GENERAL CONSTRUCTION NOTES

1. Materials, construction and testing to be in accordance with the City of Conroe Ordinances and Specifications, latest printing and amendments thereto.

2. All existing underground utilities are not guaranteed to be completed or definite, but were obtained from the best information available. Contractor has sole responsibility for field verification of all existing facilities as shown on drawings. Contractor shall coordinate all conflicts with the appropriate governing agency.

3. The location of all underground utilities, are shown in an approximate way only. The contractor shall request the exact location of these facilities by calling the perspective utility company, at least 48 hours before commencing work. a) The contractor is fully responsible for any and all damage which occurs due to his failure to request the location and preservation of these underground facilities. b) Any damage to existing facilities incurred as a result of construction operations will be repaired by the contractor at his own expense.

4. Texas Law Article 1436c, prohibits all activities in which persons or equipment may come within 6 feet of energized overhead power lines, and federal regulation, Title 29, Part 1910.130(1) and Part 1926.440 (a) (15) require a minimum clearance of 10 feet from these facilities. The above laws carry both criminal and civil liabilities, with contractors and owners being legally responsible for the safety of workers under these laws. If you or your company must work near energized overhead power lines, call the power company for the lines to be de-energized and/or moved at your expense.

5. Construction shall comply with the latest revisions of OSHA Regulations and State of Texas Law concerning trenching and shoring. Contractor shall provide a trench safety system to meet, as a minimum, the requirements of OSHA Safety and Health Regulation, Part 1926, Sub-part P as published in the Federal Register, Volume 54, No. 209, dated October 31, 1989, and City of Conroe Ordinance Number 1033-87, and latest revisions.

6. Details prepared by the City of Conroe do not extend to or include designs or systems pertaining to the safety of the Contractor or its employees, agents, or representatives in the performance of the work. The Construction Contractor shall prepare or obtain the appropriate safety systems, including the plans and specifications required by Chapter 756, Subchapter "C" of the Texas Health and Safety Code.

7. Adequate drainage shall be maintained at all times during construction and any drainage ditch or structure disturbed during construction shall be restored to the satisfaction of the Project Engineer. All construction runoff shall comply with Storm Water Management for Construction Activities and the National Pollutant Discharge Elimination System (NPDES) requirements.

8. Existing pavement, curbs, sidewalks and driveways damaged or removed during construction shall be replaced to City of Conroe Standards. All asphalt and concrete driveways excavated during construction shall be backfilled with stabilized material and returned to existing conditions. All State and County highway pavement and railroad right-of-ways to be bored according to the rules, regulations and requirements for approval and acceptance by said agencies. See City of Conroe "Design Manual for Water Mains, Sanitary Sewers, Storm Drainage and Street Paving".

9. Existing roads and/or right-of-ways disturbed during construction shall be as good or better than the condition prior to starting the work, upon completion of the project.

10. After disturbed areas have been completed to the lines, grades, and cross-sections shown on the plans, hydromulching and or solid sodding shall be performed in accordance with the requirements of the Plan and Specifications to establish adequate vegetation coverage to eliminate erosion. If no provision for planting grass is included in the plans or specifications, the minimum requirement for this item will be in accordance with the Texas Department of Transportation Standard Specifications for "Sodding or Seeding for Erosion Control."

11. All trenches, including trenches for leads and stubs under pavement and to a point one (1) foot back of all curbs shall be backfilled with 2 sack per ton of cement stabilized sand as per specification to a point immediately below the pavement. Trenches other than under pavement shall be bedded on 4" minimum cement stabilize sand (2 sk/ton) and backfilled with suitable earth material in 6 inch layers and mechanically compacted to a density of not less than 95 percent of the maximum dry density as determined by the standard proctor compaction test (ASTM Designation D-698/AASHTO T99). Moisture content of backfill shall be in accordance with the requirements of the cement stabilized sand specifications. See City of Conroe Standard Detail Sheets for Bedding and Other Design Requirements.

12. Include price of all bedding and backfill of type required, in price bid per linear foot of pipe.

13. Unless noted otherwise on the Plans, the contractor shall set all manhole rim elevations at three inches above the finish ground elevations, except paved areas, the rim of the manhole shall be flush with the pavement.

CONTRACTOR CONSTRUCTION NOTES

1. Contractor to obtain all applicable permits required by governing authorities at his expense prior to commencement of work.

2. Contractor shall give notice to all authorized inspectors, superintendents or persons in charge of private and public utilities or railroads affected by his operations and the City of Conroe 48 hours prior to commencement of work in street right-of-way or easements.

3. Contractor shall cover open excavations with anchored steel plates during non-working hours, along existing roadways and traffic areas.

4. Contractor shall be responsible for providing adequate flagmen, signing, striping and warning devices, etc., during construction in accordance with the "Texas Manual on Uniform Traffic Control Devices". Contractor shall maintain at least one lane of traffic in each direction during working hours or provide all-weather detours around construction site, provide public notification, and use uniformed police officers to control traffic, especially in heavy traffic locations.

5. Contractor shall erect and maintain barricades to adequately protect the pavement. The Contractor shall have personnel on site until the pavement has reached sufficient strength as not to be damaged by animals or foot traffic.

6. Contractor to remove existing plugs and connect to existing utility lines as indicated on plans, After all tests have been completed, passed and accepted.

7. Contractor is required to lay pipes on solid, stable and compacted dry foundation. When trench condition requires the use of well points, this is to be provided by the Contractor, at his own expense and approved by the Engineer, unless otherwise addressed by the proposal.

8. Contractor shall be responsible for cleaning the mud and/or dirt deposited on existing pavement due to his construction activity daily. All equipment and remaining debris from the construction is to be removed by the end of the project.

9. The Contractor shall be responsible for the coordination of his construction activities with the utility companies and the relocation of their facilities.

10. The Contractor shall remove all Non-Permanent signs from the R.O.W. and/or Easement Limits, and return them to the property owner, for them to have placed at their expense on property other than that stated above.

11. The Contractor shall determine the exact location and depths of all existing utilities before commencing work, and shall be responsible for any damages caused by his/her failure to exactly locate and preserve all underground utilities. The location of existing utilities on these plans are shown in an approximate location only.

12. The Contractor shall be responsible for relocating or replacing all existing fences inside the right-of-way limits and/or easement limits to existing or better condition at one foot outside said limits.

13. The Contractor is responsible for relocating all existing irrigation, to outside the right-of-way limits and/or easement limits unless otherwise determined by the Engineer or Engineer's Representative.

PROJECT CONSTRUCTION NOTES

1.) All benchmark data shown herein and on overall maps and plan and profile sheets have been reviewed arithmetically for correctness and correlate to fieldwork as recorded by the City of Conroe's Registered Surveyor.

2.) The existing right-of-way limits shown hereon and on easement site maps, overall layout maps and plan and profile sheets are depicted in their true and correct location. Additionally, the right-of-way limits correlate to each sketch, easement site map, route map and plan and profile sheet where applicable.

3.) The natural ground profiles shown hereon have been reviewed for correct placement and elevation and correlate to the topography as recorded by the surveyor.

4.) Unless noted otherwise on the plans, the Contractor shall set all manhole rim elevations at three inches (3") above the finish ground elevation, except in paved areas, in which the rim of the manhole shall be flush with the pavement. (If within Pavement, See Note 12)

6.) Re-establish grass in all disturbed areas using TXDOT standards, with one row of Solid Sod Bermuda grass directly behind the curbs.

7.) Longitudinal metal keyway strip is to be removed prior to pouring second half of roadway pavement.

8.) Driveway curbs shall be epoxy doweled and poured separately for future removal.

9.) Valve boxes shall be set in reinforced concrete 6" all around pad that has a 6"" depth and flush with natural ground. (If within Pavement, See Note 12)

10.) The Contractor shall use Top Soil approved by the Project Engineer or Engineer's Representative, to fill behind curbs to establish grass cover between back of curb and Right-of-Way.

11.) Proposed inlets, manholes, and junction boxes shall be the size needed to accommodate the required drainage pipes, swales, or utility conduit from all sides, as shown on the plans.

12.) All existing and proposed manholes, valve boxes, junction boxes, etc. that fall within the limits of the pavement, shall be adjusted to the elevation of the finished grade of the pavement at that location.

13.) All Sawcuts in all existing paved surfaces will be **Full Depth** sawcuts.

14.) All existing ditch and/or wet areas that will be under the proposed pavement must be mucked out, dried, 2 sack per ton cement stabilized and compacted to 95% Lab tested density in 6 inches (6") layers to the bottom of the proposed pavement.

15.) Maintain a 6" valley depression across intersections, if needed, to drain, as directed by the Engineer.

16.) All properties shall be graded from Right-of-Way to back of curb, if no swale is required. If a swale is required for drainage, grading must be done 1/2 way into the Right-of-Way from behind the back of curb, unless otherwise shown on the plans. All disturbed properties shall be hydro-mulched and grass re-established.

17.) All trenches under proposed or existing pavement to be backfilled with 2 sack per ton of cement stabilized sand to bottom of pavement and compacted to 95% lab tested density.

18.) Expansion joints to be installed at all driveway radius points. All paving joints to be sealed with approved joint sealer. Joint sealer color must match pavement.

WATERLINE CONSTRUCTION NOTES

1.) Contractor shall provide adequate thrust blocking, & all-thread secured, to withstand test pressure as specified in City of Conroe Standard Drawings and Requirements for Water Main Construction and Materials.

2.) Prior to installation of water meter, water meter lead, fire sprinkler line or irrigation, the Contractor shall contact the City of Conroe Permit Division.

3.) Prior to water main construction, the Contractor shall contact the City Engineer and comply with all requirements necessary for approval of the water main construction.

4.) Separation distances for all water main and sanitary sewer main construction shall be governed by the "Texas Commission on Environmental Quality (TCEQ) Rules and Regulations for Design Criteria for Sewerage Systems", Section 317.20, latest printing. Refer to the City of Conroe "Design Manual for Water Mains, Sanitary Sewers, Storm Drainage and Street Paving" Division VI, Water Main Design Requirements, Part 1.04, K for clearance requirements.

5.) All water mains regardless of size unless specified by the Engineer shall have a minimum cover of five feet (5') from top of the curb and/or five feet (5') from the nearby ditch flowline or natural ground over proposed waterline location.

6.) All water mains shall be hydrostatically tested before bacteriological testing in accordance with AWWA Standard C-600.

7.) All water piping shall be disinfected and bacteriological tested and approved, prior to use in accordance with AWWA Standard C-601.

8.) All water mains 4" through 12" shall be C-900 (SDR-18). All water mains 14" through 36" shall be C-905 (DR-18).

9.) Prior to backfilling of all underground water lines, install a continuous #14 copper tracer wire, located directly over buried lines and accessible at each valve stack.

10.) The installation of all water lines shall extend along the entire length of the property to be served. Water lines that dead end shall extend to the project limits with an inline gate valve at the end, for future extensions.

11.) All water mains, regardless of size, must have a minimum separation of nine feet (9') horizontally from existing sanitary sewer unless specified by the Engineer, in which protective measures shall be made.

CENTERPOINT GAS NOTE

CAUTION: UNDERGROUND GAS FACILITIES

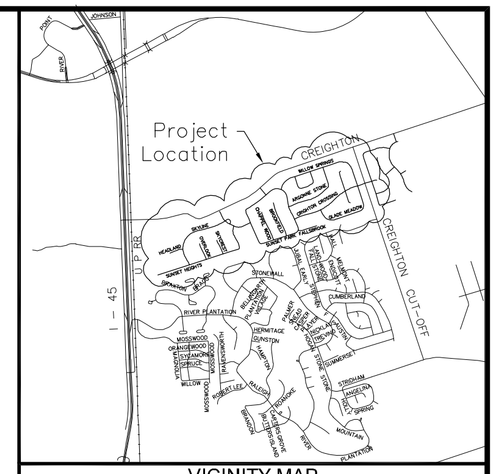
Locations of CenterPoint Energy main lines (to include Unit Gas Transmission and/or Industrial Gas Supply Corporation where applicable) are shown in an approximate location only. Service lines are usually not shown. Our Signature on these plans only indicates that our facilities are shown in an approximate location. It does not imply that a conflict analysis has been made. The Contractor shall contact the Utility Coordinating Committee at (713)-223-4567 or 1-(800)-669-8344 a minimum of 48 hours prior to construction to have main and service lines field located.

When CenterPoint Energy pipeline markings are not visible, call (713)-967-8037 (7:00 a.m to 4:30 p.m.) for status of line location request before excavation begins.

When excavating within eighteen inches (18") of the indicated location of CenterPoint Energy facilities, all excavation must be accomplished using non-mechanized excavation procedures.

When CenterPoint Energy facilities are exposed, sufficient support must be provided to the facilities to prevent excessive stress on the piping.

The contractor is fully responsible for any damages caused by the contractor's failure to exactly locate and preserve these underground facilities.



VICINITY MAP

Montgomery County Key Map
Page: 188 Block: S & T
N.T.S.

Utility Legend

Right of Way

	Plug		Taping Sleeve & Valve
	Blow-Off Valve		Clean Out
	Gate Valve		San Manhole
	Fire Hydrant		Storm Inlet
	Tee		Storm Manhole
GFL	Gutter Flowline	ROW	Right of Way
LF	Lineal Feet	UE	Utility Easement

NOTES:

1. Plans prepared from as-built construction plans of Crighton Ridge Sections 1-3. By Costello, Inc.

2. Crossing water leads shall be pluged and connected to proposed 6" line.

3. Set fire hydrants on lot lines. These locations may be adjusted 5 feet either way, to miss driveways, or other obstructions. If fire hydrant is located near sanitary sewer lead place fire hydrant a minimum of 9 foot from lead.

4. Restrained joint pipe is to be used for all pipes with less than 4-feet of cover.

5. Instead of using restrained joint pipe waterline may be lowered to a depth with a minimum of 2 feet of clearance from sanitary leads, and a minimum of 4 feet of cover.

6. Bore all existing driveways (not shown on plans).

7. Move fire hydrant location into backslope of ditch if ditch flowline or frontslope of ditch is located where the fire hydrant is to be placed.

8. Only where shown on plans, existing services will be left in place until proposed 6" water line is in place. At that time all services will be tied to the new 6" line and the 4" line will be plugged and abandoned.

9. All other locations where a 6" water line is to be installed the existing services that cross the 6" line will be tied to the new 6" line and the service line from the 4" line will be plugged.

CITY APPROVAL

CITY REPRESENTATIVE DATE

STATE OF TEXAS
BRENT S. SHERROD
69521
REGISTERED PROFESSIONAL ENGINEER

ACES
AMERICAN CIVIL ENGINEERING SERVICES, L.P.
P.O. Box 3220 * Conroe, Texas 77305 * FRN - 7349
936-760-3260 * 936-760-3270 (Fax) * www.americances.com

CRIGHTON RIDGE
WATERLINE PROJECT
SECTION 1-3
GENERAL NOTES & WATER LAYOUT

Montgomery County Conroe, Texas

Design:	CAD:	Job No:	Drawing No:
CDF	CDF	54411-056	54411-053.02

0 150 300 600 1200
SCALE: 1" = 300'

57 Fire Hydrant Assemblies
7695 LF 6" W.L.

Date\Time : Tue, 22 Nov 2011 - 8:00am
Path\Name : Z:\Files\PROJECTS\54411-053 Crighton Ridge Fire Water\ConstDwg\02-WAT-SAN-LAY-JobNumber.dwg

Crighton Ridge Water Line Project Sections 1-3