(Note to User: Numbering of the following notes shall be maintained. If a note is omitted for any reason, the number shall be note with the text "Not Applicable")

STREET, STORM SEWER, WATER AND STREET LIGHTING NOTES

STREET

1. Driveway permits must be secured from the City of Groveport to authorize alterations of curb and gutter for driveway entrances.

UNAUTHORIZED STREET EXCAVATION

2. In the event excavation for the street is from 0" to 6" below that called for as the subgrade elevation on the plans, the Contractor shall replace this excess excavated material with Item 304 aggregate base as directed and at no extra cost to the Owner or the City.

TRAFFIC MAINTENANCE

3. All traffic control devices shall be furnished, erected, maintained and removed by the Contractor in accordance with the Ohio Manual of Uniform Traffic Control Devices for Construction and Maintenance Operations (current edition), copies of which are available from the Ohio Department of Transportation, Bureau of Traffic, 1980 West Broad Street, Columbus, Ohio 43223.

4. Access to all properties within the project area shall be maintained at all times, unless otherwise provided for on these plans and approved by the City Engineer.

5. All trenches within the road right-of-way shall be backfilled or securely plated during non-working hours.

6. All traffic lanes shall be fully open to traffic at all times on_____. Any closings must be coordinated with the City of Groveport. Notification shall be provided to the Madison Township Fire Department at least 48 hours prior to road closure.

7. If permitted, two-way, one-lane traffic shall be maintained during construction operations in accordance with page C-18 of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD).

8. The use of police officers for manual traffic control is not mandatory, unless a hazard develops, for two-way, one lane traffic maintained during the permissible hours of construction operations. If a hazard does develop, an off-duty officer may be assigned by the City to the project at the Contractor's expense.

9. Steady burning Type "C" lights shall be required on all barricades, drums and similar devices in use at night. Cones will not be permitted for use at night.

10. Where necessary to disturb, modify and/or remove and replace a portion or all of an existing roadway or driveway to construction the project improvements, the pavement or driveway shall be saw cut in neat straight lines. The cut shall be made to the full depth of the existing pavement or driveway. Item 423, Crack Sealing, Type 1 shall be placed along the saw cut

joint when the removed portion of the pavement or driveway is replaced.

11. All permanent pavement markings and traffic control signs as shown this plan shall be installed by the Contractor at the Developer's expense. The City of Groveport shall be notified a minimum of forty-eight (48) hours (excluding weekends and holidays) prior to the installation of permanent markings to inspect and approve pavement marking layout before markings are placed.

12. Any work done by the City, including installation, modifications, removal and/or replacement of permanent traffic control devices as a result of work performed by the Contractor or as a result of the negligence of the Contractor shall be at the expense of the Contractor.

13. The roadway shall NOT be opened to non-construction traffic until the critical permanent traffic controls are in place, or until temporary traffic controls, approved by the engineer, are installed. The critical permanent traffic controls are STOP, YIELD, ONE WAY, DO NOT ENTER and restricted turn signs. Other critical signs may be noted on the plans as well. The Contractor assumes all liability for the premature removal of temporary traffic controls.

14. Permanent striping or Class I temporary striping shall be installed no later than fourteen (14) calendar days after the final paving course is completed. The Paving Contractor shall be responsible to notify the Striping Contractor to insure the permanent striping is installed within the fourteen (14) calendar day limit.

STORM SEWER

15. Pipe specifications for the plan improvements shall be in accordance with the following:

    Reinforced concrete pipe ASTM C-76 (CMSC 706.02). Concrete classification shall be in conformance with the following unless otherwise referenced by the profiles.

    - 12" - 15" diameter pipe, Class IV
    - 18" - 24" diameter pipe, Class III
    - 30" - 48" diameter pipe, Class II

16. All manholes and inlets shall be channeled.

17. Openings shall be provided in the drainage structures to accommodate underdrain outlets as detailed by the plan specifications.

18. The Contractor shall make allowances in his bid for possible adjustment on level of proposed manhole/inlet tops and shall receive no additional compensation because of any such adjustments that are required to be made.

19. All bedding shall be in accordance with COC Standard Drawings AA-S151 and AA-S152 for rigid pipe sewer.

20. Any settlement of storm sewer trenches which occurs during the guarantee period shall be repaired at no cost to the City.

CONDUIT END TREATMENT

21. Immediately after placement of any conduits, the Contractor shall construct the end treatments as required by the plans at both the outlet and inlet ends. This shall include concrete riprap, rock channel protection, sodding, etc.

(Note to User: The following notes have been developed for water distribution improvements associated with the portion of Groveport's system which is operated by the City of Columbus. The designer shall be responsible to ensure these notes meet or exceed the City of Columbus note requirements. Notes denoted with an "*" may be omitted if the proposed work is on the portion of the distribution system operated by the City of Groveport.)

WATER

22. The City of Columbus Construction and Materials Specifications, 2018 Edition and all revisions including all supplements thereto, shall govern all construction items that are part of this plan unless otherwise noted.

23. *All water main material and installations shall be in accordance with the current rules and regulations of the City of Columbus, Division of Water. All City of Columbus, Division of Water Standard Drawings shall apply to this project unless otherwise noted.

24. *For any emergencies involving the water distribution system, please contact the Division of Water Distribution Maintenance Office at 614-645-7788.

25. All brass fittings associated with water work, including repairs to the existing system, shall conform to the revised allowable lead extraction limit per the updated NSF/ANSI 61 Standard. The Division of Water's Approved Materials List has been updated to reflect this requirement.

26. *It shall be unlawful for any person to perform any work on City of Columbus water main systems without first securing license to engage in such work as indicated in Columbus City Code Section 1103.02 and 1103.06. This work includes any attachments, additions to or alterations in any City service pipe or appurtenances (including water service lines and taps.) This requirement may be met by utilization of a subcontractor who holds a City of Columbus Water Contractor License or a Combined Water/Sewer Contractor License to perform this work. Utilization of a subcontractor must meet the licensing requirements of City of Columbus Building Code, in particular Section 4114.119 and 4114.529.

27. No person shall begin construction or installation of a public water main until plans have been approved by the State of Ohio Environmental Protection Agency (OEPA.)

28. * The Contractor shall obtain the propert hydrant permit(s) and pay any applicable fees for any approved hydrant usage deemed necessary for work under this improvement. Permits may be obtained through the Division of Water Permit Office (645-7330.) The Contractor shall adhere to all rules and regulations governing said permit and must have the original permit on site anytime in which the hydrant is in use. Cost to be included in the various bid items.

29. Only one connection to an existing water main is permitted before disinfection of a new water main has been completed. All other connections must be made after the main has been disinfected.

30. When performing water service line transfers, the Contractor shall flush the water tap prior to connecting to the existing service line.

31. When crossing the existing water main, and LSMB (Item 636) is being used as backfill, the Contractor shall provide No. 57 Crushed Carbonate Stone (CCS) one foot below to one foot above the existing water main.

32. If during excavation, the polyethylene encasement on the existing water main becomes damaged, the Contractor shall repair the polyethylene encasement per the manufacturer's specifications and DOW Standard Drawings L-1003 and L-1004, at their own expense. Ensure that the entire exposed area is covered with new polyethylene encasement and securely taped prior to backfilling.

33. * "Survey Coordinates" shall include all material, equipment and labor necessary to obtain horizontal and vertical (northing, easting and elevation) survey coordinates for the water main improvements. The survey coordinates shall be obtained for the completed water main construction and shall include all valves, tees, crosses, bends, horizontal deflections, plugs, reducers, tapping sleeves, fire hydrants, air releases, curb stops and casing pipe termini. Additional survey coordinates are required on the water main every 200 feet where no fittings or other water main structure is being installed within that length of the improvement.

    All survey coordinates shall be referenced to the applicable County Engineer's Monuments, and shall be based on the North American Datum of 1983 (NAD 83) with the (NSRS2007) adjustment, with further reference made to the Ohio State Plane South Coordinate System, South Zone, with elevations based on NAVD 88 datum. All coordinates (Northing, Easting, Elevation) shall be referenced to the nearest hundredth (N xxxxxx.xx, E xxxxxx.xx, Elev. xxx.xx). All survey coordinates shall be accurate to within 1.0 foot horizontal and a tenth of a foot (0.10) or less vertical.

    The coordinates shall be documented to the Municipality Engineer or designated Representative in digital spreadsheet form and shall include the applicable item, station, northing, easting, and elevation. Coordinates shall be submitted to the Municipality Engineer or designated Representative on a bi-weekly basis. Coordinates shall also be required to be submitted to the Division of Water as part of the request for chlorination.

    Lump sum payment is full compensation for all work involved in obtaining and documenting the survey coordinates as described in this specification.

34. All water main valve boxes, water tap boxes, test stations, pitometer tap structures, meter pit covers, and other surface utility structures within the disturbed area shall be adjusted to grade. Any of these structures located within pavement, driveways, or other traveled areas, whether existing or proposed, shall be equipped with a traffic rated, heavy duty valve box and/or cover in accordance with the Standard Drawings. Existing water tap boxes to remain that are encountered within the project limits shall be cleaned out, centered over the curb stop, and adjusted to the proposed grade.

35. Where new conduit is proposed to cross an existing or proposed water main or water tap/service line, a minimum of 12-inches of vertical clearance shall be maintained between the conduit and the water main or tap/service line. A minimum of 3-feet of horizontal clearance (out to out) is required at locations where the conduit is parallel to the water main and at locations of water main thrust blocks.

36. A minimum of 3 feet of horizontal clearance (out to out) shall be maintained between all existing water mains and foundations for poles, pull boxes, push button pedestals, and any other miscellaneous electrical structure.

37. A minimum of 4 feet of cover is required prior to pressure testing any water main. A sufficient amount of backfill shall be installed to provide the adequate restraint in areas where required.

38. The Contractor shall coordinate his work such that no water customer will have their service disrupted more than two (2) times throughout the duration of this project.

39. Relocated fire hydrants shall be put back in service as soon as possible. No two (2) adjacent fire hydrants shall be taken out of service concurrently.

40. *All water meters associated with this project shall be installed inside the proposed structure unless a meter pit is approved by the Administrator of the Division of Water. All meter pits must conform to Standard Drawing L-7103 for 5/8" through 1" meters or L-6317 A, B, C, D, & E for 1-1/2" or larger meters.

41. All fire hydrants shall be in accordance with the current City of Groveport Fire Hydrant Standard Drawings and shall be AWWA Approved.

42. All excavation, backfill, bedding, fittings concrete backing, etc. required to perform the work shall be included in the price bid for Item 801. Waterlines shall be laid with 4 feet of cover, minimum. In case of conflict between the waterlines and sewers, either existing or proposed, the waterlines shall be lowered during construction.

43. Water mains and existing or proposed sewers shall be separated by 18" vertically and a minimum of 10' horizontally. This separation shall conform to all the requirements of the "Ten State" standards.

44. The normal working pressure in the waterlines shall not be less than 35 psi. Individual booster pumps will not be allowed for any individual service.

45. The proposed waterline shall be located a minimum distance of twenty feet away from any structure, overhang or footer.

46. No service lines shall be less than three-quarter inch in diameter. If necessary to provide adequate supply and pressures, larger size lines may be required by the Building Inspector.

47. No water service line shall be laid in the same trench with gas, electrical, sewer or sewer service lines.

48. Services shall be constructed after the street is rough graded and prior to installation of the

proposed paved surfaces and curbs. They may be laid in open trench provided that the trench is filled with granular backfill in the proposed paving areas or jacked under the ground surface from openings at the back of the proposed curb.

49. All valve boxes, service boxes and fire hydrants shall be located within easement areas or right-of-way.

50. Backfilling of all waterline trenches and excavations shall be in accordance with CMSC Item 801. All waterline excavation shall be considered to be under or within the influence line of the pavement and backfilling shall follow the requirements of CMSC Item 801.11. No grits will be permitted in the waterline trench backfill.

51. Curb boxes shall be located one foot from the edge of the sidewalk, between the sidewalk and the curb, or two feet from the right-of-way line when no sidewalk is present or proposed. All curb boxes shall be adjusted to finished ground surfaces. All curb boxes shall be in accordance with the current City Standard Drawings. When the street is curbed, a "W" shall be stamped in the face of curb opposite each curb box before the concrete is set.

52. Valves shall be adjusted to final grade as directed by the City of Groveport and/or Engineer. The Contractor shall include the cost of valve box extensions and adjustments as required in the price bid for valves. If the top of the valve operating nut is more than 48" below finish grade, an extension stem shall be furnished to bring the top of the operating nut to within 36" of the finished grade.

53. Concrete supports shall be provided at all horizontal and vertical bends, tees, plugs, valves, and hydrants. The Contractor is fully responsible for providing concrete backing to the extent sufficient to guarantee the operation of the pipe under both the test and design pressures. Reference the City of Columbus Division of Water standard drawings L-6310, L-6311, L-6312, and L-7001 for concrete backing requirements.

54. All water mains shall be pressure tested in accordance with section 801.14 of the City of Columbus Construction and Material Specifications, with the following exception: 150 psi of pressure shall be maintained for at least two hours in any tested section. The City may not approve any test lasting less than two hours regardless of the amount of leakage.

55. All water mains shall be cleaned and flushed, and any water main 12-inch and larger must be properly pigged, in accordance with section 801.13 of the City of Columbus, Construction and Material Specifications.

56. *All water mains shall be disinfected in accordance with section 801.15 of the City of Columbus Construction and Material Specifications. Special attention is directed to applicable sections of A.W.W.A. C-651. When the water mains are ready for disinfection, unless otherwise notified by the City of Groveport, the City of Groveport shall submit a written request for chlorination of the mains that need disinfected, three (3) sets of “as-built” plans (full size sheets only), the as-built survey coordinates (provided by the Contractor), water service reports and a pressure test (provided by the Contractor) to the City of Columbus, Division of Water. The contractor shall be responsible for all costs associated with the disinfection of all water mains constructed under this plan.

57. * No water service connection permits shall be issued or connections made to any water taps until water mains have been disinfected by the City of Columbus, Division of Water.

When a 3-inch or larger tap is to occur on a 20-inch or larger water main, the Contractor shall notify the Division of Water Operations Control Center at (614)-645-7168 twenty-four (24) hours in advance of performing the tap.

FIRE HYDRANTS

58. All fire hydrants shall conform to the City of Groveport Standard Drawings and Specifications. Self draining hydrants are not permitted.

59. Fire hydrants shall be equipped with a 5" Stortz hose nozzle connection in accordance with the Madison Township Fire Department Requirements.

60. All fire hydrants shall be adjusted to final grade. Cost (including any necessary extensions) to be included in the price bid for Item 809, Fire Hydrant.

STREET LIGHTING

61. The Street Lighting for this project shall be designed and constructed in accordance with Section 1112.04 of the current City of Groveport Codified Ordinances, including all supplements thereto. The aforementioned specifications shall govern all materials and workmanship involved in the improvements shown on these plans, except as such specifications are modified by the following notes or by the construction details set forth herein.

62. The Contractor shall coordinate the location of the power supply and controller for the proposed street lights with the appropriate utility company. If a new transformer and/or controller is required for this project, the Contractor's bid shall include the items necessary to make a complete installation (including items related to the power supply) and the associated costs shall be included in the price bid for the various street lighting items.

63. Any street light controller or electric service for street lights installed as a part of these improvements shall comply with the notes and details provided on the plans subject to approval by the City of Groveport Engineer.

64. Receptacles shall be included per the City of Groveport Standard Drawings. Receptacles shall be 20.0 amp specification grade with NEMA 3R rain tight cover. A #12 Neutral Connector shall be installed.

65. Alternate receptacle connections in pairs rather than consecutively.

66. No splices shall be made to circuit cables except at noted locations.

67. Shop Drawings shall be submitted to City Engineer for review and acceptance prior to delivery of materials to the site. In addition, the Contractor shall verify the size of the wiring prior to submitting a cost proposal. The price bid for the various items shall be based on the size of wire determined from the Contractor's calculations. The calculations shall be provided to the City of Groveport Engineer as a part of the shop drawing submittal.

68. Centerline of light pole concrete foundations to be placed 2.5' behind back of curb in accordance with plan details.

69. Trench location may be deflected around obstacles as approved by the City Engineer.

70. Where the trench is offset from the centerline of the foundations, the conduit shall be directed toward the ell of the foundation at approximately 45 degree angles. The foundation ells may be aimed out of foundation at approximately 45 degree angles to facilitate connection to conduit with the least amount of bends.

71. Pull boxes and light poles shall be located approximately where shown on the plans with exact location to be determined in the field after consideration is given to the location of utilities, pavements, and grades.

72. All conduits installed under new street pavements and future driveways shall be concrete encased. Concrete encasement is not required in open lawn areas. All trenches in open areas shall receive sand or selective soil backfill to a minimum depth of 4" above the top of the conduit. Underground hazard tape shall be placed at the top surface of the sand or selective soil backfill.

73. All underground lighting cables to be placed in 2" rigid PVC conduit.