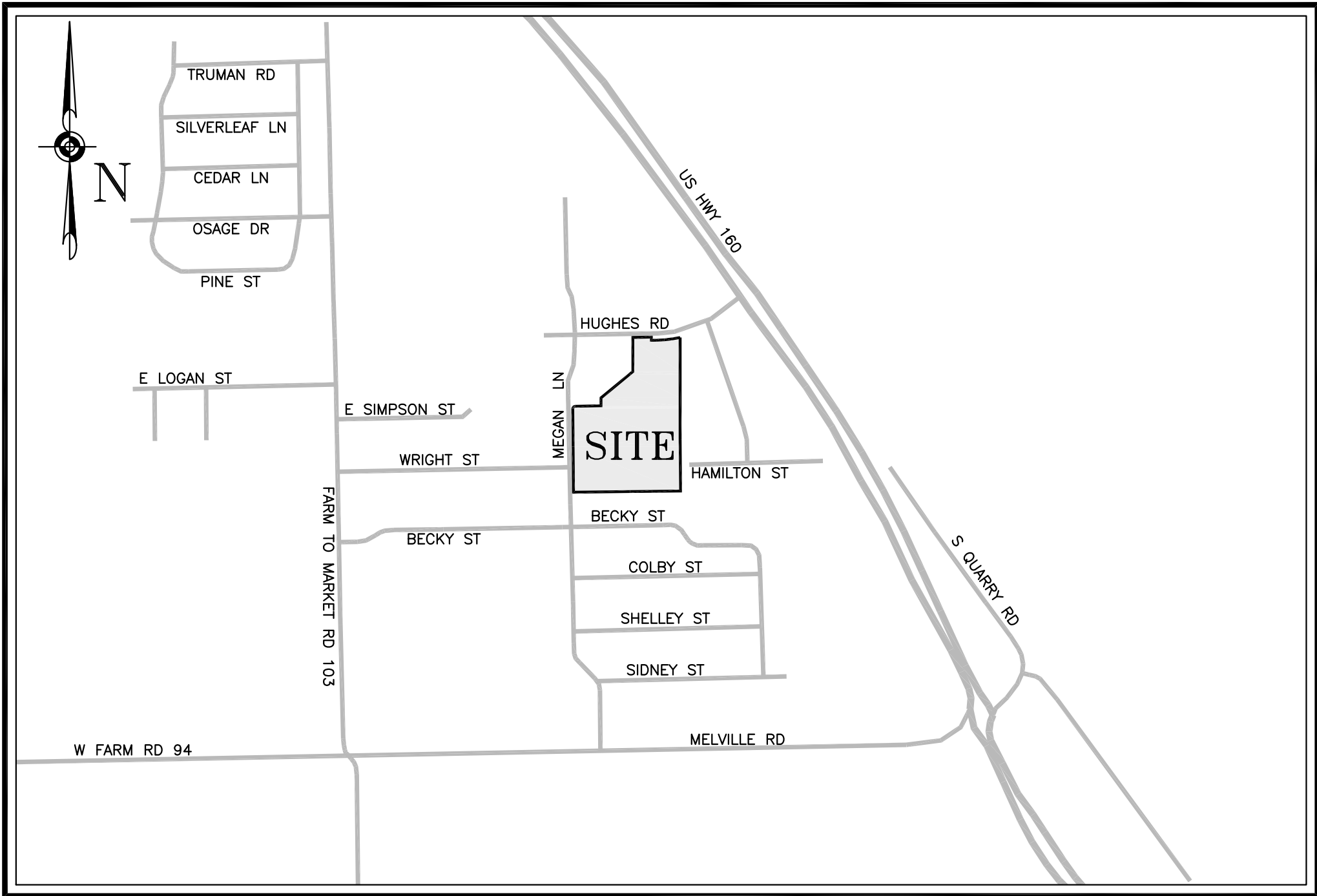


SITE DEVELOPMENT PLANS

COTTAGES AT GENERATION VILLAGE

WILLARD, GREENE COUNTY, MISSOURI



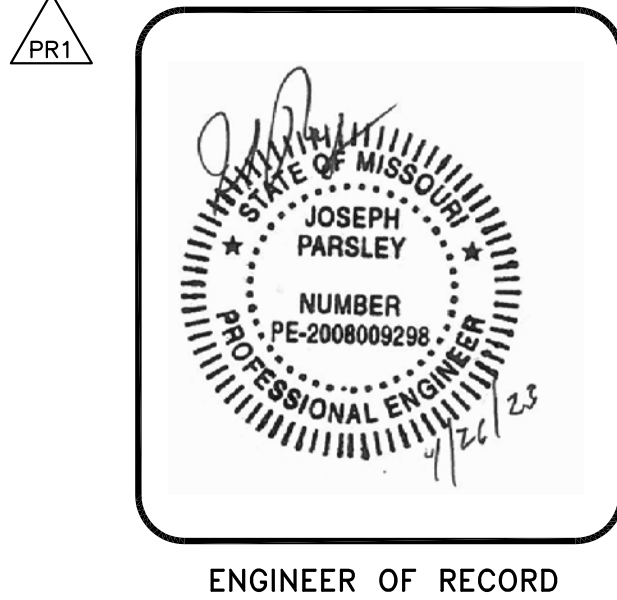
VICINITY MAP
NTS

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Cottages at Generation Village, LP

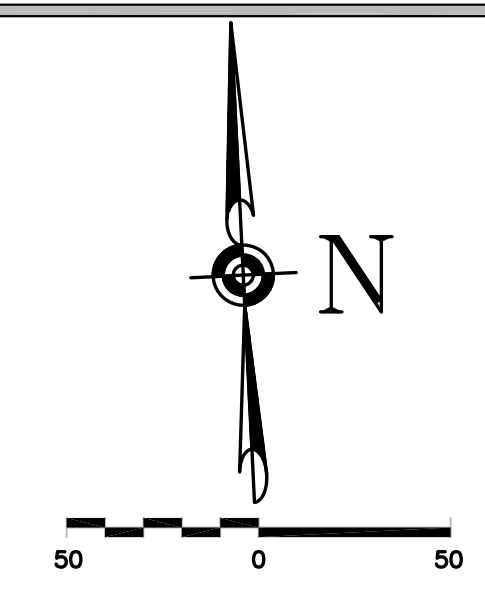
3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65804
PH. (417) 882-1701



PHASE I EROSION & SEDIMENTATION CONTROL PLAN,
SHEET 1 OF 4, MUST BE POSTED IN JOB TRAILER.

LEGEND

- PROPERTY LINE
- LIMITS OF DISTURBANCE
- SEDIMENTATION/SILT FENCE
- STONE CONSTRUCTION EXIT
- DRAINAGE PATTERN
- SWPPP INFORMATION SIGN
- TEMPORARY BENCHMARK



BEST MANAGEMENT PRACTICES SEQUENCE

NOTE: UPON IMPLEMENTATION AND INSTALLATION OF THE FOLLOWING AREAS: TRAILER, PARKING, LAY DOWN, PORTA-POTTY, WHEEL WASH, CONCRETE WASHOUT, MASON'S AREA, FUEL AND MATERIAL STORAGE CONTAINERS, SOLID WASTE CONTAINERS, ETC. IMMEDIATELY DENOTE THEM ON THE SITE MAPS AND NOTE ANY CHANGES IN LOCATION AS THEY OCCUR THROUGHOUT THE CONSTRUCTION PROCESS. IN ADDITION, NOTE ALL AREAS WHERE FILL IS IMPORTED FROM OR SOIL IS EXPORTED TO ON THE SITE MAPS.

PHASE I - EROSION CONTROL SEQUENCING

1. INSTALL STONE CONSTRUCTION EXIT AND SWPPP INFORMATION SIGN.
2. INSTALL PERIMETER SILT FENCE. BMP's MUST BE IN PLACE PRIOR TO SUBGRADE DISTURBING ACTIVITIES.
3. PREPARE CONTRACTOR TEMPORARY STAGING AND STORAGE AREA.
4. SEQUENCE GRADING ACTIVITIES TO MINIMIZE EXPOSED AREAS.
5. INSTALL STORM SEWER AS SHOWN HEREON TO ROUTE OFFSITE STORMWATER AROUND WORK AREA.
6. BEGIN GRADING ACTIVITIES IN BUILDING AREAS AND ADJACENT PAVEMENT AREAS.
7. BEGIN PLACEMENT OF STRUCTURAL FILL IN BUILDING AREAS AND ADJACENT PAVEMENT AREAS.

NOTE: THE GENERAL CONTRACTOR MAY COMPLETE CONSTRUCTION-RELATED ACTIVITIES CONCURRENTLY, ONLY IF ALL PRECEDING BMPs AND STABILIZATION ACTIVITIES HAVE BEEN COMPLETELY INSTALLED. BMP RELATED STEPS IN THE ABOVE SEQUENCE ARE BOLD FOR CLARITY. THE CEC MUST APPROVE, IN WRITING, ANY CHANGES IN THE ABOVE SWPPP IMPLEMENTATION SEQUENCE, BEFORE THEIR IMPLEMENTATION BEGINS.

SILT FENCE LOCATION

SILT FENCE LOCATION SHOWN ON PLAN HAS BEEN OFFSET FOR CLARITY. WHERE SILT FENCE IS SHOWN ADJACENT TO LIMITS OF DISTURBANCE IT IS THE INTENTION THAT SILT FENCE BE INSTALLED ALONG LIMITS OF DISTURBANCE (NO DISTURBANCE BEYOND SILT FENCE). SILT FENCE SHALL FOLLOW CONTOURS.

LIMITS OF DISTURBANCE

CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH THE EROSION CONTROL SEQUENCING SHOWN ON THIS PLAN. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.

CAUTION NOTICE TO CONTRACTOR

IF PROPERLY IMPLEMENTED, THIS PLAN WILL PROVIDE AN EFFECTIVE MEANS FOR CONTROLLING EROSION. HOWEVER, IT IS ACKNOWLEDGED THAT NO ONE PLAN CAN BE PREPARED THAT WILL DEPICT ALL POSSIBLE CONTROL MEASURES NECESSARY FOR VARIOUS STAGES OF CONSTRUCTION. THE CONTRACTOR SHALL INCLUDE IN THE BASE BID ADEQUATE FUNDS TO PROVIDE ALL EROSION CONTROL MEASURES NECESSARY TO COMPLY WITH CODES FOR THE DURATION OF THE CONSTRUCTION PROJECT.

SPECIFICATIONS REQUIREMENTS

THE REQUIREMENTS SHOWN ON THIS PLAN ARE SUPPLEMENTED BY THE SWPPP CONTAINED WITHIN THE PROJECT SPECIFICATIONS. IN CASE OF CONFLICTS BETWEEN THE PLANS, SWPPP SPECIFICATIONS AND THE ACTUAL GENERAL PERMIT, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.

TRACK OUT PREVENTION

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE VEHICLES ARE ADEQUATELY CLEANED PRIOR TO EXITING THE LIMITS OF DISTURBANCE TO PREVENT TRACK OUT. IF THE ACTION OF THE STONE CONSTRUCTION EXIT DOES NOT SATISFACTORILY PREVENT TRACK OUT FROM TRAFFIC EXITING THE SITE, THE CONTRACTOR SHALL IMPLEMENT A WHEEL WASH SYSTEM AT THE CONSTRUCTION EXIT. WATER FROM THE WHEEL WASH SYSTEM SHALL BE DIRECTED TOWARDS THE CONSTRUCTION EXIT SEDIMENT TRAP FOR TREATMENT OF THE SEDIMENT LADEN WATER. THE CONTRACTOR SHALL ALSO HAVE AN ATTENDANT STATIONED AT THE CONSTRUCTION EXIT. THE ATTENDANT SHALL HAVE THE AUTHORITY TO PROHIBIT TRAFFIC FROM EXITING THE SITE IF IT APPEARS THAT VEHICLES EXITING THE SITE WILL CAUSE TRACK OUT. IT IS ULTIMATELY THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRAFFIC FROM THE SITE WILL NOT CAUSE TRACK OUT FROM THE PROJECT SITE. BY SUBMITTING A BID ON THE PROJECT, THE CONTRACTOR AFFIRMS THAT ADEQUATE FUNDS HAVE BEEN INCLUDED TO ADDRESS THESE REQUIREMENTS.

TEMPORARY SEEDING

- SEED: MIXTURE 70% RYEGRASS/30% WINTER WHEAT - 4LB/1000 SQ FT

PERMANENT STABILIZATION

- REFER TO PLANTING PLAN, THIS SET.

ACREAGE SUMMARY

TOTAL PROJECT AREA	10 ACRES
ON-SITE DISTURBED AREA	9.5 ACRES
OFF-SITE DISTURBED AREA	0.5 ACRES
TOTAL DISTURBED AREA	10 ACRES
IMPERVIOUS AREA AT COMPLETION	6.6 ACRES
PERVIOUS/SEEDED AREA AT COMPLETION	3.4 ACRES
TOTAL AREA	10 ACRES

PROJECT BENCHMARKS

- TBM #1 - 5/8" IRON REBAR FOUND AT PROPERTY CORNER (D 000373). ELEV: 1198.17
- TBM #2 - IRON REBAR SET WITH CAP IN GRASSED AREA EAST OF MEGAN LANE. ELEV: 1191.90

DEVELOPER/OWNER

COTTAGES AT GENERATION VILLAGE, LP
3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65804
(417) 882-1701

SITE OPERATOR/GENERAL CONTRACTOR:

SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

NO	REVISIONS
PR1	PLAN REVISION #1 4/26/23

Cottages at Generation Village, LP
3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65804
PH. (417) 882-1701

PHASE I EROSION & SEDIMENTATION CONTROL PLAN

COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON CONSULTING ENGINEERS, INC.

1058 Ledgestone Commons
Barnett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Missouri Licensed Engineering Firm #200600899

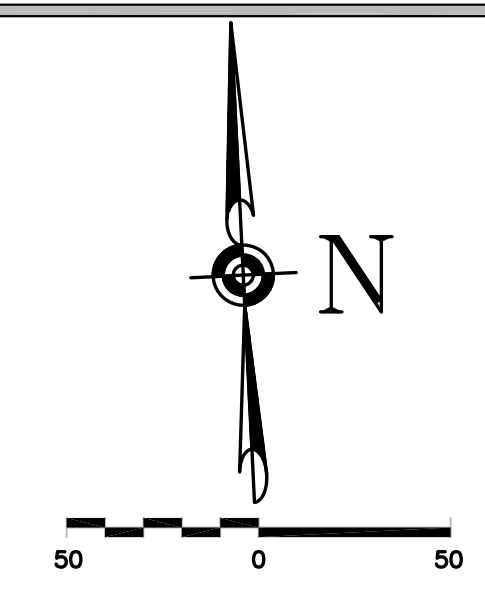
STATE OF MISSOURI
JOSEPH PARSLEY
NUMBER
PE-2008089288
PROFESSIONAL ENGINEER

DRAWN
ACP
CHECKED
BKM
DATE
04/06/2023
SCALE
1"=50'
JOB No.
N/A
SHEET
3 OF 32

PHASE II EROSION & SEDIMENTATION CONTROL PLAN,
SHEET 2 OF 4, MUST BE POSTED IN JOB TRAILER.

LEGEND

- PROPERTY LINE
- LIMITS OF DISTURBANCE
- SEDIMENTATION/SILT FENCE
- STONE CONSTRUCTION EXIT
- SWPPP INFORMATION SIGN
- TEMPORARY BENCHMARK
- BLOCK AND AGGREGATE INLET PROTECTION
- BLOCK AND AGGREGATE CURB INLET PROTECTION
- RIP-RAP PAD
- SOD/SEED/LANDSCAPE DISTURBED AREAS (REFER TO PLANTING PLAN)
- PLANTING BED: MULCH, GROUNDCOVER, ETC. SEE PLANTING PLAN FOR SPECIFIC INFORMATION



BEST MANAGEMENT PRACTICES SEQUENCE

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- PHASE II - EROSION CONTROL SEQUENCING
- TEMPORARILY STABILIZE, THROUGHOUT CONSTRUCTION, DENUDED AREAS THAT WILL BE INACTIVE FOR 14 DAYS OR MORE. ALL AREAS AT FINAL GRADE MUST BE PAVED OR STABILIZED WITH SPECIFIED GROUNDCOVER PER LANDSCAPE PLAN WITHIN 14 DAYS AFTER COMPLETION OF WORK IN THESE AREAS.
 - REPLACE, REPAIR, OR MAINTAIN SILT FENCE, STONE CONSTRUCTION EXIT, AND SWPPP INFORMATION SIGN AS NEEDED.
 - MAINTAIN TEMPORARY STAGING AND STORAGE AREA AS NEEDED.
 - INSTALL INLET PROTECTION DEVICES AS SOON AS STRUCTURES ARE INSTALLED FOR USE AS SEDIMENT TRAPS.
 - COMPLETE ALL GRADING ACTIVITIES AT THIS TIME.
 - IMMEDIATELY INSTALL PERMANENT GROUNDCOVER, FERTILIZE, MULCH, AND WATER AREAS IN ACCORDANCE WITH THE PLANTING PLAN AND SITEMARK SPECIFICATIONS.
 - CONTINUE INSPECTION REQUIREMENTS UNTIL FINAL STABILIZATION HAS BEEN OBTAINED AND THE NOTICE OF TERMINATION HAS BEEN FILED FOR THE GENERAL PERMIT.

SILT FENCE LOCATION
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PERMANENT STABILIZATION
- REFER TO PLANTING PLAN, THIS SET.

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DEVELOPER/OWNER
COTTAGES AT GENERATION VILLAGE, LP
3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65804
(417) 882-1701

SITE OPERATOR/GENERAL CONTRACTOR:

SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL SHEETS AND ANY NEW PLAN SHEETS ISSUED BY THE CEC.

NO	REVISIONS
PR1	PLAN REVISION #1 4/26/23

PHASE II EROSION & SEDIMENTATION
CONTROL PLAN

Cottages at Generation
Village, LP
3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65804
PH: (417) 882-1701

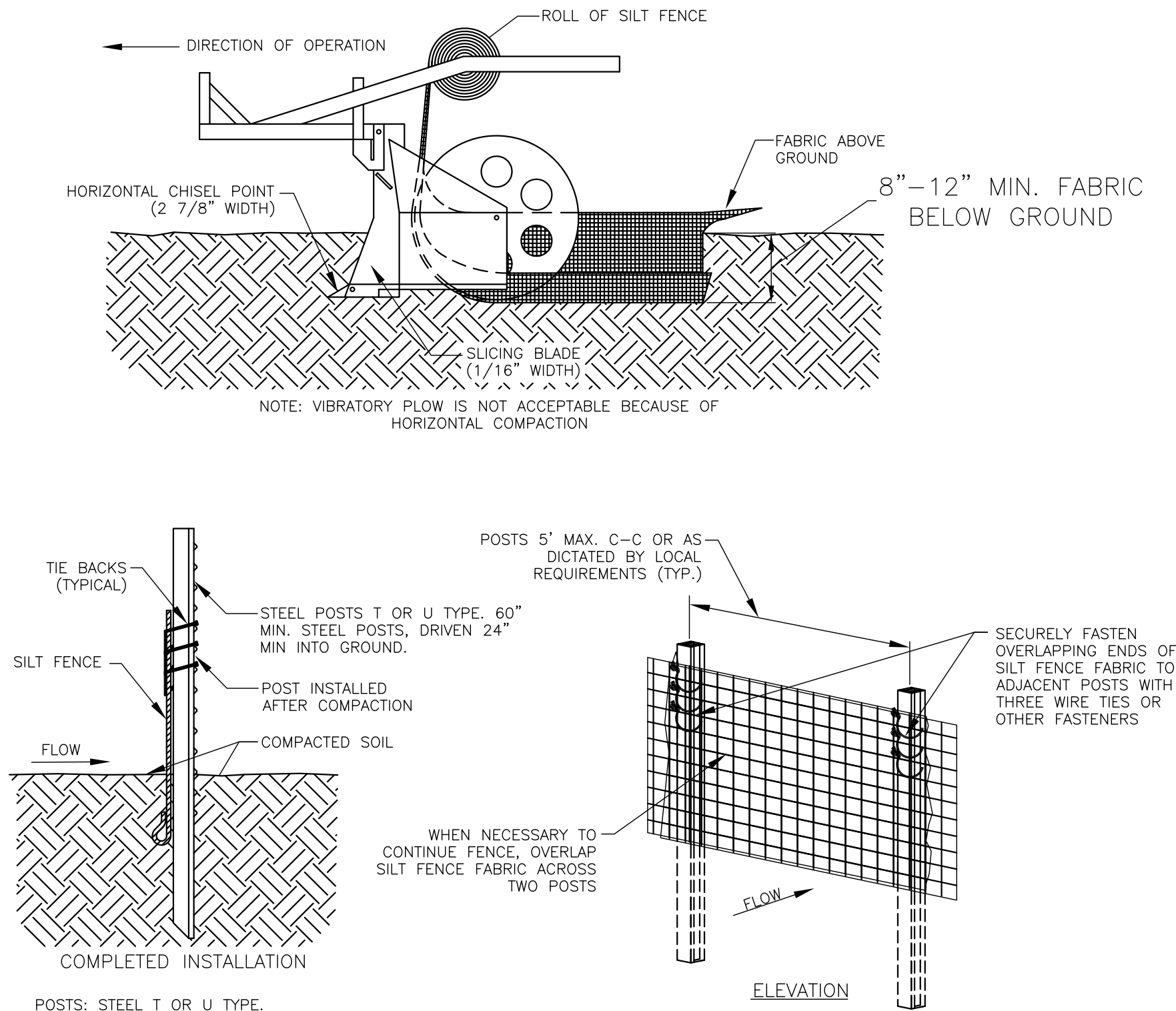
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON
CONSULTING
ENGINEERS, INC.

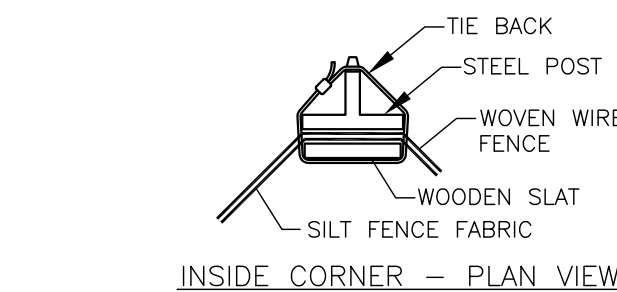
1088 Ledgestone Commons
Barnett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Missouri Licensed Engineering Firm #20060899



DRAWN
ACP
CHECKED
BKM
DATE
04/06/2023
SCALE
1"=50'
JOB No.
N/A
SHEET
4 OF 32



POSTS: STEEL T OR U TYPE.
FABRIC: IN ACCORDANCE WITH ASTM D 6461 LATEST EDITION.



SPECIFICATIONS FOR STATIC SLICING METHOD FOR SILT FENCE INSTALLATION

- (STATIC SLICING SHALL BE USED TO ANCHOR SILT FENCE FABRIC IN ORDER TO NOT USE THE WOVEN WIRE BACKING.)
- SILT FENCE SHALL BE PROVIDED AND INSTALLED PER ASTM D-6462-03 LATEST EDITION.
 - INSTALL SILT FENCE AT A FAIRLY LEVEL GRADE ALONG THE CONTOUR WITH THE ENDS CURVED UPHILL TO PROVIDE SUFFICIENT UPSTREAM STORAGE VOLUME FOR ANTICIPATED RUNOFF.
 - SPECIAL ATTENTION SHOULD BE PAID TO ENSURE THAT NO UNDERMINING OF SILT FENCE HAS OCCURRED AND THAT NO BYPASS IS OCCURRING AT JOINING SECTIONS.
 - INSTALL POSTS AT A MINIMUM DEPTH OF 24" ON THE DOWNSTREAM SIDE OF THE SILT FENCE, AND AS CLOSE AS POSSIBLE TO THE FABRIC, ENABLING POSTS TO SUPPORT UPSTREAM WATER PRESSURE ON THE FABRIC.
 - INSTALL POSTS WITH THE NIPPLES FACING AWAY FROM THE SILT FENCE FABRIC.
 - ATTACH THE FABRIC TO EACH POST WITH THREE TIES, ALL SPACED WITHIN THE TOP 8" OF THE FABRIC. ATTACH EACH TIE DIAGONALLY 45 DEGREES THROUGH THE FABRIC, WITH EACH PUNCTURE AT LEAST 1" VERTICALLY APART. ALSO, EACH TIE SHOULD BE POSITIONED TO HANG ON A POST NIPPLE WHEN TIGHTENED TO PREVENT SAGGING.
 - WRAP APPROXIMATELY 6" OF FABRIC AROUND THE END POSTS AND SECURE WITH 3 TIES.
 - WHEN NECESSARY TO CONTINUE FENCE, OVERLAP SILT FENCE FABRIC ACROSS TWO POSTS.
 - NO MORE THAN 24" OF A 36" FABRIC IS ALLOWED ABOVE GROUND LEVEL.
 - THE INSTALLATION SHOULD BE CHECKED AND CORRECTED FOR ANY DEVIATIONS BEFORE COMPACTION. USE A FLAT-BLADED SHOVEL TO TUCK FABRIC DEEPER INTO THE TRENCH IF NECESSARY.
 - COMPACT THE SOIL IMMEDIATELY NEXT TO THE SILT FENCE FABRIC WITH THE FRONT WHEEL OF THE TRACTOR, SKID STEER, OR ROLLER EXERTING AT LEAST 60 POUNDS PER SQ. INCH. COMPACT THE UPSTREAM SIDE FIRST. COMPACT EACH SIDE TWICE FOR A TOTAL OF FOUR TIMES.
 - WHEN TWO SECTIONS OF SILT FENCE FABRIC ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED A MINIMUM OF 60" ACROSS TWO POSTS, AS SHOWN.
 - ADD POST CAPS AS NEEDED BASED ON SITE CONDITIONS AND APPLICABLE AGENCY REQUIREMENTS.

MAINTENANCE NOTES

- SILT FENCES SHALL BE INSPECTED ALONG ITS ENTIRETY AND MUST BE CLEANED WHEN SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE SILT FENCE. MAINTENANCE CLEANOUT MUST BE CONDUCTED REGULARLY TO PREVENT ACCUMULATED SEDIMENTS FROM REACHING ON-THIRD THE HEIGHT OF THE SILT FENCE.
- ALL MATERIAL EXCAVATED FROM BEHIND SILT FENCE SHALL BE STOCKPILED ON AN UPLAND PORTION OF THE SITE IF SUITABLE FOR REUSE.
- SPECIAL ATTENTION SHOULD BE PAID TO ENSURE THAT NO UNDERMINING OF SILT FENCE HAS OCCURRED AND THAT NO BYPASS IS OCCURRING AT JOINING SECTIONS.
- IF EXCESS SEDIMENT IS ACCUMULATING IN ANY SECTION OF SILT FENCE, THE CONTRACTOR SHOULD IMPLEMENT ADDITIONAL UPSTREAM STABILIZATION MEASURES OR ADDITIONAL BMPs (PENDING CEC APPROVAL) TO PREVENT EXCESSIVE BUILDUP ON SILT FENCE.
- SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED.

TABLE 1 Temporary Silt Fence Material Property Requirements

	Test Method	Units	Supported ^a Silt Fence	Unsupported ^a Silt Fence	Type of Value
Grab Strength	ASTM D 4632	N (lbs)			
			400 (90)	550 (90)	MARV
			400 (90)	450 (90)	MARV
Permittivity [#]	ASTM D 4491	sec-1	0.05	0.05	MARV
Apparent Opening Size [#]	ASTM D 4751	mm (US Sieve #)	0.60 (30)	0.60 (30)	Max. ARV ^c
Ultraviolet Stability	ASTM D 4355	% Retained Strength	70% after 500 h of exposure	70% after 500 h of exposure	Typical

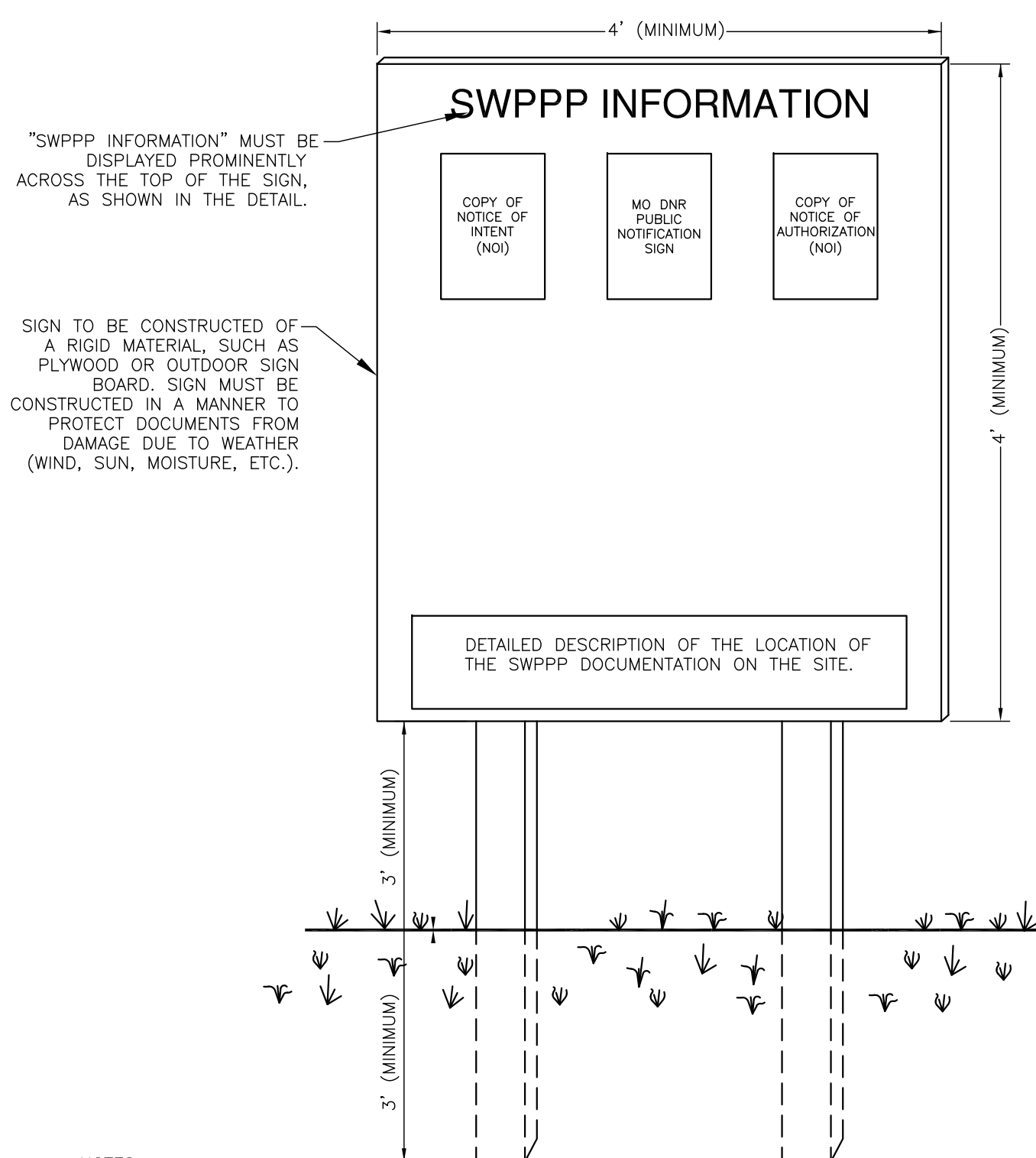
^aSilt fence support shall consist of 14 gage steel wire with a mesh spacing of 150 mm (6 in.) or prefabricated polymer mesh of equivalent strength.
[#]These default values are based on empirical evidence with a variety of sediments. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific geotextile tests in accordance with Test Method D 5141 should be performed by the agency to confirm suitability of these requirements.
^c%As measured in accordance with Test Method D 4632.

TABLE 1 TAKEN FROM ASTM D 6461-99 (2007)

NON-WIRE BACKED SLICING METHOD FOR SILT FENCE INSTALLATION

N.T.S.

SF

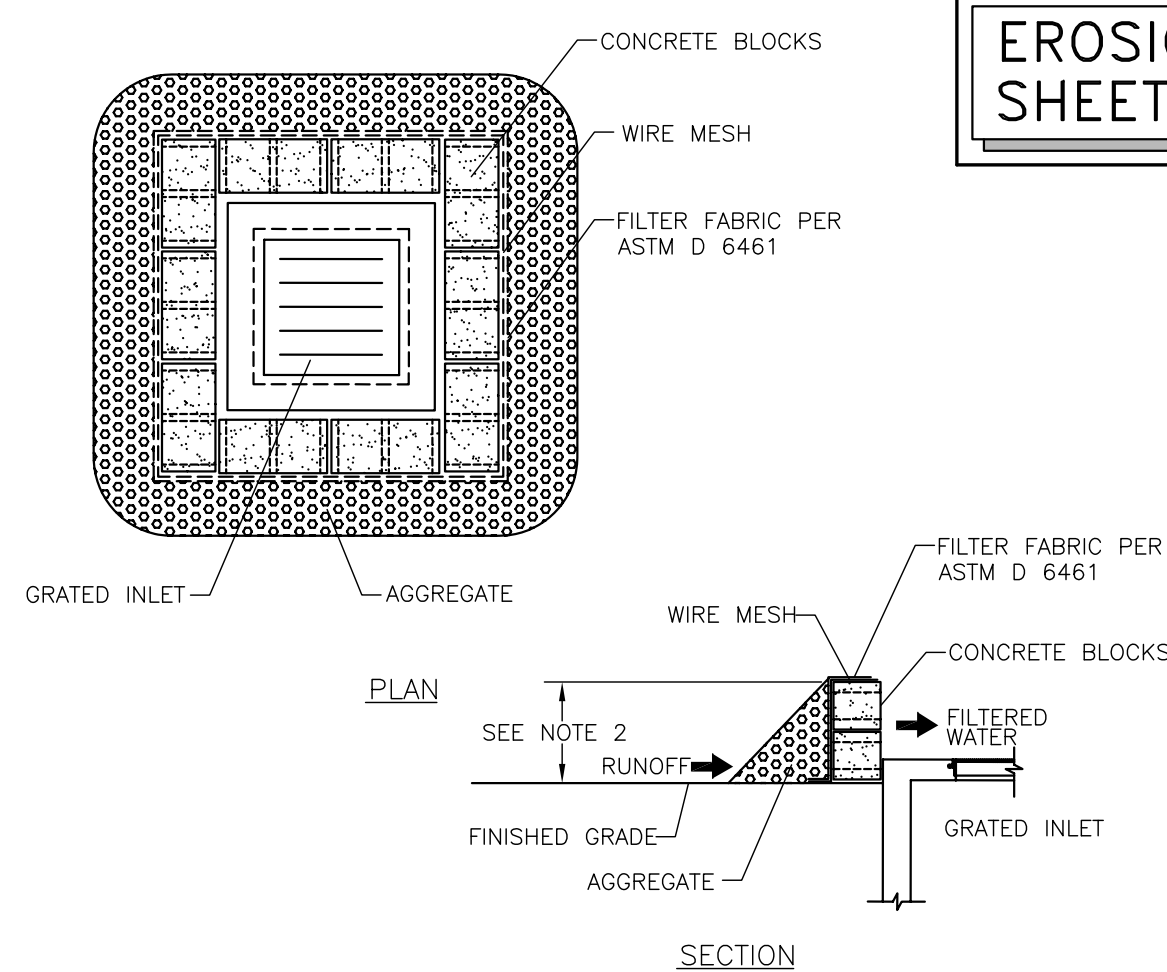


NOTES:

- THE SWPPP INFORMATION SIGN MUST BE LOCATED IN A PROMINENT, PUBLICLY ACCESSIBLE LOCATION NEAR THE MAIN ENTRANCE OF THE SITE, SUCH THAT THE DOCUMENTATION CAN BE READ WITHOUT ACCESSING THE JOBSITE, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A TRAFFIC SAFETY HAZARD.
- ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE NOTICE-OF-TERMINATION (NOT) IS FILED FOR THE PERMIT.
- ALL PAGES OF NOTICES OF INTENT AND PERMIT AUTHORIZATIONS MUST BE POSTED. THE CONTRACTOR MAY UTILIZE ACCESSIBLE WATERPROOF FOLDERS TO STORE THESE DOCUMENTS IF IT WILL BE DIFFICULT TO POST ALL PAGES INDIVIDUALLY.
- CONTRACTOR SHALL POST OTHER STORMWATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE GOVERNING AGENCIES.
- SUBSEQUENT PERMIT MODIFICATION REQUESTS OR RENEWAL APPLICATIONS, AND THEIR ASSOCIATED AUTHORIZATIONS OR RESPONSES SHALL BE POSTED ON THE SWPPP SIGN.
- SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
- CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THE SWPPP INFORMATION SIGN.

SS SWPPP INFORMATION SIGN
N.T.S.

SWPPP INFORMATION SIGN



NOTES:

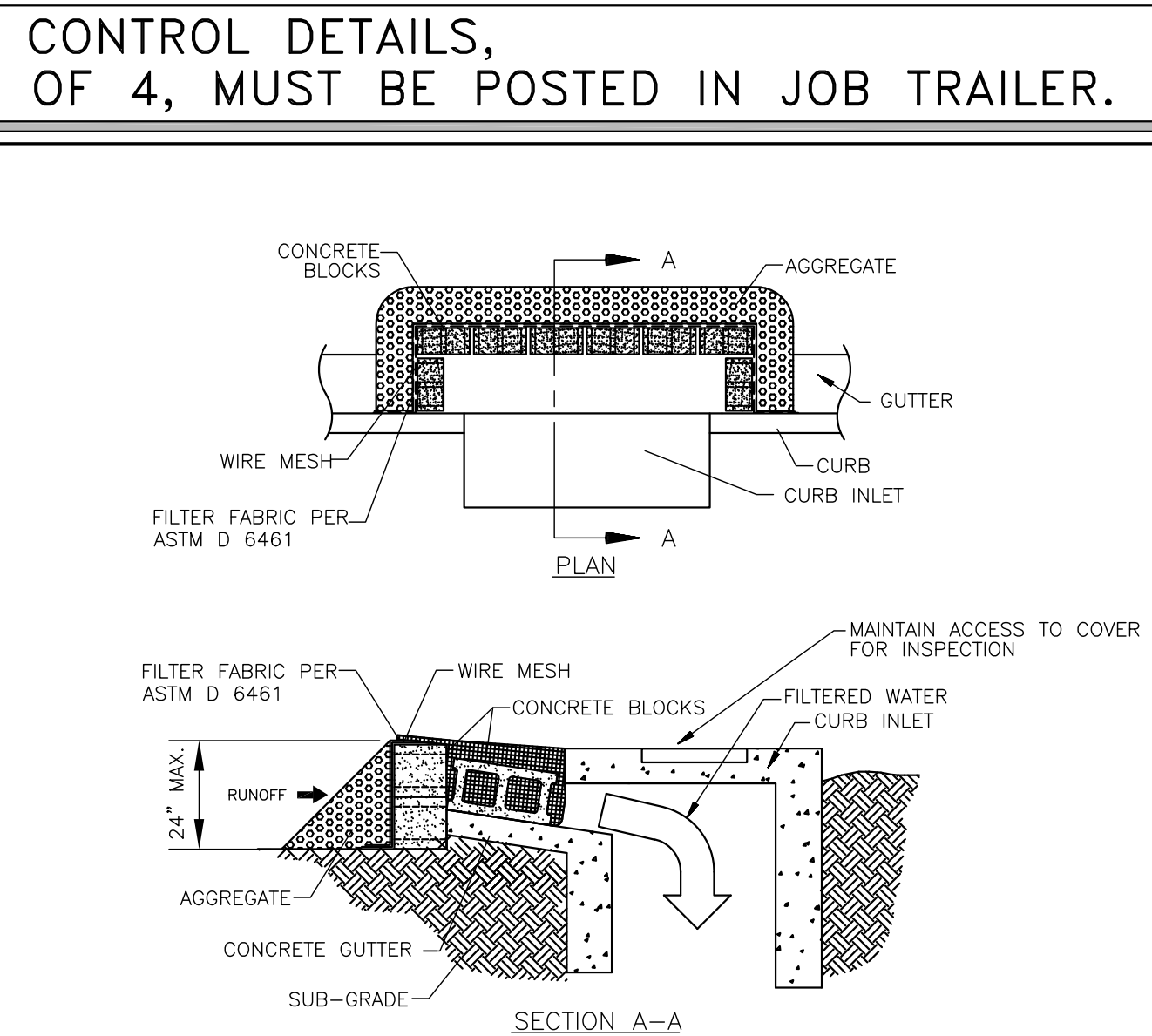
- PLACE CONCRETE BLOCKS IN A SINGLE ROW AROUND PERIMETER OF INLET ON THEIR SIDES, WITH ENDS OF ADJACENT BLOCKS ABUTTING.
- HEIGHT OF BARRIER VARIES. USE STACKS OF 4", 8", OR 12" BLOCKS. MIN. HEIGHT OF BARRIER SHALL BE 12" AND MAX. HEIGHT SHALL BE 24".
- PLACE HARDWARE CLOTH/WIRE MESH W/ MAX. 1/2" OPENINGS OVER VERTICAL FACE OF CONCRETE BLOCKS.
- THE AGGREGATE SHALL BE 3/4" - 2" ANGULAR CLEAN STONE, WHICH WILL SLOW THE FLOW OF THE WATER AND ALLOW IT TO FILTER THROUGH AND OVER THE MATERIAL BEFORE ENTERING THE INLET.

MAINTENANCE NOTES:

- INLET PROTECTION DEVICES MUST BE INSPECTED FOR SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN (IF USING INSERT-TYPE DEVICE) OR UPGRADEMENT OF THE INLET.
- REMOVAL OF SEDIMENT ACCUMULATED IN OR ADJACENT TO A STORM DRAIN INLET MUST BEGIN IMMEDIATELY UPON DISCOVERY, WITH COMPLETION OF THE ACTIVITY OCCURRING NO LATER THAN THE END OF THE FOLLOWING BUSINESS DAY.
- INLET PROTECTION DEVICES SHALL BE INSPECTED FOR UNINTENDED BYPASS OR IMPROPER FLOW-RATES THAT MAY CAUSE DOWNSTREAM FLOODING.
- CONTACT THE CEC FOR ALTERNATE INLET PROTECTION IF THE DESIGNED PROTECTION MAY IMPACT DOWNSTREAM BMPs, ADJACENT SLOPES, ETC., DUE TO PONDING ISSUES. ENSURE THAT NO UNDERMINING OF INLET PROTECTION DEVICES HAS OCCURRED.
- INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.

IP1 BLOCK AND AGGREGATE INLET PROTECTION
N.T.S.

BLOCK AND AGGREGATE CURB INLET PROTECTION



NOTES:

- PLACE CONCRETE BLOCKS IN A SINGLE ROW AROUND PERIMETER OF CURB INLET ON THEIR SIDES, WITH ENDS OF ADJACENT BLOCKS ABUTTING.
- HEIGHT OF BARRIER VARIES. USE STACKS OF 4", 8", OR 12" BLOCKS. TOP OF BARRIER MUST BE LOWER THAN TOP OF CURB ELEVATIONS ADJACENT TO INLET. MAX. HEIGHT SHALL BE 24".
- PLACE HARDWARE CLOTH/WIRE MESH W/ MAX. 1/2" OPENINGS OVER VERTICAL FACE OF CONCRETE BLOCKS.
- THE AGGREGATE SHALL BE 3/4" - 2" ANGULAR CLEAN STONE WHICH WILL SLOW THE FLOW OF WATER AND ALLOW IT TO FILTER THROUGH AND OVER THE MATERIAL BEFORE ENTERING THE INLET.
- IF ROAD OR PARKING AREA IS OPEN TO PUBLIC, VERIFY SUITABILITY OF BMP WITH AGENCIES HAVING JURISDICTION AND WITH CEC.

MAINTENANCE NOTES:

- INLET PROTECTION DEVICES MUST BE INSPECTED FOR SEDIMENT ACCUMULATION WITHIN THE CATCH BASIN (IF USING INSERT-TYPE DEVICE) OR UPGRADEMENT OF THE INLET.
- REMOVAL OF SEDIMENT ACCUMULATED IN OR ADJACENT TO A STORM DRAIN INLET MUST BEGIN IMMEDIATELY UPON DISCOVERY, WITH COMPLETION OF THE ACTIVITY OCCURRING NO LATER THAN THE END OF THE FOLLOWING BUSINESS DAY.
- INLET PROTECTION DEVICES SHALL BE INSPECTED FOR UNINTENDED BYPASS OR IMPROPER FLOW-RATES THAT MAY CAUSE DOWNSTREAM FLOODING.
- CONTACT THE CEC FOR ALTERNATE INLET PROTECTION IF THE DESIGNED PROTECTION MAY IMPACT DOWNSTREAM BMPs, ADJACENT SLOPES, ETC., DUE TO PONDING ISSUES. ENSURE THAT NO UNDERMINING OF INLET PROTECTION DEVICES HAS OCCURRED.
- INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.

IP2 BLOCK AND AGGREGATE CURB INLET PROTECTION
N.T.S.

BLOCK AND AGGREGATE CURB INLET PROTECTION

PERFORMANCE STANDARDS:

- ALL SITE ACCESS MUST BE CONFINED TO THE CONSTRUCTION EXIT(S). BARRICADE TO PREVENT USE OF ANY LOCATIONS OTHER THAN THE CONSTRUCTION EXIT(S) WHERE VEHICLES OR EQUIPMENT MAY ACCESS THE SITE.
- CONTRACTOR TO LOCATE TEMPORARY CONSTRUCTION FENCING, JERSEY BARRIERS, OR BOTH ALONG THE SIDES OF THE CONSTRUCTION EXIT TO PREVENT CONSTRUCTION TRAFFIC FROM SHORT CIRCUITING/BYPASSING THE EXIT.
- PROVIDE SEDIMENT TRAP ON DOWN GRADIENT SIDE (OR BOTH SIDES) AS REQUIRED. SEDIMENT TRAP SHALL BE LOCATED OUTSIDE OF THE RIGHT-OF-WAY AND AT A MINIMUM SETBACK DISTANCE AS REQUIRED PER LOCAL JURISDICTION.
- IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION EXIT(S) IS NOT SUFFICIENT TO PREVENT TRACKING OF DIRT, DUST OR MUD, THEN TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. ALL WASH WATER MUST BE ROUTED TO A SEDIMENT TRAP OR OTHER TREATMENT AREA AND SHALL NOT BE DIRECTLY DISCHARGED OFF-SITE.
- LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE MUST BE INSPECTED FOR EVIDENCE OF SEDIMENT TRACKING BEYOND THE PERMITTED PROJECT AREA. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES OUT TO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
- ANY SEDIMENT DEPOSITED ON THE ROADWAY SHALL BE SWEEP AS NECESSARY (AND WITHIN THE SAME DAY AS DISCOVERY) AND DISPOSED OF IN AN APPROPRIATE MANNER. SEDIMENT SHALL NOT BE WASHED INTO STORM SEWER SYSTEMS.
- EXIT(S) SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD BEYOND THE EXIT(S). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE CONSTRUCTION EXIT(S) AS CONDITIONS DEMAND.
- CONTRACTOR SHALL BE PERMITTED TO TURN THE STONE WHEN THE SURFACE BECOMES SMOOTH AND SURFACE VOIDS ARE FILLED TO MAINTAIN EFFECTIVENESS OF CONSTRUCTION EXIT UNTIL SUCH TIME THAT VOIDS BELOW THE SURFACE BECOME FILLED AND THE CONSTRUCTION EXIT IS NO LONGER EFFECTIVE. AT SUCH A TIME THE CONTRACTOR SHALL REMOVE THE INEFFECTIVE STONE AND REPLACE PER DETAIL.
- IF EXIT BMP IS STILL INEFFECTIVE, GC MUST CONTACT THE ENGINEER AND SUBMIT AN RFI AS NECESSARY.
- IF WATER REMAINS IN SEDIMENT TRAP FOR MORE THAN 48 HOURS THE WATER SHALL BE PUMPED OUT THROUGH A FILTER BAG TO ENSURE DESIGN VOLUME IS AVAILABLE FOR FUTURE STORM EVENTS.

- APPROVED GEOTEXTILE FABRICS:
- MIRAFI HP 370 OR HP 570 BY MIRAFI
 - SF40 OR SF56 BY DUPONT
 - LIHQ GTF-200 OR 300 BY LIHQ
 - TERRATEX HD BY WEBTEC

NOTE TO GC: THE GOAL OF A CONSTRUCTION EXIT AND ASSOCIATED WHEEL WASH AREAS IS TO ELIMINATE TRACK OUT. SIMPLY MANAGING TRACK OUT THROUGH DESIGNATED OR CONTINUAL STREET SWEEPING IS NOT AN ACCEPTABLE PRACTICE. WHILE STREET SWEEPING IS AN ACCEPTABLE PRACTICE FOR REMOVING DUST AND MINIMAL AMOUNTS OF FINE SEDIMENT, OBSERVABLE TRACK OUT FROM THE PROJECT SHALL TRIGGER THE USE OF ADDITIONAL MEASURES (WHEEL WASH). CONSIDERATION OF ALTERNATE EXITS, OR DISCONTINUING VEHICLE TRAFFIC UNTIL CONDITIONS ON-SITE HAVE IMPROVED.

DEVELOPER/OWNER
COTTAGES AT GENERATION VILLAGE, LP
3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65804
(417) 882-1701

SITE OPERATOR/GENERAL CONTRACTOR:

SUPERINTENDENT:

IMPORTANT: GC MUST SIGN ALL SHEETS AND
ANY NEW PLAN SHEETS ISSUED BY THE CEC.

NO REVISIONS

Cottages at Generation
Village, LP

3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65808
PH. (417) 882-1701

EROSION CONTROL DETAILS

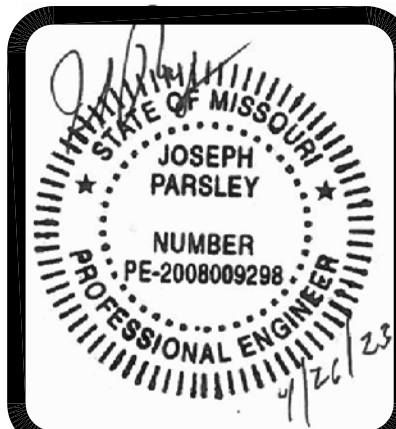
COTTAGES AT GENERATION VILLAGE

WILLARD, MISSOURI

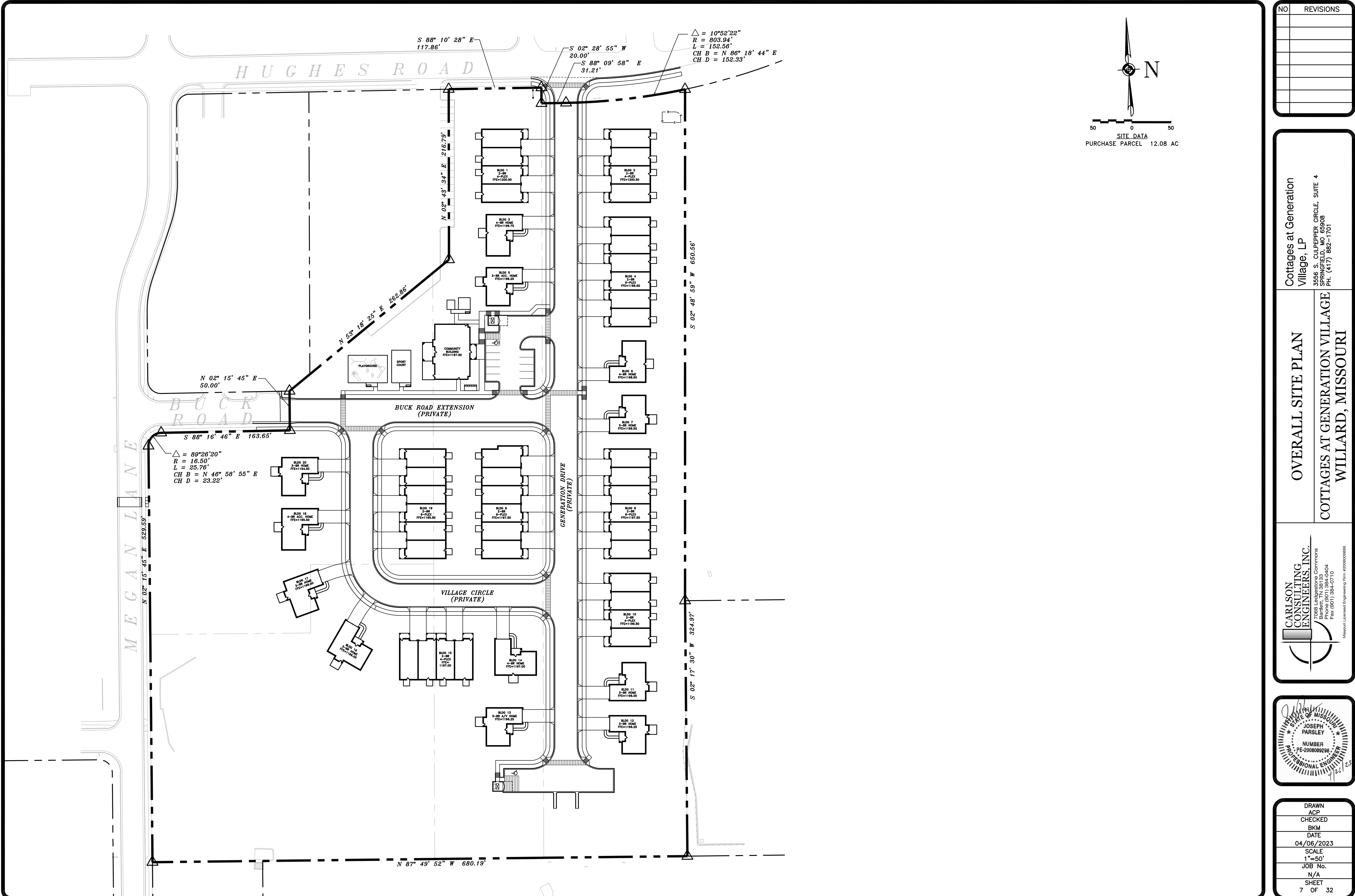
CARLSON
CONSULTING
ENGINEERS, INC.

JOSE Ledwith
Barrett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710

Missouri Licensed Engineering Firm #000008989



DRAWN
ACP
CHECKED
BKM
DATE
04/06/2023
SCALE
N.T.S.
JOB No.
N/A
SHEET
6 OF 32



NO	REVISIONS

OVERALL SITE PLAN

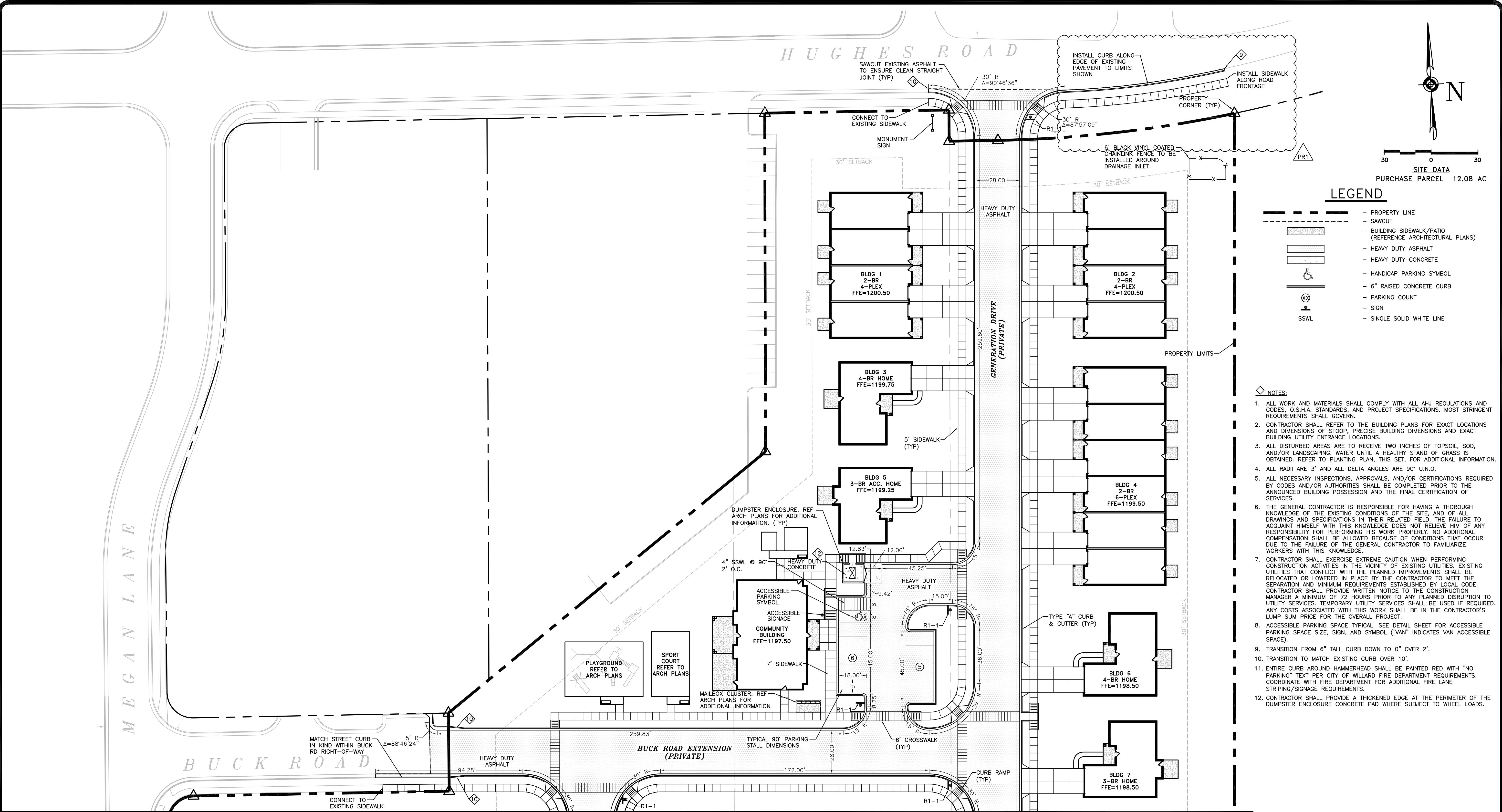
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

Cottages at Generation Village, LP

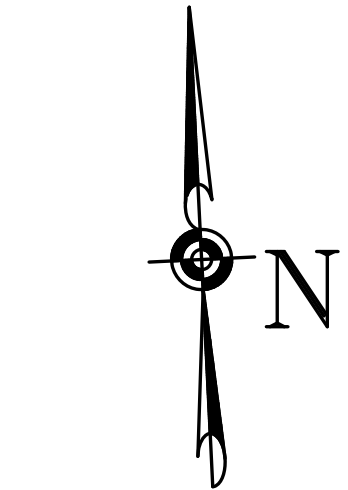
3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH: (417) 882-1701



DRAWN	ACP
CHECKED	BKM
DATE	04/06/2023
SCALE	1"=50'
JOB No.	N/A
SHEET	7 OF 32



MATCHLINE (SEE SHEET 2 OF 2)



SITE DATA
PURCHASE PARCEL 12.08 AC

LEGEND

- PROPERTY LINE
- SAWCUT
- BUILDING SIDEWALK/PATIO (REFERENCE ARCHITECTURAL PLANS)
- HEAVY DUTY ASPHALT
- HEAVY DUTY CONCRETE
- HANDICAP PARKING SYMBOL
- 6" RAISED CONCRETE CURB
- PARKING COUNT
- SIGN
- SINGLE SOLID WHITE LINE

NOTES:

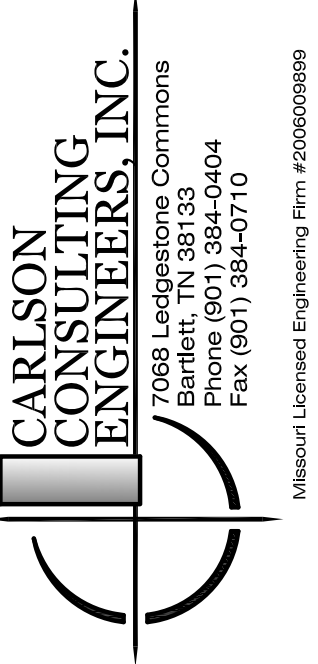
- ALL WORK AND MATERIALS SHALL COMPLY WITH ALL AHJ REGULATIONS AND CODES, O.S.H.A. STANDARDS, AND PROJECT SPECIFICATIONS. MOST STRINGENT REQUIREMENTS SHALL GOVERN.
- CONTRACTOR SHALL REFER TO THE BUILDING PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF STOOP, PRECISE BUILDING DIMENSIONS AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
- ALL DISTURBED AREAS ARE TO RECEIVE TWO INCHES OF TOPSOIL, SOD, AND/OR LANDSCAPING, WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. REFER TO PLANTING PLAN, THIS SET, FOR ADDITIONAL INFORMATION.
- ALL RADII ARE 3' AND ALL DELTA ANGLES ARE 90° U.N.O.
- ALL NECESSARY INSPECTIONS, APPROVALS, AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR AUTHORITIES SHALL BE COMPLETED PRIOR TO THE ANNOUNCED BUILDING POSSESSION AND THE FINAL CERTIFICATION OF SERVICES.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF THE EXISTING CONDITIONS OF THE SITE, AND OF ALL DRAWINGS AND SPECIFICATIONS IN THEIR RELATED FIELD. THE FAILURE TO ACQUAINT HIMSELF WITH THIS KNOWLEDGE DOES NOT RELIEVE HIM OF ANY RESPONSIBILITY FOR PERFORMING HIS WORK PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED BECAUSE OF CONDITIONS THAT OCCUR DUE TO THE FAILURE OF THE GENERAL CONTRACTOR TO FAMILIARIZE WORKERS WITH THIS KNOWLEDGE.
- CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN PERFORMING CONSTRUCTION ACTIVITIES IN THE VICINITY OF EXISTING UTILITIES. EXISTING UTILITIES THAT CONFLICT WITH THE PLANNED IMPROVEMENTS SHALL BE RELOCATED OR LOWERED IN PLACE BY THE CONTRACTOR TO MEET THE SEPARATION AND MINIMUM REQUIREMENTS ESTABLISHED BY LOCAL CODE. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER A MINIMUM OF 72 HOURS PRIOR TO ANY PLANNED DISRUPTION TO UTILITY SERVICES. TEMPORARY UTILITY SERVICES SHALL BE USED IF REQUIRED. ANY COSTS ASSOCIATED WITH THIS WORK SHALL BE IN THE CONTRACTOR'S LUMP SUM PRICE FOR THE OVERALL PROJECT.
- ACCESSIBLE PARKING SPACE TYPICAL. SEE DETAIL SHEET FOR ACCESSIBLE PARKING SPACE SIZE, SIGN, AND SYMBOL ("VAN" INDICATES VAN ACCESSIBLE SPACE).
- TRANSITION FROM 6" TALL CURB DOWN TO 0" OVER 2'.
- TRANSITION TO MATCH EXISTING CURB OVER 10'.
- ENTIRE CURB AROUND HAMMERHEAD SHALL BE PAINTED RED WITH "NO PARKING" TEXT PER CITY OF WILLARD FIRE DEPARTMENT REQUIREMENTS. COORDINATE WITH FIRE DEPARTMENT FOR ADDITIONAL FIRE LANE STRIPING/SIGNAGE REQUIREMENTS.
- CONTRACTOR SHALL PROVIDE A THICKENED EDGE AT THE PERIMETER OF THE DUMPSTER ENCLOSURE CONCRETE PAD WHERE SUBJECT TO WHEEL LOADS.

NO	REVISIONS
PR1	PLAN REVISION #1 4/26/23

Cottages at Generation Village, LP
3556 S. CUIPERPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

SITE PLAN (SHEET 1 OF 2)

COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI



DRAWN	ACP
CHECKED	BKM
DATE	04/06/2023
SCALE	1"=30'
JOB No.	N/A
SHEET	8 OF 32

MATCHLINE (SEE SHEET 1 OF 2)

NO	REVISIONS

Cottages at Generation Village, LP

3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65808
PH. (417) 882-1701

SITE PLAN (SHEET 2 OF 2)

COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON CONSULTING ENGINEERS, INC.

1058 Ledgestone Commons
Barlett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Missouri Licensed Engineering Firm #200600889

STATE OF MISSOURI

JOSEPH PARSLLEY

NUMBER PE-2008069298

PROFESSIONAL ENGINEER

7/24/23

DRAWN ACP

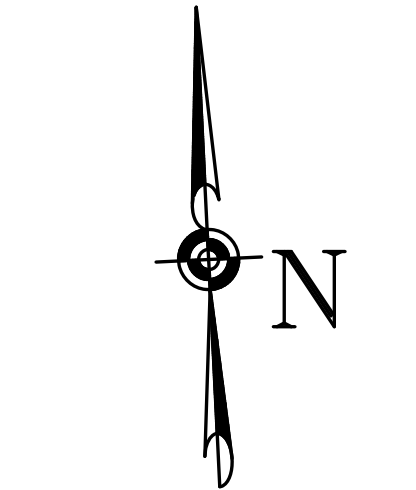
CHECKED BKM

DATE 04/06/2023

SCALE 1"=30'

JOB No. N/A

SHEET 9 OF 32



SITE DATA
PURCHASE PARCEL 12.08 AC

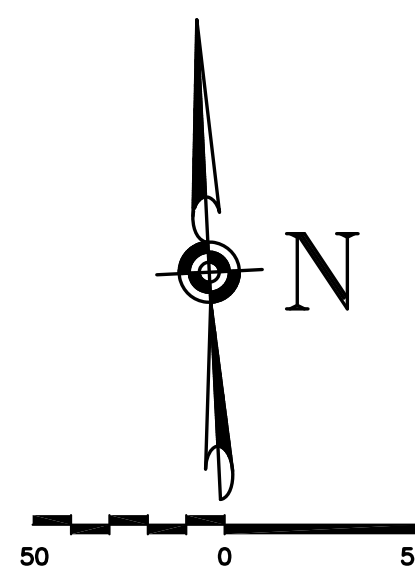
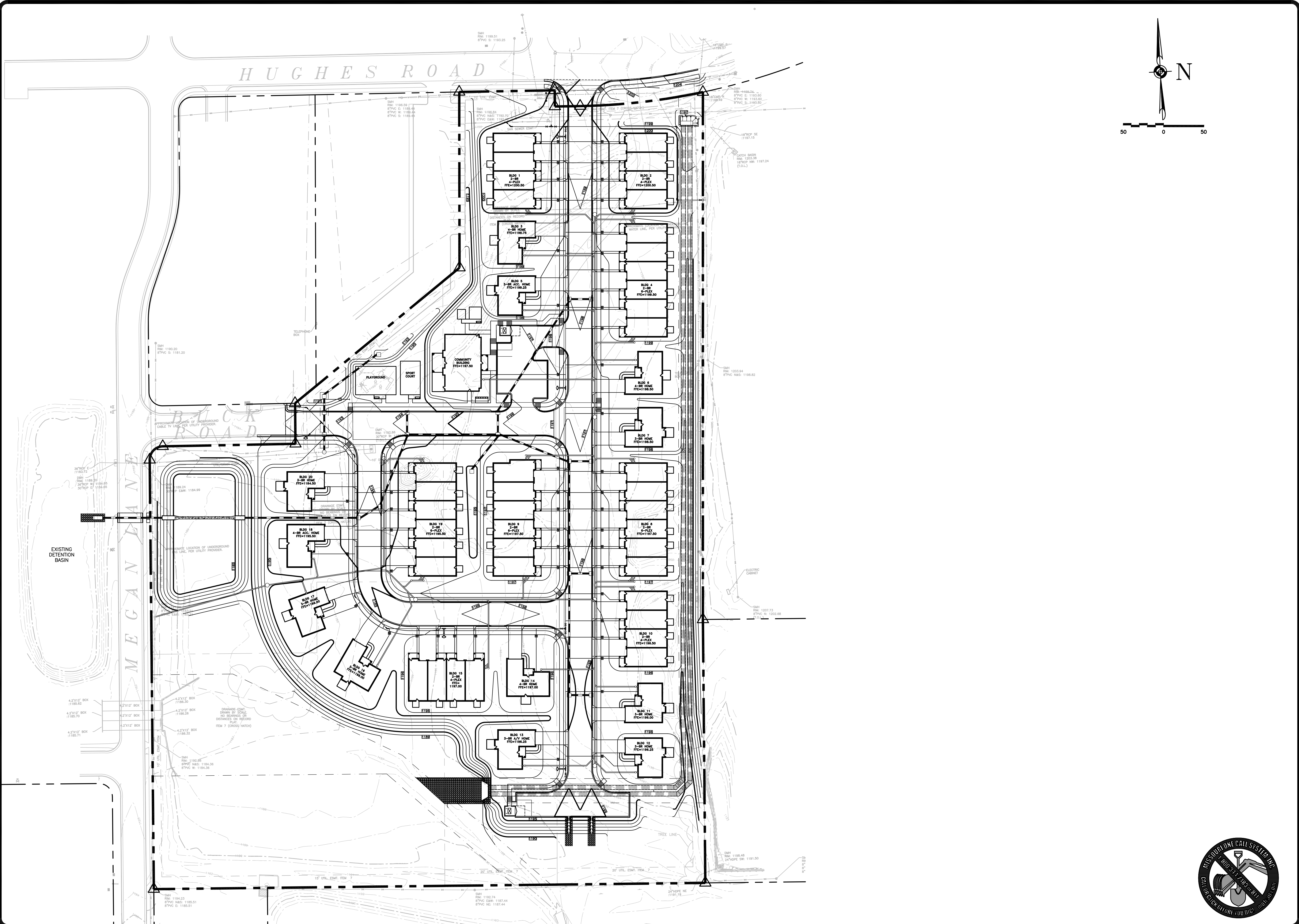
LEGEND

- PROPERTY LINE
- SAWCUT
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NO	REVISIONS

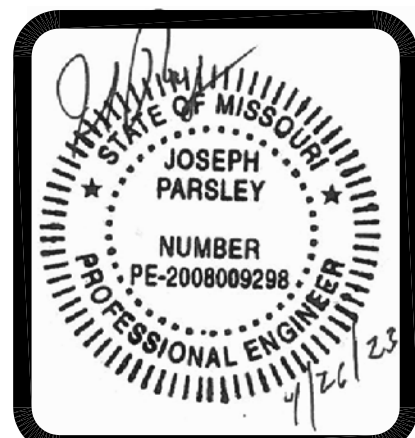
Cottages at Generation
Village, LP
3556 S. CUIPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65808
PH. (417) 882-1701

OVERALL GRADING PLAN
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI



CARLSON
CONSULTING
ENGINEERS, INC.

1088 Ledgestone Commons
Bartlett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Missouri Licensed Engineering Firm # 2006008899



DRAWN	ACP
CHECKED	BKM
DATE	04/06/2023
SCALE	1"=50'
JOB No.	N/A
SHEET	10 OF 32

STORM DRAINAGE STRUCTURE DATA			
ID	TYPE	RIM/THROAT ELEVATION*	AREA (AC)
AI #1	AREA INLET	1191.50	0.71
AI #2	AREA INLET	1190.30	4.71
AI #3	AREA INLET	1194.00	0.31
CI #1	CURB INLET	1192.25	0.06
CI #2	CURB INLET	1192.25	0.37
CI #3	CURB INLET	1194.45	0.49
CI #4	CURB INLET	1194.45	0.45
CI #5	CURB INLET	1195.50	0.26
CI #6	CURB INLET	1195.50	0.26
CI #7	CURB INLET	1196.40	0.37
CI #8	CURB INLET	1196.40	0.15
CI #9	CURB INLET	1195.35	0.34
CI #10	CURB INLET	1195.35	0.05
CI #11	CURB INLET	1193.75	0.09
CI #12	CURB INLET	1193.75	0.12
CI #13	CURB INLET	1193.65	0.31
CI #14	CURB INLET	1193.75	0.62
CI #15	CURB INLET	1197.75	0.42
CI #16	CURB INLET	1197.75	0.44
HW #1	HEADWALL	-	-
HW #2	HEADWALL	-	5.95
HW #3	HEADWALL	-	-
HW #4	HEADWALL	-	70.80
HW #5	HEADWALL	-	-
JB #1	JUNCTION BOX	1193.50	-
RT #1A	RISER TEE	1190.00	-
RT #1B	RISER TEE	1196.25	-
RT #2A	RISER TEE	1195.50	-
RT #2B	RISER TEE	1195.50	-

*CURB INLET THROAT ELEVATIONS INCLUDE 3" SUMP

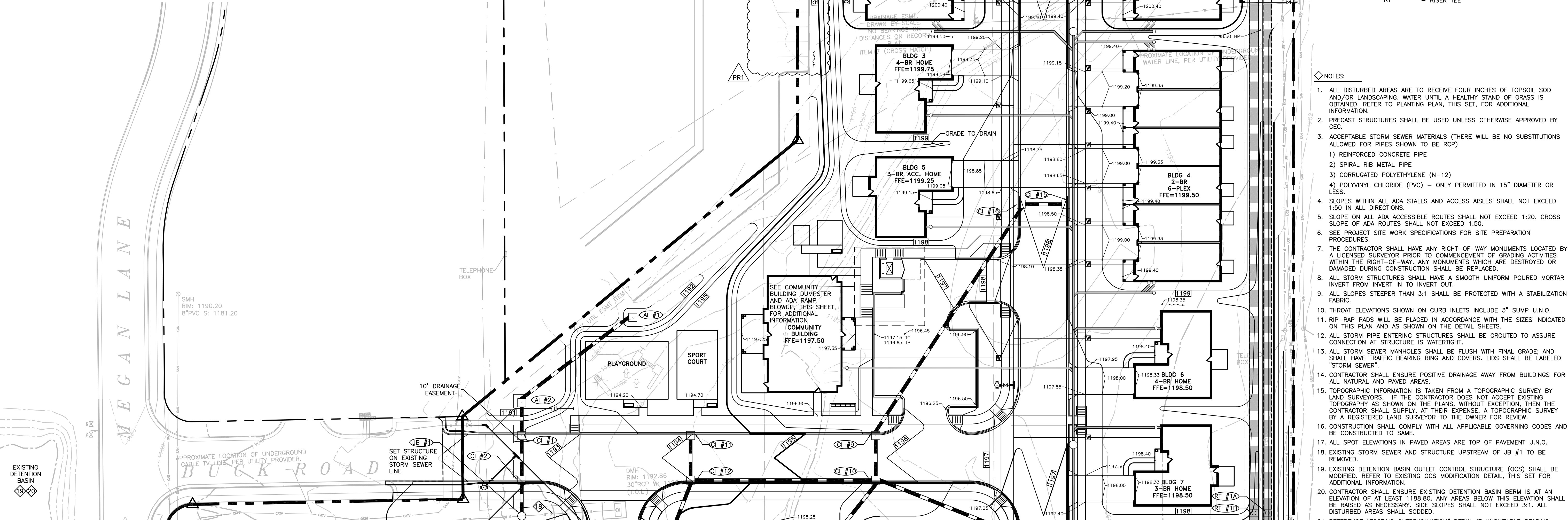
STORM DRAINAGE PIPE DATA									
FROM NODE		TO NODE		PIPE		AREA (AC)	Q _{DESIGN} (CFS)	Q _{CAPACITY} (CFS)	Velocity (FT/S)
ID	INV. ELEV.	ID	INV. ELEV.	LENGTH (FT)	Diameter (IN)				
AI 1	1188.75	AI 2	1188.02	84	15	0.89%	0.71	4.71	6.01
AI 2	1186.78	CI 1	1186.62	20	30	0.89%	5.42	32.63	36.76
CI 1	1186.62	CI 2	1186.41	27	30	0.78%	5.48	33.11	36.16
CI 2	1186.41	JB 1	1186.24	22	30	0.78%	5.85	36.07	36.26
HW 4	1191.17	RT #1A/B	1189.97	401	(2) 60	0.30%	70.8	312	309
RT #1A/B	1189.97	RT #2A/B	1188.72	416	(2) 60	0.30%	70.8	312	309
RT #2A/B	1188.72	HW #5	1188.00	241	(2) 60	0.30%	70.8	312	309
CI 3	1190.95	CI 4	1190.88	27	18	0.25%	0.49	4.77	5.25
CI 4	1190.38	CI 6	1190.01	150	24	0.25%	0.94	9.24	11.31
CI 6	1189.51	CI 8	1189.16	139	30	0.25%	1.46	14.44	20.51
CI 8	1189.16	CI 10	1188.93	94	30	0.25%	1.98	19.5	20.51
CI 10	1188.43	CI 12	1188.09	112	36	0.30%	3.54	33.54	36.53
CI 12	1188.09	CI 13	1187.81	95	36	0.30%	3.75	35.13	36.53
CI 13	1187.81	CI 14	1187.30	30	36	1.65%	4.06	37.57	85.67
CI 14	1187.30	HW 1	1185.00	140	36	1.65%	4.68	42.39	85.57
CI 5	1192.25	CI 6	1191.01	27	12	4.60%	0.26	2.58	7.64
CI 7	1192.90	CI 8	1190.41	27	15	9.21%	0.37	3.56	16.04
CI 15	1194.50	CI 16	1194.03	27	12	1.74%	0.42	4.17	4.71
CI 16	1193.78	CI 9	1190.91	165	15	1.74%	0.86	8.45	8.51
CI 9	1190.68	CI 10	1189.93	27	18	2.79%	1.20	11.24	17.54
AI 3	1190.75	CI 10	1190.43	57	12	0.57%	0.31	2.41	2.70
CI 11	1190.75	CI 12	1190.09	27	12	2.44%	0.09	0.72	4.85
HW #2	1184.50	HW #3	1184.25	73	48	0.34%	5.95	55.14	58.87

*DENOTES LINE IS A PUBLIC STORM SEWER. PUBLIC STORM SEWERS EXTENDING UNDER ROADWAYS SHALL BE RCP.
ALL OTHERS MAY BE RCP OR ADS N-12 DUAL WALL HDPE (N-0012) PIPE.

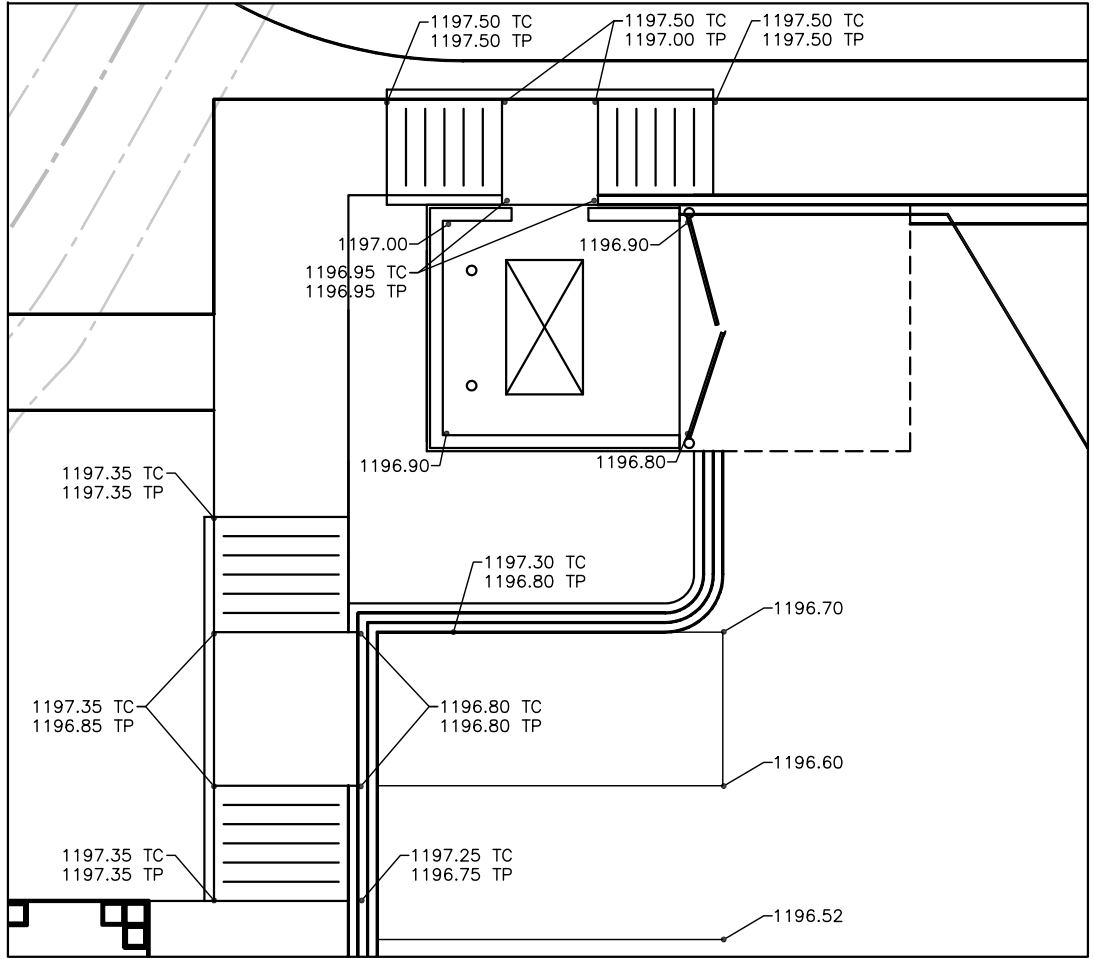
UNIFORM FOUNDATION BEARING REQUIREMENT
FOOTINGS FOR EACH STRUCTURE SHALL BEAR ON SIMILAR MATERIALS. IF DIFFERING MATERIALS EXIST AT THE BEARING ELEVATION, THEN THE AREA SHALL BE OVER-EXCAVATED AND BACKFILLED WITH AN ALLOWABLE MATERIAL. REFER TO THE FOUNDATION OVER-EXCAVATION DETAIL, THIS SET, FOR ADDITIONAL INFORMATION.
ADDITIONALLY, FOUNDATIONS SHALL EXTEND THROUGH THE IN SITU FILL MATERIAL TO NATURAL MATERIAL OR BEAR ON NEW COMPACTED AND DOCUMENTED STRUCTURAL FILL MATERIALS BEARING ON NATIVE SOILS.

BUILDING PAD SUBGRADE PREPARATION REQUIREMENT
CONTRACTOR SHALL PROVIDE A 2' THICK BUFFER OF LOW PLASTICITY STRUCTURAL FILL MATERIAL BELOW THE PROPOSED BUILDING. THE BUFFER SHALL EXTEND A MINIMUM OF 5 FEET BEYOND THE SLAB PERIMETER OR FULL WIDTH OF ADJOINING FLATWORK, WHICHEVER IS GREATER. REFER TO THE 02300 SPECIFICATION FOR ADDITIONAL REQUIREMENTS.

PAVEMENT AREAS SUBGRADE PREPARATION REQUIREMENT
WHERE FAT CLAYS ARE AT PROPOSED PAVEMENT SUBGRADE ELEVATION, CONTRACTOR SHALL PERFORM ONE OF THE FOLLOWING OPTIONS:
1. PROVIDE A 6" THICK BUFFER OF LOW PLASTICITY STRUCTURAL FILL MATERIAL BELOW THE PROPOSED PAVEMENT AREAS. THE BUFFER SHALL EXTEND A MINIMUM OF 2 FEET BEYOND THE PERIMETER OF THE PAVEMENT AREA.
2. THE IN SITU FAT CLAYS SHALL BE TREATED WITH CLASS "C" FLY ASH, PORTLAND CEMENT, OR LIME TO A MINIMUM DEPTH OF 6". CONTRACTOR SHALL PERFORM TESTING ON FIELD OBTAINED SAMPLES TO DETERMINE APPLICATION RATE IN ACCORDANCE WITH MODOT SPECIFICATIONS.
REFER TO THE 02300 SPECIFICATION FOR ADDITIONAL REQUIREMENTS.



MATCHLINE (SEE SHEET 2 OF 2)



COMMUNITY BUILDING DUMPSTER AND ADA RAMP BLOWUP
SCALE: 1"=10'

- NOTES:
- ALL DISTURBED AREAS ARE TO RECEIVE FOUR INCHES OF TOPSOIL SOD AND/OR LANDSCAPING WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. REFER TO PLANTING PLAN, THIS SET, FOR ADDITIONAL INFORMATION.
 - PRECAST STRUCTURES SHALL BE USED UNLESS OTHERWISE APPROVED BY CEC.
1) REINFORCED CONCRETE PIPE
2) SPIRAL RIB METAL PIPE
3) CORRUGATED POLYETHYLENE (N-12)
4) POLYVINYL CHLORIDE (PVC) - ONLY PERMITTED IN 15" DIAMETER OR LESS.
 - SLOPES WITHIN ALL ADA STALLS AND ACCESS AISLES SHALL NOT EXCEED 1:50 IN ALL DIRECTIONS.
 - SLOPE ON ALL ADA ACCESSIBLE ROUTES SHALL NOT EXCEED 1:20. CROSS SLOPE OF ADA ROUTES SHALL NOT EXCEED 1:50.
 - SEE PROJECT SITE WORK SPECIFICATIONS FOR SITE PREPARATION PROCEDURES.
 - THE CONTRACTOR SHALL HAVE ANY RIGHT-OF-WAY MONUMENTS LOCATED BY A LICENSED SURVEYOR PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES WITHIN THE RIGHT-OF-WAY. ANY MONUMENTS WHICH ARE DESTROYED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED.
 - ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
 - ALL SLOPES STEEPER THAN 3:1 SHALL BE PROTECTED WITH A STABILIZATION FABRIC.
 - THROAT ELEVATIONS SHOWN ON CURB INLETS INCLUDE 3" SUMP U.N.O.
 - RIP-RAP PADS WILL BE PLACED IN ACCORDANCE WITH THE SIZES INDICATED ON THIS PLAN AND AS SHOWN ON THE DETAIL SHEETS.
 - ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
 - ALL STORM SEWER MANHOLES SHALL BE FLUSH WITH FINAL GRADE; AND SHALL HAVE TRAFFIC BEARING RING AND COVERS. LIDS SHALL BE LABELED "STORM SEWER".
 - CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
 - TOPOGRAPHIC INFORMATION IS TAKEN FROM A TOPOGRAPHIC SURVEY BY LAND SURVEYORS. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
 - CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
 - ALL SPOT ELEVATIONS IN PAVED AREAS ARE TOP OF PAVEMENT U.N.O.
 - EXISTING STORM SEWER AND STRUCTURE UPSTREAM OF JB #1 TO BE REMOVED.
 - EXISTING DETENTION BASIN OUTLET CONTROL STRUCTURE (OCS) SHALL BE MODIFIED. REFER TO EXISTING OCS MODIFICATION DETAIL, THIS SET FOR ADDITIONAL INFORMATION.
 - CONTRACTOR SHALL ENSURE EXISTING DETENTION BASIN BERM IS AT AN ELEVATION OF AT LEAST 1188.80. ANY AREAS BELOW THIS ELEVATION SHALL BE RAISED AS NECESSARY. SIDE SLOPES SHALL NOT EXCEED 3:1. ALL DISTURBED AREAS SHALL SODDED.
 - REFERENCE "FOOTING OVEREXCAVATION" DETAIL IF UNSUITABLE BEARING SOILS ARE ENCOUNTERED IN FOOTING EXCAVATIONS, FOR ADDITIONAL INFORMATION.

LEGEND

- PROPERTY LINE
- STORM SEWER
- CURB INLET/AREA INLET
- HEADWALL
- RIP-RAP
- SPOT ELEVATION
- HIGH POINT
- TOP OF CURB
- TOP OF GROUND
- TOP OF PAVEMENT
- FLOW ARROW
- RISER TEE

NO	REVISIONS
PR1	PLAN REVISION #1 4/26/23

Cottages at Generation Village, LP
3556 S. CUIPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

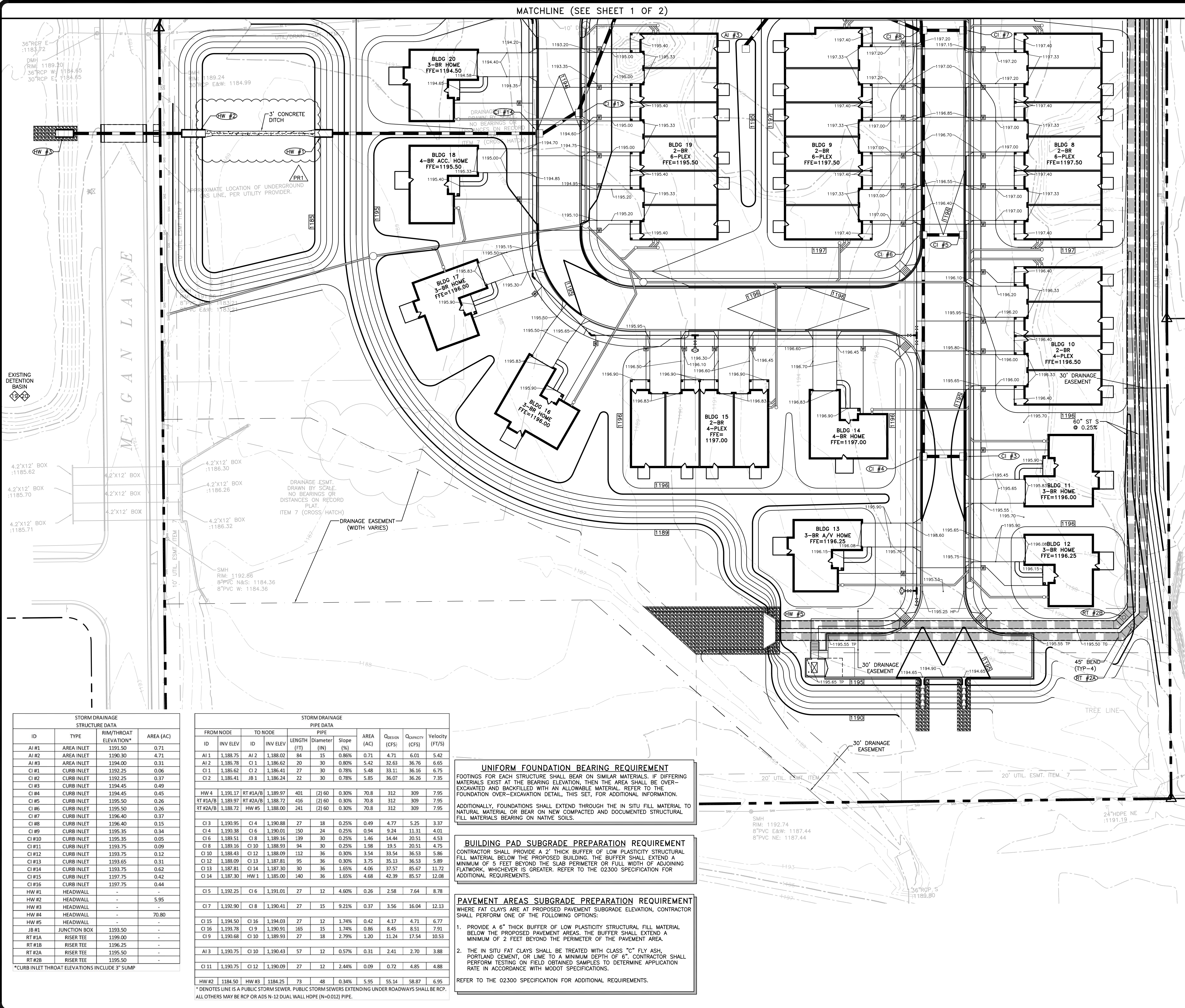
GRADING PLAN (SHEET 1 OF 2)

COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON CONSULTING ENGINEERS, INC.
1088 Ledgestone Commons
Barnett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Missouri Licensed Engineering Firm #00060899



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DATE
04/06/2023
SCALE
1"=30'
JOB No.
N/A
SHEET
11 OF 32



NO		REVISIONS
PR1		PLAN REVISION #1 4/26/23

Cottages at Generation Village, LP

3556 S. CUIPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

GRADING PLAN (SHEET 2 OF 2)

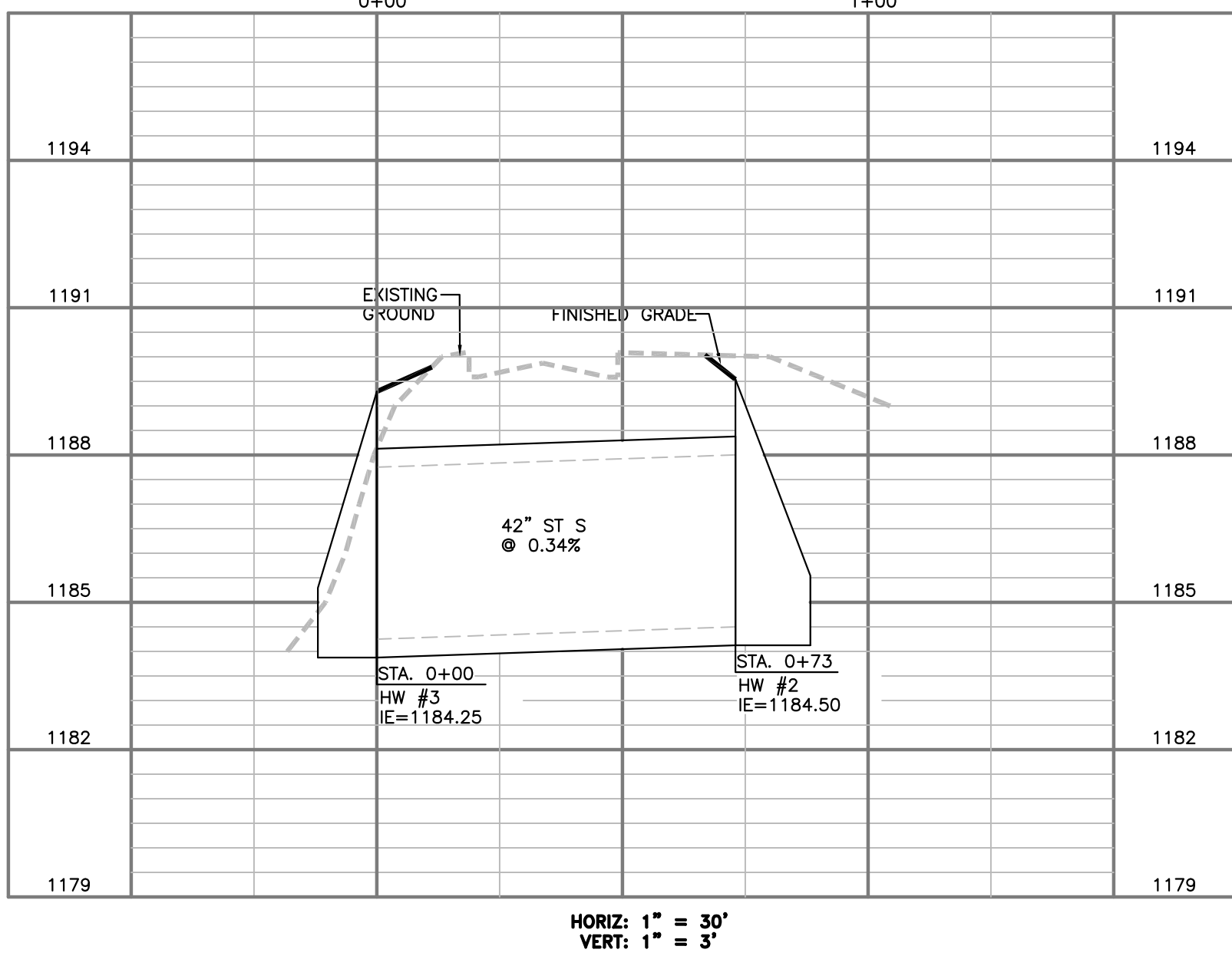
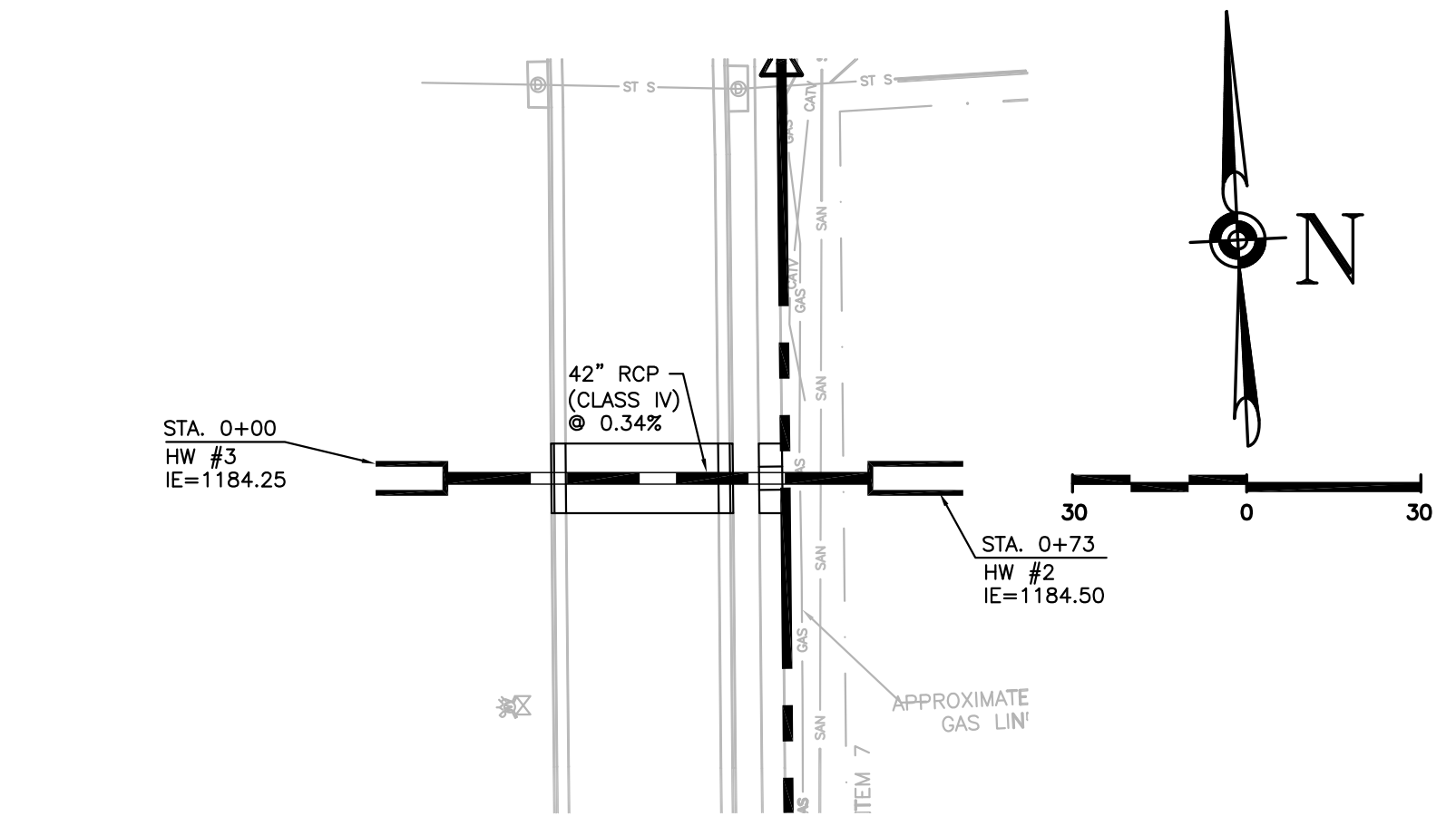
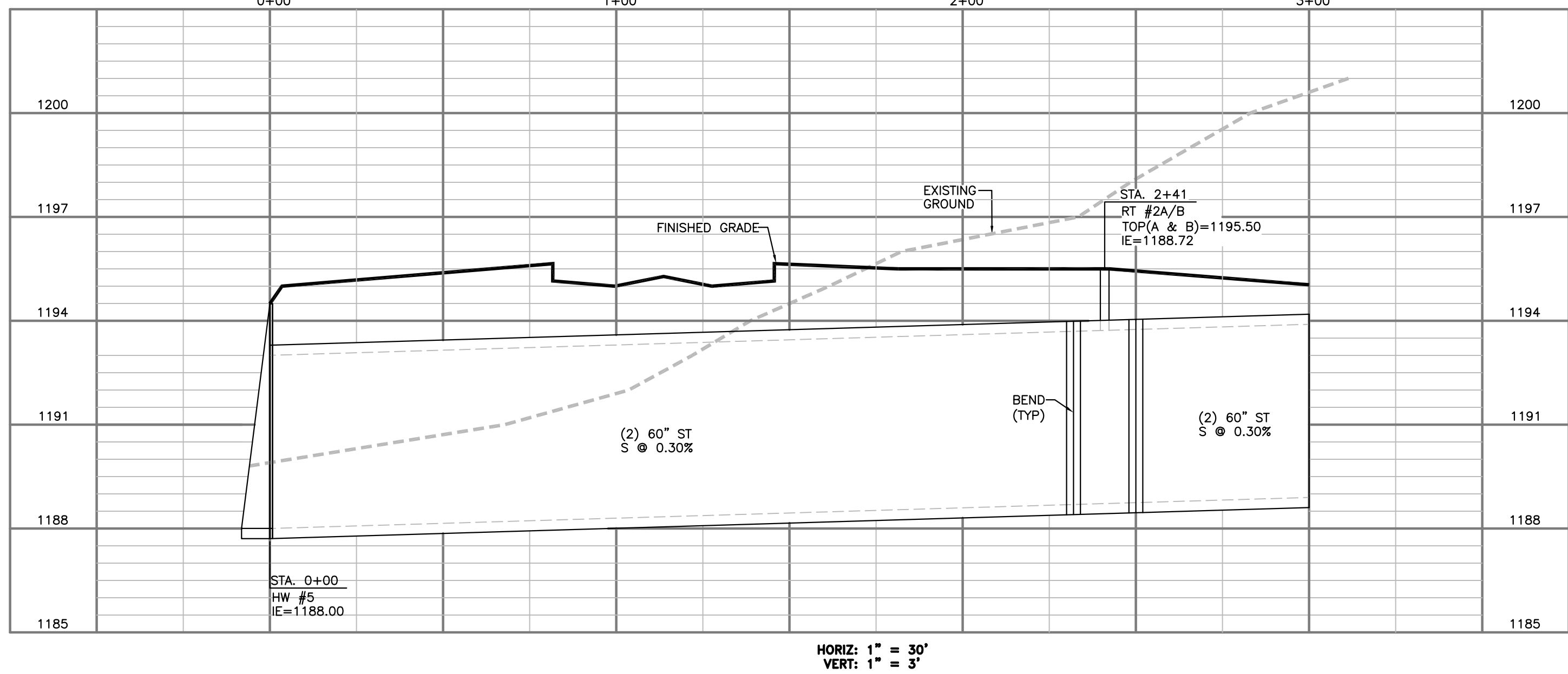
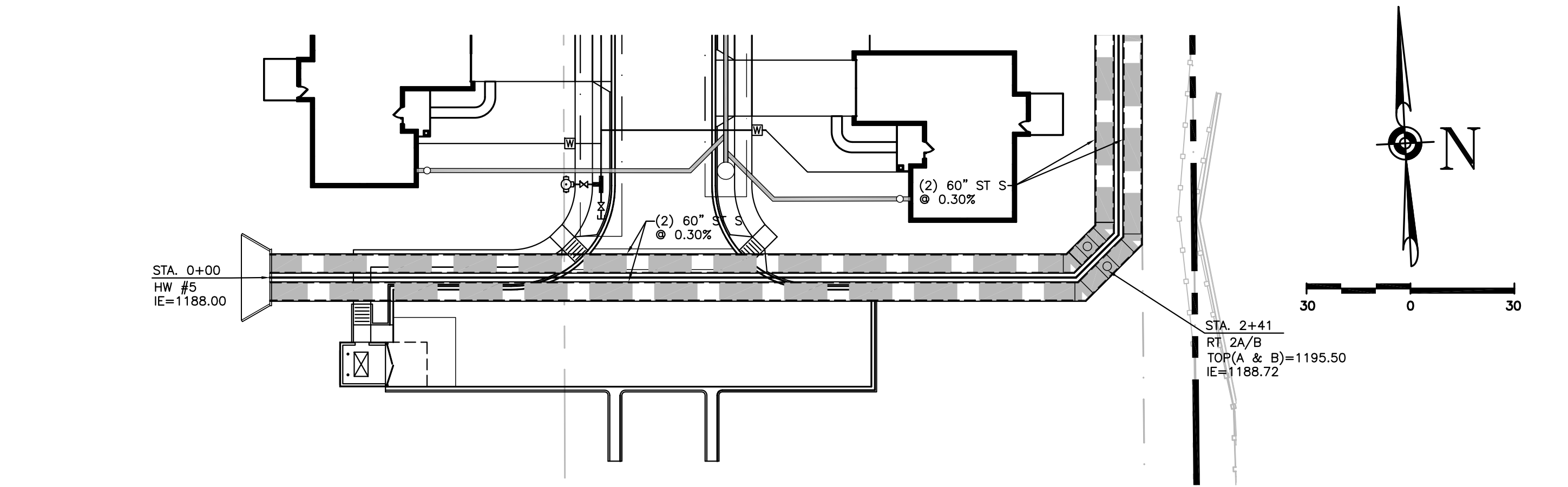
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON CONSULTING ENGINEERS, INC.

1708 Ledgestone Commons
Bartlett, TN 38133
Phone (601) 384-0404
Fax (601) 384-0710
Missouri Licensed Engineering Firm #200600899



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JOB No.	N/A
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- LEGEND**
- PROPERTY LINE
 - FIRE HYDRANT
 - GATE VALVE
 - TEE
 - BEND
 - WATER LINE (6" OR GREATER)
 - WATER LINE (LESS THAN 6")

- NOTES**
- ALL DESIGN, CONSTRUCTION AND MATERIAL SHALL BE IN COMPLIANCE WITH CITY OF WILLARD SPECIFICATIONS AND STANDARDS.
 - ALL NEWLY CUT AND/OR FILL AREAS LACKING ADEQUATE VEGETATION SHALL BE SEED, AND/OR SODDED, FERTILIZED, AND MULCHED AS REQUIRED TO EFFECTIVELY PREVENT SOIL EROSION.
 - THE CONTRACTOR SHALL NOT ENTER UPON, WORK UPON NOR CAUSE DAMAGE TO ANY ADJACENT PROPERTIES WITHOUT PRIOR PERMISSION FROM SAID PROPERTY OWNERS.
 - ALL FILL AND/OR TRENCH BACKFILL SHALL BE COMPACTED AS PER THE SPECIFICATIONS.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY UTILITY COMPANY WHICH MAINTAINS A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO THE INITIATION OF ANY CONSTRUCTION ON THE PROJECT. THE CONTRACTOR SHALL ALSO ASSUME THE RESPONSIBILITY FOR ANY DAMAGE INCURRED BY ANY UTILITY COMPANY TO THEIR UTILITY LINES, WHETHER SHOWN ON THE CONSTRUCTION PLANS OR NOT, DURING WORK ON THE PROJECT.
 - THE CONTRACTOR MUST HAVE WRITTEN APPROVAL FROM THE CITY OF WILLARD'S PUBLIC UTILITIES DEPARTMENT AND THE PROJECT ENGINEER BEFORE ANY CHANGE IN DESIGN IS MADE.
 - MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION AT ALL WATER AND SEWER CROSSINGS.

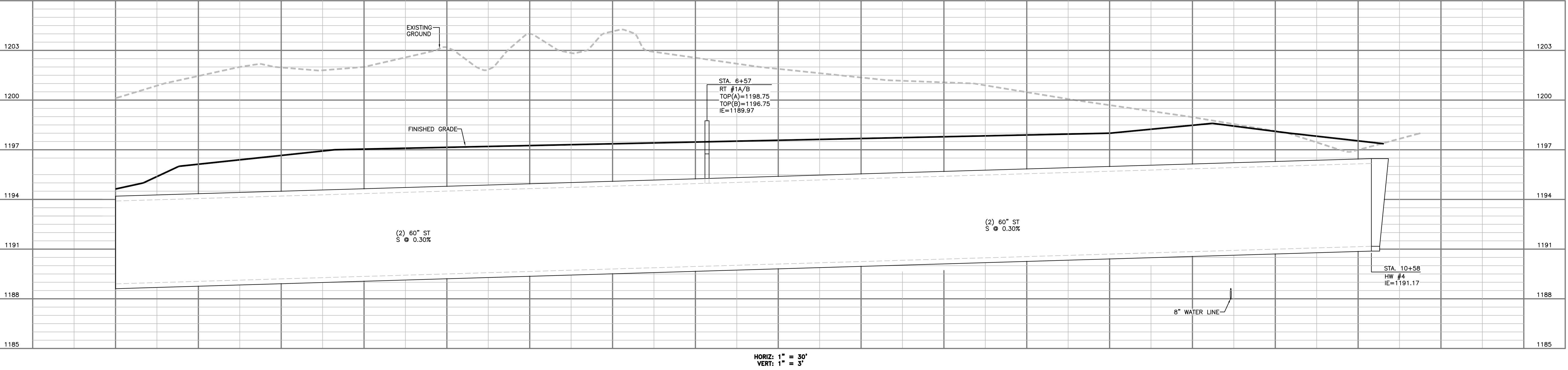
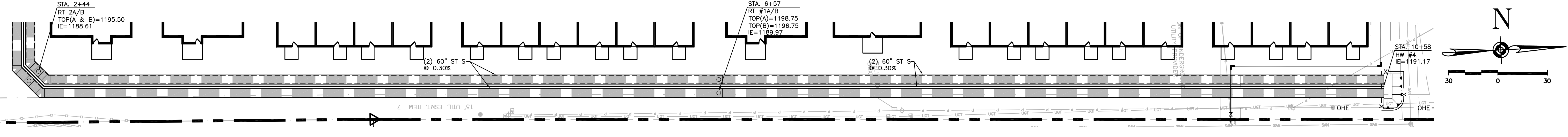
FINAL STORM SEWER ACCEPTANCE REQUIREMENTS

- THE DESIGN ENGINEER IS REQUIRED TO PROVIDE CERTIFICATION THAT THE SEWER SYSTEM HAS BEEN INSTALLED AS PER THE PLANS AND SPECIFICATIONS PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR MUST ADHERE TO THE FOLLOWING REQUIREMENTS IN ORDER FOR THE ENGINEER TO PROVIDE THE REQUIRED CERTIFICATION.
- PERFORM ALL TESTING AND INSPECTIONS AS REQUIRED BY HANCOCK COUNTY AND PROJECT SPECIFICATIONS.
 - PROVIDE WRITTEN RESULTS, OF ALL REQUIRED TESTS AND INSPECTIONS TO THE ENGINEER.
 - PROVIDE AN AS-BUILT SURVEY OF THE STORM SEWER SYSTEM IMPROVEMENTS, CERTIFIED BY A LICENSED SURVEYOR AND WHICH SHOWS BOTH HORIZONTAL AND VERTICAL ALIGNMENT AND MEETS ALL REQUIREMENTS OF HANCOCK COUNTY, TO THE ENGINEER.



CAUTION — NOTICE TO CONTRACTOR

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 AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES, APPURTENANCES AND IMPROVEMENTS WHICH CONFLICT WITH THE IMPROVEMENTS SHOWN BY THESE PLANS.



NO	REVISIONS

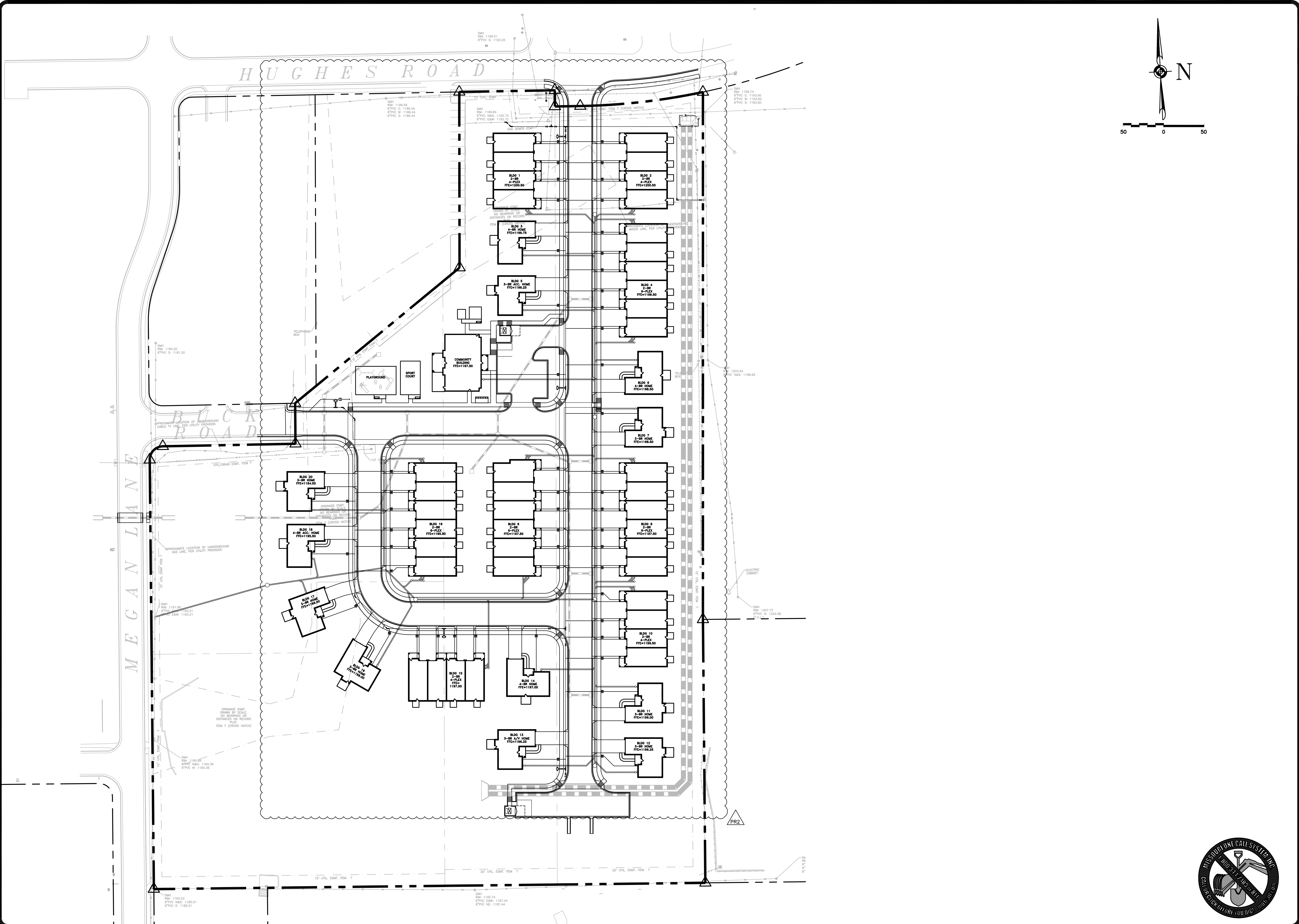
Cottages at Generation Village, LP
3556 S. CUIPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 892-1701

STORM SEWER PLAN & PROFILE
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON CONSULTING ENGINEERS, INC.
1088 Ledgestone Commons
Bartlett, TN 38133
Phone (601) 384-0404
Fax (601) 384-0710
Missouri Licensed Engineering Firm #200600899



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13 OF 32



NO	REVISIONS
PR2	PLAN REVISION #2 9/20/23

OVERALL UTILITY PLAN

COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

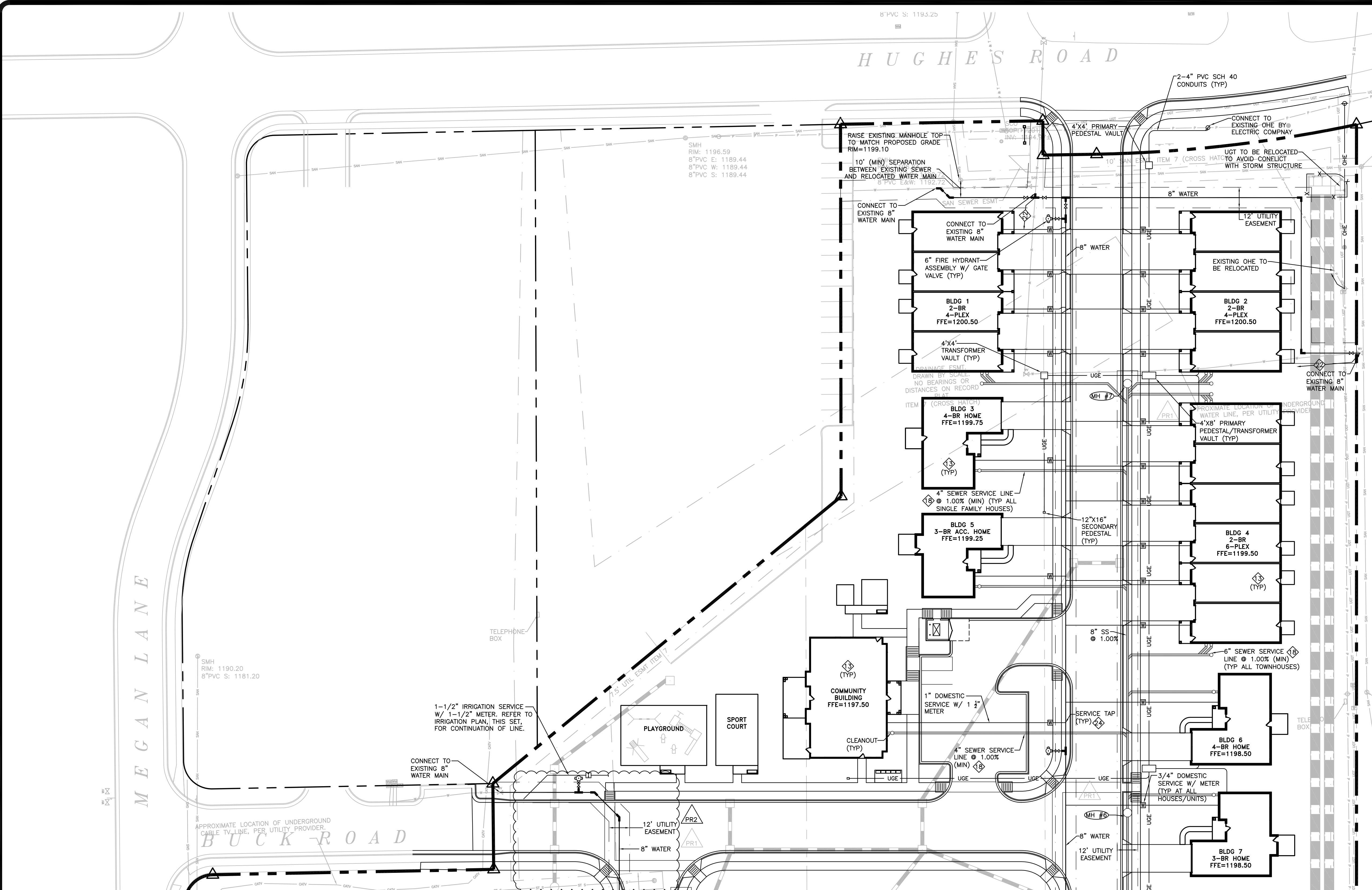
Cottages at Generation Village, LP

3556 S. CUIPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 892-1701



DRAWN	ACP
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DATE	04/06/2023
SCALE	1"=50'
JOB No.	N/A
SHEET	14 OF 32





SITE DATA
PURCHASE PARCEL 12.08 AC

LEGEND

- PROPERTY LINE
- SANITARY SEWER
- MANHOLE (MH)
- CLEANOUT
- FIRE HYDRANT ASSEMBLY
- WATER METER
- IRRIGATION METER
- GATE VALVE (GV)
- WATER LINE (6" OR GREATER)
- WATER LINE (6" OR LESS)

- NOTES:**
- ALL UTILITIES SHALL BE INSTALLED IN A TRENCH CONDITION IN ACCORDANCE WITH THE UTILITY TRENCHING DETAIL, THIS SET.
 - CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS A MINIMUM OF 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE. CONSTRUCTION SHALL NOT START ON ANY PUBLIC UTILITY SYSTEM UNTIL WRITTEN APPROVAL HAS BEEN RECEIVED FROM APPROPRIATE UTILITY COMPANIES AND CONTRACTOR HAS BEEN NOTIFIED.
 - SANITARY SEWER PIPE MATERIAL SHALL BE IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS.
 - WATER LINE PIPE MATERIAL SHALL BE IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS.
 - MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
 - REFER TO WATER/SEWER CROSSING REQUIREMENTS DETAIL, THIS SET, FOR MINIMUM SEPERATION REQUIREMENTS.
 - CONTRACTOR SHALL MAINTAIN MINIMUM BURIAL DEPTHS AS REQUIRED BY THE UTILITY PROVIDER AND THE PROJECT SPECIFICATIONS.
 - SEE SURVEY FOR DESCRIPTION OF EXISTING EASEMENTS.
 - LINE UNDERGROUND SHALL BE INSTALLED, INSPECTED AND APPROVED BEFORE BACKFILLING.
 - TOPS OF EXISTING MANHOLES SHALL BE ADJUSTED AS NECESSARY TO BE FLUSH WITH FINAL GRADE. CONTRACTOR SHALL PROVIDE ADEQUATE COMPACTION AND BACKFILL, IF NECESSARY, IN ACCORDANCE WITH THE SPECIFICATIONS AFTER IMPROVEMENTS MADE BY UTILITY COMPANY.
 - CONTRACTOR SHALL PROVIDE ADEQUATE COMPACTION AND BACKFILL, IF NECESSARY, IN ACCORDANCE WITH THE SPECIFICATIONS AFTER IMPROVEMENTS ARE MADE BY UTILITY COMPANY.
 - EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
 - REFER TO INTERIOR PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES. CONTRACTOR SHALL REVIEW BOTH PLAN SETS PRIOR TO BEGINNING WORK AND ALERT OWNER IF ANY HORIZONTAL AND/OR VERTICAL DISCREPANCIES ARE IDENTIFIED.
 - CONTRACTOR IS RESPONSIBLE FOR COMPLYING TO THE SPECIFICATIONS OF THE CITY OF WILLARD WITH REGARDS TO MATERIALS AND INSTALLATION OF THE WATER AND SEWER LINES.
 - 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, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY UTILITY COMPANY WHICH MAINTAINS A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO THE START OF CONSTRUCTION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY FOR ANY DAMAGE, INCURRED BY ANY UTILITY COMPANY, TO THEIR LINES AS A RESULT OF HIS ACTIVITIES, WHETHER THESE LINES ARE SHOWN ON THE CONSTRUCTION PLANS OR NOT.
 - CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES. THIS AND THE FINAL CONNECTIONS OF THE SERVICE SHALL BE COMPLETED 30 DAYS PRIOR TO SUBSTANTIAL COMPLETION.
 - CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS. ALL UTILITY CONSTRUCTION SHALL CONFORM WITH THE MOST STRINGENT REQUIREMENTS OF THE UTILITY COMPANY OR THE SITEWORK SPECIFICATIONS.
 - ALL SEWER LATERALS SHALL BE CONSTRUCTED AT A 1.00% MINIMUM SLOPE. INVERTS ON CLEANOUTS MAY BE LOWERED AS LONG AS MINIMUM SLOPES ARE MAINTAINED WITH A MINIMUM COVER OF 2.50'.
 - CONTRACTOR SHALL VERIFY AS-BUILT INVERT ELEVATION AND ADVISE ENGINEER OF ANY DISCREPANCIES.
 - CONTRACTOR SHALL NOT OPEN, TURN OFF, INTERFERE WITH, OR ATTACH ANY PIPE OR HOSE TO OR TAP ANY WATER MAIN BELONGING TO THE CITY UNLESS DULY AUTHORIZED TO DO SO BY THE CITY. ANY ADVERSE CONSEQUENCES OF ANY SCHEDULED OR UNSCHEDULED DISRUPTIONS OF SERVICE TO THE PUBLIC ARE TO BE THE LIABILITY OF THE CONTRACTOR.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING CONDUIT FOR UNDERGROUND UTILITIES AS PER THE UTILITY COMPANY REQUIREMENTS.
 - EXISTING WATER MAIN TO BE REMOVED TO LIMITS SHOWN.
 - ALL WATER LINES SHALL BE CTS C900 PIPE PER CITY OF WILLARD PUBLIC WORKS REQUIREMENTS.
 - DOUBLE CHECK VALVE REQUIRED AT ALL METER SETTERS PER CITY OF WILLARD PUBLIC WORKS REQUIREMENTS.
 - ALL SEWER LINES SHALL BE SDR 35 PVC OR APPROVED EQUAL AS APPROVED BY THE CITY OF WILLARD PUBLIC WORKS DEPARTMENT.
 - INSTALL TRACER WIRES ON ALL WATER AND SEWER LINES, INCLUDING LATERALS PER CITY OF WILLARD PUBLIC WORKS REQUIREMENTS.
 - FULL DEPTH GRANULAR BACKFILL SHALL BE PROVIDED FOR ALL WATER AND SEWER MAINS UNDER PAVED AREAS IN ACCORDANCE WITH CITY OF WILLARD REQUIREMENTS.

SEWER MANHOLE DATA TABLE			
MH #1 RIM=1194.50 IE(8" IN)=1185.32 IE(8" OUT)=1185.22	MH #2 (DROP MH) RIM=1195.00 IE(8" IN-SE)=1187.90 IE(8" IN-N)=1186.00 IE(8" OUT)=1185.90	MH #3 RIM=1195.50 IE(8" IN)=1188.24 IE(8" OUT)=1188.14	MH #4 RIM=1196.05 IE(8" IN)=1189.14 IE(8" OUT)=1189.04
MH #5 RIM=1195.75 IE(8" OUT)=1189.96	MH #6 RIM=1197.50 IE(8" IN)=1191.49 IE(8" OUT)=1191.39	MH #7 RIM=1199.20 IE(8" OUT)=1194.00	MH #8 RIM=1194.00 IE(8" OUT)=1186.52

NOTICE TO CONTRACTOR
IMMEDIATELY UPON AWARD OF PROJECT, CONTRACTOR SHALL CONTACT THE UTILITY COMPANIES TO PROVIDE ADEQUATE LEAD TIME AND TO COORDINATE THE INSTALLATION OF THE RESPECTIVE UTILITIES.

NO	REVISIONS
PR1	PLAN REVISION #1 4/26/23
PR2	PLAN REVISION #2 9/20/23

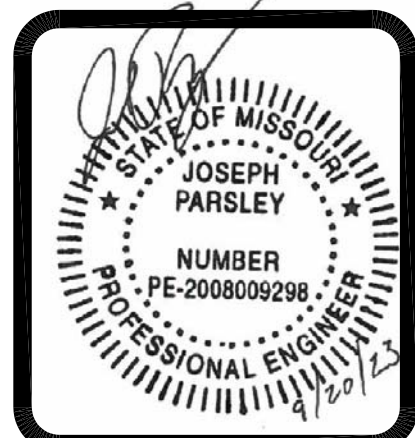
Cottages at Generation Village, LP

UTILITY PLAN (SHEET 1 OF 2)

COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

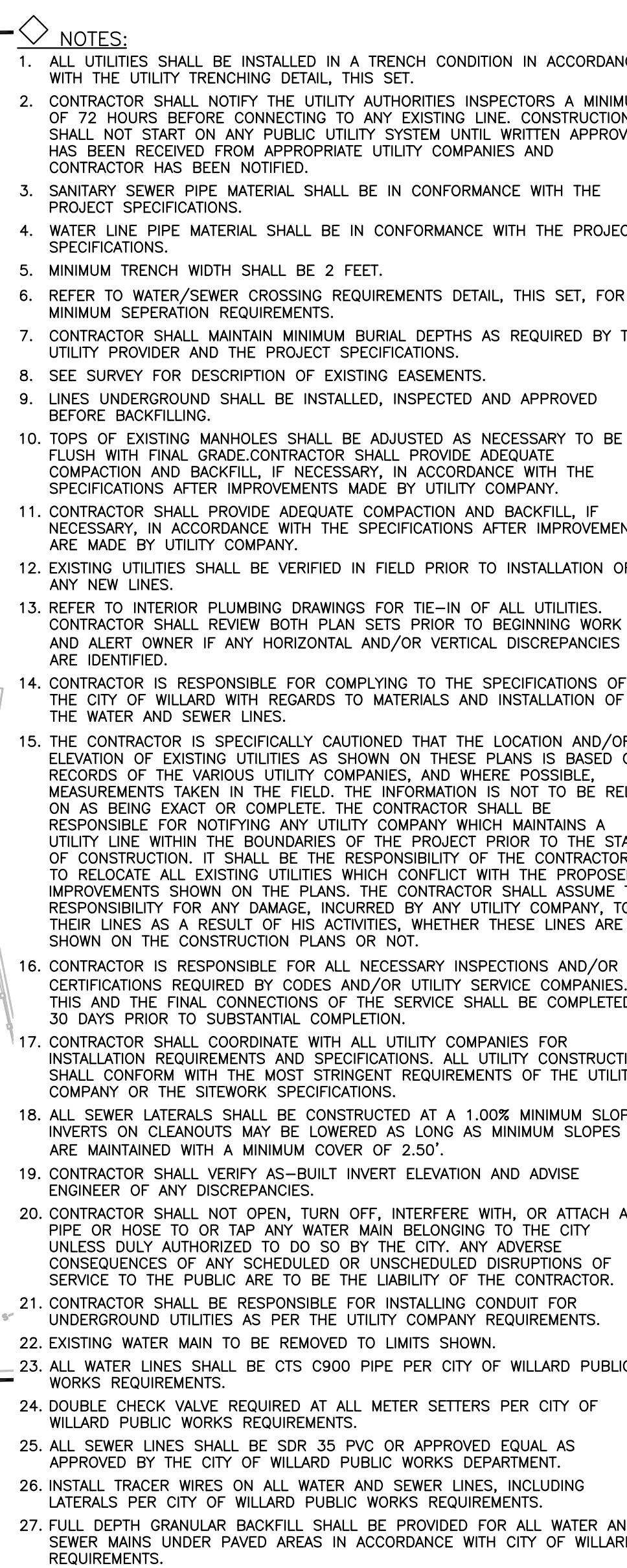
CARLSON CONSULTING ENGINEERS, INC.

1088 Lechstone Commons
Barnett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Missouri Licensed Engineering Firm #200600899



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DATE 04/06/2023
SCALE 1"=30'
JOB No. N/A
SHEET 15 OF 32





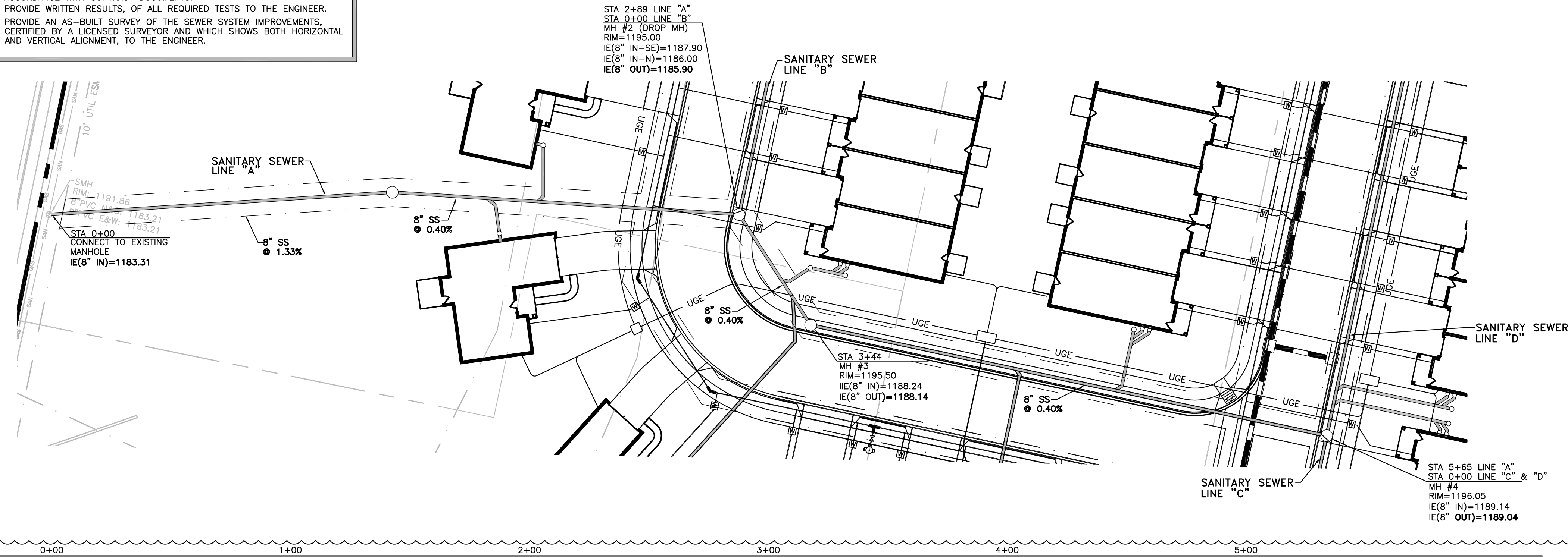
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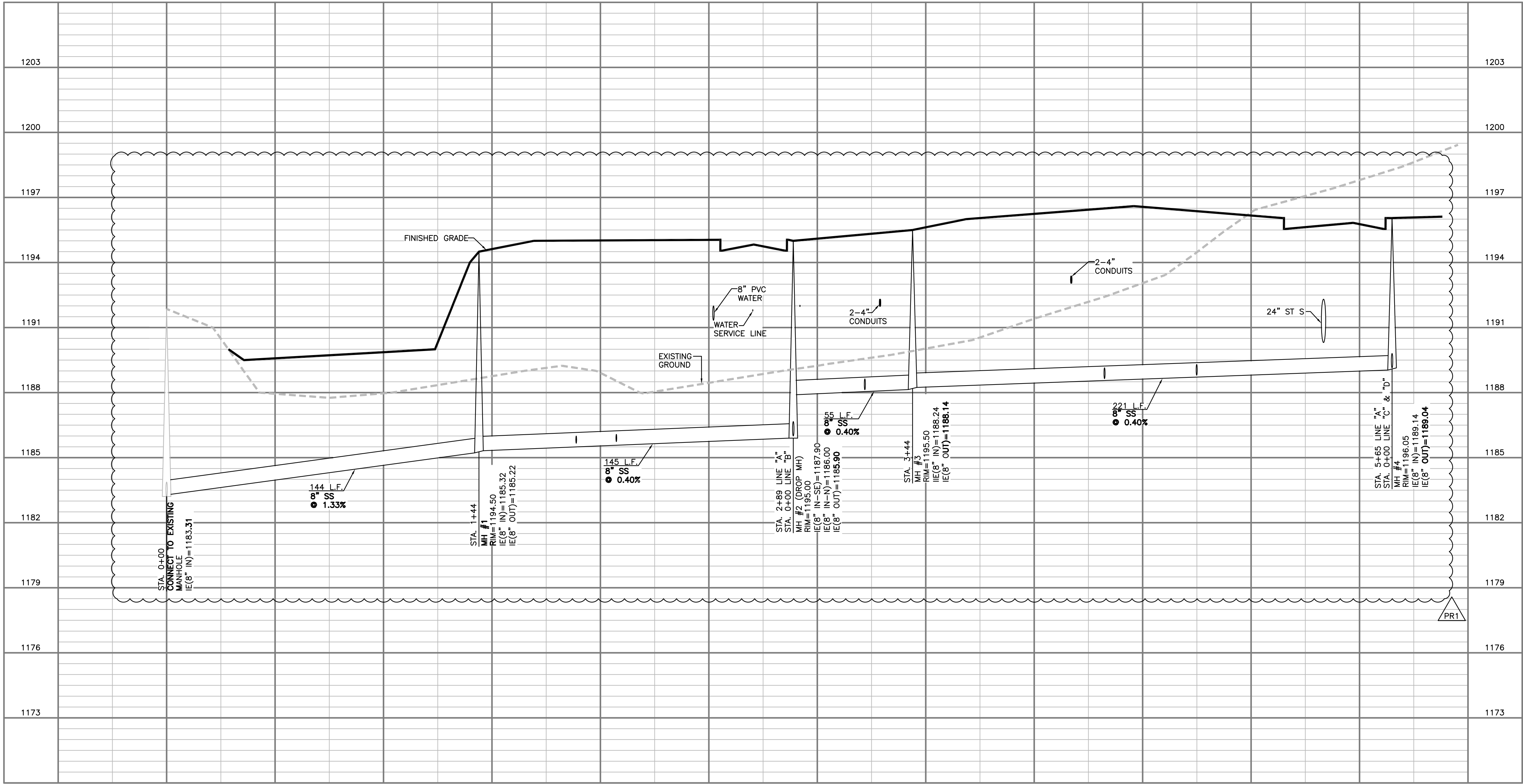
SEWER LINE PERMIT REQUIREMENTS
THE DESIGN ENGINEER IS REQUIRED TO PROVIDE CERTIFICATION THAT THE SEWER SYSTEM HAS BEEN INSTALLED AS PER THE PLANS AND SPECIFICATIONS PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR MUST ADHERE TO THE FOLLOWING REQUIREMENTS IN ORDER FOR THE ENGINEER TO PROVIDE THE REQUIRED CERTIFICATION.

1. PROVIDE BACKFILL DENSITY TEST RESULTS, AS TAKEN BY THE OWNER'S ON SITE TESTING LABORATORY, TO THE ENGINEER.
2. PERFORM REQUIRED FINAL EXFILTRATION AND DEFLECTION TESTS IN ACCORDANCE WITH CONTRACT DOCUMENTS.
3. PROVIDE WRITTEN RESULTS, OF ALL REQUIRED TESTS TO THE ENGINEER.
4. PROVIDE AN AS-BUILT SURVEY OF THE SEWER SYSTEM IMPROVEMENTS, CERTIFIED BY A LICENSED SURVEYOR AND WHICH SHOWS BOTH HORIZONTAL AND VERTICAL ALIGNMENT, TO THE ENGINEER.



- LEGEND**
- PROPERTY LINE
 - SANITARY SEWER PIPE
 - SANITARY SEWER MANHOLE
- NOTES**
1. ALL DESIGN, CONSTRUCTION AND MATERIAL SHALL BE IN COMPLIANCE WITH THE CITY OF VERSAILLES SPECIFICATIONS AND REQUIREMENTS.
 2. ALL NEWLY CUT AND/OR FILL AREAS WITHIN THE ROW LACKING ADEQUATE VEGETATION SHALL BE FERTILIZED, SODDED AND WATERED AS REQUIRED TO EFFECTIVELY PREVENT SOIL EROSION.
 3. THE CONTRACTOR SHALL NOT ENTER UPON, WORK UPON NOR CAUSE DAMAGE TO ANY ADJACENT PROPERTIES WITHOUT PRIOR PERMISSION FROM SAID PROPERTY OWNER(S).
 4. ALL FILL AND/OR TRENCH BACKFILL SHALL BE COMPACTED AS PER THE PROJECT SPECIFICATIONS.
 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY UTILITY COMPANY WHICH MAINTAINS A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO THE INITIATION OF ANY CONSTRUCTION ON THE PROJECT. THE CONTRACTOR SHALL ALSO ASSUME THE RESPONSIBILITY FOR ANY DAMAGE INCURRED BY ANY UTILITY COMPANY TO THEIR UTILITY LINES, WHETHER SHOWN ON THE CONSTRUCTION PLANS OR NOT, DURING WORK ON THE PROJECT.
 6. THE CONTRACTOR MUST HAVE WRITTEN APPROVAL FROM THE CITY ENGINEER AND THE PROJECT ENGINEER BEFORE ANY CHANGE IN DESIGN IS MADE.
 7. CONTRACTOR SHALL SCHEDULE CONSTRUCTION ACTIVITIES WHICH AFFECT NEIGHBORING PROPERTY OWNER'S ACCESS ONTO PUBLIC ROADWAYS WITH PROPERTY OWNER. ALL EFFORTS SHOULD BE MADE TO AVOID COMPLETELY BLOCKING ACCESS TO OR FROM DRIVE AT ANY TIME.
 8. THE CONTRACTOR SHALL HAVE ANY ROW MONUMENTS LOCATED BY A LICENSED SURVEYOR PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES IN THE ROW. ANY MONUMENTS WHICH ARE DESTROYED DURING CONSTRUCTION SHALL BE REPLACED BY SAME.
 9. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
 10. REFER TO THE UTILITY PLAN AND SANITARY SEWER PLAN AND PROFILE SHEETS, THIS SET, FOR ADDITIONAL INFORMATION ON UTILITIES WITHIN THE RIGHT-OF-WAY.
 11. ALL DELTA ANGLES ARE 90° U.N.O.

CAUTION -- NOTICE TO CONTRACTOR
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HORIZ: 1" = 30'
VERT: 1" = 3'

REVISIONS	
NO	PLAN REVISION #1
PR1	4/26/23

Cottages at Generation
Village, LP
3556 S. CUIPEPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

**SANITARY SEWER PLAN
& PROFILE - LINE "A"**
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON CONSULTING ENGINEERS, INC.
1088 Ledgestone Commons
Bartlett, TN 38133
Phone (601) 384-0404
Fax (601) 384-0710
Missouri Licensed Engineering Firm #200600899

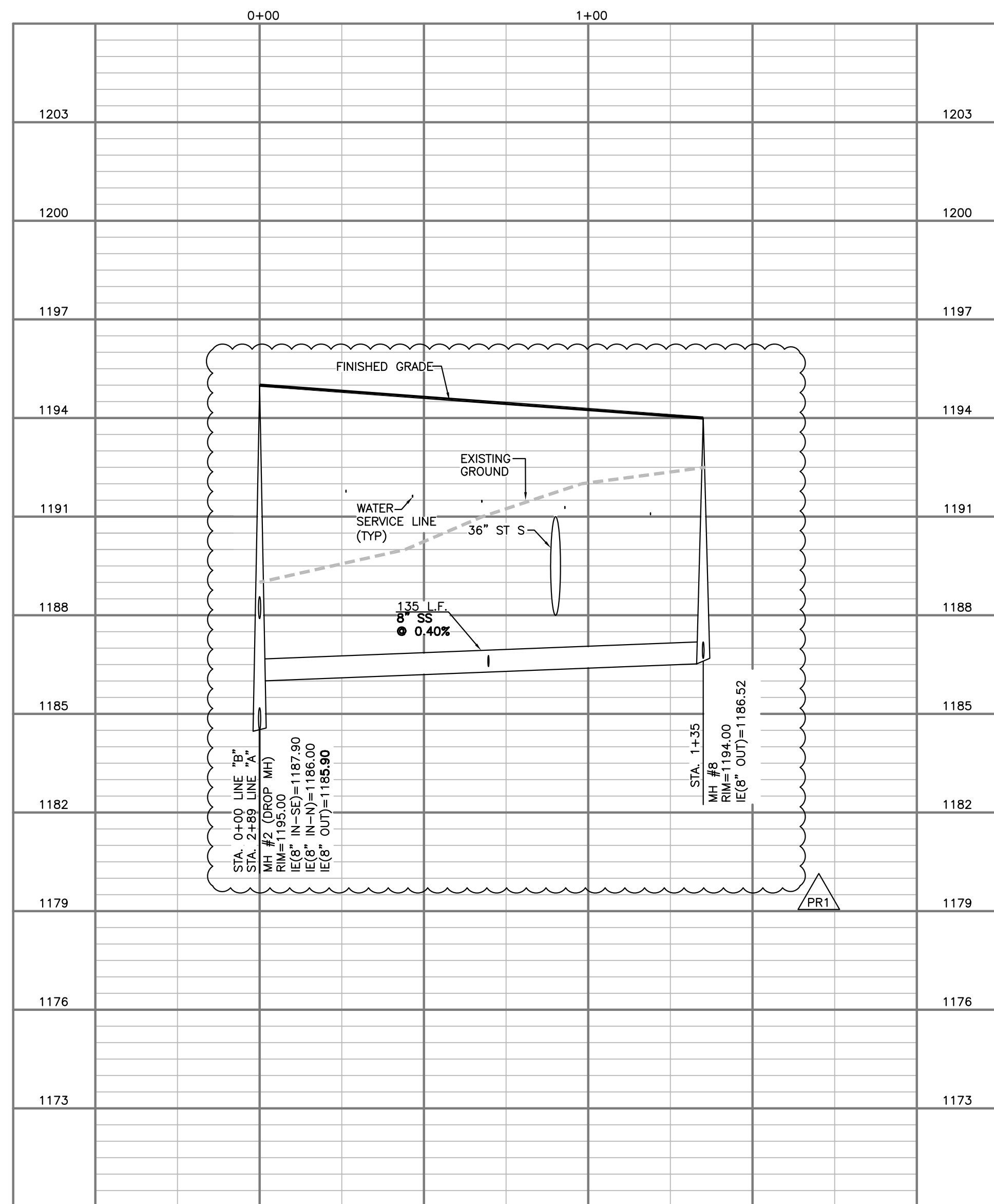
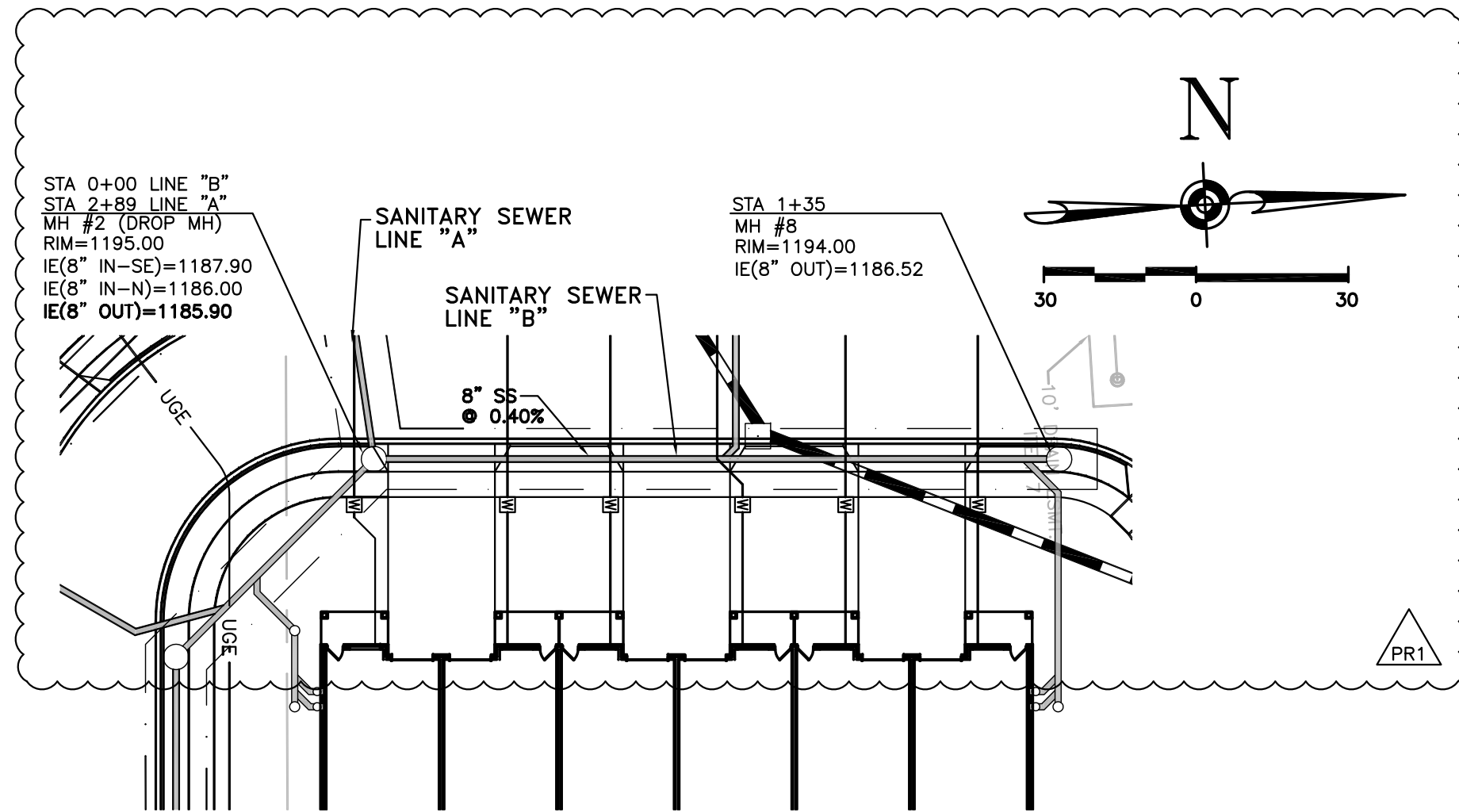


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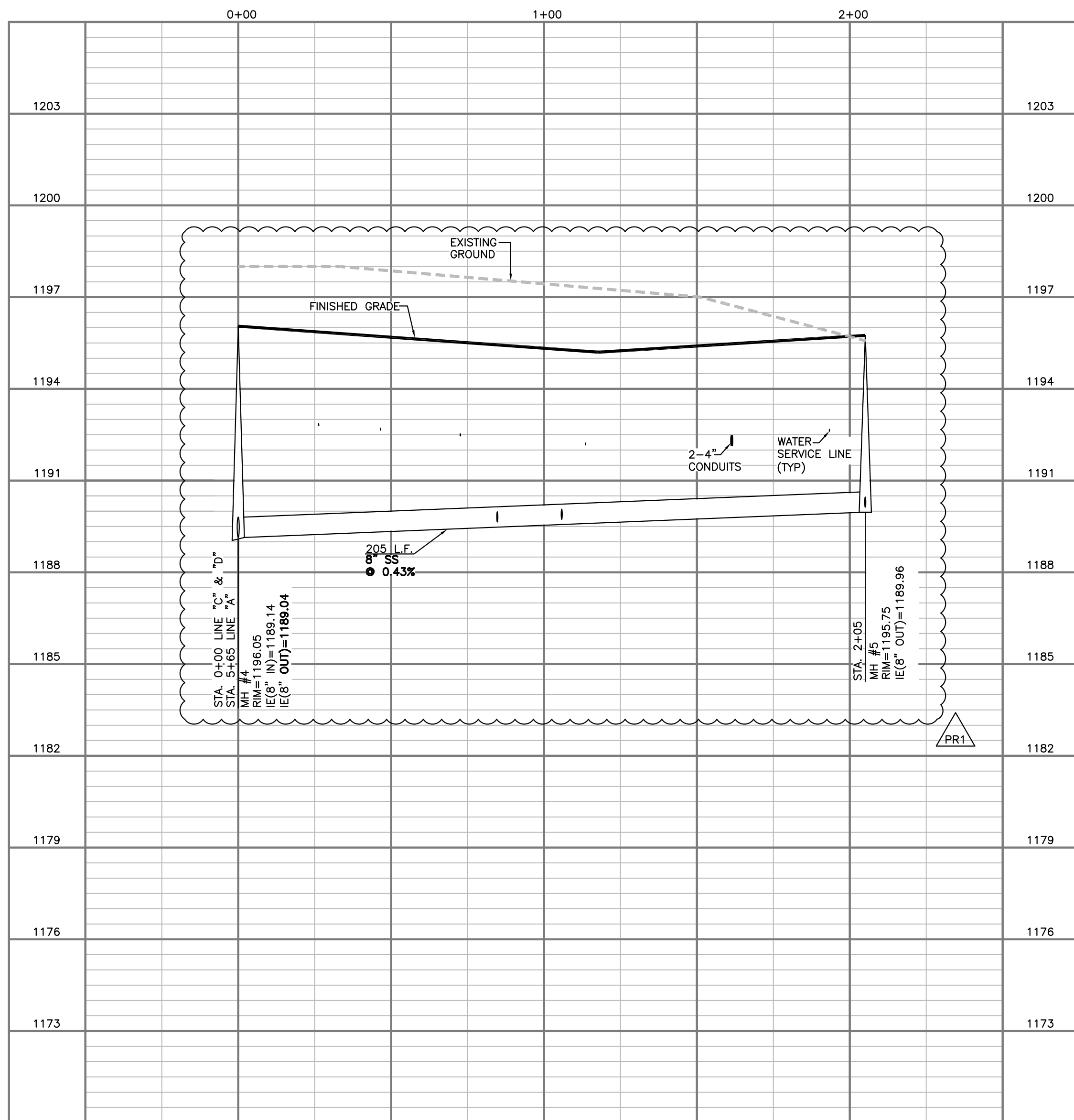
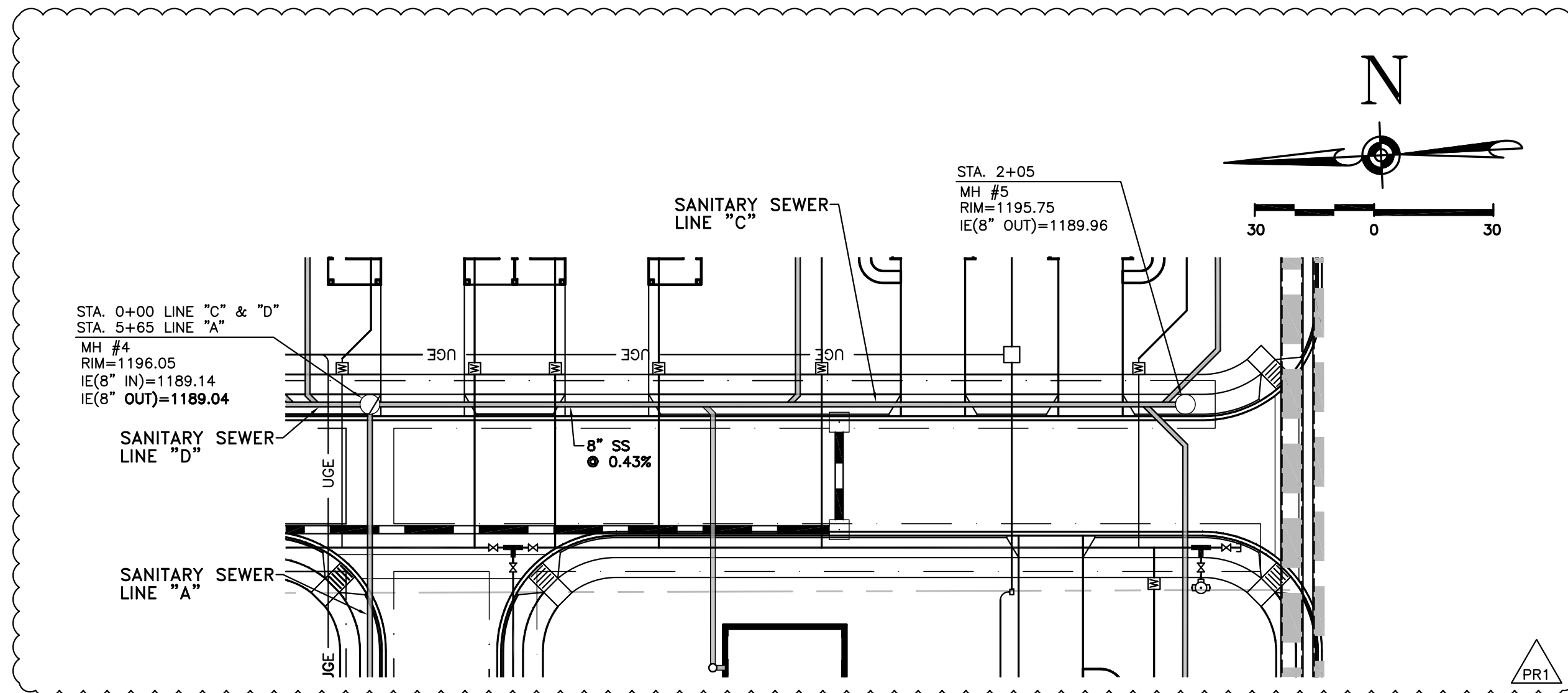
SEWER LINE PERMIT REQUIREMENTS

THE DESIGN ENGINEER IS REQUIRED TO PROVIDE CERTIFICATION THAT THE SEWER SYSTEM HAS BEEN INSTALLED AS PER THE PLANS AND SPECIFICATIONS PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR MUST ADHERE TO THE FOLLOWING REQUIREMENTS IN ORDER FOR THE ENGINEER TO PROVIDE THE REQUIRED CERTIFICATION.

1. PROVIDE BACKFILL DENSITY TEST RESULTS, AS TAKEN BY THE OWNER'S ON SITE TESTING LABORATORY, TO THE ENGINEER.
2. PERFORM REQUIRED FINAL EXFILTRATION AND DEFLECTION TESTS IN ACCORDANCE WITH CONTRACT DOCUMENTS.
3. PROVIDE WRITTEN RESULTS, OF ALL REQUIRED TESTS TO THE ENGINEER.
4. PROVIDE AN AS-BUILT SURVEY OF THE SEWER SYSTEM IMPROVEMENTS, CERTIFIED BY A LICENSED SURVEYOR AND WHICH SHOWS BOTH HORIZONTAL AND VERTICAL ALIGNMENT, TO THE ENGINEER.



HORIZ: 1" = 30'
VERT: 1" = 3'



HORIZ: 1" = 30'
VERT: 1" = 3'

LEGEND

- - - - - PROPERTY LINE
- - - - - SANITARY SEWER PIPE
- SANITARY SEWER MANHOLE

NOTES

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8. THE CONTRACTOR SHALL HAVE ANY ROW MONUMENTS LOCATED BY A LICENSED SURVEYOR PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES IN THE ROW. ANY MONUMENTS WHICH ARE DESTROYED DURING CONSTRUCTION SHALL BE REPLACED BY SAME.
9. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
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11. ALL DELTA ANGLES ARE 90° U.N.O.

CAUTION - NOTICE TO CONTRACTOR

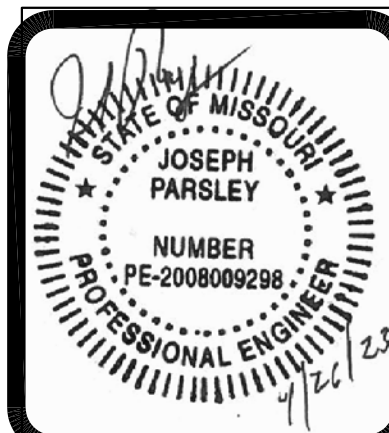
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES, APPURTENANCES AND IMPROVEMENTS WHICH CONFLICT WITH THE IMPROVEMENTS SHOWN BY THESE PLANS.

REVISIONS	
NO	PLAN REVISION #1
PR1	4/26/23

Cottages at Generation
Village, LP
3556 S. CUIPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

SANITARY SEWER PLAN &
PROFILE - LINE "B" & "C"
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON
CONSULTING
ENGINEERS, INC.
1088 Ledgestone Commons
Bartlett, TN 38133
Phone (601) 384-0404
Fax (601) 384-0710
Missouri Licensed Engineering Firm #200600899



DRAWN
ACP
CHECKED
BKM
DATE
04/06/2023
SCALE
AS NOTED
JOB No.
N/A
SHEET
18 OF 32

NO		REVISIONS
PR1	PLAN REVISION #1	4/26/23

Cottages at Generation Village, LP
3556 S. CUIPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

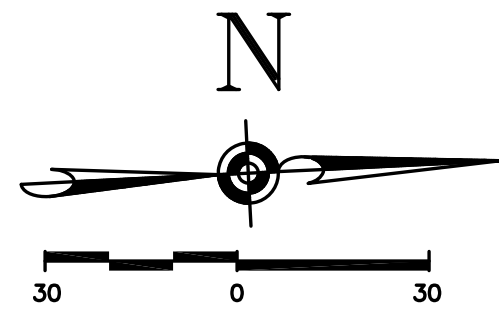
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SCALE	AS NOTED
JOB No.	N/A
SHEET	19 OF 32



LEGEND

- PROPERTY LINE
- SANITARY SEWER PIPE
- SANITARY SEWER MANHOLE

NOTES

- ALL DESIGN, CONSTRUCTION AND MATERIAL SHALL BE IN COMPLIANCE WITH THE CITY OF VERSAILLES SPECIFICATIONS AND REQUIREMENTS.
- ALL NEWLY CUT AND/OR FILL AREAS WITHIN THE ROW LACKING ADEQUATE VEGETATION SHALL BE FERTILIZED, SODDED AND WATERED AS REQUIRED TO EFFECTIVELY PREVENT SOIL EROSION.
- THE CONTRACTOR SHALL NOT ENTER UPON, WORK UPON NOR CAUSE DAMAGE TO ANY ADJACENT PROPERTIES WITHOUT PRIOR PERMISSION FROM SAID PROPERTY OWNER(S).
- ALL FILL AND/OR TRENCH BACKFILL SHALL BE COMPACTED AS PER THE PROJECT SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ANY UTILITY COMPANY WHICH MAINTAINS A UTILITY LINE WITHIN THE BOUNDARIES OF THE PROJECT PRIOR TO THE INITIATION OF ANY CONSTRUCTION ON THE PROJECT. THE CONTRACTOR SHALL ALSO ASSUME THE RESPONSIBILITY FOR ANY DAMAGE INCURRED BY ANY UTILITY COMPANY TO THEIR UTILITY LINES, WHETHER SHOWN ON THE CONSTRUCTION PLANS OR NOT, DURING WORK ON THE PROJECT.
- THE CONTRACTOR MUST HAVE WRITTEN APPROVAL FROM THE CITY ENGINEER AND THE PROJECT ENGINEER BEFORE ANY CHANGE IN DESIGN IS MADE.
- CONTRACTOR SHALL SCHEDULE CONSTRUCTION ACTIVITIES WHICH AFFECT NEIGHBORING PROPERTY OWNER'S ACCESS ONTO PUBLIC ROADWAYS WITH PROPERTY OWNER. ALL EFFORTS SHOULD BE MADE TO AVOID COMPLETELY BLOCKING ACCESS TO OR FROM DRIVE AT ANY TIME.
- THE CONTRACTOR SHALL HAVE ANY ROW MONUMENTS LOCATED BY A LICENSED SURVEYOR PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES IN THE ROW. ANY MONUMENTS WHICH ARE DESTROYED DURING CONSTRUCTION SHALL BE REPLACED BY SAME.
- CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
- REFER TO THE UTILITY PLAN AND SANITARY SEWER PLAN AND PROFILE SHEETS, THIS SET, FOR ADDITIONAL INFORMATION ON UTILITIES WITHIN THE RIGHT-OF-WAY.
- ALL DELTA ANGLES ARE 90° U.N.O.

CAUTION — NOTICE TO CONTRACTOR

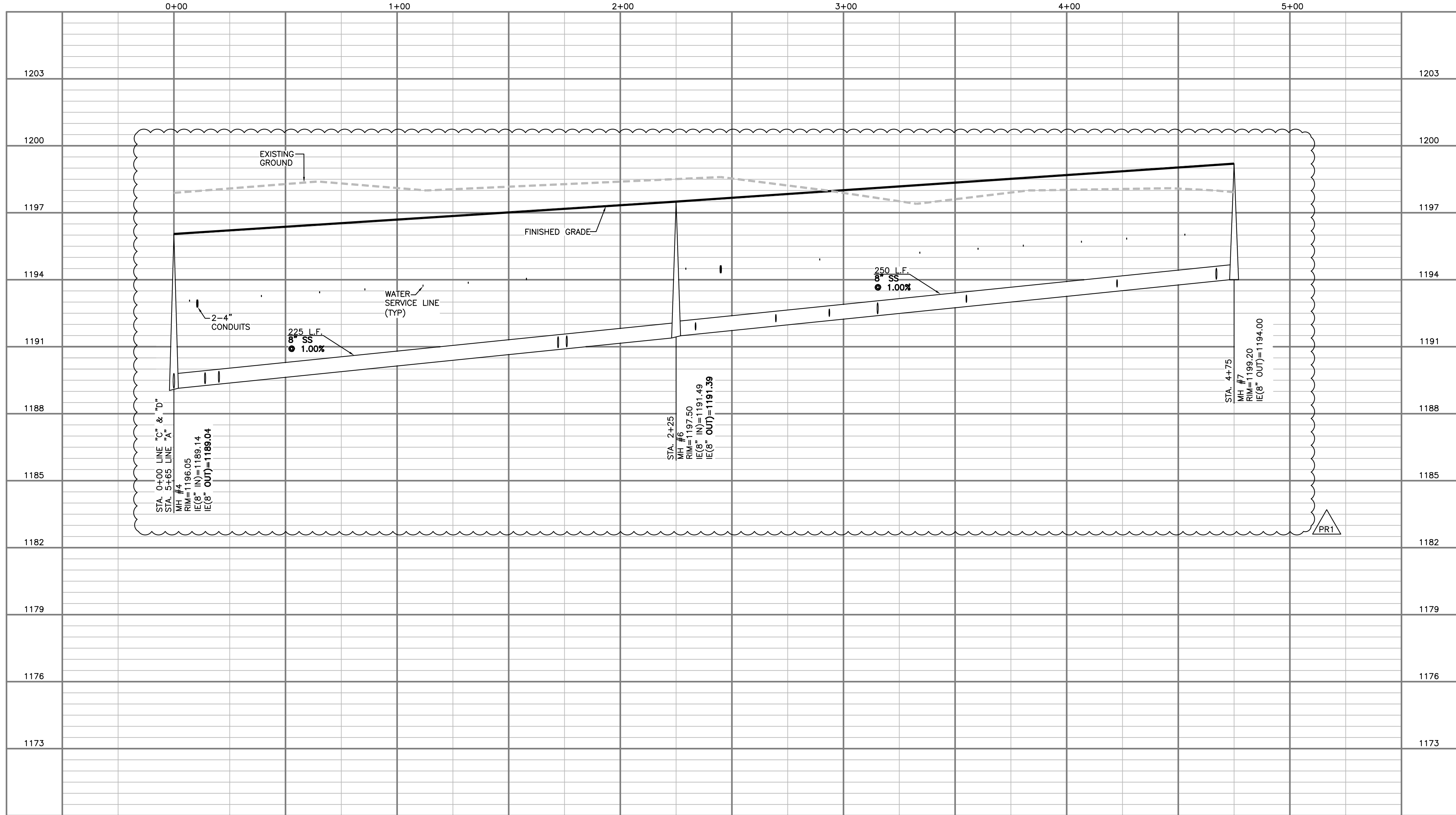
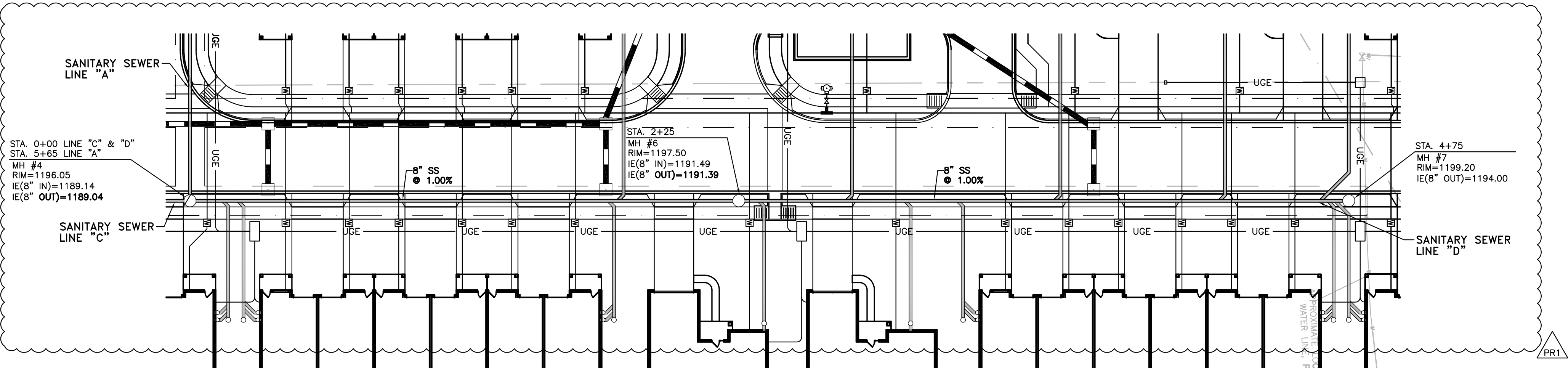
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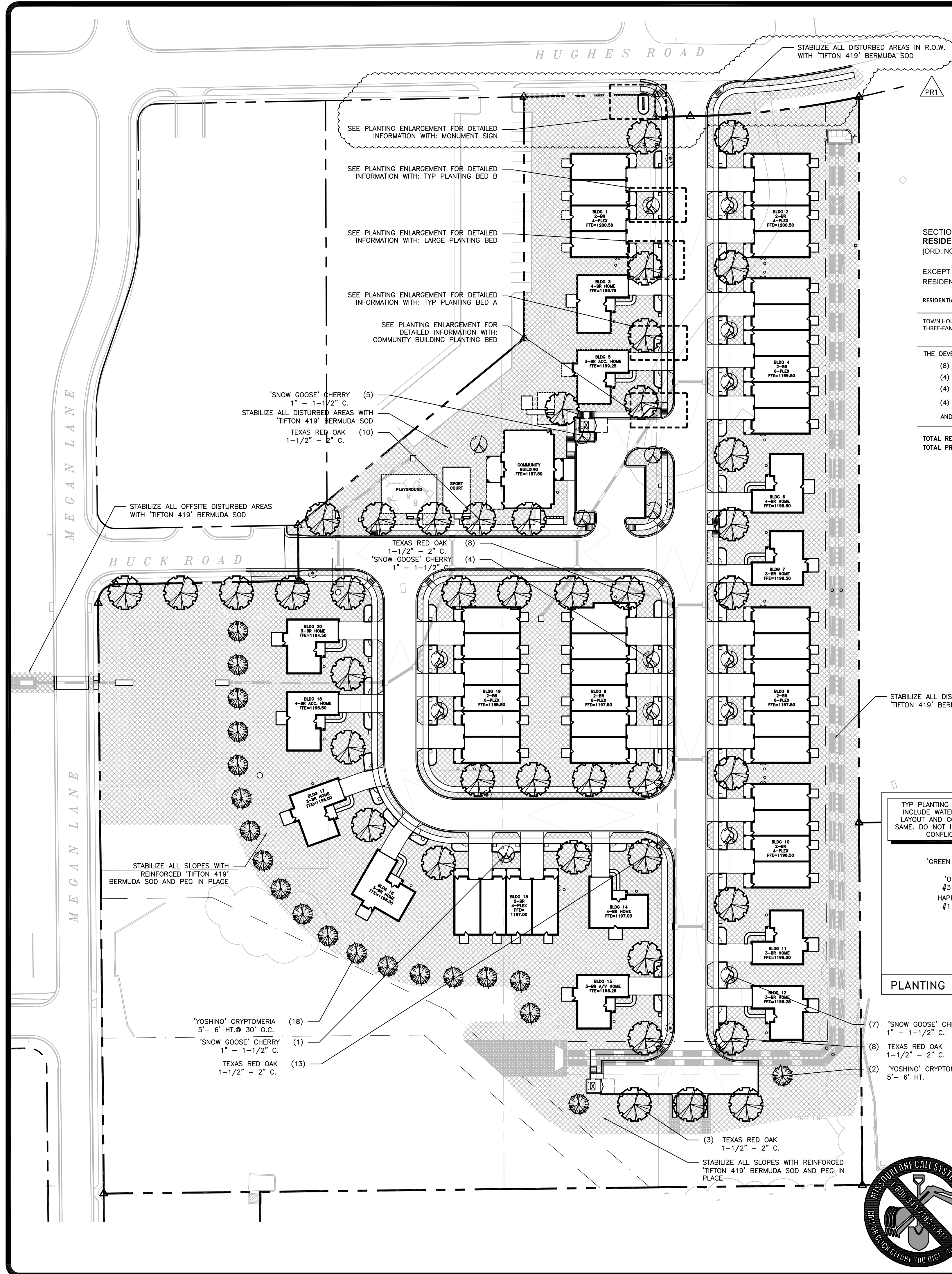
SEWER LINE PERMIT REQUIREMENTS

THE DESIGN ENGINEER IS REQUIRED TO PROVIDE CERTIFICATION THAT THE SEWER SYSTEM HAS BEEN INSTALLED AS PER THE PLANS AND SPECIFICATIONS PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR MUST ADHERE TO THE FOLLOWING REQUIREMENTS IN ORDER FOR THE ENGINEER TO PROVIDE THE REQUIRED CERTIFICATION.

- PROVIDE BACKFILL DENSITY TEST RESULTS, AS TAKEN BY THE OWNER'S ON SITE TESTING LABORATORY, TO THE ENGINEER.
- PERFORM REQUIRED FINAL EXFILTRATION AND DEFLECTION TESTS IN ACCORDANCE WITH CONTRACT DOCUMENTS.
- PROVIDE WRITTEN RESULTS, OF ALL REQUIRED TESTS TO THE ENGINEER.
- PROVIDE AN AS-BUILT SURVEY OF THE SEWER SYSTEM IMPROVEMENTS, CERTIFIED BY A LICENSED SURVEYOR AND WHICH SHOWS BOTH HORIZONTAL AND VERTICAL ALIGNMENT, TO THE ENGINEER.



HORIZ: 1" = 30'
VERT: 1" = 3'



CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MAINTENANCE AND A WARRANTY ON ALL PLANT MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM FINAL ACCEPTANCE.

ALL UNSURFACED AREAS SHALL RECEIVE A 4" LAYER OF SUITABLE TOPSOIL AND SOD. WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.

SOD SHALL BE PEGGED ON ALL 3:1 SLOPES OR STEEPER IN ORDER TO HOLD SOD IN PLACE. SEE SITEWORK SPECIFICATIONS FOR OTHER REQUIREMENTS.

UNLESS SHOWN OTHERWISE, ALL LARGE CANOPY TREES SHALL MAINTAIN 25' HORIZONTAL CLEARANCE FROM ALL OVERHEAD UTILITY LINES AND 10' HORIZONTAL CLEARANCE FROM ALL UNDERGROUND UTILITY LINES.

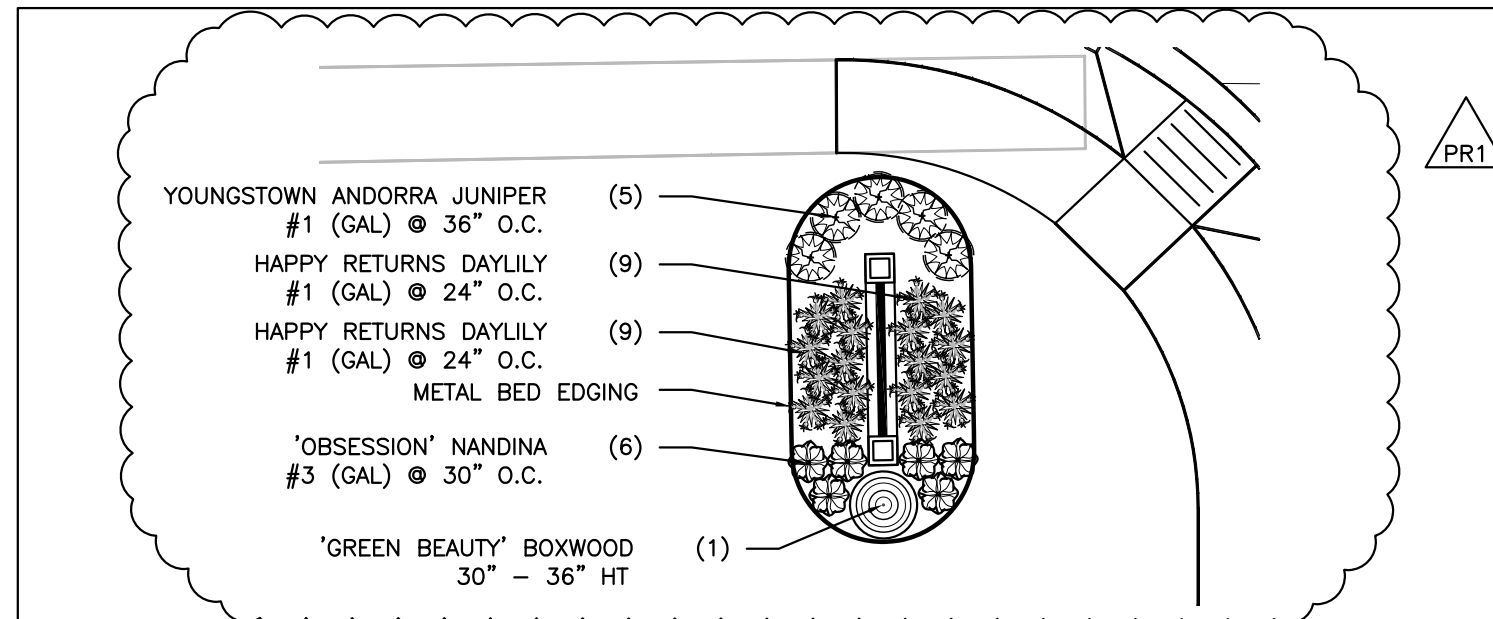
ALL LANDSCAPE AREAS SHALL BE FULLY IRRIGATED AS SHOWN ON THE IRRIGATION PLAN. SEE IRRIGATION PLAN, THIS SET, FOR ADDITIONAL INFORMATION.

TREE PROTECTION FENCING TO BE REMOVED JUST PRIOR TO THE INSTALLATION OF ALL LANDSCAPE PLANTING.

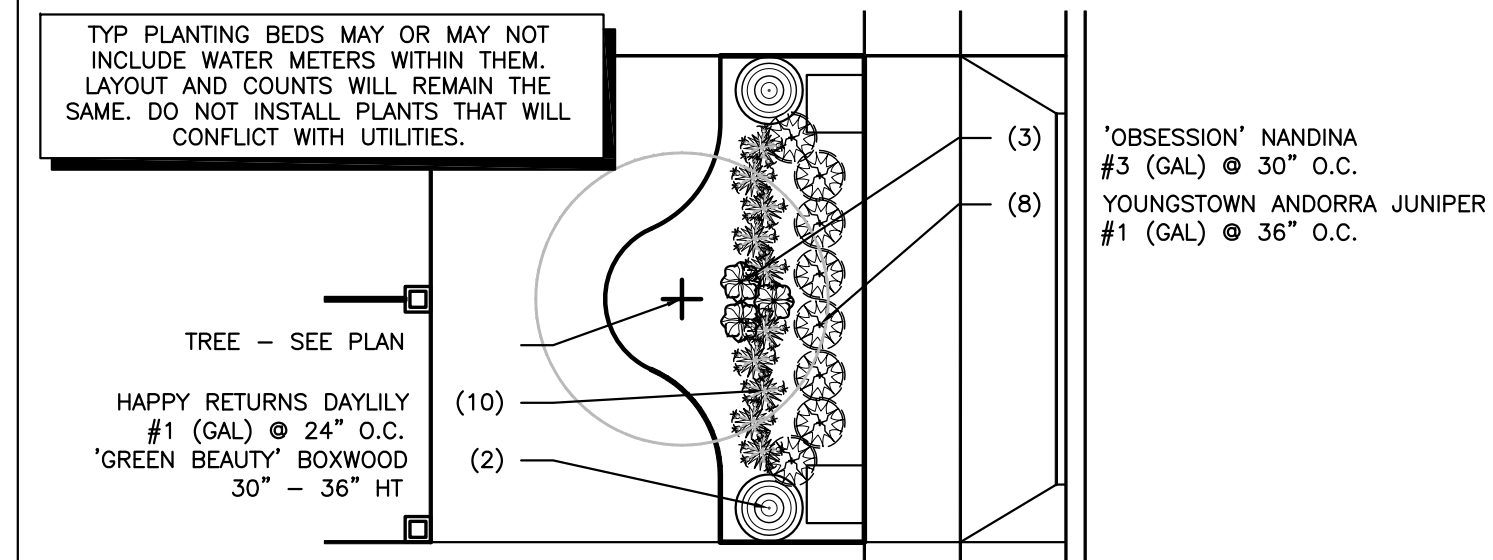
SECTION 400.740 RESIDENTIAL LANDSCAPING REQUIREMENTS. [ORD. NO. 020227 §(8.7), 2-27-2002]

EXCEPT WHERE EXEMPT IN ACCORDANCE WITH SECTION 400.690, LANDSCAPING REQUIREMENTS FOR RESIDENTIAL USES SHALL BE IN CONFORMANCE WITH THE FOLLOWING TABLE:

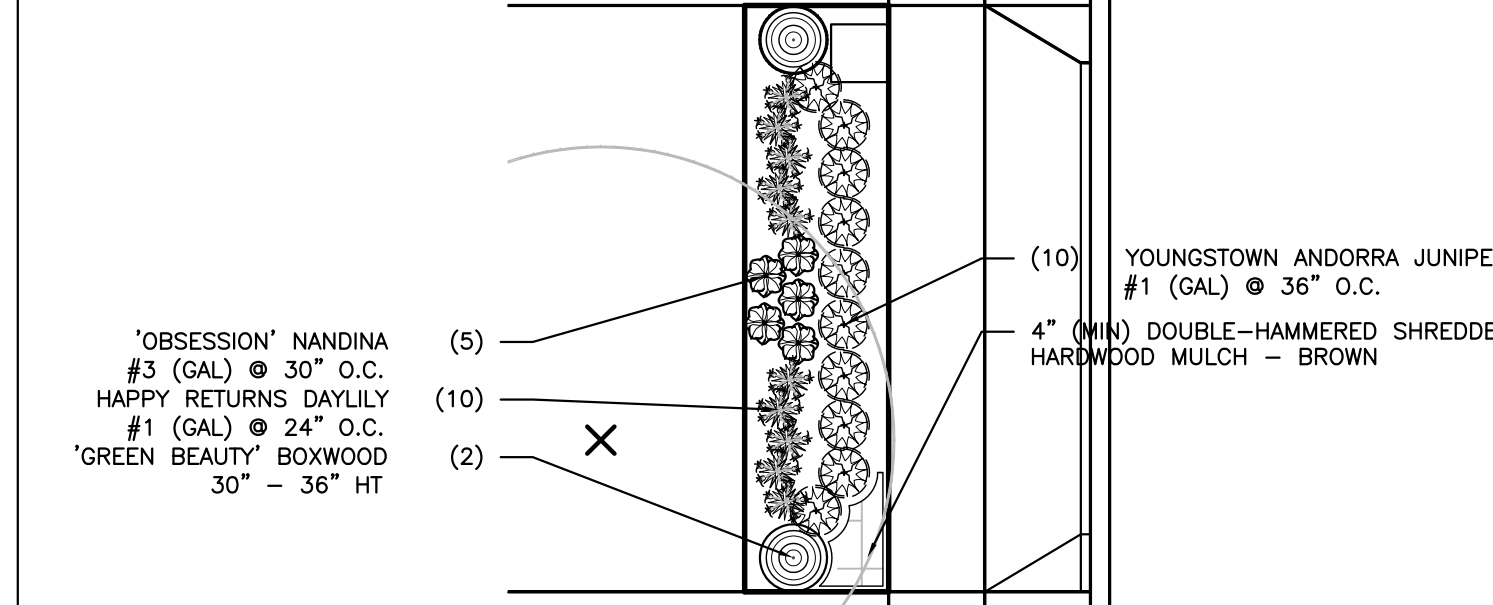
RESIDENTIAL TYPE	MINIMUM NUMBER CANOPY OR UNDERSTORY TREES *	MINIMUM NUMBER ORNAMENTAL OR EVERGREEN TREES*
TOWN HOUSE, TWO-FAMILY, THREE-FAMILY	1 PER DWELLING	1 PER DWELLING
THE DEVELOPMENT CONSISTS OF FIFTY-TWO (52) INDIVIDUAL DWELLING UNITS. THESE INCLUDE:		
(8) THREE-BEDROOM S-F RESIDENCES,	0-	0-
(4) FOUR-BEDROOM S-F RESIDENCES,	0-	0-
(4) TWO-BEDROOM QUADPLEXES, (16) UNITS	16	16
(4) TWO-BEDROOM SIXPLEXES, (24) UNITS	24	24
AND A (1) COMMUNITY BUILDING.	0-	0-
TOTAL REQUIRED:	40-CANOPY/UNDERSTORY	40-ORN./EVERGREEN:
TOTAL PROVIDED:	42-CANOPY/UNDERSTORY	38-ORN./EVERGREEN:
		80-TREES



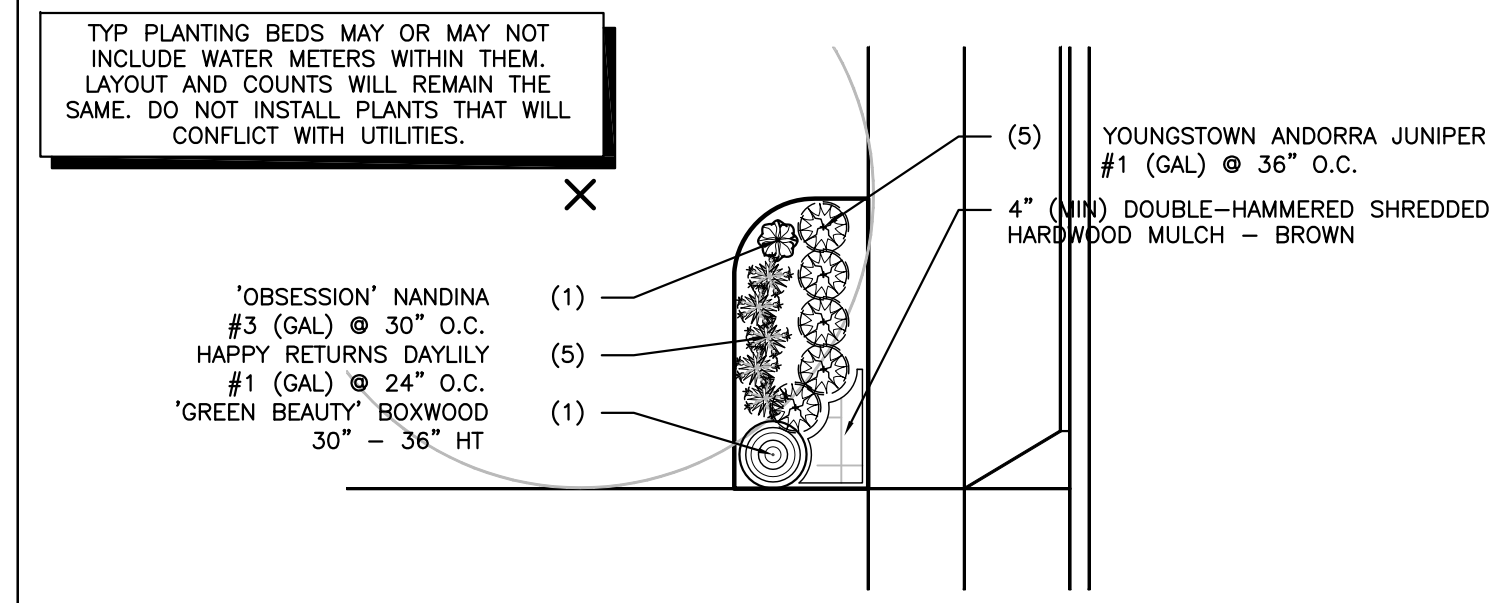
PLANTING ENLARGEMENT: MONUMENT SIGN SCALE: 1"= 10'-0"



PLANTING ENLARGEMENT: TYP PLANT BED B SCALE: 1"= 10'-0"

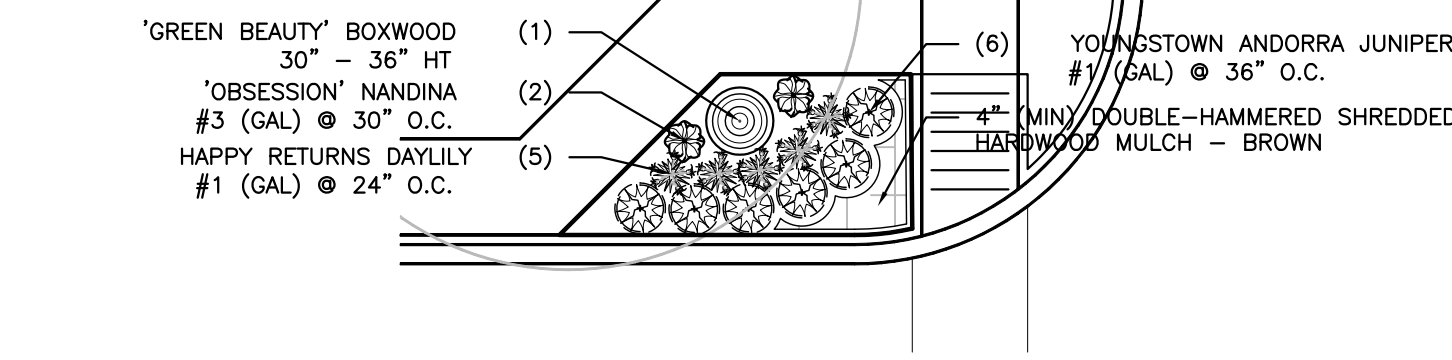


PLANTING ENLARGEMENT: LARGE PLANT BED SCALE: 1"= 10'-0"



PLANTING ENLARGEMENT: TYP PLANT BED A SCALE: 1"= 10'-0"

TYP PLANTING BEDS MAY OR MAY NOT INCLUDE WATER METERS WITHIN THEM. LAYOUT AND COUNTS WILL REMAIN THE SAME. DO NOT INSTALL PLANTS THAT WILL CONFLICT WITH UTILITIES.



PLANTING ENLARGEMENT: COMMUNITY BUILDING PLANT BED SCALE: 1"= 10'-0"

PLANT SCHEDULE

QTY	SYM	BOTANICAL NAME	COMMON NAME	SIZE (BOTH MIN'S TO BE MET)	SPACING	CONDITION	REMARKS
TREES:							
20 (25%)		CRYPTOMERIA JAPONICA 'YOSHINO'	'YOSHINO' CRYPTOMERIA	5' - 6' HT	AS SHOWN	B&B/CONT	FULL TO GROUND w/UNIFORM SHAPE
18 (22%)		PRUNUS 'SNOW GOOSE'	'SNOW GOOSE' FLOWERING CHERRY	1' - 1-1/2" C / 6' - 8' HT	AS SHOWN	B&B/CONT	FULL HEAD w/UNIFORM GROWTH
42 (53%)		QUERCUS TAXANA	TEXAS RED OAK	1-1/2" - 2" C / 8' - 10' HT	AS SHOWN	B&B/CONT	FULL HEAD w/UNIFORM GROWTH
80 (100%) TOTALS							
SHRUBS:							
66		BUXUS MICROPHYLLA VAR. JAPONICA 'GREEN BEAUTY'	'GREEN BEAUTY' BOXWOOD	30" - 36" HT	AS SHOWN	CONT	ROUND, FULL HEAD
89		NANDINA DOMESTICA 'SEIKA' PP21891	'OBSESSION' NANDINA	#3 (GAL) / 18" - 24" HT	30" O.C.	CONT	ROUND, FULL HEAD
GROUNDCOVERS:							
FILL AREA		CYNODON DACTYLON 'TIFTON 419'	'TIFTON 419' BERMUDA SOD	SLAB / ROLL	SOLID	SOD	WEED FREE & ACTIVELY GROWING
343		HEMEROCALLIS 'HAPPY RETURNS'	HAPPY RETURNS DAYLILY	#1 (GAL) / 8" - 12" HT	24" O.C.	CONT.	WEED FREE & ACTIVELY GROWING
305		JUNIPERUS HORIZONTALIS 'YOUNGSTOWN'	YOUNGSTOWN ANDORRA JUNIPER	#1 (GAL) / 8" - 12" SPD	36" O.C.	CONT.	WEED FREE & ACTIVELY GROWING
FILL AREA		SHREDDED HARDWOOD MULCH	DOUBLE - HAMMERED	4" MIN DEPTH	SOLID	BULK	BROWN COLOR - DEPTH TO BE MEASURED AFTER SETTING

NOTE: SYMBOLS SHOWN IN TABLE ABOVE ARE FOR SPECIES IDENTIFICATION ONLY. PLANT SIZE SHOWN IN THE TABLE IS NOT INTENDED TO BE REPRESENTATIVE OF THE PLANT AT EITHER INSTALLATION OR MATURITY. SIZE OF SYMBOL SHOWN IN TABLE ABOVE MAY VARY FROM THOSE SHOWN ON PLANS.

NOTE: ALL SIZES AND CONDITION OF NURSERY STOCK SHALL MEET THE STANDARDS ESTABLISHED IN THE LATEST EDITION OF 'AMERICAN STANDARD FOR NURSERY STOCK' PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERMEN.

NOTE: NO SUBSTITUTIONS OF PLANT MATERIALS ARE ALLOWED WITHOUT THE PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT.

NO	REVISIONS
PR1	PLAN REVISION #1 4/26/23

Cottages at Generation Village, LP
3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

PLANTING PLAN
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON CONSULTING ENGINEERS, INC.
1088 Ledgestone Commons
Bartlett, TN 38133
Phone (901) 384-0404
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Missouri Licensed Engineering Firm #200600889



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JOB No.
N/A
SHEET
20 OF 32

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC WHICH OCCURS AS A RESULT OF THE LANDSCAPE CONSTRUCTION TO OWNER'S SATISFACTION, AT NO ADDITIONAL COST. NO REPAIRS SHALL BE INSTALLED IN CONFLICT WITH UTILITIES.
2. LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON THE BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF UTILITY LINES ON THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD.
3. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING SITE CONDITIONS PRIOR TO PROCEEDING. IF UNFORESEEN CIRCUMSTANCES ARE ENCOUNTERED, THE CONTRACTOR IS TO IMMEDIATELY STOP WORK AND CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY.
4. SAFE, CLEARLY MARKED PEDESTRIAN AND VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS.
5. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIALS.
6. ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL, FREE OF PESTS AND DISEASE.
7. ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
8. ALL TREES MUST BE STRAIGHT TRUNKED AND FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
9. AFTER BEING UNDER AT THE NURSERY SOURCE, ALL TREES IN LEAF SHALL BE ACCLIMATED FOR TWO WEEKS UNDER A MIST SYSTEM PRIOR TO INSTALLATION.
10. ALL LANDSCAPED AREAS SHALL BE SPRAYED WITH HERBICIDE 4 WEEKS PRIOR TO INSTALLATION OF LANDSCAPING. THE EXISTING MATERIAL SHALL BE REMOVED BEFORE ANY INSTALLATION OF PLANT MATERIAL OR SEED.
11. THE LANDSCAPE ARCHITECT SHALL APPROVE THE STACKING LOCATION OF ALL PLANT MATERIAL. PRIOR TO INSTALLATION, IF PLANT MATERIAL IS INSTALLED PRIOR TO LOCATION APPROVAL, THE CONTRACTOR MAY BE REQUIRED TO RELOCATE MATERIAL AT HIS OWN EXPENSE.
12. ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
13. ALL NEW TREES SHALL HAVE "MYCOR TREE SAVER" OR EQUAL MYCORIZAL FUNGAL TREATMENT INSTALLED AT RATE RECOMMENDED BY MANUFACTURER AT THE TIME OF INSTALLATION.
14. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
15. ALL TREES SHALL RECEIVE A MIN OF 8" OF PLANTING BED MIX AS DESCRIBED IN PLANTING BED PREP DETAIL.
16. ALL BED AREAS SHALL BE BERMED A MINIMUM OF 8" TO PROMOTE GOOD BED DRAINAGE (AFTER GENTLE TOPSOIL TAMPING). BEDS WILL BE MOUNDED FROM SIDES TO CENTER, PROMOTING GOOD DRAINAGE.
17. ALL CONSTRUCTION AREAS TO RECEIVE TURFGRASS SHALL RECEIVE A 4" MIN DEPTH OF TURFGRASS PER DETAILS AND SPECIFICATIONS. RESULTS OF TOPSOIL ANALYSIS IS TO BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR THE APPROVAL PRIOR TO ANY TURFGRASS OPERATIONS TAKING PLACE.
18. PRIOR TO PLANTING OR SEEDING, MULTIPLE REPRESENTATIVE SAMPLES OF THE TOPSOIL SHALL BE TAKEN AND SENT TO THE STATE EXTENSION AGENCY FOR ANALYSIS. FERTILIZE SUITABLE TO THE TOPSOIL ANALYSIS PER DETAILS AND SPECIFICATIONS. RECOMMENDATIONS FOR TURFGRASS SPECIES SPECIFIED ON PLANS. THE PLANTING BED MIX TO BE USED IN SHRUB PLANTING BEDS IS TO BE FERTILIZED AS PER EXTENSION SERVICE'S RECOMMENDATIONS FOR ORNAMENTAL PLANTINGS.
19. ALL PLANTING BEDS SHALL HAVE "SURFLIN" OR EQUAL PRE-EMERGENT HERBICIDE BROADCAST AT RATE RECOMMENDED BY MANUFACTURER.
20. PLANTING OPERATIONS SHOULD ONLY TAKE PLACE DURING SUITABLE WEATHER CONDITIONS. PLANTING SHALL BE STOPPED IMMEDIATELY WHEN THE WEATHER IS HEAVILY SATURATED OR FROZEN.
21. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOLIATES (PRIOR TO TOTAL DEATH) THROUGHOUT THE GROWING SEASON SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH ACCEPTANCE OF THE SAME SPECIES, QUANTITY, AND SIZE AND MEETING ALL PLANT LIST SPECIFICATIONS.
22. DURING THE GROWING SEASON ALL ANNUALS SHALL REMAIN IN A HEALTHY, VIABLE CONDITION THROUGHOUT THE GROWING SEASON.
23. ALL PLANTING AREAS, SHRUB, GROUND COVER AND SEASONAL COLOR ANNUAL PLANTING BEDS, ARE TO BE COMPLETELY COVERED WITH SHREDDED HARDWOOD MULCH AND SHALL MAINTAIN A MINIMUM LAYER OF (4") FOUR INCHES IN DEPTH AFTER SETTLING.
24. THERE IS NO SEPARATE PAY ITEM FOR DRESSING OUT SHRUB BEDS OR TREE SAUCERS WITH SHREDDED HARDWOOD MULCH, IT SHALL BE INCLUDED WITH THE COST OF ALL PLANT MATERIALS.
25. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK. ALL PLANT MATERIALS QUANTITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN.
26. ALL DISTURBED AREAS ARE TO RECEIVE A 4" LAYER OF SUITABLE TOPSOIL AND HYDROSEED AND/OR SOD (WHERE SHOWN). WATER UNTIL A HEALTHY STAND OF GRASS IS OBTAINED. THIS IS EXCLUDING ALL LANDSCAPED ISLANDS AND ENTRANCE AREAS.
27. ALL PLANT MATERIALS SHALL BE GUARANTEED FOR 12 MONTHS BEGINNING ON THE DATE OF TOTAL ACCEPTANCE. PLANTS NOT IN A HEALTHY GROWING CONDITION SHALL BE REMOVED IMMEDIATELY AND REPLACEMENTS SHALL BE MADE AT THE DISCRETION OF THE CONTRACTOR. CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS WITH PLANTS ALSO GUARANTEED FOR THE REMAINDER OF THE 12 MONTH WARRANTY.
28. CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL GUY WIRES AT THE END OF THE 1 YEAR WARRANTY PERIOD.
29. REFER TO PROJECT SITEWORK SPECIFICATIONS FOR ALL INFORMATION NEEDED FOR IMPLEMENTATION OF PLANTING PLANS.

- SEED: MIXTURE 70% RYEGRASS/30% WINTER WHEAT - 4 LBS / 1,000 SQ. FT.
- AREAS TO RECEIVE SEED ARE TO BE FERTILIZED WITH A COMPLETE FERTILIZER PER EXTENSION SERVICE'S RECOMMENDATIONS.

- SEED MIX B: COMMON BERMUDA @ 4 LBS / 1,000 SQ. FT.
- AREAS TO RECEIVE SEED ARE TO BE FERTILIZED WITH A COMPLETE FERTILIZER PER EXTENSION SERVICE'S RECOMMENDATIONS.

SEED MIX B: COMMON BERMUDA @ 4 LBS / 1,000 SQ FT.
ALL DISTURBED AREAS NOT RECEIVING SOIL SHALL BE SEEDED WITH SEED MIX
UNLESS NOTED OTHERWISE.

PREPARATION OF ALL AREAS TO BE SEEDED SHALL CONSIST OF THOROUGHLY LOOSENING OR
SCARIFYING THE SOIL TO A DEPTH OF TWO (2) TO FOUR (4) INCHES USING A
TRACTOR DISC OR OTHER APPROVED METHOD. AREAS TO BE SEEDED SHALL
BE FREE OF OBSTACLES, STICKS, OR OTHER DEBRIS. SEEDING MAY BE DONE
IMMEDIATELY THEREAFTER PROVIDED THE BED HAS REMAINED IN GOOD FRABLE
CONDITION AND HAS NOT BECOME WET. WATER ALL SEEDED SOIL IMMEDIATELY AFTER
SEEDING USING SPRAY NOZZLES OR ANOTHER ACCEPTABLE METHOD WHICH DOES NOT
CAUSE EROSION OR SOIL TO WASH AWAY.

SUITABLE TOPSOIL SHALL MEET THE FOLLOWING REQUIREMENTS:

- IT SHALL ALL BE A RICH EASILY FRABLE BROWN OR BLACK LOAMY TO SANDY LOAM SOIL
- 5% ORGANIC MATERIAL
- PH OF 5.5 - 7.4
- FREE OF WEEDS, LITTER, STIFF CLAY, OR STONES GREATER THAN 1" IN DIAMETER
- HEAVY CLAYS AND FINE SILTY SOILS ARE NOT ACCEPTABLE

ANY AREAS WHERE THE SEED MAY WASH OR BLOW AWAY OR DOES NOT GERMINATE ARE TO BE
RE-GRADED AND RE-SEEDED UNTIL AREA HAS A FULL AND HEALTHY STAND OF TURFGRASS.

AREAS TO RECEIVE SEED ARE TO BE FERTILIZED WITH A COMPLETE FERTILIZER
AS PER THE EXTENSION SERVICE'S RECOMMENDATIONS FOR SPECIFIED TURFGRASS SPECIES.
CONTRACTOR SHALL SECTOR SEEDING TO PROVIDE A HEALTHY STAND OF GRASS
AT THE TIME OF THE OWNER'S POSSESSION.

- ALL SODDED AREAS TO BE "TIFTON 419" HYBRID BERMUDA.
- ALL CURBED ISLANDS TO BE SODDED UNLESS NOTED OTHERWISE.
- SLOPES GREATER THAN 3:1 SHALL BE PEGGED TO HOLD SOD IN PLACE.
- SODS ARE TO BE SODDED SUCH THAT THERE IS MINIMUM OF SUITABLE TOPSOIL THAT MEETS THE CONDITIONS LISTED ABOVE AND THAT HAS BEEN TILLED, FINE GRADED, AND HAS HAD ALL STONES, ROOTS, DEBRIS, ETC REMOVED.
- SOD IS TO BE LAID AS SOON AS IT IS DELIVERED TO PLANTING AREAS. ONLY HEALTHY SODS ARE TO BE USED. SODS ARE TO BE LAYERED IF BROWN AND UNDER STRESS IS UNACCEPTABLE. ANY SOD WHICH IS NOT LAID WITHIN 24 HOURS OF DELIVERY SHALL BE UNACCEPTABLE.
- SOD SHALL BE A MINIMUM OF 3/4" THICK; FREE OF WEEDS AND PESTS AND CUT NO MORE THAN 1/4 HOURS PRIOR TO PLANTING.
- SOD PANELS SHALL BE LAID TIGHTLY TOGETHER AND END JOINTS STAGGERED SO AS TO MAKE A SOLID SODDED AREA.
- ANY JOINTS OR SEAMS THAT MAY EXIST AFTER LAYING SOD SHALL BE FILLED WITH SAND SO AS TO GREAT A SMOOTH AND UNIFORM GROWING SURFACE.
- SOD IS TO BE ROLLED AND WATERED AT THE TIME OF INSTALLATION TO ENSURE GOOD SOD-SOIL CONTACT AND TO PROVIDE A SMOOTH, UNIFORM WALKING SURFACE.

SOD IS TO BE PEGGED ON ALL SLOPES IN ORDER TO HOLD SOD IN PLACE. SEE SITEWORK SPECIFICATIONS FOR OTHER REQUIREMENTS.

ALL DISTURBED AREAS WITHIN DEVELOPED AREAS ARE TO RECEIVE A 4" LAYER OF SUITABLE TOPSOIL, HYDRO-SEED, MULCH, OR SOD (WHERE SHOWN). AREA IS TO BE WATERED UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED. SOD MAY BE SUBSTITUTED FOR HYDRO-SEED IN TURF GRASS AREAS AT GENERAL CONTRACTOR'S DISCRETION WITH NO ADDITIONAL COST TO OWNER. SOD TYPE SHALL MATCH PERMANENT SOD TYPE SPECIFIED ON CONSTRUCTION PLANS.

PERMANENT SEEDING SHALL BE APPLIED BASED ON THE
TIME OF YEAR AND TEMPERATURE OF SOIL.

MAY 1 - JULY 30 (OR ONCE SOIL TEMP. IS ABOVE 60°)
APPLY HULLED BERMUDA SEED @ MIN 4 LBS / 1000 SF.

PERMANENT SEEDING OPERATIONS WITH BERMUDAGRASS SEED SHOULD NOT TAKE PLACE DURING AUGUST. IF SEEDING IS REQUIRED, APPLY THE TEMPORARY SEED MIX.

TO STABILIZE THE SOIL, AND RE-SEED WITH THE
PERMANENT SEED MIX DURING THE FALL/WINTER SEASON.

SEPTEMBER 1 - FEBRUARY 28 (OR ONCE SOIL TEMP. IS BELOW 60°) - APPLY UNHULLED BERMUDA SEED @ MIN 3 LBS / 1000 SF AND OVERSEED WITH TEMPORARY SEED MIX AS DESCRIBED IN THE SEEDING AND SODDING NOTES.

PERMANENT SEEDING OPERATIONS WITH BERMUDAGRASS SEED SHOULD NOT TAKE PLACE DURING MARCH - APRIL. IF SEEDING IS REQUIRED, APPLY THE TEMPORARY SEED MIX TO STABILIZE THE SOIL, AND RE-SEED WITH THE PERMANENT SEED MIX DURING THE SUMMER SEASON.

<div> <div>ALL MINIMUM SIZES LISTED IN PLANT SCHEDULE SHALL BE MET: CALIPER, HEIGHT, AND ROOT BALL</div> </div>					
SHADE AND FLOWERING TREES					
	CALIPER	HEIGHT TYPE 1	HEIGHT TYPE 2	MINIMUM DIAMETER BALL	BALL DEPTH
	INCHES	FEET	FEET	INCHES	INCHES
MEASURED 6" ABOVE GRADE	1-1/2"	10'-12"	6'-9"	16"	12"
	2"	12'-14"	8'-10"	24"	18"
	2-1/2"	12'-14"	8'-10"	28"	18"
	3"	14'-16"	10'-12"	32"	19"
	3-1/2"	14'-16"	10'-12"	38"	23"
	4"	16'-18"	10'-12"	42"	25"
MEASURED 12" ABOVE GRADE	4-1/2"	16'-18"	10'-12"	48"	29"
	5"	18'+	12'+	54"	32"
	5-1/2"	18'+	12'+	57"	34"
	6"	20'+	14'+	60"	36"
	7"	24'+	16'+	70"	42"
	8"	26'+	18'+	80"	48"

SOURCE: AMERICAN STANDARD FOR NURSERY STOCK CALIPER TAKES PRECEDENCE OVER HEIGHT FOR TYPE 1 SHADE TREES. BOTH MINIMUMS MUST BE MET.

TYPE 1 (LARGE SHADE TREES)	
ACER RUBRUM	PLATANUS <i>SPP</i>
ACER SACCHARUM	QUERCUS <i>SPP</i>
BETULA <i>SPP</i>	TAXODIUM <i>SPP</i>
GINKGO <i>SPP</i>	SALIX <i>SPP</i>
GLEADITISA <i>SPP</i>	ZELKOVA <i>SPP</i>

TYPE 2 (MEDIUM/SLOW SHADE TREES)	
AESCULUS <i>SPP</i>	MAGNOLIA GRANDIFLORA
CELTIS <i>SPP</i>	NYSSA <i>SPP</i>
CLADRASTIS LUTEA	OLEA EUROPA
FAGUS SYLVATICA	QUERCUS ALBA
KOELREUTERIA <i>SPP</i>	SORBUS <i>SPP</i>
LABURNUM <i>SPP</i>	TILIA CORDATA
LIQUIDAMBAR <i>SPP</i>	ULMUS PARVIFOLIA

TYPE 3 (SMALL UPRIGHT TREES)	
ACER CAMPESTRE	MAGNOLIA VIRGINIANA
AMELANCHIER <i>SPP</i>	PRUNUS <i>SPP</i>
CARPINUS <i>SPP</i>	PYRUS <i>SPP</i>
CERCIS <i>SPP</i>	STYRAX <i>SPP</i>
CRATAEGUS <i>SPP</i>	SYRINGA RETICULATA
OXYDENDRUM <i>SPP</i>	

TYPE 4 (SMALL SPREADING TREES)
ACER PALMATUM
ACER GRISEUM
CORNUS <i>SPP</i>
LAGERSTROMIA <i>SPP</i>
MAGNOLIA SOULANGIANA
MAGNOLIA STELLATA
VITEX <i>SPP</i>

PLANTING BED PREPARATION:

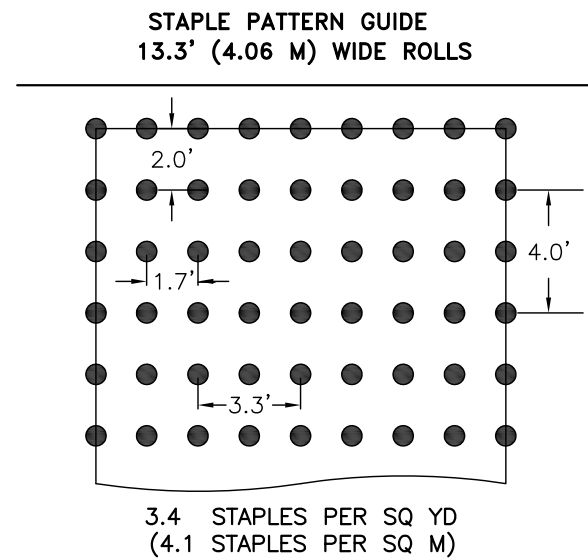
1. LAYOUT BED LINE USING SMOOTH FLOWING CURVES.
2. CUT INTO EXISTING SOIL AT APPROXIMATELY A 60° ANGLE, TURNING SOIL BACK INTO BED AREA.
3. ADD AMENDMENTS AND TILL BED UNTIL BLENDED.
4. MAINTAIN CUT EDGE AT 3" DEPTH TO HOLD MULCH IN PLACE.

PLANTING BED MIX:

1. 20% EXISTING APPROVED ONSITE SOIL
2. 15% ORGANIC MATTER
3. 40% SAND
4. 25% SUITABLE TOPSOIL
5. FERTILIZE AS RECOMMENDED BY EXTENSION SERVICE FOR ORNAMENTAL PLANTINGS.

*MULCH SHALL BE KEPT AWAY FROM THE TRUNK OF ALL PLANT MATERIAL

- INSTALL EROSION CONTROL BLANKET AS SPECIFIED BY THE MANUFACTURER.
- FILL SPACES IN BLANKET WITH SAND TO REMOVE ALL AIR SPACES.
- INSTALL REINFORCED SOD OVER BLANKET AND PEG THROUGH BLANKET TO SECURE.



NOTE: SEE PLANS & SPECS FOR MATERIALS.

*MULCH SHALL BE KEPT AWAY FROM THE TRUNK OF ALL PLANT MATERIAL

WHITE FLAGGING (TYP)

5'-0" TO 7'-0"

3'-6"

4" TO 6"

12" MIN

2" MIN

3'-6" MIN

2x DIA OF ROOT BALL

SECTION NTS

NEW 8" LONG 2-PLY 1/2" RUBBER HOSE

DOUBLE STRAND 12 GAUGE WIRE COVERED W/2-PLY RUBBER HOSE PAINTED FLUORESCENT ORANGE

WRAPPING MATERIAL (SHALL BE REMOVED WITHIN 1 YR GUARANTEE PERIOD BY LANDSCAPE CONTRACTOR)

PULL BACK TOP 1/3 OF BURLAP BALL & REMOVE ROPES.

4" MULCH (MIN)*

BACKFILL WITH SUITABLE TOPSOIL MIXTURE

CREATE A 6" HIGH SAUCER WITH SUITABLE TOPSOIL MIXTURE

6" STEEL STAKE (3 PER TREE) SHALL BE DRIVEN 3' BELOW GRADE. INSTALL STAKES VERTICALLY. ANGLED STAKES WILL BE REJECTED.

FINISHED GRADE

SUITABLE TOPSOIL MIXTURE TAMPED FIRM UNDER ROOTBALL TO PREVENT SETTLEMENT (6" MIN)

EXISTING SOIL

MULCH+ SAUCER+ GUY WIRES

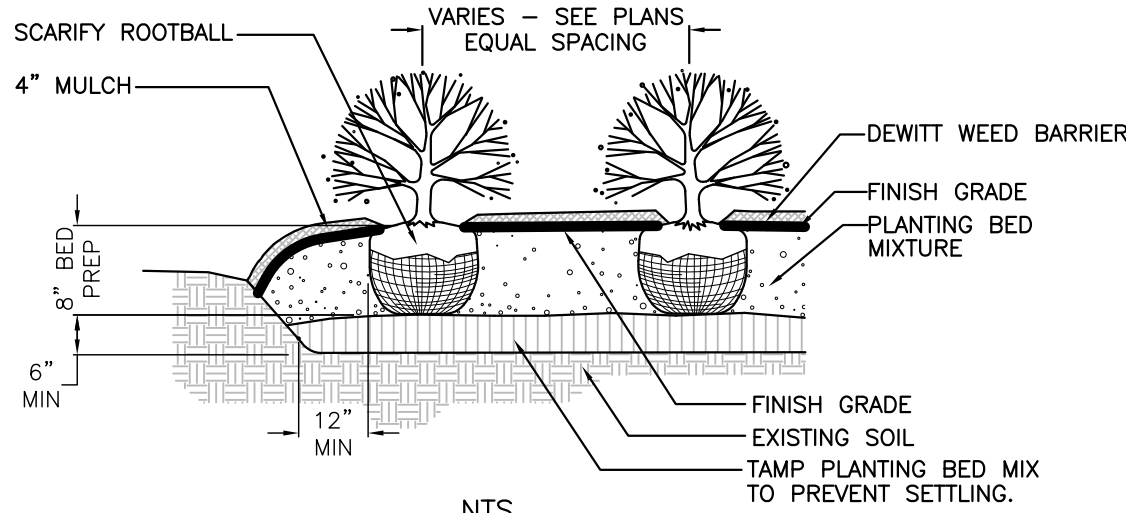
PLAN VIEW

2x

1/2"

TYPICAL BED LAYOUT:

1. LAYOUT PERIMETER PLANTING SPACED AS PER PLAN.
2. FILL IN PLANTING BED WITH TRIANGULAR SPACING.
3. ADJUST AS PER LANDSCAPE ARCHITECT'S INSTRUCTIONS.



* **NOTE:**
MULCH SHALL BE A 4" LAYER OF SHREDDED HARDWOOD MULCH
AFTER SETTLING - UNLESS OTHERWISE NOTED

Diagram illustrating the tree staking method, showing a tree trunk supported by a stake. The diagram includes the following callouts and dimensions:

- ALL TREE STAKING MATERIAL SHALL BE REMOVED AFTER FIRST FULL GROWING SEASON
- TREES OVER 5' TALL TO HAVE 2 STAKES; TREES OVER 8' TALL TO HAVE 3 STAKES.
- 2 STRANDS #12 GA PLAIN STEEL WIRE COVERED WITH FLUORESCENT YELLOW PLASTIC SHEATHING WITH WHITE FLAGGING (TYP)
- NEW 8" LONG 2-PLY 1/2" RUBBER HOSE
- MULCH SHALL BE KEPT AWAY FROM THE TRUNK OF ALL PLANT MATERIAL
- LOCATE 6" STEEL TIE POST ANCHOR STAKE 18" AWAY FROM TREE TRUNK ON SIDE OF PREVAILING WIND.
- CROWN OF ROOT BALL SHALL BEAR SAME RELATION (OR SLIGHTLY ABOVE) TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE. PLACE ON SUBGRADE PEDESTAL.
- 4" MULCH (MIN)*
- CREATE A SOIL SAUCER WITH SUITABLE TOPSOIL MIXTURE (6" MIN)
- 8" MIN
- 2x DIA OF ROOT BALL
- FOLD DOWN OR CUT AND REMOVE TOP 1/3 OF BURLAP, IF NON-BIODEGRADABLE WRAP IS USED, REMOVE TOTALLY.
- SUITABLE TOPSOIL MIXTURE
- SUITABLE TOPSOIL MIXTURE TAMPED FIRM UNDER ROOTBALL TO PREVENT SETTLEMENT (6" MIN)

PLANT SPACING

Cottages at Generation

3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

PLANTING DETAILS

COTTAGES AT GENERATION VILLAGE

WILLARD, MISSOURI

**CARLSON
CONSULTING
ENGINEERS, INC.**

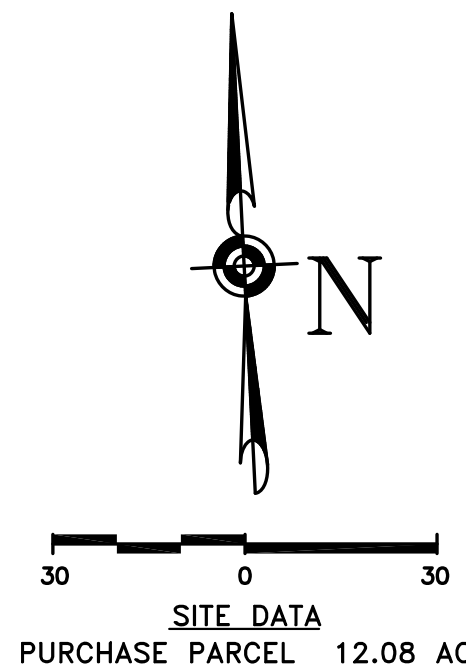
7068 Ledgestone Commons
Bartlett, TN 38133
Phone (901) 384-0404

Missouri Licensed Engineering Firm #2008009899

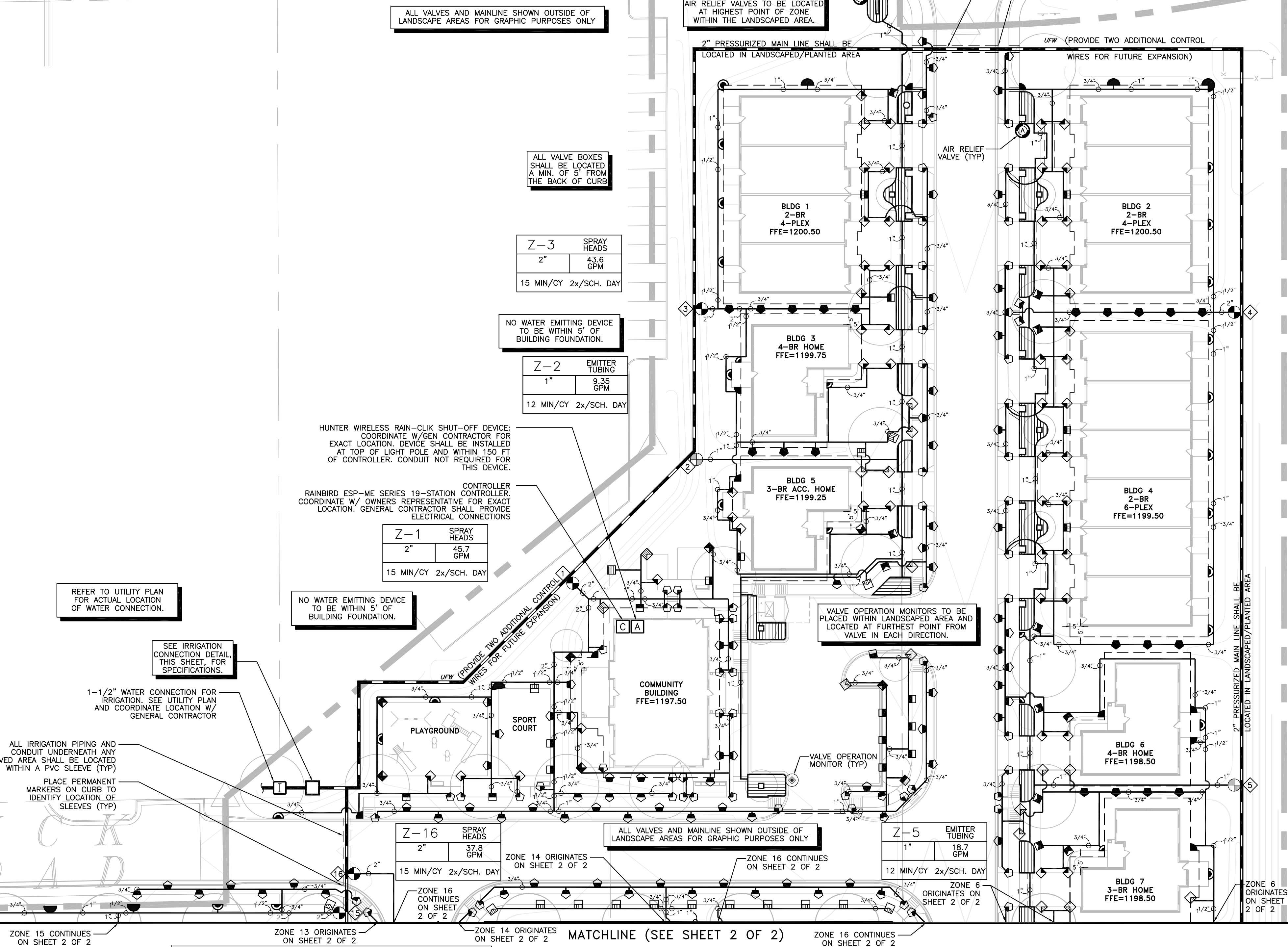
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NOTE:
PVC LATERAL LINE "SPINE" IN EACH DRIP IRRIGATION ZONE IS TO REDUCE THE LAG TIME AND FACILITATE THE RAPID DISTRIBUTION OF WATER THROUGHOUT EACH ZONE. THE INLINE EMITTER TUBING NETWORK SHALL ONLY CONNECT TO THE PVC LATERAL LINE AS NECESSARY FOR THE EFFICIENT AND UNIFORM DISTRIBUTION OF WATER TO THE PLANTING BEDS. USE OF 1/2" FLEXIBLE TUBING MANIFOLDS ARE RECOMMENDED IN LIEU OF ALL PVC-EMITTER TUBING CONNECTIONS SHOWN



HUGHES ROAD



Z-15 SPRAY HEADS
2" 34.6 GPM
15 MIN/CY 2x/SCH. DAY

Z-3 SPRAY HEADS
2" 43.6 GPM
15 MIN/CY 2x/SCH. DAY

Z-2 EMITTER TUBING
1" 8 GPM
12 MIN/CY 2x/SCH. DAY

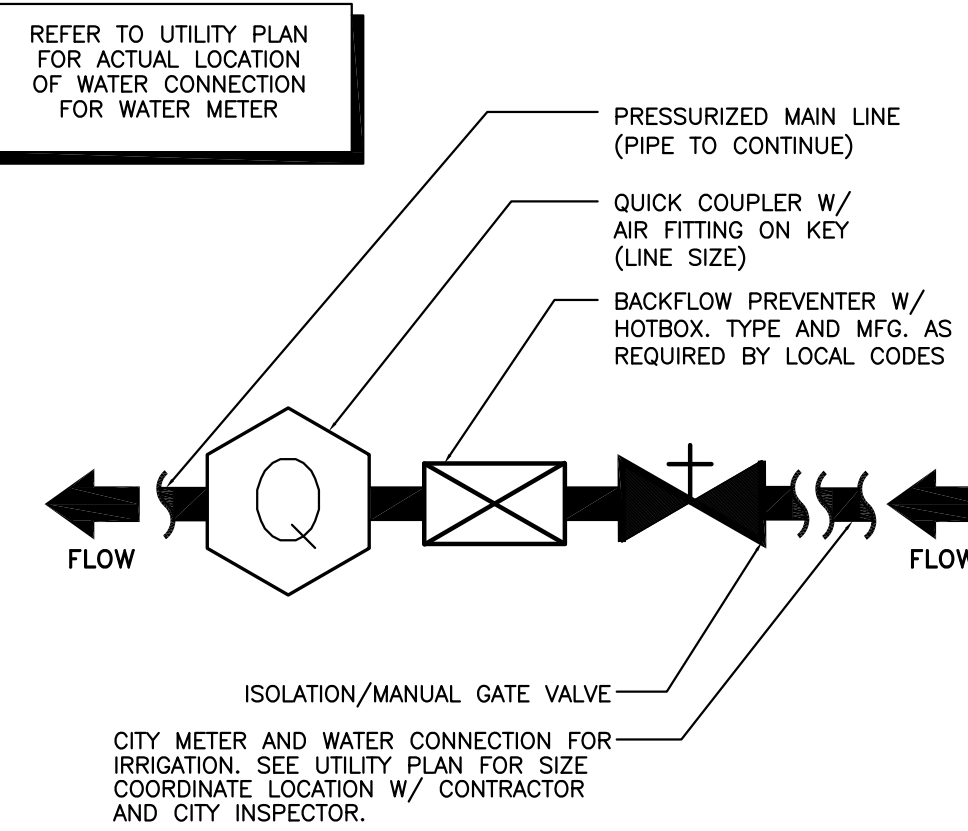
Z-1 SPRAY HEADS
2" 45.2 GPM
15 MIN/CY 2x/SCH. DAY

Z-5 EMITTER TUBING
1" 18.7 GPM
12 MIN/CY 2x/SCH. DAY

Z-16 SPRAY HEADS
2" 37.8 GPM
15 MIN/CY 2x/SCH. DAY

MP ROTATOR INFORMATION						
SYM	MANUFAC.	HEAD	NOZZLE	PSI	GPM	ARC RADIUS
☐	HUNTER	PRS40	MP1000-90"	35	0.18	90' 13'
☐	HUNTER	PRS40	MP1000-180"	35	0.35	180' 13'
☐	HUNTER	PRS40	MP1000-210"	35	0.41	210' 13'
☐	HUNTER	PRS40	MP1000-270"	35	0.54	270' 13'
☐	HUNTER	PRS40	MP1000-360"	35	0.71	360' 13'
SYM	MANUFAC.	HEAD	NOZZLE	PSI	GPM	ARC RADIUS
☐	HUNTER	PRS40	MPLCS515	35	0.21	90' 5'X15'
☐	HUNTER	PRS40	MPLCS515	35	0.21	90' 5'X15'
☐	HUNTER	PRS40	MPS530	35	0.41	180' 5'X30'
SYM	MANUFAC.	HEAD	NOZZLE	PSI	GPM	ARC RADIUS
☐	HUNTER	PRS40	MP2000-90"	35	0.37	90' 18'
☐	HUNTER	PRS40	MP2000-180"	35	0.69	180' 18'
☐	HUNTER	PRS40	MP2000-210"	35	0.80	210' 18'
☐	HUNTER	PRS40	MP2000-270"	35	1.03	270' 18'
☐	HUNTER	PRS40	MP2000-360"	35	1.37	360' 18'

MP ROTATOR INFORMATION						
SYM	MANUFAC.	HEAD	NOZZLE	PSI	GPM	ARC RADIUS
☐	HUNTER	PRS40	MP3000-90"	35	0.80	90' 28'
☐	HUNTER	PRS40	MP3000-180"	35	1.70	180' 28'
☐	HUNTER	PRS40	MP3000-210"	35	1.99	210' 28'
☐	HUNTER	PRS40	MP3000-270"	35	2.55	270' 28'
☐	HUNTER	PRS40	MP3000-360"	35	3.40	360' 28'
SYM	MANUFAC.	HEAD	NOZZLE	PSI	GPM	ARC RADIUS
☐	HUNTER	PGP-ULTRA	2.0 BLUE-90"	35	1.7	90' 33'
☐	HUNTER	PGP-ULTRA	2.5 BLUE-90"	35	2.1	120' 35'
☐	HUNTER	PGP-ULTRA	4.0 BLUE-180"	35	3.5	180' 39'
☐	HUNTER	PGP-ULTRA	5.0 BLUE-180"	35	4.5	210' 39'
☐	HUNTER	PGP-ULTRA	6.0 BLUE-270"	35	5.6	270' 40'
☐	HUNTER	PGP-ULTRA	8.0 BLUE-360"	35	7.0	360' 41'



NOT TO SCALE
IRRIGATION CONNECTION DETAIL

THE DOMESTIC STATIC BOR PRESSURE AT THE F.F.E. FOR THIS SITE WAS NOT AVAILABLE WHEN THE IRRIGATION PLAN WAS PREPARED.

THE IRRIGATION SYSTEM REQUIRES A MINIMUM OF 65.6 PSI FOR EFFICIENT OPERATION.

THE CONTRACTOR SHALL CONFIRM THAT THE AVAILABLE WATER PRESSURE AT THE SITE MEETS THE MINIMUM NECESSARY FOR EFFICIENT OPERATION.

REFER TO THE IRRIGATION NOTES (THIS SET) FOR ADDITIONAL INFORMATION.

MAINLINE FOR IRRIGATION SYSTEM SHALL BE BEDDED WITHIN TRENCH AS PER WATERLINE SPECIFICATIONS. LATERAL LINES MAY BE AND SHALL BE BACKFILLED AS PER SPECIFICATIONS IN A COMMON TRENCH WITH THE MAIN LINE PROVIDED MINIMUM SEPARATION IS PROVIDED

PERMANENT MARKERS SHALL BE PLACED ON CURBS TO IDENTIFY LOCATIONS OF ALL IRRIGATION SLEEVES.

CONTRACTOR SHALL CONTACT 811 FOR LOCATION OF ALL UTILITIES AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION

GENERAL CONTRACTOR SHALL ENSURE THAT SLEEVES INSTALLED ARE LARGE ENOUGH TO ACCOMMODATE ALL NECESSARY PIPING, AS PER SPECIFICATIONS.

CONTRACTOR SHALL CONTACT 811 FOR LOCATION OF ALL UTILITIES AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION

IRRIGATION LEGEND

CONTRACTOR PROVIDED COMPONENTS	
C	19-STATION IRRIGATION CONTROLLER, WALL MOUNTED IN LOCKING CABINET-RAINBIRD ESP-ME SERIES
A	WIRELESS RAIN/FREEZE SENSOR - HUNTER MINI-CLIK
□	IRRIGATION CONNECTION COMPONENTS
I	IRRIGATION WATER TAP AND CITY WATER METER ON POTABLE WATER UTILITY LINE WITH BACKFLOW PREVENTER, PROVIDED BY CONTRACTOR. COORDINATE SOURCE LOCATION WITH GENERAL CONTRACTOR. SEE UTILITY PLAN FOR SIZE.
⊗	REDUCED PRESSURE BACKFLOW DEVICE (LINE SIZE), PER LOCAL CODES PROVIDE GREEN FIBERGLASS INSULATED ENCLOSURE, VERIFY EXACT LOCATION IN FIELD. FEBCO 825Y, OR EQUAL.
⊕	ISOLATION VALVE (LINE SIZE). PROVIDE 15" VALVE BOX WITH EXTENSIONS. BRONZE THREAD ON TYPE WITH WHEEL HANDLE.
⊕	BRONZE QUICK COUPLER VALVE (LINE SIZE). MOUNT ON SPEARS PVC OR RAINBIRD O-RING TYPE PVC SWING JOINT. MOUNT IN 15" RECTANGULAR VALVE BOX. PROVIDE ONE (SIZE APPROPRIATE) QY KEY PER FOUR QUICK COUPLER VALVES. RAINBIRD 4 RC.
⊕	VALVE OPERATION MONITOR - CAPPED IRRIGATION SPRAY HEAD
⊕	MANUAL DRAIN-VALVE; MAIN LINE SIZE
⊕	AIR RELIEF VALVES WITH REMOVABLE FLUSH CAPS TO BE LOCATED AT ALL ZONES WHERE INLINE EMITTER TUBING IS USED.
⊕	ELECTRIC IRRIGATION VALVE. PLASTIC BODY WITH FLOW CONTROL MOUNTED IN 15" STANDARD PLASTIC VALVE BOX. SIZE INDICATED ON DRAWING RAINBIRD PEB SERIES. "X" IS ZONE DESIGNATION. FOR USE IN TURF ZONES.
⊕	1" WIDE FLOW VALVE WITH 40 PSI PRESSURE REDUCER MOUNTED IN 15" STANDARD PLASTIC VALVE BOX. "X" IS ZONE DESIGNATION. FOR USE IN ZONES WHERE THE FLOW RATE IS BETWEEN 0.3 GPM AND 20.0 GPM.
—UFW—	UNDERGROUND FEEDER WIRE NO. 14 AWG DIRECT BURIAL RUN IN CONDUIT.
—	PVC SLEEVE SCHEDULE 40 PVC UNDER ALL PAVED SURFACES. SEE SCHEDULE FOR SIZE. PLACE PERMANENT MARKERS ON CURB TO IDENTIFY LOCATION.
—	PVC MAINLINE PIPE. SCHEDULE 40, PVC PIPE. 2.5" AND SMALLER-SOLVENT WELD PIPE AND PVC SOLVENT WELD FITTINGS. PVC SLEEVES SHALL BE REQUIRED UNDER SIDEWALKS, CURBS, OR ANY PAVED SURFACES. REFER TO SPECIFICATIONS FOR SIZES OF SLEEVES.
—	PVC LATERAL PIPE. CLASS 200, SOLVENT WELD, PVC PIPE FOR PIPE OVER 1" IN DIAMETER. SIZE LATERAL PIPE AS SHOWN AT VELOCITIES OF 5 FEET PER SECOND OR LESS.
—	PVC LATERAL PIPE. CLASS 315, SOLVENT WELD, PVC PIPE FOR PIPE 1" IN DIAMETER OR LESS. SIZE LATERAL PIPE AS SHOWN AT VELOCITIES OF 5 FEET PER SECOND OR LESS.
—	PVC SLEEVES SHALL BE REQUIRED UNDER SIDEWALKS, CURBS, OR ANY PAVED SURFACES. REFER TO SPECIFICATIONS FOR SIZES OF SLEEVES.
—	RAINBIRD 1/2" POLYETHYLENE TUBING TO BE EITHER: * PRESSURE COMPENSATING INLINE EMITTER TUBING WITH 0.9 GAL/HOUR EMITTERS AT 18" SPACING O.C. OR * XBS 1/2" BLANK TUBING, AS LABELED ON PLANS.
—	PIPE SIZE - UNLABELED PIPE BETWEEN 2 SIZES SHALL BE THE LARGER SIZE.
—	PIPE JOINT
—	PIPES CROSS. DO NOT INTERSECT

Z-3	12 MIN/CY 2x/SCH. DAY
XX-XX	CONTROLLER STATION NUMBER
X-X	GALLONS PER MINUTE
XX.XX.XX.XX	SIZE OF VALVE
XX.XX.XX.XX	FREQUENCY AND DURATION OF ZONE RUN TIME

1. THE POINT OF CONNECTION IS A WATERLINE STUBBED AT THE NORTHEAST CORNER OF THE SITE. SERVICE COMES FROM METER AND BACKFLOW PREVENTER.
2. REFER TO UTILITY PLAN, THIS SET, FOR ADDITIONAL INFORMATION.

CONTROLLER (RAINBIRD ESP-ME SERIES 19-STATION CONTROLLER) PROGRAMMING SCHEDULE

IRRIGATION INTERVAL	EVERY DAY
# OF START TIMES/SCHEDULED DAY	2
SCHEDULED START TIMES FOR PROGRAM	11:00 PM 3:00 AM

ZONE	ZONE DESCRIPTION	RUN TIME	TOTAL RUN TIME/SCHEDULED DAY
Z-1	TURF- COMMUNITY BLDG	15 MIN/CYCLE	30 MIN
Z-2	DRIP- NW PLANTING BEDS	12 MIN/CYCLE	24 MIN
Z-3	TURF- BLDGS 1,3, AND 5	15 MIN/CYCLE	30 MIN
Z-4	TURF- BLDGS 2 AND 4	15 MIN/CYCLE	30 MIN
Z-5	DRIP- EAST PLANTING BEDS	12 MIN/CYCLE	24 MIN
Z-6	TURF- BLDGS 6, 7, AND 8	15 MIN/CYCLE	30 MIN
Z-7	TURF- BLDGS 10, 11, AND 12	15 MIN/CYCLE	30 MIN
Z-8	TURF- BLDG 13 AND DUMPSTER	15 MIN/CYCLE	30 MIN
Z-9	TURF- BLDGS 14 AND 15	15 MIN/CYCLE	30 MIN
Z-10	TURF- BLDG 16	15 MIN/CYCLE	30 MIN
Z-11	TURF- BLDG 17	15 MIN/CYCLE	30 MIN
Z-12	DRIP- SW PLANTING BEDS	12 MIN/CYCLE	24 MIN
Z-13	TURF- BLDGS 18 AND 20	15 MIN/CYCLE	30 MIN
Z-14	TURF- BLDG 19	15 MIN/CYCLE	30 MIN
Z-15	TURF- WEST ENTRANCE	15 MIN/CYCLE	30 MIN
Z-16	TURF- BLDG 9	15 MIN/CYCLE	30 MIN
Z-17	OPEN	—	—
Z-18	OPEN	—	—
Z-19	OPEN	—	—
RUN TIME TOTALS		3 HRS 51 MIN PER CYCLE	7 HRS 42 MIN PER SCHEDULED DAY

CONTROLLER PROGRAMMING SCHEDULE IS BASED UPON THE BEST KNOWLEDGE OF THE ANTICIPATED POST CONSTRUCTION SITE CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR MONITORING SITE CONDITIONS AND ADJUSTING IRRIGATION WATERING SCHEDULE AS NECESSARY TO MAINTAIN PLANT HEALTH.

PLANT WATER REQUIREMENTS

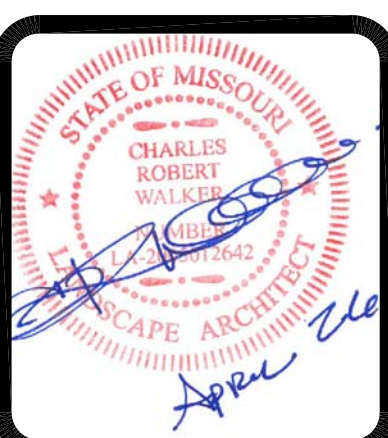
TREES	Etc = 0.18"/DAY	1.23"/WEEK
TURFGRASS	Etc = 0.18"/DAY	1.23"/WEEK
SHRUB PLANTER	Etc = 0.25"/DAY	1.75"/WEEK

NO	REVISIONS
PR1	PLAN REVISION #1 4/26/23

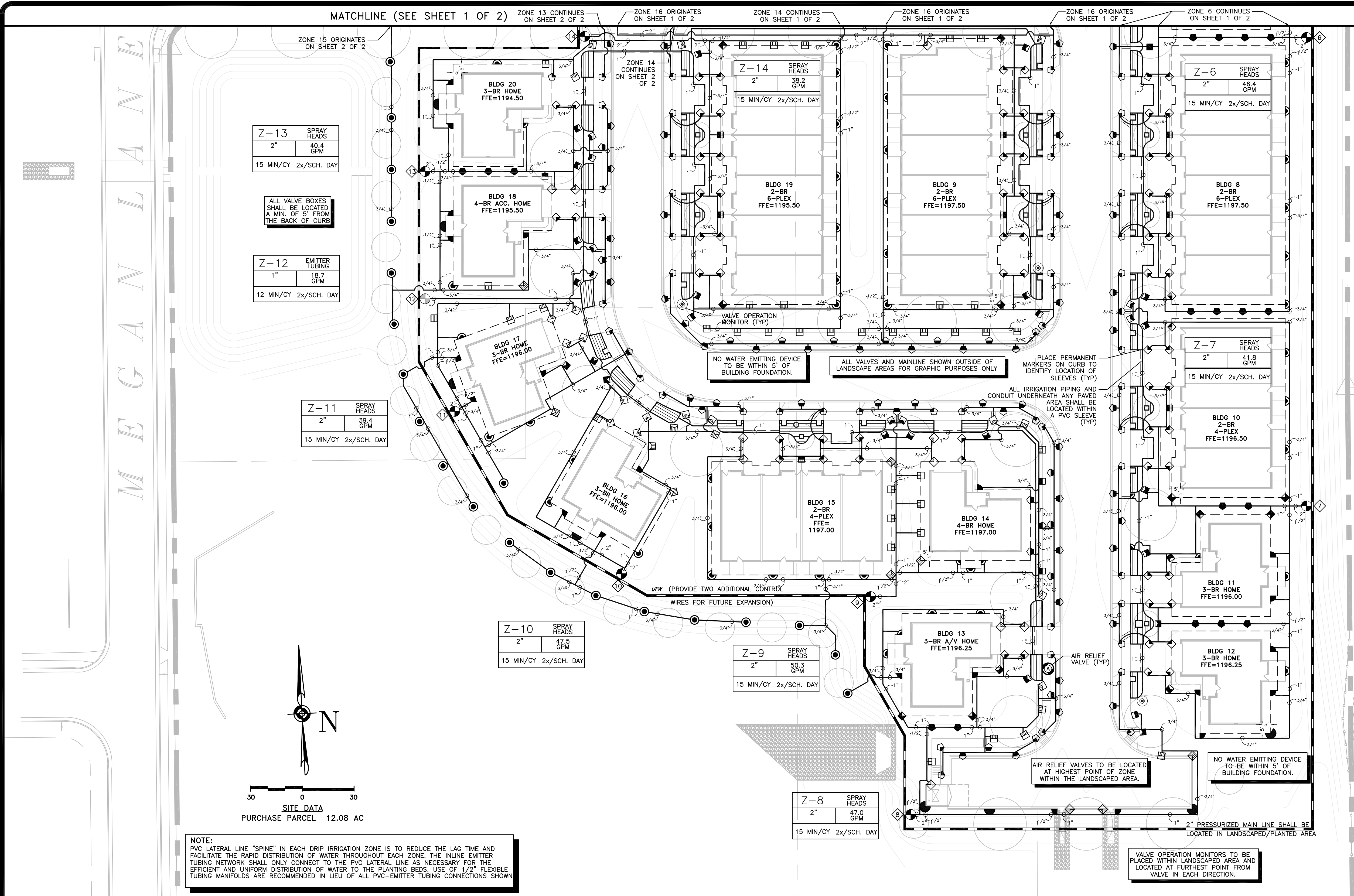
Cottages at Generation
Village, LP
3556 S. CUIPERER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

IRRIGATION PLAN
(SHEET 1 OF 2)
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON CONSULTING ENGINEERS, INC.
1008 Ledgestone Commons
Barnett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Missouri Licensed Engineering Firm #200608989



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IRRIGATION LEGEND			
CONTRACTOR PROVIDED COMPONENTS			
C	19-STATION IRRIGATION CONTROLLER, WALL MOUNTED IN LOCKING CABINET-RAINBIRD ESP-ME SERIES		
A	WIRELESS RAIN/FREEZE SENSOR - HUNTER MINI-CLIK		
IRRIGATION CONNECTION COMPONENTS			
I	IRRIGATION WATER TAP AND CITY WATER METER ON POTABLE WATER UTILITY LINE WITH BACKFLOW PREVENTER, PROVIDED BY CONTRACTOR. COORDINATE SOURCE LOCATION WITH GENERAL CONTRACTOR. SEE UTILITY PLAN FOR SIZE.		
⊗	REDUCED PRESSURE BACKFLOW DEVICE (LINE SIZE), PER LOCAL CODES PROVIDE GREEN FIBERGLASS INSULATED ENCLOSURE, VERIFY EXACT LOCATION IN FIELD. FEBCO 825Y, OR EQUAL.		
+	ISOLATION VALVE (LINE SIZE). PROVIDE 15" VALVE BOX WITH EXTENSIONS. BRONZE THREAD ON TYPE WITH WHEEL HANDLE.		
⊙	BRONZE QUICK COUPLER VALVE (LINE SIZE). MOUNT ON SPEARS PVC OR RAINBIRD O-RING TYPE PVC SWING JOINT. MOUNT IN 15" RECTANGULAR VALVE BOX. PROVIDE ONE SIZE APPROPRIATE QC KEY PER FOUR QUICK COUPLER VALVES. RAINBIRD 4 RC.		
⊙	VALVE OPERATION MONITOR - CAPPED IRRIGATION SPRAY HEAD		
D	MANUAL DRAIN-VALVE; MAIN LINE SIZE		
A	AIR RELIEF VALVES WITH REMOVABLE FLUSH CAPS TO BE LOCATED AT ALL ZONES WHERE INLINE EMITTER TUBING IS USED.		
⊙	ELECTRIC IRRIGATION VALVE. PLASTIC BODY WITH FLOW CONTROL. MOUNTED IN 15" STANDARD PLASTIC VALVE BOX. SIZE INDICATED ON DRAWING RAINBIRD PEB SERIES. "X" IS ZONE DESIGNATION. FOR USE IN TURF ZONES.		
⊙	1" WIDE FLOW VALVE WITH 40 PSI PRESSURE REDUCER MOUNTED IN 15" STANDARD PLASTIC VALVE BOX. "X" IS ZONE DESIGNATION. FOR USE IN ZONES WHERE THE FLOW RATE IS BETWEEN 0.3 GPM AND 20.0 GPM.		
UFW	UNDERGROUND FEEDER WIRE NO. 14 AWG DIRECT BURIAL RUN IN CONDUIT.		
---	PVC SLEEVE SCHEDULE 40 PVC UNDER ALL PAVED SURFACES. SEE SCHEDULE FOR SIZE. PLACE PERMANENT MARKERS ON CURB TO IDENTIFY LOCATION.		
SIZE	PVC MAINLINE PIPE. SCHEDULE 40, PVC PIPE. 2.5" AND SMALLER- SOLVENT WELD PIPE AND PVC SOLVENT WELD FITTINGS. PVC SLEEVES SHALL BE REQUIRED UNDER SIDEWALKS, CURBS, OR ANY PAVED SURFACES. REFER TO SPECIFICATIONS FOR SIZES OF SLEEVES.		
SIZE	PVC LATERAL PIPE. CLASS 200, SOLVENT WELD, PVC PIPE FOR PIPE OVER 1" IN DIAMETER. SIZE LATERAL PIPE AS SHOWN AT VELOCITIES OF 5 FEET PER SECOND OR LESS.		
SIZE	PVC LATERAL PIPE. CLASS 315, SOLVENT WELD, PVC PIPE FOR PIPE 1" IN DIAMETER OR LESS. SIZE LATERAL PIPE AS SHOWN AT VELOCITIES OF 5 FEET PER SECOND OR LESS.		
	PVC SLEEVES SHALL BE REQUIRED UNDER SIDEWALKS, CURBS, OR ANY PAVED SURFACES. REFER TO SPECIFICATIONS FOR SIZES OF SLEEVES.		
	RAINBIRD 1/2" POLYETHYLENE TUBING TO BE EITHER: * PRESSURE COMPENSATING INLINE EMITTER TUBING WITH 0.9 GAL/HOUR EMITTERS AT 18" SPACING O.C. OR * XBS 1/2" BLANK TUBING, AS LABELED ON PLANS.		
1"	PIPE SIZE - UNLABELED PIPE BETWEEN 2 SIZES SHALL BE THE LARGER SIZE.		
+	PIPE JOINT		
+	PIPES CROSS. DO NOT INTERSECT		
Z-3	CONTROLLER STATION NUMBER X - X SIZE OF VALVE XX.XXX.XX.XX FREQUENCY AND DURATION OF ZONE RUN TIME		
J	1. THE POINT OF CONNECTION IS A WATERLINE STUBBED AT THE NORTHEAST CORNER OF THE SITE. SERVICE COMES FROM METER AND BACKFLOW PREVENTER. 2. REFER TO UTILITY PLAN, THIS SET, FOR ADDITIONAL INFORMATION.		
CONTROLLER PROGRAMMING SCHEDULE			
IRRIGATION INTERVAL		EVERY DAY	
# OF START TIMES/SCHEDULED DAY		2	
SCHEDULED START TIMES FOR PROGRAM		11:00 PM 3:00 AM	
ZONE	ZONE DESCRIPTION	RUN TIME	TOTAL RUN TIME/ SCHEDULED DAY
Z-1	TURF- COMMUNITY BLDG	15 MIN/CYCLE	30 MIN
Z-2	DRIP- NW PLANTING BEDS	12 MIN/CYCLE	24 MIN
Z-3	TURF- BLDGS 1, 3, AND 5	15 MIN/CYCLE	30 MIN
Z-4	TURF- BLDGS 2 AND 4	15 MIN/CYCLE	30 MIN
Z-5	DRIP- EAST PLANTING BEDS	12 MIN/CYCLE	24 MIN
Z-6	TURF- BLDGS 6, 7, AND 8	15 MIN/CYCLE	30 MIN
Z-7	TURF- BLDGS 10, 11, AND 12	15 MIN/CYCLE	30 MIN
Z-8	TURF- BLDG 13 AND DUMPSTER	15 MIN/CYCLE	30 MIN
Z-9	TURF- BLDGS 14 AND 15	15 MIN/CYCLE	30 MIN
Z-10	TURF- BLDG 16	15 MIN/CYCLE	30 MIN
Z-11	TURF- BLDG 17	15 MIN/CYCLE	30 MIN
Z-12	DRIP- SW PLANTING BEDS	12 MIN/CYCLE	24 MIN
Z-13	TURF- BLDGS 18 AND 20	15 MIN/CYCLE	30 MIN
Z-14	TURF- BLDG 19	15 MIN/CYCLE	30 MIN
Z-15	TURF- WEST ENTRANCE	15 MIN/CYCLE	30 MIN
Z-16	TURF- BLDG 9	15 MIN/CYCLE	30 MIN
Z-17	OPEN	-	-
Z-18	OPEN	-	-
Z-19	OPEN	-	-
RUN TIME TOTALS		3 HRS 51 MIN PER CYCLE	7 HRS 42 MIN PER SCHEDULED DAY
CONTROLLER PROGRAMMING SCHEDULE IS BASED UPON THE BEST KNOWLEDGE OF THE ANTICIPATED POST CONSTRUCTION SITE CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR MONITORING SITE CONDITIONS AND ADJUSTING IRRIGATION WATERING SCHEDULE AS NECESSARY TO MAINTAIN PLANT HEALTH.			
PLANT WATER REQUIREMENTS			
TREES	Etc = 0.18"/DAY	1.23"/WEEK	
TURFGRASS	Etc = 0.18"/DAY	1.23"/WEEK	
SHRUB PLANTER	Etc = 0.25"/DAY	1.75"/WEEK	

NO REVISIONS

PR1 PLAN REVISION #1 4/26/23

IRRIGATION PLAN (SHEET 2 OF 2)

COTTAGES AT GENERATION VILLAGE WILLARD, MISSOURI

Carlson Consulting Engineers, Inc.

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Missouri Licensed Engineering Firm #200608989

STATE OF MISSOURI

CHARLES KNOX WALKER

LANDSCAPE ARCHITECT

April 26, 2023

DRAWN ACP

CHECKED BKM

DATE 04/06/2023

SCALE 1"=30'

JOB No. N/A

SHEET 23 OF 32

THE DOMESTIC STATIC BOR PRESSURE AT THE F.F.E. FOR THIS SITE WAS NOT AVAILABLE WHEN THE IRRIGATION PLAN WAS PREPARED.

THE IRRIGATION SYSTEM REQUIRES A MINIMUM OF 65.6 PSI FOR EFFICIENT OPERATION.

THE CONTRACTOR SHALL CONFIRM THAT THE AVAILABLE WATER PRESSURE AT THE SITE MEETS THE MINIMUM NECESSARY FOR EFFICIENT OPERATION.

REFER TO THE IRRIGATION NOTES (THIS SET) FOR ADDITIONAL INFORMATION.

MAINLINE FOR IRRIGATION SYSTEM SHALL BE BEDDED WITHIN TRENCH AS PER WATERLINE SPECIFICATIONS. LATERAL LINES MAY BE AND SHALL BE BACKFILLED AS PER SPECIFICATIONS IN A COMMON TRENCH WITH THE MAIN LINE PROVIDED MINIMUM SEPARATION IS PROVIDED

GENERAL CONTRACTOR SHALL ENSURE THAT SLEEVES INSTALLED ARE LARGE ENOUGH TO ACCOMMODATE ALL NECESSARY PIPING, AS PER SPECIFICATIONS.

PERMANENT MARKERS SHALL BE PLACED ON CURBS TO IDENTIFY LOCATIONS OF ALL IRRIGATION SLEEVES.

CONTRACTOR SHALL CONTACT 811 FOR LOCATION OF ALL UTILITIES AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION

MAINLINE FOR IRRIGATION SYSTEM SHALL NOT ENCROACH UPON R.O.W. OR OTHER LOTS. ALL COMPONENTS OF THE IRRIGATION SYSTEM SHALL REMAIN ON OWNERS PROPERTY.

ALL IRRIGATION HEADS SHALL BE LOCATED SO THAT OTHER SITE FEATURES DO NOT OBSTRUCT SPRAY OF IRRIGATION HEADS.

MISSOURI COUNCIL ON PROFESSIONAL ENGINEERING

800.345.7474

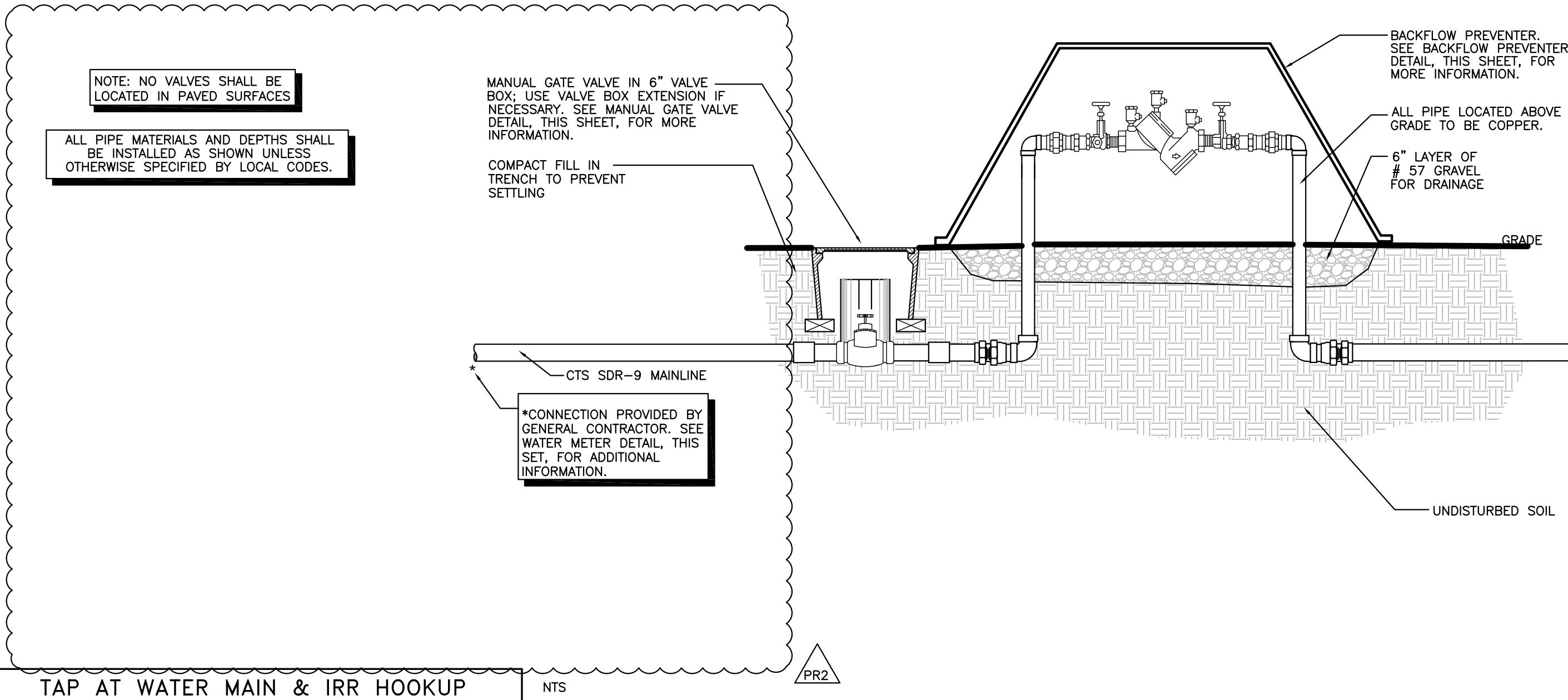
PROFESSIONAL ENGINEER

APR 26 2023

IRRIGATION NOTES

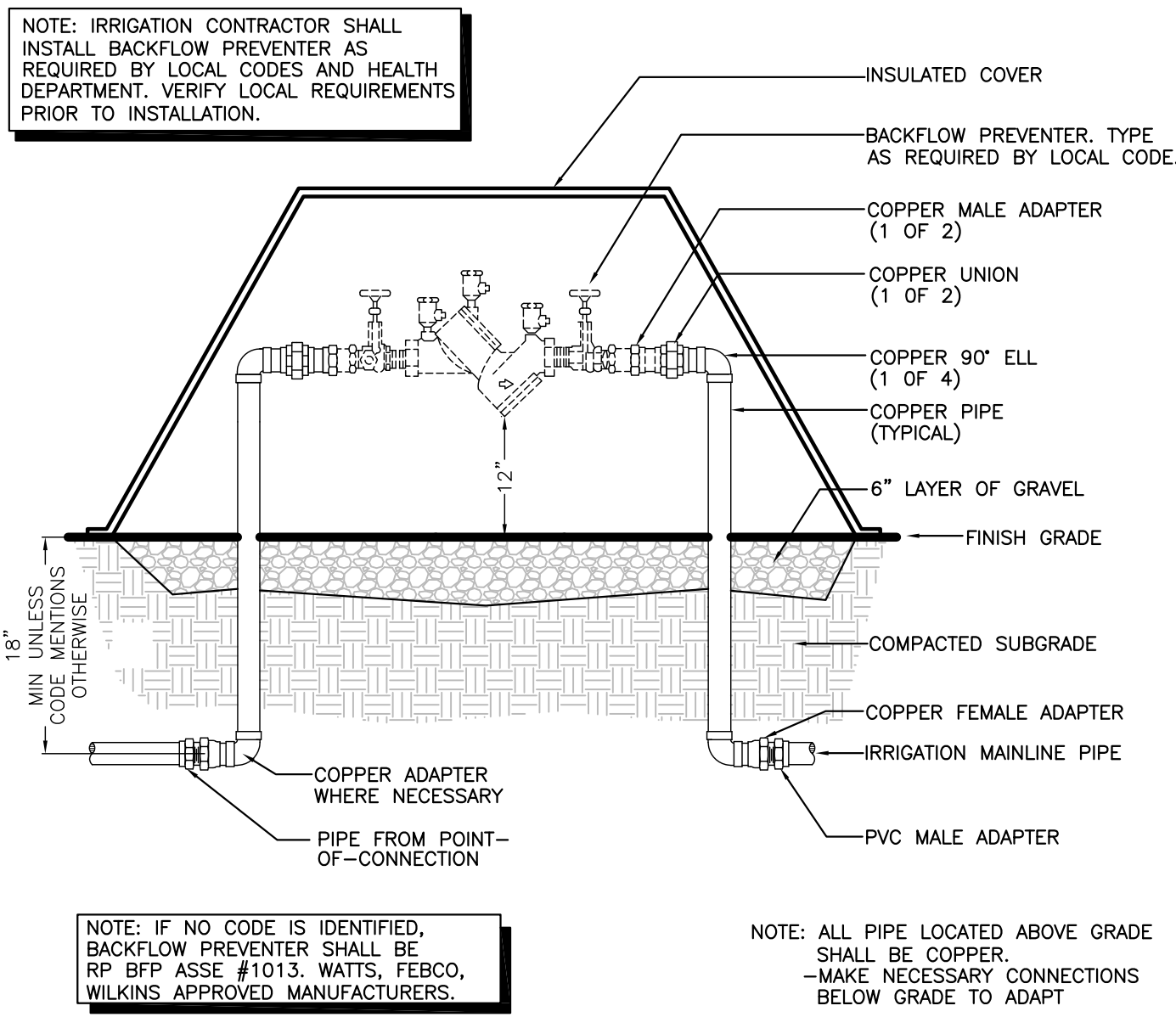
1. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE PROJECT SPECIFICATIONS PRIOR TO BIDDING. THE PROJECT SPECIFICATIONS ARE A PART OF THESE PLANS AND SHALL BE CONSULTED BY THE IRRIGATION CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING WORK AS SPECIFIED IN THE PROJECT SPECIFICATIONS AND ON THE PLANS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIALS AND LABOR TO FULLY EXECUTE, GUARANTEE, AND MAINTAIN THE SYSTEM AS REQUIRED. THE TOTAL WORK SHOWN ON THIS PLAN SHALL BE DONE IN ACCORDANCE WITH SPECIFICATIONS, AND ALSO AS PER INSTRUCTIONS OF THE CONTRACTING OFFICER.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, EQUIPMENT QUANTITIES, AND UTILITY LOCATIONS PRIOR TO BEGINNING WORK.
4. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN PLANS OR SPECIFICATIONS PRIOR TO BEGINNING OR CONTINUING WORK.
5. ALL CONSTRUCTION SHALL CONFORM TO CITY, COUNTY, STATE, AND FEDERAL REQUIREMENTS. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THAT ALL IRRIGATION EQUIPMENT MEETS GOVERNMENT REGULATIONS. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS OR APPROVALS.
6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING AND LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTANCES, ETC. WHICH OCCURS AS A RESULT OF THE IRRIGATION CONSTRUCTION TO OWNER'S SATISFACTION, AT NO ADDITIONAL COST.
7. NO PART OF THE IRRIGATION SYSTEM SHALL BE INSTALLED IN CONFLICT WITH UTILITIES. THE CONTRACTOR SHALL MAKE ANY NECESSARY ADJUSTMENTS IN THE PROPOSED IRRIGATION SYSTEM TO AVOID CONFLICTS WITH EXISTING STRUCTURES, PAVING, AND UTILITIES.
8. ALL CALCULATIONS INDICATED ON THIS SHEET ARE SAMPLE CALCULATIONS AND SHOULD NOT BE CONSTRUED AS ACCURATE.
9. 65.6 PSI STATIC WATER PRESSURE IS REQUIRED FOR THE EFFICIENT OPERATION OF THE IRRIGATION SYSTEM AS DESIGNED. VERIFY 68 PSI STATIC WATER PRESSURE IS AVAILABLE AT THE PROJECT SITE PRIOR TO BEGINNING THE IRRIGATION INSTALLATION. NOTIFY THE LANDSCAPE ARCHITECT IF THE MINIMUM WATER PRESSURE IS NOT AVAILABLE.
10. IRRIGATION CONTRACTOR TO VERIFY ACTUAL AVAILABLE WATER PRESSURE BEFORE BEGINNING INSTALLATION. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IF AVAILABLE WATER PRESSURE EXCEEDS 5 PSI HIGHER OR LOWER THAN MINIMUM REQUIRED WATER PRESSURE.
11. IF STATIC WATER PRESSURES ARE NOT ADEQUATE TO OPERATE IRRIGATION SYSTEM, A PUMP SYSTEM IS TO BE DESIGNED BY AN IRRIGATION SYSTEM DESIGNER. IRRIGATION PUMP AND INSTALLATION MUST BE COORDINATED WITH THE ELECTRICAL CONTRACTOR. PUMP MUST BE INSTALLED WITHIN A TAMPER PROOF ENCLOSURE.
12. IF STATIC WATER PRESSURES EXCEEDS 75 PSI, PRESSURE COMPENSATING HEADS MUST BE USED.
13. IRRIGATION SYSTEMS CONNECTED TO POTABLE WATER SUPPLY SHALL HAVE A WATTS, FEBCO, OR WILKINS REDUCED PRESSURE BACKFLOW PREVENTER (ASSE# 1013) INSTALLED, OR AS REQUIRED BY LOCAL CODES.
14. ELECTRICAL SERVICE TO ALL EQUIPMENT SHALL BE PROVIDED TO A JUNCTION BOX AT THE EQUIPMENT LOCATION.
15. THE LOCATION OF THE AUTOMATIC CONTROL CLOCK IS GENERALLY INDICATED ON THE DRAWING AND WILL BE SPECIFICALLY LOCATED ON-SITE BY THE CONTRACTING OFFICER. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ELECTRICAL CONNECTIONS FROM CONTROL VALVES TO THE CONTROL CLOCK.
16. EACH CONTROL CLOCK HAS STATIONS THAT ARE NOT BEING UTILIZED. THERE IS TO BE A FIELD WIRE INSTALLED TO THE FURTHEST CONTROL VALVE IN ANY ONE DIRECTION FROM THE CONTROL CLOCK FOR EVERY VACANT STATION PLUS ONE SPARE WIRE IS TO BE INSTALLED IN CASE OF A FAULTY WIRE.
17. VALVE WIRE SHALL BE #14 GAUGE UL-UF SINGLE STRAND DIRECT BURIAL COPPER RUN IN A BURIED CONDUIT. ALL LINES ARE TO BE MADE WITH MANUFACTURER'S PACKAGED KIT CONSISTING OF INSULATING SPRING-TYPE CONNECTOR OR CRIMPED JOINT AND EPOXY RESIN MOISTURE SEAL; SUITABLE FOR DIRECT BURIAL. COIL WIRE EVERY 100' FOR EXPANSION AND CONTRACTION PURPOSES.
18. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO HAVE ALL PLANTING AREAS FLAGGED BY THE LANDSCAPE CONTRACTOR PRIOR TO INSTALLATION. REFER TO THE PLANTING PLANS WHEN TRENCHING TO AVOID TREES AND SHRUBS.
19. EXISTING TREES TO REMAIN ARE TO BE PROTECTED FROM DAMAGE. DO NOT TRENCH OR EXCAVATE WITHIN THE CRITICAL ROOT ZONE OF ANY TREE.
20. THE CONTRACTOR SHALL PROTECT ALL EXISTING LANDSCAPE IMPROVEMENTS DURING THE EXECUTION OF THIS WORK. NO SOIL SHALL BE PLACED DIRECTLY UPON EXISTING LANDSCAPING. ANY MATERIALS WHICH, IN THE OPINION OF THE LANDSCAPE ARCHITECT, ARE DAMAGED DURING THE EXECUTION OF THIS WORK SHALL BE IMMEDIATELY REPLACED BY THE IRRIGATION CONTRACTOR AT HIS EXPENSE.
21. LINE LOCATIONS AS INDICATED ON THE PLAN ARE SCHEMATIC. THE CONTRACTOR SHALL LOCATE ALL LINES IN SUCH A WAY AS TO CAUSE THE LEAST CONFLICT WITH THE LOCATION OF OTHER SITE AMENITIES. LINES MAY BE SHOWN OFFSET IN SOME HARDSCAPE AREAS AND OUTSIDE OF PROPERTY LINES FOR GRAPHIC CLARITY ONLY. ADJUST HEADS AND LINE LOCATIONS ON SITE TO ACCOMMODATE EXISTING JOB CONDITIONS AND ACHIEVE COMPLETE COVERAGE. PIPE LINES DRAWN SIDE BY SIDE MAY BE LAID IN THE SAME TRENCH, BUT THEY MUST MAINTAIN A MINIMUM OF 3" HORIZONTAL AND VERTICAL CLEARANCE FROM ALL OTHER PIPES.
22. ALL HEADS, VALVES, AND ACCESSORIES SHALL BE NELSON, HUNTER, RAIN BIRD, OR APPROVED EQUAL.
23. ALL CONTROL VALVES, GATE VALVES, AND QUICK COUPLERS SHALL BE INSTALLED IN LOCKING VALVE BOXES.
24. ALL VALVE BOXES ARE TO BE LOCATED IN PLANT BED OR NATURAL AREAS WHENEVER POSSIBLE.
25. ALL MAIN LINES AND SLEEVES SHALL BE SCHEDULE 40 PVC, ALL LATERAL LINES SHALL BE 125 PSI, STANDARD INSIDE DIMENSION RATIO (SIDR) 11.5 POLYETHYLENE PIPE.
26. POLYETHYLENE (PE) PIPE SHALL BE CONNECTED WITH BARBED FITTINGS AND CLAMPED WITH STAINLESS STEEL CLAMPS. THE CLAMP SHOULD BE PLACED OVER THE BARBED PORTION. FOR PIPES 1-1/2" AND LARGER, TWO STAINLESS STEEL CLAMPS PER BARB SHALL BE USED.
27. ALL MAIN LINES SHALL BE INSTALLED A MAXIMUM OF 2' FROM THE BACK OF CURB WHERE POSSIBLE. LATERAL LINES SHALL BE INSTALLED LIKEWISE WHERE POSSIBLE.
28. ALL LINES LOCATED BENEATH WALKS, CURBS, OR CONCRETE PAVING SHALL BE LOCATED WITHIN SLEEVES. ALL IRRIGATION SLEEVING TO BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL UNDER PAVING SLEEVING IS TO BE ACCESSIBLE AND FREE OF OBSTRUCTION. SLEEVE SIZES ARE TO BE ACCORDING TO THE ATTACHED SLEEVE SCHEDULE. ELECTRICAL WIRES FOR IRRIGATION VALVES AND IRRIGATION LINES ARE TO BE PLACED IN SEPARATE SLEEVES. SEE SLEEVING DETAIL. UNSIZED PIPE BETWEEN TWO (2) GIVEN SIZES IS ASSUMED TO BE THE LARGER SIZE.
30. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR AND WITHIN 1/2" OF FINISHED GRADES. ALL SPRINKLER HEADS SHALL BE INSTALLED A MINIMUM OF EIGHTEEN INCHES FROM THE BACK OF CURBS AND A MINIMUM OF TWO INCHES FROM SIDEWALKS.
31. ALL IRRIGATION HEADS AT THE LOWER ELEVATIONS OF EACH CONTROL VALVE ZONE SHALL HAVE POP-UP BODIES WITH BUILT-IN CHECK VALVES TO PREVENT LOW HEAD DRAINAGE.
32. EACH CONTROL VALVE ZONE SHALL HAVE AN AUTOMATIC DRAIN VALVE AND A 12" x 24" GRAVEL SUMP INSTALLED AT THE LOWEST POINT WITHIN THE ZONE.
33. ALL RISERS SHALL BE INSTALLED 18" FROM ANY WALL AND A MINIMUM OF 12" FROM ANY SIDEWALK OR ROAD AND SHALL HAVE 2 COATS OF SEMI-FLAT BLACK ENAMEL PAINT.
34. THE CONTRACTOR SHALL ADJUST THE RADIUS AND ARC OF EACH HEAD TO PROVIDE 100% COVERAGE OF ALL PLANTED OR GRASSED ISLANDS, TO MINIMIZE "OVERTHROW", AND TO ELIMINATE DRY SPOTS.
35. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPLY AND INSTALLATION OF ADDITIONAL HEADS TO COVER "DRY SPOTS" OR SLIGHT VARIATIONS FROM THE PLAN TO THE SITE. THE IRRIGATION CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT PRIOR TO MAKING ANY SUBSTITUTIONS, DELETIONS, OR ADDITIONS TO THIS PLAN FOR APPROVAL.
36. THROTTLE ALL IRRIGATION CONTROL VALVES AS REQUIRED TO PREVENT FOGGING.
37. FINAL ADJUSTMENTS TO IRRIGATION SYSTEM & SPRAY PATTERNS ARE TO BE MADE PRIOR TO FINAL INSPECTION.
38. ALL BACKFILLED TRENCHES SHALL BE THOROUGHLY COMPACTED. SEE SPECIFICATIONS FOR BACKFILL MATERIAL AND COMPACTION REQUIREMENTS.
39. THE CONTRACTOR SHALL SET THE IRRIGATION CONTROL SYSTEM TO OPERATE BETWEEN THE HOURS OF 2:00 am AND 6:00 am OR AS DIRECTED BY STORE MANAGER.
40. IRRIGATION CONTRACTOR SHALL OPTIMIZE WATER USAGE AND WATER CONSERVATION TIME ALLOTTED FOR INDIVIDUAL ZONE OPERATION SHALL ALLOW FOR WATER PENETRATION TO A MINIMUM DEPTH OF 8" IN SHRUB BEDS AND 6" IN TURF AREAS.
41. IRRIGATION CONTRACTOR SHALL REVIEW WINTERIZATION PROCEDURES FOR IRRIGATION SYSTEM WITH THE OWNER'S REPRESENTATIVE.
42. THE CONTRACTOR SHALL BE RESPONSIBLE AT TIME OF COMPLETION FOR PROVIDING "AS BUILT" DRAWINGS TO INCLUDE THE EXACT LOCATIONS OF ALL VALVES (AUTOMATIC AND MANUAL), QUICK COUPLER VALVES, BACKFLOW DEVICES, AND CONTROLLER, WITH TRIANGULATED MEASUREMENTS TO EACH AS WELL AS ANY DEVIATIONS IN LOCATION OF PIPING AND HEADS REPRESENTED AS REPRESENTED BY THE CONTRACT DOCUMENTS.
43. ALL WORK, ADJUSTMENTS, AND INSPECTIONS SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
44. REFER TO SITEWORK SPECIFICATIONS FOR ADDITIONAL INFORMATION NEEDED FOR IMPLEMENTATION OF IRRIGATION PLANS.

IRRIGATION NOTES



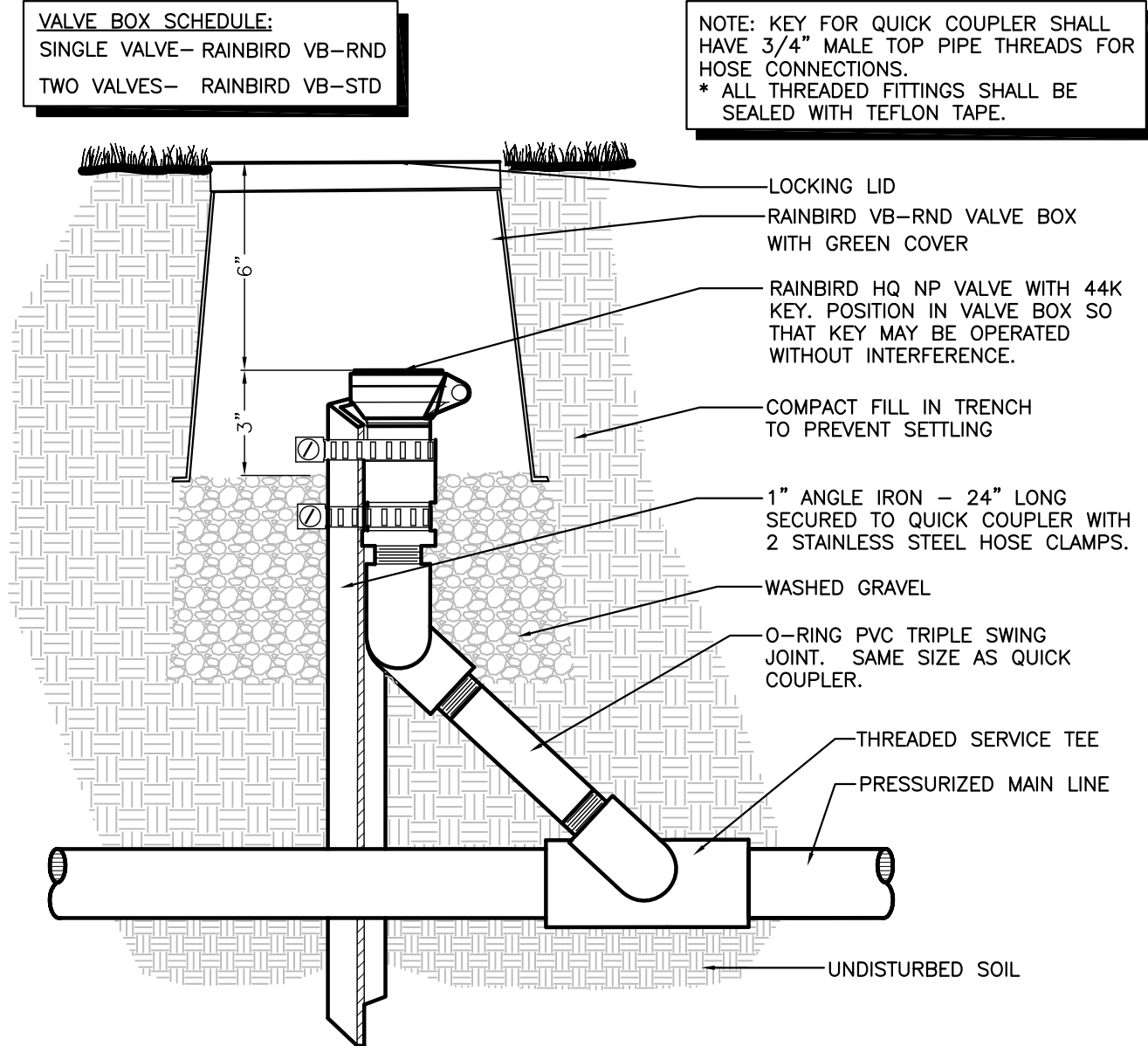
TAP AT WATER MAIN & IRR HOOKUP

NTS



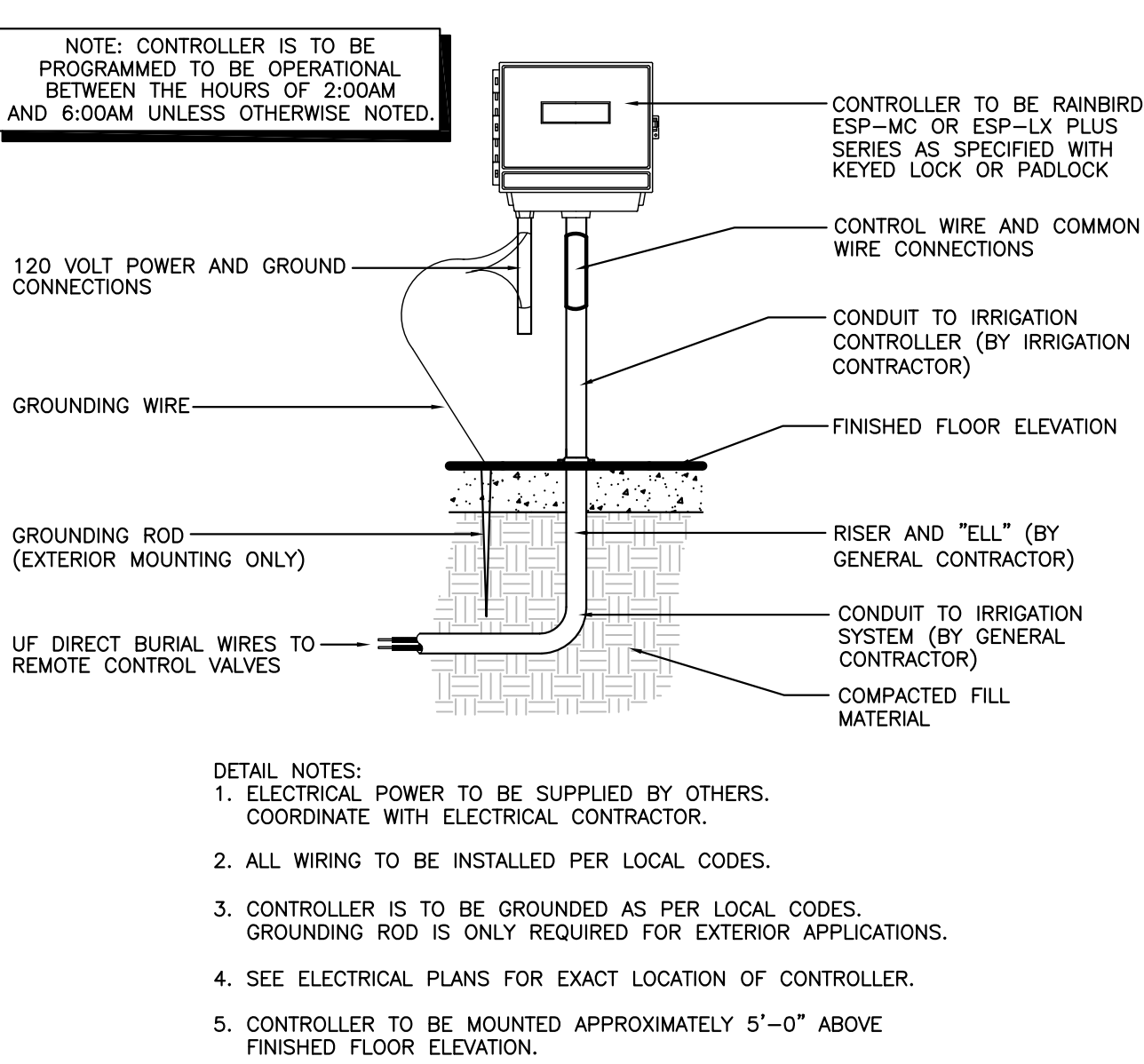
BACKFLOW PREVENTER

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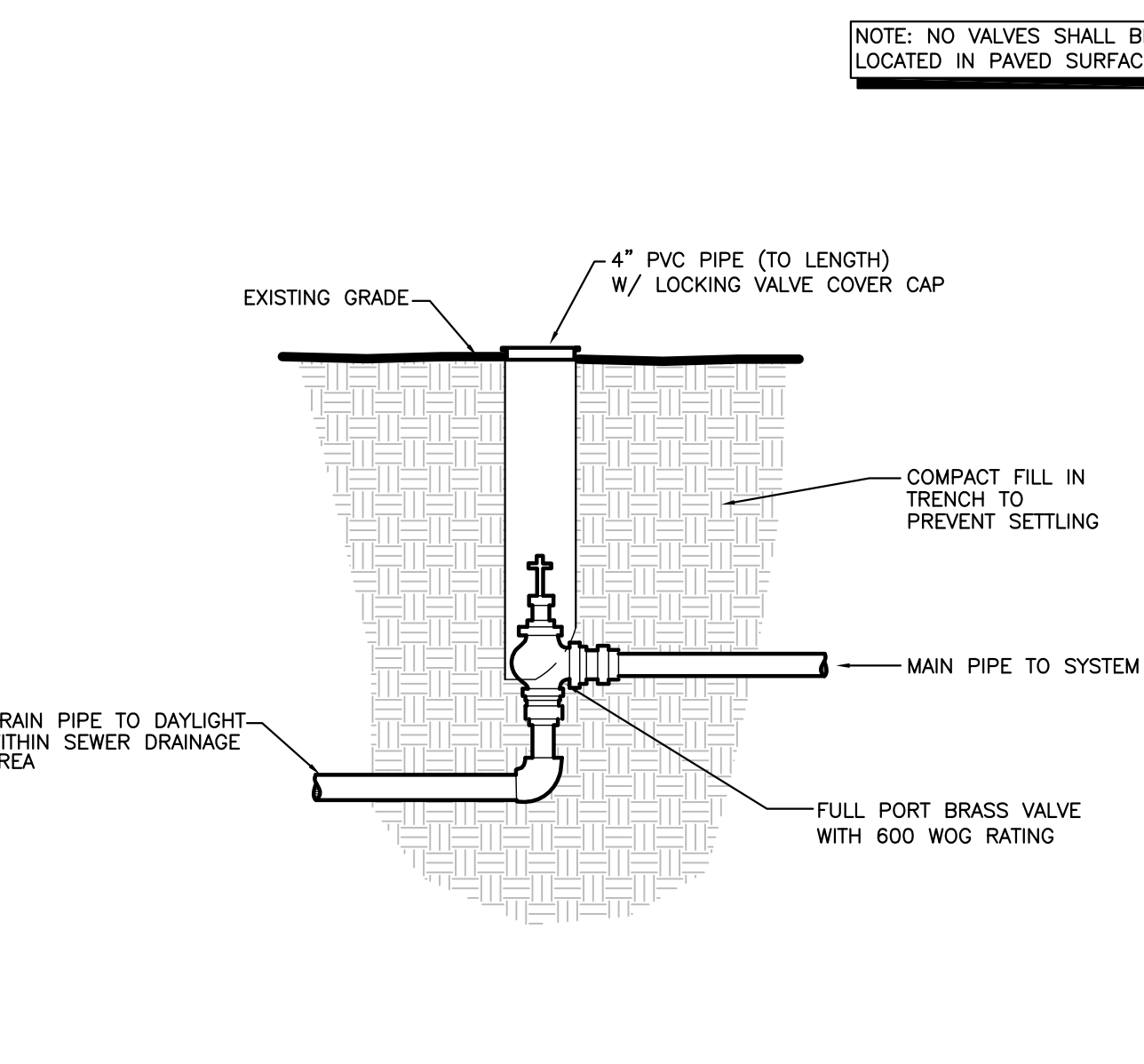
QUICK COUPLER VALVE

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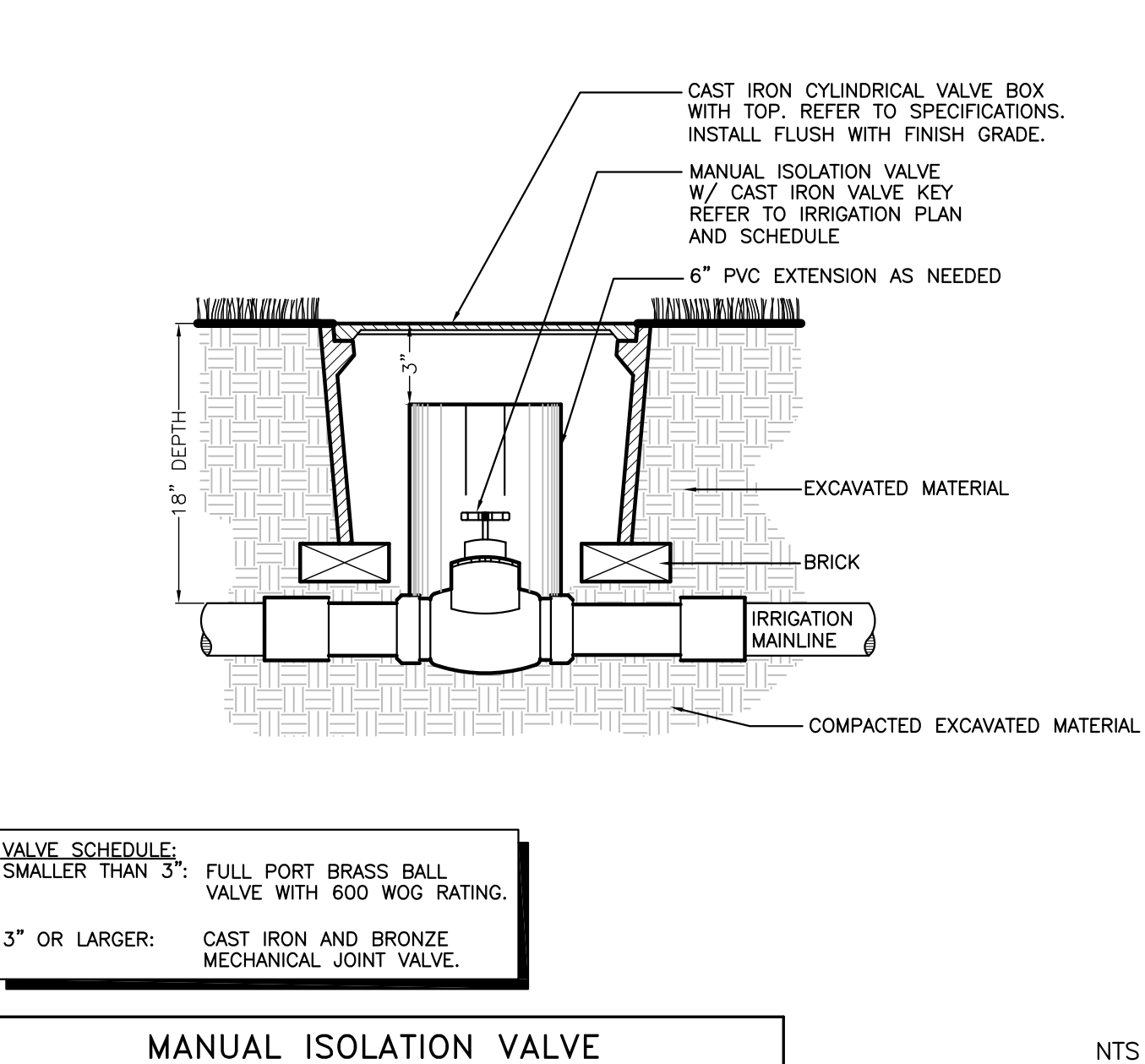
WALL MOUNTED CONTROLLER

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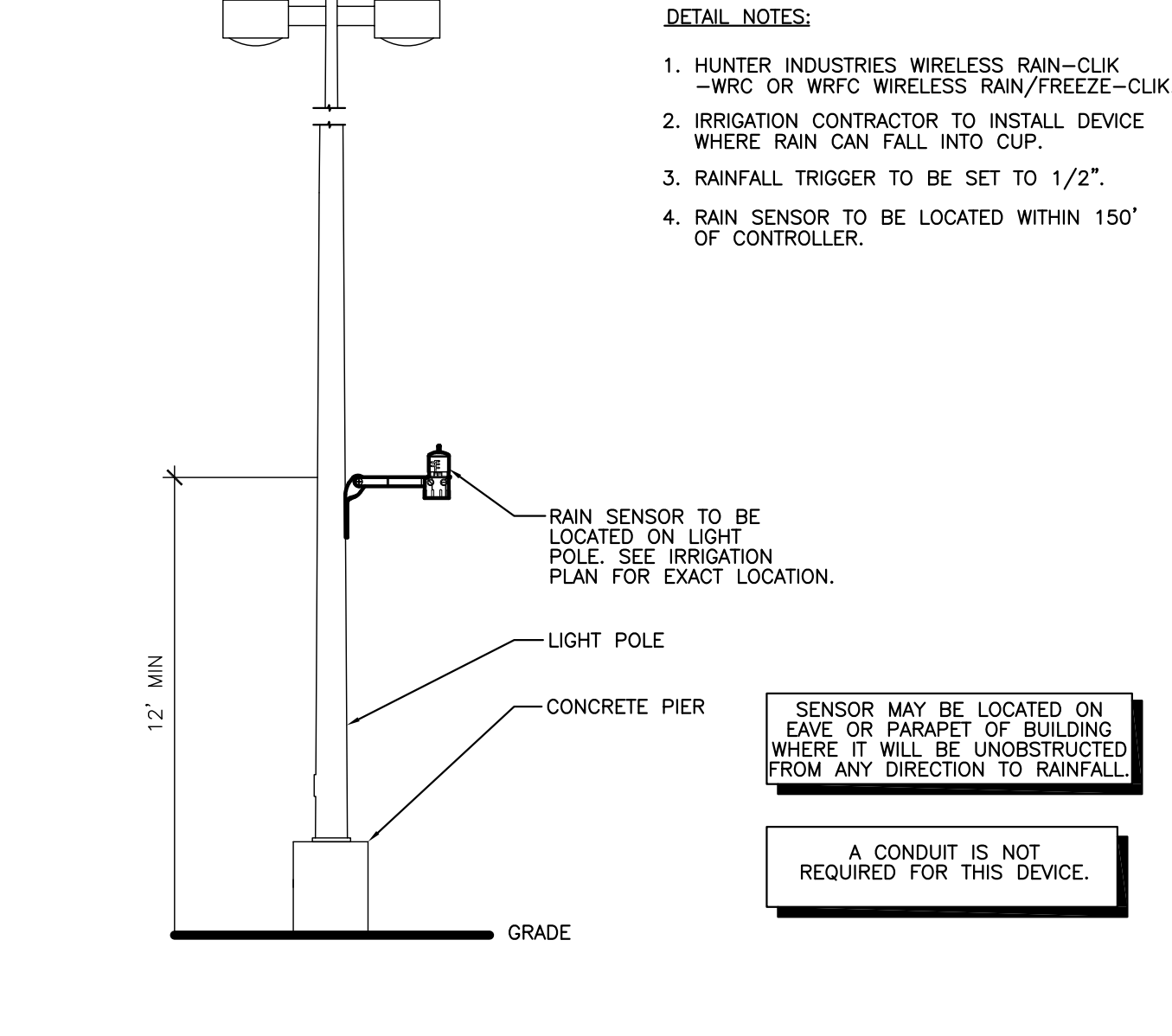
MANUAL DRAIN VALVE

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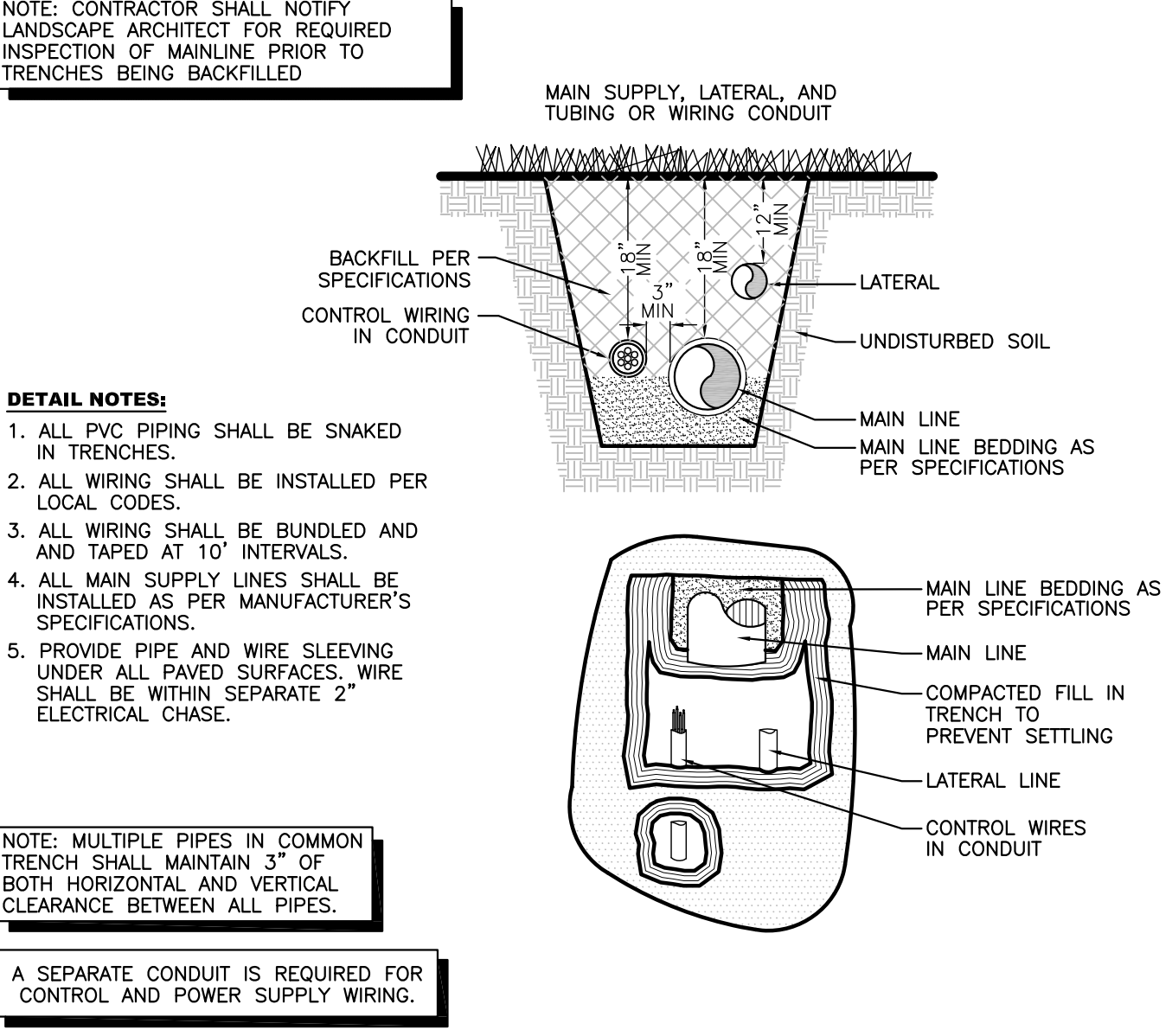
MANUAL ISOLATION VALVE

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AUTOMATIC RAIN SHUT-OFF DEVICE

NTS



TYPICAL TRENCHING

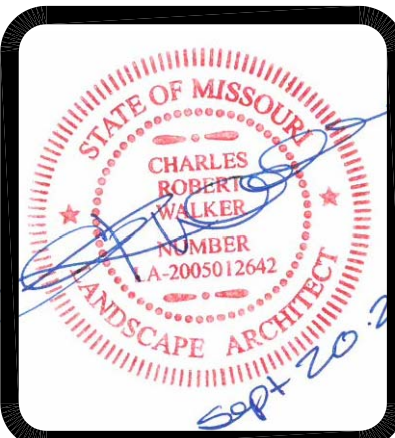
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REVISIONS	
PR1	PLAN REVISION #1 4/26/23
PR2	PLAN REVISION #2 9/20/23

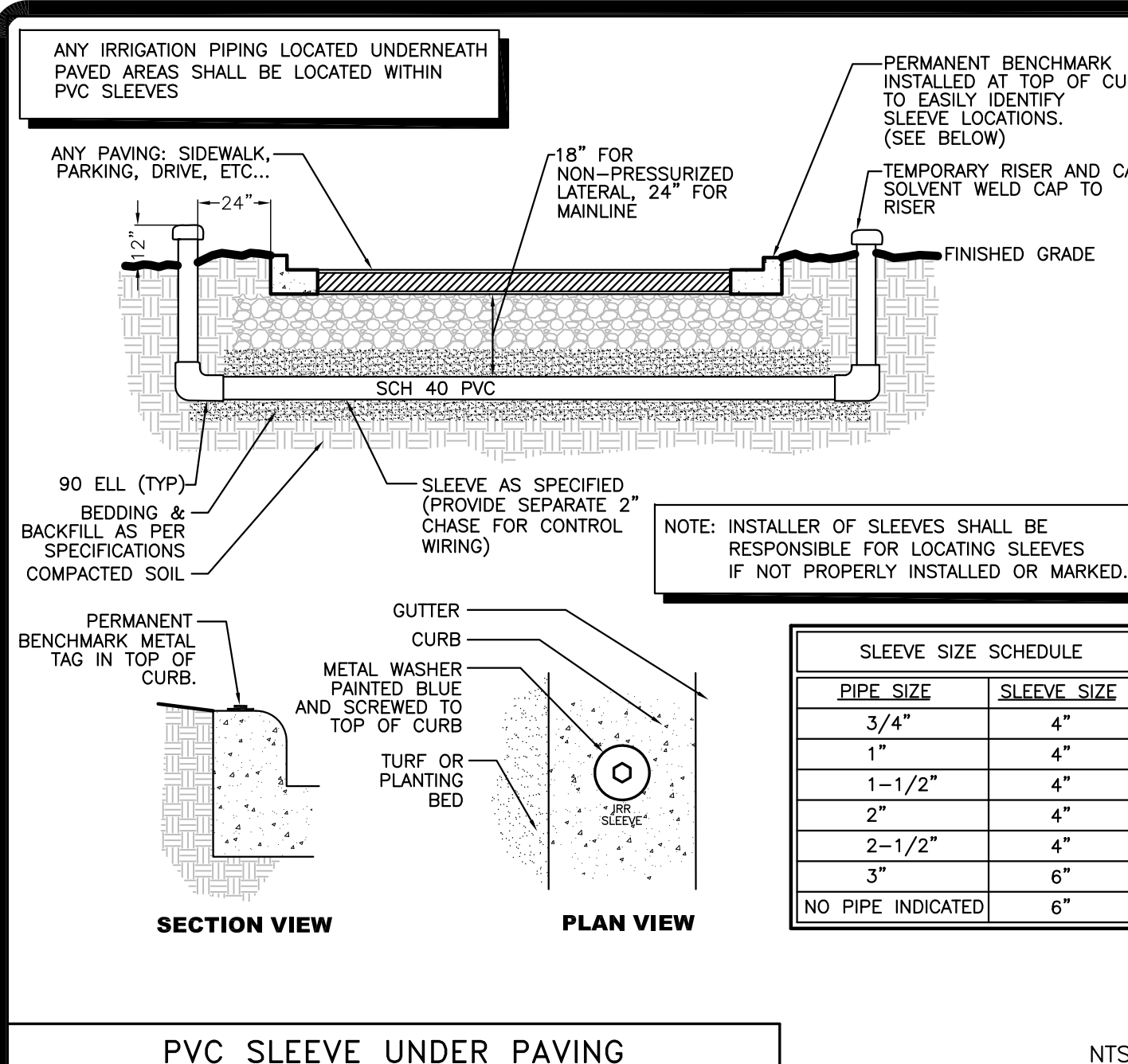
Cottages at Generation
Village, LP
3556 S. CUIPERPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

IRRIGATION DETAILS
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

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ENGINEERS, INC.
1058 Ledgestone Commons
Barnett, TN 38133
Phone (901) 384-0404
Fax (901) 384-0710
Missouri Licensed Engineering Firm #200600899

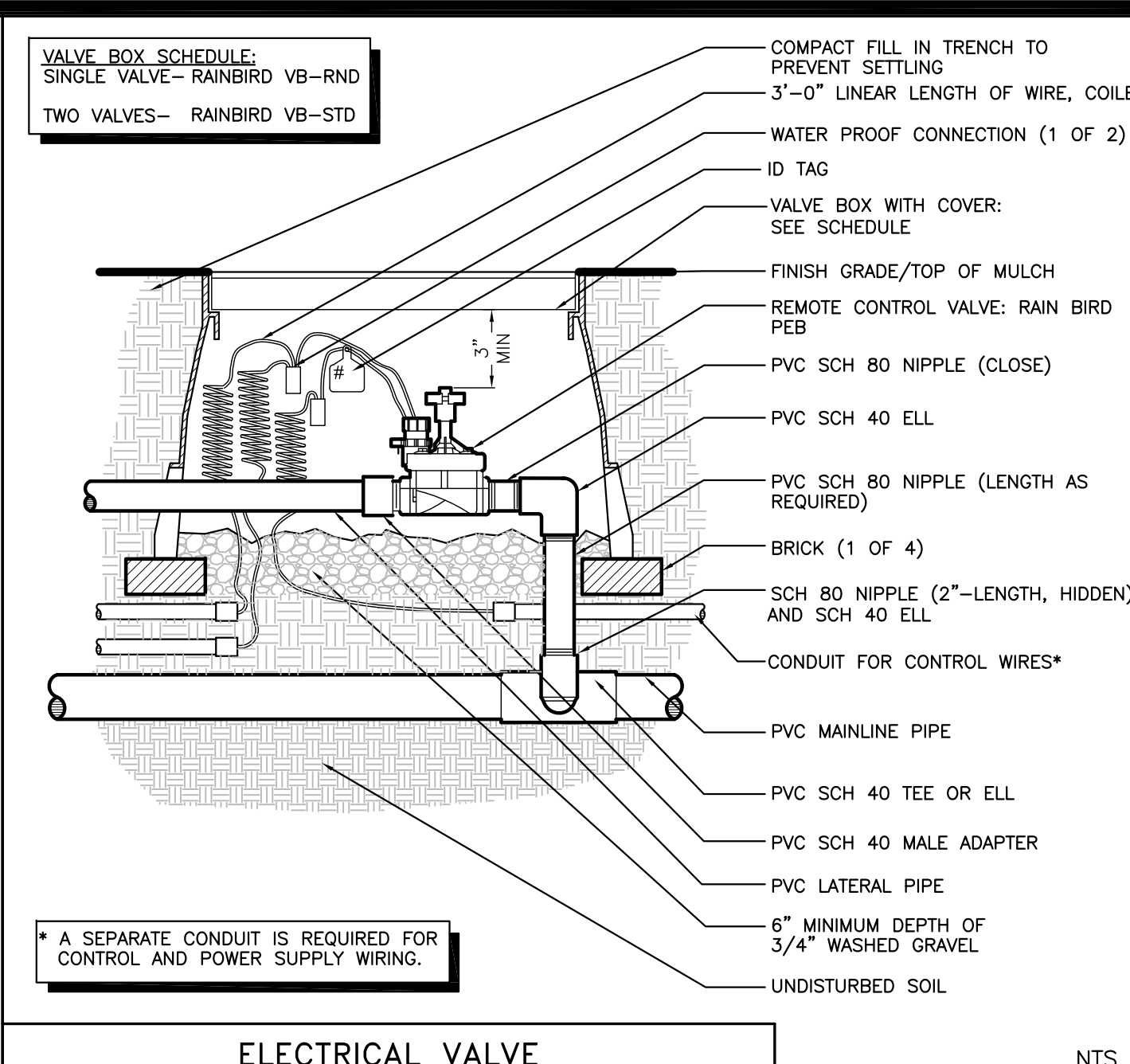


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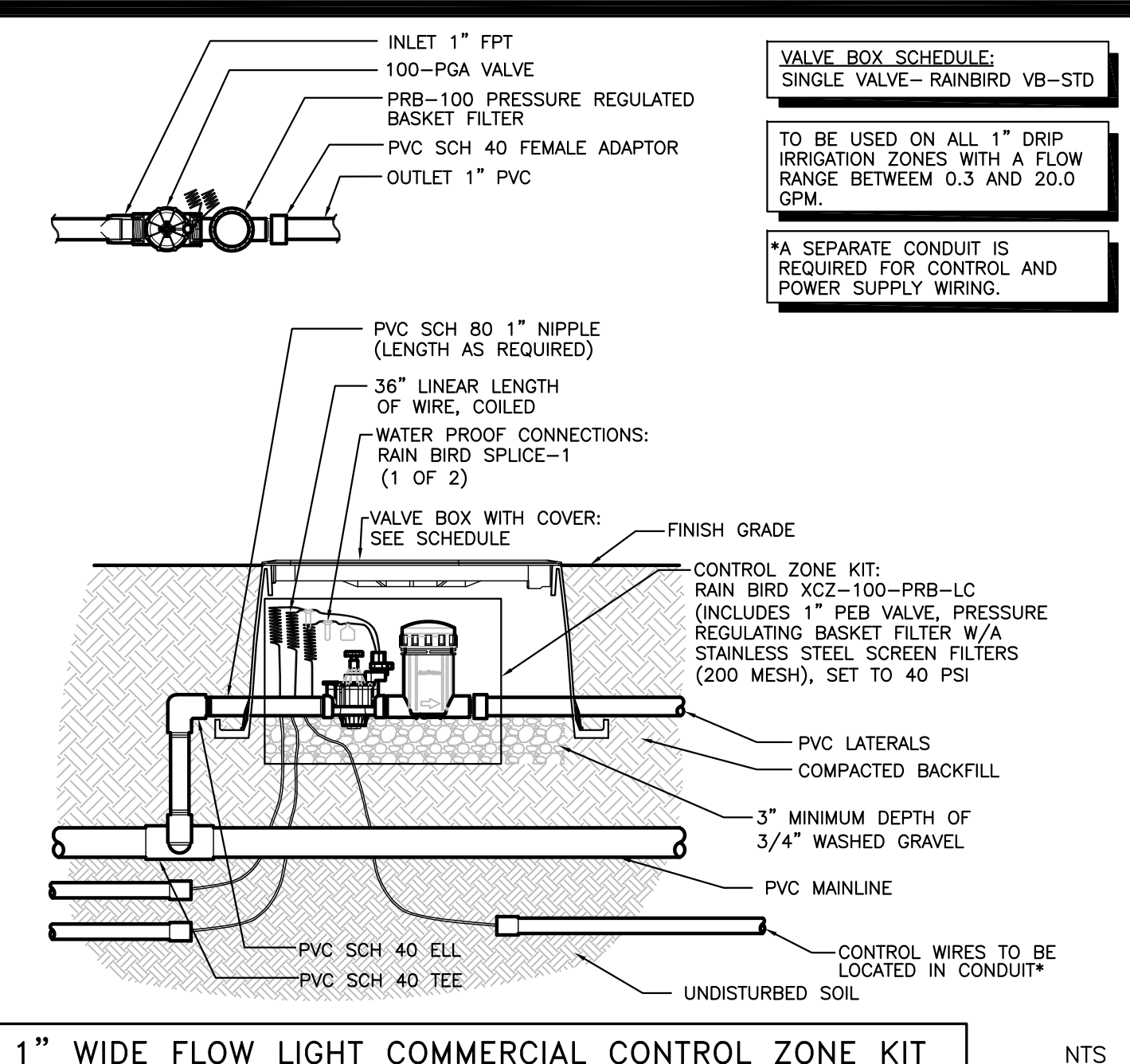
PVC SLEEVE UNDER PAVING

NTS



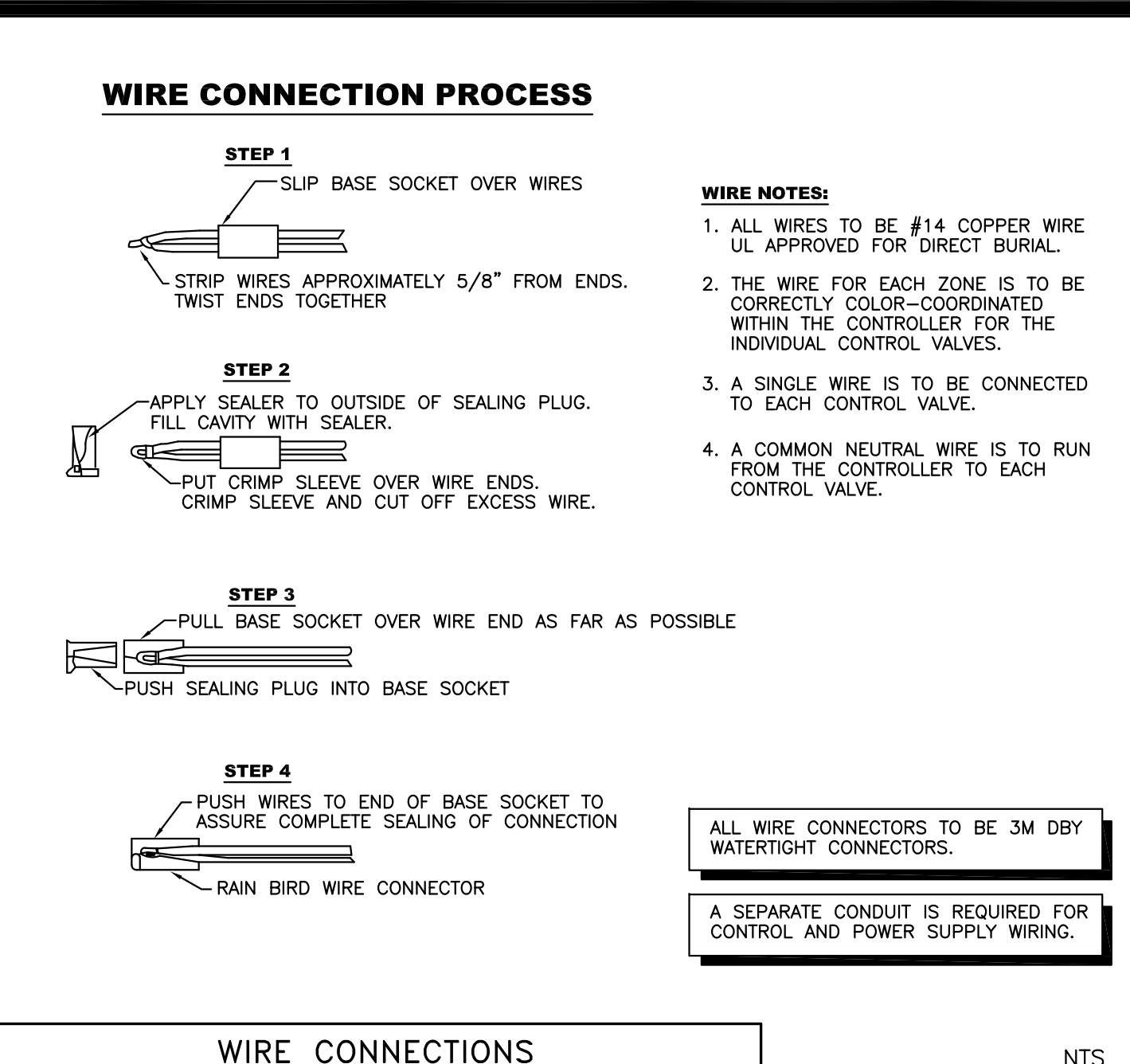
ELECTRICAL VALVE

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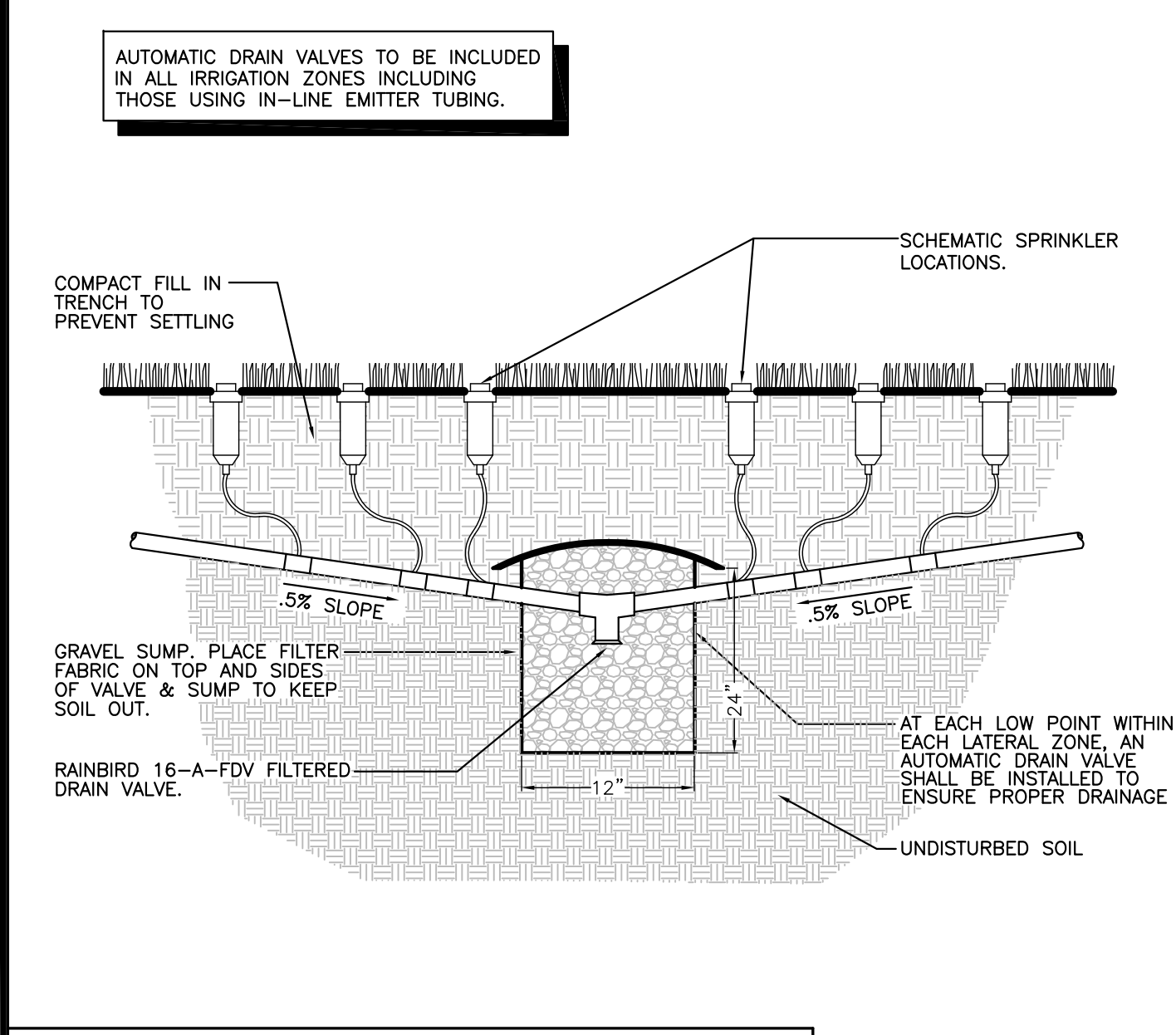
1" WIDE FLOW LIGHT COMMERCIAL CONTROL ZONE KIT

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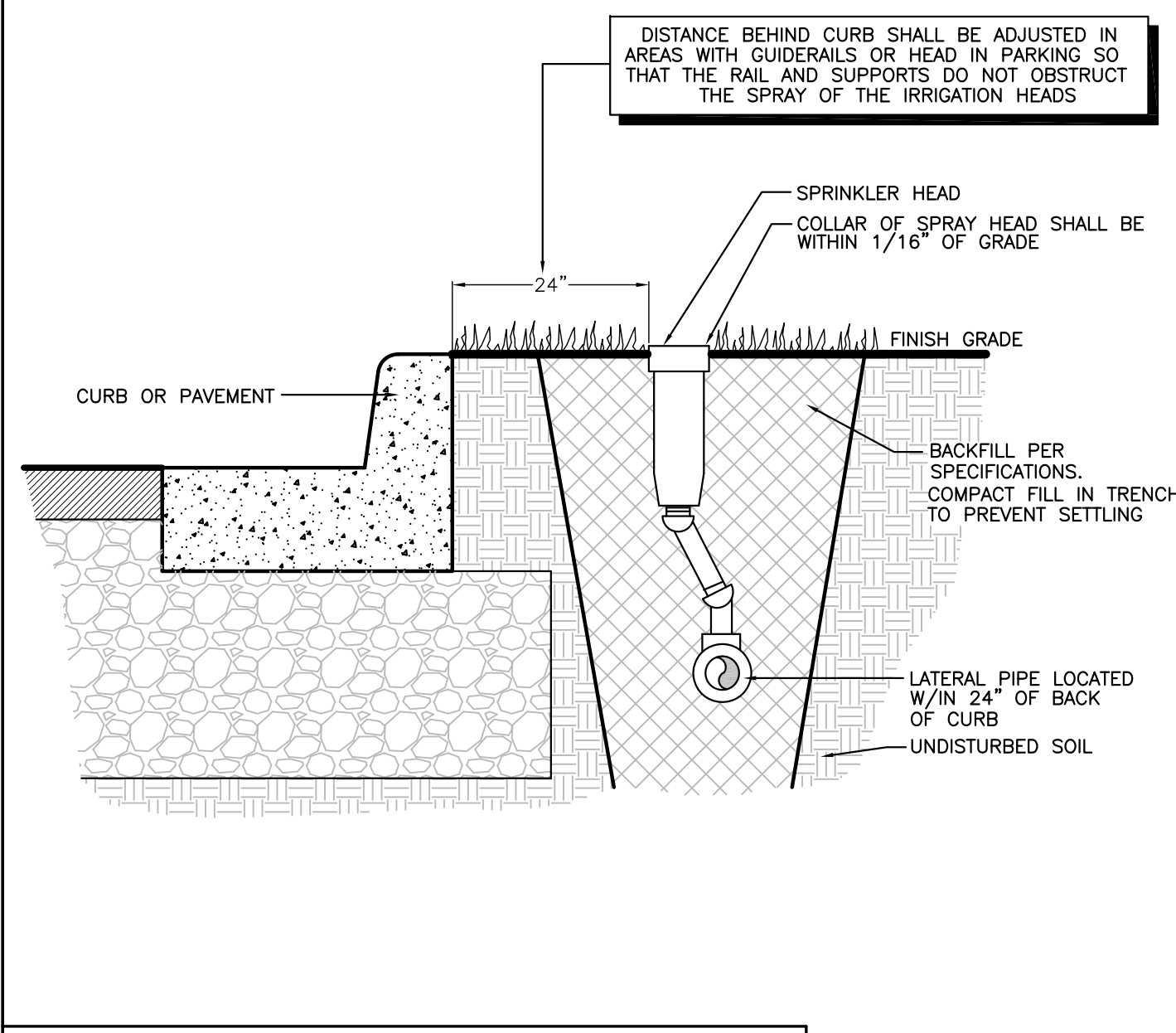
WIRE CONNECTIONS

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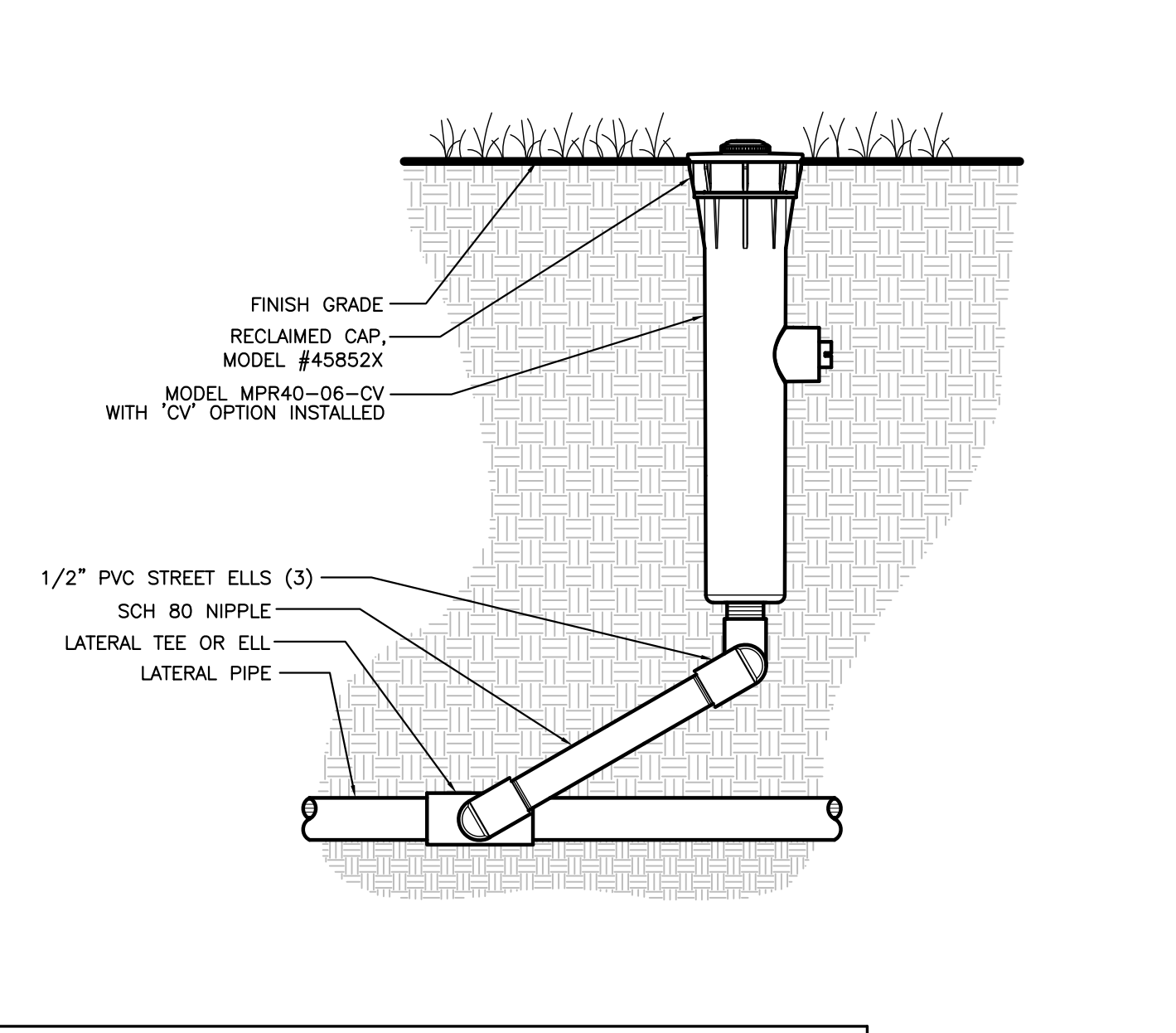
AUTOMATIC DRAIN VALVE

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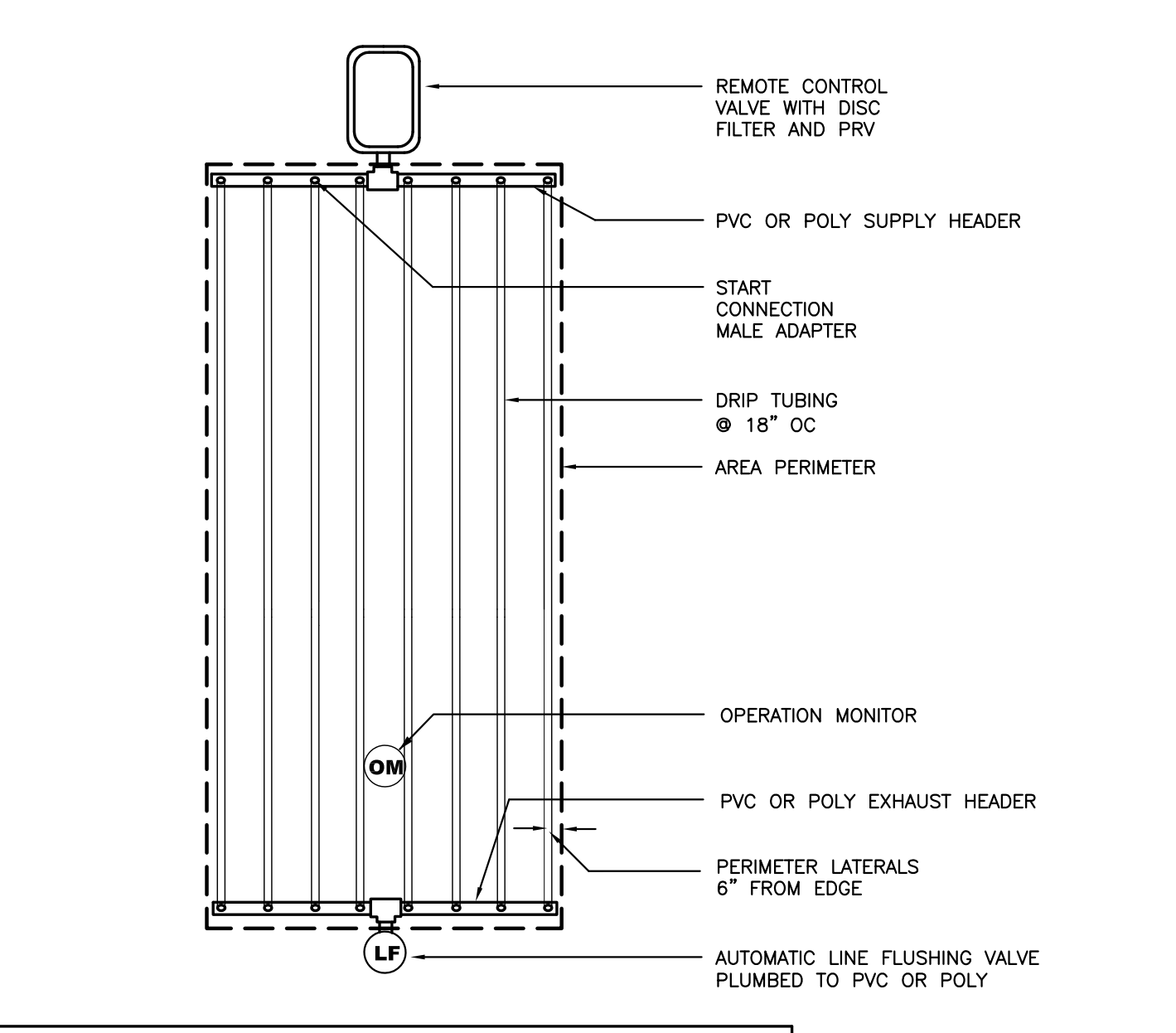
SPRINKLER TO CURB

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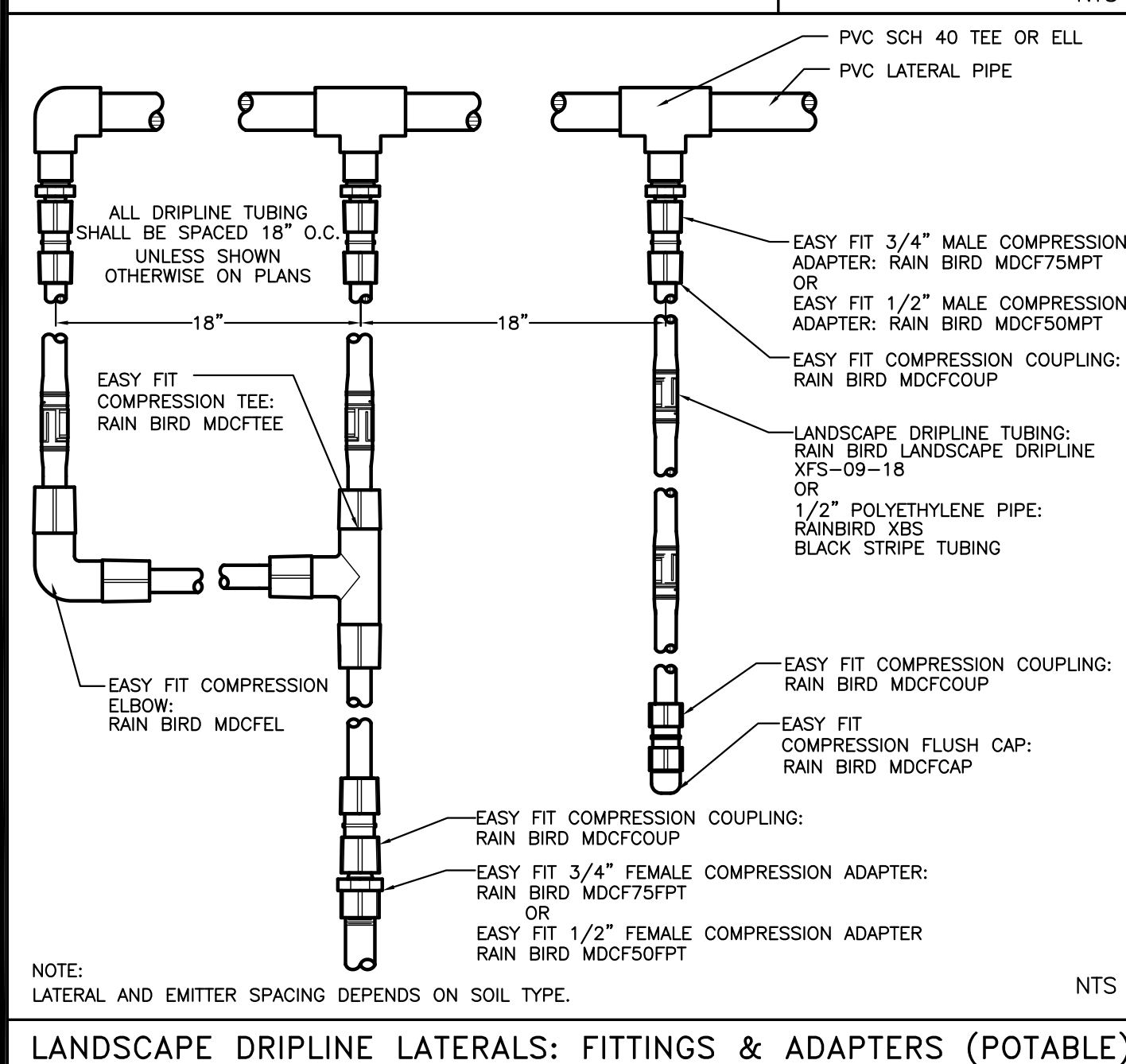
HUNTER MP ROTATOR SPRINKLER - 6" POP-UP

NTS



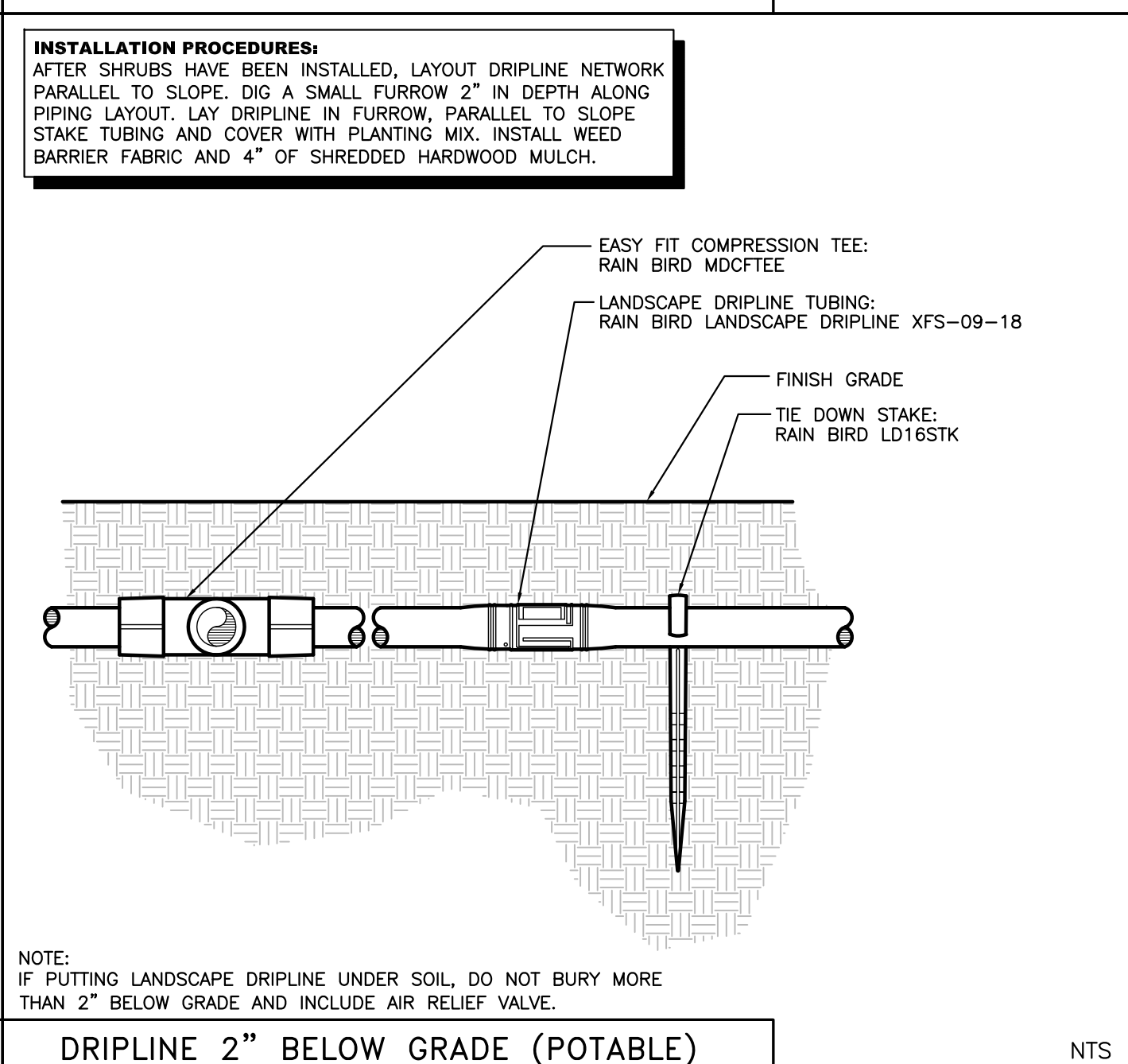
LANDSCAPE DRIPLINE HEADER LAYOUT

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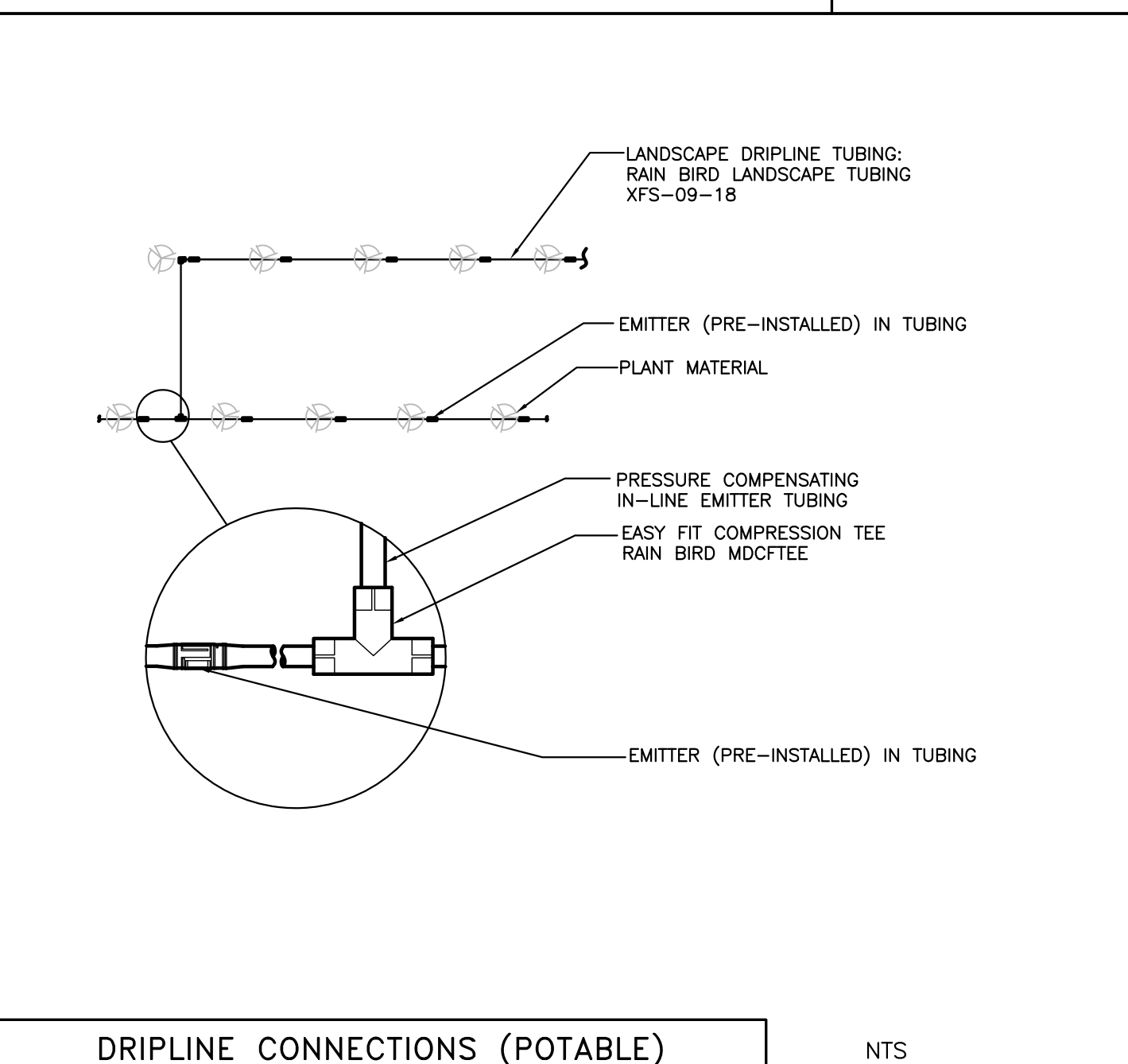
LANDSCAPE DRIPLINE LATERALS: FITTINGS & ADAPTERS (POTABLE)

NTS



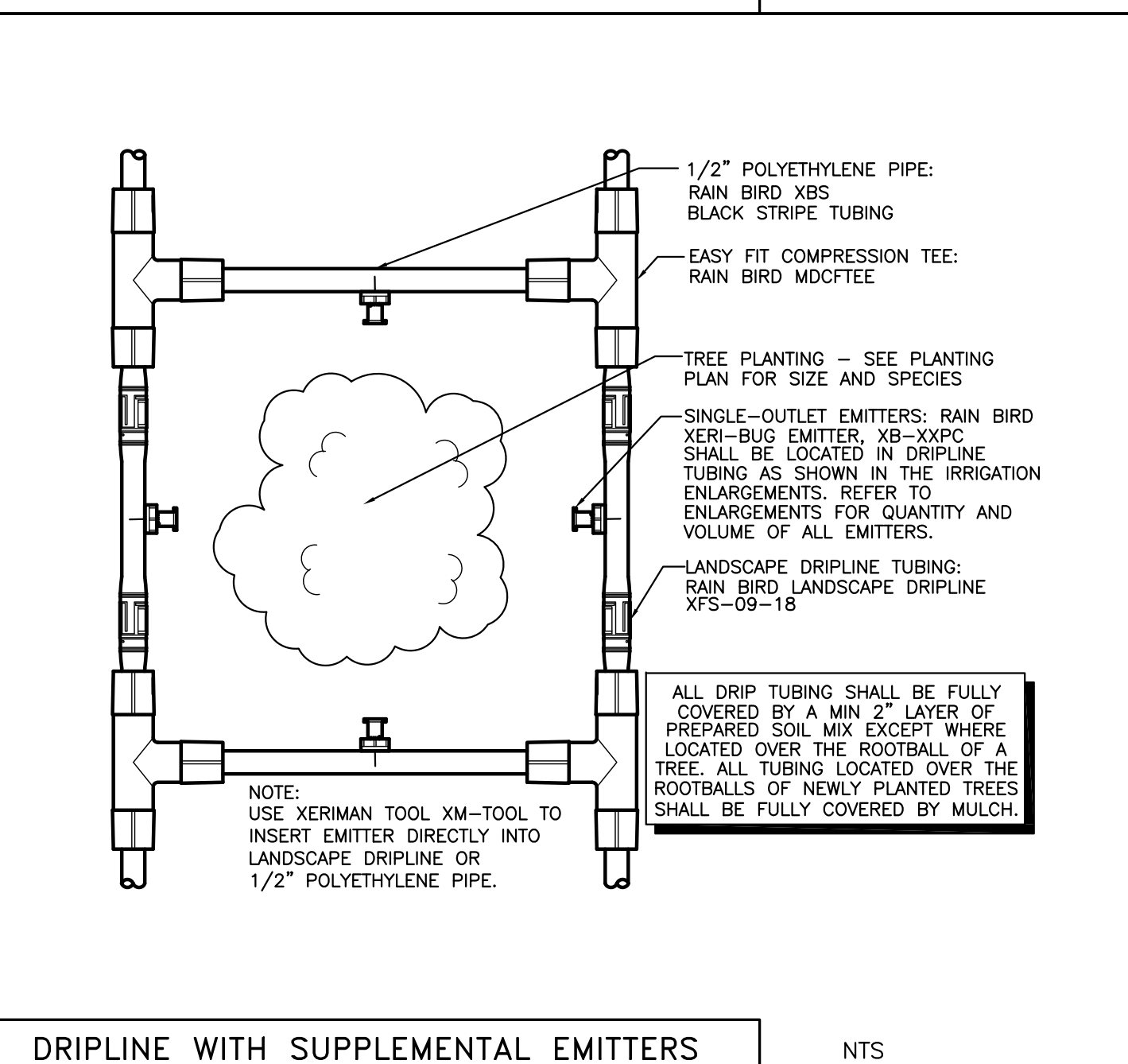
DRIPLINE 2" BELOW GRADE (POTABLE)

NTS



DRIPLINE CONNECTIONS (POTABLE)

NTS



DRIPLINE WITH SUPPLEMENTAL EMITTERS

NTS

REVISIONS	
PR1	PLAN REVISION #1 4/26/23

Cottages at Generation Village, LP

3556 S. CUIPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 892-1701

IRRIGATION DETAILS

COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

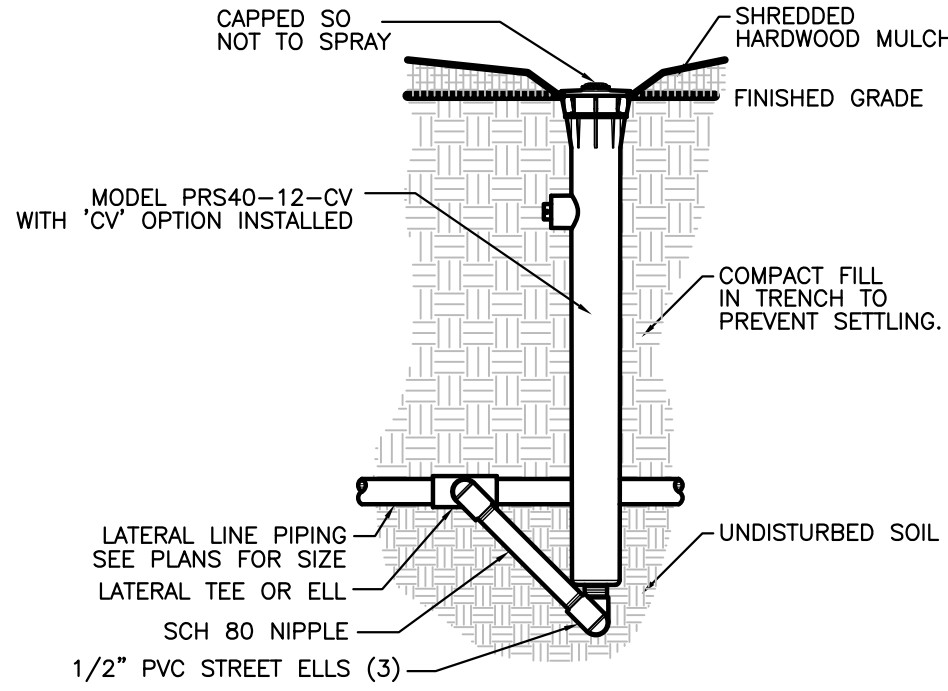
CARLSON CONSULTING ENGINEERS, INC.

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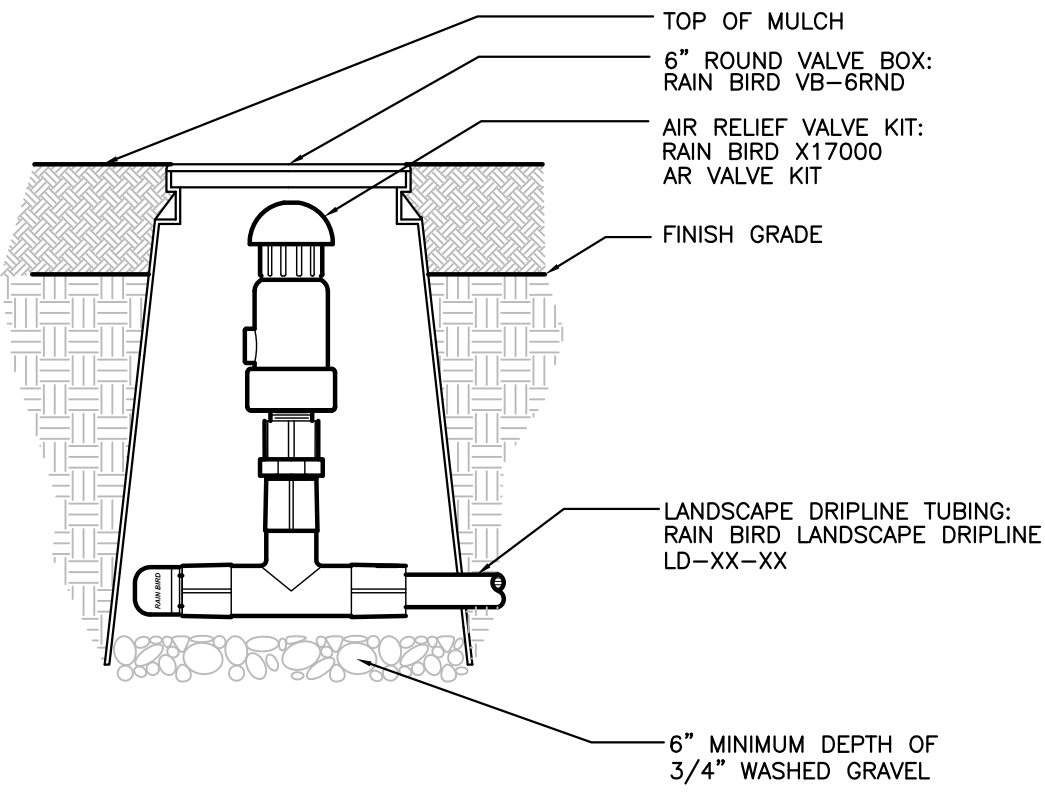
ALL POP-UP HEADS TO BE USED AS ZONE MARKERS SHALL BE CAPPED AND SHALL NOT SPRAY. HEAD SHALL SERVE AS A VISUAL MARKER TO IDENTIFY THE END OF ZONE AND SHOW THAT THE VALVE IS OPERATIONAL.



HUNTER MP ROTATOR POP-UP - VALVE OPERATION MONITOR

NTS

AIR RELIEF VALVES ARE TO BE INSTALLED AT ALL HIGH POINTS OF SUB-SURFACE ZONES. MORE THAN 1 AIR RELIEF VALVE MAY BE REQUIRED DEPENDING ON LAYOUT AND TOPOGRAPHY.



AIR RELIEF VALVE

NTS

NO		REVISIONS
PR1	PLAN REVISION #1	4/26/23

Cottages at Generation Village, LP

3556 S. CULPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH: (417) 892-1701

IRRIGATION DETAILS

COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

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1088 Ledgestone Commons
Bartlett, TN 38133
Phone (601) 384-0404
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Missouri Licensed Engineering Firm #2006008899



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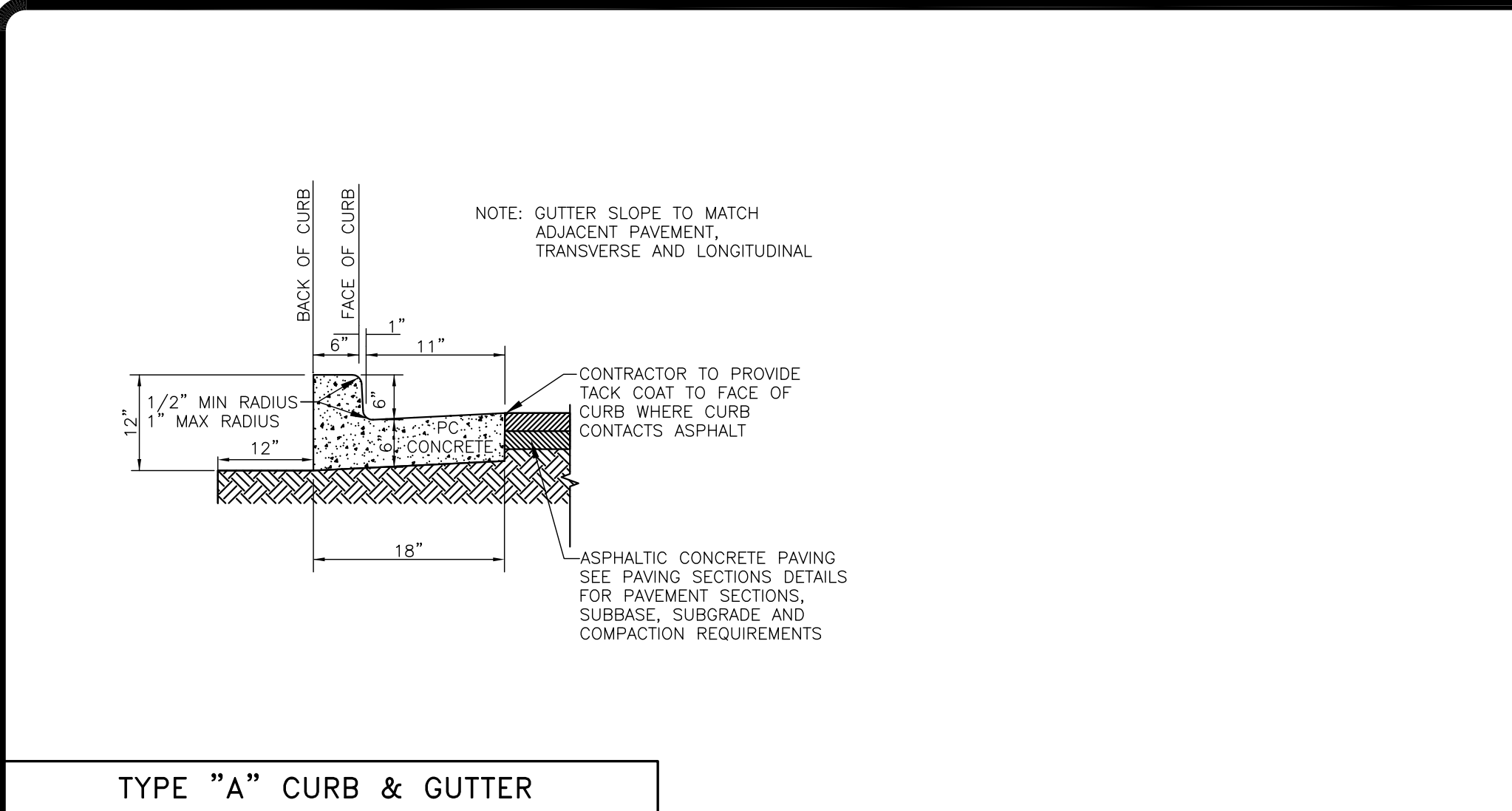
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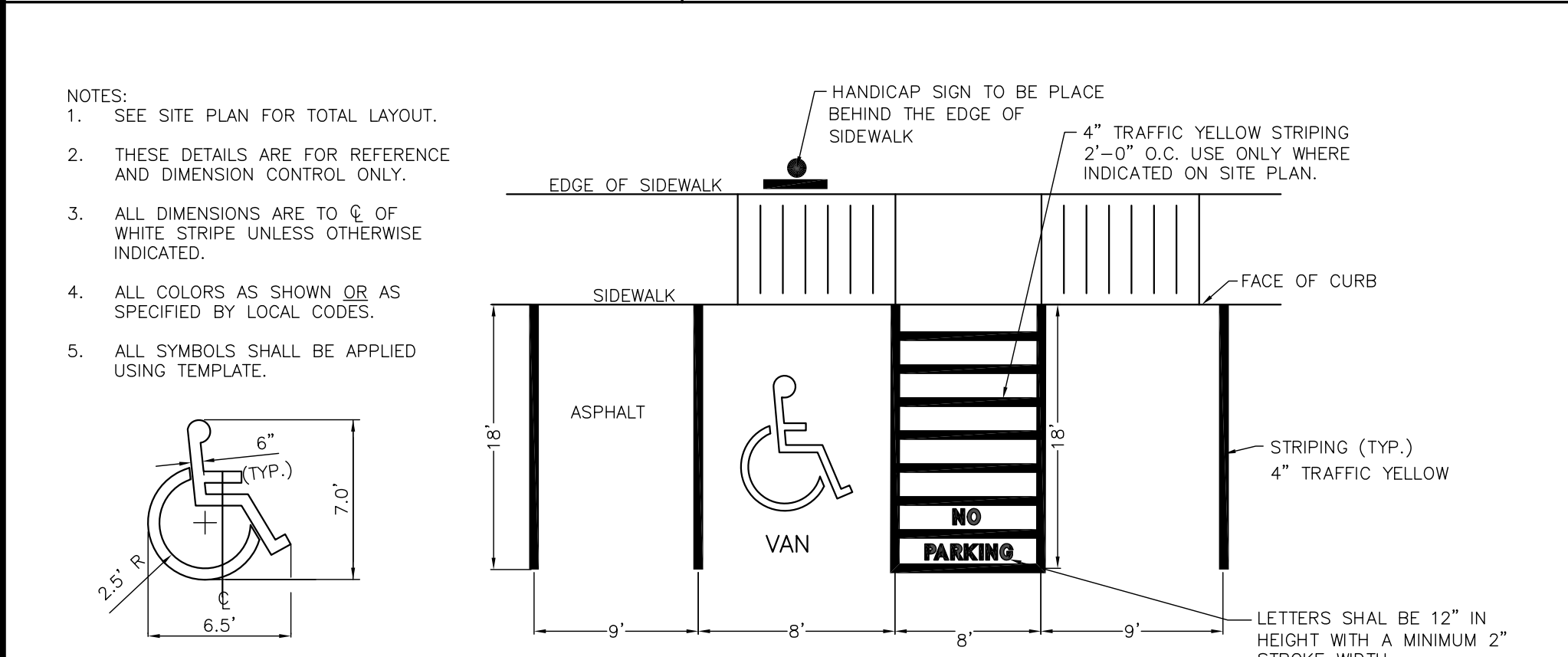
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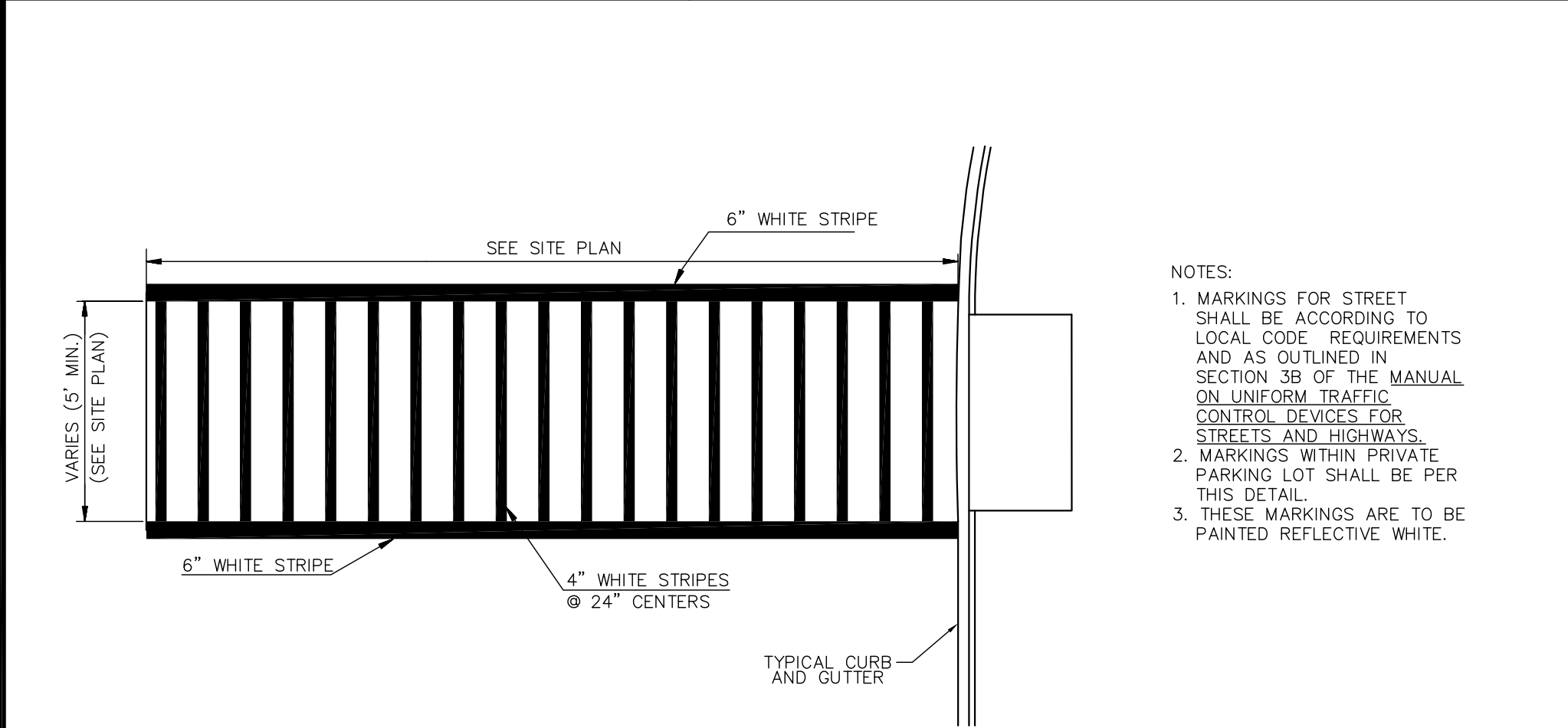


TYPE "A" CURB & GUTTER

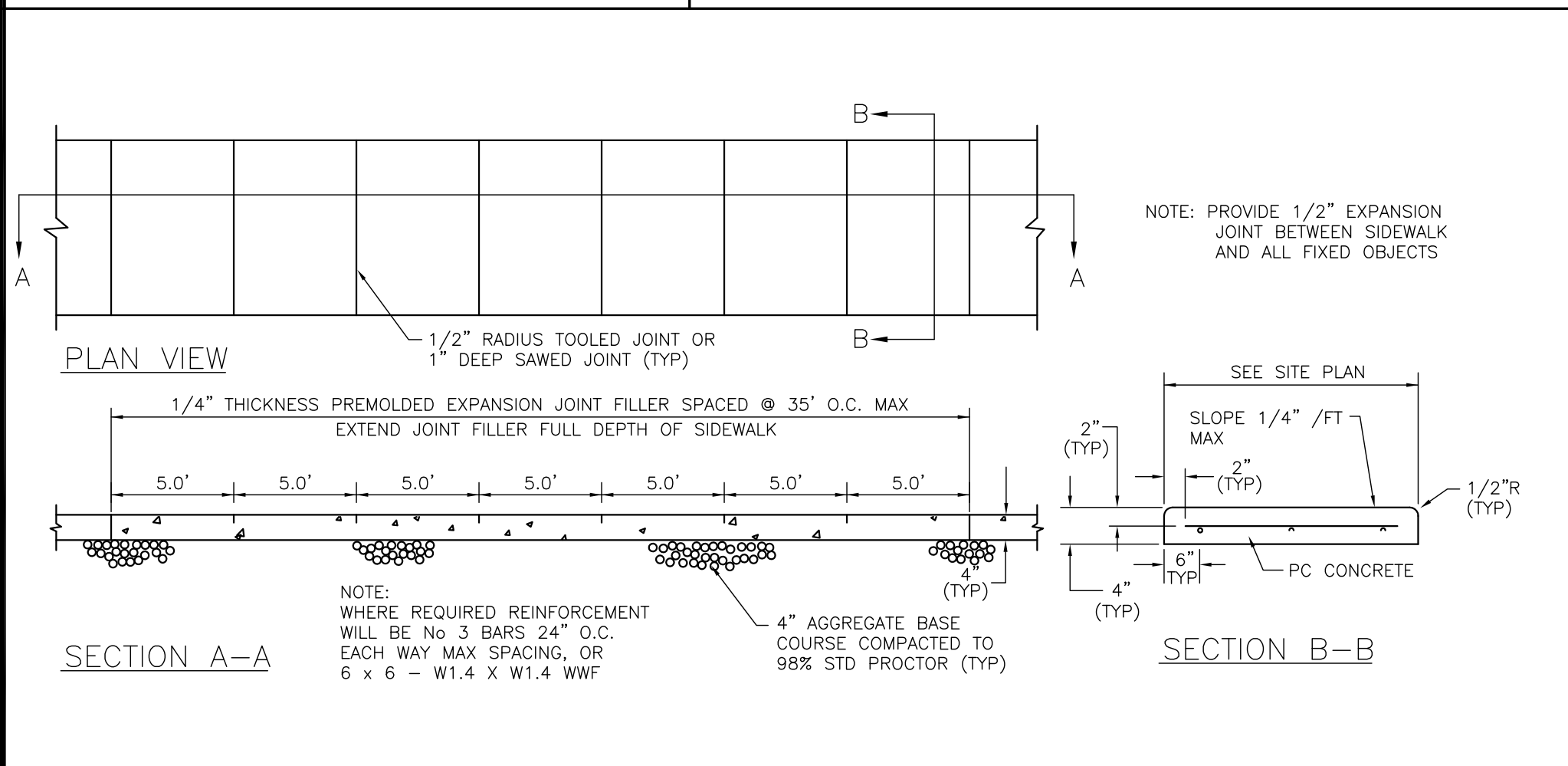


ACCESSIBLE PARKING SYMBOL

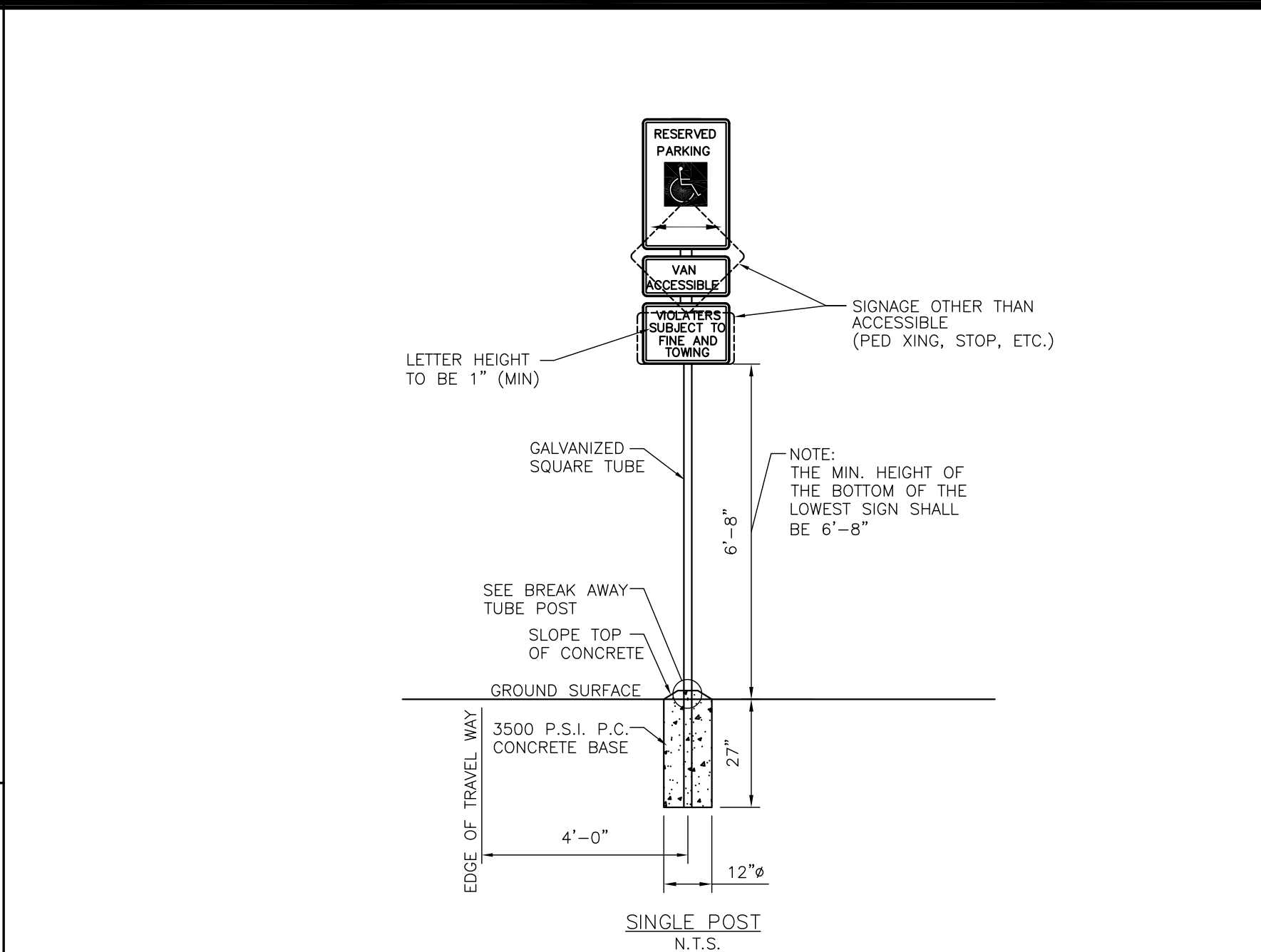
ACCESSIBLE PARKING STALL



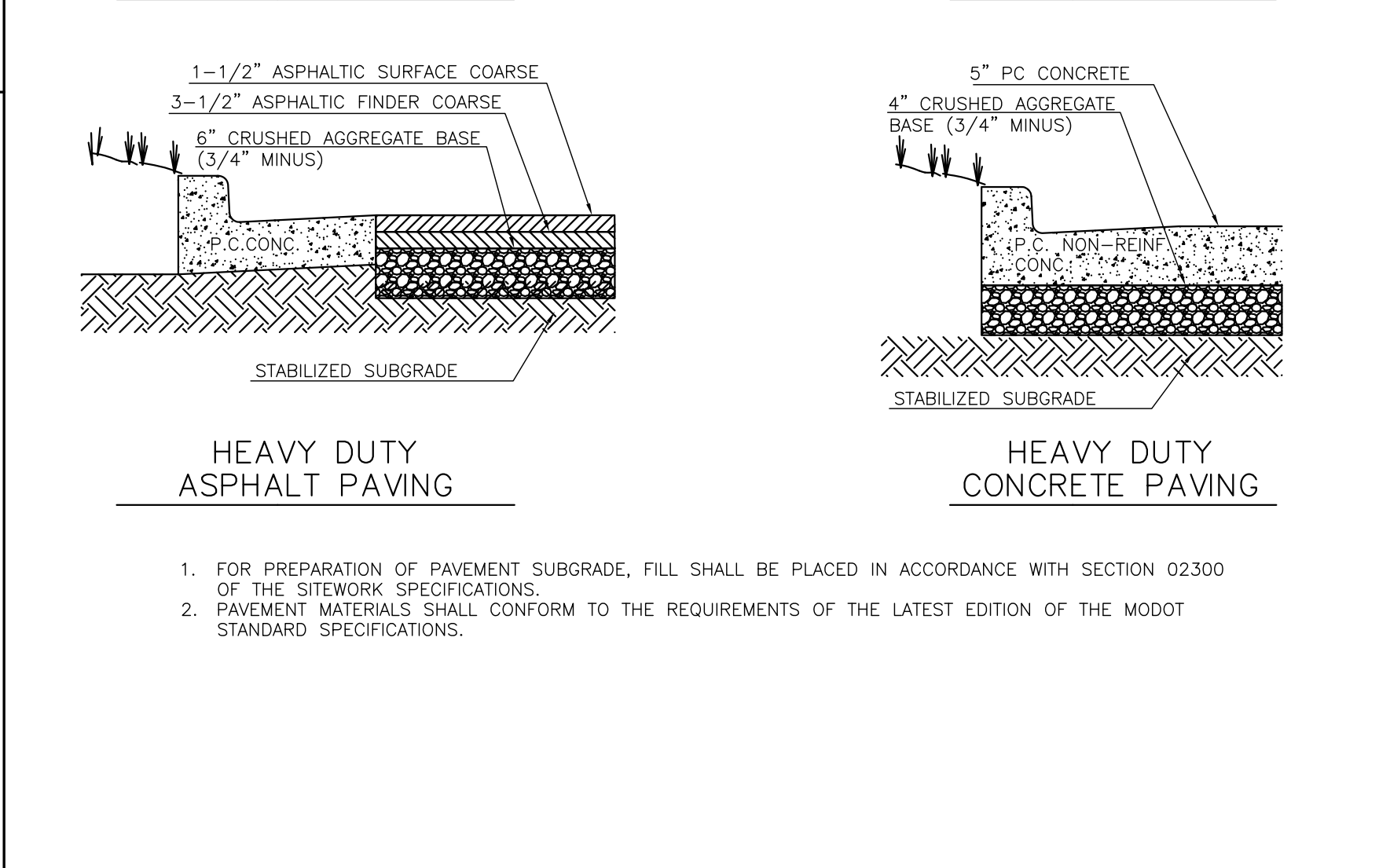
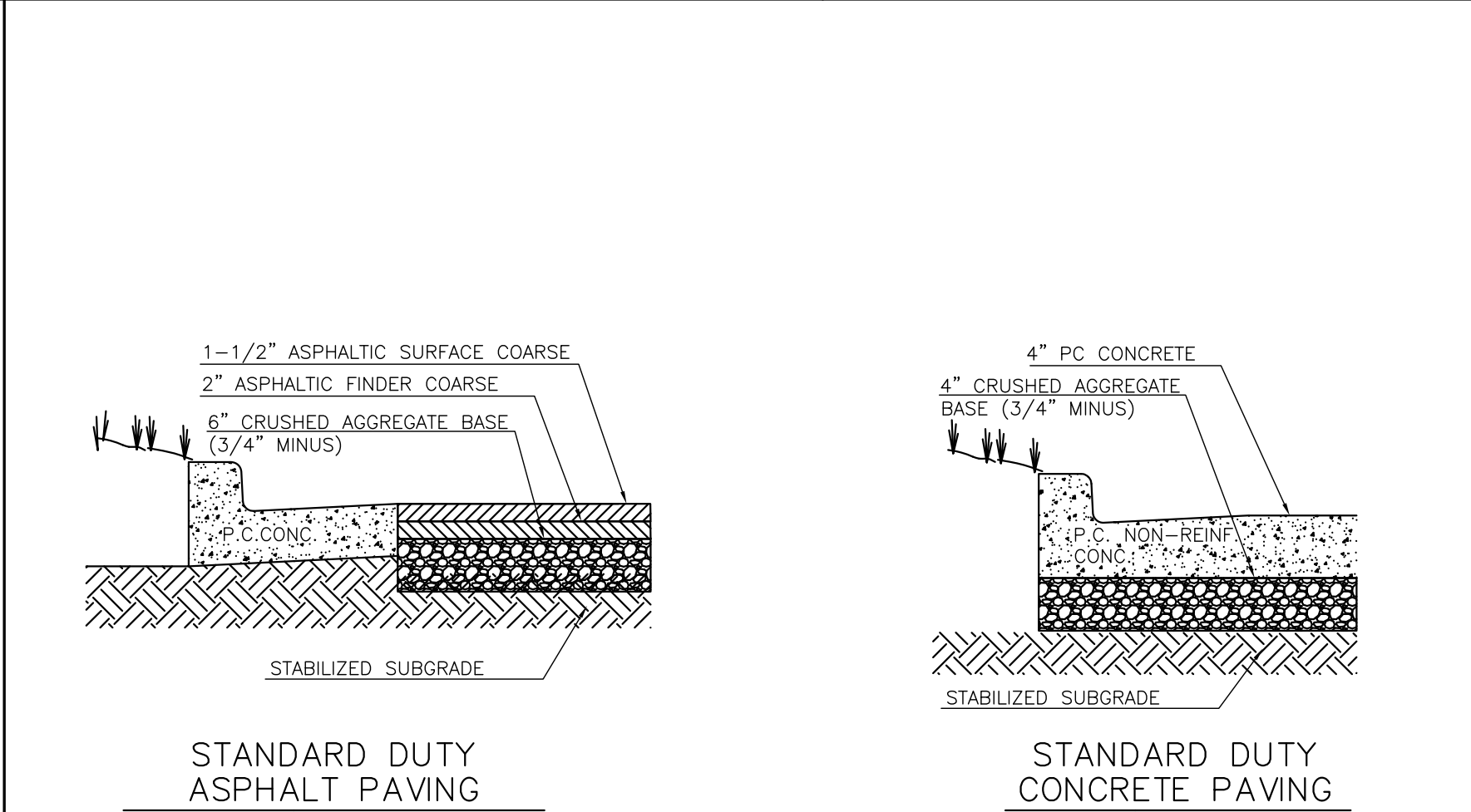
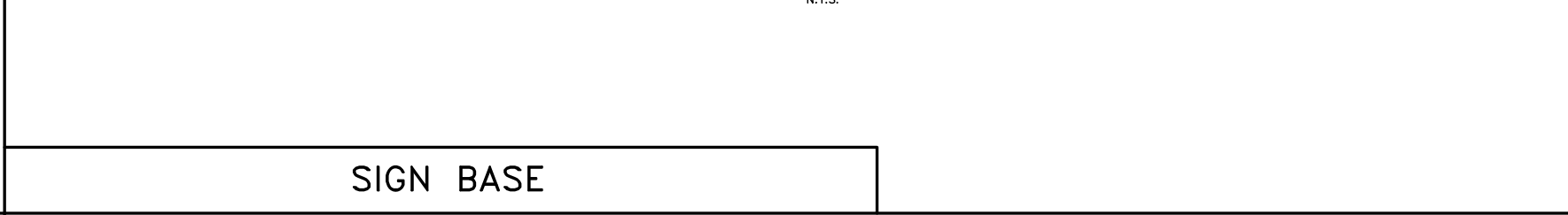
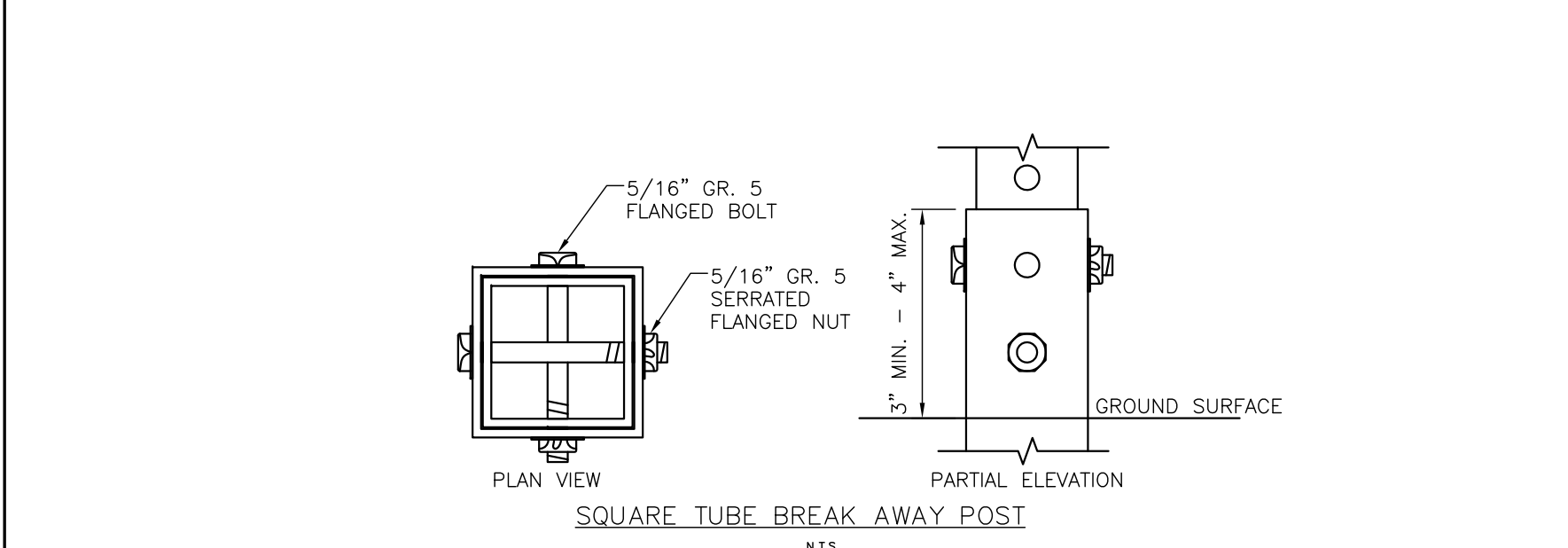
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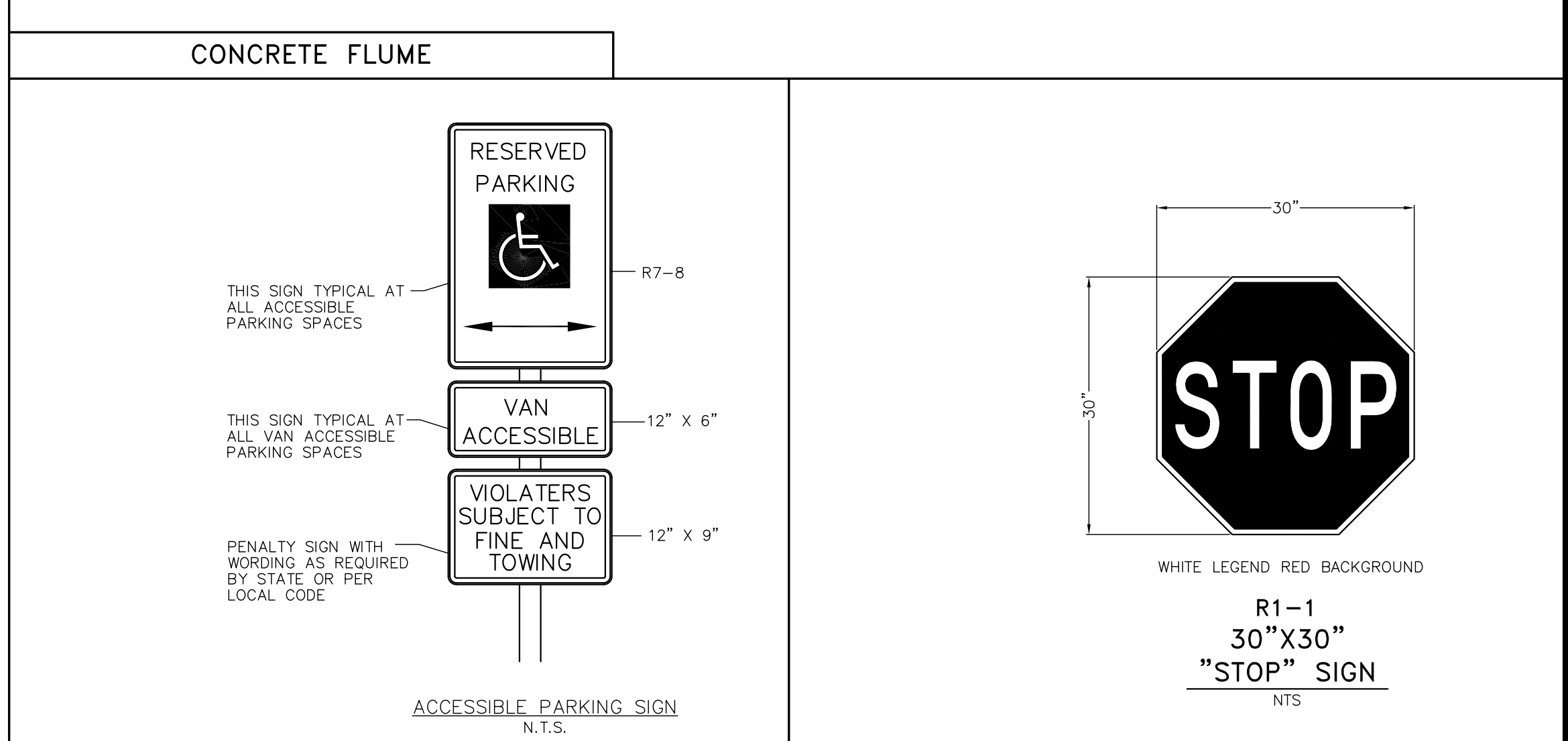
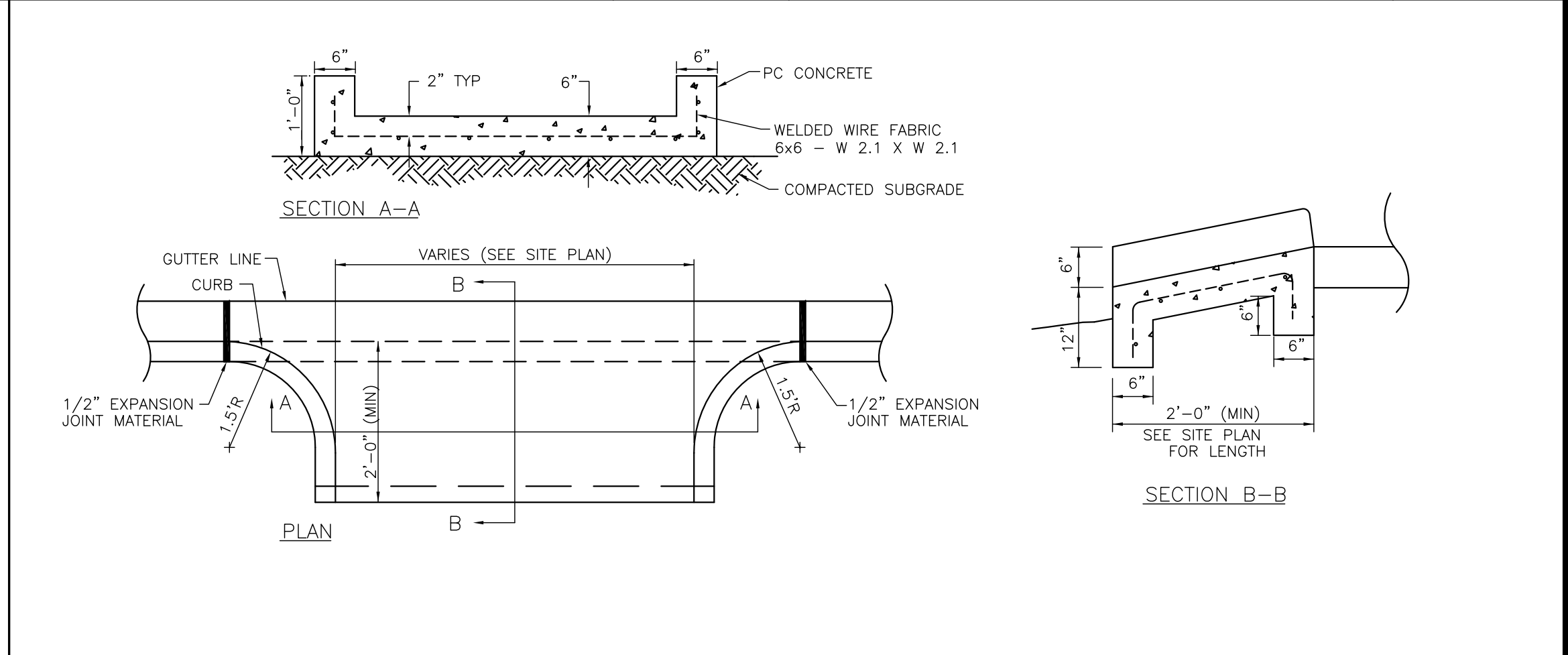
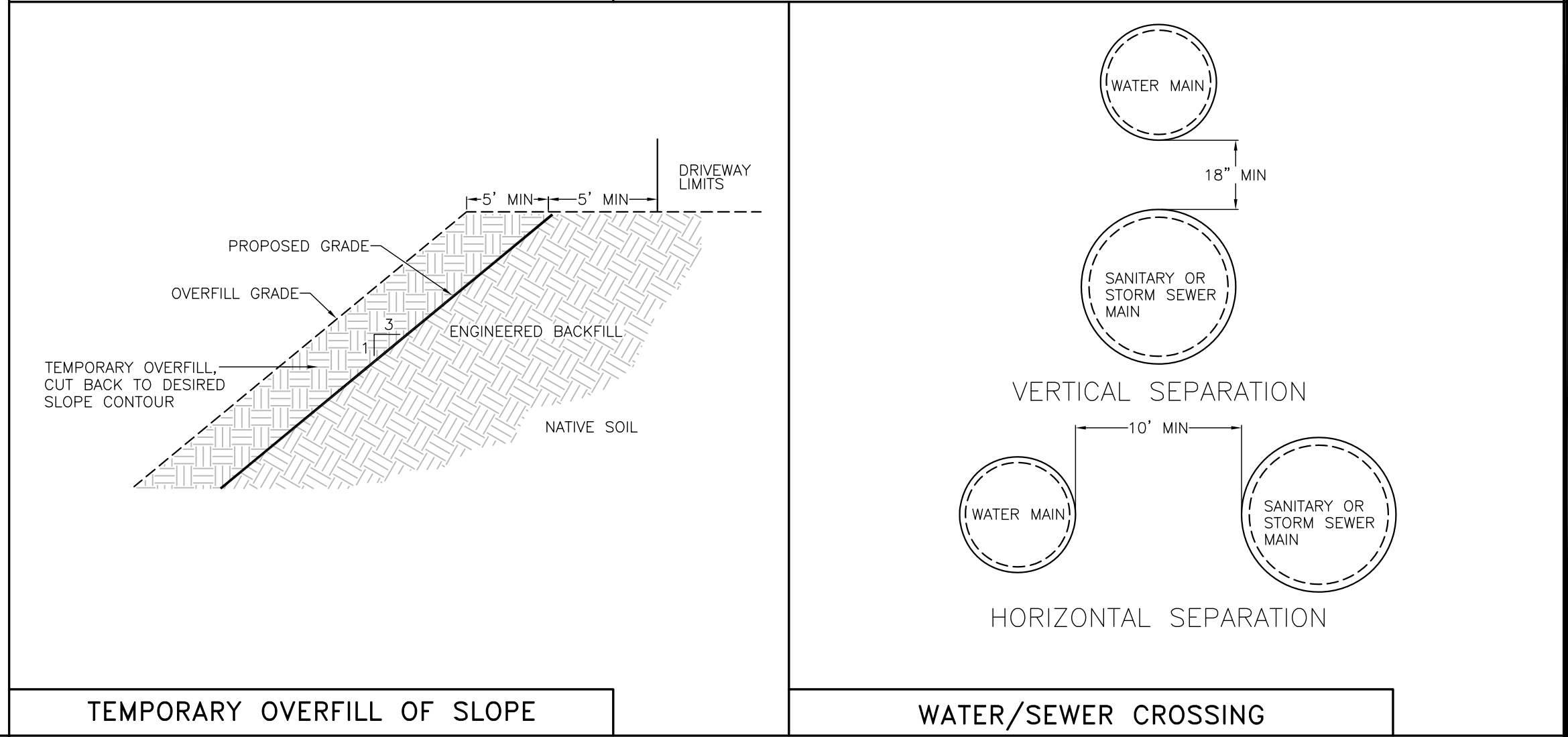
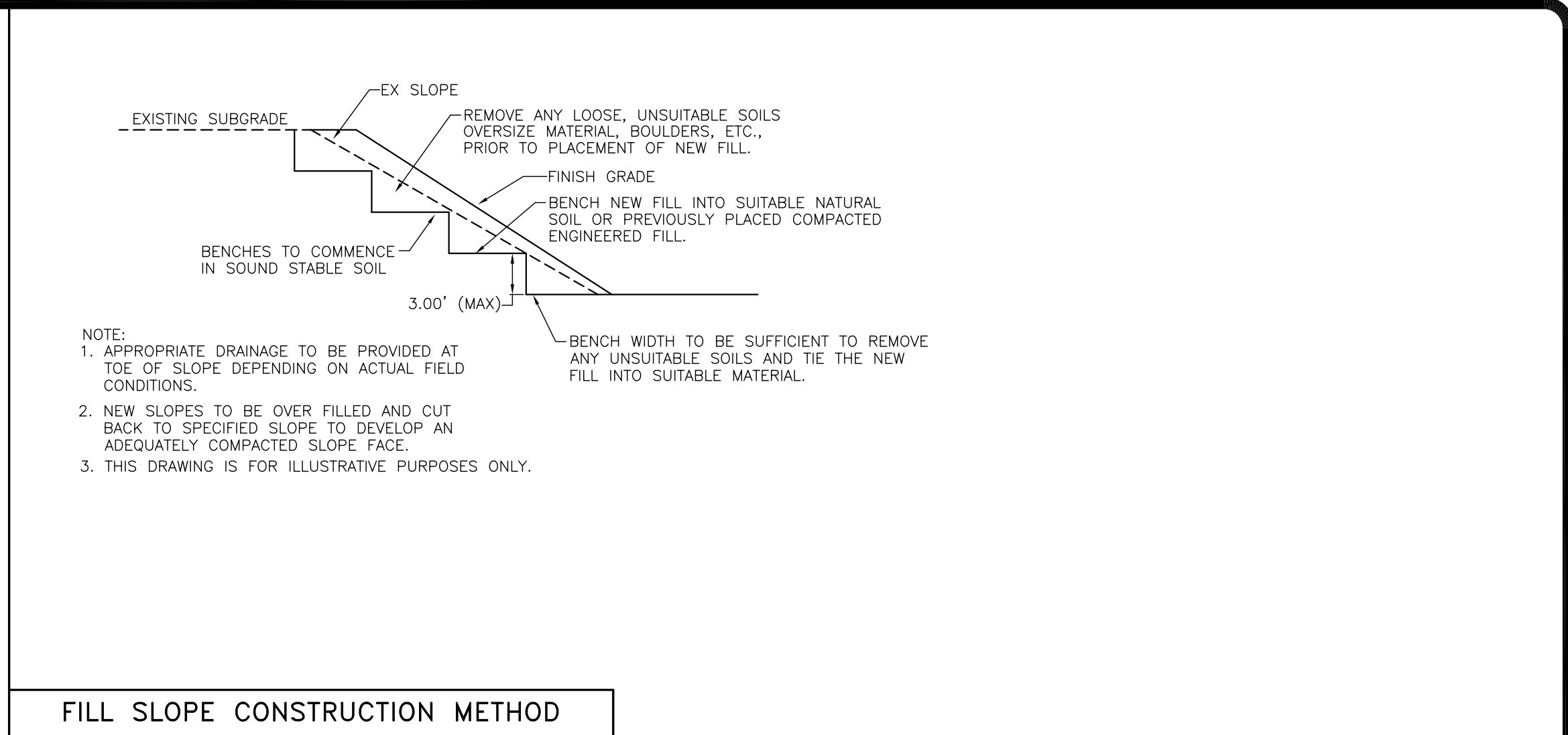
SIDEWALK



SIGN BASE



PAVING SECTIONS



ACCESSIBLE PARKING SIGN

NO	REVISIONS

Cottages at Generation Village, LP

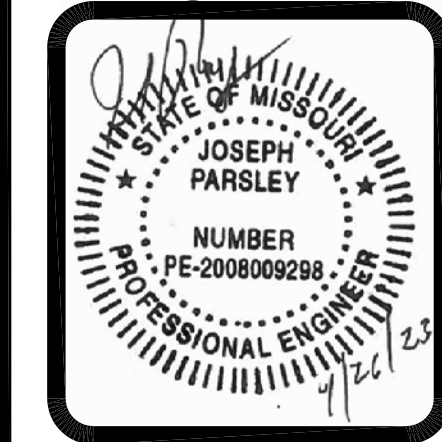
3556 S. CUIPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65808
PH. (417) 882-1701

DETAILS

COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

CARLSON CONSULTING ENGINEERS, INC.

1088 Ledgestone Commons
Bartlett, TN 38133
Phone (601) 384-0404
Fax (601) 384-0710
Missouri Licensed Engineering Firm #200600899



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DATE	04/06/2023
SCALE	N.T.S.
JOB No.	N/A
SHEET	27 OF 32



- ## UTILITY TRENCH & BEDDING

[illegible]

DETAILS

COTTAGES AT GENERATION VILLAGE

WILLARD, MISSOURI

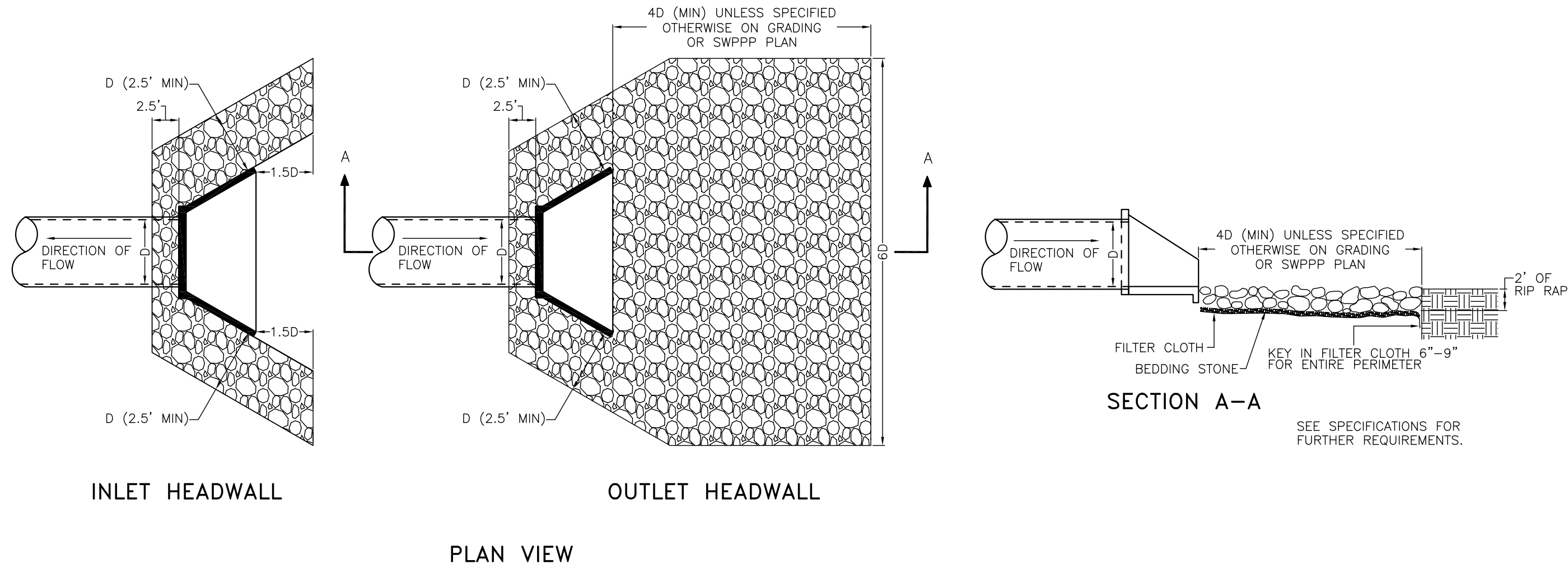
Cottages at Generation Village, LP
 3556 S. CULPEPPER CIRCLE, SUITE 4
 SPRINGFIELD, MO 65908
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ENGINEERS, INC.**
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Fax (901) 384-0710

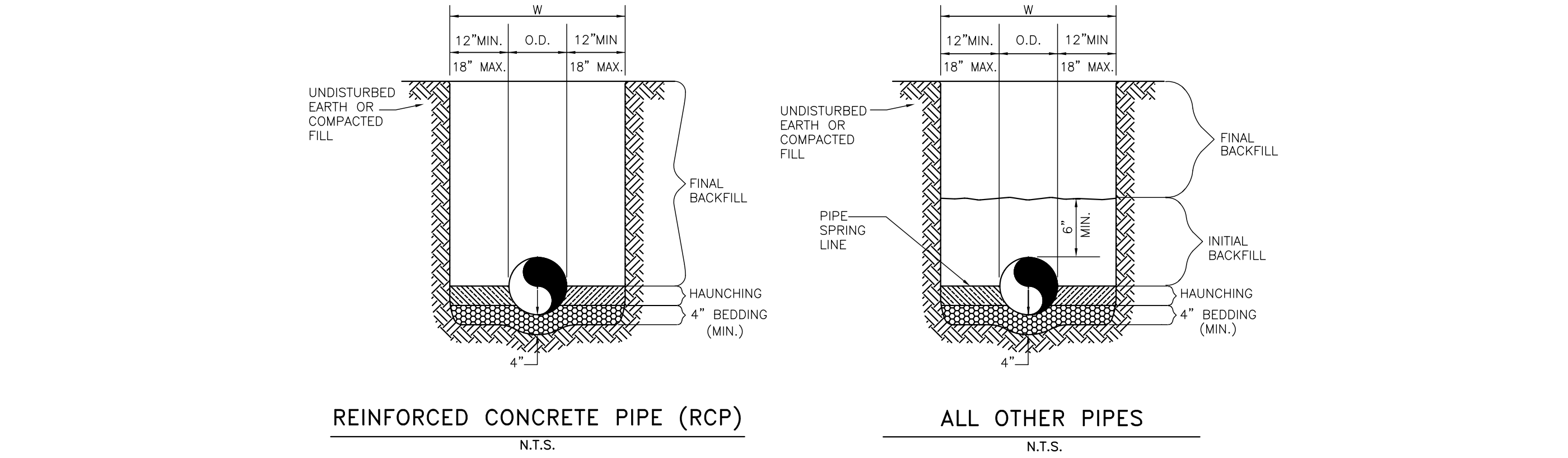
Missouri Licensed Engineering Firm #200600989



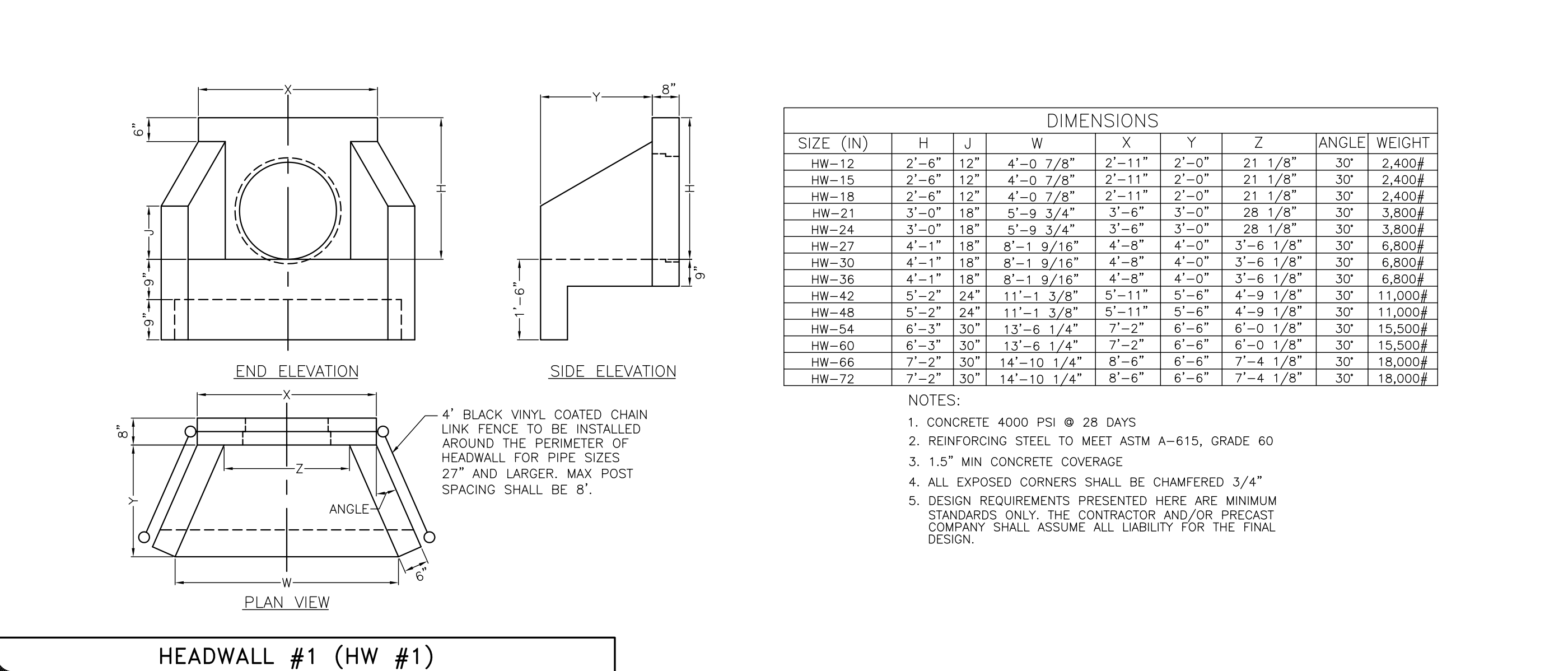
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SHEET
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RIP-RAP PAD



- GENERAL NOTES**
- BEDDING SHALL BE CLASS I WORKED BY HAND OR CLASS II COMPACTED TO 90% STANDARD PROCTOR.
 - HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I OR CLASS II COMPACTED TO 90% STANDARD PROCTOR.
 - INITIAL BACKFILL SHALL BE CLASS I WORKED BY HAND OR CLASS II COMPACTED TO 90% STANDARD PROCTOR.
 - INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR.
 - FINAL BACKFILL SHALL BE CLASS I, II, OR III COMPACTED TO 98% STANDARD PROCTOR.
 - FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV COMPACTED TO 95% STANDARD PROCTOR.
 - ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321-11.
 - ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
 - FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
 - ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)
 - ANY OPEN-GRADED MATERIAL MEETING THE REQUIREMENTS OF ASTM D 2321-11 MAY BE USED ONLY IF THE MATERIAL IS WRAPPED IN AN APPROVED FILTER OR DRAINAGE FABRIC (REFER TO SITEMARK SPECIFICATION SECTION 02300 FOR REFERENCE) AND WITH WRITTEN PERMISSION FROM THE CEC.
 - THE UPPER 12" OF FINAL BACKFILL (MAY BE REDUCED TO 9" IN LIMITED AREAS WHERE BURIAL DEPTH WILL NOT ALLOW FOR 12" CAP) FOR ALL TRENCHES IN NON-PAVEMENT AREAS SHALL BE A LOW PLASTICITY COHESIVE FILL. REFER TO SITEMARK SPECIFICATION SECTION 02300 FOR ALLOWABLE "SATISFACTORY MATERIALS" AND COMPACTION REQUIREMENTS.
 - BEDDING, HAUNCHING, AND INITIAL AND FINAL BACKFILL MATERIALS USED IN CONJUNCTION WITH ANY PIPES WHICH PENETRATE A LEVEE OR ROAD EMBANKMENT, SHALL BE A LOW PERMEABILITY, COHESIVE SOIL. SOILS EXHIBITING HIGH SHRINK/SWELL POTENTIAL OR CONTAINING GREATER THAN 5% ORGANICS SHALL NOT BE USED.

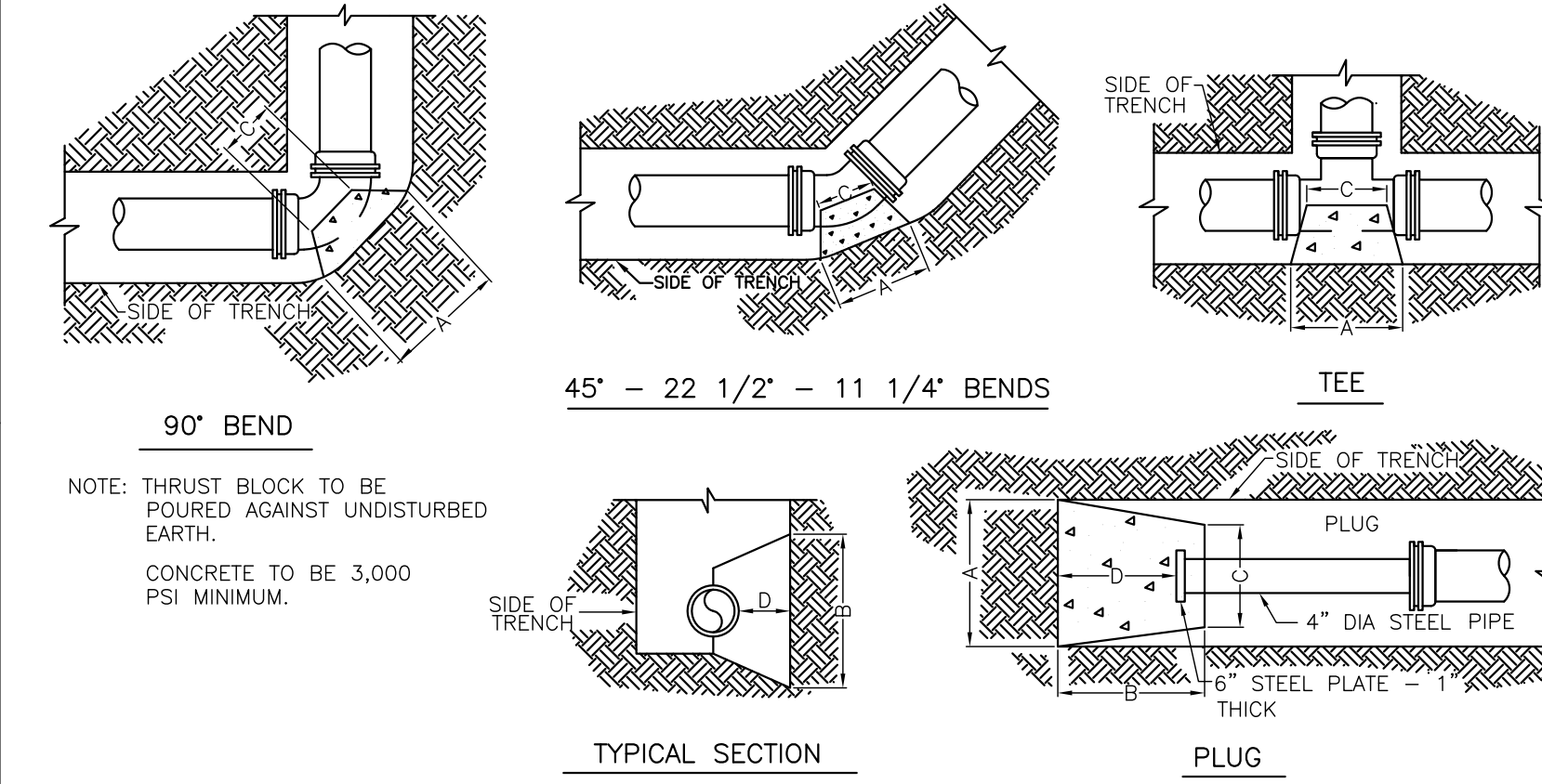


HEADWALL #1 (HW #1)

90 DEGREE BEND										PLUG									
SIZE	2"	4"	6"	8"	10"	12"	18"			SIZE	2"	4"	6"	8"	10"	12"	18"		
A	16"	16"	26"	33"	40"	50"	70"			A	26"	26"	26"	34"	43"	52"	70"		
B	16"	16"	24"	33"	40"	50"	70"			B	26"	26"	26"	34"	43"	52"	70"		
C	9"	9"	12"	12"	15"	16"	22"			C	12"	12"	12"	12"	12"	12"	30"		
D	6"	12"	12"	16"	21"	32"	24"			D	11"	12"	12"	15"	22"	32"	32"		

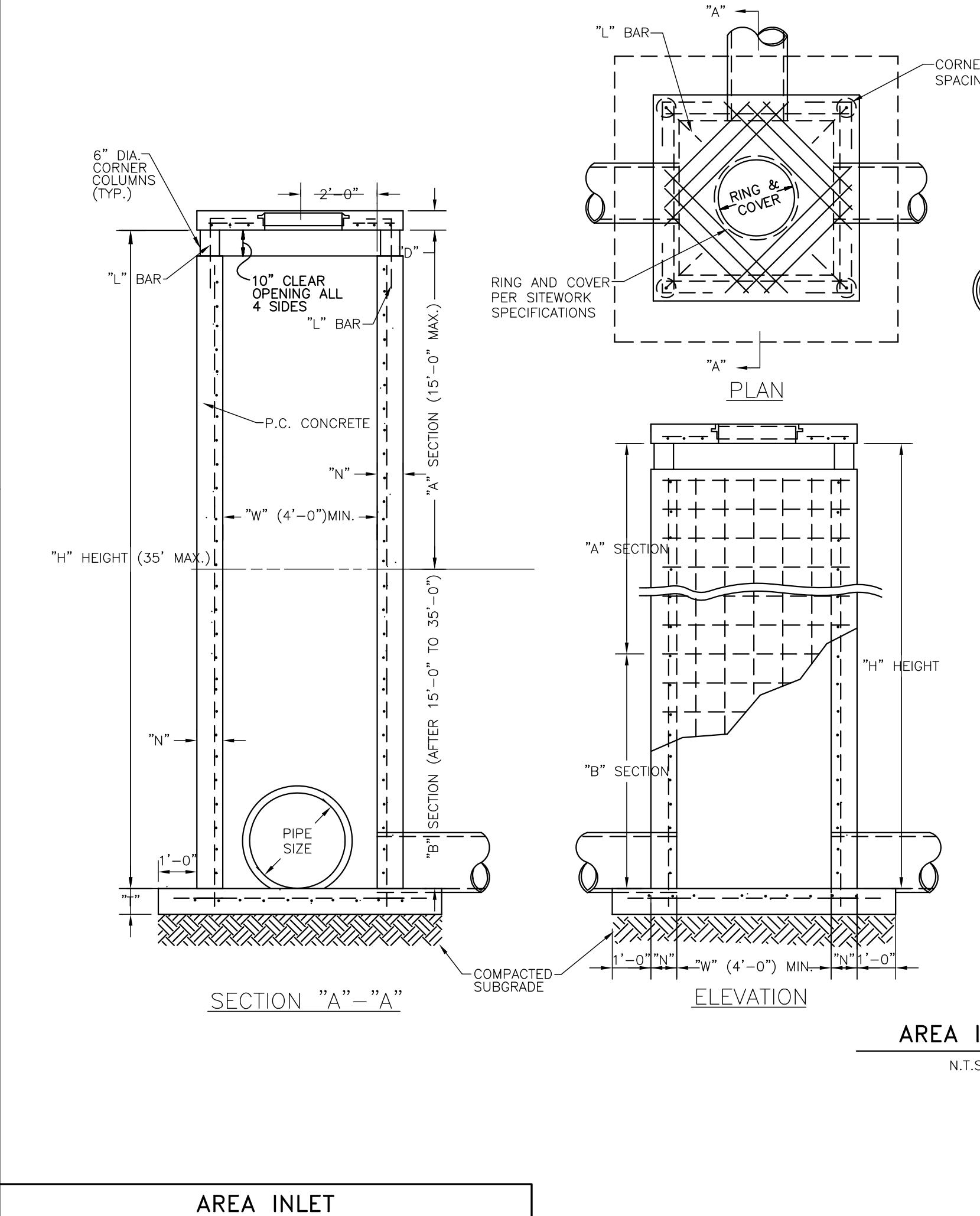
45 DEGREE BEND										11-1/4 DEGREE BEND									
SIZE	2"	4"	6"	8"	10"	12"	18"			SIZE	2"	4"	6"	8"	10"	12"	18"		
A	12"	12"	18"	24"	31"	37"	52"			A	9"	9"	9"	11"	13"	16"	18"		
B	12"	12"	18"	24"	31"	37"	52"			B	9"	9"	9"	11"	13"	16"	18"		
C	8"	8"	10"	12"	14"	16"	14"			C	8"	8"	10"	12"	14"	16"	15"		
D	6"	12"	12"	15"	18"	18"				D	12"	12"	12"	12"	12"	12"	16"		

22-1/2 DEGREE BEND										TEE									
SIZE	2"	4"	6"	8"	10"	12"	18"			SIZE	2"	4"	6"	8"	10"	12"	18"		
A	9"	9"	13"	18"	23"	26"	40"			A	26"	26"	26"	26"	26"	26"	26"		
B	9"	9"	13"	18"	23"	26"	40"			B	26"	26"	26"	26"	26"	26"	26"		
C	8"	8"	10"	12"	14"	16"	15"			C	12"	12"	12"	12"	12"	12"	30"		
D	4"	12"	12"	12"	12"	13"	16"			D	13"	13"	21"	21"	26"	26"	24"		



THRUST BLOCKING

FOUNDATION OVEREXCAVATION



AREA INLET

GENERAL NOTES:

- ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER
- ALL REINFORCING BARS TO HAVE 2" COVER.
- SEE GRADING AND DRAINAGE PLAN FOR PIPE SIZES, LOCATIONS, AND FLOW LINES.
- PIPES SHALL CONNECT TO THE ENDS OR SIDES OF THE INLET. CONNECTION SHALL NOT BE MADE AT CORNERS OF BOX.
- ALL REINFORCING BARS TO BE GRADE 60.
- PRECAST MANHOLE MAY BE USED UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.

PRECAST MANHOLE SPECIFICATIONS

ASTM C478
CONCRETE: 4000 PSI AE (MIN.)
JOINT: WATERTIGHT RUBBER GASKET

REINFORCEMENT SCHEDULE, BASE			
SECTION	WIDTH ("W")	HOR.	VERT.
"A"	4'	#4's @ 9"	#4's @ 10"
"B"	4'	#4's @ 9"	#4's @ 10"

TABLE OF "W" DIMENSIONS			
PIPE SIZE	SKREW OF CROSS DRAIN	30"	45"
24"	4'-0"	4'-0"	4'-10"
30"	4'-0"	4'-7"	5'-8"
36"	4'-0"	5'-3"	6'-5"
42"	5'-3"	5'-11"	7'-3"
48"	5'-10"	6'-7"	8'-0"
60"	7'-0"	7'-10"	9'-8"

TABLE OF "T" & "N" DIMENSIONS			
SECTION	WIDTH ("W")	HOR.	VERT.
"A"	4'	6" + PIPE THICKNESS	8"
"B"	4'	6" + PIPE THICKNESS	8"

REINFORCEMENT SCHEDULE, TOP			
DIMENSIONS	STEEL	SPECIAL PATTERN	
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER	
W2 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER	
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER	
W2 = 7' OR GREATER	#4's @ 8" E.W.	DIAGONAL @ COVER	
W1 = 7' OR GREATER	#4's @ 8" E.W.	DIAGONAL @ COVER	
W2 = 7' OR GREATER	#4's @ 8" E.W.	DIAGONAL @ COVER	

NO	REVISIONS

DETAILS

COTTAGES AT GENERATION VILLAGE

WILLARD, MISSOURI

Cottages at Generation Village, LP

3556 S. CUIPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65808
PH. (417) 882-1701

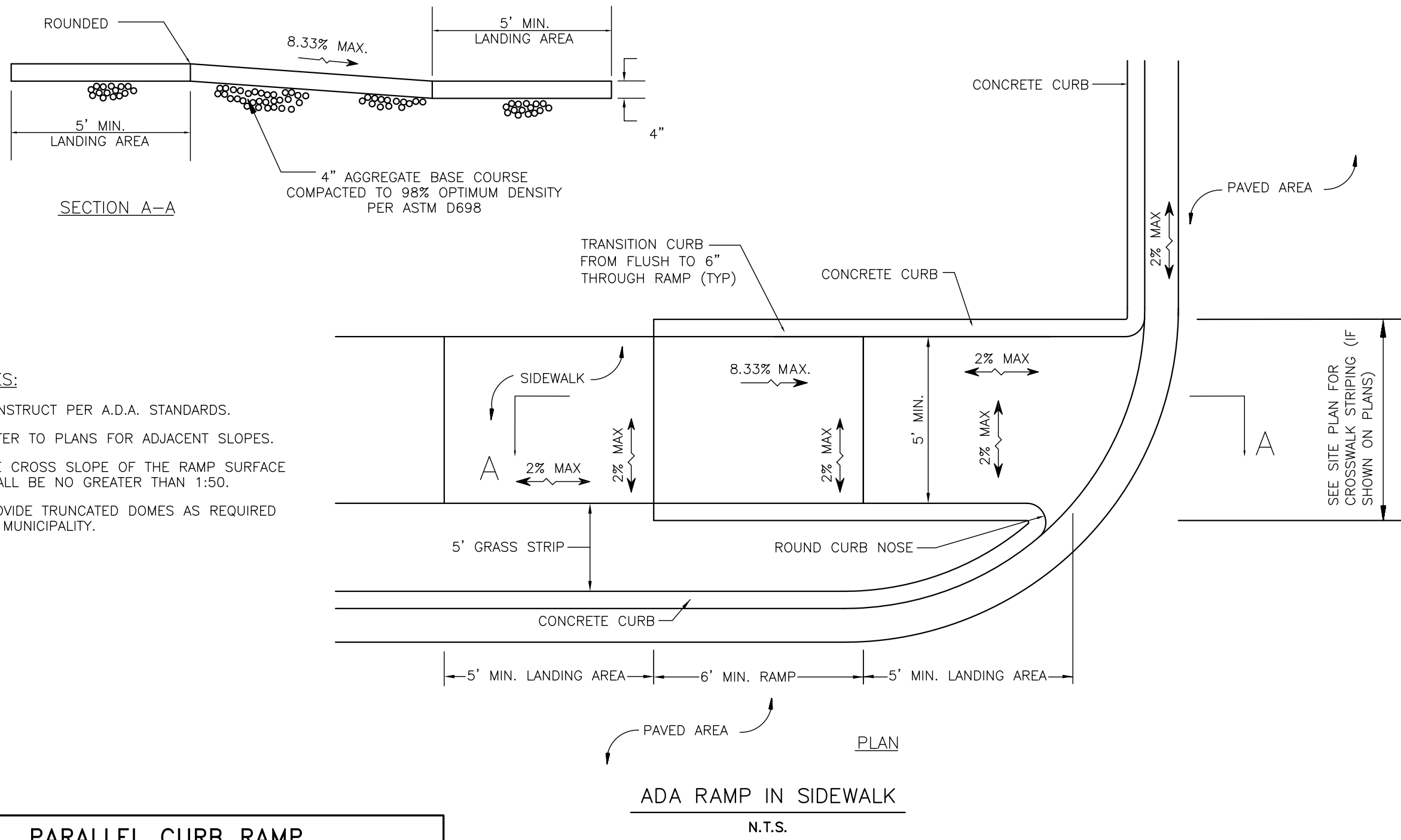
CARLSON CONSULTING ENGINEERS, INC.

7088 Ledgestone Commons
Bartlett, TN 38133
Phone (601) 384-0404
Fax (601) 384-0710
Missouri Licensed Engineering Firm #200608989

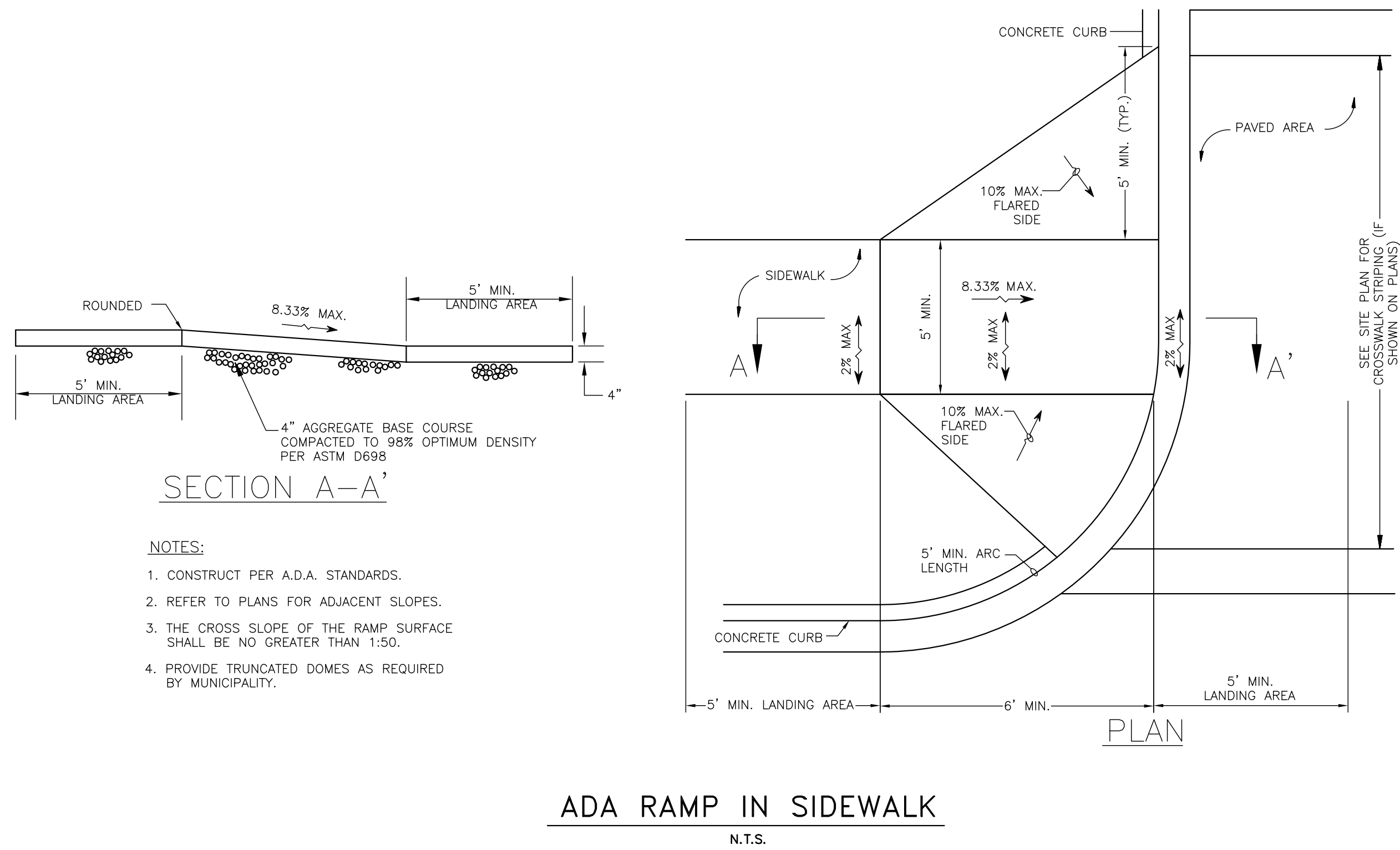
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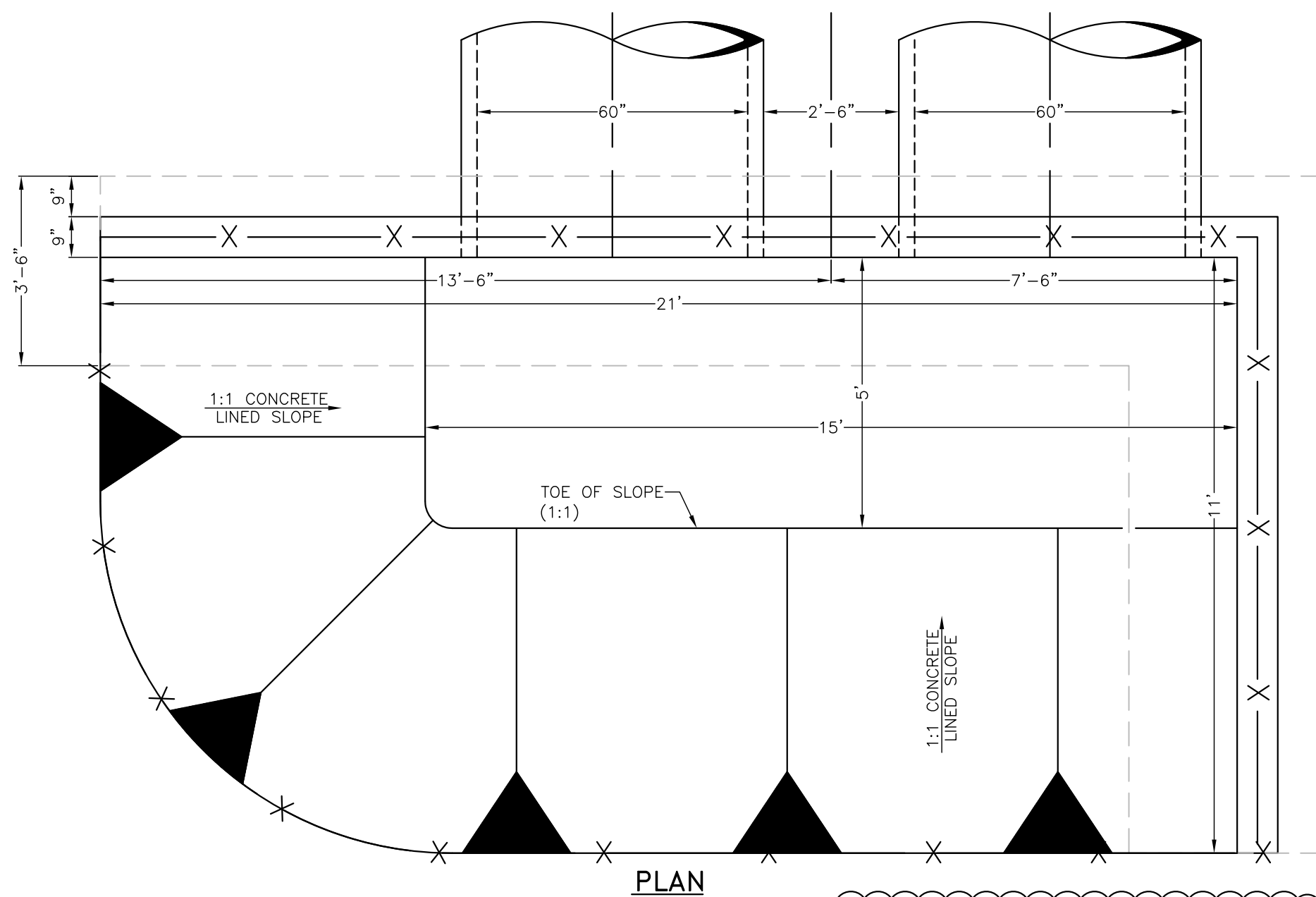
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PARALLEL CURB RAMP

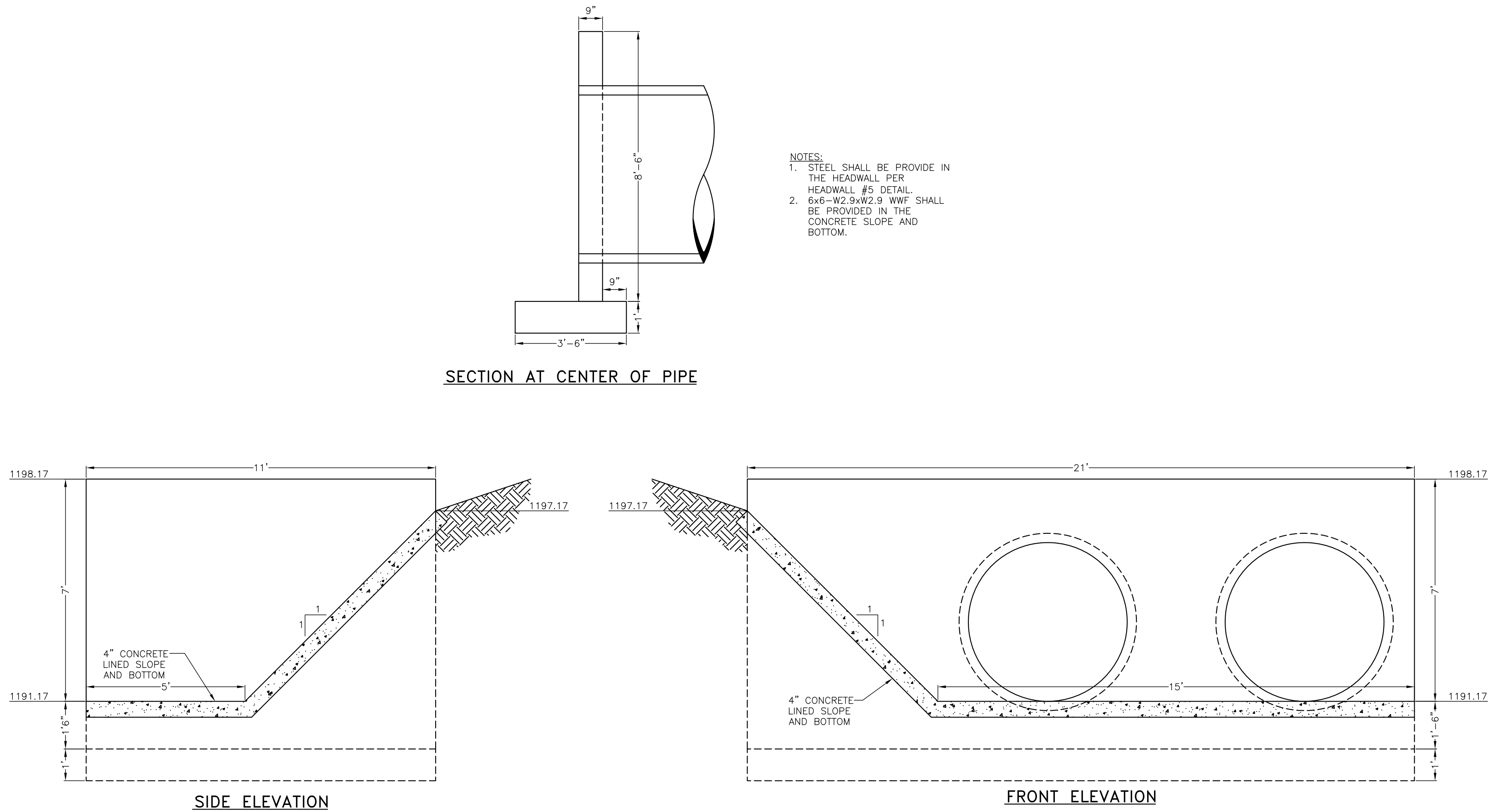


PERPENDICULAR CURB RAMP



NOTE: INSTALL 4" BLACK VINYL COATED CHAINLINK FENCE ALONG TOP OF HEADWALL AND ALONG THE CONCRETE SLOPE. BOTTOM OF FENCE FABRIC SHALL BE RAISED 6" ABOVE GRADE TO REDUCE POTENTIAL FOR FLOW RESTRICTION

HEADWALL #4 (HW #4)



NO	REVISIONS
PR1	PLAN REVISION #1 4/26/23

Cottages at Generation
Village, LP

3556 S. CUIPERER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH: (417) 892-1701

DETAILS

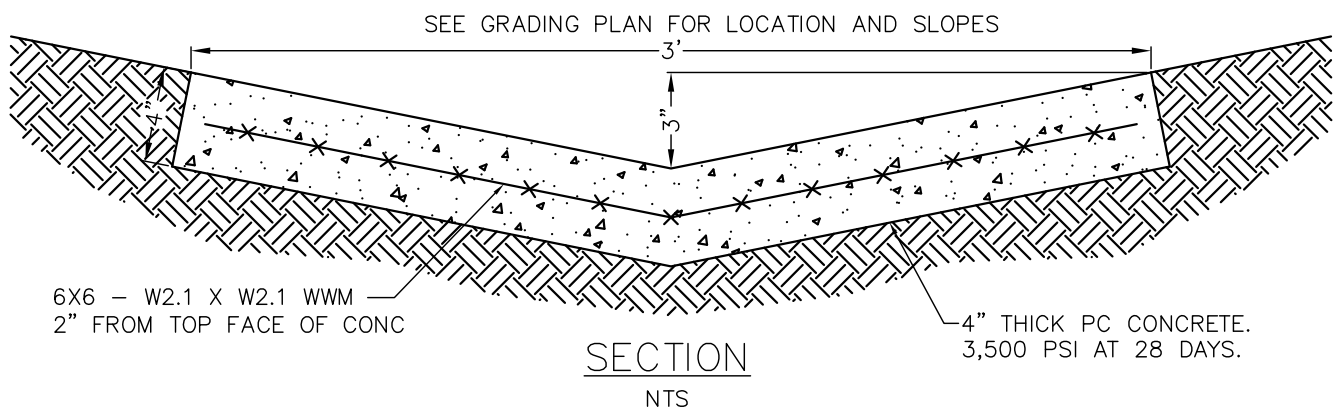
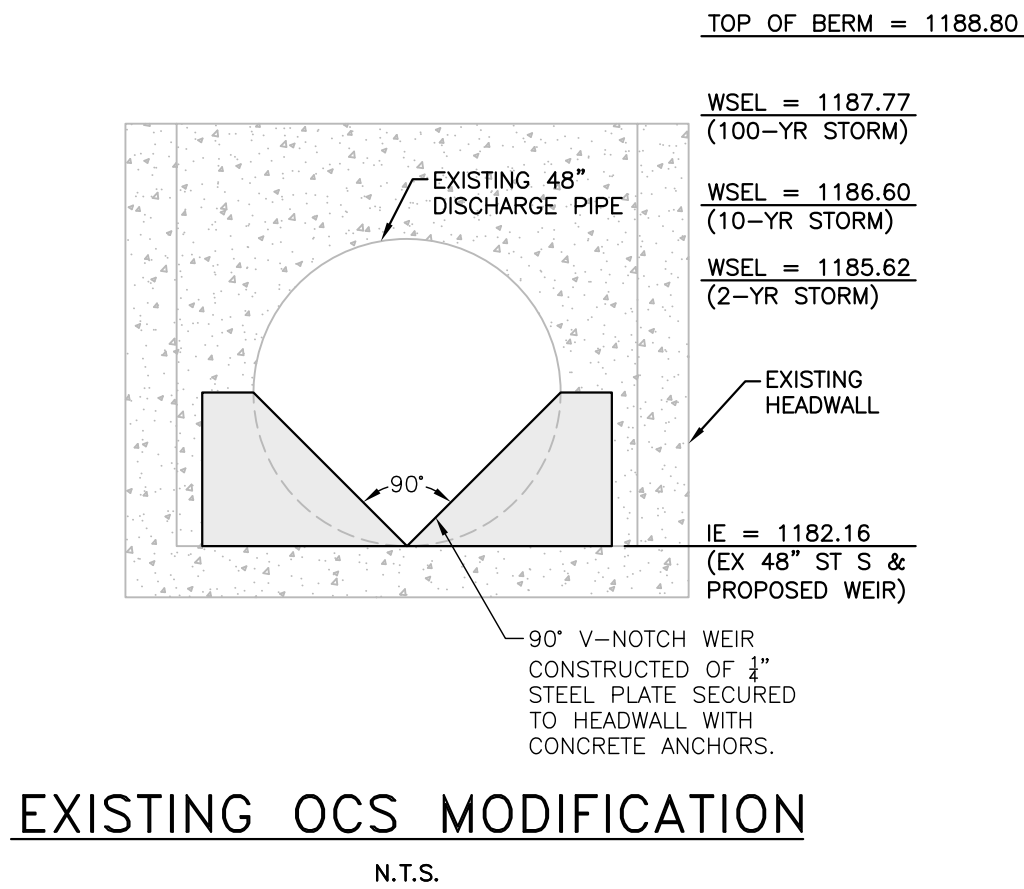
COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

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1088 Ledgestone Commons
Bartlett, TN 38133
Phone (601) 384-0404
Fax (601) 384-0710
Missouri Licensed Engineering Firm #200600899

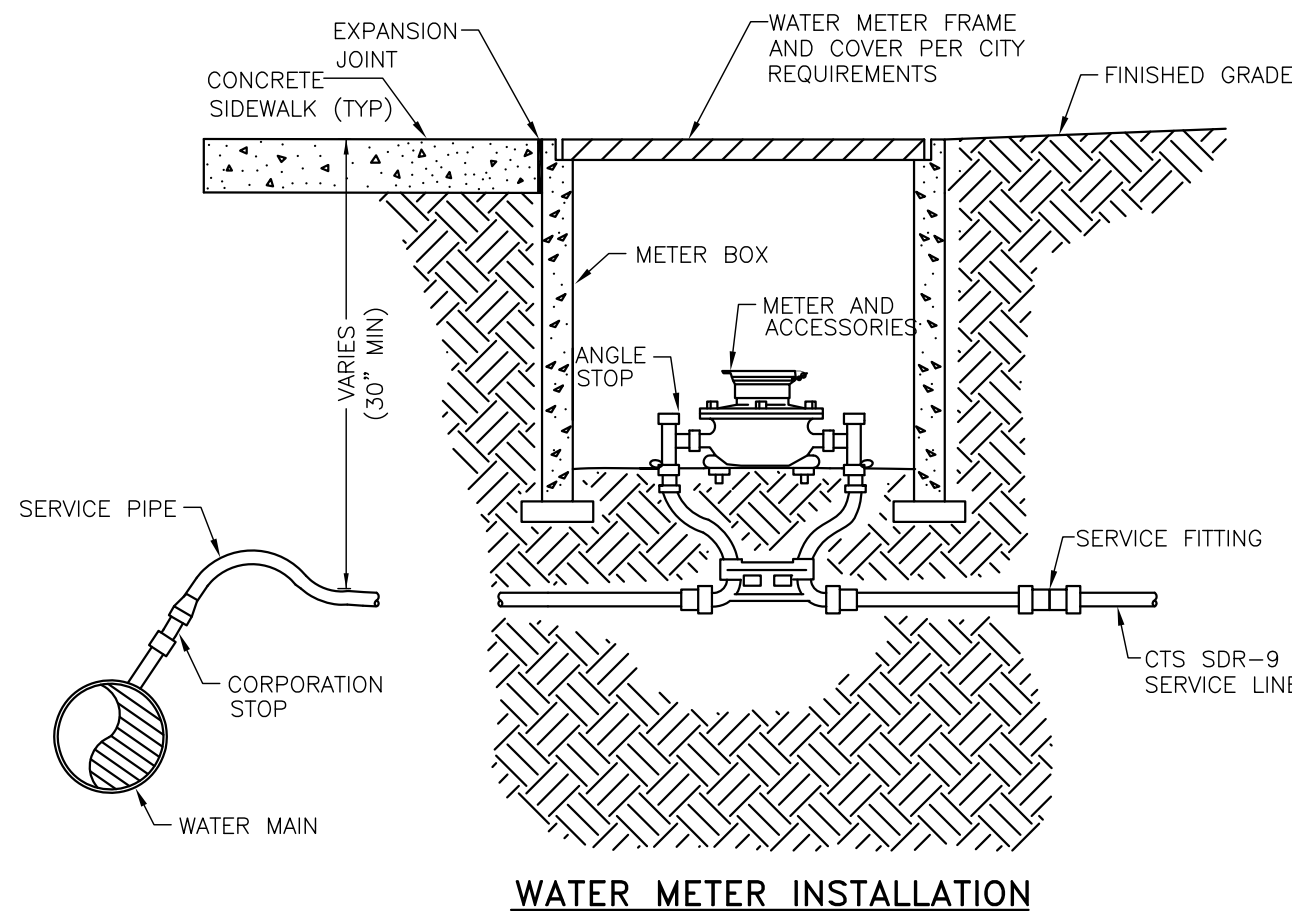
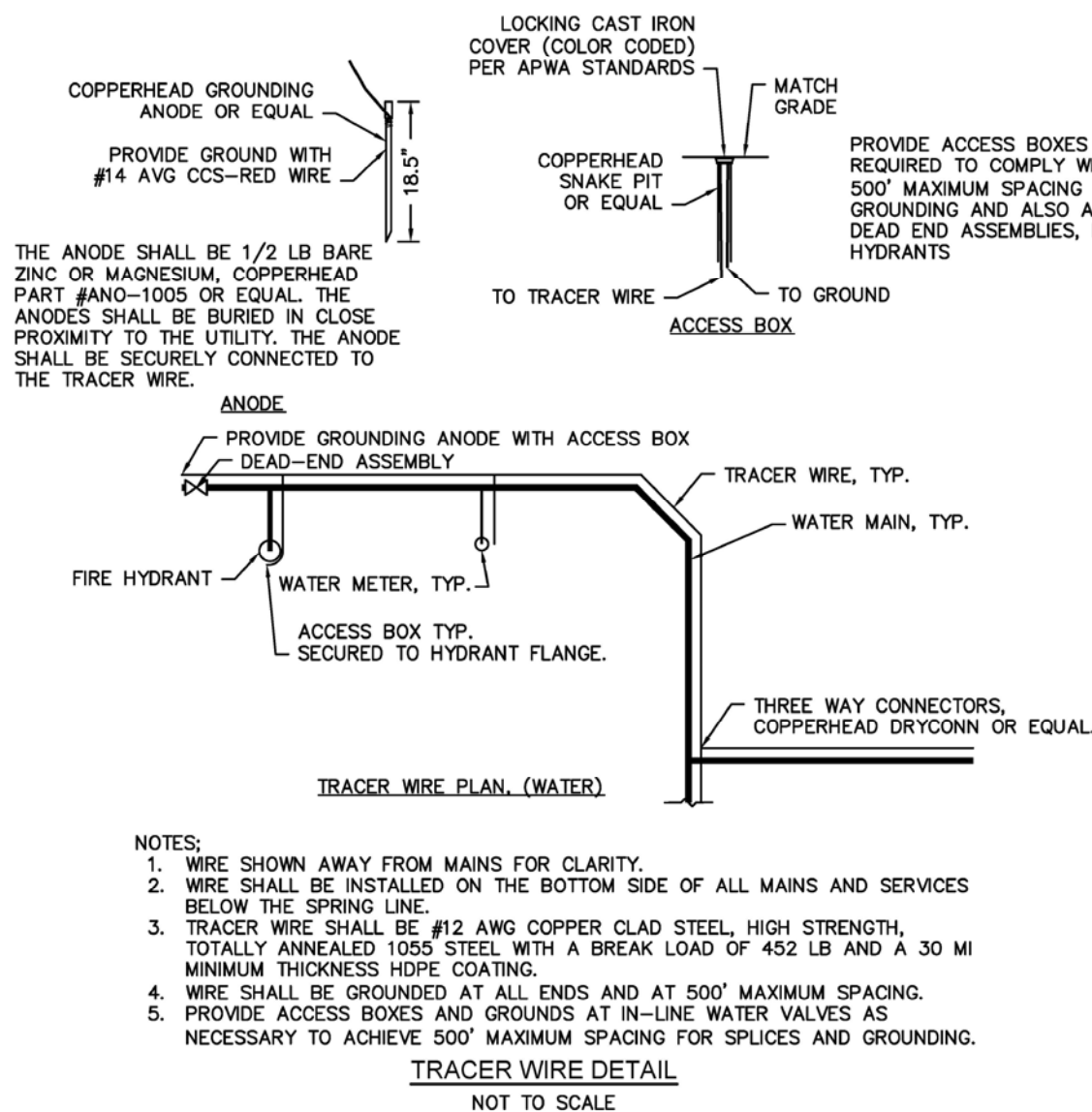


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DATE
04/06/2023
SCALE
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JOB No.
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SHEET
30 OF 32



GENERAL NOTES:

1. CONTROL JOINTS TO BE 15' OC TRANSVERSE TO CHANNEL CENTERLINE AXIS. FILL JOINTS WITH SEALANT.



CITY OF WILLARD PUBLIC WORKS REQUIREMENTS:

1. SERVICE LINE SHALL BE CTS SDR-9.

2. CORPORATION STOP SHALL BE FORD F1002 OR EQUIVALENT.

3. ALL SERVICE LINES AND MAINS SHALL HAVE #12 GAUGE SOLID STRAND TRACER WIRE.

4. ALL METER SETTER CONNECTIONS TO THE SERVICE LINES SHALL BE PACK JOINT FITTINGS.

5. METER SETTERS SHALL HAVE DOUBLE CHECK VALVE ASSEMBLIES.

6. METER PITS SHALL BE 18" (MIN) FOR INDIVIDUAL METERS OR 24" (MIN) FOR DUAL METERS.

7. DUAL METER PITS SHALL USE BRASS "U" BRANCH FITTINGS TO TIE BOTH METER SETTERS INTO A SINGLE INCOMING LINE.

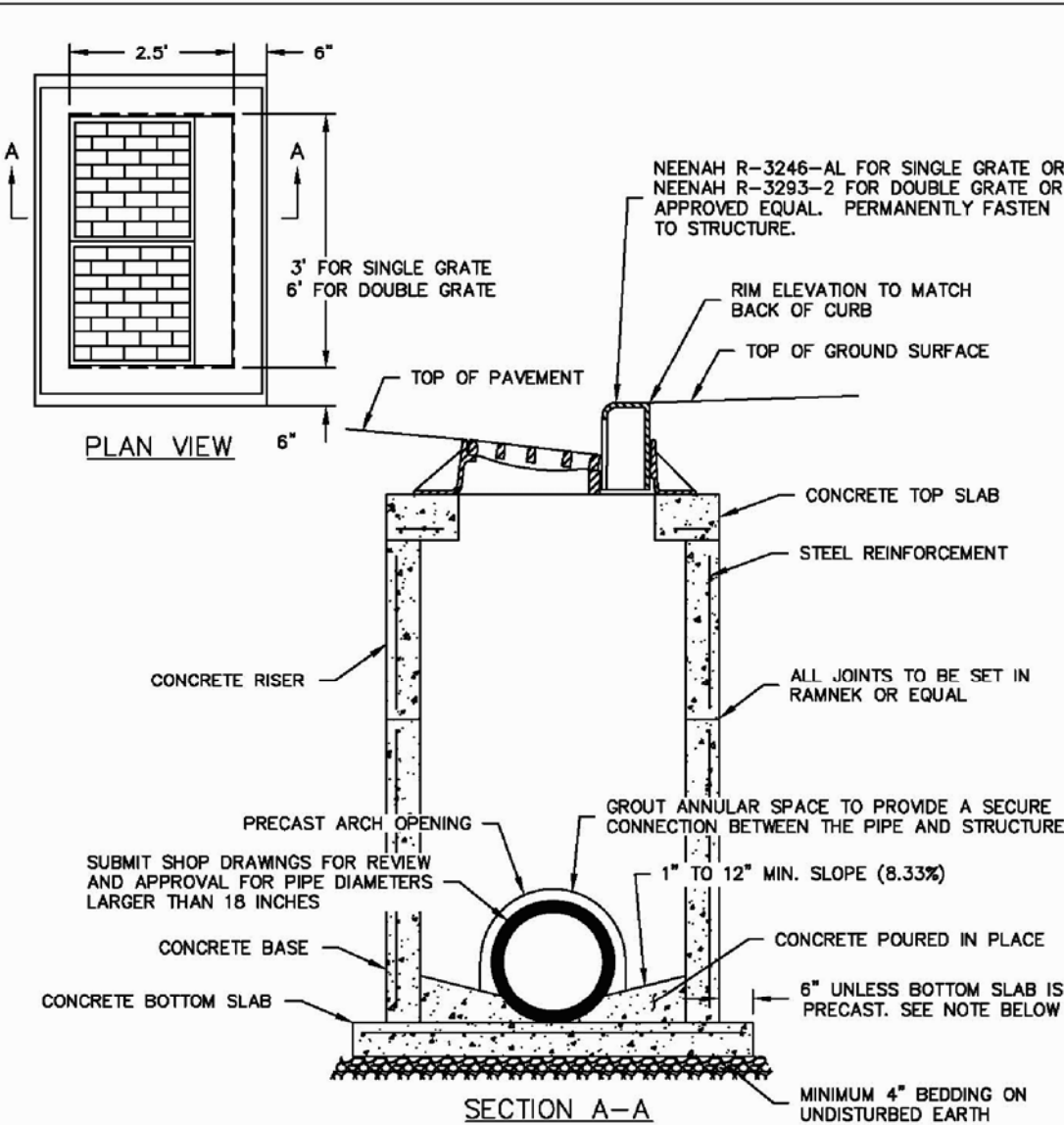
8. NO PLASTIC FITTING OF ANY KIND ARE ALLOWED TO ANY SERVICE CONNECTION TO THE METER PIT OR CONNECTING TO THE CITY'S WATER METER SETTER TO THE CUSTOMER SERVICE LINE. ALL FITTINGS SHALL BE PACK JOINT BRASS CONNECTIONS.

EXISTING OCS MODIFICATION

CONCRETE DITCH

TRACER WIRE

WATER METERS



NOTES:

1. GRATE INLET SHALL BE DESIGNED AND MANUFACTURED IN ACCORDANCE WITH ASTM C 913 FOR A COMBINATION OF DEAD LOADS AND A-16 (HS20-44) TRAFFIC LOADS IN ACCORDANCE WITH ASTM C890.

2. FOR CAST-IN-PLACE STRUCTURES, THE ENGINEER SHALL SUBMIT A DRAWING FOR THE DESIGN OF THE STRUCTURE INCLUDING SIZE AND SPACING OF REINFORCEMENT AND THICKNESS OF CONCRETE IN WALLS, TOP SLAB, AND BOTTOM SLAB FOR SAME LOADING AS SPECIFIED IN NOTE 1.

3. GRATE INLET SHALL BE CONSTRUCTED WITH AS FEW JOINTS AS REASONABLY PRACTICAL. WHEN JOINTS ARE NECESSARY, JOINTS SHALL BE WATER-TIGHT, DETAILED ON SHOP DRAWINGS AND DESIGNED TO PREVENT LATERAL MOVEMENT DURING AND AFTER CONSTRUCTION.

4. BOTTOM SLAB SHALL BE POURED IN PLACE. IF MANUFACTURER IS CONCERNED ABOUT STRUCTURAL INTEGRITY OF CONCRETE BASE DURING TRANSPORTATION THEN THE BOTTOM SLAB MAY BE PRECAST WITH CONCRETE BASE.

5. PIPE TO BE ON GRADE BEFORE BOTTOM SLAB IS CONSTRUCTED UNLESS BOTTOM IS PRECAST WITH BASE.

6. ALL PIPES SHALL FIT FLUSH WITH INSIDE FACE OF INLET.

7. BOTTOM OF INLET TO BE FILLED WITH CONCRETE FORMING CHANNELS TOWARD OUTLET PIPE FROM ALL INLET PIPES. CONCRETE SHALL BE FLUSH WITH INVERT OF OUTLET PIPE.

DEPARTMENT OF PUBLIC WORKS
SPRINGFIELD, MO.

GRATE INLET

ADOPTED: 10/1/21
SS-7

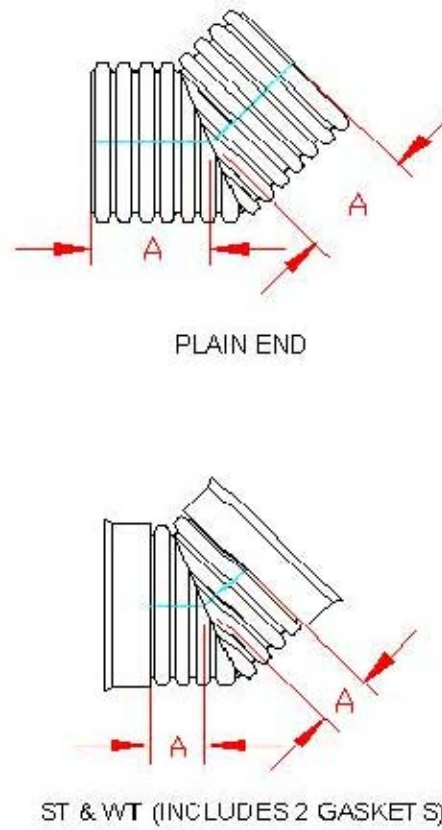
CURB INLET

60" ST S 45° BEND

DUAL WALL FABRICATED 45° BENDS
36" - 60" DIAMETER

PART #	PIPE SIZE	A	JOINT
4297AN	36 in (900 mm)	29.3 in (745 mm)	*
3697AN65BB	36 in (900 mm)	13.6 in (345 mm)	WT
4297AN	42 in (1067 mm)	29.1 in (739 mm)	*
4297AN65BB	42 in (1067 mm)	19.2 in (488 mm)	WT
4897AN	48 in (1200 mm)	30.2 in (767 mm)	*
4897AN65BB	48 in (1200 mm)	19.7 in (500 mm)	WT
6097AN	60 in (1500 mm)	42.0 in (1067 mm)	*
6097AN65BB	60 in (1500 mm)	24.0 in (610 mm)	WT

* = PLAIN END
WT = WATER TIGHT



NOTE: ALL FITTINGS DIMENSIONS ARE FOR REFERENCE ONLY

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ADSD	ADVANCED DRAINAGE SYSTEMS, INC.
DRAWING #	2212A
DRAWN BY	JCB
APPROVED BY	JCB
REVISIONS	1/1
DATE	1/28/2010

NO	REVISIONS
PR1	PLAN REVISION #1 4/26/23
PR2	PLAN REVISION #2 9/20/23

Cottages at Generation
Village, LP

3556 S. CUIPERPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65908
PH. (417) 882-1701

DETAILS

COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

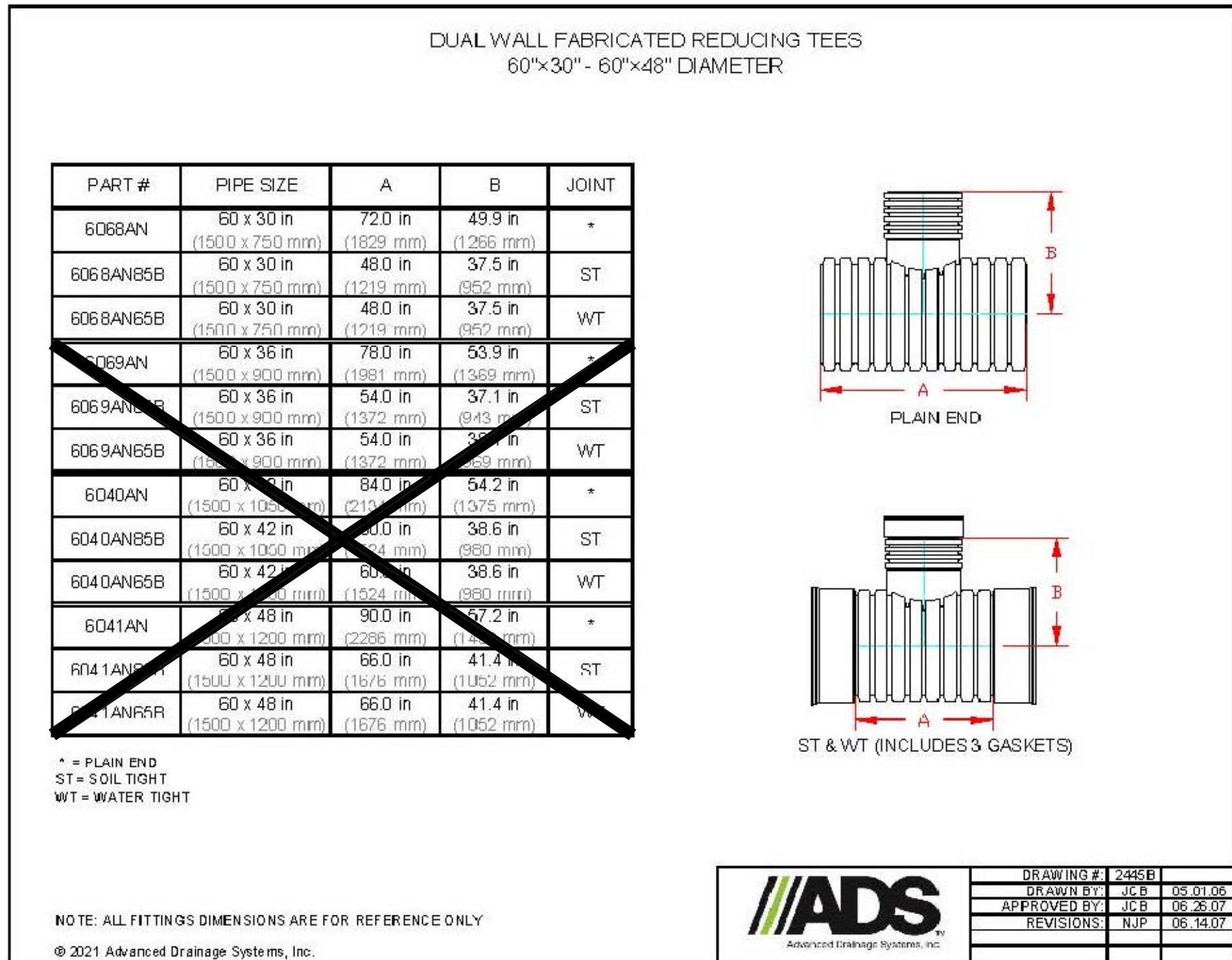
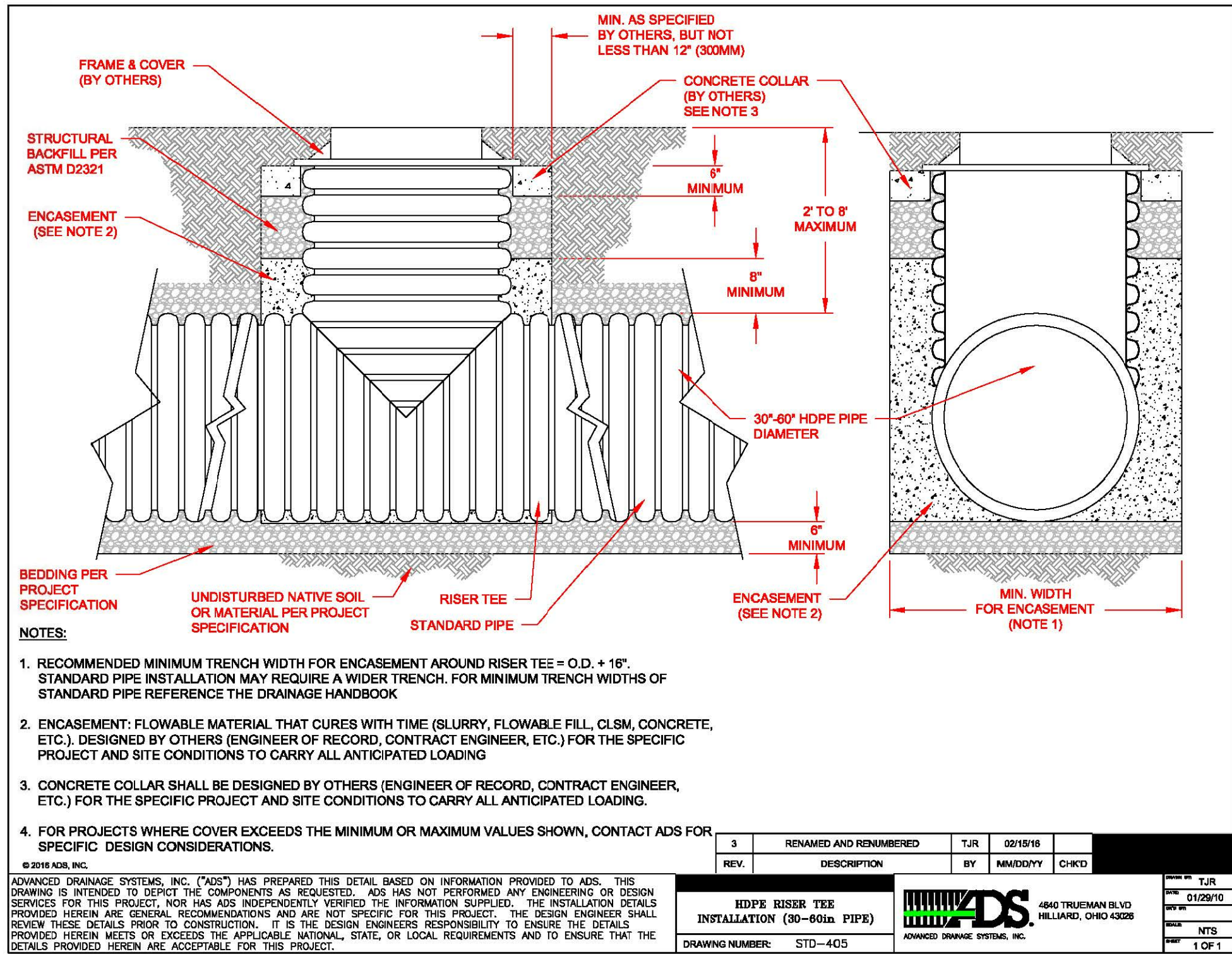
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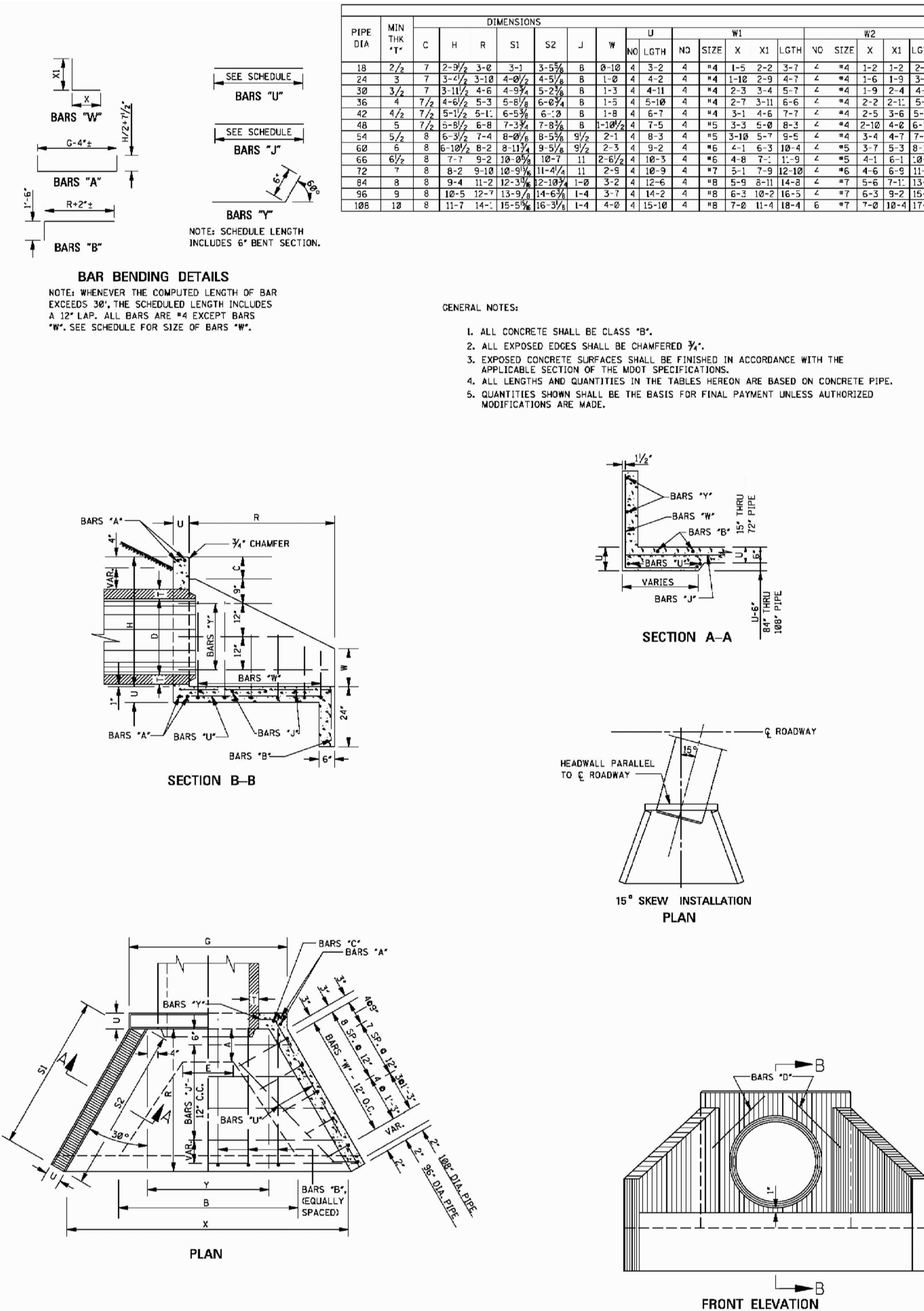
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STATE OF MISSOURI
JOSEPH
PARSLEY
NUMBER
PE-2008009298
PROFESSIONAL ENGINEER

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31 OF 32



RISER TEE



HEADWALL #5 (HW #5)

NO	REVISIONS

Cottages at Generation Village, LP
3556 S. CUIPEPPER CIRCLE, SUITE 4
SPRINGFIELD, MO 65808
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COTTAGES AT GENERATION VILLAGE
WILLARD, MISSOURI

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