEIER

Dry Curb

Wet Curb

Ribbon Curb

ADA Accessible Route

NORTH

1"=40'

0 20' 40'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Curb Schedule

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA

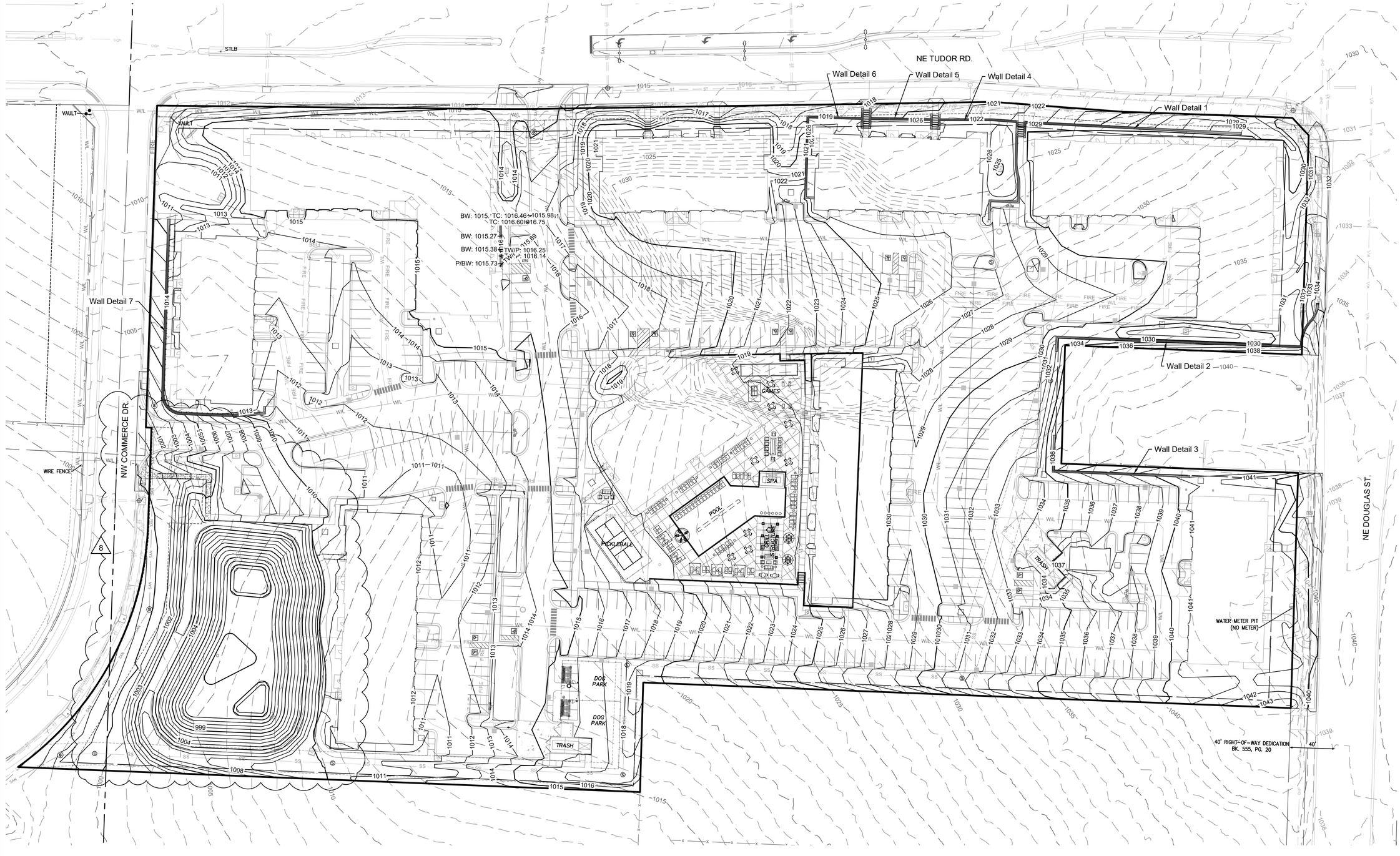
CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C15

cporter
May 08, 2025-11:27am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp-gen-lay-01.dwg



Note:
See Sheets C29 and C30 for Retaining Wall Details

Contour Legend
- Existing Major Contour
- Existing Minor Contour
- Proposed Major Contour
- Proposed Minor Contour

NORTH
1"=40'
0 20' 40'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Grading Plan

NO	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

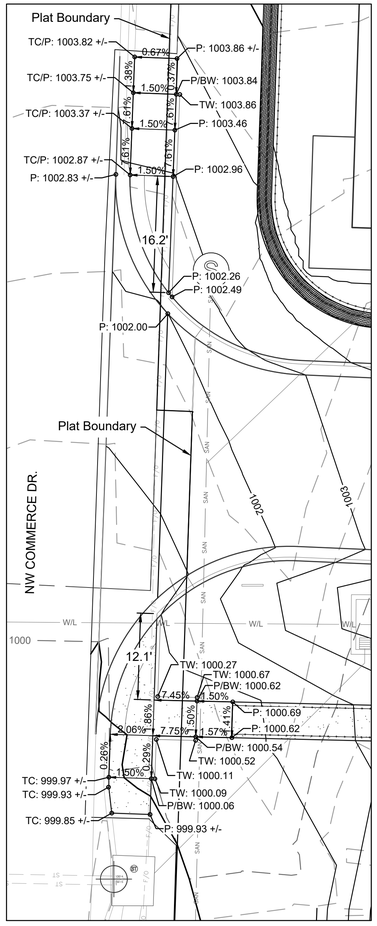
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17th STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
WWW.RIC-CONSULT.COM
MO Certificate of Authority: E-2010033630

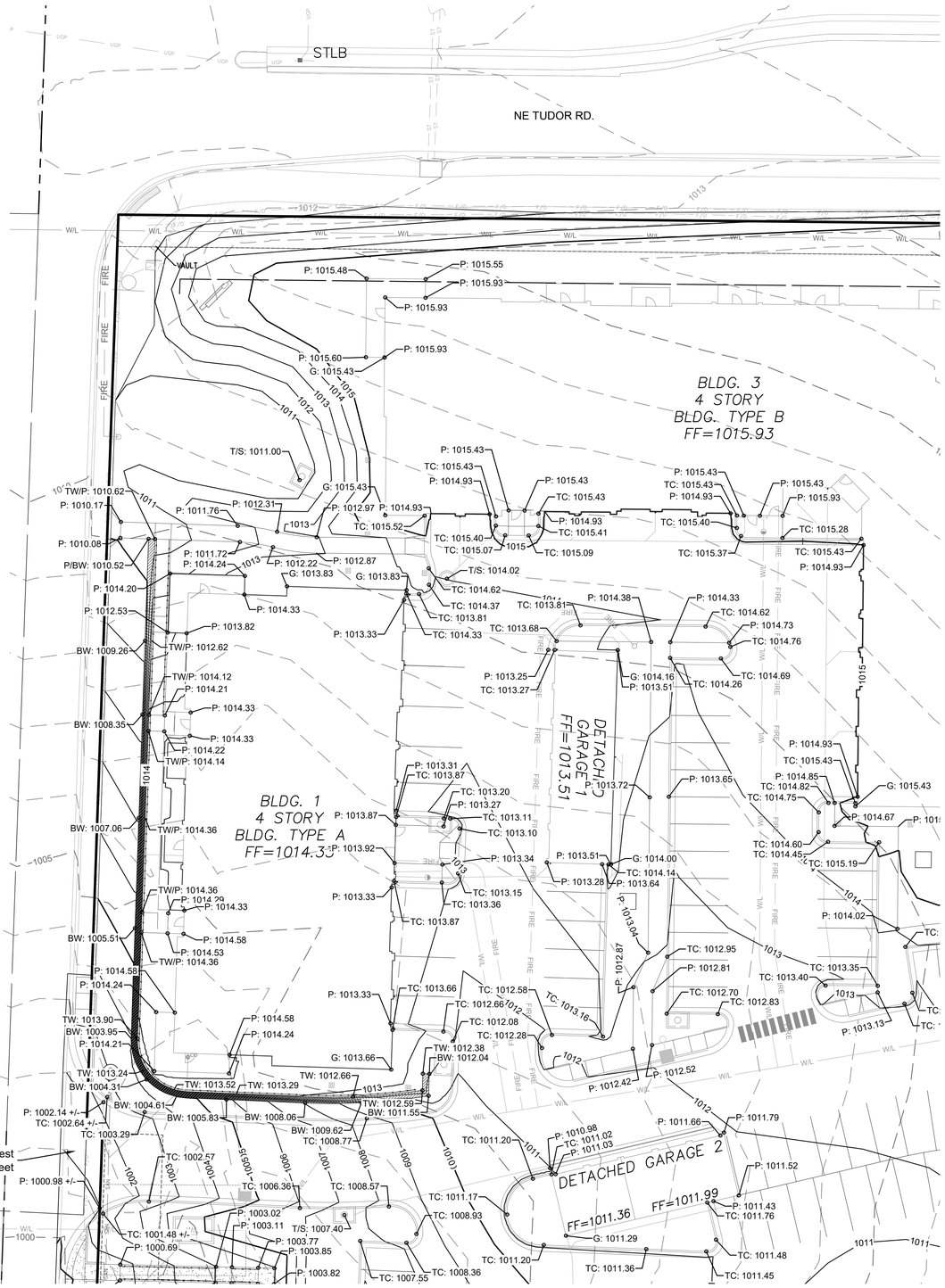
STATE OF MISSOURI
MITCHELL ELLSWORTH SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
12/9/25

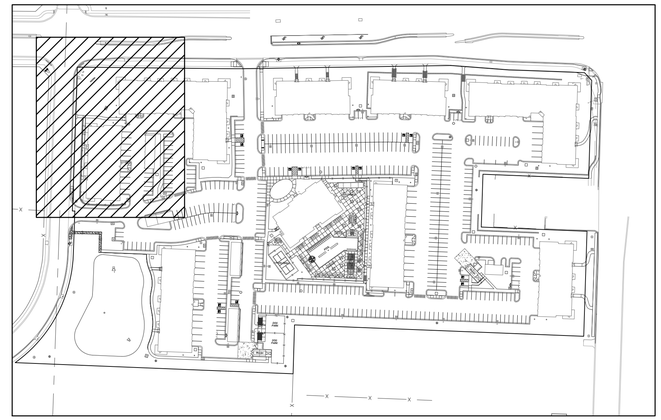
Sheet
C16

cporter
May 06, 2025 - 11:28am
Z:\RC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP_GRADING-01.dwg



Commercial Drive Entrance West
Scale 1"=10'





VICINITY MAP
n.t.s

Note:
Garage Pavement Elevation 1' Below FFE at Garage Door, and Door Entries internal to Site 0.5' Below FEE. See Arch. Plans For Transition to FFE Elevation.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

- Existing Major Contour
- Existing Minor Contour
- Proposed Major Contour
- Proposed Minor Contour

N O R T H
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Spot Grading North_1

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

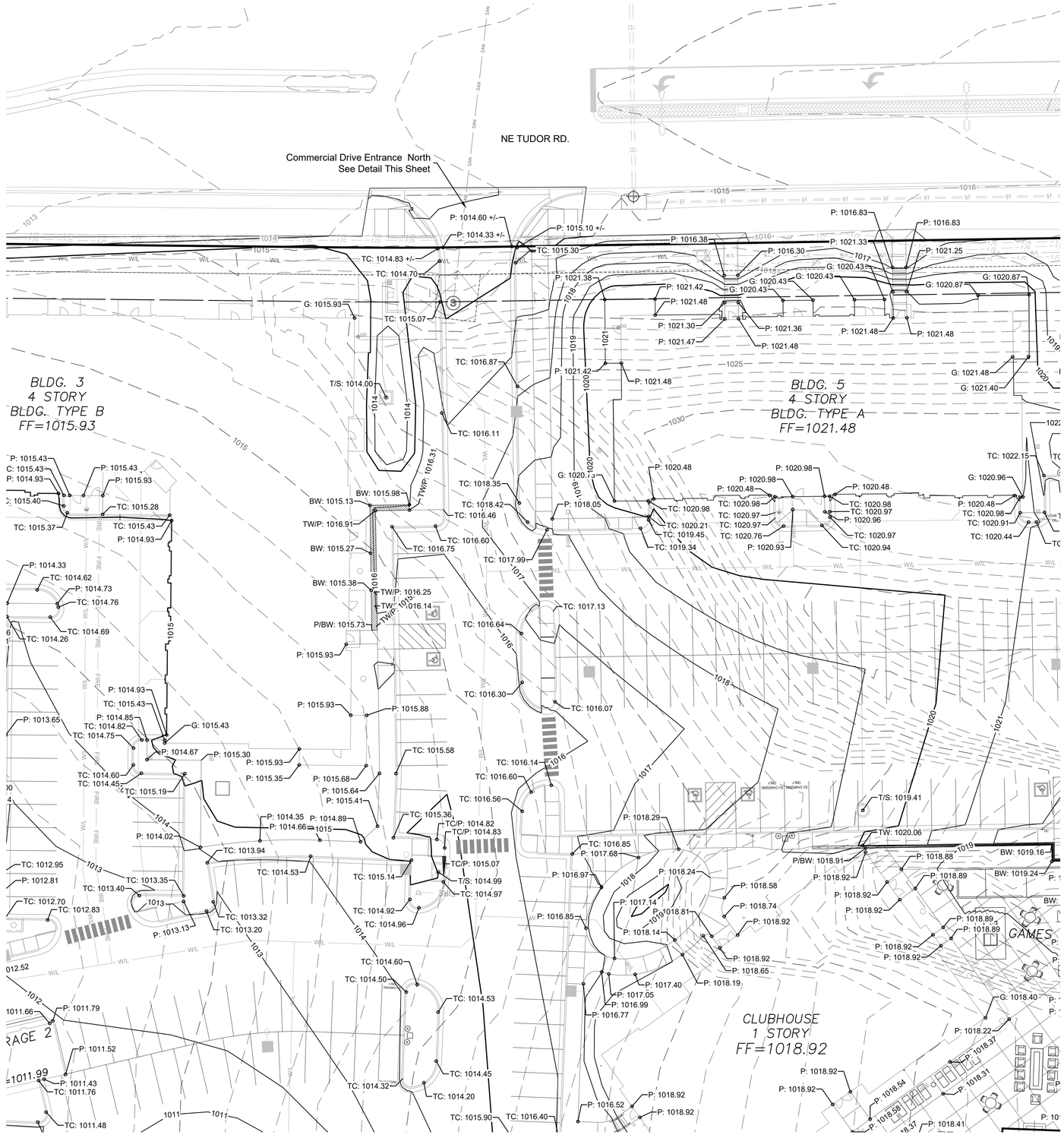
DRAWN BY TUA | CHECKED BY CMP

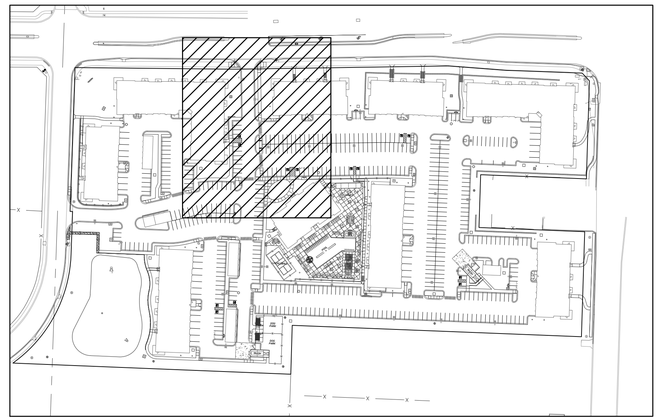
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-consult.com
400 E 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
10/29/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C17

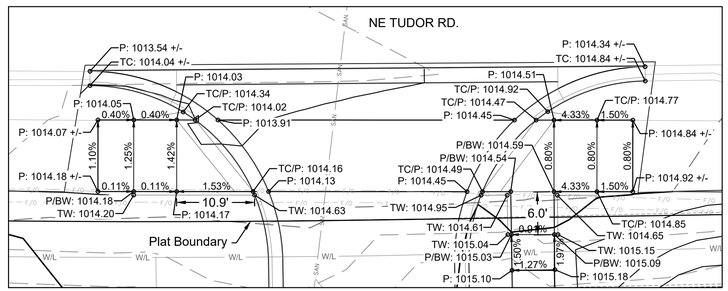
cporter
May 08, 2025 - 11:28am
Z:\RIC Design\0240424-0166\DwgSheets\FDP\24-0166 FDP- GRADING-01.dwg





VICINITY MAP
n.t.s

Note:
Garage Pavement Elevation 1' Below FFE at Garage Door, and Door Entries internal to Site 0.5' Below FEE. See Arch. Plans For Transition to FFE Elevation.



Commercial Drive Entrance North
Scale 1"=10'

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Spot Grading North_2

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

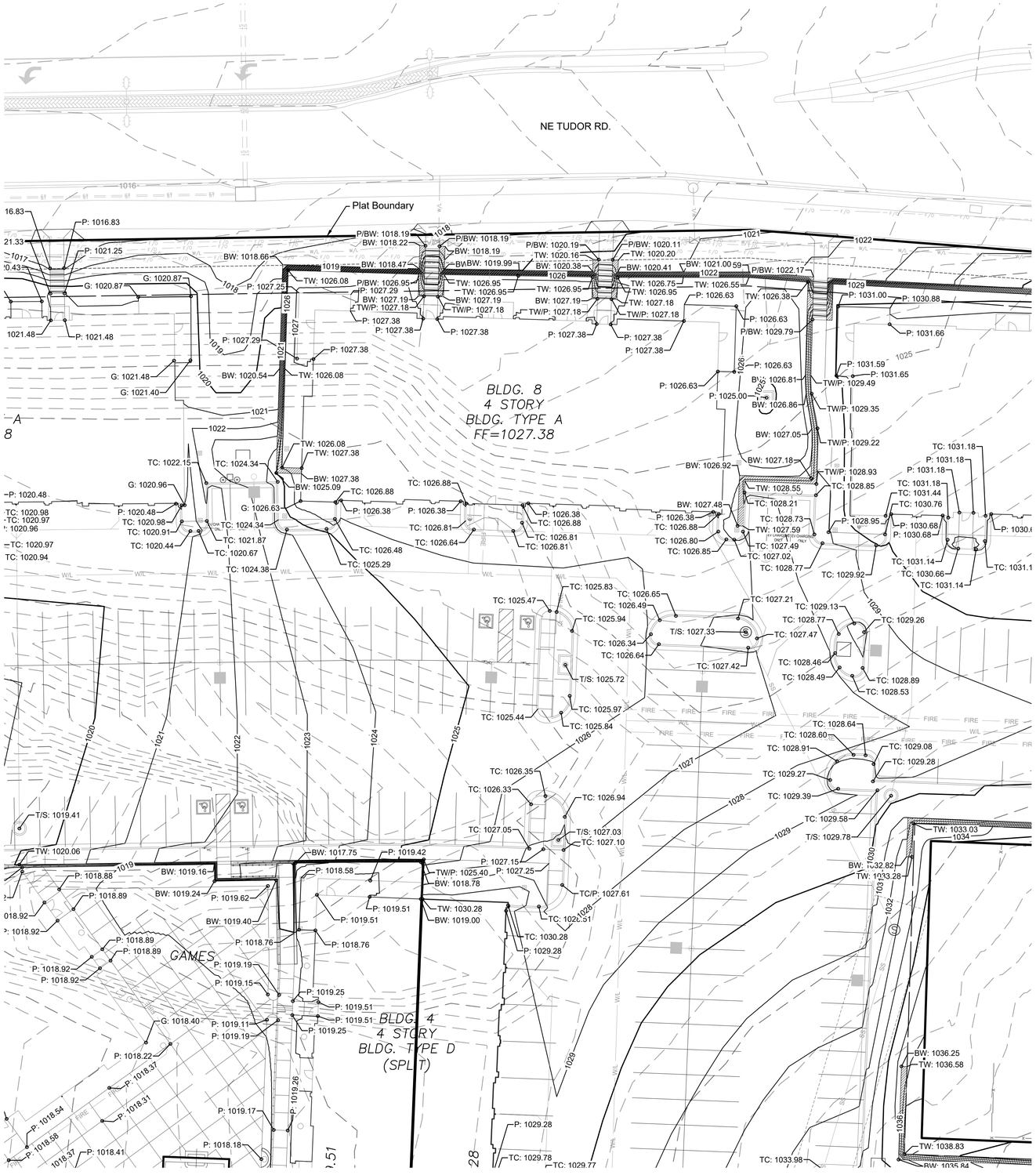
DRAWN BY TUA
CHECKED BY CMP

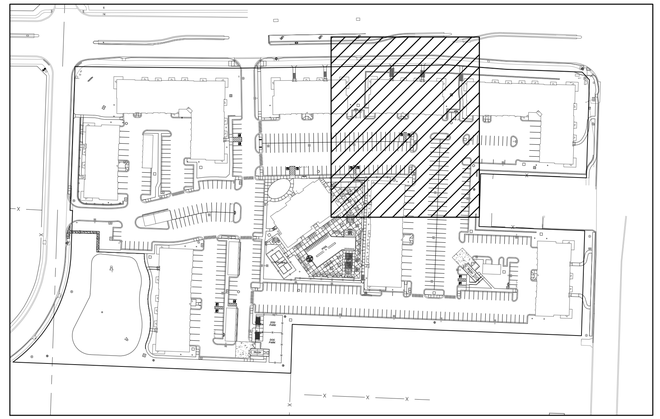
Renaissance Infrastructure Consulting
4,00 E 17TH STREET KANSAS CITY, MISSOURI 64108
816.800.0950
WWW.RIC-CONSULT.COM
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE 2002003418
05/12/25

Sheet
C18

cporter
May 08, 2025-11:28am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- GRADING-01.dwg





VICINITY MAP
n.t.s

Note:
Garage Pavement Elevation 1' Below FFE at Garage Door, and Door Entries internal to Site 0.5' Below FEE. See Arch. Plans For Transition to FFE Elevation.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

N O R T H
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Spot Grading North_3

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

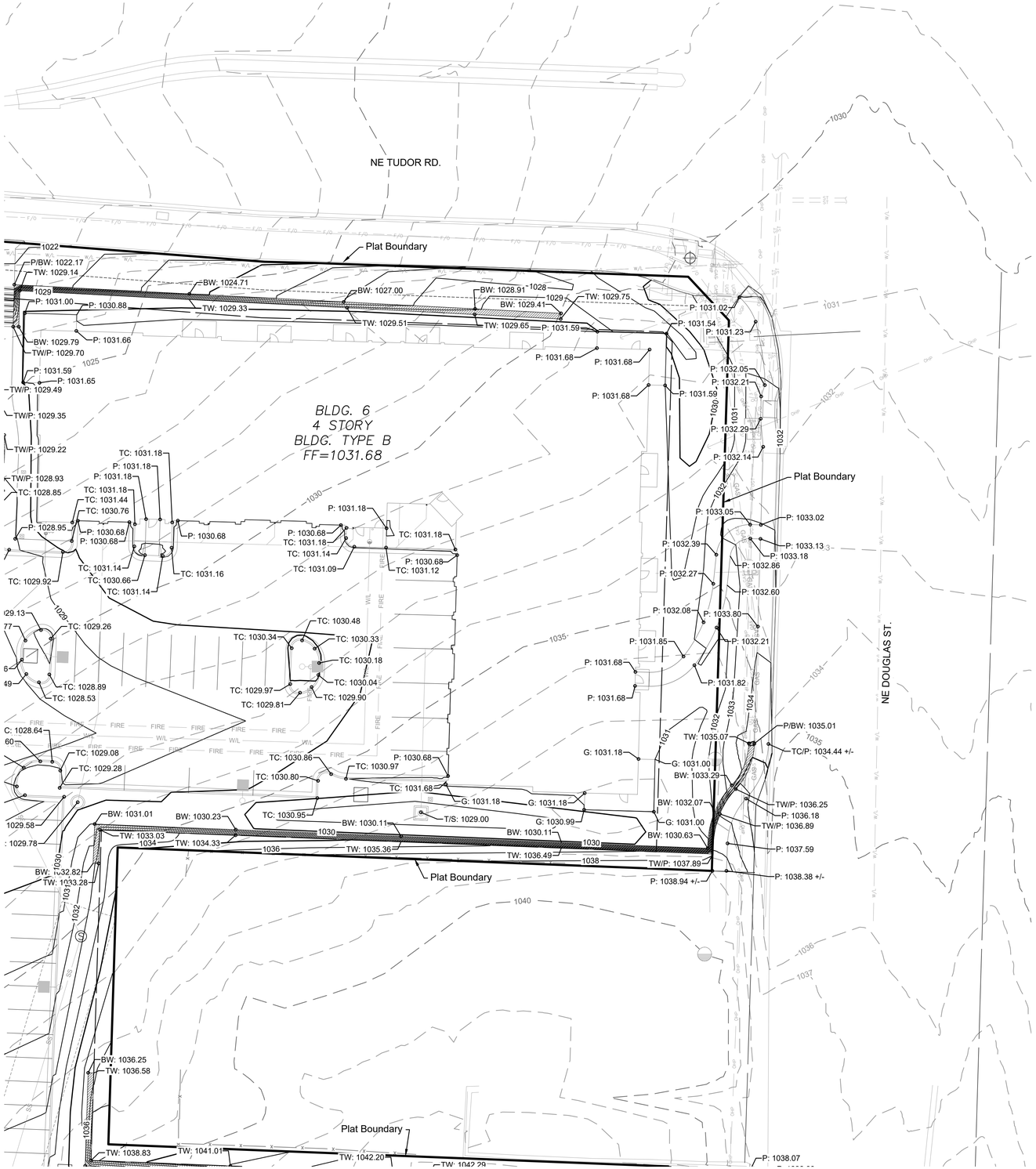
DRAWN BY TUA | CHECKED BY CMP

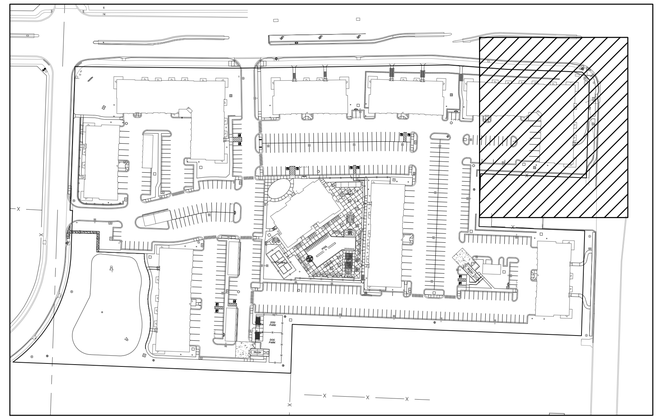
Renaissance Infrastructure Consulting
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
WWW.RIC-CONSULT.COM
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER-PE-2002003418

Sheet
C19

cporter
May 08, 2025 - 11:28am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- GRADING-01.dwg





VICINITY MAP
n.t.s

Note:
Garage Pavement Elevation 1' Below FFE at Garage Door, and Door Entries internal to Site 0.5' Below FEE. See Arch. Plans For Transition to FFE Elevation.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Spot Grading North_4

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

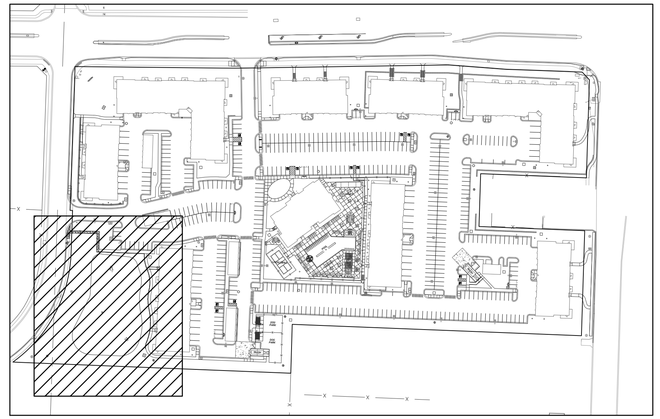
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
WWW.RIC-CONSULT.COM
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER-PE-2002003418

Sheet
C20

cporter
May 08, 2025 - 11:28am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- GRADING-01.dwg



VICINITY MAP
n.t.s

Note:
Garage Pavement Elevation 1' Below FFE at Garage Door, and Door Entries internal to Site 0.5' Below FEE. See Arch. Plans For Transition to FFE Elevation.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

NORTH
1"=20'
0 10' 20'

Construction Documents
24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Spot Grading South_1

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

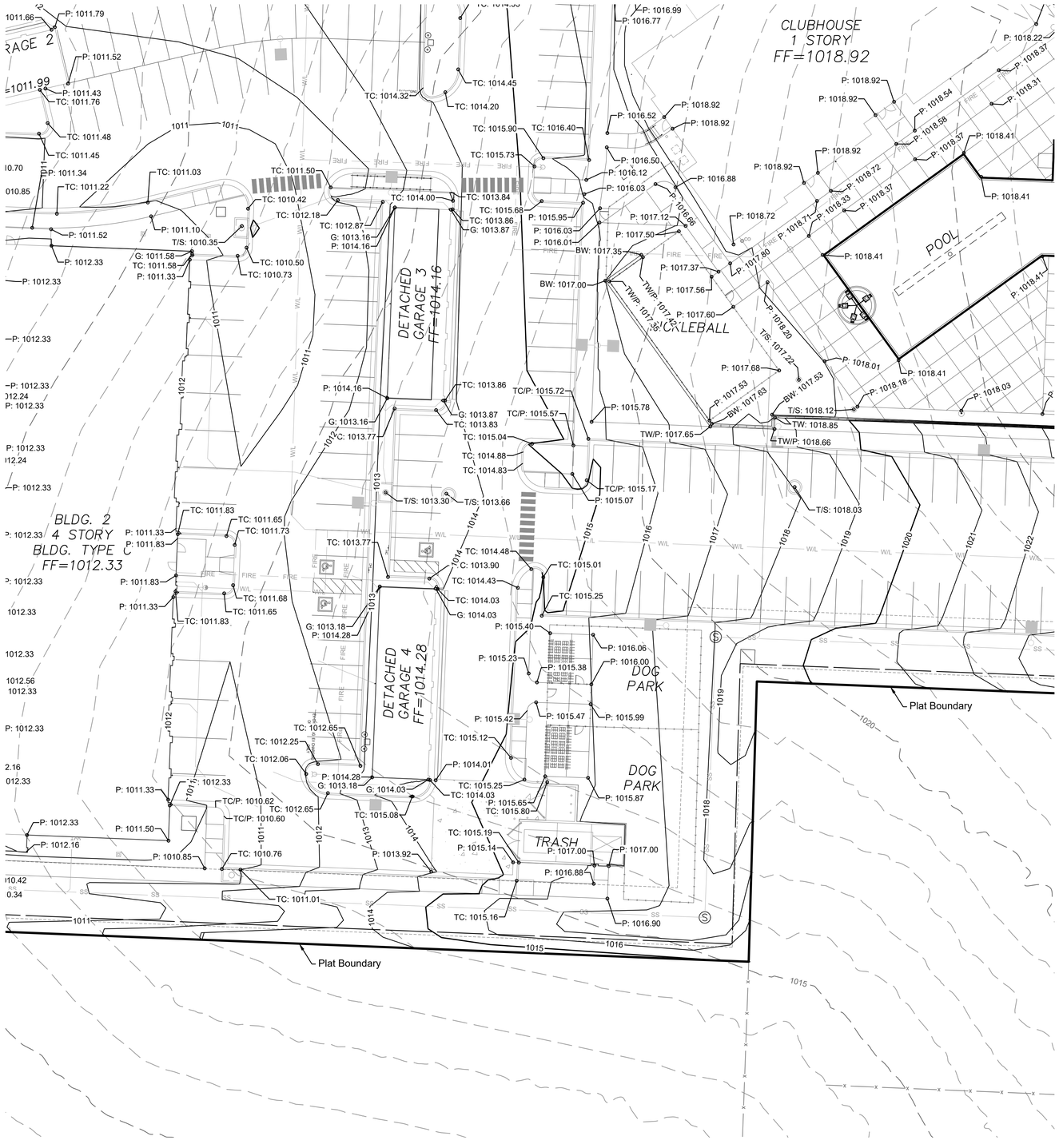
DRAWN BY TUA
CHECKED BY CMP

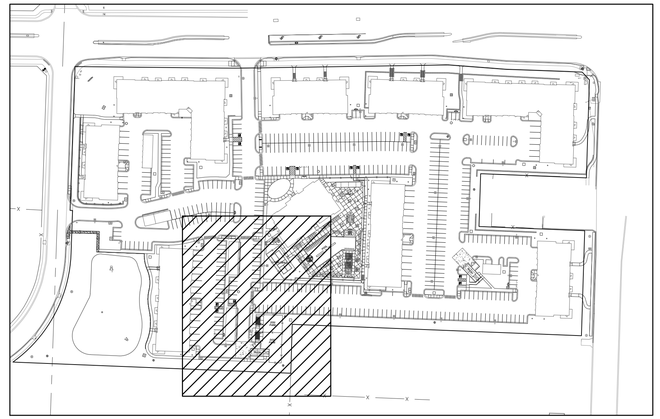
Renaissance Infrastructure Consulting
400 E 17TH STREET KANSAS CITY, MISSOURI 64108
816.800.0950
www.RIC-CONSULT.com
MO Certificate of Authority: E-2010033830

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
12/3/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C21

cporter
May 08 , 2025-11:28am
Z:\RIC Design\2024\24-0166\Dwgt\Sheets\FDP\24-0166 FDP_GRADING-01.dwg





VICINITY MAP
n.t.s

Note:
Garage Pavement Elevation 1' Below FFE at Garage Door, and Door Entries internal to Site 0.5' Below FEE. See Arch. Plans For Transition to FFE Elevation.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Spot Grading South_2

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

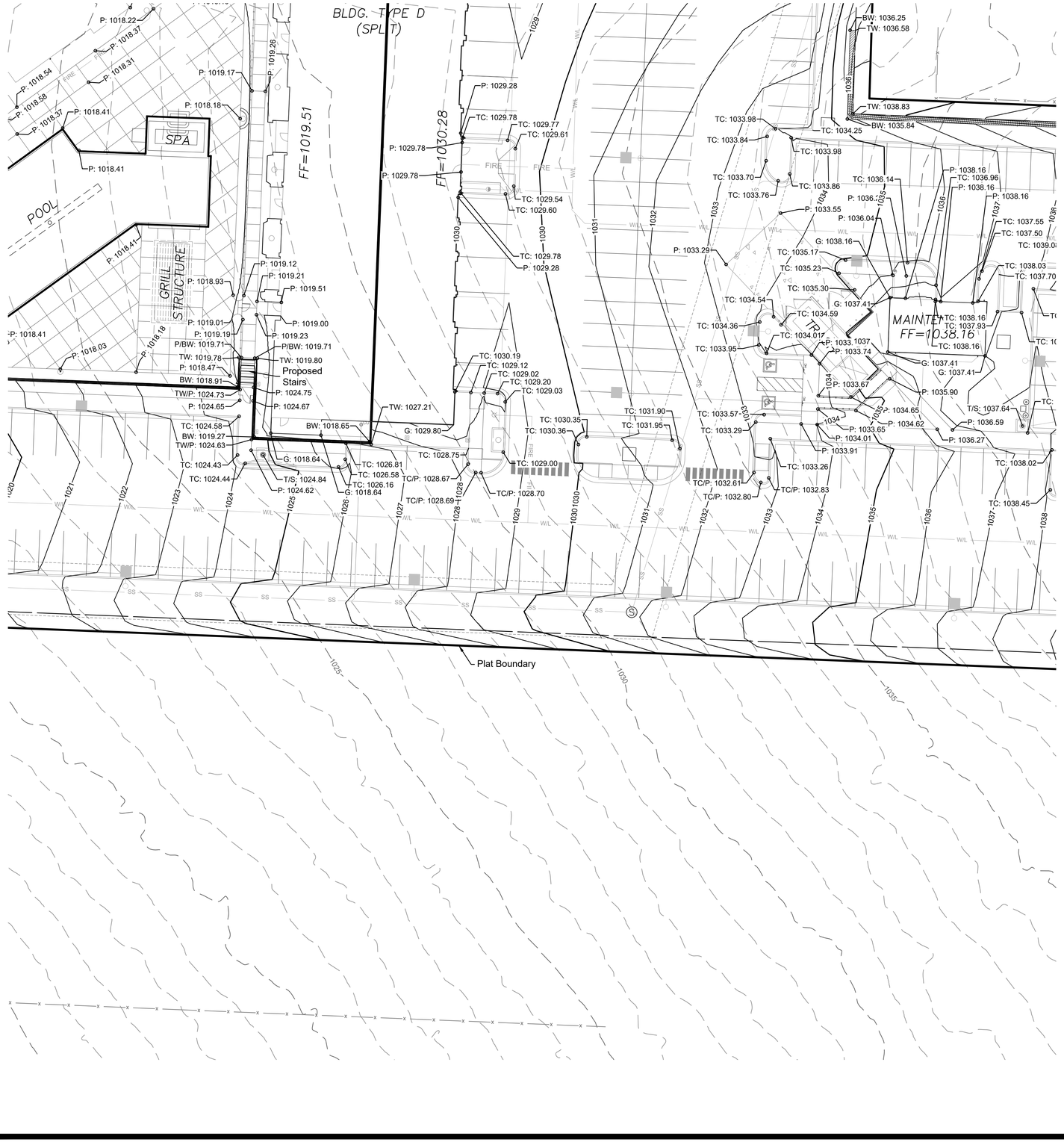
DRAWN BY TUA
CHECKED BY CMP

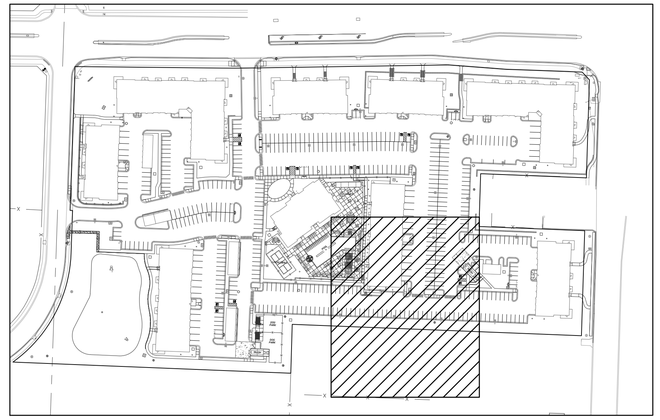
Renaissance Infrastructure Consulting
816.800.0950
WWW.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority, E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C22

cporter
May 06, 2025 - 11:28am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP_GRADING-01.dwg





VICINITY MAP
n.t.s

Note:
Garage Pavement Elevation 1' Below FFE at Garage Door, and Door Entries internal to Site 0.5' Below FEE. See Arch. Plans For Transition to FFE Elevation.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Spot Grading South_3

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

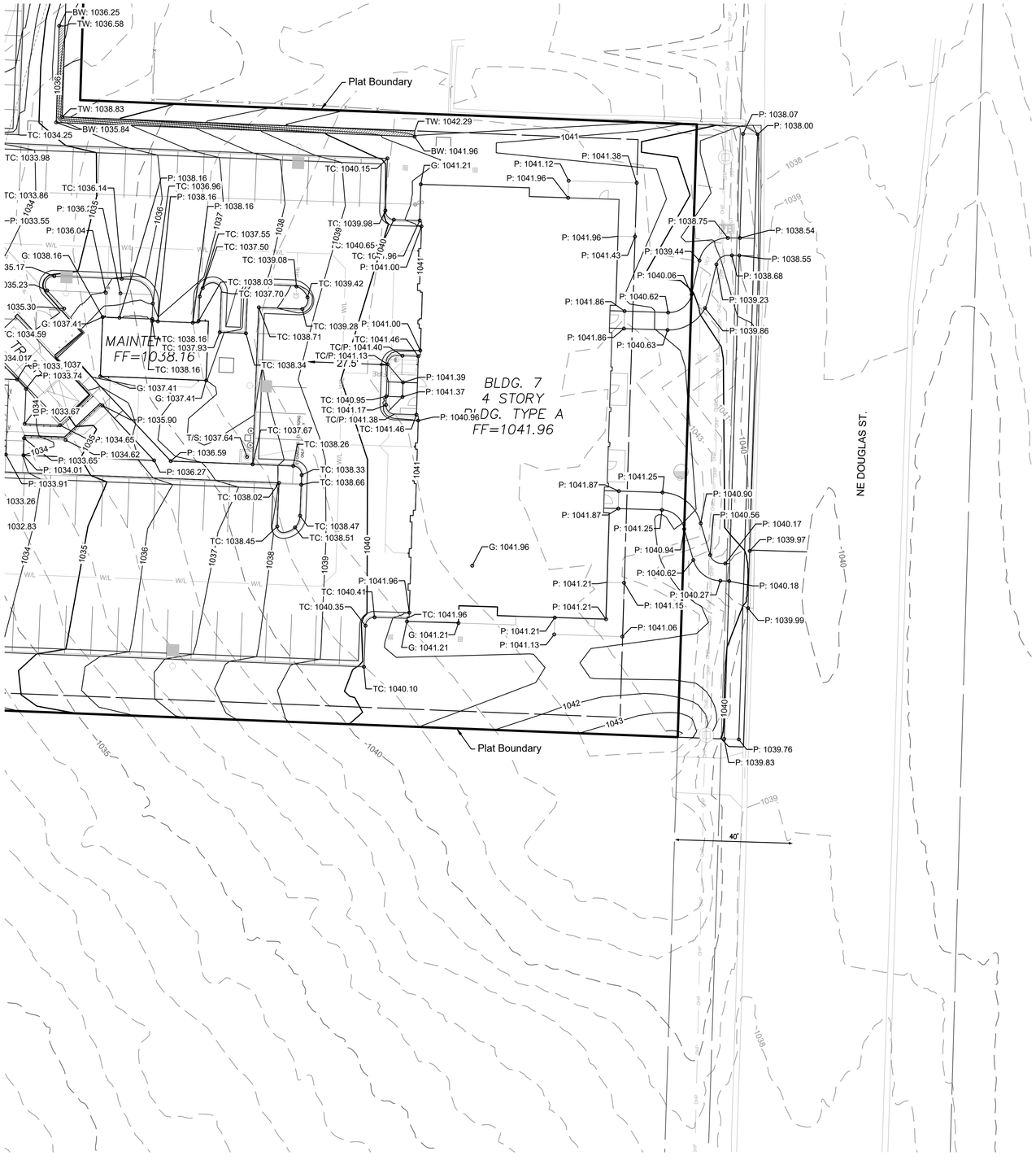
DRAWN BY TUA
CHECKED BY CMP

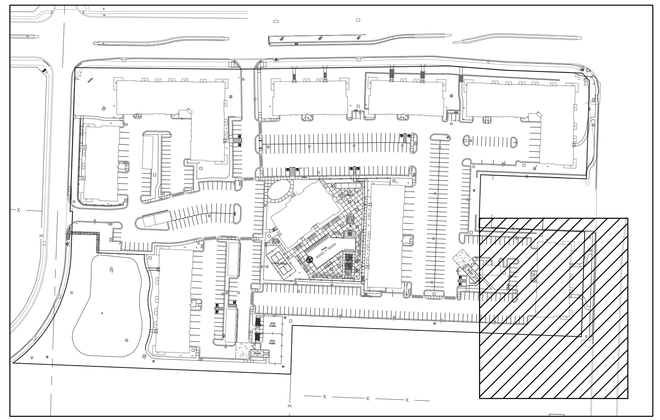
Renaissance Infrastructure Consulting
400 E 17th Street
Kansas City, Missouri 64108
816.800.0950
www.ric-consult.com
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL A. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025/05/12
MITCHELL E. SLUTTER PE-2002003418

Sheet
C23

cporter
May 08, 2025 - 11:28am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- GRADING-01.dwg





VICINITY MAP
n.t.s

Note:
Garage Pavement Elevation 1' Below FFE at Garage Door, and Door Entries internal to Site 0.5' Below FEE. See Arch. Plans For Transition to FFE Elevation.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Spot Grading South_4

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

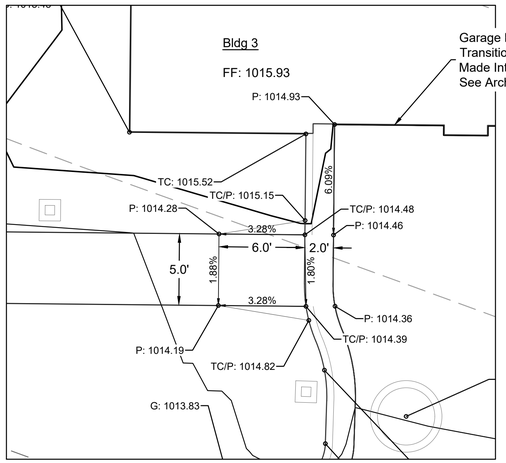
DRAWN BY: TUA
CHECKED BY: CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

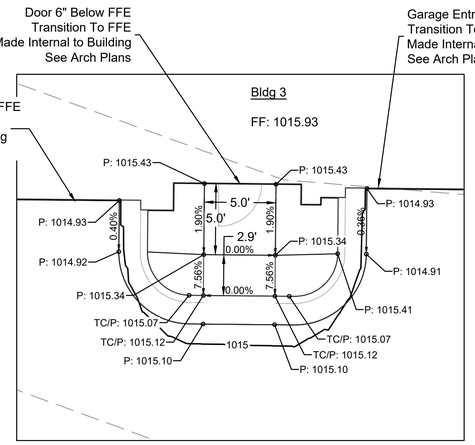
STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
12/3/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C24

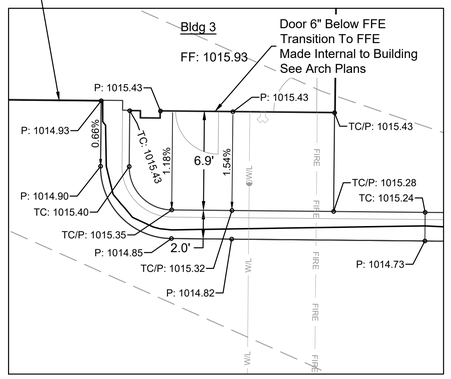
cporter
May 08 , 2025 - 11:28am
Z:\RIC Design\2024\24-0166\Dwgt\Sheets\FDP\24-0166 FDP_GRADING-01.dwg



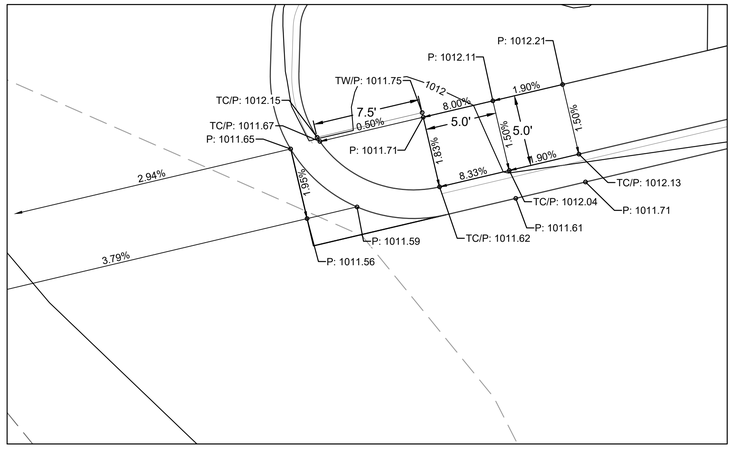
Detail 1



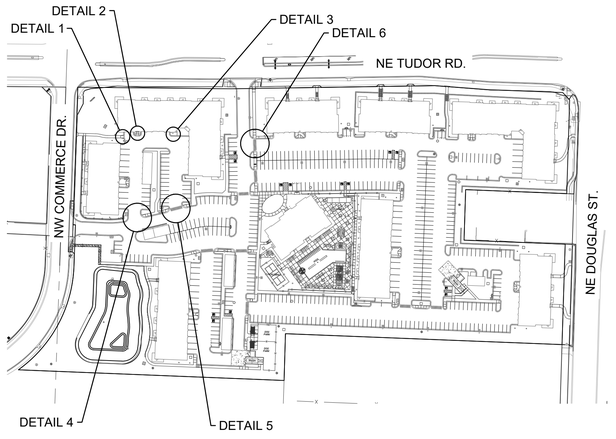
Detail 2

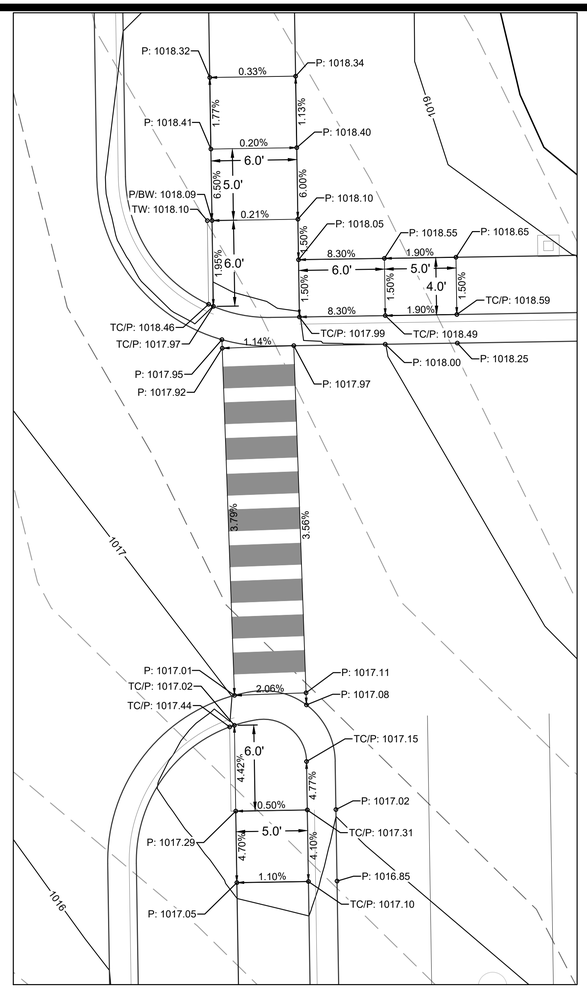


Detail 3

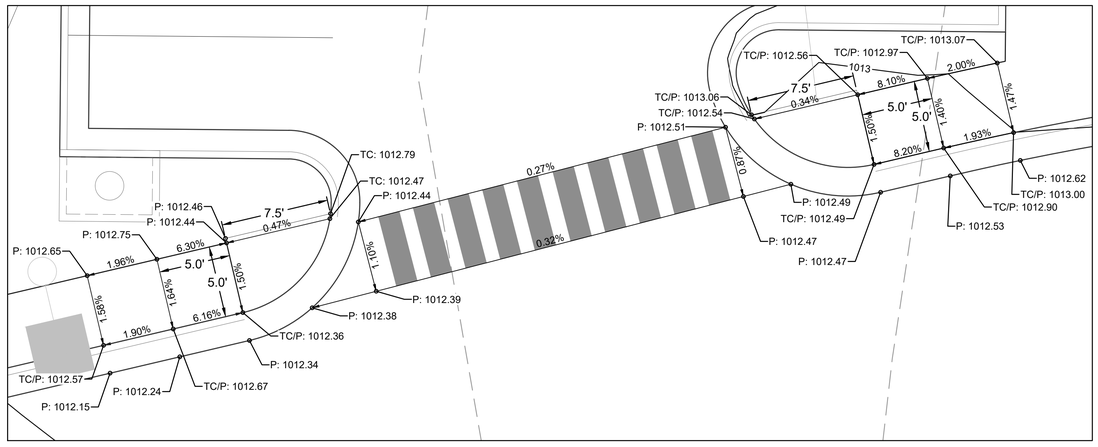


Detail 4





Detail 6



Detail 5

NOTE:
Contractor shall construct ADA ramps per ADA requirements. Ramps shall not exceed 8.33% longitudinal slope and 2% cross slope. Landings shall not exceed 2% slope in any direction. City will require ramps to be removed and rebuilt if they do not meet these requirements.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

NORTH
1"=5'
0 5'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Grading Details_1

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

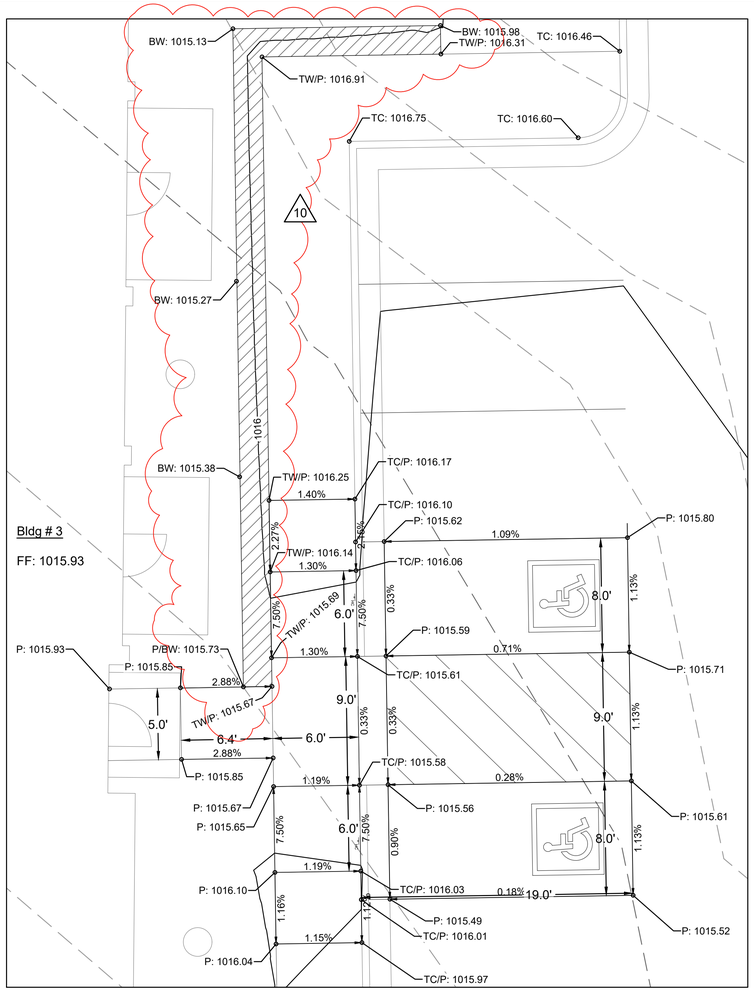
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
www.ric-consult.com
MO Certificate of Authority: E-2010033830

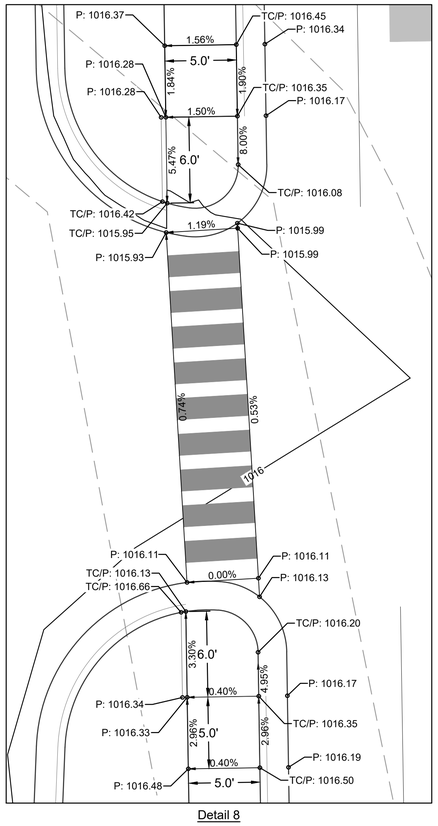
STATE OF MISSOURI
MITCHELL ELMER SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
05/12/25

Sheet
C25

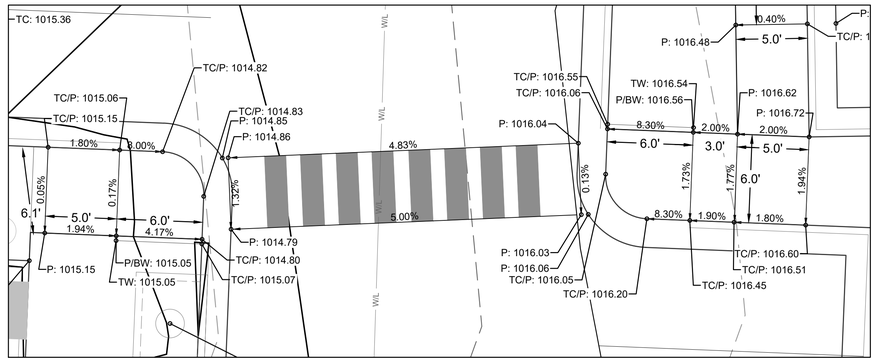
cporter
May 08, 2025 - 11:29am
Z:\RIC Design\2024\24-0166\Dwgt\Sheets\FDP\24-0166 FDP_GRADING-01.dwg



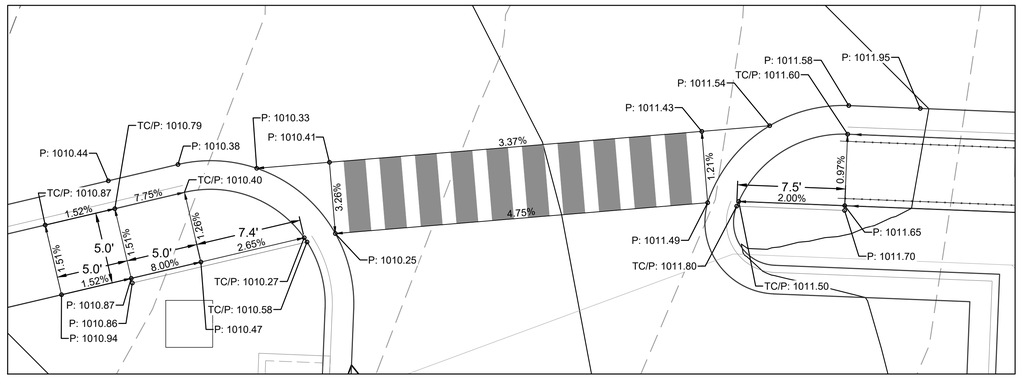
Detail 7



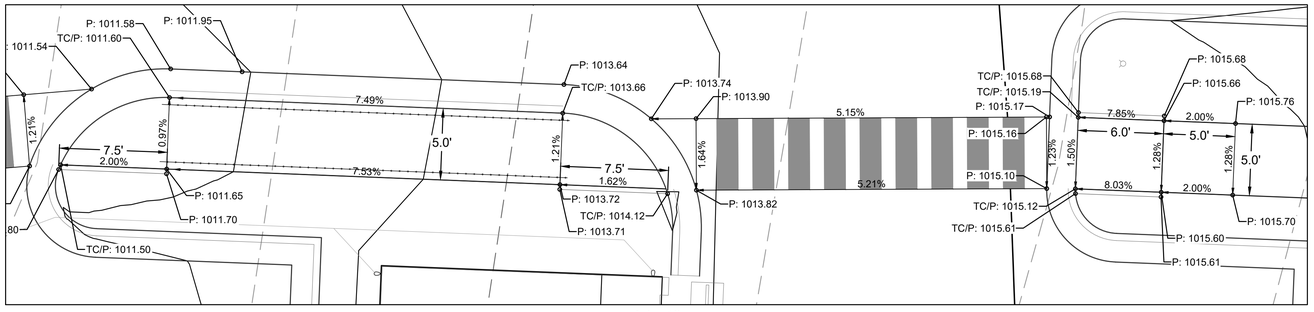
Detail 8



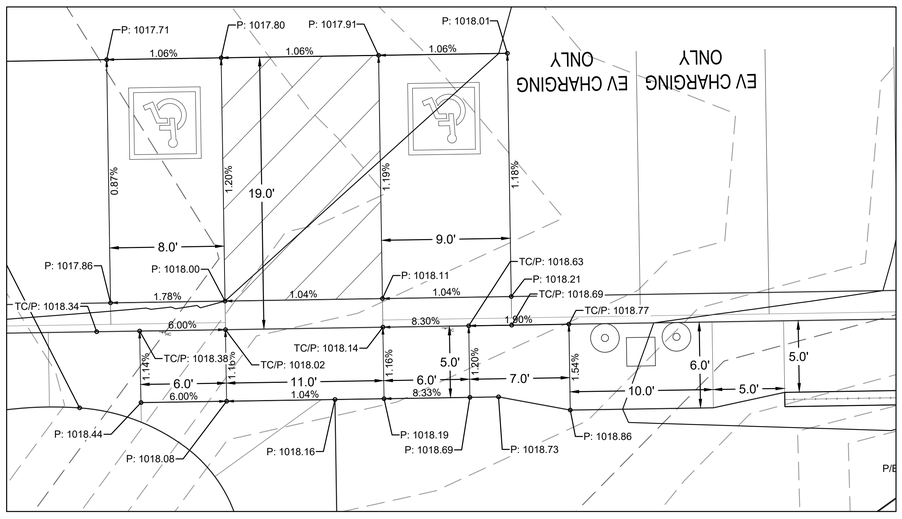
Detail 9



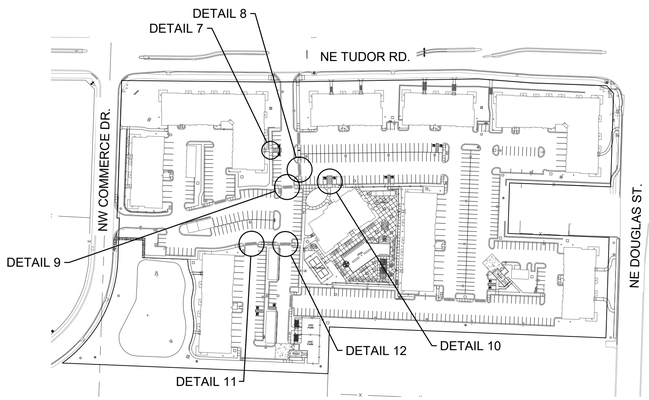
Detail 11



Detail 12



Detail 10



NOTE:
Contractor shall construct ADA ramps per ADA requirements. Ramps shall not exceed 8.33% longitudinal slope and 2% cross slope. Landings shall not exceed 2% slope in any direction. City will require ramps to be removed and rebuilt if they do not meet these requirements.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

N O R T H
1"=5'
0 5'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Grading Details_2

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/26/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

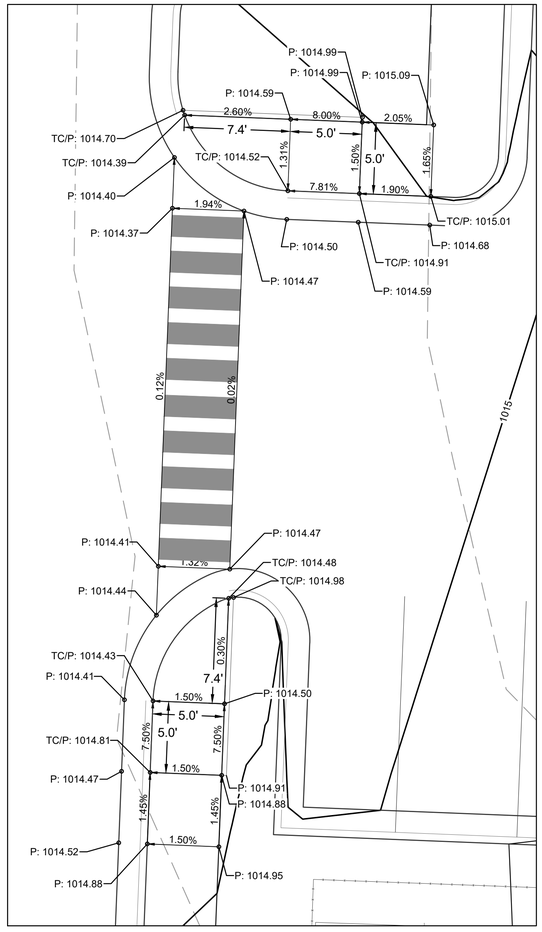
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
WWW.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

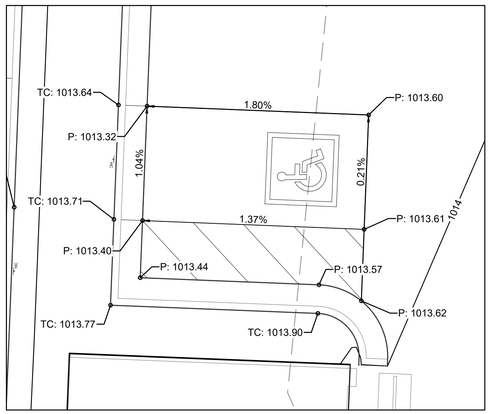
STATE OF MISSOURI
MITCHELL E. BUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. BUTTER PE-2002003418

Sheet
C26

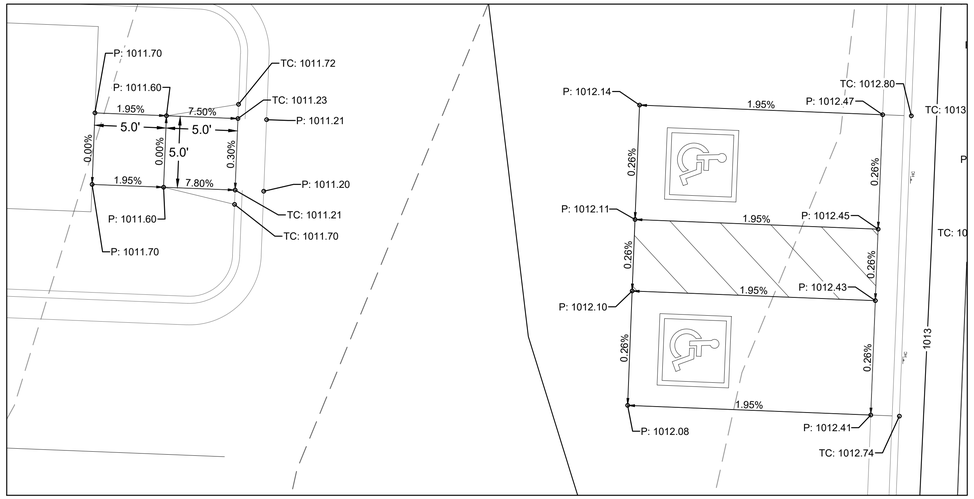
cporter
May 08, 2025 - 11:29am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- GRADING-01.dwg



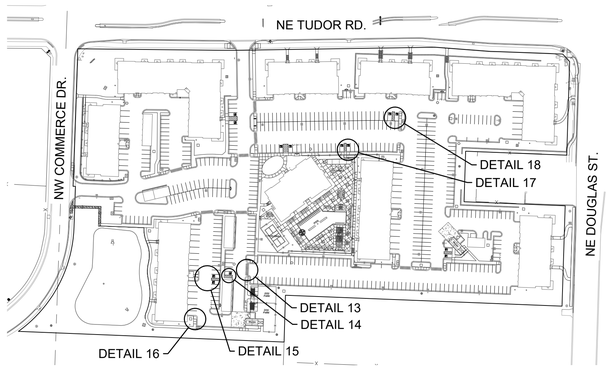
Detail 13

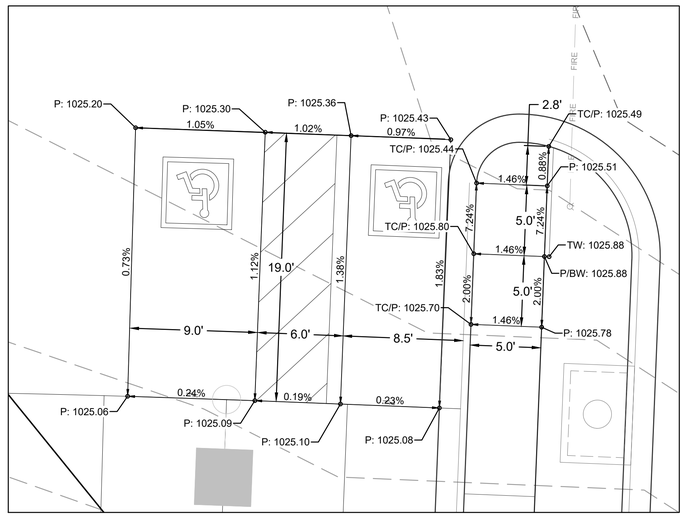


Detail 14

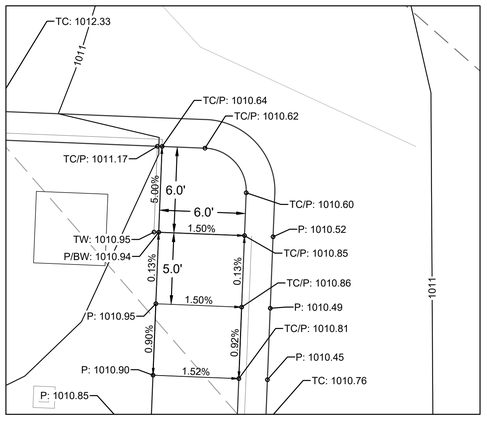


Detail 15

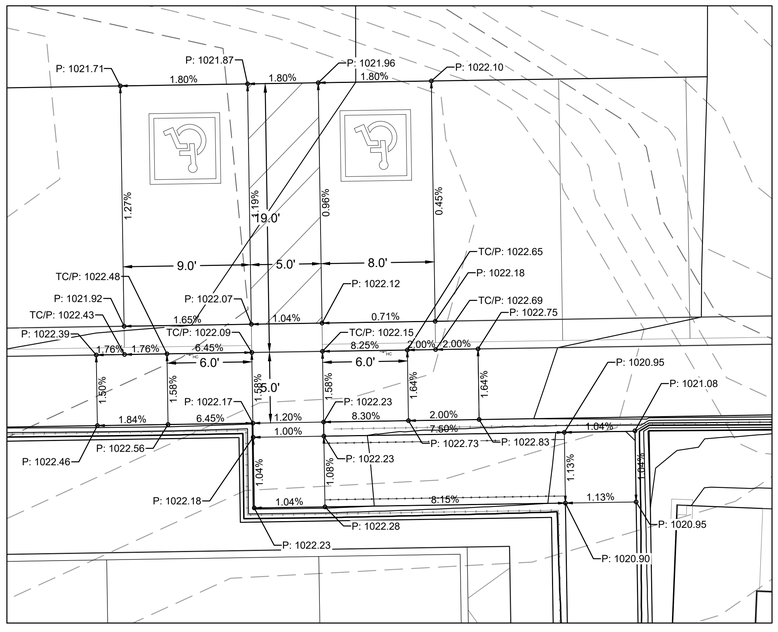




Detail 18



Detail 16



Detail 17

NOTE:
Contractor shall construct ADA ramps per ADA requirements. Ramps shall not exceed 8.33% longitudinal slope and 2% cross slope. Landings shall not exceed 2% slope in any direction. City will require ramps to be removed and rebuilt if they do not meet these requirements.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

N O R T H
1"=5'
0 5'

Construction Documents
24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Grading Details_3

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

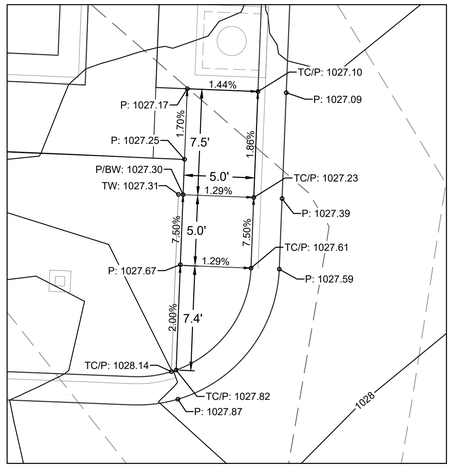
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17th Street Kansas City, Missouri 64108
816.800.0950
www.ric-consult.com
MO Certificate of Authority: E-2010039630

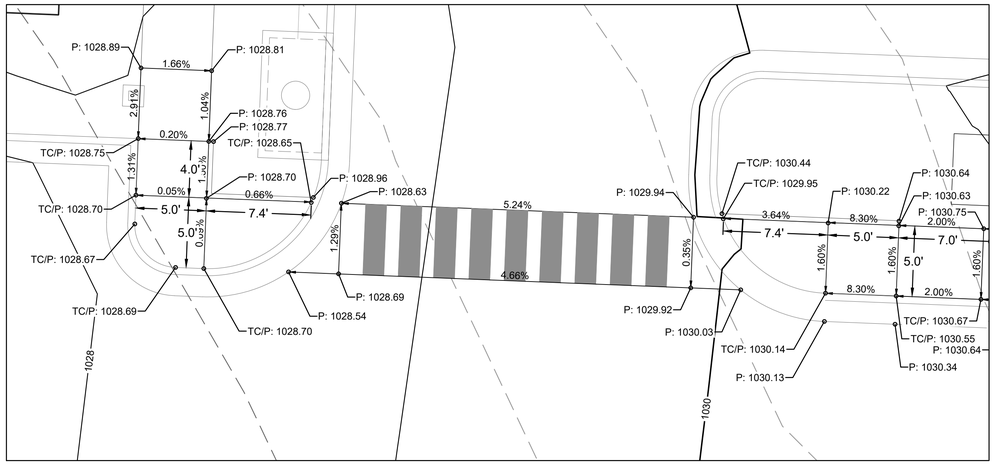
STATE OF MISSOURI
MITCHELL E. SUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SUTTER PE-2002003418 05/12/25

Sheet
C27

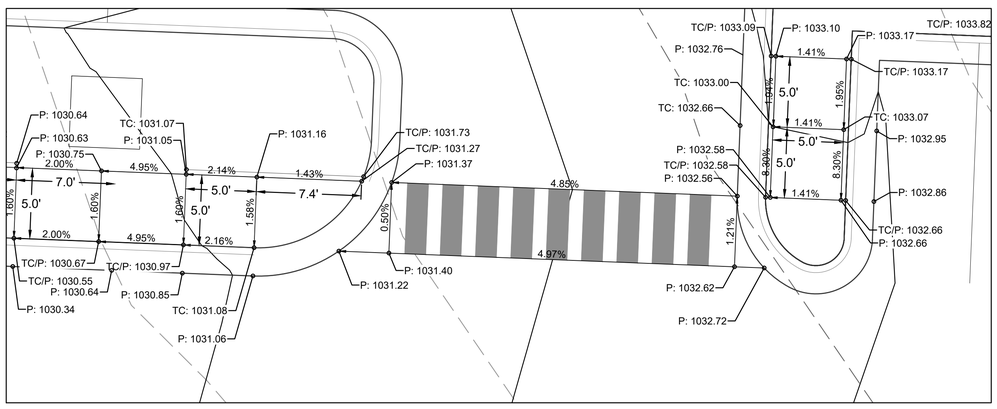
cporter
May 08 , 2025 - 11:29am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- GRADING-01.dwg



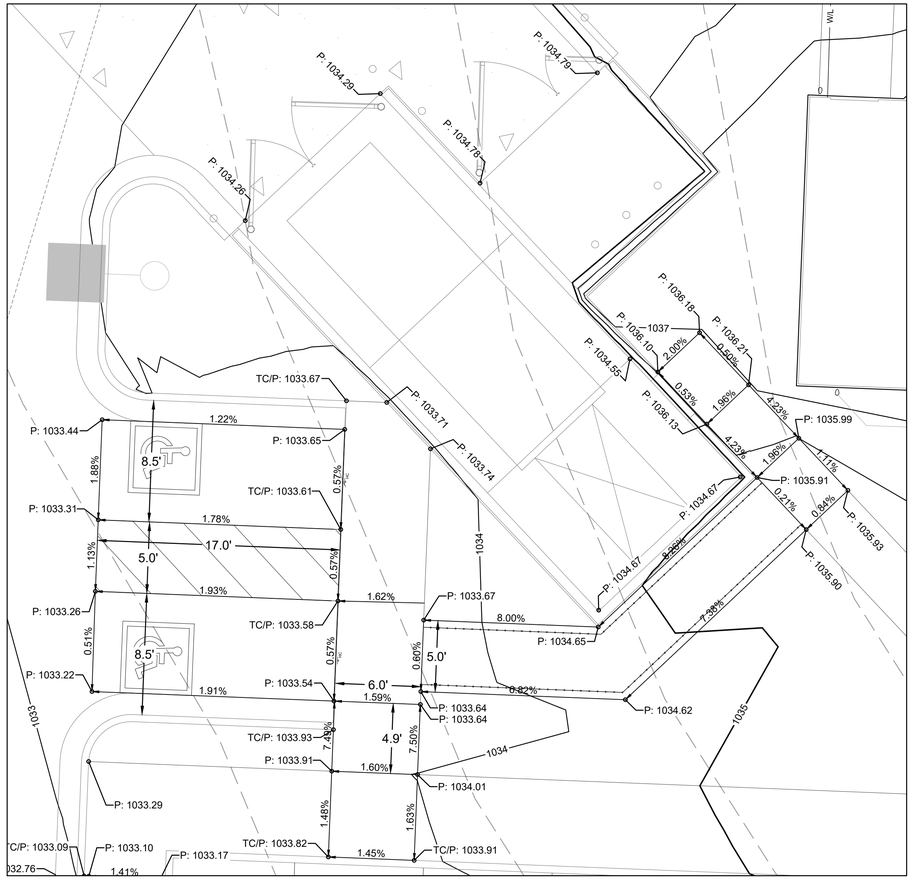
Detail 19



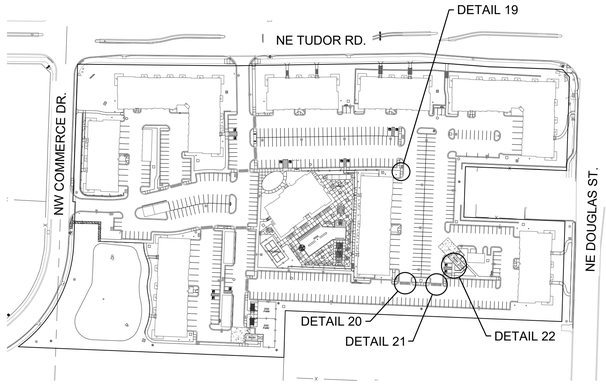
Detail 20



Detail 21



Detail 22



NOTE:
Contractor shall construct ADA ramps per ADA requirements. Ramps shall not exceed 8.33% longitudinal slope and 2% cross slope. Landings shall not exceed 2% slope in any direction. City will require ramps to be removed and rebuilt if they do not meet these requirements.

LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

NORTH
1"=5'
0 5'

Construction Documents
24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Grading Details_4

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

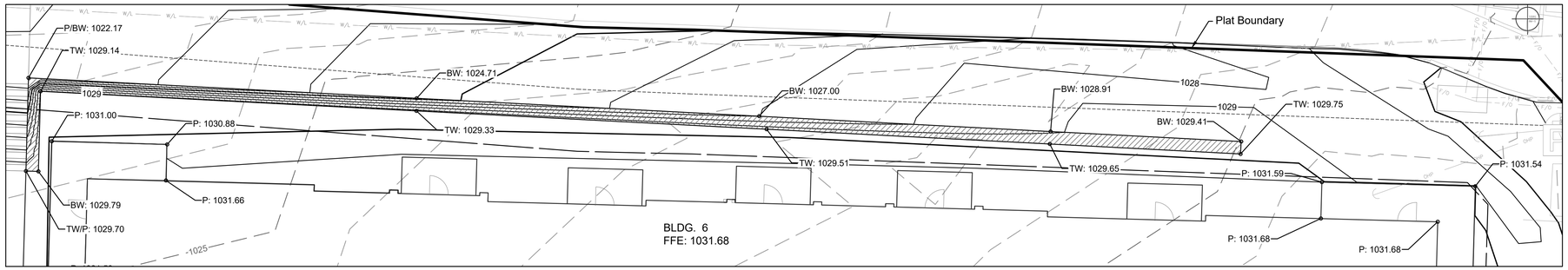
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
WWW.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

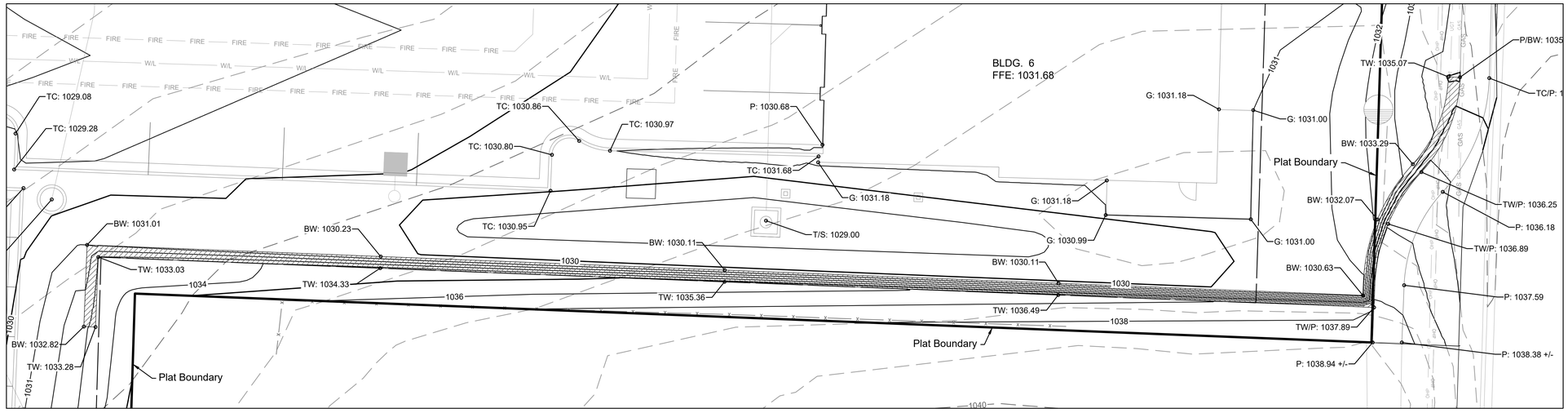
STATE OF MISSOURI
MITCHELL K. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL K. SLUTTER-PE-2002003418

Sheet
C28

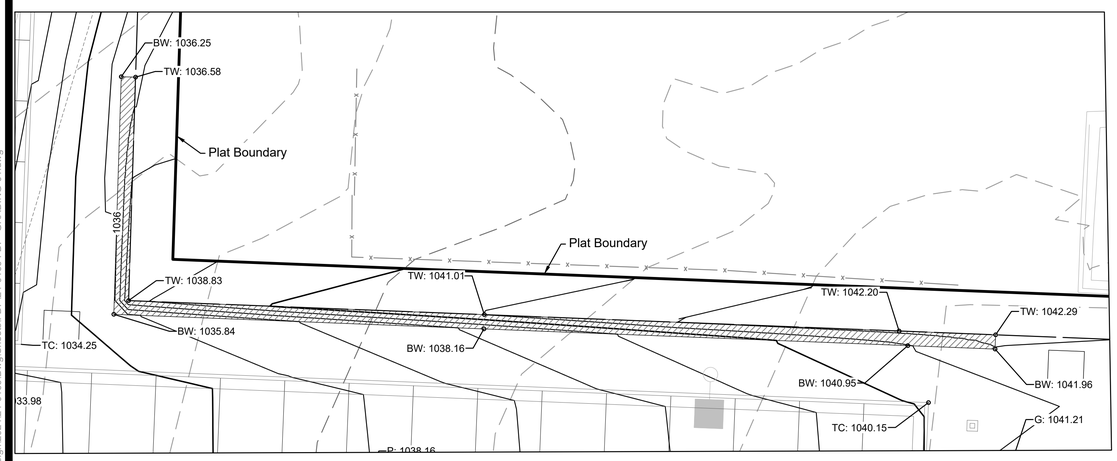
cporter
May 06, 2025 - 11:29am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- GRADING-01.dwg



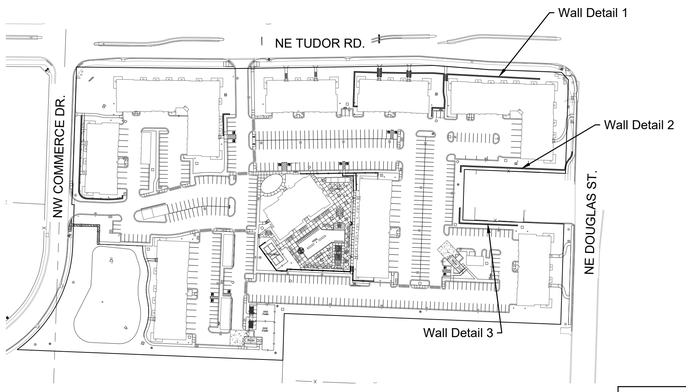
Wall Detail 1



Wall Detail 2



Wall Detail 3



LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

NORTH
1"=10'
0 5' 10'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Wall Grading Details_1

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

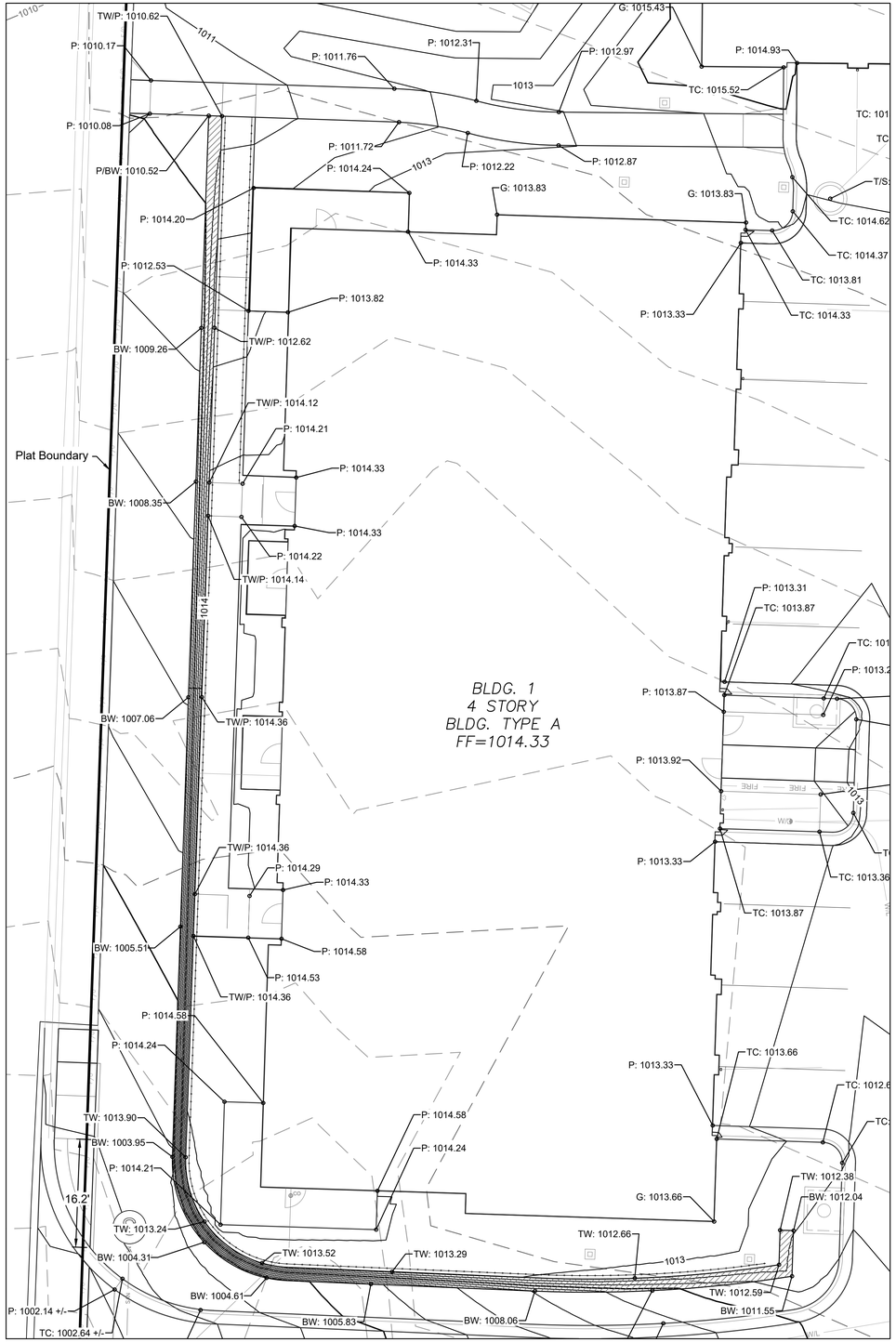
DRAWN BY: TUA
CHECKED BY: CMP

Renaissance Infrastructure Consulting
4.00 E. 17TH STREET KANSAS CITY, MISSOURI 64108
816.800.0950
www.ric-consult.com
MO Certificate of Authority: E-2010033630

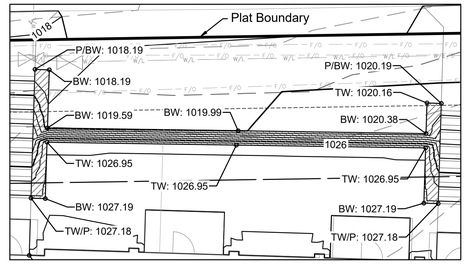
STATE OF MISSOURI
MITCHELL A. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER-PE-2002003418 12/29/25

Sheet
C29

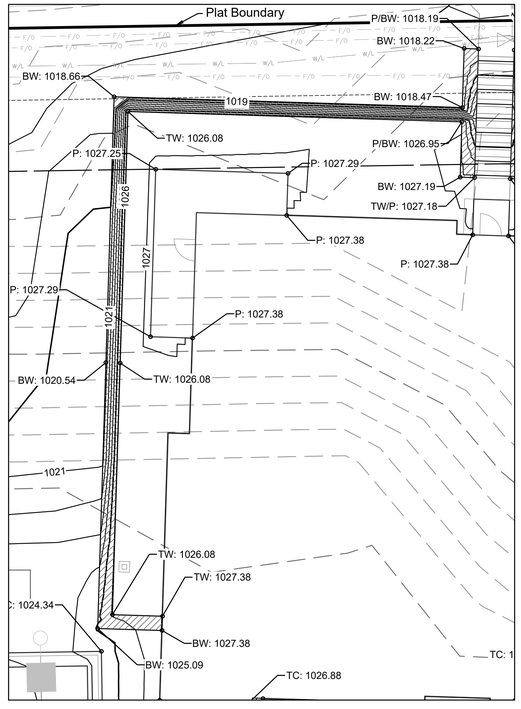
cporter
May 08, 2025 - 11:30am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- GRADING-01.dwg



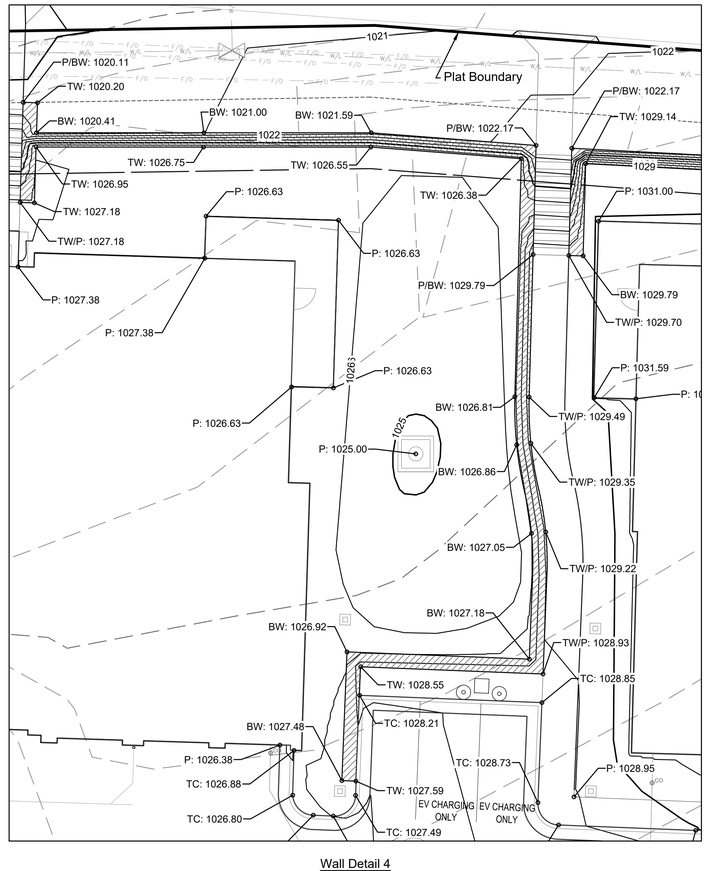
Wall Detail 7



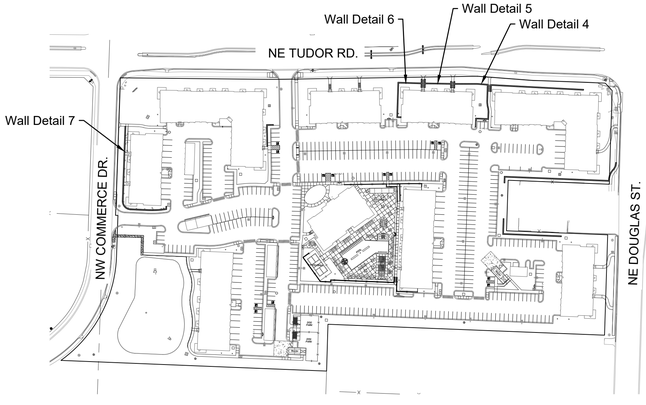
Wall Detail 5



Wall Detail 6



Wall Detail 4



LEGEND

TC:	Top of Curb
P:	Pavement
T/S:	Top of Structure
F/L:	Flowline of Pipe
G:	Ground
(HP)	High Point
(LP)	Low Point
TW:	Top of Wall
BW:	Bottom of Wall

Existing Major Contour
Existing Minor Contour
Proposed Major Contour
Proposed Minor Contour

N O R T H
1"=10'
0 5' 10'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Wall Grading Details_2

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

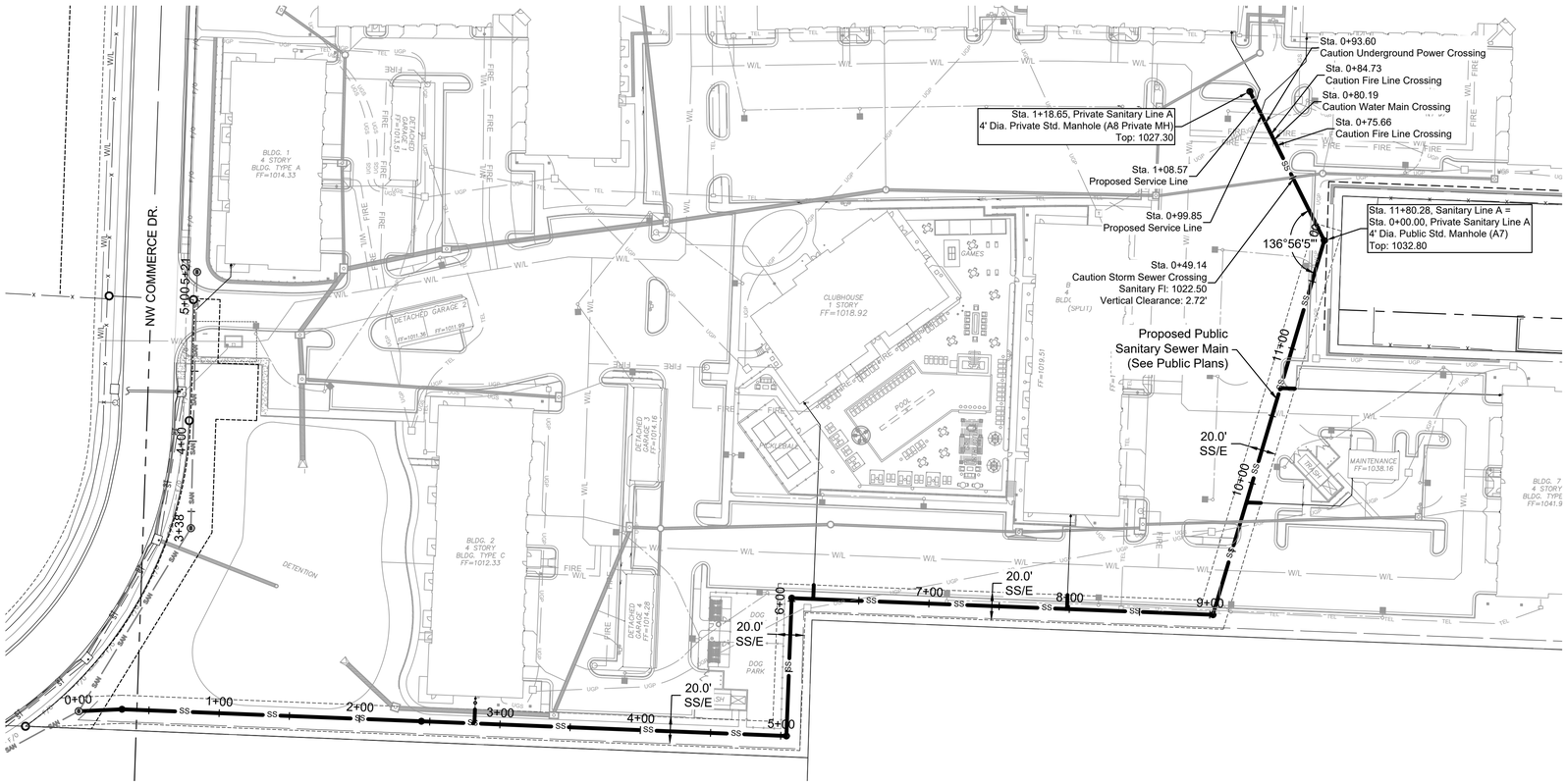
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17TH STREET KANSAS CITY, MISSOURI 64108
816.800.0950
WWW.RIC-CONSULT.COM
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
12/09/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C30

cporter
May 08, 2025 - 11:30am
Z:\RIC Design\2024\24-0166\DwgSheets\FDP\24-0166 FDP- GRADING-01.dwg



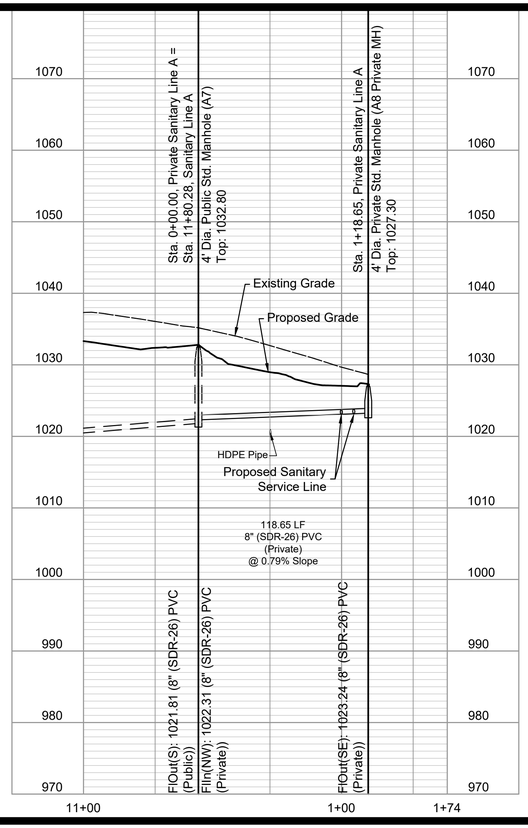
Existing Manhole Connections:

a. The existing manhole wall shall be core drilled.
b. A flexible pipe-to-manhole connector shall be installed as shown in the Standard Drawings.

NORTH

1"=50'
0 25' 50'

10'
0
1"=10'



Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Private San Plan & Profile A

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

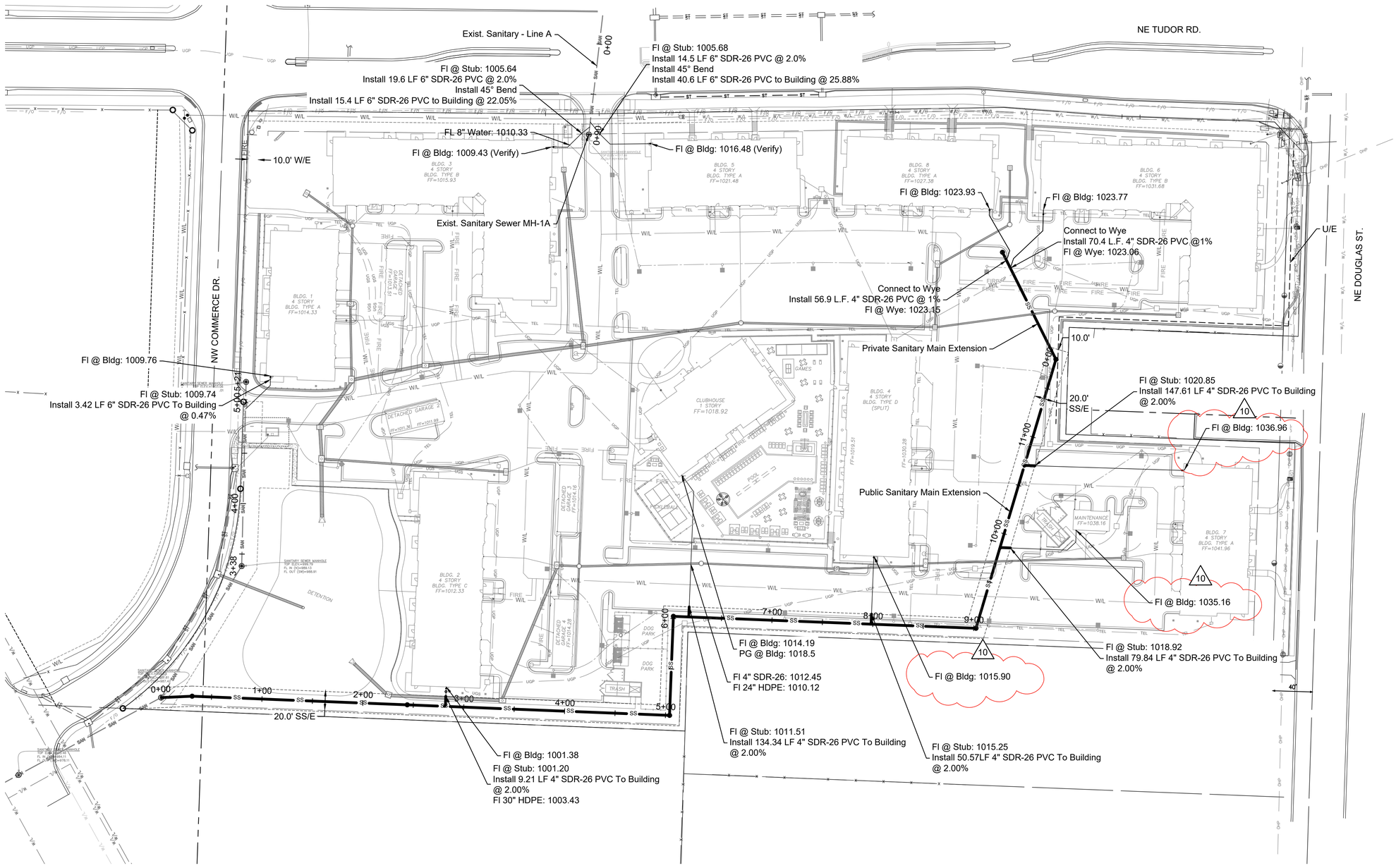
DRAWN BY: TUA
CHECKED BY: CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033830

STATE OF MISSOURI
MITCHELL SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025/05/12
MITCHELL E. SLUTTER PE-2002003418

Sheet
C31

cporter
May 08, 2025 - 11:30am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp san-pp-01.dwg



Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Service Line Plan

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY: TUA
CHECKED BY: CMP

Renaissance Infrastructure Consulting
400 E. 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
WWW.RIC-CONSULT.COM
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
12/20/25

Sheet
C32

cporter
May 08, 2025-11:31am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp sanr-service line-01.dwg

NE TUDOR RD.

NW COMMERCE DR.

NE DOUGLAS ST.

Sta. 1+51.08, Storm Line
5' x 6' Curb Inlet (1D)
Top: 1011.80

Sta. 1+19.04, Storm Line 10B
15" Duraslot Moderate Duty
Slotted Drain (RD11B)
Top: 1011.36

Sta. 0+99.50, Storm Line 9A
15" Duraslot Moderate Duty
Slotted Drain (RD9A-B)
Top: 1013.38

Sta. 0+99.50, Storm Line 9B
15" Duraslot Moderate Duty
Slotted Drain (RD9B-B)
Top: 1013.57

Sta. 3+29.91, Storm Line 2
48" Dia. Manhole w/
Traffic Rated Solid Lid (2D)
Top: 1013.69

Sta. 2+99.44, Storm Line 11A
12" Dia. 12" Drain Basin (11A-I)
Top: 1018.71

Sta. 2+74.12, Storm Line 11A
1' Dia. 12" Drain Basin (11A-H)
Top: 1018.67

Sta. 2+42.22, Storm Line 11A
1' Dia. 12" Drain Basin (11A-G)
Top: 1018.33

Sta. 2+11.48, Storm Line 11A
12" Dia. 12" Drain Basin (11A-F)
Top: 1018.67

Sta. 1+85.63, Storm Line 11A
1' Dia. 12" Drain Basin (11A-E)
Top: 1018.69

Sta. 1+34.31, Storm Line 11A
12" Dia. 12" Drain Basin (11A-D)
Top: 1019.15

Sta. 1+09.58, Storm Line 11A
1' Dia. 12" Drain Basin (11A-C)
Top: 1018.09

Sta. 0+57.23, Storm Line 11A
1' Dia. 12" Drain Basin (11A-B)
Top: 1017.99

Sta. 0+19.60, Storm Line 11A
12" Dia. 12" Drain Basin (11A-A)
Top: 1018.12

XX
XX Drainage Area
Storm Structure

NORTH
1"=40'
0 20' 40'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Drainage Area Map

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033830

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025/2/5
MITCHELL E. SLUTTER PE-2002003418

Sheet
C33

cporter
May 08, 2025 - 11:31am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- storm pp-01.dwg

	Overland Flow								System Flow						Pipe Design																	Structure Design			
Line	Point	Trib. Area (Ac.)	"C" Value	Design Storm	"K" Value	Time of Conc. (min.)	Intensity I (in./hr.)	Total Runoff (cfs)	Total Area (Ac.)	Weighted "C" Value	Total (K*A*C)	Time of Conc. (min.)	Intensity I (in./hr.)	System Discharge (cfs)	U/S Node	D/S Node	Pipe Type	Pipe Shape	Pipe Diameter (in.)	Pipe Length (ft.)	Mannings "n" value	Pipe Slope (%)	Design Flow (cfs)	Pipe Capacity (cfs)	Full Flow Velocity (fps)	Design Flow Velocity (fps)	Depth of Flow (in.)	Flow Time (min.)	U/S Invert El.	U/S Crown El.	D/S Invert El.	D/S Crown El.	U/S Depth of Cover (ft.)	D/S Depth of Cover (ft.)	Headwater Inlet Elev. (EGL)	Headwater Outlet Elev. (EGL)	Inlet/Outlet Control	Top Elevation
1	1J	0.20	0.80	10	1	5.00	7.35	1.18	0.20	0.80	0.16	5.00	7.35	1.18	1J	1I	HDPE	Round	15	122.46	0.012	1.02	1.18	7.04	5.74	4.20	4.1	0.49	1021.50	1022.75	1020.25	1021.50	6.25	8.28	1021.87	1020.86	I	1029.00
				100	1.25		10.32	2.06			0.20		10.32	2.06									2.06			4.98	5.6	0.41										
	1I	0.37	0.90	10	1	5.00	7.35	2.45	0.57	0.86	0.49	5.49	7.21	3.55	1I	1G	HDPE	Round	15	119.68	0.012	1.04	3.55	7.12	5.81	5.76	7.4	0.35	1020.05	1021.30	1018.80	1020.05	8.48	6.98	1020.76	1019.93	I	1029.78
				100	1.25		10.32	3.82			0.57		10.12	5.77									5.77			6.46	10.2	0.31										
	1H	0.47	0.85	10	1	5.00	7.35	2.94	1.98	0.84	1.67	6.02	7.05	11.76	1H	1G	HDPE	Round	18	192.26	0.012	3.02	11.76	19.70	11.15	11.59	9.9	0.28	1018.05	1019.55	1012.25	1013.75	7.48	5.66	1019.03	1015.16	I	1027.03
				100	1.25		10.32	4.85			1.98		9.91	19.63									19.63			12.71	14.6	0.25										
	1G	0.23	0.85	10	1	5.00	7.35	1.44	2.21	0.84	1.86	6.30	6.97	13.00	1G	1F	HDPE	Round	24	157.89	0.012	2.15	13.00	35.88	11.42	10.43	9.8	0.25	1011.90	1013.90	1008.50	1010.50	5.51	4.49	1012.77	1011.01	I	1019.41
				100	1.25		10.32	2.37			2.21		9.81	21.68									21.68			11.95	13.4	0.22										
	1F	1.78	0.87	10	1	5.00	7.35	11.39	4.04	0.85	3.43	6.96	6.79	23.30	1F	1E	HDPE	Round	30	157.50	0.012	0.95	23.30	43.30	8.82	8.97	15.6	0.29	1008.00	1010.50	1006.50	1009.00	4.49	3.72	1009.34	1009.05	I	1014.99
				100	1.25		10.32	18.37			4.04		9.57	38.65									38.65			9.96	21.9	0.26										
	1E	0.18	0.85	10	1	5.00	7.35	1.13	4.22	0.85	3.58	7.25	6.72	24.07	1E	1D	HDPE	Round	30	74.54	0.012	2.01	24.07	62.94	12.82	11.85	12.6	0.10	1006.00	1008.50	1004.50	1007.00	4.22	4.80	1007.09	1007.73	O	1012.72
				100	1.25		10.32	1.86			4.22		9.46	39.93									39.93			13.50	17.1	0.09										
	1D	0.10	0.87	10	1	5.00	7.35	0.64	5.09	0.84	4.25	7.36	6.69	28.46	1D	1C	HDPE	Round	30	56.60	0.012	5.30	28.46	102.14	20.81	17.80	10.8	0.05	1004.00	1006.50	1001.00	1003.50	5.30	3.90	1004.95	1006.82	O	1011.80
				100	1.25		10.32	1.03			5.09		9.43	47.98									47.98			20.44	14.4	0.05										
	1C	0.15	0.87	10	1	5.00	7.35	0.96	5.24	0.84	4.39	7.41	6.68	29.28	1C	1B	HDPE	Round	30	31.54	0.012	1.59	29.28	55.86	11.38	11.47	15.3	0.05	1000.50	1003.00	1000.00	1002.50	4.40	4.61	1001.82	1003.32	O	1007.40
				100	1.25		10.32	1.55			5.24		9.41	49.30									49.30			12.81	21.6	0.04										
	1B	0.18	0.85	10	1	5.00	7.35	1.13	6.40	0.84	5.37	7.46	6.66	35.80	1B	1End	HDPE	Round	30	62.94	0.012	5.56	35.80	104.62	21.31	19.23	12.0	0.05	999.50	1002.00	996.00	998.50	5.11	4.60	1000.56	1002.74	O	1007.11
				100	1.25		10.32	1.86			6.40		9.39	60.11									60.11			21.99	16.2	0.05										
	1End																																					1003.10
2	2H	0.31	0.87	10	1	5.00	7.35	1.98	0.31	0.87	0.27	5.00	7.35	1.98	2H	2G	HDPE	Round	15	196.27	0.012	4.34	1.98	14.52	11.83	8.10	3.6	0.40	1033.01	1034.26	1024.50	1025.75	5.78	3.18	1033.36	1025.82	I	1040.04
				100	1.25		10.32	3.20			0.31		10.32	3.20									3.20			9.35	4.7	0.35										
	2G	0.65	0.85	10	1	5.00	7.35	4.06	0.96	0.86	0.82	5.40	7.23	5.94	2G	2F	HDPE	Round	15	88.29	0.012	4.69	5.94	14.93	12.17	11.37	6.5	0.13	1024.30	1025.55	1020.25	1021.50	3.38	3.34	1024.99	1022.79	I	1028.93
				100	1.25		10.32	6.71			0.96		10.16	9.75									9.75			12.90	8.7	0.11										
	2F	0.40	0.90	10	1	5.00	7.35	2.65	1.39	0.87	1.20	5.53	7.19	8.65	2F	2E	HDPE	Round	18	134.25	0.012	6.70	8.65	29.37	16.62	14.42	6.7	0.16	1019.75	1021.25	1010.75	1012.25	3.59	5.78	1020.41	1014.53	I	1024.84
				100	1.25		10.32	4.13			1.39		10.11	14.00									14.00			16.33	8.6	0.14										
	2E	0.66	0.80	10	1	5.00	7.35	3.88	2.05	0.85	1.73	5.69	7.15	12.37	2E	2D	HDPE	Round	24	121.02	0.012	1.24	12.37	27.22	8.66	8.43	11.3	0.24	1010.25	1012.25	1008.75	1010.75	5.78	2.91	1011.24	1010.79	I	1018.03
				100	1.25		10.32	6.81			2.05		10.04	20.54									20.54			9.48	15.4	0.21										
	2D	0.26	0.85	10	1	5.00	7.35	1.63	2.31	0.85	1.95	5.93	7.08	13.82	2D	2C	HDPE	Round	24	22.08	0.012	3.62	13.82	46.54	14.81	12.85	8.9	0.03	1008.25	1010.25	1007.45	1009.45	3.41	3.85	1009.05	1010.75	O	1013.66
				100	1.25		10.32	2.68			2.31		9.95	22.94									22.94			14.69	11.8	0.03										
	2C	1.03	0.85	10	1	5.00	7.35	6.44	3.34	0.85	2.83	5.96	7.07	19.99	2C	2B	HDPE	Round	30	144.32	0.012	1.35	19.99	51.57	10.51	9.82	12.9	0.25	1006.95	1009.45	1005.00	1007.50	3.85	2.11	1008.06	1007.57	I	1013.30
				100	1.25		10.32	10.63			3.34		9.94	33.15									33.15			11.14	17.4	0.22										
	2B	0.34	0.90	10	1	5.00	7.35	2.25	3.68	0.85	3.13	6.20	7.00	21.94	2B	2A	HDPE	Round	30	112.89	0.012	1.20	21.94	48.52	9.88	9.62	14.1	0.20	1004.10	1006.60	1002.75	1005.25	4.28	4.36	1005.31	1005.36	O	1010.88
				100	1.25		10.32	3.51			3.68		9.85	36.18									36.18			10.82	19.2	0.17										
	2A	0.00	0.90	10	1	5.00	7.35	0.00	3.68	0.85	3.13	6.40	6.95	21.77	2A	2End	HDPE	Round	30	53.67	0.012	2.79	21.77	74.17	15.11	13.11	11.1	0.07	997.50	1000.00	996.00	998.50	9.61	0.00	998.46	999.59	O	1009.61
				100	1.25		10.32	0.00			3.68		9.77	35.91									35.91			14.98	14.7	0.06										
	2End																																					998.50
3	3C	0.14	0.35	10	1	5.00	7.35	0.36	0.14	0.35	0.05	5.00	7.35	0.36	3C	3A	HDPE	Round	15	55.59	0.012	0.36	0.36	4.18	3.41	2.03	2.9	0.46	1007.30	1008.55	1007.10	1008.35	2.44	4.94	1007.55	1007.40	I	1010.99
				100	1.25		10.32	0.63			0.06		10.32	0.63									0.63			2.44	3.9	0.38										
	3B	0.30	0.85	10	1	5.00	7.35	1.88	0.44	0.69	0.30	5.46	7.21	2.19	3B	3A	HDPE	Round	15	77.15	0.012	0.78	2.19	6.15	5.01	4.57	6.2	0.28	1006.90	1008.15	1006.30	1007.55	5.86	5.74	1007.47	1007.14	I	1014.01
				100	1.25		10.32	3.10			0.38		10.14	3.85									3.85			5.28	8.6	0.24										
	3A	0.33	0.85	10	1	5.00	7.35	2.06	0.77	0.78	0.58	5.74	7.13	4.17	3A	1D	HDPE	Round	18	75.10	0.012	1.07	4.17	11.71	6.62	6.05	7.4	0.21	1005.80	1007.30	1005.00	1006.50	5.99	5.30	1006.47	1006.18	I	1013.29
				100	1.25		10.32	3.41			0.73		10.02	7.32									7.32			6.98	10.3	0.18										
	1D																																					1011.80
4	4A	0.05	0.35	10	1	5.00	7.35	0.13	0.05	0.35	0.02	5.00	7.35	0.13	4A	1F	HDPE	Round	15	175.74	0.012	0.34	0.13	4.07	3.32	1.49	1.8	1.96	1009.50	1010.75	1008.90	1010.15	3.25	4.84	1009.65	1009.08	I	1014.00
				100	1.25		10.32	0.23			0.02		10.32	0.23									0.23			1.72	2.3	1.71										
	1F																																					1014.99
5	5C	0.08	0.35	10	1	5.00	7.35	0.21	0.08	0.35	0.03	5.00	7.35	0.21	5C	5B	HDPE	Round	15	56.17	0.012	1.42	0.21	8.32	6.78	2.72	1.5	0.34	1021.25	1022.50	1020.45	1021.70	2.50	5.69	1021.38	1020.69	I	1025.00
				100	1.25		10.32	0.36			0.04		10.32	0.36									0.36			3.36	2.1	0.28										
	5B	0.00	0.90	10	1	5.00	7.35	0.00	0.08	0.35	0.03	5.34	7.25	0.20	5B	5A	HDPE	Round	15	81.49	0.012	0.55	0.20	5.18	4.22	2.00	2.0	0.68	1019.95	1021.20	1019.50	1020.75	6.19	4.97	1020.12	1019.72	I	1027.39
				100	1.25		10.32	0.00			0.04		10.18	0.36									0.36			2.35	2.6	0.58										
	5A	0.86	0.87	10	1	5.00	7.35	5.50	0.94	0.83	0.78	6.02	7.05	5.47	5A	1H	HDPE	Round	15	62.50	0.012	0.72	5.47	5.92	4.82	5.46	11.3	0.19	1019.00	1020.25	1018.55	1019.80	5.47	7.23	1020.09	1019.95	I	1025.72
				100	1.25		10.32	8.88			0.94		9.91	9.32									9.32			4.82	15.0	0.22										
	1H																																					1027.03
6	6A	0.98	0.85	10	1	5.00	7.35	6.13	0.98	0.85	0.83	5.00	7.35	6.13	6A	1B	HDPE	Round	15	183.13	0.012	2.21	6.13	10.37	8.45	8.78	8.3	0.35	1005.85	1007.10	1001.80	1003.05	3.22	4.06	1006.70	1003.68	I	1010.32
				100	1.25		10.32	10.12			0.98		10.32	10.12									10.12			9.62	11.9	0.32										
	1B																																					1007.11
7	7F	0.03	0.85	10	1	5.00	7.35	0.16	0.03	0.85	0.02	5.00	7.35	0.16	7F	7E	HDPE	Round	8	29.37	0.012	0.99	0.16	1.29	3.70	2.47	1.8	0.20	1016.90	1017.57	1016.61	1017.28	1.33	1.19	1017.10	1016.86	I	1018.90
				100	1.25		10.32	0.26			0.03		10.32	0.26									0.26			2.88	2.4	0.17										
	7E	0.04	0.85	10	1	5.00	7.35	0.27	0.07	0.85	0.06	5.00	7.35	0.43	7E	7D	HDPE	Round	8	20.37	0.012	0.98	0.43	1.29	3.69	3.29	3.1	0.10	1016.61	1017.28	1016.41	1017.08	1.19	1.18	1017.01	1016.84	I	1018.47
				100	1.25		10.32	0.44			0.07		10.32	0.70									0.70			3.75	4.2	0.09										
	7D	0.06	0.85	10	1	5.00	7.35	0.35	0.12	0.85	0.11	5.00	7.35	0.78	7D	7C	HDPE	Round	8	6.49	0.012	0.92	0.78	1.25	3.58	3.79	4.6	0.03	1016.41	1017.08	1016.35	1017.02	1.18	0.05	1017.05	1016.95	I	1018.26
				100	1.25		10.32	0.58			0.12		10.32	1.29									1.29			4.08	6.7	0.03										
	N2	0.00	0.85	10	1	5.00	7.35	0.00	0.12	0.85	0.11	5.00	7.35	0.78	N2	7B	HDPE	Round	8	3.55	0.012	1.13	0.78	1.38	3.95	4.05	4.2	0.01	1016.35	1017.02	1016.31	1016.98	1.25	1.07	1016.96	1016.92	I	1018.27
				100	1.25		10.32	0.00			0.12		10.32	1.29									1.29			4.49	6.1	0.01										
	N1	0.00	0.85	10	1	5.00	7.35	0.00	0.12	0.85	0.11	5.00	7.35	0.78	N1	7A	HDPE	Round	8	4.00	0.012	1.00	0.78	1.30	3.73	3.87	4.4	0.02	1016.15	1016.82	1016.11	1016.78	1.46	0.44	1016.77	1016.71	I	1018.28
				100	1.25		10.32	0.00			0.12		10.32	1.29									1.29			4.25	6.4	0.02										
	7C	0.10	0.85	10	1	5.00	7.35	0.61	0.22	0.85	0.19	5.00	7.35	1.39	7C	7B	HDPE	Round	10	113.79	0.012	1.00	1.39	2.36	4.33	4.50	5.5	0.42	1015.69	1016.52	1014.55	1015.38	0.55	2.67	1016.33	1015.32	I	1017.07
				100	1.25		10.32	1.00			0.22		10.32	2.29									2.29			4.94	7.9	0.38										
	7B	0.00	0.85	10	1	5.00	7.35	0.00	0.22	0.85	0.19	5.00	7.35	1.39	7B	7A	HDPE	Round	10	45.71	0.012	1.01	1.39	2.37	4.34	4.48	5.4	0.17	1014.05	1014.88	1013.59	1014.42	3.17	2.80	1014.69	1014.35	I	1018.05
				100	1.25		10.32	0.00			0.22		10.32	2.29									2.29			4.95	7.9	0.15										
	7A	0.04	0.85	10	1	5.00	7.35	0.24	0.26	0.85	0.22	5.00	7.35	1.62	7A	2E	HDPE	Round	10	37.55	0.012	7.59	1.62	6.51	11.93	9.90	3.4	0.06	1013.35	1014.18	1010.50	1011.33	3.04	6.70	1013.85	1012.31	I	1017.22
				100	1.25		10.32	0.39			0.26		10.32	2.68									2.68			11.26	4.4	0.06										
	2E																																					1018.03
8	8A	1.22	0.90	10	1	5.00	7.35	8.07	1.22	0.90	1.10	5.00	7.35	8.07	8A	8-EX	HDPE	Round	24	91.13	0.012	1.65	8.07	31.37	9.99	8.29	8.2	0.18	992.00	994.00	990.50	992.50	7.50	4.88	992.71	992.25	I	1001.50
				100	1.25		10.32	12.59			1.22		10.32	12.59									12.59			9.43	10.6	0.16										
	8-EX																																					997.38
9	9B	0.01	0.85	10	1	5.00	7.35	0.03	0.01	0.85	0.00	5.00	7.35	0.03	9B	9A	HDPE	Round	6	217.84	0.012	0.55	0.03	0.45	2.27	1.27	1.0	2.86	1010.91	1011.41	1009.72	1010.22	6.59	7.78	1011.03	1009.83	I	1018.00
				100	1.25		10.32	0.05			0.01		10.32	0.05									0.05			1.48	1.3	2.46										
	9A	0.01	0.85	10	1	5.00	7.35	0.03	0.01	0.85	0.00	5.00	7.35	0.03	9A	1F	HDPE	Round	6	217.84	0.012	0.17	0.03	0.25	1.28	0.86	1.4	4.23	1009.52	1010.02	1009.14	1009.64	7.98	5.35	1009.67	1009.27	I	1018.00
				100	1.25		10.32	0.05			0.01		10.32	0.05									0.05			1.00	1.8	3.64										
	1F																																					1014.99
10	10J	0.01	0.85	10	1	5.00	7.35	0.06	0.01	0.85	0.01	5.00	7.35	0.06	10J	10G	HDPE	Round	6	36.25	0.012	0.99	0.06	0.60	3.06	1.94	1.3	0.31	1016.04	1016.54	1015.68	1016.18	1.46	2.15	1016.21	1015.84	I	1018.00
				100	1.25		10.32	0.10			0.01		10.32	0.10									0.10			2.29	1.7	0.26										
	10I	0.01	0.85	10	1	5.00	7.35	0.06	0.02	0.85	0.02	5.00	7.35	0.13	10I	10F	HDPE	Round	6	25.32	0.012	0.99	0.13	0.60	3.05	2.37	1.8	0.18	1015.68	1016.18	1015.43	1015.93	2.53	2.74	1015.96	1015.67	I	1018.71
				100	1.25		10.32	0.10			0.02		10.32	0.21									0.21			2.76	2.4	0.15										
	10H	0.01	0.85	10	1	5.00	7.35	0.06	0.03	0.85	0.03	5.00	7.35	0.19	10H	10E	HDPE	Round	6	31.90	0.012	1.00	0.19	0.60	3.08	2.71	2.3	0.20	1015.43	1015.93	1015.11	1015.61	2.74	3.08	1015.81	1015.41	I	1018.67
				100	1.25		10.32	0.10			0.03		10.32	0.31									0.31			3.08	3.0	0.17										
	10G	0.01	0.85	10	1	5.00	7.35	0.06	0.04	0.85	0.03	5.00	7.35	0.25	10G	10F	HDPE	Round	6	30.74	0.012	0.98	0.25	0.60	3.04	2.90	2.7	0.18	1015.11	1015.61	1014.81	1015.31	2.72	3.36	1015.59	1015.17	I	1018.33
				100	1.25		10.32	0.10			0.04		10.32	0.41									0.41			3.28	3.7	0.16										
	10F	0.01	0.85	10	1	5.00	7.35	0.06	0.05	0.85	0.04	5.00	7.35	0.31	10F	10C	HDPE	Round	6	25.85	0.012	1.01	0.31	0.61	3.08	3.08	3.0	0.14	1014.81	1015.31	1014.55	1015.05	3.36	3.04	1015.38	1014.95	I	1018.67
				100	1.25		10.32	0.10			0.05		10.32	0.52									0.52			3.45	4.2	0.12										
	10E	0.01	0.85	10	1	5.00	7.35	0.06	0.06	0.85	0.05	5.00	7.35	0.38	10E	10B	HDPE	Round	8	51.32	0.012	0.99	0.38	1.30	3.72	3.18	2.9	0.27	1014.55	1015.22	1014.04	1014.71	3.47	3.28	1014.91	1014.44	I	1018.69
				100	1.25		10.32	0.10			0.06		10.32	0.62									0.62			3.65	3.8	0.23										
	10D	0.01	0.85	10	1	5.00	7.35	0.06	0.07	0.85	0.06	5.00	7.35	0.44	10D	10A	HDPE	Round	10	24.73	0.012	0.85	0.44	2.18	3.99	3.10	3.0	0.13	1014.04	1014.87	1013.83	1014.66	4.28	3.46	1014.35	1014.23	I	1019.15
				100	1.25		10.32	0.10			0.07		10.32	0.72									0.72			3.55	3.9	0.12										
	10C	0.02	0.85	10	1	5.00	7.35	0.13	0.09	0.85	0.08	5.00	7.35	0.56	10C	10B	HDPE	Round	10	52.35	0.012	0.50	0.56	1.66	3.05	2.75	4.0	0.32	1013.83	1014.66	1013.57	1014.40	3.43	3.59	1014.24	1014.02	I	1018.09
				100	1.25		10.32	0.21			0.09		10.32	0.93									0.93			3.13	5.3	0.28										
	10B	0.08	0.85	10	1	5.00	7.35	0.50	0.17	0.85	0.14	5.00	7.35	1.06	10B	10A	HDPE	Round	10	37.63	0.012	0.50	1.06	1.68	3.08	3.24	5.7	0.19	1013.57	1014.40	1013.38	1014.21	3.59	3.91	1014.19	1014.02	I	1017.99
				100	1.25		10.32	0.83			0.17		10.32	1.75									1.75			3.49	8.6	0.18										
	10A	0.04	0.85	10	1	5.00	7.35	0.24	0.21	0.85	0.18	5.00	7.35	1.30	10A	7A	HDPE	Round	10	19.60	0.012	0.97	1.30	2.32	4.26	4.37	6.3	0.07	1013.38	1014.21	1013.19	1014.02	3.91	3.98	1014.00	1013.93	I	1018.12
				100	1.25		10.32	0.39			0.21		10.32	2.15									2.15			4.83	7.5	0.07										
	7A																																					1018.00

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Drainage Calculations

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

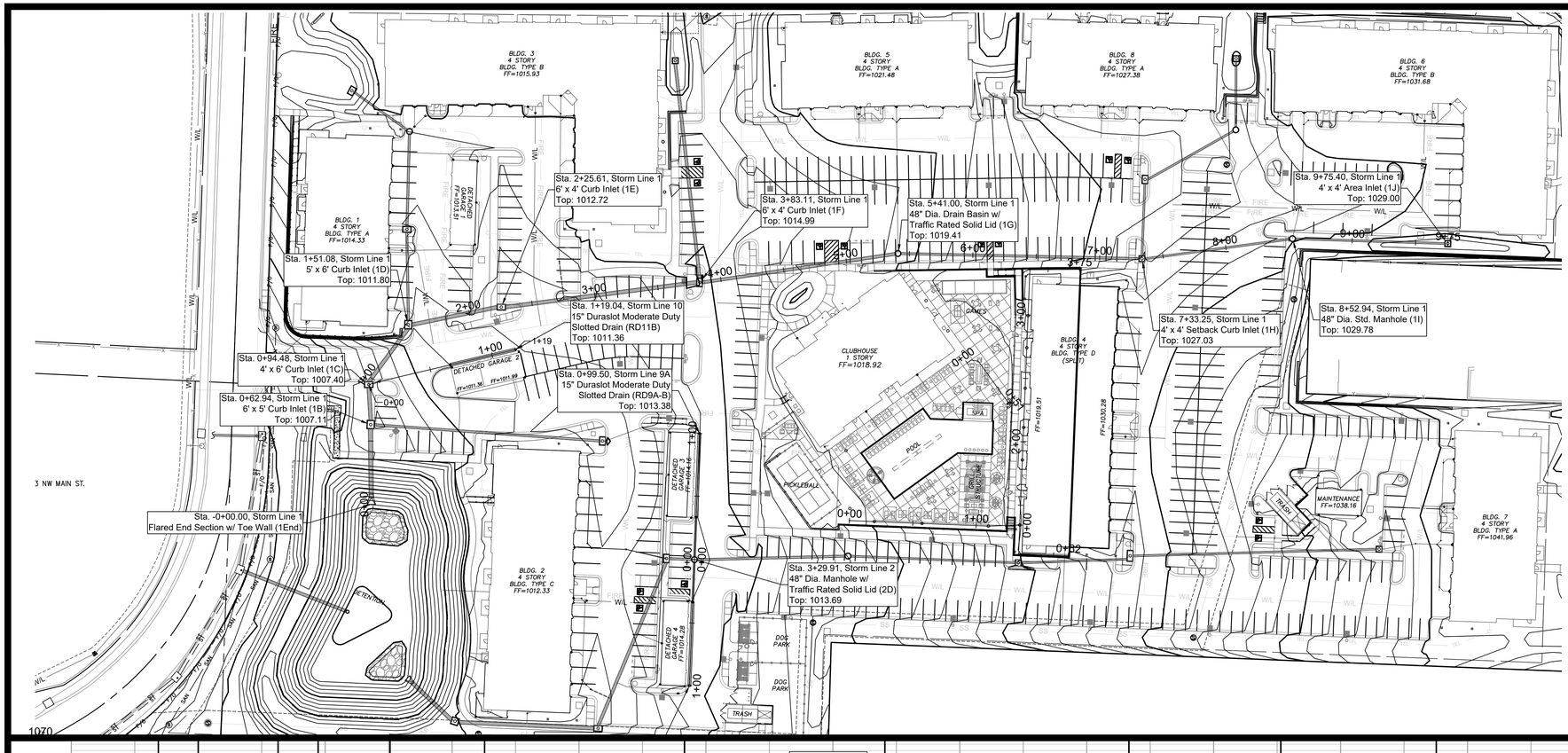
DRAWN BY TUA | CHECKED BY CMP

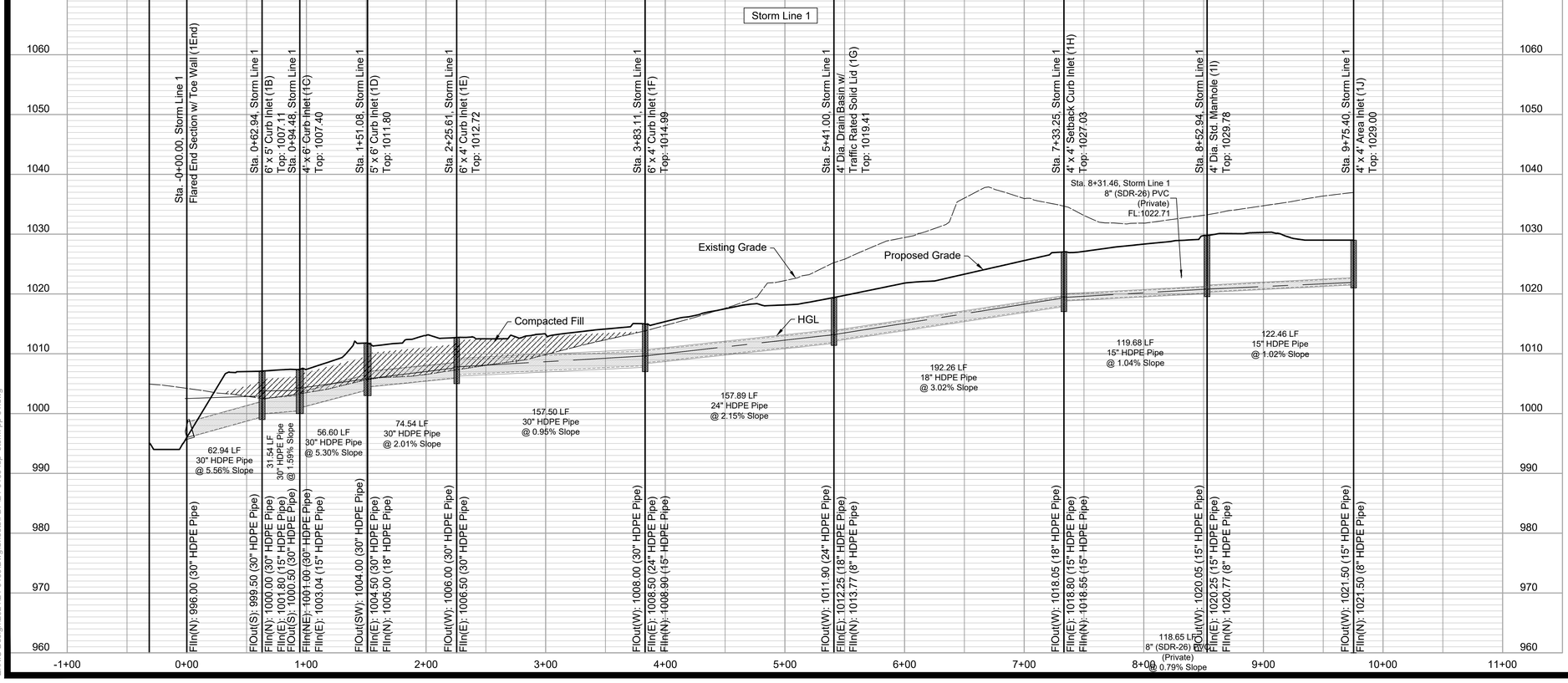
Renaissance Infrastructure Consulting
816.800.0950
WWW.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C34

cporter
May 06, 2025 - 11:31am
Z:\RC Design\2024\24-0166\Dwg\S





Fill to be Placed to 3' Above top of Proposed Pipe and Compacted Prior to Pipe Installation. Compacted to 95% of the Material's Maximum Dry Density per Site Geo-Tech Report.

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Storm Plan & Profile 1

NORTH
1"=50'
0 25' 50'
10'
0
1"=10'

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

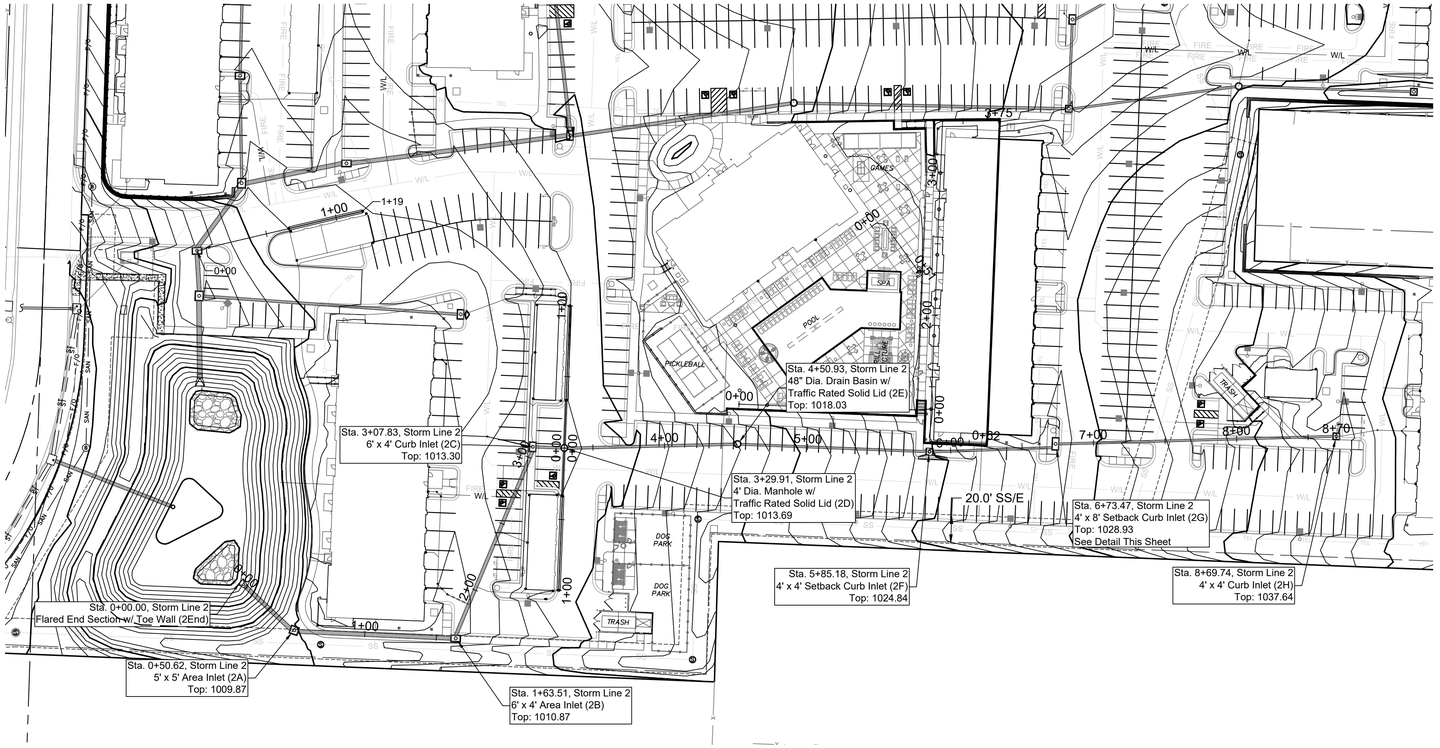
DRAWN BY TUA
CHECKED BY CMP

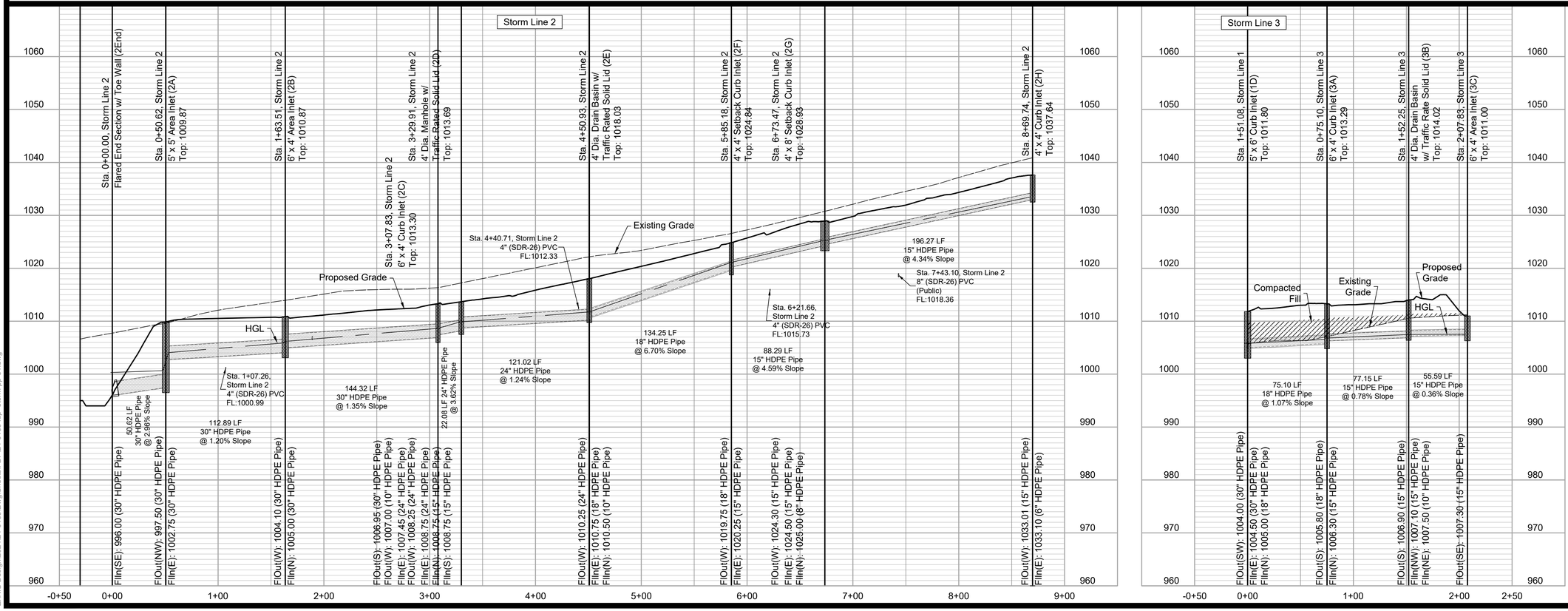
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-consult.com
400 E 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
10/29/25

Sheet
C35

cporter
May 08, 2025 - 11:31am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- storm pp-01.dwg





Fill to be Placed to 3' Above top of Proposed Pipe and Compacted Prior to Pipe Installation. Compacted to 95% of the Material's Maximum Dry Density per site GeoTech Report

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Storm Plan & Profile 2

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

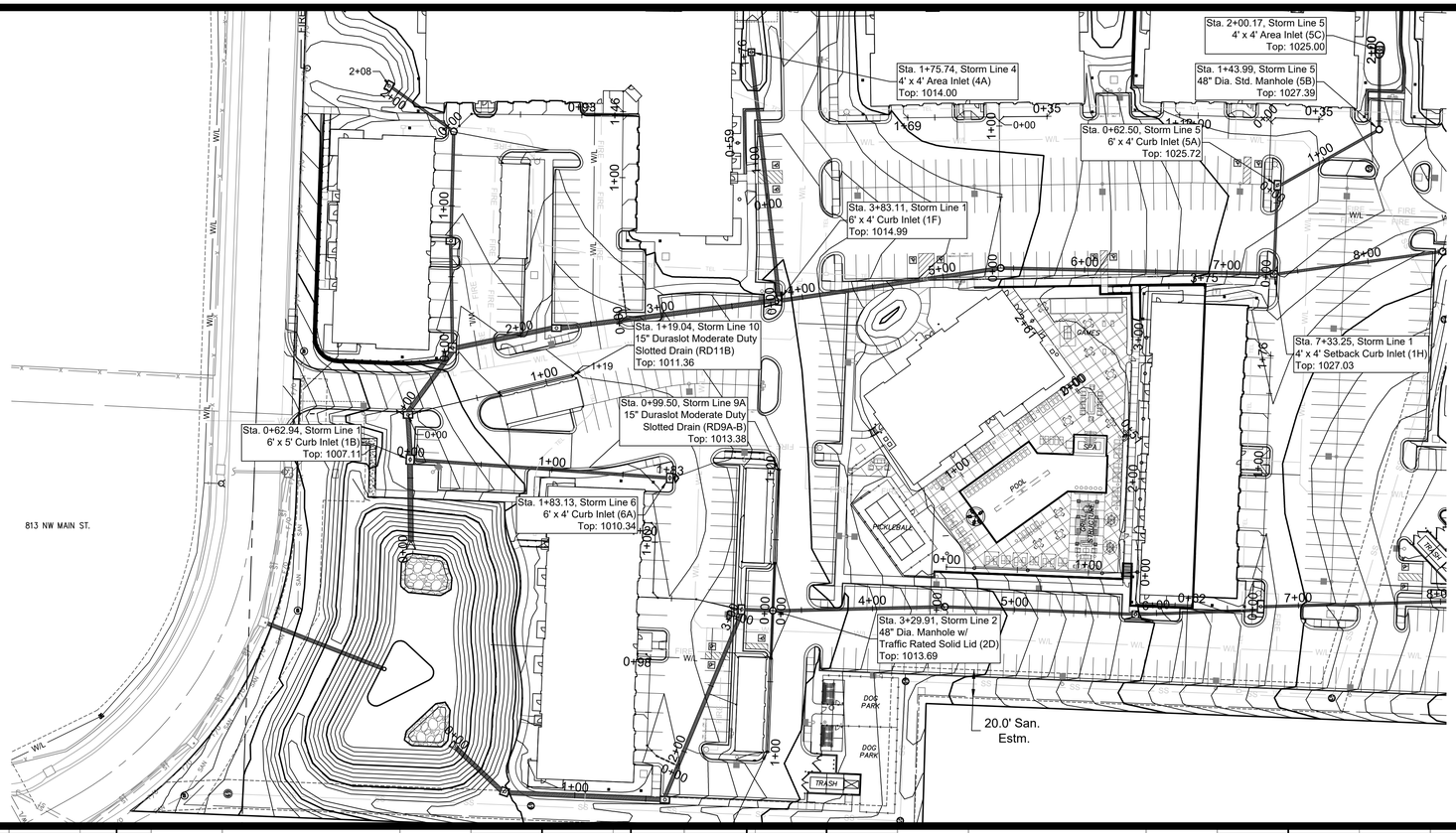
DRAWN BY TUA | CHECKED BY CMP

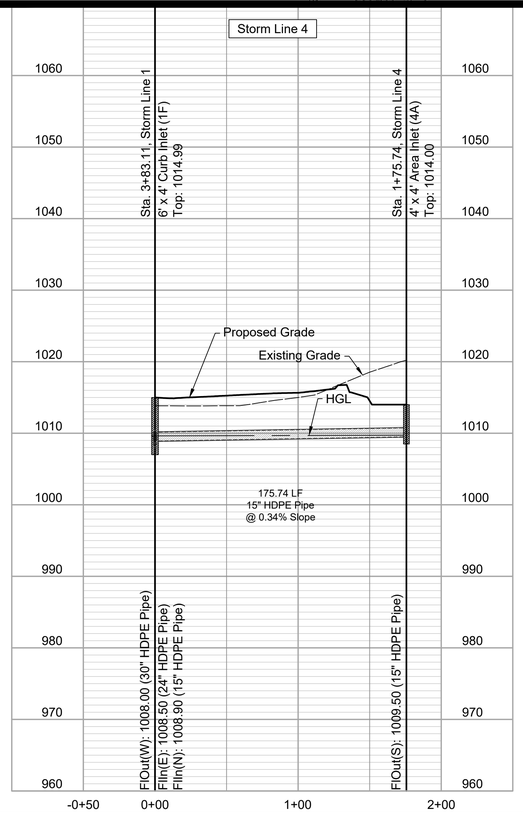
Renaissance Infrastructure Consulting
816.800.0950
www.ric-consult.com
400 E. 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033630

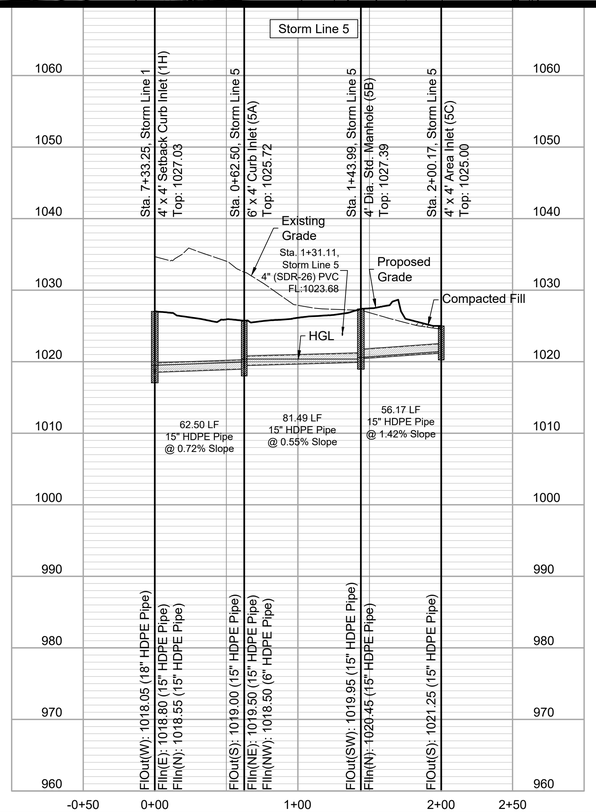
STATE OF MISSOURI
MITCHELL K. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
10/01/25

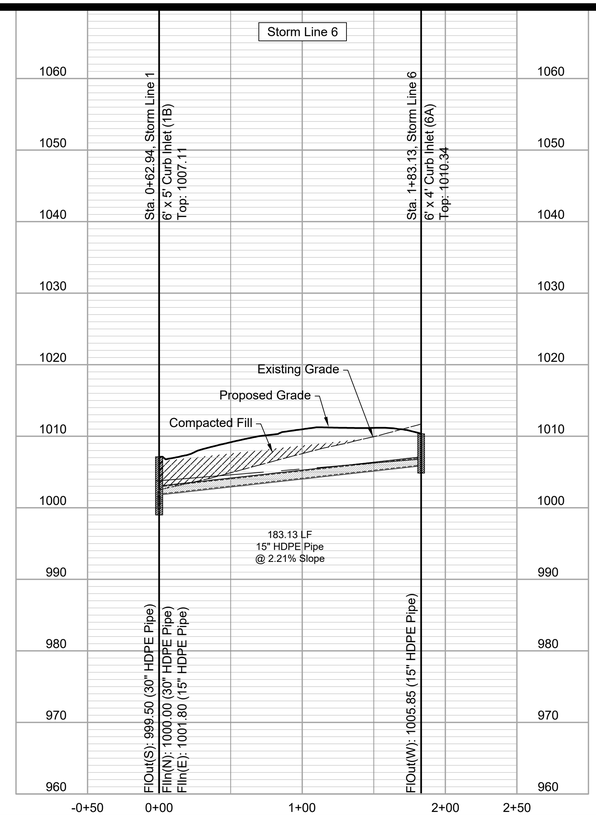
Sheet
C36

cporter
May 09, 2025 - 10:27am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- storm pp-01.dwg









Fill to be Placed to 3' Above top of Proposed Pipe and Compacted Prior to Pipe Installation.
Compacted to 95% of the Material's Maximum Dry Density per site GeoTech Report

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Storm Plan & Profile 3

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

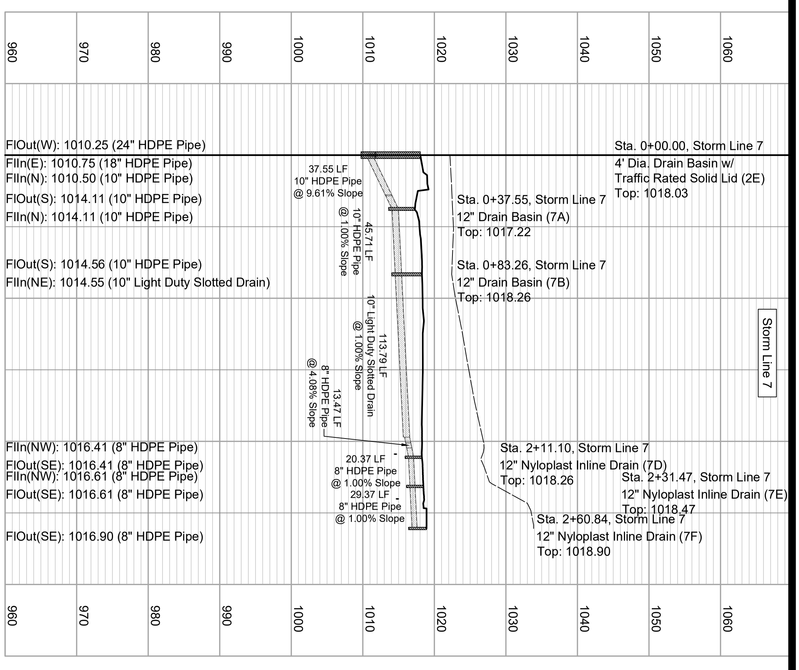
DRAWN BY TUA
CHECKED BY CMP

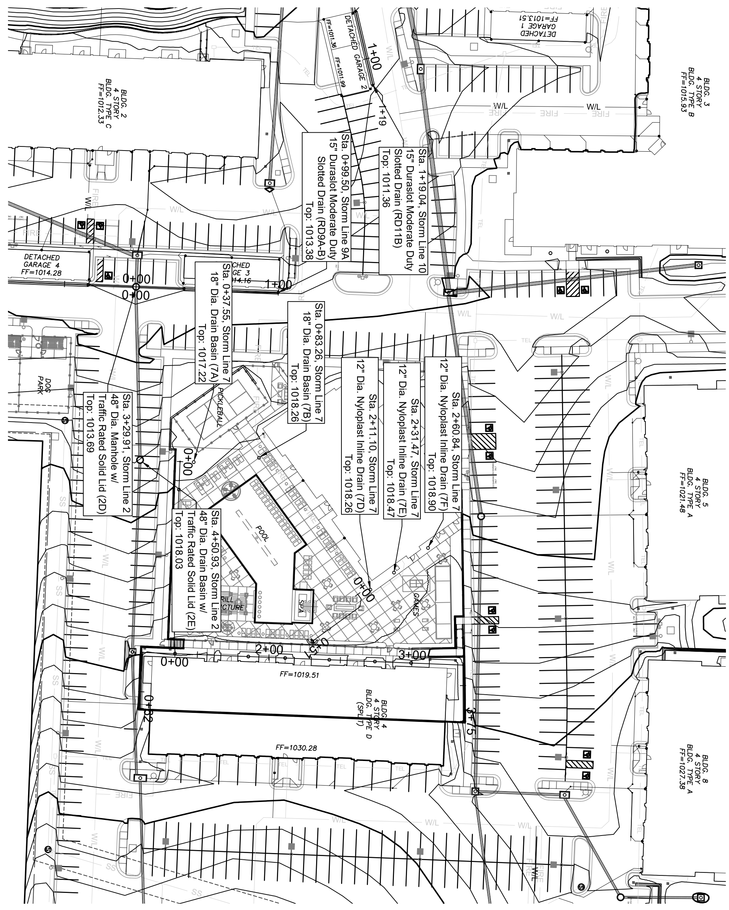
Renaissance Infrastructure Consulting
816.800.0950
WWW.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority, E-2010033630

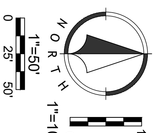
STATE OF MISSOURI
MITCHELL ELI SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C37

cporter
May 09 , 2025- 10:26am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- storm pp-01.dwg







Fill to be Placed to 3' Above top of Proposed Pipe and Compacted Prior to Pipe Installation. Compacted to 95% of the Material's Maximum Dry Density per Site Geo-Tech Report.

Sheet C38

MICHAEL E. EUPPERT
NUMBER PE-2009009415
STATE OF MISSOURI
PROFESSIONAL ENGINEER
MY COMMISSION EXPIRES DEC 31, 2025

Renaissance Infrastructure Consulting
400 E 17th Street
Kansas City, Missouri 64108
816.800.0950
www.RIC-CONSULT.COM

DRAWN BY: TJA
CHECKED BY: CMP

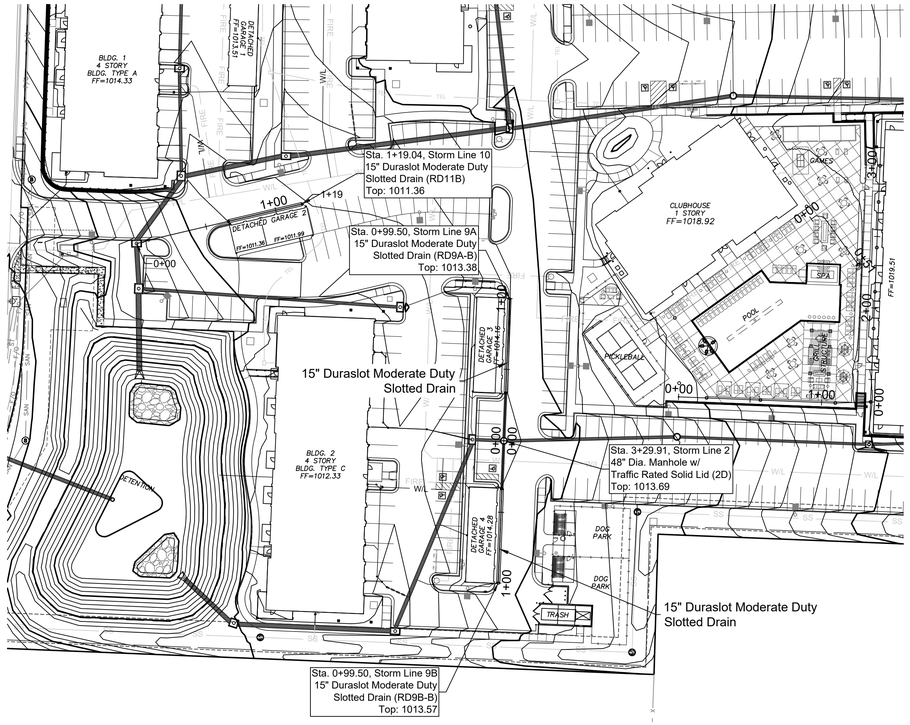
NO	DATE	REVISION
1	08/15/2024	FDP Submittal
2	09/19/2024	Permit Set
3	10/30/2024	FDP Comments 2
4	10/25/2024	City Comments 1
5	11/15/2024	City Comments 2
6	12/04/24	PKG CITY COMMENT
7	01/17/2025	Storm Line 8
8	01/29/2025	Construction Set
9	02/26/2025	ASI 1
10	05/12/2025	ASI 2

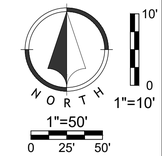
Storm Plan & Profile 4

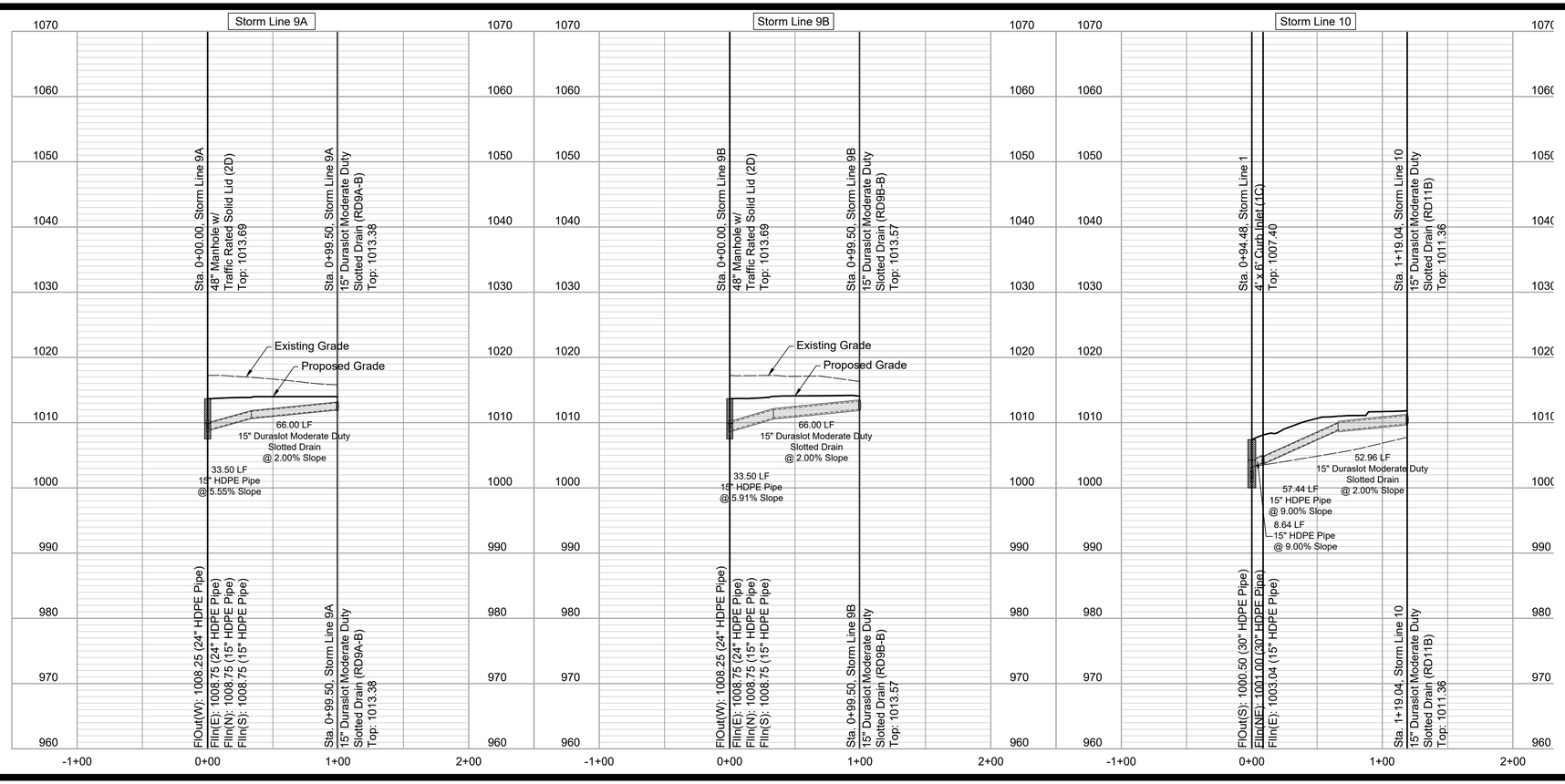
Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

MO Certificate of Authority: E-2010033630







Fill to be Placed to 3' Above top of Proposed Pipe and Compacted Prior to Pipe Installation. Compacted to 95% of the Material's Maximum Dry Density per Site Geo-Tech Report.

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Storm Plan & Profile 5

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

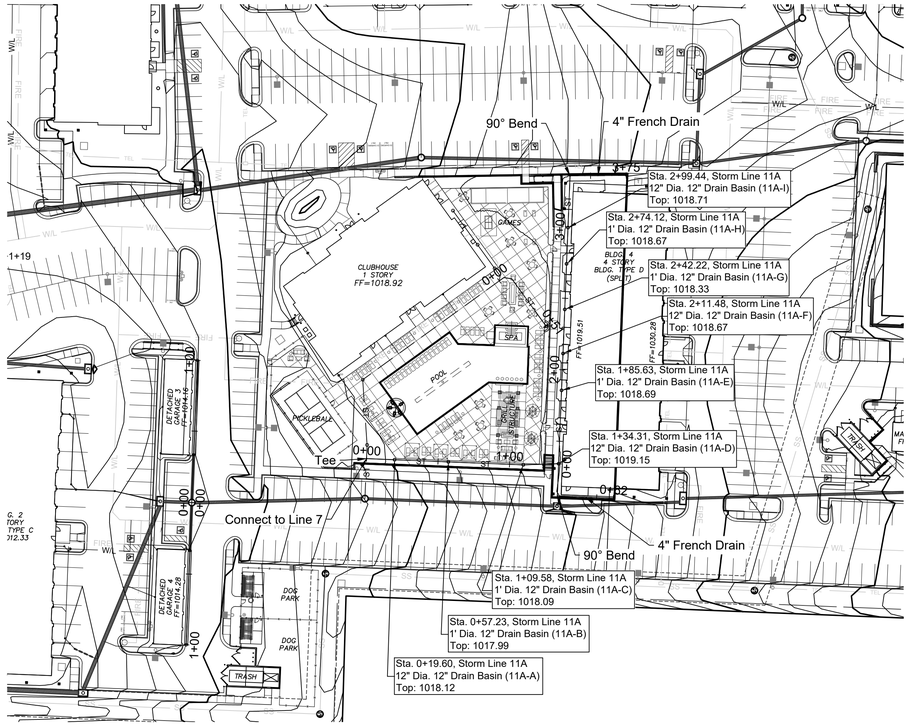
DRAWN BY TUA | CHECKED BY CMP

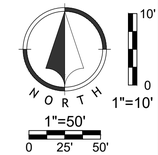
Renaissance Infrastructure Consulting
816.800.0950
www.ric-consult.com
400 E. 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033630

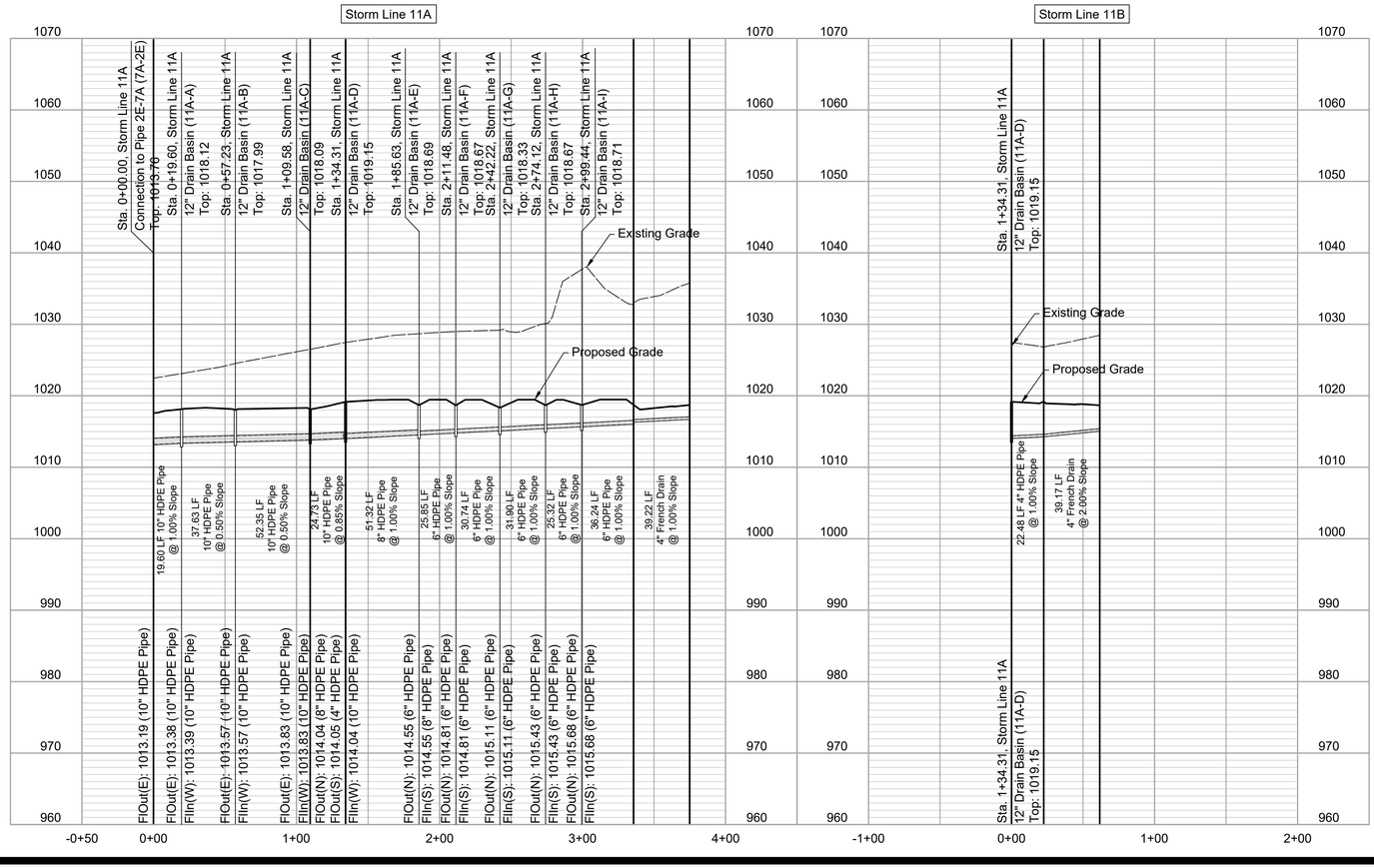
STATE OF MISSOURI
MICHELL SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
2025/05/12

Sheet
C39

cporter
May 08, 2025 - 11:31am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- storm pp-01.dwg







Fill to be Placed to 3' Above top of Proposed Pipe and Compacted Prior to Pipe Installation. Compacted to 95% of the Material's Maximum Dry Density per Site Geo-Tech Report.

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Storm Plan & Profile 6

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

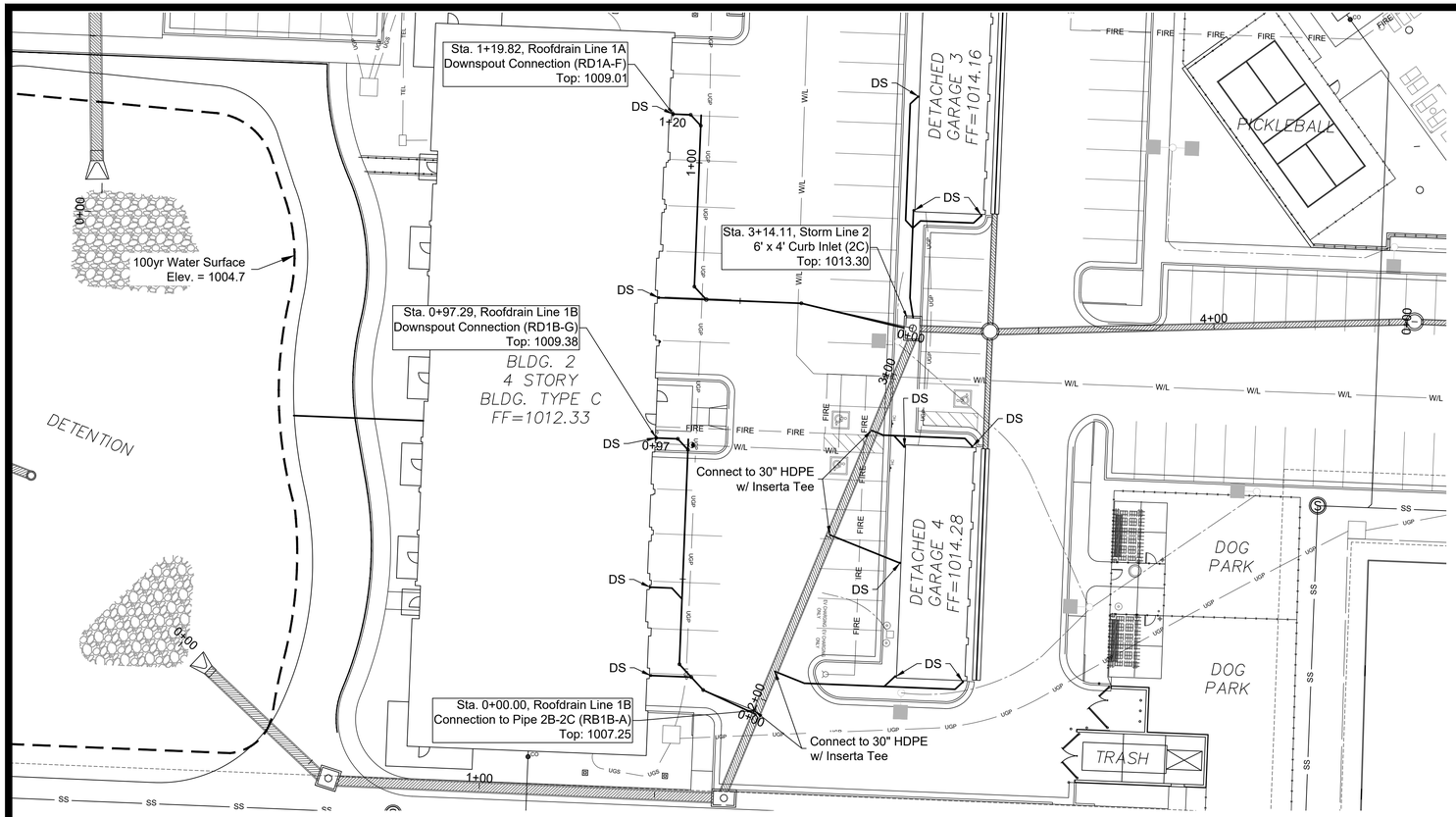
DRAWN BY TUA | CHECKED BY CMP

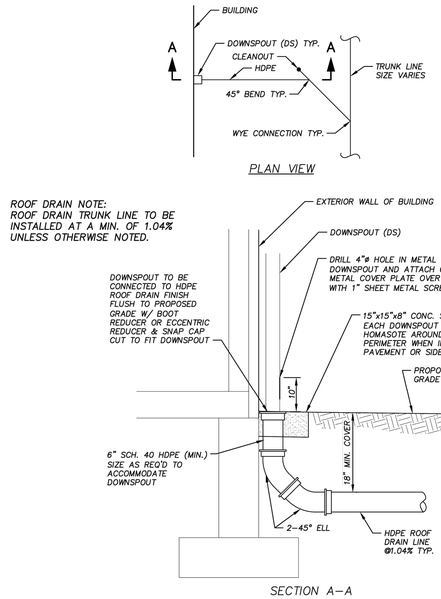
Renaissance Infrastructure Consulting
400 E 17th Street
Kansas City, Missouri 64108
816.800.0950
www.ric-consult.com
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL K. SLATTERY
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLATTERY PE-2002003418
09/25

Sheet
C40

cporter
May 06, 2025 - 11:32am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- storm pp-01.dwg



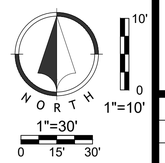


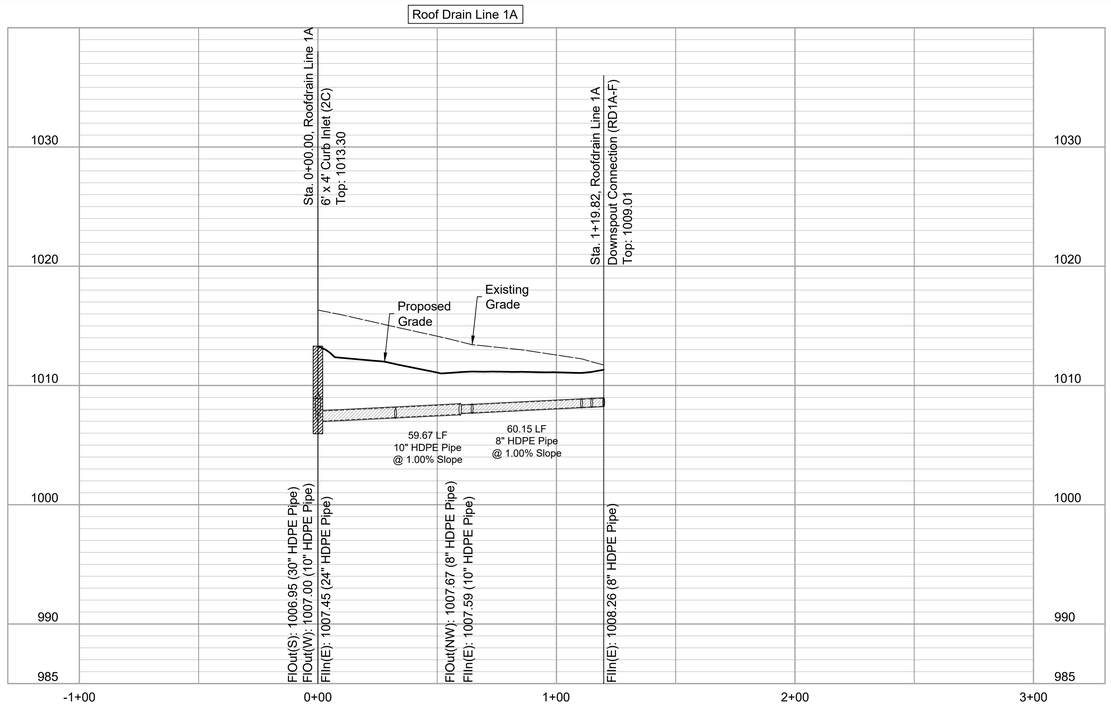
DOWNSPOUT CONNECTION DETAIL

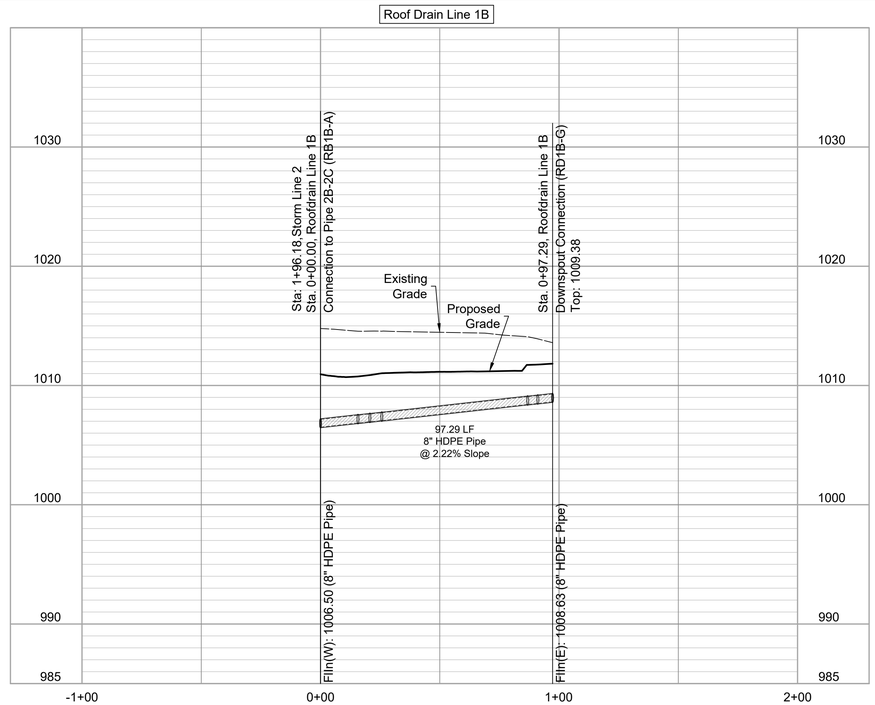
N.T.S.

<u>ROOF DRAIN NOTES:</u>

1. ALL ROOF DRAIN LINES AND FITTINGS SHALL BE DUAL WALL SMOOTH INTERIOR ADS "N-12" HDPE PIPE (OR APPROVED EQUAL) WITH SOIL TIGHT JOINTS AND MANUFACTURED FITTINGS.
2. LINEAL FOOTAGE OF ROOF DRAIN LINES ARE HORIZONTAL MEASUREMENTS. THE CONTRACTOR SHALL INCLUDE ALL BENDS, REDUCERS, WYES OR OTHER FITTINGS AND ADDITIONAL LENGTHS OF PIPE AS NECESSARY FOR PROPER INSTALLATION.
3. ALL FITTINGS FOR DOWN SPOUT CONNECTIONS SHALL INCLUDE ECCENTRIC REDUCERS, CAPS SHALL BE FINISHED FLUSH WITH THE PROPOSED GRADE. FLUSH CAPS SHALL BE CUT TO MATCH THE DOWN SPOUT SIZE PLUS 1/4 TO 1/2 INCH. THE TINNER SHALL PROVIDE A HAND HOLE IN EACH DOWN SPOUT WITHIN 12" ABOVE FINISHED GRADE.
4. ALL ROOF DRAIN LINES SHALL HAVE A MINIMUM SLOPE OF 1% UNLESS OTHERWISE NOTED.







Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Roof Drain Plan & Profile 1

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

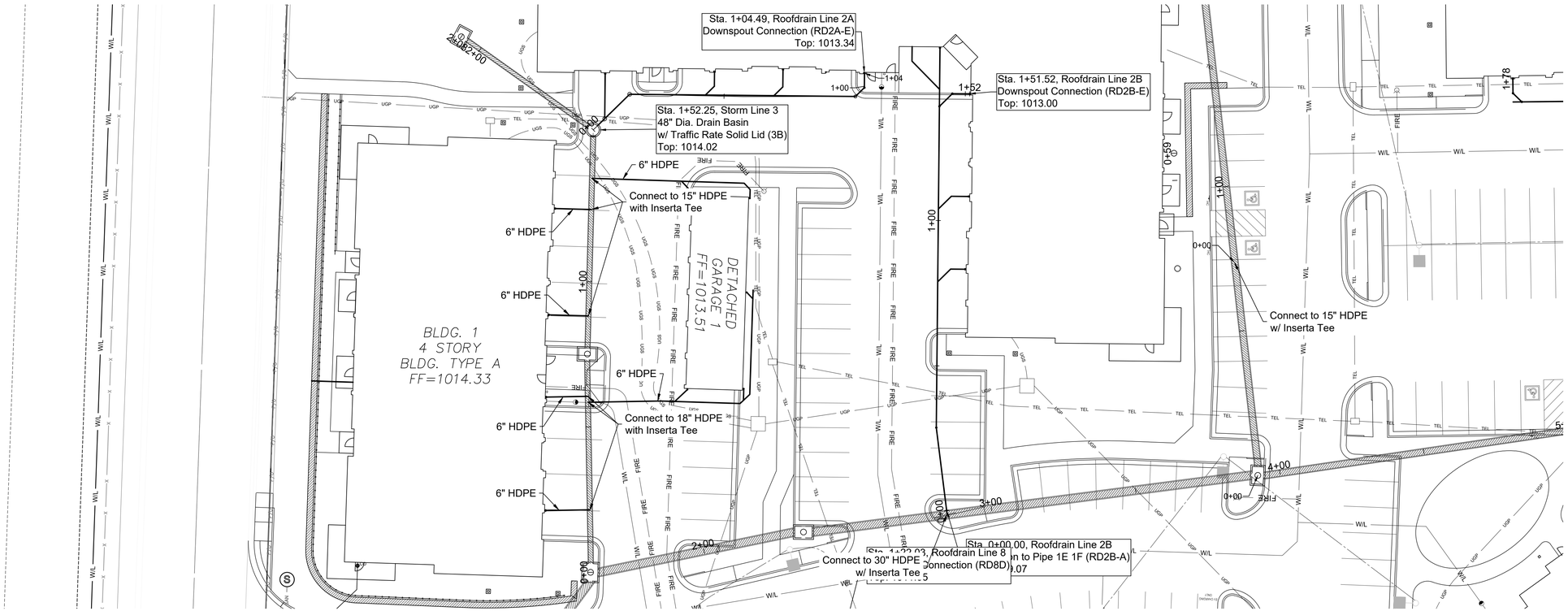
DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
WWW.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

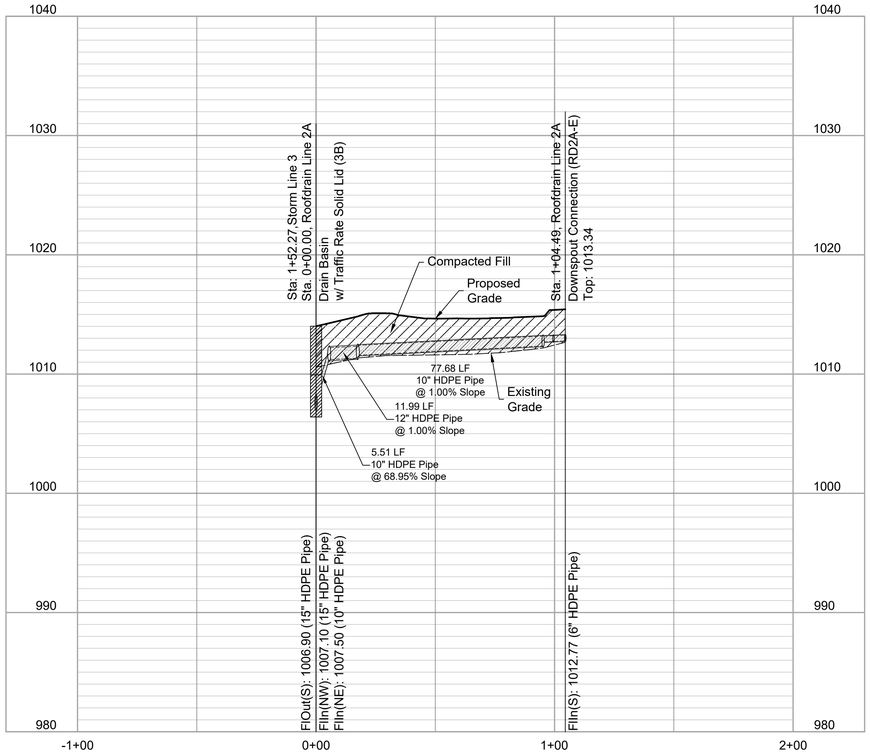
STATE OF MISSOURI
MITCHELL KLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
12/2/25
MITCHELL E. SLUTTER-PE-2002003418

Sheet
C41

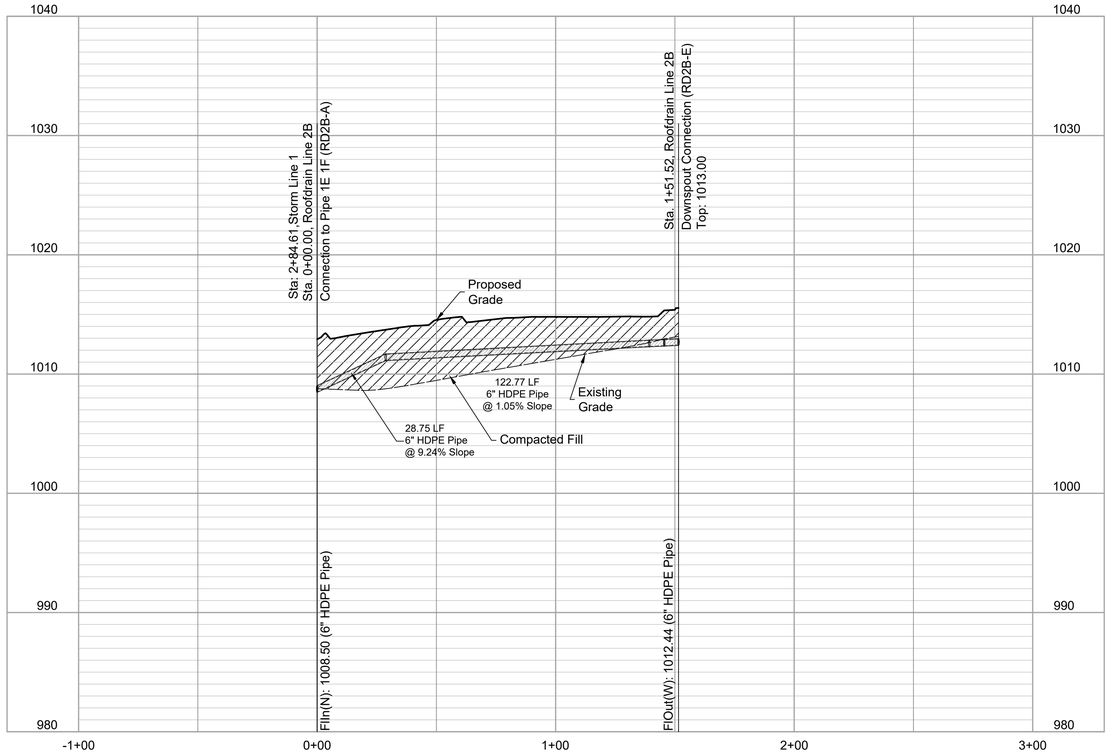
cporter
May 06, 2025 - 11:32am
Z:\RIC Design\2024\24-0166\DwgSheets\FDP\24-0166 FDP- ROOFDRAIN PP-01.dwg



Roof Drain Line 2A



Roof Drain Line 2B



Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Roof Drain Plan & Profile 2

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY	CHECKED BY
TUA	CMP

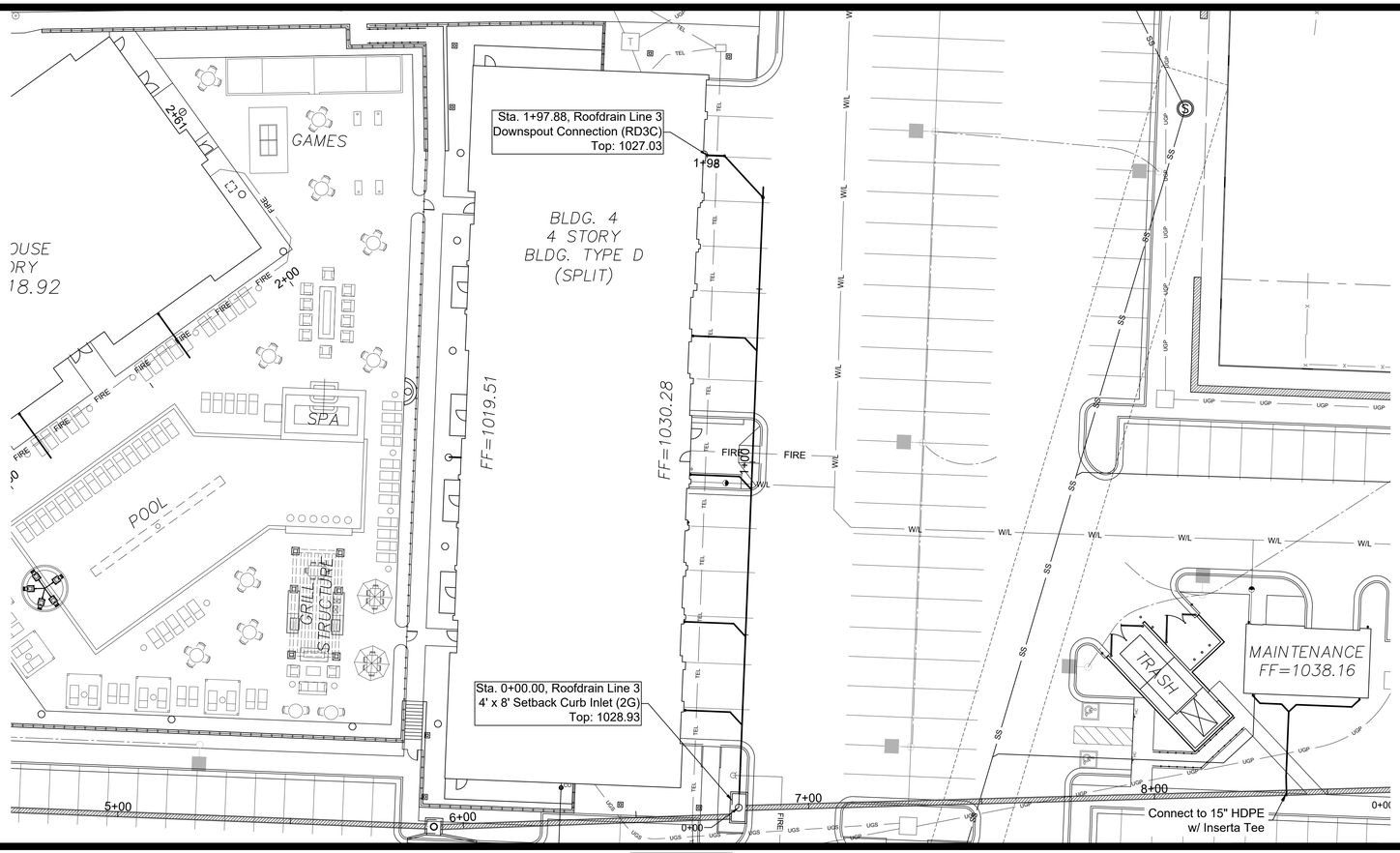
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E. 17TH STREET
KANSAS CITY, MISSOURI 64108

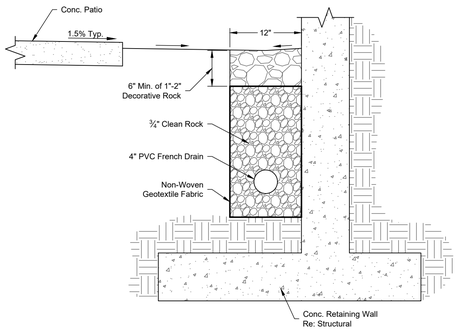
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025.05.09
MITCHELL E. SLUTTER PE-2002003418

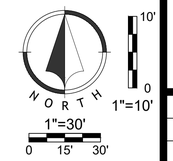
Sheet
C42

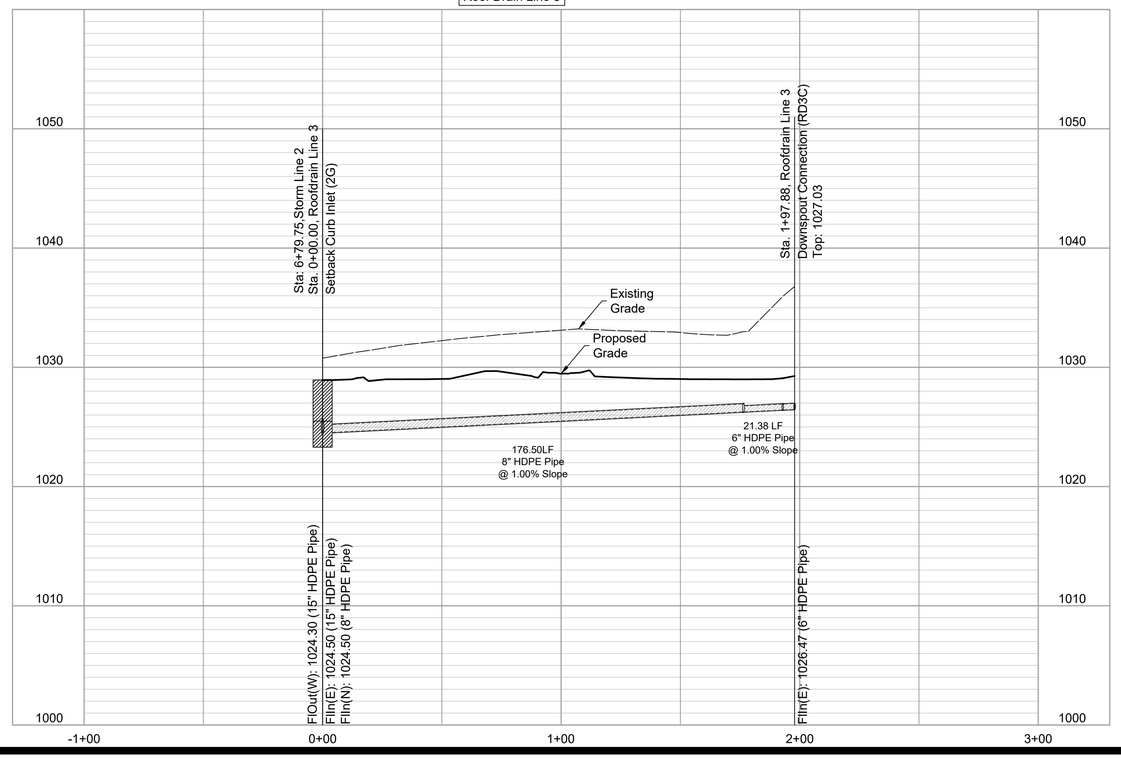
cporter
May 08, 2025-11:33am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- ROOFDRAIN PP-01.dwg





SUNKEN COURTYARD DRAINAGE DETAIL
Not to Scale





Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Roof Drain Plan & Profile 3

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

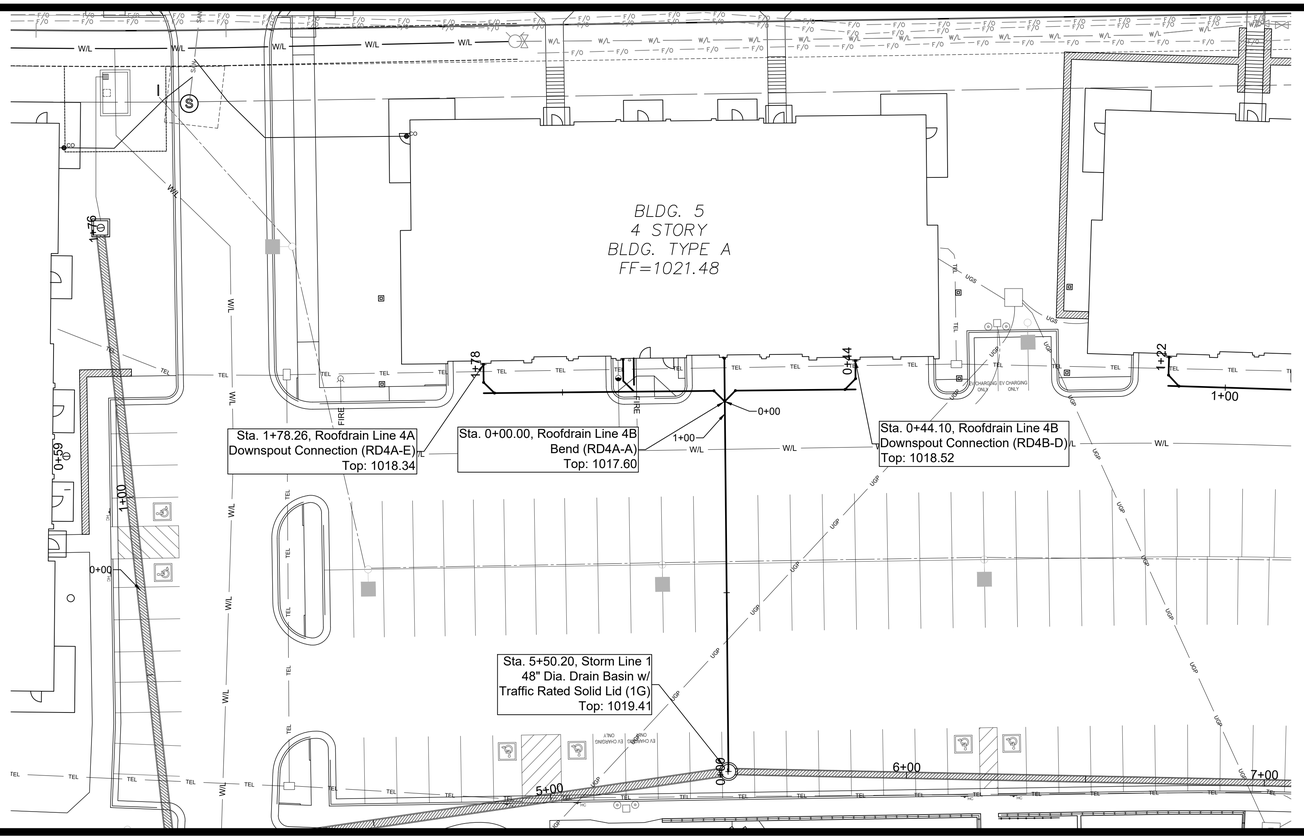
DRAWN BY	CHECKED BY
TUA	CMP

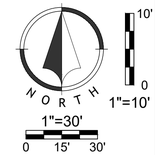
Renaissance Infrastructure Consulting
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
www.RIC-CONSULT.com
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
03/25
MITCHELL E. SLUTTER PE-2002003418

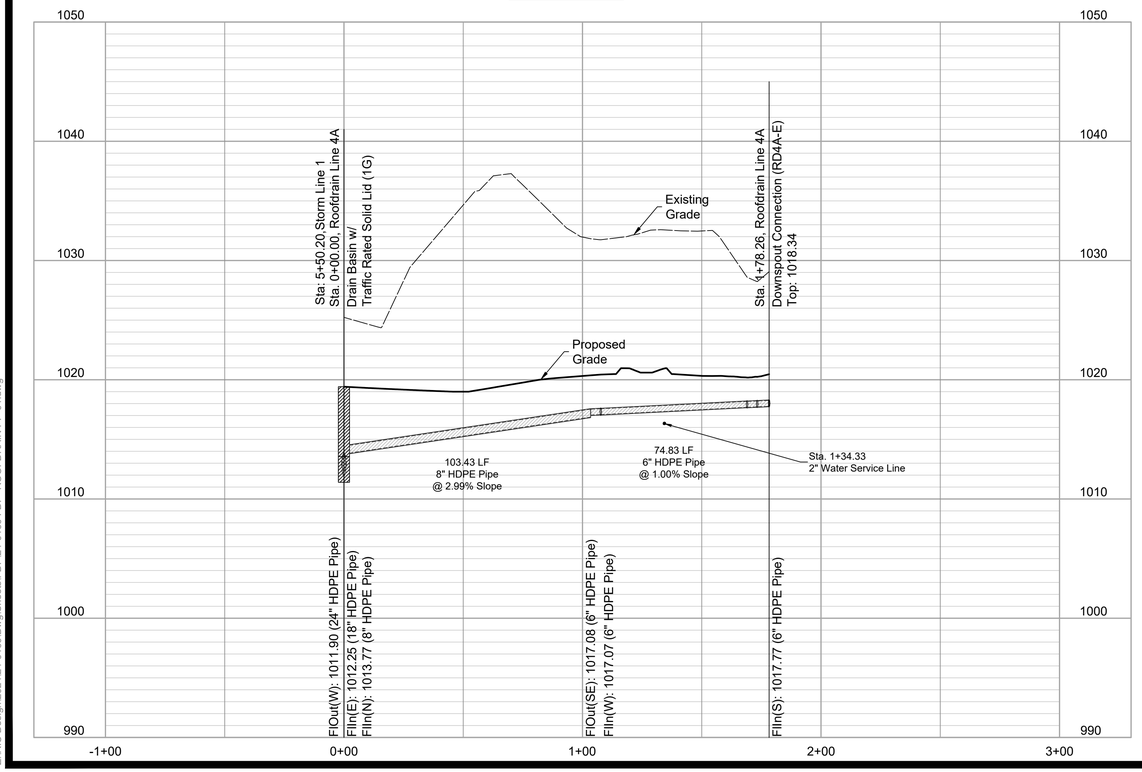
Sheet
C43

cporter
May 06 , 2025-11:33am
Z:\RIC Design\2024\24-0166\Dwgt\Sheets\FDP\24-0166 FDP- ROOFDRAIN PP-01.dwg

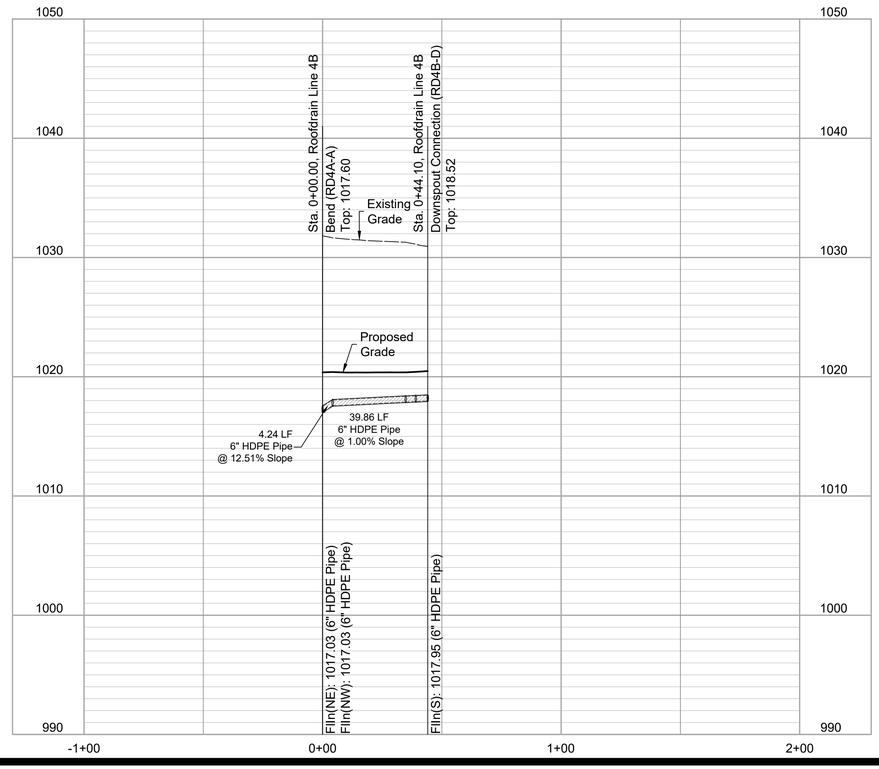




Roof Drain Line 4A



Roof Drain Line 4B



Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Roof Drain Plan & Profile 4

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

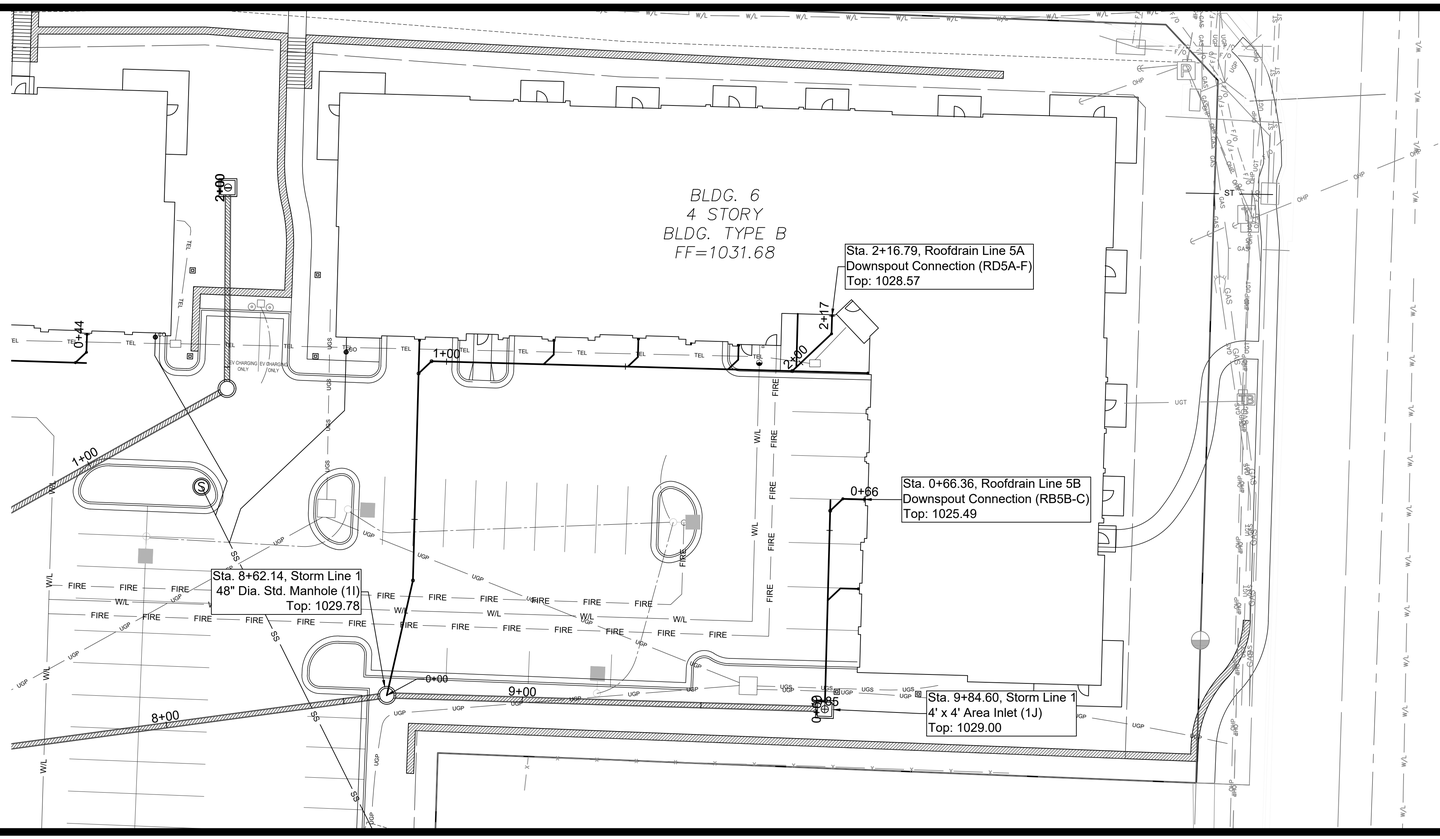
DRAWN BY: TUA
CHECKED BY: CMP

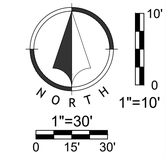
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E. 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

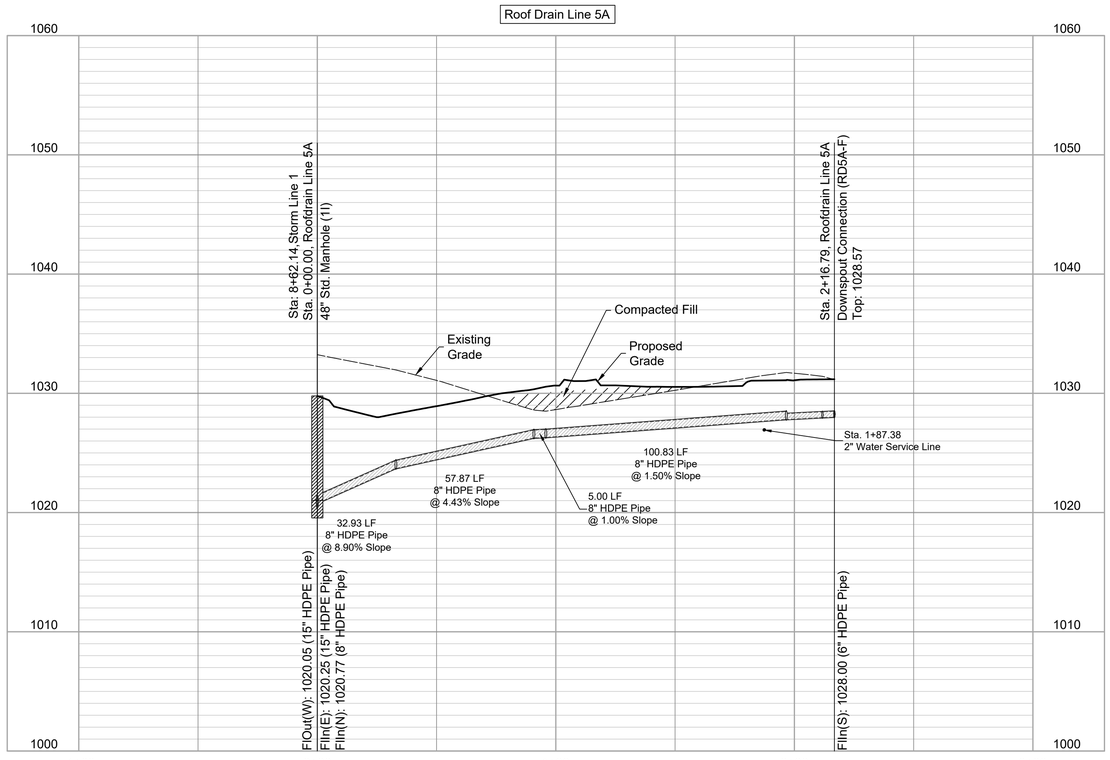
STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL E. SLUTTER PE-2002003418

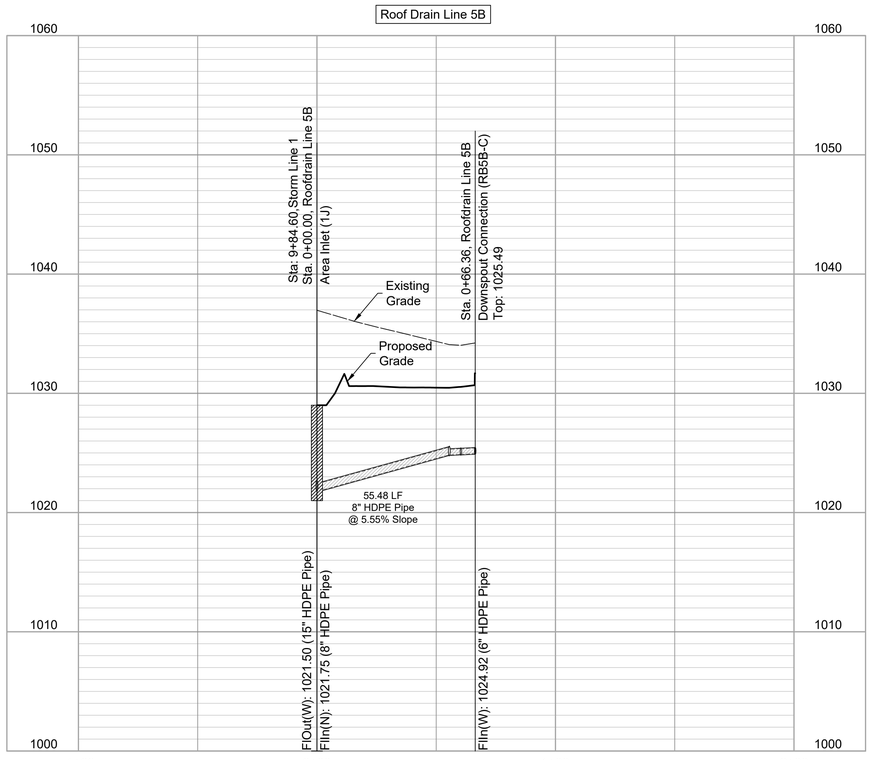
Sheet
C44

cporter
May 08, 2025-11:33am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- ROOFDRAIN PP-01.dwg









Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Roof Drain Plan & Profile 5

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

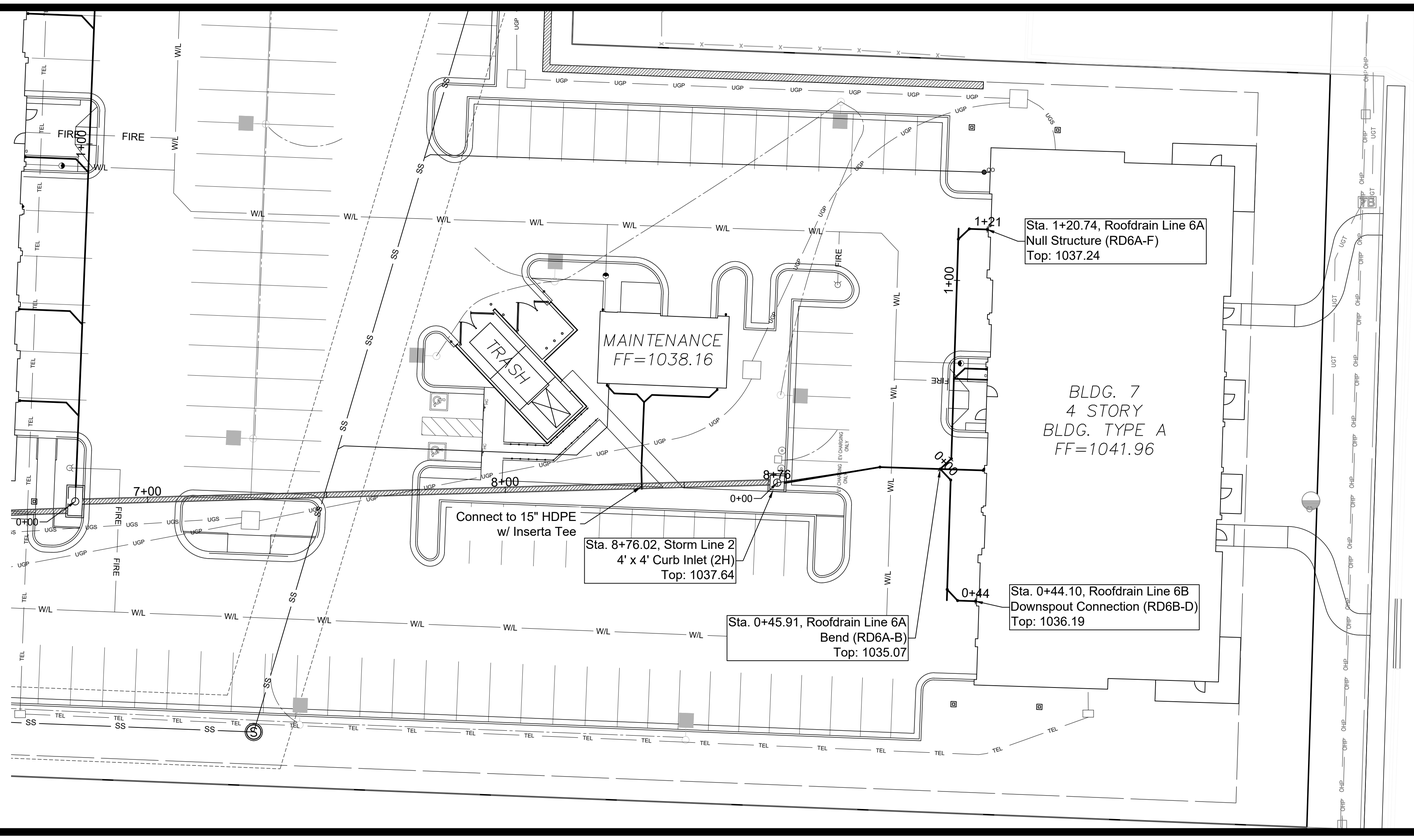
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E. 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

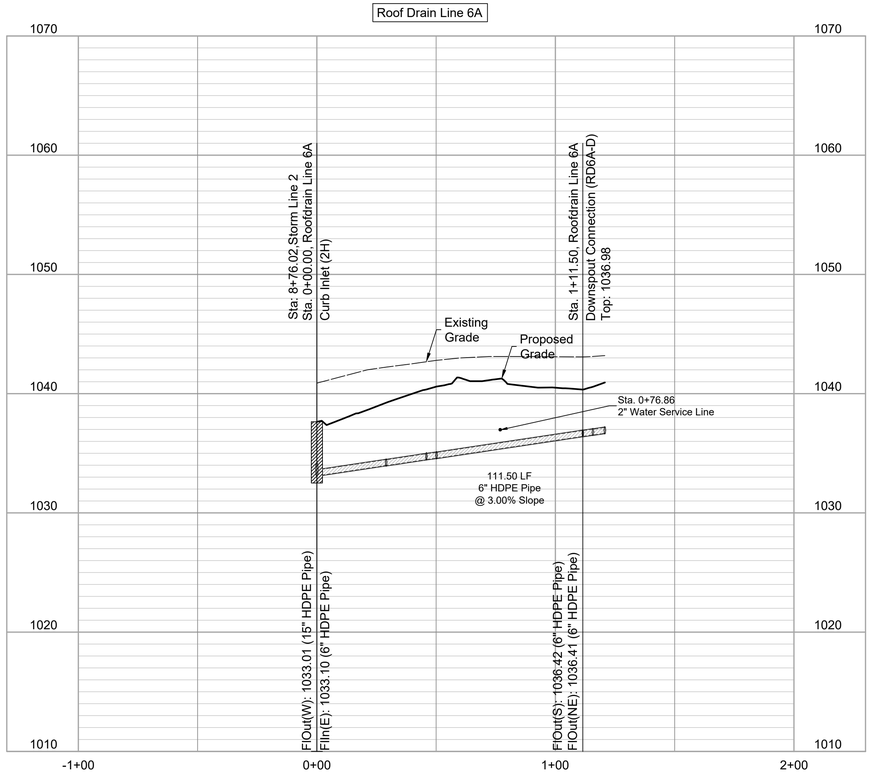
STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025/05/12
MITCHELL E. SLUTTER PE-2002003418

Sheet
C45

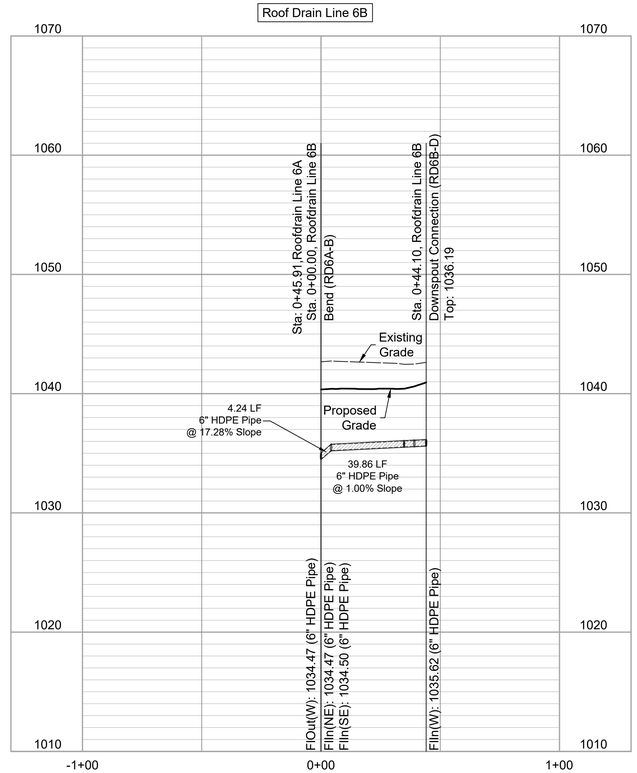
cporter
May 08, 2025 - 11:33am
Z:\RIC Designs\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- ROOFDRAIN PP-01.dwg



Roof Drain Line 6A



Roof Drain Line 6B



Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Roof Drain Plan & Profile 6

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

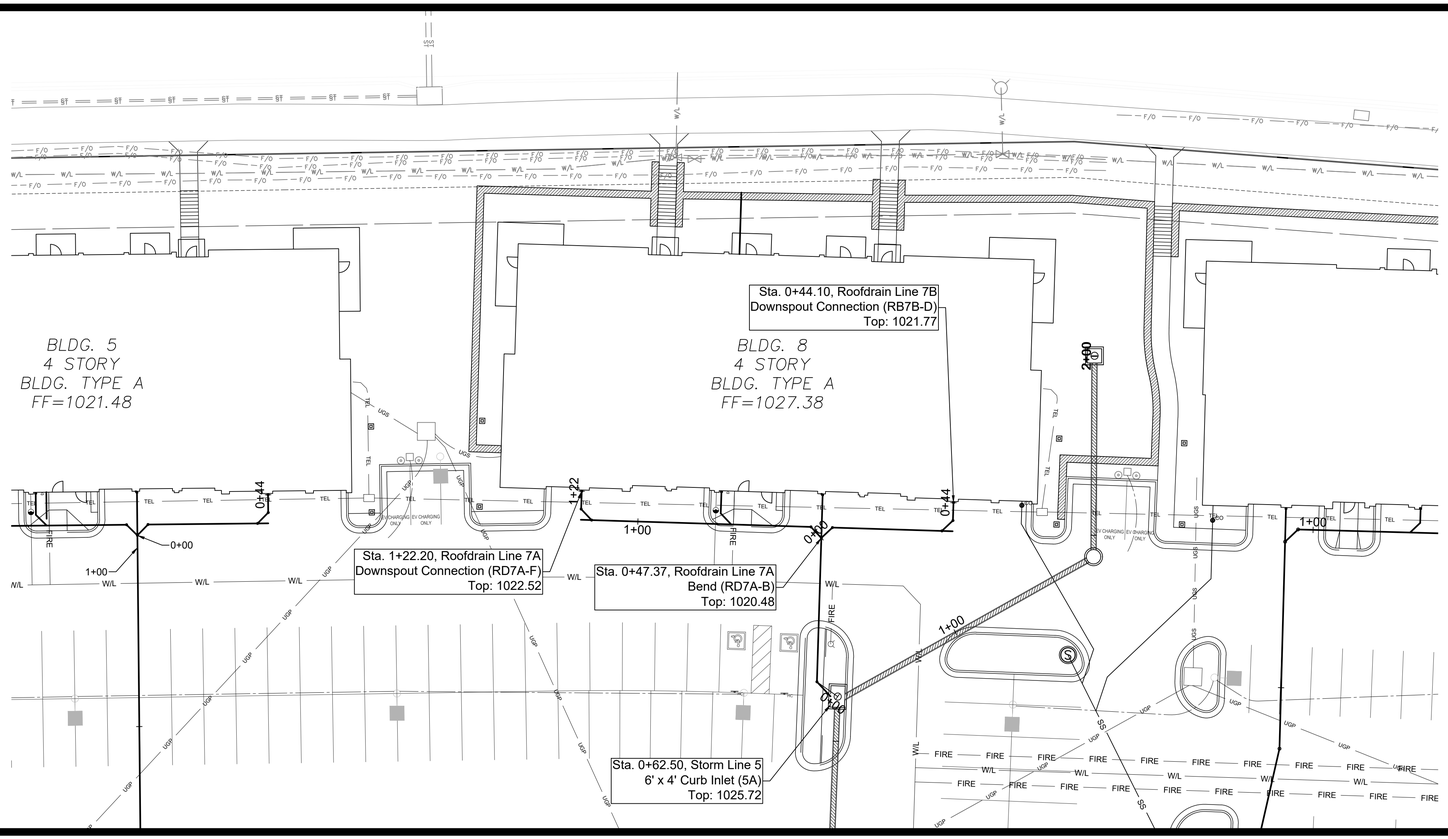
DRAWN BY TUA | CHECKED BY CMP

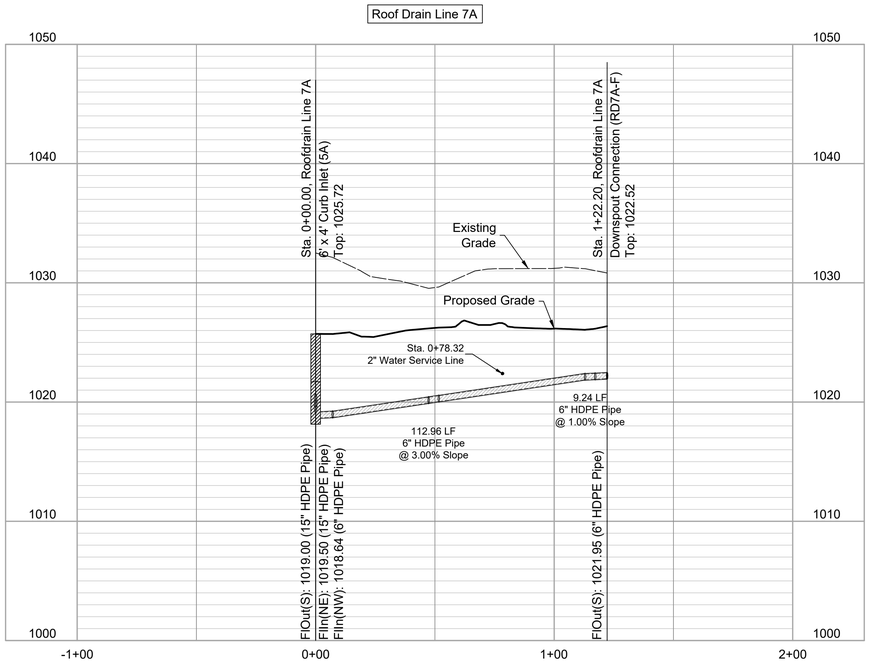
Renaissance Infrastructure Consulting
400 E. 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
www.RIC-CONSULT.COM
MO Certificate of Authority: E-2010033630

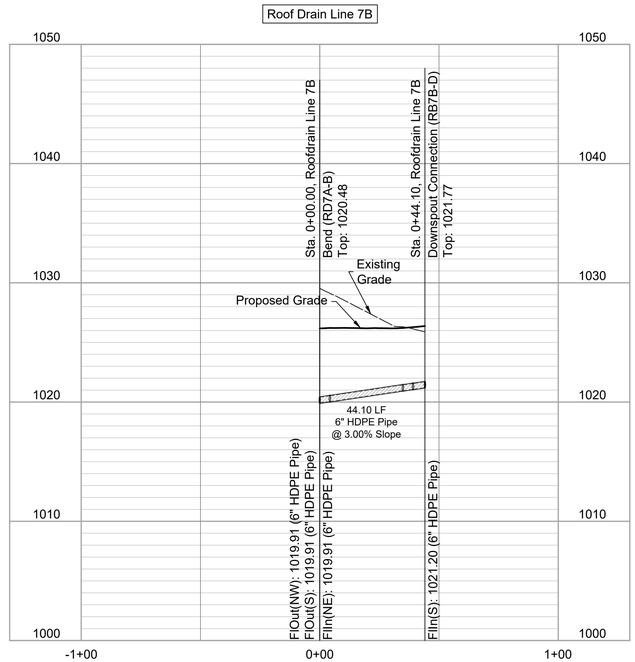
STATE OF MISSOURI
MITCHELL SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C46

cporter
May 08, 2025-11:33am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- ROOFDRAIN PP-01.dwg







Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Roof Drain Plan & Profile 7

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

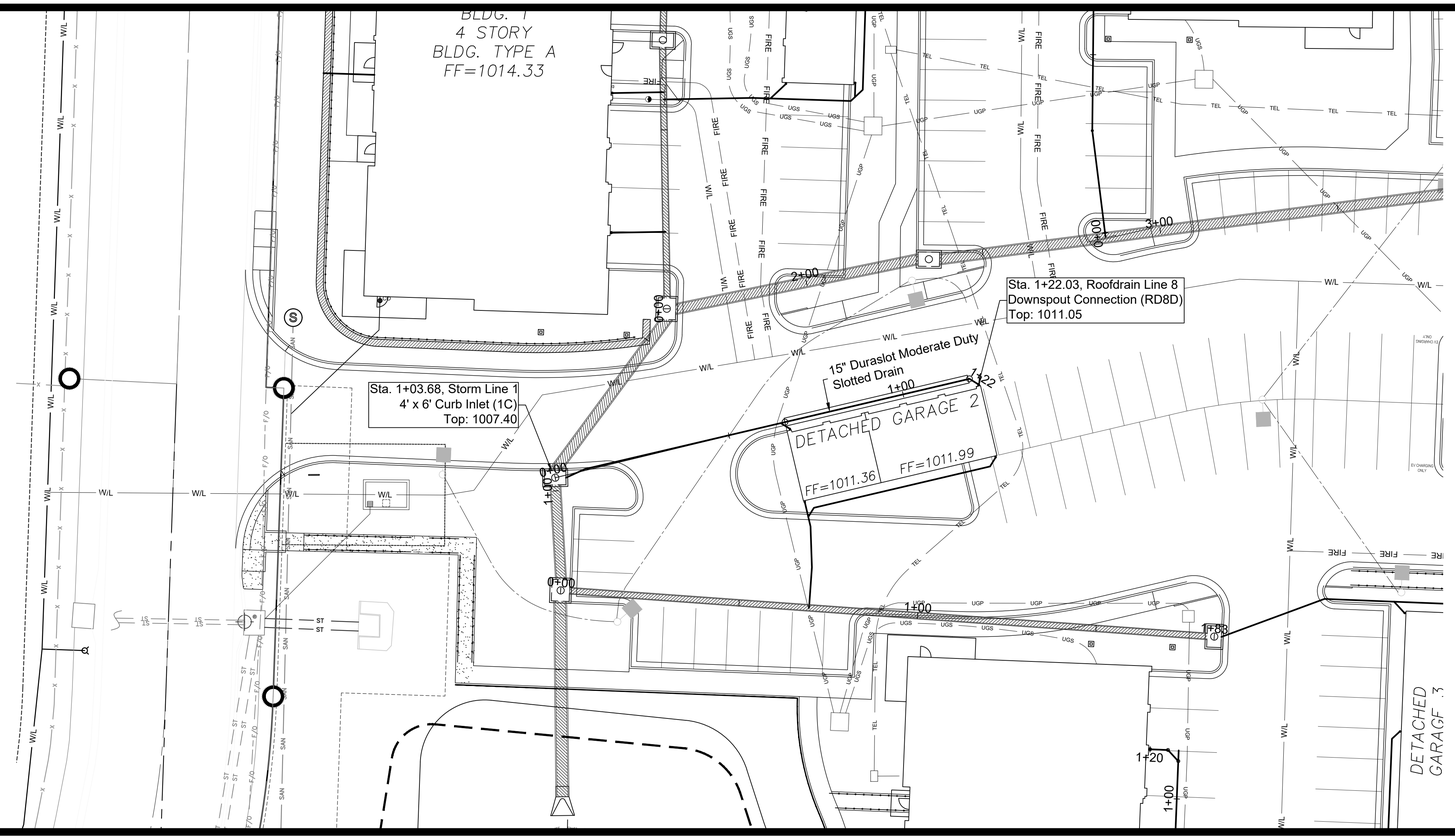
DRAWN BY	CHECKED BY
TUA	CMP

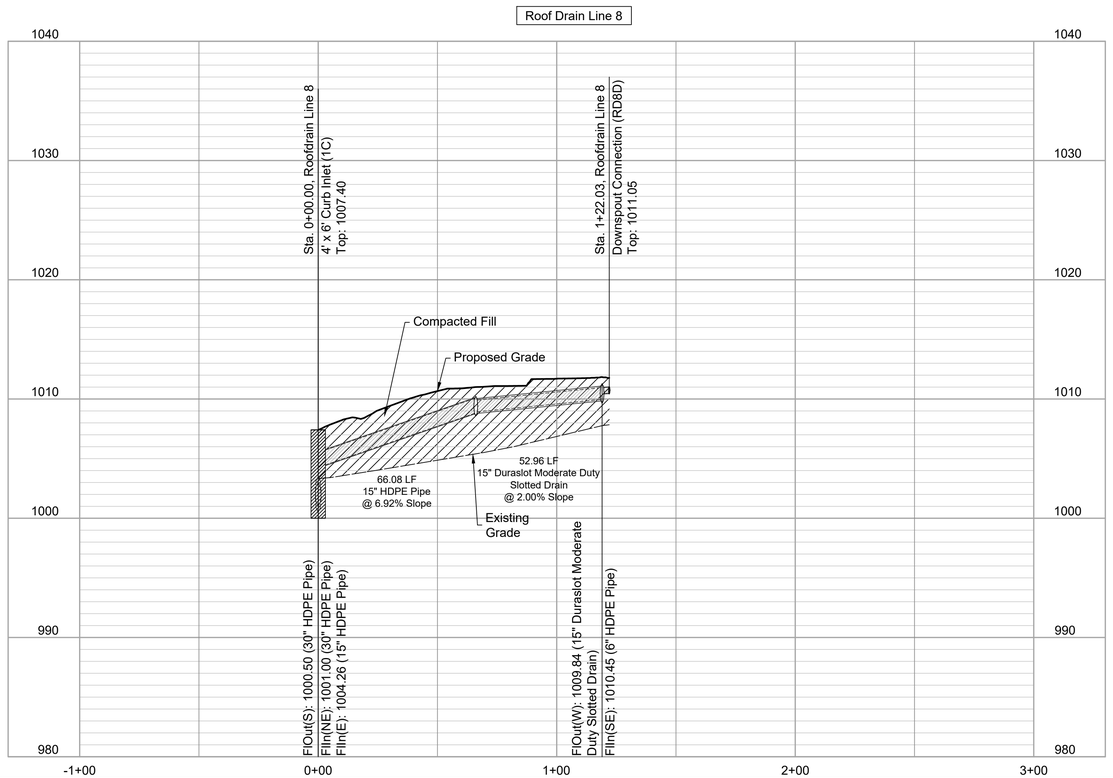
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E. 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C47

cporter
May 08, 2025-11:33am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- ROOFDRAIN PP-01.dwg





Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Roof Drain Plan & Profile 8

NORTH
1"=30'
0 15' 30'
10'
0
1"=10'

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

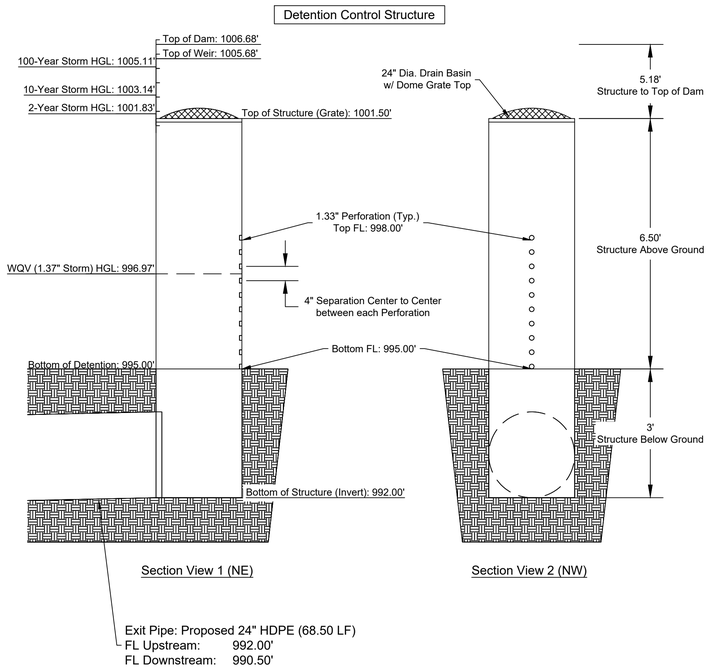
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033630

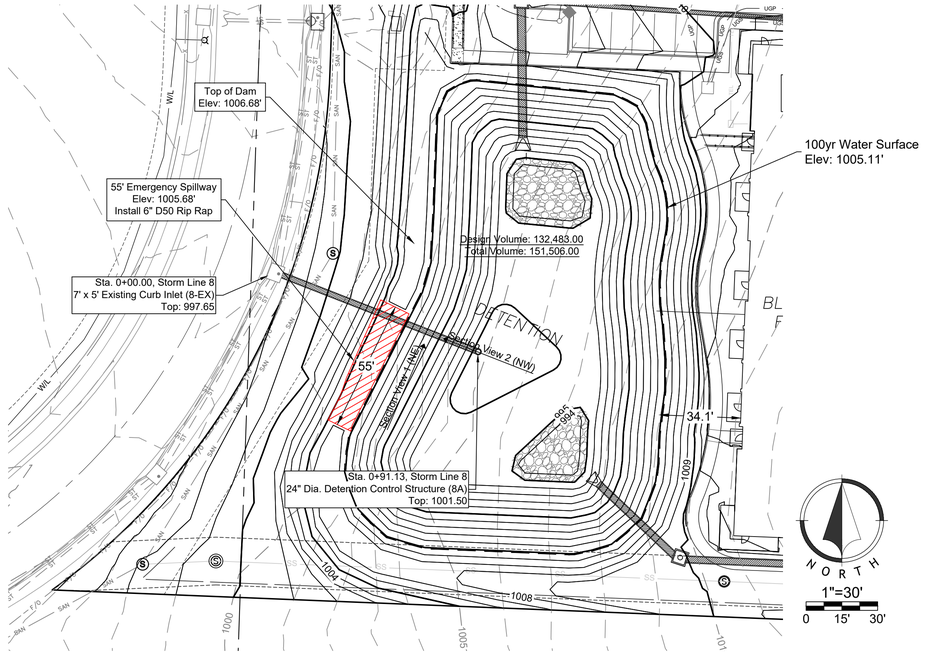
STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL E. SLUTTER PE-2002003418

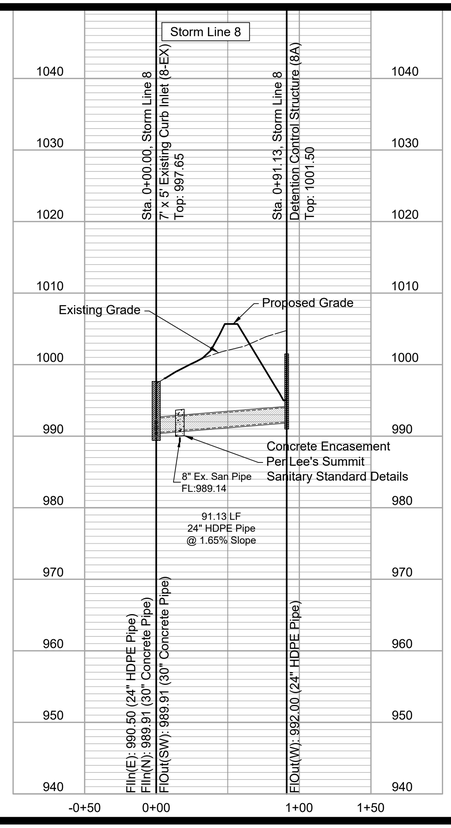
Sheet
C48

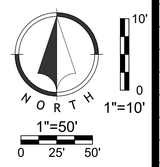
cporter
May 08, 2025-11:33am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- ROOFDRAIN PP-01.dwg



*Orifices, pipes, and structures not to scale to emphasize locations.







Fill to be Placed to 3' Above top of Proposed Pipe and Compacted Prior to Pipe Installation.
Compacted to 95% of the Material's Maximum Dry Density per site GeoTech Report

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY: TUA
CHECKED BY: CMP

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Detention Basin Plan

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E2010033630

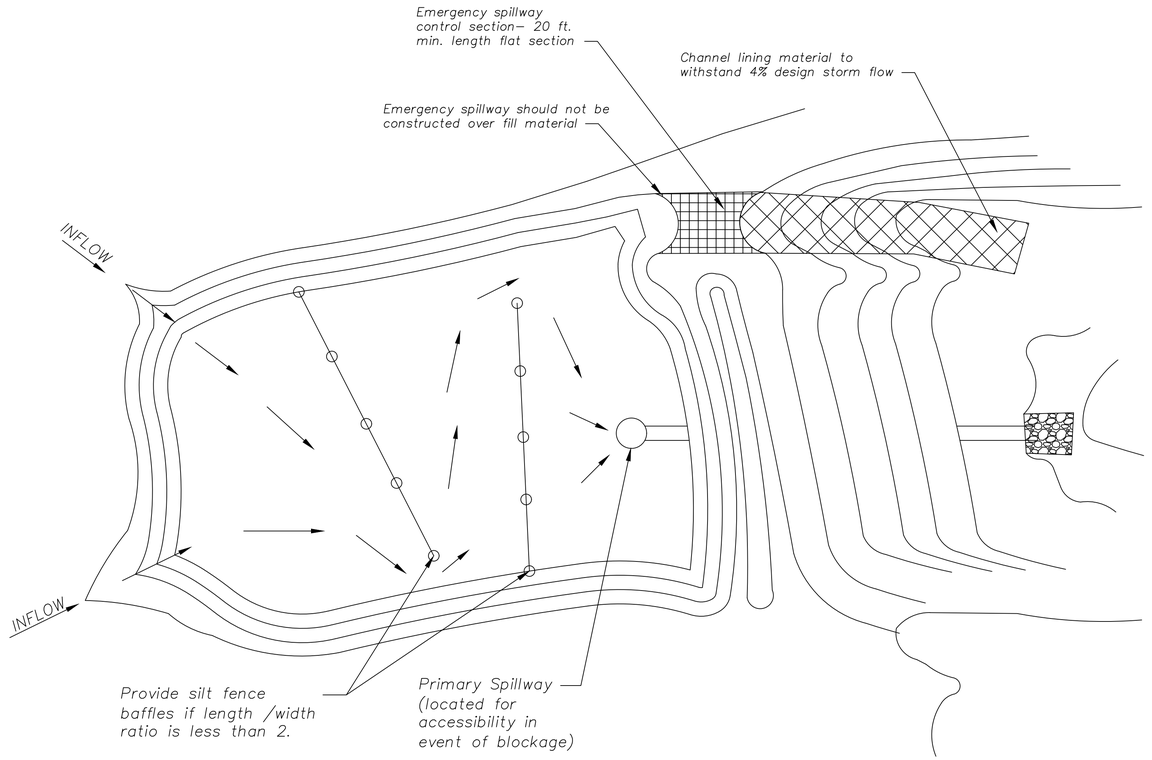
STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/29/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C49

cporter
May 08, 2025-11:33am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- storm pp-01.dwg

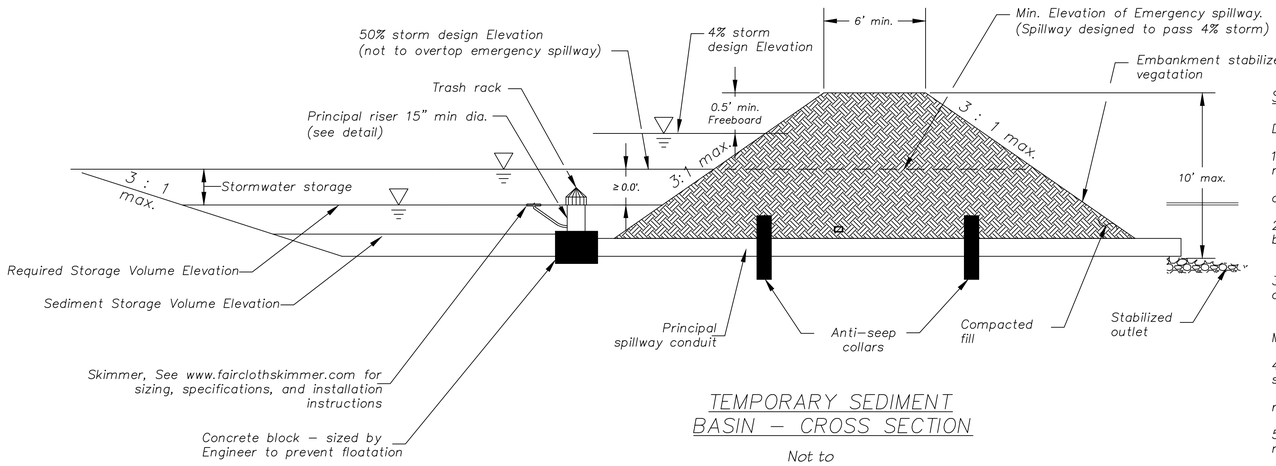
Sediment Basin Summary

Basin Info	Quantity	Units	Notes
Site Data:			
Tributary Drainage Area to Pond	11.29	Acres	
50% (2 yr.) Design Flow	31.09	CFS	
4% (25 yr.) Design Flow	53.74	CFS	
Pond Data:			
Required Storage Volume	40,847	CF	134 CY/Acre Required
Provided Storage Volume	151,506	CF	Storage Volume at Top of Riser
Bottom Elevation	994	FT	
Sediment Cleanout Elevation	999.54	FT	Elevation Equal to 20% of Original Design Volume
Top of Riser Elevation	1000.47	FT	Top of Dry Storage Volume
2 Year WSE	1002.20	FT	
Emergency Spillway Elevation	1002.20	FT	At or Above Q-25 Elevation
25 Year WSE	1002.75	FT	
Top of Dam Elevation	1003.25	FT	0.5 FT Min. Above Q-25 Elevation
Principal Spillway Data:			
Riser Pipe Dia.	30	IN	15" Min. for 2 Year Flow
Barrel Pipe Dia.	24	IN	15" Min. for 2 Year Flow
Concrete Base Size for Riser Pipe	1.0	CY	Size to Prevent Flotation. 1.25 Safety Factor Required
Emergency Spillway Data:			
Design Depth in Spillway	0.55	FT	
Design Length of Spillway	51	FT	
Design Velocity in Spillway	1.92	FT/SEC	
Lining Material	Vegetative		
Skimmer Data:			
Skimmer Drawdown	851	CF/HR	
Skimmer Size	6"		



TEMPORARY SEDIMENT BASIN – PLAN VIEW (TYP.)

Not to Scale



TEMPORARY SEDIMENT BASIN – CROSS SECTION

Not to Scale

Sediment Basin Notes:

Design Requirements:

1. The plan and profiles are schematic in nature. Construction Plans must provide specific site construction arrangements. Details given in these drawings shall be used unless alternate details are shown in plan and approved by the City.

2. If the length to width ratio is less than 2, interior sediment fence baffles shall be provided to reduce short–circuiting of the basin.

3. Emergency spillways to be located in a non–fill location when feasible and shall be lined with a non–erodible material such as Riprap or Turf Reinforcement Mat.

Maintenance/Safety Requirements:

4. The Permit Holder shall clean out deposited sediment when sediment storage has been reduced by 20% of the original design storage volume. The cleanout level shall be indicated on the riser pipe as shown on the drawings.

5. Sediment basins shall be fenced using construction fence or other material for safety reasons and include warning signs, reading: "Danger – KEEP OUT".

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Sediment Basin Plan

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

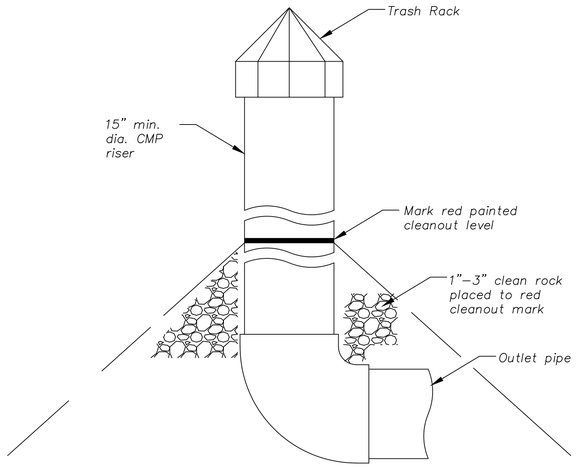
DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
4.00 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL A. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418 12/9/25

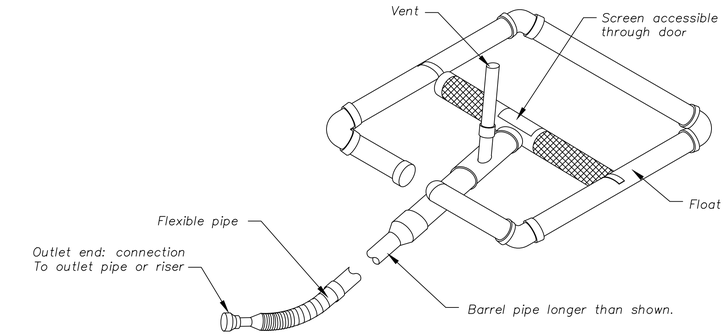
Sheet
C50

cporter
May 08, 2025-11:34am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- storm pp-01.dwg



Riser

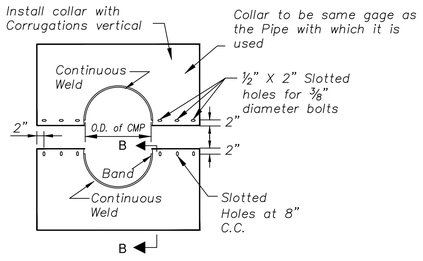
PRINCIPAL SPILLWAY DETAIL



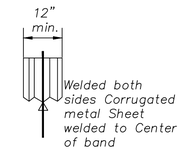
NOTE:

Skimmers shall be Faircloth Skimmers or equal. See www.fairclothskimmer.com for detail. Install skimmer per manufacturers's recommendations.

SKIMMER DETAIL

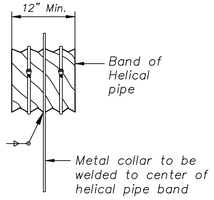


Notes:
1. All materials to be in accordance with construction material specifications.
2. When specified on the plans, coating of collars shall be in accordance with construction material specifications.
3. Unassembled collars shall be marked by painting or tagging to identify matching pairs.
4. The lap between the two half sections and between the pipe and connecting band shall be caulked with asphalt mastic at the time of installation.
5. Each collar shall be furnished with two (2) ½" diameter rods with standard tank lugs for connecting the collars to the pipe.

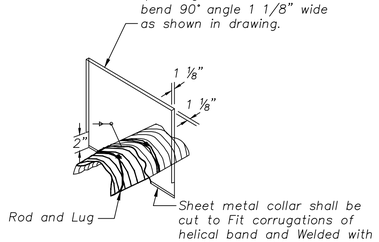


SECTIN B–B

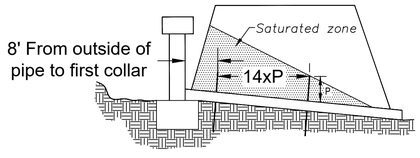
Size and spacing of slotted openings shall be the same as shown for CM collar
Use Rods and lugs to clamp bands securely to pipe.



PARTIAL ELEVATION



ISOMETRIC VIEW



NOTES:
Connections between the anti–seepage collar and the barrel must be watertight

P = Pipe Diameter

ANTI–SEEPAGE COLLAR

NOTE:

For bands and collars, modification of The details shown may be used Providing equal water tightness is Maintained and detailed drawings are Submitted and approved by the engineer Prior to delivery.

NOTES:

TWO OTHER TYPES OF ANTI–SEEP COLLARS ARE:

1. Corrugated metal, similiar to above except shop welded to a 4 ft. section of the pipe and connected to the pipe with connecting bands.
2. Concrete, 6 inches thick formed around the pipe with #3 rebar spaced 15"

CORRUGATED METAL ANTI–SEEPAGE COLLAR DETAIL

Not to Scale

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Sediment Basin Details

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C51

cporter
May 08, 2025-11:34am
Z:\RIC Design\2024\24-0166\DwgSheets\FDP\24-0166 fdp- storm pp-01.dwg

LEE'S SUMMIT POLICE AND COURT FACILITY
OWNER: CITY OF LEE'S SUMMIT

FND. 1/2" REBAR W/OLSSON MOLS 366 PLASTIC CAP

626.77' S1°59'47"W

Sta. 6+95.73, Waterline A
Connect To Existing Water Main at Proposed Public Tee (See Public Plans)
End Construction
Sta. 12+20.74, Waterline 1

Public Waterline A
See Public Plans

Sta. 6+71.44, Waterline A
Install 1 - 8" 45° Horizontal Bend

Sta. 6+27.05, Waterline A
Install 1 - 8" 45° Horizontal Bend

10.0' W/E

NE TUDOR RD.

N89°06'56"E...401.11'

S85°35'40"E...117.21'

S87°52'53"E...133.38'

S43°02'31"E...92.33'

Sta. 2+17.28, Waterline A
Install 8"x6" Tee w/ Backing Block
1 - Hydrant Assembly
1 - 6" Gate Valve
175 LF 6" C900 PVC Fire Line

Sta. 2+12.28, Waterline A
Install 8"x4" Tee w/ Backing Block
For Fire Service Line

Sta. 2+07.28, Waterline A
Install 8"x2" Tee w/ Backing Block
For Domestic Service Line

Caution Storm Crossing
Install 4 - 8" 45° Vertical Bends
From Sta. 0+79.20
to Sta. 1+07.02
Water Top of Pipe: 1001.7
Storm Fl: 1003.20
Vertical Clearance: 1.5'

S89°24'16"E...294.92'

Sta. 5+68.04, Waterline A
Install 8"x8" Tee w/ Backing Block
3 - 8" Gate Valves
End Construction Line B
Sta. 5+68.04, Waterline A

Sta. 17+05.49, Waterline B
Install 8"x6" Tee w/ Backing Block
1 - Hydrant Assembly
1 - 6" Gate Valve
23 LF 6" C900 PVC Fire Line

Sta. 16+27.87, Waterline B
Install 8"x2" Tee w/ Backing Block
For Domestic Service Line

Sta. 16+22.84, Waterline B
Install 8"x4" Tee w/ Backing Block
For Fire Service Line

Sta. 14+37.34, Waterline B
Install 8"x2" Tee w/ Backing Block
For Domestic Service Line

Sta. 14+04.12, Waterline B
Install 8"x6" Tee w/ Backing Block
1 - Hydrant Assembly
1 - 6" Gate Valve
17 LF 6" C900 PVC Fire Line

Waterline B

Caution Storm Crossing
Install 4 - 8" 45° Vertical Bends
From Sta. 13+70.36
to Sta. 14+00.90
Water Top of Pipe: 1018.19
Storm Fl: 1019.69
Vertical Clearance: 1.5'

Utility Easement

Sta. 2+98.33, Waterline A
Install 8"x4" Tee w/ Backing Block
For Fire Service Line

Sta. 2+93.33, Waterline A
Install 8"x2" Tee w/ Backing Block
For Domestic Service Line

Caution Storm Crossing
Install 4 - 8" 45° Vertical Bends
From Sta. 3+77.36
to Sta. 4+05.00
Water Top of Pipe: 1008.02
Storm Fl: 1009.52
Vertical Clearance: 1.5'

Sta. 14+32.31, Waterline B
Install 8"x4" Tee w/ Backing Block
For Fire Service Line

Sta. 13+84.37, Waterline B
Install 1 - 8" 45° Horizontal Bend

Sta. 13+77.30, Waterline B
Install 1 - 8" 45° Horizontal Bend

Sta. 13+35.62, Waterline B
Install 8"x4" Tee w/ Backing Block
For Fire Service Line

Waterline A

Sta. 4+27.57, Waterline A
Install 1 - 8" 45° Horizontal Bend

Sta. 4+49.20, Waterline A
Install 8"x6" Tee w/ Backing Block
1 - Hydrant Assembly
1 - 6" Gate Valve
40 LF 6" C900 PVC Fire Line

Sta. 4+41.20, Waterline A
Install 8"x2" Tee w/ Backing Block
For Domestic Service Line

Sta. 13+27.62, Waterline B
Install 8"x2" Tee w/ Backing Block
1 - Hydrant Assembly
1 - 6" Gate Valve
6" C900 PVC Fire Line

Sta. 13+31.62, Waterline B
Install 8"x2" Tee w/ Backing Block
For Domestic Service Line

SE COR. LOT 2A
FND. 1/2" REBAR W/ BROKEN ANDERSON MOLS 760 PLASTIC CAP

ANGLE POINT S. LINE LOT 2A
FND. 1/2" REBAR W/PLASTIC ANDERSON PLASTIC CAP

REBAR W/

N87°44'22"W...227.00'

Sta. 11+56.33, Waterline B
Install 8"x4" Tee w/ Backing Block
For Fire Service Line

Sta. 11+47.41, Waterline B
Install 8"x2" Tee w/ Backing Block
For Domestic Service Line

Sta. 10+17.50, Waterline B
Install 8"x1" Tee w/ Backing Block
For Domestic Service Line

Sta. 9+40.95, Waterline B
Install 1 - 8" 45° Horizontal Bend

Sta. 9+33.97, Waterline B
Install 1 - 8" 45° Horizontal Bend

LOT 3 SUMMIT
OWNER: MANOL PROPERTIES

Sta. 0+00.02, Waterline A
Begin Construction
Install 695.6 LF 8" C900 PVC Water Main
Install Combination Water Meter & Backflow Valve Vault
Connect to Public Water Main at Proposed Tee
(See Public Plans)
Sta. 5+27.58, Waterline 1

Sta. 3+49.59, Waterline A
Install 1 - 8" 11.25° Horizontal Bend

Sta. 1+52.07, Waterline A
Install 1 - 8" 45° Horizontal Bend

Sta. 1+11.08, Waterline A
Install 1 - 8" 11.25° Horizontal Bend

Sta. 1+19.30, Waterline A
Install 1 - 8" 45° Horizontal Bend

Sta. 0+75.47, Waterline B
Install 8"x6" Tee w/ Backing Block
1 - Hydrant Assembly
1 - 6" Gate Valve
84 LF 6" C900 PVC Fire Line

Sta. 0+00.00, Waterline B
Begin Construction Line B
Install 8"x8" Tee w/ Backing Block
3 - 8" Gate Valves
1765.90 LF 8" C900 PVC Water Main
Sta. 3+66.15, Waterline A

Caution Storm Crossing
Install 4 - 8" 45° Vertical Bends
From Sta. 12+95.88
to Sta. 13+39.91
Water Top of Pipe: 1017.50
Storm Fl: 1019.00
Vertical Clearance: 1.5'

Sta. 11+41.01, Waterline B
Install 1 - 8" 45° Horizontal Bend

Sta. 11+33.94, Waterline B
Install 1 - 8" 45° Horizontal Bend

Sta. 10+73.78
Caution Sanitary Sewer Crossing
San Top of Pipe: 1021.14
Water Fl: 1029.13
Vertical Clearance: 7.99'

S87°44'22"E...227.10'

Sta. 9+03.22, Waterline B
Install 8"x2" Tee w/ Backing Block
For Domestic Service Line

Sta. 9+52.64, Waterline B
Install 8"x6" Tee w/ Backing Block
1 - Hydrant Assembly
1 - 6" Gate Valve
15 LF 6" C900 PVC Fire Line

Sta. 8+98.18, Waterline B
Install 8"x4" Tee w/ Backing Block
For Fire Service Line

Sta. 8+29.59, Waterline B
Install 1 - 8" 45° Horizontal Bend

Sta. 8+22.52, Waterline B
Install 1 - 8" 45° Horizontal Bend

40'

S3°W...210.65'

NE DOUGLAS ST.

E. PLAT LINE

LOT 11
SUMMIT PARK
OWNER: JOHN WALTON GILBERT DEC OF TRUST

LOT 10
SUMMIT PARK

LOT 10

Sta. 2+06.85, Waterline B
Install 1 - 8" 45° Horizontal Bend

Sta. 2+10.85, Waterline B
Install 8"x4" Tee w/ Backing Block
For Fire Service Line

Sta. 2+14.85, Waterline B
Install 8"x2" Tee w/ Backing Block
For Domestic Service Line

Sta. 2+21.94, Waterline B
Install 8"x6" Tee w/ Backing Block
1 - Hydrant Assembly
1 - 6" Gate Valve
94 LF 6" C900 PVC Fire Line

R=280.00'
Δ=18°48'46"
L=255.67'

N87°41'50"W...557.31'

20.0' San. Estm.

1220.57' S1°59'47"W

10.0' W/E

Existing Sanitary Main

Caution Storm Crossing
Install 4 - 8" 45° Vertical Bends From
Sta. 3+55.29 to Sta. 3+85.29
Crossing Pipe Info:
San FL: 1012.79
Water Top of Pipe: 1011.29
Vertical Clearance: 1.5'

Sta. 3+67.29
Caution Sanitary Sewer Crossing

S1°39'56"W...98.11'

Sta. 6+11.80, Waterline B
Install 8"x6" Tee w/ Backing Block
1 - Hydrant Assembly
1 - 6" Gate Valve
53 LF 6" C900 PVC Fire Line

N87°44'22"W...595.16'

Sta. 6+60.10
Caution Sanitary Sewer Crossing
San Top of Pipe: 1019.93
Water Fl: 1027.02
Vertical Clearance: 7.09'

LOT 4
SUMMIT PARK

Caution Storm Crossing
Install 4 - 8" 45° Vertical Bends
From Sta. 2+14.62
to Sta. 2+44.62
Water Top of Pipe: 1005.17
Storm Fl: 1006.67
Vertical Clearance: 1.5'

OWNER: LARRY E. & BEATRICE M. FINKEMEIER

In Areas of fill within the trench for the waterline Fill shall be compacted to 95% Maximum Dry Density per site Geotech Report.

N O R T H
1"=50'
0 25' 50'

Construction Documents
24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Water Line General Layout

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

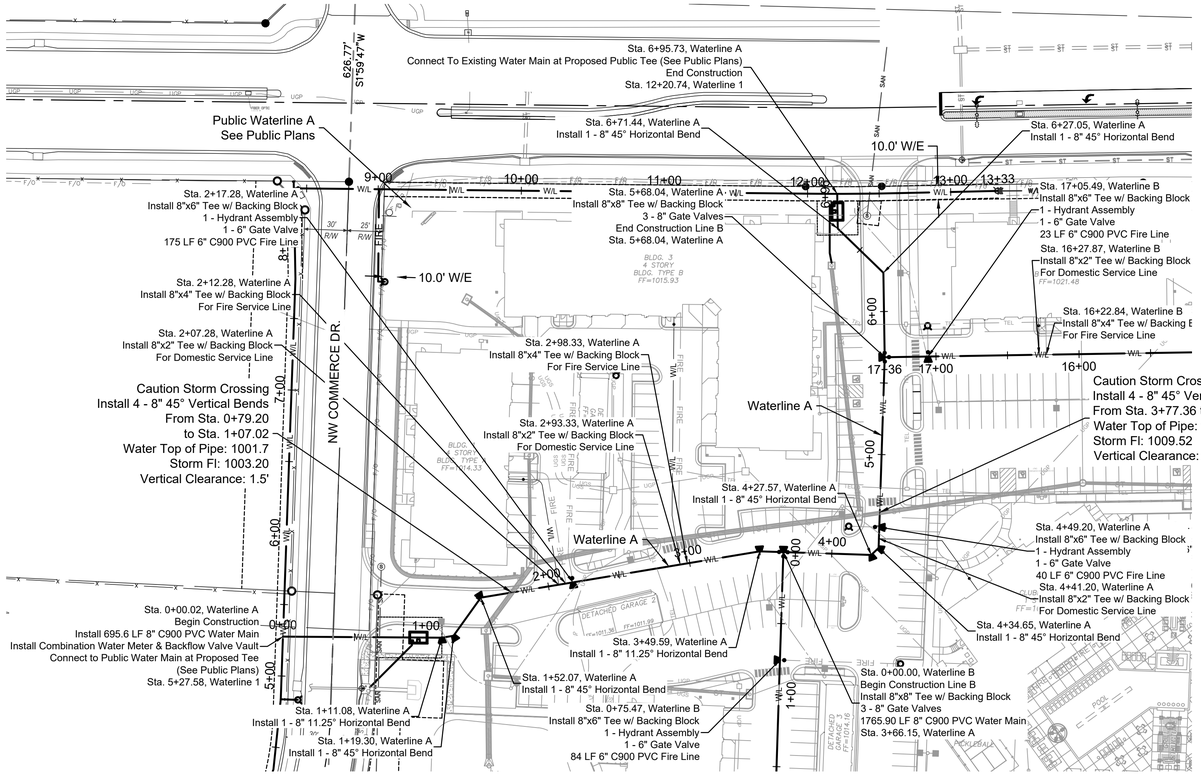
DRAWN BY TUA | CHECKED BY CMP

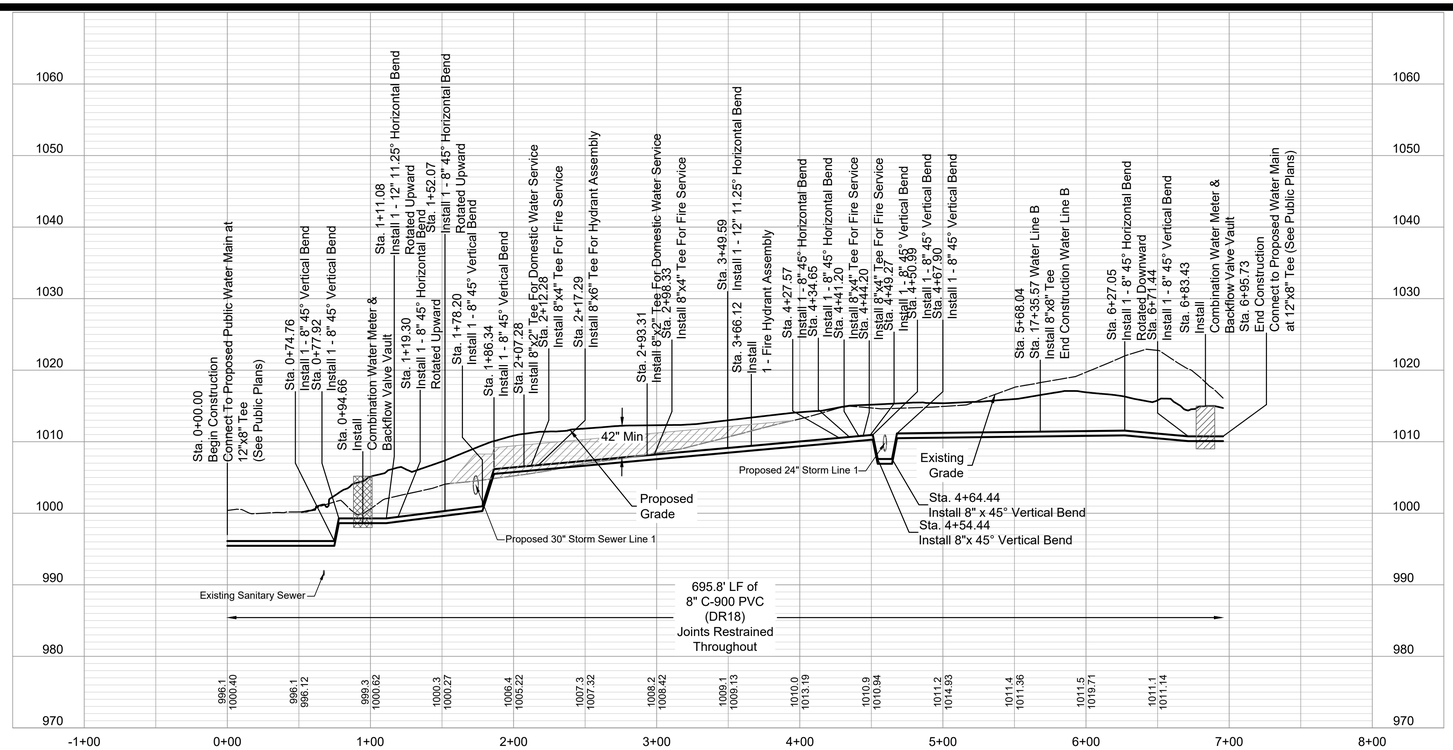
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
4.00 E 17TH STREET KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL ELLIOTT SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
10/23/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C52

cporter
May 08, 2025 - 11:34am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP-WATER-01.dwg





Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Private Water Line Plan & Profile 1

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

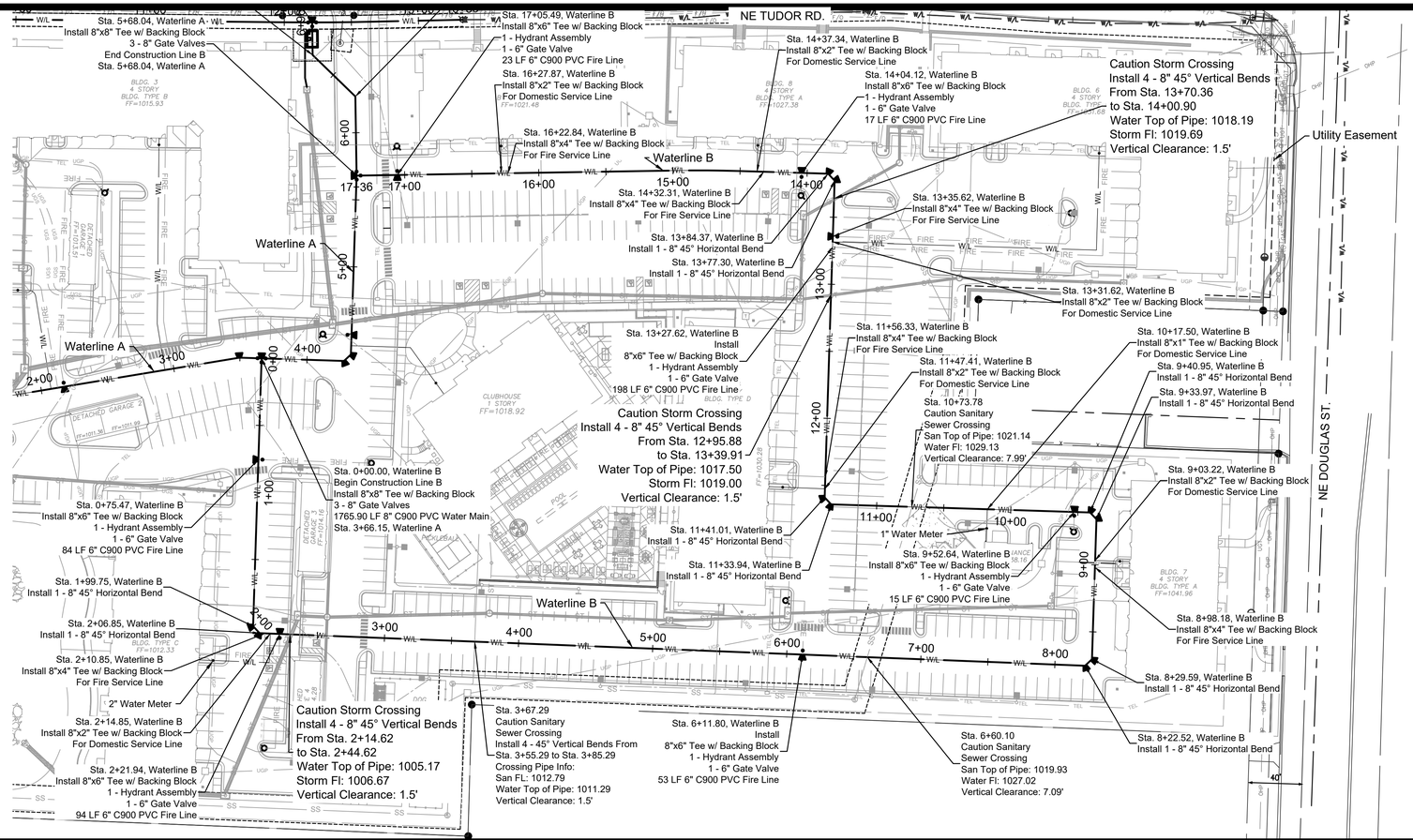
DRAWN BY TUA | CHECKED BY CMP

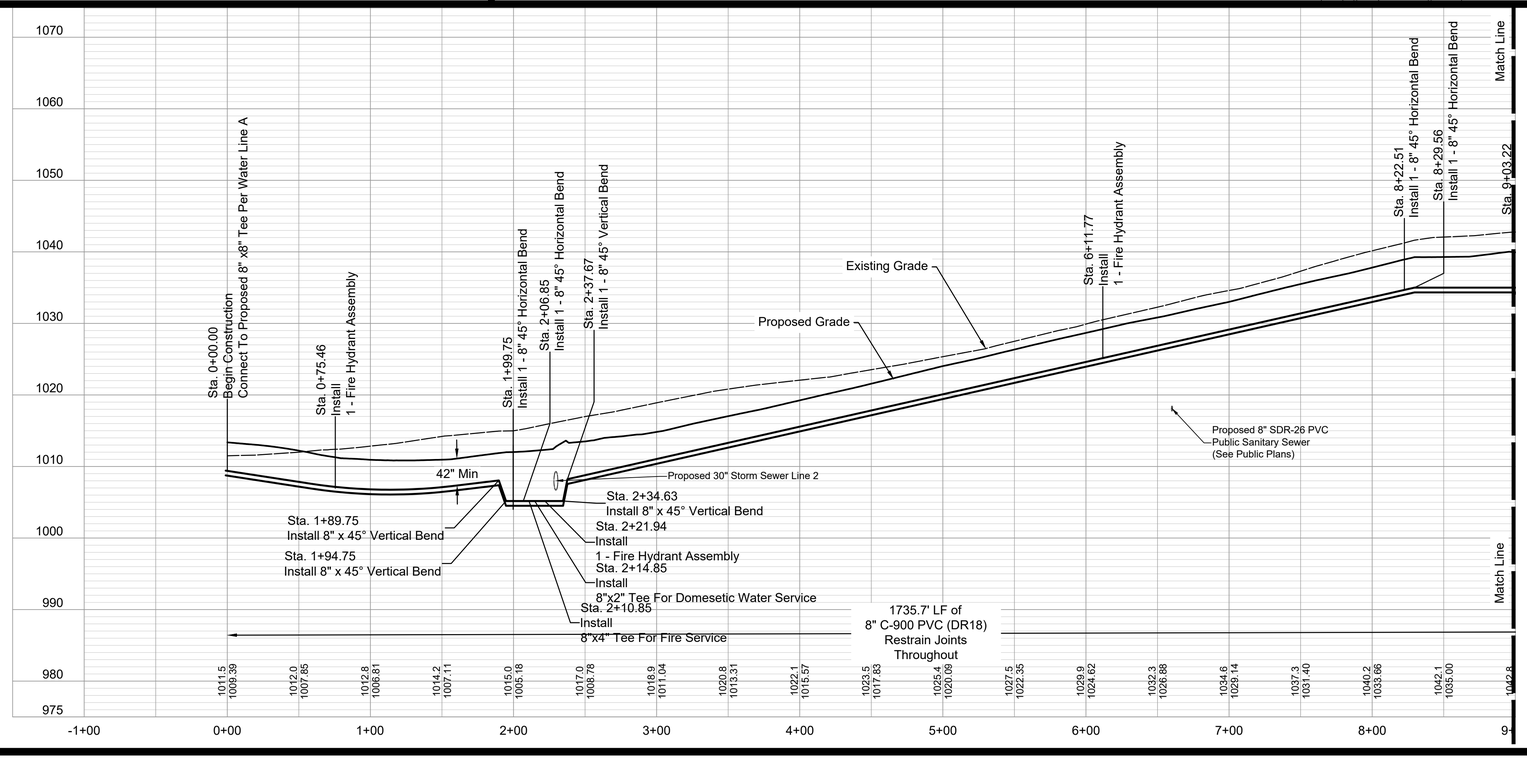
Renaissance Infrastructure Consulting
816.800.0950
www.ric-consult.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033830

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
10/2/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C53

cporter
May 08, 2025-11:34am
Z:\RIC Design\2024\24-0166\Dwgt\Sheets\FDP\24-0166 FDP-WATER-01.dwg





NO	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY: TUA
CHECKED BY: CMP

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

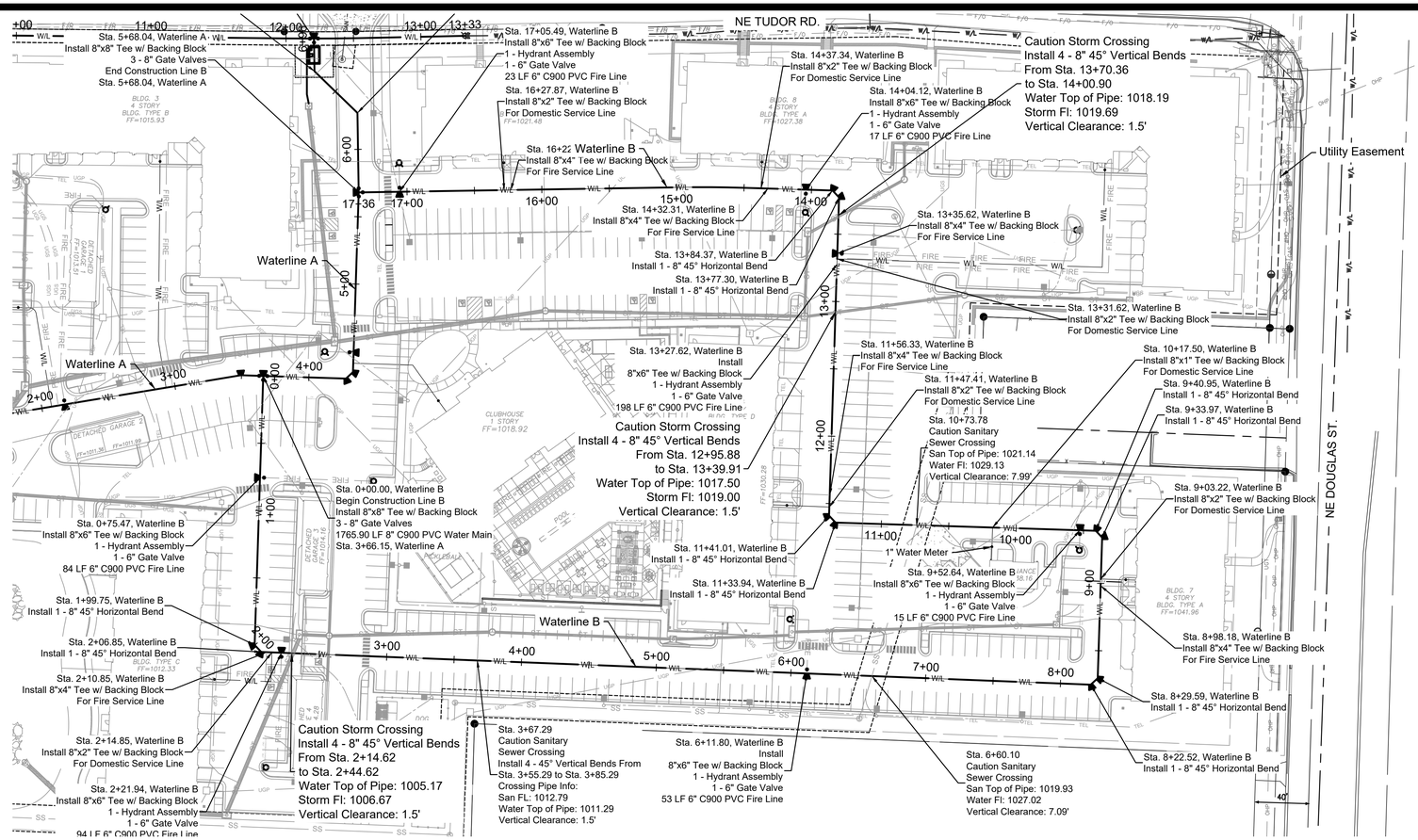
Private Water Line Plan & Profile 2

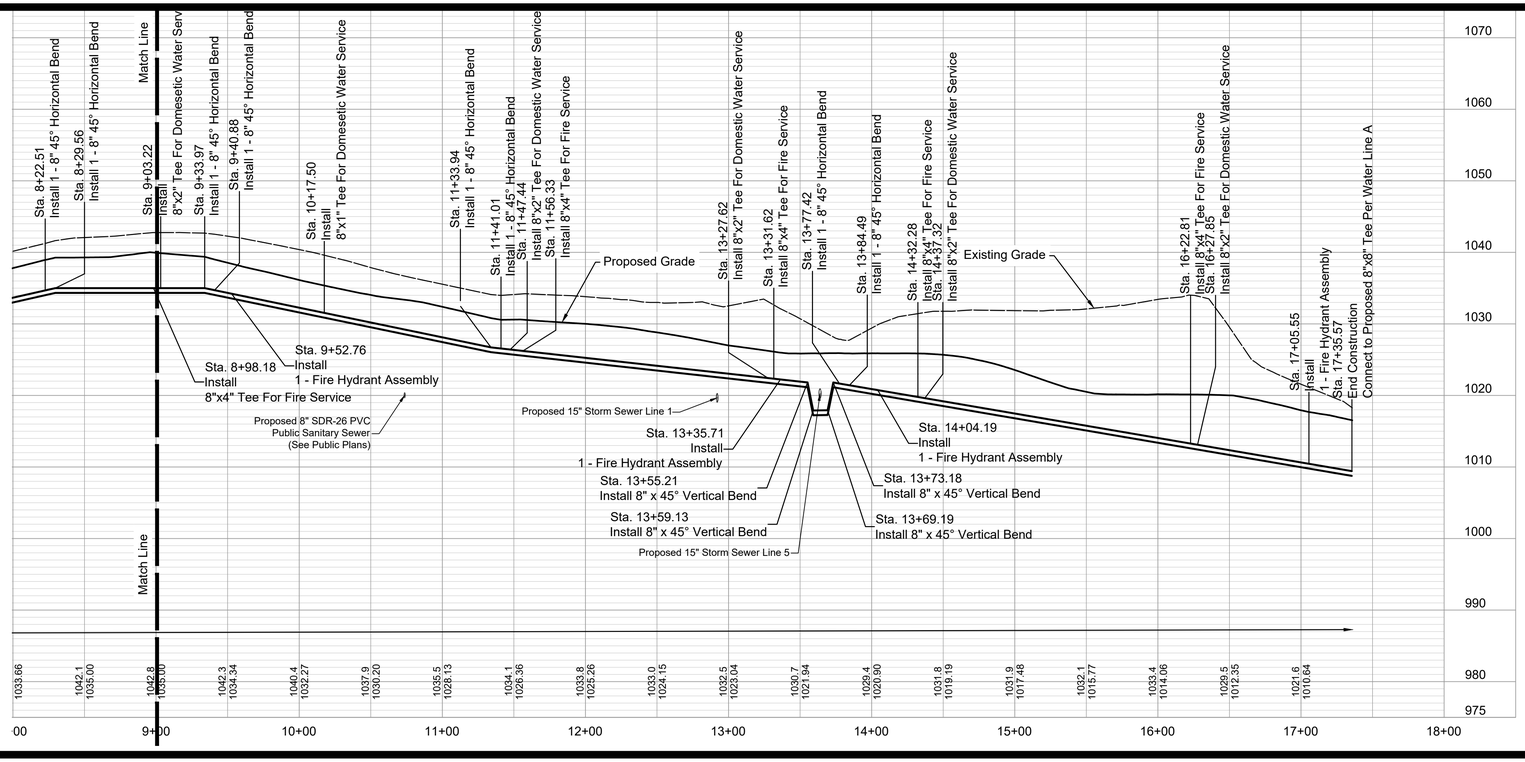
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL K. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
10/2/25
MITCHELL K. SLUTTER PE-2002003418

Sheet
C54

cporter
May 08, 2025 - 11:34am
Z:\RIC Design\2024\24-0166\Dwgt\Sheets\FDP\24-0166 FDP-WATER-01.dwg





Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Private Water Line Plan & Profile 3

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

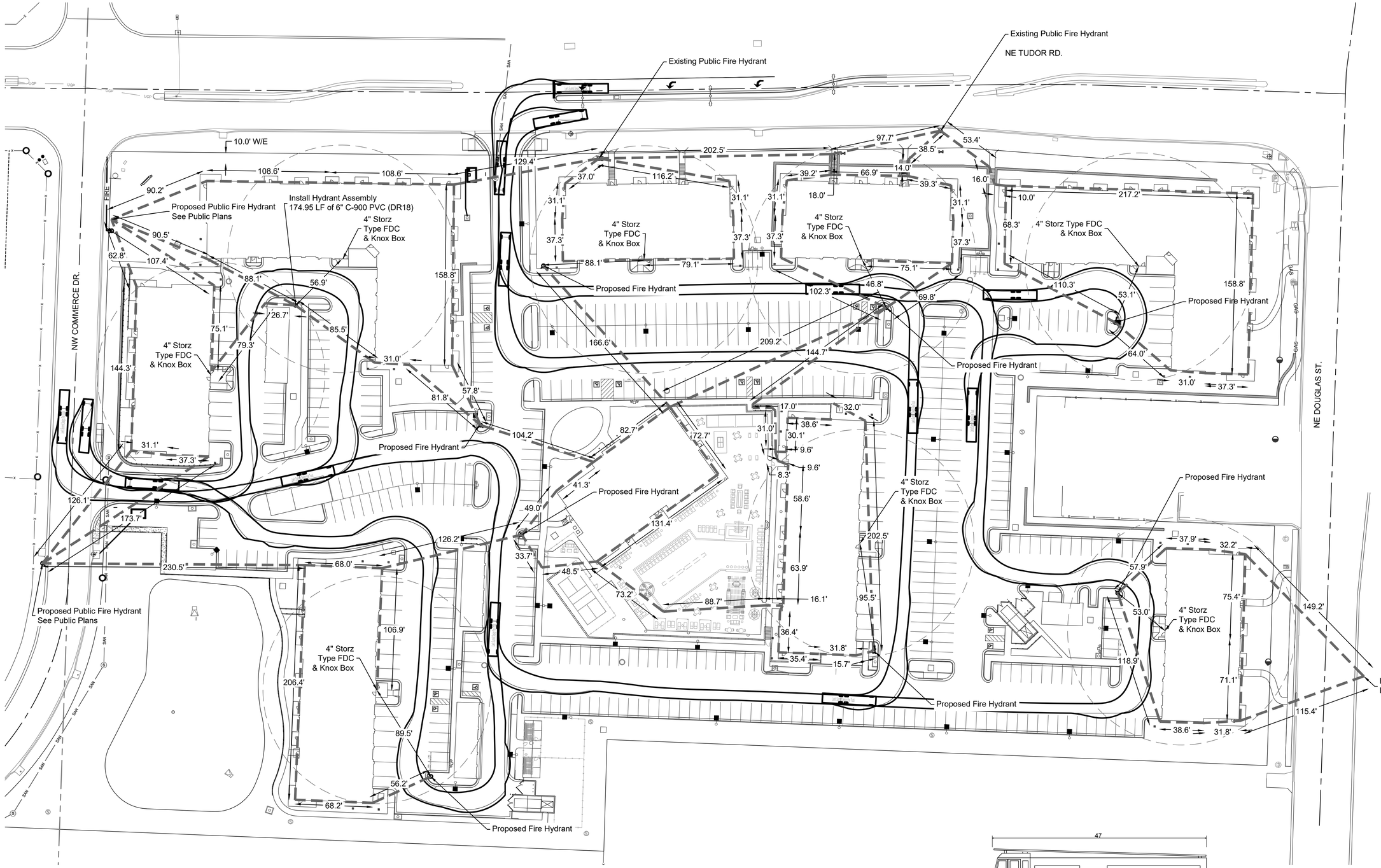
DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
WWW.RIC-CONSULT.COM
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
12/2/25
MITCHELL E. SLUTTER PE-2002003418

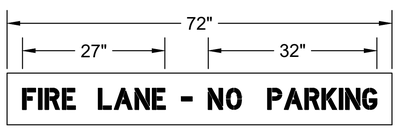
Sheet
C55

cporter
May 06, 2025 - 11:33am
Z:\RIC Design\2024\24-0166\DwgSheets\FDP\24-0166 FDP-WATER-01.dwg



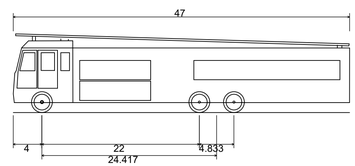
FIRE LANE DESIGNATION

1. Paint curb " Red ".
2. Provide " NO PARKING FIRE LANE " stenciled on face of curb with " White " paint every 20'.



FIRE LANE - NO PARKING STENCIL DETAIL

NOT TO SCALE



Lee's Summit Design Fire Truck	
Overall Length	47.000ft
Overall Width	8.333ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Fire Protection Plan

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

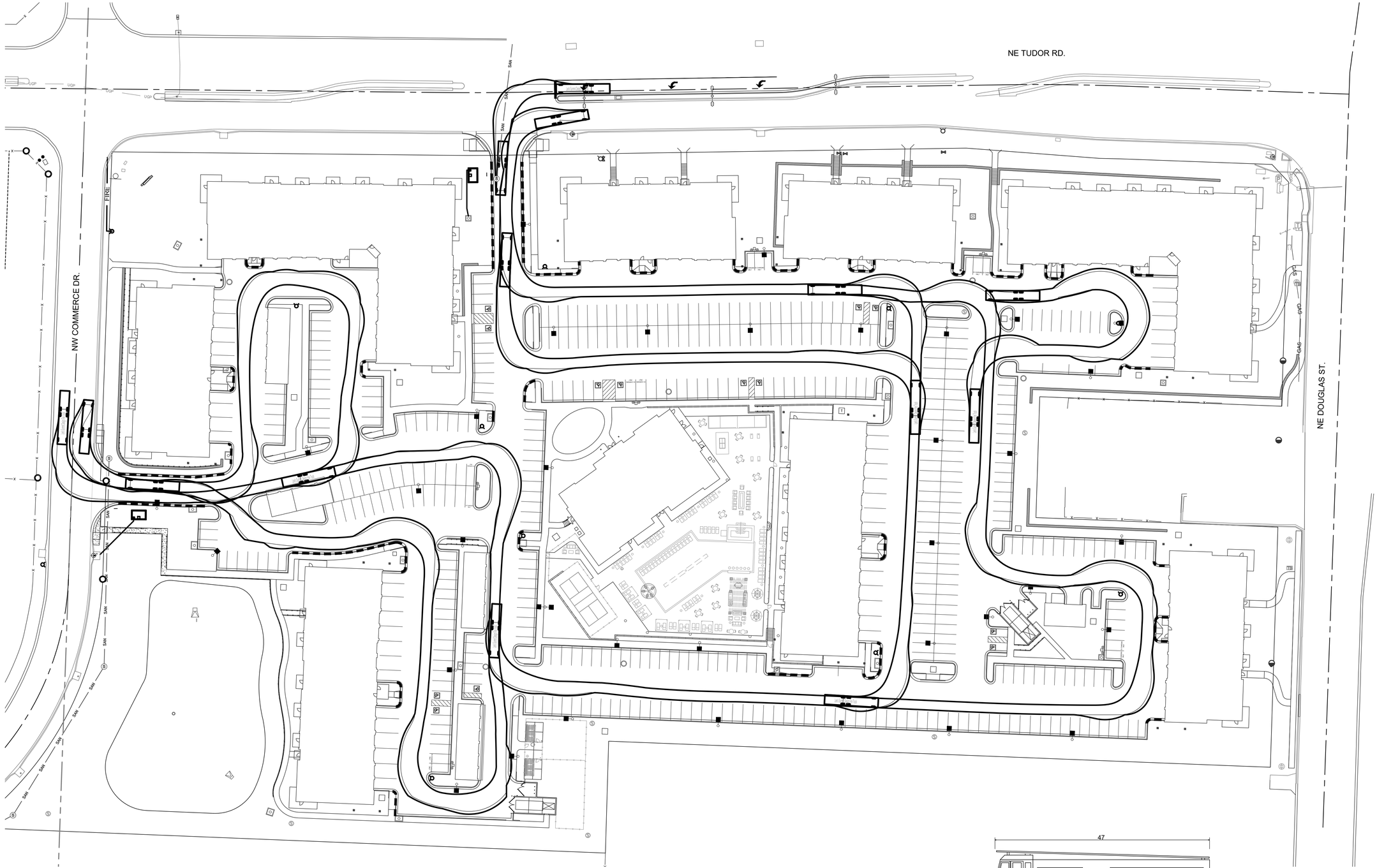
DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.ric-consult.com
400 E 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033830

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER PE-2002003418

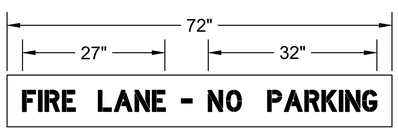
Sheet
C56

cporter
May 08, 2025-11:35am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP-FIRE-01.dwg



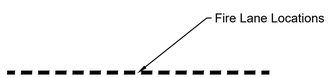
FIRE LANE DESIGNATION

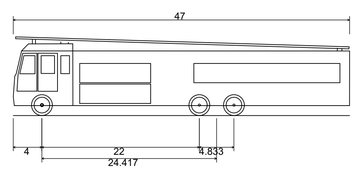
1. Paint curb " Red ".
2. Provide " NO PARKING FIRE LANE " stenciled on face of curb with " White " paint every 20'.



FIRE LANE - NO PARKING STENCIL DETAIL

NOT TO SCALE





Lee's Summit Design Fire Truck	
Overall Length	47.000ft
Overall Width	8.333ft
Overall Body Height	11.000ft
Min Body Ground Clearance	1.393ft
Track Width	8.333ft
Lock-to-lock time	6.00s
Max Wheel Angle	45.00°

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Fire Lane Plan

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

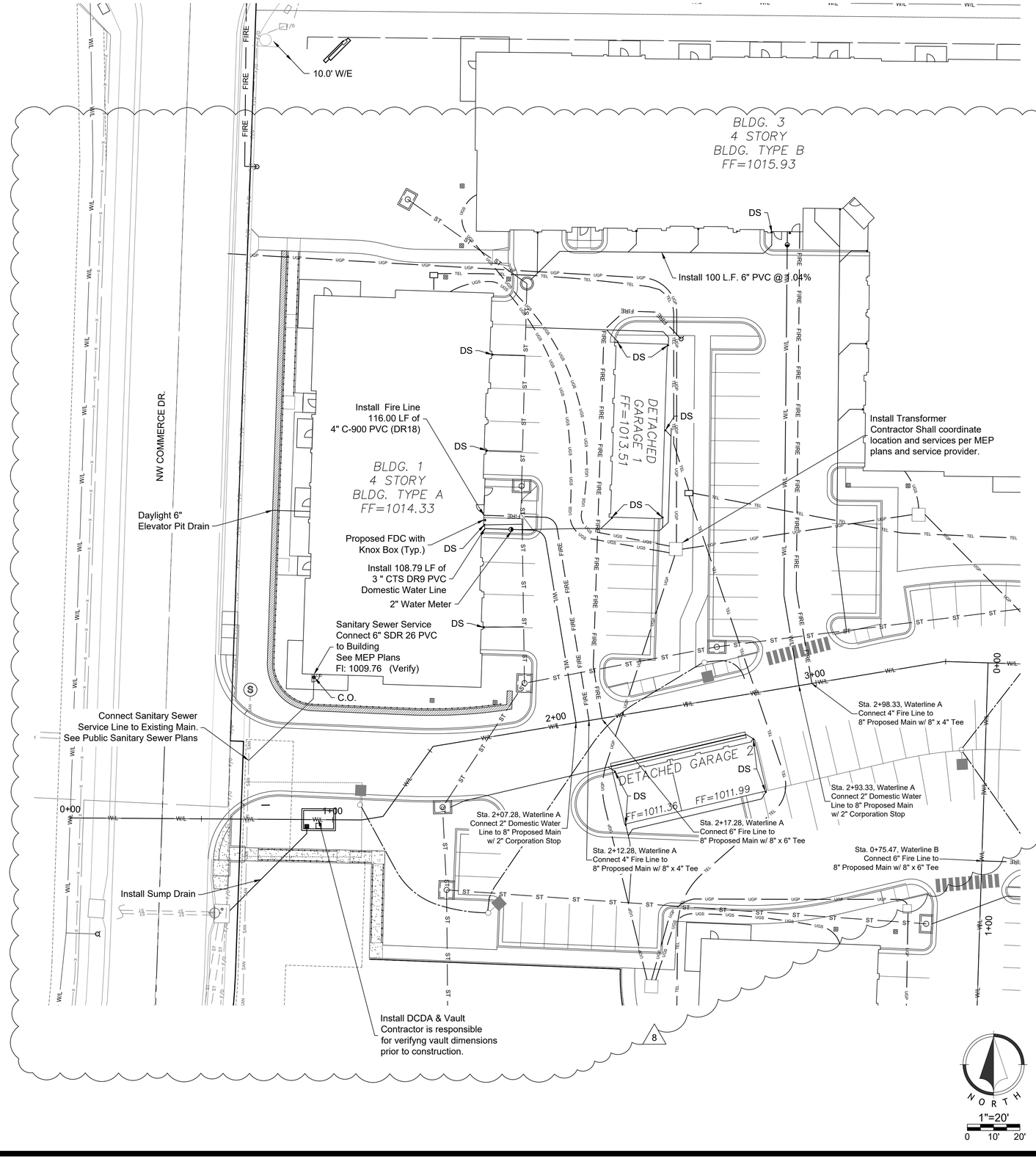
DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.ric-consult.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033830

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C57

cporter
May 08, 2025-11:35am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP-FIRE-01.dwg



Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Utility Plan Bldg 1

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

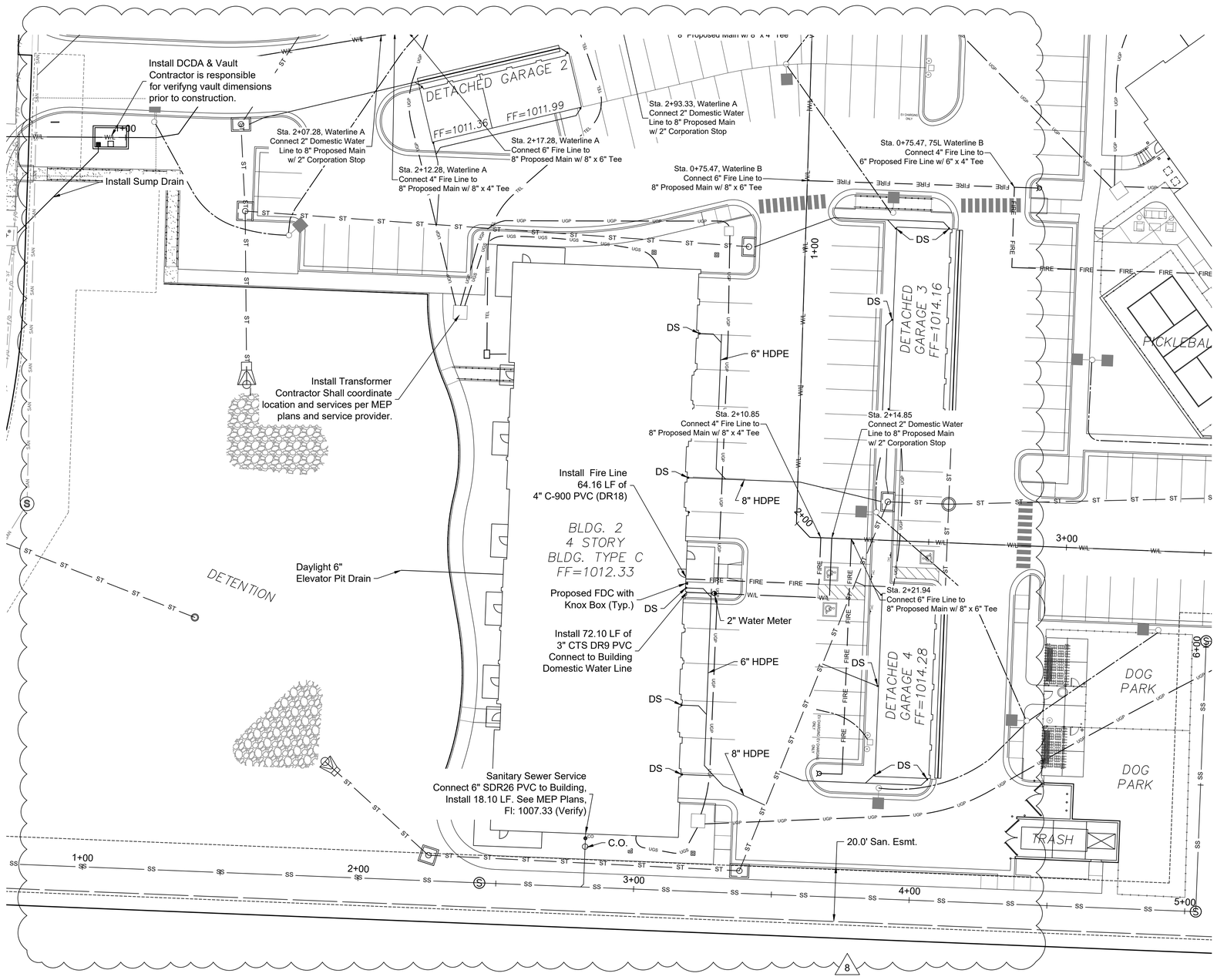
DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.ric-consult.com
400 E. 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL A. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418 12/09/25

Sheet
C58

cporter
May 08, 2025 - 11:35am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- UTILITY-01.dwg



Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Utility Plan Bldg 2

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
WWW.RIC-CONSULT.COM
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER-PE-2002003418

NORTH
1"=20'
0 10' 20'

Sheet
C59

cporter
May 08, 2025 - 11:35am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- UTILITY-01.dwg

NE TUDOR RD.

BLDG. 1
4 STORY
BLDG. TYPE A
FF=1014.33

BLDG. 3
4 STORY
BLDG. TYPE B
FF=1015.93

DETACHED GARAGE 1
FF=1013.51

DETACHED GARAGE 2
FF=1011.36
FF=1011.99

Install DCDA & Vault
Contractor is responsible
for verifyng vault dimensions
prior to construction.

Install Sump Drain

Connect 6" SDR 26 PVC to Building
See MEP Plans. FI: 1009.43

C.O.

Connect Sanitary Sewer
Service Line to Existing Main.
See Public Sanitary Sewer Plans

Install 173.16 LF of
3 " CTS DR9 PVC
Connect to Building
Domestic Water Line

Install Fire Line
172.46 LF of
4" C-900 PVC (DR18)

Proposed FDC with Knox Box (Typ.)

2" Water Meter

10.0' W/E

Install Transformer
Contractor Shall coordinate
location and services per MEP
plans and service provider.

Install DCDA & Vault
Contractor is responsible
for verifyng vault dimensions
prior to construction.

Sta. 2+07.28, Waterline A
Connect 2" Domestic Water
Line to 8" Proposed Main
w/ 2" Corporation Stop

Sta. 2+12.28, Waterline A
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

Sta. 2+17.28, Waterline A
Connect 6" Fire Line to
8" Proposed Main w/ 8" x 6" Tee

Sta. 2+93.33, Waterline A
Connect 2" Domestic Water
Line to 8" Proposed Main
w/ 2" Corporation Stop

Sta. 2+98.33, Waterline A
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

Sta. 0+75.47, Waterline B
Connect 6" Fire Line to
8" Proposed Main w/ 8" x 6" Tee

Sta. 0+75.47, 75L Waterline B
Connect 4" Fire Line to
6" Proposed Fire Line w/ 6" x 4" Tee

Sta. 4+41.20
Connect to 8" Water Main
w/ 2" Corporation Stop

Sta. 4+49.20
Connect 6" Fire Line to
8" Proposed Main w/ 8" x 6" T

6" HDPE
8" HDPE
10" HDPE
DS

0+00
2+00
3+00
4+00
5+00
6+96
17+36
17+00

NORTH
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Utility Plan Bldg 3

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033830

STATE OF MISSOURI
MITCHELL SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C60

cporter
May 08, 2025-11:35am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- UTILITY-01.dwg

Connect 2" Domestic Water Line to 8" Proposed Main w/ 2" Corporation Stop

Connect 6" Fire Line to 8" Proposed Main w/ 8" x 6" Tee

Sta. 13+27.62
Connect 4" Fire Line to 8" Proposed Main w/ 8" x 4" Tee

Sta. 13+31.62
Connect 2" Domestic Water Line to 8" Proposed Main w/ 2" Corporation Stop

CLUBHOUSE
1 STORY
FF=1018.92

GAMES

SPA

POOL

GRILL STRUCTURE

BLDG. 4
4 STORY
BLDG. TYPE D
(SPLIT)

FF=1019.51

FF=1030.28

DS

6" HDPE

8" HDPE

10" HDPE

Proposed FDC with Knox Box (Typ.)

Install Fire Line 41.94 LF of 4" C-900 PVC (DR18)

Sta. 11+56.33
Connect 4" Fire Line to 8" Proposed Main w/ 8" x 4" Tee

Sta. 11+47.41
Connect 2" Domestic Water Line to 8" Proposed Main w/ 2" Corporation Stop

2" Water Meter

Install 41.94 LF of 3" CTS DR9 PVC Connect to Building Domestic Water Line

20.0' San. Estm.

MAINTENAN
FF=1038.

TRASH

10

Sanitary Sewer Service
Connect 6" SDR26 PVC to Building, Install 92.16 LF See MEP Plans, FI: 1015.90 (Verify)

C.O.

Sta. 6+11.80
Connect 6" Fire Line to 8" Proposed Main w/ 8" x 6" Tee

Install Transformer
Contractor Shall coordinate location and services per MEP plans and service provider.

8

13+00 12+00 11+00 10+00 4+00 5+00 6+00 7+00 8+00 9+00

NORTH

1"=20'

0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Utility Plan Bldg 4

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

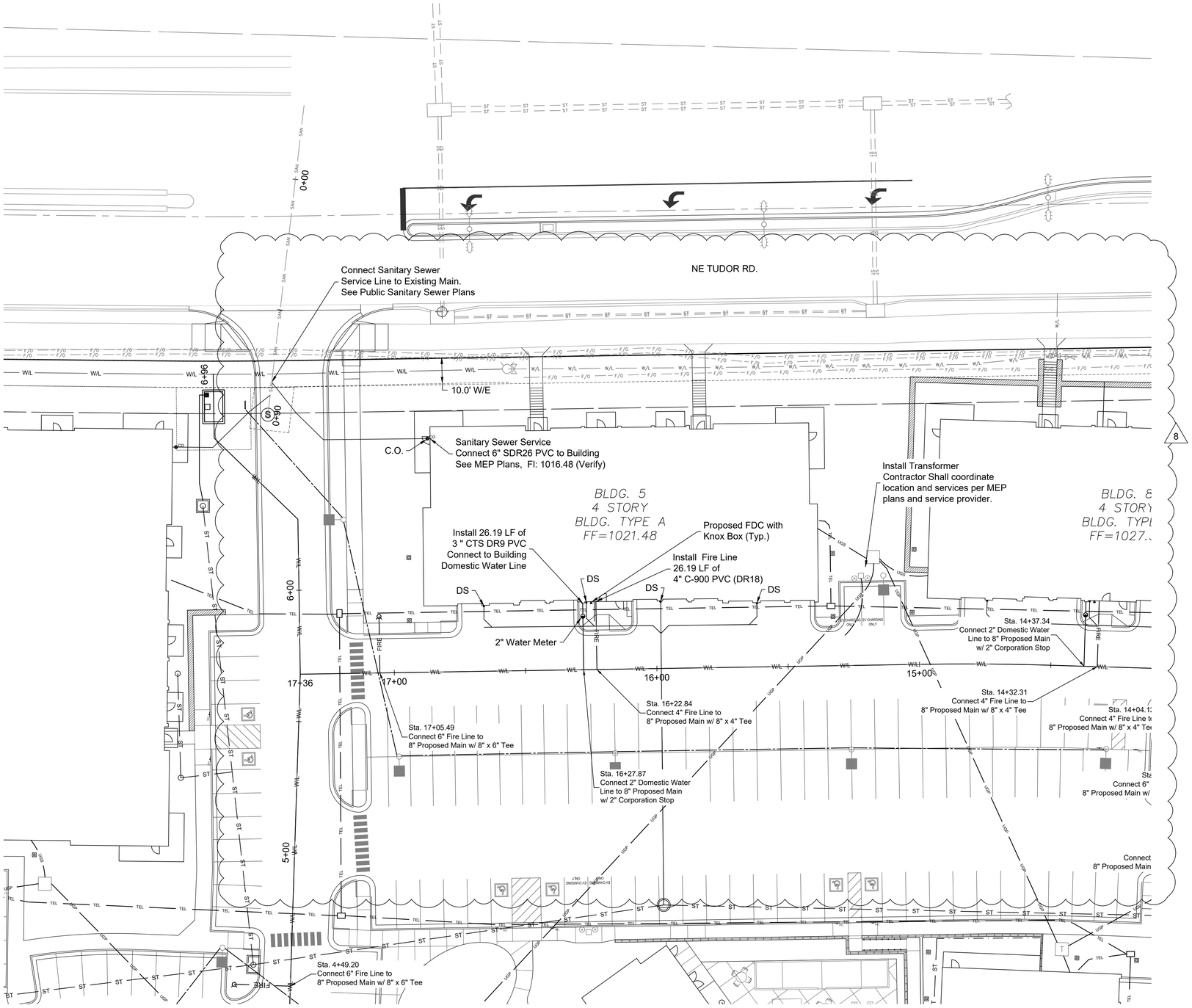
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108

MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025/05/12
MITCHELL E. SLUTTER PE-2002003418

Sheet
C61

cporter
May 08, 2025-11:38am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- UTILITY-01.dwg



Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Utility Plan Bldg 5

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY	CHECKED BY
TUA	CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL K. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025/2/5
MITCHELL K. SLUTTER PE-2002003418

Sheet
C62

cporter
May 08 , 2025-11:36am
Z:\RIC Design\2024\24-0166\DwgtSheets\FDP\24-0166 FDP- UTILITY-01.dwg

NE TUDOR RD.

BLDG. 8
4 STORY
BLDG. TYPE A
FF=1027.38

BLDG. 6
4 STORY
BLDG. TYPE B
FF=1031.68

Sanitary Sewer Service
Connect 6" SDR26 PVC to
Building, Install 71 LF
See MEP Plans, FI: 1023.77 (Verify)

Install 283.34 LF of
3 " CTS DR9 PVC
Connect to Building
Domestic Water Line

Install Fire Line
275.00 LF of
4" C-900 PVC (DR18)

Utility Easement

NE DOUGLAS ST.

DS

C.O.

8" HDPE

6" HDPE

2" Water Meter

Proposed FDC with Knox Box (Typ.)

10" HDPE

Install Transformer
Contractor Shall coordinate
location and services per MEP
plans and service provider.

14+00

Sta. 14+04.12
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

Sta. 13+35.62
Connect 6" Fire Line to
8" Proposed Main w/ 8" x 6" Tee

Sta. 13+31.62
Connect 2" Domestic Water
Line to 8" Proposed Main
w/ 2" Corporation Stop

Sta. 13+27.62
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

13+00

10.0' San. Esmt.

10+00

8

NORTH

1"=20'

0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Utility Plan Bldg 6

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17th Street Kansas City, Missouri 64108
816.800.0950
www.RIC-CONSULT.com
MO Certificate of Authority: E-2010038630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C63

cporter
May 08 , 2025 - 11:36am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- UTILITY-01.dwg

Sta. 11+56.33
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

Sta. 11+47.41
Connect 2" Domestic Water
Line to 8" Proposed Main
w/ 2" Corporation Stop

Sta. 9+52.64
Connect 6" Fire Line to
8" Proposed Main w/ 8" x 6" Tee

Sanitary Sewer Service
Connect 6" SDR26 PVC to
Building, See MEP Plans,
FI: 1036.96 (Verify)

1" Water Meter

2" Water Meter

Install 26.00 LF of
3" CTS DR9 PVC
Connect to Building
Domestic Water Line

Sta. 9+03.22
Connect 2" Domestic Water
Line to 8" Proposed Main
w/ 2" Corporation Stop

Proposed FDC with
Knox Box (Typ.)

MAINTENANCE
FF=1038.16

TRASH

BLDG. 7
4 STORY

Sta. 8+98.18
Connect 4" Fire Line to
8" Proposed Main
w/ 8" x 4" Tee

Install Fire Line
26.00 LF of
4" C-900 PVC (DR18)

Install Transformer
Contractor Shall coordinate
location and services per MEP
plans and service provider.

Sanitary Sewer Service
Connect 6" SDR26 PVC to Building,
Install 90.03 LF See MEP Plans,
FI: 1035.16 (Verify)

20.0' San. Estm.

6" HDPE

8" HDPE

DS

C.O.

FIRE

10+00

11+00

12+00

9+00

7+00

8+00

8

NE DOUGLAS ST.

N O R T H

1"=20'

0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Utility Plan Bldg 7

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
400 E 17th Street
Kansas City, Missouri 64108
816.800.0950
www.RIC-consult.com
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
05/09/25

Sheet
C64

cporter
May 08, 2025 - 11:36am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- UTILITY-01.dwg

NE TUDOR RD.

BLDG. 5
4 STORY
BLDG. TYPE A
FF=1021.48

BLDG. 8
4 STORY
BLDG. TYPE A
FF=1027.38

Daylight 6"
Elevator Pit Drain

Install Transformer
Contractor Shall coordinate
location and services per MEP
plans and service provider.

Sanitary Sewer Service
Connect 6" SDR26 PVC to Building,
Install 59 LF See MEP Plans,
Fl: 1023.93 (Verify)

Install 25.00 LF of
3 " CTS DR9 PVC
Connect to Building
Domestic Water Line

Proposed FDC with
Knox Box (Typ.)

Install Fire Line
25.00 LF of
4" C-900 PVC (DR18)

Sta. 14+37.34
Connect 2" Domestic Water
Line to 8" Proposed Main
w/ 2" Corporation Stop

2" Water Meter

6" HDPE

8" HDPE

C.O.

16+00

15+00

14+00

13+00

Sta. 16+22.84
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

Sta. 16+27.87
Connect 2" Domestic Water
Line to 8" Proposed Main
w/ 2" Corporation Stop

Sta. 14+32.31
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

Sta. 14+04.12
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

Sta. 13+35.62
Connect 6" Fire Line to
8" Proposed Main w/ 8" x 6" Tee

Sta. 13+31.62
Connect 2" Domestic Water
Line to 8" Proposed Main
w/ 2" Corporation Stop

Sta. 13+27.62
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

EV CHARGING ONLY

N
O
R
T
H

1"=20'

0 10' 20'

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Utility Plan Bldg 8

Renaissance Infrastructure Consulting
816.800.0950
WWW.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL ELMER SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
12/2/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C65

cporter
May 06 , 2025 - 11:36am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP_UTILITY-01.dwg

Sta. 4+49.20
Connect 6" Fire Line to
8" Proposed Main w/ 8" x 6" Tee

Sta. 4+41.20
Connect to 8" Water Main
w/ 2" Corporation Stop

1" Water Meter

Sta. 2+98.33, Waterline A
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

Sta. 2+93.33, Waterline A
Connect 2" Domestic Water
Line to 8" Proposed Main
w/ 2" Corporation Stop

Install Transformer
Contractor Shall coordinate
location and services per MEP
plans and service provider.

Sta. 0+75.47, 75L Waterline B
Connect 4" Fire Line to
6" Proposed Fire Line w/ 6" x 4" Tee

Sta. 0+75.47, Waterline B
Connect 6" Fire Line to
8" Proposed Main w/ 8" x 6" Tee

Sta. 2+10.85
Connect 4" Fire Line to
8" Proposed Main w/ 8" x 4" Tee

Sta. 2+14.85
Connect 2" Domestic Water
Line to 8" Proposed Main
w/ 2" Corporation Stop

Sta. 2+21.94
Connect 6" Fire Line to
8" Proposed Main w/ 8" x 6" Tee

Sta. 6+11.80
Connect 6" Fire Line to
8" Proposed Main w/ 8" x 6" Tee

Sanitary Sewer Service
Connect 6" SDR26 PVC to Building,
Install 147.25 LF . See MEP Plans,
FI: 1014.92 (Verify)

Install Fire Line
285 LF of
4" C-900 PVC (DR18)

Install 86.75 LF of
1 1/2" CTS DR9 PVC
Connect to Building
Domestic Water Line

Proposed FDC with
Knox Box (Typ.)

FL 8" Storm 1016.65
FL 8" Storm 1016.28
FL 6" Storm 1016.03
FL 6" Storm
1015.69
FL 4" San
1014.03

DS
DS

CLUBHOUSE
1 STORY
FF=1018.92

GAMES
SPA
POOL
GRILL/BAR
STRUCTURE

BLDG. 4
4 STORY
BLDG. TYPE D
(SPLIT)

FF=1019.51
FF=1030.28

DETACHED
GARAGE 3
FF=1014.16

C.O.

8" Prop

0+00 1+00 2+00 3+00 4+00 5+00 6+00 7+00 8+00

N O R T H
1"=20'
0 10' 20'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Utility Plan Clubhouse

NO.	DATE	REVISION
11	05/12/2025	ASI 2
10	03/18/2025	RFI 18
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA
CHECKED BY CMP

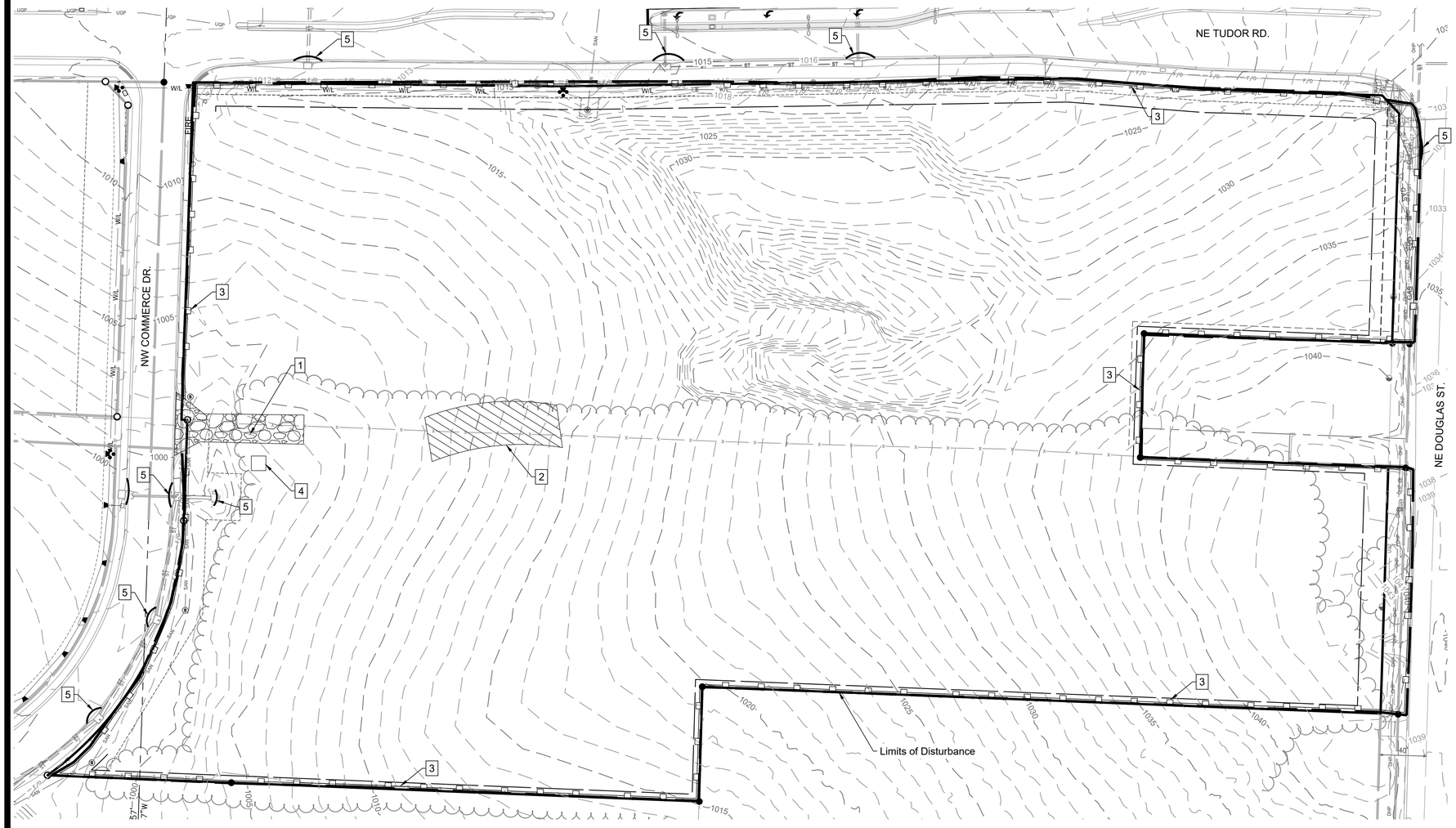
Renaissance Infrastructure Consulting
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
WWW.RIC-CONSULT.COM

STATE OF MISSOURI
MITCHELL KLITTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/26
MITCHELL E. SLUTTER PE-2002003418

MO Certificate of Authority: E-2010033630

Sheet
C66

cporter
May 08, 2025 - 11:36am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- UTILITY-01.dwg



EROSION CONTROL NOTES

1. Erosion control plan modifications shall be required if the plan fails to substantially control erosion and offsite sedimentation.
2. The retention of access controls and sediment controls shall be required for areas where seed has not established 70% cover.
3. The contractor shall temporarily seed and mulch all disturbed areas if soil disturbing activities cease and will not resume for more than 14 days. Stabilization activities must also be completed within 14 days.
4. Install "J' Hooks on silt fence every 100 LF
5. Any location that is being accessed by vehicles needs to have a construction entrance.
6. Contractor must keep a broom on site in order to clean up mud tracked on to the streets immediately.
7. Any contractor parking that is in a disturbed area must be rocked to prevent tracking of mud.

WRITTEN SEQUENCING

1. Implement Pre-Clearing Plan:
   All temporary structural BMP's shown on the pre-clearing plan must be in place before the general clearing operations. Clearing necessary to place temporary structural BMP's is the minimum required for installation. Coordinate clearing necessary to place temporary structural BMP's with local weather forecast so that clearing and placement may be completed within a forecast dry period. Stabilize all erosion control measures after installation. Temporary Barrier Fence shall be in Place, around areas not to be disturbed, prior to any construction activities. This area includes Stream Corridor.
2. Clear and Stabilize Work Areas:
   Grade contractor areas and place all-weather surface on contractor areas.
3. Clearing and Grubbing:
   After Phase I BMP's are installed, contractor may clear, grub, and demo required areas as necessary.

EROSION CONTROL LEGEND

- Temporary Construction Entrance, per detail sheet C13
- Staging Area
- Concrete Washout, per ESC-01 Standard Drawing per APWA 2016
- Limits of Disturbance
- Perimeter Silt Fence
- Inlet Protection

	PROJECT STAGE	PLAN REFERENCE NUMBER	BMP DESCRIPTION	REMOVE AFTER PHASE	NOTES
Phase I	A-Prior to Construction	1	Construction Entrance	II	Install Construction Entrance
		2	Staging Area	II	Install Staging Area
		3	Perimeter Silt Fence	III	Install Silt Fence
		4	Concrete Washout	II	Install Concrete Washout as Shown on Plans Prior to Pouring Any Concrete
Phase II	B - During Land Disturbance & Storm Infrastructure Installation	5	Inlet Protection	III	Install Filter Bags to trap sediment and debris during construction
Phase III	C-Final Stabilization	6	Establish Perennial Vegetation	N/A	Redistribute Topsoil and Seed and Mulch all Disturbed Area. Stabilization Complete when 100% of Disturbed Area is Established with Perennial Vegetation with a Density of 70%

LEGEND

- Existing Major Contour
- Existing Minor Contour
- Proposed Major Contour
- Proposed Minor Contour

NORTH

1"=50'

0 25' 50'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Erosion Control Plan I

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

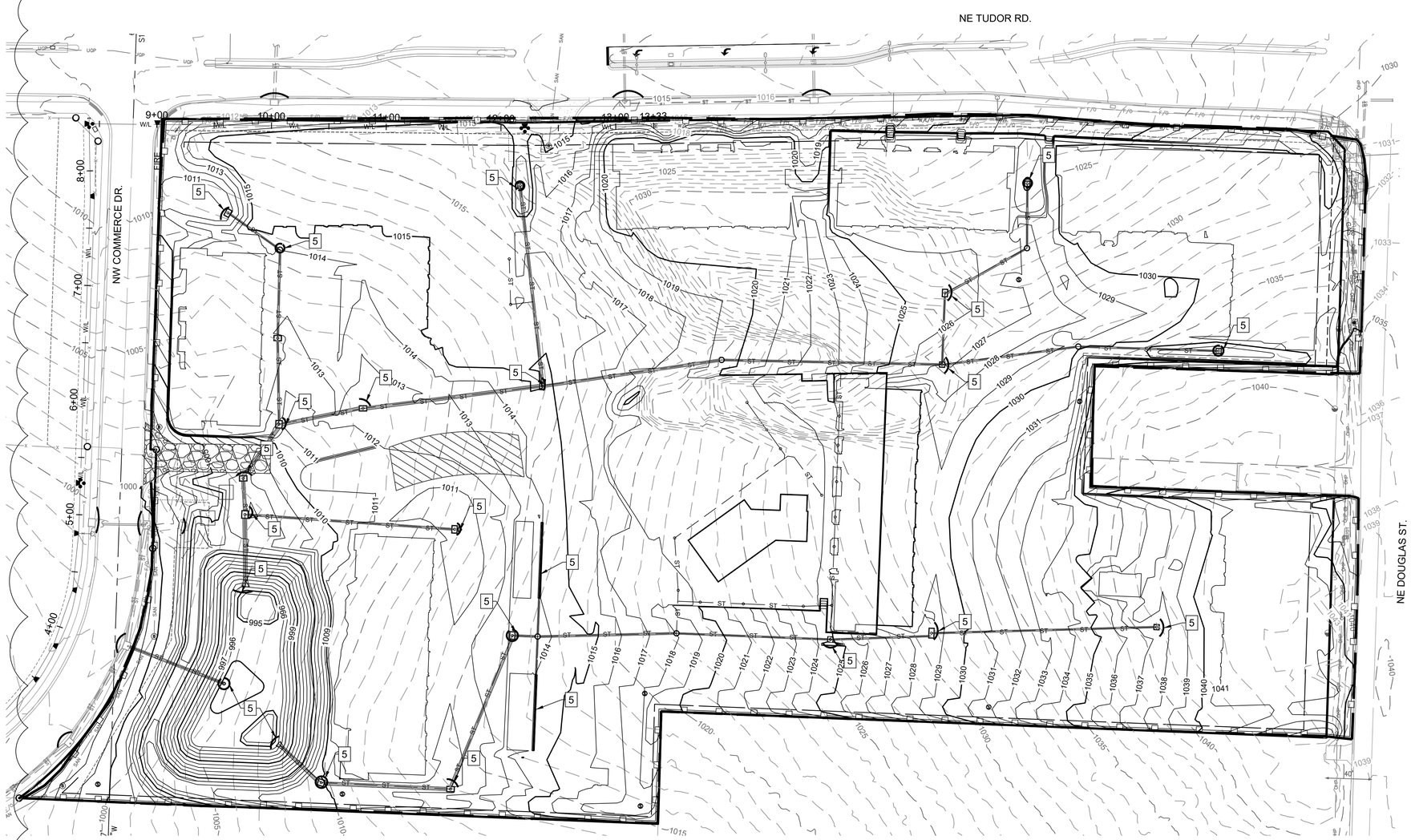
DRAWN BY: TUA
CHECKED BY: CMP

Renaissance Infrastructure Consulting
816.800.0950
www.ric-consult.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418

Sheet
C67

Plotted by: cpotter
Plot Date: 2025-11-36am
Z:\RIC Designs\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- ECP-01.dwg



EROSION CONTROL NOTES

1. Erosion control plan modifications shall be required if the plan fails to substantially control erosion and offsite sedimentation.
2. The retention of access controls and sediment controls shall be required for areas where seed has not established 70% cover.
3. The contractor shall temporarily seed and mulch all disturbed areas if soil disturbing activities cease and will not resume for more than 14 days. Stabilization activities must also be completed within 14 days.
4. Install "J' Hooks on silt fence every 100 LF
5. Any location that is being accessed by vehicles needs to have a construction entrance.
6. Contractor must keep a broom on site in order to clean up mud tracked on to the streets immediately.
7. Any contractor parking that is in a disturbed area must be rocked to prevent tracking of mud.

WRITTEN SEQUENCING

1. Implement Pre-Clearing Plan:
   All temporary structural BMP's shown on the pre-clearing plan must be in place before the general clearing operations. Clearing necessary to place temporary structural BMP's is the minimum required for installation. Coordinate clearing necessary to place temporary structural BMP's with local weather forecast so that clearing and placement may be completed within a forecast dry period. Stabilize all erosion control measures after installation. Temporary Barrier Fence shall be in Place, around areas not to be disturbed, prior to any construction activities. This area includes Stream Corridor.
2. Clear and Stabilize Work Areas:
   Grade contractor areas and place all-weather surface on contractor areas.
3. Clearing and Grubbing:
   After Phase I BMP's are installed, contractor may clear, grub, and demo required areas as necessary.

EROSION CONTROL LEGEND

- Temporary Construction Entrance, per detail sheet C13
- Staging Area
- Concrete Washout, per ESC-01 Standard Drawing per APWA 2016
- Limits of Disturbance
- Perimeter Silt Fence
- Inlet Protection

	PROJECT STAGE	PLAN REFERENCE NUMBER	BMP DESCRIPTION	REMOVE AFTER PHASE	NOTES
Phase I	A-Prior to Construction	1	Construction Entrance	II	Install Construction Entrance
		2	Staging Area	II	Install Staging Area
		3	Perimeter Silt Fence	III	Install Silt Fence
		4	Concrete Washout	II	Install Concrete Washout as Shown on Plans Prior to Pouring Any Concrete
Phase II	B - During Land Disturbance & Storm Infrastructure Installation	5	Sediment Basin & Inlet Protection	III	Const. Sediment Basin and Install Filter Bags to trap sediment and debris during construction
Phase III	C-Final Stabilization	6	Establish Perennial Vegetation	N/A	Redistribute Topsoil and Seed and Mulch all Disturbed Area. Stabilization Complete when 100% of Disturbed Area is Established with Perennial Vegetation with a Density of 70%

LEGEND

- Existing Major Contour
- Existing Minor Contour
- Proposed Major Contour
- Proposed Minor Contour

NORTH

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Erosion Control Plan II

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

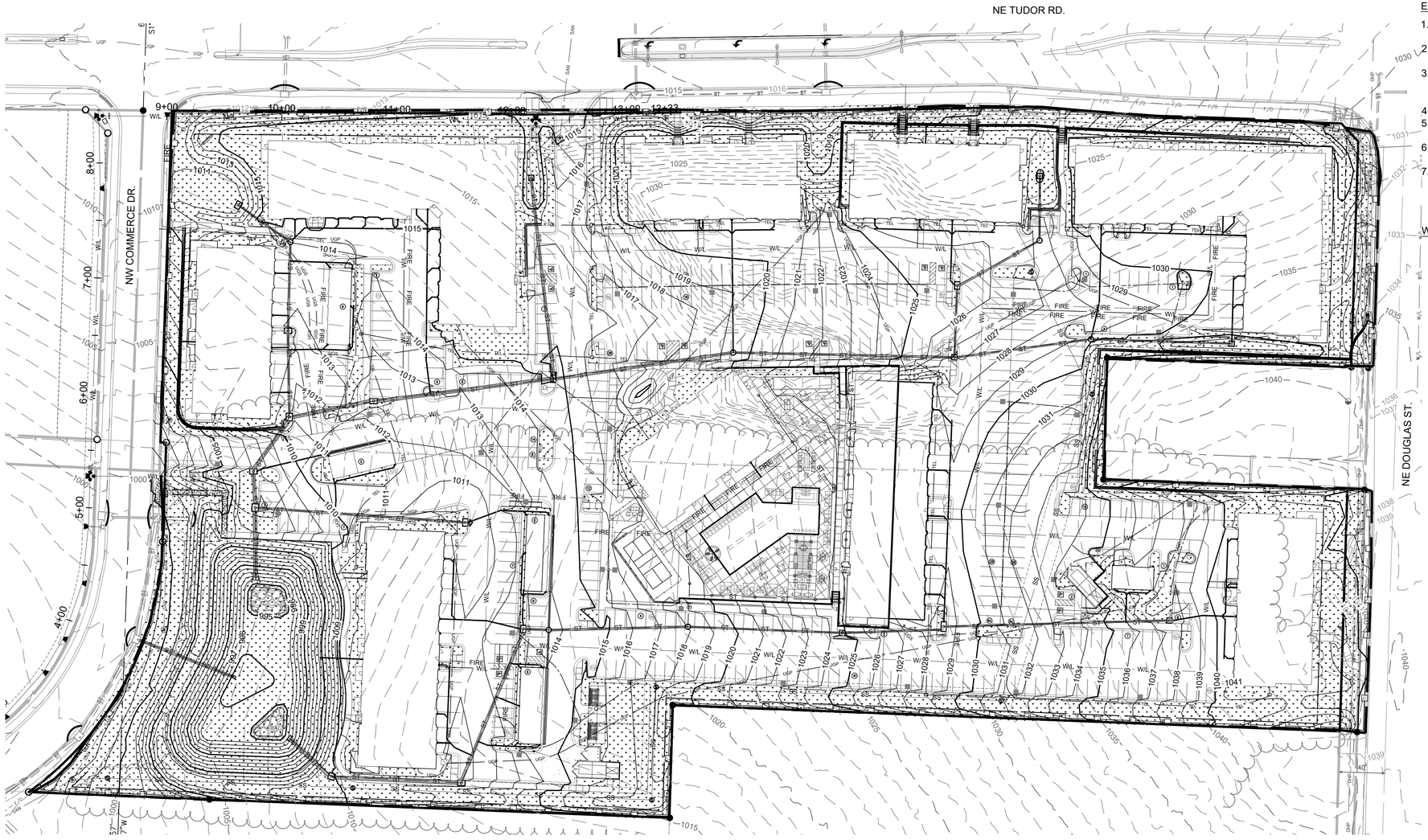
DRAWN BY: TUA
CHECKED BY: CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033830

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
05/12/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C68

cporter
May 08, 2025 - 11:38am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP_ECP-01.dwg



EROSION CONTROL NOTES

1. Erosion control plan modifications shall be required if the plan fails to substantially control erosion and offsite sedimentation.
2. The retention of access controls and sediment controls shall be required for areas where seed has not established 70% cover.
3. The contractor shall temporarily seed and mulch all disturbed areas if soil disturbing activities cease and will not resume for more than 14 days. Stabilization activities must also be completed within 14 days.
4. Install "J" Hooks on silt fence every 100 LF
5. Any location that is being accessed by vehicles needs to have a construction entrance.
6. Contractor must keep a broom on site in order to clean up mud tracked on to the streets immediately.
7. Any contractor parking that is in a disturbed area must be rocked to prevent tracking of mud.

WRITTEN SEQUENCING

1. Implement Pre-Clearing Plan:
   All temporary structural BMP's shown on the pre-clearing plan must be in place before the general clearing operations. Clearing necessary to place temporary structural BMP's is the minimum required for installation. Coordinate clearing necessary to place temporary structural BMP's with local weather forecast so that clearing and placement may be completed within a forecast dry period. Stabilize all erosion control measures after installation. Temporary Barrier Fence shall be in Place, around areas not to be disturbed, prior to any construction activities. This area includes Stream Corridor.
2. Clear and Stabilize Work Areas:
   Grade contractor areas and place all-weather surface on contractor areas.
3. Clearing and Grubbing:
   After Phase I BMP's are installed, contractor may clear, grub, and demo required areas as necessary.

EROSION CONTROL LEGEND

- Temporary Construction Entrance, per detail sheet C13
- Staging Area
- Concrete Washout, per ESC-01 Standard Drawing per APWA 2016
- Limits of Disturbance
- Perimeter Silt Fence
- Inlet Protection

	PROJECT STAGE	PLAN REFERENCE NUMBER	BMP DESCRIPTION	REMOVE AFTER PHASE	NOTES
Phase I	A-Prior to Construction	1	Construction Entrance	II	Install Construction Entrance
		2	Staging Area	II	Install Staging Area
		3	Perimeter Silt Fence	III	Install Silt Fence
		4	Concrete Washout	II	Install Concrete Washout as Shown on Plans Prior to Pouring Any Concrete
Phase II	B - During Land Disturbance & Storm Infrastructure Installation	5	Inlet Protection	III	Install Filter Bags to trap sediment and debris during construction
Phase III	C-Final Stabilization	6	Establish Perennial Vegetation	N/A	Redistribute Topsoil and Seed and Mulch all Disturbed Area. Stabilization Complete when 100% of Disturbed Area is Established with Perennial Vegetation with a Density of 70%

LEGEND

- Existing Major Contour
- Existing Minor Contour
- Proposed Major Contour
- Proposed Minor Contour

NORTH

1"=50'

0 25' 50'

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Erosion Control Plan III

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

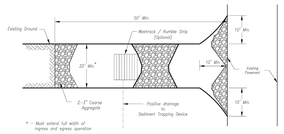
DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.ric-consult.com
400 E 17th Street
Kansas City, Missouri 64108
MO Certificate of Authority: E-2010033630

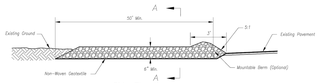
STATE OF MISSOURI
MITCHELL SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025/05/12
MITCHELL E. SLUTTER PE-2002003418

Sheet
C69

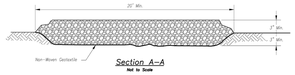
cporter
May 08, 2025 - 11:38am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- ECP-01.dwg



Plan View
Not to Scale



Side Elevation
Not to Scale



Section A-A
Not to Scale

Notes for Construction Entrance:

1. Avoid locating on steep slopes, at 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 3H:1V side slopes across the foundation approximately 50 feet from the edge of the public road to divert runoff from it.
4. Install pipe under the entrance if needed to maintain drainage ditches along public roads.
5. Place stone to dimensions and grade as shown on plans. Leave surface sloped for drainage.
6. Divert all surface runoff and drainage from the entrance to a sediment control device.
7. If conditions warrant, place geotextile fabric on the graded foundation to improve stability.

Maintenance for Construction Entrance:

1. Reshape entrance as needed to maintain function and integrity of installation. Top dress with clean aggregate as needed.

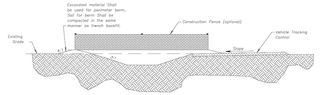
CONSTRUCTION ENTRANCE

Notes for Concrete Washout:

1. Concrete washout area shall be installed prior to any concrete placement on site.
2. Concrete washout area shall include a flat subsurface pit sized based on the anticipated volume of concrete to be placed. The slopes leading out of the subsurface pit shall be 3:1. The vehicle tracking pad shall be sloped towards the concrete washout area.
3. Vehicle tracking 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 pump 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:

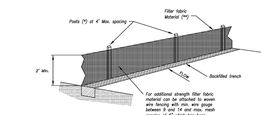
1. Concrete washout materials shall be removed once the materials have filled the washout to approximately 75% full.
2. Concrete washout area shall be enlarged as necessary to maintain capacity for anticipated loads.
3. Concrete washout water, wasted pieces of concrete and all other debris in the subsurface pit shall be transported from the job site in a water-tight 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 topsoil, any disturbed areas shall be graded to the surrounding conditions, and/or removal of the concrete washout areas shall be stabilized.



CONCRETE WASHOUT

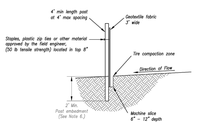
Construction Entrance modified from 2015 Overland Park Standard Details for Erosion and Sediment Control; Concrete Washout modified from 2009 City of Great Bend Standard Drawings.

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



(*) EXISTS
- MIN. LENGTH 4'
- HARDWOOD 1 ¾" x 1 ¾"
- M.O.Z. SOUTHERN PINE 2 ¾" x 2 ¾"
- STEEL 1.33 LB/FT

(**) – Geotextile Fabric shall meet the requirements of AASHTO M288



SILT FENCE DETAILS
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 ½ the height of silt fence.
2. Repair as necessary to maintain function and structure.

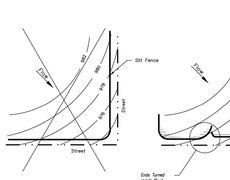
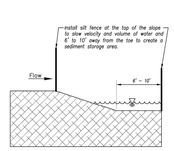
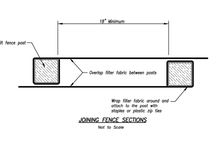


Figure A

SILT FENCE LAYOUT
Not to Scale

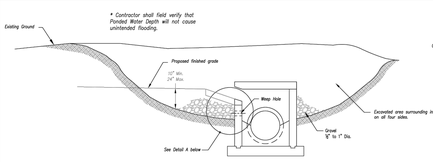




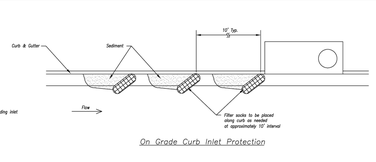
JOINING FENCE SECTIONS
Not to Scale

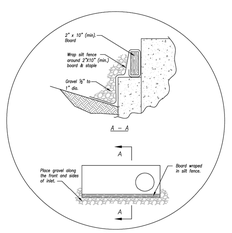
AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
SILT FENCE	STANDARD DRAWING NUMBER ESC-03 ADOPTED: 10/24/2016

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

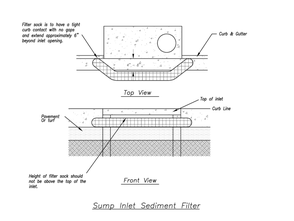


On Grade Curb Inlet Protection





EARLY STAGE CURB INLET
(Open Box and Prior to Pouring Curb and Inlet Throat)



Sump Inlet Sediment Filter

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

Notes:

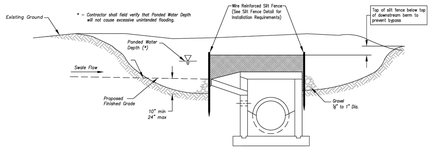
1. Immediately following inlet construction and prior to commencement of land disturbing activities, protect opening by installing 2" x 10" (min.) board wrapped in silt fence. Structures shall have excavated storage area on all four sides to allow settling of sediment (Early Stage Curb Inlet).
2. When inlet is completed and curb poured, filter socks or approved equal should be used (Late Stage Curb Inlet). Straw wattles are not approved for curb inlet use.
3. Contractor to field verify ponding water shall not create a traffic hazard.

Maintenance:

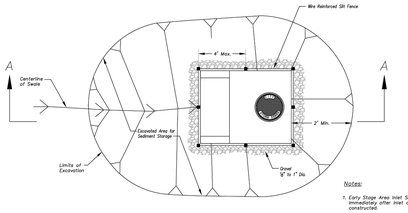
1. Remove deposited sediment from excavated storage areas when available storage has been reduced by 20%.
2. Remove deposited sediment from filter socks or similar when any accumulation of sediment is visible.
3. Repair or replace as necessary to maintain function and integrity of installation.

AMERICAN PUBLIC WORKS ASSOCIATION	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.

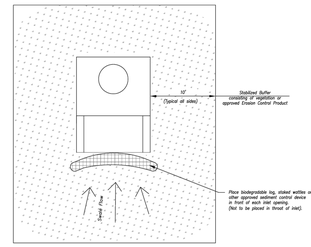


Section A-A
Not to Scale

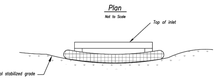


Plan
Not to Scale

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



Plan
Not to Scale



Front View

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

Notes:

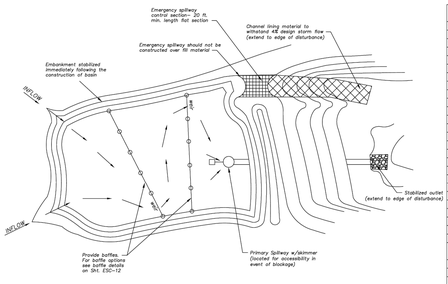
1. Early Stage Area Inlet Sediment Barrier to be installed immediately after inlet or junction box is constructed.
2. Silt fence shall remain in place until excavated area is removed and Late Stage Area Inlet is being installed.
3. Backfill excavated area ONLY after final grading of the site. Stabilization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

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	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.

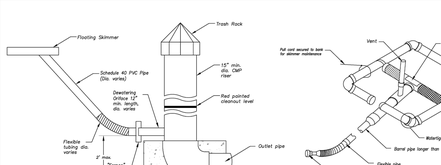


Plan View (*)
Not to Scale

Sediment Basin Design Summary (**)

Design Item	Basin #1	Basin #2	Units	Notes
Site Data:				
Tributary Drainage Area to Pond			Acres	
SCE (2 yr) Design Flow			cfs	
45 (25 yr) Design Flow			cfs	
Pond Data:				
Minimum Sediment Storage Volume			cu yd	134 cy/acre required minimum
Provided Sediment Storage Volume			cu yd	
Bottom Elevation			ft	
Sediment Cleanout Elevation			ft	Elevation equal to 20% of original design volume
Top of Riser Elevation			ft	Top of dry storage volume
Emergency Spillway Elevation			ft	at or above Q-2 elevation. 1.0 ft min above principal spillway
Top of Dam Elevation			ft	1.0 ft min above Q-25 elevation
Basin Shape Data:				
A = Area at Normal Pool			SF	
L = Length of Flow Path			ft	
Wa = Effective Width = A/L			ft	
Length to Width Ratio = L/Wa				
Principal Spillway Data:				
Riser Pipe dia			in	15" min. Size for 2 year flow minimum
Barrel Pipe dia			in	15" min. Size for 2 year flow minimum
Concrete Base size for Riser Pipe			CY	Size to prevent flotation. 1.25 safety factor required
Skimmer Size				Designer to provide specific details and calculations per application to dewater in 48 to 72 hours
Emergency Spillway Data:				
Design Depth in Spillway			ft	
Design Velocity in Spillway			ft/sec	
Lining Material				Designer to provide specific details and calculations per application

(**) – Required on all Sediment Basin Plan Sheets



Cross Section (*)
Not to Scale

(*) – The plan and cross section are schematic in nature. Construction plans must provide specific site construction arrangements.

Sediment Basin Notes:

1. Interior baffles shall be provided to reduce short-circuiting of the basin. See Sht. ESC-12 for approved baffle options.
2. Emergency spillways to be located in a non-fill location when feasible and shall be lined with a non-erodible material such as Riprap or Turf Reinforcement Mat.
3. When directed, sediment basins shall be fenced using construction fence or other material for safety reasons and include warning signs, reading: "Danger – KEEP OUT".

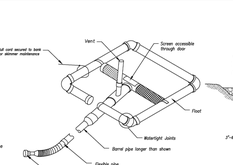
Maintenance:

1. Check temporary sediment basins after periods of significant runoff.
2. Remove sediment and restore the basin to its original dimensions when sediment accumulates to 20% of the storage capacity.
3. Immediately repair any erosion damage to the embankment and outlets.
4. Repair and/or replace baffles as necessary to maintain function and integrity of installation.
5. Keep outlet, skimmer and pool area free of all trash and other debris.

AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
SEDIMENT BASIN	STANDARD DRAWING NUMBER ESC-11 ADOPTED: 10/24/2016

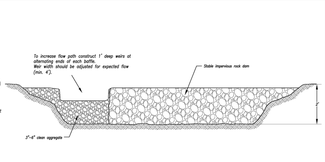
Modified from 2015 Overland Park Standard Details for Erosion and Sediment Control.

PRINCIPAL SPILLWAY DETAIL

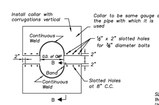


SKIMMER DETAIL (Typ.) *

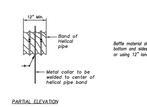
* Designer to provide specific details per application (e.g. pipe sizes, screen sizes, perforation, etc.) as required.



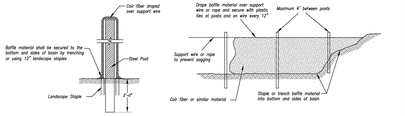
Option A – Rock with Weir



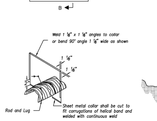
Size and spacing of slotted openings shall be the same as shown for CM collar. Use nuts and lugs to clamp bands securely to pipe.



PARTIAL ELEVATION



Option B – Coir Fiber Material



CORRUGATED METAL ANTI-SEEPAGE COLLAR DETAIL
Not to Scale

Anti-Seepage Collar Notes:

1. Connections between the anti-seepage collar and the barrel must be watertight.
2. P = projection distance. Sized as required to achieve at least a 10% increase in seepage length.
3. 14sP = Max. spacing between collars.
4. Collars shall generally be placed in the middle third of the embankment, and within the saturated zone.
5. All materials to be in accordance with construction material specifications.
6. When specified on the plans, coating of collars shall be in accordance with construction material specifications.
7. Unassembled collars shall be marked by painting or tagging to identify matching pairs.
8. The lap between the two half sections and between the pipe and connecting band shall be sealed with asphalt mastic at the time of installation.
9. Each collar shall be furnished with two (2) ¾" diameter rods with standard bent lugs for connecting the collars to the pipe.
10. For bands and collars, modification of the ends of the bands to provide additional water tightness is maintained and detailed drawings are Submitted and approved by the Engineer prior to delivery.
11. Two other types of anti-seep collars are:
    a. Corrugated metal, similar to above, except that it is cast in the concrete of the pipe and connected to the pipe with connecting bands.
    b. Concrete, 6 inches thick, formed around the pipe with #3 rebar spaced 15".

AMERICAN PUBLIC WORKS ASSOCIATION	KANSAS CITY METRO CHAPTER
SEDIMENT BASIN - DETAILS	STANDARD DRAWING NUMBER ESC-12 ADOPTED: 10/24/2016

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

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Erosion Control Details

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

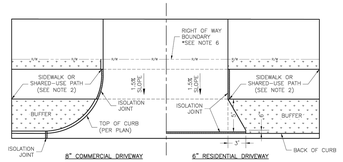
DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
4.00 E 17TH STREET
KANSAS CITY, MISSOURI 64108
816.800.0950
www.RIC-CONSULT.com
MO Certificate of Authority: E-2010033630

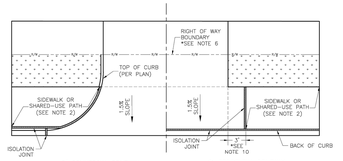
STATE OF MISSOURI
MICHELL SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
2025/05/12

Sheet
C70

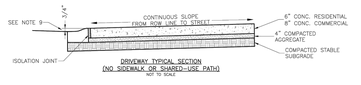
cporter
May 08, 2025 - 11:36am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 FDP- ECP-01.dwg



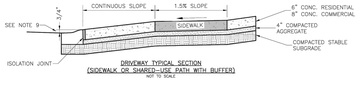
DRIVEWAY WITH BUFFER
NOT TO SCALE



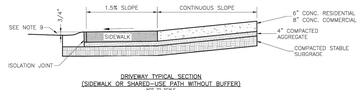
DRIVEWAY WITHOUT BUFFER
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(NO SIDEWALK OR SHARED-USE PATH)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED-USE PATH WITH BUFFER)
NOT TO SCALE



DRIVEWAY TYPICAL SECTION
(SIDEWALK OR SHARED-USE PATH WITHOUT BUFFER)
NOT TO SCALE

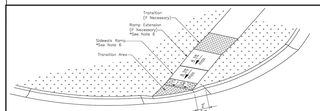
GENERAL NOTES

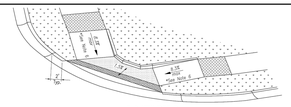
1. SUBGRADE SHALL BE STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. ALL DRIVE APPROACHES SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG) FOR SLOPE REQUIREMENTS WHEN SIDEWALK IS REQUIRED (SEE ADA RAMP RETROFIT DETAIL GEN-3B, SIDEWALK/SHARED USE PATH RAMP AT DRIVEWAY DETAIL).
3. JOINT AT BACK OF CURB LINE SHALL BE AN ISOLATION JOINT FOR RESIDENTIAL DRIVEWAYS.
4. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
5. COMMERCIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, SHALL BE KCMMB 4K CONCRETE MIX.
6. RESIDENTIAL DRIVEWAYS, IN THE PUBLIC RIGHT OF WAY, KCMMB 4K CONCRETE MIX IS RECOMMENDED. OTHER CONCRETE MIXES NEED TO BE APPROVED BY CITY INSPECTOR.
7. A JOINT MUST BE INSTALLED AT THE RIGHT OF WAY BOUNDARY FOR PROPERTY DELINEATION.
8. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.
9. ¾" FROM TOP OF CURB TO FLOWLINE AT DRIVEWAY (TYPE CC-1 CURB ONLY). MUST MAINTAIN ORIGINAL FLOWLINE OF CURB.
10. SIDEWALK ADJOINING CURB SHALL BE 6" THICK, EXTENDING 3' FROM THE DRIVEWAY.
11. THE MAXIMUM WIDTH OF A RESIDENTIAL DRIVEWAY IS 36 FEET WITHIN THE RIGHT OF WAY.

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Item Name: DRIVEWAY DETAIL

Drawn By: MJF
Checked By: DL
Date: 08/2023
Proj. #

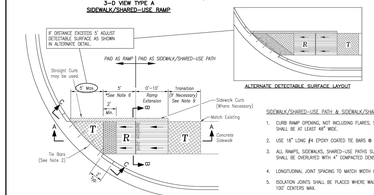
GEN-1

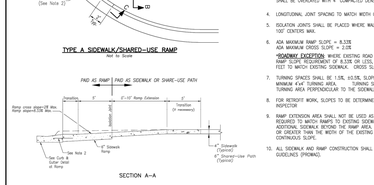


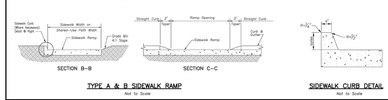


LEGEND

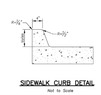
R	SIDEWALK RAMP
TS	TURNING SPACE
	DETECTABLE WARNING SURFACE
T	TRANSITION

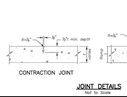






TYPE A & B SIDEWALK RAMP
Not to Scale



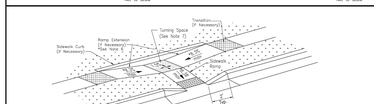


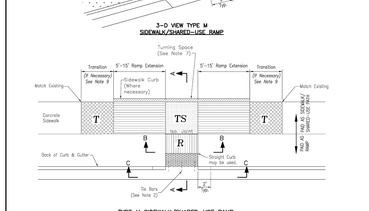
JOINT DETAILS
Not to Scale

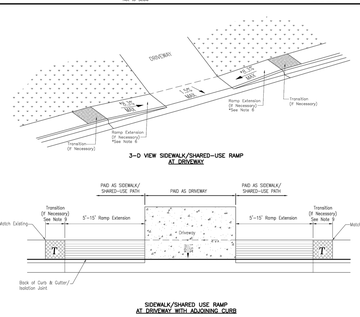
STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Item Name: ADA RAMP RETROFIT DETAIL

Drawn By: MJF
Checked By: DL
Date: 08/2023
Proj. #

GEN-3A







SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 100' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
ADA MAXIMUM CROSS SLOPE = 2.0%
*ROADWAY EXCEPTION WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5%, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

TYPE M SIDEWALK RAMP
Not to Scale

LEGEND

R	SIDEWALK RAMP
TS	TURNING SPACE
	DETECTABLE WARNING SURFACE
T	TRANSITION

SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

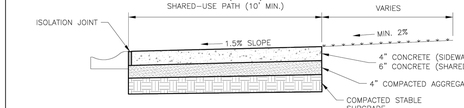
1. CURB RAMP OPENING, NOT INCLUDING FLARES, SHALL MATCH EXISTING SIDEWALK WIDTH AND OPENING SHALL BE AT LEAST 48" WIDE.
2. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION.
3. ALL RAMPS, SIDEWALKS, SHARED-USE PATHS SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
4. LONGITUDINAL JOINT SPACING TO MATCH WIDTH OF SIDEWALK.
5. ISOLATION JOINTS SHALL BE PLACED WHERE WALK ABUTS DRIVEWAYS AND SIMILAR STRUCTURES, AND 100' CENTERS MAX.
6. ADA MAXIMUM RAMP SLOPE = 8.33%
ADA MAXIMUM CROSS SLOPE = 2.0%
*ROADWAY EXCEPTION WHERE EXISTING ROAD PROFILE GRADE DOES NOT ALLOW RAMP TO MEET RAMP SLOPE REQUIREMENT OF 8.33% OR LESS, THE RAMP SHALL BE EXTENDED TO A LENGTH OF 15 FEET TO MATCH EXISTING SIDEWALK. CROSS SLOPE OF RAMP SHALL BE 1.5%, ±0.5%.
7. TURNING SPACES SHALL BE 1.5%, ±0.5%, SLOPE IN ANY DIRECTION. TURNING SPACES SHALL HAVE A MINIMUM 4'x4' TURNING AREA. TURNING SPACES, WITH A SIDEWALK CURB, SHALL HAVE A 5' TURNING AREA PERPENDICULAR TO THE SIDEWALK CURB.
8. FOR RETROFIT WORK, SLOPES TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY CITY INSPECTOR
9. RAMP EXTENSION AREA SHALL NOT BE USED AS TRANSITION TO EXISTING SIDEWALK. ANY TRANSITIONS REQUIRED TO MATCH RAMPS TO EXISTING SIDEWALK SHALL REQUIRE REMOVAL AND REPLACEMENT OF ADDITIONAL SIDEWALK BEYOND THE RAMP AREA. SIDEWALK TRANSITION LENGTH SHALL BE EQUAL TO OR GREATER THAN THE WIDTH OF THE EXISTING SIDEWALK. RAMP EXTENSIONS SHALL BE A CONTINUOUS SLOPE.
10. ALL SIDEWALK AND RAMP CONSTRUCTION SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).

STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO
Item Name: ADA RAMP RETROFIT DETAIL

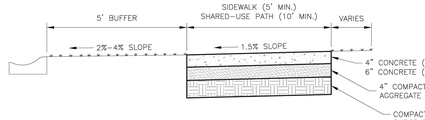
Drawn By: MJF
Checked By: DL
Date: 08/2023
Proj. #

GEN-3B

8



SIDEWALK/SHARED-USE PATH WITHOUT BUFFER
NOT TO SCALE



SIDEWALK/SHARED-USE PATH WITH BUFFER
NOT TO SCALE

GENERAL NOTES:

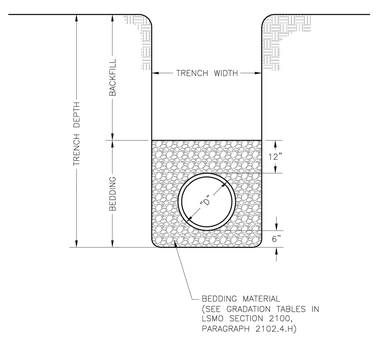
1. SUBGRADE MUST BE OF STABLE, COMPACTED EARTH AND SHALL BE OVERLAYED WITH 4" COMPACTED DENSE GRADED AGGREGATE BASE.
2. 1.5% CROSS SLOPE MUST BE MAINTAINED THROUGH DRIVEWAYS.
3. KCMMB 4K CONCRETE MIX SHALL BE REQUIRED FOR ALL SIDEWALKS/SHARED-USE PATHS.
4. ALL SIDEWALK/SHARED-USE PATHS SHALL MEET CURRENT PUBLIC RIGHT OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
5. AN ISOLATION JOINT SHALL BE PLACED AT A MAXIMUM OF 100 FT. CONSTRUCTION JOINTS SHALL BE PLACED THE SAME WIDTH OF SIDEWALK/SHARED-USE PATHS, BUT NO GREATER THAN 10 FT.
6. AN ISOLATION JOINT SHALL BE PLACED WHERE THE SIDEWALK/SHARED-USE PATHS MEETS A RESIDENTIAL DRIVEWAY.
7. SHARED-USE PATHS WIDTH SHALL BE 10 FT. WIDE.
8. SIDEWALK/SHARED-USE PATHS FINISHING SHALL BE FULL BROOM FINISH OR AS DIRECTED BY CITY INSPECTOR.
9. WHITE CURING COMPOUND MUST BE APPLIED UNIFORMLY TO THE CONCRETE SURFACE IMMEDIATELY AFTER FINAL FINISHING.

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

SIDEWALK/SHARED-USE PATH DETAIL

Date: 08/2023
Drawn By: MJF
Checked By: DL

GEN-2



NOTES:

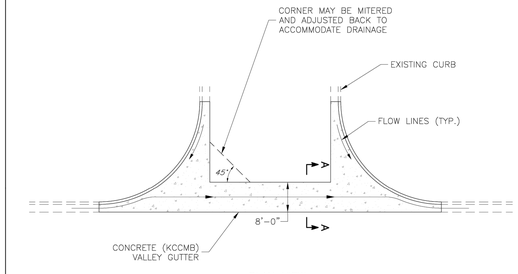
1. FOR TRENCHING AND PAVEMENT PATCHING REPAIRS WITHIN EXISTING OR FUTURE STREETS SEE STANDARD DETAIL GEN-5.
2. EXCAVATION DEPTH, SLOPES, SHORING, AND STOCKPILE LOCATIONS SHALL COMPLY WITH OSHA REGULATIONS.

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

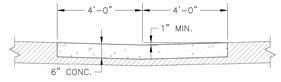
PIPE BEDDING DETAIL

Date: 08/2023
Drawn By: MJF
Checked By: GMB

GEN-6



PLAN VIEW
NOT TO SCALE



SECTION
NOT TO SCALE

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

VALLEY GUTTER DETAIL

Date: 08/2023
Drawn By: MJF
Checked By: DL

GEN-8

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Standard Details I

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

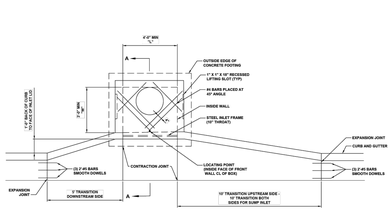
DRAWN BY TUA | CHECKED BY CMP

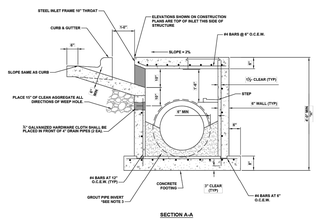
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E. 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

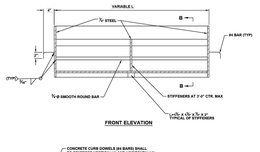
STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025/05/26
MITCHELL E. SLUTTER PE-2002003418

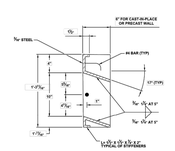
Sheet
C71

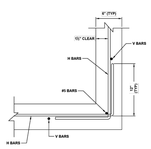
cporter
May 08, 2025 - 11:37am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- std-01.dwg











CURB INLET DETAIL
NOT TO SCALE

GENERAL NOTES:
1. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION AND THE SECOND DIMENSION IS THE "W".
2. FLOW LINES LISTED ON THE PROJECT PLANS ARE LISTED AT THE INSIDE FACE OF THE WALL.
3. GROUT PIPE INVERTS SMOOTHED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH ON BLANK WALL IF POSSIBLE.
5. STEPS SHALL BE SPACED AT 1'-0" O.C. VERTICALLY ON BLANK WALL IF POSSIBLE.
6. BEVEL ALL EXPOSED CONCRETE CORNERS 1" TO FORM AN EDGE.
7. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
8. ROCKOUTS WILL NOT BE REMOVED AND SEALED WITH NON-SHRINKABLE GROUT.
9. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

FIELD INLET DETAIL

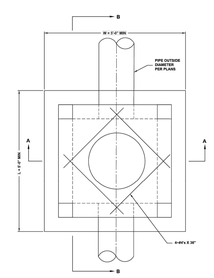
NO.	DESCRIPTION	DATE

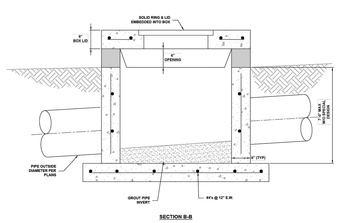
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

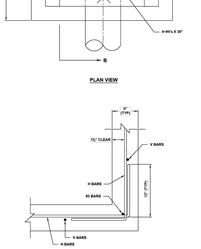
PROJECT: STANDARD DETAILS — PUBLIC WORKS ENGINEERING — LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
SHEET NAME: CURB INLET DETAILS

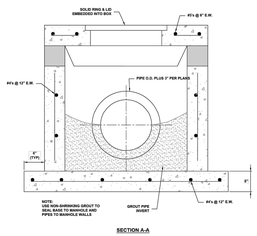
DRAWN BY: CNS
CHECKED BY: MJF
DATE: 04/27/2024
PROJECT #: ---

STM-1









FIELD INLET DETAIL

GENERAL NOTES:
1. LOCATE RING AND COVER OVER OUTLET ON BLANK WALL.
2. USE ¾" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 5' ON BLANK WALL IF POSSIBLE.
5. ROCKOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE.
6. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOOKOUT.
7. SHOW FIELD INLET ORIENTATION ON PLANS PLUS NUMBER AND SIDE OF OPENINGS.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

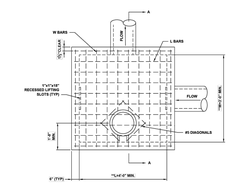
NO.	DESCRIPTION	DATE

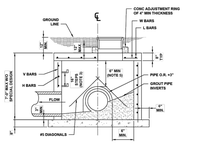
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

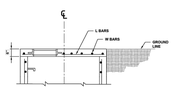
PROJECT: STANDARD DETAILS — PUBLIC WORKS ENGINEERING — LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
SHEET NAME: FIELD INLET DETAILS

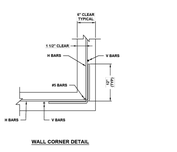
DRAWN BY: CNS
CHECKED BY: MJF
DATE: 04/27/2024
PROJECT #: ---

STM-2









JUNCTION BOX DETAIL
NOT TO SCALE

*** INCREASE IN MULTIPLES OF 6" AS REQUIRED BY STRUCTURAL DESIGN. (SEE PROJECT PLANS FOR DETAILS)

REINFORCING

BARS	BAR SIZE	SPACING (IN.)
H	4	12
V	4	12
L	5	6
W	5	6

GENERAL NOTES:
1. LOCATE RING AND COVER ON BLANK WALL.
2. USE ¾" CHAMFER STRIP OR ¾" R EDGER TOOL ON ALL EXPOSED CONCRETE CORNERS.
3. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 5' ON BLANK WALL IF POSSIBLE.
4. ROCKOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE AND THE MINIMUM DISTANCE BETWEEN ROCKOUTS IS 6'.
5. THE MINIMUM REINFORCING SHALL BE 1 H-BAR OVER A CAST-IN-PLACE PIPE AND 2 H-BARS OVER A PRECAST BOOKOUT.
6. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON-SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
7. REINFORCING OF COVERS IN STREETS REQUIRE SPECIAL DESIGN.
10. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

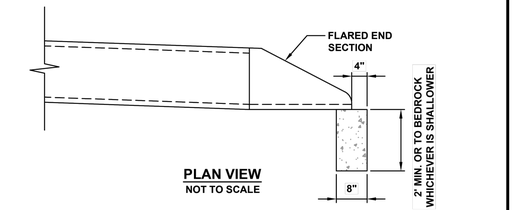
NO.	DESCRIPTION	DATE

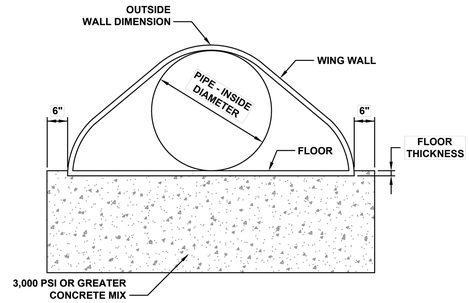
LEE'S SUMMIT MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

PROJECT: STANDARD DETAILS — PUBLIC WORKS ENGINEERING — LEE'S SUMMIT, JACKSON COUNTY, MISSOURI
SHEET NAME: JUNCTION BOX DETAIL

DRAWN BY: CNS
CHECKED BY: MJF
DATE: 04/27/2024
PROJECT #: ---

STM-3



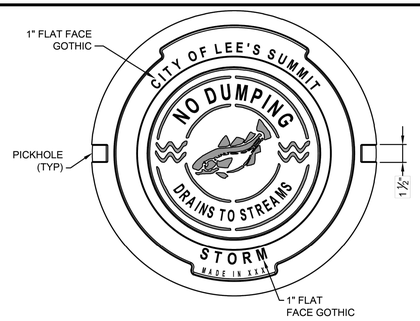


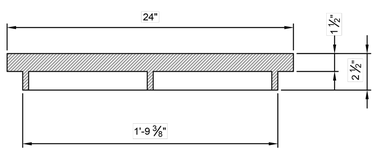
FLARED END SECTION SUPPORT DETAIL

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

FLARED END SECTION SUPPORT DETAIL

DATE: 04/30/2024
DRAWN BY: CNS
CHECKED BY: MJF
DWG No. STM-5





STORM MANHOLE COVER

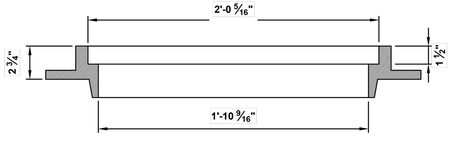
STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB

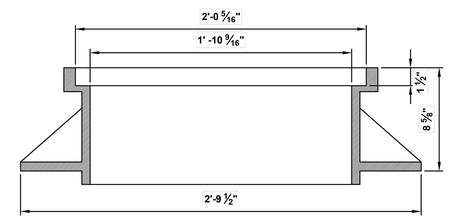
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

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

STORM MANHOLE COVER

DATE: 04/30/2024
DRAWN BY: CNS
CHECKED BY: MJF
DWG No. STM-6





*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

STORM MANHOLE FRAME DETAIL

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

STORM MANHOLE FRAME DETAIL

DATE: 04/30/2024
DRAWN BY: CNS
CHECKED BY: MJF
DWG No. STM-7

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Standard Details II

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

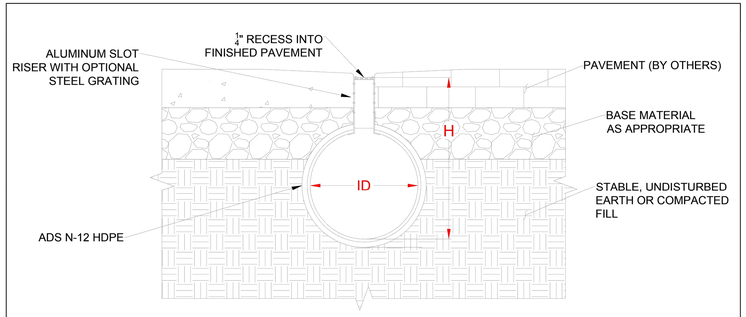
DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority, E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025/2/5
MITCHELL E. SLUTTER PE-2002003418

Sheet
C72

cporter
May 06, 2025 - 11:37am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- st4-01.dwg



Nominal Diameter, ID, in. (mm)	Depth of Invert, H, in. (mm)	
	Minimum	Maximum
4 (100)	7.00 (178)	28.25 (718)
6 (150)	9.25 (235)	30.25 (768)
8 (200)	11.25 (286)	32.25 (819)
10 (250)	13.25 (337)	34.25 (870)
12 (300)	16.00 (406)	48.25 (1226)
15 (375)	19.00 (483)	51.25 (1302)
18 (450)	22.25 (565)	54.25 (1378)
24 (600)	29.00 (737)	60.25 (1530)
30 (750)	35.25 (895)	66.25 (1683)
36 (900)	41.50 (1054)	72.25 (1835)

NOTES:
1. BACKFILL DESIGN SHOULD BE USED FOR NON-VEHICULAR LOADS ONLY.
2. SURFACE PAVEMENT ADJOINING THE SLOT SHOULD BE A NON-EROSIVE MATERIAL.
3. COUPLER BANDS ARE SOIL-TIGHT. FOR A TIGHTER SEAL, A NEOPRENE SHEET OR MASTIC FILLER (PROVIDED BY OTHER) MAY BE USED.
4. SITE ENGINEER TO PROVIDE SITE SPECIFIC BACKFILL DETAILS, SUCH AS PAVEMENT TYPE.
4. REFER TO ADS TECH NOTE 2.11 FOR ADDITIONAL DESIGN INFORMATION.
5. SLOT RECESS IS NOT INCLUDED IN DEPTH OF INVERT TABLES.

© 2023 ADS, INC.

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
0	-	-	-	-

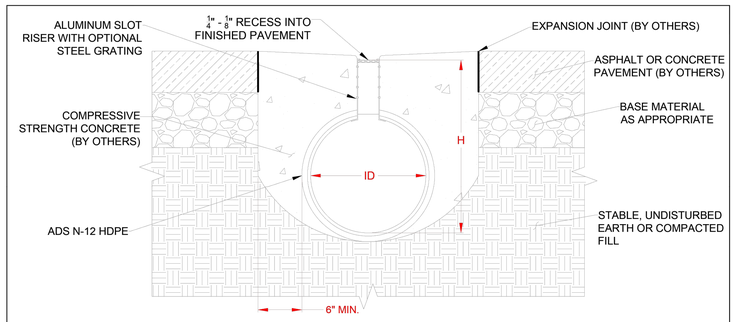
ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT. NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. 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 ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

Duraslot Light Duty Installation

DRAWING NUMBER: STD-A1460A

4640 TRUEMAN BLVD
HILLIARD, OHIO 43026

DRAWN BY	KJS
DATE	07-05-2023
SCALE	NTS
SHEET	1 OF 1



Nominal Diameter, ID, in. (mm)	Depth of Invert, H, in. (mm)	
	Minimum	Maximum
6 (150)	12.50 (318)	30.00 (762)
8 (200)	14.50 (368)	32.00 (813)
10 (250)	16.50 (419)	34.00 (864)
12 (300)	19.00 (483)	48.00 (1219)
15 (375)	22.00 (559)	51.00 (1295)
18 (450)	25.00 (635)	54.00 (1372)
24 (600)	31.25 (794)	60.00 (1524)
30 (750)	38.25 (972)	66.00 (1676)
36 (900)	44.25 (1024)	72.00 (1829)

NOTES:
1. BACKFILL DESIGN MAY BE USED FOR LIGHT TO MODERATE TRAFFIC LOADS (I.E. RETAIL PARKING LOTS, AGAINST A CURB, ETC.).
2. CONCRETE BACKFILL SHOULD EXTEND DOWNWARD TO AT LEAST THE SPRING LINE OF THE PIPE. SOIL BELOW THE PIPE AND CONCRETE SHALL BE A LEAN CLAY OR SIMILAR AT 95% COMPACTION.
4. SITE ENGINEER TO PROVIDE SITE SPECIFIC DETAILS, SUCH AS CONCRETE STRENGTH OR BACKFILL DESIGN ALTERATIONS.
5. COUPLER BANDS ARE SOIL-TIGHT. FOR A TIGHTER SEAL, A FULL CONCRETE INSTALLATION, NEOPRENE SHEET, OR MASTIC FILLER (PROVIDED BY OTHER) MAY BE USED.
6. REFER TO ADS TECH NOTE 2.11 FOR ADDITIONAL DESIGN INFORMATION.
7. SLOT RECESS IS NOT INCLUDED IN DEPTH OF INVERT TABLES.

© 2023 ADS, INC.

REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
1	CALLOUT UPDATE	KJS	12/1/2023	-

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 ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

Duraslot Moderate Traffic Installation

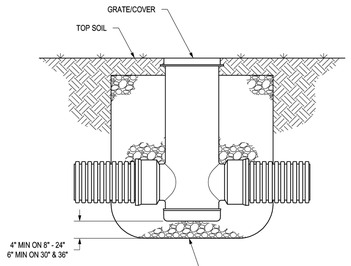
DRAWING NUMBER: STD-1461A

4640 TRUEMAN BLVD
HILLIARD, OHIO 43026

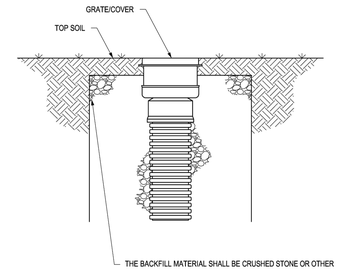
DRAWN BY	KJS
DATE	07-05-2023
SCALE	NTS
SHEET	1 OF 1

NON TRAFFIC INSTALLATION

DRAIN BASIN



INLINE DRAIN



THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2011 NYLOPLAST

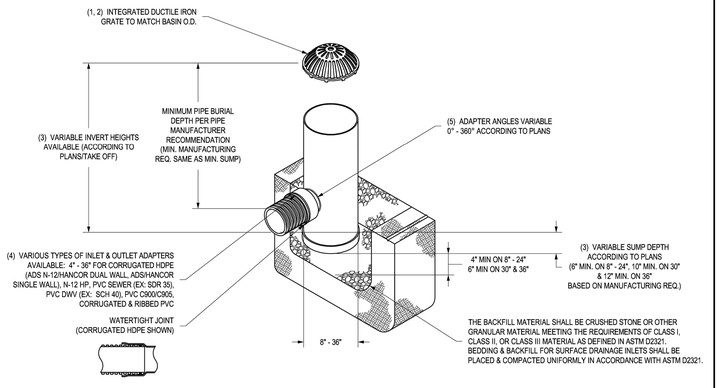
DRAWN BY	CJA
DATE	9-30-99
REVISED BY	NMH
DATE	03-11-16
DWG SIZE	A
MATERIAL	
PROJECT NO./NAME	
SCALE	1:25
SHEET	1 OF 1

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN & INLINE DRAIN NON TRAFFIC INSTALLATION

DWG NO. 7001-110-111 REV F

NYLOPLAST DRAIN BASIN WITH DOME GRATE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 8" & 10" DOME GRATES FIT ONTO THE DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2013 NYLOPLAST

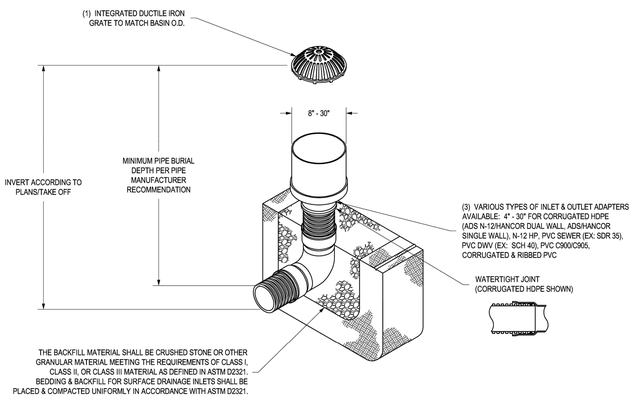
DRAWN BY	EBC
DATE	03-25-10
REVISED BY	NMH
DATE	06-12-18
DWG SIZE	A
MATERIAL	
PROJECT NO./NAME	
SCALE	1:40
SHEET	1 OF 1

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN WITH DOME GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-397 REV E

NYLOPLAST INLINE DRAIN WITH DOME GRATE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
3 - 8" - 30" DOME GRATES HAVE NO LOAD RATING

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2013 NYLOPLAST

DRAWN BY	EBC
DATE	03-25-10
REVISED BY	NMH
DATE	03-15-16
DWG SIZE	A
MATERIAL	
PROJECT NO./NAME	
SCALE	1:40
SHEET	1 OF 1

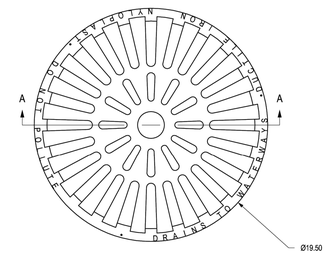
3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

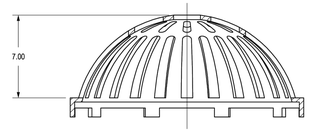
TITLE: INLINE DRAIN WITH DOME GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7003-110-057 REV D

1899CGD

APPROX. DRAIN AREA = 175.59 SQ IN
APPROX. WEIGHT = 32.00 LBS





SECTION A-A

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOOKING DEVICE AVAILABLE UPON REQUEST

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2013 NYLOPLAST

DRAWN BY	EBC
DATE	03-08-06
REVISED BY	CCA
DATE	08-30-13
DWG SIZE	A
MATERIAL	DUCTILE IRON
PROJECT NO./NAME	
SCALE	1:6
SHEET	1 OF 1

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE: 18 IN DOME GRATE

DWG NO. 7001-110-215 REV E

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY: TUA
CHECKED BY: CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E. 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
12/09/25
MITCHELL E. SLUTTER PE-2002003418

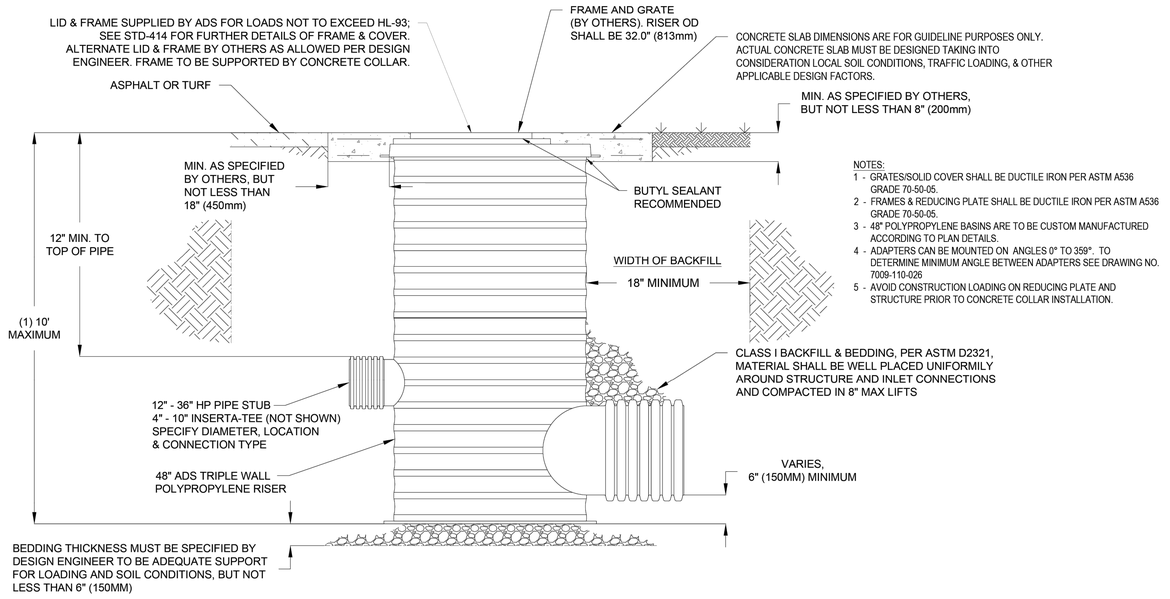
Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Standard Details III

Sheet
C73

cporter
May 08, 2025 - 11:37am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- std-01.dwg



NOTES:
1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES & REDUCING PLATE SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - 48" POLYPROPYLENE BASINS ARE TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
4 - ADAPTERS CAN BE MOUNTED ON ANGLES 0° TO 359°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7009-110-026
5 - AVOID CONSTRUCTION LOADING ON REDUCING PLATE AND STRUCTURE PRIOR TO CONCRETE COLLAR INSTALLATION.

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 ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

STANDARD DETAIL
48" POLYPROPYLENE BASIN W/ FLAT FRAME TOP INSTALLATION (48")

DRAWING NUMBER STD-403

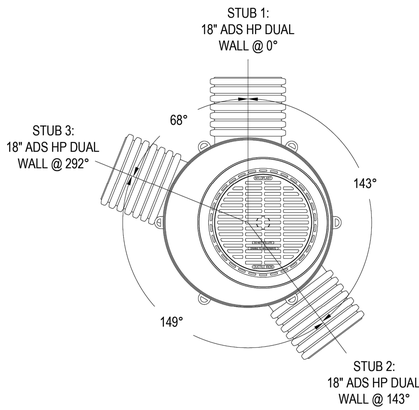
4640 TRUEMAN BLVD
HILLIARD, OH 43026

DRAWN BY: NMH
DATE: 01/30/23
CK'D BY:
SCALE: NTS
SHEET: 1 OF 1

ADAPTER SIZE	48" HP MH
4" - 4"	17°
4" - 6"	**19°**
4" - 8"	22°
4" - 10"	**24°**
4" - 12"	26°
4" - 15"	**30°**
4" - 18"	34°
4" - 24"	**42°**
4" - 30"	51°
4" - 36"	**61°**
6" - 6"	**22°**
6" - 8"	24°
6" - 10"	**26°**
6" - 12"	29°
6" - 15"	**33°**
6" - 18"	36°
6" - 24"	**44°**
6" - 30"	53°
6" - 36"	**63°**
8" - 8"	26°
8" - 10"	**29°**
8" - 12"	31°
8" - 15"	**35°**
8" - 18"	39°
8" - 24"	**47°**
8" - 30"	55°
8" - 36"	**65°**

ADAPTER SIZE	48" HP MH
10" - 10"	**31°**
10" - 12"	34°
10" - 15"	**37°**
10" - 18"	41°
10" - 24"	**49°**
10" - 30"	58°
10" - 36"	**68°**
12" - 12"	43°
12" - 15"	**47°**
12" - 18"	51°
12" - 24"	**66°**
12" - 30"	76°
12" - 36"	**85°**
15" - 15"	51°
15" - 18"	**55°**
15" - 24"	70°
15" - 30"	**78°**
15" - 36"	88°
18" - 18"	**58°**
18" - 24"	74°
18" - 30"	**82°**
18" - 36"	92°
24" - 24"	**81°**
24" - 30"	90°
24" - 36"	**100°**
30" - 30"	99°
30" - 36"	**109°**
36" - 36"	119°

1. MEASURE THE ANGLE BETWEEN THE PIPE RUNS DIRECTLY FROM THE STORM DRAIN PLANS FOR EACH STRUCTURE LOCATION . THE ANGLE BETWEEN EVERY PIPE RUN MUST BE MEASURED.
2. REFER TO DRAWING NO. 7001-110-012 FOR MINIMUM ANGLE REQUIREMENTS. THE ANGLES LISTED ARE THE MINIMUM ANGLES POSSIBLE BETWEEN ADAPTERS DUE TO PRODUCTION RESTRICTIONS.
3. WHEN RECORDING THE MEASURED ANGLES ON AN ORDER FORM BE SURE TO MEASURE THE ANGLES IN A CLOCKWISE DIRECTION & LABEL THE ANGLE POSITIONS STARTING WITH 0° AT THE TOP OF THE PAGE, THE 12 O'CLOCK POSITION; 90° WOULD THEN FOLLOW AT 3 O'CLOCK, 180°AT 6 O'CLOCK, & SO FORTH (TYPICALLY YOUR OUTLET PIPE WOULD BE LABELED AT 0°).



POLYPROPYLENE BASIN TOP VIEW
WITH REDUCING PLATE, FRAME & GRATE

EXAMPLE:
THE 48" POLYPROPYLENE BASIN ABOVE HAS THREE PIPE STUBS:
18" ADS HP DUAL WALL ADAPTER @ 0°
18" ADS HP DUAL WALL ADAPTER @ 143°
18" ADS HP DUAL WALL ADAPTER @ 292°

ACCORDING TO THE MINIMUM ANGLE CHART A 48" POLYPROPYLENE BASIN REQUIRES A MINIMUM OF 68° BETWEEN AN 18" & 18" STUB. STUB 2 EXCEEDS THE MINIMUM ANGLES BETWEEN STUB 1 AND STUB 3 AND MEETS THE MINIMUM ANGLE REQUIREMENTS. STUB 3 IS 68° FROM STUB 1 AND THEREFORE IS AT THE MINIMUM ALLOWED ANGLE BETWEEN THE TWO ADAPTER SIZES.

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 ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

STANDARD DETAIL
48" POLYPROPYLENE BASIN MINIMUM ANGLE CHART

DRAWING NUMBER 7009-110-028 A

4640 TRUEMAN BLVD
HILLIARD, OH 43026

DRAWN BY: NMH
DATE: 8/10/23
CK'D BY:
SCALE: NTS
SHEET: 1 OF 1

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Standard Details IV

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA
CHECKED BY CMP

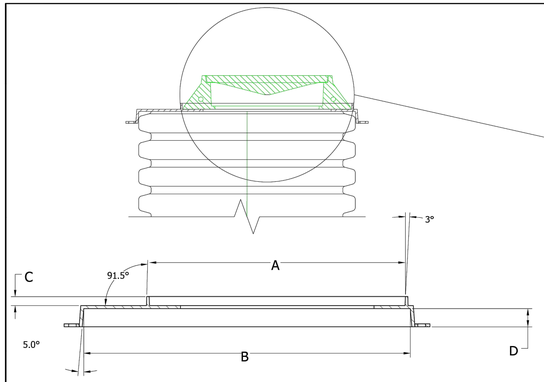
Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E2010033630

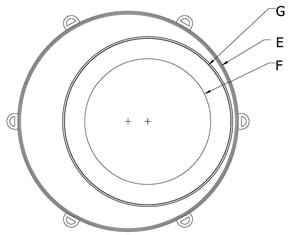
STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL E. SLUTTER PE-2002003418

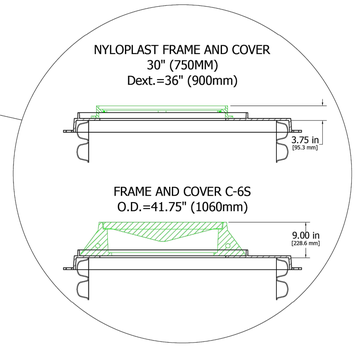
Sheet
C74

cporter
May 08, 2025-11:37am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- std-01.dwg

OPTIONS FOR FRAME AND COVER







DIMENSIONS	
A	42.25" (1073.2 mm)
B	54.40" (1386.8 mm)
C	1.50" (38.1 mm)
D	3.00" (76.2 mm)
E	R27.80" (R706.1 mm)
F	Ø32.00" (Ø812.8 mm)
G	Ø42.25" (Ø1073 mm)

NOTE 1:THE REDUCING FRAME IS MADE OF DUCTILE IRON
NOTE 2: THE WEIGHT OF THE FRAME IS 308 POUNDS (139.7KG)

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 ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

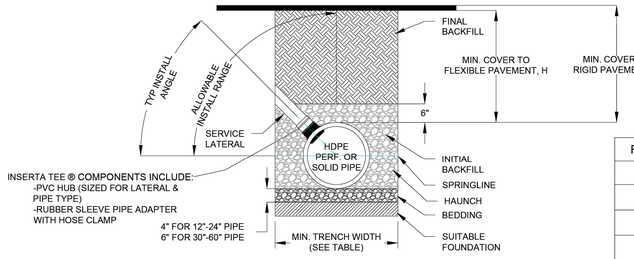
STANDARD DETAIL
FRAME & COVER FOR 48" POLYPROPYLENE BASIN

DRAWING NUMBER STD-414

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026

DRAWN BY: NMH
DATE: 9/23/22
DES'N BY: CKM
SCALE: NTS
SHEET: 1 OF 1

INSERTA TEE ® DETAIL (HDPE)



RECOMMENDED MINIMUM TRENCH WIDTHS	
PIPE DIAM.	MIN. TRENCH WIDTH
4" (100mm)	21" (533mm)
6" (150mm)	23" (584mm)
8" (200mm)	26" (660mm)
10" (250mm)	28" (711mm)
12" (300mm)	30" (762mm)
15" (375mm)	34" (864mm)
18" (450mm)	39" (991mm)
24" (600mm)	48" (1219mm)
30" (750mm)	56" (1422mm)
36" (900mm)	64" (1626mm)
42" (1050mm)	72" (1829mm)
48" (1200mm)	80" (2032mm)
54" (1350mm)	88" (2235mm)
60" (1500mm)	96" (2438mm)

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. THE INSERTA TEE CONNECTION CAN BE INSTALLED UP TO A VERTICAL ORIENTATION, BUT A 45° INSTALL ANGLE IS MOST COMMON. GREATER ANGLES ARE SUBJECT TO DESIGN ENGINEER APPROVAL AND MAY REQUIRE PREMIUM BACKFILL.

4. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

5. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).

6. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

7. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

NOTE: FOR INSTALLATION INSTRUCTIONS, REFER TO DETAIL STD-1100. FOR PROTRUSION INFORMATION, REFER TO DETAIL STD-1101. FOR HOLE SAW INFORMATION, REFER TO DETAIL STD-1102.

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 ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

INSERTA TEE DETAIL (HDPE)

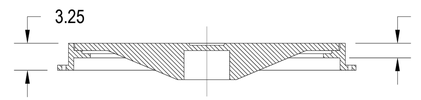
DRAWING NUMBER STD-1011

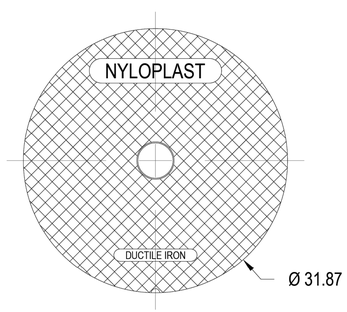
ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026

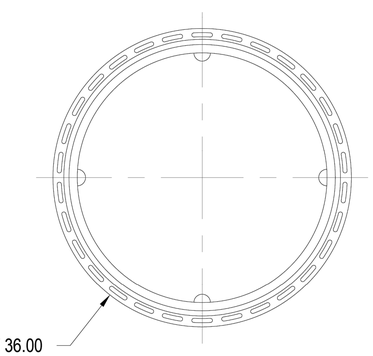
DRAWN BY: HAK
DATE: 07/19/23
DES'N BY: ENG
SCALE: NTS
SHEET: 1

3099CGC

APPROX. WEIGHT WITH FRAME = 262.50 LBS







DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
COVER MEETS H-20 LOAD RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-026

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 ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

STANDARD DETAIL
NYLOPLAST 30 IN SOLID COVER ASSEMBLY - TYPE B

DRAWING NUMBER 7001-110-222

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026

DRAWN BY: NMH
DATE: 02/06/23
DES'N BY:
SCALE: NTS
SHEET: 1 OF 1

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Standard Details V

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

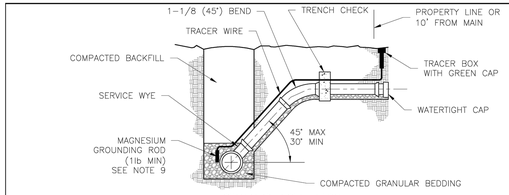
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E2010033630

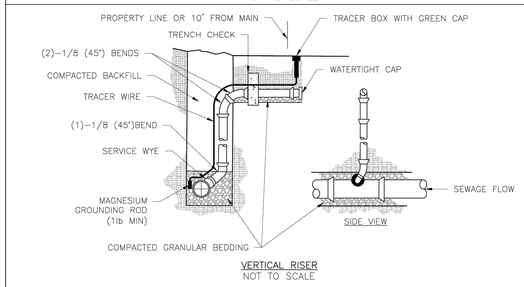
STATE OF MISSOURI
MITCHELL SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
09/25
MITCHELL E. SLUTTER PE-2002003418

Sheet
C75

cporter
May 08, 2025-11:37am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- st4-01.dwg



STANDARD INSTALLATION
NOT TO SCALE



VERTICAL RISER
NOT TO SCALE

NOTES:

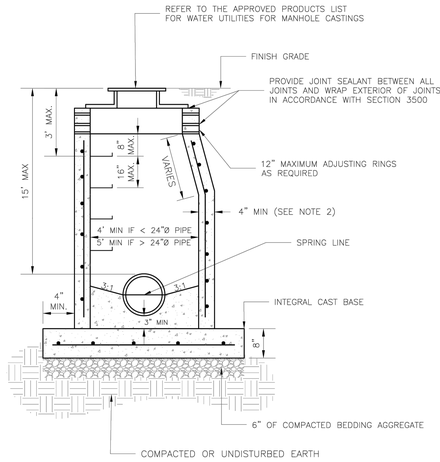
1. ALL SEWER STUBS SHALL BE CONSTRUCTED TO PROPERTY LINE OR 10' MINIMUM FROM THE MAIN, WHICHEVER IS GREATER. WHERE SIDEWALKS ARE PRESENT, CONTRACTOR SHALL EXTEND SERVICE LINE UNDER EXISTING SIDEWALK TO TWO FEET BEYOND.
2. IMPERVIOUS TRENCH CHECKS SHALL BE PLACED ON BUILDING SEWER STUBS (AT LEAST 5' AWAY 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. TRACER WIRE SHALL BE INSTALLED PER SPECIFICATION SECTION 3500. 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 LOCKING SPLICE CONNECTOR MANUFACTURED WITH A WATERPROOF DIELECTRIC SEALANT.

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

SANITARY SEWER STUB DETAIL

Date: 08/2023 | Drawn By: MJF | Checked By: AB

SAN-1



NOTES:

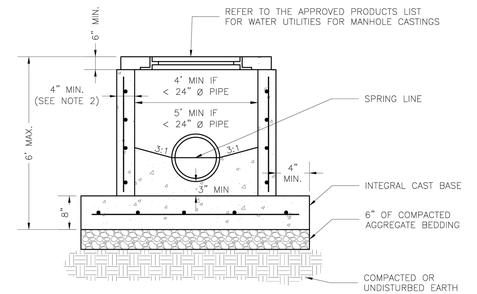
1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH ($\frac{1}{12}$) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THEN 15'.
3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THAN 14 MILS OF BITUMINOUS COATING.
4. ONLY ECCENTRIC MANHOLE CONES WILL BE ALLOWED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
5. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
6. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR APPROVED MANHOLE GASKET MODELS.
7. REFER TO THE APPROVED PRODUCTS LIST FOR APPROVED STEPS.

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

STANDARD SANITARY PRECAST MANHOLE

Date: 08/2023 | Drawn By: MF | Checked By: AB

SAN-2



NOTES:

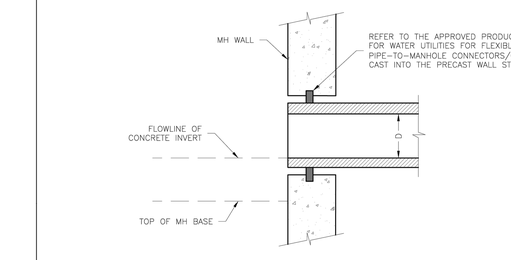
1. PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS.
2. A WALL THICKNESS NOT LESS THAN ONE-TWELFTH (1/12) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER SHALL BE USED.
3. WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE OF MANHOLES. THE WATERPROOFING SHALL CONSIST OF A TOTAL DRY FILM THICKNESS OF NOT LESS THEN 14 MILS OF BITUMINOUS COATING.
4. THE FILL CONCRETE FLOW CHANNEL FOR SIDE BRANCHES SHALL BE PLACED TO PROVIDE A SMOOTH TRANSITION INTO THE FLOW LINE.
5. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR MANHOLE GASKET MODELS.
6. PROVIDE STEPS AS SHOWN ON THE APPROVED PRODUCTS LIST FOR MANHOLE DEPTHS GREATER THAN 4'.

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

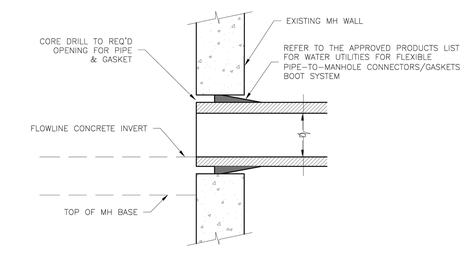
STANDARD SHALLOW SANITARY PRECAST MANHOLE

Date: 08/2023 | Drawn By: MJF | Checked By: AB

SAN-3



NEW MANHOLE



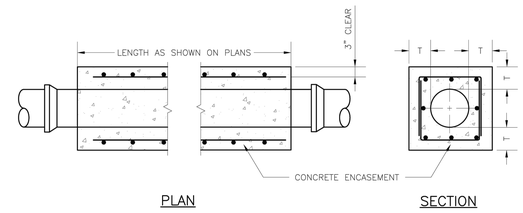
EXISTING MANHOLE

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

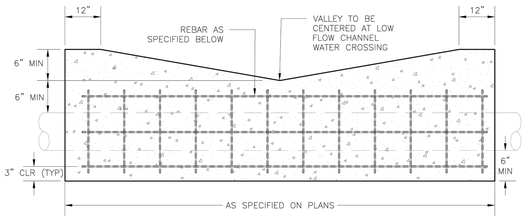
MANHOLE WALL CONNECTION

Date: 08/2023 | Drawn By: MJF | Checked By: AB

SAN-5



PLAN SECTION



STREAM CROSSING PROFILE

NOTES:

1. FOR PIPES LESS THAN 15", T = 6" MIN.
2. FOR PIPES 15" THRU 36", T = 8" MIN.
3. INTERMEDIATE BELLS SHALL BE ENCASED.
4. REINFORCING STEEL SHALL BE #4 @ 12" O.C. EACH WAY WITH A MINIMUM REBAR LAP OF 12".

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

PIPE ENCASEMENT DETAIL

Date: 08/2023 | Drawn By: MF | Checked By: AB

SAN-7

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Standard Details VI

8

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY: TUA | CHECKED BY: CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.COM
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

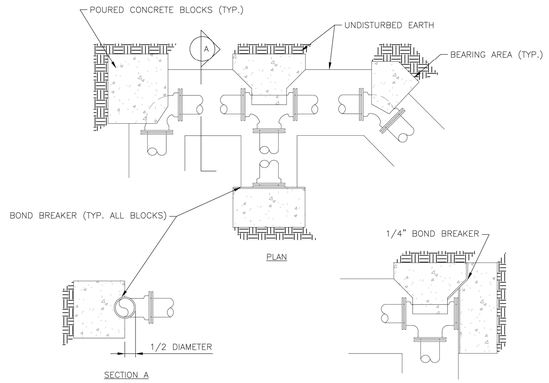
STATE OF MISSOURI
MITCHELL SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
MITCHELL E. SLUTTER PE-2002003418
12/29/25

Sheet
C76

cporter
May 08, 2025 - 11:37am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- std-01.dwg

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	REST. JT.	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. MEGA LUGS 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
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

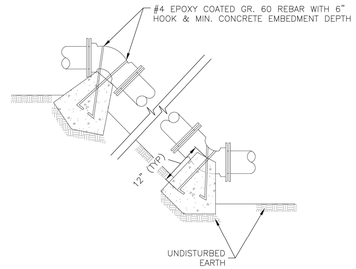
HORIZONTAL THRUST BLOCK

Date: 08/2023
Drawn By: MJF
Checked By: KLY

WAT-1

REQUIRED CONCRETE VOLUME (CUBIC FEET – CF)

NOM. DIA. (INCHES)	180 TEE, PLUG	90 BEND	45 BEND	22.5 BEND	11.25 BEND
6	50.5	71.4	38.6	19.7	9.9
8	89.8	126.9	68.7	35.0	17.6
10	140.2	198.3	107.3	54.7	27.5
12	202.0	REST. JT.	154.6	78.8	39.6
14	REST. JT.	REST. JT.	210.4	107.3	53.9
16	REST. JT.	REST. JT.	REST. JT.	140.1	70.4
18	REST. JT.	REST. JT.	REST. JT.	177.3	89.1
20	REST. JT.	REST. JT.	REST. JT.	REST. JT.	110.0
24	REST. JT.	REST. JT.	REST. JT.	REST. JT.	158.4



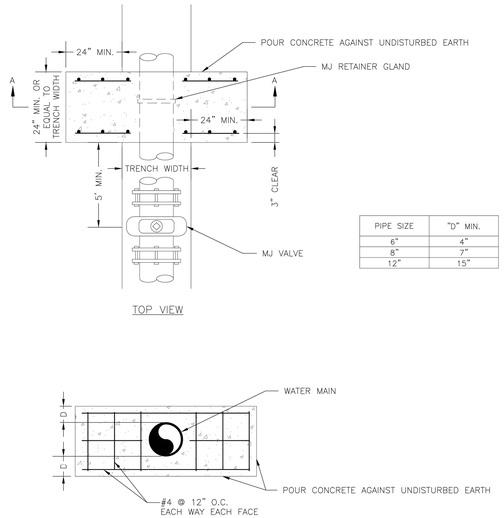
NOTES:
1. ALL BENDS WITHOUT RESTRAINED JOINTS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED FOR RESTRAINT.
2. MEGA LUGS MAY BE USED ONLY IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.
3. BEARING MUST BE AGAINST UNDISTURBED SOIL.
4. DO NOT COVER JOINTS OR BOLTS (WHERE APPLICABLE) WITH CONCRETE.

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

VERTICAL THRUST BLOCK

Date: 08/2023
Drawn By: MJF
Checked By: KLY

WAT-2



PIPE SIZE	"D" MIN.
6"	4"
8"	7"
12"	15"

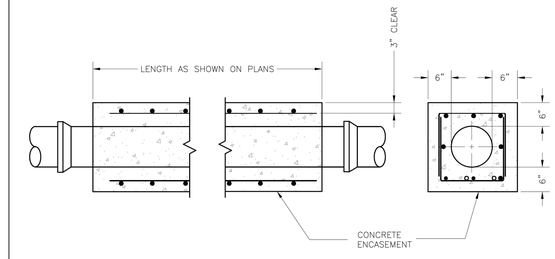
NOTE:
THIS DETAIL NOT TO BE USED FOR PIPE GREATER THAN 12"

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

STRADDLE BLOCK

Date: 08/2023
Drawn By: MJF
Checked By: KLY

WAT-3



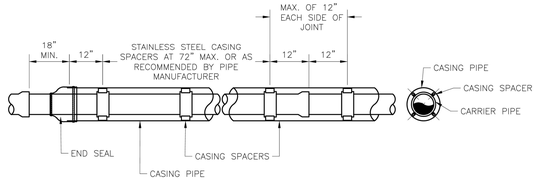
NOTES:
1. INTERMEDIATE BELLS SHALL BE ENCASED.
2. REINFORCING STEEL SHALL BE #4 @ 12" O.C. EACH WAY WITH A MINIMUM REBAR LAP OF 12".
3. THIS DETAIL IS FOR PIPES 12" AND SMALLER.

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

WATER PIPE ENCASEMENT

Date: 08/2023
Drawn By: MJF
Checked By: KLY

WAT-4



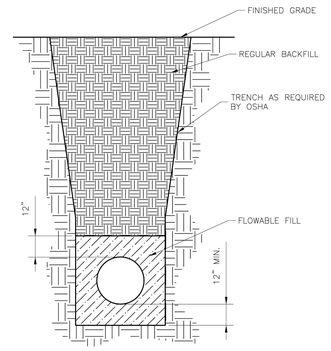
NOTES:
1. REFER TO SPECIFICATION SECTION 3900 FOR ADDITIONAL INFORMATION.
2. LENGTH, DIAMETER, AND WALL THICKNESS TO BE SHOWN ON CONSTRUCTION PLANS.

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

WATER CASING PIPE DETAIL

Date: 08/2023
Drawn By: MJF
Checked By: KLY

WAT-5



NOTES:
1. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF THE CITY OF LEE'S SUMMIT DESIGN AND CONSTRUCTION MANUAL.
2. REGULAR BACKFILL ABOVE THE TRENCH CHECK SHALL BE FREE OF DEBRIS, ORGANIC MATTER, AND STONES > 6" IN ANY DIMENSION.
3. TOP OF FLOWABLE BACKFILL SHALL EXTEND 12" ABOVE THE TOP OF THE PIPE.
4. LENGTH OF TRENCH CHECK SHALL BE A MINIMUM OF 12".

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

WATER TRENCH CHECK DETAIL

Date: 08/2023
Drawn By: MJF
Checked By: KLY

WAT-6

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

Standard Details VII

8

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

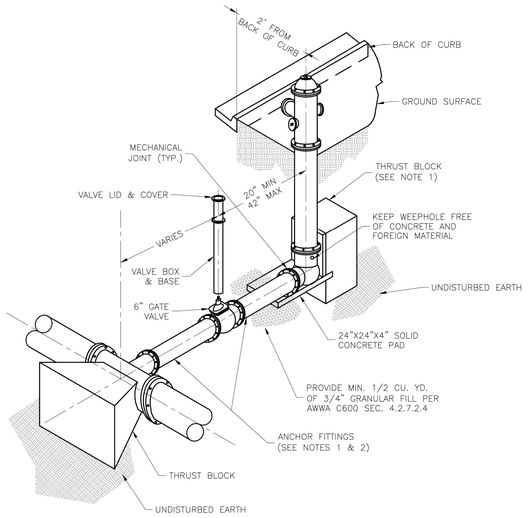
DRAWN BY TUA
CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL E. SLUTTER
NUMBER PE-2002003418
PROFESSIONAL ENGINEER
2025/05/12
MITCHELL E. SLUTTER PE-2002003418

Sheet
C77

cporter
May 08, 2025 - 11:37am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- std-01.dwg



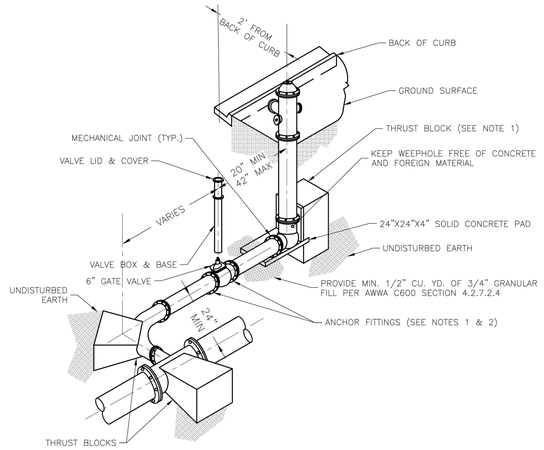
NOTES:

1. WHEN RETAINER GLANDS ARE USED IN LIEU OF ANCHOR FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
2. GATE VALVE MAY BE BOLTED DIRECTLY TO ANCHOR 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 - STRAIGHT SET

Date: 08/2023 | Drawn By: MJF | Checked By: KLY | WAT-7



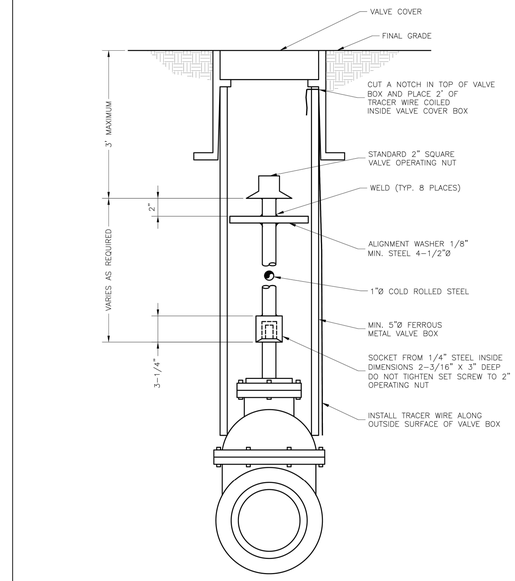
NOTES:

1. WHEN RETAINER GLANDS ARE USED IN LIEU OF ANCHOR RESTRAINT FITTINGS, HORIZONTAL THRUST BLOCKS ARE REQUIRED.
2. GATE VALVE MAY BE BOLTED DIRECTLY TO ANCHOR 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

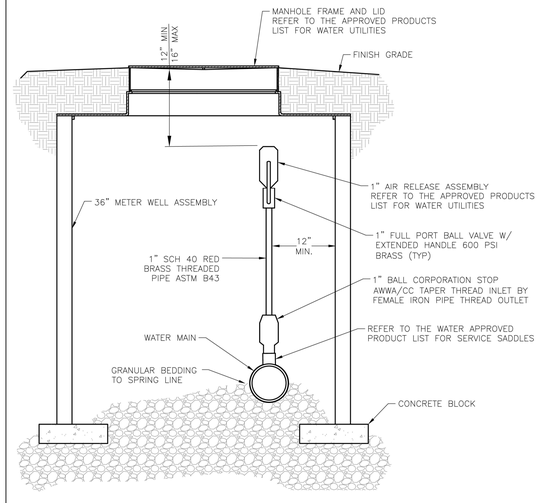
Date: 08/2023 | Drawn By: MJF | Checked By: KLY | WAT-8



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

VALVE STEM EXTENSION AND VALVE BOX

Date: 08/2023 | Drawn By: MJF | Checked By: KLY | WAT-9

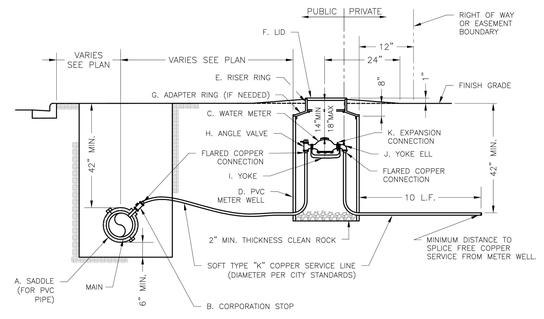


AIR RELEASE ASSEMBLY
NOT TO SCALE

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

AIR RELEASE ASSEMBLY

Date: 08/2023 | Drawn By: MJF | Checked By: KLY | WAT-10



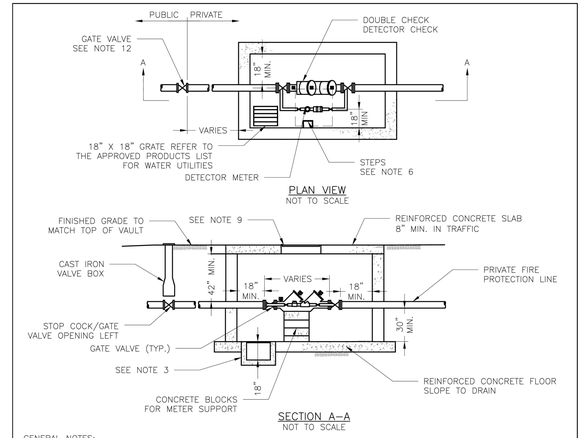
NOTES:

1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
3. CITY TO FURNISH ITEMS A-K.
4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
6. EXCAVATION FOR TAP TO EXPOSE 4 LINEAR FEET OF MAIN.
7. NO SPLICES ALLOWED BETWEEN METER AND MAIN.
8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
9. LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
10. 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 64063

SERVICE CONNECTION WITH METER WELL

Date: 08/2023 | Drawn By: MJF | Checked By: KLY | WAT-11



GENERAL NOTES:

1. METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE.
2. METER VAULT ROOF TO BE REINFORCED CONCRETE OPENING CENTERED OVER DETECTOR METER.
3. METER VAULT TO BE LOCATED, WHEN POSSIBLE, OUTSIDE TRAFFIC AREA WHERE SURFACE WATER WILL NOT DRAIN INTO IT. VAULT MUST BE KEPT FREE OF WATER. PROVIDE CONCRETE SUMP AS A MINIMUM. WHERE PRACTICAL, PROVIDE A 2" PIPE DRAIN WITH AN ABOVE-GROUND DISCHARGE POINT. PROJECT OWNER MAY DESIRE A PERMANENTLY INSTALLED SUMP PUMP.
4. ALL PIPE SHALL BE DUCTILE IRON CLASS 50. ALL PIPE FITTINGS FROM THE CITY WATER MAIN THROUGH THE VAULT SHALL BE PROVIDED WITH RESTRAINED JOINT FITTINGS.
5. ALL FITTINGS TO BE BRASS.
6. STEPS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCTS LIST FOR WATER UTILITIES AND SHALL BE ON 16" CENTERS.
7. A DEPARTMENT OF NATURAL RESOURCES APPROVED DOUBLE CHECK DETECTOR CHECK BACKFLOW PREVENTER MUST BE USED. FOR A COPY OF THE MISSOURI DEPARTMENT OF NATURAL RESOURCES APPROVED BACKFLOW PREVENTION ASSEMBLIES, CONTACT THE WATER UTILITIES OPERATIONS DIVISION AT 816-969-1940. AS OF JANUARY 1, 1987, THE DNR REQUIRES FIRE SPRINKLER SYSTEMS USING CHEMICALS TO HAVE A DNR APPROVED PRESSURE BACKFLOW PREVENTER INSTALLED, PRIOR TO THE MIXING POINT.
8. ALL VALVES SHALL HAVE RISING STEMS.
9. FOR MANHOLE COVERS, SELECT A MANHOLE FOUND ON THE APPROVED PRODUCTS LIST FOR WATER UTILITIES SUITABLE FOR EITHER TRAFFIC OR NON-TRAFFIC CONDITIONS.
10. A MINIMUM OF 18" CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING, VALVES, APPURTENANCES, ETC.
11. METER SHALL BE OWNED AND MAINTAINED BY THE WATER UTILITIES DEPARTMENT.
12. IF PUBLIC WATER IS LOCATED ON THE OPPOSITE SIDE OF THE STREET, THEN THE PUBLIC WATER MAIN RESPONSIBILITY OF THE WATER UTILITIES DEPARTMENT ENDS AT THE GATE VALVE NEAREST THE VAULT.

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

VAULT FOR DOUBLE CHECK DETECTOR CHECK

Date: 08/2023 | Drawn By: MJF | Checked By: KLY | WAT-12

Construction Documents

24-0166
EVREN APARTMENTS
Lee's Summit, Jackson County, Missouri

8

Standard Details VIII

NO.	DATE	REVISION
10	05/12/2025	ASI 2
9	02/28/2025	ASI 1
8	01/29/2025	Construction Set
7	01/17/2025	Storm Line 8
6	12/04/24	PER CITY COMMENT
5	11/19/2024	City Comments 2
4	10/29/2024	City Comments 1
3	10/30/2024	FDP Comments 2
2	09/16/2024	Permit Set
1	08/16/2024	FDP Submittal

DRAWN BY TUA | CHECKED BY CMP

Renaissance Infrastructure Consulting
816.800.0950
www.RIC-CONSULT.com
400 E 17TH STREET
KANSAS CITY, MISSOURI 64108
MO Certificate of Authority: E-2010033630

STATE OF MISSOURI
MITCHELL SLUTTER
NUMBER PE-2010003418
PROFESSIONAL ENGINEER
2025/05/12
MITCHELL E. SLUTTER PE-2010003418

Sheet
C78

cporter
May 08, 2025 - 11:37am
Z:\RIC Design\2024\24-0166\Dwg\Sheets\FDP\24-0166 fdp- std-01.dwg