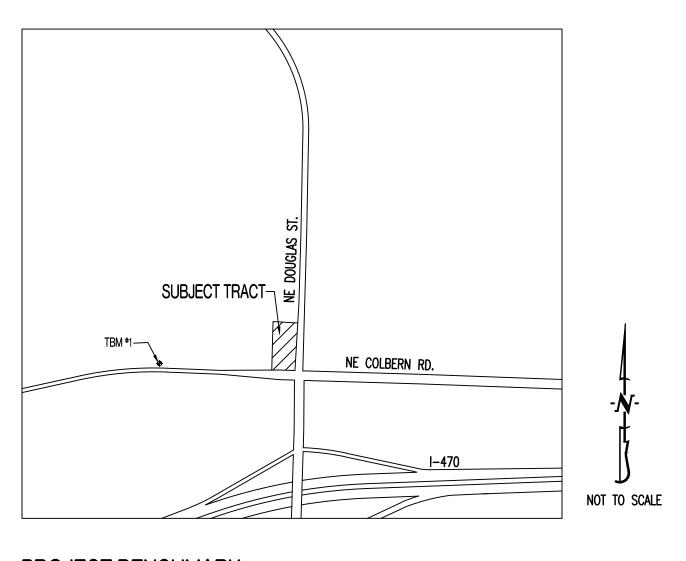
THE VILLAGE AT DISCOVERY PARK

LOCATION MAP



TBM #1 - CONTROL POINT #50 SET BY OLSSON. 1/2" IMBEDDED CAP ON NORTH SIDE OF NW COLBERN RD. LOCATED AT 1ST FIELD ENTRANCE.

EASTING = 2822108.784

REFER TO "PRIVATE SITE DEVELOPMENT PLANS FOR THE VILLAGE AT DISCOVERY PARK ZONE 1" PLANS BY OLSSON DATED 10/18/2023 FOR MORE INFORMATION.

FLOOD PLAIN STATEMENT:

THIS LOT IS LOCATED IN ZONE X UNSHADED — AREAS DETERMINED TO BE OUTSIDE THE 1% ANNUAL CHANCE FLOOD AS SHOWN ON THE FEMA F.I.R.M. PANEL #29095C0409G. DATED JANUARY 20, 2017.

LEGAL DESCRIPTION:

VILLAGE AT DISCOVERY PARK, LOT 1. A SUBDIVISION IN JACKSON COUNTY, LEE'S SUMMIT, MISSOURI.

ELECTRIC:

816-524-3223

CITY OF LEE'S SUMMIT

1200 S HAMBLEN RD

816-969-1900

LEE'S SUMMIT, MO 64081

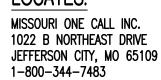
WATER UTILITIES DEPARTMENT

WATER/SANITARY SEWER:

EVERGY

UTILITY COMPANIES:

LOCATES:





TELEPHONE:

800-286-8313

NATURAL GAS: 314-342-0500

FIBER: **GOOGLE FIBER** 877-454-6959

CABLE TELEVISION: 877-772-2253

GENERAL NOTES:

ALL STREET, STORM DRAIN, AND SANITARY SEWER CONSTRUCTION TO BE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT "DESIGN AND CONSTRUCTION MANUAL" (CURRENT EDITION).

ANY CITY DETAILS SHOWN ON THIS SET OF PLANS ARE FOR REFERENCE ONLY. CONTRACTOR TO HAVE A COPY OF THE CITY'S LATEST EDITION OF SPECIFICATIONS AND STANDARDS FOR ALL STREET, STORM, AND SANITARY CONSTRUCTION ON SITE AT ALL TIMES DURING CONSTRUCTION. REFER TO https://cityofls.net/development-services/design/design-criteria/design-construction-manual-infrastructure

CONTRACTOR WILL BE RESPONSIBLE FOR PLACEMENT AND MAINTENANCE OF TRAFFIC CONTROL DEVICES NECESSARY TO COMPLETE THEIR PORTION OF WORK. THE DEVICES AND METHODS EMPLOYED WILL COMPLY WITH THE CURRENT VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

ALL CONCRETE MATERIALS SHALL CONFORM TO KCMMB STANDARDS AND SPECIFICATIONS.

THIS PLAT CONTAINS APPROXIMATELY 1.49 ACRES.

THIS TRACT IS ZONED PMIX.

THE STORM SEWER NETWORK DESIGN FOR THIS PROJECT IS BASED ON OPEN CHANNEL FLOW; THEREFORE THE HYDRAULIC GRADE LINE IS AT OR LESS THAN THE CROWN OF THE PIPE.

EXISTING UTILITIES SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL COORDINATE LOCATES (HORIZONTAL AND VERTICAL) PRIOR TO

ALL EXCAVATION TO BE IN ACCORDANCE WITH SECTIONS 319.010-319.050, REVISED STATUTES OF THE STATE OF MISSOURI. SUCH COMPLIANCE SHALL NOT, HOWEVER, EXCUSE ANY PERSON MAKING ANY EXCAVATION FROM DOING SO IN A CAREFUL AND PRUDENT MANNER, NOR SHALL IT EXCUSE SUCH PERSON FROM LIABILITY FOR ANY DAMAGE OR INJURY TO UNDERGROUND UTILITIES RESULTING FROM THE EXCAVATION.

A GEOTECHNICAL EVALUATION OF THE SUBSURFACE SOIL, GROUNDWATER CONDITIONS, AND A SLOPE STABILITY ANALYSIS HAS NOT BEEN PERFORMED BY THIS ENGINEER. THE OWNER SHALL SATISFY THEMSELVES OF ALL GEOTECHNICAL CONDITIONS PRIOR TO ANY CONSTRUCTION.

ALL LAND DISTURBANCE ACTIVITIES SHALL BE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT CODE OF ORDINANCES. REFER TO STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR NARRATIVE REPORT AND BMP DESCRIPTIONS AND DETAILS.

ALL SLOPES ARE 3:1 OR FLATTER UNLESS OTHERWISE NOTED.

IT IS THE INTENT OF THESE PLANS TO COMPLY WITH THE REQUIREMENTS OF THE MoDNR CLEAN WATER COMMISSION.

ALL DISTURBED AREAS WITHIN THE "LIMITS OF DISTURBANCE" SHALL BE FINE GRADED, SEEDED, AND MULCHED.

THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL DEVICES AND REMOVING THEM ONCE THE SITE IS

ALL HDPE PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. REFER TO DETAIL FOR PIPE BEDDING REQUIREMENTS.

IN ORDER TO TERMINATE A STATE OPERATING PERMIT THE MISSOURI DEPARTMENT OF NATURAL RESOURCES (MDNR) REQUIRES THAT THE PERMITTEE SUBMIT A COMPLETED FORM H (INCLUDED WITH THE APPROVAL PERMIT) TO THE MDNR. A PERMIT IS ELIGIBLE FOR FERMINATION WHEN EITHER PERENNIAL VEGETATION, PAVEMENT, BUILDINGS, OR STRUCTURES USING PERMANENT MATERIALS COVER ALL AREAS THAT HAVE BEEN DISTURBED. VEGETATIVE COVER SHALL BE AT LEAST 70% OF FULLY ESTABLISHED PLANT DENSITY OVER 100% OF THE DISTURBED AREA. A COPY OF FORM H SHOULD BE SUBMITTED TO THE CITY AT WHICH TIME THE CITY WILL REMOVE THE PROJECT FROM ITS INSPECTION SCHEDULE.

LAND DISTURBANCE SITES SHOULD BE INSPECTED AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 48 HOURS AFTER ANY STORM EVENT EQUAL TO OR GREATER THAN A 2-YEAR, 24-HOUR STORM HAS CEASED DURING A NORMAL WORK DAY OR WITHIN 72 HOURS IF THE RAIN EVENT CEASES DURING A NON-WORK DAY SUCH AS A WEEKEND OR HOLIDY. ANY DEFICIENCIES SHALL BE NOTED IN A WEEKLY REPORT OF THE INSPECTION AND CORRECTED WITHIN SEVEN CALENDAR DAYS OF THE REPORT. CONTRACTORS ARE REQUIRED TO SUBMIT TO CITY INSPECTION STAFF COPIES OF THEIR INSPECTION REPORTS REQUIRED BY THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) ON A MONTHLY BASIS IF REQUESTED.

NO OIL AND GAS WELLS EXIST ON THIS TRACT ACCORDING TO THE MISSOURI DEPARTMENT OF NATURAL RESOURCES OIL AND GAS PERMIT DATABASE.

THE CONTRACTOR SHALL CONTACT THE CITY'S DEVELOPMENT SERVICES ENGINEERING INSPECTION TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH A FIELD ENGINEERING INSPECTOR PRIOR TO ANY LAND DISTURBANCE WORK AT (816) 969-1200.

TOTAL DISTURBED AREA ON SITE = 1.82 AC.

MISSOURI DNR LAND DISTURBANCE PERMIT NUMBER MORA23630.

DEVELOPER:

DISCOVERY PARK LEE'S SUMMIT, LLC. 4220 PHILLIPS FARM RD. COLUMBIA, MO 65201 573-615-2252

SHEET LIST	TABLE				
SHEET NUMBER	SHEET TITLE	ORIGINAL	REVISION 1	REVISION 2	REVISION 3
OFFICE THOMBETT	OHEET HILE	10/18/24	12/05/24	12/18/24	07/16/25
CE 1.0	COVER SHEET	X			
CE 1.1	CIVIL SPECIFICATIONS	X			
CE 2.1	EROSION CONTROL PLAN	X			
CE 2.2	EROSION CONTROL DETAILS	Χ			
CE 3.0	OVERALL GRADING	Χ			X
CE 3.1	GRADING SHEET 1	Χ	Х		
CE 3.2	GRADING SHEET 2	X	Х		
CE 3.3	GRADING SHEET 3	Χ	Х		X
CE 3.4	GRADING SHEET 4	X	Х		X
CE 4.1	UTILITY PLAN	Χ			X
CE 5.1	STORM PROFILE & DETAILS	Χ			X
CE 5.2	STORM DETAILS CONT'D	Χ			
CE 5.3	25 YEAR STORM CALCS	Χ		Χ	
CE 5.4	100 YEAR STORM CALCS	Χ		Х	
CE 6.1	SITE PLAN	Χ	Х		X
CE 7.1	DETAILS SHEET 1	Χ			
CE 7.2	DETAILS SHEET 2	Χ			
CE 7.3	LEE'S SUMMIT DETAILS SHEET 1	Χ			
CE 7.4	LEE'S SUMMIT DETAILS SHEET 2	Х			
CE 8.1	LANDSCAPING PLAN		Х		

LEGEND OF SYMBOLS.

	EXISTING CURB
	PROPOSED CURB
	RIP RAP
	EXISTING STRUCTURE
~~~~	EXISTING TREELINE
~~~~	PROPOSED TREELINE
000	EDGE OF WATERWAY
—— w ——	EXISTING WATERLINE
——— W ———	PROPOSED WATERLINE
—— G ——	EXISTING GAS LINE
G	PROPOSED GAS LINE
T	EXISTING TELEPHONE
— — — F0 — — —	EXISTING FIBER OPTIC
—— OE ——	EXISTING OVERHEAD ELECTRIC
— — — UE — — —	EXISTING UNDERGROUND ELECTRIC
——— UE ———	PROPOSED UNDERGROUND ELECTRIC
—— OETV ——	EXISTING OVERHEAD ELEC. & TV
— — OETVT — —	EXISTING OVERHEAD ELEC., TV & TELE.
s	EXISTING SANITARY SEWER
s	PROPOSED SANITARY SEWER
·····XXX······	EXISTING MINOR CONTOUR
XXX	EXISTING MAJOR CONTOUR
XXX	PROPOSED MINOR CONTOUR
XXX	PROPOSED MAJOR CONTOUR
	100 YEAR FLOOD PLAIN
	FLOODWAY
· · ·	ORDINARY HIGH WATER MARK
· · ·	STREAM SIDE BUFFER
	OUTED STORAM DUEFED

---- OUTER STREAM BUFFER

PROPOSED CONCRETE PAVEMENT

PIPE EMBEDMENT UNDER PAVEMENT

(XXX.XX TW) PROPOSED TOP OF WALL XX LOT NUMBER STORM SEWER STRUCTURE LABEL SANITARY SEWER STRUCTURE LABEL HIGH POINT LOW POINT EXISTING SIGNS $\overline{}$ EXISTING POWER POLE EXISTING GAS VALVE EXISTING WATER VALVE

FINISHED FLOOR OF STRUCTURE

PROPOSED TOP OF CURB ELEVATION

PROPOSED TOP OF PAVEMENT ELEVATION

PROPOSED FINISHED GRADE ELEVATION

EXISTING GAS METER EXISTING WATER METER EXISTING FIRE HYDRANT MANHOLE EXISTING SANITARY SEWER LATERAL PROPOSED SANITARY SEWER LATERAL PROPOSED TRACER WIRE TEST STATION BOX EXISTING AIR CONDITIONER EXISTING TELEPHONE PEDESTAL EXISTING ELECTRICAL TRANSFORMER

EXISTING ELECTRIC METER EXISTING LIGHT POLE EXISTING GUY WIRE

PROPOSED BUILDING FOOTPRINT

PROPOSED HEAVY DUTY PAVEMENT

STRUCTURAL FILL COMPACTION REQUIREMENTS

OTTIOCTOTIAL FILL CO	IVII ACTION LIQUII ILIVILINTO
SOIL FILL THICKNESS	9-INCHES OR LESS WHEN USING HEAVY SELF-PROPELLED COMPACTION EQUIPMENT 6-INCHES OR LESS WHEN USING HAND GUIDED OR LIGHT SELF-PROPELLED EQUIPMENT
COMPACTION MOISTURE CONTENT REQUIREMENTS	
LEAN TO FAT CLAY AND FAT CLAY	2% BELOW STANDARD PROCTOR OPTIMUM MOISTURE CONTENT (OMC) TO 4% ABOVE THE STANDARD PROCTOR OPTIMUM MOISTURE CONTENT
• LEAN CLAY AND SILT	2% BELOW TO 3% ABOVE STANDARD PROCTOR OMC
• GRANULAR	WORKABLE MOISTURE CONTENT AND SHALL NOT PUMP WHEN PROOF—ROLLED 1
COMPACTION REQUIREMENTS 1 2	 95% OF STANDARD PROCTOR DRY DENSITY (ASTM D-698) WE RECOMMEND ENGINEERED FILL BE TESTED FOR MOISTURE CONTENT AND COMPACTION DURING PLACEMENT. SHOULD THE RESULTS OF THE IN-PLACE DENSITY TESTS INDICATE THE SPECIFIED MOISTURE OR COMPACTION LIMITS HAVE NOT BEEN MET, THE AREA REPRESENTED BY THE TEST SHOULD BE REWORKED AND RETESTED AS REQUIRED UNTIL THE SPECIFIED MOISTURE AND COMPACTION REQUIREMENTS ARE ACHIEVED. AS STATED WITHIN ASTM D698, THIS PROCEDURE IS INTENDED FOR SOILS WITH 30% OR LESS MATERIAL LARGER THAN 3/4". ACCORDINGLY, WE RECOMMEND FULL TIME PROOF—ROLL OBSERVATION BE PERFORMED INSTEAD OF MOISTURE DENSITY TESTING FOR MATERIALS CONTAINING MORE THAN 30% AGGREGATE RETAINED ON THE 3/4" SIEVE.

1. IF LIMESTOME SCREENINGS ARE USED AS NEW STRUCTURAL FILL, THE CONTRACTOR SHOULD BE AWARE THIS MATERIAL IS EXTREMELY SUSCEPTIBLE TO DEGRADATION UPON WETTING WHICH CAN RESULT IN DEEP-SEATED PUMPING AND RUTTING.

2. LIMESTONE SCREENINGS THAT PUMP AND RUT ARE NOT ACCEPTABLE FOR USE AS NEW STRUCTURAL FILL OR FOR LOW VOLUME CHANGE MATERAIL AND WILL NEED TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.

||REVISIONS:

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

NATHAN THOMAS ECKHOFF MO LICENSE-2003014960

 \triangleleft

DRAWING INCLUDES:

COVER SHEET

DESIGNED: NTE DRAWN: NMD

PROJECT NO.: 230286

CE 1.0

CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS REGARDING MATERIALS, METHODS OF WORK, AND DISPOSAL OF EXCESS WASTE MATERIALS.

ERECT BARRIERS TO PROTECT PERSONNEL, STRUCTURES AND UTILITIES REMAINING INTACT.

PROTECT ALL EXISTING OBJECTS INTENDED TO REMAIN. IN CASE OF DAMAGE, MAKE REPAIRS OR REPLACEMENTS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.

MINIMIZE INTERFERENCE WITH ROADS, STREETS, DRIVEWAYS, SIDEWALKS, AND ADJACENT FACILITIES.

DO NOT CLOSE OR OBSTRUCT STREETS, SIDEWALKS, ALLEYS OR PASSAGEWAYS WITHOUT PERMISSION FROM AUTHORITIES HAVING JURISDICTION.

IF CLOSURE IS PERMITTED, PROVIDE SIGNAGE INDICATING CLOSURE AND SIGNAGE TO DIRECT TRAFFIC TO ALTERNATE ROUTE.

MOISTEN SURFACES AS REQUIRED TO PREVENT DUST FROM BEING A NUISANCE TO THE PUBLIC, NEIGHBORS, AND CONCURRENT PERFORMANCE OF OTHER WORK ON THE SITE.

PROVIDE THE OWNER'S REPRESENTATIVE A MINIMUM OF TWO BUSINESS DAYS' NOTICE PRIOR TO COMMENCING WORK OF THIS SECTION.

THE CONTRACTOR SHALL LOCATE EXISTING UTILITY LINES AND SERVICES TRAVERSING THE SITE AND DETERMINE THE REQUIREMENTS FOR THEIR PROTECTION. THE CONTRACTOR SHALL PRESERVE ACTIVE UTILITIES ON THE SITE THAT ARE DESIGNATED TO REMAIN.

BEFORE STARTING SITE OPERATIONS, THE CONTRACTOR SHALL DISCONNECT OR ARRANGE FOR THE DISCONNECTION OF ALL UTILITY SERVICES DESIGNATED TO BE REMOVED. THE CONTRACTOR SHALL PERFORM ALL SUCH WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY COMPANY OR AGENCY INVOLVED

IN REMOVING PAVEMENT, CURB AND GUTTER, SIDEWALKS, ETC., WHERE A PORTION IS LEFT IN PLACE, REMOVAL SHALL BE TO AN EXISTING JOINT OR TO A JOINT SAWED TO A MINIMUM DEPTH OF 2" WITH A TRUE SAW LINE AND A VERTICAL FACE. REMOVE SUFFICIENT PAVEMENT TO PROVIDE FOR PROPER GRADE AND CONNECTIONS IN THE NEW WORK REGARDLESS OF ANY LIMITS INDICATED ON THE DRAWING.

EXISTING CASTINGS AND CULVERTS, IF SALVAGEABLE AND REMOVED INTACT, REMAIN THE PROPERTY OF THE CONTRACTOR.

ALL SEWERS AND DRAINAGE PIPES, WHICH HAVE BEEN OR ARE TO BE ABANDONED, SHALL BE PERMANENTLY SEALED AT THE ENDS WITH BULKHEADS CONSTRUCTED OF CONCRETE, HAVING A MINIMUM THICKNESS OF 8".

ABANDON STORM OR SANITARY SEWER STRUCTURES BY BREAKING THE CONCRETE BOTTOM OF THE STRUCTURE INTO PIECES NO LARGER THAN 12" IN ANY DIRECTION AND REMOVING THE TOP OF THE STRUCTURE TO 3" BELOW FINISHED GRADE. PLUG ALL PIPES WITH CONCRETE AND FILL STRUCTURE WITH 1" CLEAN GRAVEL.

ALL DEBRIS SHALL BE DISPOSED OF OFF-SITE

DO NOT STORE OR BURN MATERIALS ON-SITE UNLESS PERMITTED BY THE GOVERNING JURISDICTION.

ALL ASPHALT OR CONCRETE MATERIALS SHALL BE DISPOSED OF OFF-SITE.

MATERIAL ACQUIRED THROUGH DEMOLITION, OTHER THAN THOSE REQUIRED TO COMPLETE THE CONSTRUCTION PROJECT AND DESIGNATED FOR RETURN TO OWNER, WILL BECOME THE PROPERTY OF THE CONTRACTOR AND WILL BE REMOVED FROM THE SITE. THE MATERIAL WILL BE DISPOSED OF IN A LEGAL MANNER.

THE CONTRACTOR'S OPERATIONS SHALL BE RESTRICTED TO THOSE AREAS INSIDE THE CONSTRUCTION LIMITS INDICATED ON THE DRAWINGS. IF LIMITS ARE NOT INDICATED, RESTRICT WORK TO THE OWNER'S PROPERTY, EASEMENT, OR PUBLIC RIGHTS-OF-WAY.

COMPLETE WORK WITHIN PUBLIC RIGHTS-OF-WAY UNDER THE PERMISSION OF THE GOVERNING AGENCY.

IF ITEMS OUTSIDE THE LIMITS OF DISTURBANCE GET DAMAGED, OWNER COMPLETES THE REQUIRED REPAIRS AND CHARGES THE CONTRACTOR.

THE CONTRACTOR IS RESPONSIBLE FOR THE ADJUSTMENT OF ALL MANHOLES, CASTINGS, WATER VALVES IRRIGATION BOXES, CLEAN OUTS AND ETC. WITHIN THE GRADING LIMITS TO MATCH THE FINISHED SURFACE. ADJUSTMENTS SHALL BE COORDINATED WITH THE UTILITY COMPANIES AND THE COST FOR ALL ADJUSTMENTS SHALL BE INCIDENTAL TO CONSTRUCTION UNLESS NOTED AS A BID ITEM. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO UTILITY STRUCTURES AND APPURTENANCES THAT OCCURS DURING CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.

EARTHMOVING

CONTRACTOR TO SUBMIT MANUFACTURER'S PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR EACH MATERIAL AND PRODUCT USED.

TEST REPORTS: SUBMIT FOR APPROVAL TEST REPORTS, LIST OF MATERIALS AND GRADATIONS PROPOSED FOR USE. OBTAIN SAMPLES OF ANY PROPOSED FILL MATERIAL AND CONTRACTOR TO PROVIDE STANDARD PROCTOR TEST REPORTS TO ENGINEER.

COMPACTION REQUIREMENTS ARE AS FOLLOWS:

1. UNDER STEPS, PAVEMENTS, AND WALKWAYS, 95 PERCENT STANDARD PROCTOR MINIMUM DENSITY, ASTM D 698.

UNDER LAWNS OR UNPAVED AREAS, 85 PERCENT, ASTM D 698.
 GRADING TOLFRANCES OUTSIDE BUILDING LINES ARE AS FOLLOWS:

1. LAWNS, UNPAVED AREAS, AND WALKS, PLUS OR MINUS 1 INCH.

PAVEMENTS, PLUS OR MINUS 1/2 INCH.
 ALL ADA ROUTES AND PARKING ARE TO MEET ADA REQUIREMENTS AT ALL TIMES.

ALL ACTIVITIES WILL BE CONTAINED WITHIN CONSTRUCTION BOUNDARIES INDICATED ON SITE PLAN. SPECIFIED EXCAVATION REQUIREMENTS, PRECAUTIONS, AND PROTECTIVE SYSTEMS WILL BE OBSERVED AT ALL TIMES.

MOVEMENT OF TRUCKS AND EQUIPMENT ON OWNER'S PROPERTY WILL BE IN ACCORDANCE WITH OWNER'S INSTRUCTIONS.

TOPSOIL WILL BE STRIPPED FROM THE CONSTRUCTION SITE AND WILL BE DISPOSED OF LEGALLY OFF SITE.

TRENCHES WILL NOT BE BACKFILLED UNTIL ALL REQUIRED TESTS ARE COMPLETED AND THE UTILITY SYSTEMS, AS INSTALLED, CONFORM TO REQUIREMENTS SPECIFIED BY THE CONTRACT DOCUMENTS.

EXCAVATION IS UNCLASSIFIED AND INCLUDES EXCAVATION TO SUBGRADE REGARDLESS OF MATERIALS ENCOUNTERED. REPAIR EXCAVATIONS BEYOND ELEVATIONS AND DIMENSIONS INDICATED AS FOLLOWS:

AT STRUCTURE: CONCRETE OR COMPACTED STRUCTURAL FILL.
 ELSEWHERE: BACKFILL AND COMPACT AS DIRECTED.

MAINTAIN STABILITY OF EXCAVATIONS; CONTRACTOR TO BE RESPONSIBLE FOR DESIGN AND COORDINATION OF SHORING AND BRACING AS REQUIRED.
PREVENT SURFACE AND SUBSURFACE WATER FROM ACCUMULATING IN EXCAVATIONS. STOCKPILE SATISFACTORY MATERIALS FOR REUSE, ALLOW FOR PROPER DRAINAGE AND DO NOT STOCKPILE MATERIALS WITHIN DRIP LINE OF TREES TO REMAIN.

COMPACT MATERIALS AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 698 BY AERATION OR WETTING TO THE FOLLOWING PERCENTAGES OF MAXIMUM DRY DENSITY:

1. STRUCTURE, PAVEMENT, WALKWAYS: SUBGRADE AND EACH FILL LAYER TO 95% (-2%+4%) OF STANDARD PROCTOR MAXIMUM DRY DENSITY
TO SUITABLE DEPTH. COMPACTION TESTING SHALL BE PERFORMED IMMEDIATELY PRIOR TO THE PLACEMENT OF REINFORCING STEEL AND NEW
PAVING MATERIALS. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING TESTING WITH OWNERS DESIGNATED TESTING AGENCY.

UNPAVED AREAS: TOP 6" OF SUBGRADE AND EACH FILL LAYER TO 90% MAXIMUM DRY DENSITY.
 A PROOF-ROLL SHALL BE REQUIRED OF THE SUBGRADE PRIOR TO PLACEMENT OF THE BASE COURSE. PROOF ROLLING SHALL CONSIST OF PASSING A LOADED, 20-TON, TANDEM DUMP TRUCK OVER THE PREPARED SUBGRADE SOIL WITH A MAXIMUM ALLOWABLE DISPLACEMENT OF 1". ANY AREAS THAT DISPLACE MORE THAN 1" SHALL BE COMPACTED UNTIL THIS CRITERION IS MET, OR THOSE AREAS MAY BE EXCAVATED AND BACKFILLED WITH COMPACTED TYPE 1 AGGREGATE USED FOR BASE MATERIAL. ALL PROOF ROLLING SHALL BE PERFORMED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.

4. CUT AREAS UNDER PROPOSED ASPHALT OR CONCRETE PAVEMENTS SHALL BE CUT AND COMPACTED. AFTER GRADING TO SUBGRADE ELEVATION, SCARIFY THE TOP SIX INCHES OF THE SUB-BASE AND COMPACT AS OUTLINED ABOVE.

PLACE ACCEPTABLE MATERIALS IN LAYERS NOT MORE THAN 8" LOOSE DEPTH FOR MATERIALS COMPACTED BY HEAVY EQUIPMENT AND NOT MORE THAN 4" LOOSE DEPTH FOR MATERIALS COMPACTED BY HAND EQUIPMENT TO SUBGRADES INDICATED AS FOLLOWS:

1. STRUCTURAL FILL: USE UNDER FOUNDATIONS, SLABS ON GRADE IN LAYERS AS INDICATED.

2. DRAINAGE FILL: USE UNDER DESIGNATED BUILDING SLABS, AT FOUNDATION DRAINAGE AND ELSEWHERE AS INDICATED.

3. LANDSCAPE AREA FILL:

3.1. ALL SUB-GRADE AREAS SHALL BE "RIPPED" TO A MINIMUM 6" DEEP AND A MAXIMUM OF 12" APART IN OPPOSITE DIRECTIONS WITH MINIMAL TIRE TRAFFIC TO FOLLOW.

3.2. CONTRACTOR TO LEAVE APEAS 6" OR 18" (PLANTER APEAS) BELOW FINISH CRADE OWNER TO PLACE TOPSOIL AND ALL PLANTINGS.

3.2. CONTRACTOR TO LEAVE AREAS 6" OR 18" (PLANTER AREAS) BELOW FINISH GRADE. OWNER TO PLACE TOPSOIL AND ALL PLANTINGS.
3.3. ANY FILL SOIL WITHIN 36" OF FINISHED GRADE IN LAWN AND PLANTER AREAS SHALL BE COHESIVE SOILS IN SOIL CLASSIFICATIONS GROUPS ML, CL, CH OR A COMBINATION THEREOF, FREE OF ROCK OR GRAVEL LARGER THAN 1" IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIAL, VEGETATION AND OTHER DELETERIOUS MATTER.
4. SUB-BASE MATERIAL: USE UNDER PAVEMENT, WALKS, STEPS, PIPING AND CONDUIT.

GRADE TO WITHIN 1/2" ABOVE OR BELOW REQUIRED SUBGRADE AND WITHIN A TOLERANCE OF 1/2" IN 10'.

PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION. RECOMPACT AND REGRADE SETTLED, DISTURBED AND DAMAGED AREAS AS NECESSARY TO RESTORE QUALITY, APPEARANCE, AND CONDITION OF WORK

CONTROL EROSION TO PREVENT RUNOFF INTO SEWERS OR DAMAGE TO SLOPED OR SURFACED AREAS.

CONTROL DUST TO PREVENT HAZARDS TO ADJACENT PROPERTIES AND VEHICLES. IMMEDIATELY REPAIR OR REMEDY DAMAGE CAUSED BY DUST INCLUDING AIR FILTERS IN EQUIPMENT AND VEHICLES. CLEAN SOILED SURFACES.

DISPOSAL OF EXCAVATION WASTE AND UNSUITABLE MATERIALS SHALL BE THE RESPONSIBILITY OF THE SITE WORK CONTRACTOR. NO SPECIFIC OR PRE-APPROVED LOCATION IS BEING PROVIDED BY THE OWNER.

CONCRETE:

CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE CURRENT ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 305 SPECIFICATIONS FOR HOT WATER CONCRETE, AND ACI 306 SPECIFICATIONS FOR COLD WEATHER CONCRETE. WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

1. CONCRETE SHALL DEVELOP THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:
FOUNDATIONS

CAST-IN-PLACE WALLS

FLOOR SLAB

THE FOLLOWING 28-DAY MINIMUM COMPRESSIVE STRENGTH:

3,000 PSI

4,000 PSI

FLOOR SLAB

EXTERIOR SLABS, WALLS AND CURBS

ALL FOOTINGS SHALL BEAR ON UNDISTURBED SOIL OR ENGINEERED FILL.

CHICAGON PSI

CHIC

CHLORIDE – BASED ADMIXTURES ARE PROHIBITED IN ALL CONCRETE.
 REINFORCING STEEL SHALL CONFORM TO ASTM A615, A616, OR A617, GRADE 60.

5. ALL CONTINUOUS REINFORCING STEEL THAT MEETS AT A CORNER SHALL BE TIED TOGETHER WITH A CORNER BAR THAT HAS SUFFICIENT LAP DISTANCE IN EACH DIRECTION

6. CONTINUOUS REINFORCING BARS LAP LENGTH SHALL BE A MINIMUM OF 48 BAR DIAMETERS UNLESS NOTED OTHERWISE
7. CONCRETE SLUMP SHALL BE A MAXIMUM OF 4" +/- 1" (ASTM C- 143) AS DELIVERED IN THE FIELD. CONTRACTOR MAY USE CHEMICAL ADMIXTURES TO ATTAIN A MAXIMUM SLUMP OF 8" FOR WORKABILITY. NO WATER MAY BE ADDED TO THE CONCRETE MIX ON SITE UNLESS WATER IS WITHHELD AT THE BATCHING FACILITY. IF WATER IS WITHHELD AT THE BATCHING FACILITY IT SHOULD BE REFLECTED ON THE LOAD TICKET. THE TOTAL AMOUNT OF WATER IN THE MIX SHALL NOT EXCEED WHAT IS NOTED ON THE APPROVED MIXED. THIS SHALL BE NOTED IN

THE SPECIAL INSPECTOR'S RECORDS.

8. CONCRETE EXPOSED TO WEATHER, VEHICLES, AND/OR DEICING CHEMICALS SHALL BE AIR—ENTRAINED WITH 6% (+/-) 1.5% ENTRAINED AIR BY VOLUME AT POINT OF DISCHARGE. DO NOT ALLOW AIR CONTENT OF TROWELED FINISHED FLOORS TO EXCEED 3%.

9. SUBMIT CONCRETE MIX PROPORTIONS PRIOR TO START OF WORK. DO NOT BEGIN CONCRETE PRODUCTION UNTIL MIXES HAVE BEEN REVIEWED

AND ARE ACCEPTABLE TO THE ENGINEER.

10. READY MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C94.

11. CONCRETE WORK EXECUTION

A. CONSTRUCT FORMS TO CORRECT SIZE, SHAPE, ALIGNMENT, ELEVATION AND POSITION; AND TO SUPPORT VERTICAL AND LATERAL LOADS.

B. POSITION, SUPPORT, AND SECURE REINFORCEMENT AGAINST DISPLACEMENT. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE,

NOT EXPOSED TO WEATHER OR
IN CONTACT WITH EARTH.......1 ½ INCHES
C. PROVIDE CONTROL JOINTS IN SLABS-ON-GRADE AT NOT GREATER THAN 15 FEET ON CENTER IN EACH DIRECTION. SAW CUT CONTROL

JOINTS MINIMUM ¼ OF SLAB DEPTH, AS SOON AFTER SLAB FINISHING WITHOUT DISLODGING AGGREGATE.

D. STEEL TROWEL FINISH ALL INTERIOR CONCRETE SLABS, BROOM FINISH ALL EXTERIOR CONCRETE SLABS.

E. CURE ALL CONCRETE IN COMPLIANCE WITH ACI 301, USING A LIQUID TYPE MEMBRANE, NON-RESIDUAL, CURING COMPOUND COMPLYING WITH ASTM C309. ASSURE COMPATIBILITY WITH FINISH FLOOR COVERING.

12. FLINT AND CHERT WILL BE LIMITED TO 1% MAXIMUM, BY WEIGHT OF THE COURSE AGGREGATE, IN ALL EXPOSED CONCRETE (CAST—IN—PLACE OR PRECAST). LIGNITE WILL BE LIMITED TO 0.5%, BY WEIGHT OF THE FINE AGGREGATE IN ALL EXPOSED CONCRETE. SOME APPLICATIONS MAY BE REQUIRED TO BE LIGNITE FREE.

CONCRETE PAVING JOINT SEALANTS:

DELIVER MATERIALS TO PROJECT SITE IN ORIGINAL UNOPENED CONTAINERS OR BUNDLES WITH LABELS INDICATING MANUFACTURER, PRODUCT NAME AND DESIGNATION, COLOR, EXPIRATION DATE, POT LIFE, CURING TIME, AND MIXING INSTRUCTIONS FOR MULTICOMPONENT MATERIALS.

STORE AND HANDLE MATERIALS TO COMPLY WITH MANUFACTURER'S WRITTEN INSTRUCTIONS TO PREVENT THEIR DETERIORATION OR DAMAGE DUE TO MOISTURE, HIGH OR LOW TEMPERATURES, CONTAMINANTS, OR OTHER CAUSES.

DO NOT PROCEED WITH INSTALLATION OF JOINT SEALANTS UNDER THE FOLLOWING CONDITIONS:

1. WHEN AMBIENT AND SUBSTRATE TEMPERATURE CONDITIONS ARE OUTSIDE LIMITS PERMITTED BY JOINT SEALANT MANUFACTURER OR ARE BELOW 40 DEG F.

2. WHEN JOINT SUBSTRATES ARE WET OR COVERED WITH FROST.

3. WHERE JOINT WIDTHS ARE LESS THAN THOSE ALLOWED BY JOINT-SEALANT MANUFACTURER FOR APPLICATIONS INDICATED.

4. WHERE CONTAMINANTS CAPABLE OF INTERFERING WITH ADHESION HAVE NOT YET BEEN REMOVED FROM JOINT SUBSTRATES.

PROVIDE JOINT SEALANTS, BACKING MATERIALS, AND OTHER RELATED MATERIALS THAT ARE COMPATIBLE WITH ONE ANOTHER AND WITH JOINT SUBSTRATES UNDER CONDITIONS OF SERVICE AND APPLICATION, AS DEMONSTRATED BY JOINT—SEALANT MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.

COLD-APPLIED JOINT SEALANTS ARE TO BE TYPE NS SILICONE SEALANT FOR CONCRETE: SINGLE-COMPONENT, LOW-MODULUS, NEUTRAL-CURING, NONSAG SILICONE SEALANT COMPLYING WITH ASTM D 5893 FOR TYPE NS. PRODUCTS ALLOWED ARE: CRAFCO INC.: ROADSAVER SILICONE, DOW CORNING CORPORATION; 888, PECORA NS 301, OR APPROVED EQUAL

CONTRACTOR TO PROVIDE JOINT-SEALANT BACKER MATERIALS THAT ARE NONSTAINING; ARE COMPATIBLE WITH JOINT SUBSTRATES, SEALANTS, PRIMERS, AND OTHER JOINT FILLERS; AND ARE APPROVED FOR APPLICATIONS INDICATED BY JOINT-SEALANT MANUFACTURER BASED ON FIELD EXPERIENCE AND LABORATORY TESTING. ROUND BACKER RODS FOR COLD-APPLIED SEALANTS: ASTM D 5249, TYPE 3, OF DIAMETER AND DENSITY REQUIRED TO CONTROL SEALANT DEPTHAND PREVENT BOTTOM-SIDE ADHESION OF SEALANT.

PRIOR TO JOINT INSTALLATION, CONTRACTOR IS TO EXAMINE JOINTS INDICATED TO RECEIVE JOINT SEALANTS, WITH INSTALLER PRESENT, FOR COMPLIANCE WITH REQUIREMENTS FOR JOINT CONFIGURATION, INSTALLATION TOLERANCES, AND OTHER CONDITIONS AFFECTING JOINT—SEALANT PERFORMANCE. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

CLEAN OUT JOINTS IMMEDIATELY BEFORE INSTALLING JOINT SEALANTS TO COMPLY WITH JOINT—SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS

COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTALLATION INSTRUCTIONS FOR PRODUCTS AND APPLICATIONS INDICATED, UNLESS MORE STRINGENT REQUIREMENTS APPLY.

COMPLY WITH RECOMMENDATIONS IN ASTM C 1193 FOR USE OF JOINT SEALANTS AS APPLICABLE TO MATERIALS, APPLICATIONS, AND CONDITIONS INDICATED.

INSTALL BACKER MATERIALS OF TYPE INDICATED TO SUPPORT SEALANTS DURING APPLICATION AND AT POSITION REQUIRED TO PRODUCE CROSS—SECTIONAL SHAPES AND DEPTHS OF INSTALLED SEALANTS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT CAPABILITY. DO NOT LEAVE GAPS BETWEEN ENDS OF BACKER MATERIALS. DO NOT STRETCH, TWIST, PUNCTURE, OR TEAR BACKER MATERIALS. REMOVE ABSORBENT BACKER MATERIALS THAT HAVE BECOME WET BEFORE SEALANT APPLICATION AND REPLACE THEM WITH DRY MATERIALS.

NSTALL SEALANTS USING PROVEN TECHNIQUES THAT COMPLY WITH THE FOLLOWING AND AT THE SAME TIME BACKING ARE INSTALLED:

PLACE SEALANTS SO THEY DIRECTLY CONTACT AND FULLY WET JOINT SUBSTRATES.

PEACE SEALANTS SO THEIR DIRECTED CONTACT AND FOLLY WELL SOUNT SUBSING
 COMPLETELY FILL RECESSES PROVIDED FOR EACH JOINT CONFIGURATION.

3. PRODUCE UNIFORM, CROSS-SECTIONAL SHAPES AND DEPTHS RELATIVE TO JOINT WIDTHS THAT ALLOW OPTIMUM SEALANT MOVEMENT

IMMEDIATELY AFTER SEALANT APPLICATION AND BEFORE SKINNING OR CURING BEGINS, TOOL SEALANTS ACCORDING TO REQUIREMENTS SPECIFIED BELOW TO FORM SMOOTH, UNIFORM BEADS OF CONFIGURATION INDICATED; TO ELIMINATE AIR POCKETS; AND TO ENSURE CONTACT AND ADHESION OF SEALANT WITH SIDES OF JOINT. REMOVE EXCESS SEALANTS FROM SURFACES ADJACENT TO JOINT.USE TOOLING AGENTS THAT ARE APPROVED IN WRITING BY JOINT—SEALANT MANUFACTURER AND THAT DO NOT DISCOLOR SEALANTS OR ADJACENT SURFACES.

PROVIDE JOINT CONFIGURATION TO COMPLY WITH JOINT-SEALANT MANUFACTURER'S WRITTEN INSTRUCTIONS, UNLESS OTHERWISE INDICATED.

PROVIDE RECESSED JOINT CONFIGURATION FOR SILICONE SEALANTS OF RECESS DEPTH AND AT LOCATIONS INDICATED.

CLEAN OFF EXCESS SEALANTS OR SEALANT SMEARS ADJACENT TO JOINTS AS THE WORK PROGRESSES BY METHODS AND WITH CLEANING MATERIALS APPROVED BY MANUFACTURERS OF JOINT SEALANTS AND OF PRODUCTS IN WHICH JOINTS OCCUR.

PROTECT JOINT SEALANTS DURING AND AFTER CURING PERIOD FROM CONTACT WITH CONTAMINATING SUBSTANCES AND FROM DAMAGE RESULTING FROM CONSTRUCTION OPERATIONS OR OTHER CAUSES SO SEALANTS ARE WITHOUT DETERIORATION OR DAMAGE AT TIME OF SUBSTANTIAL COMPLETION. IF, DESPITE SUCH PROTECTION, DAMAGE OR DETERIORATION OCCURS, CUT OUT AND REMOVE DAMAGED OR DETERIORATED JOINT SEALANTS IMMEDIATELY AND REPLACE WITH JOINT SEALANT SO INSTALLATIONS WITH REPAIRED AREAS ARE INDISTINGUISHABLE FROM THE ORIGINAL WORK.

PAVEMENT MARKING:

UNLESS NOTED OTHERWISE ON THE PLANS, PAINT SHALL BE WATERBORNE OR SOLVENT BORNE, COLORS AS SHOWN OR SPECIFIED HEREIN. WATERBORNE PAINT: PAINTS SHALL CONFORM TO FS TT-P-1952. SOLVENT BORNE PAINT: PAINT SHALL CONFORM TO FS A-A-2886 OR AASHTO M248. PAINT SHALL BE NON-BLEEDING, QUICK-DRYING AND ALKYD PETROLEUM BASE PAINT SUITABLE FOR TRAFFIC BEARING SURFACE AND BE MIXED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS BEFORE APPLICATION FOR COLORS WHITE, YELLOW, BLUE, AND RED. RETROFLECTIVE PAINT SHALL BE TYPE L GLASS BEADS PER SECTION 620 OF THE CURRENT MODOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

PAINT SHALL BE APPLIED PER THE FOLLOWING COLOR CODE: WHITE FOR STANDARD PARKING SPACE LINES AND SIDEWALK CROSSINGS. BLUE FOR ACCESSIBLE PARKING STALL AND SYMBOLS AND ASSOCIATED CROSS—HATCHED AREAS

MATERIALS SHALL INCLUDE STANDARD COMMERCIAL GRADE MASKING MATERIALS, SCRAPERS, CLEANING SOLVENTS, AND OTHER MATERIALS REQUIRED FOR THE WORK. USE MATERIALS SPECIFIED BY MANUFACTURER'S DIRECTION LABEL ON CONTAINER.

DELIVER MATERIALS TO THE SITE IN ORIGINAL CONTAINERS WITH SEALS UNBROKEN AND LABELS INTACT. PROTECT ALL PAINT FROM FREEZING. DO NOT ALLOW PAINT TO SETTLE, CAKE, OR THICKEN IN THE CONTAINER. READILY STIR WITH A PADDLE TO A SMOOTH CONSISTENCY. PAINT SHALL ARRIVE ON THE JOB COLOR—MIXED EXCEPT FOR TINTING OF UNDERCOATS AND POSSIBLE THINNING.

PRIOR TO BEGINNING CLEANING OR PAINTING OPERATIONS, CONTRACTOR SHALL PROTECT ALL ITEMS OR SURFACES NOT INCLUDED IN AREA TO BE PAINTED. PROTECT VEHICLES, EQUIPMENT, STRUCTURES, OR OTHER ITEMS FROM PAINT SPATTERS, OVER SPRAY, OR DAMAGE.

CONTRACTOR SHALL PROVIDE BARRICADES AND ANY SIGNAGE NEEDED TO PROTECT ALL PAINTED AREAS FROM PEDESTRIAN AND VEHICULAR TRAFFIC UNTIL ACHIEVING SUFFICIENT DRYING TIME.

PERFORM PAINTING AS SOON AS FEASIBLE AND PRACTICAL AFTER THE FINISHING OF THE PAVEMENT OR AS DIRECTED BY THE OWNERS REPRESENTATIVE. ADEQUATE LIGHTING SHALL BE AVAILABLE AT THE TIME OF PAINTING. EXAMINE ALL SURFACES TO RECEIVE PAINT TO MAKE SURE THERE ARE NO DEFECTS IN THE SURFACE TO BE STRIPED. DO NOT PAINT OVER RUST, SCALE, GREASE, OIL, FUEL, DUST, WET PAVEMENT, OR OTHER CONDITIONS DETRIMENTAL TO PAINT ADHESION. REMOVE GREASE, OIL, OR FUEL ON ANY SURFACE BEFORE PAINTING. CORRECT ALL SURFACE DEFECTS BEFORE PAINTING. CONTRACTOR SHALL EXAMINE AREAS TO BE PAINTED. NOTIFY THE OWNERS REPRESENTATIVE IN WRITING OF CONDITIONS THAT MIGHT DELAY TIMELY COMPLETION OF THE WORK.

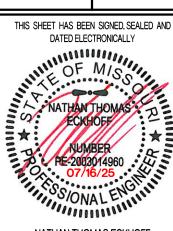
PAINTING SHALL NOT BE PERFORMED WHEN THE AMBIENT TEMPERATURE IS LESS THAN 55 DEGREES FAHRENHEIT AND NOT EXCEEDING 95 DEGREES FAHRENHEIT, OR WHILE THE SURFACE IS DAMP. THE SURFACE MUST BE FIVE DEGREES OR MORE ABOVE THE DEW POINT TEMPERATURE DURING PAINTING OPERATIONS AND WHILE PAINT IS DRYING.

AREAS TO BE PAINTED SHALL RECEIVE ONE COAT OF PAINT NOT LESS THAN 25 MILS THICKNESS WET PER MODOT 620.9 THROUGH 620.9.3.4.2. IN LOCATIONS REQUIRING MULTIPLE COATS, PRIOR COAT SHALL BE DRY TO MANUFACTURER'S RECOMMENDATIONS BEFORE APPLYING THE NEXT COAT.
FINISHED WORK SHALL BE UNIFORM, OF APPROVED COLOR, FREE OF RUNS, DRIPS, DEFECTIVE BRUSHING, SPRAYING, AND CLOGGING. PARKING LINES AND SYMBOLS SHALL BE NEAT AND WELL DEFINED. ONLY SKILLED APPLICATORS SHALL APPLY PAINT. OWNERS REPRESENTATIVE SHALL APPROVE APPLICATION TECHNIQUES.

REMOVE PAINT SPLATTER FROM ADJACENT AREAS OR AREAS NOT DESIGNATED TO RECEIVE PAINT. CONTRACTOR SHALL REPAIR OR TOUCH UP ANY SURFACES IF EXPOSED TO VEHICULAR AND PEDESTRIAN TRAFFIC, TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE, AT NO ADDITIONAL COST TO THE OWNER. WHEN COLOR, DIRT, STAINS, EXISTING PAINT, ETC., SHOW THROUGH THE FINAL COAT, REPAINT THE SURFACE UNTIL THE FILM IS UNIFORM IN FINISH, COVERAGE, COLOR, AND APPEARANCE

REVISIONS:

NO. DATE
ORIGINAL 10/18/2024



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Crockettengineering.com

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www.crockettengineering.c.

DISCOVERY PARK LEES SUMMIT LL 4220 PHILLIPS FARM RD COLUMBIA. MO 65201

THE VILLAGE AT DISCOVEF LOT 1

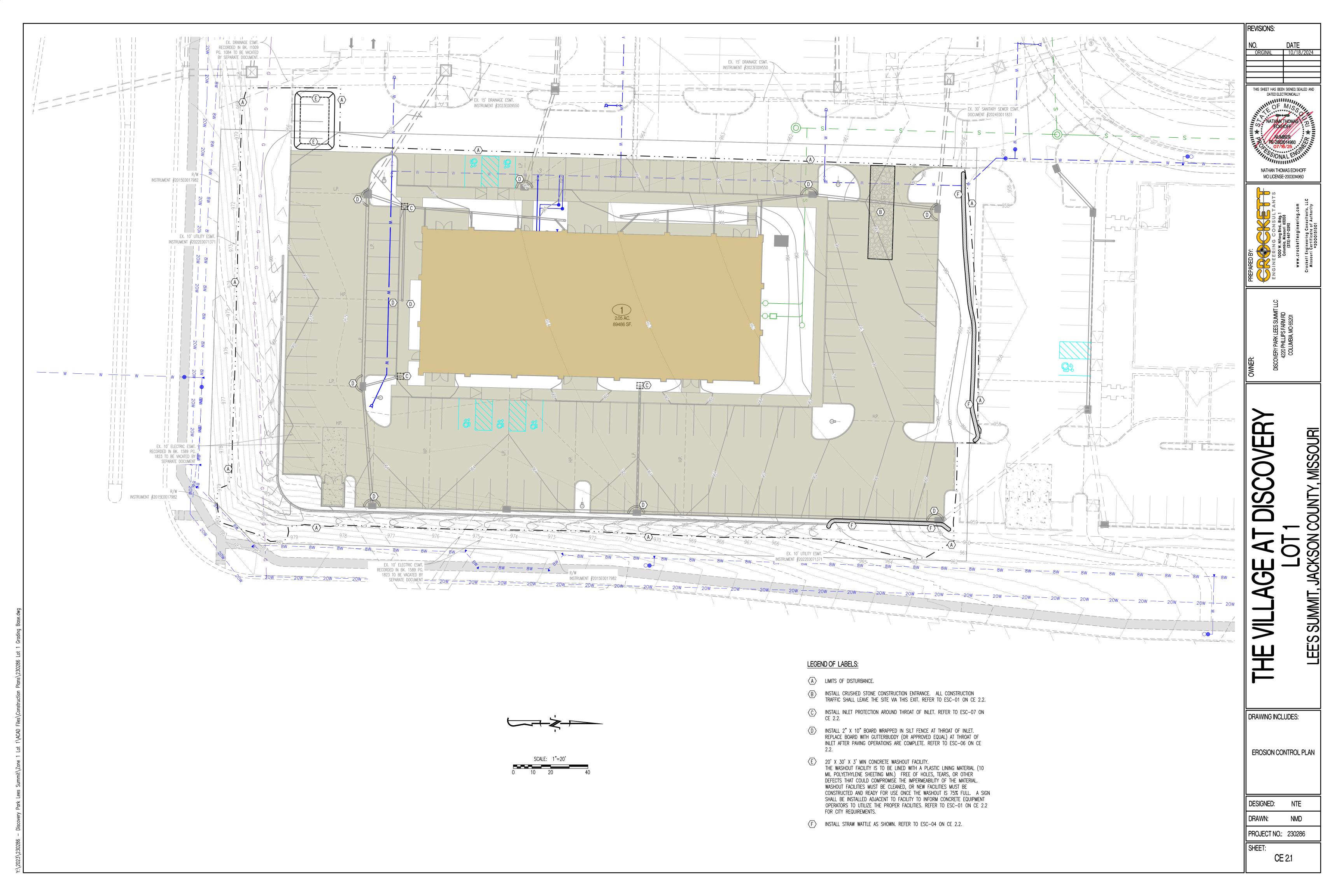
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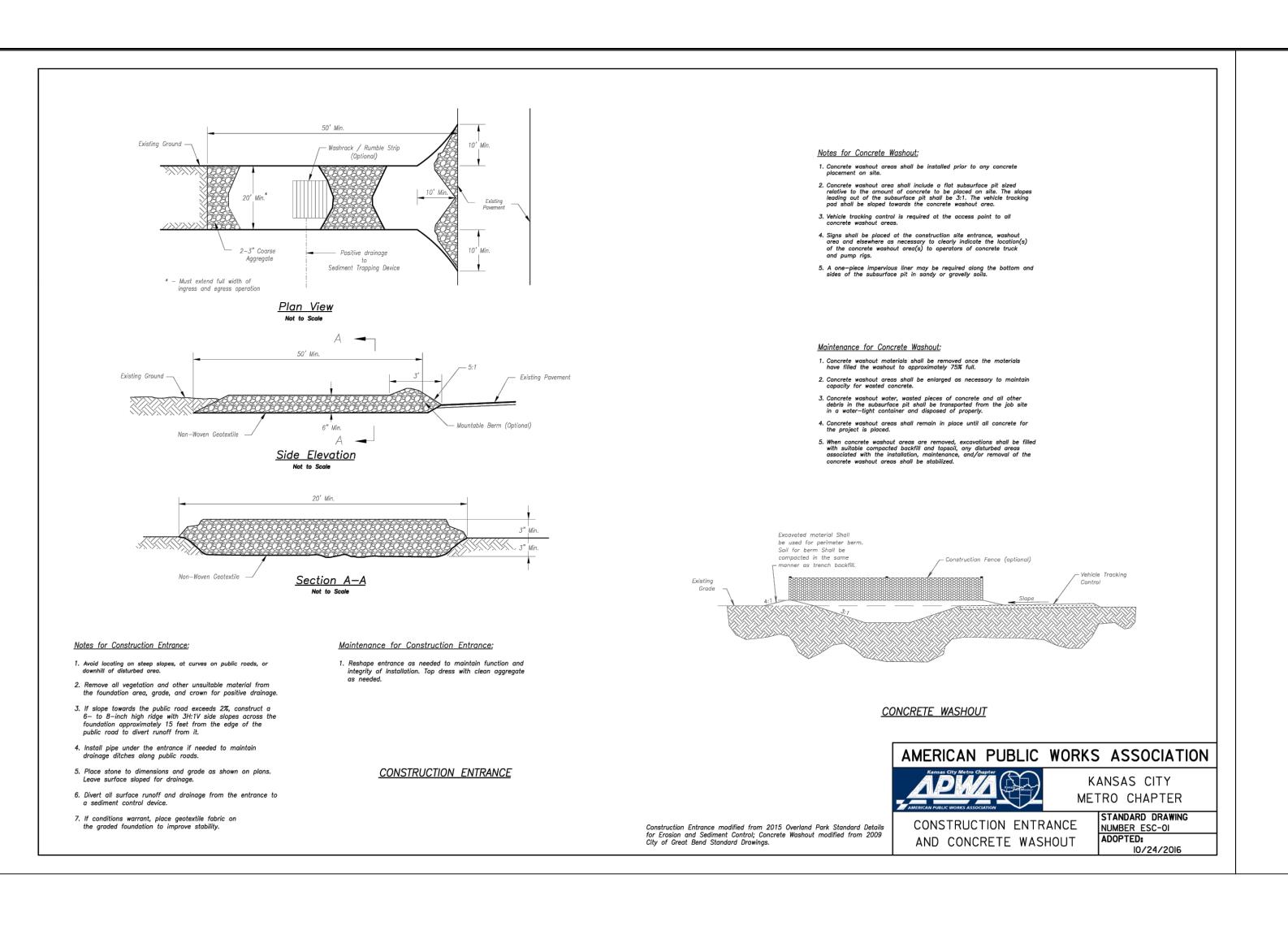
CIVIL SPECIFICATIONS

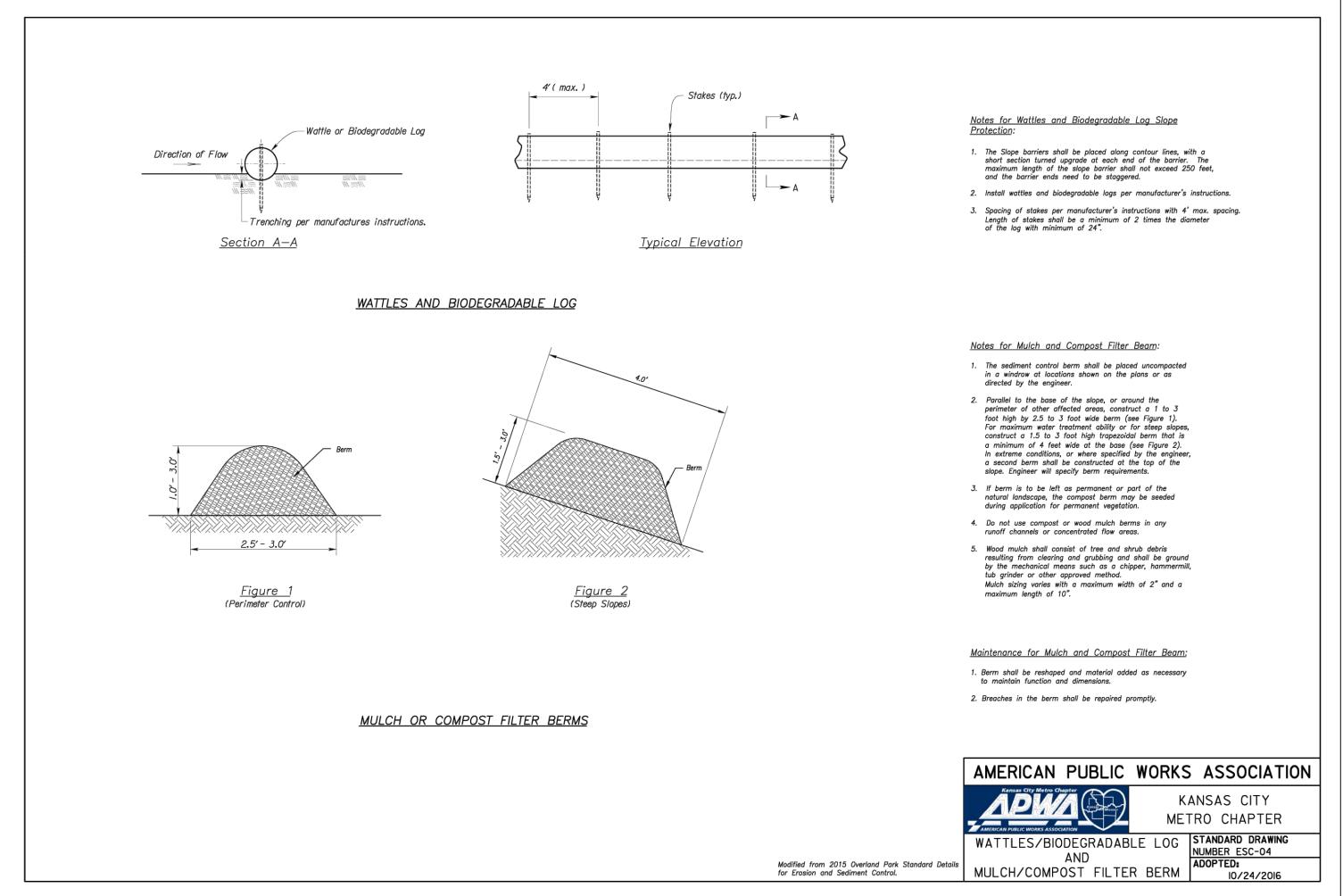
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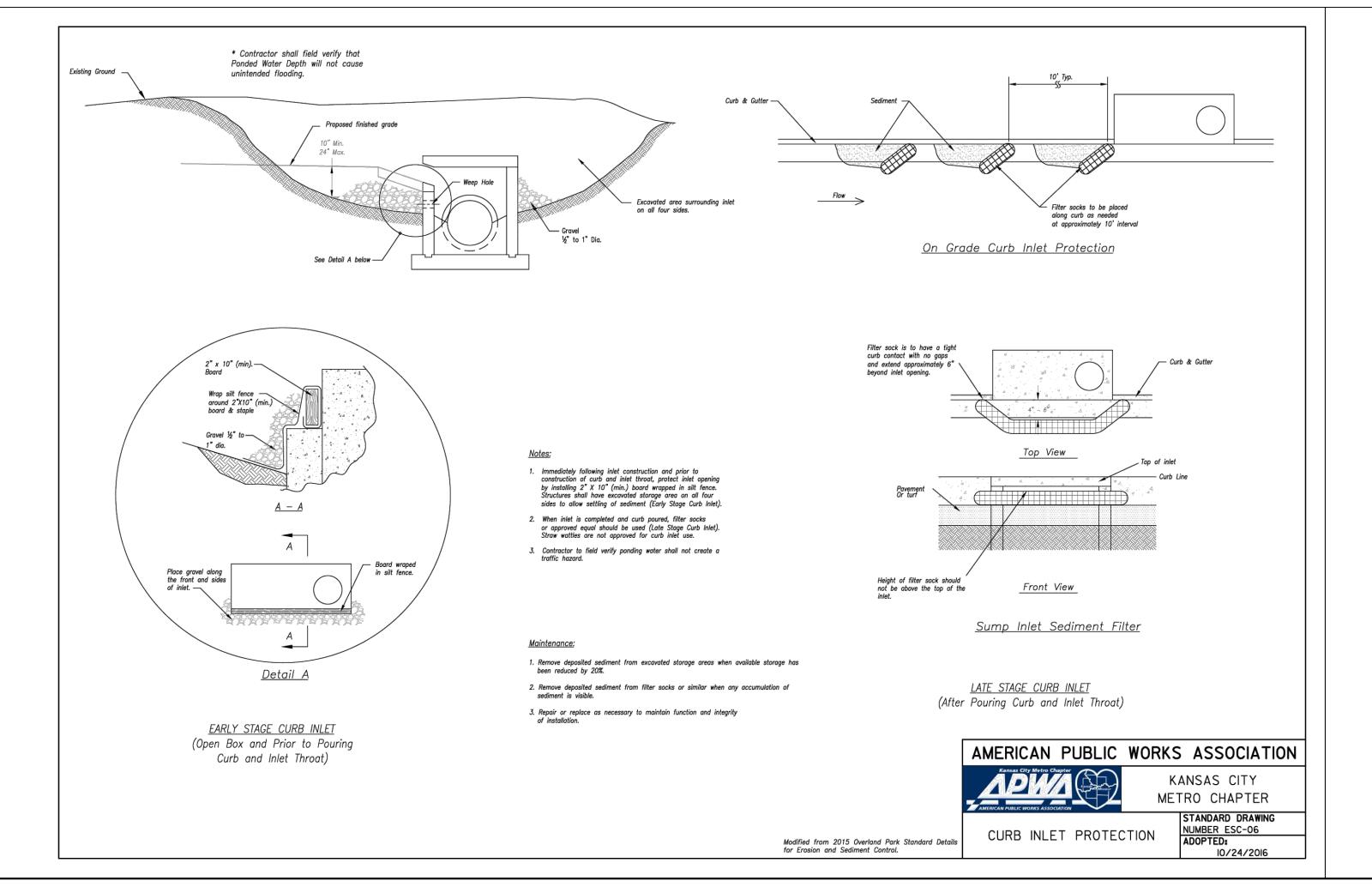
DRAWN: NMD
PROJECT NO.: 230286

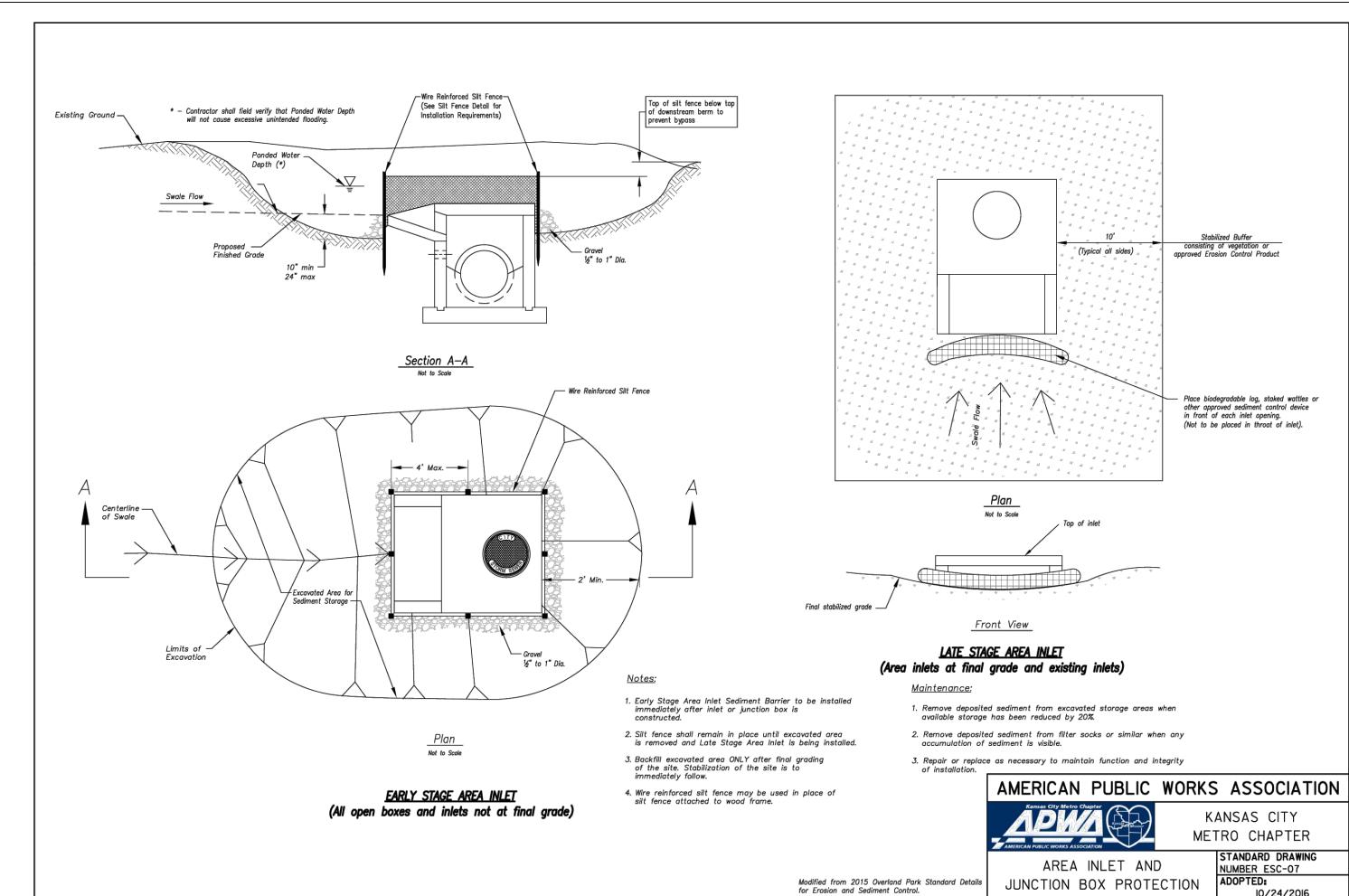
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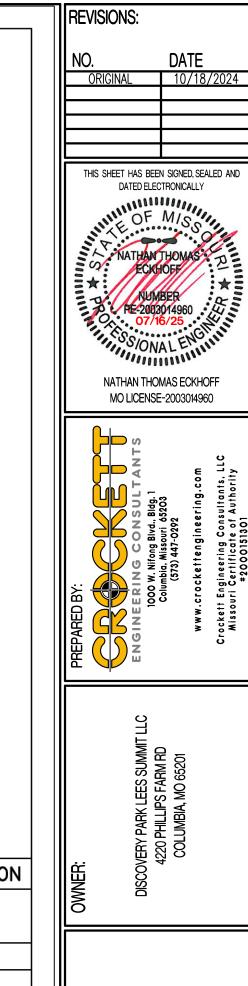












HE VILLAGE AT DISCOVERY LEE'S SUMMIT, JACKSON COUNTY, MISSOURI

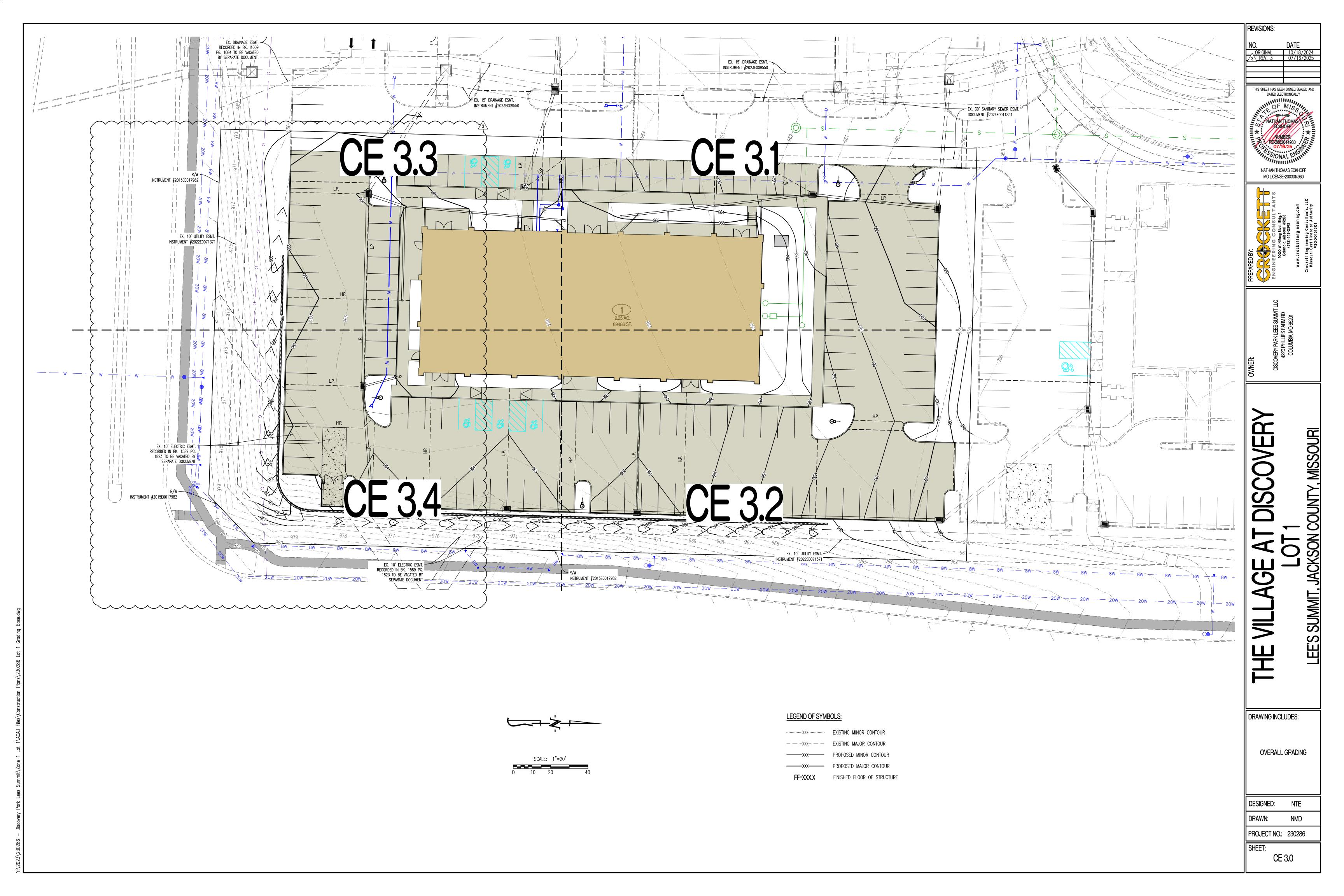
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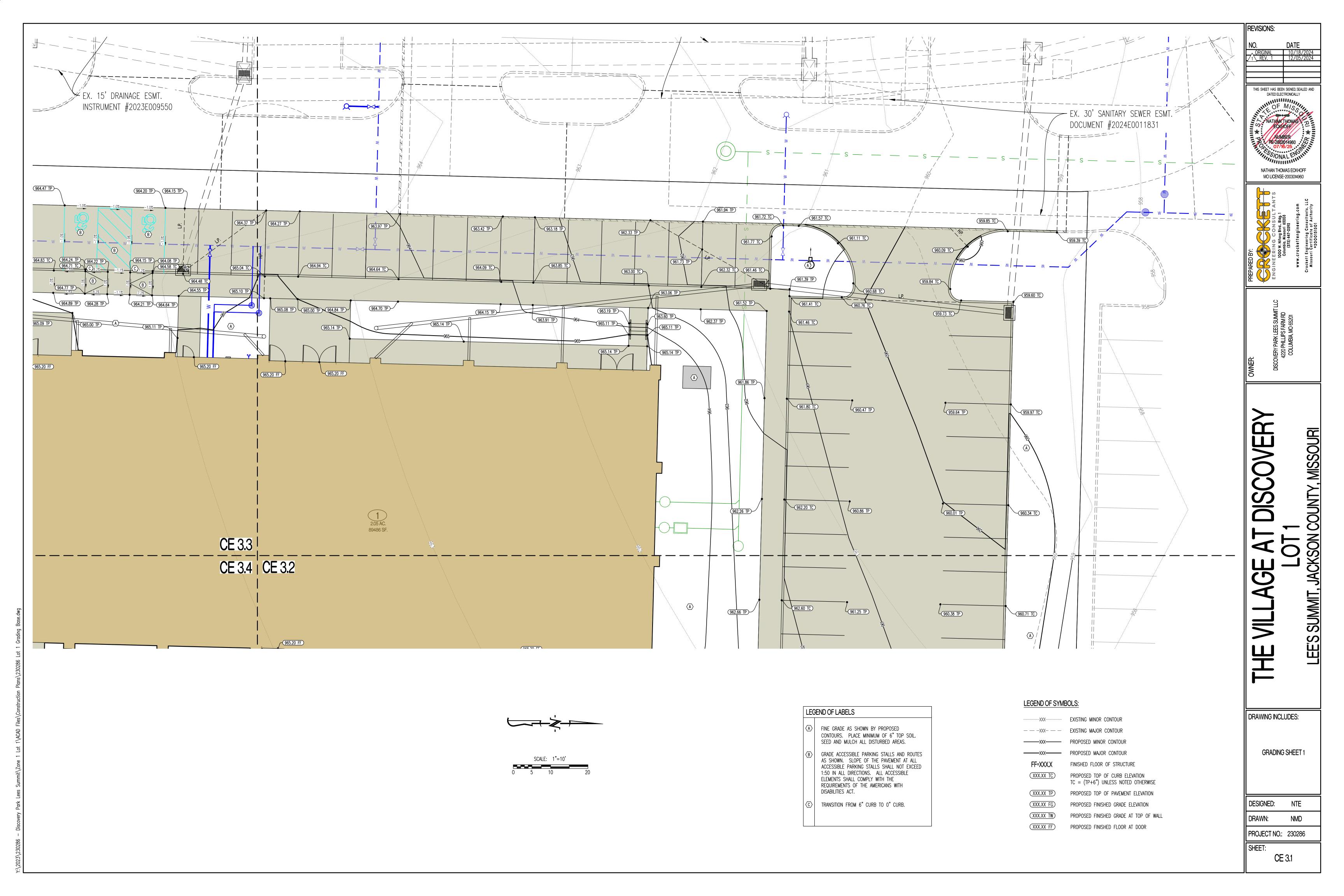
EROSION CONTROL DETAILS

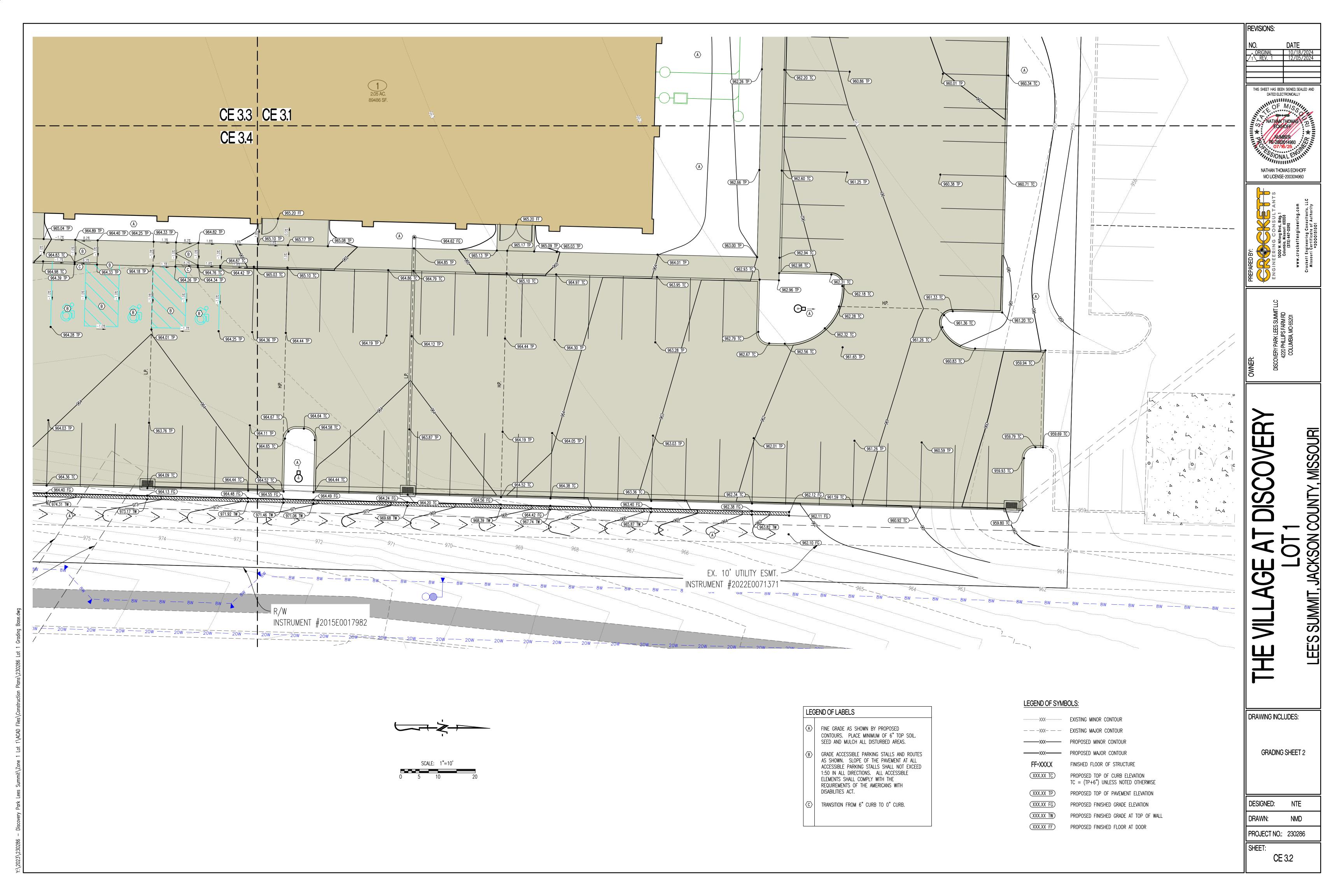
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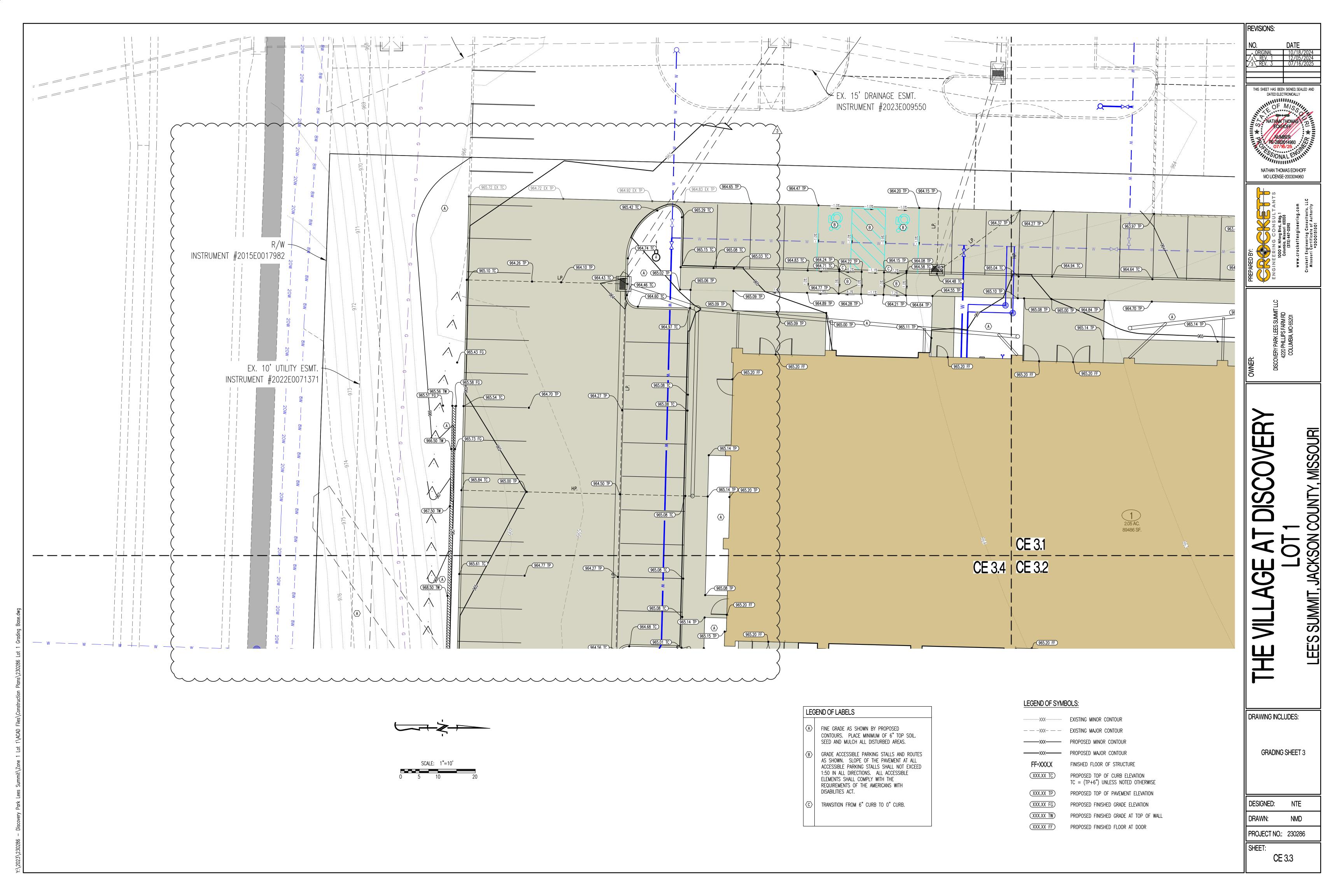
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PROJECT NO.: 230286

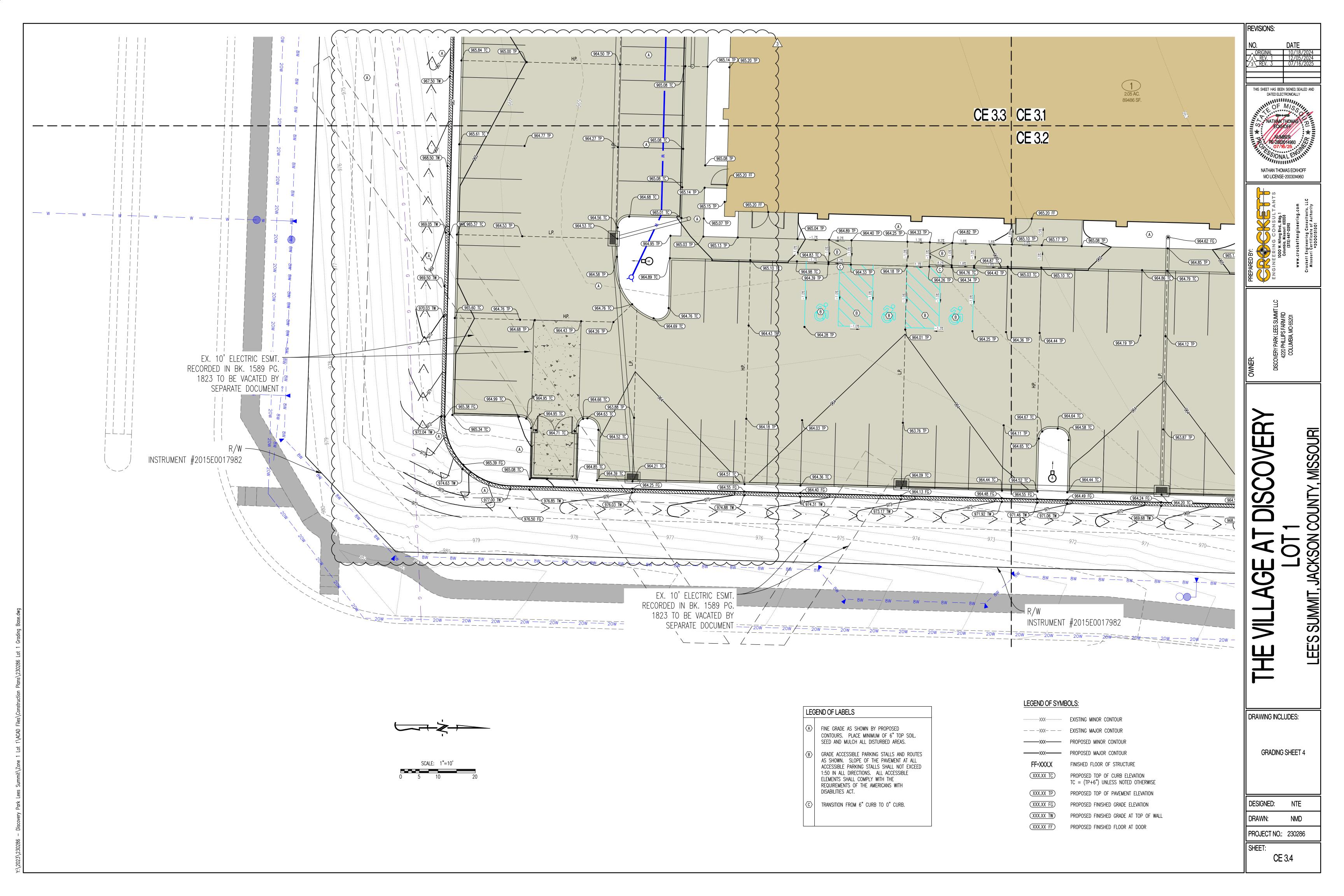
SHEET:

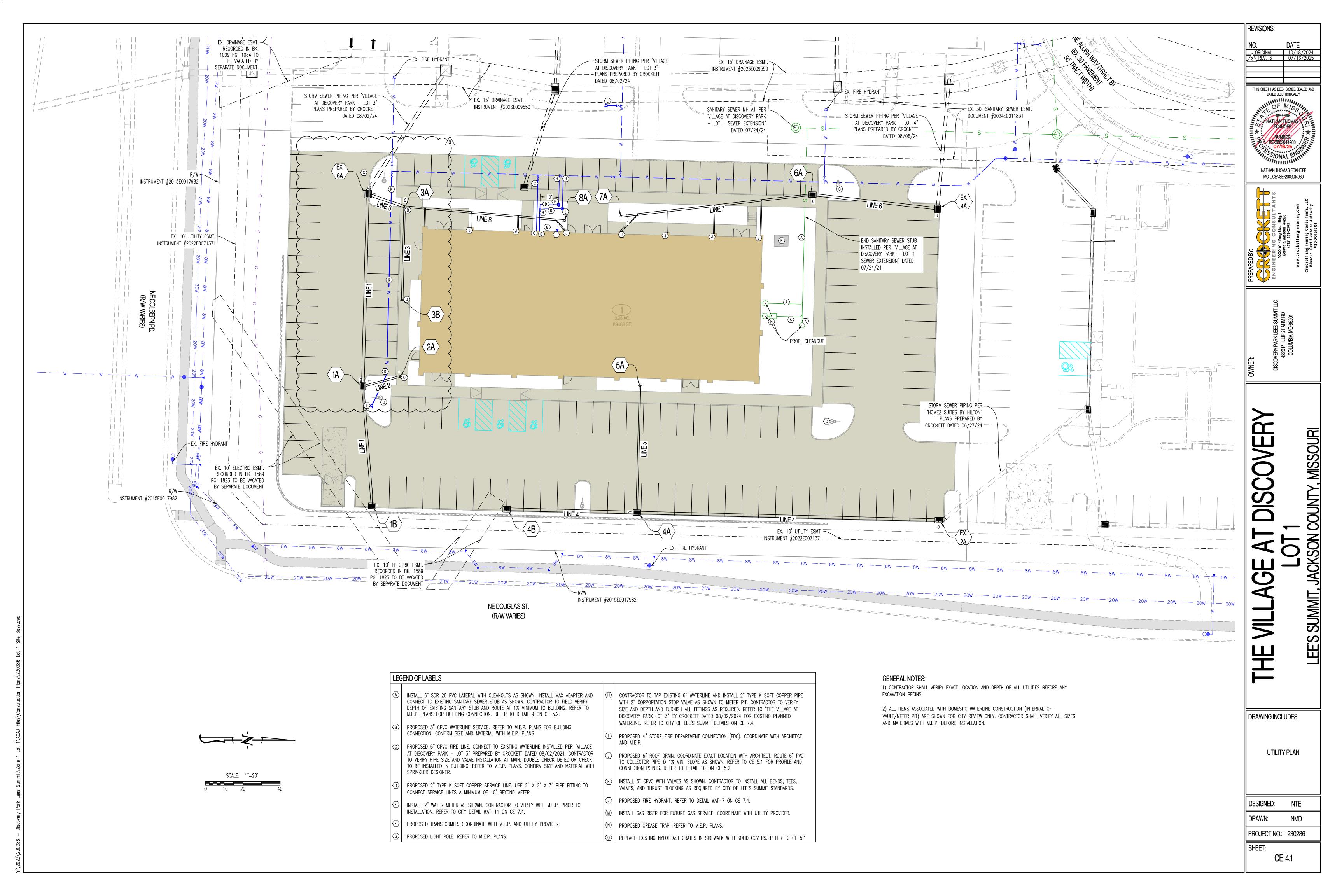


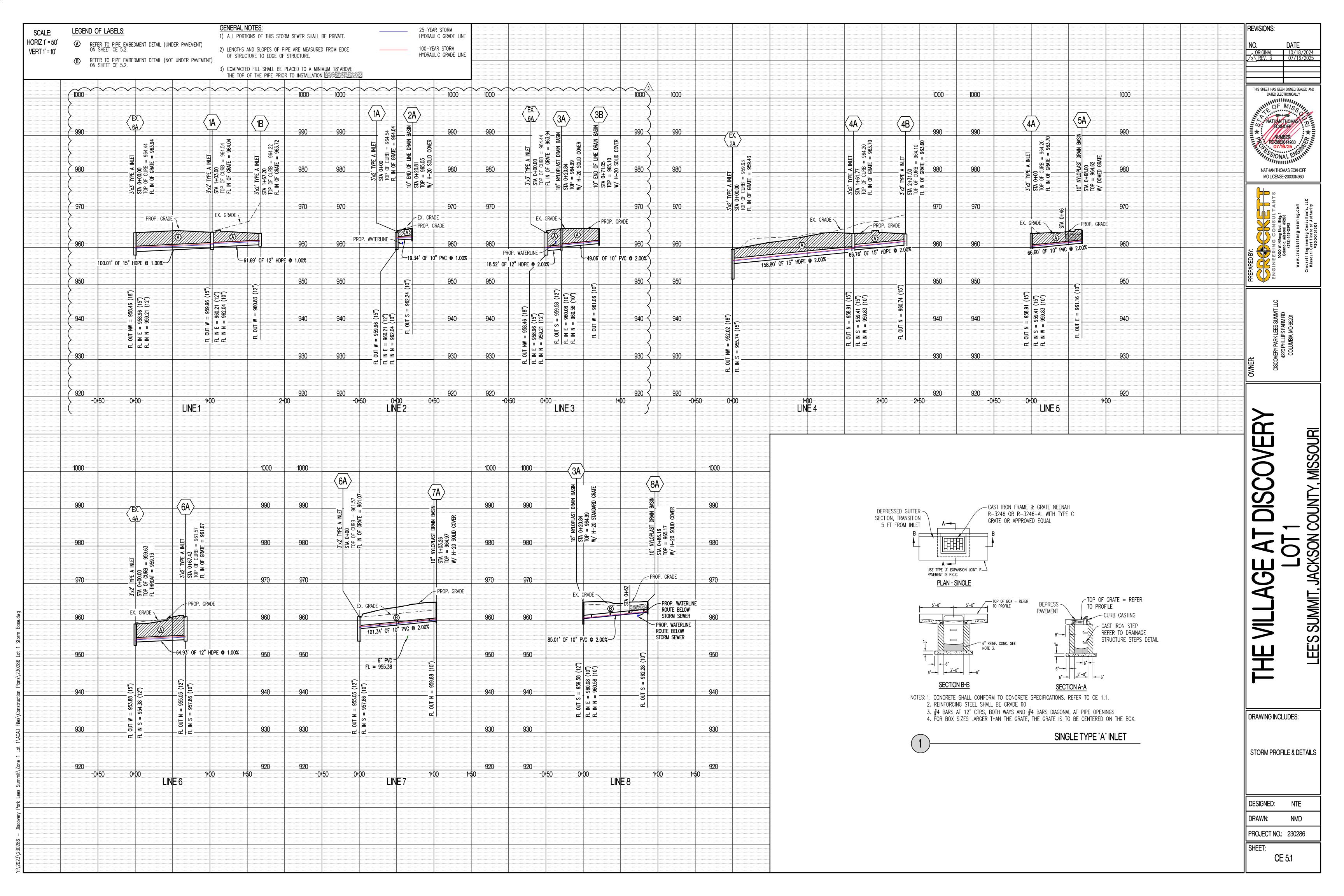












PROOF-ROLL OBSERVATION BE PERFORMED INSTEAD OF MOISTURE DENSITY TESTING FOR MATERIALS CONTAINING MORE THAN 30% AGGREGATE RETAINED ON THE 3/4" SIEVE.

1. IF LIMESTOME SCREENINGS ARE USED AS NEW STRUCTURAL FILL, THE CONTRACTOR SHOULD BE AWARE THIS MATERIAL IS EXTREMELY SUSCEPTIBLE TO DEGRADATION UPON WETTING WHICH CAN RESULT IN DEEP-SEATED PUMPING AND RUTTING.

COMPACTION REQUIREMENTS 1 2

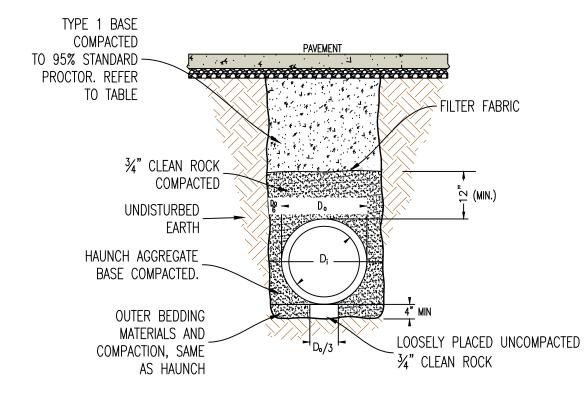
REPRESENTED BY THE TEST SHOULD BE REWORKED AND RETESTED AS REQUIRED UNTIL

AS STATED WITHIN ASTM D698, THIS PROCEDURE IS INTENDED FOR SOILS WITH 30% OR

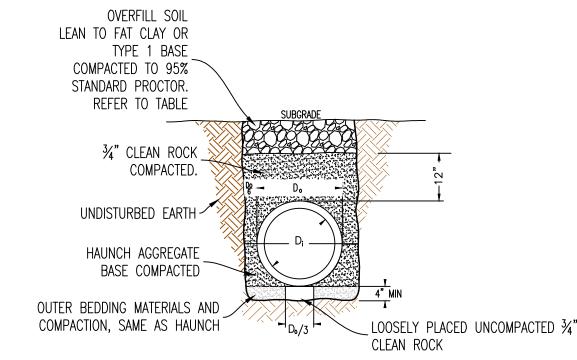
THE SPECIFIED MOISTURE AND COMPACTION REQUIREMENTS ARE ACHIEVED.

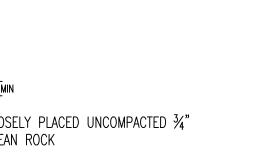
LESS MATERIAL LARGER THAN 3/4". ACCORDINGLY, WE RECOMMEND FULL TIME

LIMESTONE SCREENINGS THAT PUMP AND RUT ARE NOT ACCEPTABLE FOR USE AS NEW STRUCTURAL FILL OR FOR LOW VOLUME CHANGE MATERAIL AND WILL NEED TO BE REMOVED AND REPLACED WITH SUITABLE MATERIAL.









FILTER FABRIC WRAP IN FRONT OF WEEP HOLES ATTACH TO STRUCTURE WALL WITH MASTIC.

CLEAN 1" CRUSHED

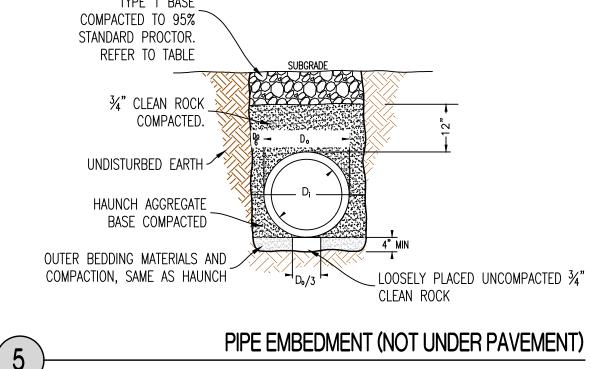
DRAIN HOLES

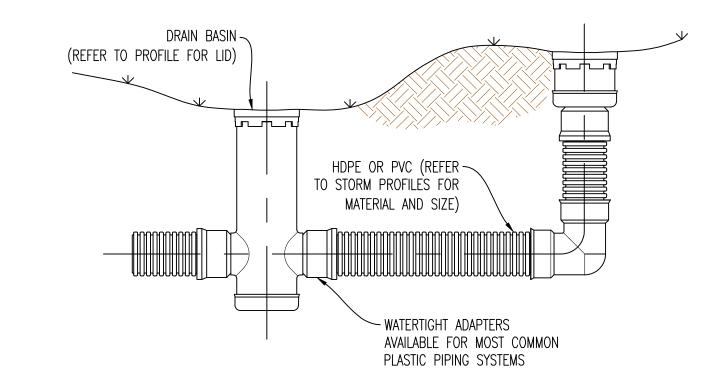
FILTER FABRIC WRAP IN FRONT OF WEEP HOLES.

ATTACH TO STRUCTURE WALL WITH MASTIC.

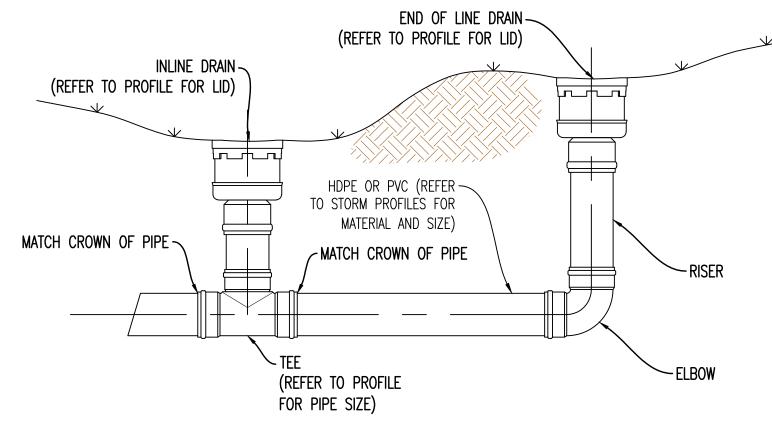
- STONE TO 6" BELOW

1/2" DIA. PVC DRAIN HOLE ON 2' CTRS.

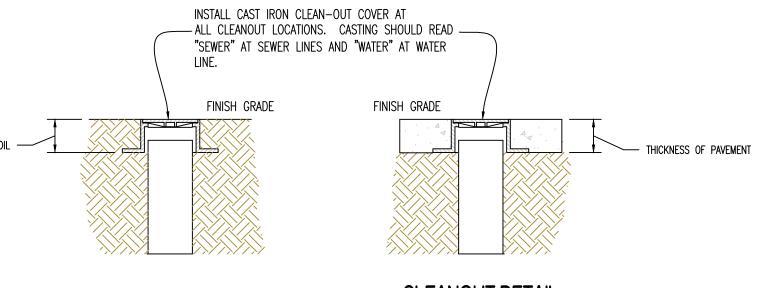




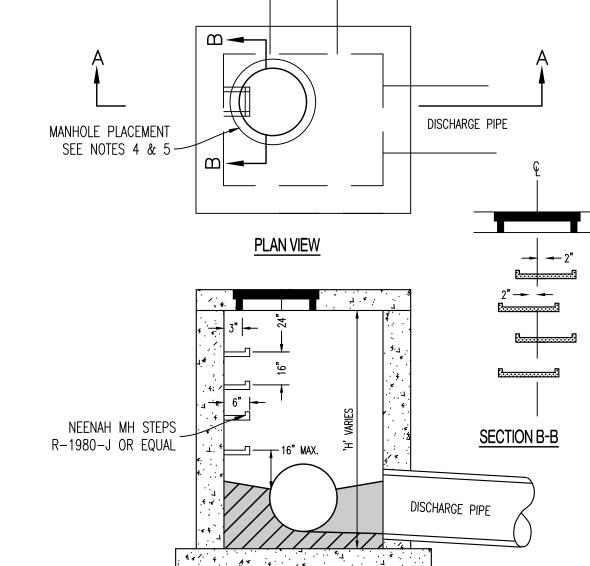
TYPICAL INSTALLATION OF NYLOPLAST DRAIN BASIN



TYPICAL INSTALLATION OF INLINE DRAIN AND END OF LINE DRAIN



CLEANOUT DETAIL



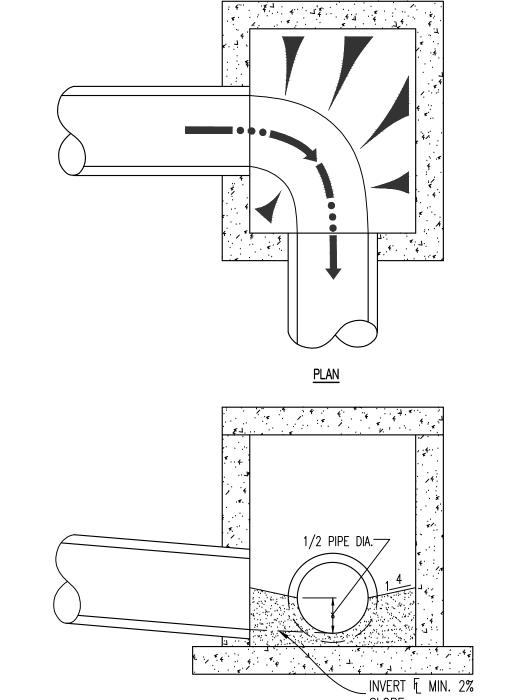
1. STEPS NOT REQUIRED WHERE H IS LESS THAN 4'. 2. CAST IRON STEPS STEPS SHALL BE AMERICAN ML-10-NCR OR EQUAL

5. MANHOLE RING SHALL BE CENTERED ON CENTERLINE OF STEPS 6. STAGGER STEPS 2" EACH WAY FROM CENTERLINE OF MANHOLE RING.

7. TOP STEP 24" BELOW TOP OF LID 8. STEP SPACING TO BE 16", BOTTOM STEP TO BE NO HIGHER THAN 16" FROM INVERT.

- BUILDING FACE REFER TO ARCH. PLANS — FOR DOWNSPOUT SIZE. DOWNSPOUT BOOT -FINISHED GRADE -6" SDR 35 PIPE @ 2% — MINIMUM SLOPE 6" SDR 35 🦳 6" SDR 35-90 BEND 45 BEND TOP OF FOOTING SADDLE WYE ~ PIPE (VARIABLE

DRAWING INCLUDES: STORM DETAILS CONT'D DESIGNED: DEPTH & SIZE) DRAWN:



LOCATE DRAIN HOLES ABOVE TOP OF INVERT - TOP OF INVERT AND BELOW TOP OF PIPE - 1 ½" DIA. ON 2' CTRS. FRONT ELEVATION 1. PLACE WEEP HOLES ON UPSTREAM FACE OF ALL STRUCTURES AND ALSO ON ROADWAY FACE OF CURB INLET STRUCTURES. 2. WEEP HOLE FILTER FABRIC SHALL CONSIST OF A NON-WOVEN, POLYPROPYLENE TYPE FABRIC SUCH AS: AMOCO 4553 NON-WOVEN GEOTEXTILE FABRIC OR APPROVED EQUAL.

PARTIAL SECTION

DRAINAGE STRUCTURE INVERT

SHEET: CE 5.2

PROJECT NO.: 230286

NTE

NMD

|| REVISIONS:

ORIGINAL 10/18/2024

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

NATHAN THOMAS ECKHOFF

MO LICENSE-2003014960

3. INVERT SHALL BE CLASS E CONCRETE.

1. FORM ALL INVERTS FOR SMOOTH FLOW THROUGH STRUCTURE.

2. INVERT SHALL BE FORMED UP TO 1/2 THE PIPE DIAMETER

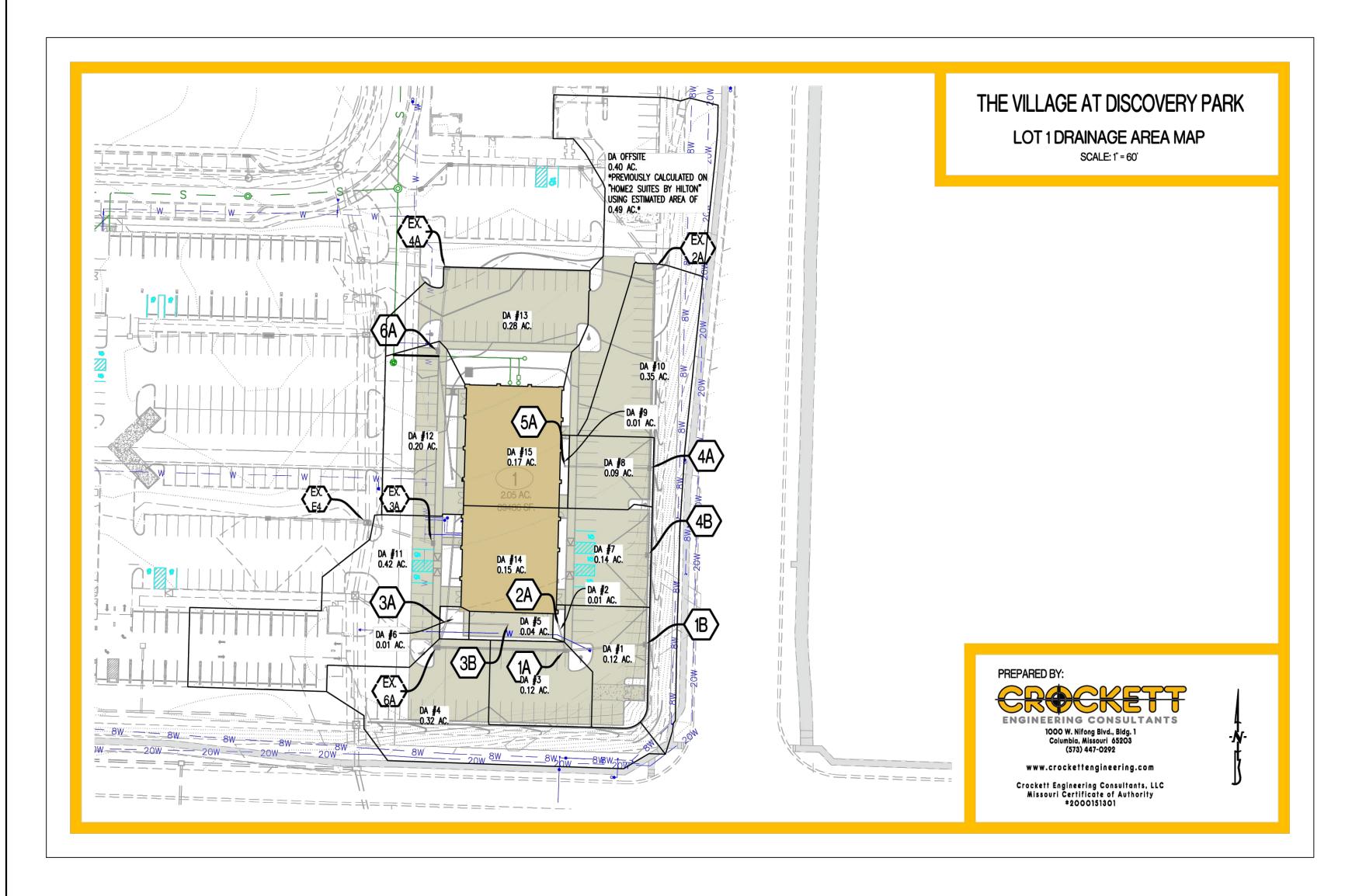
DRAINAGE STRUCTURE WEEP HOLES

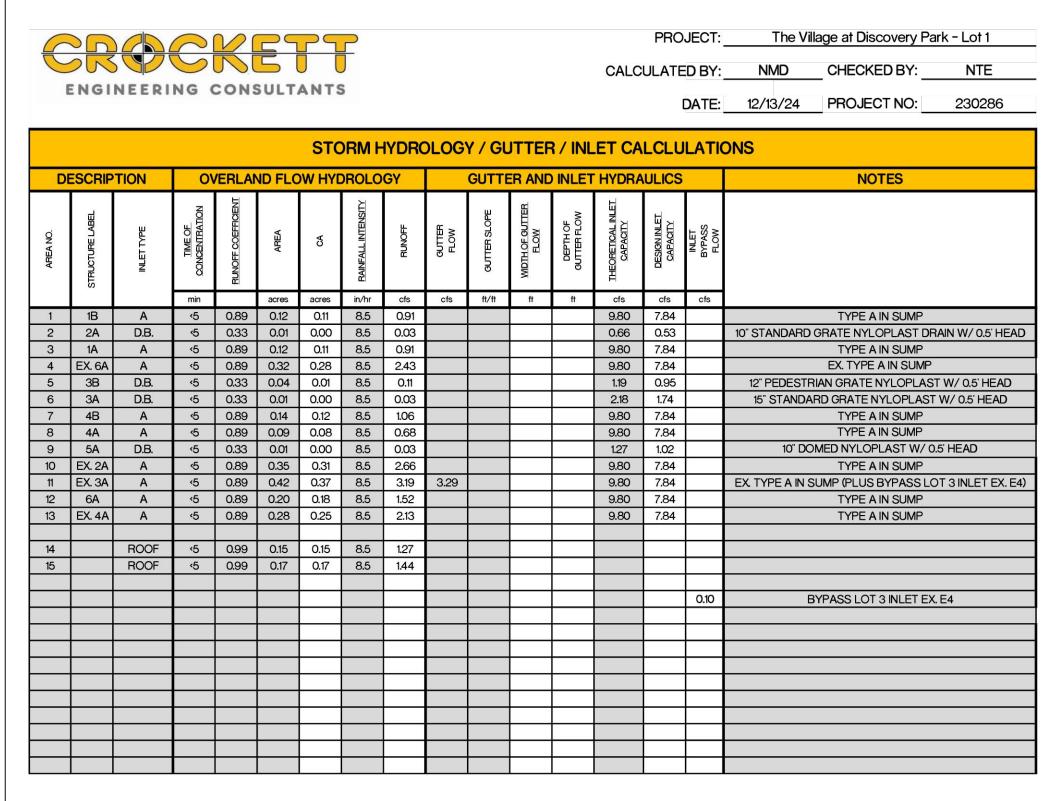
3. STEPS SHALL BE PLACED ON VACANT WALL WHEN POSSIBLE 4. MANHOLE RING SHALL BE OFFSET TOWARD WALL WITH STEPS.

SECTION A-A

DRAINAGE STRUCTURE STEPS

ROOF DRAIN DETAIL





ENGINEER	ING	ONS	SULTA	NTS							CALCULA	
												DATE: 12/13/24 PROJECT NO: 2302
						5	TORM	DRAIN I	PIPE SIZ	E		
DESCRIPTION		7			S	TORM DE	RAIN HYD	RAULICS		NOTES		
AREA NO.	JPSTREAM STRUCTURE LABEL	ME OF CONCENTRATION	ADDED	CUMUL.	BAINFALL INTENSITY	RUNOFF	STORM DRAIN SLOPE	STORM DRAIN DIAMETER	STORM DRAIN.	CAPACITY FLOWING FULL	VELOGITY FLOWING FULL	
	TSAN	min	∡ acres	ට acres	in/hr	cfs	ft/ft	in	OR HDPE	cfs	fps	
	1 (2.1						0.5:5	LINE 1			1	
1 LINE 2 + 3 LINE 3 + 4	1B 1A EX. 6A	<5 <5 <5	0.11 0.11 0.45	0.11 0.22 0.67	8.53 8.53 8.53	0.91 1.85 5.69	0.010 0.010 0.010	12 15 18	HDPE HDPE HDPE	3.86 6.99 11.37	4.91 5.70 6.44	EX. 18" PIPE FROM DISCOVERY PARK LOT
								LINE 2				
2	2A	4 5	0.00	0.00	8.53	0.03	0.010	10	PVC	2.59	4.75	
								LINE 3				
ROOF (14) + 5 6	3B 3A	<5 <5	0.16 0.00	0.16 0.17	8.53 8.53	1.38 1.41	0.010	10	PVC HDPE	2.59 3.86	4.75 4.91	
								LINE 4				
7 LINE 5+8 10	4B 4A EX. 2A	<5 <5 <5	0.12 0.09 0.31	0.12 0.22 0.53	8.53 8.53 8.53	1.06 1.86 4.52	0.020 0.020 0.020	15 15 18	HDPE HDPE HDPE	9.89 9.89 16.09	8.06 8.06 9.11	EX. PIPE FROM HOME2 SUITES BY HILTOI
								LINE 5			<u> </u>	
ROOF (15) + 9	1C	. 5	0.00	0.00	8.53	0.03	0.010	10	PVC	2.59	4.75	
								LINE 6				
ROOF (15) + 12 13	6B EX. 4A	ر5 ر5	0.35 0.25	0.35 0.60	8.53 8.53	2.95 5.08	0.010	12 15	HDPE HDPE	3.86 6.99	4.91 5.70	
							E	X. STOP	RM			
11	EX. 3A	. 5	0.37	0.40	8.53	3.39	0.010	15	HDPE	6.99	5.70	EX. STORM LINE 3A FROM VILLAGE AT DISCOVERY PARK PLUS BYPASS

	3 7			=		F									The Village at Discovery Fair. Lot i
												CALC	ULATE	DBY:	NMD CHECKED BY: NTE
ENG	SINEER	ING	CONS	SULT	ANTS	S								DATE:	12/13/24 PROJECT NO: 230286
											- 10-00				
					STO	ORM H	HYDRO	DLOG'	Y / GL	ITTEF	R / INL	ET CA	LCLU	ILATIO	ONS
DESCI	RIPTION	0	/ERLAI	ND FLO	W HY	DROLO	GY		GUTTE	R AND	INLET	HYDRA	ULICS	NOTES	
STRUCTURE LABEL	INLET TYPE	TIME OF CONCENTRATION	RUNOFF COEFFICIENT	AREA	Ö	RAINFALL INTENSITY	RUNOFF	оптея FLOW	OUTTER SLOPE	WDTH OF GUTTER FLOW	DEPTH OF OUTTER FLOW	THEORETICAL INLET CAPACITY	DESIGN INLET	INLET BYPASS FLOW	
		min		acres	acres	in/hr	cfs	cfs	ft/ft	ft	ft	cfs	cfs	cfs	
1E		·5	0.89	0.12	0.11	8.5	0.91					9.80	7.84		TYPE A IN SUMP
2 <i>F</i>		-5 -5	0.33	0.01	0.00 0.11	8.5 8.5	0.03					0.66 9.80	0.53 7.84		10" STANDARD GRATE NYLOPLAST DRAIN W/ 0.5' HEAD
EX.		(5 (5	0.89	0.12	0.11	8.5	2.43					9.80	7.84		TYPE A IN SUMP EX. TYPE A IN SUMP
3E		-5	0.33	0.04	0.28	8.5	0.11					1.19	0.95		12" PEDESTRIAN GRATE NYLOPLAST W/ 0.5' HEAD
3/		. 5	0.33	0.01	0.00	8.5	0.03					2.18	1.74		15" STANDARD GRATE NYLOPLAST W/ 0.5' HEAD
4E	_	-5	0.89	0.14	0.12	8.5	1.06					9.80	7.84		TYPE A IN SUMP
4/		-5	0.89	0.09	0.08	8.5	0.68					9.80	7.84		TYPE A IN SUMP
5/	V	4 5	0.33	0.01	0.00	8.5	0.03					1.27	1.02		10" DOMED NYLOPLAST W/ 0.5' HEAD
EX.	2A A	√ 5	0.89	0.35	0.31	8.5	2.66					9.80	7.84		TYPE A IN SUMP
EX.	BA A	' 5	0.89	0.42	0.37	8.5	3.19	3.29				9.80	7.84		EX. TYPE A IN SUMP (PLUS BYPASS LOT 3 INLET EX. E4)
64	A	4 5	0.89	0.20	0.18	8.5	1.52					9.80	7.84		TYPE A IN SUMP
EX.	IA A	4 5	0.89	0.28	0.25	8.5	2.13					9.80	7.84		TYPE A IN SUMP
	5.														
	ROOF	4 5	0.99	0.15	0.15	8.5	1.27								
	ROOF	4 5	0.99	0.17	0.17	8.5	1.44								
+-		ļ													
+														0.10	BYPASS LOT 3 INLET EX. E4
+															
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REVISIONS:

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

NATHAN THOMAS ECKHOFF MO LICENSE-2003014960

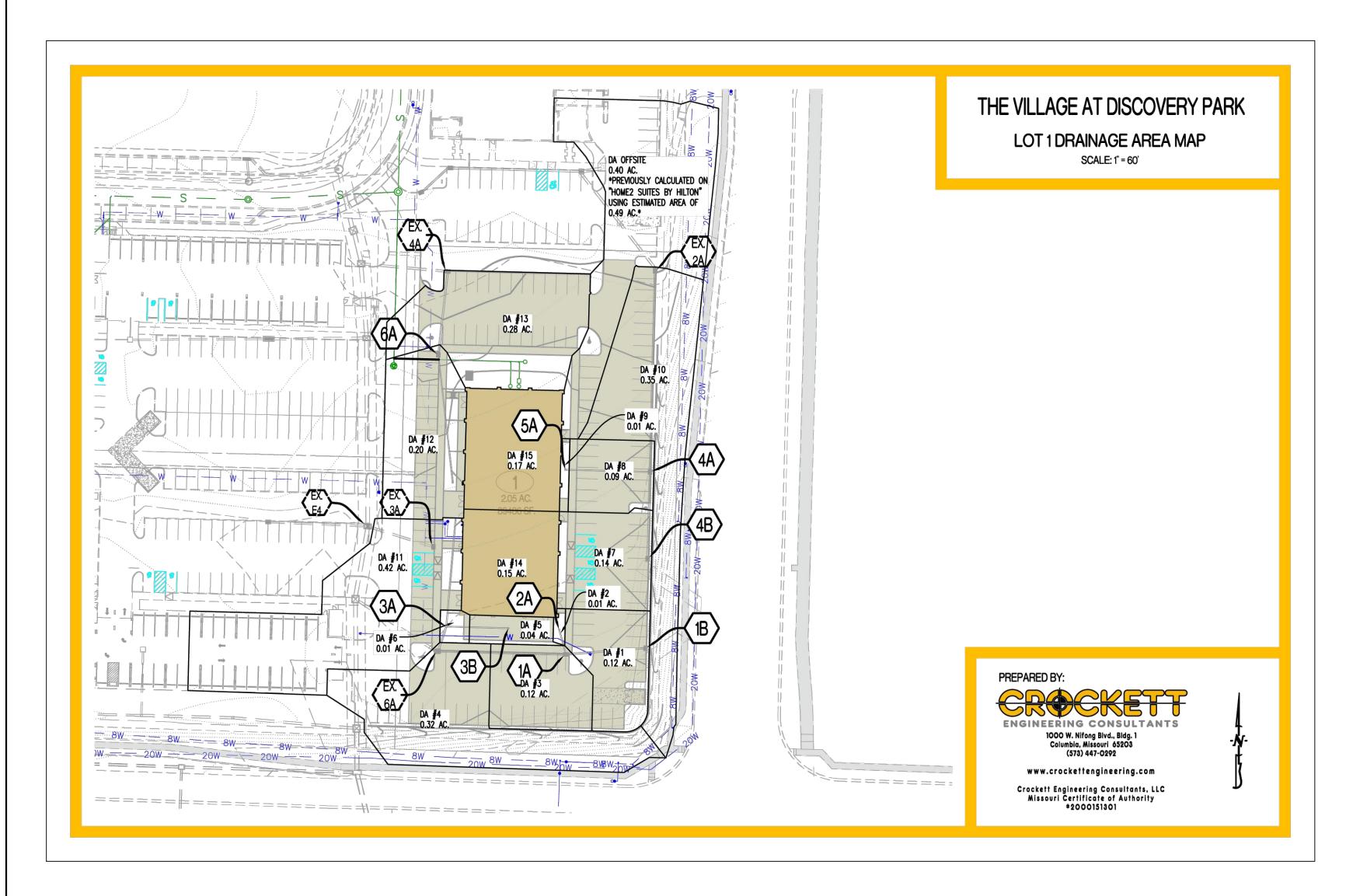
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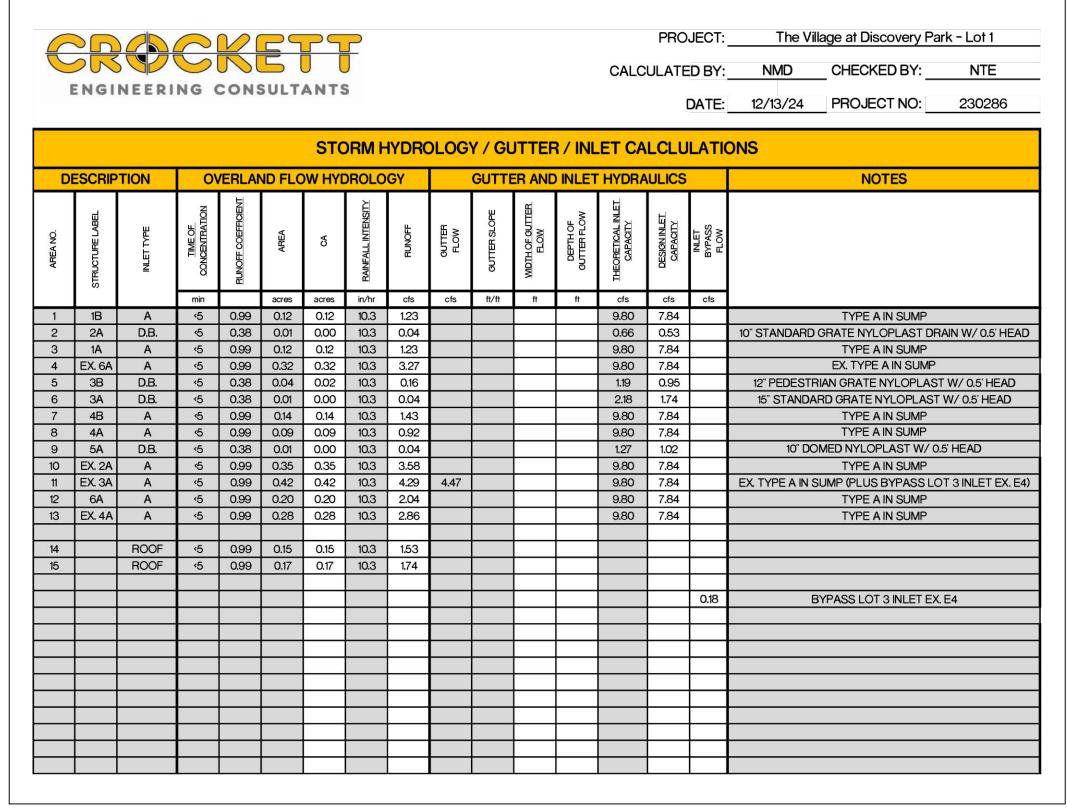
25 YEAR STORM CALCS

DESIGNED: NMD PROJECT NO.: 230286

CE 5.3

LEE'S SUMMIT, JACKSON COUNTY, MIS





ENGINEER	RING	ONS	SULT/	NTS							CALCULA	
							STORM	DRAINI	PIPE SIZ	F		DATE: 12/13/24 PROJECT NO: 230
DESCRIPTION	ı				S		RAIN HYD			<u>- </u>		NOTES
		NOIL									Т	
AREA NO.	STREAM STRUCTURE LABEL	OF CONCENTRATION		S III	RAINFALL INTENSITY	RUNOFF	STORM DRAIN SLOPE	STORM DRAIN DIAMETER	STORM DRAIN.	CAPACITY FLOWING FULL	VELOCITY FLOWING FULL	
	PSTRE	IIM	ADDED	CUMUL	= 24				CMP, PVC, OR HDPE			
		min	acres	acres	in/hr	cfs	ft/ft	LINE 1	<u>. </u>	cfs	fps	
1 LINE 2 + 3	1B 1A	ر5 ر5	0.12 0.12	0.12 0.24	10.32 10.32	1.23 2.49	0.010 0.010	12 15	HDPE HDPE	3.86 6.99	4.91 5.70	
LINE3+4	EX. 6A	ر <u>ي</u> رح	0.12	0.24	10.32	7.49	0.010	18	HDPE	11.37	6.44	EX. 18" PIPE FROM DISCOVERY PARK LOT
								LINE 2				
2	2A	4 5	0.00	0.00	10.32	0.04	0.010	10	PVC	2.59	4.75	
								LINE 3				
ROOF (14) + 5	3B	4 5	0.16	0.16	10.32	1.69	0.010	10	PVC	2.59	4.75	
6	3A	4 5	0.00	0.17	10.32	1.73	0.010	12	HDPE	3.86	4.91	
								LINE 4			_	
7 LINE 5 + 8	4B 4A	<u>- 5</u> -5	0.14	0.14 0.23	10.32	1.43 2.40	0.020	15 15	HDPE HDPE	9.89 9.89	8.06 8.06	
10	EX. 2A	(5	0.35	0.58	10.32	5.97	0.020	18	HDPE	16.09	9.11	EX. PIPE FROM HOME2 SUITES BY HILTO
								LINE 5				
9	1C	' 5	0.00	0.00	10.32	0.04	0.010	10	PVC	2.59	4.75	
								LINE 6				
ROOF (15) + 12	6A	' 5	0.37	0.37	10.32	3.78	0.010	12	HDPE	3.86	4.91	
13	EX. 4A	4 5	0.28	0.64	10.32	6.64	0.010	15	HDPE	6.99	5.70	
							E	X. STOF	RM			
11	EX. 3A	. 5	0.42	0.43	10.32	4.47	0.010	15	HDPE	6.99	5.70	EX. STORM LINE 3A FROM VILLAGE AT DISCOVERY PARP PLUS BYPASS
											-	

				V		25	7							PRO	JECT: _	The Vil	lage at Discovery Pa	rk - Lot 1
0					5								CALC	ULATE	DBY:	NMD	_ CHECKED BY:	NTE
	ENGI	NEERI	NG (CONS	SULT	ANTS	5							ι	DATE:	12/13/24	PROJECT NO:	230286
						STO	ORM H	IYDRO	DLOG'	Y / GL	JTTEF	R / INL	ET CA	LCLU	LATIC)NS		
D	DESCRIPTION OVERLAND FLOW HYDROLOGY								GUTTE	R AND	INLET	HYDRA	ULICS	1		NOTES		
AREA NO.	STRUCTURE LABEL	INLET TYPE	TIME OF CONCENTRATION	RUNOFF COEFFICIENT	AREA	CA	RAINFALL INTENSITY	RUNOFF	GUTTER FLOW	OUTTER SLOPE	WIDTH OF GUTTER. FLOW	DEPTH OF GUTTER FLOW	THEORETICAL INLET. CAPACITY	DESIGN INLET CAPACITY	INLET BYPASS FLOW			
	oxdot		min		acres	acres	in/hr	cfs	cfs	ft/ft	ft	ft	cfs	cfs	cfs			
1	1B	Α	√ 5	0.99	0.12	0.12	10.3	1.23					9.80	7.84			TYPE A IN SUMP	
2	2A	D.B.	-5	0.38	0.01	0.00	10.3	0.04					0.66	0.53		10" STANDARD	GRATE NYLOPLAST DR	AIN W/ 0.5' HEAD
3	1A EX. 6A	A	-5 -5	0.99	0.12 0.32	0.12	10.3	1.23 3.27					9.80 9.80	7.84 7.84			TYPE A IN SUMP EX. TYPE A IN SUMP	
5	3B	D.B.	<i>5</i>	0.38	0.32	0.32	10.3	0.16					1.19	0.95		10" DEDESTE	IAN GRATE NYLOPLAS	T W/ O 5' HEAD
6	3A	D.B.	,5 -5	0.38	0.04	0.02	10.3	0.04			<u> </u>		2.18	1.74			RD GRATE NYLOPLAST	
7	4B	A.	-5	0.99	0.14	0.14	10.3	1.43					9.80	7.84		IO OTANDA	TYPE A IN SUMP	W/ O.O FIEAD
8	4A	A	-5	0.99	0.09	0.09	10.3	0.92					9.80	7.84			TYPE A IN SUMP	
9	5A	D.B.	4 5	0.38	0.01	0.00	10.3	0.04					1.27	1.02		10" DO	MED NYLOPLAST W/ 0	.5' HEAD
10	EX. 2A	Α	6	0.99	0.35	0.35	10.3	3.58					9.80	7.84			TYPE A IN SUMP	
11	EX.3A	Α	4 5	0.99	0.42	0.42	10.3	4.29	4.47				9.80	7.84		EX TYPE A IN S	UMP (PLUS BYPASS LC	T 3 INLET EX. E4)
12	6A	Α	4 5	0.99	0.20	0.20	10.3	2.04					9.80	7.84			TYPE A IN SUMP	
13	EX.4A	Α	5	0.99	0.28	0.28	10.3	2.86					9.80	7.84			TYPE A IN SUMP	
					,													
14		ROOF	4 5	0.99	0.15	0.15	10.3	1.53										
15		ROOF	4 5	0.99	0.17	0.17	10.3	1.74										
															0.40			
											 				0.18	В	YPASS LOT 3 INLET EX	. <u>E4</u>
															-			
											 							
						<u> </u>									$\vdash \vdash \vdash$			

LEE'S SUMMIT, JACKSON COUNTY, MIS

REVISIONS:

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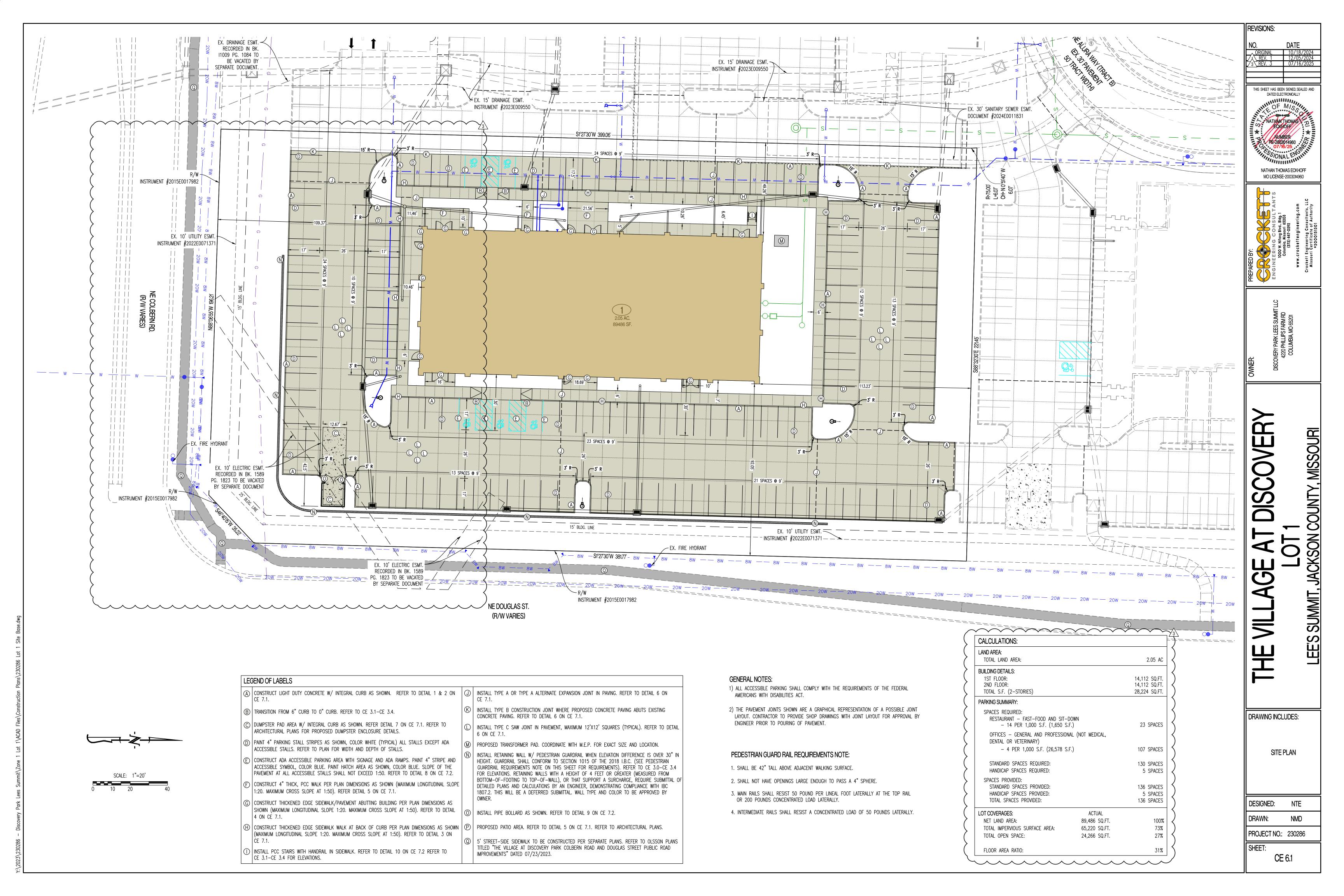
NATHAN THOMAS ECKHOFF MO LICENSE-2003014960

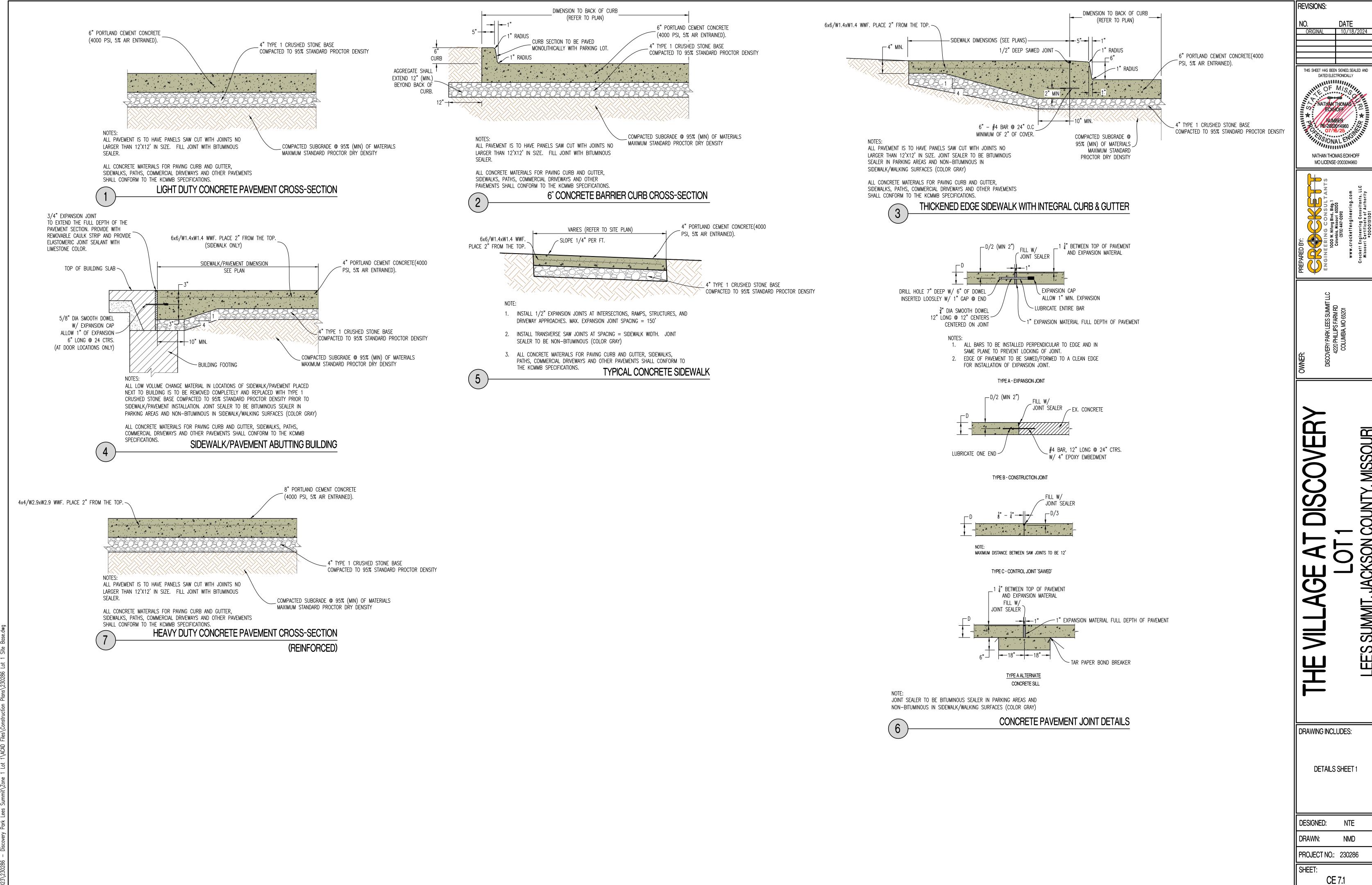
DRAWING INCLUDES:

100 YEAR STORM CALCS

DESIGNED: NMD PROJECT NO.: 230286

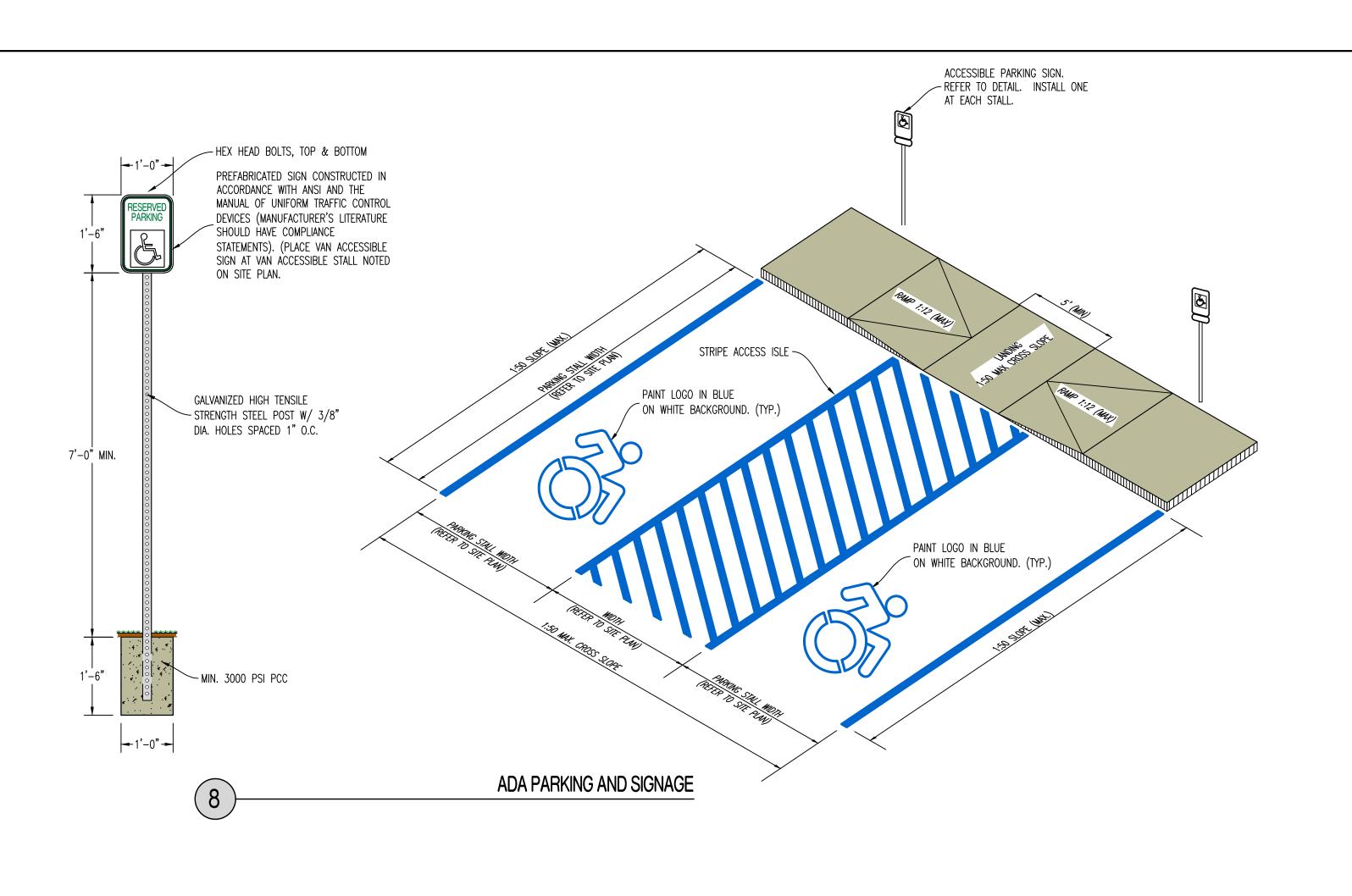
CE 5.4

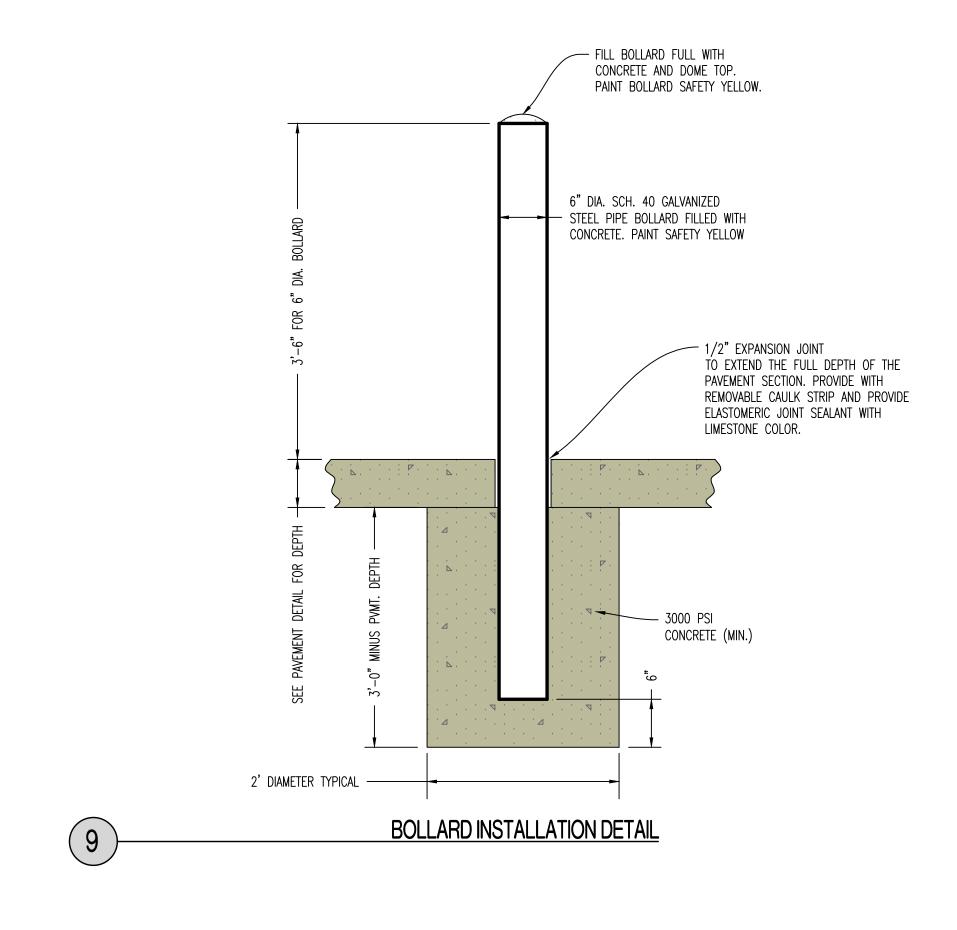


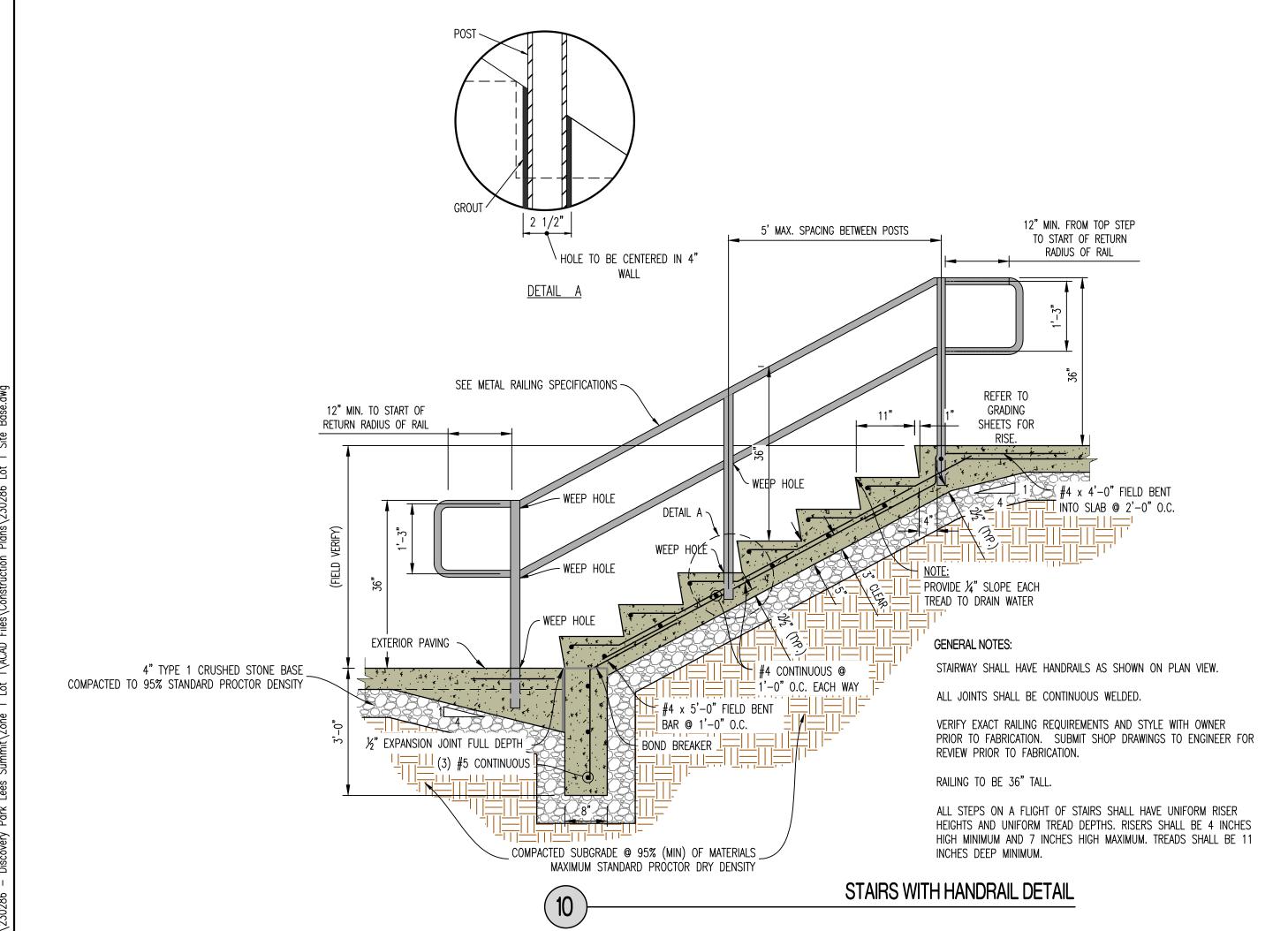


NTE

PROJECT NO.: 230286







METAL RAILING SPECIFICATIONS

OF CONCENTRATED LOAD LATERALLY.

- 1. PROVIDE SHOP DRAWINGS TO ENGINEER FOR REVIEW PRIOR TO FABRICATION OR INSTALLATION.
- 2. RAILINGS AND POSTS SHALL BE 1-1/2" DIAMETER ROUND STEEL PIPING IN COMPLIANCE WITH ASTM A53, TYPE F OR TYPE S, GRADE A SCHEDULE 40 PIPING.
- 3. RAILINGS SHALL BE 34"-38" TALL FROM FINISH PAVEMENT GRADE (OR STAIR NOSING) TO THE TOP OF THE TOP
- 4. MAIN RAILS AND POSTS SHALL RESIST 50 POUNDS PER LINEAL FOOT LATERALLY AT THE TOP RAIL, AND 200 POUNDS
- 5. INTERMEDIATE RAILS SHALL RESIST A CONCENTRATED LOAD OF 50 POUNDS LATERALLY.
- 6. CUT, DRILL, AND PUNCH METALS CLEANLY AND ACCURATELY. REMOVE BURRS AND EASE EDGES TO A MINIMUM

RADIUS OF $\frac{1}{32}$ ", UNLESS OTHERWISE INDICATED. REMOVE SHARP OR ROUGH AREAS ON EXPOSED SURFACES.

- 7. COPE COMPONENTS AT CONNECTIONS TO PROVIDE CLOSE FIT, OR USE FITTINGS DESIGNED FOR THIS PURPOSE. WELD ALL AROUND AT CONNECTIONS, INCLUDING FITTINGS.
- 8. PROVIDE CHANGES IN RAILING DIRECTION BY USING PREFABRICATED ELBOW AND RADIUS FITTINGS.
- 9. PROVIDE WEEP HOLES AT THE BASE OF ALL POSTS AND ANYWHERE WATER OR CONDENSATION MAY ACCUMULATE INSIDE RAILING SECTIONS
- 10. PROVIDE SHOP PRIMER FORMULATED FOR GALVANIZED STEEL. PROVIDE HOT-DIP GALVANIZED FINISH IN COMPLIANCE WITH ASTM A123. FOR ALL COMPONENTS. POWDER COATED BLACK WITH HIGH GLOSS ENAMEL PAINT. VERIFY FINAL COLOR WITH OWNER PRIOR TO PAINTING.
- 11. CLEAN FIELD WELDS AND REPAIR GALVANIZING TO COMPLY WITH ASTM A780.
- 12. POSTS SHALL BE SET PLUMB WITH A TOLERANCE OF $\frac{1}{16}$ IN 3 FEET. ALIGN RAILS SO VARIATIONS FROM LEVEL FOR HORIZONTAL MEMBERS AND VARIATIONS FROM PARALLEL WITH RAKE OF STEPS AND RAMPS FOR SLOPING MEMBERS DO NOT EXCEED $\frac{1}{4}$ INCH IN 12 FEET.
- 13. PROVIDE 4" SLEEVES OR CORE DRILL CONCRETE. MINIMUM 4" RAIL EMBEDMENT BELOW PAVEMENT SECTIONS SHOWN TO RECEIVE POSTS. GROUT AROUND AROUND POSTS WITH NON-SHRINK GROUT. MIN 2" OF GROUT BELOW BOTTOM OF POST. SLOPE TOP OF GROUT OF DRAIN.
- 14. CAULK JOINT BETWEEN GROUT AND METAL POST WITH APPROVE JOINT SEALANT. COORDINATE COLOR WITH OWNER.

REVISIONS:

NO. DATE
ORIGINAL 10/18/2024

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

OF M/S

NATHAN THOMAS

PE 2003014960

07/16/25

NATHAN THOMAS ECKHOFF

MO LICENSE-2003014960

ENGINEERING CONSULTANTS
1000 W. Nifong Bivd.. Bidg. 1
Columbia, Missouri 63203
(573) 447-0292

www.crockettengineering.com
Crockett Engineering Consultants. LLC

DISCOVERY PARK LEES SUMMIT LLC 4220 PHILLIPS FARM RD COLUMBIA, MO 65201

THE VILLAGE AT DISCOVEF

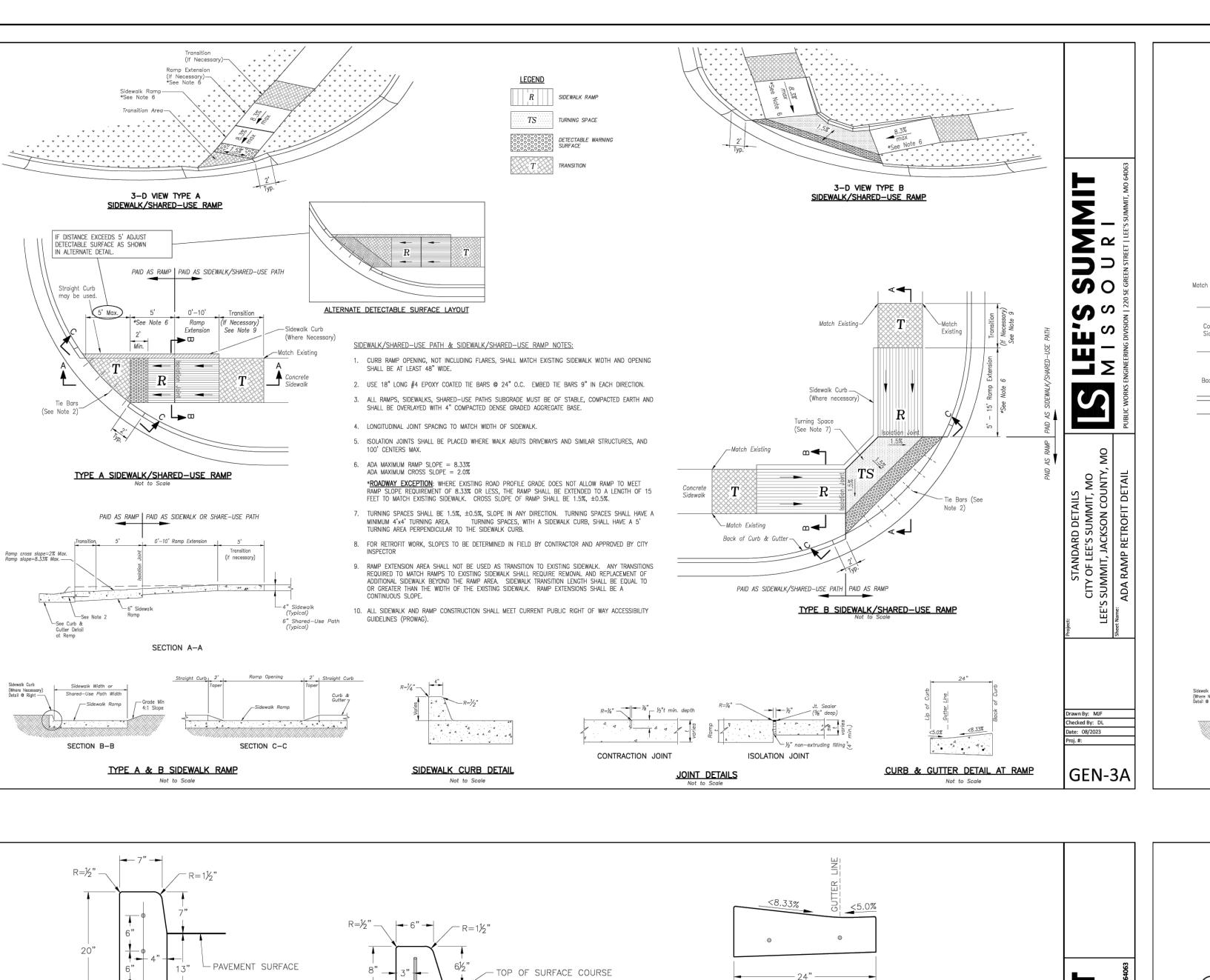
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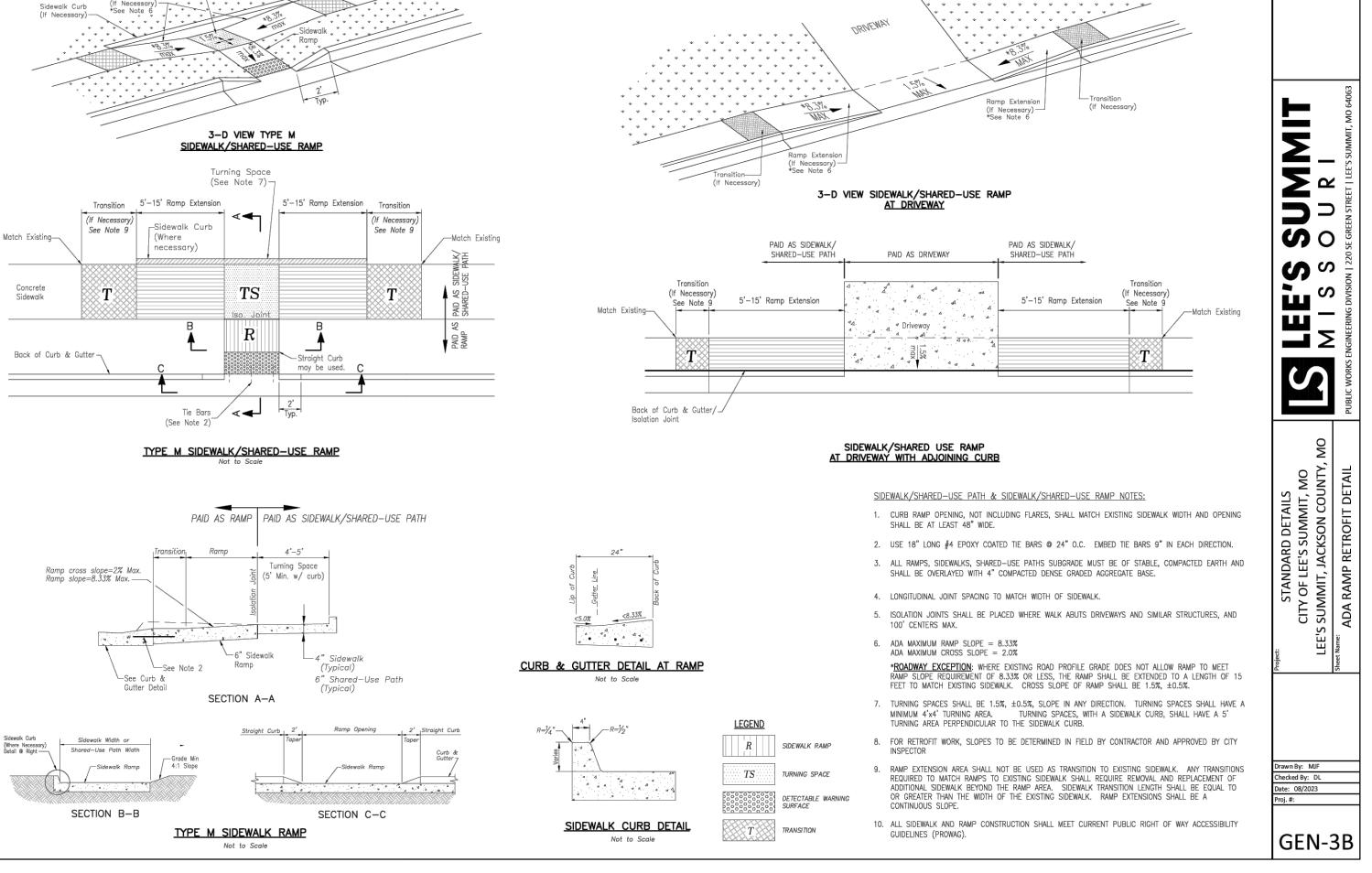
DETAILS SHEET 2

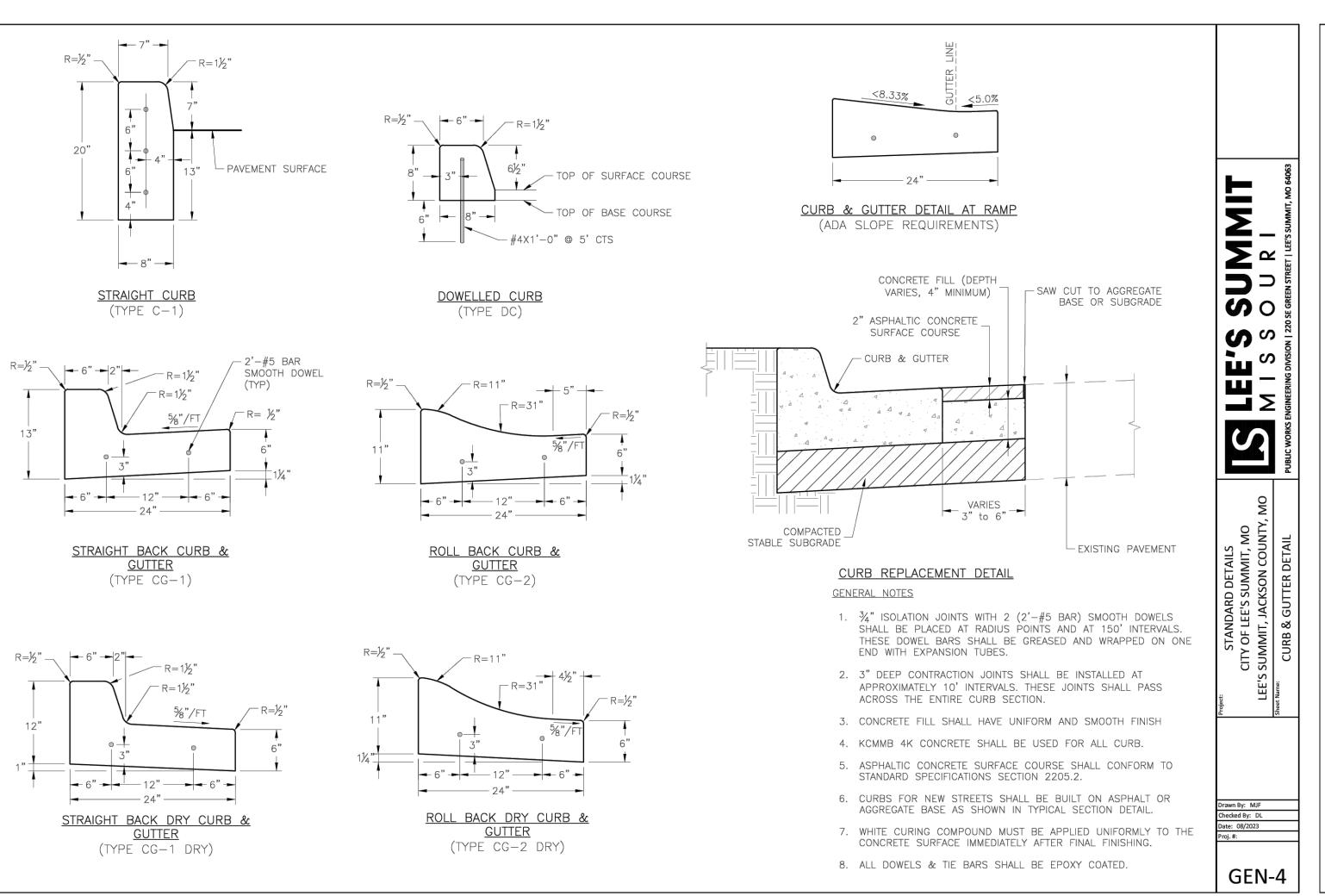
DESIGNED: NTE
DRAWN: NMD

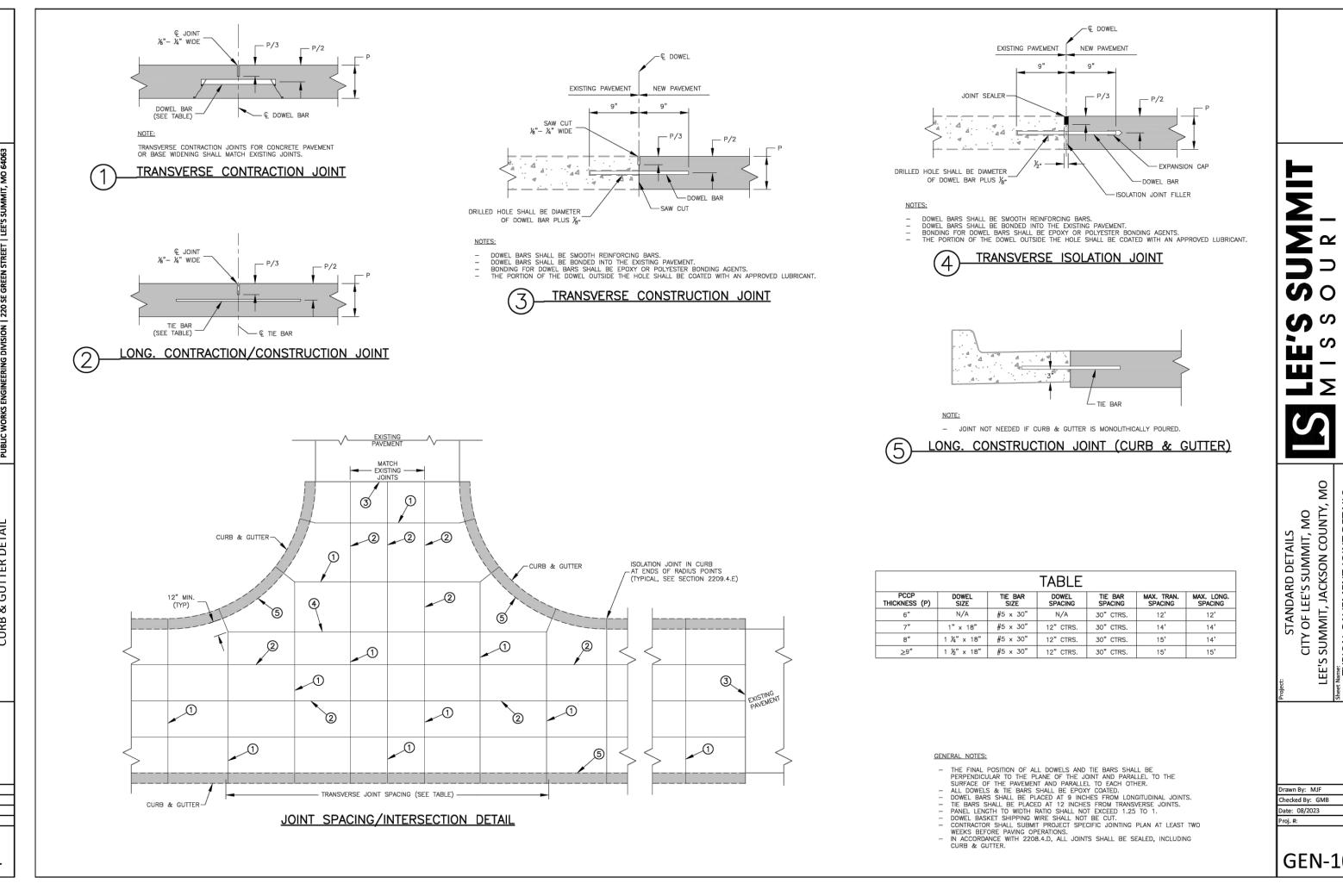
PROJECT NO.: 230286
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CE 7.2











REVISIONS:

ORIGINAL 10/18/2024

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NATHAN THOMAS ECKHOFF

MO LICENSE-2003014960

DRAWING INCLUDES:

LEE'S SUMMIT DETAILS SHEET

1

DESIGNED: NTE

DRAWN: NMD

PROJECT NO.: 230286

SHEET:

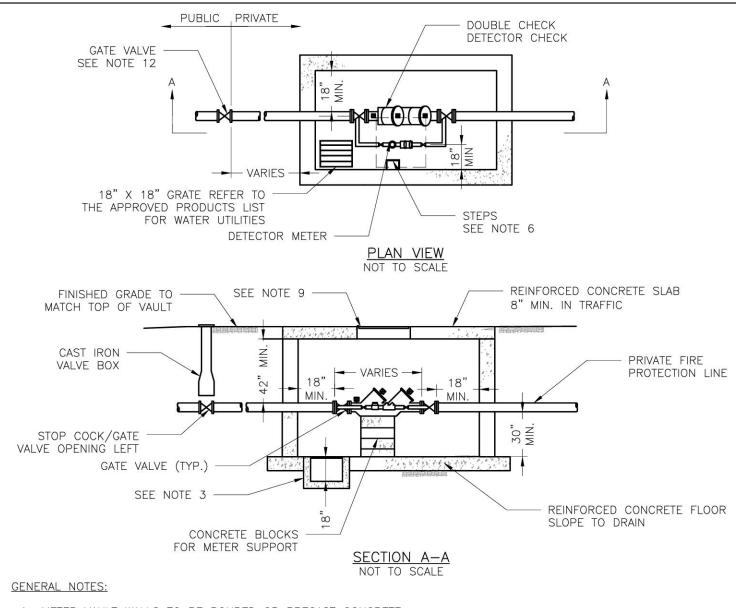
CE 7.3

1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL. . IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED. . CITY TO FURNISH ITEMS A-K.

- 4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT. 5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
- EXCAVATION FOR TAP TO EXPOSE 4 LINEAR FEET OF MAIN.
- NO SPLICES ALLOWED BETWEEN METER AND MAIN. 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.

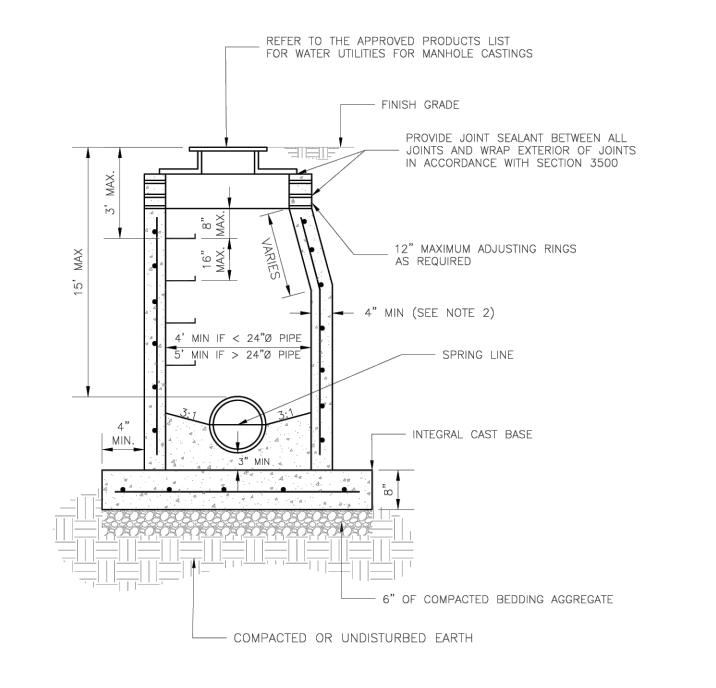
10. CONTACT WATER UTILITIES, 816-969-1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"

LEE'S SUMMIT wn By: MJF MISSOURI cked By: KLY WAT-11 SERVICE CONNECTION WITH METER WELL



- METER VAULT WALLS TO BE POURED OR PRECAST CONCRETE. METER VAULT ROOF TO BE REINFORCED CONCRETE OPENING CENTERED OVER DETECTOR METER. 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.
- . 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. . STEPS SHALL BE IN ACCORDANCE WITH THE APPROVED PRODUCTS LIST FOR WATER UTILITIES AND SHALL BE ON 16" . 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.
- . 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.
- A MINIMUM OF 18" CLEARANCE SHALL BE PROVIDED AROUND ALL PIPING, VALVES, APPURTENANCES, ETC. METER SHALL BE OWNED AND MAINTAINED BY THE WATER UTILITIES DEPARTMENT.
- 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	Date: 08/2023 Drawn By: MJF
MISSOURI PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063	Checked By: KLY
VAULT FOR DOUBLE CHECK DETECTOR CHECK	WAT-12

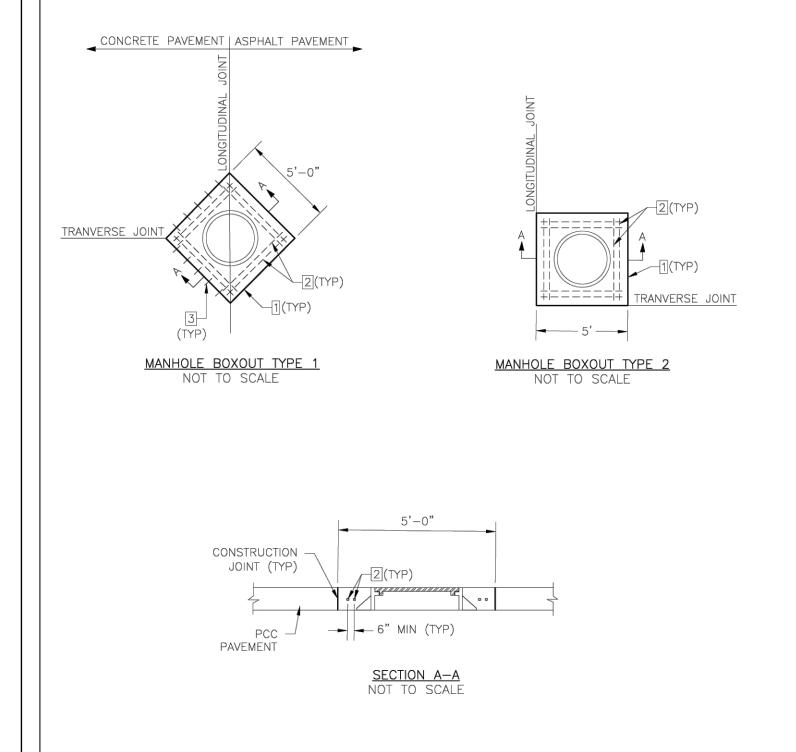


- . PRECAST CONCRETE MANHOLES SHALL CONFORM TO ASTM C478 EXCEPT AS MODIFIED BY THE SPECIFICATIONS. . A WALL THICKNESS NOT LESS THAN ONE—TWELFTH (1/2) OF THE INSIDE DIAMETER OR 4", WHICHEVER IS GREATER, SHALL BE USED WHEN THE MANHOLE DEPTH IS LESS THEN 15'.
- WATERPROOFING SHALL BE REQUIRED ON THE OUTSIDE 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
- 3. REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR APPROVED MANHOLE GASKET MODELS. . REFER TO THE APPROVED PRODUCTS LIST FOR APPROVED STEPS.

 LEE'S SUMMIT	Date: 08/2023
LEE 9 90 MINIT	Drawn By: MF
MISSOURI	Checked By: AB
PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063	
STANDARD SANITARY PRECAST MANHOLE	SAN-2

REFER TO THE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FLEXIBLE

PIPE-TO-MANHOLE CONNECTORS/GASKETS CAST INTO THE PRECAST WALL STRUCTURE.





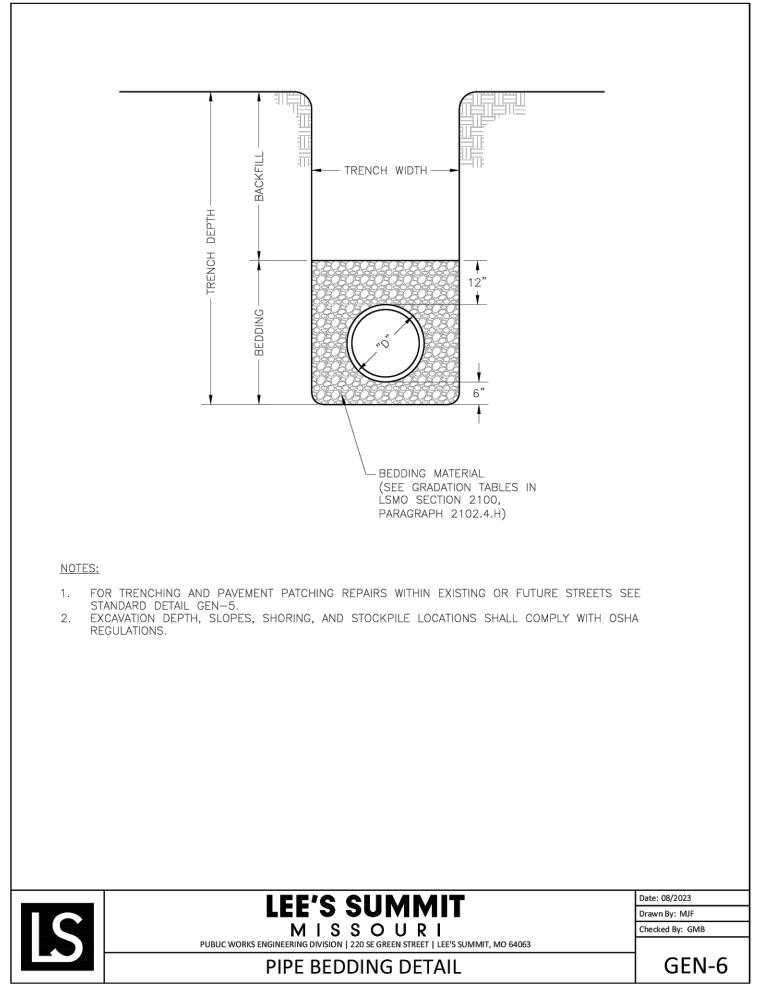
FOR CONSTRUCTION JOINT DETAIL, SEE DETAIL 2 ON SHEET GEN-10, TYPICAL PAVEMENT JOINT DETAILS.

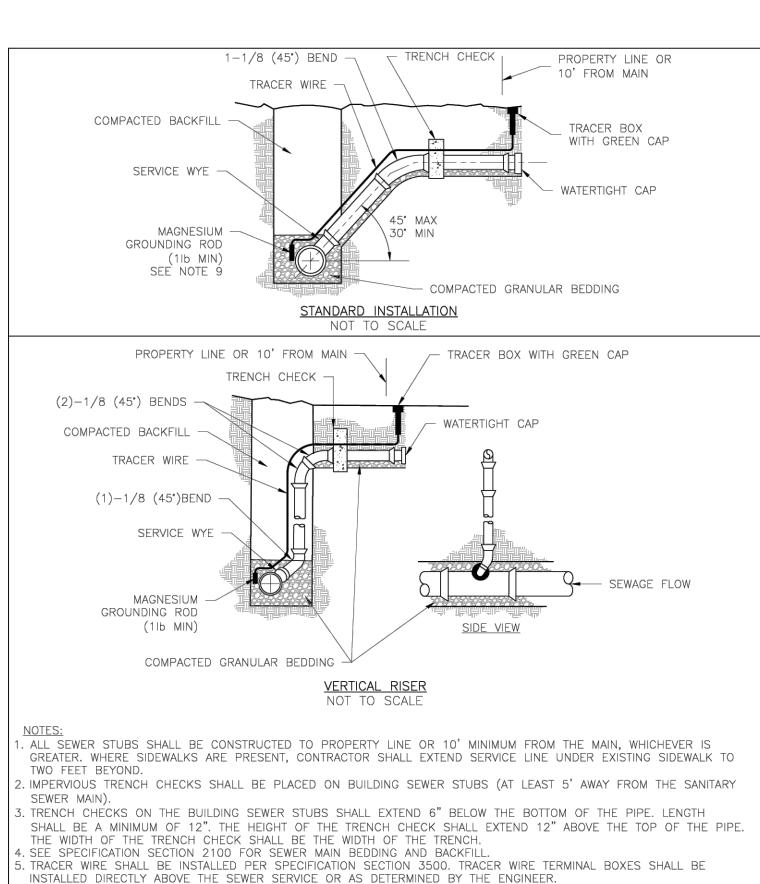
1 CONSTRUCTION JOINT.

2 4'-8"(TYP) #4 BAR. PLACE AT MID-SLAB.

3 #4 DOWELS @ 12" O.C. INTO CONCRETE PAVEMENT MIN. LENGTH 12".

	 LEE'S SUMMIT	Date: 08/2023
	ree 2 20 Millini	Drawn By: MJF
	MISSOURI	Checked By: AB
	PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063	
	MANHOLE BOXOUT IN PAVEMENT DETAIL	SAN-9
_		





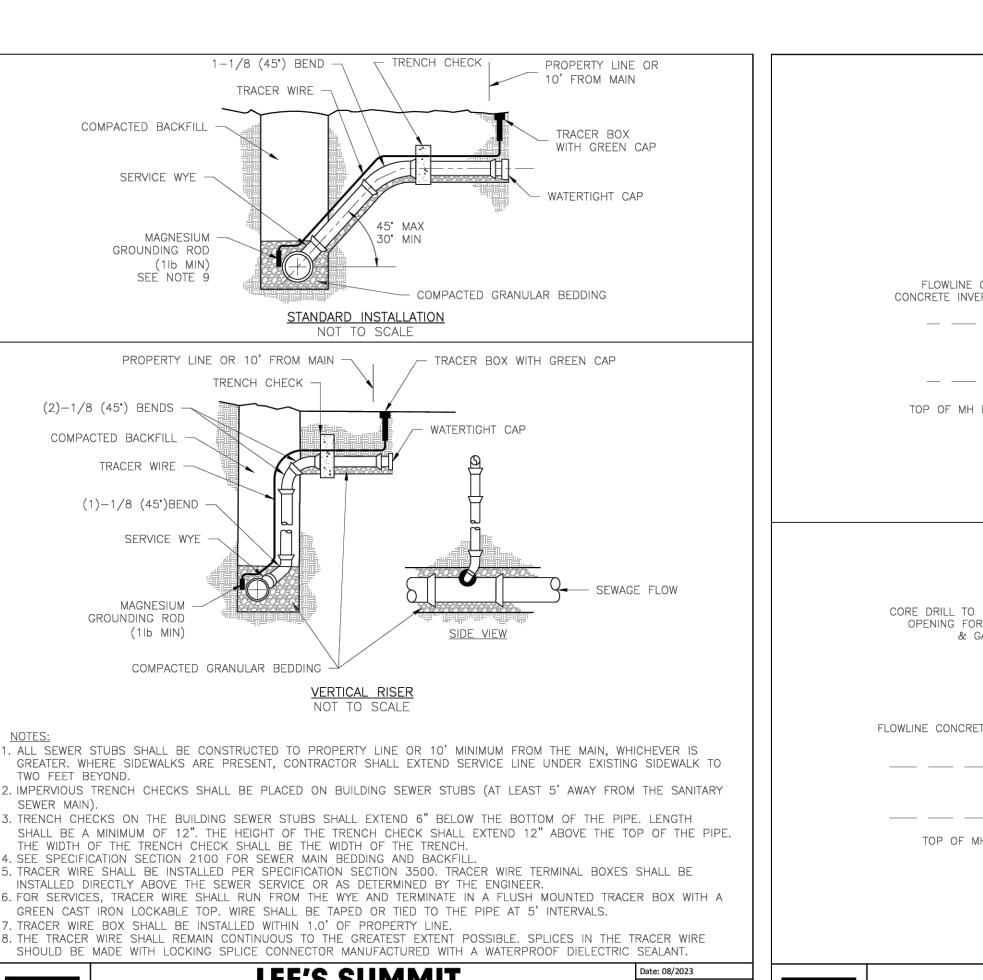
GREEN CAST IRON LOCKABLE TOP. WIRE SHALL BE TAPED OR TIED TO THE PIPE AT 5' INTERVALS.

LEE'S SUMMIT

MISSOURI

SANITARY SEWER STUB DETAIL

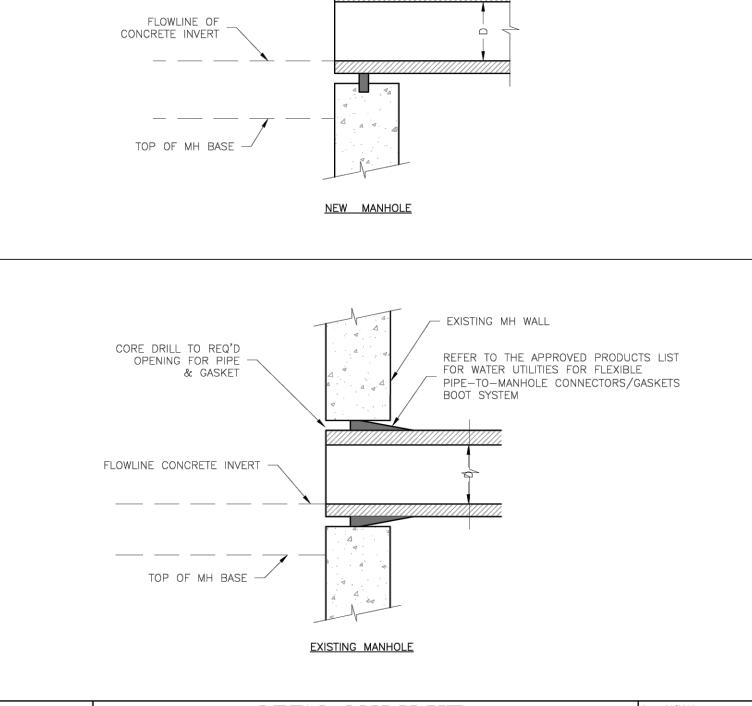
TRACER WIRE BOX SHALL BE INSTALLED WITHIN 1.0' OF PROPERTY LINE.



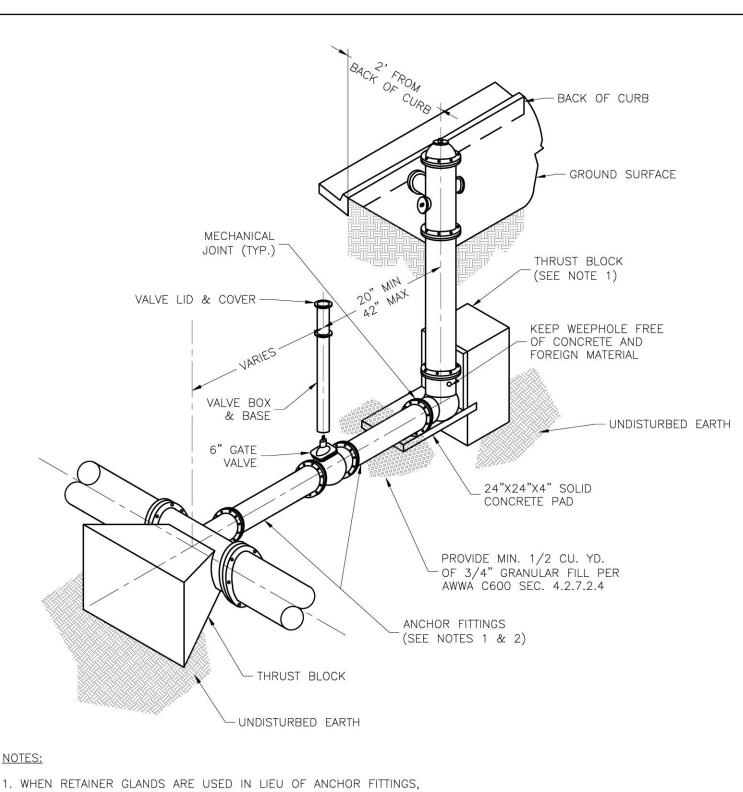
Drawn By: MJF

Checked By: AB

SAN-1



	LEE'S SUMMIT	Date: 08/2023
	LEE 9 90 IVIIVII I	Drawn By: MJF
	MISSOURI	Checked By: AB
	PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063	
	MANHOLE WALL CONNECTION	SAN-5



HORIZONTAL THRUST BLOCKS ARE REQUIRED.

GATE VALVE MAY BE BOLTED DIRECTLY TO ANCHOR TEE. . SEE APPROVED PRODUCTS LIST FOR WATER UTILITIES FOR FIRE HYDRANT, VALVES, VALVE BOX LID,

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

6. HYDRANT SHALL BE ROTATED AS DIRECTED BY INSPECTOR.

 LEE'S SUMMIT	Date: 08/2023
LEE 3 30 WINTI	Drawn By: MJF
MISSOURI	Checked By: KLY
PUBLIC WORKS ENGINEERING DIVISION 220 SE GREEN STREET LEE'S SUMMIT, MO 64063	
HYDRANT - STRAIGHT SET	WAT-7

REVISIONS:

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MO LICENSE-2003014960

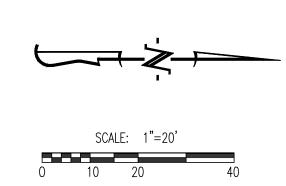
LEE'S SUMMIT DETAILS SHEE

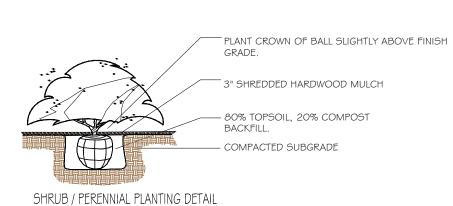
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DESIGNED: NTE DRAWN: NMD

PROJECT NO.: 230286 SHEET:

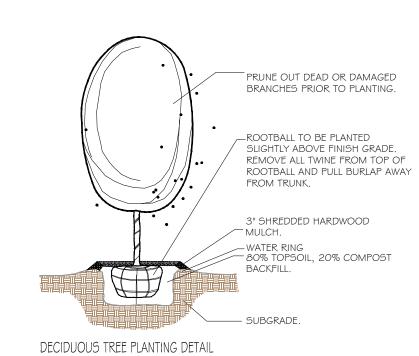






Not To Scale

Not To Scale



THE PLANT LIST IS PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY ALL PLANT COUNTS

AND IF A DISCREPANCY EXISTS THE PLAN SHALL GOVERN. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR BECOMING AWARE OF ALL UNDERGROUND UTILITIES, PIPES, AND STRUCTURES. THE LANDSCAPE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES FOR FIELD LOCATION OF ALL UNDERGROUND UTILITY LINES PRIOR TO ANY EXCAVATION.

LANDSCAPE CONTRACTOR TO RECEIVE SITE GRADED TO $\pm 1/4$ -0.10 FOOT OF FINISHED PLANTING BACK FILL MIX IS TO CONSIST OF 80% NATIVE TOPSOIL, AND 20% ORGANIC MATTER.

SHRUB BEDS, BERMS, AND TREE WELLS ARE TO BE MULCHED WITH 3-4" DYED HARDWOOD MULCH.

ALL BED AND LAWN AREAS SHALL BE IRRIGATED. ALL LAWN AREAS TO BE SODDED WITH TALL FESCUE SOD. LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF TWELVE MONTHS.

ALL PLANTING BEDS AND TREE RINGS TO BE SEPERATED FROM TURF AREAS BY 'V' TRENCHING. ALL PLANT MATERIAL MUST MEET THE SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF

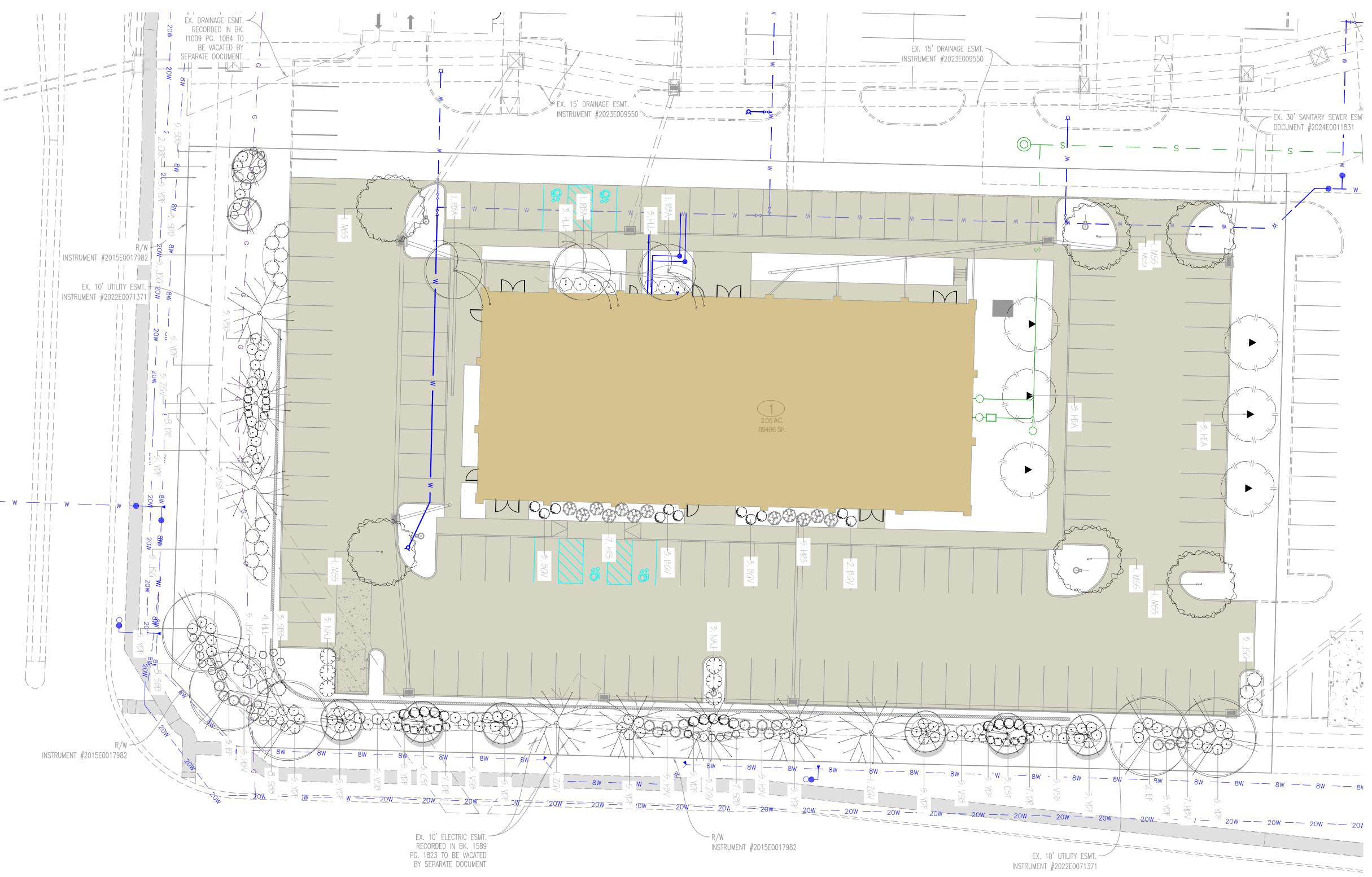
NURSERYMEN. PLANT LOCATIONS MAY BE ADJUSTED ONSITE TO AVOID UTILITIES, SITE FEATURES, ETC. ONLY ORNAMENTAL TREES AND SHRUBS MAY BE PLANTED IN ANY EASEMENTS.

QUANTITY	SYMBOL	PLANT NAME	PLANT TYPE	SIZE
5	EF	ELM 'FRONTIER'	MEDIUM / LARGE TREE	3"
8	ZGV	ZELKOVA 'GREEN VASE'	MEDIUM / LARGE TREE	3"
6	MSS	MIYABI MAPLE 'STATE STREET'	MEDIUM / LARGE TREE	3"
6	HEA	HORNBEAM 'EMERALD AVENUE'	MEDIUM / LARGE TREE	3"
6	CST	CRABAPPLE 'SUGARTYME'	ORNAMENTAL TREE	2.5
2	CRR	CRABAPPLE 'ROYAL RAINDROPS	ORNAMENTAL TREE	2.5
3	RBA	REDBUD 'APPALACHIAN'	ORNAMENTAL TREE	2.5
6	NAJ	NINEBARK 'AMBER JUBILEE'	DECIDUOUS SHRUB	#5
11	HLL	HYDRANGEA 'LITTLE LIME'	DECIDUOUS SHRUB	#5
12	HRS	HYDRANGEA 'RUBY SLIPPERS'	DECIDUOUS SHRUB	#5
34	SBB	SPIREA 'BIG BANG'	DECIDUOUS SHRUB	#5
26	BGV	BOXWOOD 'GREEN VELVET'	EVERGREEN SHRUB	#5
18	JSG	JUNIPER 'SEA GREEN'	EVERGREEN SHRUB	#5
66	YDF	YEW 'DENSIFORMIS'	EVERGREEN SHRUB	#5
26	VSB	VIBURNUM 'SPICE BABY'	DECIDUOUS SHRUB	#5
23	DR	DRIFT ROSE	DECIDUOUS SHRUB	#5
22	HBV	HYPERICUM 'BLUE VELVET'	DECIDUOUS SHRUB	#5

BY SEPARATE DOCUMENT

LANDSCAPE COMPLIANCE: LOT 1		
LEE'S SUMMIT, MISSOURI CODE OF ORDINANCES: DIVISION III – LANDSCAPING, BUFFERS, AND TREE PROTECTION SITE ZONED: PMIX, PROPOSED: PMIX		
STREET FRONTAGE TREES		
1 TREE PER 30 FEET OF STREET FRONTAGE	14 TREES REQUIRED	14 TREES PROPOSED
DOUGLAS AVE — 398 LF STREET FRONTAGE NE COLBURN RD — 214 LF STREET FRONTAGE	7 TREES REQUIRED	7 TREES PROPOSED
<u>OPEN YARD TREES</u>		
1 TREE PER 5,000 SF OF TOTAL LOT AREA, EXCLUDING BUILDING FOOTPRINT		
TOTAL LOT AREA = 75,287 SF	15 TREES REQUIRED	15 TREES PROPOSED
STREET FRONTAGE SHRUBS		
1 SHRUB PER 20 FEET OF STREET FRONTAGE		
DOUGLAS AVE – 398 LF STREET FRONTAGE NE COLBURN RD – 214 LF STREET FRONTAGE	20 SHRUBS REQUIRED 11 SHRUBS REQUIRED	
OPEN YARD SHRUBS	TO STATE OF THE ST	THE STINGES THAT GOES
2 SHRUBS PER 5,000 SF OF TOTAL LOT AREA, EXCLUDING BUILDING FOOTPRINT		
TOTAL LOT AREA = 75,287 SF	30 SHRUBS REQUIRED	30 SHRUBS PROPOSED
PARKING LOT SCREENING		
12 SHRUBS PER 40 LINEAR FT OF PARKING LOT VISIBLE FROM RIGHT OF WAY TOTAL LINEAR FEET - 600 LF	180 SHRUBS REQUIRED	183 SHRUBS PROPOSED

INSTRUMENT #2022E0071371



JACKSON

SUMMIT,

S

H

|| REVISIONS:

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

NATHAN THOMAS ECKHOFF

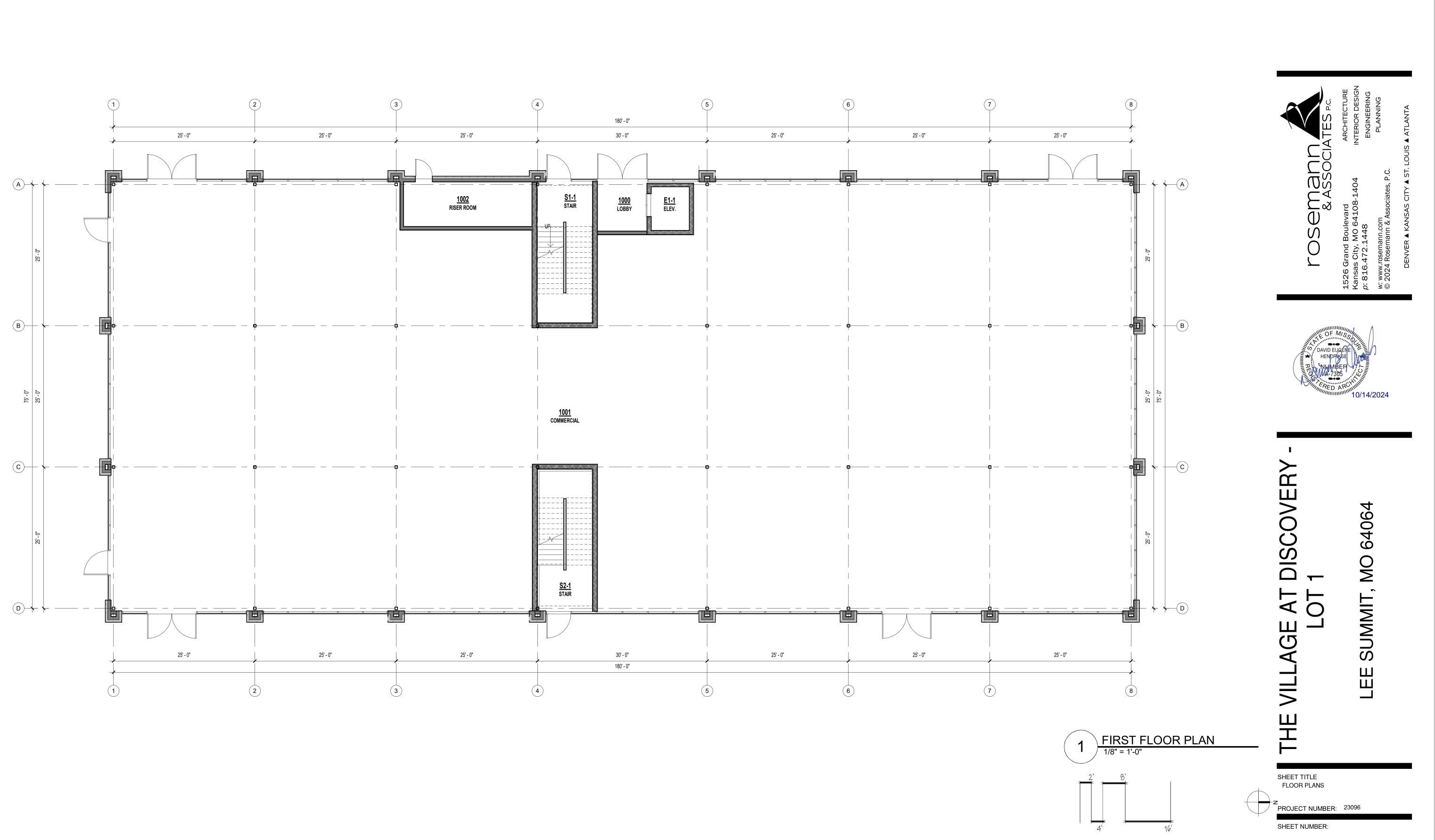
MO LICENSE-2003014960

DRAWING INCLUDES:

LANDSCAPING PLAN

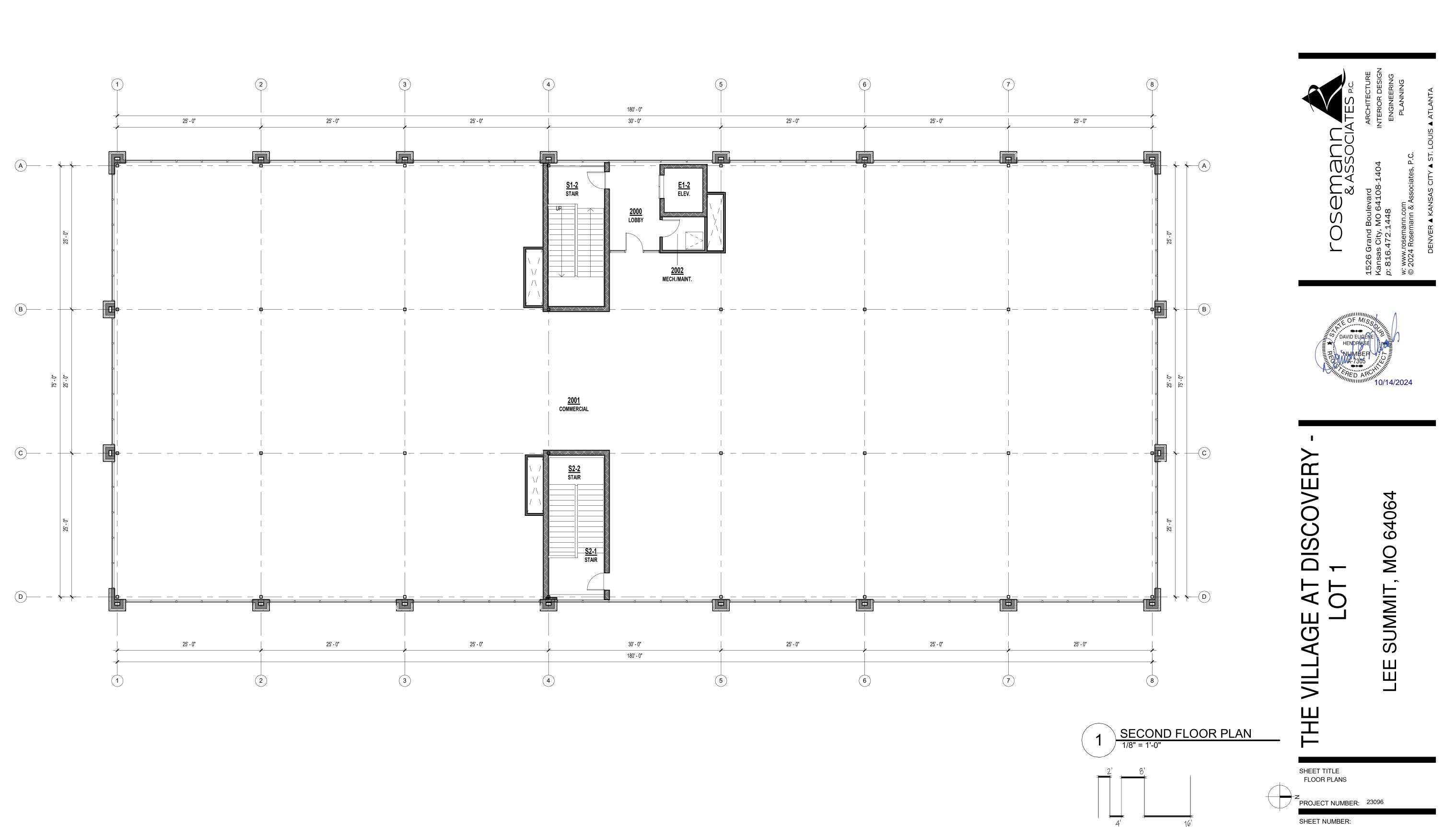
DESIGNED: NTE DRAWN: NMD

PROJECT NO.: 230286 SHEET: CE 8.1



REVISIONS:

PRINTS ISSUED 10/14/2024 - FDP



PRINTS ISSUED 10/14/2024 - FDP

REVISIONS:





2 EAST ELEVATION - COLOR



1 WEST ELEVATION - COLOR

THE VILLAGE AT DISCOVERY - LOT 1

LEE'S SUMMIT

PRINTS ISSUED

OSemanr & ASSOCI

DAVID EUGENE HENDRIKSE NUMBER A 305

12/04/24

REVISIONS:

MATERIAL LEGEND

STONE - ROUGH ASHLAR

GLASS

SPANDREL

EIFS BANDING - ROUGH ASHLAR

KING SIZE BRICK - COLOR 1 - ALLENDALE HILL

KING SIZE BRICK - COLOR 2 - GLEN GERY SADDLE BROWN

SHEET TITLE
EXTERIOR ELEVATIONS - COLOR

PROJECT NUMBER: 23096

SHEET NUMBER:

A-201

2/A4 DOUGLAS 3/A4 ALURA

> LOT 1 BLDG

1/A4 COLBERN

1" = 50'-0"

OSemanr & ASSOC

PRINTS ISSUED

12/04/24

REVISIONS:

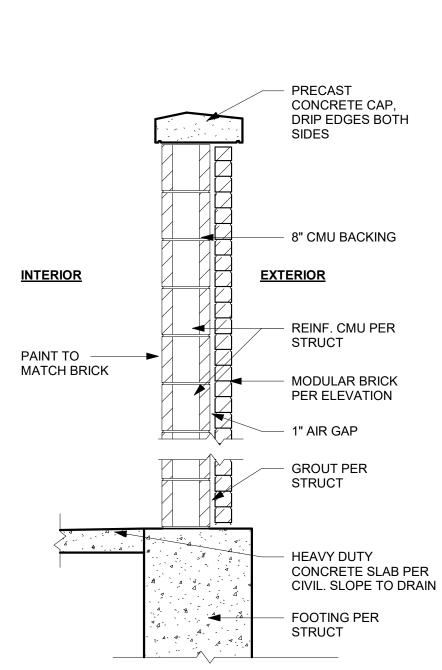
LEE'S SUMMIT

PROJECT NUMBER: 23096 SHEET NUMBER:

SHEET TITLE
PERSPECTIVES

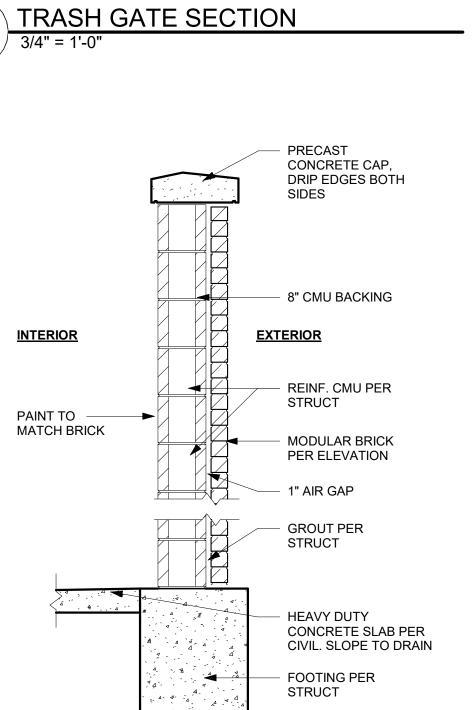
A-202

FROM ALURA



SITE - ENCLOSURE - CMU - WALL

SECTION



2"x4"x3/16" TUBE STEEL FRAME;

CHANNEL CLOSER

1 1/2"x1 1/2"x1/4" TUBE
 STEEL SUPPORT; PAINT

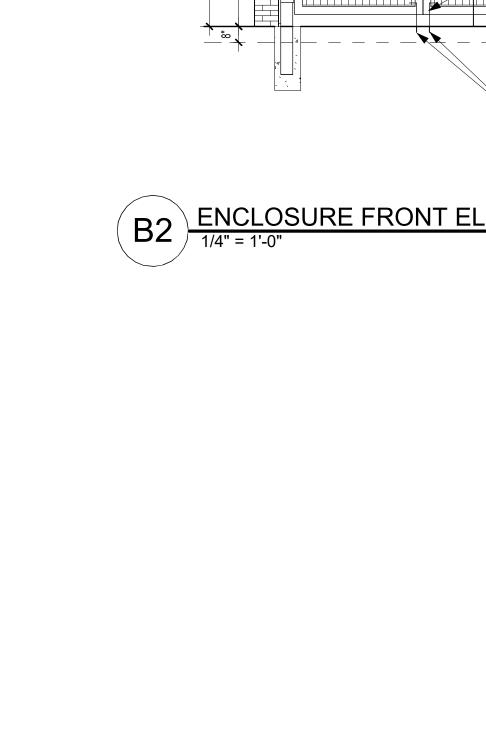
CHANNEL CLOSER

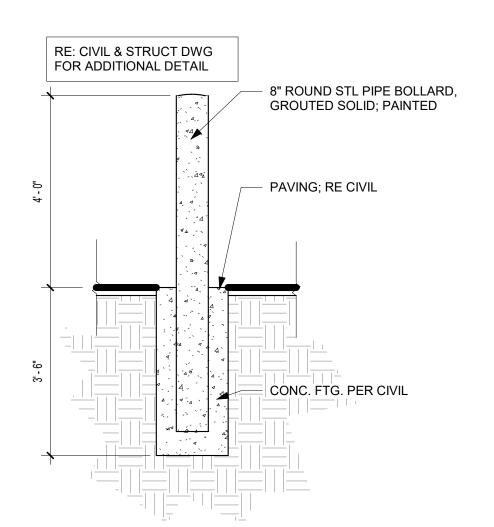
- 24 GA. "V" GROOVE METAL PANEL

PROVIDE WHEEL ON LARGER GATE

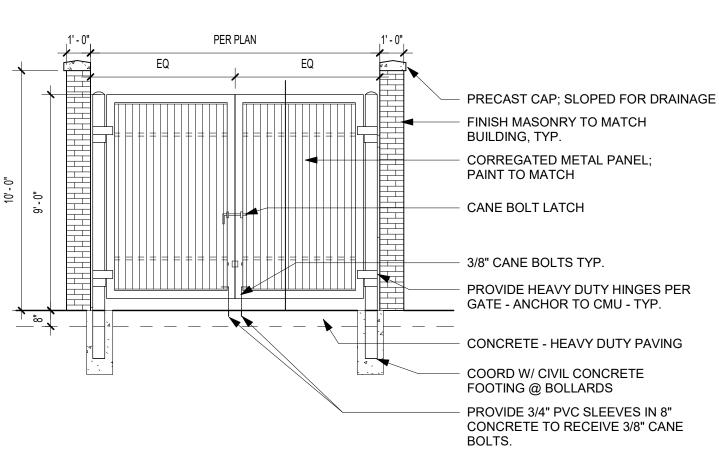
SYSTEM; PAINT TO MATCH ADJ. FINISH

PAINT

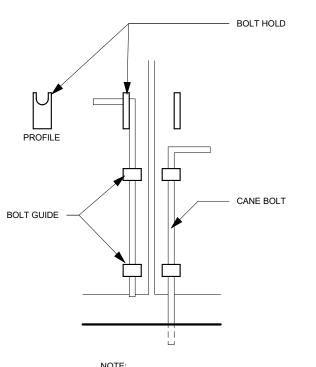




SITE - BOLLARD - STEEL
1/2" = 1'-0"

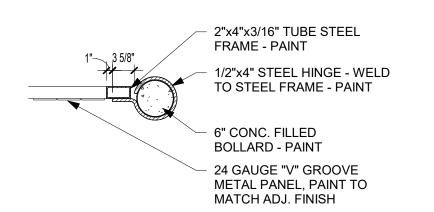


ENCLOSURE FRONT ELEVATION



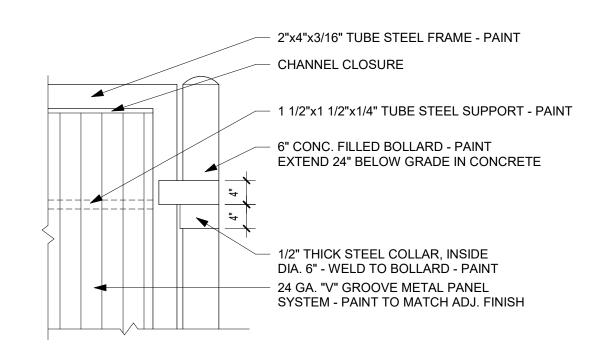
NOTE:
PROVIDE BOLT SLEEVE EMBEDDED IN
CONCRETE TO RECEIVE CANE BOLT.

SITE - CANE BOLT DETAIL



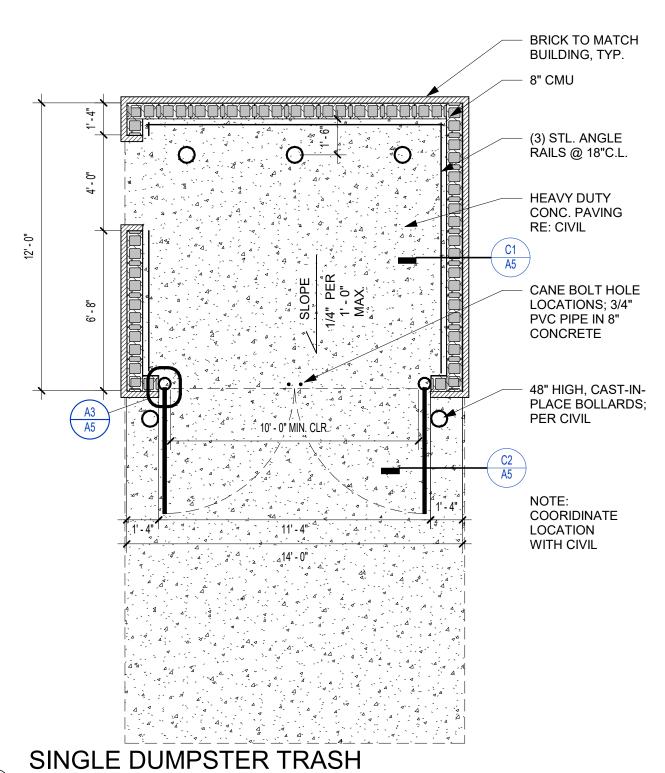
TRASH GATE CROSS SECTION

3/4" = 1'-0"



TRASH GATE DETAIL

ENCLOSURE PLAN



PRINTS ISSUED 10/14/2024 - FDP

REVISIONS:

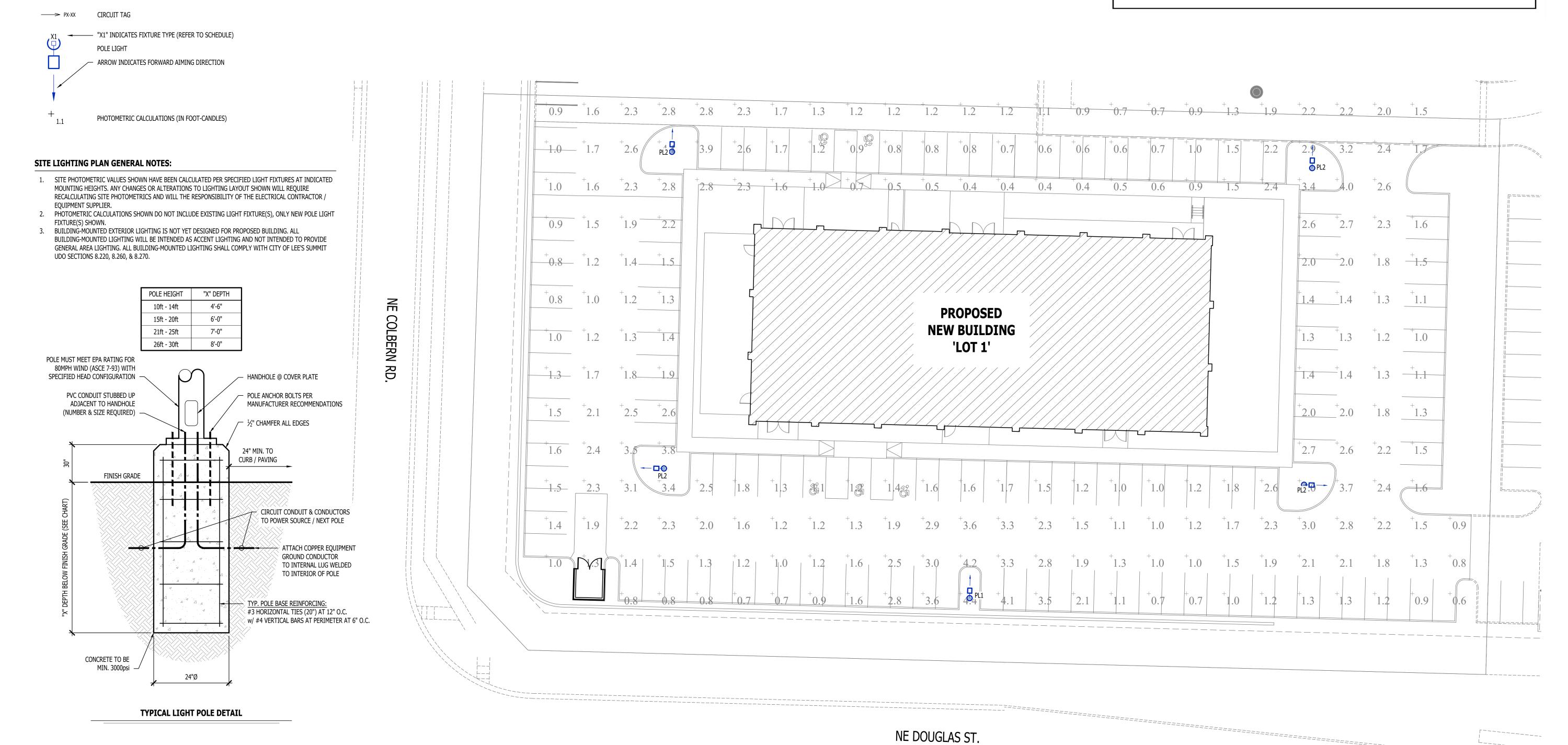
SHEET TITLE ARCHITECTURAL SITE AMENITIES

PROJECT NUMBER: 23096

SHEET NUMBER:

	SITE LIGHTING FIXTURE SCHEDULE									
TAG	MANUFACTURER (OR EQUAL)	MODEL NUMBER (OR EQUAL)	DESCRIPTION	MOUNTING	LUMEN OUTPUT	сст (°К)	CRI	VOLTS	WATTS	NOTES
PL1	MCGRAW-EDISON	PRV-XL-PA3B-740-U-T4W-HSS	LED POLE LIGHT	20' #SSS POLE ON 30" BASE	30,161	4000	70	208	234	WITH #MS/DIM-L40W MOTION SENSING DIMMING
PL2	MCGRAW-EDISON	PRV-XL-PA3B-740-U-5WQ	LED POLE LIGHT	20' #SSS POLE ON 30" BASE	31,559	4000	70	208	234	WITH #MS/DIM-L40W MOTION SENSING DIMMING
						i i				
NOTES: 1. VERIF	Y LIGHT FIXTURE FINISHES	WITH OWNER / ARCHITECT PRIOR TO ORDERING								

AREA / LABEL	CALC TYPE	UNITS	AVG	MAX	MIN	AVG/MIN	MAX/M
PARKING / DRIVE AISLES	ILLUMINANCE	FC	1.71	4.4	0.4	4.3	11.0
	_						



SITE LIGHTING PLAN

SCALE: 1" = 20 ft

SITE LIGHTING PLAN SYMBOL LEGEND

CIRCUIT WIRING

S FOR:

James Watson, P.E. October 17, 2024 PE-2015017071 MO Certificate of Authority # 2018029680

ENGINEERING

2400 Bluff Creek Drive, Suite 101 Columbia, Missouri 65201

573.234.4492 www.j-squaredeng.com

ACW

10 - 17 - 2024

J2 PROJECT No:

J2 DESIGN:

ISSUE TITLE

FDP SUBMITTAL

at Discovery Park Lo SITE LIGHTING

AHJ APPROVAL STAMP

Village

SHEET TITLE

SITE LIGHTING PLAN

SHEET NUMBER

SL1