

RESOLUTION NO. 2023-28
APPROVING A SPECIAL USE PERMIT

WHEREAS, Table 5.3-Permitted Uses Schedule of the City of Grantville (“City”) Zoning Ordinance provides that land, buildings and structures in the Single Family Residential (R-20) Zoning District may only be used as a Sewage Treatment Plant upon the issuance of a Special Use Permit; and

WHEREAS, Section 17.19 of the City of Grantville Zoning Ordinance sets forth the process for application, review and approval of a Special Use Permit, and

WHEREAS, Minnie Sewell Land, LLC/LDO Coweta, LLC submitted an application for a Special Use Permit for the construction of a Sewage Treatment Plant on the property in the attached Exhibit “A”, and

WHEREAS, the City of Grantville Planning Commission considered the application at their meeting of November 6, 2023, and unanimously recommended approval of the Special Use Permit; and

WHEREAS, a public hearing was advertised and held by the Grantville City Council; and

WHEREAS, after review of the application and the recommendation of the Planning Commission and the receiving of comment from the applicants and all other interested parties the Grantville City Council finds that:

(a) The available existing street system is adequate to efficiently and safely accommodate the traffic which will be generated by the proposed use or development.

(b) The existing public utilities, facilities and services are adequate to accommodate the proposed use or development.

(c) The use or development will not generate or cause conditions such as noise, light, glare, odor or similar objectionable features which would reduce the value, use or enjoyment of surrounding properties.

(d) The use would not have a detrimental environmental impact on the surrounding area, and

(e) The use would not adversely affect the health, safety, morals, and general welfare of the community.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Grantville, Georgia, and it is hereby resolved that a Special Use Permit is approved for the construction and operation of a Sewage Treatment Plant on the property described in the attached Exhibit “A,” subject to the permitting of same by any and all local, state and/or of federal agencies charged with the permitting of such facilities.

IT IS SO RESOLVED this 20th day of November, 2023, by the City Council of the City of Grantville.



Mayor

Attest: 
City Clerk



EXHIBIT "A" (1 of 2)

All that tract or parcel of land lying and being in Land Lots 6 and 27 of the Eleventh Land District of Coweta County, Georgia, Land Lots 271 and 272 of the Second Land District of Coweta County, Georgia, and Land Lot 26 of the Eleventh Land District of Meriwether County, Georgia, and being more particularly shown and described as Tract "A" on that certain plat of survey prepared for SAJI Properties, Incorporated, by G. Tim Conkle, Georgia Registered Land Surveyor No. 2001, dated June 29, 1989, and revised July 10, 1989, and recorded in Plat Book 47, Page 37, Coweta County, Georgia Records, being shown thereon as 493.84 acres, more or less, and being more particularly described according to said plat as follows:

BEGIN at the point which marks the southwest corner of Land Lot 6 of the Eleventh Land District of Coweta County, Georgia, and from said point run thence South 88 degrees 41 minutes 48 seconds East a distance of 367.38 feet to a point on the westerly right-of-way line of Minnie Sewell Road (60 foot right-of-way); run thence South 86 degrees 59 minutes 27 seconds East a distance of 75.34 feet to a point on the easterly right-of-way line of Minnie Sewell Road; run thence along said easterly right-of-way line of Minnie Sewell Road South 11 degrees 32 minutes 05 seconds West a distance of 183.42 feet to a point; continuing thence along said easterly right-of-way line of Minnie Sewell Road South 11 degrees 32 minutes 05 seconds West a distance of 275.64 feet to a point, thence South 11 degrees 39 minutes 37 seconds West a distance of 248.36 feet to a point; thence South 11 degrees 55 minutes 35 seconds West a distance of 310.26 feet to a point; thence South 12 degrees 14 minutes 21 seconds West a distance of 204.99 feet to a point; thence South 12 degrees 03 minutes 15 seconds West a distance of 242.8 feet to a point; thence South 12 degrees 24 minutes 34 seconds West a distance of 310.71 feet to a point, thence South 13 degrees 27 minutes 21 seconds West a distance of 236.05 feet to a point, thence South 08 degrees 20 minutes 15 seconds East a distance of 90.55 feet to a point; run thence away from said right-of-way line South 78 degrees 46 minutes 26 seconds East a distance of 246.14 feet to a point; run thence South 80 degrees 54 minutes 11 seconds East a distance of 53.66 feet to a point; run thence South 18 degrees 56 minutes 51 seconds West a distance of 306.02 feet to a point; run thence North 85 degrees 35 minutes 05 seconds West a distance of 268.44 feet to a point on the easterly right-of-way line of Minnie Sewell Road; run thence along said right-of-way line of Minnie Sewell Road South 12 degrees 09 minutes 49 seconds West a distance of 49.34 feet to a point; run thence away from said right-of-way line South 85 degrees 33 minutes 50 seconds East a distance of 778.63 feet to a point; run thence South 04 degrees 27 minutes 24 seconds West a distance of 522.61 feet to a point on the southern boundary line of Land Lot 27 of the Eleventh Land District of Coweta County, Georgia; run thence along said southern boundary line of said Land Lot 27 South 84 degrees 42 minutes 47 seconds East a distance of 2,240.09 feet to the point which marks the southeast corner of Land Lot 27 of the Eleventh Land District of Coweta County, Georgia and the southwest corner of Land Lot 26 of the Eleventh Land District of Meriwether County, Georgia; run thence along the southern boundary line of Land Lot 26 of the Eleventh Land District of Meriwether County, Georgia, South 87 degrees 08 minutes 03 seconds East a distance of 1,524.6 feet to a point; run thence North 03 degrees 27 minutes 40 seconds East a distance of 2,970.00 feet to a point on the northern boundary line of said Land Lot 26 of the Eleventh Land District of Meriwether County, Georgia; run thence North 86 degrees 07 minutes 07 seconds West a distance of 1,520.18 feet to the point which marks the southwest corner of Land Lot 7 of the Eleventh Land District of Meriwether County, Georgia, and the southeast corner of Land Lot 6 of the Eleventh Land District of Coweta County, Georgia; run thence along the easterly boundary line of Land Lot 6 of the Eleventh Land District of Coweta County, Georgia, North 00 degrees 45 minutes 21 seconds East a distance of 3,008.61 feet to the point which marks the northeast corner of Land Lot 6 of the Eleventh Land District of Coweta

EXHIBIT "A" (2 of 2)

County, Georgia, and the northwest corner of Land Lot 7 of the Eleventh Land District of Meriwether County, Georgia; run thence along the northern boundary line of said Land Lot 7 of the Eleventh Land District of Meriwether County, Georgia, North 89 degrees 33 minutes 35 seconds East a distance of 1,155.26 feet to a point; run thence North 00 degrees 13 minutes 01 seconds East a distance of 727.59 feet to a point; run thence North 00 degrees 26 minutes 35 seconds East a distance of 400.83 feet to a point on the southerly right-of-way line of the C. S. X. Railroad; run thence in a generally westerly and southwesterly direction along said southern right-of-way line of C. S. X. Railroad to the point which marks the intersection of said right-of-way line with the western boundary of Land Lot 6 of the Eleventh Land District of Coweta County, Georgia; run thence along said westerly boundary line of Land Lot 6 South 01 degrees 12 minutes 10 seconds West a distance of 815.91 feet to a point; thence continue along said westerly boundary line of Land Lot 6 South 01 degree 20 minutes 56 seconds West a distance of 442.24 feet to a point which marks the southwest corner of said Land Lot 6 of the Eleventh Land District of Coweta County, Georgia, said point being the POINT OF BEGINNING as established above.

A RESOLUTION No. 2023-29

BE IT RESOLVED by the City of Grantville "Participant") that the following is hereby appointed as authorized official of the Participant ("Authorized Official") with full power and authority to communicate the decisions of the Participant to Electric Cities of Georgia, Inc. ("ECG"), including, but not limited to, completing service confirmation forms, nomination forms for the Board of Directors of ECG and submitting ballots for the election of the Board of Directors of ECG. In addition, an alternate authorized official (the "Alternate") is hereby appointed as the alternate Authorized Official with the same full power and authority of the Authorized Official to the extent that it is convenient for the Participant to make such communications to ECG through the Alternate.

Authorized Official (title or name) Mayor
Alternate (title or name) Mayor Pro Tem

This 20th day of November, 2023.

City of Grantville
City/~~Commission~~

[Signature]
Mayor/~~Chairman~~

ATTEST:

[Signature]
Clerk/Secretary



RESOLUTION NO. 2023-27

**A RESOLUTION ESTABLISHING A CITY COUNCIL POLICY FOR
RECOGNIZING APPOINTED VOLUNTEERS IN SERVICE TO THE CITY OF
GRANTVILLE; AND FOR OTHER PURPOSES**

WHEREAS, city volunteers share invaluable skills, work countless hours, days and in many instances years with little or no compensation to accomplish improvements for the city of Grantville ("City"); and

WHEREAS, city volunteers serve as ambassadors of goodwill while in training, representing the City or working tirelessly on programs and projects to better the quality of life for our community; and

WHEREAS, on many occasions it is necessary for city volunteers to leave family and safe environments in order to complete an assignment related to their City appointed tasks; and

WHEREAS, city volunteers are eager to expend energy working on difficult projects to improve services to benefit the community, not only donating time, but making personal monetary contributions and tangible donations to benefit the community; and

WHEREAS, city volunteers with outgoing, friendly personalities have been instrumental in promoting goodwill and improving the image of the City; and

WHEREAS, many council appointed volunteers, with ethical behavior and integrity have helped with problem solving and research and have rendered advice and recommendations for the City Council's approval to help move the City closer to a brighter future; and

WHEREAS, the City could not survive without the outstanding, invaluable services provided by these distinguished, dedicated volunteers.

NOW, THEREFORE, BE IT RESOLVED by the Mayor and City Council of the City of Grantville, Georgia, and it is hereby resolved as follows:

In order to acknowledge and express sincere appreciation for the invaluable contributions of volunteers to benefit the community the City the following process shall be implemented:

1. Effective in 2024 an annual Awards Ceremony will be held at the Freight Depot or other approved location during the City's Christmas Tree lighting holiday event.

2. At that ceremony all volunteers will be recognized, with the exception of persons who have vacated their volunteer position before the end of their term of office.
3. An invitation letter will be mailed to each volunteer who will be recognized at the awards ceremony.
4. Certificates and/or Lapel pins will be presented to all volunteers who have served a full term in their volunteer position.
5. The chairperson of each City board, authority or committee shall submit a list of names of appointees who have had good attendance at meetings.
6. The City Manager shall submit a list of names of persons who have volunteered their time in service to City departments.
7. Councilmembers may recommend for recognition other volunteers who have made significant contributions to benefit the entire community.
8. The names of nominees for the annual awards ceremony shall be submitted to the City Clerk by the agenda item deadline for the council's November work session, so that honorees may be approved by the City Council at the November council meeting.

IT IS SO RESOLVED this 18 day of December, 2023.



Mayor

Attest: 
Clerk



THE CITY OF GRANTVILLE, GEORGIA
RESOLUTION NO. 2023-25
BEFORE THE CITY COUNCIL

A RESOLUTION MEMORIALIZING DISTINGUISHED PUBLIC SERVANT LEADERS,
THE LATE JOHN WILLIAM HOUSTON, COUNCILMAN AND
THE LATE EMMA GLADYS BOHANNON VARNER, BOARD PRESIDENT

WHEREAS, the members of the City Council are always greatly saddened to learn of the passing of Grantville officers who have exhibited exemplary public service; and

WHEREAS, City officers share invaluable skills, work countless hours, days, and many years with little or no compensation to accomplish improvements for the City; and

WHEREAS, City officers serve as ambassadors of good will while in training, representing the City, or working tirelessly on programs and projects to better the quality of life for our community; and

WHEREAS, on many occasions it is necessary for City officers to leave family and safe environments in order to complete an assignment related to their City appointed tasks; and

WHEREAS, City officers are eager to expend energy working on difficult projects to improve services to benefit the community, not only donating time but making personal monetary contributions and tangible donations to benefit the community; and

WHEREAS, City officers with outgoing friendly personalities have been instrumental in promoting good will and improving the image of the City as well as identifying and facilitating the acquisition of grants to save taxpayers' funds; and

WHEREAS, many officers with ethical behavior and integrity have helped with problem solving, and research and have rendered advice and recommendations for City Council approval to help move the City closer to a brighter future; and

WHEREAS, the City could not survive without the invaluable volunteer services provided by these distinguished, dedicated public service leaders; and

NOW, THEREFORE, BE IT RESOLVED by the Mayor and City Council of the City of Grantville, GA that in recognition of invaluable contributions to benefit the City Parks and Recreation programs rendered by former officers, a Councilmember and a Board President, the Main Pavilion at Griffin Street Park shall be named the "John William Houston (dob 12/2/37 - dod 5/9/23) and Emma Gladys Bohannon Varner (dob 2/11/45 - dod 9/28/23) Pavilion" and

BE IT FURTHER RESOLVED that a copy of this City Council Resolution shall be prominently displayed at the Grantville City Hall complex area accessible to the public and a copy shall be presented to a surviving family member in order to acknowledge and express sincere appreciation for the outstanding volunteer service of these dedicated servant leaders who will not be forgotten by the citizens of the City of Grantville, GA.

IT IS SO RESOLVED this 20th day of November, 2023.



Mayor Richard Proctor

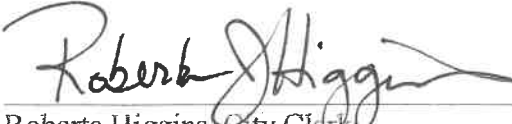
Dee Latimore Berry, Councilmember

Casey Evans, Mayor Pro Tem

David Clark, Councilmember

Councilmember

ATTEST:



Roberta Higgins, City Clerk



THE CITY OF GRANTVILLE, GEORGIA

**RESOLUTION NO. 2023-24
BEFORE THE CITY COUNCIL**

**A RESOLUTION TO AMEND THE FISCAL YEAR 2023
BUDGET FOR THE CITY OF GRANTVILLE**

WHEREAS, Section 4.04(c) of the Charter of the City of Grantville provides that nothing shall preclude the Council from amending its budget so as to adapt to changing governmental needs during the budget period; and

WHEREAS, Section 4.04(c)(i) provides that “Such amendments shall be adopted by ordinance or resolution,” and

WHEREAS, the Ordinance adopted by the City Council on August 22, 2022, adopting the Fiscal Year 2023 budget provides that “revisions to the Budget may be made by majority vote of the Mayor and City Council at any business meeting.”

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Grantville, Georgia, and it is hereby resolved as follows:

The Fiscal Year 2023 budget for the City of Grantville is amended as shown on Exhibit A incorporated herein as set forth verbatim.

IT IS SO RESOLVED this 23rd day of October, 2023 by the City Council of the City of Grantville.



Mayor

ATTEST:



City Clerk

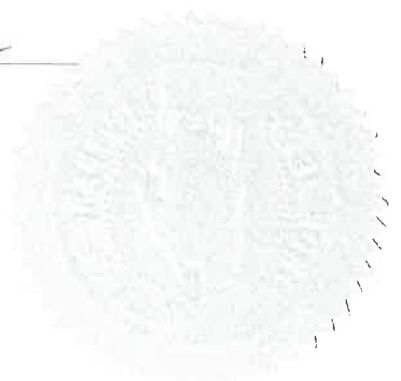


EXHIBIT A

FISCAL YEAR 2023 BUDGET AMENDMENTS

GENERAL FUND (FUND 100):

Contingency (1052):

Reduce Line Item 100-1052-579000 (Contingency): \$48,000.
Should be \$130,150 vice \$178,150.

Council (1110):

Add to Line Item 100-1110-521200 (Professional): \$5,000
Should be \$17,000 vice \$12,000.

Add to Line Item 100-1110-521210 (Legal, Accounting & Audit): \$43,000
Should be \$63,000 vice \$20,000.

Contingency (1052):

Reduce Line Item 100-1052-579000 (Contingency): \$5,000.
Should be \$125,150 vice \$130,150.

Police Department (3210):

Add to Line Item 100-3210-531100 (Supplies): \$5,000.
Should be \$10,000 vice \$5,000.

Contingency (1052):

Reduce Line Item 100-1052-579000 (Contingency): \$10,000.
Should be \$115,150 vice \$125,150.

Streets (4210)

Add to Line Item 100-4210-522320 (Rental of Equipment and Vehicles): \$10,000.
Should be \$47,500 vice \$37,500.

Contingency (1052):

Reduce Line Item 100-1052-579000 (Contingency): \$15,000.
Should be \$100,150 vice \$115,150.

Senior Center (5500):

Add to Line Item 100-5500-521300 (Technical): \$5,000.
Should be \$9,500 vice \$4,500.

Senior Center (5500):

Add to Line Item 100-5500-531100 (Supplies): \$5,000.
Should be \$26,000 vice \$21,000.

Senior Center (5500):

Add to Line Item 100-5500-531300 (Food): \$5,000.
Should be \$85,000 vice \$80,000.

Contingency (1052):

Reduce Line Item 100-1052-579000 (Contingency): \$20,000.
Should be \$80,150 vice \$100,150.

Recreation (6120):

Add to Line Item 100-5500-521200 (Professional): \$10,000.
Should be \$17,000 vice \$7,000.

Recreation (6120):

Add to Line Item 100-5500-531100 (Supplies): \$10,000.
Should be \$22,000 vice \$12,000.

Other Financing Sources (9000):

Add to Line Item 100-9000-393500 (Proceeds from Debt - Capital Leases): \$560,448.43
Should be \$560,448.43 vice \$0.

Police Department (3210):

Add to Line Item 100-3210-542200 (Vehicles): \$242,277.01.
Should be \$242,277.01 vice \$0.

Streets (4210):

Add to Line Item 100-4210-542200 (Vehicles): \$318,171.42
Should be \$318,171.42 vice \$0

Note:

The three entries above are required by GASB Pronouncement # 87 to recognize the purchase price value of thirteen (13) vehicles leased by City of Grantville during FY 2023.

THE CITY OF GRANTVILLE, GEORGIA

RESOLUTION NO. 2023-23
BEFORE THE CITY COUNCIL

**A RESOLUTION APPROVING AND ADOPTING AN UPDATED
SCHEDULE OF FEES FOR CITY SERVICES**


WHEREAS, the Schedule of Fees for City Services presently utilized are outdated, do not comport with the current economic realities and not reflective of the cost incurred for the services provided.

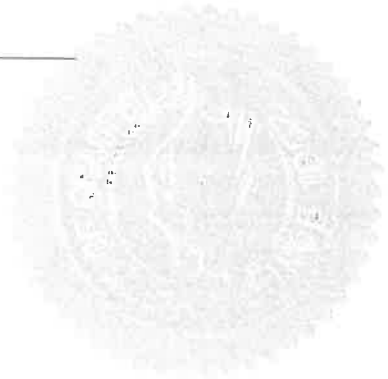
NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Grantville, that the Schedule of Fees for City Services listed in Exhibit A attached hereto and incorporated herein as if set forth verbatim are approved and adopted for the City of Grantville.

This Resolution is passed this 28th day of August 2023.


Richard Proctor, Mayor

ATTEST:


Roberta Higgins, City Clerk



City of Grantville
Grantville Rate/Fee Schedule
Resolution 2023-23 Exhibit A

ANIMAL CONTROL FEES

Impound Dogs	\$30 Initial pickup and impound per dog \$18 each additional day impounded
2 nd Offense	\$75 per dog
3 rd Offense	\$150 per dog

*Animals requiring vet services, owner will be responsible for all associated cost prior to release of animal.

CEMETERY FEES – ANNEX A

Fee Schedule for the Purchase of Burial Plots – Annex A Grantville Cemetery

MUST SHOW PROOF OF RESIDENCY

Grantville City Resident:	\$500 per 5' x 11'
Coweta County Resident:	\$750.00 per 5' x 11'
Outside Coweta Resident:	\$1000.00 per 5' x 11'

Plots shall be sold in increments of TWO (2) in Blocks H – R.

*Only Block G of Annex A shall be sold singularly.

Cemetery Deed Recording Fee	\$25.00
Cemetery Marker Placement Permit Fee	\$15.00

COURT FEES

Expungements (Each)	\$20.00
Certified Copies (Each)	\$3.00
Official Copies (Per page)	\$0.10
FTA Fee (Failure to Appear)	\$150.00
Contempt Charge	\$50.00
Video	\$10.00

FACILITIES RENTALS

Freight Depot (CURRENTLY CLOSED PENDING RENOVATION/REPAIRS)

Resident	\$TBD per day	\$100 Refundable Deposit
Non-Resident	\$TBD per day	\$100 Refundable Deposit

Clements/Malcolm Recreation Building – 329 Griffin Street

Resident	\$100.00 per day	\$100 Refundable Deposit
Non-Resident	\$200.00 per day	\$100 Refundable Deposit

Grantville Community Center – 92 Post Street

Resident	\$100.00 per day	\$100 Refundable Deposit
Non-Resident	\$200.00 per day	\$100 Refundable Deposit

Passenger Depot – W. Broad Street

Resident	\$300.00 per day	\$100 Refundable Deposit
Non-Resident	\$400.00 per day	\$100 Refundable Deposit

*A \$100.00 Non-refundable cleaning fee will be assessed on each facility rental or reservation. The deposit and cleaning fee must be PAID before the reservation date is booked.

Grantville Non-Profit (501(c)(3)) organizations who have an approved service contract with the City of Grantville will not be charged a rental fee, deposit nor cleaning fee.

Pavilions at Griffin Street and Post Street are not rented. Available first come, first serve. The Splash Pad is not available for private rental.

OCCUPATIONAL TAXES

Occupational Tax Rates (Based on gross receipts)

Class 1	1.00%
Class 2	1.33%
Class 3	1.66%
Class 4	2.00%
Class 5	2.33%
Class 6	2.66%

*Plus \$75.00 Administrative Fee

Payment is due each year within 30 days of January 1st. If unpaid within 90 days, on April 1st, a penalty of 10% of the tax or fee due, plus interest at a rate of 1.5% per month thereafter will be assessed.

MISCELLANEOUS FEES

Credit Check Fee	\$15.00
Late Fee (added at 8:00 am the morning of the next business day after the 15 th of each month)	\$25.00
Reconnect Fee (if not paid in full on the 24 th of the month)	\$25.00
Returned Check Fee	\$30.00
Re-Read Fee	\$25.00
Garbage Pickup (billing on utility bill)	\$25.00
Extra Garbage Can (per month)	\$9.73
Special Event Permit Fee	\$25.00
Parade/Assembly Permit Fee	\$25.00
Sign Permit	\$25.00
Copies (per page)	\$0.10
Fax (per page)	\$1.00
Copies of Meeting Recordings (per disk)	\$2.00
Notary (per page notarized)	\$2.00
Open Records Request	Associated Costs
Motorized Cart Permit	\$25.00
Retail Beer and Wine License Fee	\$250.00 each
Retail Package: Liquor License Fee	\$5000.00
Beer and Wine Consumption on Premises	\$525.00
Distilled Spirits (liquor) Consumption on Premises	\$2000.00
Certificate of Appropriateness Application (Historical Preservation Commission)	\$20.00

UTILITY DEPOSITS – based on a Transunion credit check ordered by the Clerk on the date of application for the new account. The deposit amount is credited to the account upon account set up and remains on the account until it is applied against the final bill when the account is closed.

<u>Service</u>	<u>Basic Deposit</u>	<u>Double Deposit (due to credit check)</u>
Electric	\$100.00	\$200.00
Water	\$50.00	\$100.00
Gas	\$100.00	\$200.00

Utility deposits are \$250.00 or \$500.00 for all services; some locations are not serviced by all utilities. The above utility deposits are based on services that Grantville provides.

UTILITY TAP AND CUT-IN FEES

Residential

Gas Tap

Without road or other bore	\$500.00 (plus cost of trenching)
With road bore	\$620.00 (plus cost of trenching)

Water Tap (fee update effective 9/28/2020)

Water Tap (up to 1 inch)	\$2500.00
Water Tap (up to 1 inch) w/ road bore	\$2500.00 (plus cost of bore)

Sewer Tap (up to 6 inches)	\$3000.00
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Electric Cut-in Fees

Up to 200 AMP overhead	\$350.00
Underground	\$2000.00 down payment; plus final bill at cost

Commercial

Commercial all other taps and cut ins listed will be made at cost; labor and materials, plus 10%.

YARD LIGHT: NEW INSTALL will be AT COST TO INSTALL, then \$12.50 per month.

THE CITY OF GRANTVILLE, GEORGIA


RESOLUTION NO. 2023-22
BEFORE THE CITY COUNCIL

**A RESOLUTION APPROVING AND ADOPTING A
UNIFORM DEVELOPMENT REGULATIONS POLICY**

WHEREAS, the City of Grantville does not have a current policy manual regarding Uniform Development Specifications and Standards for improvement, installation, service, repair and maintenance of infrastructure or current methods utilized are outdated and do not comport with the current standards and practices.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Grantville that the Uniform Development Standards chronicled in Exhibit A attached hereto and incorporated herein as if set forth verbatim are approved and adopted for the City of Grantville.

This Resolution is passed this 28th day of August, 2023.


Richard Proctor, Mayor

ATTEST:


Roberta Higgins, City Clerk



DEVELOPMENT STANDARDS



CITY OF GRANTVILLE, GEORGIA

Prepared: April 2023

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500	WATER REGULATIONS
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APPENDIX A:

Standard Details

APPENDIX B:

B-1 Stormwater Local Design Manual

B-2 Stormwater Hydrology Report Checklist

APPENDIX C:

C-1 Preliminary Plat Application

C-2 Concept Plat Data Sheet

C-3 Final Plat Checklist

C-4 Development Plans Application

C-5 Development Plans Checklist

C-6 Pump Station Start-up Report

vice versa.

2. Words in the masculine gender shall include the feminine.
3. The word "shall" is mandatory and not discretionary.
4. The word "may" is permissive.
5. Use of the word "and" is inclusive and requires that all of the component phrases so connected must be present or fulfilled for sufficiency.
6. Use of the word "or" is not exclusive and requires that at least one of the component phrases so connected must be present or fulfilled for sufficiency. The word "or" may allow more than one component phrase to be present or fulfilled, as is implied by the common term "and/or."

The following shall control the interpretation of words and phrases as used in these Regulations:

1. Words and phrases defined in these Regulations shall be interpreted as defined herein.
2. Words or phrases not defined herein shall be interpreted as defined in other ordinances and codes of the City. Words or phrases not defined in the above-mentioned documents shall have their customary dictionary definitions where not inconsistent with the context.

END OF SECTION 100

Preliminary subdivision plats shall contain the following information:

1. Subdivision Name.
2. Name, address and 24-hour phone number of developer.
3. Date including most recent revision date.
4. Graphic scale (not to exceed 1" = 100')
5. Location Index map (approximate scale 1" = 6,000')
6. North arrow.
7. Land lot, District and Section.
8. Maximum sheet size 24" x 36" unless otherwise approved.
9. Exact boundary lines of the entire tract indicated by a heavy line giving lengths and bearings.
10. Present zoning and zoning of abutting land.
11. Proposed street and lot layout.
12. Proposed street names.
13. Lot lines with approximate dimensions.
14. Location of bold lines for phased developments.
15. Lots numbered consecutively disregarding phasing.
16. General notes on the plat stating total project acreage, total number of lots and lot density, minimum size of lots, minimum lot width and frontage, and required setbacks for present zoning.
17. Existing streets, utilities, and easements on and adjacent to the tract.
18. Provisions for water supply, sewerage, and drainage.
19. Location of 100-year floodplain and Future Conditions floodplain or statement that no part of the property lies within the 100-year floodplain.
20. Minimum building front yard setback line shown graphically on the plat.
21. Surveyors and/or Engineer's Stamp.
22. Signature Statement for planning commission. Statement shall read as follows:

Preliminary Plat Approval Certificate

All requirements of the City Development Regulations relative to the preparation and submission of a Preliminary Plat having been fulfilled, approval of this plat is hereby granted subject to further provisions of said Regulations. This certificate is effective for 24 months from the date of signing unless a Final Plat is recorded.

Planning Commission Chairman

Date

City Clerk

Date

23. Any and all other information as may be required by the City.
24. Names of owners of record of adjoining properties.

11. All cross-drain pipes shown on the street profiles.
12. Water travel distance between catch basins.
13. Drainage at intersections indicated by flow arrows on plan sheet.
14. All drainage structure outlets to be erosion proofed.
15. Method of sizing all storm drainage structures.
16. Easements for drainage system—Minimum of ten feet for piped runoff, minimum of 20 feet for open ditches.
17. Dam breach zone shown if an existing or proposed permanent pond/lake is a part of the proposed subdivision.
18. Cul-de-sac grading detail for steep downhill cul-de-sacs.

Water Layout

1. Site plan with water layout only.
2. Pipe locations and sizes
3. Location and size of gate valves and air release valves.
4. Thrust blocks at all bends and tees.
5. Location of all existing and proposed fire hydrants.
6. Existing water main locations, sizes, and types of materials surrounding the project.
7. Detail of tap to water main.
8. Proposed meter sizes and locations.
9. Nearest existing line valves on main, in order to isolate tap.
10. Pressure flow-test results.
11. If proposed water line crosses private property, a 20-foot permanent easement is required.

Sewer Layout

1. EPD Sanitary Sewer Submittal Form filled out by registered engineer.
2. Site plan showing sewer layout.
3. Sewer layout should have manhole numbers, line designations, flow arrows, street names, and topography.
4. Sewer layout showing proposed storm drain crossings.
5. Detail tie-in of proposed lines with existing lines as to elevation and invert direction of manholes.
6. Profile of proposed sewer lines.
7. Manhole numbers and locations.
8. Outside drop-manhole designated.
9. Percent grade, length, size of lines.
10. Lateral locations.
11. Materials to be used.
12. Location in profile of streams and storm drains.
13. Easements to be 20-foot permanent and 60-foot for temporary construction.
14. Easements for future sewers if required.
15. Bedding details.

7. Exact locations, R/W widths, and names of all streets that immediately adjoin the subdivision.
8. Appropriate data for all streets, lot lines, and centerlines as required by the city and according to the requirements of the State of Georgia for professional surveyors and engineers.
9. General notes on the plat stating total project acreage, total number of lots and lot density, minimum size of lots, minimum lot width and frontage, and required setbacks for present zoning. All zoning stipulations, if any, must also be on the plat.
10. Lots shall be numbered consecutively; divisions shall be made by units or phases.
11. Each lot's area in square feet or acres.
12. Deed book and page number of protective covenants if any.
13. Accurate location, material, and description of all monuments and markers.
14. Location of sidewalks.
15. Show all Storm lines on plat.
16. Location of all easements.
17. Required buffers and recreational areas (if any).
18. Land lot lines accurately tied to the lines of the subdivision by distance and angles when such lines traverse or are reasonably close to the subdivision.
19. All surveys and plats must be prepared by a state certified engineer and/or surveyor.
20. Location of 100-year floodplain and Future Conditions floodplain or statement that no part of the property lies within the 100-year floodplain.
21. The following certificate statements shall be shown on the plat:

Owner's Certificate

The owner of the land shown on this plat and whose name is subscribed hereto, in person or through a duly authorized agent, certifies that this plat was made from an actual survey, that all state, city and county taxes or other assessments now due on this land have been paid, that all streets, water systems drains and drainage easements, and public places are dedicated to the use of the public forever.

Owner

Date

Surveyor's Certificate

It is hereby certified that this plat is true and correct and was prepared from an actual survey of the property by me or under my supervision, that all monuments shown hereon actually exist or are marked "future" and their location, size, type and material are correctly shown, and that all requirements of the development and zoning regulations have been fully complied with.

Surveyor

Date

City Certificate

6. North arrow.
7. Land lot, District and Section.
8. Maximum sheet size 24" x 36" unless otherwise approved.
9. Exact boundary lines of the entire tract indicated by a heavy line giving lengths and bearings.
10. Present zoning and zoning of abutting land.
11. Proposed street and lot layout.
12. Proposed street names.
13. Lot lines with approximate dimensions.
14. Location of bold lines for phased developments.
15. Lots numbered consecutively disregarding phasing.
16. General notes on the plat stating total project acreage, total number of lots and lot density, minimum size of lots, minimum lot width and frontage, and required setbacks for present zoning.
17. Existing streets, utilities, and easements on and adjacent to the tract.
18. Provisions for water supply, sewerage, and drainage.
19. Location of 100-year floodplain and Future Conditions floodplain or statement that no part of the property lies within the 100-year floodplain.
20. Minimum building front yard setback line shown graphically on the plat.
21. Surveyors and/or Engineer's Stamp.
22. Signature Statement for Planning Commission. Statement shall read as follows:

Preliminary Plat Approval Certificate

All requirements of the City Development Regulations relative to the preparation and submission of a Preliminary Plat having been fulfilled, approval of this plat is hereby granted subject to further provisions of said Regulations. This certificate is effective for 24 months from the date of signing unless a Final Plat is recorded.

Planning Commission Chairman *Date*

City Clerk *Date*

23. Any and all other information as may be required by the City.
24. Names of owners of record of adjoining properties.

B. Construction Plans detailed design plans of proposed subdivision infrastructure improvements. Six sets of the construction plans shall be submitted to the Community Development office for distribution. A plan review fee of \$500.00 shall be required at the time of submittal. Upon approval of the plans, a stamped approved copy shall be given to each department and the developer sets up a pre-construction conference with the contractor(s) and the City departments mentioned herein. If any construction activity involves a state right-of-way, the

16. Easements for drainage system - minimum of ten feet for piped runoff, minimum of 20 feet for open ditches.
17. Dam breach zone shown if an existing or proposed permanent pond/lake is a part of the proposed subdivision.
18. Cul-de-sac grading detail for steep downhill cul-de-sacs.

Water Layout

1. Site plan with water layout only.
2. Pipe locations and sizes
3. Location and size of gate valves, air release valves.
4. Thrust blocks at all bends and tees.
5. Location of all existing and proposed fire hydrants.
6. Existing water main locations, sizes, and types of materials surrounding the project.
7. Detail of tap to water main.
8. Proposed meter sizes and locations.
9. Nearest existing line valves on main, in order to isolate tap.
10. Pressure flow-test results.
11. If proposed water line crosses private property, a 20-foot permanent easement is required.

Sewer Layout

1. EPD Sanitary Sewer Submittal Form filled out by registered engineer.
2. Site plan showing sewer layout.
3. Sewer layout should have manhole numbers, line designations, flow arrows, street names, and topography.
4. Sewer layout showing proposed storm drain crossings.
5. Detail tie-in of proposed lines with existing lines as to elevation and invert direction of manholes.
6. Profile of proposed sewer lines with:
7. Manhole numbers and locations.
8. Outside drop-manhole designated.
9. Percent grade, length, size of lines.
10. Lateral locations.
11. Materials to be used.
12. Location in profile of streams and storm drains.
13. Easements to be 20-foot permanent and 60-foot for temporary construction.
14. Easements for future sewers if required.
15. Bedding details.

Additional Requirements:

1. Preliminary plat submitted with construction plans.
2. Sidewalks.
3. Show location of all wells within 100 feet of property or certify that there are no wells, if lots are served by septic tank.

9. General notes on the plat stating total project acreage, total number of lots and lot density, minimum size of lots, minimum lot width and frontage, and required setbacks for present zoning.
10. Lots shall be numbered consecutively; divisions shall be made by units or phases.
11. Each lot's area in square feet or acres.
12. Deed book and page number of protective covenants if any.
13. Accurate location, material, and description of all monuments and markers.
14. Location of sidewalks.
15. Location of all easements.
16. Required buffers and recreational areas (if any).
17. Land lot lines accurately tied to the lines of the subdivision by distance and angles when such lines traverse or are reasonably close to the subdivision.
18. All surveys and plats must be prepared by a state certified engineer and/or surveyor.
19. Location of 100-year floodplain and Future Conditions floodplain or statement that no part of the property lies within the 100-year floodplain.
20. The following certificate statements shall be shown on the plat:

Owner's Certificate

The owner of the land shown on this plat and whose name is subscribed hereto, in person or through a duly authorized agent, certifies that this plat was made from an actual survey, that all state, city and county taxes or other assessments now due on this land have been paid, that all streets, water systems drains and drainage easements, and public places are dedicated to the use of the public forever.

Owner

Date

Surveyor's Certificate

It is hereby certified that this plat is true and correct and was prepared from an actual survey of the property by me or under my supervision, that all monuments shown hereon actually exist or are marked "future" and their location, size, type and material are correctly shown, and that all requirements of the development and zoning regulations have been fully complied with.

Surveyor

Date

City Certificate

In accordance with the City Development Regulations and the City's Zoning Ordinance, all requirements of approval have been fulfilled; this plat was given final approval by the following City officials and personnel and on behalf of the City:

Planning Commission Chairman

Date

The Community Development office issues the following permits for the construction of a subdivision:

- A. **Land Disturbance Permit.** After the approval of the construction plans, this permit is issued for the implementation of erosion control measures as shown on the approved construction plans for projects.

202.2 Sites not involving the subdividing of land

The Department of Community Development issues the following two permits for the construction of sites:

- A. **Land Disturbance Permit.** After the approval of the construction plans, this permit is issued for the implementation of erosion control measures as shown on the approved construction plans for all projects.
- B. **Building Permit.** This permit is issued for the construction of proposed buildings. The building permit is issued after the site construction plans are approved, the building architectural plans are approved, and the Land Disturbance Permit is issued (if applicable). Appropriate permit fees shall apply.

202.3 Driveway Permits

A review will be required of all new driveway cuts on public right-of-way for the purpose of ensuring the requirements of these Regulations are complied with and to determine if additional right-of-way improvements will be needed to be made by the property owner in order that the public right-of-way will accommodate the proposed vehicular use of said new driveway. When a building permit or land disturbance permit is required, the driveway permit will be incorporated into said permits and no additional fees will be required. When no other permits are required, a permit fee of \$50.00 will be required.

202.4 Pavement Cut Permit

A permit will be required prior to any work being done involving the cutting of any existing public right-of-way pavement. Said permit will be issued by the City Public Works Department. (No permit fee is required).

203. Construction

203.1 Pre-construction Conference

The developer is required to schedule a meeting with the Community Development office and all public and/or private utilities for the purpose of discussing the construction and inspection of the proposed development. The pre-construction conference is required before the issuance of any permits unless waived by all affected City Departments.

- D. And any other appropriate City department whose inspections are necessary to ensure compliance with the ordinances of the City.
- E. The City reserves the right to charge an inspection fee consistent with an approved fee schedule set by Mayor and Council

205. As-Builts

As-builts shall be required before the final plat is recorded for subdivisions or before a certificate of occupancy is issued for commercial/industrial sites. All as-built drawings must be on standard 24" X 36" sheets with a maximum scale of 1" = 50'. Electronic files must also be submitted in AutoCAD format with water, sewer and storm system all on separate layers in State Plane Coordinates as described as follows:

- A. The water system as-builts shall show locations of fire hydrants, line valves, tees, water main sizes, and types of materials.
- B. The sanitary sewer system as-builts shall show locations of manholes, lines, services, line sizes, types of materials, manhole inverts, and line grades.
- C. Street and storm sewer as-builts shall show street layout, profiles, and grades, storm sewers and sizes, storm drainage structures, and detention ponds.
- D. Commercial site layout as-builts in addition to water, sanitary sewer, and storm sewer as-builts shall include, but not be limited to, the following final locations of building(s), entrance(s), parking, and grading on computer disk format (if feasible).
- E. Sprinkler system as-builts with head count.

As-builts must also comply with all requirements as described in Section 600 of these Development Standards.

206. Maintenance Bond, Letters of Credit, and Performance Bond

- A. The Developer, after completion of construction to the standards of these regulations, must obtain written approval of said construction by the City before recording the Final Plat or final approval by the City.
- B. The maintenance bond or Letter of Credit covers the cost of maintaining the project for a period of 18 months from the date the City issues approval of the final plat or project.
- C. The City shall determine the amount of the bond or Letter of Credit based upon the type of project and the total cost which shall be a minimum of 25 percent of the total cost of the project. Maintenance bonds or Letter of Credits are only required for projects whose total project cost exceeds \$20,000.00. The appropriate legal representative shall approve the bond or Letter of Credit as to form. The bond or Letter of Credit shall be payable to the City.

marketable fee simple title was vested in the developer at time of recording of the Certificate. The City reserves the right to refuse said dedication for reasons related to construction or maintenance.

The Maintenance Agreement shall obligate the developer, his/hers, successors and assigns to maintain the streets and improvements for a period of 18 months from date of written acceptance by the City and to correct or repair the same as required in this Section. Said acceptance being the date of Final Plat approval. Furthermore, the developer his/her successors and assigns, shall agree to hold the City harmless and indemnify the City from liabilities arising from defects in design, installation and/or maintenance during the 18-month period.

Upon submission of the Certificate of Dedication and Maintenance Agreement, a recordable executed easement shall be provided to the City for all easements to be dedicated to the City.

Insurance Requirements:

- A. Prior to the issuance of any permit which includes the construction or installation of infrastructure to be dedicated to the City within rights-of-way, easements, or other property either owned by, to be dedicated, conveyed, or used by the City, said contractor, property owner, or entity working on said property for himself/herself and for all subcontractors must provide the City a liability insurance certificate of \$1,000,000.00 in general liability insurance listing the City as a co-insured or indicating that coverage under said policy is provided for the City.
- B. Said certificate shall be presented to the City Manager prior to the issuance of any construction related permits and must be approved by him prior to the issuance of any construction related permits.

209. Model Home Permit.

The City at its discretion may approve up to two model home permits per residential subdivision development with the following stipulations:

- A. The streets of the development should be sufficiently complete having Graded Aggregate Base (GAB) in place to avoid the tracking of mud onto adjacent streets.
- B. A working fire hydrant must be within 250 linear feet of the model home site.
- C. Final connection to all utilities must be postponed until final platting is complete and recorded.

END OF SECTION 200

As-Built Drawing: A survey or other drawing based on a field survey which shows existing features or components and horizontal or vertical information (grades or location of improvements). All as-built information submitted to the City in the form of electronic files must be in AutoCAD format and be drawn using State Plane Coordinates.

Block: A piece or parcel of land entirely surrounded by public highways or streets other than alleys. In cases where the plotting is incomplete or disconnected, the sub-divider may determine the outline of the block.

Building Line: Refer to the Zoning Ordinance for the City.

Clearing: The removal of trees or other vegetation, but not including grubbing activities.

Comprehensive Plan: City Comprehensive Plan, as amended.

Construction Plans: A set of engineering drawings of the proposed streets, drainage, and utilities as set forth in Article II in the "Subdivision Construction Plan Checklist."

Contractor: A person, firm, or corporation with whom the owner of a property has employed or contracted to perform construction activity associated with the development. For purpose of this ordinance the term contractor shall include all subcontractors who are under separate contract or agreement with the contractor for performance of a part of the work at the site.

Cul-de-Sac Street: A street having one end open to traffic and being permanently terminated within the development by a vehicular turnaround. For the purpose of designation, a cul-de-sac street shall be interpreted to begin at the intersection of two or more streets nearest to the vehicular turnaround.

Developer: Any person, individual, firm, partnership, association, corporation, estate, trust, or any other group or combination acting as a unit who directs the undertaking or proposes to undertake development activities whether the development involves the subdivision of the land for sale to individual users, the construction of buildings or other improvements on a single land ownership, or both.

Drainage Way: An area designated for the conveyance of storm water runoff through real property, including both natural and man-made areas.

Easement: Recorded authorization for a specified purpose by a property owner for the use of any designated part of the real property by another entity.

Final Plat: A plat of a tract of land which meets the requirements of the City for permanent recording in the office of the Clerk of Superior Court.

Frontage: Refer to "Lot Frontage" in the Zoning Ordinance for the City.

Georgia DOT: The Department of Transportation of the State of Georgia.

Grading: The movement, removal or addition of earth on a site by the use of mechanical equipment.

Grubbing: The removal of stumps or roots from a property.

1. *Arterial*: A street having a minimum right-of-way of 100 feet, and which is used primarily for fast and heavy traffic flow, is of considerable continuity, and is used as a traffic artery for inter-transportation between large areas.
2. *Major Collector*: A street having a minimum right-of-way of 80 feet, and which carries traffic from activity centers and minor collector streets to arterial streets.
3. *Minor Collectors*: A street having a minimum right-of-way of 60 feet, and which is primarily used as a link between local streets and major collectors or arterial streets.
4. *Local*: A street having a minimum right-of-way of 50 feet, and which is used primarily in residential subdivisions for access to abutting properties as opposed to the collection and disbursement of traffic.

Sub-divider: Any person, corporation or duly authorized agent, planner, designer, land surveyor, (landscape) architect or engineer, who undertakes the subdivision of land as defined herein.

Subdivision: Any division of a tract or parcel of land into two or more lots, building sites, or other parts for the purpose of immediate or future sale, legacy, or building development. The term includes re-subdivision and any division of land involving a new street, existing street, or a change in existing streets, and, as appropriate to the context, relates to the process of subdividing or to the land/or area subdivided. The term does not include the combination or recombination of portions of previously plated lots, where the total number of lots is not increased and the resultant lots meet the standards of the city, or the division of land into parcels of five acres or more, where no new streets or new utility services are involved.

Variance: A variance is a change in the general design of a development, but which shall in no way make null the Development Regulations or the City Zoning Ordinance.

Water and Sewer System: City Water Department provides water and sewer in portions of the City.

Zoning Ordinance: The Ordinance adopted by the Mayor and Council and known as the City Zoning Ordinance.

303. Subdivisions

303.1 Minimum Lot Requirements

Minimum right-of-way: Each lot shall front upon a dedicated public street having a right-of-way of not less than 50 feet.

- A. *Arrangements*: Side lot lines should be at right angles (90 degrees) to straight street lines or radial to curved street lines. Side lot lines should be radial to the center points in all cul-de-sacs. Side lot lines may deviate up to five degrees if necessary to combine property corners.

- G. All drainage ditches and structures must be centered on dedicated easements unless otherwise approved by the Public Works Department.

303.4 Streets

- A. Prior to submission of preliminary plat, the developer shall meet with the Director of Public Works to have the proposed street classified, in order that it can be accepted into the City's System. In some cases, it may be desirable for a street to have a higher classification based upon ultimate development of the entire area, which is not necessarily just the one development being submitted. This is particularly true in the more outlying areas around the City. Street continuity may require that a cul-de-sac street be provided in a current development at the property line, such that it can be extended in the future. In a case of this nature, the current development would provide the street to the property line. The future development would pick up at the property line and continue the street.
- B. Existing Streets: When development is proposed on an existing street(s), all improvements required under these standards shall apply to the side of the street which the development abuts.
- C. Relation to Adjoining Street System:
 - 1. The proposed street system shall extend existing streets, but to current city standards.
 - 2. If lots front on the existing city street, it shall be improved out to an acceptable city or county road by the developer.
- D. Alleys: Alleys may be provided to the rear of all lots except lots with double frontage.
- E. Restriction of Access: When a subdivision fronts on an arterial or major collector as shown on the City Street Classification Map, double frontage lots shall be provided with frontage on an interior street with no access to the arterial or major collector.
- F. All dead-end streets shall have a cul-de-sac as defined in Standard Detail R006.
- G. Conformity to the City Street Classification Map:
 - 1. The location and width of all streets and roads shall conform to the official City Street Classification Map.
 - 2. Street plans and profiles shall be approved by the City.
- H. Intersections:
 - 1. Street intersections shall be as nearly at right angles as is possible.
 - 2. No intersection shall be at an angle of less than 75 degrees.
 - 3. The property line at street corners shall be mitered adequately to permit construction of a 13-foot clear shoulder behind the curb and gutter.
 - 4. Sight distance at intersections shall meet requirements of this regulation.
 - 5. Islands at intersections shall be subject to individual approval by the City. In no case shall anything extend more than two feet above the back of the curb within the right-of-way of the street to be intersected.

commercial establishments may be reduced to 30 degrees. Exit drives from roadside commercial establishments on divided highways shall have an angle of not less than 60 degrees with the roadway.

2. Driveways shall be constructed in accordance with the Standard Details.
- D. Subdivision developments shall construct entrance widening to the following requirements:
1. Residential Subdivisions:
 - a. Residential Subdivisions not exceeding 20 lots whose entrance is on a local or minor collector shall install offset radii and 50-foot tapers.
 - b. All other residential subdivisions shall construct full acceleration / deceleration lanes to conform to the "Standard Details" unless waived by the City.
 - c. Residential subdivisions exceeding 200 lots shall be required to install entrance with a center turn lane and longer acceleration / deceleration lanes if it is located on a minor collector, major collector or an arterial street.
 2. Commercial/Industrial Subdivisions
 - a. Full acceleration and deceleration lanes shall be installed per the "Standard Details" unless waived by the City. Paving section shall correspond to the street classification of the existing road.
 - b. Commercial/Industrial subdivisions shall be required to install entrance with a center turn lane and longer acceleration/deceleration lanes if it is located on a minor collector, major collector or an arterial street.
 3. Access onto a State road shall meet existing Georgia DOT requirements. Such an application for a DOT Permit shall be submitted to the City prior to submittal to DOT. Once approved by DOT, a copy shall be provided to the City. All such entrances shall be paved.
 4. Sight Distance: The developer shall be required to upgrade the existing City or County road to meet the sight distance requirements of these regulations.
 5. The Developer shall install any catch basins and drainage pipe which must be constructed when an existing City or County road is required to be modified as a result of proposed development at his/her expense.
 6. Existing or proposed water mains and storm sewers shall be relocated at the developer's expense, to a point outside of the entrance widening.
- E. State Department of Transportation Approval: All entrances or exits of any street or drive, public or private, from or to any State highway shall be approved by the State Department of Transportation prior to the permit for any improvement to be served by such street or drive.

305. Street Design Criteria

305.1 AASHTO Standards

Road design shall conform to AASHTO (American Association of State Highway and Transportation Official(s)) requirements as published in "A Policy on Geometric Design of Highways and Streets" 1994 edition as amended, unless otherwise noted herein.

305.2 Minimum Design Speed and Maximum Grade

Minimum design speeds and maximum grades for proposed streets in the City by street classification shall be as follows:

Street Type	Maximum Allowable Grade (%)	Minimum Required Design Speed (MPH)
Arterial	8	55
Major Collector	10	45
Minor Collector	15	35
Local	18	25
Alley	12	N/A
Cul-de-sac	4	N/A

305.3 Minimum Street Grade

Minimum grade on cul-de-sacs shall be one and one-half percent to maintain one percent in curb line. Minimum street grade outside of cul-de-sacs shall be one percent.

305.4 Site Distance at Entrances

- A. Sight distance requirements along existing city roads shall be determined using the posted speed limit and the corresponding stopping sight distance.
- B. The sight distance for crest and sag vertical curves is the distance measured along the roadway from a driver's eye 3.5 feet above the pavement to an object six inches high at the intersection.
- C. The sight distance for horizontal curves is determined by the line of sight available 2.0 feet above the road surface. The sight distance is measured along the existing edge of pavement beginning at the centerline of the proposed entrance and ending where the line of sight intersects it. The line of sight is the projected line of visibility beginning at the entrance centerline and tangent to an obstruction 2.0 foot above the road surface. Examples of obstructions are vegetation, ground cover, signs, existing topography, etc.

305.5 Curves

305.9 Curb and Gutter

Curb and gutter shall be required on all paved streets. See Standard Detail R003.

305.10 Sidewalks

- A. Sidewalks shall be required on at least one side of all new streets. In addition, they shall be required on all existing streets where new building construction occurs if required by the Community Development Department. In addition, they shall be required on all existing streets where new building construction occurs if required by the Community Development Department.
- B. Sidewalks shall be constructed in accordance with Standard Details R009, R010A and R010B.
- C. Sidewalks shall be backfilled and landscaped.
- D. Sidewalks shall include handicap ramps at all street intersections to meet the Americans with Disabilities Act (ADA) requirements.

305.11 Traffic Signs

The design professional shall show the location of all required traffic signs. The developer shall furnish and install all street signage in the project. Unless otherwise noted, design of traffic signs shall conform to the Manual on Uniform Traffic Control Devices (MUTCD), Latest Edition, published by the United States Government Printing Office.

305.12 Street Lighting

Street lighting shall be required on all streets as specified by the power company servicing the subdivision. The developer or sub-divider shall bear the costs for all monthly street light charges for a full year payable in advance at the time of final plat approval.

305.13 Utility Locations

All utility locations shall correspond to the typical layout shown in Standard Detail R011.

306. Storm Drainage Design Criteria

306.1 Storm Sewers

- A. All storm sewer design calculations shall be certified by a Professional Engineer, Land Surveyor or Landscape Architect currently licensed in the State of Georgia.

- B. Catch basins shall be located outside of intersection radii.
- C. Catch basin spacing from each other shall be limited to a maximum distance as follows:
 - 1. 250 feet on grades up to seven percent
 - 2. 400 feet on grades from seven percent to ten percent
 - 3. 500 feet on grades over ten percent
- D. No curb cuts in lieu of drainage structures will be allowed.
- E. The outlet end of all storm drain pipes shall have either flared-end sections or concrete headwalls which meet Georgia DOT Standards 1120 or 1125. This same standard applies to the inlet end of storm sewers where an open pipe is designed to collect the runoff. Flared ends shall be of the same material as the storm drain pipe.
- F. Drop inlets shall be designed to Georgia DOT Standard Detail 1019A. Weir drop inlets shall be provided in landscaped areas. Grated drop inlets shall be provided in paved areas.
- G. Junction boxes or manholes having access to the pipe shall be constructed to meet the requirements of Georgia DOT Standard Detail 9031U or 1011A. Manholes shall be provided with eccentric cone sections.
- H. All drainage structures shall have a minimum elevation drop from the inlet invert elevation to the outlet invert elevation of at least 0.20 feet.

306.3 Hydrology Study

- A. All development plans requiring a Land Disturbance Permit will require a Hydrology Study provided by the Developer to the City. The Hydrology Study and all stormwater detention facility design calculations shall be certified by a Professional Engineer, Land Surveyor or Landscape Architect currently licensed in the State of Georgia. The City has the right to require proof of qualifications and registration, and to require that a copy of all calculations performed by the design professional be submitted to the City. Hydrology Study must address the following issues:
 - 1. Existing land uses downstream.
 - 2. Anticipated future land uses downstream.
 - 3. Magnitude of increased peak flows due to development.
 - 4. Presence of existing drainage problems.
 - 5. Capacity of existing and anticipated drainage systems.
 - 6. Creation of concentrated flows where none had occurred previously.
 - 7. Availability of feasible locations for detention facilities.
 - 8. Existing flows generated offsite which pass through the proposed development site.
 - 9. Anticipated future flows generated offsite which pass through the proposed development site.
 - 10. The nature of the receiving drainage way.
 - 11. For any development that impacts a stream, creek, lake, pond, or wet area, developer must provide confirmation from US Army Corps of Engineers that the

- B. Permanent detention facilities will not be required if the design professional can provide calculations and proof there are no roads, culverts, buildings, or other property that will be adversely impacted by the increased runoff leaving the site, and that the discharge does not directly flow into a major flood plain or creek system with known or suspected flooding problems. Future phases of development of the drainage basin must be considered in determining adverse effects.
- C. When stormwater detention facilities are deemed not required, the 100-year elevation of the receiving stream shall be determined. Excavation of earth below said elevation in the shoulder of the stream or floodplain shall be required in a volume equal to or greater than that of the detention pond that would have been required.
- D. Stage-Storage-Discharge relationship calculations for Detention Facilities and their Outlet Structures shall constrain the Detention Facility's Outflow to the pre-developed Flow or less for the two-, five-, ten-, 25-, 50- and 100-year storm events.
- E. The Detention Facility shall incorporate overflow features and basin bank elevations which will accommodate the routing of the 100-year storm event through the Detention Facility with no damage to the Facility.
- F. Detention Basin discharge locations shall be in defined drainage ditches or storm sewers. If there is an existing storm drainage system within 150 feet of the discharge point of the outlet pipe for the basin, then the developer shall extend the outlet pipe and tie-in to the existing system. Obtaining any required easements for said tie-in are the responsibility of the Developer. Some method of re-establishing sheet flow may be approved at the discretion of the City.
- G. Earthen Detention Basin fill slopes and cut slopes shall be no greater than 3:1.
- H. All ponds which are normally dry having a depth, including freeboard, greater than four feet and a side slope steeper than 2:1 shall be fenced and have a ten-foot-wide lockable gate for entrance. The fence shall be a minimum of six feet in height and shall be of the chain link or privacy type.
- I. For improvements or expansion of existing developments, pre-development conditions shall reflect original land use before any structural development, such as buildings, roads, etc.

306.5 Stormwater Quality/Quantity Control Facilities

The City requires each new project to create adequate stormwater controls using Best Management Practices (BMPs). Use of BMPs to enhance water quality and to comply with the Clean Water Act (CWA) is federally mandated. The City will utilize the Atlanta Regional Commission's Georgia Stormwater Management Manual, Volumes I and II, as standards for compliance with the required BMPs.

305.6 Storm Water Ditches

306.10 Proposed Dams

The Developer of any proposed new dams which are regulated by the Georgia Safe Dams Act shall obtain necessary permits and approvals from the State of Georgia prior to obtaining a development permit from the City. A development permit shall be required before the construction of said dam.

307. Materials

307.1 Compliance

All materials shall comply with Georgia DOT Standard Specifications for Construction of Roads and Bridges, 1993 edition, as amended, with supplemental specifications and standard details, unless otherwise noted.

307.2 Streets

- A. Graded Aggregated Base (GAB) course shall consist of mineral aggregate and may be a combination of natural deposit or a blend of the materials specified in the Georgia DOT in Standard Specifications Section 815.
- B. Black base shall consist of asphalt concrete conforming to Type B specifications of the Georgia DOT in Standard Specifications Section 828.
- C. Prime. After the base has been placed, mixed, compacted, shaped, inspected and accepted, it shall be primed with suitable asphalt materials as specified in Georgia DOT in Standard Specifications Section 412.
- D. Tack. Tack Coat shall be applied on a prepared road surface according to the requirements of Georgia DOT in Standard Specifications Section 413.
- E. Surface Course. Type E Asphalt concrete as specified in the Georgia DOT in Standard Specifications Section 828.

307.3 Curb and Gutter

Concrete shall be Class "A" as defined by Georgia DOT in Standard Specifications Section 500 and have a minimum compressive strength of 3,000 psi at 28 days.

307.4 Storm Sewers

- A. Georgia DOT Standard Detail 1030D shall be used in determining class concrete or gauge of pipe under fill.
- B. A certification by the supplier of the pipe specifications for each pipe shall be required before installation.

- A. After the earth work has been completed, all storm drainage and other underground utilities have been installed under the roadbed, and the backfill in all such ditches thoroughly compacted, the subgrade shall be brought to the lines, grades and cross-section shown on the plans.
- B. If any sections of the subgrade are composed of unsuitable or unstable material, such material shall be removed to the depth directed by the authorized representative of the City and replaced with suitable, thoroughly compacted material.
- C. When the street is to be used for construction traffic before the paving work is completed, a layer of GAB can be laid as a traffic surface.
 1. This material shall not be used as part of the base material.
 2. It may be worked into the subgrade, or it shall be removed before the base course is set up for paving.
 3. Provision shall be made to drain low points in road construction when the final paving surface is delayed.

308.5 Curb and Gutter

- A. Line and grade shall be set by developer's engineer, landscape architect, or land surveyor.
- B. One-half inch expansion joints or pre-molded bitumastic expansion joint material shall be provided at all radius points and at intervals not to exceed 50 feet in the remainder of the curb and gutter.
- C. Cross-Section shall be in accordance with Standard Detail R003.
- D. All curbing within a public street right-of-way must be installed on a minimum of six inches of compacted GAB (Graded Aggregate Base).

308.6 Street Cuts

- A. The City's policy is no existing streets can be open cut unless unusual circumstances warrant it. No street shall be cut or bored without a written permit issued by the Public Works Department. Application for such permit shall be made at least two business days prior to the desired time for starting work.
- B. All trenches shall be backfilled and compacted the same day the trench is opened. Compaction requirements are as follows:
 1. Trenches under paving shall be backfilled with GAB and returned to 100 percent compaction.
 2. Trenches elsewhere shall be returned to 95 percent compaction.
- C. If the City allows open cutting, all trenches under existing paving shall be backfilled and compacted in six-inch lifts and excavated to allow for concrete and asphalt to be placed as shown in Standard Details R007 and R008. The edges of the paving cut shall be saw cut smooth.

309. Standard Details

See Standard Details in Appendix A.

310. Private Streets

310.1 Definitions

City Engineer. Shall be the individual designated by the City Manager to perform said functions.

City Development Standards. The City Zoning Ordinance, City Development Regulations and all codes and/ordinances adopted by the City.

Subdivision. For the purpose of this section, subdivisions include only the following uses:

1. Single family residential units; and
2. Fee simple town home units, fee simple condominiums or other fee simple ownership of the individual residential units.

310.2 Private Streets Permitted

Private streets may, upon application, be permitted by the Planning Commission within subdivisions, subject to the requirements of this section. Applications for approval of Private Street shall be considered by the Planning Commission at the time of preliminary plat approval by the Planning Commission. Following a recommendation by the Public Works Director or City Engineer to authorize private streets in a major subdivision, the Planning Commission shall consider the application and may impose conditions on the approval of private street to ensure various public purposes and to mitigate potential problems with private streets. No final plat involving a private street shall be approved unless said final plat conforms to the requirements of this section.

310.3 Engineering Plans Required

It shall be unlawful for any person, firm, or corporation to construct a new private street or alter an existing private street or to cause the same to be done without first obtaining approval of engineering and construction plans from the Public Works Director and the City Engineer in accordance with the requirements of this Ordinance and the City Development Standards.

310.4 Standards

All private streets shall be constructed to all standards for public street including all related appurtenances as required by the City Development Standards, applicable construction specifications of the City Engineer, and as approved by the City Engineer.

2. Shall be drawn as its own discrete parcel to be dedicated to a private homeowner's association (i.e., not shown to be a part of any lot).
3. All utility easements as required by the City Development Standards must be installed and dedicated to the City.

310.7 Maintenance

- A. The City shall not maintain, repair, resurface, rebuild, or otherwise improve streets, signs, drainage improvements or any other appurtenances within general purpose public access and utility easements established for private streets. A private maintenance covenant recorded with the Carroll County and/or Douglas County Clerk of the Superior Court shall be required for any private street and other improvements within general purpose public access and utility easements established for private streets. The covenant shall set out the distribution of expenses, remedies for non-compliance with the terms of the agreement, rights to the use of easements, and other pertinent considerations. The Covenant shall specifically include the following terms.
 1. The Covenant shall establish minimum annual assessments in an amount adequate to defray costs of ordinary maintenance and procedures for approval for additional needed assessments. The Covenant shall also specify that the funds from such assessments will be held by a homeowners or property owners association in all cases.
 2. The Covenant shall include a periodic maintenance schedule.
 3. The Covenant for maintenance shall be enforceable by any property owner served by the private street.
 4. The Covenant shall establish a formula for assessing maintenance and repair costs equitably to property owners served by the private street.
 5. The Covenant shall run with the land.
 6. The Planning Commission may, at its discretion, as a condition of approving private street, require a performance bond and/or maintenance bond and/or letter of credit be submitted by the sub-divider and held by a homeowners or property owners association, or the Planning Commission may require that the sub-divider pay an amount of money as recommended by the City Engineer into an escrow account or other suitable account for the maintenance and repair of private streets and stormwater management improvements, to be drawn from by the homeowners or property owners association as maintenance and repair needs may arise.
 7. All agreements, restrictive covenants and other documentation related to the development shall be furnished and approved by the City Engineer prior to commencement of development.

310.8 Specification for Final Plats Involving Private Streets

construction and maintenance of any private street and drainage facilities serving the lot which (I am)/(we are) purchasing, and that owners of other lots in this plat may sue for and recover those costs which this covenant requires (me)/(us) to pay, plus their damages resulting from (my)/(our) refusal to contribute, plus reasonable attorney's fees. (I)/(We) further understand that the City has no obligation to assist with the maintenance and improvement of the private street, drainage facilities, and other appurtenances within the general-purpose public access and utility easement for the private road serving the lot in question. (I) (We) understand that a copy of this purchaser's acknowledgement shall be required as a condition of the issuance of a building permit for a principal building on the lot (I am)/(we are) purchasing.

Purchaser

Date

310.10 Agreements

All agreements, restrictive covenants and other documentation related to the development shall be furnished and approved by the City Engineer prior to commencement of development.

END OF SECTION 300

400. SEWER REGULATIONS

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401. General

401.1. Use of this Document

- A. This document is subject to periodic revision to meet changing requirements for materials, environmental regulations, etc. At the beginning of a project the user should verify that he has the latest edition.
- B. This document is intended to convey the general design and construction requirements for a typical project. It also lists specific City requirements relating to plan review, inspection, testing and acceptance of facilities. It is not intended as a substitute for site-specific engineering and construction techniques.

401.2. Definition of Sewer Line Terminology

- A. "Building Sewers" or "Service Laterals" are defined as those pipes used to convey wastewater from the building or portions of a building to a main sewer. The minimum diameter for a service lateral is four inches. These sewers are privately funded and owned.
- B. "Main Sewers" are located in streets or dedicated easements. They are gravity piping systems used to collect sewage from one or more service laterals to other main sewers. Main sewers are a minimum of eight inches in diameter and may extend beyond the property boundaries of a development. Funding of main sewers is by the developer.
- C. "Force Main Sewers" are pressure piping systems which convey sewage from a pump station to a main sewer. These sewers are constructed of ductile iron pipe and have a minimum diameter of four inches. Funding of force mains is by the developer.

401.3. Connection to Existing Sewers

- A. Except as provided below, all future buildings within the city's corporate limits which are to be utilized for occupancy or any other use such as commercial or industrial purposes which

abandoned.

2. The lift station must be located at or beyond the nearest downstream confluence outside the development. The maximum required amount of gravity sewer outside the development to meet this requirement shall be 100 linear feet per developed acre or 2,500 feet, whichever is less. This requirement may be waived if the lift station located within the proposed development area will serve more than two-times the service area requirement.
3. The lift station cannot be located upstream of an existing lift station. If the proposed lift station is upstream of an existing lift station, the developer shall install a gravity sewer line from the proposed development to convey flows to the existing lift station and upgrade the existing lift station as necessary. The maximum amount of gravity sewer line required outside the development shall be 100 linear feet per developed acre or 2,500 feet, whichever is less.
4. The lift station cannot be located downstream of an existing lift station. If the proposed lift station is downstream of an existing lift station, the developer shall install a gravity sewer line to convey the flow from the existing lift station to the proposed lift station, thus eliminating the existing lift station. The maximum amount of gravity sewer line required outside the development shall be 100 linear feet per developed acre or 2,500 feet, whichever is less. Furthermore, the developer may request, and the City may approve depending on applicability and condition, the reuse of equipment from the existing lift station. If the reuse of equipment is allowed, the developer must coordinate with the City and assume complete responsibility for the handling of all flows during the transition period.
5. A waiver of any or all of the above requirements, Items 1-4, may be considered in the sole discretion of the City in any of the following cases:
 - a. The proposed lift station will eliminate two or more existing lift stations.
 - b. The proposed lift station will be eliminated by a future project or projects known to the City.
 - c. The total amount of gravity sewer required outside of the development (both upstream and downstream together) to satisfy all of the applicable requirements above, Items 1-4, is greater than 100 linear feet per developed acre or 2,500 feet. In this case, the City, on a case-by case basis and at its discretion, will determine the best combination of requirements to locate the proposed lift station. In no case will the developer be required to install more than one 100 linear feet per developed acre or 2,500 feet, whichever is less, outside the development.
 - d. The City is compensated for the difference in cost to locate the lift station at a site that satisfies the applicable requirements above, Items 1-4, versus locating the lift station on the project site or another site proposed by the developer. The cost difference shall be determined by the City.

shall have detailed construction plans and specifications prepared by a Registered Professional Engineer or Licensed Surveyor licensed in the State of Georgia. Developments which only involve building sewers may have plans and specifications prepared by the project Architect.

402.2. Preliminary Review

Preliminary plans will be prepared and submitted for review as described elsewhere in the development regulations. Questions relating to availability of sewers and proposed location of connection should be resolved at this stage before proceeding with final planning. A submittal for preliminary review must include all land to be developed although the land is to be developed in several phases or units. Availability determinations will be made only for the phases of the project proposed for current construction. Availability determinations will be valid for a period of one year from the date of project approval. The Developer must submit any data required for accurately projecting sewer flow quantities and rates. The Developer is also responsible for furnishing any other information deemed necessary for evaluating service feasibility.

402.3. Sewer Construction Plans

All plans for public sewer facilities shall be prepared in accordance with the requirements outlined herein and as required in regulations promulgated by the Georgia Environmental Protection Division. All sewer line extension projects require approval by GA EPD. The developer shall be responsible for submitting plans and other data to the Georgia EPD for required approvals. The following requirements will apply to preparation of sewer construction plans:

- A. The site plan shall show land lots, district and north arrow, lot layout, and existing and proposed building locations. The site plan shall also show all existing and proposed streets and their names, all streams, water courses, existing and proposed storm drains, and the discharge points for all drainage structures. The site plan shall accurately show the topography with contour lines at two-foot intervals. Elevations shall be referenced to Mean Sea Level and plans shall note the location of the specific USGS Vertical Elevation Marker used for deriving site elevations. The site plan shall show the sewer layout with existing and proposed lines, manhole numbers, line designation and direction of flow, and proposed sewer easements and other utility easements. It shall also show the location of proposed services.
- B. The design of cross-country sewer lines and force mains shall be based on field-run surveys. The site plan for cross-country sewer lines and force mains need not show contour intervals on the plan view, but the profile views shall accurately depict ground level elevations and elevations of all relevant structures. Site plans for lift stations shall show existing and proposed contours. In the event the subdivision is developed in phases, the final construction plans for sewers may be submitted in phases or units. However, at the time the first phase is submitted, the engineer will submit one copy of the preliminary layout of the entire sewer system. This layout will show all lines required to serve any lots to be developed and any surrounding property that may be served through the property.

402.5. Detail Drawings

- A. Sewer Details: Special detail drawings made to a scale to clearly show the nature of the design shall be furnished to show the following particulars:
1. All stream crossings and storm drain outlets with elevations of the stream bed and of normal and extreme high and low water levels. Gravity sewer lines shall cross streams (1) where the top of pipe is below the stream channel elevation, or (2) where the bottom of the pipe is at least 36-inches above the stream base flow elevation or where the bottom of the pipe is above the 50-year return interval stream flow elevation, whichever elevation is higher.
 2. Details of special sewer joints and cross sections.
 3. Details of special sewer appurtenances such as manholes, service connections, elevated sewers, piers, pipe bedding, special highway crossings, railroad crossings, etc.
- B. Erosion Control Details: Erosion Control Details and Symbols may be taken directly from the Manual For Erosion and Sediment Control In Georgia, current edition, referenced above.

402.6. As-Built Drawings

- A. At the completion of construction (and preferably prior to the final field inspection), "As-Built" drawings of the project shall be submitted to the city to serve as a permanent record of the project and shall be furnished in the form of one set of mylar sepias (or other suitable form of reproducible drawings) and two sets of blue line copies. Acceptance by the city will be made only after satisfactory as-built drawings have been submitted. As-built drawings will be in the same format as the original construction plans and normally will be an updated version of the construction plans. As-built drawings shall be prepared by the project design professional. Each sheet of these drawings shall bear words "As-Built" or "Record Drawings." Guidelines for preparation of As-Built:
1. As-Built drawings will be same format as the original construction plans.
 2. Contour lines are required.
 3. Road names and lot numbers should be on plan.
 4. "As-Built" or "Record Drawing" is to be stamped in large clear print on plans.
 5. Sheet should be no larger than 24" X 36."
 6. Lateral locations must show distance from the downstream manhole. Ends of lateral lines must show distance from downstream manhole and offset distance from the main line. Approximate depth of end of lateral must be indicated.
 7. Show elevations of manhole inverts and tops.
 8. Show field-measured distance between manholes.
 9. For any lines which are outside paved streets, show the field-measured azimuth or bearing of the line from manhole to manhole.
 10. Show actual slope of pipe.
 11. When a phase of a subdivision is completed, a location sketch of entire subdivision

- D. The engineer shall furnish appropriate drawings for any submittal to agencies such as any state or federal highways, railroads, power lines, water lines, gas lines, petroleum lines, or any other utility lines on which the sewer construction will encroach. The drawing shall normally be 8-1/2" X 11" or 8-1/2" X 14" and shall show a plan view and profile view. The drawing will show the same information required for easement drawings. Also, the drawing will show the right-of-way of the existing street or utility, the owner's designation of the line, the name or number of the nearest intersection or milepost or tower number and the distance to that appurtenance. The clearance distance between the street surface, or the bottom of the rail, or the utility and the sewer will be shown. The drawing will show the type of material to be used for the sewer and the method of construction to be used. The drawing will also contain any other special information required by the controlling authority of the facility on which the sewer is encroaching. A minimum of five copies of the utility encroachment drawing will be furnished with the plans when they are submitted for approval. The engineer is also responsible for furnishing a completed encroachment permit application ready for signature by Department Superintendent. Construction permits will not be issued until the utility encroachment permit has been obtained and until any special conditions such as insurance requirements have been complied with.

403. Gravity Sewer Design Criteria

403.1. General

The criteria listed herein is not intended to cover all aspects of design, but rather to mention the basic guidelines and those particulars that are required by the City Water and Sewer Department. For more detailed criteria, the reader should refer to standard references such as "Ten States Standards," Georgia EPD Rules, "Gravity Sanitary sewer Design and Construction," ASCE – Manuals and Reports on Engineering Practice No. 60, Water Pollution Environment Federation Manual of Practice No. FD-5, and other available literature.

403.2. Types of Sewers

All sewers for the conveyance of wastewater shall be designed as separate sanitary sewers in which groundwater, stormwater or other runoff from roofs, streets, parking lots, foundation drains and any source other than wastewater are excluded. Overflows from sewers shall not be permitted.

403.3. Design Period

Gravity sewer pipelines should, as a minimum, be designed with capacity sufficient to handle the estimated tributary population. Tributary population is considered to be all areas upstream of the discharge point of the system being designed as well as any anticipated pumped flow from other basins. Sewers will be designed and installed to the uppermost property line of the development being served. Consideration should be given to the maximum anticipated capacity of institutions, industrial parks, etc.

403.6. Slope

- A. All sewers shall be so designed and constructed to give mean velocities, when flowing full, of not less than 2.0 feet per second based on Manning's formula using an "n" value of 0.013. The following are the minimum slopes which should be provided; however, slopes greater than these are desirable:

Sewer Size (inch)	Minimum Slope (Ft per 100 Ft)
8	0.40
10	0.29
12	0.22
14	0.17
15	0.15
16	0.14
18	0.12
21	0.10
24	0.08

- B. These minimum slopes will be used only when sufficient flows are expected to maintain a velocity of 2.0 feet per second and maintain a cleaning action in the line. Sewers shall be laid with uniform slope between manholes.
- C. Sewers on 20 percent slope or greater shall be ductile iron pipe and shall be anchored securely with concrete anchors (See Standard Details) to prevent displacement by erosion or shock. Maximum slope of sewers shall be 30 percent and sewers shall be designed at less than 20 percent whenever possible.

403.7. Increasing Size

When a small sewer is connected to a large one, the connection shall not be lower than matching the top of both sewers to the same elevation.

404. Pump Station Design Criteria**404.1. General**

- A. Pumps, pump controls, and level sensing equipment must be manufactured by Xylem FLYGT unless otherwise specified by the City. Lift stations shall utilize two submersible centrifugal pumps each having a capacity of at least 1.5 times the peak hour wastewater influent flowrate.
- B. Lift stations having a capacity of 500 gpm or more shall be reviewed on an individual basis and may have requirements differing from those outlined herein.
- C. Force mains shall be sized to provide a velocity of at least 2.5 per second.
- D. The design shall allow for easy removal of any pump or equipment item without the need

training.

- D. Operation and Maintenance (O&M) Manuals. On or before the date of start-up, five sets of factory O&M Manuals shall be delivered to the City. These shall include the name of the purchaser, the serial numbers of pumps, detailed wiring schematics, telephone number and address for purchase of parts.
- E. After construction is complete as-built drawings shall be furnished including one set of mylar sepias plus two sets of prints.

404.3. Spare Parts:

- A. Lift stations shall be supplied with a spare complete pump/motor combination plus a complete set of manufacturer's recommended spare parts.

404.4. Standby Power:

- A. The minimum requirement for standby power for lift stations shall be that each station have a permanent in-place generator and shall have an automatic transfer switch.
- B. Emergency standby power will be supplied by an on-site emergency generator and must be Caterpillar, Cummins-Onan, Kohler or Baldor. The generator shall be diesel powered with an automatic transfer switch and provisions for an automatic exercise cycle. The transfer switch must be a NEMA-4 enclosure obtained from Cummins-Onan, ASCO, Hubbell, or GE Zenith.
- C. Generators must have 200-gallons minimum fuel storage capacity or 24-hour operating time, whichever is greater and must be supplied with all auxiliary systems necessary for operations (batteries, battery charger, block heater, etc.)
- D. Generators must have a minimum of five-year manufacturer warranty.

404.5. Site Requirements:

- A. Flooding. Lift stations shall remain fully operational and accessible during the 100-year return interval flood event. All electrical controls shall be at least 2 feet above the 100-year floodplain elevation. All motors and mechanical equipment shall be protected against physical damage from the 100-year return interval flood.
- B. Access Road. Access roads shall be paved with a 12-foot-wide asphalt or concrete pavement. Maximum grade shall be 10 percent.
 - 1. Asphalt Pavement: Asphalt pavement cross section shall be six-inch Graded Aggregate Base plus two-inch Type E asphalt).
 - 2. Concrete Pavement: Concrete pavement cross section shall be 3-inches Graded Aggregate Base and 6-inches 4,000 psi compressive strength concrete.
- C. Ownership. Both the lift station site and the access road right-of-way shall have ownership

lb per square foot live load rated lockable aluminum hatch large enough for easy removal of pumps. Riser sections in precast units shall be sealed watertight using two strands of mastic and a coating of mortar on the inside and outside of the structure. Exterior riser joints of wet well structure shall have external joint seal bands conforming to requirements of ASTM C877. Structures shall be adequately reinforced for all loading conditions normally encountered during shipping, construction and service. All openings (for pipes, hatch, conduits) shall be either cast in place or neatly cut. Sewer pipe and other pipe connections shall be watertight and shall be accomplished using rubber link pipe connectors by Link-Seal, BMW Company Pipe Seals, Proco PenSeal, or equal.

4. The valve pit shall be a minimum of 6' L x 6' W x 6' D inside dimensions precast concrete with a monolithic base. The valve pit shall have a 300 lb per square foot live load rated 36" X 48" lockable aluminum access hatch centered over the piping. The valve pit shall have drain pipe to the wet well.
- D. Accessories. All materials inside the wet well and valve pit shall be corrosion resistant. Mechanical equipment requiring ferrous metals shall have a coal tar epoxy coating. Guide rails for pumps shall be stainless steel. Miscellaneous metals including fasteners shall be aluminum or stainless steel; anchor bolts shall be stainless steel.
- E. Pressure gage. Pressure gages shall be installed on each force main pipe in the valve pit downstream of the plug valves. The pressure gauges shall be located inside the valve pit and visible from ground level. Pressure gauges shall be stem mounted, with stainless steel cases and glycerin filled dials. The gauges shall be equipped with brass threaded 0.25-inch male connections. The dials of the gauges shall be 3.5 inches in diameter with scale readings in psig ranging from zero to approximately twice the anticipated operating pressure. A slotted adjustable pointer shall be provided with accuracy to conform to ASME B40.100, Grade A. A lever handled gauge cock and filter type snubber shall be provided.
- F. Valves. The discharge pipe of each pump shall have a check valve followed by a plug valve before the two pipes join into a common force main.
1. Check Valve: Swing check valves, 2 inches and smaller, shall have a bronze body, in accordance with ASME B16.11 threaded ends. Swing check valves larger than 2 inches shall meet the requirements of AWWA C508 and have Class 125 flanged end connections. Valves shall have a swing type, replaceable butadiene acrylonitrile or polytetrafluoroethylene (PTFE) disc. Valves shall be rated for 200 psig service.
 2. Plug Valve: Nonlubricated type eccentric valves, 3 inches through 16 inches, shall be rated for 175 psig service at 140 degrees F. Valves shall have drip-tight shut-off with pressure from either direction, and cast iron bodies in accordance with ASME B16.1 flanged or AWWA C111/A21.11 mechanical joint end connections. Plugs shall be cast iron with round or rectangular ports of no less than 80 percent of the connecting pipe area and coated with hard natural rubber. Valves shall have nickel seats, self-lubricating stainless steel stem bearings, and multiple stem seals. Lever operators are allowed on quarter-turn valves 3 inches and smaller. Plug valves 4-inches and larger shall have gear and handwheel operators.

outlets. Valve assemblies shall be furnished with 2-inch stainless steel pipe nipples and 2-inch stainless steel ball valve for isolation from force main. Combination sewage air release valves meeting the specified requirements are Crispin Model UX20-2BL, or approved equal.

404.9. Electrical:

- A. Lift station controls and electrical components shall be factory-wired in completely weatherproof stainless steel metal cabinets (NEMA 4X stainless steel). The cabinet shall be provided with condensate heaters. Spare fuses of each type that is used in the electrical/control system shall be furnished.
- B. A main circuit breaker shall be installed to disconnect power to the entire station.
- C. Three phase power will be provided for all motors.
- D. Protection against voltage surge and loss of a phase shall be provided.
- E. The factory-wired panel shall be equipped with a ground bus and neutral bus. Terminal shall be suitable for either aluminum or copper wire. All internal panel wiring shall be copper.
- F. Motors shall be suitable for either 230-volt or 460-volt operation. Design engineer shall consult with the current power company in the area to verify specifics pertaining to electrical power availability.
- G. Wet well level shall be controlled by a submersible pressure transducer with two back-up sealed mercury tube float switches. The control sequence within the control panel shall be such as to activate and terminate the operation of the equipment in hand/off/automatic modes of operation. Submersible Pressure Transducer and Float Switches shall be used to sense wet well levels. The system shall provide for the automatic and manual control and alternation of the pumps to maintain a pumped down condition of the wet well. Level controls shall be set to wet well operating levels shown on the plans. The operating level shall be sensed by a pressure transducer or float regulator and shall control each pump operation at level set points. The pump(s) shall remain "on" until a common "off" level is reached. The automatic mode of operation shall allow the pumps to operate as indicated on the drawings.

In the event the "off" or "on" level control regulator fails, the system shall sense the failure and switch the "off" or "on" level to the back-up float regulator. The system shall provide indication for the regulators and indicate a failure of the "off" unit.

Control systems contingent on the "off" or "on" float regulator supplying control power to the other units is not acceptable.

Level controls shall be as follows:

1. Control level 1 Low Level (Pumps Off)
2. Control level 2 High Level (Lead Pump On)
3. Control level 3 Extra High Level (Lag Pump On)

up float shall cause all pumps to stop and cause a low-low alarm.

Use a direct acting float switch consisting of a normally-open contact switch enclosed in a float. Use float molded of rigid high-density polyurethane foam, color-coded and coated with a durable, water and corrosion-resistant jacket of clear urethane. Provide continuous length of connecting cables in accordance with manufacturer recommendations. Mount floats at fixed elevations as shown. Use floats designed to tilt and operate their switches causing sequential turn-on turn-off of the pump, when the liquid level being sensed rises or falls past the float.

The system shall provide indication of the regulators and indicate a failure of any unit.

Intrinsically safe relays shall be plug-in style with LED indicating float switch has activated the relay. Intrinsic relay shall be rated for use in Class I, Groups A, B, C, D, Class II Groups E, F, G and Class III Hazardous Locations. The relay shall be UL listed 73VL, UL 913.

1. Float Switch: A mechanical float switch shall be supplied for level control and be suspended at the desired height from its own cable. The float switch case shall be made of polypropylene and the cable is sheathed with a special PVC compound. The float switch cables shall be supplied with 50' of cable and shall be attached to a stainless steel bracket mounted at the top of the wet well.

J. The pump control system shall include the following features:

1. Lead pump/lag pump alternator.
2. Alarm light and horn to indicate high water level.
3. Seal failure indicating light.
4. Pump failure indicating light.
5. Condensate heater.
6. Lead pump selector switch.
7. H-O-A switch and run light for each pump.
8. Control voltage shall be 120V.
9. Wiring shall be neatly tied and number coded to facilitate maintenance. A schematic diagram shall be furnished with the panel.
10. A 120 V. GFCI type electrical receptacle shall be located at the control panel.
11. Pump stations will be equipped with a remote transmitting unit and telemetering circuitry connecting to the city's SCADA system. The design engineer should consult the city for specific requirements at the beginning of design.

404.10. Warranty:

- A. Regardless of the manufacturer's warranty terms, the Developer will be responsible for all repairs necessary within two years from the date the station is completed and approved by the City. The Developer will be required to furnish such assurances to the City as deemed appropriate by the City to ensure prompt action.

1. Pipe shall be made of PVC Plastic having a Cell Classification of 12454 with a minimum tensile modulus of 500,000 psi as defined in ASTM D1784.
2. Pipe for gravity sewer shall meet the requirements of ASTM D3034 for pipe 15" and smaller, latest revision (SDR 26). Pipe 18" and larger shall conform to ASTM F679.
3. Pipe for sewer force mains 4-inches through 12-inches shall conform to AWWA C900, DR-25 (165 psi), latest revision, unless shown otherwise on the Drawings.
4. PVC Pipe less than 4 inches in diameter shall be Class 200, DR21 conforming to ASTM D2241, latest revision with pipe made from PVC 1120 material.
5. Pipe shall be GREEN in color.

B. Certification

1. Each length of pipe shall be marked with the following information: Manufacturer, Size, PVC Cell Classification, Type PSM, SDR, PVC Gravity Sewer Pipe, ASTM D3034 and Code Number.

C. Outside Diameter

1. Pipe shall have an outside diameter equal to the outside diameter of ductile iron pipe.

D. Joints

1. PVC pipe joints shall have integral bell and spigot joints with elastomeric gasket conforming to ASTM F477, latest revision, integral thickened wall bell end. Gasket groove wall thickness shall meet or exceed the thickness of the pipe barrel.

E. Fittings

1. Fittings on 3-inch and larger pipe shall be ceramic epoxy lined ductile iron conform to ANSI/AWWA C-153/ A21.53, latest revision.
2. Fittings shall be made of PVC Plastic having a Cell Classification of 12454 B, 12454 C, or 13343 C as defined in ASTM D1784.

M. Affidavit of Compliance

1. The manufacturer of the pipe shall submit evidence of having consistently produced pipe of the specified quality and having satisfactory performance results in service over a period of not fewer than 5 years, unless otherwise specified.
2. At the time of shipment, the manufacturer shall submit 3 copies of written certification and test results to the Engineer that the pipe was manufactured and tested in accordance with the above specifications.

405.3. Polyethylene Pipe

- A. High Density Polyethylene Pipe (HDPE), high extra molecular weight for sewer force mains shall conform to ASTM D3350, latest edition, and cell classification PE4710, minimum DR 17. Pipe shall be Driscopipe 1000, or approved equal. Minimum nominal size shall be 1-1/2 inch.
- B. Fitting supplied shall be molded or manufactured by the same company that

short lengths are required for construction conditions. Reinforced concrete pipe shall have bell and spigot joints suitable for the use of a rubber gasket to be provided as a part of this item.

3. Concrete pipe for sanitary sewers shall have bell and spigot joints consisting of self-centering steel joint rings securely attached to the pipe reinforcing steel. The steel joint rings shall be suitable for use with a rubber O-ring type gasket to be provided as part of this item.
 4. Bell and spigot joints consisting of self-centering steel joint rings shall have the joint rings securely attached to the pipe reinforcing steel. The rings which form the joint shall be made so that they will join with a close, sliding fit. The joint surfaces shall be such that the rubber gasket shall be confined on all sides and shall not support the weight of the pipe. The spigot ring shall have an external groove accurately sized to receive the gasket. Special section steel for spigot rings shall conform to ASTM A-283, Grade A, or ASTM A-306, Grade 50. The bell ring shall be flared to permit gradual deformation of the gasket when the joint is assembled. Minimum thickness of bell rings shall be three-sixteenths of an inch. Bell rings one-quarter inch or thicker shall conform to ASTM A-283, Grade A, or ASTM A-306, Grade 50. Bells less than ¼ inch thick shall conform to ASTM A-570, Grade A. Each ring shall be precisely sized by expansion beyond the elastic limit of the steel and then gauged on an accurate template. All exposed surfaces of both rings shall be protected by a corrosion-resistant coating of zinc applied by an approved metalizing process after proper cleaning.
- E. Lining: The coal tar epoxy system shall be Koppers Bitumastic 300 M, Porter Tasset, Wise Chem CTE 200, Amrcoat 78, Protecto 101 or equal.
1. The interior concrete or mortar surfaces of pipe and fittings are to be sandblasted and painted with one coat of a high-build, coal tar epoxy system or two coats of a standard coal tar epoxy system. The dry film thickness of the total system shall be 16 mils minimum on concrete or mortar surfaces and on steel joint ring surfaces.
 2. Sandblasting shall result in a clean dry surface free of oil, grease, or other contaminants. Any air pockets over one-quarter inch in diameter and one-eighth-inch-deep appearing on the concrete surface after sandblasting will be filled with an epoxy sand patching material such as those sold by Sherwin-Williams, Glidden, or Moran. The epoxy sand patch should be troweled prior to the application of the coal tar epoxy.
 3. Any steel surfaces to be painted should be sandblasted, solvent cleaned, or wire brushed prior to painting. Application of the coal tar epoxy shall be by brush, roller, or spray system using equipment recommended by the manufacturer of the coal tar epoxy system. The temperature during application and curing of coal tar epoxy shall be as recommended by the manufacturer of the coal tar epoxy. Time between coats (if applicable) shall be as recommended by the manufacturer of the coal tar epoxy.
 4. If the inside joint recess will be mortared and painted with coal tar epoxy in the field, the pipe supplier shall not paint the inside vertical surfaces at the ends of the pipe. When the inside joints will not be mortared in the field, the pipe supplier shall paint the inside vertical concrete or mortar surfaces at each end of the pipe.
 5. The paint shall be extended continuously over the front lip of the steel spigot ring and a

- B. Steel casing pipe shall be Standard Class thickness with a minimum yield strength of 35,000 psi and shall conform to the requirements of ASTM A139. It shall be fully coated on the exterior and interior with a coal tar coating.
- C. Wherever steel casing is required, the carrier pipe shall be ductile iron pipe with restrained joint gaskets. Approved spacers made of stainless steel straps with UHMW skids shall be used to center the carrier pipe. See Standard Detail P009.

405.7. Plug Valves

- A. Plug valves shall be used on all sewer applications unless approved otherwise by the Engineer. Plug valves shall be of the non-lubricated eccentric plug type with a resilient seat seal unless otherwise specified and shall be furnished with mechanical joint ends in accordance with ANSI Standard A21.11, latest revision, unless specified otherwise on the Drawings. Port area for all valves shall be a minimum of 80% of the full pipe area. Seats shall be of non-metallic with seat coating thermally bonded and in full conformance to AWWA Standard C550, latest revision.
- B. Valve bodies shall be of ASTM A-126 Class B cast iron. All exposed nuts, bolts, washers, springs, etc. shall be stainless steel. Resilient seat seals shall be of Buna-N or Neoprene, suitable for use in sewage service. Valve bodies shall be of ASTM A-126 Class B cast iron. Valves shall be furnished with permanent corrosion resistant bearing surfaces in the upper and lower journals designated to withstand full rated bearing loads and provide long life in sewage service.
- C. Valves furnished shall have their internal wetted surfaces protected by nonmetallic coatings factory applied, thermally bonded and in full conformance to AWWA Standard C550, latest revision.
- D. Nominal valve pressure ratings, body flanges and wall thicknesses shall be in full conformance to ANSI B16.1-1975. Valves shall seal leak-tight against full rated pressure in both directions. Valve seats shall be tested and provide leak-tight shut-off to 175 psi for valves 14" and larger, with pressure in each direction. A hydrostatic shell test at twice rating shall be performed with plug open to demonstrate overall pressure envelope integrity.

405.8. Combination Sewage Air Valves

- A. Combination sewage combination air valves shall be provided at points shown on the force main and shall be 2 inch size unless noted otherwise. The valves shall be capable of venting air from the pipeline while filling, permit air to reenter the pipeline to reduce the potential for vacuum on the system, and release air from the pipeline while the pipeline is pressurized. Combination sewage air release valve shall be rated for a working pressure of 150 psig. Air release valves operating from 2 to 40 psig shall be designated as low-pressure valves, and air release valves operating above 150 psig shall be designated as high-pressure valves. Valves 3 inches or smaller shall have NPT inlets and outlets, and valves 4 inches and

that will affect capacity, longevity, operation or maintenance of the facility. Any deviation from approved materials will not be accepted without prior approval.

406.4. Handling:

Pipe and fittings shall, unless otherwise directed, be unloaded at the point of delivery, hauled to and distributed at the site of the project by the Contractor. They shall at all times be handled with care to avoid damage. In loading and unloading, they shall be lifted by hoists or slid or rolled on skidways in such a manner as to avoid shock. Under no circumstances shall they be dropped. Pipe handling on skidways must not be skidded or rolled against pipe already on the ground. In distributing the material at the site of the work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench.

406.5. Trench Excavation:

- A. Sewer lines shall normally be installed by open-cut trench excavation. Trenches shall be cut true to the lines and grades shown on the plans.
- B. Pipe trenches shall not be excavated more than 100 feet in advance of pipe laying, and all work shall be performed to cause the least possible inconvenience to the public. Adequate temporary bridges or crossings shall be constructed and maintained where required to permit uninterrupted vehicular and pedestrian traffic.
- C. All excavations shall be adequately guarded with barricades and lights in compliance with all OSHA and Georgia Department of Transportation requirements so as to protect the public and workers from hazard.
- D. Excavations adjacent to existing or proposed buildings and structures, or in paved streets or alleys shall be adequately protected by the use of trench boxes, sheeting, shoring and bracing to prevent cave-ins of the excavation, or the undermining or subsequent settlement of adjacent structures or pavements. Underpinning of adjacent structures shall be done when necessary to maintain structures in safe condition.
- E. Streets, sidewalks, landscapes, and other public and private property disturbed in the course of the work shall be restored to as near as original condition as possible or better in a manner satisfactory to the City.
- F. Trenches shall be kept free of water by pumping or well-pointing, as determined by the contractor. No structure shall be built or pipe shall be laid in water. Water shall not be allowed to flow over or rise upon any concrete, masonry or pipe until the same has been inspected and the concrete or joint material has thoroughly set. All water pumped, bailed, or otherwise removed from the trench or other excavation shall be conveyed in a proper manner to a suitable place of discharge. Such discharge shall not cause injury to public health, property, work completed, work in progress, or to any street surface, or cause any interference with the use of same by the public.
- G. Construction occurring around active sewer systems shall be done in such a way so as to

laid with the bell ends facing the direction of laying. Wherever necessary to deflect the pipe from straight line, whether in the vertical or horizontal direction to avoid obstructions, the degree of deflection shall be in accordance with manufacturer's instructions. No pipe shall be laid in water or when the trench condition or the weather is unsuitable for such work. Installation shall be in accordance with manufacturer's instructions.

- G. Construction stake-out will be required prior to construction of sewer lines. As a minimum, the horizontal alignment will be staked at 100-foot intervals and each manhole will be located with a centerline stake and two offset hubs. "Cuts" to invert elevations will be shown for each manhole entry and exit pipe. A copy of the stake-out notes will be provided to the city.
- H. Pipe and accessories shall at all times be handled with care to avoid damage. Whether moved by hand, skidways or hoists, material shall not be dropped or bumped. The interior of all pipe shall be kept free from dirt and foreign matter at all times. Each joint of pipe shall be unloaded opposite or near the place where it is to be laid in the trench.
- I. Sewer pipes shall be joined by "push-on" joints using elastomeric gaskets to affect the pressure seal. The ends of pipe to be joined and the gaskets shall be cleaned immediately before assembly, and the assembly shall be made as recommended by the pipe manufacturer. Lubricant used must be non-toxic and supplied or approved for use by the pipe manufacturer. Sewer pipes shall be laid in the uphill direction with the bells pointing upgrade. Any variation from this procedure shall require approval from the City.
- J. When pipe laying is not in progress, the open ends of installed pipe shall be plugged with a watertight plug to prevent entrance of trench water into the line.
- K. Bedding for pipe shall normally be as listed below (also see city standard details):
- L. In wet areas, the minimum bedding requirements will be increased as required to ensure a stable support under the pipe and on the sides of the pipe.

406.8. Joint Restraints

All valves, plugs, caps, bends 113 degrees or greater and tees shall be provided with restrained joints.

406.9. Manholes

A. General

- 1. Manholes shall be constructed at such points as designated on the Drawings. In all cases the channel shall be smooth and properly rounded. Special care shall be exercised in laying the channel and adjacent pipes to grade. The connection of the sewer with the wall and channel of the manholes shall be tight and smooth. Pipe connections shall be made to manholes using water stops, standard O ring joints,

- plugged with a suitable pipe stopper and made watertight.
- E. Pipe Connectors: ASTM C923, KOR N SEAL or approved equal.
 - F. Inverts: Manhole inverts shall be constructed of either concrete or brick in accordance with details on Standard Detail Drawings and the invert (flow channel) shall have the same cross-section as the sewers which it connects. The manhole bench and invert shall be carefully formed to the required size and grade by gradual and even changes in direction. Changes in direction of flow through the invert shall be made to a true curve with as large a radius as the size of the manhole will permit. Inverts shall have a "smooth trowel" finish. The manhole bench shall be sloped 30 degrees from the manhole wall toward the invert.
 - G. Manhole Foundation: The manhole base shall be set upon an 8-inch minimum thickness compacted mat of Size #57 crushed stone graded level. In wet areas the crushed stone mat shall be thickened as needed to provide a non-yielding foundation.
 - H. Brick: Brickwork required to complete the precast concrete manhole shall be constructed using one part Portland cement to two parts clean sand, meeting ASTM Specifications, Serial Designation C 144, thoroughly mixed to a workable plastic mixture. Brickwork shall be constructed in a neat and workmanlike manner. Nonshrink grout shall be used to grout interior and exterior exposed brick joints and faces. No more than three courses of brick with nine-inch maximum total depth of bricks may be used to adjust manhole covers.
 - I. Masonry Work: Masonry work shall be allowed to set for a period of not less than 24 hours before being placed under traffic or in operation. All loose or waste material shall be removed from the interior of the manhole.
 - J. Location: Manholes shall be installed at the end of each line; all changes in grade, size, or alignment; at all intersections; and at distances normally not greater than 400 feet. Cleanouts may be used only for special conditions and shall not be substituted for manholes nor installed at the ends of laterals greater than 150 feet in length. Manholes in cross-country areas shall be elevated so that the top is 18 inches above ground, unless noted otherwise.

406.10. Adapters

Prefabricated flexible couplings or adaptors shall be used for connecting pipe of dissimilar materials.

406.11. Service Connections

- A. Service connections shall be at locations shown on the Drawings. The connection shall be made as shown on the Drawings, or shall be a pipe stubbed out from a manhole, and shall extend to a distance 1 foot from the property line at an elevation of at least 2 feet below the finished floor elevation of the building being served or deeper if necessary to provide service to a building as shown on the Drawings.

the construction operations. Erosion control measures can include, but are not limited to, the following items:

1. Silt fencing, type S.
 2. Erosion control check dams.
 3. Channel diversion through temporary storm drain pipe.
 4. Rock filter dams.
- E. The construction and installation of these various structures are detailed in the Manual for Erosion and Sedimentation Control in Georgia or the Georgia Department of Transportation Standards and Construction Details, both of which are available for purchase by the Contractor.

406.15. Casing for Sewers:

- A. Where pipe is required to be installed under railroads, highways, streets or other facilities by jacking or boring methods, construction shall be done in a manner that will not interfere with the operation of the facility, and shall not weaken the roadbed or structure.
- B. The diameter of the bore shall conform to the outside diameter and circumference of the casing pipe as closely as practicable. Any voids which develop during the installation operation shall be pressure grouted. Each segment of the casing pipe shall be welded (full circumference butt weld) to the adjoining segment. The completed casing shall have no sags or crowns which cause the grade for any segment to be less than the minimum slope for the size pipe being installed.
- C. The carrier pipe shall be fitted with approved spacers to secure its position within the casing. At each end of the casing pipe the void between the carrier pipe and casing shall be sealed with brick and mortar.

406.16. Replacement of Pavement:

Contractor shall fully restore and replace all pavement, curbs, gutters, sidewalks and other surface structures removed or disturbed, to a condition that is equal to or better than the original condition in a manner satisfactory to the City (see standard details).

406.17. Protection of other Utilities and Structures

- A. Any damage done to existing utility lines, services, poles and structures of every nature shall be repaired or replaced by the Utility Owner at the Contractor's expense. The approximate position of certain known underground lines are shown on the Drawings for information. Existing small lines may not be shown. The Contractor shall locate these and other known utility lines and shall excavate and expose all existing underground lines in advance of trenching operations.
- B. At locations where the sewer is to be constructed in roadways, the Contractor shall take all

spacers, excess materials, broken material, crates, boxes and any other material brought to the job site.

- B. Any work areas within public right-of-way or property outside of the development that were damaged by the sewer construction shall be repaired or replaced with the same kind of material as existed prior to the damage occurring. All easement areas shall be cleared of trees, stumps and other debris and left in a condition such that the easement can be maintained by bush-hog equipment.
- C. All shoulders, ditches, culverts, and other areas impacted by the sewer construction shall be at the proper grades and smooth in appearance.
- D. All manhole covers shall be brought to grade.
- E. A uniform stand of grass or mulch for erosion protection, as defined in the Manual For Erosion and Sediment Control In Georgia, is required over all construction easements and sanitary sewer easements prior to the City's acceptance of the sewer. Use a grass mixture consisting of at least 50 percent fescue.

406.22. Shop Drawings

Shop drawings shall be submitted on each manufactured item supplied under this Section along with other information as specified herein.

406.23. As-Built Drawings

- A. The City will require As-built Drawings seventy-two 72 hours before final inspection will be made. The Contractor shall keep on the work site one set of clean Drawings to which at the end of every day the necessary information will be marked by the Contractor's superintendent. All deviations from the Drawings shall be stationed and clearly marked. As-built drawings shall include measurements between each valve, bends, permanent land markers, manholes, laterals locations from property corners, fire hydrants & manholes.
- B. As-builts must also comply with all requirements as described in Sections 205 and 600 of these Development Standards.

407. Testing and Inspections

407.1. General

- A. All sewer pipes, manholes and appurtenances shall be inspected by the Engineer and the Contractor. Inspection shall include lamping each sewer segment from manhole to manhole. All defects will be noted and a list thereof transmitted to the Contractor. The City reserves the right to require the Contractor to televise any lines which fail any test.
- B. The developer's contractor will be responsible for the quality, accuracy and workmanship of his completed work.

- B. Pipe straightness. Sections of sewer line will be visually checked for straightness. A passing section shall show at least 80 percent of a full circle when observed from one end. Any section which fails this visual test shall be further checked. The section shall have water run through it sufficient to fill any sags that may exist. Then it shall have a television camera pulled through it to check for sags. Any sag holding more than one and one-half inches of water will require that the pipe be removed and replaced to proper grade after which the section shall be televised again to verify correction. The contractor may propose alternative methods other than televising sewers for the City's approval to determine failing sections of sewers.
- C. Infiltration. The allowable limit for any section from manhole to manhole will be 100 gallons per day per inch of pipe diameter per mile of pipe. If any infiltration is present at the most downstream point, then it will be measured using a specially-made weir and measurements will also be made at each upstream manhole that has any visible flow of water. Any individual segment which exceeds the allowable infiltration shall be corrected to within allowable limits.
- D. Compaction of backfill. Compaction testing may be required for sewers constructed in paved areas or where pavement is planned. A minimum of two tests per 500 feet of trench line located in roadways will be required. If any of these tests show failing results, then the failing backfill will be removed, re-compacted and re-tested, and one additional area will be tested as well.

407.5. Manhole Pressure Testing

1. Where adjustment to grade using bricks and mortar is required, test manholes prior top placement of final elevation adjustment and castings.
2. Perform manhole vacuum tests in accordance with ASTM C 1244, or using the following general procedures:
 - a. Plug all lift holes with a non-shrink grout.
 - b. Temporarily plug all pipes entering the manhole and securely brace each plug to prevent them from being pulled into the manhole.
 - c. Place the vacuum testing equipment test head at the top of the manhole in accordance with the testing equipment manufacturer's recommendations.
 - d. Draw a vacuum of 10 inches of mercury on the manhole and close the valve on the vacuum line of the testing equipment and shot off the vacuum pump. Measure the time for the vacuum to drop to 9 inches of mercury.
 - e. The manhole shall pass if the time for the vacuum reading to drop from 10 inches of mercury to 9 inches of mercury meets or exceeds the values indicated in the following table:

Depth (Ft)	Time (s) per Manhole Diameter
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shall be stopped to permit the groundwater to return to its normal level. The Contractor shall furnish, install and maintain a V notch sharp crested weir in a wood frame tightly secured in a manhole at the low end of each sewer and at locations on the main sewers designated by the Engineer. Maximum allowable infiltration shall be 25 gallons per mile per inch of diameter of sewer per 24-hour day at any time. When infiltration is demonstrated to be within the allowable limits, the Contractor shall remove the weirs.

C. Exfiltration

When the water table does not cover the sewer main at the upper end, an exfiltration test shall be performed to determine the acceptance of the sewer. The contractor may elect to test the gravity sewer hydraulically or by air testing in accordance with ASTM C828. The Contractor shall furnish and install all necessary materials, equipment, water supply, etc. for the tests.

1. Hydraulically: The maximum allowable exfiltration shall be 25 gallons per mile per inch of diameter of sewer per 24-hour day at any time, based on a 2-foot minimum internal head. An allowance of 10 percent of gallonage shall be permitted for each additional 2-foot head over the basic head. The joints shall be tight and leakage in excess of that specified above shall be repaired at the Contractor's expense. Precaution shall be taken to prevent forcing of stoppers from house service laterals.

D. Air Testing

1. Air test shall be conducted in strict accordance with testing equipment manufacturer's instructions, including all recommended safety precautions. No one will be allowed in manholes while testing. Equipment used for air testing shall be specifically designed for this type of test and is subject to the approval of the Engineer. The Contractor shall furnish an air compressor which will provide at least three hundred cubic feet per minute of air at one hundred pounds per square inch along with all necessary plugs, valves, air hoses, connections and other equipment necessary to conduct air test. Pressure gauges on test apparatus shall be a minimum of 4-inch diameter with a minimum of 1-psi graduations and a maximum range of 0-10 psi. Plugs in sewer eighteen inches (18") in size and larger shall be connected by cable for thrust protection.
2. The sewer section shall be plugged at both ends and air pressure shall be applied until the pressure inside the pipe reaches 4 psig. When a stable condition has been reached, the pressure shall be bled back to 3.5 psig above the average backpressure of any ground water above the pipe's invert. At this starting pressure, the time shall be observed and recorded. If there has been no leakage (zero pressure drop) after one hour of testing, the test section shall be accepted and the test complete.
3. If the time for the air pressure to decrease from the starting pressure (3.5 psig) to 3.0 psig is equal to that shown in the following table, the pipe shall be presumed to be free of defects. When these times are not attained, pipe breakage, joint leakage, or leaking plugs are indicated and the cause must be determined and

$$L = \frac{S \times D \times P}{133,200}$$

L = testing allowance (makeup water) in gallons per hour

S = the length of pipe tested in linear feet

D = the nominal diameter of the pipe in inches

P = the average test pressure during the hydrostatic test in psi (gauge)

- B. Should any test of pipe laid disclose leakage greater than the above specified, the Contractor shall at his own expense locate and repair the defective joints until leakage is within the specified testing allowance. All visible leaks shall be repaired regardless of the allowance used for testing. Line shall be retested until Testing Allowance requirement are within the allowable leakage. All additional testing shall be at the Contractors expense.

407.9. Flushing

Following assembly and testing, and prior to final acceptance, piping systems shall be flushed with potable water to remove accumulated construction debris and other foreign matter. The piping shall be flushed until all foreign matter is removed from the pipeline. The Contractor shall provide all hoses, temporary pipes, ditches, and other items as required to properly dispose of flushing water without damage to adjacent properties. The minimum flushing velocity shall be 2.5 fps. For large diameter pipe where it is impractical to flush the pipe at the minimum flushing velocity, the pipeline shall be cleaned in-place from the inside by brushing and sweeping, then flushing the pipeline at a lower velocity. Cone strainers shall be installed in the flushing connections of attached equipment and left in place until cleaning is completed. Accumulated debris shall be removed through drains, or by removing spools or valves.

407.10. Final Inspection and Conditional Acceptance:

- A. In no circumstances shall any buildings and plumbing fixtures be connected to the sewers until inspected and approved by the City.
- B. The contractor shall request in writing a final inspection. This final inspection will generally include spot checks of manholes and sewer lines and a complete overview of the project.
- C. After any discrepancies are corrected, the city will issue a letter certifying conditional acceptance of the sewer system. This letter shall commence the start of the 18-month warranty period which is required of the contractor.
- D. On projects having phased development, this letter will allow the developer to apply for a permit for the next phase of development.
- E. At the end of 18 months, the subdivision inspection team will again re-inspect the entire development. When all discrepancies have been corrected, the city will issue an acceptance letter and will begin perpetual maintenance and operation of the sewerage system.

- D. An adequate supply of water for the proposed project must be available prior to the approval of any plans. Flow tests are valid for one year.
- E. The City will perform the test at the Developers expense.
- F. The Developer will be responsible for retaining the services of an outside consultant/contractor to accomplish and submit a design study based on the flow test results and indicating the projected available flow at the highest point in the development in GPM with residual pressure of 20 psi for the total project. This report should provide results indicating adequacy of flow quantities and pressure for the proposed development.

502.2. Preliminary Review

- A. Preliminary plans must be prepared and submitted for review. Questions relating to adequate fire protection, multiple feeds, water supply and proposed locations of connection(s) should be resolved at this step before proceeding with detailed planning. A submittal for preliminary review must include all land to be developed although the land may be developed in several phases or units. Adequacy determinations of the existing water system will be made for the total project.
- B. The project surveyor shall provide a signed statement indicating records of the property have been researched and no abandoned landfills or waste disposal sites are located in the proximity of proposed water line extension.

502.3. Construction Plans

- A. Construction plans shall conform to the following:
 - 1. Sheets should be no larger than 24" X 36"
 - 2. Any proposed off-site cross-county water mains or mains on existing right-of-way should be shown at a scale no smaller than 1:100.
 - 3. Plans must be stamped by licensed professional engineer.
- B. Construction plans shall contain the following:
 - 1. North arrow and graphic scale.
 - 2. Road names and right-of-way.
 - 3. All adjacent property owners, including parcel no., deed book page, etc.
 - 4. Land lot and district
 - 5. Topography with contour lines at minimum two-foot intervals.
 - 6. Location map
 - 7. Lot layout (if subdivision) or building location (if multi-family, commercial or industrial).
 - 8. Proposed location of future sidewalks, roads or road widening.
 - 9. Proposed water main and service lateral, including size and material.
 - 10. Location and size of gate valves and air release valves
 - 11. Location and size of all bends, tees, plugs, etc.

Storm_Pipes	Storm Drain Pipes and Culverts
Storm_Text	Storm Drain Descriptions / Text
Road_Polygon	Roadway Polygons
Road_Centerline	Roadway Centerline
Road_Text	Roadway Descriptions / Text
Property_Boundary	Closed Property Boundary Polygons
Property_Easement_Boundary	Closed Easement Boundary Polygons
Property_Text	Property / Easement Descriptions / Text
Impervious_Surface	Impervious Surface Features
Impervious_Surface_Text	Impervious Surface Descriptions / Text

604. Annotations

- A. Any non-standard water and sewer lines must be annotated as such. Line diameter, material, ownership, etc. that does not conform to standard practice should be noted in the corresponding annotation layer.
- B. All annotation for polyline (polygon) features must be bounded by the polyline it annotates.

605. Filing, Naming and Revisions

- A. File names should correspond exactly to the subdivision or project name and should be consistent from one version to the next. The file name should contain the drawing revision date (in YYMMDD format) as part of the name. There should be no blank spaces in the name, only underscores. An example file name for the May 7, 2013 revision for the third phase of the Apple Valley subdivision is "Apple_Valley_Phase_3_050713".
- B. File revision dates should only be updated by the contractor/developer.

606. Deliverable Format

- A. All files shall be delivered on single disk media. CDs or USB flash drives are acceptable media. Other formats may be acceptable, but the preparer of the plan should consult the City Engineer prior to submittal.
- B. All drawings (.dwg files) shall be delivered in the current version of AutoCAD.
- C. All tables shall be delivered in the current version of Microsoft Excel format.

600. AS-BUILT CAD STANDARDS

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601. Introduction

All as-built plans submitted to the City must be provided in electronic computer aided design (CAD) format. The following standards must be followed for all plans. Final Plats will not be approved and/or Certificates of Occupancy will not be issued until the standards are met.

602. General Requirements

- A. All as-built drawings must be referenced to the City’s control network. All drawings must contain four-reference survey markers (pins) tied to the City’s monument network. Each marker should have coordinates established on the drawing. A copy of the City’s survey monument locations can be found on the City’s website at: www.grantvillega.org or may be obtained in person at Grantville City Hall.
- B. All features depicted in the as-built drawings must be surveyed after construction. The City may at its discretion spot check coordinates to ensure accuracy.
- C. The following feature types are acceptable: Line, Polyline, and Polygon. Any other features such as Leaders, Blocks, etc. should not be present on the standard City CAD feature layers.
- D. The City will provide a template (or seed) drawing files upon request.

603. Layering

- A. Layer names for required layers must match City standard layer names.

506.6. Final Inspection and Conditional Acceptance:

- A. Prior to final inspection of the water system the developer shall have previously completed the pressure and disinfection tests. After the developer makes written request for final inspection, the city will schedule a final inspection. The contractor and the developer will be present during this final inspection. This final inspection will generally include spot checks of hydrants, valves and other appurtenances and a complete overview of the project.
- B. After any discrepancies are corrected and approved as-built drawings are submitted, the city will issue a letter certifying conditional acceptance of the water system. This letter shall commence the start of the 18-month warranty period which is required of the contractor.
- C. On projects having phased development, this letter will clearly identify portions of the project being accepted.
- D. At the end of 18 months, the subdivision inspection team will again re-inspect the entire development. When all discrepancies have been corrected, the city will issue an acceptance letter and will begin perpetual maintenance and operation of the water system.

506.7. Maintenance Bond or Letter of Credit:

The developer shall post a maintenance bond or Letter of Credit of 25 percent of the total project cost on the facility for an 18-month period after completion and conditional acceptance of the facility by the City for all projects whose cost exceeds \$20,000.00. Bonds are to be written where the City must release the bond in writing. Bond expiration dates for release are not acceptable.

506.8. Maintenance until Final Acceptance:

It shall be the developer's obligation to provide all maintenance for an 18-month period after acceptance of the project by the City. At the end of the 18-month maintenance period the City shall inspect the water system, and upon correction by the developer of all deficiencies noted by the City, the City will accept the water system for maintenance.

END OF SECTION 500

- D. Install sufficient number of sample points to give representative sampling on the newly installed lines. The hydrants should be at least 18 inches higher than main and must discharge toward the ground.
- E. Quality of water used during the disinfection procedure shall meet the required drinking water standards.
- F. Flush the new pipe lines for a full pipe open end flush until the water runs clear at the end of all mains and laterals. This should be done after the pressure test and before disinfection. Each valved section of the newly laid pipe should be flushed separately with potable water.
- G. Disinfect the pipe lines with chlorine. The preferable point of application of the chlorinating agent is at the beginning of the pipe line extension, or any valved section of it, and through a corporation cock inserted in the horizontal axis of the newly laid pipe. A 3/4" – 2" bypass service line, complete with corporation stop and double check valve should be used to fill the new water main. Water from the existing distribution system should be controlled to flow very slowly into the newly laid pipe during the application of the chlorine. Partially open all hydrants or valves on the newly laid line under treatment to prevent the building up of water pressure and to bleed out any air in the lines. The chlorine solution used for disinfection of water mains shall have a free chlorine residual concentration not less than 25 mg/l. This heavily chlorinated water shall be retained in the main for at least 24 hours, during which time all valves and hydrants shall be operated to ensure disinfection of the appurtenances.
- H. Allow the treated water to remain in the pipe line for at least 24 hours, the treated water in all portions of the main shall have a residual of not less than 10 mg/l free chlorine. Re-chlorinate if required results are not obtained on all samples. After the applicable retention period, the heavily chlorinated water must not be disposed in a manner that will harm the environment. Neutralizing chemicals, such as Sulfur Dioxide, Sodium Bisulfite, Sodium Sulfite or Sodium Thiosulfate can be used to neutralize the chlorine residual remaining in the water to be wasted. Flush all mains and lines until all the heavily chlorinated water has been removed.
- I. Test water samples to make sure all chlorine has been flushed out or until the concentration of chlorine in the newly laid lines is no higher than that of a sample taken on the supply line. After final flushing and before the water main is placed into service, water samples shall be collected from the main and tested for microbiological quality in accordance with the Georgia Rules for Safe Drinking Water, Chapter 391-3-5. The laboratory results must show the absence of coliform organisms in the water. Re-flush and re-disinfect the lines, as necessary, until satisfactory bacteriological results are obtained.
- J. AMOUNT OF CHLORINE NECESSARY FOR DISINFECTION
 1. Chlorine required to produce 25 mg/l concentration in 100 feet pipe by diameter. See table below:

- A. All water lines and appurtenances shall be inspected by the Engineer and the Contractor. All defects will be noted and a list thereof transmitted to the Contractor. The City reserves the right to require the Contractor to televise any lines which fail any test.
- B. The developer's contractor will be responsible for the quality, accuracy and workmanship of his completed work.
- C. City personnel will visit the job site on a periodic basis and will make spot checks as they deem appropriate. The City shall have the right to review and inspect all construction and may reject any work that does not meet quality control standards.
- D. Authorized representatives of the City, which may include city employees, the city engineer, state or federal agencies, shall have access to the site for inspection at any time.
- E. Cost for all testing shall be paid for by the developer.

506.2. Communications During Construction:

- A. A preconstruction conference will be required for all projects. The Developer has sole responsibility for scheduling. The Developer, design professional, contractor, and subcontractor(s) are required to meet with the City and all private utilities in this conference. The contractor will notify the city in writing two days before starting construction. The contractor will provide notification by phone any time the work is to be vacated and will provide notice by phone prior to resuming work. The contractor shall request the final inspection.
- B. The city inspector may have informal verbal communications with the contractor foreman or superintendent at any time during construction. The city inspector will not direct the actions of contractor's workmen.

506.3. Concealed Work:

The city inspector may direct that the contractor notify the city and receive inspection approval prior to concealing certain work such as manhole foundations, pipe bedding, tees, bends, service lines, or other appurtenances. At the City's discretion, the City may require work to be uncovered which was not inspected prior to backfilling.

506.4. Hydrostatic Testing

- A. All pressure and leakage test shall be performed in accordance with the latest edition of AWWA C600. Leakage test shall be conducted simultaneously with the pressure test. The duration of the test shall be 2 hours and during the test the main or section of main under test shall be subjected to a pressure of 150 psi based on the lowest point in the line or section under test, and connected at that elevation to the test gauge. Test pressure shall not vary more than 5 psi for the duration of the test. Testing allowance shall be defined as the quantity of makeup water that must be supplied into the newly laid pipe or any valved

505.14. Damage to Water System

- A. Damage to any part of the water system by the Contractor, or subcontractors, that is repaired by the City shall be charged to the Contractor on the basis of time and material, plus 30 percent for overhead and administration.

505.15. Polyethylene Encasement

- A. Polyethylene encasement shall conform to ANSI/AWWA C107/A21.5, latest revision for high density, cross-laminated polyethylene film. Polyethylene encasement shall be used where noted on the contract drawings or directed by the Engineer on all ductile iron piping, fittings, valves and appurtenances and installed according to the requirements of ANSI/AWWA C105/A21.5, Sec. 4.4, Method A.

505.16. Identification and Tracing Wire

- A. Mylar tape shall be installed 18 inches below the finished grade over the top of the water mains. The tape shall be 2 inches wide, of blue color and have imprinted on the tape "Caution - Water Line Below." The tape shall be laid the entire length of the trench.
- B. No. 12 AWG solid plastic-coated copper wire shall be installed on top of all water mains where non-metallic pipe is used and attached by means of securing the wire on top of the water main with a 12-inch long by 2-inch wide piece of duct tape. Attach the wire to the main every ten (10) feet.
- C. Wire shall be bonded at splices with 3M DBY-6 Direct Bury Splice Kit at every connection.
- D. The wire shall be laid the entire length of the trench and shall be continuous. The Contractor shall demonstrate continuity in wire through the entire length of the project. At every valve manhole the wire shall be run through the pipe opening, up to the ring and cover, secured at the ring by means of grouting the ring to the top of the manhole. The wire shall continue in the same loop back to the opposite pipe opening, through it and continuing in one continuous loop along the main.
- E. At every fire and post hydrant, the wire shall be run from the main to the hydrant tee, to the gate valve, wrapped around the gate valve once, then run to the bottom of the hydrant flange, up the hydrant, wrapped around it once at the finish grade, then back to the main in one continuous loop, and continuing along the water main.
- F. At every water service lateral, the wire shall be run from the main and corporation stop to the curb stop and attached to the polyethylene pipe by a piece of duct tape wrapped around the wire and tubing. The wire shall be connected to the tracer wire at the main with a single strand from the water main to the curb stop or into the meter box.
- G. At every sampling station, the wire shall be run from the main service connection up to the bottom inside of the sampling station, then back in one continuous loop to the water main, then continuing with the utility along the water main.

- C. When a fire hydrant has been constructed but is not yet in service, the Contractor shall provide and attach to the fire hydrant, flags or collars indicating that the fire hydrant is not in service. Said flags or collars shall remain on the fire hydrant until it is put into service. An alternative may also be a black trash bag with tape to secure it on the fire hydrant.
- D. Whenever an existing fire hydrant is taken out of service, whether temporarily or permanently, it shall be equipped with a flag or collar indicating that it is not in service. The Contractor shall provide and install flags or collars as required and shall notify the Fire Department whenever the operating status of any fire hydrant changes.
- E. FIRE HYDRANTS SHALL NOT BE OPERATED WITH ANY TOOL EXCEPT A SPECIFICALLY DESIGNED FIRE HYDRANT WRENCH. If the Contractor observes any other contractor or person operating a fire hydrant with an unapproved fire hydrant wrench, he shall report that fact to the City immediately. It is the Contractors responsibility to ensure that all new facilities are maintained in new condition until final completion of the project and acceptance by the City. Fire hydrants with damaged operating nuts shall not be accepted.

505.10. Water Service Connection

- A. Service lines shall be connected to 4-inch and larger mains with a corporation stop. Connections to mains smaller than 4-inches shall be made with a rigid connection. Plugged tees or crosses for future connections shall be installed where shown on the Drawings. A house service connection shall be provided to vacant lots and the exact location marked on the curb with a "W". The mark shall be made on the vertical face of the curb and shall be a minimum of 1/4-inch deep made with a branding iron. Where services are provided at locations without curb, a 2"x4" 30-inch long pressure treated flag stake painted white shall locate the end of the lateral. Minimum cover of 30-inches shall be provided until a short transition to the service is stubbed out of the ground.
- B. Water service laterals installed under roadways shall be installed a minimum of 30 inches below the road (laterals shall not be installed in the base of the road). Water service laterals shall be installed one foot short of the property line of all lots along street and right-of-ways in which water main is constructed.

505.11. Brass Nipples and Brass Pipe Fittings (Domestic Made)

- A. Threads shall be cleanly cut with sharp tools and the jointing procedure shall conform with the best practice. Before jointing, all scale shall be removed from pipe by some suitable means. After cutting, all pipe shall be screwed together with an application for graphite and engine oil, Teflon tape, or other sealing compound applied to all threads and once a joint has been screwed on it shall not be backed off unless the threads are re-cleaned and new compound or Teflon tape applied. Unions shall be installed at every connection to the supply line.

Size of Pipeline Inches	Depth of Excavation Below Bottom of Pipe, Inches
6 and Less	6
8 to 18	8
18 to 30	10
Over 30	12

The undercut space shall then be brought up to grade by backfilling with Size #57 crushed stone material or approved equal.

505.7. Pipe Installation

- A. Proper implements, tools and facilities shall be provided and used by the Contractor for the safe and convenient prosecution of the work.
- B. Pipe shall be installed in accordance with AWWA C605.
- C. All pipe shall be laid straight, true to line and grade. Bell and coupling holes shall be dug in the trench and the pipe shall have a continuous bearing with the trench bottom between bell or coupling holes. No shimming or blocking up of the pipe shall be allowed. When the work is not going on, all pipe openings shall be securely closed by the insertion of the proper size plug and caulking so that dirt and debris will not be washed into the pipe in case of rain.
- D. In making the joints with ductile iron pipe, the spigot end of the pipe and the inside of the bell shall be thoroughly cleaned and the gasket inspected to see that it is properly placed; lubricant shall be applied to the spigot end of the pipe and it shall be inserted into the bell of the adjoining pipe to the stop mark on the pipe.

505.8. Thrust Restraint for Pressure Lines:

- A. Reaction Blocking.
 1. Underground piping laid around curves and at all unsupported changes of direction, all tees, wyes, crosses, plugs and other like fittings shall be solidly and properly blocked with concrete against solid earth to take the reaction of the main pressure and to prevent lateral movement of the pipe or fittings when under pressure. Reaction blocking shall be installed at all locations requiring same and where tie rods and clamps are not called for in the plans. Concrete for reaction blocking shall have a minimum compressive strength of 3,000 psi at 28 days. The blocking, unless otherwise shown, shall be so placed that the pipe and fitting joints will be accessible for repair. In addition to the concrete blocking specified herein, all mechanical joint fittings shall be installed with Mega-Lug retainer glands.
 2. Reaction blocking shall be constructed as per AWWA Standard C600 Section 3.8, latest revision. It shall be constructed in conformance with the Standard Detail Drawings for Reaction Blocking.

and distributed at the site of the project by the Contractor. They shall at all times be handled with care to avoid damage. In loading and unloading, they shall be lifted by hoists or slid or rolled on skidways in such a manner as to avoid shock. Under no circumstances shall they be dropped. Pipe handling on skidways must not be skidded or rolled against pipe already on the ground. In distributing the material at the site of the work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench.

505.5. Trench Excavation:

- A. Trenches shall have a minimum width of 24 inches or the diameter of the outside of the bell of the water main plus 12 inches, (whichever is greater), and the depth thereof shall be such that there shall be a minimum of 42 inches of cover measured below the roadway surface, natural ground, or proposed grade to the top of the pipe. In cases where water lines cross sanitary sewers, there shall be a minimum of two feet vertical separation between the water and sewer mains. In cases where water mains parallel sewer mains there shall be a minimum of ten feet horizontal separation maintained between the mains. Trenches shall be dug so that the pipe can be laid to the alignment and depth required, and the trench shall be of such width and shall be braced and drained so that the workmen may work therein safely and efficiently. No chocking under the pipe will be permitted. All joints shall be as specified herein. Excavation must be made under the bell of each pipe so that the entire length of the pipe will lie uniformly on the bottom of the trench and the pipe weight shall not rest on the bells. Trenches shall be free of water during the work. Water lines shall have a minimum cover of 42 inches. All changes in grade shall be made gradually. At points of interference with storm sewers and cross drains, pipe will be run under the conflicting utility if the minimum cover cannot be maintained by going over the top of the pipe. In laying pipe across water courses, railroad crossings, or depressions of any kind, the minimum depth here specified shall be maintained at the bottom of the depression. Where necessary, the line shall be lowered at valves so that the top of the valve stem is approximately one foot below the finished grade. The trench shall be deepened to provide a gradual approach to all low points of the line.
- B. Wherever rock is encountered in the excavation, it shall be removed by suitable means. If blasting is used for removal of rock, the contractor shall take all proper safety precautions. He shall comply with all rules and regulations for the protection of life and property that may be imposed by any public body having jurisdiction relative to the handling, storing and use of explosives. Before blasting, the Contractor shall cover the excavation with heavy timbers and mats in such a manner as to protect the adjacent property owners from damage. All rock encountered shall be removed six inches below the bottom grade of the trench and the trench built back to the correct grade with suitable material tamped into place. Sides of the trench shall be trimmed of projecting rock that will interfere with backfilling operations. The Contractor shall be wholly responsible for any damage resulting from blasting. Rock excavation by blasting shall be at least 75 feet in advance of pipe laying.

and to minimize bacteria growth. The exterior piping will be galvanized and shall be Model Eclipse No. 88 as manufactured by Kupferle Foundry or approved equal.

504.23. Insulated Enclosures

- A. Insulated enclosures shall consist of a fiberglass shell, insulated with urethane foam, provide security and freeze protection and shall provide drains sized for full port discharge, testing and maintenance access, vandal protection and optional freeze protection. The enclosure shall be GREEN in color. Insulated enclosures shall be manufactured by EzBox - Jacksonville, Florida, or approved equal.

504.24. Tracing Wire

- A. Tracing wire shall be single strand #12 AWG, Vinylon - A THWN or THHN or gasoline and oil resistant II VW 600V or AWM. Tracing wire shall be continuous with all water mains, fire hydrants, post hydrants, sample stations. Tracing wire for water laterals shall be a single strand from the main to the end of the service lateral terminating in the meter box. Tracing wire shall be a single strand installed from the main to all Utility Marking Post line markers with sufficient length at the marker to be wrapped around the marker several times.

504.25. Concrete Valve Marker

- A. Concrete valve marker shall be 4"x4" square by 4'-6" in length with 4'-0" #3 rebar cast in 4,000 psi concrete. All corners shall have a 3/4" chamfer. A 2" brass marker plate with anchor shall be embedded in the top. The brass plate shall have a directional arrow pointing to valve with the distance to the nearest foot and shall be labeled "Water Valve". The concrete valve marker shall be set 24" in the finish grade and shall be painted BLUE.

504.26. Utility Marking Post

- A. Utility marking post shall be placed every 500 feet or as shown on the Drawings above the utility and at fittings and labeled accordingly. The marking post shall be rigid enough to be easily installed in most soil conditions and durable to withstand repeated impacts. The marking post shall be a three (3) inches minimum in width, three sided and remain flexible from -40 F to +140F with UV stabilizers. The warning label shall contain the following: international No Dig symbol, federal law warning, WATER PIPELINE BELOW with letter size and stroke to comply with the Federal Office of Pipeline Safety Specifications, City's name, phone number and State one-call number. Markers shall be Rhino Triview, or approved equal.

504.27. Joint Restraints

all boxes shall bear the word "Water." Boxes shall be Russco Model 562-S, or approved equal, with a five and one-quarter-inch cast iron drop cover. All off-pavement valve boxes shall have concrete collars and valve markers.

504.17. Manholes

A. General

1. Manholes shall be constructed at such points as designated on the Drawings. Riser and top sections shall be installed level and plumb, such that all manhole steps are in alignment. The top of manholes outside of roads, streets and highways shall be built to grades 2 inches above ground surface, unless otherwise shown. Manholes in roads, streets and highways shall be built to grades shown on the Drawings.

B. Precast Concrete Manholes

1. Precast Concrete manholes shall be constructed of reinforced Class "A" Concrete. Walls shall be not thinner than 5 inches, or 1/12 of the inside diameter, whichever is greater. Precast manholes shall meet all requirements of ASTM C478, "Specification for Precast Reinforced Concrete Manhole Sections."
2. Rings shall be custom made with openings to meet the necessary pipe alignment conditions and invert elevations. All inlets and outlets shall be cast in or core drilled. Joints and gaskets shall conform to the applicable provisions of ASTM C443, "Joints for Circular Concrete Sewer and Culvert Pipe using Rubber Gasket" or Ram-Nek Pre-molded Plastic Joint Sealer. The sealing compound shall not leak at the joints (while being tested, if required, at 10 psi) for a period of 24 hours. Bell and spigot surfaces shall be smooth, accurately formed, and provide a loose, sliding fit, with a clearance between the bell and spigot of not more than 1/6 inch. Precast manholes shall be bedded on not less than 6 inches of compacted crushed stone at the Contractor's expense. The crushed stone shall extend not less than 6 inches outside the walls of the manhole and under the entire length of pipe within the excavation for the manhole.

504.18. Meter Box (3/4" and 1")

- A. Meter boxes shall have plastic upper section and cast-iron lower section with cast iron lid. The lid shall have precast "Water Meter" text, have locking mechanism and have precast hole with removable plug for electronic meter transmitter. The meter box shall have a straight inlet and straight outlet. Use Ford Long Yokebox LYL144-233-NL for 3/4" meters, Ford Long Yokebox LYL144-444-NL for 1" meters, or approved equals.
- B. Meter box grade adjuster may be utilized when needed to meet final grade, however grade adjusters will not be accepted for new construction projects. Grade adjuster and meter box shall be by the same manufacturer.

- B. Hydrants shall be traffic type utilizing stem breaking coupling and breakaway traffic flange. (Breakable bolts or nuts are not acceptable.)
- C. Hydrant interior and exterior shall have 2-part epoxy base coat. In addition, exterior above ground line shall have UV resistant polyurethane top coat. Color shall be red.
- D. All below grade bolts shall be stainless steel.
- E. Hydrants shall be American-Darling, Mueller, M&H or approved equal.

504.8. Tapping Sleeves and Valves

- A. Tapping sleeves and valves shall be used for making branch connections to an existing water main. Tapping sleeves shall be provided at the locations indicated on the Drawings and shall be mechanical joint type, Mueller No. H-615, Clow F-5205 or approved equal. Tapping valves shall be mechanical joint type gate valves, Mueller No. 667, Clow F-5093 or approved equal, and shall conform to the requirements of this section.

504.9. Tapping Saddles (Service Saddle)

- A. Tapping saddles shall be used for making service connections on 4" and larger PVC and/or Ductile Iron Pipe. Use Smith Blair Series 317 service saddle, or approved equal, at each point where a 1" or 2" connection is required.

504.10. Air Release Valves

- A. Air Release Valve shall be 2-inch screwed inlet. The air release valve shall be designed to permit automatic escape of large quantities of air from the pipeline when the line is being filled and must also allow accumulating air to escape while the line is in operation and under pressure. The body and cover shall be able to operate at pressures up to 300 psi. The open end of and air relief pipe from automatic valves or from a manually operated valve shall be extended to the top of the pit and provided with a screened downward facing elbow.
- B. Air release valve manufacturer shall be Crispin Model No. PL-10 or VENT O MAT Series RBX, or approved equal.

504.11. Water Service Pipe Material

- A. Pipe shall conform to AWWA Specifications C901-96, Polyethylene Pressure Pipe and Tubing, shall be blue in color and shall be marked with AWWA requirements and the following:
 - 1. Nominal Size
 - 2. ASTM D2837
 - 3. SDR 9
 - 4. PE 3408

contraction of each pipe section to be taken up at each end of the pipe. Couplings shall permit five (5) degree deflection (2 degrees on each side) of the pipe with any evidence of infiltration, exfiltration or breaking.

H. Gaskets

1. PVC pipe joint gaskets shall meet the requirements of ASTM F477.

504.4. Gate Valves

A. Gate valves shall be as shown on the Drawings and shall conform to the following Specifications:

1. Resilient-Seated Gate Valves (3 Inches to 12 Inches)
2. Resilient-seated gate valves 3 inches to 12 inches shall conform to AWWA C509 with non-rising stem.
3. Unless otherwise indicated or specified, gate valves shall be designed for a working pressure of not less than 250 psig.
4. Valves shall take full pressure on either face. Valves shall be from one manufacturer and similar sizes shall be identical and parts interchangeable. They shall be constructed with bolted bonnets provided with two O-ring stem seals which can be replaced with the valve under pressure in the full-open position.
5. Valves shall be constructed of materials conforming to AWWA C509. All internal and external surfaces shall be coated with fusion bonded epoxy to a minimum thickness of 8 mils.
6. Valve seats shall be coated with a rubber material conforming to AWWA C509 so that there shall be no rubber to metal contact when the valve is in the fully closed position.
7. Valves shall be hydrostatically tested in accordance with AWWA C509.
8. Valves shall be American, Mueller, Clow or approved equal and shall be furnished with standard hand wheels, chain wheels or nuts as shown on the Drawings and/or as specified.

504.5. Ball Valves (2 Inches and Smaller)

- ##### A. Ball valves 2 inches and smaller shall be designed for a working pressure of not less than 300 psi, domestic made brass, and shall conform to AWWA standard C 800-89.
1. Standard tee head stops in body permit 90 degree turn only.
 2. Padlock wings shall be used on the tee head.

504.6. Butterfly Valves (14 Inches and Larger)

- ##### A. Butterfly valves 14-inches and larger shall be of the tight-closing, rubber seated type, with rubber seat positively locking in place against flow from either direction. No metal-to-

be required to pay all costs.

504. Material Specifications

504.1. General

- A. All pipe material, fittings, valves, solder and flux shall be lead free (less than 0.2 percent lead in solder and flux and less than 8.0 percent lead in pipes and fittings). All materials shall be certified for conformance with American National Standards Institute / National Sanitation Foundation Standard 61 (ANSI/NSF61).

504.2. Metal Pipe

A. Fittings

1. Fittings shall conform to ANSI/AWWA C111 A21.11, latest revision, and shall be push-on-type unless otherwise shown.
2. Flanged Fittings shall conform to ANSI/AWWA C110/A21.10, latest revision. The AWWA C110 fitting flanges shall have facing and drilling which match AWWA C115 threaded-on flanges which also match ANSI B16.1 Class 125 flanges except where Class 250 are specifically noted.
3. Mechanical Fittings shall conform to ANSI/AWWA C153/A21.53, latest revision. Bolts shall conform to ANSI B18.2.1, latest revision. Nuts shall conform to ANSI B-18.2.2, latest revision. Bolts and nuts shall conform to ANSI B1.1

B. Joints

1. Push-on Joints shall conform to ANSI/AWWA C111/A21.11, latest revision.
2. Flanged Joints shall conform to ANSI/AWWA C115/ A21.15, latest revision.
3. Mechanical Joints shall conform to ANSI/AWWA C111/A21.11, latest revision. Bolts shall conform to ANSI B18.2.1, latest revision. Nuts shall conform to ANSI B-18.2.2, latest revision. Bolts and nuts shall conform to ANSI B1.1

C. Lining

1. Lining for ductile iron pipe and fittings shall be a cement mortar lining meeting the ANSI/AWWA C104/ A21.4, latest revision, for standard thickness lining. After cement lining, the interior of the pipe shall be given a seal coat of approved bituminous material in accordance with ANSI/AWWA C104/A21.4, latest revision.

D. Exterior Coating

1. Exterior coating shall be an approved bituminous coating one mil thick in accordance with ANSI/AWWA C151/ A21.51, latest revision.

E. Conductive Joints

1. Where conductive joints are indicated on ferrous pipe that are subject to electrical thawing service, metal contact strips molded into the gasket are acceptable.

subgrade, shoulder or finish grade shall be provided.

3. Existing roads: On existing roads, when able, water lines shall be located on the south and west side of the road, eight feet from the back of curb. Fire hydrants on existing roads shall be located between the water line and the back of curbing.
4. New Roads: All curbing must be installed before any water lines are installed. Water lines on new streets shall be located on the south and west side of the street. Fire hydrants shall be located between the water main and the back of curbing.

B. Service Laterals

1. Short side service laterals shall be installed with a uniform slope from the main shallowing to a bury of 12 inches at the water meter setting. Water meter settings are to be located adjacent to the right of way limit.
2. Long side services shall have a minimum cover of 36 inches under areas of pavement and curbing then shallowing to 12 inches at the water meter.
3. Service laterals crossing any roads shall be placed inside a minimum of a two-inch diameter PVC casing.
4. A (W) shall be etched into the curb where each service tap is made for permanent location.
5. Copper or poly tubing shall be used for all services. There shall be no splices of tubing under any pavement.
6. Services for subdivisions shall be sized and located as shown on the Standard Detail Drawings.

C. Residential water meters shall be located at the limits of the street right-of-way. In general, meters will be located near the property line and where possible a double yoke assembly will be utilized at the property line separating two adjacent lots. The project designer is responsible for verifying electric transformer locations and avoiding conflicts. The Developer shall be responsible for installing the meter box and yoke assembly. See standard detail for listing of required components. The City shall install the water meter in the yoke assembly after tap fees have been paid and service applied for.

D. Vaults and all valve and piping assemblies for Commercial and Industrial meter settings shall be installed by the Developer. Installations for three-quarter inch and one-inch meter settings shall utilize a standard yoke assembly and the required additional backflow device located in a separate box. The City shall provide the meter after tap fees are paid and service applied for. No water service shall be provided until all required backflow devices are in place.

E. Backflow Preventer. All water meters shall be provided with a backflow preventer. Residential services shall be provided with a dual check backflow preventer installed by the Developer as part of the standard yoke assembly. Additional backflow prevention measures are required for residential services with lawn irrigation sprinkler systems connected. Commercial water services, as a minimum, shall be provided with a double check valve backflow prevention device installed by the Developer and located immediately downstream of the meter setting in a separate vault or utility box. Additional and/or more extensive backflow prevention measures may be required depending on the

- D. All deliverables will be labeled with the file name, company name, contact name, and phone number. A transmission letter stating this information along with a statement requesting as-built review shall also accompany the disk.

607. Sanitary Sewer Specifications

607.1. Survey Accuracy Requirements for Sanitary Sewer Infrastructure

- A. Coordinate data for sanitary sewer manholes shall be established at the center of the top of the lid. Accuracy requirements shall be a horizontal accuracy of < 0.5 ft and a vertical accuracy of < 0.1 ft.
- B. Coordinate data for sanitary sewer lines shall be established through the use of the sanitary sewer manhole coordinate data. Invert elevations shall be established by direct measurement of the distance from the lid elevation to the invert of each pipe. Vertical accuracy of < 0.1 ft shall apply to all sanitary sewer inverts.
- C. Coordinate data for sanitary sewer taps at the right-of-way or stub out shall be a horizontal accuracy of < 0.5 ft. Coordinate data for the connection of the tap to the sewer line shall be based on computed coordinates utilizing the distance from the upstream or downstream manholes and the sewer line geometry. The vertical coordinate (i.e., elevation) shall not apply to sanitary sewer taps.

607.2. Digital Drawing Specifications

The following specifications shall apply to the development of all digital as-built drawings pertaining to the sanitary sewer system.

- A. Sewer Lines shall be drawn with proper directionality: lines must be drawn from the upstream manhole to the downstream manhole.
- B. All Sewer Lines shall be drawn from the center point of the upstream manhole to the center point of the downstream manhole with a single line. No gaps should exist between the sewer lines. Lines must not continue for more than one manhole.
- C. Manholes shall be drawn consistently with a circle centered exactly on the sewer line endpoints.
- D. Sewer tap locations shall be drawn with a single line from the location of the intersection of the right-of-way or stub out (if applicable) to a point intersecting the sewer line.
- E. All Manholes shall be labeled with a unique identifier (Sanitary Sewer Manhole #1, SSMH_1, etc.)
- F. All Sewer Lines shall be labeled with a unique identifier (Sanitary Sewer Pipe #1, SSPipe_1, etc.), pipe diameter (8 inch, etc.) and pipe material (PVC, DIP, etc.)
- G. All sewer taps shall be labeled with a unique identifier (Sanitary Sewer Tap #1, SSTap_1, etc.)

- 9. Pipe Material (PVC, DIP, etc.)
- 10. Pipe Length measured in feet
- 11. Pipe Slope measured in feet per foot (ft/ft)

Example Table										
Pipe ID	Upstr. MH ID	Upstr. Measure Down	Upstr. Invert	Downstr. MH ID	Downstr. Measure Down	Downstr. Invert	Pipe Diameter	Pipe Material	Pipe Length	Pipe Slope
Pipe #1	SSMH #1	6.1	906.78	Pump Station	10.2	905.06	8	PVC	291	0.0058
Pipe #2	SSMH #2	7.1	908.33	SSMH #1	6.05	906.83	8	PVC	238	0.0062
Pipe #3	SSMH #3	8	908.76	SSMH #2	7.1	908.33	8	PVC	64	0.0066

- C. A table with the following attribute data for each tap
- 1. Unique identifier matching the identifier in the as-built drawing
 - 2. Address of the property the tap serves
 - 3. Sewer Pipe that the tap connects to

Example Table		
Tap ID	Address Served	Sewer Pipe ID
SS.Tap 1	100 Any Street	Pipe #1
SS Tap 2	105 Any Street	Pipe #1
SS Tap 3	110 Any Street	Pipe #2

608. Water System Specifications

608.1. Survey Accuracy Requirements for Sanitary Sewer Infrastructure

- A. Coordinate data for fire hydrants, valves and water meters shall be established at the center of the top of the fire hydrant, valve cover or water meter. Accuracy requirements shall be a horizontal accuracy of < 0.5 ft and a vertical accuracy of < 0.1 ft.

The following specifications shall apply to the development of all digital as-built attribute data pertaining to the sanitary sewer system.

A. A table with the following attribute data for each water meter

1. Unique identifier matching the identifier in the as-built drawing
2. Northing (y) coordinate
3. Easting (x) coordinate
4. Elevation (z) coordinate
5. Address of the property the meter serves

WM_ID	Northing	Easting	Elevation	Service Address
WM #1	1251008.52	2213889.92	914.58	100 Any Street
WM #2	1251410.95	2213486.14	912.88	105 Any Street
WM #3	1251413.63	2213247.90	915.43	110 Any Street
WM #4	1251358.94	2213213.00	916.77	115 Any Street

B. A table with the following attribute data for each water valve

1. Unique identifier matching the identifier in the as-built drawing
2. Northing (y) coordinate
3. Easting (x) coordinate
4. Elevation (z) coordinate
5. Valve Type
6. Water line size measured in inches

WV_ID	Northing	Easting	Elevation	Valve Type	Valve Size
WV #1	1251008.52	2213889.92	914.58	Gate Valve	8-inch
WV #2	1251410.95	2213486.14	912.88	Gate Valve	8-inch
WV #3	1251413.63	2213247.90	915.43	Ball Valve	6-inch
WV #4	1251358.94	2213213.00	916.77	Ball Valve	6-inch

C. A table with the following attribute data for each fire hydrant

1. Unique identifier matching the identifier in the as-built drawing
2. Northing (y) coordinate

WR #4	1251358.94	2213213.00	916.77	10-inch	8-inch
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F. A table with the following attribute data for each water line tee

1. Unique identifier matching the identifier in the as-built drawing
2. Northing (y) coordinate
3. Easting (x) coordinate
4. Elevation (z) coordinate
5. Tee Size as measured in inches

TEE_ID	Northing	Easting	Elevation	Tee Size
TEE #1	1251008.52	2213889.92	914.58	8-8-8
TEE #2	1251410.95	2213486.14	912.88	8-8-6
TEE #3	1251413.63	2213247.90	915.43	8-8-8-8
TEE #4	1251358.94	2213213.00	916.77	8-6-8-6







G. A table with the following attribute data for each water line bend




1. Unique identifier matching the identifier in the as-built drawing
2. Northing (y) coordinate
3. Easting (x) coordinate
4. Elevation (z) coordinate
5. Bend Angle measured in degrees
6. Bend Size measured in inches

Bend_ID	Northing	Easting	Elevation	Bend Angle	Bend Size
Bend #1	1251008.52	2213889.92	914.58	45 deg	8-inch
Bend #2	1251410.95	2213486.14	912.88	22.5 deg	8-inch
Bend #3	1251413.63	2213247.90	915.43	45 deg	6-inch
Bend #4	1251358.94	2213213.00	916.77	45 deg	6-inch

H. A table with the following attribute data for each water line

1. Unique identifier matching the identifier in the as-built drawing
2. Pipe diameter measured in inches
3. Pipe Material (PVC, DIP, etc.)
4. Pipe Length measured in feet

Approved Storm Drain Symbology					
					
Drop Inlet	Hooded Grate Inlet	Single Wing Catch Basin	Double Wing Catch Basin	Raised Lid Yard Inlet	Junction Box

		
Headwall	Flared End Section	Outlet Structure

609.3. Table Specifications

The following specifications shall apply to the development of all digital as-built attribute data pertaining to the storm drain system.

- A. A table with the following attribute data for each drop inlet
 1. Unique identifier matching the identifier in the as-built drawing
 2. Northing (y) coordinate
 3. Easting (x) coordinate
 4. Grate Elevation (z) coordinate
 5. Manhole diameter measured in feet
 6. Manhole Material (Pre-Cast Concrete, Brick, etc.)
 7. Manhole depth measured in feet
 8. Grate Width measured in feet
 9. Grate Length measured in feet

DI_ID	Northing	Easting	Grate Elevation	Manhole Diameter	Manhole Material	Manhole Depth	Grate Width	Grate Length
DI #1	1251008.52	2213889.92	914.58	4	Precast Concrete	6.10	2	3
DI #2	1251410.95	2213486.14	912.88	4	Precast Concrete	7.10	2	3
DI #3	1251413.63	2213247.90	915.43	4	Precast Concrete	8.00	2	3
DI #4	1251358.94	2213213.00	916.77	4	Precast Concrete	7.90	2	3

							Type		
CB #1	1251008.52	2213889.92	914.58	4	Precast Concrete	6.10	Double Wing	3	0.5
CB #2	1251410.95	2213486.14	912.88	4	Precast Concrete	7.10	Single Wing	3	0.5
CB #3	1251413.63	2213247.90	915.43	4	Precast Concrete	8.00	Raised Lid Yard Inlet	3	0.5
CB #4	1251358.94	2213213.00	916.77	4	Precast Concrete	7.90	Single Wing	3	0.5

D. A table with the following attribute data for each junction box

1. Unique identifier matching the identifier in the as-built drawing
2. Northing (y) coordinate
3. Easting (x) coordinate
4. Lid Elevation (z) coordinate
5. Manhole diameter measured in feet
6. Manhole Material (Pre-Cast Concrete, Brick, etc.)
7. Grade Height measured in feet (height of lid above adjacent grade)
8. Manhole depth measured in feet
9. Junction Box Lid Type (Traffic Bearing, Bolt Down, etc.)

JB_ID	Northing	Easting	Lid Elevation	Manhole Diameter	Manhole Material	Grade Height	Manhole Depth	Junction Box Lid
JB #1	1251008.52	2213889.92	914.58	4	Precast Concrete	2.0	6.10	Traffic
JB #2	1251410.95	2213486.14	912.88	4	Precast Concrete	1.4	7.10	Traffic
JB #3	1251413.63	2213247.90	915.43	4	Precast Concrete	1.0	8.00	Traffic
JB #4	1251358.94	2213213.00	916.77	4	Precast Concrete	0.0	7.90	Traffic

E. A table with the following attribute data for each headwall

1. Unique identifier matching the identifier in the as-built drawing
2. Northing (y) coordinate
3. Easting (x) coordinate
4. Invert Elevation (z) coordinate

3. Upstream Measure Down - Distance from the upstream structure elevation to invert of pipe measured in feet
4. Upstream Invert – Elevation (z) of the invert of the upstream end of the pipe
5. Unique identifier matching downstream structure identifier in the as-built drawing
6. Downstream Measure Down - Distance from downstream structure elevation to invert of pipe measured in feet
7. Downstream Invert – Elevation (z) of the invert of the downstream end of the pipe
8. Pipe Shape (Box, Elliptical, Circular, etc.)
9. Pipe height measured in inches
10. Pipe width measured in inches
11. Pipe Material (BCCMP, RCP, HDPE, etc.)
12. Pipe Length measured in feet
13. Pipe Slope measured in feet per foot (ft/ft)

Pipe ID	Upstr. ID	Upstr. Measure Down	Upstr. Invert	Down str. ID	Downstr. Measure Down	Downstr. Invert	Pipe Shape	Pipe Height	Pipe Width	Pipe Material	Pipe Length	Pipe Slope
Pipe #1	DI #1	6.1	906.78	JB #3	10.2	905.06	Circular	24	24	BCCMP	291	0.0058
Pipe #2	CB #2	7.1	908.33	FES #1	6.05	906.83	Ellipse	36	24	BCCMP	238	0.0062
Pipe #3	HW #1	0	908.76	HW #2	0	908.33	Box	60	84	RCP	64	0.0066

610. Roadway Specifications

610.1. Survey Accuracy Requirements for Roadway Infrastructure

Accuracy requirements shall be a horizontal accuracy of < 0.5 ft for all roadway polygons and centerlines.

610.2 Digital Drawing Specifications

- A. The following specifications shall apply to the development of all digital as-built drawings pertaining to new roadways.
 1. Roadway centerlines shall be drawn from intersection to intersection and should not continue beyond the intersection points
 2. Roadway polygon edges should be drawn from back of curb to back of curb
 3. Intersecting road polygons should meet at the point of roadway centerline intersection
 4. All edges on polygons must be snapped together at the vertices. Gaps in polygon boundaries will not be accepted
 5. Roadway polygons should be completely enclosed

5. Lot number (if applicable)
6. Subdivision name

ID	Northing	Easting	Parcel Address	Lot Number	Subdivision Name
Lot #1	1251008.52	2213889.92	100 Any Street	1	Georgia Heights
Lot #2	1251410.95	2213486.14	110 Any Street	2	Georgia Heights
Lot #3	1251413.63	2213247.90	120 Any Street	3	Georgia Heights
Lot #4	1251358.94	2213213.00	130 Any Street	4	Georgia Heights

612. Impervious Surface Specifications (Non-Single Family Residential Development Only)

612.1. Survey Accuracy Requirements for Impervious Surfaces

Accuracy requirements shall be a horizontal accuracy of < 0.5 ft for all impervious surfaces.

612.2. Digital Drawing Specifications

The following specifications shall apply to the development of all digital as-built drawings pertaining to impervious surfaces.

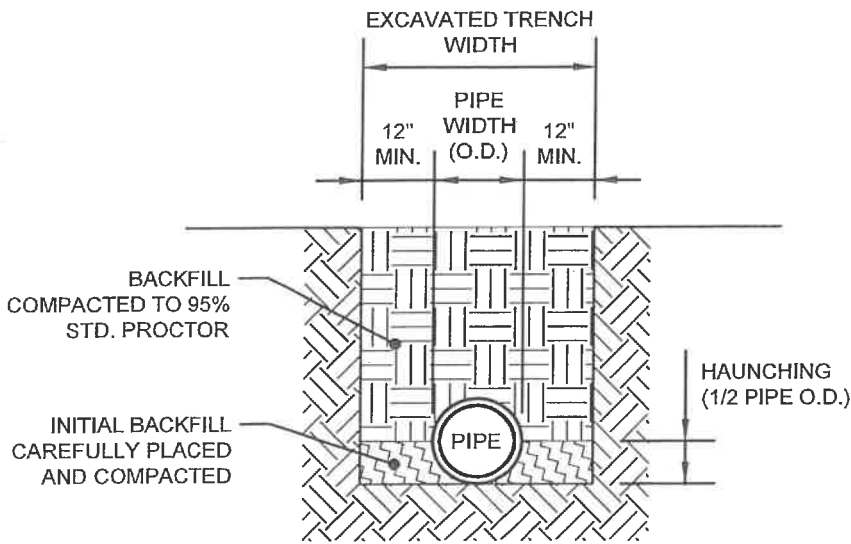
- A. Impervious surface edges should be drawn utilizing continuous polylines.
- B. All end points on polylines must be snapped together at the vertices. Gaps in polylines boundaries will not be accepted.

END OF SECTION 600

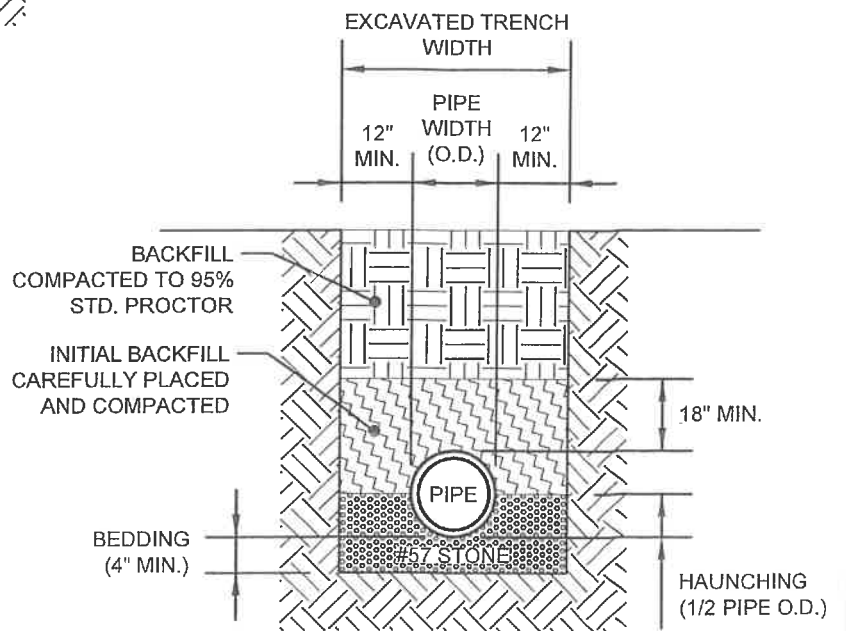
S009	Manhole Step	March 2023
S010	Air Release Valve	March 2023
S011	Existing Force Main Tie-in	March 2023
S012	Manhole Abandonment	March 2023
S013	Sewer Line Abandonment	March 2023
S014	Sewer Connection to Existing Structure	March 2023
S015	Sewer Transition Collar	March 2023
S016	Standard Sewer Service	March 2023
S017	Sewer Service with Vertical Drop	March 2023
S018	Typical Pump Station Layout	March 2023
S019	Typical Pump Station Wet Well and Valve Pit Plan	March 2023
S020	Typical Pump Station Wet Well and Valve Pit Section	March 2023
S021	Typical Pump Station Electrical Riser	March 2023
S022	Grease Trap Installation	March 2023

WATER

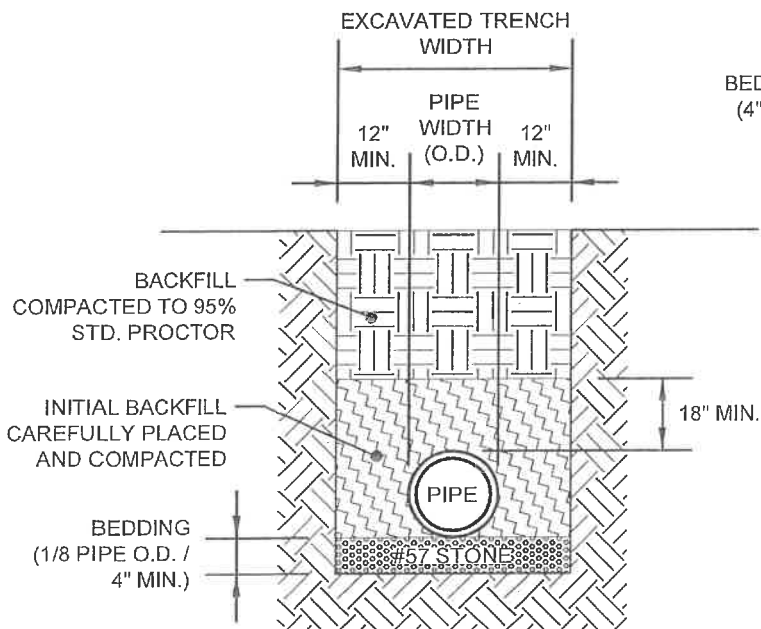
W001	Fire Hydrant Assembly	March 2023
W002	Gate Valve Assembly	March 2023
W003	Water Valve Marker	March 2023
W004	Water Meter Assembly	March 2023
W005	Water Service (Short Side)	March 2023
W006	Water Service (Long Side)	March 2023
W007	Backflow Preventer (1 1/2" and Larger)	March 2023
W008	Fire Main and Domestic Water Connection	March 2023
W009	Fire Department Connection	March 2023
W010	Water Main Termination	March 2023
W011	Typical Water Main Placement	March 2023
W012	Filling New Water Main	March 2023



TYPE 2



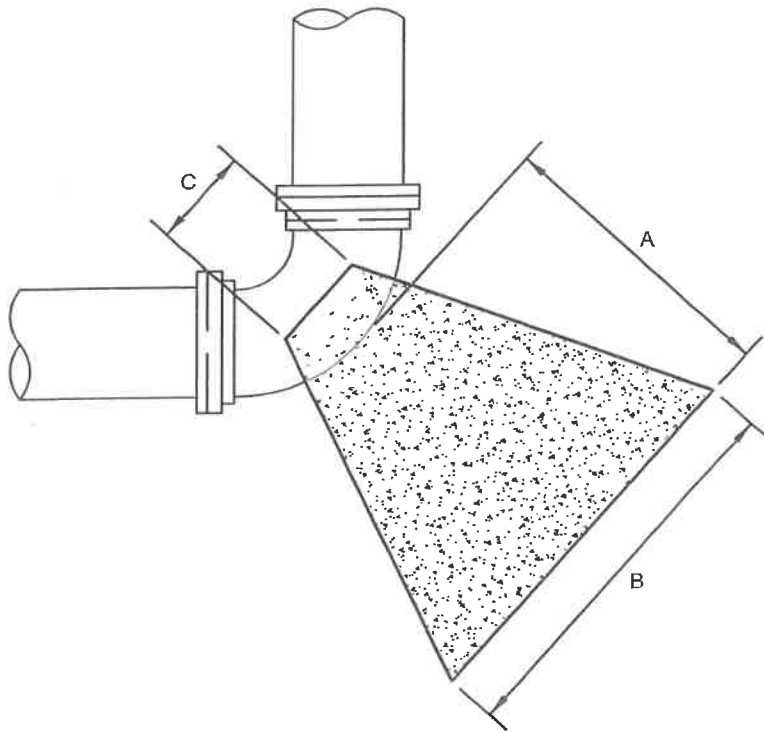
TYPE 5



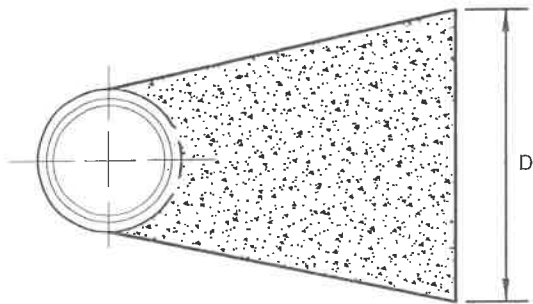
TYPE 4

NOTE:
 BEDDING FOR DUCTILE IRON PIPE SHALL CONFORM TO ANSI/AWWA C150/A21.50.





PLAN



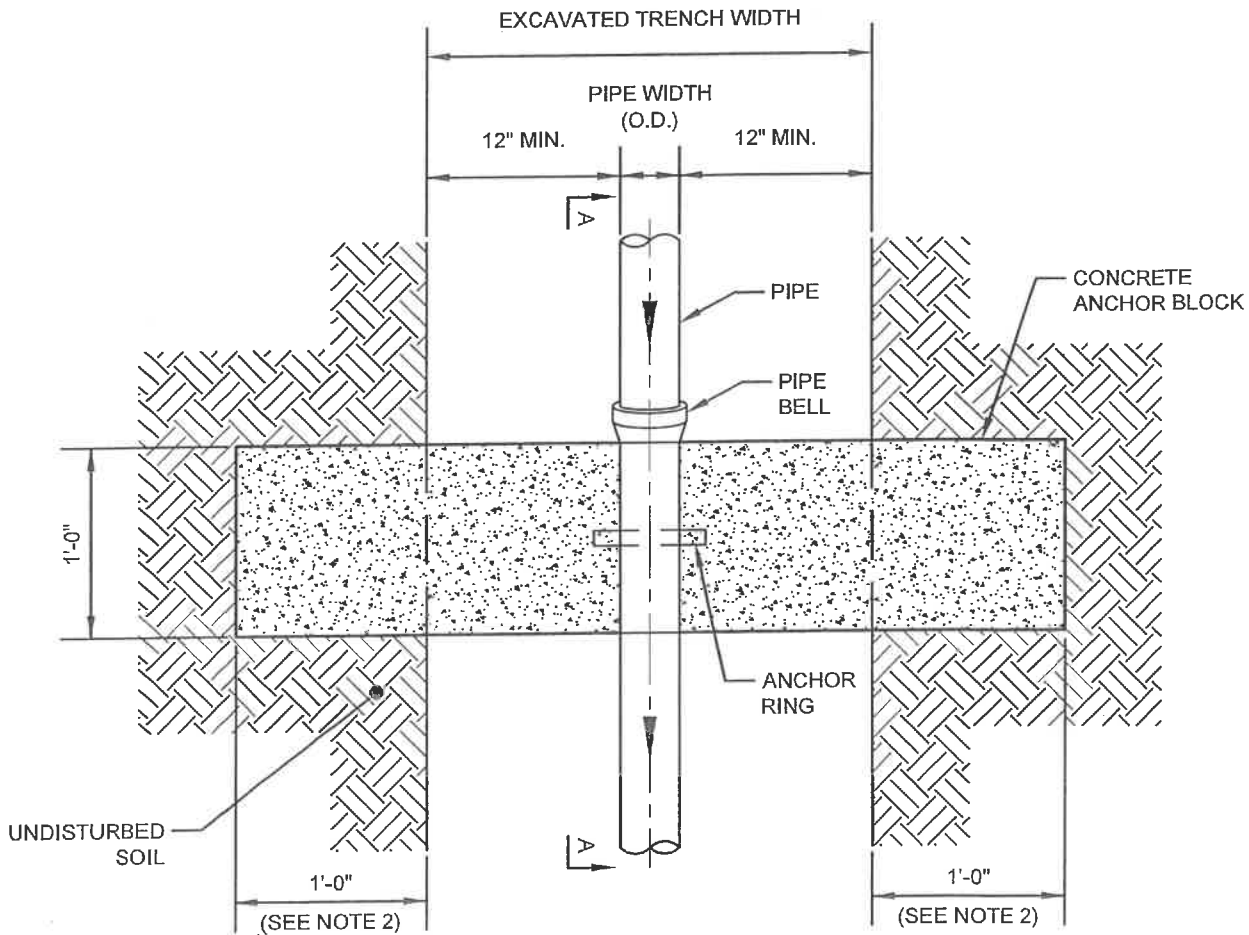
SECTION

MINIMUM DIMENSIONS FOR CONCRETE BLOCKING					
BEND	PIPE SIZE	A	B	C	D
11 1/4°	6"	12"	12"	7"	12"
	8"	12"	15"	7"	12"
	12"	12"	24"	11"	24"
	16"	24"	36"	15"	24"
	20"	24"	36"	19"	36"
22 1/2°	6"	12"	18"	7"	12"
	8"	12"	24"	7"	24"
	12"	24"	36"	11"	24"
	16"	24"	48"	15"	36"
	20"	36"	60"	19"	36"
45°	6"	18"	24"	7"	18"
	8"	24"	36"	7"	24"
	12"	24"	48"	11"	36"
	16"	36"	60"	15"	48"
	20"	48"	72"	19"	60"
90°	6"	18"	30"	7"	24"
	8"	24"	36"	7"	36"
	12"	48"	72"	11"	48"
	16"	48"	84"	15"	60"
	20"	96"	96"	19"	84"
TEES & PLUGS	6"	18"	24"	7"	24"
	8"	24"	36"	7"	24"
	12"	24"	48"	11"	48"
	16"	36"	60"	15"	60"
	20"	48"	84"	19"	72"
	24"	60"	96"	22"	84"

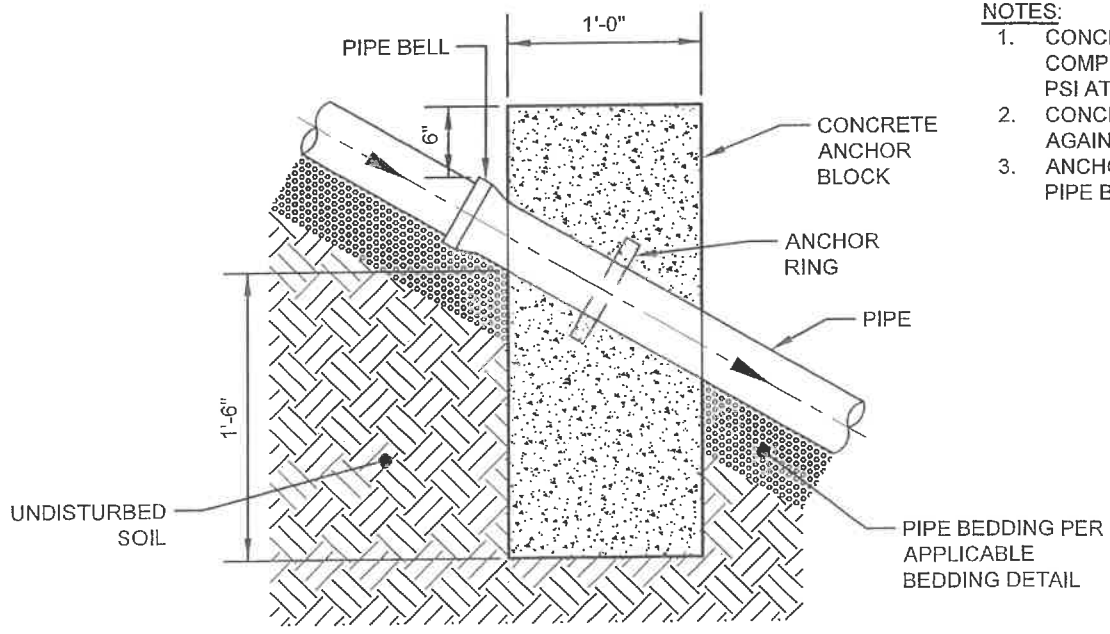
NOTES:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
2. THRUST BLOCK SHALL BE Poured AGAINST UNDISTURBED SOIL.
3. BOLTS AND NUTS SHALL BE PROTECTED FROM CONCRETE COVERAGE.
4. ABOVE DIMENSIONS ASSUME 150 PSI TEST PRESSURE. FOR GREATER TEST PRESSURE, ENGINEER SHALL SUBMIT DESIGN CALCULATIONS AND SHOW SIZES.





PLAN

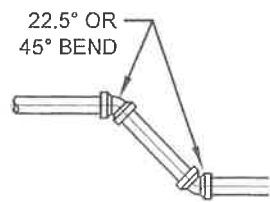
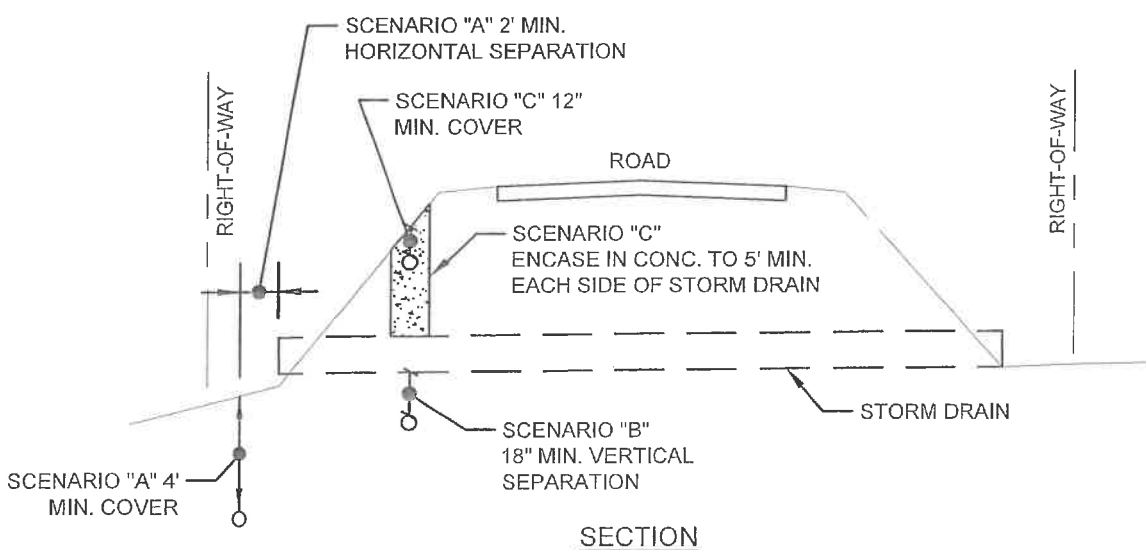
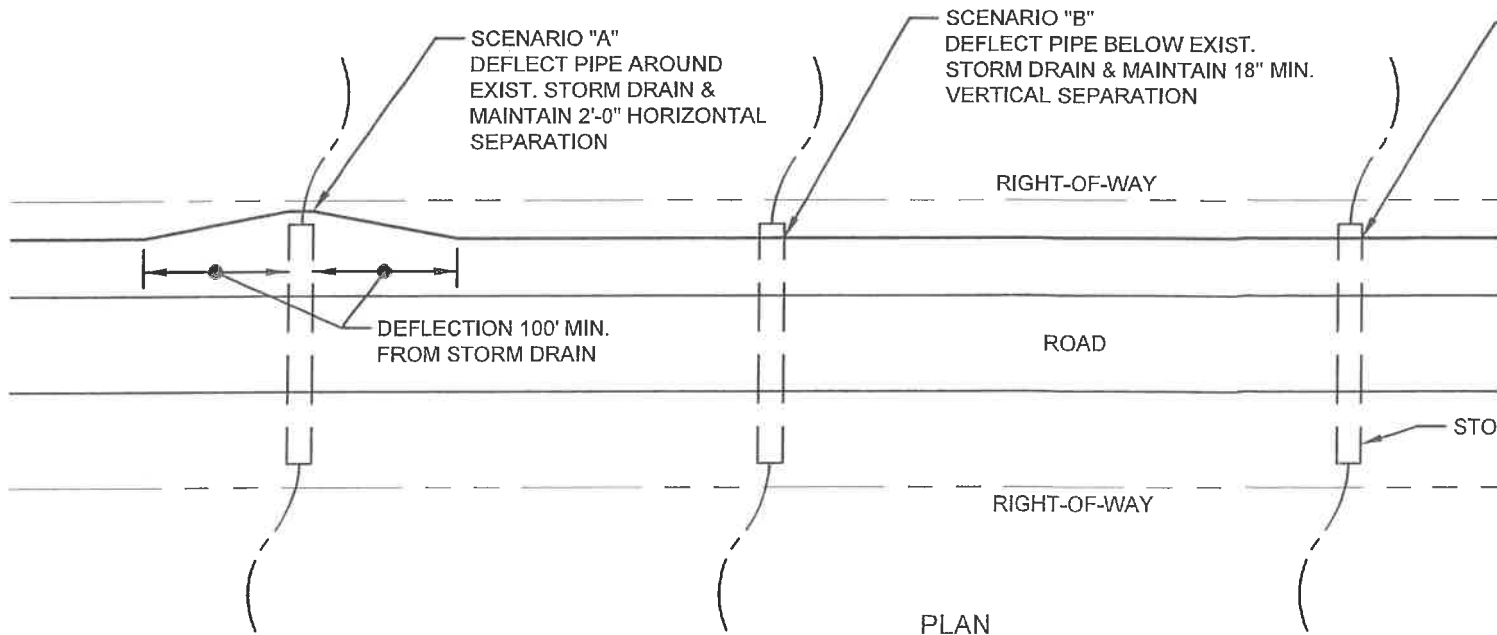


SECTION A-A

NOTES:

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
2. CONCRETE SHALL BE POURED AGAINST UNDISTURBED SOIL.
3. ANCHOR BLOCK SHALL NOT COVER PIPE BELL CONNECTION.





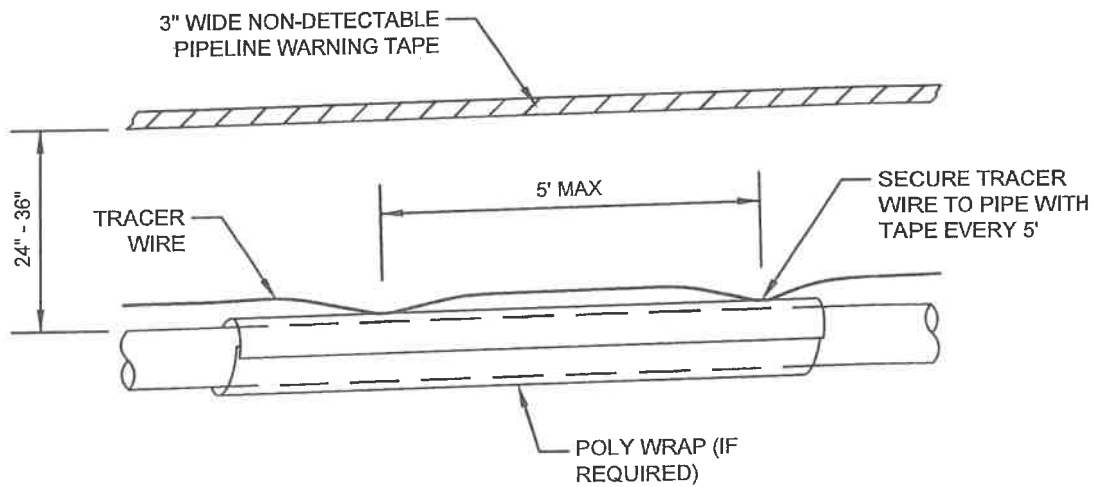
PIPE F

- NOTES:
1. PIPE FITTINGS NOT R ACHIEVED USING PIP DEFLECTION INSTALL

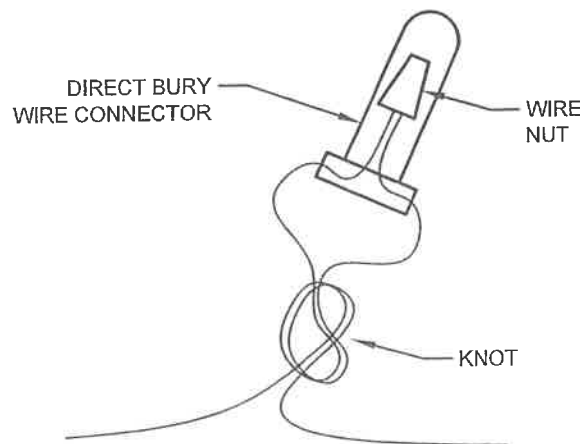


CITY OF
GRANTVILLE, GEORGIA

TYPICAL PIPE INSTALLATION
AT CROSS DRAIN



WIRE TAPING & WARNING TAPE



DIRECT BURY WIRE CONNECTION

NOTES:

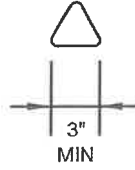
1. TRACER WIRE SHALL BE INSTALLED IN A CONTINUOUS RUN ALONG THE TOP OF THE PIPE.
2. SECURE TRACER WIRE TO TOP OF PIPE OR POLY WRAP (IF REQUIRED) EVERY 5 FEET WITH TAPE.
3. INSTALL 3" WIDE NON-DETECTABLE PIPELINE WARNING TAPE 24"-36" ABOVE PIPE. FOR SEWER PIPELINES, USE GREEN TAPE INDICATING BURIED SEWER LINE. FOR WATER PIPELINES, USE BLUE TAPE INDICATING BURIED WATER LINE.
4. BRING TRACER WIRE TO SURFACE AT EACH VALVE BOX, INCLUDING FIRE HYDRANT VALVES, AND TIE OFF INSIDE VALVE BOX WITHIN 6" OF LID FOR EASY ACCESS.
5. TAKE CARE TO NOT DAMAGE THE WIRE INSULATION. REPAIR DAMAGED WIRE INSULATION WITH ELECTRICAL TAPE.
6. USE 12 GAUGE MINIMUM TRACER WIRE, DURATRACE OR APPROVED EQUAL.
7. WHEN BORING, ATTACH WIRE TO THE LEAD END OF THE PIPE AND AVOID KINKING AND TANGLING DURING INSTALLATION.
8. WHEN DIRECTIONAL BORING, 3 WIRES SHALL BE PULLED WITH THE PIPE, IN CASE OF WIRE DAMAGE DURING INSTALL.
9. INSTALL A COPPERHEAD INDUSTRIES SNAKE PIT TRACER WIRE ACCESS BOX, OR APPROVED EQUAL, AT CONNECTION POINT TO EXISTING PIPE AND AT DEAD END(S) OF THE PIPELINE.



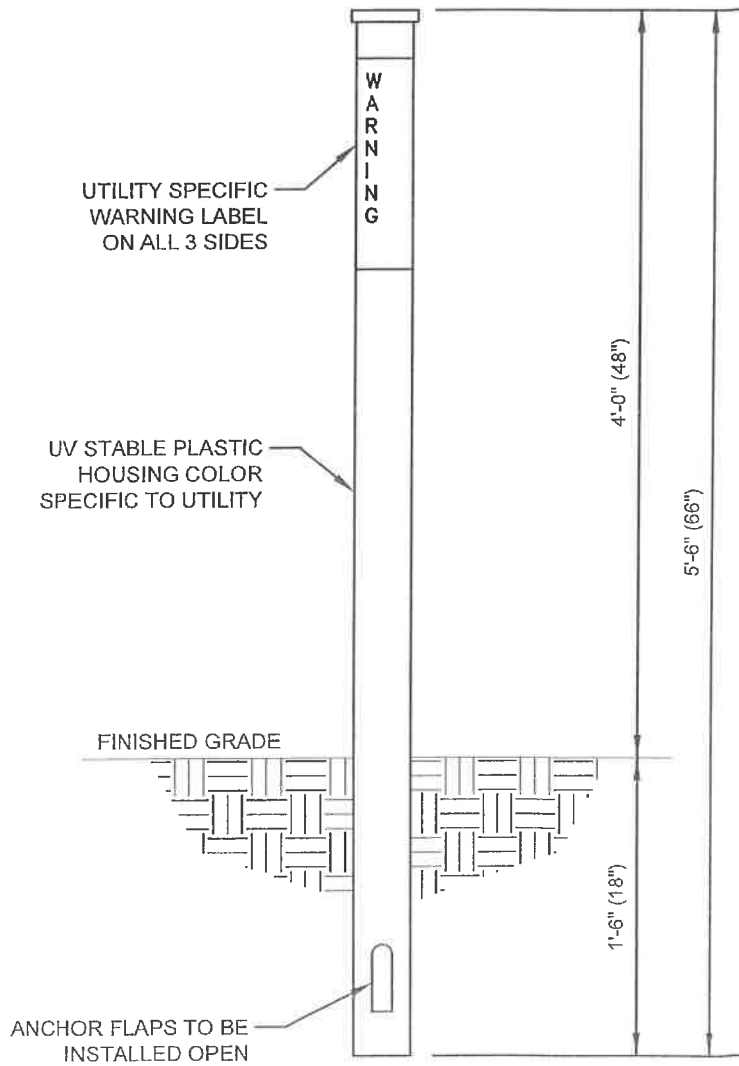
UTILITY SPECIFIC COLOR CODING	
COLOR	UTILITY
BLUE	WATER (POTABLE)
GREEN	SEWER
RED	ELECTRIC
YELLOW	GAS
ORANGE	TELECOMMUNICATION
PURPLE	WATER (NON-POTABLE/REUSE)

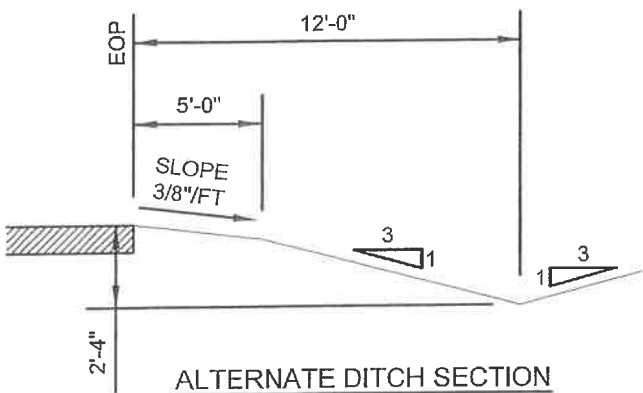
NOTES:

1. USE RHINO TRIVIEW MARKER POST, OR APPROVED EQUAL.

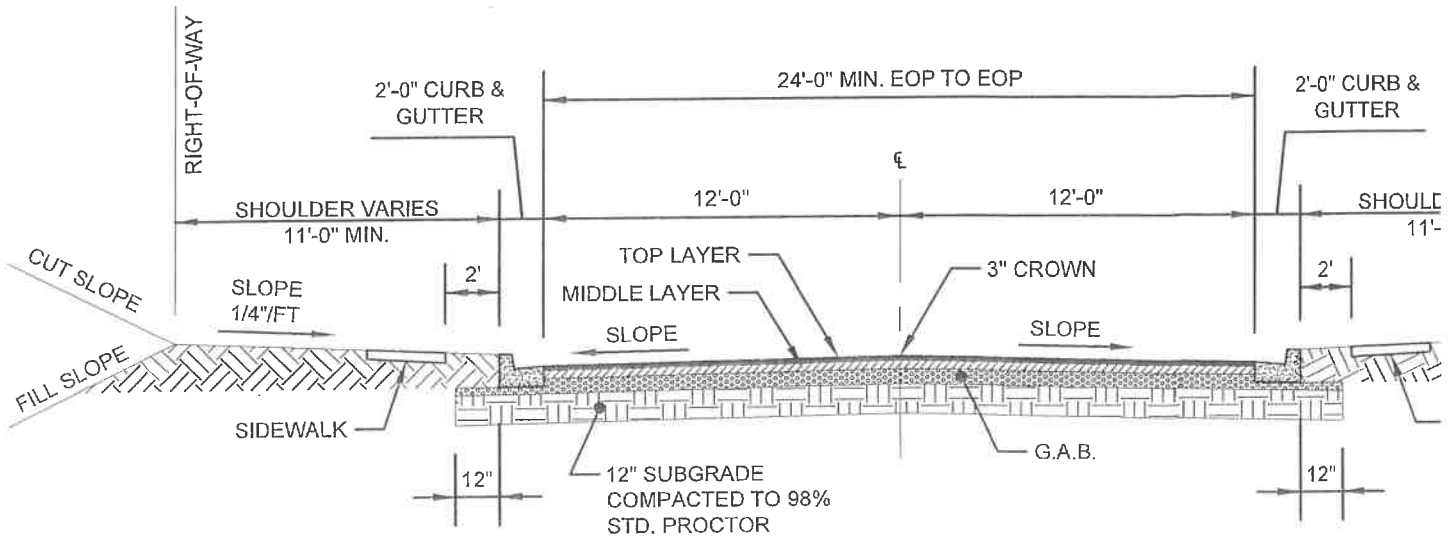


TOP



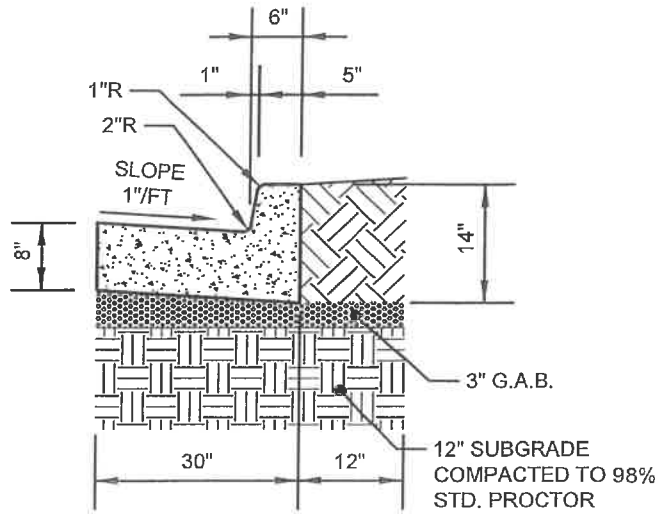


PAVEMENT STRUCTURAL COMPOSITION		
ROAD CLASSIFICATION	BASE	MIDDLE LAYER
	GRADED AGGREGATE BASE (GAB)	19.5mm ASPHALTIC CONCRETE BINDER
MAJOR THOROUGHFARE	8"	3"
COLLECTOR "A" STREET	8"	2"
COLLECTOR "B" STREET	6"	2"
LOCAL (MINOR) STREET	6"	2"



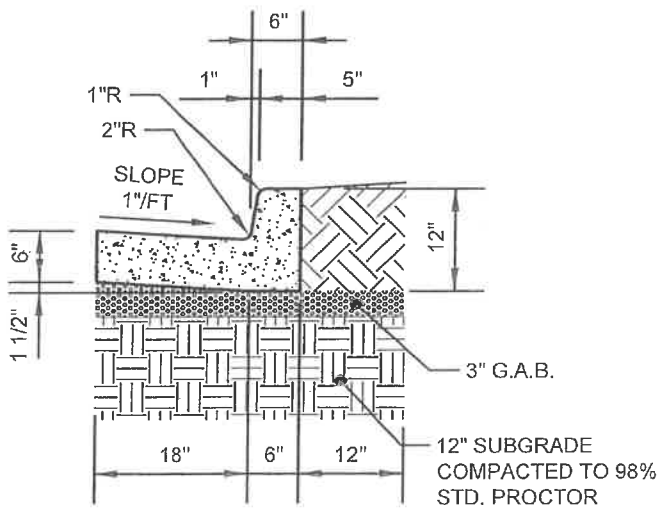
- NOTES:**
1. ANY AREAS OF INADEQUATELY COMPACTED FILL OR UNSUITABLE MATERIAL OF ANY NATURE SHALL BE REMOVED AND REPLACED WITH COMPACTED LAYERS TO AT LEAST 95% OF MAXIMUM DENSITY (AASHTO T-99), BEFORE ANY TYPE OF PAVING IS APPLIED.
 2. CONTRACTOR SHALL NOT BEGIN TO APPLY PAVING WITHOUT A RELEASE FROM THE CITY, AND WILL BE HELD RESPONSIBLE FOR REPAIR SUBGRADE WHICH MAY FAIL BECAUSE OF INADEQUATE SUBGRADE CONDITIONS, AS WELL AS FOR ORDINARY PAVING DEFICIENCIES.
 3. IF A DELAY IN PAVING IS EXPECTED BY THE DEVELOPER OR THE CITY, THE STONE BASE MATERIAL SHALL BE PRIMED AT THE RATE OF WITH R.C. 70 CUT BACK ASPHALT THE SAME DAY IT IS COMPACTED.
 4. A BITUMINOUS TACK COAT SHALL BE APPLIED BETWEEN EACH LIFT OF ASPHALTIC CONCRETE. TACK COAT SHALL BE ASPHALT CEMENT AC-20 OR AC-30. APPLICATION RATE SHALL BE 0.05 GAL/SY.





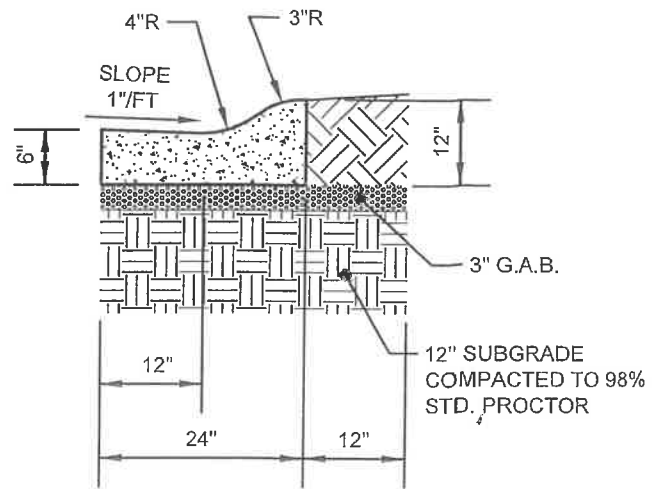
TYPE 1

COMMERCIAL OR INDUSTRIAL



TYPE 2

RESIDENTIAL



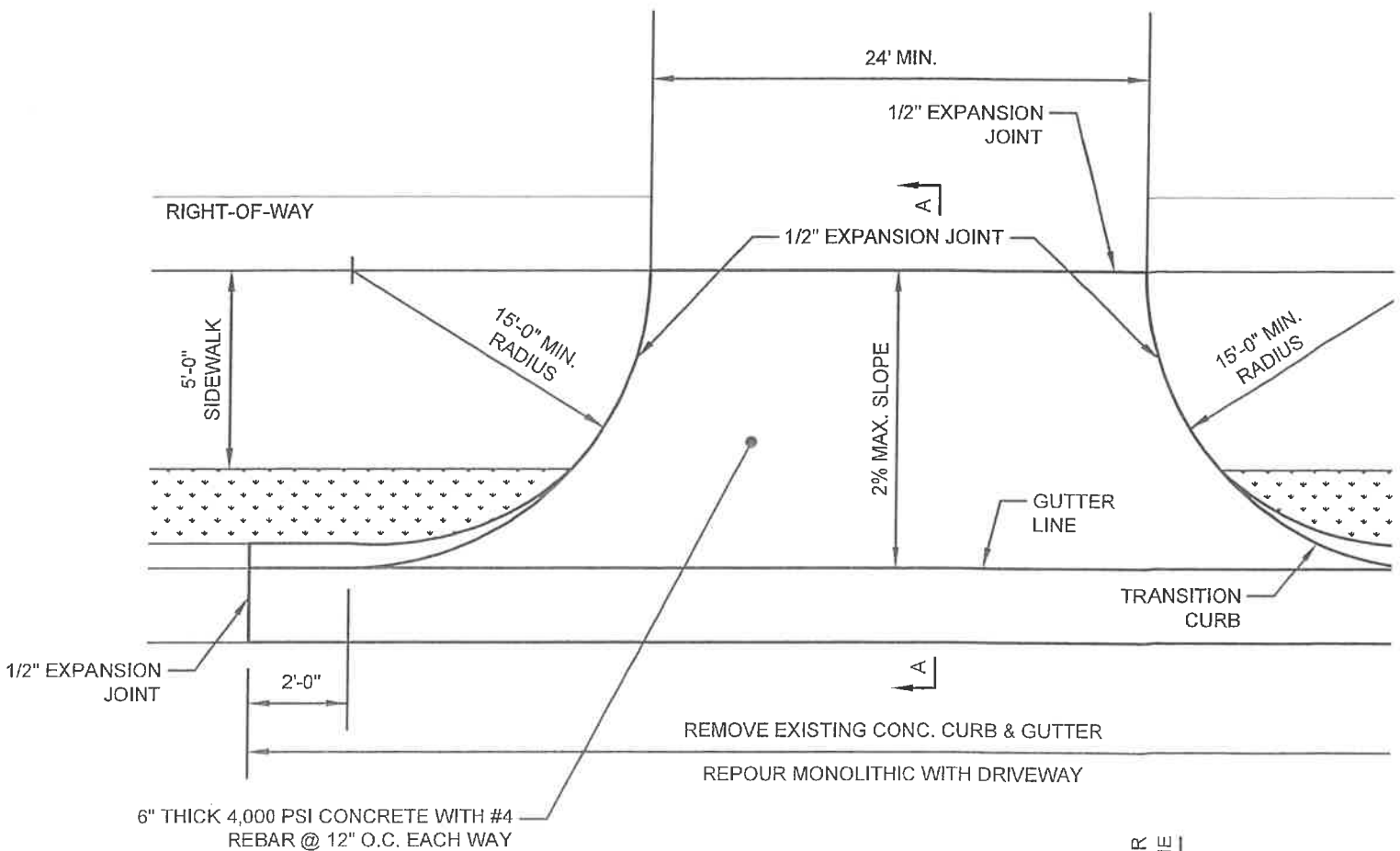
TYPE 3

RESIDENTIAL

NOTES:

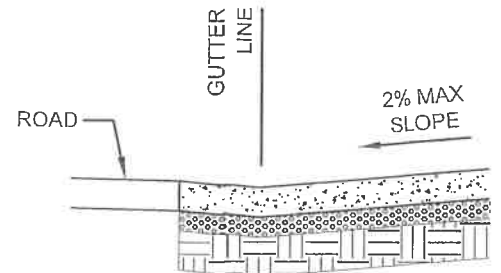
1. CURB AND GUTTER SHALL BE CONSTRUCTED OF FIBER REINFORCED 3,000 PSI CONC.
2. EXPANSION JOINTS SHALL BE 1/2" BITUMINOUS FIBER JOINT FILLER AND SHALL BE REQUIRED AT EACH CONNECTION TO A STRUCTURE, CURB RETURNS AND AT A MINIMUM OF 250 FT ON CENTER.





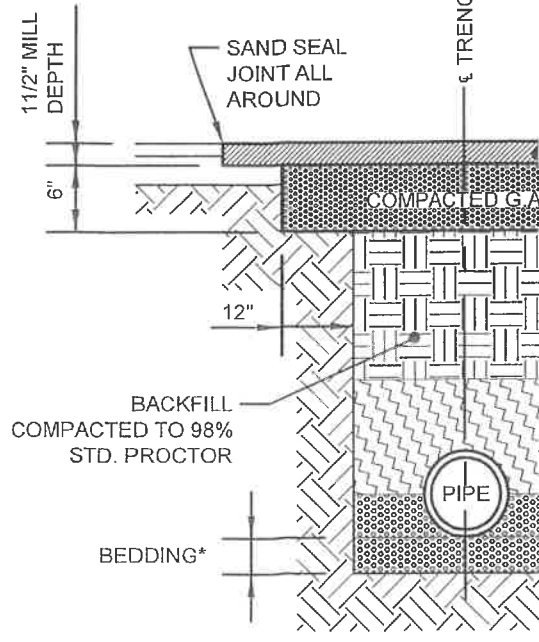
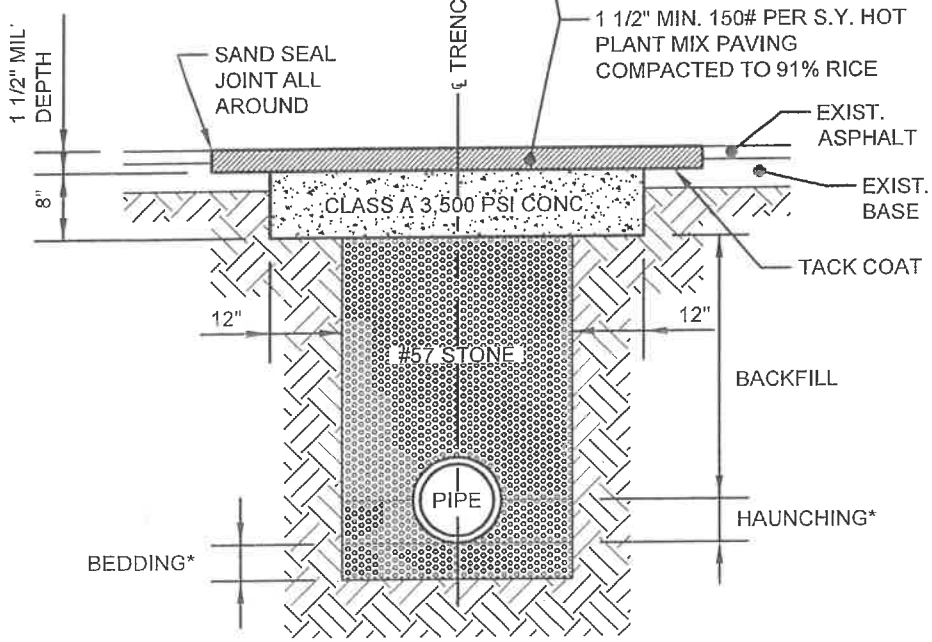
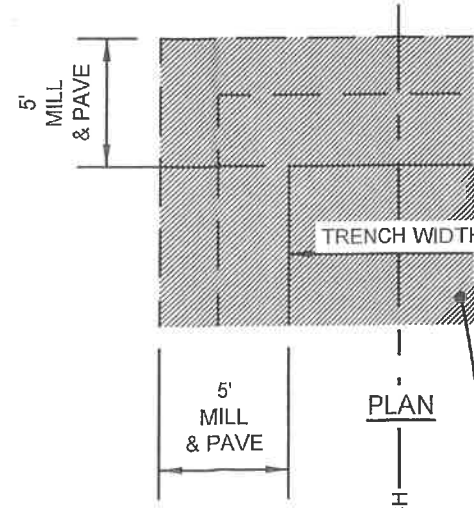
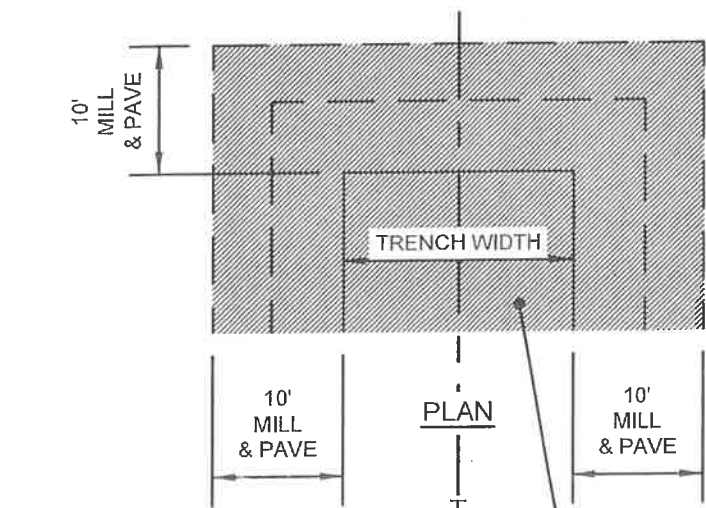
NOTES:

1. DRIVEWAY, CURB AND GUTTER SHALL BE CONSTRUCTED 4,000 PSI CONC.
2. SAWCUT 1 1/2" DEEP JOINTS IN 12'x12' SYMMETRIC PATTERN, AS REQUIRED FOR CONC. APRON LARGER THAN 12'x12', AND AT EACH CHANGE IN GRADE.
3. EXPANSION JOINTS SHALL BE 1/2" BITUMINOUS FIBER JOINT FILLER AND SHALL BE REQUIRED AT EACH CONNECTION TO EXISTING CURB AND GUTTER, DRIVEWAY OR SIDEWALK.



SECTION A





SECTION
ASPHALT ROAD

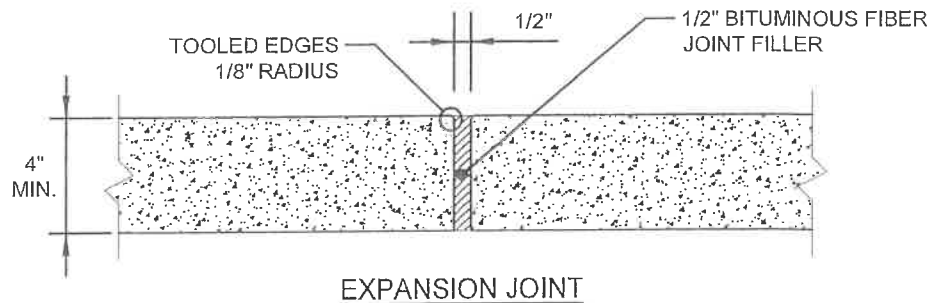
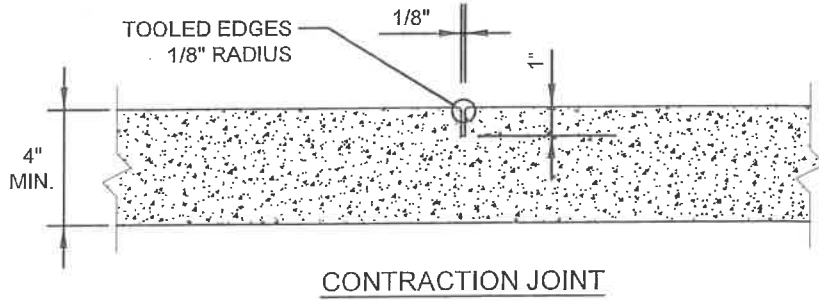
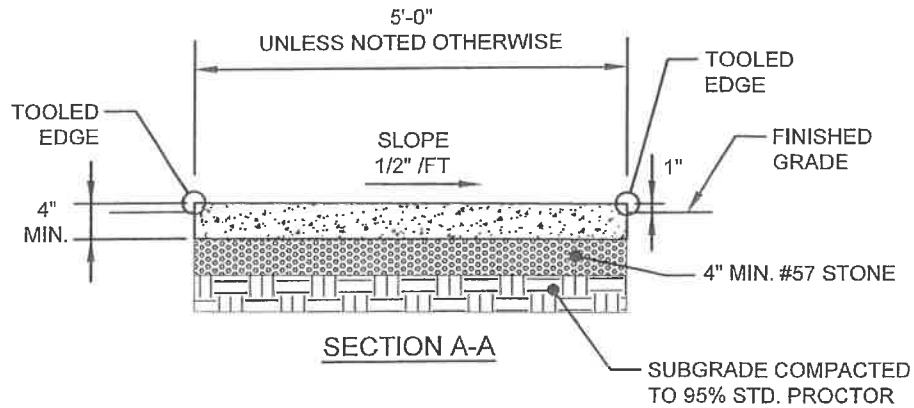
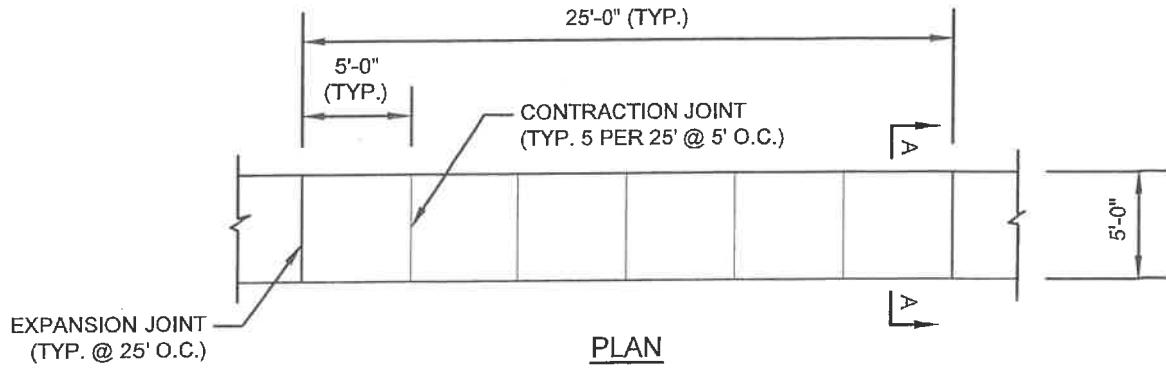
SECTION
ASPHALT DRIVE

* DEPTH AND MATERIAL AS REQUIRED BY BEDDING DETAIL



CITY OF
GRANTVILLE, GEORGIA

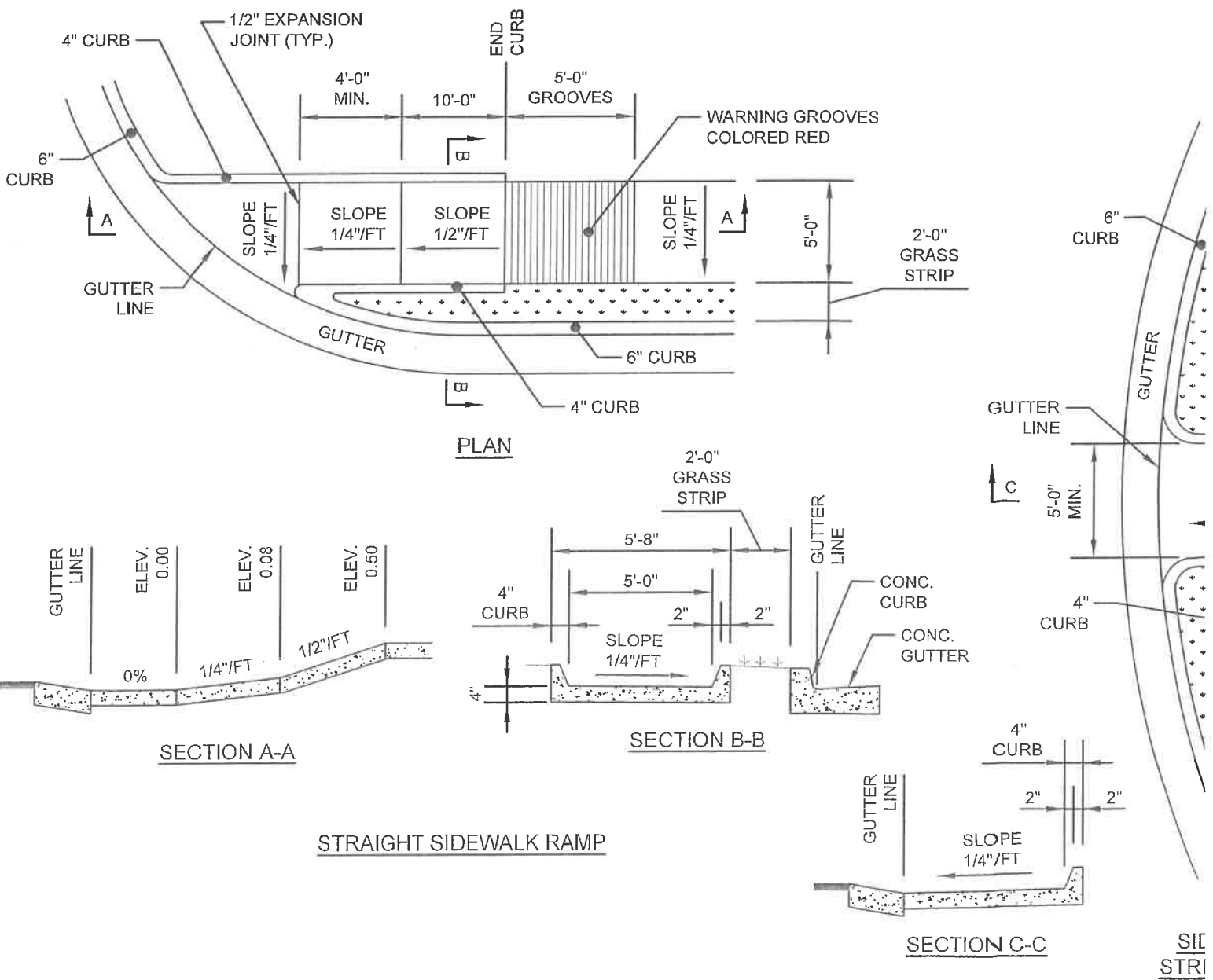
ASPHALT PAVEMENT PATCH

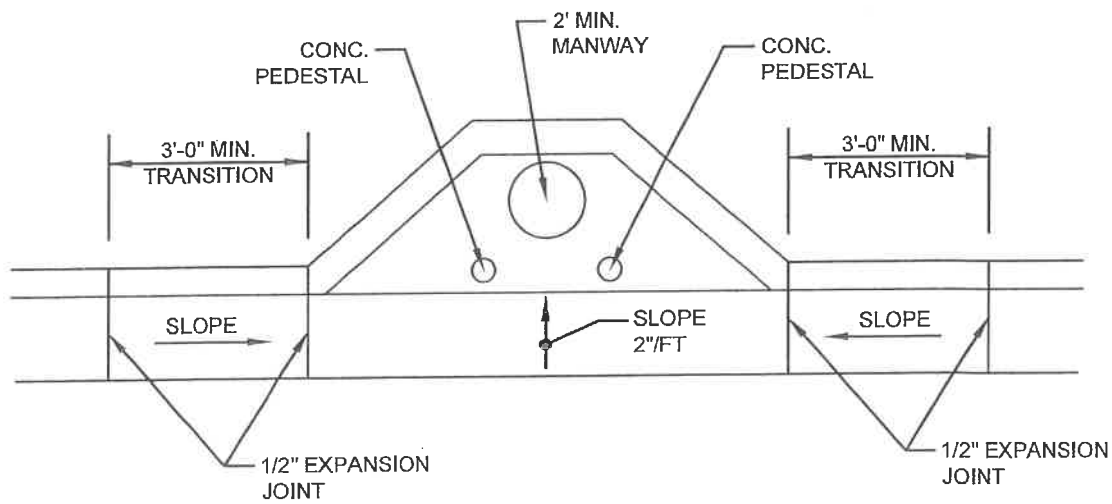


NOTES:

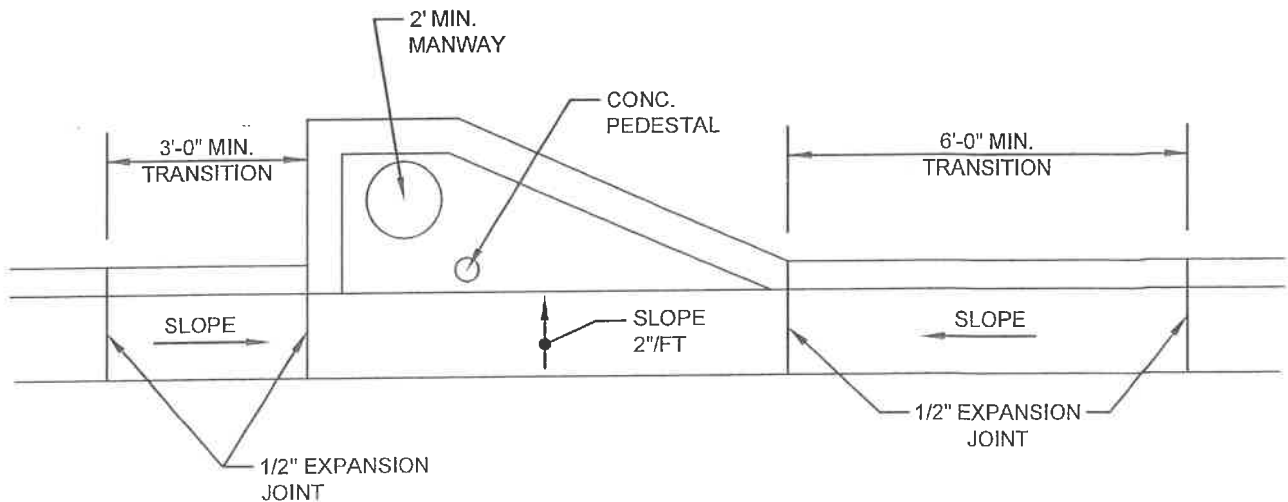
1. SIDEWALK AND RAMPS SHALL BE CONSTRUCTED OF 4" MIN. THICK, 3000 PSI CONC.
2. SIDEWALK INSTALLATION SHALL MEET THE REQUIREMENTS OF THE "UNIFORM FEDERAL ACCESSIBILITY STANDARDS" (UFAS), AND THE "AMERICAN DISABILITY ACT OF 1991", AND THE "GEORGIA ACCESSIBILITY CODE" LATEST EDITION.
3. EXPANSION JOINTS SHALL BE 1/2" BITUMINOUS FIBER JOINT FILLER AND ARE REQUIRED AT ALL BREAKS IN GRADE ON ALL RAMPS, BETWEEN CURB AND SIDEWALK, AND BETWEEN THE SIDEWALK AND DRIVEWAYS OR ANY OTHER STRUCTURE.







DOUBLE WING CATCH BASIN



SINGLE WING CATCH BASIN

NOTES:

1. CATCH BASIN CONSTRUCTION SHALL COMPLY WITH GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD DETAILS NUMBERS 1033, 1034, AND 1040.
2. CURB AND GUTTER SHALL BE CONSTRUCTED OF FIBER REINFORCED 3,000 PSI CONC.
3. EXPANSION JOINTS SHALL BE 1/2" BITUMINOUS FIBER JOINT FILLER AND SHALL BE REQUIRED AT EACH CONNECTION TO A STRUCTURE, CURB RETURNS AND AT A MINIMUM OF 250 FT ON CENTER.

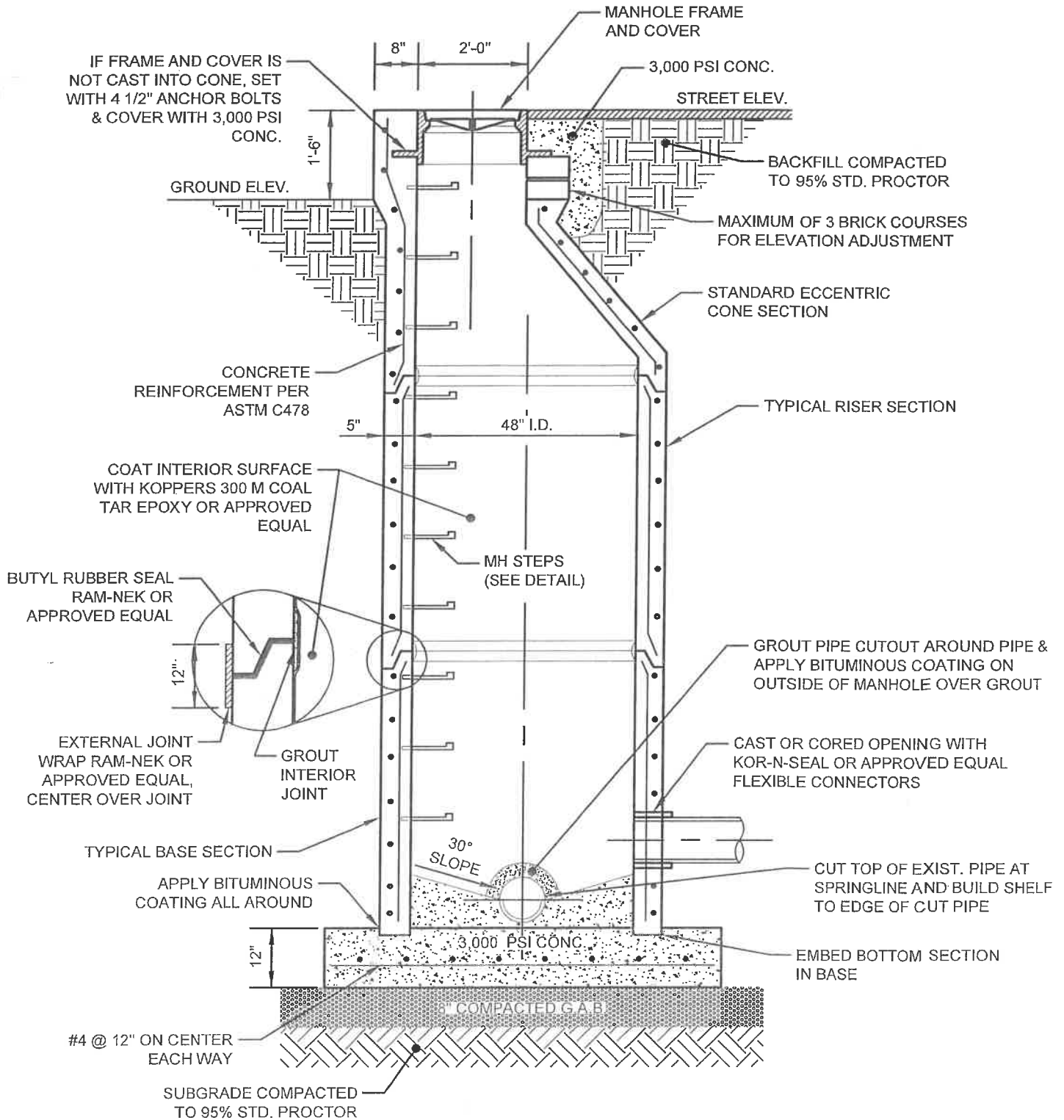


CITY OF
GRANTVILLE,
GEORGIA

CATCH BASIN

DETAIL NO.
R012

DATE:



NOTES:

1. MANHOLES SHALL BE FLUSH MOUNTED IN ALL PAVED AREAS, SIDEWALKS AND WITHIN ROAD RIGHT-OF-WAYS.
2. MANHOLES LOCATED OUTSIDE OF PAVED AREAS, SIDEWALKS AND ROAD RIGHT-OF-WAYS SHALL BE MOUNTED 1.5FT ABOVE GRADE AND FRAME SHALL BE CAST INTO PRECAST MANHOLE.
3. CONSTRUCT TROUGH FOR NEW INCOMING PIPES.



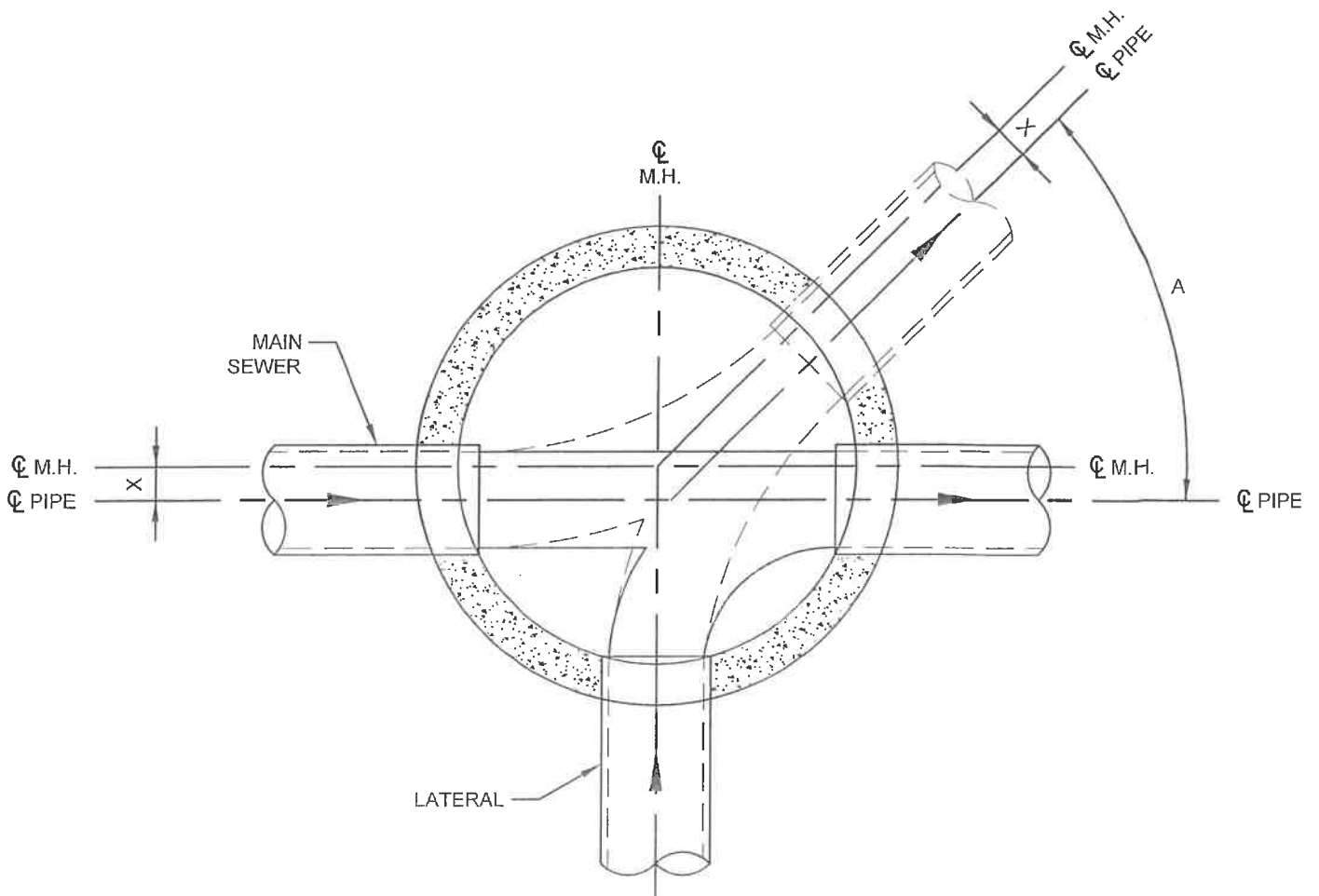
CITY OF
GRANTVILLE,
GEORGIA

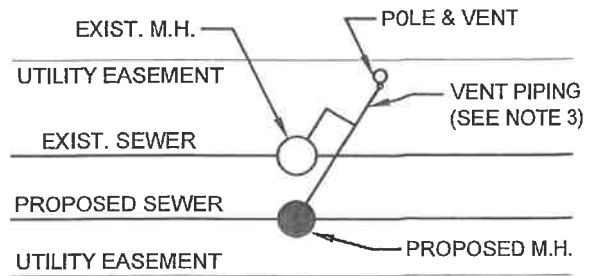
DOGHOUSE MANHOLE

DETAIL NO.
S002

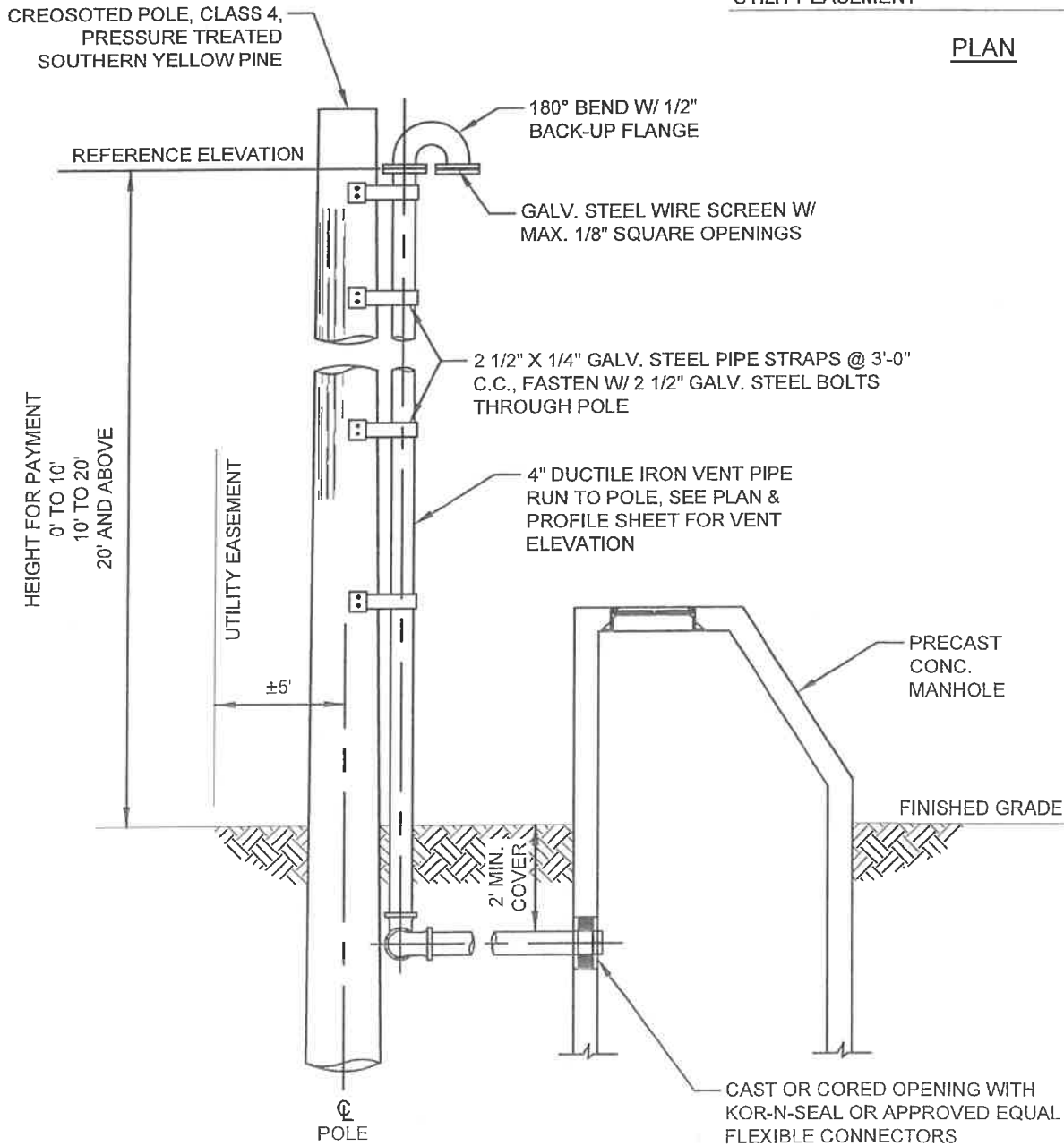
DATE:

GOVERNING DIMENSIONS FOR CIRCULAR MANHOLES			
PIPE SIZE	ANGLE "A"	M.H. DIA.	DIMENSION "X"
8" - 15"	0° - 90°	4'-0"	0"
18" - 24"	0° - 60°	4'-0"	0"
18" - 24"	60° - 90°	5'-0"	6"
27" - 30"	0° - 30°	5'-0"	0"
27" - 30"	30° - 60°	5'-0"	6"
27" - 30"	60° - 90°	6'-0"	8"
36"	0° - 90°	6'-0"	0"
42"	0° - 60°	6'-0"	0"
48"	0° - 30°	6'-0"	6"





PLAN



SECTION

NOTES:

1. REFERENCE ELEVATION SHALL BE ABOVE THE 100 YR FLOOD PLAIN ELEVATION.
2. BURIED PIPE SHALL BE MECHANICAL JOINT AND PIPE ABOVE GROUND SHALL BE FLANGED.
3. IF PROPOSED MANHOLE WILL BE INSTALLED NEAR AN EXISTING MANHOLE, TIE VENT PIPING TOGETHER AND CONNECT BOTH MANHOLES TO SINGLE VENT.

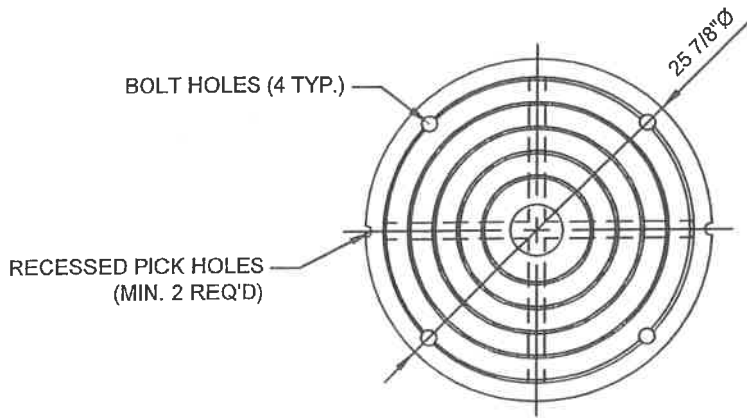


CITY OF
GRANTVILLE,
GEORGIA

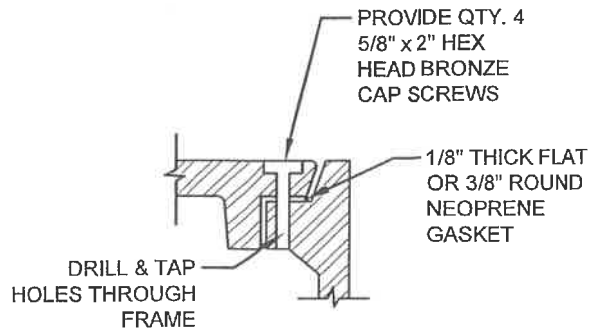
MANHOLE VENT

DETAIL NO.
S006

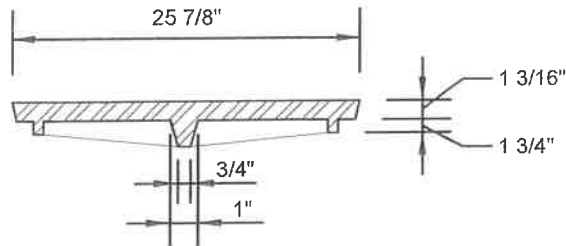
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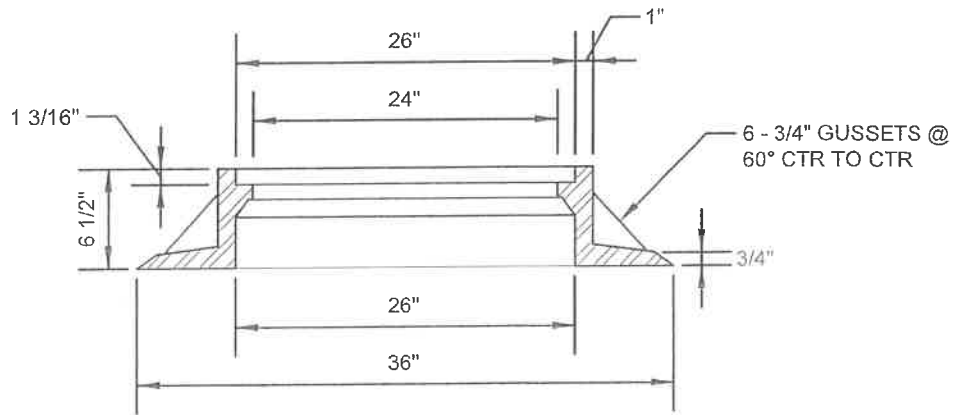
COVER PLAN



BOLT HOLE SECTION



COVER SECTION

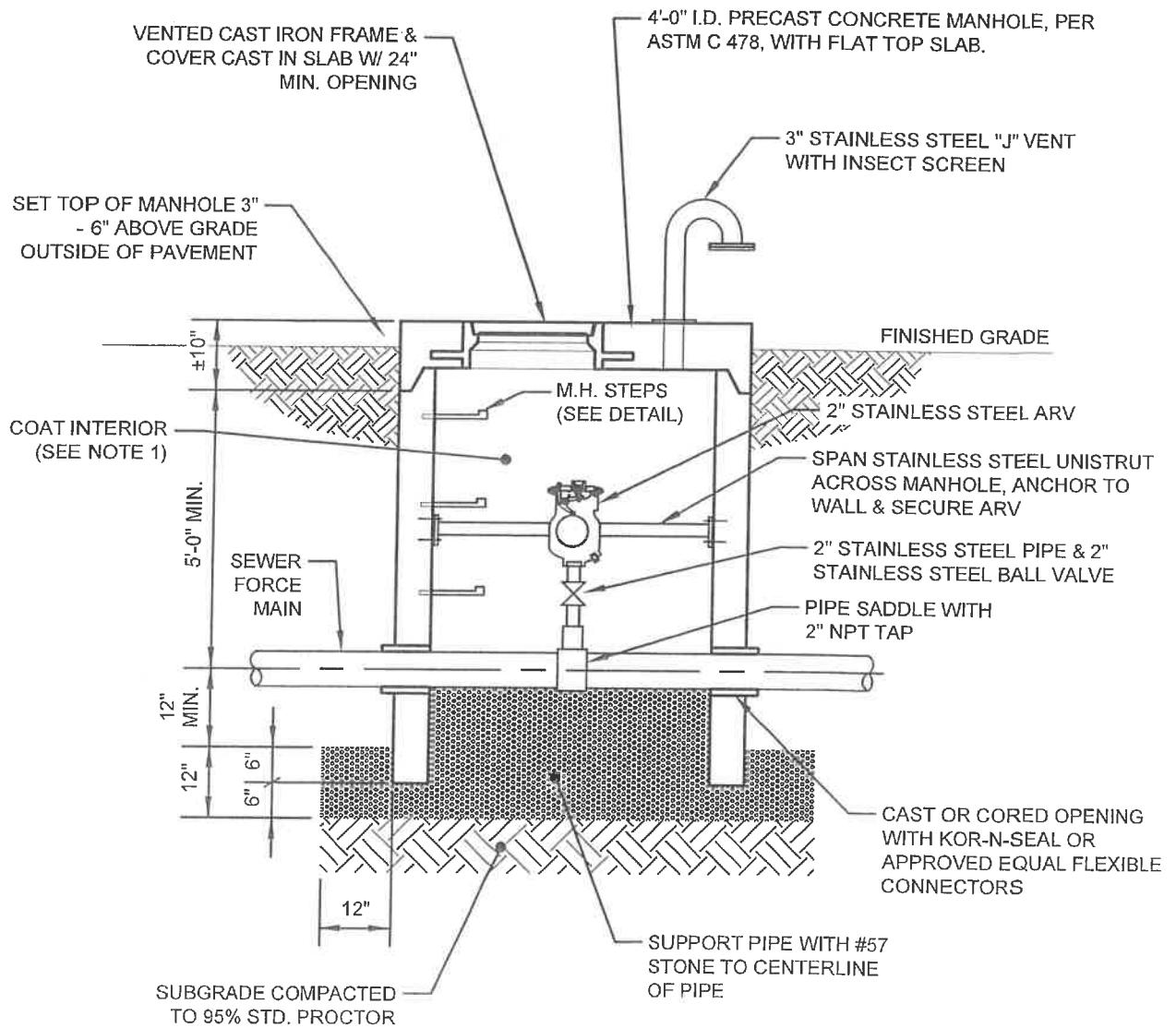


FRAME SECTION

NOTES:

1. APPROXIMATE WEIGHTS: FRAME = 200 LBS / COVER = 170 LBS / TOTAL = 370 LBS
2. SEATING SURFACE OF FRAMES AND COVERS TO BE MACHINED FOR FIT.
3. MANHOLE LID SHALL HAVE INSCRIPTION "SEWER", "STORM", ETC. PER APPLICATION.

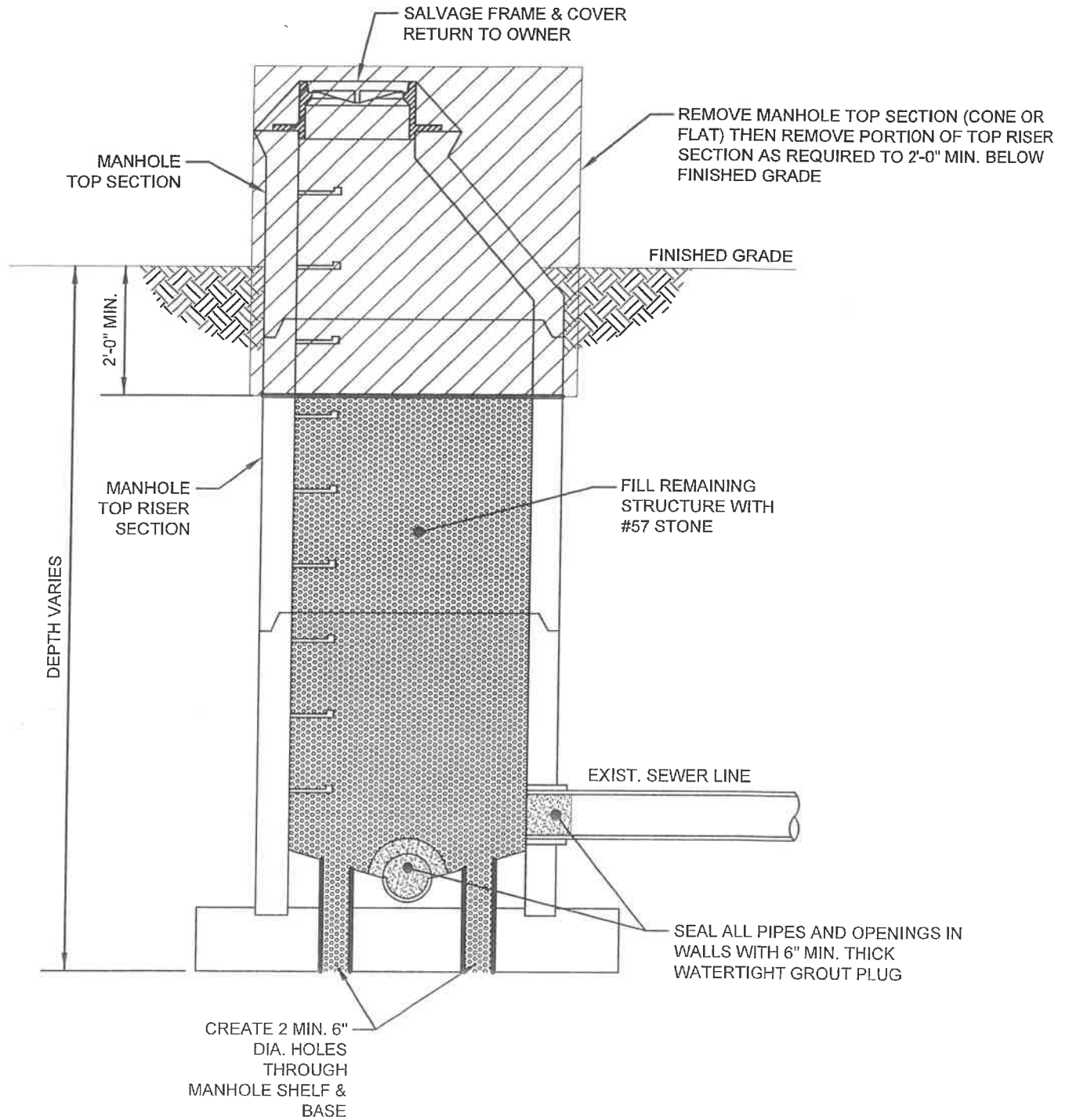




NOTES:

1. PAINT ENTIRE INTERIOR SURFACE OF MANHOLE WITH 24 MILS MIN. DRY FILM THICKNESS KOPPERS BITUMASTIC 300M COAL TAR EPOXY, OR APPROVED EQUAL.
2. AIR RELEASE VALVE (ARV): USE 2" SEWAGE AIR RELEASE VALVE, STAINLESS STEEL BODY & INTERNALS, 2" INLET, 1" OUTLET (CRISPIN UX20B-L OR APPROVED EQUAL).
3. INSTALL ARVs AS INDICATED ON THE PUMP STATION PLANS, AND FORCE MAIN PLAN AND PROFILE SHEETS.

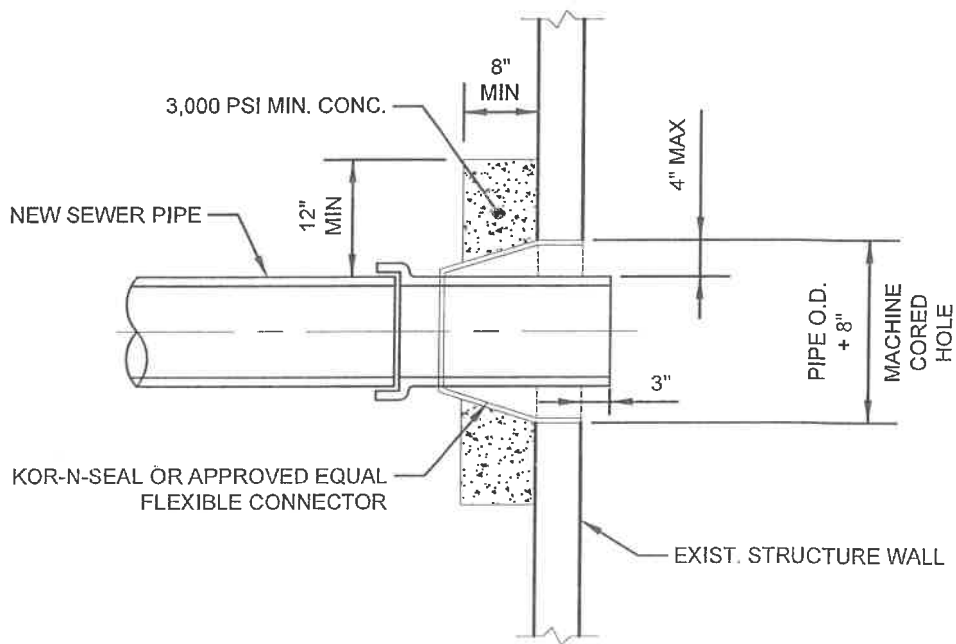




MANHOLE BENEATH PAVEMENT OR CONCRETE:
RESTORE AREA PER PAVEMENT OR CONCRETE PATCH DETAIL OR, IF APPLICABLE, PER GDOT STANDARDS.

MANHOLES OUTSIDE OF PAVEMENT OR CONCRETE:
BACKFILL WITH SUITABLE MATERIAL, COMPACT TO 85% STD. PROCTOR AND RESTORE WITH PERMANENT VEGETATION.



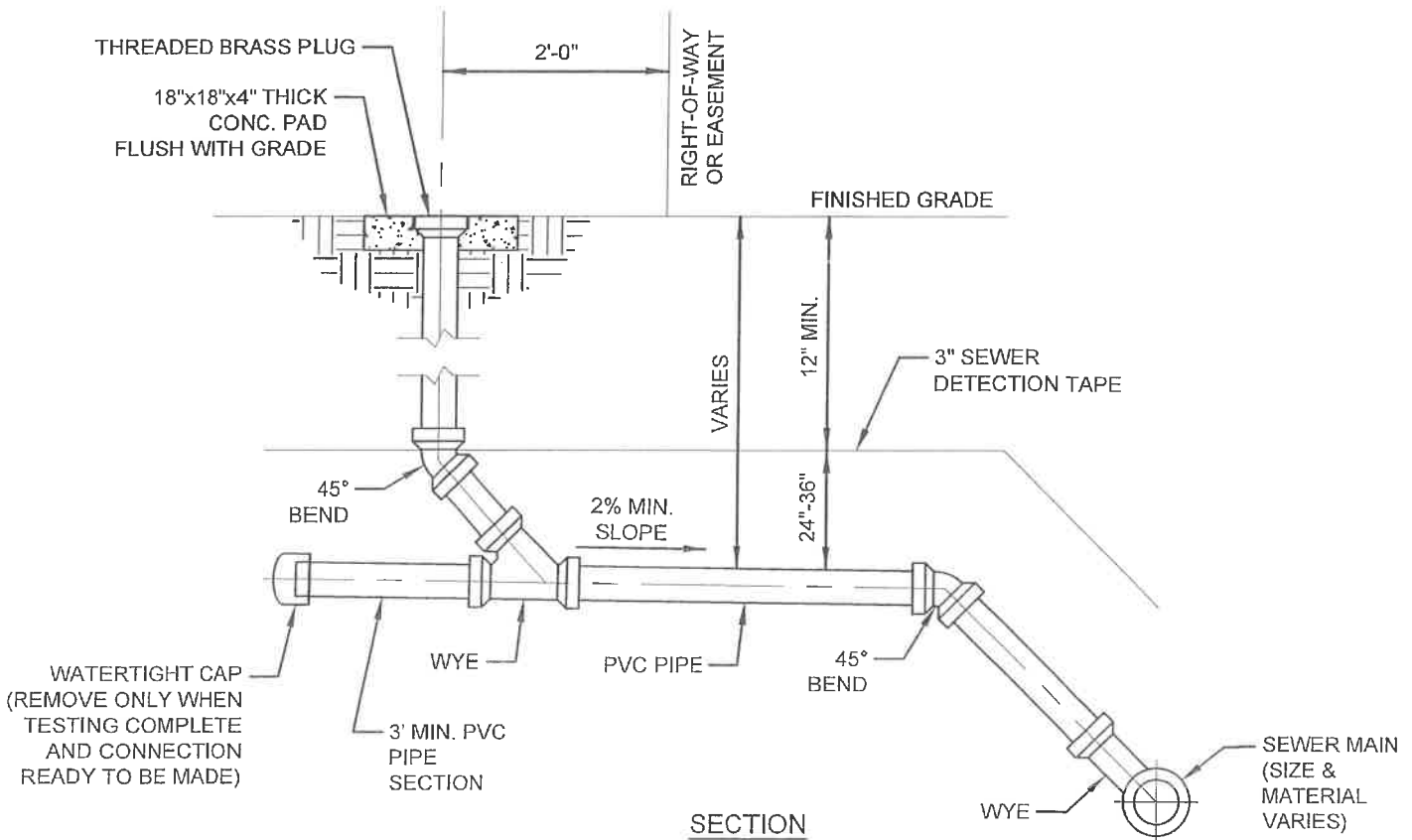
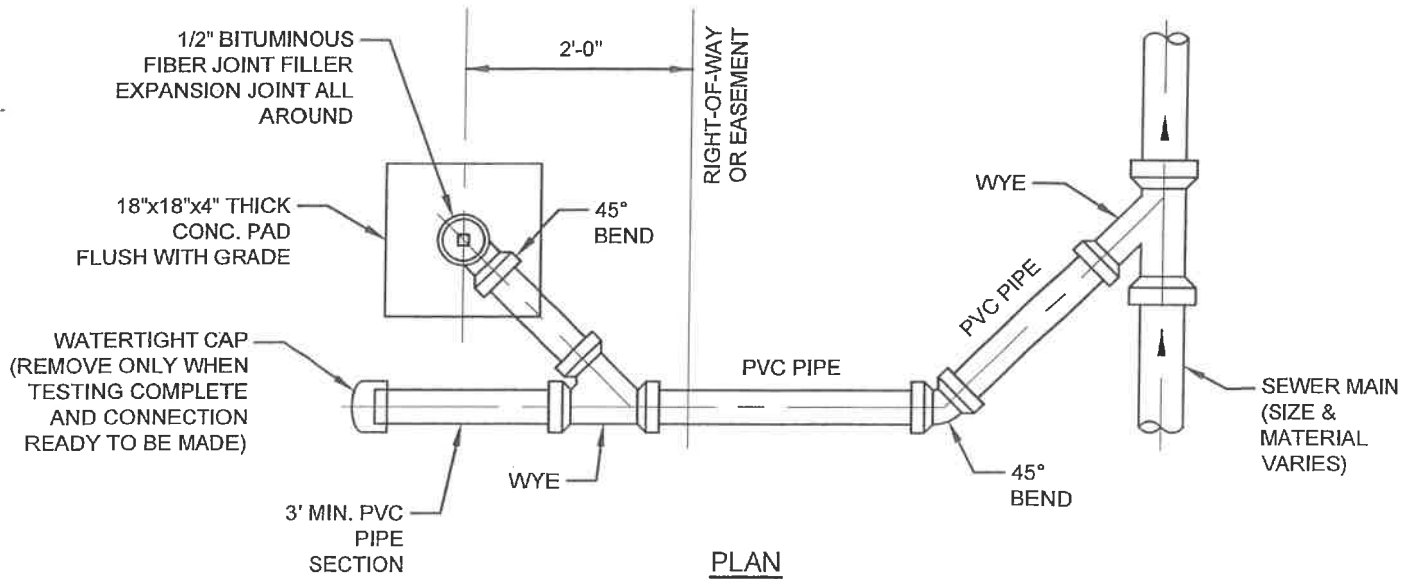


CITY OF
GRANTVILLE,
GEORGIA

SEWER CONNECTION TO
EXISTING STRUCTURE

DETAIL NO.
S014

DATE:



NOTES:

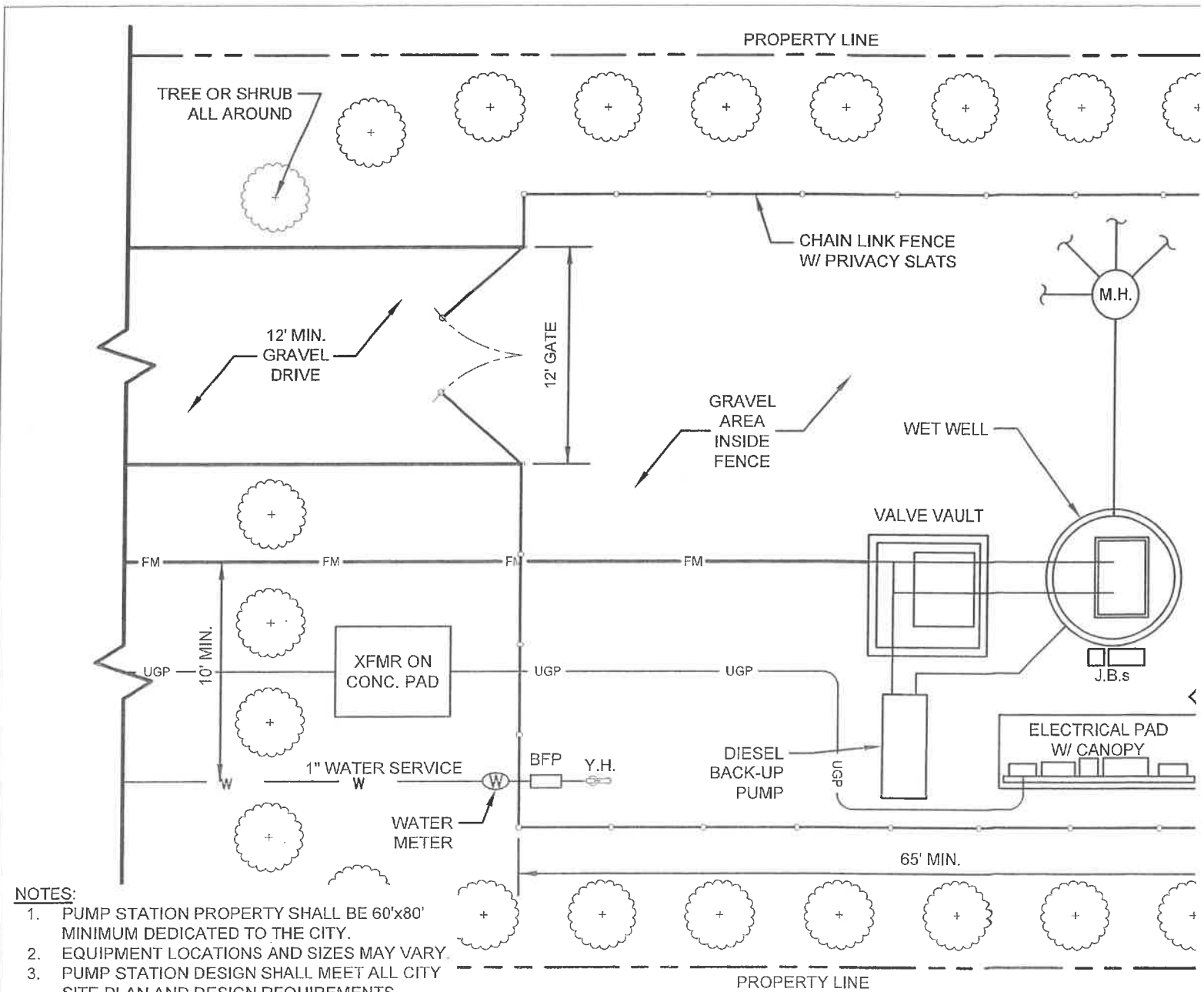
1. MINIMUM SEWER SERVICE PIPE SIZE IS 4" FOR RESIDENTIAL AND 6" FOR COMMERCIAL.
2. MINIMUM SEWER SERVICE PIPE SLOPE IS 2%.
3. DEPTH OF SEWER SERVICE SHALL BE 4' TO TOP OF PIPE, WHERE PRACTICAL.
4. SEE PVC PIPE BEDDING DETAIL FOR BEDDING REQUIREMENTS.
5. WATERTIGHT CAP SHALL ONLY BE REMOVED WHEN TESTING HAS BEEN COMPLETED AND CONNECTION TO BUILDING IS READY TO BE MADE.
6. CONCRETE USED SHALL BE 3,000 PSI MIN.



CITY OF
GRANTVILLE,

STANDARD SEWER SERVICE

DETAIL NO.
S016



NOTES:

1. PUMP STATION PROPERTY SHALL BE 60'x80' MINIMUM DEDICATED TO THE CITY.
2. EQUIPMENT LOCATIONS AND SIZES MAY VARY.
3. PUMP STATION DESIGN SHALL MEET ALL CITY SITE PLAN AND DESIGN REQUIREMENTS.

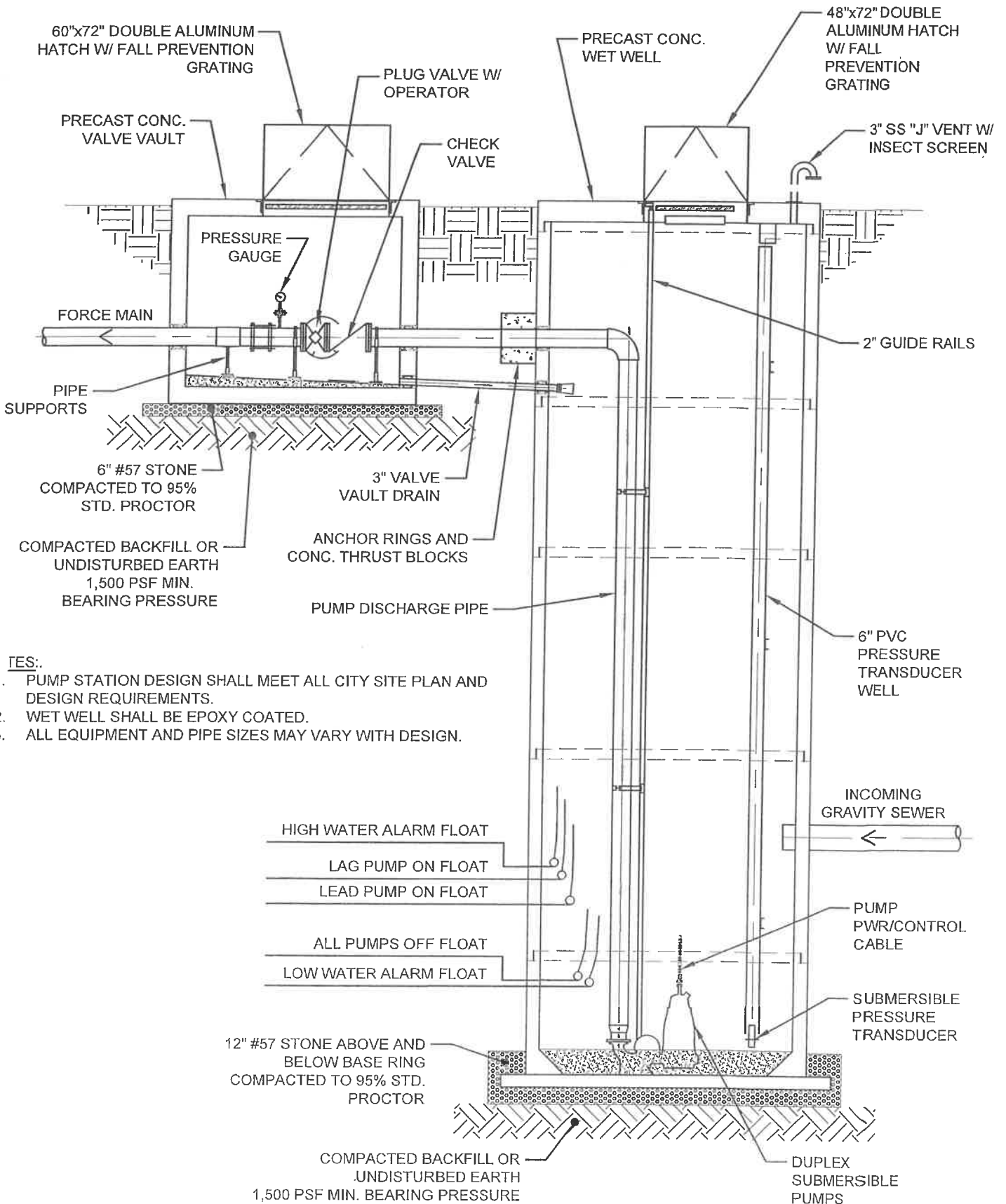


CITY OF GRANTVILLE, GEORGIA

TYPICAL PUMP STATION LAYOUT

STANDARD DETAILS

NOT TO SCALE



NOTES:

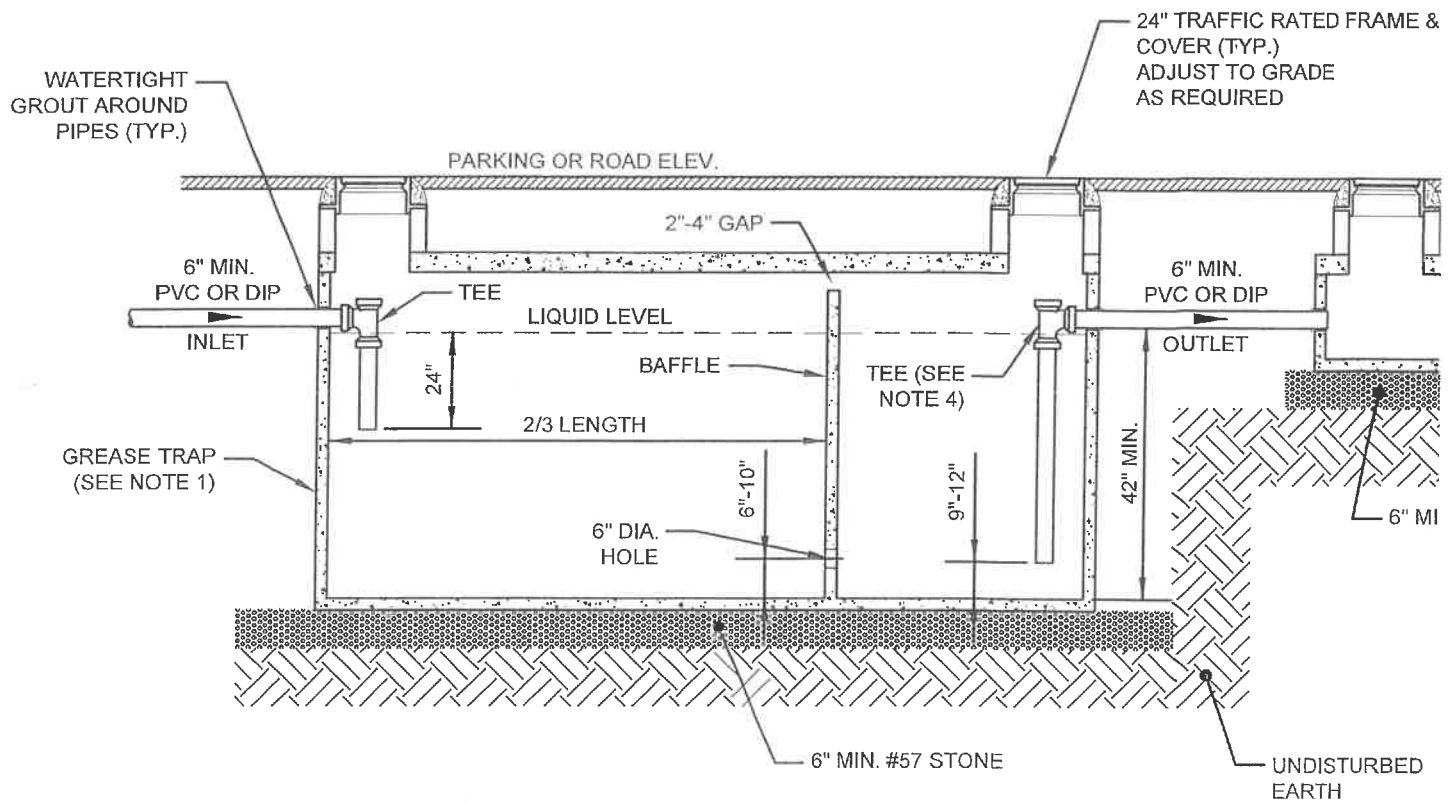
1. PUMP STATION DESIGN SHALL MEET ALL CITY SITE PLAN AND DESIGN REQUIREMENTS.
2. WET WELL SHALL BE EPOXY COATED.
3. ALL EQUIPMENT AND PIPE SIZES MAY VARY WITH DESIGN.



CITY OF
GRANTVILLE,

**TYPICAL PUMP STATION WET WELL
AND VALVE PIT SECTION**

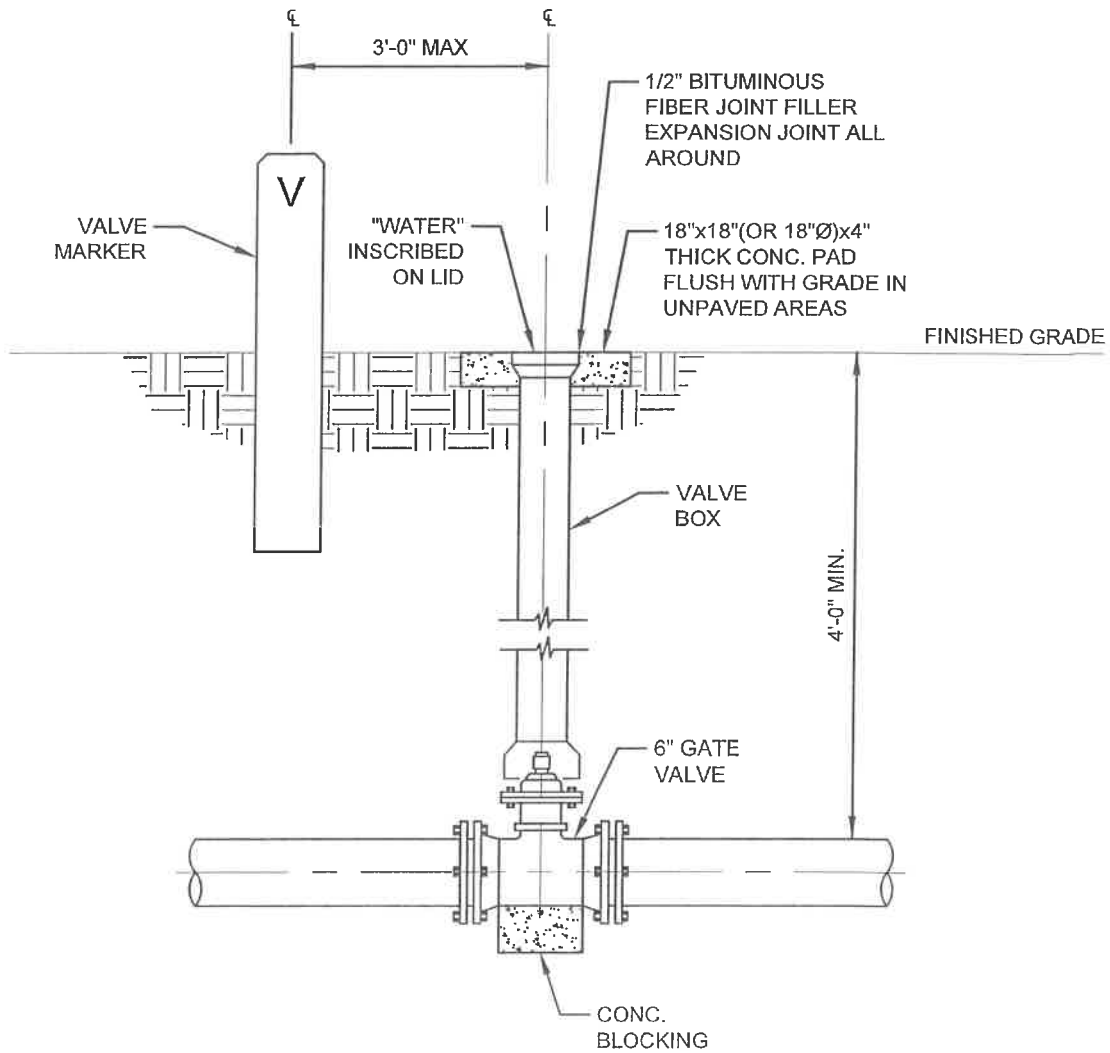
DETAIL NO.
S020



NOTES:

1. GREASE TRAP SHALL BE 1,500 GALLON MIN. - 3,000 GALLON MAX PRECAST REINFORCED CONCRETE TANK WITH 6" MIN. TC 1/4" MIN WALL THICKNESS. SIZE TO BE DETERMINED BY THE SEWER SYSTEM OWNER.
2. IF SAMPLE STATION IS DEEPER THAN 4 FT, USE STANDARD PRECAST CONCRETE MANHOLE.
3. GREASE TRAP AND SAMPLE STATION MUST BE INSTALLED OUTSIDE OF ROAD RIGHT-OF-WAY AND COMPLETELY CONTAIN PROPERTY.
4. IF EFFLUENT FILTRATION REQUIRED, AS DETERMINED BY THE SEWER SYSTEM OWNER, USE ZABEL 8" A300-8X18-VC EFFL APPROVED EQUAL, ON THE OUTLET SIDE OF THE GREASE TRAP. INSTALL 8"x6" REDUCER ON THE OUTSIDE OF THE GREAS

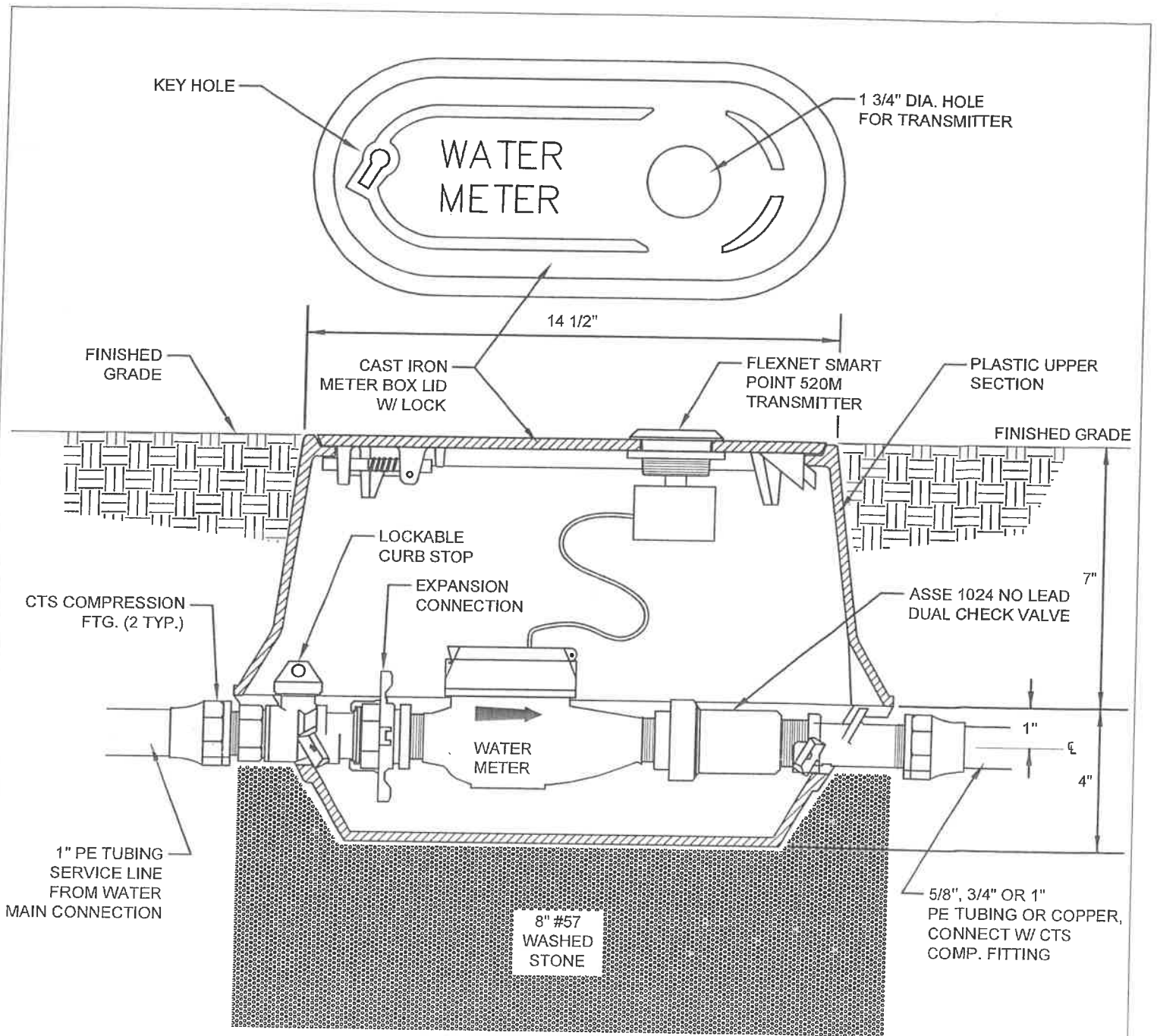




NOTES:

1. CONCRETE PAD AROUND TOP OF VALVE BOX REQUIRED IN UNPAVED AREAS NOT SUBJECT TO TRAFFIC.
2. CONCRETE PAD SHALL BE 3,000 PSI MIN.





NOTES:

1. 3/4" OR 1" METER WITH ADAPTERS AS REQUIRED.
2. METER SHALL COMPLY WITH ANSI/NSF STD. 61, ANSI/AWWA C-700 AND C-710.
3. USE SENSUS IPERL METER WITH FLEXNET SMART POINT 520M RADIO READ TRANSMITTER.
4. DUAL CHECK VALVE BACKFLOW PREVENTER SHALL COMPLY WITH ASSE 1024, NO LEAD.
5. DO NOT INSTALL DUAL CHECK BACKFLOW PREVENTER IF A REDUCED PRESSURE ZONE OR DOUBLE CHECK VALVE ASSEMBLY IS INSTALLED OUTSIDE OF METER BOX.
6. METER BOXES SHALL HAVE PLASTIC UPPER SECTION AND CAST-IRON LOWER SECTION WITH CAST IRON LID. THE LID SHALL HAVE PRECAST "WATER METER" TEXT, HAVE LOCKING MECHANISM AND HAVE PRECAST HOLE WITH REMOVABLE PLUG FOR ELECTRONIC METER TRANSMITTER.
7. ALL BRASS COMPONENTS THAT COME INTO CONTACT WITH POTABLE WATER SHALL BE NO LEAD BRASS CONFORMING TO AWWA STD. C800 (UNS NO C89833).
8. ALL BRASS COMPONENTS THAT DOES NOT COME INTO CONTACT WITH POTABLE WATER SHALL CONFORM TO AWWA STD. C800 (ASTM B-62, ASTM B-584, AND UNS NO C83600-85-5-5-5).
9. INLET AND OUTLET COMPRESSION FITTINGS SHALL BE NO LEAD COMPRESSION (CTS) CONNECTIONS FOR PE TUBING OR COPPER.

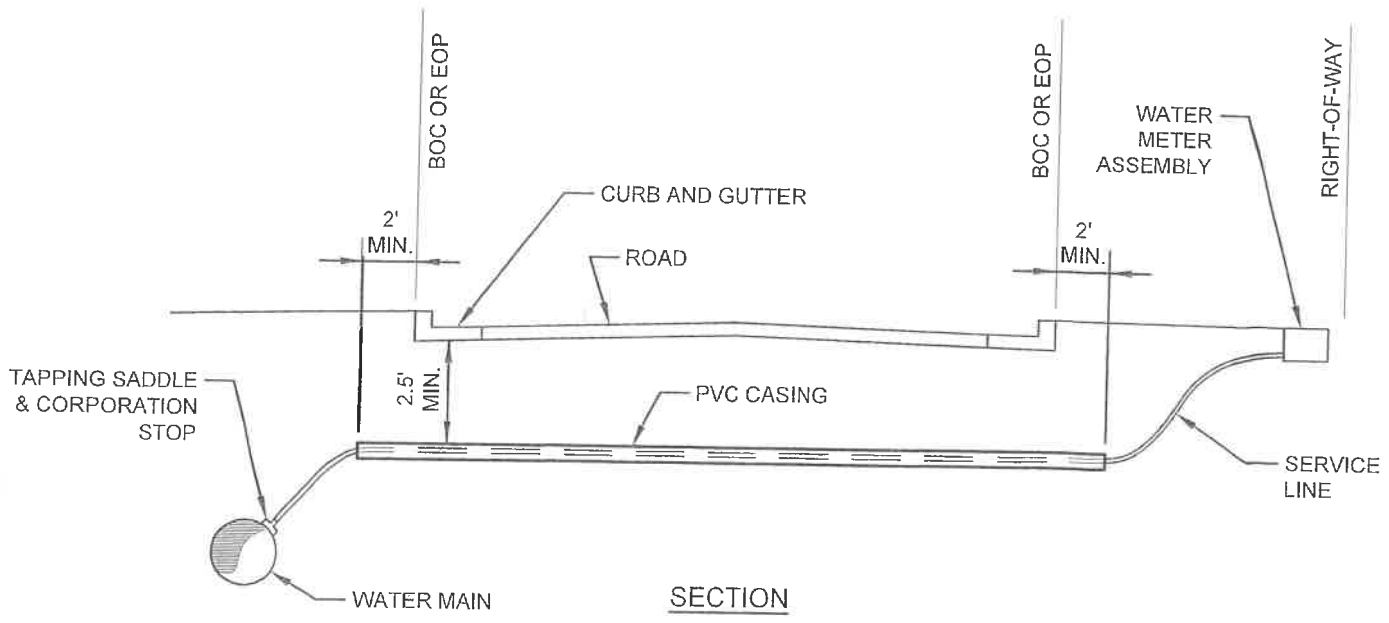
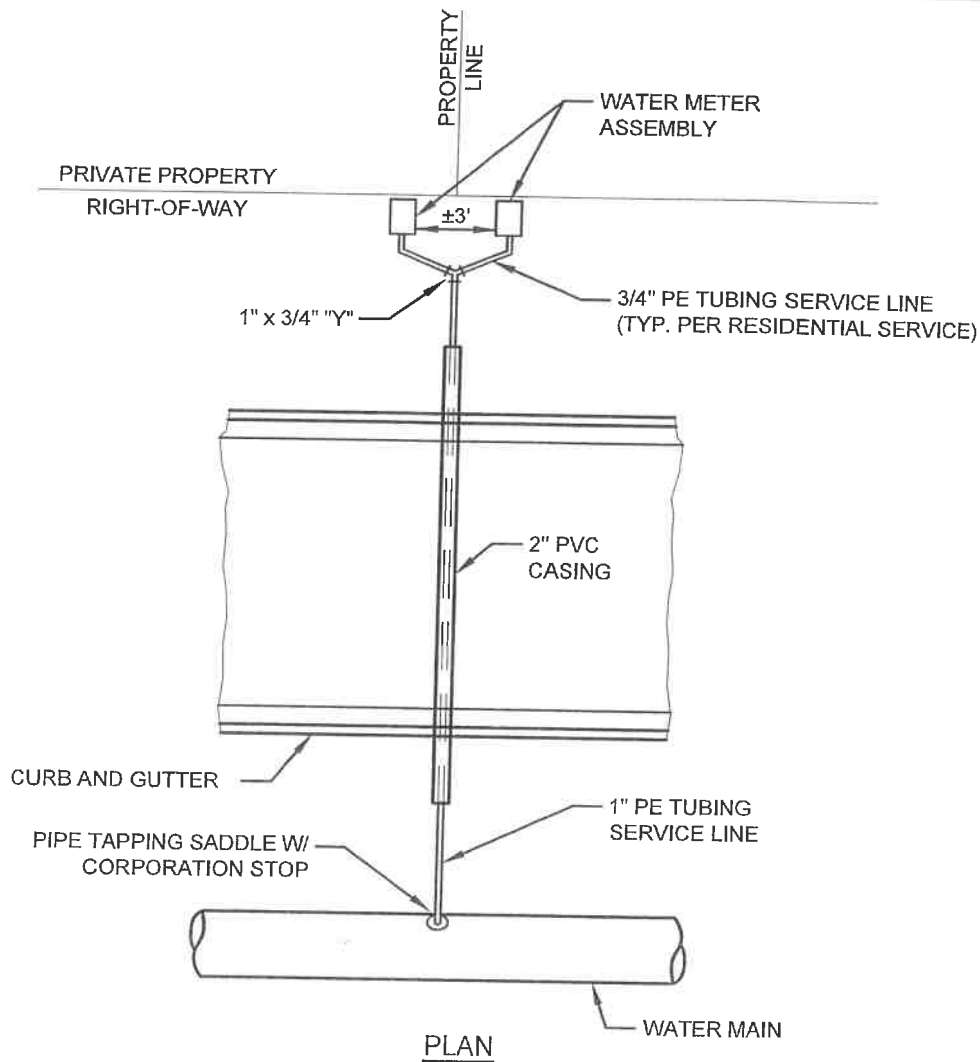


CITY OF
GRANTVILLE,
GEORGIA

WATER METER ASSEMBLY

DETAIL NO.
W004

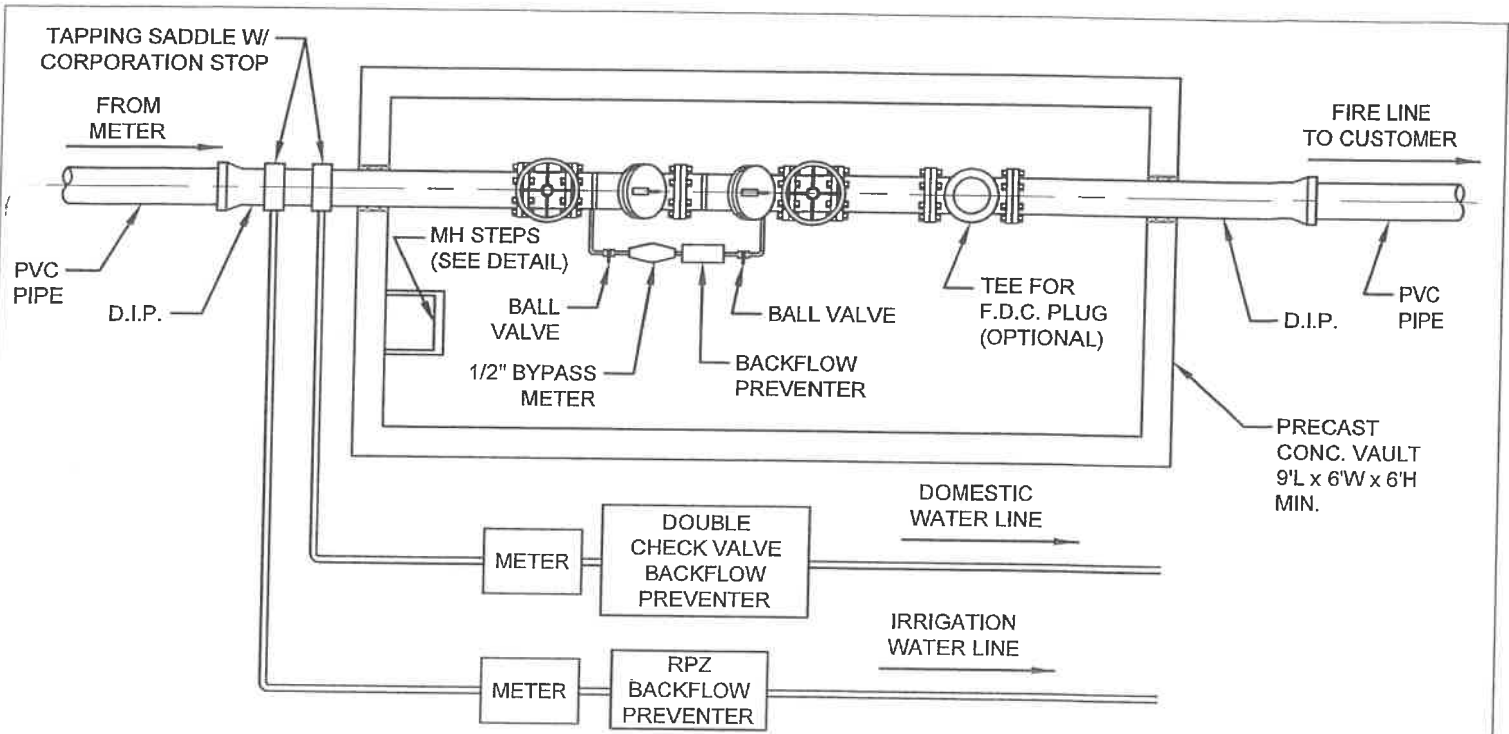
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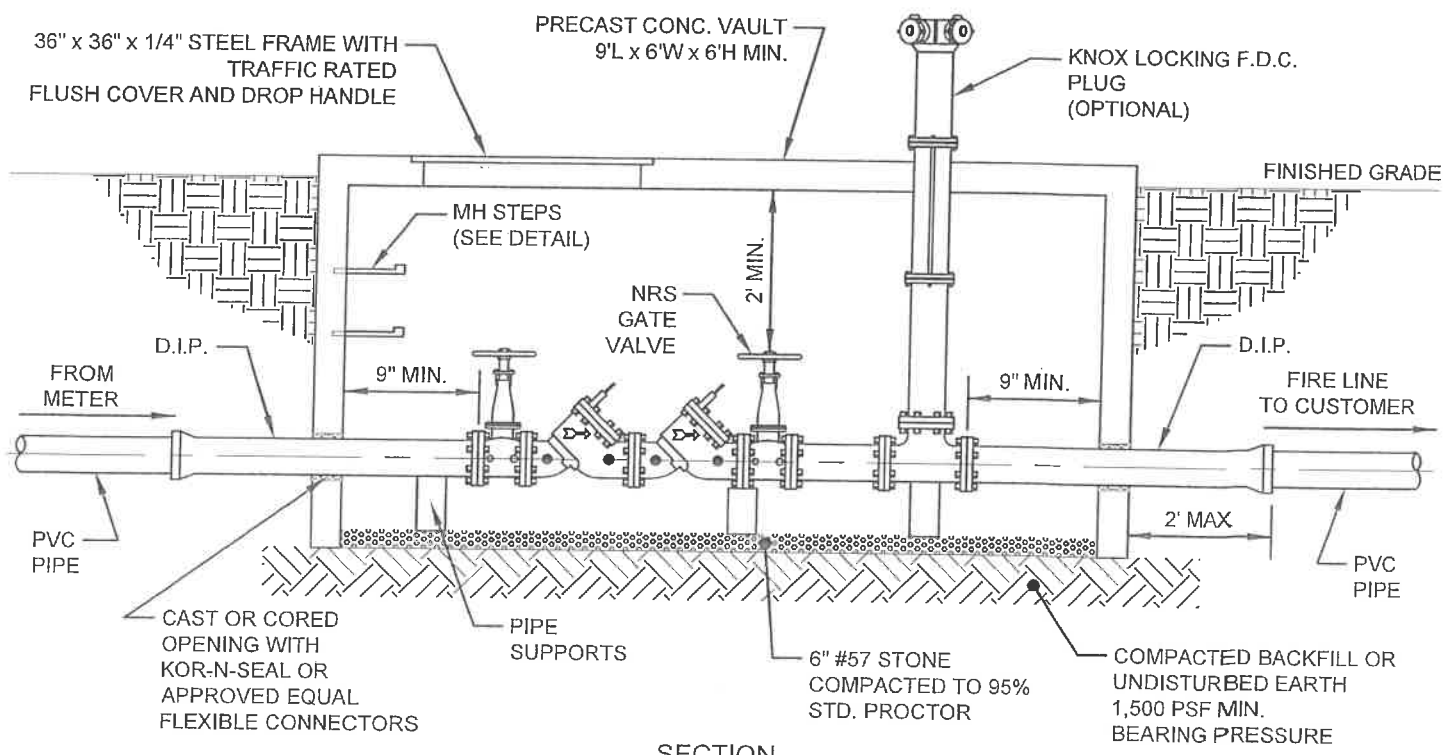
CITY OF GRANTVILLE,

WATER SERVICE (LONG SIDE)

DETAIL NO. W006



PLAN



SECTION

NOTES:

1. FOR BACKFLOW PREVENTION DEVICE, PROVIDE TWO INTERNALLY LOADED DOUBLE CHECK VALVES WITH BRONZE BALL VALVE TEST COCK FITTED WITH BRONZE PLUG. MUST CONFORM TO AWWA C506, FCC C&HR 69-2 AND ASSE STD. 1015.
2. TWO GATE VALVES SHALL BE NON-RISING STEM (NRS) GATE VALVES.
3. PROVIDE PIPE SUPPORTS FOR PIPE & ASSEMBLY TO ELIMINATE ALL STRAIN ON PIPE JOINTS.

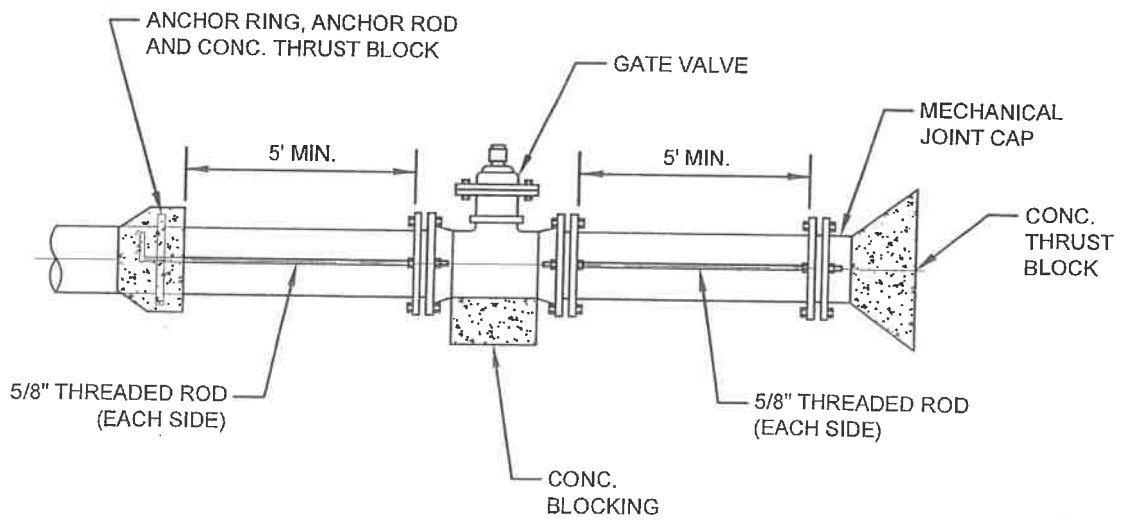


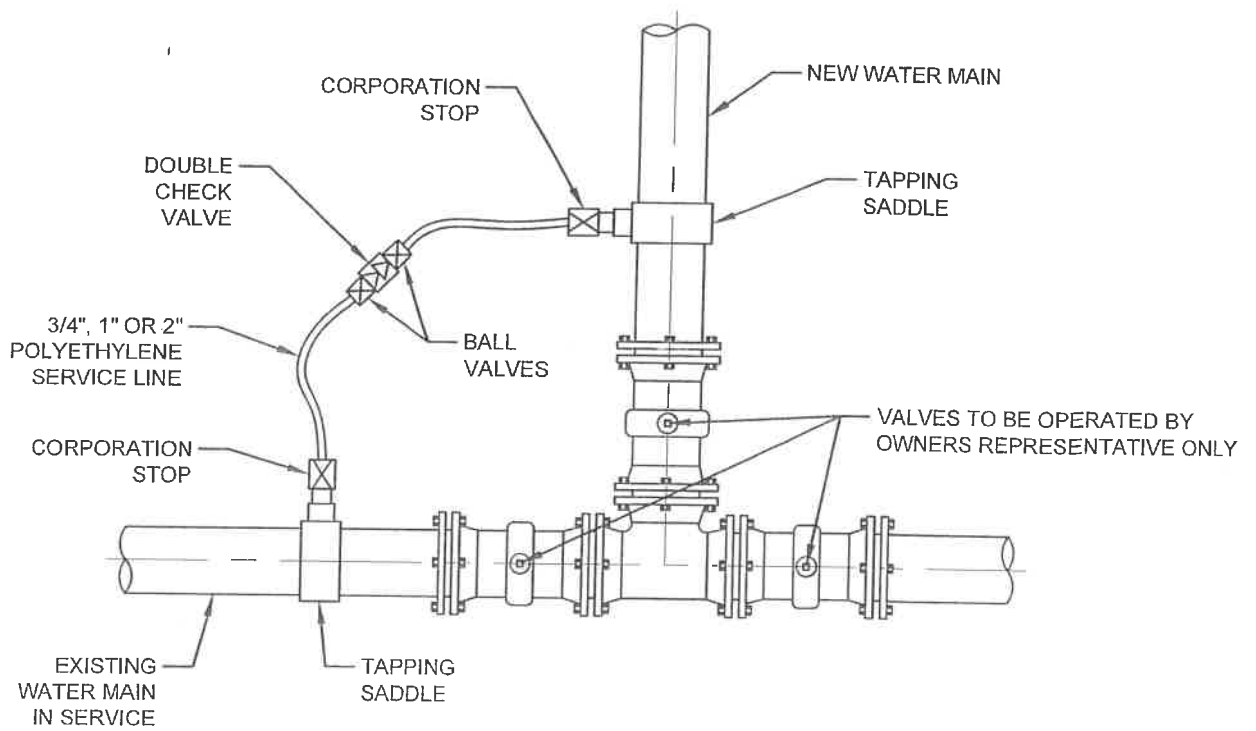
CITY OF
GRANTVILLE,
GEORGIA

FIRE MAIN AND DOMESTIC
WATER CONNECTION

DETAIL NO.
W008

DATE:





CITY OF
GRANTVILLE,
GEORGIA

FILLING NEW WATER MAIN

DETAIL NO.
W012

DATE

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1. FORWARD

This Stormwater Local Design Manual (LDM) is meant to serve as a comprehensive guide to implementing stormwater management systems in the City of Grantville (City). Additionally, the LDM is designed to supplement the Georgia Stormwater Management Manual (GSMM) First Edition, which shall serve as the technical reference manual for design and specification of individual components within the system.

1.1. Meeting the Stormwater Management Requirements of the City

The following outlines the process for developing a stormwater management plan as required for issuance and maintenance of a site development permit in the City.

Pre-Design Phase

- Step 1. Check for new special district requirements with City staff
- Step 2. Check for concept plan submittal requirements
- Step 3. Prepare concept plan (if required)
- Step 4. Submit concept plan to City and schedule concept plan meeting (if required)
- Step 5. Meet with City staff to discuss concept plan (if required)

Design Phase

- Step 6. Prepare stormwater management plan
- Step 7. Submit stormwater management plan to City for approval

Construction Phase

- Step 8. After receiving approval from City begin construction
- Step 9. Coordinate construction with City inspection staff during construction

Post Construction Phase

- Step 10. After construction prepare As-Built Survey and As-Built Design Certification
- Step 11. Adjust stormwater structures if necessary
- Step 12. Execute stormwater inspection and maintenance agreement for all private on-site stormwater management facilities
- Step 13. Secure Certificate of Occupancy / Final Plat

2. GENERAL LEVEL OF SERVICE STANDARDS

2.1. Detention Requirements

2.1.1. Discharge Rates from New Development Projects

Development plans including site grading and drainage plans should be developed to minimize disruption of natural drainage patterns on properties, as well as to minimize impacts to

2.1.2. Discharge Rates from Redevelopment Projects

Development plans including site grading and drainage plans should be developed to minimize disruption of natural drainage patterns on properties as well as to minimize impacts to downstream drainage infrastructure and structures. Whenever a Hydrologic & Hydraulic Report (as defined in Section 7 of the LDM) indicates a potentially adverse impact resulting from development of a property on a downstream property, that project shall incorporate stormwater detention facilities to reduce the discharge rate. The meaning of adverse impact shall apply to situations where the post-development discharge rates, up to and including the 100-year storm event, exceed those determined for the pre-developed conditions. Additionally, no increases in stormwater runoff rates shall be allowed at any discharge point from the site unless approved by the City.

The baseline or pre-developed conditions shall be based on an analysis of the existing conditions taking into account existing land use, stormwater management controls and other factors that can affect the hydrologic responsiveness of the site. Proposed developments shall be analyzed for the following storm events:

- 1-year 24-hour Design Storm
- 2-year 24-hour Design Storm
- 5-year 24-hour Design Storm
- 10-year 24-hour Design Storm
- 25-year 24-hour Design Storm
- 50-year 24-hour Design Storm
- 100-year 24-hour Design Storm

If the total area of the site (i.e., total property area) and the drainage area to each stormwater management facility is less than one acre, then a rainfall intensity-based analysis (i.e., rational method) may be performed. However, if detention facilities are to be designed and constructed in series, the 24-hour storm criteria will apply regardless of the drainage area.

Where downstream conditions indicate that the conveyance and/or storage capacity of existing infrastructure could be impacted by the post-development conditions, or where existing structures could be impacted by the post-developed conditions, a more stringent standard may be required. For example, if the project site drains into an existing detention pond within the study area then the designer will be required to demonstrate that the discharge rates from the proposed development will still allow the detention pond to operate at a level commiserate with the site in an undeveloped state.

Detention facilities should be designed upon the basis of known or projected developments (proposed by the developer) for the contributing drainage basin. Although, the developer is only required to construct the facility with sufficient volume to provide detention for the proposed development, a design shall be provided to the City demonstrating the ultimate configuration of the facility at full build-out. Additionally, the proposed site plan should have

If a culvert is designed to connect to an existing system of a differing design level of service, then the system with the greater design requirement will be used to size the proposed system.

All pipes should be designed to maintain a minimum velocity of three feet per second during the 2-year design storm to promote sediment removal.

2.2.3. Inlets (Catch Basins, Yard Inlets, Drop Inlets, Hooded Grate Inlets and Flumes)

Inlets collecting stormwater runoff from street surfaces and area inlets shall be sized to capture the storm event specified for the pipe system to which it drains and a maximum flooding depth as determined by the following table:

Roadway Classification / Use	Design Storm	Flooding Depth
Emergency Access Routes	100-Year	8.0 ft Maximum Gutter Spread
Collector Roads	50-Year	8.0 ft Maximum Gutter Spread
Local Roads	25-Year	8.0 ft Lane Width Open
Roads with No Other Outlet	100-Year	8.0 ft Lane Width Open
Parking Lots (with a check of the 100-year storm flooding depth and maximum 1-foot depth)	10-Year	Maximum 0.5 ft Depth
Detention Areas utilized for other purposes with general public access (i.e., parking lot detention, etc.) with flood warning sign	100-Year	Maximum 1.5 ft Depth
Material Storage Areas / Landscape Areas with flood warning sign if area is utilized by the public (with a check of the 100-year storm flooding depth)	10-Year	Maximum 2.0 ft Depth

Inlets and grading adjacent to habitable structures shall be designed to prevent stormwater runoff from entering the structure during the 100-year design storm.

In no case shall inlets located on public streets be spaced in excess of 400 feet.

2.2.4. Inlets (Headwalls, Flared End Sections, etc.)

Inlets that utilize the opening of the pipe as the inlet (i.e., headwalls, flared end sections, etc.) shall be sized to capture the storm event specified for the pipe system to which it drains. The HGL should be designed to be no less than six inches below the edge of pavement or the point at which water would bypass the inlet (i.e., bypass to another inlet, etc.) whichever is less. Additionally, the headwater conditions induced by the inlet should not cause an impact on any upstream drainage structures such that the upstream structure will realize a loss in performance. In simpler terms, the headwater from an inlet should not back water into another culvert or drainage system. This requirement can be waived by the City in situations

2.3. Stormwater Quality Treatment

2.3.1. Stormwater Quality in New Development

Stormwater runoff generated from a site shall be adequately treated before discharge. Stormwater management systems must be designed to remove 80% of the average annual post-development total suspended solids (TSS) load and be able to meet any other additional watershed or site-specific water quality requirements. It is presumed that a stormwater management system complies with this performance standard if:

- It is sized to capture and treat the prescribed water quality treatment volume, which is defined as the runoff volume resulting from the first 1.2 inches of rainfall from a site.
- Appropriate structural controls are selected, designed, constructed, and maintained according to the specific criteria in this manual, the GSMM and the Operations & Maintenance schedule developed for the proposed development.

The City encourages the designer to implement specific stormwater credits for reducing the water quality treatment requirements on-site. These credits can be found in Section 1.4.4 of the GSMM. However, the City recognizes that water quality treatment of stormwater runoff from certain areas of a site is infeasible. As such, the following areas are exempt from water quality treatment:

- Portions of the site that lie within City mandated undisturbed buffers.
- Portions of the site that lie within 50 feet of the property line and drain away from the site assuming that no impervious surfaces (including compacted gravel / rock) lie within the 50-foot zone except retaining walls.
- Impervious surfaces associated with the driveway for the first 50 feet as measured from the edge of pavement of the public street to which it connects.
- Portions of the site which will remain undisturbed, and which does not drain to a water quality or detention facility / BMP. These undisturbed areas must contain at least 10,000 square feet of contiguous area. Additionally, these areas must not be used for any purposes during construction and must be protected from such activities by construction fencing or other means to prevent construction personnel ingress.

Additional water quality requirements may be specified for hotspot land uses and activities.

2.3.2. Stormwater Quality in Redevelopment

Stormwater runoff generated from the disturbed area of the site shall be adequately treated before discharge. Stormwater management systems must be designed to remove 80% of the average annual post-development TSS load and be able to meet any other additional watershed or site-specific water quality requirements.

sites, which do not meet these exemption criteria, will be required to implement additional requirements.

Gas / fueling stations are required to construct and maintain oil / water separators to collect and treat stormwater runoff from those areas where gas / fuel will be dispensed or loaded to underground and / or above ground storage tanks.

Large parking lots with greater than 200 parking spaces are required to construct and maintain oil / water separators to collect and treat stormwater runoff from those areas where vehicles will be parked.

Vehicle maintenance areas are required to construct and maintain oil / water separators to collect and treat stormwater runoff from those areas where vehicle maintenance will occur, and vehicles will be parked awaiting maintenance.

Vehicle washing / steam cleaning areas are required to construct and maintain oil / water / grit separators to collect and treat stormwater runoff from those areas where washing will occur. Sand filters may be utilized in lieu of oil / water / grit separators with prior approval from the City.

Auto recycling facilities are required to construct and maintain oil / water separators to collect and treat stormwater runoff from those areas where vehicles will be stored, as well as areas where active recycling is occurring.

Outdoor material storage areas are required to construct and maintain sedimentation basins meeting the minimum standards outlined in the Georgia Manual for Sedimentation and Erosion (current edition) to collect and treat stormwater runoff from those areas where materials will be stored.

Loading and transfer areas, other than truck docks which shall be considered exempt, will be evaluated on a case-by-case basis. Generally, where the primary concern will be solids transport to nearby streams and drainage structures, the area will be required to construct and maintain sedimentation basins meeting the minimum standards outlined in the Georgia Manual for Sedimentation and Erosion (the Green Book, current edition). If the primary concern will be hydrocarbons and other floatable contaminants, the area will be required to construct and maintain oil / water separators to collect and treat stormwater runoff. All oil / water separators should be designed to the following criteria:

- Sized to treat the Water Quality Volume
- Designed as an off-line system
- Designed to pre-treat stormwater runoff before entering other Water Quality BMPs

In situations where the City has reason to suspect that a pipe system may not have been installed properly, the City may require at their discretion, video inspections of pipe systems to be provided at the Owner's expense prior to acceptance of the system.

3.1.3. Channels

All channels with erosive velocities must be protected from erosion through the use of rip-rap, concrete, erosion control matting or similar method acceptable to the City. All channel side slopes shall have a 3-foot horizontal to 1-foot vertical (3:1) slope or less and a minimum bottom width of 3.5 feet. Inverts should match at intersections, or the intersection will be designed / modified to accommodate the erosive forces at the transition.

3.1.4. Inlets

All inlets shall be constructed of materials and methods approved by the Georgia Department of Transportation and / or designs pre-approved by the City. Inlet covers (where appropriate) shall be designed and manufactured in accordance with local construction standards related to storm drain stenciling and pollution prevention education. The Owner and / or designer shall consult the City regarding specific requirements for storm drain covers and inlets.

Headwalls or flared end sections shall be required on inlet and outlet ends of any pipe culvert system.

3.2. **Detention Ponds**

All detention facilities constructed in accordance with the requirements of this manual shall be constructed on subdivided parcels deeded to the property owner or the homeowner's association. No detention facility for residential subdivisions shall be constructed in whole or part on a parcel or lot intended for sale to a future resident.

All outlet structures for controlling discharge rates from detention facilities shall be constructed of pre-cast concrete or cast-in-place concrete. The only exception to this rule shall be in situations where a pipe is utilized as the primary outlet control. In these situations, the pipe must be protected from scour through the use of a concrete headwall or flared-end-section. Emergency spillways may utilize rip-rap or concrete to prevent erosion if the invert of the spillway is set at or above the 100-year maximum stage of the facility.

3.2.1. Dry Earthen Detention Ponds

Dry detention ponds shall be designed to provide for positive drainage on the pond floor to the outlet of the pond. Side slopes for the dam shall be designed to have a maximum of 3-foot horizontal to 1-foot vertical (3:1) slopes.

$$WQ_v = \frac{(P)(R_v)(A)}{12}$$

Where,

P = Rainfall depth in inches, using the Water Quality Storm Event (e.g., 1.2 inches).

A = Project area in acres.

R_v = Volumetric runoff coefficient $[0.05 + 0.009(I)]$, where I is the impervious surface percentage (impervious area ÷ total project area) x 100.

3.3.1. General Application Structural Stormwater Controls

The following general application structural stormwater controls shall be acceptable to meet the water quality requirements for the contributing drainage areas. For design, construction and maintenance specifications for each control, the designer is directed to Section 3.2 of the GSMM (Volume 2).

- Stormwater Ponds
- Stormwater Wetlands
- Bioretention Areas
- Sand Filters (Hotspot/Commercial Developments Only)
- Infiltration Trenches (Hotspot/Commercial Developments Only)
- Enhanced Swales

3.3.2. Limited Application Structural Controls

The following limited application structural stormwater controls shall be acceptable to meet a portion of the water quality requirements for the contributing drainage areas. For design, construction and maintenance specifications for each control, the designer is directed to Section 3.3 of the GSMM (Volume 2).

- Filter Strip
- Grass Channel
- Organic Filter (Hotspot/Commercial Developments Only)
- Underground Sand Filter (Hotspot/Commercial Developments Only)
- Submerged Gravel Wetlands (Hotspot/Commercial Developments Only)
- Gravity Separators (Hotspot/Commercial Developments Only)
- Dry Detention Ponds

3.3.3. Proprietary Structural Controls

The City may at their discretion allow proprietary structural controls. Prior to specification of such a device, the designer shall consult with the City to determine if the control will be acceptable.

5. SPECIAL DISTRICTS

The City may establish special design criteria for select areas based on the findings of watershed assessments, hydrologic and hydraulic reports, and known flooding issues. The designer is encouraged to consult with the City to determine if any special districts exist within the City.

6. STORMWATER CONCEPT PLAN REQUIREMENTS

The City recognizes that some sites will require a substantial investment in time and effort to develop a comprehensive stormwater management plan that will address the requirements contained within this manual. As such, some developments are required to develop a concept plan prior to submittal of the land disturbance application. This requirement is aimed at reducing the amount of effort required to develop the final plan and permit the project. Concept plans are required to be submitted for all developments that meet one or more of the following criteria:

- Any residential subdivision with greater than 50 lots, unless such development is comprised of lots which are all 2-acres or greater in area.
- Any non-residential development with a disturbed area of 10 acres or greater.
- Any non-residential development regardless of size which has an impervious surface coverage that covers 50% or more of the property excluding those lands contained within undisturbed buffers including but not limited to floodplains, stream buffers and undisturbed buffers between dissimilar zonings.
- Any non-residential development regardless of size, which is defined as a hotspot land use.

As stated earlier, all developments that meet one or more of the requirements listed above are required to submit a stormwater concept plan. However, all developments may submit a plan for preliminary evaluation. If a stormwater concept plan is submitted to the City, the plan should contain the following sections.

6.1. Project Narrative

A brief narrative should be provided with the report outlining the project goals, location and provide a location map such that the project location can be identified by City staff.

6.2. Existing Conditions Hydrologic Analysis

The existing conditions hydrologic analysis should provide the reader with a comprehensive evaluation of the site conditions prior to development of the project. The designer should provide the following information with this element of the report:

6.2.1. Existing Conditions Narrative

6.3. Preliminary Downstream Analysis

The downstream analysis should provide the reader with a comprehensive picture of the downstream areas and their capacity to accommodate stormwater runoff from the proposed development.

6.3.1. Maps

- Drainage basin delineations showing the point at which the contributing area of the project represents 10% of the total drainage basin area as defined in Section 2.1.9.2 of the GSMM.
- Identify culverts, channels and other structural stormwater controls that the stormwater runoff must pass through prior to the 10% point identified previously.

6.3.2. Narratives

Provide a narrative with associated calculations demonstrating the downstream analysis at various points showing existing conditions and future conditions without detention or other on-site stormwater controls.

6.3.3. Downstream Analysis Model Diagram

A diagram of the hydrologic model should be provided with the report showing how the model was developed and each node is connected.

6.4. Preliminary Stormwater Management Plan

A preliminary stormwater management plan should be included with the concept plan submittal. The purpose of a preliminary stormwater management plan will be to show that the proposed controls will be sufficient to meet the requirements outlined in this manual. As such the following should be provided with the concept plan.

6.4.1. Narratives

A written description of the proposed conditions at the site should be provided. Additionally, the narrative should describe the means by which stormwater runoff will be managed by the designer including proposed stormwater quality BMPs and detention facilities.

6.4.2. Proposed Conditions Maps

A proposed conditions map should be provided with the report including but not limited to following:

- A general proposed conditions drainage map. It is not necessary to produce a full grading plan as part of this submittal. The detail should be sufficient to show how the

properties for the storm events specified in City of Grantville Land Development Regulations. This (day) day of (Month), (Year).”

7.2. Project Narrative

A brief narrative should be provided with the report outlining the project goals, location and provide a location map such that the project location can be identified by City staff.

7.3. Existing Conditions Hydrologic Analysis

The existing conditions hydrologic analysis should provide the reader with a comprehensive evaluation of the site conditions prior to development of the project. The designer should provide the following information with this element of the report:

7.3.1. Existing Conditions Narrative

A written description of the existing conditions found at the site should be provided. Additionally, the narrative should describe the methodologies, assumptions and other pertinent discussions of how the existing conditions were analyzed by the designer.

7.3.2. Existing Conditions Map

An existing conditions map should be provided with the report including, but not limited to, the following:

- Topography (2-foot or less contour interval) of existing site conditions.
- Perennial / intermittent streams, wetlands, lakes and other surface water features.
- Drainage basin delineations showing the location of each drainage sub-basin.
- Drainage basin delineations for each contributing drainage basin upstream of the project site on an appropriate map (USGS Quadrangle, etc.).
- Existing stormwater conveyances and structural control facilities.
- Direction of flow and discharge points from the site including sheet flow areas.
- Any area of significant depression storage.
- Federal, state and local buffers.

The map should provide a clear understanding of the various drainage patterns located throughout the site, as well as drainage onto the site from upstream areas. Additionally, the map should provide a clear view of the natural features of the site that may impact development.

7.3.3. Existing Conditions Tables

The map should provide a clear understanding of the various drainage patterns located throughout the site, as well as drainage onto the site from upstream areas. Additionally, the map should provide a clear view of the natural features of the site that will be impacted by development, as well as features that will not be impacted.

7.4.3. Proposed Conditions Tables

A set of tables should be included in the report that will allow the reader to understand how various parameters utilized in modeling the proposed conditions were developed. Additionally, tables should be included documenting the results of the modeling.

- A table listing the acreage, soil types and land cover characteristics for each sub-basin.
- A table listing the total acreage, composite curve number and time of concentration for each sub-basin.
- A table listing the peak runoff rates and total runoff volumes from each sub-basin.
- A table listing the peak runoff rates and total runoff volumes for each drainage area upstream of the project site.
- A table listing the peak runoff rates and maximum water surface elevations for all detention facilities studied as part of the proposed conditions analysis.

7.4.4. Proposed Conditions Model Diagram

A diagram of the hydrologic model should be provided with the report showing how the model was developed and each node is connected.

7.5. **Stormwater Management System Design**

The stormwater management system design should provide the reader with a comprehensive description of the proposed stormwater management system components on-site. The designer should provide the following information with this element of the report:

7.5.1. Stormwater Management System Map

The stormwater management system map should document the various structural components of how stormwater runoff will be moved around the site.

- Location of all non-structural stormwater controls
- Location of all existing stormwater controls to remain after development
- Location of all proposed stormwater controls
- Location of all proposed impoundment type controls (i.e., detention ponds, stormwater ponds, stormwater wetlands, etc.)
- Location of all conveyance structures
- All impoundment type controls should be labeled with the following information:
 - Maximum water surface elevation

- Identify culverts, channels and other structural stormwater controls that the stormwater runoff must pass through prior to the 10% point identified previously.

7.6.2. Narratives

Provide a narrative with associated calculations demonstrating the downstream analysis at various points showing existing conditions, future conditions without detention or other on-site stormwater controls and future conditions with detention or other on-site stormwater controls.

7.7. **Erosion & Sedimentation Control Plan**

The erosion and sedimentation control plan should be included in the report demonstrating the plan to effectively mitigate stormwater impacts during construction. The following elements should be included in this section of the report.

- All elements specified in the Georgia Erosion and Sediment Control Act and local ordinances and regulations.
- Sequence/phasing of construction and temporary stabilization measures.
- Temporary structures that will be converted into permanent stormwater controls.

7.8. **Planting Plan**

A planting plan should be included in the report for all water quality BMPs that utilize vegetation as a pollutant removal method. Examples of these types of controls include but are not limited to stormwater wetlands, enhanced swales, etc.

7.9. **Operations & Maintenance Plan**

A narrative of what maintenance tasks will be required for the stormwater controls specified for the site as well as the responsible parties. Additionally, the report will need to identify access and safety issues for the site. Maintenance issues for various BMPs and other stormwater controls can be found in the GSMM.

8. **REQUIREMENTS FOR WAIVER REQUEST**

The City does not intend to waiver from the requirements outlined in this manual. However, the City recognizes that situations exist such that strict adherence to the requirements may result in degradation of upstream or downstream areas from a development project. As such, the City may from time to time allow a variance from the procedures and requirements outlined in this manual. The following documents the minimum criteria that will apply to all variance requests.

- A table listing the acreage, soil types and land cover characteristics for each sub-basin.
- A table listing the total acreage, composite curve number and time of concentration for each sub-basin.
- A table listing the peak runoff rates and total runoff volumes from each sub-basin.
- A table listing the peak runoff rates and total runoff volumes for each drainage area upstream of the project site.
- A table listing the peak runoff rates and maximum water surface elevations for all detention facilities studied as part of the existing conditions analysis.

8.2.4. Existing Conditions Model Diagram

A diagram of the hydrologic model should be provided with the report showing how the model was developed and each node is connected.

8.3. Downstream Analysis

The downstream analysis should provide the reader with a comprehensive picture of the downstream areas and their capacity to accommodate stormwater runoff from the proposed development.

8.3.1. Maps

- Drainage basin delineations showing the point at which the contributing area of the project represents 10% of the total drainage basin area as defined in Section 2.1.9.2 of the GSMM.
- Identify culverts, channels and other structural stormwater controls that the stormwater runoff must pass through prior to the 10% point identified previously.

8.3.2. Narratives

Provide a narrative with associated calculations demonstrating the downstream analysis at various points showing existing conditions, future conditions without detention or other on-site stormwater controls, future conditions with appropriate detention or other on-site stormwater controls, and future conditions with controls that would be put in place if the waiver were granted.

8.3.3. Downstream Analysis Model Diagram

A diagram of the hydrologic model should be provided with the report showing how the model was developed and each node is connected.

8.4.4. Proposed Conditions Model Diagram

A diagram of the hydrologic model should be provided with the report showing how the model was developed and each node is connected.

- Analysis of runoff provided by off-site areas upstream of the project site
- Methodologies, assumptions, site parameters and supporting design calculations used in the analyzing the existing conditions site hydrology

2.3 Existing Conditions Map – A map documenting the following elements should be provided with the following information if applicable.

- Topography (2-foot or less contour interval) of existing site conditions
- Perennial / intermittent streams, wetlands, lakes and other surface water features
- Drainage basin delineations showing the location of each drainage sub-basin
- Drainage basin delineations for each contributing drainage basin upstream of the project site on an appropriate map (USGS Quadrangle, etc.)
- Existing stormwater conveyances and structural control facilities
- Soil types including hydrologic soil groups
- Direction of flow and discharge points from the site including sheet flow areas

2.4 Existing Conditions Tables – Tables documenting the following information should be provided if applicable.

- A table listing the acreage, soil types and land cover characteristics for each sub-basin
- A table listing the peak runoff rates and total runoff volumes from each sub-basin
- A table listing the peak runoff rates and total runoff volumes for each drainage area upstream of the project site

Section 3. Post-Development Hydrologic Analysis

3.1 The post-development hydrologic analysis should provide the reader with a comprehensive evaluation of the anticipated site conditions following development of the project. The designer should provide the following information with this element of the report.

3.2 Narratives – A narrative and supporting calculations of the post-development conditions of the site as related to stormwater management should be provided to determine the future stormwater characteristics of the site.

- Written description of the existing conditions found on the site

narratives / tables demonstrating compliance with the various stormwater management requirements outlined in the post-development article of the stormwater ordinance and local design manual.

- Narrative describing that appropriate and effective structural stormwater controls have been selected
- Design calculations and elevations for all existing and proposed stormwater conveyance elements including stormwater drains, pipes culverts catch basins, channels, swales and areas of overland flow

4.3 Stormwater Management System Map(s) – A map(s) illustrating the location, type and specifications of all stormwater management components to provide stormwater management for the proposed site.

- Location of all non-structural stormwater controls
- Location of all existing stormwater controls to remain after development
- Location of all proposed stormwater controls
- Location of all proposed impoundment type controls (i.e. detention ponds, stormwater ponds, stormwater wetlands, etc.)
- Location of all conveyance structures
- All impoundment type controls should be labeled with the following information: maximum water surface elevation, depth and storage volumes for both the design storm and maximum water surface if the design storm event is exceeded (i.e. top of dam)
- All inlets to conveyance structures should be labeled with the following information: maximum design water surface and maximum potential water surface
- All pipes should be labeled with length, material and slope
- All pipes should be profiled and labeled with length, material, slope and hydraulic grade line

Section 5. Downstream Analysis

- 5.1 The downstream analysis should provide the reader with a comprehensive picture of the downstream areas and their capacity to accommodate stormwater runoff from the proposed development.
- 5.2 Narratives – A narrative and supporting calculations for a downstream peak flow analysis using the ten-percent rule necessary to show safe passage of the post-development design flows downstream. This narrative should include appropriate



City of Grantville
123 Lagrange Street
Grantville, Georgia 30220

PRELIMINARY PLAT APPLICATION

File Number: _____ (to be filled in by City Staff)
Project Name: _____
Project Address: _____
Description of project: _____

Applicant Name: _____
Applicant Address: _____
Applicant Phone Number: _____ Fax Number: _____
E-Mail Address: _____

_____ affirms that he is/ she is/ they are the owners/specifically authorized agent of the property located at: _____

_____ petitions the City of Grantville Planning and Zoning Board to consider the proposed site preliminary plat located in a _____ Zoning district.

The applicant tenders herewith the sum of \$ _____ to cover the expenses of staff administrative review.

- Date Paid: _____
- Signature of the Applicant: _____
- Notary Public: _____

Staff Signature: _____ Date: _____

P&Z Work Session: _____ P&Z Voting Meeting: _____

- Applications will not be considered complete until all items have been supplied. Incomplete applications will NOT be placed on the Planning & Zoning Board agenda and will be returned to the applicant.
- All items must be reviewed and approved by Staff & must be in compliance with current City Ordinances.
- The City shall have five business days in order check applications for completeness.



City of Grantville
123 Lagrange Street
Grantville, Georgia 30220

CONCEPT PLAT DATA SHEET

File Number: _____ (to be filled in by City Staff)
Project Name: _____
Project Address: _____
Description of project: _____

Applicant Name: _____
Applicant Address: _____
Applicant Phone Number: _____ **Fax Number:** _____
E-Mail Address: _____

_____ affirms that he is/-she is/ they are the owners/specifically authorized agent of the property located at: _____

_____ petitions the City of Grantville Planning and Zoning Board to consider the proposed site concept plat located in a _____ Zoning district.

The applicant tenders herewith the sum of \$ _____ to cover the expenses of staff administrative review.

- Date Paid:** _____
- Signature of the Applicant:** _____
- Notary Public:** _____

Staff Signature: _____ **Date:** _____

- *Applications will not be considered complete until all items have been supplied. Incomplete applications will NOT be reviewed by the City Manager or designee.*
- *All items must be reviewed and approved by Staff & must be in compliance with current City Ordinances.*
- *The City shall have five business days in order check applications for completeness.*



City of Grantville
123 Lagrange Street
Grantville, Georgia

FINAL PLAT CHECKLIST

Date: _____

Project: _____

- ____ 1. Signature and Seal of Registered Land Surveyor
- ____ 2. Owners Acknowledgement with signature
- ____ 3. Right-of-way width, lot numbers, and house numbers.
- ____ 4. Project name/Title, street names, date, scale north arrow, landlot/district and vicinity map.
- ____ 5. Bearings, distances, dimensions and acreage on each lot measured to nearest 100th of a foot and 100th of an acre.
- ____ 6. Show total acreage of each lot, if any that lie within and outside of the 100-year floodplain.
- ____ 7. Compliance with Tree Protection Ordinance
- ____ 8. Show approved usage delineated wetland boundaries including correspondence from the U.S. Army Corps of Engineers.
- ____ 9. Indicate and label existing structures to remain or be removed, if applicable.
- ____ 10. Street centerlines showing horizontal curve data: angles of deflection, tangent lengths, radii, arc lengths, and point of curves and tangents.
- ____ 11. Locations, dimensions, invert elevations of piped segments and control weirs, maximum water surface elevations of retention ponds.
- ____ 12. Location of any easements, public service utility right-of-way lines, and any areas to be reserved, donated, or dedicated to public use; location of sites to be used for purposes other than residential with notes stating their purpose and limitations, and any areas to be reserved by deed covenant for the common use of all property owners shall be shown. More specifically but not limited to:
 - (a) FEMA map panel and number with note stating site is in or out of floodplain. Also natural and artificial floodplain must be shown with elevations and minimum finished floor elevations (MFFE's).
 - (1) MFFE's must be based off as-built elevations for ponds and low areas.
 - (2) MFFE's must be 3 ft above the 100-year elevation or 1 ft above top of dam elevations, whichever is greater
 - (b) Protected buffer areas and wetland areas delineated with notes.
 - (c) Greenbelt areas delineated.



City of Grantville
123 Lagrange Street
Grantville, Georgia 30220

DEVELOPMENT PLANS APPLICATION

File Number: _____ (to be filled in by City Staff) Parcel #: _____

Project Name: _____

Project Address: _____

Description of project: _____

Applicant Name: _____

Applicant Address: _____

Applicant Phone Number: _____ Fax Number: _____

E-Mail Address: _____

_____ affirms that he is/ she is/ they are the owners/specifically authorized agent of the property located at: _____

_____ petitions the City of Grantville Planning and Zoning Commission to consider the proposed site preliminary plat located in a _____ Zoning district.

The applicant tenders herewith the sum of \$ _____ to cover the expenses of staff administrative review, advertising, and public hearings.

Date Paid: _____

Signature of the Applicant: _____

Notary Public: _____

Does the proposed use consist of a restaurant facility (Yes / No)

If so, do you plan to serve alcohol? (Yes / No) If you plan to serve alcohol, what is the distance from the nearest church _____ school _____ residence _____ as measured following the guidelines set forth in the Grantville code of ordinances.

Public hearing is to be held on _____ at _____ p.m. at City Hall located at _____

Staff Signature: _____ Date: _____

- Applications will not be considered complete until all items have been supplied. Incomplete applications will NOT be placed on the Planning & Zoning Board agenda and will be returned to the applicant.
- All items must be reviewed and approved by Staff & must be in compliance with current City Ordinances.
- The City shall have five business days in order check applications for completeness.



City of Grantville
123 Lagrange Street
Grantville, Georgia 30220

DEVELOPMENT PLANS CHECKLIST

Project Name: _____, Plan Revision Date _____

Designer: _____

Checked By: _____ Date: _____

Check list marks to be interpreted as follows:

√ O.K. X Revision Required N/A Not Applicable
? Additional Information Required

General Comments

- 1. Connection to City of Grantville utilities (water, sewer, gas and electric), is required per Code of Ordinances, Section 38-6.
- 2. Site development plans will not be approved until all other governmental plan approvals are provided by the applicant. Provide approvals from other governmental jurisdictions for:
 - ES&PC Plans – by GA EPD / NRCS
 - Driveway Entrance Plan – by GA DOT
 - Coweta County Fire Marshall Review
 - Irrigation Well permit issued by GA EPD or GA Department of Public Health
- 3. Provide Fire Flow Test Report. Minimum fire flow required at this site is 1,250 GPOM at 20 psi residual pressure.
- 4. Water system extension is required to provide fire protection and domestic water supply. The minimum water main size is required to conform to Grantville Water System CIP requirements. Provide plans for the water system extension.
- 5. Sanitary sewer extension is required to connect the site to the public sewer system. Provide plans for the sanitary sewer extension.
- 6. The electric distribution system is required to extend to the site. Coordination with Grantville utilities is required for development of electric system extension

extend the water system to the site.

- 18. Provide sanitary sewer use calculations. The applicant is responsible for all cost to extend the sanitary sewer to the site.
- 19. Provide electric service requirements for the site. The applicant is responsible for all cost to extend electrical service to the site.
- 20. Provide natural gas service requirements for the site. The applicant is responsible for all cost to extend natural gas lines to the site.
- 21.

II. Existing Conditions

- 1. Boundary and topographic survey sealed by a registered land surveyor including:
- 2. Exact boundary lines of the entire tract with bearings and distances.
- 3. Ground elevations of the tract based on field surveys or photogrammetric methods from aerial photos.
- 4. Natural features including drainage channels, bodies of water, etc.
- 5. Land lot lines, or bearing and distance "tie" to land lot line.
- 6. Location of MSL benchmark.
- 7. Location of 100-yr floodplain or statement that no part of property lies within the 100-yr floodplain.
- 8. Note that any structure that lies within the 100-yr floodplain will be elevated such that lowest finished floor shall be no less than 4-feet above the 100-yr water surface elevation.
- 9. If any grading is proposed inside the 100-yr floodplain, provide calculations showing a "no-rise" certification.
- 10. Identify state waters and all waters of the US.
- 11. Show all of Grantville stream buffers: 25-foot state, 25-foot Grantville stream buffer, 25-foot impervious buffer.
- 12. Show abutting City or County roads with existing R/W and pavement widths.
- 13. Show existing easements, jurisdictional lines, utilities, etc.
- 14. Include soil series and their delineation.
- 15. Show all the existing structures on the tract.

- 14. Provide 67 cubic yards per acre sediment storage. Include specific design information and calculations for all structural measures on site, such as temporary sediment basins, retrofitted detention ponds, and channels. **Silt fence is not to be included in sediment storage calculations.**
- 15. Delineate stockpile/borrow, storage, fueling, and concrete washout areas. Add all notes/or construction details necessary to convey proper use and protection of these areas. **Do not locate the areas in known future septic tank or conservation areas.**
- 16. Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates, and fertilizer, lime and mulching rates. Vegetative plans shall be site specific for the appropriate time of year that seeding will take place and for the geographic region of Grantville.
- 17. Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet guidelines set forth in the Manual for Erosion and Sediment Control in Georgia, latest edition.

IV. The following notes shall be placed on the plans in **bold font**:

- 18. **"THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND DISTURBING ACTIVITIES."**
- 19. **"EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE."**
- 20. **"ALL EROSION CONTROL MEASURES ARE TO CONFORM TO THE STANDARDS SET FORTH IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, MOST RECENT EDITION."**
- 21. **"ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING."**
- 22. **"SILT FENCE IS TO BE PLACED ALONG BACK OF ALL CURB WITHIN 72 HOURS OF CURB INSTALLATION."**
- 23. **"I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA", PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY OF THE YEAR IN WHICH LAND DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER OUTFALLS AND THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 10000 (1,2,OR 3)."**

energy dissipater. Provide table showing, or note, of the flow rate (cfs) and velocity (fps).

- 16. Show catch basin and pipe invert and top elevations.
- 17. Show existing and proposed ground surface over centerline of pipes.
- 18. Graphically show 25-yr Hydraulic Grade Line (HGL) on profiles.
- 19. Show impoundment detail.
- 20. Provide control structure details (weirs, retrofits, etc.)
- 21. Show drainage structure details (headwalls, yard drains, lateral sub-drains, etc.)
- 22. Provide construction details (bedding class, pipe gage, backfill methods, etc.).
- 23. Show centerline profile of all stream re-locations.
- 24. Pipe chart listing hydrologic, material, dimensions, and hydraulic parameters, including HGL.
- 25. Hydrology study sealed by Professional Engineer registered in Georgia.
- 26. North Arrow.
- 27. Graphic Scale.
- 28. Show roadway stationing at even 100-ft. intervals on Grading and Drainage sheet.

VI. Hydrology Study

- 1. Hydrology study should bear a stamp of a registered engineer or landscape architect registered in the State of Georgia.
- 2. Name of the project and its location.
- 3. Description of current and proposed uses and conditions.
- 4. Description of downstream (upstream as well if necessary) conditions and assessment of downstream capacities. Discuss how method of runoff control will not adversely affect downstream property.
- 5. Method used in analysis.
- 6. An existing condition map of the project with proposed topography shown, drainage basins delineated, acreages shown, Curve Numbers and Times of Concentration included. Offsite drainage information should be shown.
- 7. A proposed condition map of the project with proposed topography shown, drainage

- 6. If the pond is four feet or deeper, a chain link or privacy fence is required to a height of six feet.
- 7. Documentation and supporting calculations to show that the stormwater management system adequately meets the post-development stormwater management performance criteria per Grantville Code of Ordinances Sections 17-133 – 17-180.
- 8. A downstream peak flow analysis which includes the assumptions, results and supporting calculations to show safe passage of post-development design flows downstream.
- 9. The analysis of downstream conditions in the report shall address each and every point or area along the project site's boundaries at which runoff will exit the property.
- 10. The analysis shall focus on the portion of the drainage channel or watercourse immediately downstream from the project.
- 11. This area shall extend downstream from the project to a point in the drainage basin where the project area is 10 percent of the total basin area.
- 12. Identify the parts or components of a stormwater management facility or practice that need to be regularly or periodically inspected and maintained, and the equipment and skills or training necessary.
- 13. Include an inspection and maintenance schedule, maintenance tasks, responsible parties for maintenance, funding, access and safety issues.
- 14. Provisions for the periodic review and evaluation of the effectiveness of the maintenance program and the need for revisions or additional maintenance procedures shall be included in the plan.
- 15. Unless an on-site stormwater management facility or practice is dedicated to and accepted by the City of Grantville, the applicant must execute an easement and an inspection and maintenance agreement binding on all subsequent owners of land served by an on-site stormwater management facility or practice.

VIII. Street Design N/A

- 1. North Arrow
- 2. Show location and type of traffic signage with note: **All signage to conform to standards given in the Manual of Uniform Traffic Control Devices.**
- 3. Plan and profile of existing City or County roads at proposed entrance with City of Grantville minimum horizontal and vertical stopping sight distance requirements satisfied. The speed limit of the existing road shall be shown.
- 4. Show that sight distances for all internal streets are satisfied.

- 9. Show and label fire hydrant locations (existing and proposed)
- 10. Fire hydrants must be spaced no greater than 500 feet.
- 11. Waterline Markers shall be installed every 250 L.F., approximately one-half between each fire hydrant.
- 12. Show and label every existing and proposed valve.
- 13. At every intersection-must be a valve in every direction (i.e. 3 valves at a 3-way intersection).
- 14. In line valves must be spaced no greater than 1000 feet.
- 15. Show and label the location, material and sizes of existing pipe lines surrounding the project.
- 16. Specify methods and tie-in location with existing mains. (i.e. tapping sleeve and valve labeled with the size)
- 17. Show the location of existing and proposed valves and other appurtenances.
- 18. Contours in feet above MSL shall be shown on Water plan. Contours shall not be greater than 2 feet.
- 19. Maximum scale shall be 1" = 100'.
- 20. Show proposed water meter sizes and locations.
- 21. Long side services are to be installed with 2" PVC sleeves under pavement.
- 22. Water meters shall be installed at the property line, maximum 3-feet past proper past the property line.
- 23. Clearly label all road rights-of-way (existing and proposed) and easements (existing and proposed).
- 24. Water mains under existing or proposed pavement must be called out to be in steel casing; the length of casing must be called out.
- 25. Clearly show and label existing and proposed topography and existing and proposed features pertinent to the design and layout along pipeline route.
- 26. Provide adequate dimensions, stations, and labels to clearly indicate proposed location of pipeline relative to features such as right-of-way, centerlines, edge of roads, coordinates, etc.
- 27. Minor stream/creek crossings are adequately designed: cross these under or beyond culvert piping. These installations require restrained joints. Provide plan view and cross section of the crossing showing the existing ground, vegetative buffer, proposed ground and side slopes, depth of cover, the creek and culvert,

the total project and to the surrounding streets and sewer outfalls.

- 4. Plans shall consist of a single master plan view of entire sewer line plan showing lots, lot numbers, laterals, manholes and manhole numbers, etc.
- 5. No other information should appear on the sewer plan layout sheet if such information tends to confuse or complicate the plans.
- 6. Show and label the location, material and sizes of existing pipelines surrounding the proposed project.
- 7. Maximum plan view scale shall be 1" = 100'.
- 8. Sewer lines crossing perpendicular under existing or proposed pavement (County or State Roads) must be called out to be in steel casing; the size and length of casing must be noted.
- 9. The maximum allowable distance between manholes is 400'.
- 10. Gravity lines must be in the middle of the road for new subdivisions streets.
- 11. Minimum gravity size sewer = 8-inch, minimum slope = 0.40%.
- 12. Clearly label all road rights-of-way (existing and proposed) and easements (existing or proposed).
- 13. Clearly show and label existing and proposed topography and existing and proposed features pertinent to design and layout along the pipeline route.
- 14. Provide adequate dimensions, stations, and labels to clearly indicate proposed location of pipeline to features such right-of-way, centerlines, edge of roads, coordinates, etc.
- 15. Any sewer outside of right-of-way must be in at least a 20-foot easement. Could be more depends on the depth of sewer.
- 16. Aerial crossings not permitted unless there is no other alternative. Aerial line shall be above the 50-yr flood line, and shown as such on the plans.
- 17. Show size and location of all service laterals. Commercial and industrial services must discharge individually into a manhole.
- 18. Show size, location of grease traps; min. size = 1,500 gallons
- 19. No sewer lines shall be installed through detention ponds.
- 20. Show size, location and material of proposed force mains.
- 21. Show 100-yr. floodplain in critical areas.
- 22. GA EPA Sanitary Sewer Extension submittal form must be completed and submitted with plans.

Condition of Equipment at Start-Up:

Dry Wet Muddy

Was Equipment Stored: Yes No

Length of Storage: _____

Describe Station Layout _____

Liquid Being Pumped: _____

Debris in Bottom of Station: _____

Was Debris Removed in Your Presence: _____

Are Guide Rails exactly Vertical: _____

Is Base Elbow Installed Level? _____

Liquid Level Controls: Model _____

Is Control Installed Away from _____

Turbulence: _____

Operation Check:

Tip lowest float (stop float) all, pumps should remain off.

Tip second float (and stop float), one pump comes on.

Tip third float (and stop float), both pumps on (alarm on simplex).

Tip fourth float (and stop float), high level alarm on (omit on simplex).

If not our level controls, describe type of controls _____

Does liquid level ever drop below volute top? _____

Control Panel Model No. _____

Number of Pumps Operated by Control Panel: _____

*NOTE: At no time should hole be made in top of control panel, unless proper sealing

Devices are utilized.

Control Panel Manufactured By Others: _____

Company Name: _____

Model No. _____

Short Circuit Protection _____ Type _____

Number and Size of Short Circuit Device(s) _____ Amp Rating _____

Overload Type _____ Size _____ Amp Rating _____

Do Protective Devices Comply with Pump Motor Amp Rating _____

Are All Connections Tight? _____

Is the Interior of the Panel Dry: _____ If "No", the Moisture Problem Must

Be Corrected.

Electrical Readings:

Single Phase:

Voltage Supply at Panel Line Connection, Pump Off, L1, L2 _____

Voltage Supply at Panel Line Connection, Pump On, L1, L2 _____

- 37. All manholes shall be numbered on the plan and correspondingly on the profile.
- 38. The location and elevation of adjacent parallel stream beds and adjacent lake/pond surfaces shall be shown on the plan and profile.
- 39. Sizes, locations and inverts of all special features such as connections to existing sewers, concrete encasement, collar walls, elevated sewers piers, etc.
- 40. All structures, both above and below ground, which might interfere with the proposed construction, particularly water mains, gas mains, storm drains, utility conduits, etc.
- 41. Minimum drop from invert in to invert out shall be 0.10-feet. Any drop from invert in to invert out equal to or greater than 3 feet shall be constructed as an outside-drop manhole.

XI. Additional Comments

- 1.
- 2.
- 3.

THE CITY OF GRANTVILLE, GEORGIA

**RESOLUTION NO. 2023-21
BEFORE THE CITY COUNCIL**


**A RESOLUTION TO APPROVE AND ADOPT AN AGREEMENT FOR WATER
AND WASTEWATER OPERATIONS AND MAINTENANCE WITH COWETA
COUNTY WATER AND SEWERAGE AUTHORITY**

WHEREAS the City of Grantville desires to engage the services of the Coweta County Water & Sewerage Authority to provide management, operation, maintenance services, support, and emergency services, as required, for the City's water distribution system and four (4) wastewater treatment ponds/facilities.

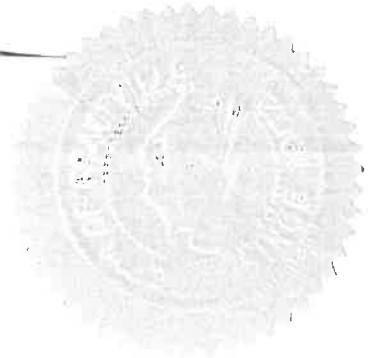
NOW, THEREFORE BE IT RESOLVED that the Agreement between the City of Grantville and Coweta County Water & Sewerage Authority attached hereto and incorporated herein by reference is approved and adopted.

HEREBY RESOLVED in lawfully assembled open session this 28TH day of August 2023.

ATTEST:


City Clerk


Mayor



CITY OF GRANTVILLE

COUNTY OF COWETA

AGREEMENT FOR WATER AND WASTEWATER OPERATIONS
AND MAINTENANCE AGREEMENT

THIS AGREEMENT FOR WATER AND WASTEWATER OPERATIONS AND MAINTENANCE SERVICES, is made and entered into this 1st day of September, 2023, by and between the CITY OF GRANTVILLE, a municipal corporation of the State of Georgia, acting by and through its Mayor and Council, hereinafter the "City," and the COWETA COUNTY WATER AND SEWERAGE AUTHORITY, a public body, corporate and politic, acting by and through its members, hereinafter the "Authority," (collectively the "Parties") for the purpose of the Authority providing wastewater operations and maintenance services, among other things, to the City, hereinafter referred to as the "Agreement".

WITNESSETH:

WHEREAS, the City desires to engage the services of the Authority to provide oversight of operations, preventative maintenance, laboratory and facility compliance reporting, administrative support, and emergency services as required, for the City's water system and four (4) wastewater treatment facilities.

NOW, THEREFORE, FOR AND IN CONSIDERATION of the mutual promises and conditions hereinafter contained, the receipt and sufficiency of which are hereby agreed to by the City and the Authority, the parties hereby agree to:

1.

This Agreement supersedes any and all other agreements, either oral or in writing, between the contracting parties with respect to its subject matter. No other agreement, statement, or promise relating to the subject matter of this agreement that is not contained herein shall be valid or binding unless in writing and signed by both parties. This Agreement is for the purpose of having the Authority provide oversight of operations, preventative maintenance, laboratory and facility compliance reporting, administrative support, and emergency services as required, for the City's water system and four (4) wastewater treatment facilities which are part of the City's sewerage system. The locations of the City's water system assets are depicted in Exhibit "A" attached hereto which is by reference incorporated herein. The locations of the four (4) wastewater treatment facilities are depicted in Exhibit "B" attached hereto which is by reference incorporated herein. To the extent that additional facilities may be added to the City's water or sewer system, oversight of operations, preventative maintenance, laboratory and facility compliance reporting, and administrative support are not covered under this Agreement.

2.

The Authority will provide to the City daily water operation services for the City's water system. These services will include: daily monitoring of water tank levels, confirming water quality and sampling protocols, performing system flushing and sample collection; weekly maintenance inspections to check on and provide general services on mechanical equipment and conduct preventative maintenance; daily

compliance reporting and monthly report filing; daily laboratory compliance sample processing to confirm proper facility operations and permit compliance; and as needed administrative support to respond to Environmental Protection Division visits and maintain permits and renewals for the City's water system.

3.

The Authority will provide to the City daily wastewater operation services for the City's four (4) wastewater treatment facilities. These services will include: daily operation by an operator to check the treatment facility, confirm treatment and sampling protocols, maintain treatment limited and proper chemical feeds; weekly maintenance inspections to check on and provide general services on mechanical equipment and conduct preventative maintenance; daily compliance reporting and monthly report filing; daily laboratory compliance sample processing to confirm proper facility operations and permit compliance; and as needed administrative support to respond to Environmental Protection Division visits and maintain permits and renewals for the City's four (4) wastewater treatment facilities.

4.

For the daily water and wastewater operation and maintenance services, the City will pay the Authority a monthly fee of NINE THOUSAND FOUR HUNDRED FIFTY AND 00/100 (\$9,450.00) DOLLARS, hereinafter referred to as the "Fee," by the fourteenth (14th) day of the month following the month in which the services were initially provided. This Fee will be reviewed by the Authority on March 1 of each year to determine whether this amount reflects actual costs to the Authority to provide the services. To the extent this amount does not reflect actual costs to the Authority or any previous increase in the Fee from the date of this Agreement, the Fee will be raised to reflect such costs. The Authority shall notify the City at least 30 days in advance of revising the Fee.

5.

The Authority is not obligated to perform any additional services outside of the water and wastewater operation and maintenance services noted in this Agreement. However, should the Authority note that any additional service or work to the City's water system and/or wastewater facilities be required beyond the water and wastewater operation services noted in paragraphs 2 and 3 above, the Authority shall notify the City in a timely fashion. Should the Authority find an issue that is a major threat to the operation of the water or sewer system, the Authority will contact the City within twenty-four (24) hours to notify the City of the threat. Should the City request the Authority to assist with this additional work, the parties agree to negotiate a separate contract for said work.

6.

Any items not specifically listed in paragraphs 2 and 3, including but not limited to: meeting attendance requested by the City or regulatory agencies; additional sampling requirements from regulatory agencies or the City; additional requirements for expansions of the City's current water and sewerage systems that increase the Authority's operational hours, site checks, or increase sample pulls and testing; additional chemicals for treatment or items outside of normal operation; large maintenance tasks outside of general preventative maintenance operations; and Lead and Copper Revised Rule

compliance are not a part of this agreement. Should the City request these services from the Authority, the Parties agree to negotiate a separate contract for said work.

7.

From time to time, the City may have emergency situations concerning the City's water or sewerage systems or may need assistance with non-emergency operational tasks and may ask the Authority to assist them in dealing with these situations or tasks. If able, the Authority will assist, and the City will pay the Authority for labor and material based on the scope of work. These costs will be over and above the monthly fee stated in paragraph 4 above.

8.

The City understands that the operation of the Authority's water and sewerage systems and other agreements the Authority has with other municipalities have priority for the Authority over the City's water and sewerage systems. Because of this, the City understands that there may be times when the Authority cannot assist the City in emergency situations.

9.

The City agrees to indemnify and hold the Authority harmless, to the extent allowed by law, against all claims, suits, demands, losses, damages, costs or expenses arising out of or in any way relating to the Authority's performance or omission to perform hereunder.

10.

The City recognizes that the Authority is an independent contractor and has no responsibility to regulatory agencies with any authority over the City with regard to the City's water or sewer system. The City shall be solely and exclusively responsible for any and all requirements, rules or restrictions of the regulatory agencies, including but not limited to any reporting requirements, citations, fines or communications with, by or through said regulatory agencies.

11.

This Agreement shall continue to be in effect for a period of three (3) years from the date set out above or until either party terminates this agreement by giving no less than ninety (90) days prior written notice. Notice shall be provided to the person noted below and shall be in writing by certified mail, return receipt requested, to the address noted below:

City:	City Mayor City of Grantville 123 Lagrange Street Grantville, GA 30220	Authority:	Chief Executive Officer Coweta County Water & Sewerage Authority 545 Corinth Road Newnan, GA 32063
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With a copy to: Melissa D. Griffis, Esq.

Home & Griggs, P.C.
32 South Court Square
Newnan, GA 30263

11.

The validity of this Agreement and any of its terms and provisions, as well as the rights and duties of the parties under this Agreement, shall be governed by the laws of the State of Georgia and the County of Coweta.

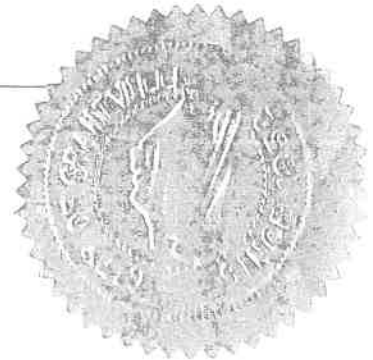
IN WITNESS WHEREOF, the parties have hereunto set their hands and seals the day and year first above written.

MAYOR AND COUNCIL FOR
THE CITY OF GRANTVILLE

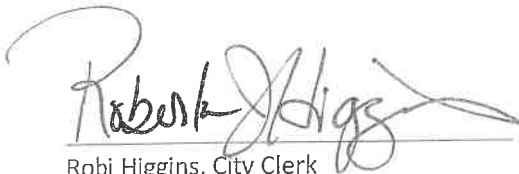
(SEAL)

By:


RICHARD PROCTOR, Mayor



ATTEST:


Robi Higgins, City Clerk

COWETA COUNTY WATER &
SEWERAGE AUTHORITY

(SEAL)

By:

LAURIE BARTLETT, Chairman

ATTEST:

Larry Kay, Secretary

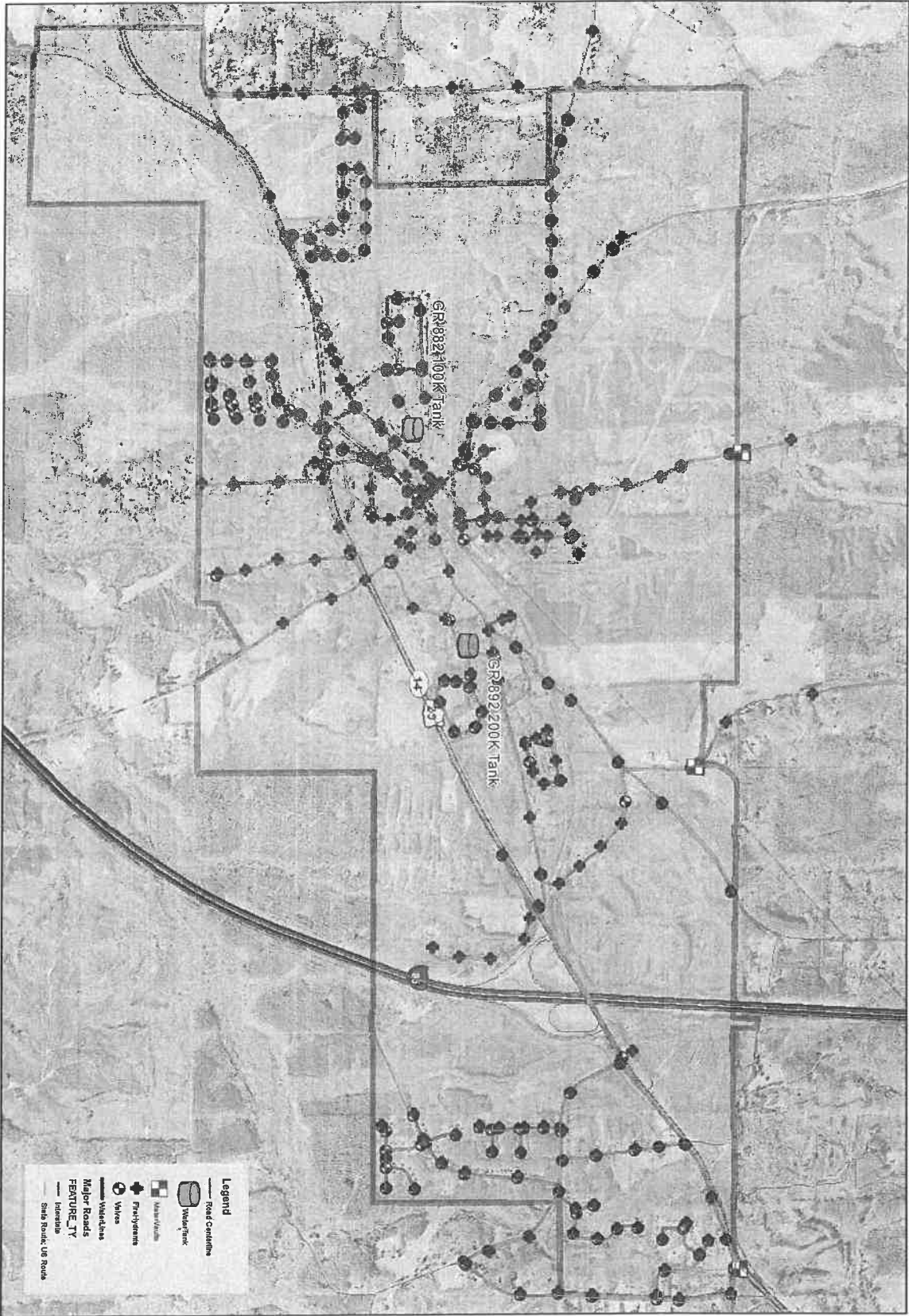


Exhibit A

Granville Water System



**THE CITY OF GRANTVILLE,
GEORGIA**

**RESOLUTION NO. 2023-20
BEFORE THE CITY COUNCIL**

WHEREAS, in order to allow time for careful planning and coordination of capital improvement projects in the City of Grantville and to prepare financially for those projects which represent major expenses for the City, it is essential for the City Council to identify the City's capital improvement needs, set priorities, and allocate financial resources for a multi-year period; and

WHEREAS, the City of Grantville lacks the financial resources to undertake all capital improvement projects it is necessary for the City Council to determine what financing options will be available, and


WHEREAS, an updated Capital Improvement Plan for calendar years 2024-2029 is attached hereto as Exhibit "A.",

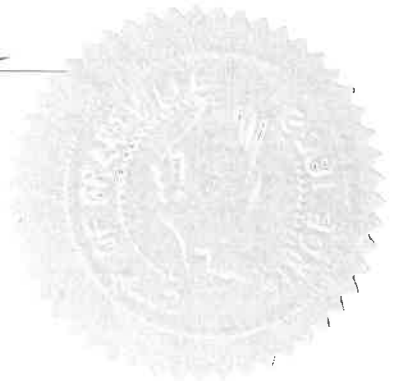
NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Grantville, Georgia, that the City of Grantville updated Capital Improvement Plan for Calendar Years 2024-2029 is hereby adopted to serve as a planning document identifying community needs for a variety of public improvements, potential financing sources and projected time frames.

IT IS SO RESOLVED THIS 28th day of August 2023, by the City Council of the City of Grantville


Richard Proctor, Mayor

ATTEST:


Roberta Huggins, City Clerk





City of Grantville
Fiscal Years 2024 - 2029
Capital Improvement Plan
Draft Budgets

7/10/2023

City of Grantville Capital Improvement Plan / Budget
For Fiscal Years 2024-2029

	Grand Total	FY24	FY25	FY26	FY27	FY28	FY29
Hwy 29 Water Line	\$800,000.00	\$800,000.00					
Financial Software Upgrade	\$500,000.00	\$250,000.00	\$250,000.00				
Park Equipment	\$150,000.00	\$75,000.00	\$75,000.00				
Downtown Revitalization Streetscape	\$965,000.00	\$85,000.00	\$180,000.00	\$200,000.00	\$200,000.00	\$150,000.00	\$150,000.00
Freight Depot (Approved by Council on 07.24.2023)	\$500,000.00	\$340,000.00	\$160,000.00				
City Hall Roof	\$200,000.00	\$200,000.00					
City Parking Lot (DDA)	\$200,000.00	\$200,000.00					
City Hall Sewer Line	\$50,000.00	\$50,000.00					
Church Street/Main Street Drainage	\$350,000.00		\$100,000.00	\$250,000.00			
Lagrange Street Drainage	\$100,000.00	\$100,000.00					
Utility Tree Trimming	\$100,000.00	\$50,000.00	\$50,000.00				
Police Cameras	\$100,000.00	\$100,000.00					
TOTAL CIP:	\$4,015,000.00	\$2,250,000.00	\$815,000.00	\$450,000.00	\$200,000.00	\$150,000.00	\$150,000.00
		Exhibit A					

Capital Project

HWY 29 Water Main

<p>Description</p>	<p>Extending the water main 5100 LF from Loan Oak to the end point on HWY 29</p>
<p>Purpose</p>	<p>To provide water for future business and development along our planned commercial corridor</p>
<p>Benefits to Grantville</p>	<p>Creates attraction for businesses to come to Grantville and creates a loop to keep water flowing which cuts down on TTHM</p>
<p>Human Capital</p>	<p>City Engineer, CM, Mayor, City Clerk, Public Works, 3rd party contractor</p>
<p>Cost of Project</p>	<p>Current budget proposals \$800,000.00</p>
<p>Ongoing cost human</p>	<p>Public works and 3rd party for break fix and water tap</p>
<p>Ongoing cost budget</p>	<p>none</p>
<p>Proposal on capital funding</p>	<p>To be funded by SPLOST funds from Utilities</p>
<p>Proposal on budget funding</p>	<p>none required</p>
<p>Impact to future budget and taxes</p>	<p>Since the ongoing cost is minimal there is no impact to future budget. For taxes it is a positive impact as the growth of business creates new revenue for the city</p>
<p>Time frame for project delivery</p>	<p>from contract award projected is six months</p>
<p>Additional notes</p>	<p>This is a capital project and will require a bid process and subsequent selection of approved vendor.</p>

Capital Project

Financial Software Upgrade

Description	Upgrading all financial software to include utility billing, accounts payable, accounts receivable, and customer services.
Purpose	To provide better capabilities for the city in regards to customer service and financial tracking. To provide better services as growth of houses and businesses creates more demand.
Benefits to Grantville	Modernizes customer services to allow, signing up on line, credit card auto pay, creating on line account, works in conjunction with division of utility business accounting from General fund accounting.
Human Capital	City Clerk, City Clerk office, Billing Clerk, CM, Mayor, Accounting
Cost of Project	Current Budget Proposal \$500,000.00
Ongoing cost human	City Administration. Third Party Support.
Ongoing cost budget	Monthly licensing TBD
Proposal on capital funding	To be funded by SPLOST funds from Utilities
Proposal on budget funding	To be funded by utility revenues
Impact to future budget and taxes	Once put in place the systems would only need upgrades that will be part of the agreement with the selected vendor. Ongoing costs will be factored into the budget of the utility business.
Time frame for project delivery	From Contract Award three months.
Additional notes	This is a capital project and will require a bid process and subsequent selection of approved vendor.

Capital Project

Park Equipment

Description	Providing new equipment and layout for both Post Street and Griffin Street Parks
Purpose	To modernize the City of Grantville park equipment and to create a better experience for the citizens.
Benefits to Grantville	The benefit would be modern equipment that should encourage families to use the equipment and provide a better vision of the city.
Human Capital	Parks and Recreation Supervisor, Public Works, CM, Mayor
Cost of Project	Current Budget Proposal \$150,000.00
Ongoing cost human	Parks and Recreation Supervisor, Public Works, CM, Mayor
Ongoing cost budget	Estimated \$3,000.00 per month for cleaning, cutting grass, and repair
Proposal on capital funding	To be funded by SPLOST funds from Parks and Recreation
Proposal on budget funding	To be funded by General Fund Expenditures
Impact to future budget and taxes	The impact would be just ongoing maintenance until the life of the equipment requires replacement.
Time frame for project delivery	From Contract Award six months.
Additional notes	This is a capital project and will require a bid process and subsequent selection of approved vendor.

Capital Project

Downtown Revitalization "LCI" Plan

Description	Re-development of the entire downtown to match the LCI recommendations.
Purpose	To enhance the downtown area to add to the renaissance of the city.
Benefits to Grantville	As the city is re-grown, the downtown street scape will reflect a charm and appeal to those that utilize the downtown.
Human Capital	Public Works, City Clerk, CM, Mayor, third parties.
Cost of Project	Current Budget Proposal, total cost \$965,000.00, to be broken out over six years.
Ongoing cost human	Public Works, City Clerk, CM, Mayor, third parties.
Ongoing cost budget	Estimated \$5,000.00 per month for cleaning, cutting grass, and repair
Proposal on capital funding	To be funded by SPLOST funds from Streets, Bridges and Sidewalks.
Proposal on budget funding	To be funded by General Fund Expenditures
Impact to future budget and taxes	The impact would be just ongoing maintenance.
Time frame for project delivery	From Contract Award six years.
Additional notes	This is a capital project and will require a bid process and subsequent selection of approved vendor.

Capital Project

City Hall Roof

Description	Replacing the roof on city hall
Purpose	The current roof is leaking and has been deemed as needing replacing.
Benefits to Grantville	Prevents further ceiling damage to city hall
Human Capital	3rd party contractor, CM, City Clerk, Mayor
Cost of Project	Current Budget Proposal \$200,000.00
Ongoing cost human	None
Ongoing cost budget	None
Proposal on capital funding	To be funded by SPLOST Public Building Repair
Proposal on budget funding	none
Impact to future budget and	
Yes	none
Time frame for project delivery	From Contract Award eight weeks
Additional notes	This is a capital project and will require a bid process and subsequent selection of approved vendor.

Capital Project

City Parking Lot DDA Property

Description	To create a parking lot in downtown on city property currently owned by the DDA
Purpose	To add more parking capability and possible use as displays during downtown festivals.
Benefits to Grantville	It creates additional parking that is needed as the downtown re-populates
Human Capital	CM, Mayor, Public works, City Clerk, 3rd party
Cost of Project	Current Budget Proposal \$200,000.00
Ongoing cost human	General Maintenance Public Works
Ongoing cost budget	none
Proposal on capital funding	To be funded by SPLOST Downtown revitalization
Proposal on budget funding	General Fund
Impact to future budget and taxes	Only maintenance
Time frame for project delivery	From Contract award eight weeks
Additional notes	This is a capital project and will require a bid process and subsequent selection of approved vendor.

Capital Project

City Hall Sewer Line

Description	Project to replace and repair the city hall sewer line
Purpose	To make sure that city hall has a functioning sewer system
Benefits to Grantville	City Hall must have functional toilets, senior center, employees, etc.
Human Capital	CM, City Clerk, Mayor, Public Works, 3rd party.
Cost of Project	Current Budget Proposal \$50,000.00
Ongoing cost human	None
Ongoing cost budget	None
Proposal on capital funding	To be funded by SPLOST Public buildings repairs
Proposal on budget funding	none
Impact to future budget and	
Risks	none
Time frame for project delivery	From contract award one month
Additional notes	Contract will be awarded with preferred vendor

Capital Project

Church Street/Main Street Drainage

Description	Upgrade and repair the drainage system on Church and Main Street
Purpose	To insure that drainage properly flows in the downtown area to prevent flooding
Benefits to Grantville	removes the possibility of flooding in this area which could cause road closure etc.
Human Capital	CM, City Clerk, City Engineer, Mayor, Public works, 3rd party
Cost of Project	Current Budget Proposal \$350,000.00
Ongoing cost human	none
Ongoing cost budget	none
Proposal on capital funding	To be funded by SPLOST funds from Streets, Bridges and Sidewalks.
Proposal on budget funding	none
Impact to future budget and	
Yes	none
Time frame for project delivery	From contract award one month
Additional notes	This is a capital project and will require a bid process and subsequent selection of approved vendor.

Capital Project

Lagrange Street Drainage

Description	Upgrade and repair the drainage system on Lagrange street
Purpose	To insure that drainage properly flows in the downtown area to prevent flooding
Benefits to Grantville	removes the possibility of flooding in this area which could cause road closure etc.
Human Capital	CM, City Clerk, City Engineer, Mayor, Public works, 3rd party
Cost of Project	Current Budget Proposal \$100,000.00
Ongoing cost human	none
Ongoing cost budget	none
Proposal on capital funding	To be funded by SPLOST funds from Streets, Bridges and Sidewalks.
Proposal on budget funding	none
Impact to future budget and	
Notes	none
Time frame for project delivery	From contract award one month
Additional notes	This is a capital project and will require a bid process and subsequent selection of approved vendor.

Capital Project

Utility Tree Trimming

Description	Periodic Tree trimming to remove limbs from nearby power lines and facilities
Purpose	To help prevent power outages from resultant tree issues
Benefits to Grantville	Minimizes power outages to customers of Grantville Utilities
Human Capital	CM, Mayor, City Clerk, Public Works, 3rd party
Cost of Project	Current Budget Proposal \$100,000.00
Ongoing cost human	none
Ongoing cost budget	none
Proposal on capital funding	To be funded by SPLOST funds from Streets, Bridges and Sidewalks.
Proposal on budget funding	none
Impact to future budget and taxes	none
Time frame for project delivery	To begin as determined by need
Additional notes	Contract is single source, Lagrange Power.

Capital Project

Police City Cameras

Project Description	To deploy a new camera system through Grantville
Project Purpose	To add to the safety and security of the city
Benefits to Grantville	Cameras can be extremely valuable in crime solving and prevention
Human Capital	GPD, CM, City Clerk, Mayor, 3rd party vendor
Project Cost	Current Budget Proposal \$100,000.00
Ongoing cost human	GPD and telecom expense
Ongoing cost budget	Monthly cost \$1500.00 per month for software and telecom services
Proposal on capital funding	To be funded by SPLOST Public Safety Equipment
Proposal on budget funding	To be funded by General Fund expenditures
Impact to future budget and reserves	none
Time frame for project delivery	From contract award three months
Additional notes	Contract will be awarded with preferred vendor

THE CITY OF GRANTVILLE, GEORGIA

RESOLUTION NO. 2023-19
BEFORE THE CITY COUNCIL

A RESOLUTION TO ADOPT THE FISCAL YEAR 2023-2024
BUDGET FOR THE CITY OF GRANTVILLE, GEORGIA,
APPROPRIATING THE AMOUNTS SHOWN AS EXPENDITURES,
ADOPTING THE ANTICIPATED REVENUES, AND PROHIBITING
EXPENDITURES TO EXCEED APPROPRIATIONS.

WHEREAS, a proposed Budget for the City of Grantville has been presented to the City Council by the Mayor;
and

WHEREAS, appropriately advertised public hearings have been held on the proposed Budget, as required by
State law and City Charter; and

WHEREAS, the Mayor and City Council have reviewed the Budget and have made certain amendments to both
funding sources and appropriations, and

WHEREAS, there is a balanced Budget, such that anticipated funding sources equal or exceed proposed
expenditures; and

WHEREAS, the Mayor and City Council intend to adopt an annual Operating Budget for the Fiscal Year 2023-
2024.

NOW, THEREFORE BE IT RESOLVED that the Operating Budget, shown as "Exhibit A" attached hereto and
incorporated herein by reference and made a part of this Resolution, shall be the City of Grantville's Fiscal Year
2023-2024 Operating Budget; and

BE IT FURTHER RESOLVED that this Budget be and is hereby approved and that the anticipated revenues
presented for each fund are adopted in the amounts shown and that the amounts shown for each fund as proposed
expenditures are hereby appropriated to the departments named in each fund; and

BE IT FURTHER RESOLVED that any increase or decrease in appropriations or revenues other than those
exceptions provided for herein shall require approval of the Mayor and City Council; and

BE IT FURTHER RESOLVED that such revisions to the Budget may be made by majority vote of the Mayor
and City Council at any business meeting; and

BE IT FURTHER RESOLVED that the expenditures shall not exceed the appropriations authorized by the
Budget or amendments thereto and that expenditures for the fiscal year shall not exceed actual funding available.

HEREBY RESOLVED in lawfully assembled open session this 28TH day of AUGUST, 2023.

ATTEST:


City Clerk


Mayor





**City of Grantville
Fiscal Years 2024 & 2025
Draft Budgets**

7/24/2023

07.31.2023
File Copy

CITY OF GRANTVILLE, GEORGIA

SUMMARY OF REVENUES, EXPENDITURES, AND
OTHER FINANCING SOURCES

GENERAL FUND

SUMMARY OF REQUESTED FY 2024 BUDGET

	FY 2024
REVENUES	
Taxes	\$ 2,603,580
Licenses & Permits	179,500
Intergovernmental	302,742
Charge for Services	15,150
Miscellaneous	50,000
Other Financing Sources	<u>7,500</u>
Total Revenues	<u>\$ 3,158,472</u>
EXPENDITURES	
General Government	\$ 492,660
Police	1,912,092
Fire Services	349,272
Code Enforcement/Animal Control	165,890
Roads & Streets	316,816
Street Lights	85,000
Cemetery	35,000
Senior Center	394,425
Parks & Recreation	160,948
Building & Zoning	65,000
Contingency	<u>100,000</u>
Total Operating Expenditures	<u>\$ 4,077,103</u>
OTHER FINANCING SOURCES (USES)	
Operating Transfers In - Muni Court Fund	\$ 121,515
Operating Transfers In - Utilities Funds	166,656
Fund Balance - Municipal Court Fund	130,608
Fund Balance -General Fund	108,917
Fund Balance - Utility Funds	190,935
Proceeds from Debt - Capital Leases	<u>200,000</u>
Total Other Financing Sources (Uses)	<u>\$ 918,631</u>
EXCESS (DEFICIENCY) OF REVENUES & OTHER FINANCING SOURCES VERSUS EXPENDITURES	<u>\$ -</u>

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
Revenues						
Taxes	311100	Real Property-Current Year	\$ 596,053.79	\$ 602,756.40	\$ 883,111.68	\$ 909,605.03
	311200	Real Property-Prior Year	-	-	-	-
	311300	Personal Property - Current Year	-	-	7,181.45	7,181.45
	311310	Personal Property Taxes - Motor Vehicle	4,500.00	4,500.00	2,823.59	2,823.59
	311315	TAVT Fee	50,000.00	95,500.00	98,000.00	98,000.00
	311320	Mobile Home	-	-	577.32	577.32
	311350	Personal Property - Railroad Equipment	600.00	600.00	-	-
	311400	Personal Property - Prior Year	-	-	-	-
	311600	Real Estate Transfer (Intangible)	-	-	-	-
	311700	Franchise Taxes - Elect Fund - 4% of Rev	58,200.00	58,200.00	67,563.00	69,589.89
	311710	Franchise Tax - Electric	35,500.00	35,500.00	38,000.00	38,000.00
	311750	Franchise Tax - Cable TV	500.00	500.00	11,000.00	11,000.00
	311760	Franchise Tax - Telephone	1,500.00	1,500.00	1,725.00	1,725.00
	313100	Local Option Sales & Use Taxes	760,906.00	962,813.57	1,165,736.58	1,224,023.41
	314200	Alcoholic Beverage Excise	55,000.00	60,000.00	60,000.00	60,000.00
	316200	Insurance Premium Taxes	247,304.72	263,379.52	267,860.93	275,361.03
	318000	Other Taxes	-	-	-	-
	319900	Other	-	-	-	-
Licenses & Permits						
	321100	Alcoholic Beverage License Fee	6,525.00	1,000.00	500.00	500.00
	321130	Liquor License Fee	5,500.00	12,000.00	10,000.00	10,000.00
	321200	Occupational Tax Fee	23,000.00	40,000.00	45,000.00	45,000.00
	321220	Insurance Co. License Fee	9,500.00	7,000.00	8,000.00	8,000.00
	322100	Building Permits	100,000.00	60,000.00	100,000.00	100,000.00
	322210	Zoning & Land Use	-	20,000.00	16,000.00	16,000.00
	322230	Sign Permits	25.00	-	-	-
	322300	Motor Vehicle Operators	-	-	-	-
	322900	Other Fees	1,000.00	-	-	-

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City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
Intergovernmental	323100	Business License Penalty	-	-	-	-
	331000	Federal Govt Grant	-	-	-	-
	331150	Indirect	-	-	-	-
	331151	Nutrition Program	-	-	-	-
	331152	Three Rivers/Sr Citizens	120,000.00	185,000.00	200,000.00	200,000.00
	331311	GOHS Federal Grant	-	-	-	-
	333000	Fed Govt Pymt in Lieu of Tax	-	-	-	-
	334000	State Government Grants (LMIG)	44,206.63	49,000.00	51,000.00	51,000.00
	334150	Indirect Grant Reimbursement	-	-	-	-
	336000	Local Government Grants	-	-	-	-
	336010	Local Gov't Grant - Recreation	-	-	-	-
	336020	Local Gov't - SRO Reimburse - BOE	42,771.50	50,234.75	51,741.79	53,294.05
	337000	Local Gov't Shared Revenues	-	-	-	-
	341100	Admin Court Costs	-	-	-	-
	341190	Other (Credit Check Fees)	10,000.00	9,000.00	2,000.00	2,000.00
Charge for Services	341300	Planning & Dev Fees and chg	-	-	-	-
	341320	Impact Fees	-	-	-	-
	341400	Printing & Duplicating Service	1,000.00	700.00	2,500.00	2,500.00
	341900	Other	-	-	-	-
	341910	Election Qualifying Fee	500.00	400.00	500.00	500.00
	341920	Advertising Fee	-	-	-	-
	341950	Convenience Fees	9,000.00	10,000.00	9,500.00	9,500.00
	342120	Accident Reports	55.00	-	-	-
	342310	Fingerprinting Fee	15.00	-	-	-
	346900	Other Fees	100.00	-	-	-
	347500	Recreation Fees	1,000.00	-	-	-
	347900	Concessions	100.00	-	-	-
	347950	Animal Shelter Fees	200.00	100.00	100.00	100.00
	349300	Bad Check Fees	1,000.00	400.00	300.00	300.00

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
Fines & Forfeitures*	349900	Notary Fees	200.00	175.00	250.00	250.00
(* included in Municipal Court Fund as of FY 2017)	351100	Court Fines	-	-	-	-
	351200	Bonds	-	-	-	-
	351320	Cash Confiscation Revenue	-	-	-	-
	351400	Court - FTA	-	-	-	-
	351920	Technology Assessment Fee	-	-	-	-
Interest	361000	Interest Revenues	10,000.00	2,000.00	14,000.00	14,000.00
Contributions	371000	Contrib & Donations From Pvt Src	-	-	-	-
Miscellaneous	381000	Building/Facility Rentals	20,000.00	20,000.00	25,000.00	25,000.00
	389000	Misc - Other Revenue	-	-	-	-
	389010	Senior Center Lunch Donation	11,000.00	10,000.00	11,000.00	11,000.00
Other Financing Src	392100	Sale of General Fixed Assets	1,500.00	1,500.00	5,000.00	5,000.00
	392200	Property Sale	-	-	-	-
	392300	Sale of Cemetery Lots	1,600.00	-	2,500.00	2,500.00
Total Revenues			2,229,862.64	2,563,759.24	3,158,471.34	3,254,330.77

Expenditures

City Council (1110)	511100	Regular Employees	4,800.00	4,800.00	4,800.00	4,800.00
	512200	Social Security FICA contrib	297.60	297.60	297.60	297.60
	512300	Medicare	69.60	69.60	69.60	69.60
	512600	Unemployment Insurance	-	-	-	-
	521200	Professional	11,700.00	12,000.00	17,000.00	17,000.00
	521210	Legal, Accounting and Audit	20,000.00	20,000.00	30,000.00	30,000.00
	521300	Technical	-	-	-	-
	521325	Election Expense	1,000.00	1,000.00	1,000.00	1,000.00

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City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
	522200	Repairs & Maintenance	100.00	100.00	100.00	100.00
	523100	Insurance other than Employee Benefit	8,629.50	9,492.45	8,107.00	8,917.70
	523200	Communications	500.00	500.00	700.00	700.00
	523300	Advertising	1,500.00	2,000.00	2,000.00	2,000.00
	523400	Printing & Binding	2,000.00	3,000.00	5,000.00	5,000.00
	523500	Travel	2,000.00	2,500.00	5,000.00	5,000.00
	523600	Dues & Fees	6,000.00	7,000.00	15,000.00	15,000.00
	523700	Education & Training	4,500.00	4,500.00	4,500.00	4,500.00
	531100	Supplies	1,000.00	1,000.00	2,000.00	2,000.00
	531300	Food	1,000.00	1,000.00	2,000.00	2,000.00
Mayor (1310)	511100	Regular Employees	1,800.00	1,800.00	1,800.00	1,800.00
	512200	Social Security FICA contrib	111.60	111.60	111.60	111.60
	512300	Medicare	26.10	26.10	26.10	26.10
	512600	Unemployment Insurance	-	-	-	-
	512700	Worker's Compensation	-	-	-	-
	521200	Professional	-	-	-	-
	521210	Legal, Accounting and Audit	-	-	-	-
	522210	Vehicle Repairs & Maintenance	-	-	-	-
	523100	Insurance other than Employee Benefit	1,200.00	1,000.00	1,500.00	1,500.00
	523200	Communications	300.00	300.00	500.00	500.00
	523300	Advertising	-	-	-	-
	523400	Printing & Binding	-	-	700.00	700.00
	523500	Travel	-	-	4,000.00	4,000.00
	523600	Dues & Fees	4,000.00	2,000.00	4,500.00	4,500.00
	523700	Education & Training	200.00	3,000.00	3,000.00	3,000.00
	531100	Supplies	2,500.00	3,000.00	3,000.00	3,000.00
	531270	Gasoline/Diesel	250.00	250.00	250.00	250.00
			500.00	500.00	500.00	500.00

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	*****			
			2022	2023	2024	
			Adopted Budget	Adopted Budget	Requested Budget	Forecasted Budget
Finance (1510)	511100	Regular Employees	33,222.36	34,883.48	32,155.50	33,763.28
	511120	Admin Employees	-	-	-	-
	511130	City Manager	23,647.14	26,594.77	30,182.34	31,691.46
	511200	Temporary Employees	-	-	23,400.00	24,570.00
	511300	Overtime	5,000.00	4,000.00	4,000.00	4,200.00
	512100	Group Insurance	46,761.81	53,776.08	60,229.21	67,456.72
	512200	Social Security FICA Contribution	3,835.91	4,059.65	5,563.75	5,841.93
	512300	Medicare	897.11	949.43	1,301.20	1,366.26
	512400	Retirement Contribution	11,860.45	12,994.11	13,281.88	13,393.94
	512600	Unemployment Insurance	-	-	-	-
	512700	Worker's Compensation	2,469.50	2,762.10	3,600.00	3,960.00
	521100	Official/Administrative	1,000.00	1,000.00	1,000.00	1,000.00
	521200	Professional	50,000.00	50,000.00	50,000.00	50,000.00
	521210	Legal, Accounting & Audit	20,000.00	20,000.00	20,000.00	20,000.00
	521300	Technical	7,000.00	29,630.00	29,630.00	29,630.00
	521330	Tax Collection Fees	3,000.00	3,000.00	3,000.00	3,000.00
	521900	Employee Benefits	-	-	-	-
	521905	Employee Benefit - Uniforms	-	-	-	-
	522150	Bank charges	8,000.00	8,000.00	8,000.00	8,000.00
	522200	Repairs & Maintenance	3,000.00	3,000.00	3,000.00	3,000.00
	522210	Vehicle Repairs & Maintenance	250.00	500.00	500.00	500.00
	522310	Rental of Land/Builings	-	-	-	-
	522320	Lease of Equip & Vehicles	4,500.00	5,171.00	5,700.00	5,500.00
	523100	Insurance other than Employee Benefit	7,191.80	7,910.98	6,755.00	7,430.50
	523200	Communications	3,000.00	3,000.00	3,700.00	4,070.00
	523210	Communications (Postage)	550.00	650.00	500.00	525.00
	523300	Advertising	1,500.00	1,500.00	1,500.00	1,500.00
	523400	Printing & Binding	3,000.00	4,500.00	4,500.00	4,500.00



City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022		2023		2024		2025	
			Adopted Budget	Adopted Budget	Adopted Budget	Requested Budget	Requested Budget	Forecasted Budget		
	523500	Travel	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
	523600	Dues & Fees	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
	523700	Education & Training	7,000.00	8,000.00	8,000.00	8,000.00	8,000.00	8,000.00	8,000.00	8,000.00
	523800	Uniforms	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	523850	Contract Labor	10,000.00	10,000.00	10,000.00	12,000.00	12,000.00	12,000.00	12,000.00	12,000.00
	523900	Other	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
	531100	Supplies	13,000.00	15,000.00	15,000.00	16,000.00	16,000.00	16,000.00	16,000.00	16,000.00
	531210	Water/Sewage	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00
	531220	Natural Gas	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
	531230	Electricity	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00
	531270	Gasoline/Diesel	1,000.00	1,500.00	1,500.00	5,000.00	5,000.00	5,500.00	5,500.00	5,500.00
	531300	Food	500.00	500.00	500.00	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
	531400	Books & Periodicals	200.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00
	541012	City Hall Improvements	2,000.00	2,000.00	2,000.00	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
	579000	Contingency	-	-	-	-	-	-	-	-
Police (3210)			532,333.41	558,950.08	558,950.08	721,313.83	721,313.83	757,379.52	757,379.52	757,379.52
	511100	Regular Employees	-	-	-	-	-	-	-	-
	511110	Officers Court Duty	34,030.14	35,731.65	35,731.65	36,954.00	36,954.00	38,801.70	38,801.70	38,801.70
	511120	Admin Employees	56,553.28	58,249.88	58,249.88	61,768.35	61,768.35	64,856.77	64,856.77	64,856.77
	511300	Overtime	151,975.87	174,772.25	174,772.25	196,132.61	196,132.61	219,668.52	219,668.52	219,668.52
	512100	Group Insurance	38,620.84	40,481.76	40,481.76	50,842.24	50,842.24	53,384.36	53,384.36	53,384.36
	512200	Social Security FICA Contribution	12,928.81	14,447.37	14,447.37	15,989.86	15,989.86	17,640.57	17,640.57	17,640.57
	512300	Medicare	31,716.36	33,302.18	33,302.18	42,463.00	42,463.00	44,586.15	44,586.15	44,586.15
	512400	Retirement Contribution	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00	2,500.00
	512600	Unemployment Insurance	67,044.07	53,944.00	53,944.00	59,338.40	59,338.40	65,192.24	65,192.24	65,192.24
	512700	Worker's Compensation	2,000.00	2,500.00	2,500.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
	521200	Professional	25,000.00	25,000.00	25,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00
	521210	Legal, Accounting & Audit	10,000.00	10,000.00	10,000.00	15,000.00	15,000.00	15,000.00	15,000.00	15,000.00
	521300	Technical	-	-	-	-	-	-	-	-

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022		2023		2024		2025	
			Adopted Budget	Adopted Budget	Requested Budget	Requested Budget	Forecasted Budget	Forecasted Budget		
	521900	Employee Benefits	-	-	-	-	-	-	-	-
	522200	Repairs & Maintenance	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
	522210	Vehicle Repairs & Maintenance	40,000.00	40,000.00	40,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00
	522320	Lease of Equip & Vehicles	125,000.00	100,000.00	100,000.00	102,400.00	102,400.00	102,400.00	102,400.00	102,400.00
	523100	Insurance other than Employee Benefit	53,214.70	68,068.39	68,068.39	49,990.00	49,990.00	49,990.00	54,989.00	54,989.00
	523200	Communications	108,000.00	121,000.00	121,000.00	129,400.00	129,400.00	129,400.00	129,400.00	129,400.00
	523210	Communications (Postage)	550.00	550.00	550.00	500.00	500.00	500.00	525.00	525.00
	523300	Advertising	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	523400	Printing and Binding	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	523500	Travel	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
	523600	Dues & Fees	750.00	800.00	800.00	800.00	800.00	800.00	800.00	800.00
	523700	Education & Training	6,500.00	6,500.00	6,500.00	6,500.00	6,500.00	6,500.00	6,500.00	6,500.00
	523800	Uniforms	10,000.00	10,000.00	10,000.00	10,500.00	10,500.00	10,500.00	10,500.00	10,500.00
	523850	Contract Labor	2,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00	3,000.00
	531100	Supplies	5,000.00	5,000.00	5,000.00	9,500.00	9,500.00	9,500.00	9,500.00	9,500.00
	531111	K-9 Supplies	3,500.00	3,500.00	3,500.00	0.00	0.00	0.00	0.00	0.00
	531200	Inmate Medical & Supplies	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00	4,000.00
	531201	Food	-	-	-	-	-	-	-	-
	531210	Water/Sewage	158.00	200.00	200.00	200.00	200.00	200.00	200.00	200.00
	531220	Natural Gas	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
	531230	Electricity	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00	2,000.00
	531270	Gasoline/Diesel	68,000.00	95,000.00	95,000.00	100,000.00	100,000.00	100,000.00	110,000.00	110,000.00
	531400	Books and Periodicals	-	-	-	-	-	-	-	-
	542200	Vehicles	-	-	-	200,000.00	200,000.00	200,000.00	200,000.00	200,000.00
	542300	Furniture & Fixtures	-	-	-	-	-	-	-	-
	542500	Equipment	-	-	-	5,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Fire Services (3500)	571010	County Contract	226,736.94	240,000.00	240,000.00	349,271.71	349,271.71	349,271.71	359,749.86	359,749.86

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City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
Code Enforcement/ Animal Control (3910)						
511100		Regular Employees	27,556.48	34,501.68	40,136.40	42,143.22
511300		Overtime	5,091.84	5,244.60	5,506.82	5,782.17
512100		Group Insurance	11,960.45	18,754.52	15,405.06	17,253.67
512200		Social Security FICA Contribution	2,024.20	2,484.27	2,829.88	2,971.37
512300		Medicare	473.40	576.32	661.83	694.92
512400		Retirement Contribution	1,543.16	1,932.09	2,797.51	2,937.38
512600		Unemployment Insurance	-	-	-	-
512700		Worker's Compensation	-	1,084.60	1,193.06	1,312.37
521200		Professional	1,200.00	1,200.00	1,200.00	1,200.00
521210		Legal, Accounting & Audit	10,000.00	10,000.00	10,000.00	10,000.00
521300		Technical	9,000.00	9,000.00	10,000.00	10,000.00
521900		Employee Benefits	-	-	-	-
522200		Repairs & Maintenance	1,000.00	1,000.00	1,000.00	1,000.00
522210		Vehicle Repairs & Maintenance	1,000.00	1,000.00	1,000.00	1,000.00
522320		Lease of Equip & Vehicles	100.00	100.00	300.00	300.00
523100		Insurance other than Employee Benefit	7,901.75	7,959.07	10,809.00	11,889.90
523200		Communications	2,000.00	2,000.00	2,500.00	2,500.00
523210		Communications (Postage)	500.00	500.00	300.00	300.00
523300		Advertising	500.00	500.00	500.00	500.00
523400		Printing & Binding	1,000.00	1,000.00	1,000.00	1,000.00
523500		Travel	2,000.00	2,000.00	4,000.00	4,000.00
523600		Dues & Fees	2,000.00	2,000.00	2,000.00	2,000.00
523700		Education & Training	2,500.00	2,500.00	2,500.00	2,500.00
523800		Uniforms	400.00	400.00	450.00	450.00
523850		Contract Labor	20,000.00	20,000.00	25,000.00	25,000.00
523900		Animal Control Expenses	3,000.00	3,000.00	9,000.00	9,000.00
531100		Supplies	3,000.00	3,000.00	8,000.00	8,000.00

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
	531210	Water/Sewage	250.00	300.00	550.00	550.00
	531220	Natural Gas	1,500.00	1,500.00	1,500.00	1,500.00
	531230	Electricity	1,750.00	1,750.00	1,750.00	1,750.00
	531270	Gasoline/Diesel	3,500.00	3,500.00	4,000.00	4,000.00
	542200	Vehicles	-	-	-	-
Streets (4210)	511100	Regular Employees	49,419.84	62,558.50	91,985.21	96,584.47
	511120	Admin Employees	-	-	-	-
	511130	City Manager	-	-	-	-
	511200	Temporary Employees	10,000.00	10,000.00	10,000.00	10,500.00
	511300	Overtime	5,000.00	5,000.00	5,000.00	5,250.00
	512100	Group Insurance	20,783.02	23,900.47	26,768.53	29,980.75
	512200	Social Security FICA Contribution	3,994.03	4,808.63	6,633.08	6,964.74
	512300	Medicare	934.09	1,124.60	1,551.29	1,628.85
	512400	Retirement Contribution	2,767.51	3,503.28	6,411.37	6,731.94
	512600	Unemployment Insurance	-	-	-	-
	512700	Worker's Compensation	35,553.67	21,461.00	23,607.10	25,967.81
	521200	Professional	7,000.00	7,000.00	5,000.00	5,000.00
	521210	Legal, Accounting & Audit	8,000.00	8,000.00	8,000.00	8,000.00
	521300	Technical	5,000.00	5,000.00	6,500.00	6,500.00
	521900	Employee Benefits	-	-	-	-
	522200	Repairs & Maintenance	9,000.00	9,000.00	9,000.00	9,000.00
	522210	Vehicle Repairs & Maintenance	5,000.00	5,000.00	5,000.00	5,000.00
	522320	Lease of Equip & Vehicles	2,000.00	37,500.00	41,450.00	45,815.00
	523100	Insurance other than Employee Benefit	11,506.00	12,656.60	10,809.00	11,889.90
	523200	Communications	3,000.00	3,500.00	3,500.00	3,500.00
	523210	Communications (Postage)	500.00	550.00	350.00	350.00
	523300	Advertising	500.00	500.00	500.00	500.00
	523400	Printing and Binding	250.00	250.00	250.00	250.00



City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dep/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
	523500	Travel	500.00	500.00	500.00	500.00
	523600	Dues & Fees	500.00	1,000.00	1,000.00	1,000.00
	523700	Education & Training	2,000.00	2,000.00	2,000.00	2,000.00
	523800	Uniforms	2,000.00	2,000.00	2,000.00	2,000.00
	523850	Contract Labor	5,150.00	10,000.00	10,000.00	10,000.00
	531100	Supplies	18,000.00	18,000.00	18,000.00	18,000.00
	531210	Water/Sewage	500.00	500.00	500.00	500.00
	531220	Natural Gas	2,000.00	2,000.00	2,000.00	2,000.00
	531230	Electricity	10,000.00	10,000.00	10,000.00	10,000.00
	531270	Gasoline/Diesel	5,500.00	5,500.00	7,500.00	7,500.00
	542200	Vehicles	-	-	-	-
	542500	Equipment	1,000.00	1,000.00	1,000.00	1,000.00
Street Lights (4260)	531230	Electricity - Street Lights	70,000.00	75,000.00	85,000.00	85,000.00
Cemetery (4950)	522140	Cemetery	25,000.00	30,000.00	35,000.00	35,000.00
Senior Center (5500)	511100	Regular Employees	101,521.56	133,805.68	151,322.40	158,888.52
	511300	Overtime	-	-	1,000.00	1,050.00
	512100	Group Insurance	38,968.17	44,813.40	50,191.00	56,213.92
	512200	Social Security FICA Contribution	6,294.34	8,295.95	9,443.99	9,916.19
	512300	Medicare	1,472.06	1,940.18	2,208.67	2,319.11
	512400	Retirement Contribution	5,685.21	7,493.12	10,547.17	11,074.53
	512600	Unemployment Insurance	400.00	400.00	400.00	400.00
	512700	Worker's Compensation	3,025.00	3,327.50	3,660.25	4,026.28
	521200	Professional	100.00	100.00	100.00	100.00
	521210	Legal, Accounting & Audit	6,500.00	6,500.00	8,000.00	8,000.00
	521300	Technical	4,000.00	4,500.00	10,000.00	10,000.00
	521900	Employee Benefits	-	-	-	-

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
	522200	Repairs & Maintenance	5,000.00	5,000.00	8,000.00	8,000.00
	522210	Vehicle Repairs & Maintenance	1,500.00	2,000.00	3,500.00	3,500.00
	522320	Lease of Equip & Vehicles	-	-	200.00	200.00
	523100	Insurance other than Employee Benefit	143.00	157.30	-	-
	523200	Communications	1,500.00	1,500.00	1,500.00	1,500.00
	523210	Communications (Postage)	525.00	525.00	351.25	368.81
	523300	Advertising	500.00	500.00	500.00	500.00
	523400	Printing & Binding	200.00	250.00	250.00	250.00
	523500	Travel	400.00	400.00	400.00	400.00
	523600	Dues & Fees	300.00	350.00	350.00	350.00
	523700	Education & Training	500.00	500.00	700.00	700.00
	523800	Uniforms	800.00	800.00	800.00	800.00
	523850	Contract Labor	4,500.00	4,500.00	5,000.00	5,000.00
	531100	Supplies	20,000.00	21,000.00	25,000.00	25,000.00
	531210	Water/Sewage	300.00	300.00	500.00	500.00
	531220	Natural Gas	1,500.00	1,500.00	1,500.00	1,500.00
	531230	Electricity	3,000.00	3,000.00	4,000.00	4,000.00
	531270	Gasoline/Diesel	3,000.00	3,000.00	3,000.00	3,000.00
	531300	Food	70,000.00	80,000.00	90,000.00	99,000.00
	542200	Vehicles	-	-	-	-
	542500	Equipment	-	-	2,000.00	-
	579000	Contingency	-	-	-	-
Parks & Rec (6120)	511100	Regular Employees	10,000.00	13,650.00	51,585.50	54,164.78
	511300	Overtime	-	-	-	-
	512100	Group Insurance	-	-	-	-
	512200	Social Security FICA Contribution	620.00	846.30	3,198.30	3,358.22
	512300	Medicare	145.00	197.93	747.99	785.39
	512400	Retirement Contribution	-	-	2,969.00	3,775.28

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
	512600	Unemployment Insurance	-	-	-	-
	512700	Worker's Compensation	3,000.00	3,300.00	5,196.95	5,716.65
	521200	Professional	7,000.00	7,000.00	18,000.00	18,000.00
	521210	Legal, Accounting & Audit	7,500.00	7,500.00	8,000.00	8,000.00
	521300	Technical	5,000.00	6,000.00	7,000.00	7,000.00
	521900	Employee Benefits	-	-	-	-
	522200	Repairs & Maintenance	7,000.00	7,000.00	7,500.00	7,500.00
	522210	Vehicle Repairs & Maintenance	-	-	-	-
	522320	Lease of Equip & Vehicles	-	-	200.00	200.00
	523100	Insurance other than Employee Benefit	143.00	157.30	-	-
	523200	Communications	6,500.00	6,500.00	6,500.00	6,500.00
	523210	Communications (Postage)	400.00	550.00	400.00	420.00
	523300	Advertising	400.00	400.00	400.00	400.00
	523400	Printing & Binding	300.00	300.00	300.00	300.00
	523500	Travel	200.00	200.00	500.00	500.00
	523600	Dues & Fees	250.00	250.00	1,000.00	1,000.00
	523700	Education & Training	250.00	250.00	250.00	1,000.00
	523800	Uniforms	250.00	250.00	500.00	500.00
	523850	Contract Labor	11,000.00	11,000.00	11,000.00	11,000.00
	531100	Supplies	12,000.00	12,000.00	15,000.00	15,000.00
	531210	Water/Sewage	2,000.00	2,500.00	6,000.00	6,000.00
	531220	Natural Gas	1,500.00	1,500.00	1,500.00	1,500.00
	531230	Electricity	8,000.00	8,000.00	12,000.00	12,000.00
	531270	Gasoline/Diesel	1,000.00	1,000.00	1,000.00	1,000.00
	531300	Food	200.00	200.00	200.00	200.00
	542500	Equipment	-	-	-	-
	579000	Contingency	-	-	-	-

Bldg & Zoning

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City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
(7410)	521200	Professional	55,000.00	60,000.00	65,000.00	65,000.00
	523700	Education & Training	-	-	-	-
Contingency (1052)	579000	Contingency	-	178,150.00	100,000.00	100,000.00
		GF Allocation to Utilities Funds	-	-	-	-
Total Expenditures			2,866,884.67	3,314,566.39	4,077,102.39	4,243,771.48
Excess (Shortage) of Revenues versus Operating Expenditures			(637,022.03)	(750,807.15)	(918,631.05)	(989,440.72)
Other Financing Sources (Uses)						
0000	581000	Sale of Capital Assets	-	-	-	-
0000	391100	Debt Service Interest	-	-	-	-
0000	391200	Operating transfers in - from Muni Court Fund	129,453.38	203,532.74	121,514.78	114,141.85
0000	391100	Transfers in - Utility Funds - Fund Balance	175,824.65	-	190,935.09	213,847.31
0000	391100	Operating transfers in - from Utilities Funds	-	-	-	-
0000	391100	Operating transfers in - from Electric Fund	-	114,750.00	126,680.63	129,284.10
0000	391100	Operating transfers in - from Gas Fund	-	37,500.00	39,975.00	41,773.88
0000	391300	Fund Balance - General Fund - xfrs in	-	200,000.00	130,607.96	140,401.63
		Fund Balance - Municipal Court - xfrs in	331,744.00	195,024.41	108,917.59	149,991.95
		Fund Balance - Solid Waste Fund - xfrs in	-	-	-	-
		Fund Balance - Utilities Funds	-	-	-	-

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
General Fund (Fund 100)

Dept/Class	Account #	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
9000	393500	Proceeds from debt - Capital leases	-	-	200,000.00	200,000.00
9000	611000	Transfers out	-	-	-	-

Income (Loss) after Other Financing Sources (Uses)

\$	(0.00)	\$	0.00	\$	(0.00)	\$	0.00
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CITY OF GRANTVILLE, GEORGIA
SUMMARY OF REVENUES, EXPENDITURES, AND
OTHER FINANCING SOURCES

MUNICIPAL COURT FUND (FUND 745)

SUMMARY OF REQUESTED FY 2024 BUDGET

	FY 2024
REVENUES	
Fines & Forfeitures*	\$ 410,000
	<hr/>
Total Revenues	\$ 410,000
 EXPENDITURES	
Court*	\$ 288,485
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Total Operating Expenditures	288,485
Excess (Deficiency) of Revenues Over (Under) Expenditures	\$ 121,515
 OTHER FINANCING SOURCES (USES)	
Operating Transfers Out - Gen Fund	\$ (121,515)
	<hr/>
Total Other Financing Sources (Uses)	\$ (121,515)
EXCESS (DEFICIENCY) OF REVENUES & OTHER FINANCING SOURCES VERSUS EXPENDITURES	\$ (0)

* Included in General Fund (Fund 100) up through Fiscal Year 2016

City of Grantville

Trend Analysis for FY 2024 & FY 2025 Budgets

Municipal Court Fund (Fund 745)

		*****		*****		
Dept/Class	Account Number	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
Revenues						
Fines & Forfeitures						
	351100	Court Fines	\$ 335,000.00	\$ 430,000.00	\$ 370,000.00	\$ 370,000.00
	351200	Bonds	-	-	-	-
	351400	Court - FTA	20,000.00	30,000.00	10,000.00	10,000.00
	351920	Technology Assessment Fee	40,000.00	20,000.00	30,000.00	30,000.00
Total Revenues			395,000.00	480,000.00	410,000.00	410,000.00
Expenditures						
Court (3230)						
	351900	Other (Indigent Defense Fund)	20,000.00	22,000.00	22,000.00	22,000.00
	511100	Regular Employees	53,831.19	37,793.60	42,902.36	45,047.48
	511120	Admin Employees (Bailliffs)	6,000.00	6,000.00	5,000.00	5,000.00
	511200	Temporary Employees	12,000.00	12,000.00	21,965.58	23,063.86
	511300	Overtime	6,000.00	5,000.00	5,250.00	5,512.50
	512100	Group Insurance	16,236.74	17,860.41	20,003.66	22,404.10
	512200	Social Security FICA Contribution	4,453.53	3,459.20	4,331.81	4,532.90
	512300	Medicare	1,041.55	809.01	4,657.31	4,874.68
	512400	Retirement Contribution	3,014.55	2,116.44	3,356.22	3,524.03
	512700	Worker's Compensation	2,363.06	572.00	629.20	692.12
	521200	Professional	9,000.00	9,000.00	9,000.00	9,000.00
	521210	Legal, Accounting & Audit	17,000.00	7,000.00	10,500.00	10,500.00
	521220	RC Judge	24,000.00	40,000.00	30,000.00	30,000.00
	521230	Solicitor	-	-	-	-
	521300	Technical	7,000.00	7,000.00	7,500.00	7,500.00
	521350	Technology Upgrade Fund - Court	16,000.00	16,000.00	16,000.00	16,000.00

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
Municipal Court Fund (Fund 745)

Dept/Class	Account Number	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
	521355	Technology Upgrade Fund - PD	24,000.00	24,000.00	24,000.00	24,000.00
	521900	Employee Benefits	-	-	-	-
	522200	Repairs & Maintenance	1,000.00	1,000.00	1,000.00	1,000.00
	522320	Lease of Equip & Vehicles	2,000.00	3,000.00	3,000.00	3,000.00
	523100	Insurance other than Employee Benefits	11,506.00	12,656.60	7,959.07	8,754.98
	523200	Communications	2,000.00	2,000.00	2,400.00	2,400.00
	523210	Communications (Postage)	600.00	600.00	430.00	451.50
	523300	Advertising	500.00	500.00	500.00	500.00
	523400	Printing & Binding	700.00	1,000.00	1,000.00	1,000.00
	523500	Travel	5,000.00	5,000.00	10,000.00	10,000.00
	523600	Dues & Fees	700.00	500.00	500.00	500.00
	523700	Education & Training	5,000.00	5,000.00	5,000.00	5,000.00
	523800	Uniforms	500.00	500.00	500.00	500.00
	523850	Contract Labor	2,500.00	2,500.00	2,500.00	2,500.00
	523900	Other	-	-	-	-
	531100	Supplies	9,000.00	9,000.00	9,000.00	9,000.00
	531210	Water/Sewage	200.00	200.00	200.00	200.00
	531220	Natural Gas	900.00	900.00	900.00	900.00
	531230	Electricity	1,500.00	1,500.00	1,500.00	1,500.00
	552400	"Add On" Fines (Paid to GSCCCA)	-	-	-	-
	579000	Contingency	-	20,000.00	15,000.00	15,000.00
Total Expenditures			265,546.62	276,467.26	288,485.22	295,858.15
Excess (Shortage) of Revenues versus Operating Expenditures			129,453.38	203,532.74	121,514.78	114,141.85
Other Financing Sources (Uses)						

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
Municipal Court Fund (Fund 745)

Dept/Class	Account Number	Account Description	*****			
			2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
		Sale of Capital Assets	-	-	-	-
	581000	Debt Service Interest	-	-	-	-
	391100	Operating transfers in - Utilities Funds	-	-	-	-
		Fund Balance - General Fund - Unassigned	-	-	-	-
		Fund Balance - Tech Upgrade	-	-	-	-
	3210	Transfers out	-	-	-	-
	9000	Transfers out - to Gen Fund	(129,453.38)	(203,532.74)	(121,514.78)	(114,141.85)
Income (Loss) after Other Financing Sources (Uses)			\$ -	\$ -	\$ -	\$ -

CITY OF GRANTVILLE, GEORGIA

SPECIAL REVENUE FUNDS

DRUG FUND (FUND 210)

ADOPTED FY 2024 BUDGET

DRUG FUND (FUND 210)

REVENUES

Confiscations (210-0000-351320)	\$ 250,000
Other	0
<hr/>	
Total Revenues	<u>\$ 250,000</u>

EXPENDITURES

Public Safety (210-3210-523900)	\$ 250,000
<hr/>	
Total Expenditures	<u>\$ 250,000</u>

CITY OF GRANTVILLE, GEORGIA
SPECIAL REVENUE FUNDS
AMERICAN RESCUE PLAN (ARP) FUND - (FUND 230)
ADOPTED FY 2024 BUDGET

ARP FUND (FUND 230)

REVENUES

ARP Revenues (230-0000-332100) - Fund Balance	\$ 566,354
<hr/>	
Total Revenues	<u>\$ 566,354</u>

EXPENDITURES

ARP W&S Expenditures (230-4330-542500)	\$ 525,000
ARP Salary Expenditures (230-1510-511100)	\$ -
ARP Other Expenditures (230-1052-57900)	\$ 41,354
<hr/>	
Total Expenditures	<u>\$ 566,354</u>

CITY OF GRANTVILLE, GEORGIA

SPECIAL REVENUE FUNDS

FEDERAL SEIZED FUNDS (FUND 240)

ADOPTED FY 2024 BUDGET

FEDERAL SEIZED FUNDS (FUND 240)

REVENUES

Confiscations (240-0000-351320)	\$ 250,000
Other	0
<hr/>	
Total Revenues	<u>\$ 250,000</u>

EXPENDITURES

Public Safety (240-3210-523900)	\$ 250,000
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Total Expenditures	<u>\$ 250,000</u>

CITY OF GRANTVILLE, GEORGIA
SPECIAL REVENUE FUNDS
CEMETERY TRUST FUND (FUND 785)
PRIVATE-PURPOSE, FIDUCIARY TRUST FUND
ADOPTED FY 2024 BUDGET

CEMETERY TRUST FUND (FUND 785)

REVENUES

Real Property - Current Yr (785-0000-311100)	\$	6,000
Misc - Other Revenue (785-0000-389000)		0
<hr/>		<hr/>
Total Revenues	\$	<u>6,000</u>

EXPENDITURES

Contract Labor (785-4590-523850)		5,500
Supplies (785-4590-531100)		500
<hr/>		<hr/>
Total Expenditures	\$	<u>6,000</u>

CITY OF GRANTVILLE, GEORGIA

PROPRIETARY FUNDS

SUMMARY OF REQUESTED FY 2024 BUDGETS

	Business-Type Activities - Enterprise Funds					Totals
	Water & Sewer Fund	Electric Fund	Gas Fund	Solid Waste Fund		
OPERATING REVENUE						
Charges for Sales and Services	\$ 1,070,100	\$ 1,689,075	\$ 554,025	\$ 390,000		\$ 3,703,200
Total Operating Revenues	1,070,100	1,689,075	554,025	390,000		3,703,200
OPERATING EXPENSES						
Cost of Sales & Services	300,000	1,080,000	200,000	396,000		1,976,000
General Operating Costs	1,065,909	460,778	279,857	21,373		1,827,917
Depreciation & Amortization	275,000	118,000	46,000	0		439,000
Total Operating Expenses	1,640,909	1,658,778	525,857	417,373		4,242,917
EXCESS (SHORTAGE) OF OPERATING REVENUE VERSUS OPERATING EXPENSES	(570,809)	30,297	28,168	(27,373)		(539,717)
Debt Service Interest Expense	(16,767)	0	0	0		(16,767)
Investment Interest Income (Loss)	0	35,000	0	0		35,000
Capital Contributions	120,000	0	0	0		120,000
Transfers In - Other Funds	166,655	0	0	0		166,655
Transfers Out - Other Funds - 7.5% of Revenues	0	(126,680)	(39,975)	0		(166,655)
Operating Transfers Out - Bonds/Notes Payable	(120,515)	0	0	0		(120,515)
Transfers In - Fund Balance	421,436	61,383	11,807	27,373		521,999
Contingency for Future Operations / Improvements	0	0	0	0		0
INCOME (LOSS) AFTER OTHER FINANCING SOURCES (USES)	\$ -	\$ -	\$ -	\$ -		\$ -

City of Grantville
City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
Water & Sewer Fund (Fund 505)

Account Number	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
Revenues					
505-0000-		\$	\$	\$	\$
344210	Water charges	520,000.00	530,000.00	540,000.00	540,000.00
344211	Water tap fee	-	-	-	-
344230	Sewage charges	445,000.00	455,000.00	455,000.00	455,000.00
344231	Sewer tap fee	-	-	-	-
344291	Reconnect fee	14,000.00	15,000.00	15,000.00	15,000.00
344290	Late fee	60,000.00	60,000.00	60,000.00	60,000.00
381000	Rents	-	-	-	-
361000	Interest revenues	200.00	100.00	100.00	100.00

Total Revenues		1,039,200.00	1,060,100.00	1,070,100.00	1,070,100.00
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Expenditures					
505-4440-		265,000.00	265,000.00	300,000.00	300,000.00
505-4330-		150,232.08	157,597.13	157,286.59	165,150.92
531510	Water purchased	-	-	-	-
511100	Regular employees	13,794.17	15,496.12	17,606.37	18,486.69
511120	Admin employees	15,000.00	10,000.00	10,500.00	11,025.00
511130	City manager	35,808.90	39,389.79	44,116.56	49,410.55
511300	Overtime	11,099.63	11,351.78	11,494.36	12,069.08
512100	Group insurance	2,595.88	2,654.85	2,654.85	2,654.85
512200	Social Security FICA contrib	10,025.47	11,200.00	12,921.89	13,567.98
512300	Medicare	240.00	240.00	240.00	240.00
512400	Retirement contribution	4,050.58	6,225.00	7,151.10	7,866.21
512600	Unemployment insurance	35,000.00	35,000.00	35,000.00	35,000.00
512700	Worker's compensation	8,000.00	8,000.00	14,000.00	14,000.00
521200	Professional				
521210	Legal, accounting and audit				

City of Grantville
City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
Water & Sewer Fund (Fund 505)

Account Number	Account Description	*****			*****	
		2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget	
521300	Technical	100,000.00	105,000.00	82,200.00	82,200.00	
521900	Employee benefits	-	-	-	-	
522200	Repairs and maintenance	16,000.00	16,000.00	25,000.00	25,000.00	
522210	Vehicle repairs and maintenance	2,500.00	2,500.00	2,500.00	2,500.00	
522320	Lease of equip and vehicles	28,000.00	28,000.00	1,200.00	1,200.00	
523100	Insurance other than emp benefit	10,068.30	11,075.13	9,458.00	10,403.80	
523200	Communications	2,000.00	2,500.00	2,900.00	2,900.00	
523210	Communications (postage)	1,500.00	2,000.00	1,900.00	2,090.00	
523300	Advertising	300.00	300.00	600.00	600.00	
523400	Printing and binding	1,000.00	1,000.00	1,000.00	1,000.00	
523500	Travel	110.00	110.00	110.00	110.00	
523600	Dues and fees	1,000.00	1,000.00	1,200.00	1,200.00	
523700	Education and training	1,500.00	1,500.00	1,500.00	1,500.00	
523800	Uniforms	1,500.00	2,000.00	5,000.00	5,000.00	
523850	Contract labor	11,000.00	40,000.00	40,000.00	40,000.00	
523900	Other	-	-	-	-	
531100	Supplies	16,000.00	16,000.00	16,000.00	16,000.00	
531210	Water/sewage	7,500.00	7,500.00	7,500.00	7,500.00	
531220	Natural gas	3,000.00	3,000.00	3,000.00	3,000.00	
531230	Electricity	24,000.00	24,000.00	30,000.00	30,000.00	
531270	Gasoline/diesel	3,000.00	4,500.00	5,500.00	6,050.00	
542200	Purchased vehicles	-	-	-	-	
542500	Equipment	-	-	-	-	
505-4440-511100	Regular employees	155,232.08	167,141.21	204,385.50	214,604.78	
511120	Admin employees	-	-	-	-	
511130	City manager	13,794.17	15,496.12	17,606.37	18,486.69	
511300	Overtime	15,000.00	15,450.00	16,222.50	17,033.63	
512100	Group insurance	38,366.68	44,121.68	49,416.28	55,346.24	

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City of Grantville
City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
Water & Sewer Fund (Fund 505)

Account Number	Account Description	*****			*****		
		2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget		
512200	Social Security FICA contrib	11,409.63	12,281.41	14,769.29	15,507.76		
512300	Medicare	2,668.38	2,872.27	3,454.11	3,626.81		
512400	Retirement contribution	8,693.00	9,359.91	16,603.54	17,433.72		
512600	Unemployment insurance	200.00	200.00	200.00	200.00		
512700	Worker's compensation	7,730.45	8,503.49	9,353.84	10,289.23		
521200	Professional	28,000.00	25,000.00	25,000.00	25,000.00		
521210	Legal, accounting and audit	9,000.00	9,000.00	9,000.00	9,000.00		
521300	Technical	20,000.00	15,000.00	18,000.00	18,000.00		
521900	Employee benefits	-	-	-	-		
521905	Employee benefit - uniforms	-	-	-	-		
522200	Repairs and maintenance	2,700.00	3,000.00	3,000.00	3,000.00		
522210	Vehicle repairs and maintenance	2,500.00	2,500.00	2,500.00	2,500.00		
522320	Lease of equip and vehicles	500.00	500.00	700.00	700.00		
523100	Insurance other than emp benefit	10,068.30	7,040.00	9,458.00	10,403.80		
523200	Communications	8,500.00	8,500.00	8,500.00	8,500.00		
523210	Communications (postage)	1,500.00	2,000.00	1,800.00	1,800.00		
523300	Advertising	500.00	500.00	500.00	500.00		
523400	Printing and binding	400.00	400.00	600.00	600.00		
523500	Travel	250.00	250.00	250.00	250.00		
523600	Dues and fees	2,600.00	2,600.00	4,500.00	4,500.00		
523700	Education and training	1,500.00	1,500.00	1,500.00	1,500.00		
523800	Uniforms	1,500.00	3,000.00	4,000.00	4,000.00		
523850	Contract labor	20,000.00	45,000.00	70,000.00	70,000.00		
523900	Other	-	-	-	-		
531100	Supplies	13,500.00	13,500.00	14,850.00	16,335.00		
531210	Water/sewage	200.00	200.00	200.00	200.00		
531220	Natural gas	1,000.00	300.00	1,000.00	1,000.00		
531230	Electricity	3,000.00	2,000.00	2,000.00	2,000.00		

City of Grantville
City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
Water & Sewer Fund (Fund 505)

Account Number	Account Description	*****			
		2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
531270	Gasoline/diesel	2,500.00	4,700.00	7,000.00	7,720.00
542200	Purchased vehicles	-	-	-	-
542500	Equipment	-	-	-	-
574000	Bad debts	-	-	-	-
724420	Other	-	-	-	-
505-4410-	Depreciation expense	250,000.00	250,000.00	275,000.00	275,000.00
505-4410-	Amortization expense	-	-	-	-
Total Expenditures		1,413,537.69	1,502,055.90	1,640,909.17	1,682,762.73
Excess (Shortage) of Revenues versus Operating Expenditures		(374,437.69)	(441,955.90)	(570,809.17)	(612,662.73)
Other Financing Sources (Uses)					
505-0000-	374215 Contributions for cap assets	76,242.00	120,000.00	120,000.00	120,000.00
505-0000-	582300 Debt service interest - bonds & notes	(35,051.00)	(21,131.00)	(16,767.00)	(12,236.00)
505-0000-	391100 Operating transfers in	-	-	-	-
505-0000-	391100 Operating transfers in - Electric Fund	109,125.00	112,500.00	126,680.00	126,680.00
505-0000-	391100 Operating transfers in - Gas Fund	34,950.00	37,500.00	39,975.00	41,973.75
505-0000-	391100 Utilities fund balance - transfers in	303,138.69	309,237.90	421,436.17	481,290.98
505-4330-	611000 Debt service xfrs out - revenue bonds	(22,000.00)	(22,354.00)	(22,948.00)	(23,557.00)
505-4440-	611000 Debt service xfrs out - notes payable	(91,967.00)	(93,797.00)	(97,567.00)	(101,489.00)
505-4330-	381004 Contingency for future operations	-	-	-	-
		\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
Electric Fund (Fund 510)

Account Number	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
Revenues					
510-0000-		\$ 1,404,000.00	\$ 1,450,000.00	\$ 1,599,150.00	\$ 1,631,133.00
344310	Electric charges				
344311	Yard lights	51,000.00	50,000.00	54,600.00	57,330.00
344312	Reconnect fees	-	-	-	-
344314	Late charges	-	-	-	-
361000	Interest revenues	-	-	35,325.00	35,325.00
381003	Sale of excess capacity	-	-	-	-
Total Revenues		1,455,000.00	1,500,000.00	1,689,075.00	1,723,788.00

Expenditures					
510-4600-					
531530	Electricity purchases	865,000.00	925,000.00	1,080,000.00	1,101,600.00
511100	Regular employees	117,031.25	124,861.29	162,948.15	171,095.56
511120	Admin employees	-	-	-	-
511130	City manager	13,794.17	15,496.12	17,606.37	18,486.69
511300	Overtime	11,600.00	13,185.00	13,185.00	13,844.25
512100	Group insurance	20,462.23	23,531.56	26,355.35	29,517.99
512200	Social Security FICA contrib	8,830.38	9,519.63	12,011.85	12,612.44
512300	Medicare	2,065.17	2,226.36	2,809.22	2,949.68
512400	Retirement contribution	6,553.75	6,992.23	13,503.64	14,178.83
512600	Unemployment insurance	450.00	450.00	450.00	450.00
512700	Worker's compensation	5,945.58	5,000.00	5,000.00	5,500.00
521900	Employee benefits	-	0.00	0.00	0.00
521200	Professional	4,000.00	7,500.00	7,500.00	7,500.00
521210	Legal, accounting and audit	8,000.00	8,000.00	8,000.00	8,000.00
521300	Technical	14,000.00	12,000.00	15,500.00	15,500.00
521905	Employee benefit - uniforms	-	-	-	-

City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
Electric Fund (Fund 510)

Account Number	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
522150	Bank charges	-	-	-	-
522200	Repairs and maintenance	5,000.00	3,000.00	3,000.00	3,000.00
522210	Vehicle repairs and maintenance	6,500.00	6,500.00	6,500.00	6,500.00
522320	Rental of equip and vehicles	26,000.00	1,500.00	1,700.00	1,700.00
523100	Insurance other than emp benefit	10,068.30	7,150.00	9,458.00	10,403.80
523200	Communications	3,550.00	3,500.00	3,500.00	3,500.00
523210	Communications (postage)	1,800.00	2,000.00	1,800.00	1,800.00
523300	Advertising	500.00	250.00	250.00	250.00
523400	Printing and binding	750.00	500.00	500.00	500.00
523500	Travel	500.00	500.00	500.00	500.00
523600	Dues and fees	2,000.00	1,500.00	2,000.00	2,000.00
523700	Education and training	2,000.00	2,000.00	2,000.00	2,000.00
523800	Uniforms	2,500.00	2,500.00	2,500.00	2,500.00
523850	Contract labor	40,000.00	45,000.00	84,000.00	84,000.00
523900	Other	150.00	150.00	0.00	0.00
531100	Supplies	40,000.00	30,000.00	40,000.00	40,000.00
531210	Water/sewage	200.00	200.00	200.00	200.00
531220	Natural gas	900.00	500.00	1,000.00	1,000.00
531230	Electricity	3,000.00	1,000.00	1,000.00	1,000.00
531270	Gasoline/diesel	5,000.00	5,000.00	6,000.00	6,600.00
542200	Vehicles	-	-	-	-
542500	Equipment	-	-	-	-
563000	Depreciation expense	118,000.00	118,000.00	118,000.00	118,000.00
574000	Bad debts	1,000.00	1,000.00	10,000.00	10,000.00
579000	Contingency	41,724.18	44,987.80	-	-
Total Expenditures		1,388,875.00	1,430,500.00	1,658,777.59	1,696,689.24

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City of Grantville
Trend Analysis for FY 2024 & FY 2025 Budgets
Electric Fund (Fund 510)

Account Number	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
Excess (Shortage) of Revenues versus Operating Expenditures					
510-0000	363000 Unrealized gain or loss	66,125.00	69,500.00	30,297.41	27,098.76
	371000 Contrib from capital assets	43,000.00	43,000.00	35,000.00	35,000.00
	381003 Sale of excess capacity	-	-	-	-
	391100 Operating transfers in	-	-	-	-
	391200 Fund balance - transfers in	0.00	0.00	61,383.22	67,185.34
510-4600	611000 Operating transfers out - 7.5% of revs	(109,125.00)	(112,500.00)	(126,680.63)	(129,284.10)
510-9000	611000 Operating transfers out	-	-	-	-
510-0000	381004 Contingency for future operations	-	-	-	-
Income (Loss) after Other Financing Sources (Uses)		\$ -	\$ -	\$ -	\$ -

City of Granville
Trend Analysis for FY 2024 & FY 2025 Budgets
Gas Fund (Fund 515)

Account Number	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
Revenues					
515-0000-					
344410	Gas charges	\$ 466,000.00	\$ 500,000.00	\$ 533,000.00	\$ 556,985.00
344413	Tap fees	-	-	-	-
361000	Interest revenues	200.00	-	25.00	25.00
344600	MGAG portfolio return	23,000.00	23,000.00	21,000.00	21,000.00
Total Revenues		489,200.00	523,000.00	554,025.00	578,010.00
Expenditures					
515-4700					
531520	Purchased gas	125,000.00	172,000.00	200,000.00	220,000.00
511100	Regular employees	101,633.02	107,614.31	104,917.29	110,163.15
511120	Admin employees	-	-	-	-
511130	City manager	13,794.17	15,496.12	17,606.37	18,486.69
511300	Overtime	11,000.00	11,000.00	11,000.00	11,000.00
512100	Group insurance	12,788.89	14,707.22	16,472.09	18,448.74
512200	Social Security FICA contrib	7,838.49	8,314.85	8,278.47	8,658.29
512300	Medicare	1,307.81	1,333.96	1,936.09	2,024.92
512400	Retirement contribution	5,691.45	6,026.40	9,306.60	9,733.59
512600	Unemployment insurance	400.00	400.00	400.00	400.00
512700	Worker's compensation	3,641.22	1,075.00	1,182.50	1,300.75
521900	Employee benefits	-	-	-	-
521200	Professional	3,200.00	6,000.00	6,000.00	6,000.00
521210	Legal, accounting and audit	6,000.00	6,000.00	8,000.00	8,000.00
521300	Technical	24,000.00	20,000.00	24,000.00	24,000.00
521905	Employee benefit - uniforms	-	-	-	-
522150	Bank charges	-	-	-	-
522200	Repairs and maintenance	1,500.00	1,500.00	1,500.00	1,500.00
522210	Vehicle repairs and maintenance	4,000.00	4,000.00	4,000.00	4,000.00
522320	Lease of equip and vehicles	25,500.00	2,000.00	2,200.00	2,200.00
523100	Insurance other than emp benefit	10,068.30	11,075.13	9,458.00	10,403.80
523200	Communications	2,400.00	2,400.00	2,400.00	2,400.00

City of Granville
Trend Analysis for FY 2024 & FY 2025 Budgets
Gas Fund (Fund 515)

Account Number	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
523210	Communications (postage)	2,000.00	2,200.00	2,000.00	2,200.00
523300	Advertising	300.00	300.00	300.00	300.00
523400	Printing and binding	1,200.00	1,200.00	1,200.00	1,200.00
523500	Travel	1,000.00	1,000.00	1,000.00	1,000.00
523600	Dues and fees	1,300.00	2,000.00	3,000.00	3,000.00
523700	Education and training	2,000.00	2,000.00	2,000.00	2,000.00
523800	Uniforms	1,350.00	1,500.00	2,000.00	2,000.00
523850	Contract labor	9,000.00	11,000.00	11,000.00	11,000.00
523900	Other	-	-	-	-
531100	Supplies	9,000.00	7,000.00	7,000.00	7,000.00
531210	Water/sewage	200.00	200.00	200.00	200.00
531220	Natural gas	1,600.00	2,260.00	4,500.00	4,950.00
531230	Electricity	1,000.00	1,000.00	1,000.00	1,000.00
531270	Gasoline/diesel	3,000.00	5,000.00	6,000.00	6,600.00
542200	Vehicles	-	-	-	-
542500	Equipment	-	-	-	-
563000	Depreciation expense	48,000.00	48,000.00	46,000.00	46,000.00
574000	Bad debts	100.00	2,500.00	10,000.00	10,000.00
579000	Contingency	13,436.66	7,397.00	0.00	2,617.88
581000	Debt service	-	-	-	-
582000	Interest expense	-	-	-	-
Total Expenditures		454,250.00	485,500.00	525,857.41	559,787.82
Excess (Shortage) of Revenues versus Operating Expenditures		34,950.00	37,500.00	28,167.59	18,222.18
515-0000-	Contrib from capital assets	-	-	-	-
391100	Operating transfers in	-	-	-	-

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City of Grapeland
Trend Analysis for FY 2024 & FY 2025 Budgets
Gas Fund (Fund 515)

Account Number	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
391200	Fund balance - transfers in	-	-	11,807.41	23,551.70
611000	Operating transfers out - 7.5% of revs	(34,950.00)	(37,500.00)	(39,975.00)	(41,773.88)
381004	Contingency for future operations	-	-	-	-
Income (Loss) after Other Financing Sources (Uses)		\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

City of Granville
Trend Analysis for FY 2024 & FY 2025 Budgets
Solid Waste Fund (Fund 540)

Account Number	Account Description	2022 Adopted Budget	2023 Adopted Budget	2024 Requested Budget	2025 Forecasted Budget
540-0000-	344110 Refuse collection fees	\$ 215,000.00	\$ 225,000.00	\$ 390,000.00	\$ 409,500.00
Total Revenues		215,000.00	225,000.00	390,000.00	409,500.00
Expenditures					
540-4500-	511100 Regular employees	19,791.93	15,909.51	17,786.99	18,676.34
	511300 Overtime	-	-	-	-
	512200 Social Security FICA Contribution	1,227.10	986.39	1,102.79	1,157.93
	512300 Medicare	286.98	230.69	257.91	270.81
	512400 Retirement contribution	593.76	890.93	1,725.34	1,811.60
	523900 Contract refuse collection	195,000.00	200,000.00	396,000.00	415,800.00
	574000 Bad debts	500.00	500.00	500.00	500.00
	579000 Contingency	-	6,482.48	-	-
Total Expenditures		217,399.77	225,000.00	417,373.03	438,216.68
Excess (Shortage) of Operating Revenues versus Operating Expenditures		(2,399.77)	(0.00)	(27,373.03)	(28,716.68)
540-	391100 Operating transfers in	-	-	-	-
540-4500-	611000 Operating transfers out	-	-	-	-
540-0000	391200 Fund balance - transfers in	2,399.77	0.00	27,373.03	28,716.68
	381004 Fund balance - transfers to	-	-	-	-
Income (Loss) after Other Financing Sources (Uses)		\$ -	\$ -	\$ -	\$ -

City of Grantville
 General Fund
 Millage Rates & Property Taxes

	Adopted 2020 Tax Year Millage Rates (FY 2020-2021)	Adopted 2021 Tax Year Millage Rates (FY 2021-2022)	Adopted "ROLLBACK" 2022 Tax Year Millage Rates (FY 2022-2023)	Proposed 2023 Tax Year Millage Rates (FY 2023-2024)
City of Grantville Millage Rates:				
City of Grantville	5.228	5.228	4.487	5.228
Fire District	3.280	3.130	3.100	3.100
Fire Bond	0.150	0.300	0.254	0.254
TOTAL - City of Grantville	8.658	8.658	7.841	8.582
City				
Net Digest	\$64,178,702.00	\$71,273,632.00	\$83,022,564.00	\$104,135,871.00
City Net Digest - % Increase - vs Prior Tax Yr	20.42%	11.05%	16.48%	25.43%
City of Grantville Property Tax Revenues:				
City of Grantville	\$335,526.25	\$372,618.55	\$372,522.24	\$544,422.33
Fire District	\$210,506.14	\$223,086.47	\$257,369.95	\$322,821.20
Fire Bond	\$9,626.81	\$21,382.05	\$21,087.73	\$26,450.51
Title Ad Valorem Tax (TAVT)	\$90,000.00	\$90,000.00	\$97,728.60	\$98,000.00
TOTAL	\$645,659.20	\$707,087.11	\$748,708.52	\$991,694.04

**CITY OF GRANTVILLE
MILLAGE RATE AND PROPERTY TAX HISTORY**

<u>Tax Year</u>	<u>Net Digest</u>	<u>City Millage Rate</u>	<u>Taxes Levied</u>
2008	\$53,864,862	3.99	\$214,921
2009	\$53,564,197	4.49	\$240,503
2010	\$53,021,374	4.49	\$238,066
2011	\$46,177,714	4.56	\$210,570
2012	\$36,701,042	4.56	\$167,357
2013	\$37,423,997	1.59	\$59,504
2014	\$38,195,964	1.56	\$59,586
2015	\$41,384,218	1.48	\$61,249
2016	\$48,020,504	5.25	\$252,108
2017	\$51,736,985	5.016	\$259,513
2018	\$52,743,829	4.959	\$261,557
2019	\$53,295,242	5.945	\$316,840
2020	\$64,178,702	5.228	\$335,526
2021	\$71,273,632	5.228	\$372,619
2022	\$83,022,564	4.487 Adopted	\$372,522
2023	\$104,135,871	5.228 Proposed	\$544,422