General Construction Notes:

- 1. It is not the intent of these construction notes to cover all details and/or the specification requirements for
- 2. The Contractor shall provide reasonable access to residential, commercial and public properties in the project
- 3. The Contractor shall be responsible for furnishing all labor, materials, equipment and incidental items needed to provide adequate construction signing, barricades, traffic control devices and other related items for the project area, during the construction period. Maintenance and protection of traffic must comply with the MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. This work is to be considered an incidental item and the cost of this item is to be included in other pay items.
- 4. All existing utility locations shown are approximate. Contractor to verify locations (horizontal and vertical) of all existing utilities in the project area prior to construction. Should there be any conflicts, Contractor is to notify
- 5. The Contractor shall bear full responsibility for the protection of all private and public utilities even though they may not be shown on the plans. Any utility that is damaged during construction shall be repaired or replaced to the satisfaction of the utility owner by the Contractor. This includes all service laterals of any kind.
- 6. The Contractor will not be responsible for demolishing or removing any existing above or below ground telephone, power, or gas lines but shall be responsible for coordinating his work with all local utility companies.
- 7. The Contractor shall verify all shown dimensions and elevations (existing and proposed) in the field and shall satisfy himself as to the accuracy between work set forth on these plans and the work required in the field.
- Any discrepancies shall be brought to the attention of the Engineer prior to construction. 8. The Contractor is required by law to notify Mississippi One Call @ 601-362-4374 at least 48 hours prior to construction to locate all existing utilities on site.
- 9. The Contractor shall be responsible for notifying all utility companies at a minimum of 48 hours prior to commencing work in the project area. Likewise, the Contractor is responsible for coordinating his work and that of the involved utilities in the project area.
- 10. All testing required by the project specifications or the City Ordinance shall be done by an approved testing laboratory at the expense of the Contractor.
- 11. The Contractor shall restore all disturbed areas to match pre—construction condition or better after completion of the project.
- 12. The Contractor is to provide the Engineer a Certification that the project was completed according to the Project Plans and Specifications.
- 13. Roads to be kept clean of mud and debris at all times.
- 14. The Contractor shall carefully remove, store and reinstall all City/County/State owned signs whose removal is required by his construction work in the project area. It shall be the Contractor's responsibility to arrange for the appropriate agency to inspect all signs scheduled for removal prior to their removal. Once said signs have been removed, it will be assumed that they were in good condition at the time of removal. Any signs damaged or lost by the Contractor shall be replaced at no cost to the appropriate agency.
- 15. Stationing (street and utility) is horizontal stationing measured on a level plane. Actual length shall be determined by measurement along the slope or curve.
- 16. Stop signs and street signs are not a separate pay item, but an absorbed cost.
- 17. Elevations are based on M.S.L. Datum.
- 18. Contractor shall be responsible for removing any and all existing structures necessary for completion of work described in these plans unless otherwise noted.

Site Grading And Roadway Notes:

- 1. Technical specification for materials and construction methods for street construction of this project shall conform to the latest edition of MISSISSIPPI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 2. The proposed finished grades on these plans were not determined using any sub-surface evidence. There may
- be additional undercutting, granular material, etc. required due to the soil conditions as they exist 3. Prior to placement of asphalt base course, density tests shall be performed on the sub-grade by a licensed soil laboratory approved by the Engineer at the Contractor's expense. Reports to be faxed to Benchmark
- Engineering & Surveying, LLC @ 601-591-0711. A proof roll of the sub-grade for the curb and roadway is also required prior to placement of curb & gutter and asphalt base. Contractor shall notify Engineer and the City of Flowood Public Works Department at a minimum of 48 hours prior.
- 4. The Contractor shall place fill material evenly in 6" to 8" lifts. All material shall be processed and compacted to 96% Standard Proctor density.
- 5. The Contractor is required to bring ground surface within the right of way to grades shown on the typical sections prior to grassing and acceptance of project.
- 6. Earth excavation shall include clearing, stripping, and the stockpiling of topsoil, removing unsuitable materials, the construction of embankments, non-structural fills, final shaping and trimming to the lines, grades and cross sections shown on the plans. All unsuitable or excess material shall be disposed of as directed by the
- 7. Unsuitable material encountered in excavating for roadway sub-grades shall be removed and replaced with suitable material to the limits approved by the Engineer.
- All select fill material shall meet the specifications of Class 9, Group C material (including on—site material)
- unless otherwise approved by the Engineer. 9. Once clearing, grubbing, undercutting has been completed the Contractor shall notify the Engineer for a field inspection of the subgrade prior to placement of select fill. Contractor shall have equipment available to
- perform a proof roll or for further excavation should the Engineer deem necessary. 10. Contractor shall muck—out where necessary in existing areas that are to receive select fill. Muck—out material
- shall be spread on site and processed to dry as approved by the Engineer.
- 11. The grading and construction of the street improvements shall not cause the ponding of storm water. All areas adjacent to these improvements shall be graded to allow positive drainage.
- 12. Topsoil excavated shall be stockpiled on the site in areas designated by the Engineer until such time that this topsoil can be used for final grading. This is not a pay item, but shall be an absorbed cost.
- 13. The Contractor shall take special care in grading near trees, bushes and shrubs which are not to be removed so as not to cause injury to roots or trunks.
- 14. The Contractor shall use care in grading or excavation near any and all existing items which are not indicated to be removed. Any damage done to these existing items by the Contractor's operations shall be repaired at the Contractor's expense.
- 15. Positive drainage shall be maintained at all times.
- 16. Proposed elevations indicate finished conditions. For rough grading elevations allow for thickness of proposed items (roads, walks, drives, etc.) or topsoil as shown.
- 17. Street paving and curbs to remain shall be protected from damage, and if damaged, shall be replaced promptly.

Water/Sewer Notes:

96% Standard Proctor density.

- 1. All materials and construction shall be in accordance with these plans and project specifications.
- 2. The Contractor shall provide all the materials and appurtenances necessary for the complete installation of water and sewer utilities.
- 3. The Contractor shall make all ties to existing utilities and coordinate them with the City of Flowood Public Works
- 4. All manholes, valve boxes, and fire hydrants shall be adjusted to proper line and finished grade by the Contractor after placing of pavement and before final acceptance.
- 5. Trenching and embedment work shall conform to all requirements and shall follow the typical cross—section detail for trenching. Unless specified otherwise, backfill material shall be compacted to 95% density of Standard
- Proctor in accordance with ASTM D-698. All backfill material shall be compacted in 6" layers. 6. The end of water and sewer lines shall be tightly capped or plugged and marked until such time as service
- connections are made or lines or extended. 7. All water lines and sanitary sewer lines shall be installed with a minimum of three feet (3') of cover over the top of the pipe at finished grade or as shown otherwise. Where installed in a roadway section the minimum cover over the top of the pipe shall be four feet (4'). Backfill shall be placed in 6" lifts and compacted to
- 8. Ten feet (10') of horizontal clearance is required between all water and sewer lines. At locations where the water and sewer lines must cross each other there shall be a minimum clearance of 18" with the water passing over the sewer. If these separations cannot be met, the sewer line shall be constructed to the same specifications as the water line and be water tight until such a point where minimum separation can be met. Where gravity flow sewers cross above water lines, the sewer pipe for a distance of ten (10') feet, each side of the crossing, either shall be ductile iron pressure pipe without any joint closer than three (3') feet to the crossing, or shall be fully encased in concrete.
- 9. All sanitary sewer services shall be installed to the center of the lot unless otherwise shown and marked with a
- saw on the curb with a "Y". 10. All water services shall be installed ten feet (10') to the uphill side of the sewer service unless otherwise shown and marked with a saw on the curb with a "W". Water service assembly components to comply with the City of Flowood subdivision development regulations.
- 11. Fire hydrant make and model shall be compatible with the existing\remaining system and shall be approved by the City of Flowood. Fire hydrant assemblies shall include the fire hydrant, gate valve and box and all appropriate extensions and blocking required.
- 12. The utility Contractor shall be responsible for testing the water and sewer systems in accordance with the specifications and shall notify the Engineer and the City of Flowood at least 48 hours in advance of performing any tests. Tests on water and sewer lines will be as required by the City of Flowood. A copy of all test results shall be faxed to Benchmark Engineering & Surveying, LLC @ 601-591-0711.
- 13. Fittings shall be of the mechanical joint type and shall be restrained by the use of Mega—Lugs or approved other and concrete thrust blocking.
- 14. The lengths of the sanitary sewer lines are measured from center of manhole to center of manhole. 15. Fittings for all applications of water and sewer lines shall be an absorbed cost.

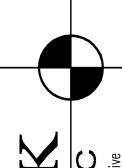
- Storm Drain Notes:
- 1. Technical specifications for all materials and construction methods for the storm drain construction shall be in accordance with the latest edition of MISSISSIPPI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 2. Joints shall be constructed and jointed together in such a manner that no spill through of backfill will occur.
- 3. All reinforced concrete pipe (RCP) shall be Class III unless otherwise noted.
- 4. All corrugated plastic pipe (CPP) shall be manufactured by ADS or approved equal and installed per manufacturer's recommendations.
- 5. Concrete slab and covers for inlets and junction boxes shall be class "B" structural concrete. Junction boxes to have solid manhole lids at finished grade for access.
- 6. Contractor shall provide drain holes or block outs at all curb inlets (to be grouted in when final surface course is applied).
- 7. The length of the storm drain lines are measured from the center of the inlet/junction box to the center of
- the inlet/junction box. 8. Open outlet ends of corrugated plastic pipe to be anchored securely into ground.
- 9. Inlet\iunction box sizes to be determined by Contractor or manufacturer based on the pipe sizes and the entry\exit angle of the culverts.
- 10. Any additional excavation required for installation of Bedding Material for storm drain pipe shall be included in the contract price per linear foot of storm drainage pipe.
- 11. Concrete toewalls are required at all flared end sections as shown in the Contract Drawings (absorbed).
- 12. At the expense of the Contractor, the Contractor shall maintain existing drainage patterns and construct temporary structures, embankments and culverts as required to maintain the existing drainage system and capacity in the work area. Any and all items constructed during the progress of work that are not necessary for the final drainage system are to be removed and the area restored to is original condition.
- 13. Drainage structures may be precast or poured in place unless otherwise noted. All castings for drainage structures to be included in the unit price for each structure. Curb inlet tops to conform to the longitudinal slope of the roadway.

Erosion\Sediment Control Notes:

- 1. Erosion and sediment control materials and installation shall be in accordance with the latest edition of MISSISSIPPI STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- 2. The Contractor shall take all necessary measures to control erosion and water pollution through the construction period. All temporary erosion control measures shall be in place before earth moving operations begin. Clearing and grubbing shall be held to the minimum width necessary to accommodate roadway slopes. Embankments and excavated areas shall be promptly stabilized to minimize erosion. Baled straw erosion checks and silt fencing shall be used along the toe of fill slopes, in ditches, and in other areas where erosion is a problem and
- 3. Any stockpiled soil or fill material shall be located and treated in a manner to prevent silt from entering streams. No excavated material shall be discharged into ditches. The Contractor shall dispose of all excavated
- material in a location approved by the Engineer. 4. All soil erosion and sediment control measures shall be continually maintained. The Contractor shall keep
- streets and sidewalks adjacent to the limits of construction free of mud and debris. 5. Contractor shall comply with the erosion control requirements of the City of Flowood and the requirements of the Mississippi Department of Environmental Quality.
- 6. Contractor to utilize Best Management Practices for erosion and sediment control.

silt laden runoff may enter a stream or adjacent property.





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² ENGINEER

SHEET NUMBER PROJECT NUMBER B-1347