3.07 FOUNDATION AND FOOTING EXCAVATION

A. Excavate bottom of foundations to exact grade called for on structural drawings. Fill overexcavated areas with concrete.

B. Excavate sufficient distance beyond footing and foundations to allow for inspection, placing and removal of forms and for installing of dampproofing, waterproofing and drain tile, except where concrete is authorized to be deposited directly against excavated surfaces. Leave excavations open until work has been inspected and approved by GES.

C. Contractor to backfill excavation after testing is complete. Final grade to the elevations shown on drawings. Ensure that no drainage pockets or drainage towards building is created.

3.08 FOUNDATION BACKFILL

A. Acceptable Structural "Controlled Fill" material.

B. Meet all requirements of Subsection 3.04, FILL.

C. Remove surface debris and debris in excavation before placing backfill.

D. Allow footing and foundation walls to attain full design strength before placing backfill.

E. Exercise care during placing and compacting equipment within 4' of walls.
1. Use hand operated compaction equipment within 4' of walls.
2. Where fill is placed along both sides of foundation walls, place and compact simultaneously on both sides of walls.
3. Repair, or remove and replace, all damage to foundation walls or structure occurring during placement and compaction operations at no additional cost to Owner.

F. Coordinate placing compaction with other trades. Do not backfill until dampproofing, waterproofing and foundation drainage system material has been installed, inspected and approved by GES and/or Architect.

3.09 MAINTENANCE

A. Protection of Graded Areas:
1. Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
2. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

B. Reconditioning Compacted Areas: Where completed areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.

C. Setting: Where setting is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn, or other finish), add backfill material, compact, and replace surface treatment. Restore appearance, quality, and restoration to greatest extent possible.

3.10 DISPOSAL OF EXCESS AND WASTE MATERIALS

A. Removal from Owner's Property: Remove waste material, including unacceptable excavated material, trash and debris, and dispose of it off owner's property in a legal manner.

END OF SECTION

SECTION 02510
SITE CONCRETE

PART 1 – GENERAL

1.01 SUMMARY

A. Furnish and install all site concrete items as shown on the drawings. Typical items of work including, but not limited to, dumpster area concrete pad, sidewalks, and curb and gutter, concrete sidewalk ramps, concrete steps, etc.

B. Related work specified in other sections
1. Drawings and general provisions of Contract, including General Conditions and other Division 1 Specification sections apply to work of this section.
2. Compaction of the subgrade shall conform to the requirements specified in Section 02 200 Earthwork. Material required for backfilling and compaction thereof shall meet the requirements of Section 02 200 Earthwork.

1.02 QUALITY ASSURANCE

A. Industry Reference Standards:
1. State of Georgia Department of Transportation "Standard Specifications for Construction of Roads and Bridges," 1993 Edition.
2. American Society for Testing and Materials (ASTM)
C39–86 Test Method for Compressive Strength of Cylindrical Concrete Specimens.
C173–78 Test Method for Air Content of Freshly–Mixed Concrete by the Volumetric Method
C231–91 Test Method for Air Content of Freshly–Mixed Concrete by the Pressure Method
C150–92 Portland Cement
D1751–83(1991) Performed Expansion Joint Fillers for Concrete Paving and Structural Construction
D3405–78 Joint Sealants, hot–poured for concrete and asphalt pavements
D3406–89(1991) Joint Sealants, hot–poured, Elastometric–Type, for Portland Cement concrete pavements.

1.03 TESTS

A. Contractor will obtain and pay for the services of an independent commercial testing laboratory for performing field quality control testing during construction.

B. Testing Agency will make one soil density test at subgrade for each 1,000 linear feet or fraction thereof, of curb and gutter, AASHTO T180, modified Proctor. One test minimum.

C. Testing Agency will take three compression test samples and one entrained air content sample from first 50 cubic yards of concrete placed each day and each 100 cubic yards thereafter; in conformance with ASTM C39, and ASTM C173 or C231.0.

1.04 SUBMITTALS

A. Concrete mix design shall be submitted for approval.
1. Fully document proposed materials and mix design.
2. Submit documentation 28 days, minimum, prior to use in field.

B. Product cut sheets for the curing membrane shall be submitted. Alternate curing methods must also be submitted for approval.

C. Shop drawings for any metal forms shall be submitted.

PART 2 – PRODUCTS

2.01 FORMWORK

A. Steel or wood of heights equal to the full depth of the finished work so as to obtain a smooth form finish.

2.02 CONCRETE

A. Concrete:
1. Concrete Curb and Gutter: Per Section 441 of "Standard Specifications for Construction of Roads and Bridges," State of Georgia Department of Transportation, 1993 Edition.
2. Dumpster Area/Pad: 28–day flexural strength of 650 psi, reinforced with 6" X 6" wire mesh, 1.4 x 1.4.
3. Sidewalks: 4" thick, 3,000 psi reinforced with 6" x 6" WWM.1.2 x1.2.

B. Finish:
1. Curb and Gutter: per Section 441, "Standard Specifications for Construction of Roads and Bridges".
2. Sidewalk: Stiff broom finish.

2.03 ACCESSORY PRODUCTS

A. Forms: Steel or wood, staked in place, of strength sufficient to resist pressure of wet concrete without losing shape or deflecting more than 1/4 inch at any point.
1. Key way shaped forms: Steel, only.

B. Expansion Joints: Preformed, non–extruding resilient asphalt/fiber type, 1/2 inch thick; ASTM D1751.

C. Joint Sealer: Hot poured elastomeric type; ATSM D3405 or D3406.

2.04 CURING MATERIALS

A. Impervious sheet membrane–curing or other Architect approved method.

PART 3 – EXECUTION

3.01 INSPECTION

A. Examine the areas and conditions under which concrete is to be installed. Conditions detrimental to the proper and timely completion of the work shall be corrected before proceeding with the work.

3.02 SUBGRADE PREPARATION

A. Subgrade: Conform to the requirements specified in Division Two – Earthwork Section.
1. The subgrade shall be thoroughly wetted and then compacted with two passed of a 500 pound roller.
2. Yielding material deflecting more than 1/2" under the specified roller shall be removed to a depth of not less than 4" below subgrade elevation and replaced with an approved granular material which shall then be compacted as described above.
3. The subgrade shall be in a moist condition when the concrete is placed. The subgrade shall be free from frost or mud when the concrete is placed.

3.03 FORM CONSTRUCTION

A. Install sufficient quantity of forms to allow continuous progress of the work and so that forms can remain in place at least 24 hours after concrete placement. Forms are to be oiled prior to each use.

B. Check completed formwork for grade and alignment to the following tolerances:
1. Top of form: Not more than 1/8" in 10 feet.
2. Vertical face: Longitudinal axis not more than 1/4" in 10 feet.

3.04 CONCRETE PLACEMENT AND FINISHING

A. Concrete placement and finishing shall be as specified in Section 441 of "Standard Specifications for Construction of Roads and Bridges." Finishes as specified in 2.02B of these specifications.

B. Tamp and consolidate concrete with a suitable wood or metal tamping bar and the surface shall be finished to grade with a wood float.

C. The finished surfaces shall not vary more than 3/16 inch from the testing edge of a 10 foot straight edge.

3.05 CONTRACTION JOINTS

A. Divide the surface of paving, walks and terraces into rectangular areas by means of contraction joints not to exceed 10'–0" centers. Where sidewalks abut curb and gutter, alternate joints shall coincide.

B. The depth of the joint shall not be less than 1/5 nor more than 1/4 the depth of the concrete.

C. With the exception of sawed joints, all joints shall be finished with a 1/4 inch edging tool.

D. Membrane–curved surfaces damaged during the sawing operations shall be resprayed as soon as the surface becomes dry.

E. Sidewalk tool joint pattern as per Architect's specifications.

3.06 EXPANSION JOINTS

A. Install transverse expansion joints at returns and a maximum interval of 40 feet on center.

B. Install longitudinal expansion joints where curbs and paved areas, building, other concrete slabs or pads or vertical restraints abut each other.

C. Place joint filler with top edge 1/4" below the surface and hold in place with steel pins or other devices to prevent warping of the filler during floating and finishing.

D. Immediately after the finishing operations are completed, round joint edges with edging tool having a radius of 1/8". Remove concrete over the joint filler.

E. At the end of the curing period, clean and fill expansion joints with joint sealer. Fill joints flush with concrete surface. Dummy groove joints shall not be sealed.

3.07 CURING AND BACKFILLING

A. Curing: Immediately after the finishing operations, the exposed concrete surface shall be cured for 7 days by an impervious sheet membrane or other approved method.

B. Backfilling: After forms, debris shall be removed and the areas adjoining shall be backfilled, graded and compacted to conform to the surrounding areas in accordance with the lines and grades indicated. Compaction shall conform to the requirements of Section 02200 Earthwork.

3.08 PROTECTION

A. Protect the completed work from damage until accepted. Repair damaged concrete and clean concrete discolored during reconstruction. Work that is damaged shall be removed and reconstructed to the entire length between regularly scheduled joints. Refinishing the damaged portion will not be acceptable.

B. Cars, trucks, and heavy equipment shall be excluded from concrete areas for a minimum of 14 days following placement.

END OF SECTION

SECTION 02512
ASPHALTIC CONCRETE PAVING

PART 1 – GENERAL

1.01 SUMMARY

A. Furnish and install all graded aggregate base material, and one or more courses of bituminous plant mixture constructed on the prepaved foundation or on an existing surface in reasonably close conformity with the lines, grades, thickness and typical cross sections shown on the drawings.

B. Related work specified in other sections
1. Drawings and general provisions of Contract, including General Conditions and other Division–1 Specification sections apply to work of this section.
2. Compaction of subgrade shall comply with the requirements of Section 02200 Earthwork.

1.02 QUALITY ASSURANCE

A. State of Georgia Department of Transportation "Standard Specifications for Construction of Roads and Bridges," 1993 Edition, Section 400.

B. Contractor will engage professional testing and inspection service for quality control testing during placement of asphaltic concrete.

C. Paving Coring:
1. Owner reserves the right to make corings of the bituminous paving to establish the depth of the paving layers.
2. The location and timing of the coring shall be at the discretion of the Project Engineer and at the Owner's expense.
3. The indicated depths are minimum; if a core indicates undersize, the Project Engineer may require additional corings (at Contractor's expense)to establish the extent of the undersizing.
4. If undersizing is indicated, methods of corrections shall be submitted for Project Engineer's approval. Correction shall be at Contractor's expense.
5. Fill boring holes with bituminous material and seal properly.

TESTS

A. Testing agency will make compaction tests of the asphaltic concrete utilizing nuclear density testing on a random basis with approximately one test per 500 tons of production, with a minimum of one test.

B. In lieu of digital printouts of liquid asphalt weights supplied by the asphalt plant the contractor will be required to perform extraction tests to verify the asphalt cement content is within 0.50 percent of the approved job mix asphalt content for Asphaltic Concrete Mix A binder course and within 0.40 percent of the approved job mix asphalt content for Asphaltic Concrete Mix A surface course.

C. Testing agency will make compaction tests of the graded aggregate material.

SUBMITTALS

A. Certification that al asphalt paving material is being produced by a Georgia DOT approved plant.

B. Job mix formula shall be submitted and approved by the Engineer. Once approved, no alterations to the job mix formula will be permitted without prior approval of the Engineer.

C. Digital printouts or extraction test results verifying the asphalt content of the mix shall be submitted.

D. Certification from supplier that the tack coat incorporated into the work complies with the requirements of DOT's "Standard Specifications for Construction of Roads and Bridges", Section 413.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Light Duty Flexible Pavement:
1. Graded Aggregate Base Course, 6" thick minimum, GDOT Type B.
2. Asphaltic Concrete Surface Course, 2" thick, GDOT Section 400, Type F.

B. Heavy Duty Flexible Pavement:
1. Graded Aggregate Base Course, 8" thick minimum, GDOT Type B.
2. Asphaltic Binder Course, 2" thick, GDOT Section 400, Type B.
3. Asphaltic Surface Course, 1.5" thick, GDOT Section 400, Type F.

PART 3 – EXECUTION

3.01 SUBGRADE PREPARATION

A. Subgrade shall be compacted in accordance with densities specified in Division Two – Section 02200 Earthwork.

B. Fine Grading:
1. Subgrade and shoulders shall be final graded, trimmed and finished within the limits and as required by the elevations shown on the Drawings. Grading operations shall be so conducted that materials shall not be removed or loosened beyond the required limits. The finished surfaces shall be left in smooth and uniform planes.
2. The Contractor shall be solely responsible for all lines, grades and measurements for this work. He shall provide his own instruments and survey crew to maintain grade control throughout the duration of his work.

C. At the locations shown on the drawings and where required to obtain a neat edge, the existing pavement will be saw cut to provide a neat edge. Upon removal of the existing pavement and base material adjacent to a state roadway, the requirements of Georgia Department of Transportation "Standard Specifications for Construction of Roads and Bridges," 1993 Edition shall be adhered to strictly.

D. Material for spot subgrade reinforcement shall be graded aggregate base.

E. Subgrade and Embankment Protection:
1. During construction, embankments and excavations in the areas of the paving shall be kept shaped and drained.
2. Ditches and drains along the subgrade shall be maintained to drain effectively at all times.
3. Repair ruts or depressions of 1" or more in subgrade.

3.02 GRADED AGGREGATE BASE

A. Graded aggregate base material shall be constructed in accordance with Section 310 of GDOT's "Standard Specifications for Construction of Roads and Bridges." Aggregate materials containing frost or frozen particles shall not be placed.

B. Maximum thickness of lifts shall be 4".

C. The material placed shall be shaped to line, grade, and cross–section and rolled until uniformly compacted to at least 100 percent of the maximum dry density as determined by the Modified AASHTO Compaction Test (T–180). The compacted base shall have sufficient stability to support construction equipment without pumping. If the basematerial becomes unstable as a result of too much moisture, the base material, and the underlying subgrade of necessary, shall be dried and reworked to a moisture content that will provide stability and compaction. At all locations not accessible to a roller the required compaction shall be provided by means of mechanized tampers. The same density requirements as stated above shall apply.

D. Those areas found to be deficient in thickness by more than 1/2 inch shall have additional measurements taken to determine the extent of the deficient area. Deficient areas shall be corrected adding additional material and rebuilding to the design thickness.

E. The finished surface of the graded aggregate base material shall conform to the lines, grades, and cross slopes as shown on the drawings.

3.03 PAVING

A. The binder and surface courses shall be constructed in conformity with the provisions of the specifications of Section 400 of GDOT's "Standard Specifications for Construction of Roads and Bridges", 1993 Edition.

B. The Target Density shall be 94 percent of the calculated voidless mixture based on the effective specific gravity of the aggregate used in the mix. Contractor shall be responsible for conducting sufficient testing to assure that the specified density is being obtained.

C. The existing surface shall be clean and free of any debris prior to paving operations.

D. Placing operations shall not be performed where the existing surface is wet or frozen. Minimum temperature requirements shall be in accordance with Section 400 of DOT's "Standard Specifications."

E. All potholes and broken areas of the existing pavement shall be repaired prior to the placement of any leveling course.

F. Bituminous tack coat shall be applied in accordance with Section 413 at the application rate specified . Tack shall be required between subsequent courses of asphaltic concrete. Proper care shall be taken to ensure the tack is distributed in a controlled manner with no spillage onto other portions of completed work.

G. Spreading and rolling operations shall be in accordance with an approved plan. The maximum compacted layer thickness of the various courses will be determined by the type mix being used in accordance with GDOT's "Standard Specifications for Construction of Roads and Bridges," 1993 Edition.

H. Care shall be taken to protect previously completed items of work, including but not limited to curb and gutter, islands, and drainage structures from damage or discoloration. All damaged sections of work shall be repaired or replaced, as determined by the Owner, and at no cost to the Owner.

3.04 FINISH

A. After final rolling, no traffic shall be permitted on paving until it has cooled and hardened and in no case less than 6 hours.

B. Each course of paving shall be constructed in conformance with the lines, grades, and cross slopes as shown on the drawings. No bumps or "bird baths" will be accepted.

END OF SECTION

SECTION 02575
REMOVING AND REPLACING PAVEMENT:

PART 1 – GENERAL

1.01 QUALITY ASSURANCE

All paved streets or other paved areas cut by these operations shall be repaved in a workmanlike manner as shown or specified. All work shall be in accordance with the Georgia Department of Transportation, Standard Specification, Construction of Roads and Bridges, 1993 Edition. Prior to excavation in paved streets or other paved areas, the pavement shall be cut along straight and perpendicular lines parallel to the centerline of the pipe. Upon completion of pipe laying, backfill shall be placed and compacted to 95% of maximum density as determined by AASHTO T99. Just prior to repaving, jagged edges shall be squared and cut to a string line so that the patch will represent a neat appearance. Centerline stripes or other pavement markings which existed prior to start of construction shall be replaced.
The term "pavement" shall be construed to mean either concrete, bituminous, cobblestone, or brick placed as a street surface in streets, driveways, sidewalks, or placed as slope protection for ditches or drains. Slag surfacing, sand-clay surfacing, gravel surfacing and other such types of surfacing will not be considered paving. The various types of pavement replacement shall be as hereinafter specified. Specific type or types of pavement replacement will be as indicated on the drawings or in the proposal.

PART 2 – EXECUTION

2.01 Pavement Replacement Type "A" Flexible Pavement

After the pipe has been installed the pipe trench shall be backfilled and compacted as otherwise specified in the Specification to within 12 inches of the existing roadway surface. The a 12–inch thickness of crushed limestone (crusher run) base course shall be placed the full width of the trench and compacted to 100% maximum density. The surface shall be allowed to "weather" for at least one month, but not more than two months. The aggregate lost during the weathering period due to subsidence or other causes shall be replaced at the Contractor's expense. The Contractor shall add to and maintain the limestone layer as required to keep the surface smooth and even with the adjacent existing pavement. After weathering, the existing pavement shall be cut back a minimum of 9 inches from both edges of the trench, and the top 4½" inches of material shall be removed to conform to the required contours and placed in condition for paving. If the pavement patch is to receive the Type "E" or "F" plant mix surfacing overlayment, then a 4½ inch (500 lbs. per S.Y.) layer of hot compacted plant mix bituminous Type "B" base material shall be placed full width, flush with the existing pavement, to the shape of the original pavement. The 4 ½ inch layer shall be placed and compacted in two (2) or more approximately equal layers, with no layer exceeding 2 ½ inches in thickness. If the pavement patch is not to receive the Type "E" or "F" plant mix surfacing overlayment, the the top 1 inch layer of the 4 ½ inch layer of bituminous material shall be a wearing layer of hot bituminous pavement (Type "E" or "F")

2.02 Pavement Replacement Type "A" Plant Mix Surfacing

Following an acceptable installation of Pavement Replacement, Type "A", Flexible Pavement, a wearing layer of hot mix asphaltic concrete pavement, Type "E" or "F" as specified in Section 828 of the Georgia Department of Transportation, Standard Specification, Construction of Roads and Bridges, 1993 Edition, shall be applied over the Type "A", Flexible Pavement, at a rate of 100 pounds per square yard, and overlapping the adjacent existing pavement on all sides. The width of the wearing layer will be determined by the Engineer. The entire area to be convered by the wearing layer shall receive a tack coat in accordance with 820 of the GDOT Specifications just prior to its placement. The tack coat shall also extend one foot past the finish edges of the wearing layer. The edges of the wearing layer shall be feathered into existing pavement on all sides and care shall be taken to assure a smooth transition at each edge of pavement.

2.03 Pavement Placement Replacement Type "B", Concrete Paving

Where concrete pavement in streets, sidewalks, paved ditches or other areas is removed, it shall be replaced with the same type and thickness as that removed, including finish. A 6 inch compacted thickness soil aggregate base course shall be provided under new concrete paving subject to vehicular traffic. Existing pavement shall be cut back a minimum of 9 inches from edge of trench.

2.04 Valve Boxes, Manhole Rims, etc

The Contractor shall adjust the top elevation of all valve boxes manhole rims, etc., located partially or fully within the paving replacement limits, to the finish elevation of the replacement patch or overlayment.

SECTION 02580
PAVEMENT MARKINGS

PART 1 – GENERAL

1.01 SUMMARY

A. This work shall consist of furnishing and applying reflectorized Traffic Line Paint and in accordance with plan requirements and these specifications. Painted Stripes shall consist of either solid or broken (skip) lines of the color and at the location designated on the Drawings.

B. Skip Traffic Stripes consist of painted segments between unpainted gaps in a designated sequence with a ratio of 1:3 (10 foot segment and 30 foot gap). The location and color will be as designated on the Drawings.

C. This section shall also include the application of words and symbols in accordance with the Drawing details, the provisions of the Specifications, and the requirements of the current Manual on Uniform Traffic Control Devices (MUTCD), latest edition.

D. Related work specified elsewhere:
1. Drawings and general provisions of Contract, including General Conditions and other Division–1 Specification sections apply to work of this section.

1.02 QUALITY ASSURANCE

A. Manual on Uniform Traffic Control Devices, current edition.

1.03 SUBMITTALS

A. Certification: The manufacturer of each brand of paint submitted for acceptance under these Specifications, shall furnish the Owner a certificate of analysis and manufacturer's guarantee.
The certificate shall show the trade name of the paint to be furnished including a facsimile of the label, (if paint is ready–mixed) and an analysis showing the percentage of each of the chemical elements and compounds in the pigment and vehicle. The guarantee shall assert that all paint furnished will conform to the analysis shown on the certificate filed, and to the statement of the percentages of ingredients shown on the labels required to be on each container. The guarantee shall be sworn to by a person having authority to bind the manufacturer by his acts.

B. The proposed method of application shall be submitted for approval.

1.04 PROJECT CONDITIONS

A. Inspection:
1. Examine areas for conditions under which work is to be performed. Report in writing to Project Engineer all conditions contrary to those shown on the drawings or specified herein and all other conditions that will affect satisfactory execution of work such as improperly constructed substrate or adjoining work. Do not proceed with work until unsatisfactory conditions have been corrected.
2. Starting work constitutes acceptance of the conditions under which work is to be performed. After such acceptance, Contractor shall at his expense, be responsible for correcting all unsatisfactory and defective work resulting from such unsatisfactory conditions.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Color: White, blue and yellow colors conforming to GDOT's Standard Specifications for Constructions of Roads and Bridges," 1993 Edition, Sections 87[illegible].

B. Paint Types: Composition and performance characteristics of Traffic Line Paint shall comply with State of Georgia specifications.

C. Glass Beads: Shall comply with the requirements of Section [illegible].

PART 3 – EXECUTION

3.01 PREPARATION

A. Remove all dirt, oil, grease, and other foreign material from areas of pavement to be marked.

B. Apply paint only on thoroughly dry surfaces, when atmospheric temperature is above 50 degrees fahrenheit.

3.02 INSTALLATION

A. Apply markings in colors indicated and at locations as shown on the drawings.

B. Installation shall comply with the requirements of "Standard Specifications for Construction of Roads and Bridges," Section 652.

C. Glass beads shall be applied uniformly immediately following application of the paint a minimum rate of 6 pounds of beads to each gallon of paint.

D. Protective Measures: When painting is done under traffic, the contractor shall furnish and place all warning and directional signs necessary to direct, control and protect the traffic during the stripping operations. Warning signs shall be set up before the beginning of each operation and extra signs shall be kept well ahead of the painting equipment. When necessary, a pilot car shall be used to protect both the traffic and the painting operation.
The freshly painted stripe shall be protected by cones or other satisfactory devices. All stripes damaged by traffic, or pavement marked by traffic crossing wet paint, shall be repaired or corrected.

END OF SECTION

SECTION 02660
WATER DISTRIBUTION

PART 1 – GENERAL

1.01 DESCRIPTION OF WORK

A. This work consists of furnishing and installing water distribution pipes, valves, wyes, backflow preventers, tees, crosses, thrust blocks, and other appurtenances complete with fittings and connections to existing water system.

B. Contractor shall arrange for, coordinate the installation of, and pay all fees associated with the installation of the water meter, backflow preventer, water line and all appurtenances.

1.02 QUALITY ASSURANCE

A. Industry Reference Standards:
1. City of LaGrange Water Department's water connection details.
2. 2012 International Plumbing Code (IPC)
3. 2012 International Building Code (IBC)
4. American Water Works Association (AWWA).
AWWA C601– American National Standard for Disinfecting Water Mains.
AWWA C900– American National Standard for Polyvinyl Chloride (PVC) Pressure pipe, 4" through 12" for water.
B88–92– Seamless Copper Water Tube.
5. Manufacturer's Qualifications: Firms regularly engaged in manufacture of potable water system materials and products, of types and sizes required whose products have been in satisfactory use in similar service for not less than 5 years.

1.03 SUBMITTALS

A. Product Data: Submit manufacturer's catalog cuts and specifications data for all materials listed in Part 2–Products.

B. Record Drawings: At project closeout, submit record drawings of installed water system piping and products, in accordance with requirements of Division 1.

1.04 PROJECT CONDITIONS

A. Notify City of LaGrange Water Department for installation of service connection and coordinate installations of meter, vaults, reduced pressure assemblies and Detector/Backflow prevention devices.

PART 2 – PRODUCTS

2.01 MATERIALS

A. General: Provide materials and products complying with NFPA 24.

B. General compliance with the City of LaGrange Water Departments list of acceptable products.

C. Ductile Iron Pipe (DIP):
1. Pipe: ANSI/AWWA A 21.50 and A 21.51
2. Fittings: Ductile–Iron complying with AWWA C110, cement lined, with rubber gaskets conforming to AWWA C111.

D. Copper tubing:
1. Pipe: ASTM B88, Type K, soft–annealed temper.
2. Fittings: Wrought–copper solder–joint fittings, ANSI B16.22.

ENGINEER'S STAMP

GEORGIA REGISTERED No. 15380 PROFESSIONAL ENGINEER JAMES STOTHARD

SIGNATURE REQUIRED

SMITH DESIGN GROUP, INC.
206 WEST HARALSON STREET
LAGRANGE, GEORGIA 30240
706-882-5511
www.SDGarch.net

STOTHARD ENGINEERING, INC.
1008 COLQUITT ST.
LAGRANGE, GA 30241
PH: 706 884–5279
email: stothard@
stothard–engineering.com

REVISIONS

⚠	DATE	DESCRIPTION

PROJECT:

VERNON ROAD FIRE STATION

VERNON ROAD
LAGRANGE, GEORGIA

TITLE:

INDEX SHEET

MODIFIED DATE:

JOB NO: 1731

ISSUED DATE:
FOR BID AND PERMIT
20 APRIL 2018

SHEET: C-13

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