

**GENERAL NOTES:**

- The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City Standard Specifications and Special Provisions.
- Contractor will be required to provide notice to utility companies a minimum of seventy-two (72) hours prior to any excavation, as follows:  
Kansas One-Call 687-2470  
The Contractor must notify the following in case of an emergency:  
Cox Communications 262-4270  
Kansas Gas Service 1-888-492-4950  
Evergy 383-8650  
AT&T 268-2245  
City of Wichita Water Dept. 268-4563  
City of Wichita Sewer Maint. 268-4024  
City of Wichita Storm Sewer Maint. 268-4090  
City of Wichita Traffic Maint. 268-4034  
Conoco Phillips Pipeline Co. 1-877-267-2290  
Southern Star Pipeline Co. 529-6600  
Kinder-Morgan Pipeline Co. 1-888-844-2638
- Utility service lines, poles, valve boxes, meters, and etcetera are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Rubble from the removal of miscellaneous structures and excess excavation which is to be removed shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, location, and site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in flood plain would require a Kansas State Building Department Agriculture permit. Any material buried or stockpiled beyond approved construction limits would require additional archeological investigations unless buried in a previously approved borrow location.
- Trees and shrubs in public right-of-way which are in direct conflict with proposed construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.
- The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of ten (10) days notice prior to start of construction.
- The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.
- The Engineering Division shall field locate water valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, valve boxes or fire hydrants damaged during construction shall be repaired by Contractor at his own expense. Valve boxes and water meters within the project limits shall be adjusted to match final grades by the contractor.
- The Contractor shall notify the inspecting engineer and Dawnita Reinhardt at 316-268-4574 with the City of Wichita with the anticipated construction start date and notify them of project completion. Staking and inspection for this project will be the responsibility of the Contractor.
- All elevations shown are NAVD 88.
- All areas disturbed during construction that will not be under proposed pavement shall be restored to match existing conditions.
- Any sidewalk, drive approach, curb, or street pavement removed to construct project must have a pavement cut permit and be replaced by the City contractor. Permits can be obtained by calling 316-268-4501 or 316-268-4480.
- All applicable fees (tap, equity, in lieu of & main benefit) must be paid before any connections can be made on this project. Quotes can be obtained on fees by calling 316-268-4555.
- City Maintenance of sanitary sewer mains ends at last structure within the easement or right-of-way.
- All stubs and capped pipes shall be located with green plastic tape in the same manner as wires.

- Connecting to Existing Manholes:  
Prior to laying sewer lines using existing stubs in existing manholes, the Contractor shall expose and verify the elevation, grade and alignment of existing stubs and notify the Engineer of any deviation from the plans. Where the stub is unusable due to elevation grade or alignment, the Contractor shall remove the stub and plug the hole, and reshape the existing manhole invert to provide smooth flow. Where connecting to an existing manhole that does not have an existing stub, the Contractor shall core cut into existing manhole wall to make connection using approved water stop gasket, and reshape the existing manhole invert to provide smooth flow. The cost to connecting to existing manholes is incidental to the project.
- Contractor shall limit the extent of trench open overnight and weekends to less than 50 feet.
- Contractor shall provide positive drainage away from all manhole covers.
- The Contractor shall prevent any construction debris from entering the existing sanitary sewer during construction.
- The Contractor shall be responsible for maintaining continuous flow of sewage through construction. Contractors proposed method for maintaining sewage flow shall be submitted and approved by the prior Maintenance Division (316-268-4073) prior to starting and by-passing of sewage flows.
- The Contractor shall protect from damage and support existing utilities through construction as approved by the utility owner and the Engineer at the contractor's expense.
- All existing and proposed erosion control measures including silt fencing, erosion control mat, straw bales, inlet barriers, and silt curtains shall be maintained throughout construction by the contractor and until project is accepted by the City of Wichita. The on-site engineer shall complete weekly reports on the status of erosion control measures. The contractor shall be required to comply with maintenance and/or replacement of erosion control measures as determined by the on-site engineer until project is accepted by City of Wichita. Maintenance and/or replacement of erosion control measures to be paid by L.S. bid item "Maintain Existing BMP's."
- All excess excavation from any construction activities on this project including trench excavation, easement grading, or any other activities shall be the responsibility of the contractor to remove from the site at the contractor's expense. No stockpiles nor any other extra payments will be allowed unless explicitly agreed to by the owner.
- All areas within 159th St. R/W disturbed during construction shall be seeded, mulched, and fertilized as follows: (as indicated on the Stormwater Sewer project).  
SEED --- Kansas Premium Fescue Blend; 5#/1000 Sq. Ft.  
Rye grass (PLS); 3#/1000 Sq. Ft. and  
FERTILIZER --- 12-24-12 Ratio at 45 Lbs./Ac.  
MULCH --- 2 Tons Prairie Hay / Acre  
All other disturbed areas are to be seeded as follows:  
SEED --- Rye grass (PLS)---5#/1000 Sq. Ft.  
All costs associated with seeding including mobilization, preparation of ground, seeding, fertilizing, mulching, etc. shall be included in the L.S. bid item "Seeding".  
An additional bid item for "Seeding, Temporary" has been included and may be used at the discretion of the Design Engineer. Temporary seed shall be Annual Rye of 5 Lbs./1000 Sq. Ft. unless otherwise noted and shall be planted when permanent seed or sod cannot be used due to seasonal limitations.
- Trees and shrubs in the work area which are in direct conflict with proposed new construction shall be removed by the Contractor ONLY with the Developer or Baughman Company approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage. If trimming is necessary, a chainsaw shall be used. Breaking limbs with equipment will not be allowed. An on-site pre-construction meeting will occur prior to any construction to discuss tree removal, tree protection, and tree trimming.
- The Developer for this project is Travis Whisler.  
801R W 21st Street Suite 200 2021  
Wichita, KS 67205  
PH# (316) 371-4499 Email twcustomhomes@gmail.com

**BENCHMARKS**  
BM #1: CITY OF WICHITA BENCHMARK DISC ON THE WEST END OF THE ROAD NEARBY, NORTH OF 21ST ST. ST.  
ELEV. = 1265.71 NAVD83  
BM #2: BRASS DISC ON THE TOP OF CURB ON THE EAST SIDE OF CURB INLET, SOUTH SIDE OF FLUTTER LANE, AND NORTH OF LOT 10 BLOCK 4 MONARCH LANDING 3RD ADDITION.  
ELEV. = 1370.97 NAVD83

# AS-BUILT PLANS

## SANITARY SEWER IMPROVEMENTS

to serve

# MONARCH LANDING 6TH ADDITION

CITY OF WICHITA, KANSAS

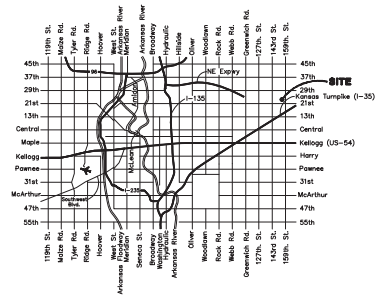
Paul Gunzelman, P.E., Interim City Engineer

Project Number: 2023-013001 PPS

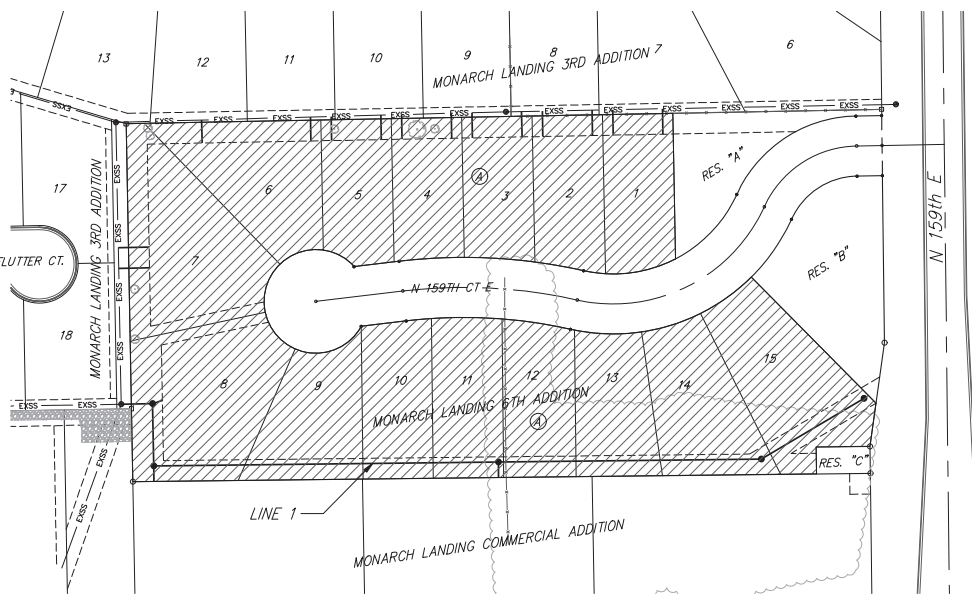
Org Code: 53030982

6450 B

4MC-03



Vicinity Map



**SHEET INDEX**

|                             |      |
|-----------------------------|------|
| Title Sheet                 | 1    |
| Services                    | 2-3  |
| Line 1                      | 4    |
| Erosion Control Plan        | 5    |
| Erosion Control BMP Details | 6-10 |
| Standard Manhole Detail     | 11   |
| Frame & Cover Detail        | 12   |
| Vertical Riser Detail       | 13   |
| Coordinate Sheet            | 14   |
| Copy of Plat                | 15   |

8" PVC Pipe = 798 L.F.  
4" PVC Pipe = NAPCO = 460 L.F.  
1" PVC Pipe = NAPCO = 180 L.F.  
6" PVC Pipe = NAPCO = 20 L.F.  
SS Manhole Structures = Wichita Concrete Pipe.  
Manhole Frames & Lids = Neenah Foundry.

**BENEFIT DISTRICT**

Contractor = Mies Construction  
Inspector = Fred Smith  
Baughman Company  
As-Built Plans = FES / LDP, 12-21-2023

Construction Began = September 2023  
Construction End = October 2023

APPROVED AS NOTED  
BY WICHITA PUBLIC WORKS  
ENGINEERING DIVISION

|             |              |          |
|-------------|--------------|----------|
| Engineering | Shawn Melles | 07/10/23 |
| Utilities   | Deb Ary      | 07/10/23 |

NOTE TO CONTRACTORS

Inspection and testing for this project is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer in the state of Kansas. No work shall be performed by the Contractor without such inspection nor shall any work be commenced without written authorization by City Engineering. All Construction and Materials shall comply with the current City of Wichita Specifications and Standards and Special Provisions. (on file and available at Wichita.gov).

An approved copy of these plans signed by City staff are required on-site.



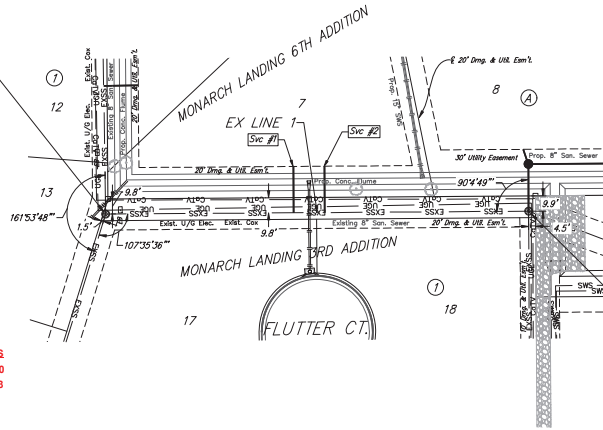
BAUGHMAN JOB NO.: 22-11-E359

**BAUGHMAN COMPANY**  
315 Ellis St. Wichita, KS 67211 316-262-7271  
BaughmanCo.com

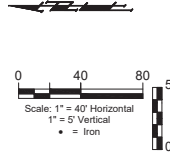
E:\Projects\Monarch Landing 6th Addition\_22-01-3001\Engineering\Drawings\SS-22-11-E359-03.dwg

**BENCHMARKS:**  
 BM #1: CITY OF WICHITA  
 BENCHMARK DISC ON THE WEST  
 END OF THE ROSE HEADWALL,  
 NORTH OF 21ST ST 57'  
 ELEV. = 1368.37 NAVD88  
 BM #2: BRASS DISC ON THE TOP  
 OF CURB ON THE EAST SIDE OF  
 CURB INLET, SOUTH SIDE OF  
 FLUTTER LANE, AND NORTH OF LOT  
 10, BLOCK A, MONARCH LANDING  
 5TH ADDITION.  
 ELEV. = 1370.97 NAVD88

Sta. 0+00.0, Ex Line 1  
 COW MH #6450-109  
 Ex. Top Elev. = 1370.84



Sta. 2+72.2, Ex Line 1  
 COW MH #6450-112  
 Ex. Top Elev. = 1368.20



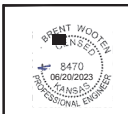
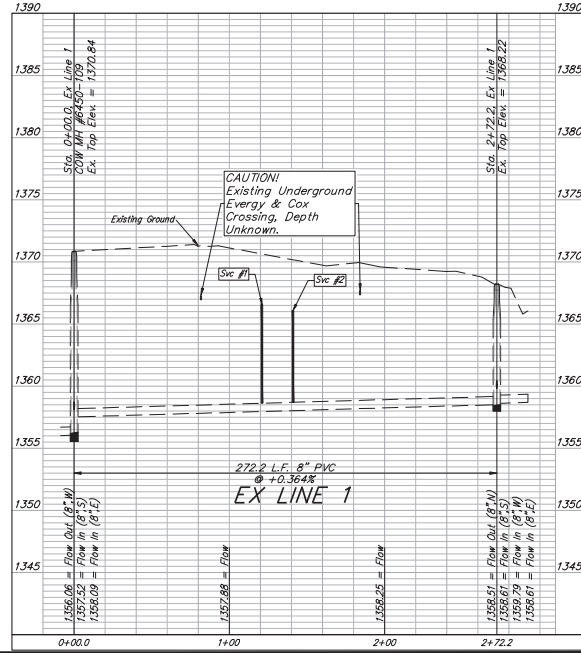
| NUMBER | TYPE        | LOCATION |           |          | FOR INFORMATION ONLY  |          |            |
|--------|-------------|----------|-----------|----------|-----------------------|----------|------------|
|        |             | LOT NO.  | BLOCK NO. | LINE NO. | STATION/<br>DIRECTION | VERTICAL | HORIZONTAL |
| 1      | 8" X 4" Tee | 7        | A         | EX 1     | 1+21.00/L.E.          | 3.6"     | 29.8'      |
| 2      | 8" X 4" Tee | 7        | A         | EX 1     | 1+41.00/L.E.          | 3.6"     | 29.8'      |

**SERVICE RISER COORDINATES**  
 SRV#1 N=5,535.276 E=5885.270  
 SRV#2 N=5,554.705 E=5886.223

NOTE: Vertical Riser Pipe shall be extended to 2" minimum above ground water elevation and 4' maximum below proposed ground elevation.

Contractor to remove, repair, and replace existing sod and sprinkler lines/heads damaged during construction for any disturbed areas on Lots 17 & 18, Block 1 of Monarch Landing 3rd Addition. All costs shall be included in the L.S. bid item "Site Restoration".

Existing trees which are in direct conflict with proposed new construction shall be removed by the Contractor ONLY, with approval of the Engineer. Trees not in direct conflict with proposed new construction shall remain and be protected from damage. Cost shall be included in bid item "Site Clearing".



**BAUGHMAN COMPANY**

315 Ellis St.  
 Wichita, KS 67211  
 316-262-7271  
 BaughmanCo.com

MONARCH LANDING 6TH ADDITION

**SERVICES**

SANITARY SEWER IMPROVEMENTS

PROJECT NUMBER:

DESIGN: NBW DRAWN: AJV

DATE: June 20, 2023

SHEET OF

**2 15**

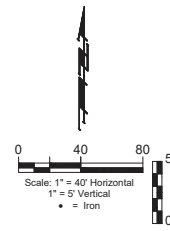
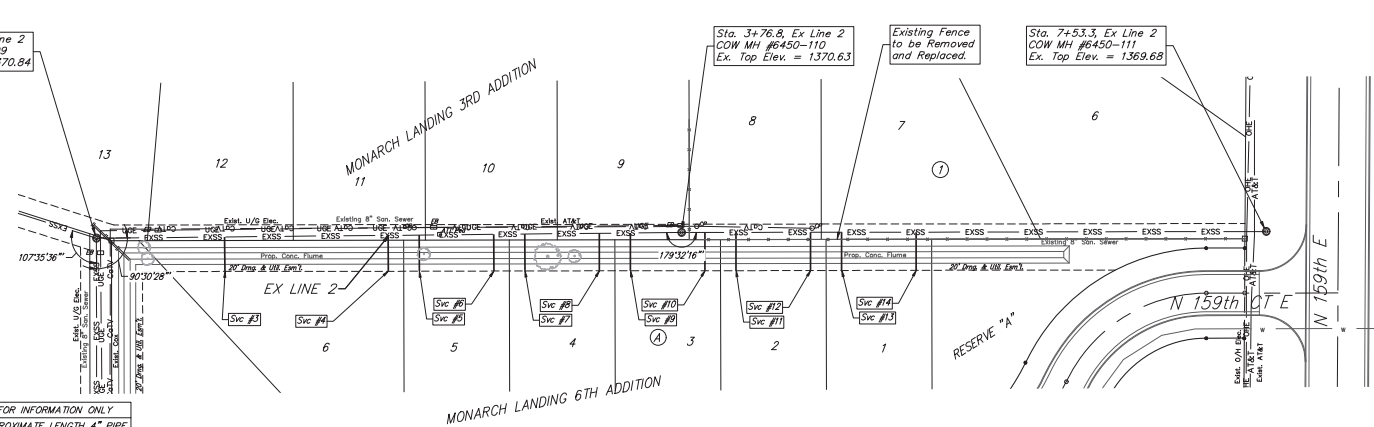
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**BENCHMARKS:**  
 BM #1: CITY OF WICHITA  
 BENCHMARK DISC ON THE WEST  
 END OF THE ROCK HEADWALL  
 NORTH OF 21ST ST S7  
 ELEV. = 1368.37 NAVD88  
 BM #2: BRASS DISC ON THE TOP  
 OF CURB ON THE EAST SIDE OF  
 CURB INLET, SOUTH SIDE OF  
 FLUTTER LANE, AND NORTH OF LOT  
 10, BLOCK A, MONARCH LANDING  
 5TH ADDITION.  
 ELEV. = 1370.97 NAVD88

Sta. 0+00.0, Ex Line 2  
 COW MH #6450-109  
 Ex. Top Elev. = 1370.84

Sta. 3+76.8, Ex Line 2  
 COW MH #6450-110  
 Ex. Top Elev. = 1370.63

Sta. 7+53.3, Ex Line 2  
 COW MH #6450-111  
 Ex. Top Elev. = 1369.68

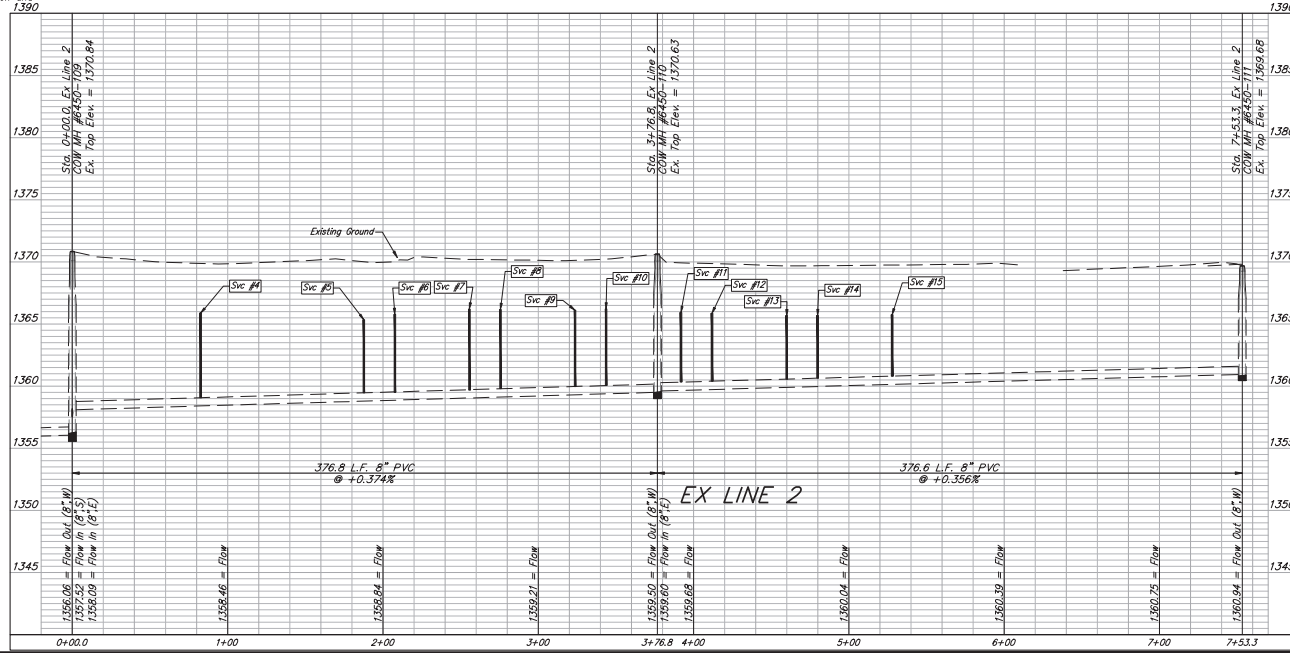


| NUMBER | TYPE        | LOCATION |           |          | FOR INFORMATION ONLY |                            |       |
|--------|-------------|----------|-----------|----------|----------------------|----------------------------|-------|
|        |             | LOT NO.  | BLOCK NO. | LINE NO. | STATION/DIRECTION    | APPROXIMATE LENGTH 4" PIPE |       |
| 3      | 8" X 4" Tee | 6        | A         | EX 2     | 0+82.60/RL           | 3.7'                       | 22.0' |
| 4      | 8" X 4" Tee | 6        | A         | EX 2     | 1+87.70/RL           | 3.9'                       | 23.1' |
| 5      | 8" X 4" Tee | 5        | A         | EX 2     | 2+07.70/RL           | 3.7'                       | 23.2' |
| 6      | 8" X 4" Tee | 5        | A         | EX 2     | 2+55.70/RL           | 3.7'                       | 23.6' |
| 7      | 8" X 4" Tee | 4        | A         | EX 2     | 2+75.70/RL           | 3.6'                       | 23.8' |
| 8      | 8" X 4" Tee | 4        | A         | EX 2     | 3+23.70/RL           | 3.5'                       | 24.2' |
| 9      | 8" X 4" Tee | 3        | A         | EX 2     | 3+43.70/RL           | 3.5'                       | 24.3' |
| 10     | 8" X 4" Tee | 3        | A         | EX 2     | 3+91.90/RL           | 3.2'                       | 24.6' |
| 11     | 8" X 4" Tee | 2        | A         | EX 2     | 4+11.90/RL           | 3.3'                       | 24.6' |
| 12     | 8" X 4" Tee | 2        | A         | EX 2     | 4+59.90/RL           | 3.1'                       | 24.6' |
| 13     | 8" X 4" Tee | 1        | A         | EX 2     | 4+79.90/RL           | 3.1'                       | 24.6' |
| 14     | 8" X 4" Tee | 1        | A         | EX 2     | 5+27.90/RL           | 3.2'                       | 24.6' |

**SERVICE RISER COORDINATES**  
 SRV #3 N=5,652,662 E=5935,744  
 SRV #4 N=5,655,000 E=6042,182  
 SRV #5 N=5,657,262 E=6062,573  
 SRV #6 N=5,655,627 E=6109,924  
 SRV #7 N=5,655,411 E=6128,858  
 SRV #8 N=5,656,711 E=6177,680  
 SRV #9 N=5,657,710 E=6196,870  
 SRV #10 N=5,659,013 E=6245,749  
 SRV #11 N=5,659,314 E=6286,326  
 SRV #12 N=5,659,410 E=6313,809  
 SRV #13 N=5,660,669 E=6335,946  
 SRV #14 N=5,662,449 E=6380,988

NOTE: Vertical Riser Pipe shall be extended to 2' minimum above ground water elevation and 4' maximum below proposed ground elevation.

Existing trees which are in direct conflict with proposed new construction shall be removed by the Contractor ONLY with approval of the Engineer. Trees not in direct conflict with proposed new construction shall remain and be protected from damage. Cost shall be included in bid item "Site Clearing"



**BAUGHMAN COMPANY**

315 Ellis St.  
 Wichita, KS 67211  
 316-262-7271  
 BaughmanCo.com

MONARCH LANDING 6TH ADDITION

**SERVICES**

SANITARY SEWER IMPROVEMENTS

PROJECT NUMBER:

DESIGN: NBW DRAWN: AJV

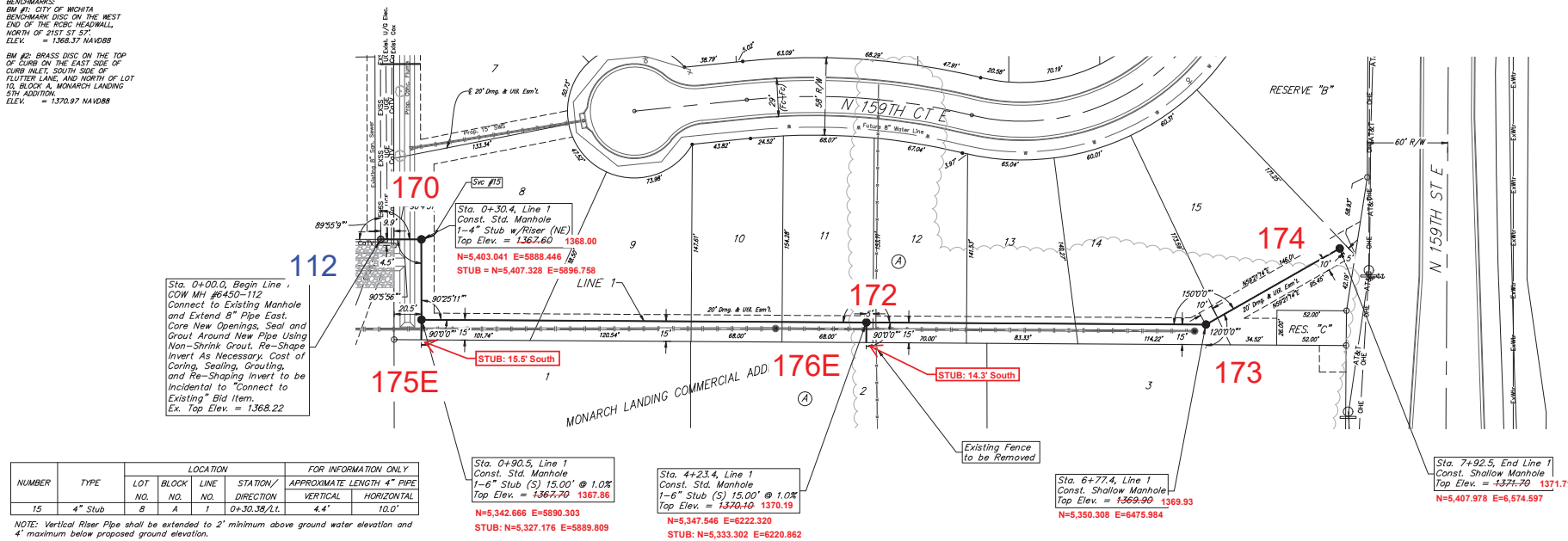
DATE: June 20, 2023

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**BENCHMARKS:**  
 BM #1: CITY OF WICHITA  
 BENCHMARK DISC ON THE WEST  
 END OF THE ROCK HEADWALL,  
 NORTH OF 21ST ST S7  
 ELEV. = 1368.37 NAVD88  
 BM #2: BRASS DISC ON THE TOP  
 OF CURB ON THE EAST SIDE OF  
 CURB INLET, SOUTH SIDE OF  
 FLUTTER LANE, AND NORTH OF LOT  
 10, BLOCK A, MONARCH LANDING  
 5TH ADDITION  
 ELEV. = 1370.97 NAVD88

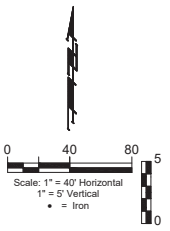
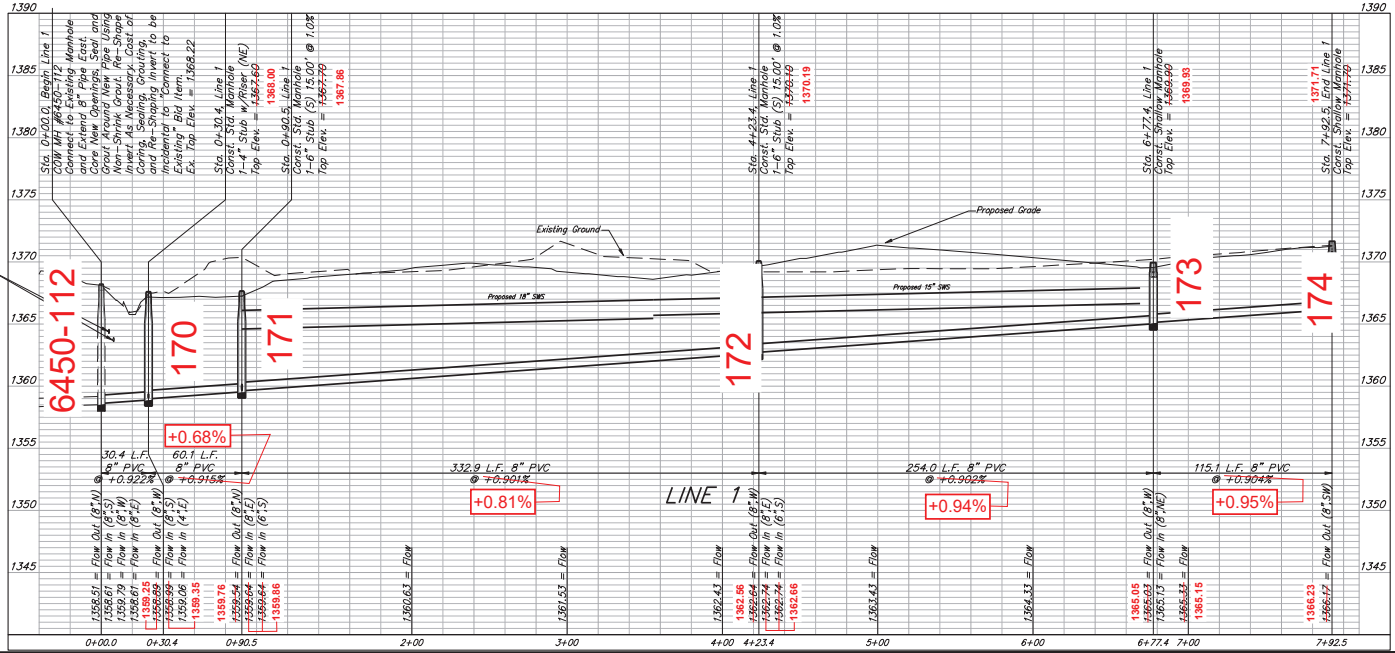


| NUMBER | TYPE    | LOCATION |           |          |                   | FOR INFORMATION ONLY       |                     |
|--------|---------|----------|-----------|----------|-------------------|----------------------------|---------------------|
|        |         | LOT NO.  | BLOCK NO. | LINE NO. | STATION/DIRECTION | APPROXIMATE LENGTH 4" PIPE | VERTICAL HORIZONTAL |
| 15     | 4" Stub | B        | A         | 1        | 0+30.38/21.1      | 4.4'                       | 10.0'               |

NOTE: Vertical Riser Pipe shall be extended to 2' minimum above ground water elevation and 4' maximum below proposed ground elevation.

Existing trees which are in direct conflict with proposed new construction shall be removed by the Contractor ONLY with approval of the Engineer. Trees not in direct conflict with proposed new construction shall remain and be protected from damage. Cost shall be included in bid item "Site Clearing"

CAUTION!  
 Existing Underground  
 Every & Oak  
 Crossing, Depth  
 Unknown.



**B**  
 BAUGHMAN  
 COMPANY  
 315 Ellis St.  
 Wichita, KS 67211  
 316-262-7271  
 BaughmanCo.com

MONARCH LANDING 6TH  
 ADDITION

**LINE 1**

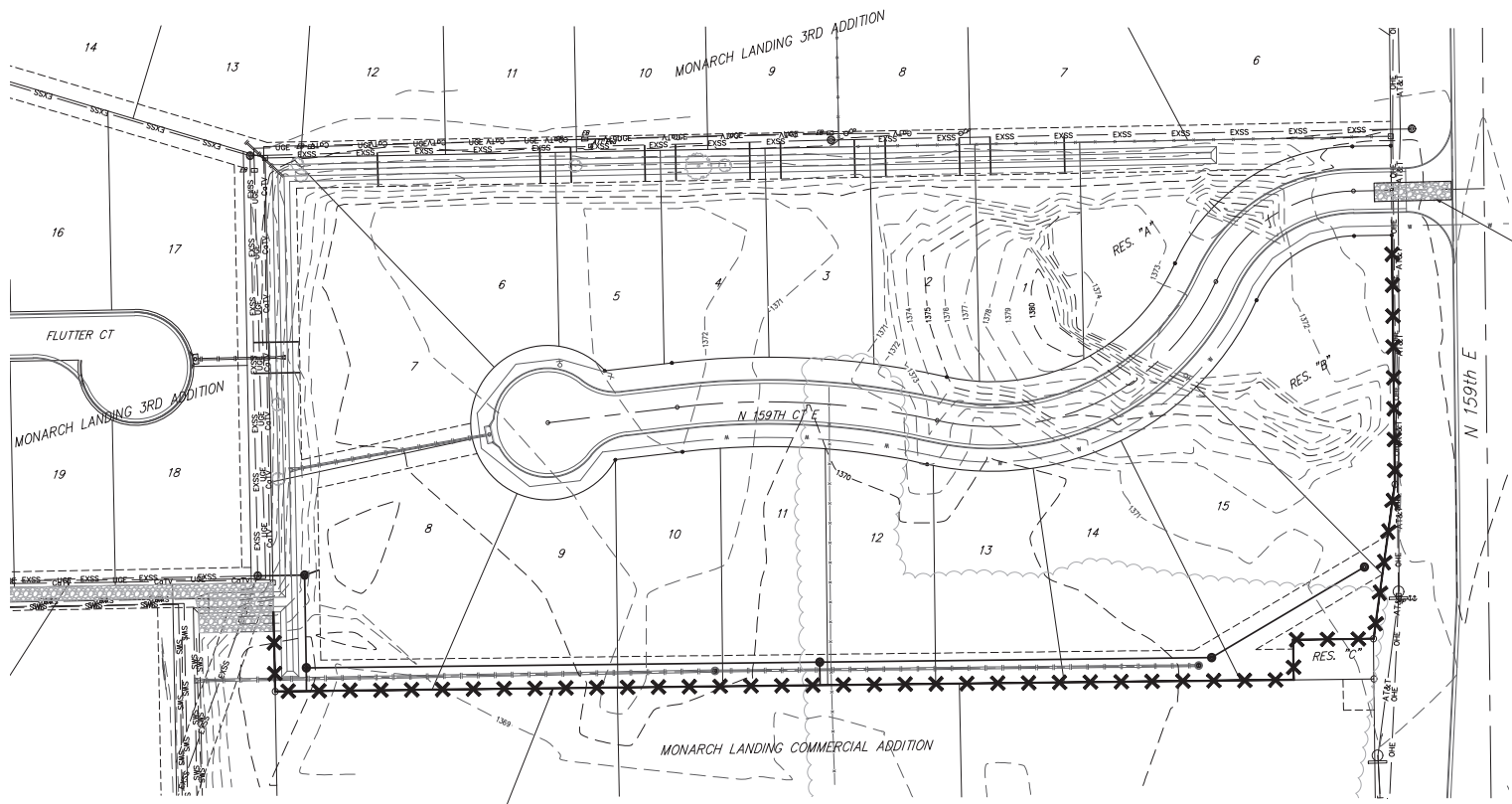
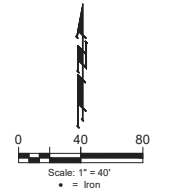
SANITARY SEWER  
 IMPROVEMENTS

PROJECT NUMBER:  
 \_\_\_\_\_

DESIGN: NBW DRAWN: AJV  
 DATE: June 20, 2023  
 SHEET OF  
**4 15**

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 BM #1: CITY OF WICHITA  
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 10, BLOCK A, MONARCH LANDING  
 3TH ADDITION.  
 ELEV. = 1370.97 NAVD88



**EROSION CONTROL PLAN  
 LEGEND**

- CONSTRUCTION ENTRANCE
- SILT FENCING

Install 50'x12' Gravel  
 Construction Entrance.

Install 700 L.F.  
 Silt Fence

| EROSION CONTROL MEASURE        | INSTALL | MAINTAIN |
|--------------------------------|---------|----------|
| CONSTRUCTION ENTRANCE (EA)     | 1       | 0        |
| SILT FENCE (LF)                | 700     | 0        |
| DITCH CHECKS (EA)              | 0       | 0        |
| CURB INLET PROTECTION (EA)     | 0       | 0        |
| DROP INLET PROTECTION (EA)     | 0       | 0        |
| EROSION CONTROL MAT (SY)       | 0       | 0        |
| MULCH WATTLE SED. BARRIER (LF) | 0       | 0        |
| EROSION CONTROL BERM (LF)      | 0       | 0        |

\* ALL EXISTING BMPs INCLUDING CONSTRUCTION  
 ENTRANCE, SEDIMENT BARRIERS, SILT FENCE, CUT-OFF  
 TRENCH, AND EROSION CONTROL MAT SHALL BE  
 MAINTAINED AND REPAIRED IF NECESSARY.

Contractor shall make sure all erosion control is in place before project  
 is accepted. This plan represents the minimum standard. Any additional  
 erosion control measures shall be installed by the Contractor as needed.

**BAUGHMAN  
 COMPANY**

315 Ellis St.  
 Wichita, KS 67211  
 316-262-7271  
 BaughmanCo.com

MONARCH LANDING 6TH  
 ADDITION

**EROSION  
 CONTROL**

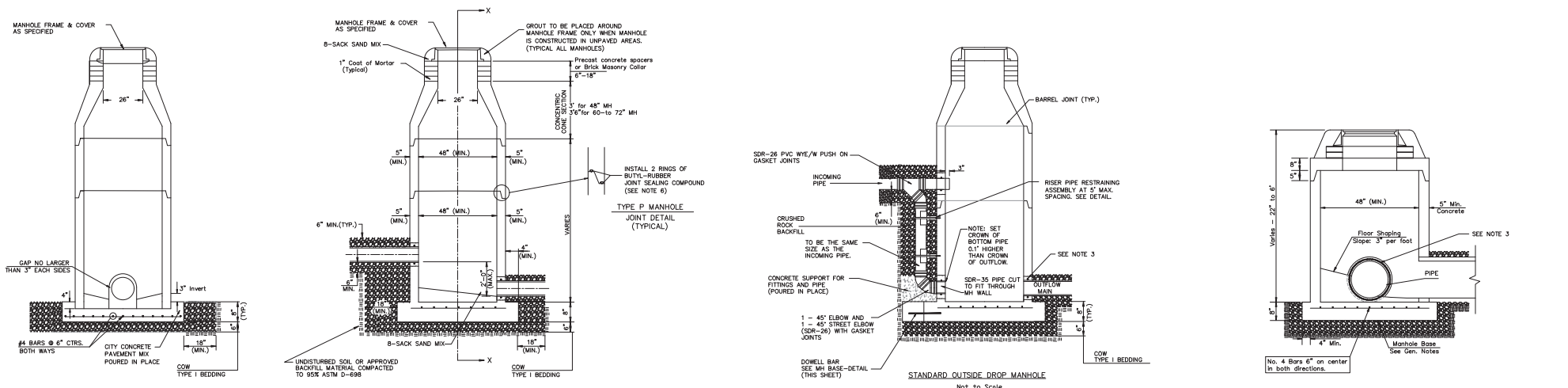
SANITARY SEWER  
 IMPROVEMENTS

PROJECT NUMBER:

DESIGN: NBW DRAWN: AJV  
 DATE: June 20, 2023

SHEET OF  
**5 15**

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**DOG HOUSE MANHOLE**  
(OVER EXISTING PIPE)  
Not to Scale

**STANDARD MANHOLE**  
Not to Scale

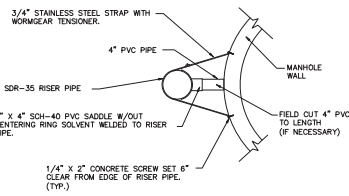
**STANDARD OUTSIDE DROP MANHOLE**  
Not to Scale

**SHALLOW MANHOLE**  
Not to Scale

 = COW TYPE I BEDDING  
 = UNDISTURBED SOIL

**PRECAST MANHOLE GENERAL NOTES**

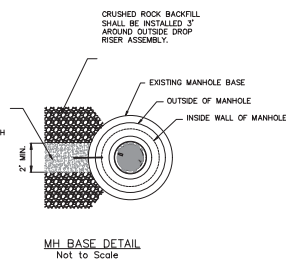
- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
- NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
- APPROVED FLEXIBLE WATERSTOP SHALL BE INSTALLED TO JOIN THE SEWER PIPE TO THE MANHOLE WALL. THE SEWER PIPE SHALL BE SUPPORTED WITH CRUSHED ROCK A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
- ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
- EXTERIOR MANHOLE WALLS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
- JOINT SEALING COMPOUND SHALL BE PER 804.4 OF STANDARD SPECIFICATIONS.
- ALL MANHOLE SECTION JOINTS THAT WILL BE IN GROUNDWATER OR GREATER THAN 12" DEEP SHALL BE WRAPPED WITH AN EXTERNAL JOINT SEAL PER SECTION 804.4 OF STANDARD SPECIFICATIONS, AS INDICATED BY THE PLANS.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE FOR DOG HOUSE MANHOLES.
- TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHARED INVERT.
- LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
- REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO.4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 1" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE. WALL THICKNESS SHALL BE 1" GREATER THAN MANHOLE DIAMETER IN FEET.
- OPENINGS SHALL BE CORE DRILLED INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS DRILLED INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE, AS SHOWN BY THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAD THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
- MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
- THE VERTICAL DROP IN STANDARD MANHOLES SHALL NOT EXCEED 2' REGARDLESS OF PIPE SIZE, THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- STANDARD MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4" UNLESS INDICATED OTHERWISE.
- PRECAST CONCRETE SPACERS OR BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.
- THE FULL DIAMETER OF THE MANHOLE SHALL EXTEND THE ENTIRE DEPTH OF THE MANHOLE TO THE CONE SECTION. NO REDUCTION IN MANHOLE DIAMETER WILL BE ALLOWED.




**RISER PIPE RESTRAINING ASSEMBLY**  
Not to Scale

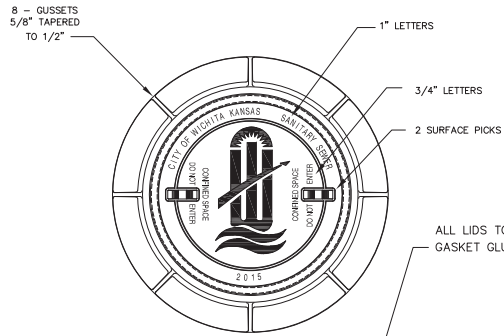
**SANITARY SEWER MANHOLE DIAMETERS**

| DIAMETER | DEPTH    | PIPE SIZE |
|----------|----------|-----------|
| 4"       | 0'-15"   | 8"-18"    |
| 5"       | >15'-30" | 21"-30"   |
| 6"       | >30"     | 36"-60"   |

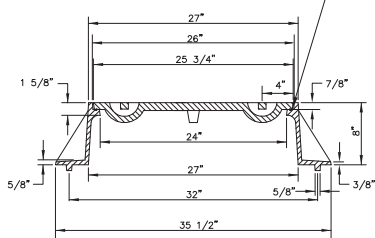


**MH BASE DETAIL**  
Not to Scale

|   |  |                          |      |
|---|--|--------------------------|------|
| REVISION NOVEMBER 2019  | RISER PIPE RESTRAINING ASSEMBLY REVISED ON MANHOLE DRAWING                         |                          |      |
| <br><b>CITY OF WICHITA</b><br>PUBLIC WORKS & UTILITIES<br>ENGINEERING DIVISION | <b>PRECAST SANITARY SEWER MANHOLE</b><br>CITY ENGINEER<br><b>GARY JANZEN, P.E.</b> |                          |      |
|   | PROJECT NUMBER   | OCA NUMBER               | DATE |
| CITY ENGINEER'S OFFICE<br>CITY HALL - SEVENTH FLOOR<br>435 NORTH MAIN STREET<br>WICHITA, KANSAS 67202-1620<br>(316) 268-4501  |  | SHEET<br><b>11 of 15</b> |      |



ALL LIDS TO BE FURNISHED WITH O-RING/NEOPRENE GASKET GLUED IN THE COVER BEARING SURFACE.

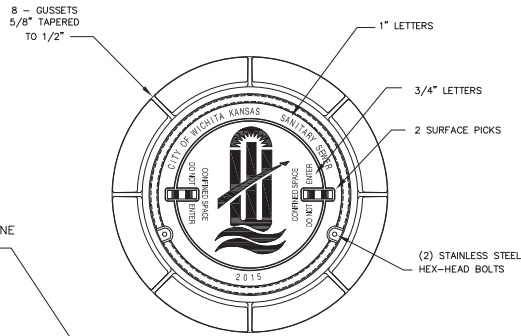


STANDARD MANHOLE FRAME & COVER

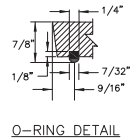
DEETER #1261 OR EJIW #1936-Z1

NOTE:

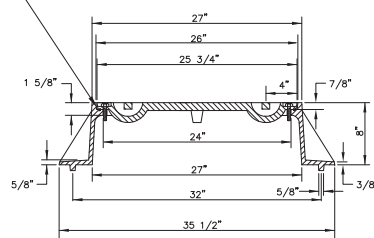
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.



(2) STAINLESS STEEL HEX-HEAD BOLTS



O-RING DETAIL



BOLT DOWN MANHOLE FRAME & COVER

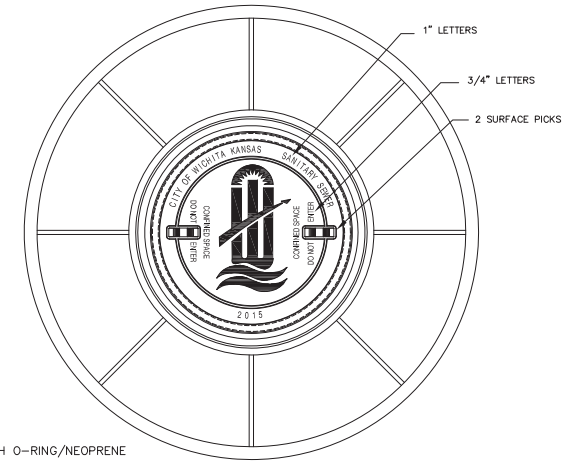
DEETER #1261 OR EJIW #1936-Z1

NOTE:

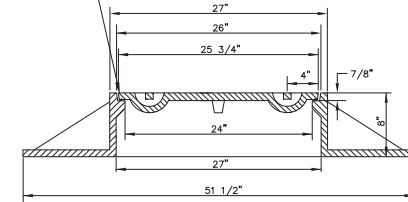
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.

GENERAL NOTES

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-49. DIMENSIONS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
3. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SEATING SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
4. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1" IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SANITARY SEWER". THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN WITH CITY OF WICHITA DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.



ALL LIDS TO BE FURNISHED WITH O-RING/NEOPRENE GASKET GLUED IN THE COVER BEARING SURFACE.



WIDE FLANGED FRAME & COVER

DEETER #1261A

NOTE:

1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.

REVISED: MARCH 2016

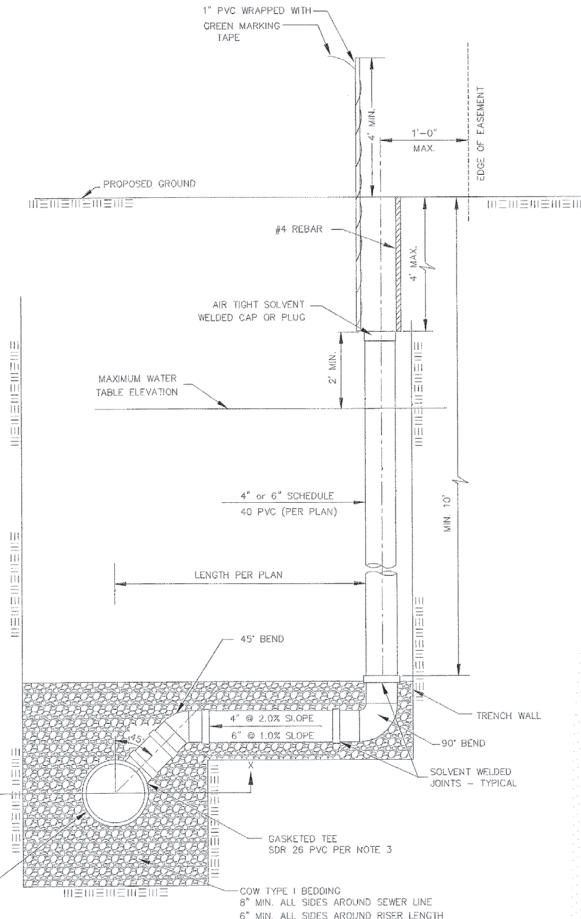
|  |            |                 |
|--|------------|-----------------|
| <b>MANHOLE<br/>FRAME AND COVER<br/>(SANITARY SEWER)</b>  |            |                 |
| CITY ENGINEER<br><b>GARY JANZEN, P.E.</b>  |            |                 |
| PROJECT NUMBER   | DCA NUMBER | DATE            |
| CITY ENGINEER'S OFFICE   |            | SHEET           |
| CITY HALL - SEVENTH FLOOR<br>435 NORTH MAIN STREET<br>WICHITA, KANSAS 67202-1620<br>(316) 268-4501 |            | <b>12 of 15</b> |

**GENERAL NOTES**

- APPLICATION.** Risers shall be installed to serve all lots or tracts where the sanitary sewer main is below the water table, where the sanitary sewer main depth is greater than 12' below the proposed ground elevation, where the main is adjacent to a pond or wherever service lines would have to cross under storm sewer pipe. Installation of risers because of field conditions shall be as approved by the City Engineer. The location of the risers to serve developed property shall be approved by the property owner and the Construction Engineer.
- MANHOLE STUB RISERS.** Manhole stub risers be installed in manholes where locations of manholes will provide satisfactory service connection as determined by the Construction Engineer. The vertical distance between the flowline of the manhole stub and the flowline of the sanitary sewer line out of the manhole shall not exceed 2'. Risers shall be utilized at manholes as indicated in Note 1. Manhole stub riser shall be set such that the top of the stub is not lower than the top of the sanitary sewer line.
- SIZING.** Risers shall be sized according to the plans and riser table where risers are indicated by the plans. Where risers are required because of field conditions, the risers shall be 6" diameter for commercial or industrial properties and 4" or 6" diameter for residential properties, based on lot size and sanitary sewer main depth. Sizing of risers shall be approved by the construction Engineer prior to installation.
- RISER MATERIAL.** Risers shall be constructed of Schedule 40 PVC pipe, meeting the requirement of the latest revision of A.S.T.M.. All pipe joints shall be solvent welded. Full body tee shall be SDR 26 PVC pipe.
- ROCK ENCASUREMENT.** Riser connection to clay pipe sanitary sewers shall be rock encased both ways from the riser centerline. The rock encasement shall extend three feet from the riser centerline or stop at the first sanitary sewer pipe joint within three feet of the riser centerline. Riser connections to PVC sanitary sewer mains shall be rock encased one foot each way from the riser centerline. Crushed rock shall conform to ASTM C-33, Gradation No. 67, and shall meet all requirements for Portland Cement Concrete pavement Course Aggregate, Section 406.2, City of Wichita Standard Specifications.
- BEDDING.** Beyond the limits of the rock encasement, bedding around the sanitary sewer riser shall be compacted Pipe Bedding Type 1 or 2. The bedding shall be placed and compacted from the depth of the sanitary sewer main to the top of the sanitary sewer riser pipe. Compacted Pipe Bedding Type 1 or 2 shall be required for all risers whether constructed in vertical wall or sloped wall trenches. Bedding material and construction practices shall be approved by the Construction Engineer prior to installation.
- SUPPORT OF RISERS.** Sanitary sewer riser pipe shall be supported during trench backfill. The riser pipe shall be held in a vertical position at all times until trench backfill and compaction has been completed. Contractor's methods for supporting and back filling the riser pipe shall be approved by the Construction Engineer.
- PLUGGING.** The ends of the riser pipes and manhole stubs shall be plugged using an airtight solvent welded cap or plug. Cap or plug fittings shall be approved by the Construction Engineer prior to installation. Caps or plugs which do not provide an airtight seal will not be accepted.
- TOP OF THE RISER PIPE.** The top elevation of the sanitary sewer riser pipe shall be built per plan elevations, unless otherwise directed by the Construction Engineer, where riser elevations are not shown on the plans, the top of the risers shall be set at an elevation four feet below the proposed ground surface. If ground water is encountered, the top of the riser pipe shall be set at an elevation 2' (min.) above the maximum water table elevation, regardless of the riser elevation shown on the plans.
- MARKING.** Locations of the ends of the sanitary sewer riser pipe shall be marked by installing 1" PVC from the top of the riser to a minimum of 4' above the top of finished grade. No. 4 rebar shall be placed centered over the riser from the cap to the existing ground. The 1" PVC pipe shall be wrapped with green colored plastic tape, for the full length above ground surface. The green tape shall be 4 mil Polyethylene film with a minimum width of three inches, specifically manufactured for the purpose of identification of underground sewers.
- LOCATION MEASURES.** The project inspector shall record and document the location of all risers constructed as measured from the nearest manhole, indicate the direction from the manhole, the direction and distance from the main, riser size, and elevation of the top of the riser in tabular format.
- RISER LOCATION.** The riser shall be located per plan if shown. If not shown on the plan, the riser shall be located at the center of the lot, within one foot of the property side of the easement for the lot being served. All riser locations shall be approved by the Construction Engineer prior to installation.
- PAYMENT.** "Riser Assembly, Vertical" shall be paid for at the contract unit price per each, which shall be full compensation for all pipe, fittings, marking tape, length of backfill, labor, site restoration, and any other items necessary to complete the work.

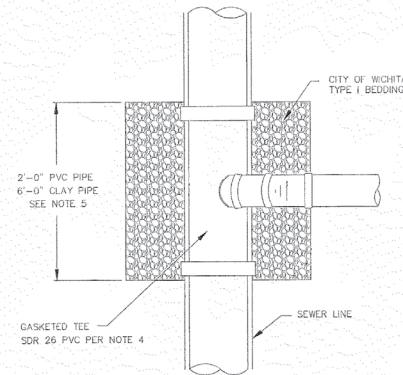
"Riser Assembly, Manhole Stub" shall be paid for at the contract unit price per each, which shall be full compensation for all labor material and incidentals necessary to complete the work including all pipe, fittings, rock encasement, and all other items as required and listed for "Riser Assembly, Vertical"

NOTE: RISER PIPE REQUIREMENTS AT MANHOLE CONNECTION SHALL BE SIMILAR TO THOSE SHOWN ABOVE.



| SANITARY SEWER RISER TABLE |                       |          |           |          |         | FOR INFORMATION ONLY |               |                 |
|----------------------------|-----------------------|----------|-----------|----------|---------|----------------------|---------------|-----------------|
| NUMBER                     | TYPE                  | LOCATION |           |          |         | APPROXIMATE LENGTH   |               |                 |
|                            |                       | LOT NO.  | BLOCK NO. | LINE NO. | STATION | DIRECTION            | VERTICAL (Ft) | HORIZONTAL (Ft) |
| 1                          | 4" MANHOLE CONNECTION |          |           |          |         |                      |               |                 |
| 2                          | 6" MANHOLE CONNECTION |          |           |          |         |                      |               |                 |
| 3                          | 4" TEE                |          |           |          |         |                      |               |                 |
| 4                          | 6" TEE                |          |           |          |         |                      |               |                 |

NOTE: TABLE FOR REFERENCE ONLY AND SHOULD BE ON EACH APPLICABLE PLAN SHEET.



NOTE: NON SHEAR COUPLING TO BE USED WHEN HOOKING TO CLAY PIPE.

TYPICAL SECTION X-X



**CITY OF WICHITA**  
PUBLIC WORKS & UTILITIES  
ENGINEERING DIVISION

REVISED: JULY 2015

**VERTICAL RISER ASSEMBLY SEWER DETAIL**

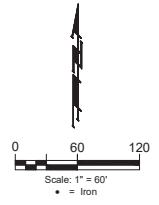
CITY ENGINEER  
**GARY JANZEN, P.E.**

|                |           |      |
|----------------|-----------|------|
| PROJECT NUMBER | QA NUMBER | DATE |
|                |           |      |

CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4301

SHEET  
**13 of 15**

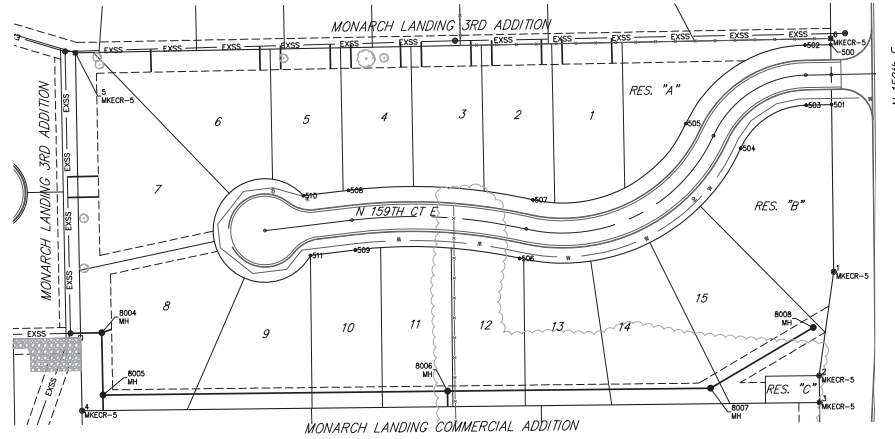
**BENCHMARKS:**  
 BM #1: CITY OF WICHITA  
 BENCHMARK DISC ON THE WEST  
 END OF THE ROCK HEADWALL,  
 NORTH OF 21ST ST S7.  
 ELEV. = 1368.37 NAVD88  
 BM #2: BRASS DISC ON THE TOP  
 OF CURB ON THE EAST SIDE OF  
 CURB INLET, SOUTH SIDE OF  
 FLUTTER LANE, AND NORTH OF LOT  
 10, BLOCK A, MONARCH LANDING  
 3RD ADDITION.  
 ELEV. = 1370.97 NAVD88



| CONRIS  |          |          |
|---------|----------|----------|
| Point # | Northing | Easting  |
| 1       | 5,462.23 | 6,585.07 |
| 2       | 5,462.08 | 6,581.20 |
| J       | 5,436.08 | 6,581.50 |
| 4       | 5,516.03 | 6,588.19 |
| 5       | 5,672.64 | 6,582.72 |
| 6       | 5,687.62 | 6,592.39 |

| IRONS |          |          |      |
|-------|----------|----------|------|
| Point | Northing | Easting  | Desc |
| 500   | 5,681.63 | 6,592.46 | IRON |
| 501   | 5,623.63 | 6,593.15 | IRON |
| 502   | 5,681.15 | 6,567.58 | IRON |
| 503   | 5,623.16 | 6,568.69 | IRON |
| 504   | 5,581.52 | 6,505.40 | IRON |
| 505   | 5,625.49 | 6,452.58 | IRON |
| 506   | 5,475.20 | 6,291.96 | IRON |
| 507   | 5,531.80 | 6,304.64 | IRON |
| 508   | 5,540.90 | 6,126.44 | IRON |
| 509   | 5,483.31 | 6,133.30 | IRON |
| 510   | 5,535.73 | 6,082.93 | IRON |
| 511   | 5,478.13 | 6,089.79 | IRON |

| SS POWIS |          |          |      |
|----------|----------|----------|------|
| Point    | Northing | Easting  | Desc |
| 8004     | 5,403.35 | 5,888.29 | MH   |
| 8005     | 5,343.26 | 5,889.41 | MH   |
| 8006     | 5,347.01 | 6,222.27 | MH   |
| 8007     | 5,349.88 | 6,476.27 | MH   |
| 8008     | 5,408.54 | 6,575.29 | MH   |



**BAUGHMAN COMPANY**  
 315 Ellis St.  
 Wichita, KS 67211  
 316-262-7271  
 BaughmanCo.com

MONARCH LANDING 6TH ADDITION

**COORDINATES**

SANITARY SEWER IMPROVEMENTS  
 PROJECT NUMBER:

DESIGN: NBW DRAWN: AJV  
 DATE: June 20, 2023

SHEET OF  
**14 15**

File: E:\Projects\Monarch\_Landing 6th Addition\_22064-PR01\Engineering\Phase 1\SS\_22-1-LE30563 22-1-LE30563.dwg

