Improvements to Water & Wastewater Systems Infrastructure St. James Veterans Home St. James, Missouri

CM Archer Group, P.C. dba:



Corporate Authority: CM Archer Group, P.C.: E: 2003023612-D, LS: 2004017577-D, A-2016017179

310 East 6th Street; Rolla, Missouri 65401 ■ Phone: 573-364-6362 Fax: 573-364-4782 ■ www.archer-elgin.com

OWNER: STATE OF MISSOURI

MICHAEL L. PARSON,

GOVERNOR

DEPARTMENT OF PUBLIC SAFETY

VETERANS COMMISSION

PROJECT OFFICE OF ADMINISTRATION

MANAGEMENT: DIVISION OF FACILITIES MANAGEMENT,

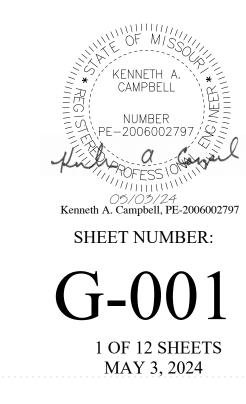
DESIGN AND CONSTRUCTION

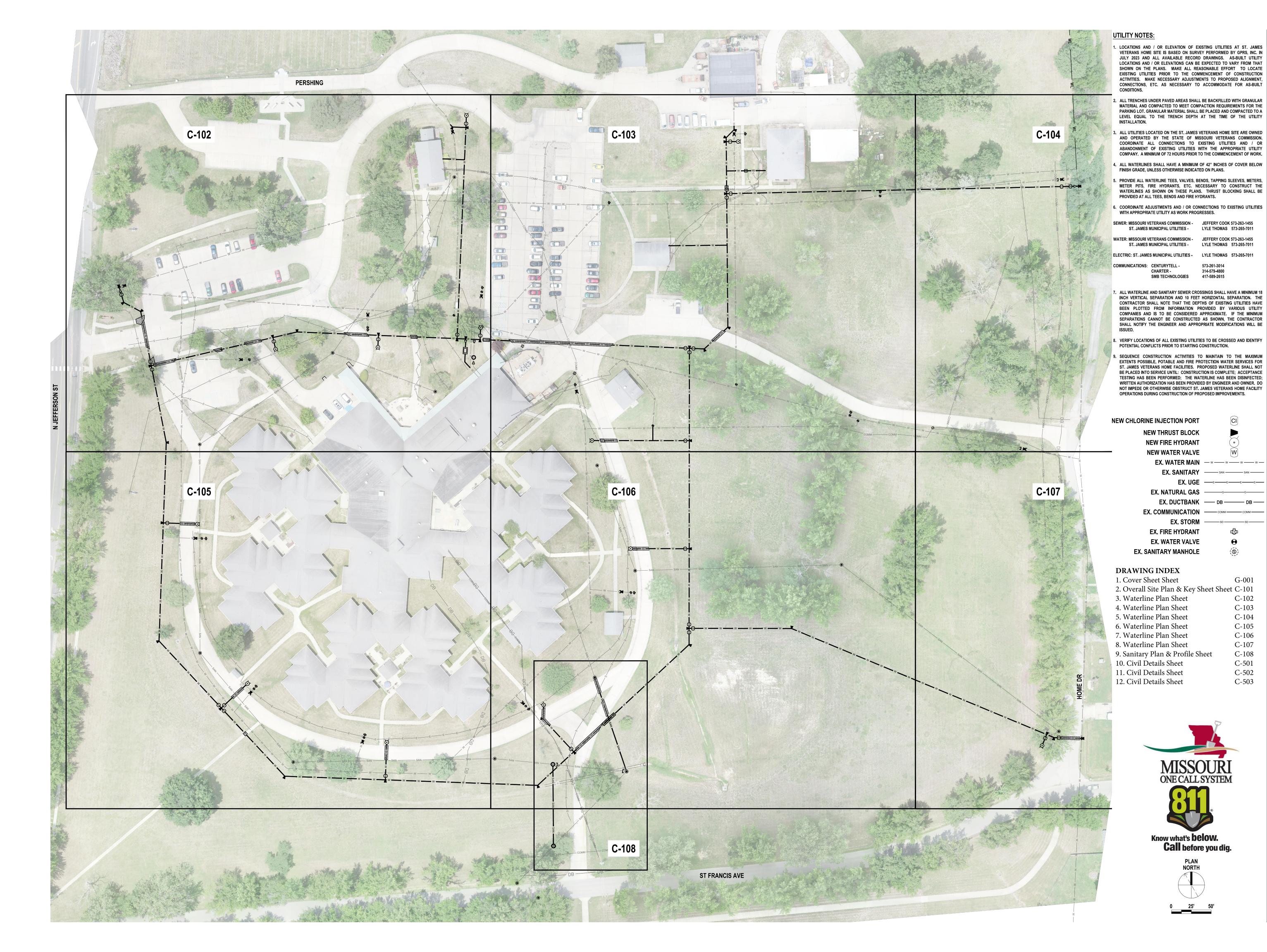
DESIGNER: Archer-Elgin

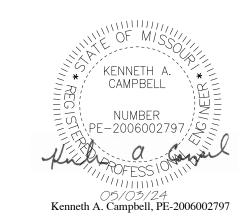
PROJECT NUMBER: U2309-01

SITE NUMBER: 6801

FACILITY NUMBER: 8136801012







OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, **DESIGN AND CONSTRUCTION**

DEPARTMENT OF PUBLIC SAFETY VETERANS COMMISSION

IMPROVEMENTS TO WATER & WASTEWATR SYSTEM INFRASTRUCTURE

ST JAMES VETERANS HOME 620 N JEFFERSON ST ST. JAMES, MISSOURI

PROJECT # U2309-01 6801

G-001

C-102

C-103

C-104

C-105

C-106

C-108

C-501

C-502

C-503

FACILITY # 8136801012

REVISION:
DATE:
REVISION:
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REVISION:
DATE:
ISSUE DATE: 05/03/2024

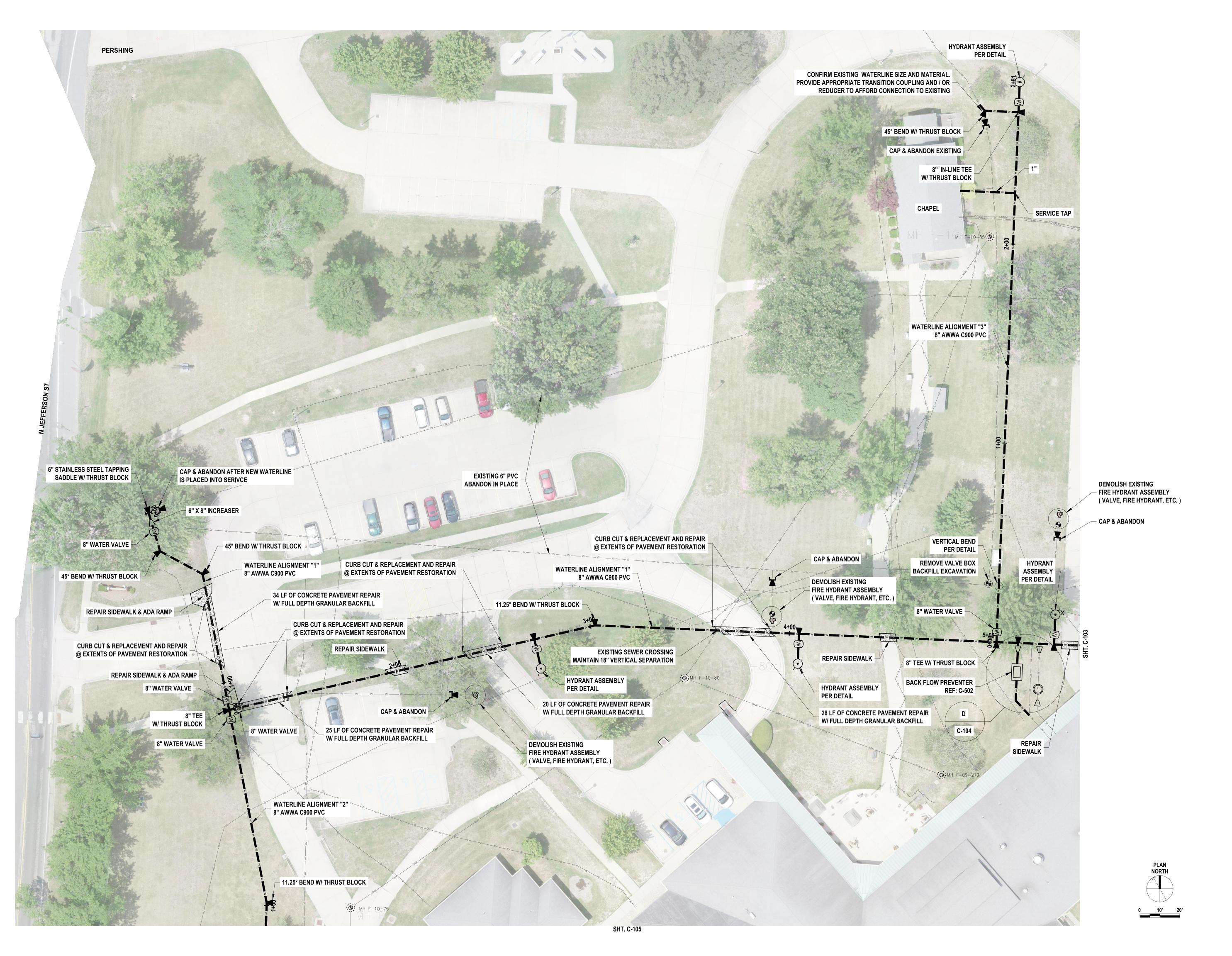
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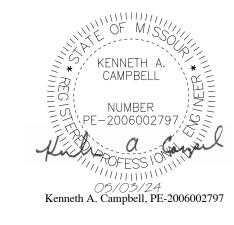
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OVERALL SITE PLAN & KEY SHEET

SHEET NUMBER:

C-101







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CHECKED BY: KAC DESIGNED BY: KAC SHEET TITLE:

WATERLINE PLAN

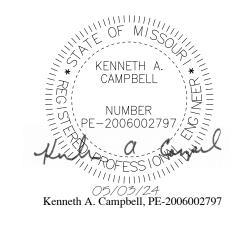
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C-102
3 OF 12 SHEETS

05/03/2024

SHT. C-106







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ISSUE DATE: 05/03/2024

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DRAWN BY: JSM
CHECKED BY: KAC

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DESIGNED BY: KA

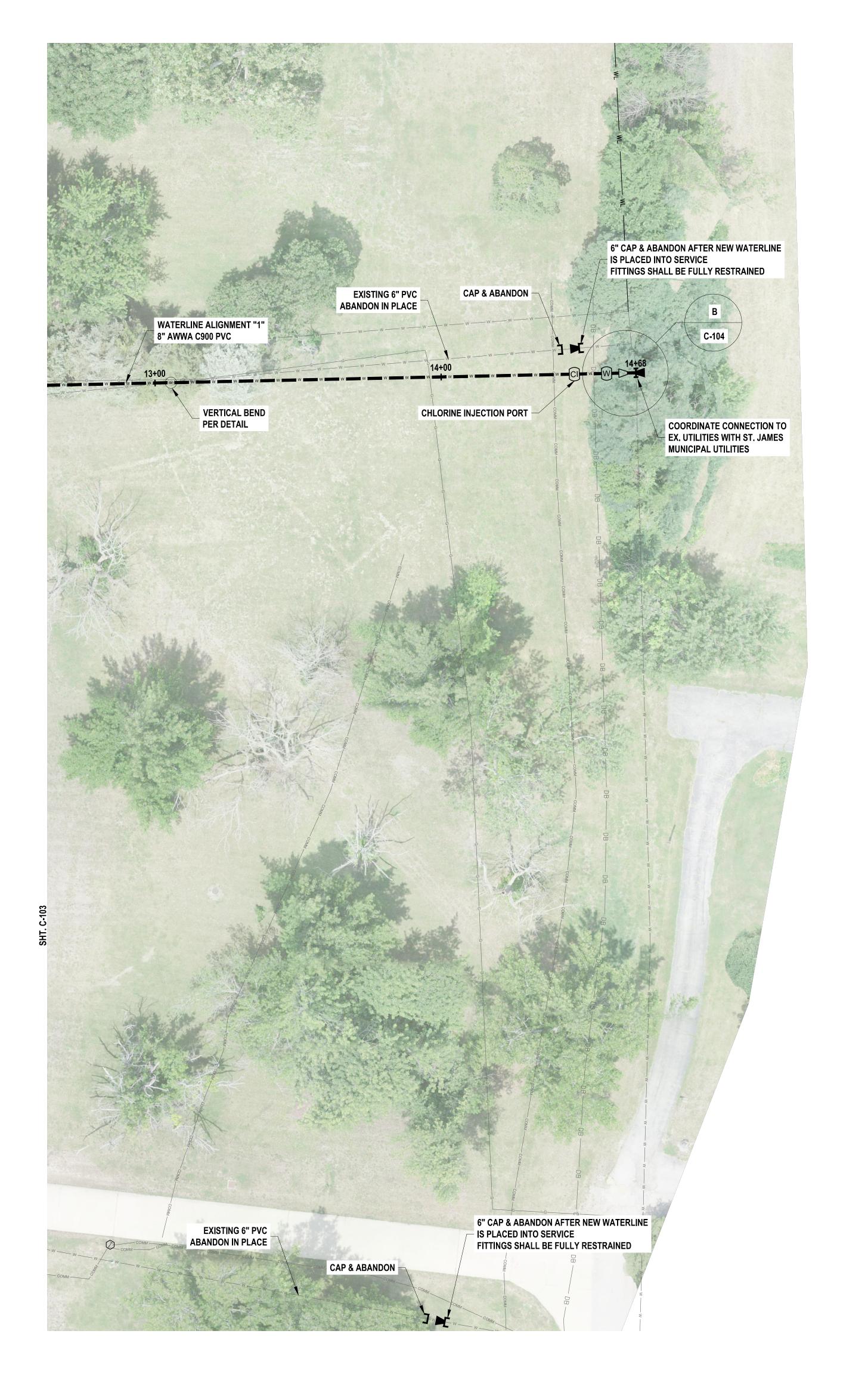
WATERLINE PLAN

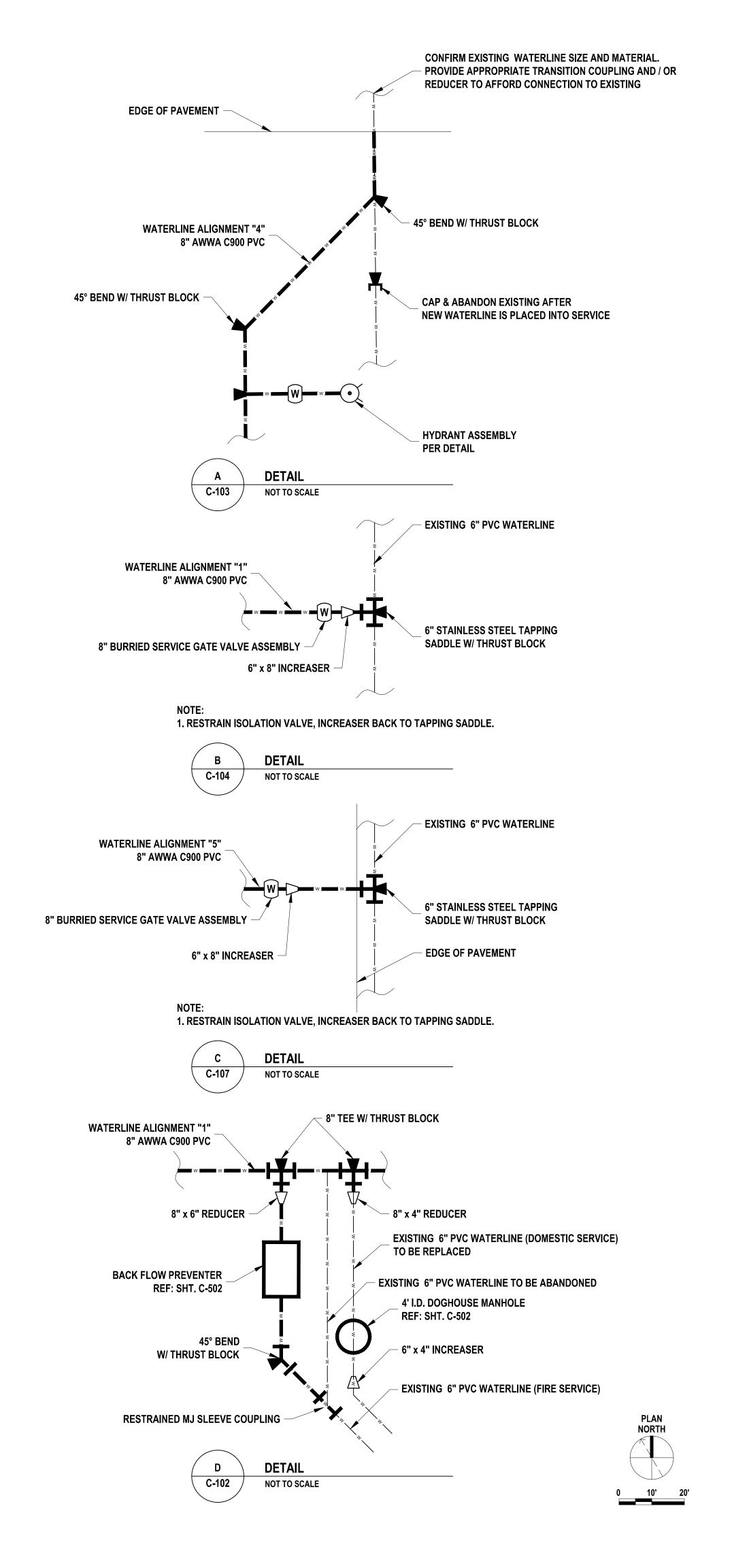
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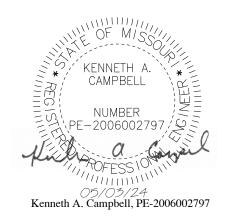
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4 OF 12 SHEETS

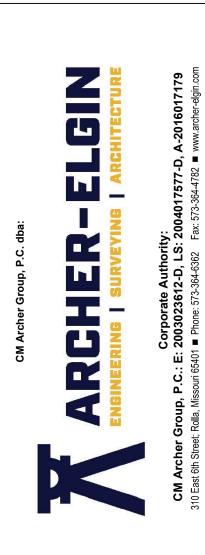
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OFFICE OF ADMINISTRATION
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DRAWN BY: JSM
CHECKED BY: KAC
DESIGNED BY: KAC

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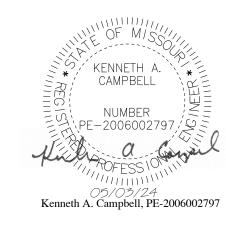
WATERLINE PLAN

SHEET NUMBER:

C-104

DESIGN AND CONSTRUCTION





OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, **DESIGN AND CONSTRUCTION**

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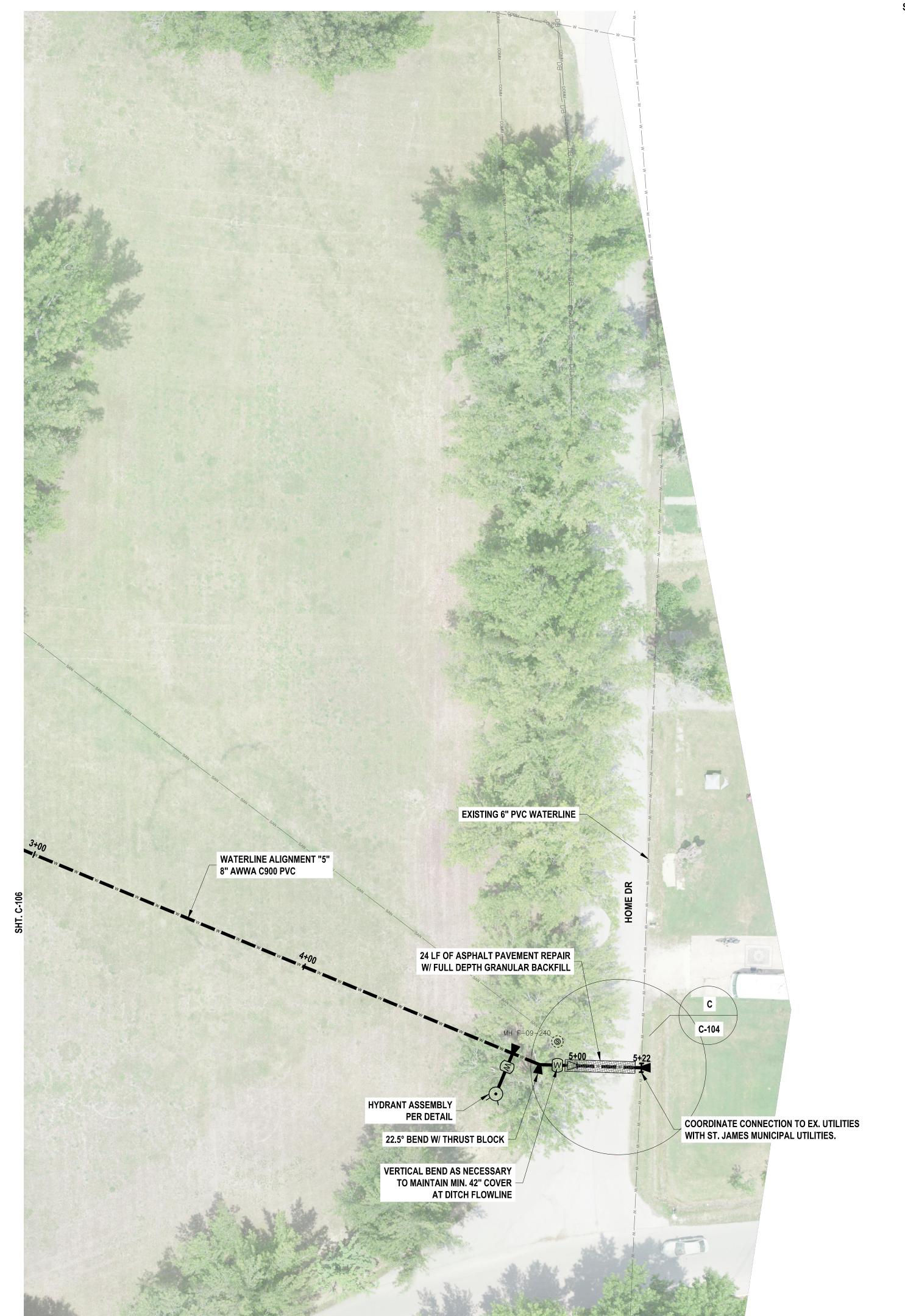
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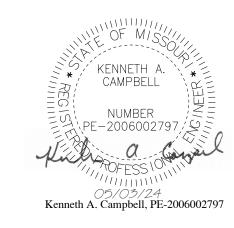
WATERLINE PLAN

SHEET NUMBER:

C-106









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ISSUE DATE: 05/03/2024	

CAD DWG FILE:C-107
DRAWN BY: JSM
CHECKED BY: KAC
DESIGNED BY: KAC

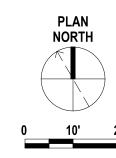
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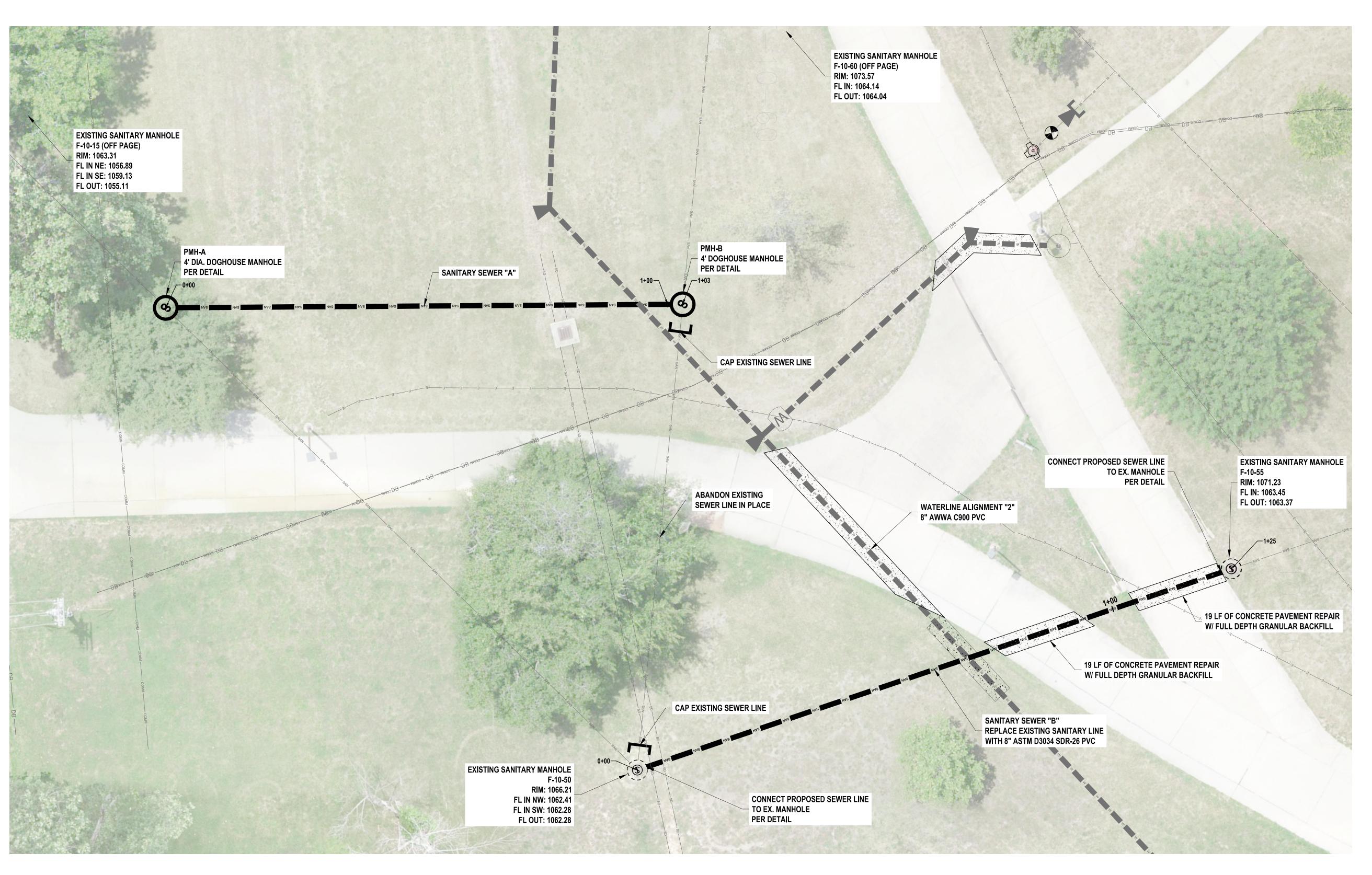
WATERLINE PLAN

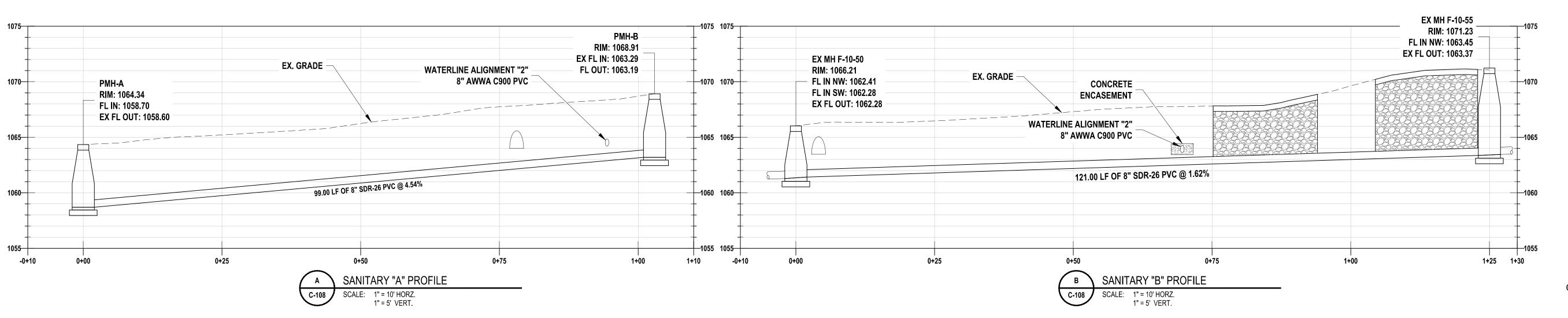
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C-107
8 OF 12 SHEETS

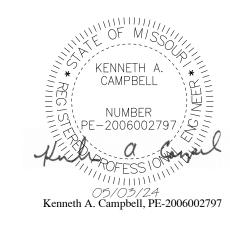
05/03/2024













OFFICE OF ADMINISTRATION DIVISION OF FACILITIES MANAGEMENT, DESIGN AND CONSTRUCTION

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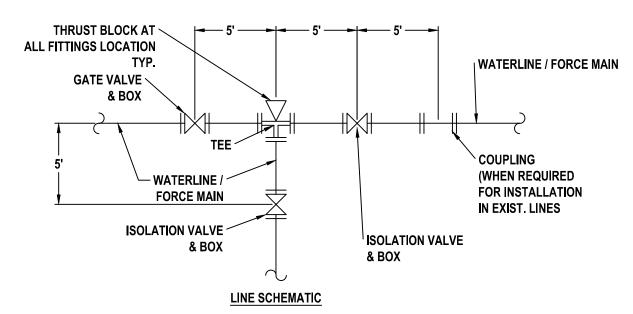
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DRAWN BY: JSM
CHECKED BY: KAC
DESIGNED BY: KAC

SHEET TITLE:

SANITARY PLAN & PROFILE

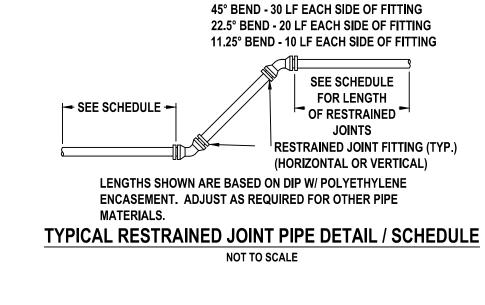
SHEET NUMBER:

C-108



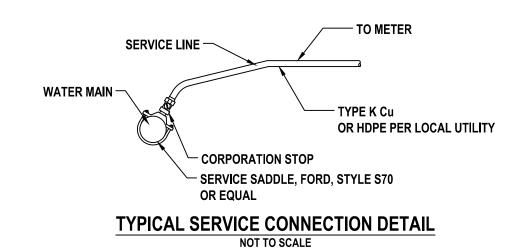
SEE PLAN SHEETS FOR REQUIRED FITTING TYPES AND VALVE INSTALLATIONS FOR SPECIFIC CONNECTIONS, BRANCHES AND CONNECTIONS TO EXISTING SYSTEMS. NOT ALL FITTINGS AND/OR VALVES SHOWN IN THE SCHEMATIC MAY BE REQUIRED AT ALL LOCATIONS.

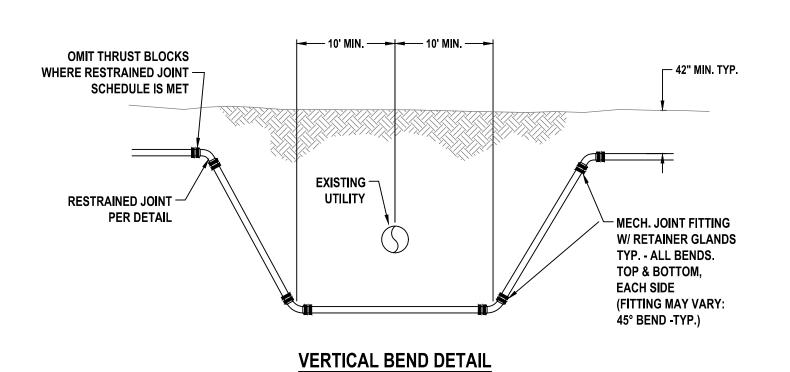
TYPICAL VALVE / FITTING LOCATION DETAIL



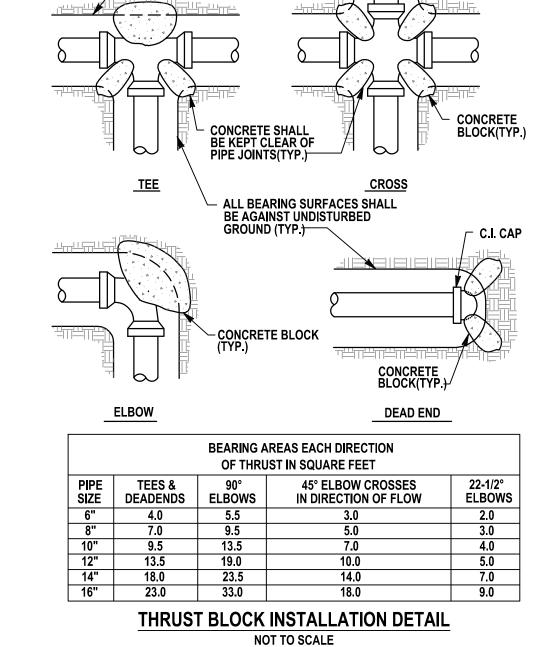
SIDE EXCAVATIONS(TYP.)

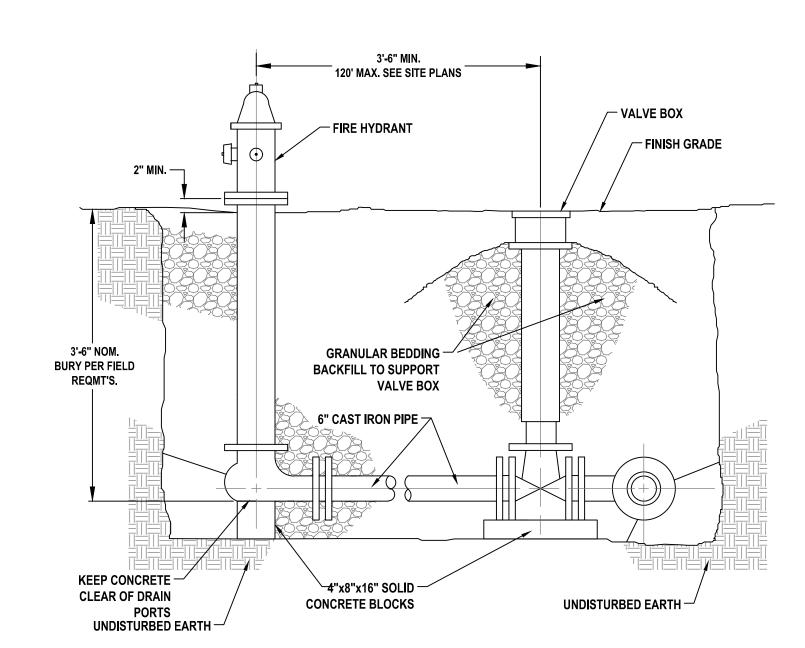
90° BEND - 60 LF EACH SIDE OF FITTING





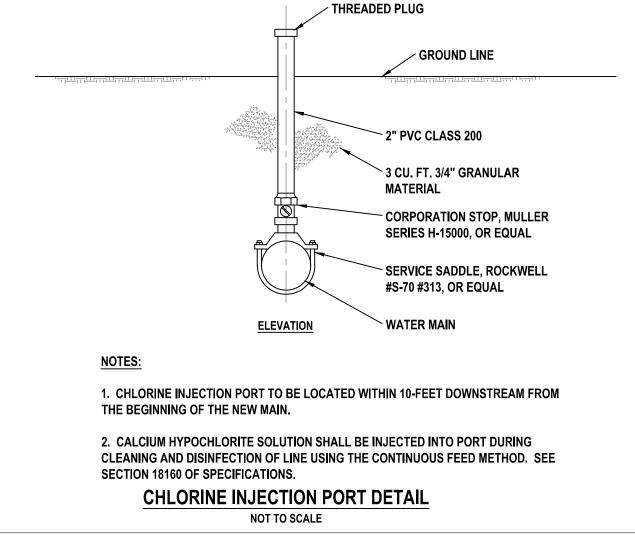
NOT TO SCALE

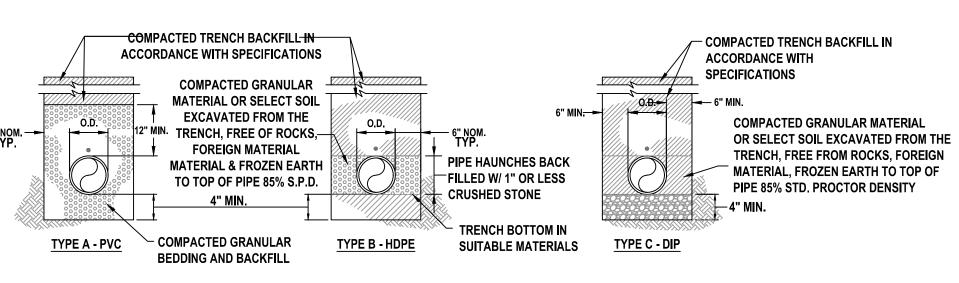




FIRE HYDRANT ASSEMBLY DETAIL

NOT TO SCALE

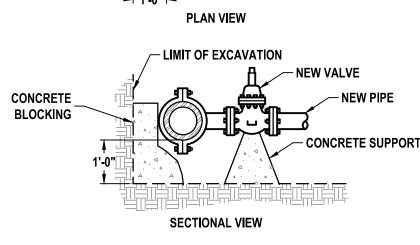




FORCE MAIN NOTE:

- 1. NO BEDDING REQUIRED FOR HDPE IN SUITABLE SOILS.
- 2. SUITABLE SOILS ARE MATERIALS FREE OF ROCKS OR FOREIGN MATERIALS GREATER THAN 1-1/2"Ø.
- 3. PLACE TRACER WIRE ALONG TOP OF ALL PIPING.
- 4. INSTALL UNDER GROUND WARNING MARKING TAPE INSTALL 18" BELOW FINISHED GRADE.

OUT OF TRAFFIC PIPE INSTALLATION DETAIL



LIMIT OF EXCAVATION

— AS REQUIRED FOR

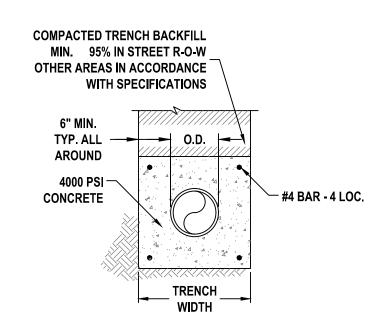
TAPPING MACHINE

EXISTING PIPE

TAPPING SLEEVE AND VALVE INSTALLATION DETAIL

NOT TO SCALE

NOT TO SCALE



NOTES:

1. BLOCK UP PIPE TO PROVIDE MINIMUM CLEARANCE INDICATED.

2. CONTRACTOR SHALL INSTALL TIE DOWNS TO PREVENT FLOATING.

CONCRETE ENCASEMENT DETAIL

NOT TO SCALE

REPLACE EXISTING PAVEMENT WITH
SAME TYPE, THICKNESS & SURFACE
MATERIAL IN ACCORDANCE WITH
SPECIFICATION
(MIN. 4" ASPHALT THICKNESS
MIN. 6" CONCRETE THICKNESS)

TRENCH WIDTH +2'
SAWCUT (MIN. 1 1/2" DEPTH)

12" MIN.

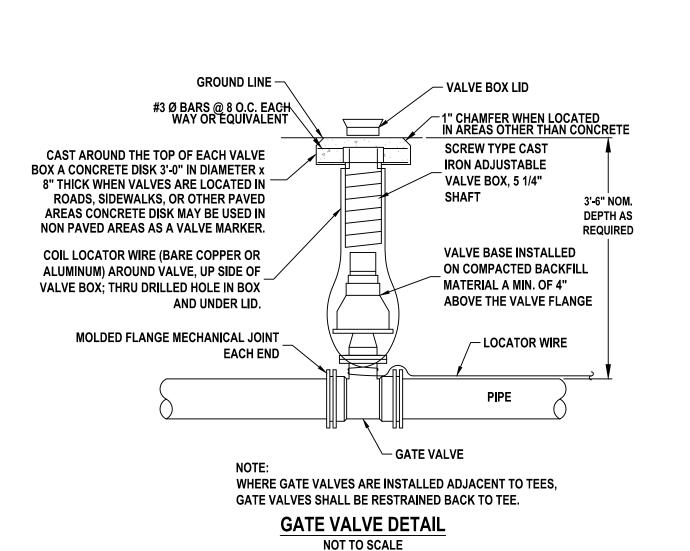
4STM C33-#67
COMPACTED
GRANULAR
BEDDING TO 8"
BELOW FINAL
GRADE

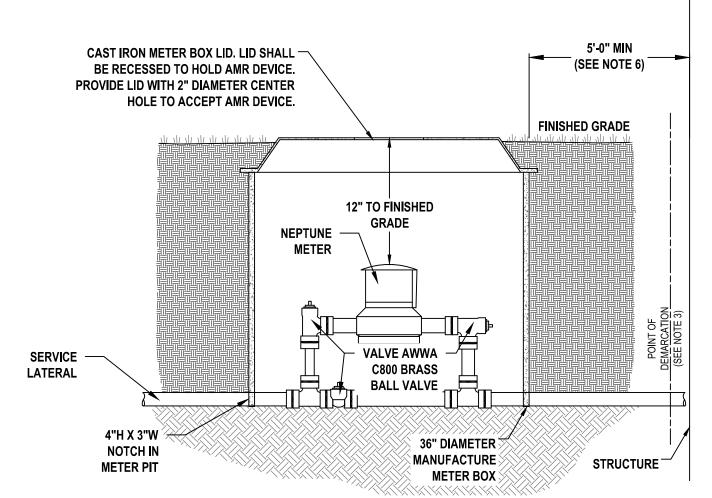
TYPICAL ALL
FORCE MAIN
PIPING

6" MIN. IN Ref.
1/4 O.D. 4" M

PAVEMENT RESTORATION DETAIL

NOT TO SCALE



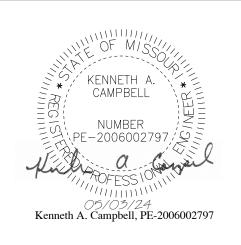


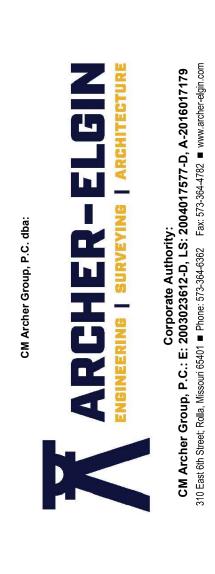
NOTES:

- 1. CENTER METER IN BOX, MIN 6" CLEARANCE ON ALL SIDES
- TRENCH, INSTALL AND BACKFILL SERVICE LINE IN ACCORDANCE WITH AW SPECIFICATIONS.
 POINT OF DEMARCATION FOR SERVICE LINE OWNERSHIP PER PRIME CONTRACT BETWEEN AW
- AND GOVERNMENT.
- SERVICE LINE MATERIALS SHALL MEET AW SPECIFICATIONS
 PROVIDE TRACE WIRE ALONG WATER SERVICE LINE. TRACE WIRE SHALL EXTEND INTO THE
- METER PIT AND TERMINATE IN THE METER PIT.
- 5. IF WATER SERVICE BETWEEN MAIN AND WATER METER IS REPLACED WITH NON-METALIC PIPING, THERE SHALL BE A MINIMUM LENGTH OF TEN (10) FT OF METALIC PIPING BETWEEN THE BUILDING STRUCTURE AND METER PIT TO MAINTAIN PROPER GROUNDING OF BUILDING'S ELECTRICAL SYSTEM.

2" WATER SERVICE INSTALLATION

STATE OF MISSOURI MICHAEL L. PARSON, GOVERNOR





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ST JAMES VETERANS HOME 620 N JEFFERSON ST ST. JAMES, MISSOURI

PROJECT # U2309-01 SITE # 6801 FACILITY # 8136801012

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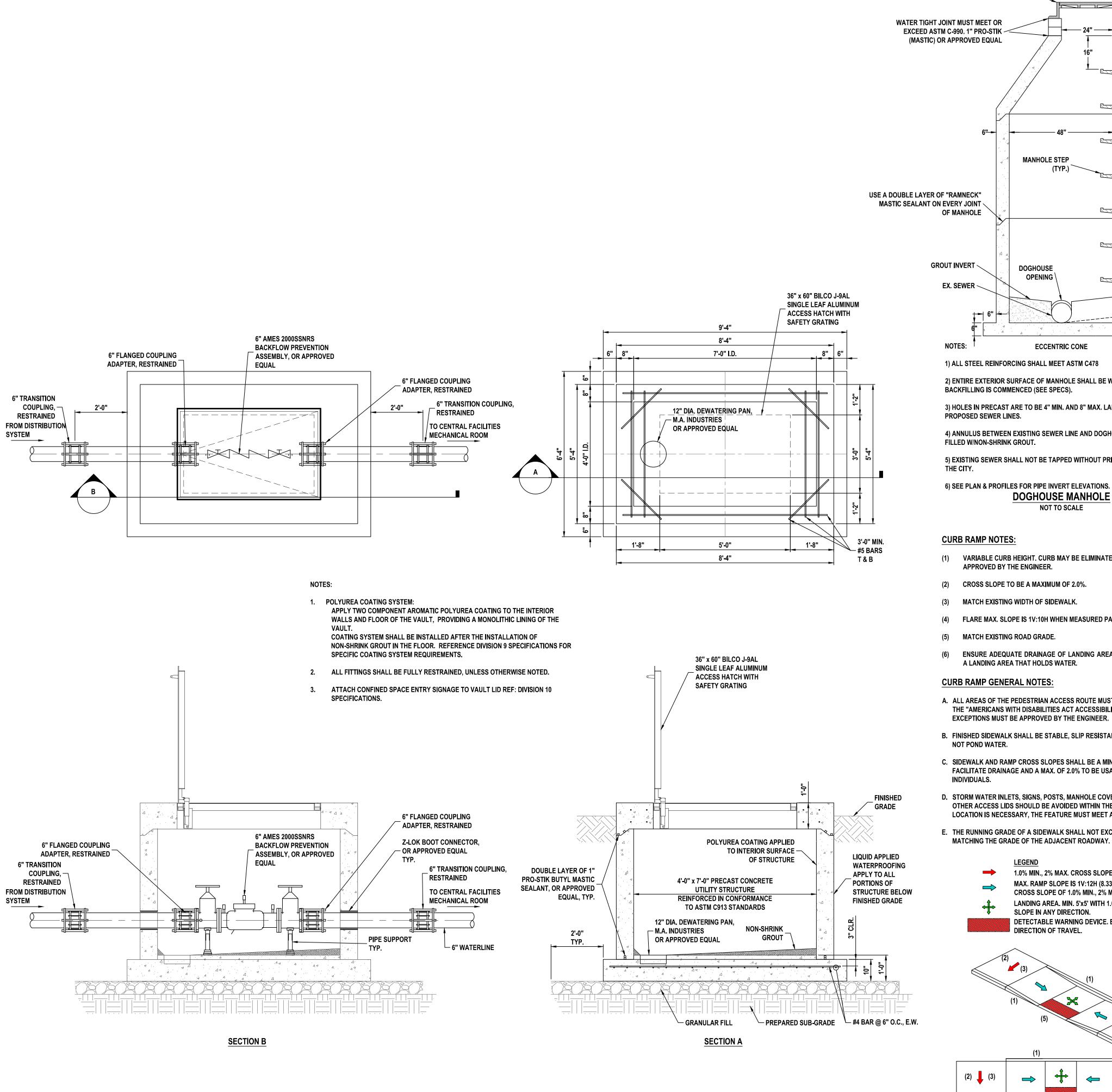
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DESIGNED BY: KA

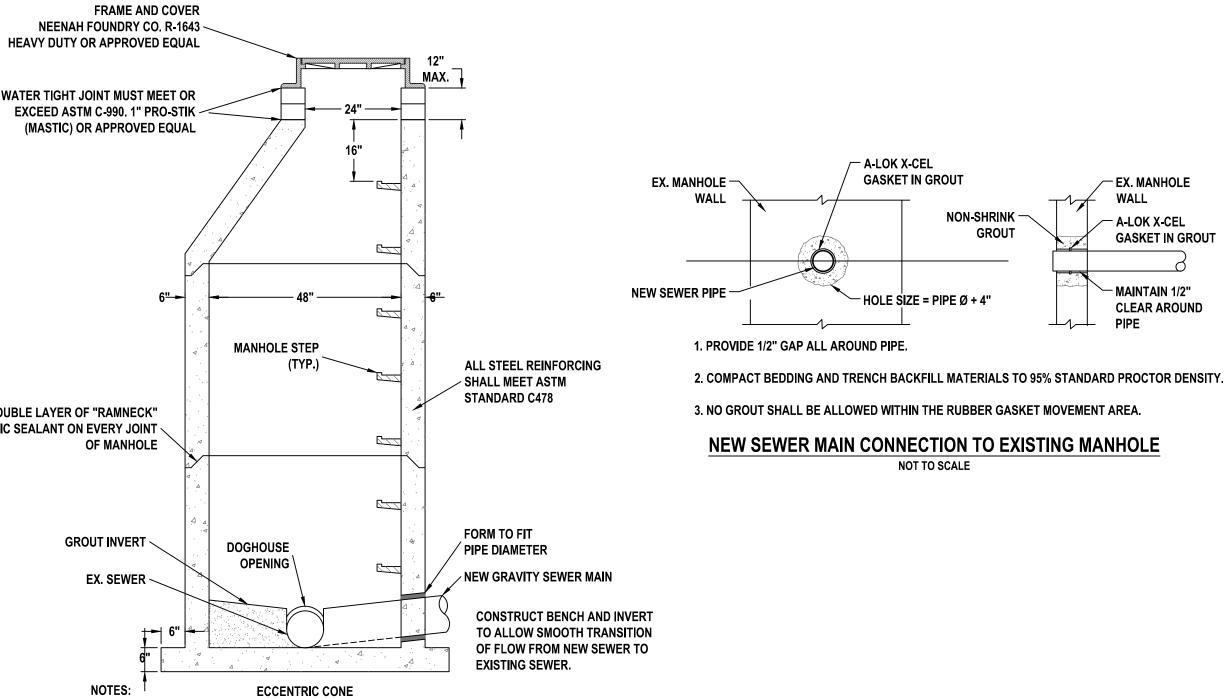
CIVIL DETAILS

SHEET NUMBER:

C - 501



BACK FLOW PREVENTER DETAIL NOT TO SCALE



— A-LOK X-CEL

GASKET IN GROUT

NOT TO SCALE

EXPANSION JOINTS ARE TO BE SET EVERY 50' (MAX) WITH 1/2" EXPANSION MATERIAL

 \longrightarrow AND BE FLUSH WITH THE TOP OF THE WALK. \longrightarrow **EXPANSION MATERIAL SHALL BE SAME DEPTH**

SIDEWALK SHALL

6" OF 1" MINUS

BASE ROCK

BE 4" THICK

AS SIDEWALK. CONSTRUCTION JOINTS SHALL

FILL ALL DISTURBED AREAS WITH MIN. 4" LIGHTLY COMPACTED

TOPSOIL WITH SEED AND MULCH

SLOPE 2% MAX. OR LESS

SECTION A-A

ALL FILL UNDER SIDEWALK SHALL BE TO 95% COMPACTION NONORGANIC MATERIAL

CONCRETE TO HAVE LIGHT BRUSH FINISH AND 1/4"R EDGE ON EXPOSED CORNERS.

FILL ALL DISTURBED AREAS WITH

MINIMUM 4" LIGHTLY COMPACTED

TOP SOIL WITH SEED AND MULCH

—— 2'**-**0" —

CONCRETE SHALL BE 6 BAG MIX (4,000 PSI) WITH SLUMP TEST LIMITS OF NOT LESS THAN

WHERE CURB IS PLACED WITHOUT STREET IMPROVEMENT, A MIN, OF 6 INCHES

BASEROCK IS REQUIRED AT NOT LESS THAN 95% STANDARD PROCTER TEST AT

CONSTRUCTION JOINTS SHALL BE PLACED EVERY 10 FT.

1/2" PREMOLDED EXPANSION JOINT PLACED EVERY 100 FT. (MIN.) THROUGH ENTIRE

CONCRETE TO HAVE LIGHT BRUSH FINISH AND 1/4"R EDGE ON EXPOSED CORNERS.

CURB & GUTTER DETAIL

NOT TO SCALE

WHEN CROSSING THE WIDTH OF A DRIVEWAY, SIDEWALK SHALL BE 6" THICK CONCRETE

CONCRETE SIDEWALK DETAIL

NOT TO SCALE

BE PLACED EVERY 5'

SIDEWALK CROSS SLOPE SHALL BE

ROADWAY UNLESS OTHER APPROVED BY

DEPT OF PUBLIC WORKS. SLOPE MUST

ALLOW FOR APPROPRIATE DRAINAGE.

APPROVED BY DEPARTMENT OF PUBLIC WORKS.

WITH 6" OF 1" CLEAN ROCK UNDERNEATH.

NOTES:

1 INCH NOR MORE THAN 4 INCHES.

OPTIMUM MOISTURE CONTENT.

CROSS SECTION OF CURB.

2.00% MAX. OR LESS TOWARD

6 BAG CONCRETE MIX (4,000 PSI) SHALL BE USED ON ALL SIDEWALK.

NON-SHRINK -

GROUT

EX. MANHOLE

- A-LOK X-CEL

- MAINTAIN 1/2"

CLEAR AROUND

GASKET IN GROUT

WALL

1) ALL STEEL REINFORCING SHALL MEET ASTM C478

2) ENTIRE EXTERIOR SURFACE OF MANHOLE SHALL BE WATER PROOFED BEFORE BACKFILLING IS COMMENCED (SEE SPECS).

3) HOLES IN PRECAST ARE TO BE 4" MIN. AND 8" MAX. LARGER THAN EXISTING AND

4) ANNULUS BETWEEN EXISTING SEWER LINE AND DOGHOUSE OPENING SHALL BE

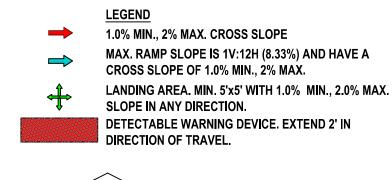
5) EXISTING SEWER SHALL NOT BE TAPPED WITHOUT PRIOR WRITTEN APPROVAL FROM

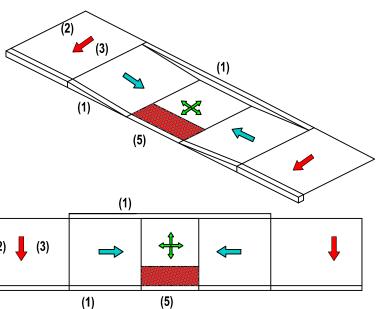
6) SEE PLAN & PROFILES FOR PIPE INVERT ELEVATIONS. DOGHOUSE MANHOLE NOT TO SCALE

- (1) VARIABLE CURB HEIGHT. CURB MAY BE ELIMINATED IF UNNECESSARY AND
- (2) CROSS SLOPE TO BE A MAXIMUM OF 2.0%.
- (3) MATCH EXISTING WIDTH OF SIDEWALK.
- (4) FLARE MAX. SLOPE IS 1V:10H WHEN MEASURED PARALLEL TO CURB LINE.
- (5) MATCH EXISTING ROAD GRADE.
- (6) ENSURE ADEQUATE DRAINAGE OF LANDING AREA, SLOPES SHALL NOT CREATE A LANDING AREA THAT HOLDS WATER.

CURB RAMP GENERAL NOTES:

- A. ALL AREAS OF THE PEDESTRIAN ACCESS ROUTE MUST BE COMPLIANT WITH THE "AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES "ADAAG") EXCEPTIONS MUST BE APPROVED BY THE ENGINEER.
- B. FINISHED SIDEWALK SHALL BE STABLE, SLIP RESISTANT AND SURFACE DOES
- C. SIDEWALK AND RAMP CROSS SLOPES SHALL BE A MINIMUM OF 1.0% TO FACILITATE DRAINAGE AND A MAX. OF 2.0% TO BE USABLE FOR DISABLED
- D. STORM WATER INLETS, SIGNS, POSTS, MANHOLE COVERS, PULL BOXES AND OTHER ACCESS LIDS SHOULD BE AVOIDED WITHIN THE SIDEWALK. IF SUCH A LOCATION IS NECESSARY, THE FEATURE MUST MEET ADA STANDARDS.
- E. THE RUNNING GRADE OF A SIDEWALK SHALL NOT EXCEED 5.0% UNLESS IT IS

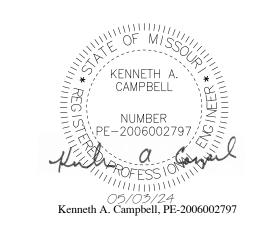




TYPE II ADA RAMP DETAIL

NOT TO SCALE

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**





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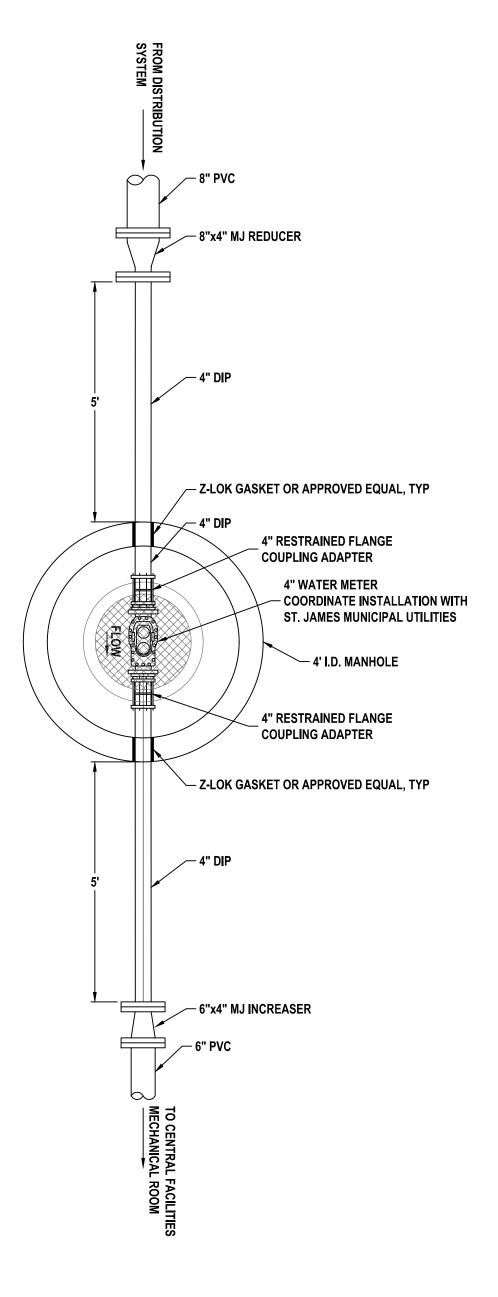
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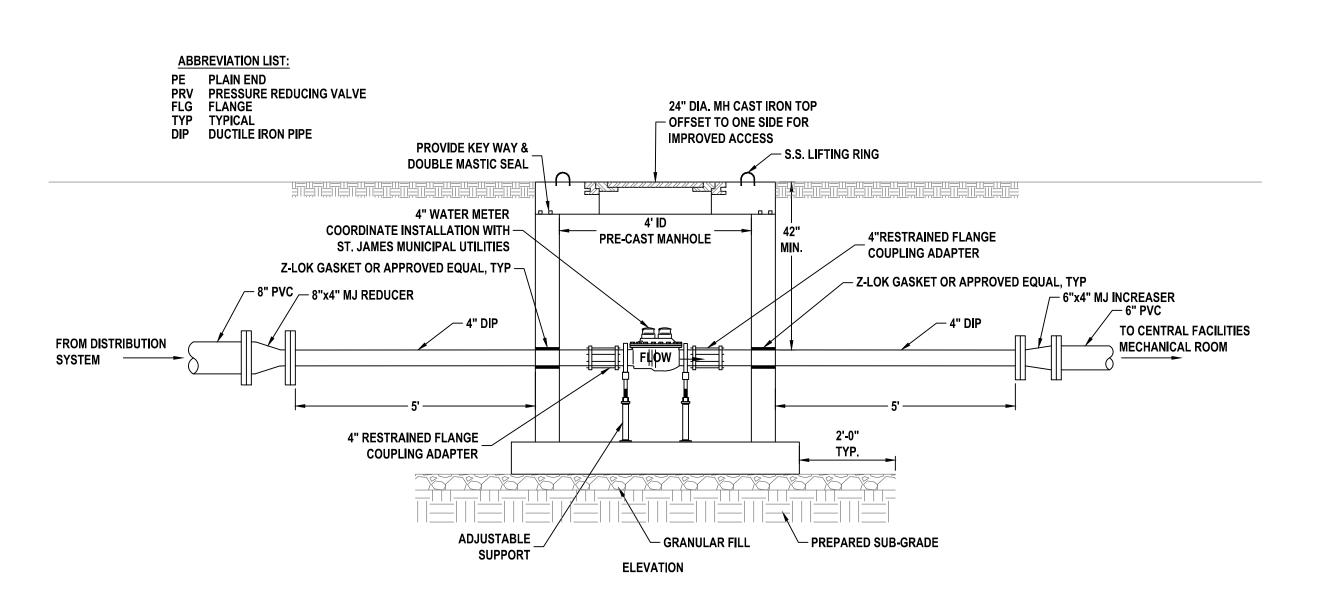
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SHEET TITLE:

CIVIL DETAILS

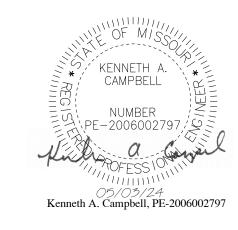
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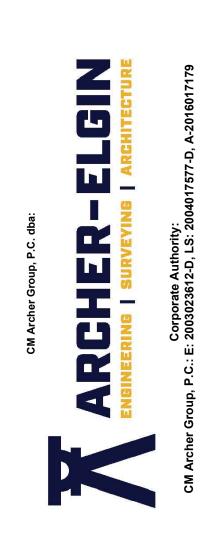




4" WATER METER DETAIL NOT TO SCALE

STATE OF MISSOURI MICHAEL L. PARSON, **GOVERNOR**





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CAD DWG FILE:C-503
DRAWN BY: JSM
CHECKED BY: KAC
DESIGNED BY: KAC

SHEET TITLE:

CIVIL DETAILS

SHEET NUMBER: