**Major Projects – Pipelines (U.S. & Canada)**

**Oil Pipeline Projects**

**Minnesota Pipe Line Company - MinnCan Project**
UniversalPegasus provided project management, survey, design engineering, GIS, construction management and inspection services, for 304 miles of 24” crude oil pipeline from the Flint Hills Resources Refinery to Clearbrook, Minnesota. The pipeline is operated by Koch Pipeline Company and was completed in 2008.

**TransCanada - Express Pipeline Project**
UniversalPegasus performed engineering design, preliminary and as-built survey, material procurement, drafting and construction management services for 515 miles of 24” crude oil pipeline project in Montana and Wyoming. The work included technical support for right-of-way acquisition and environmental permitting.

**TransCanada - Keystone XL Pipeline Project (Phase I)**
UniversalPegasus provided preliminary and as-built survey, GIS, mapping, construction management, inspection, detailed design, and procurement services for 1,600 miles of 30” heavy crude pipeline with multiple HDD’s from the Canadian border to Steele City, Nebraska, with a line to Patoka, Illinois. The interstate project crosses North Dakota, South Dakota, Missouri, Kansas, Illinois and Nebraska & was completed in 2009.

**TransCanada - Keystone XL Pipeline / Cushing Extension Project (Phase II)**
UniversalPegasus provided preliminary and as-built survey, GIS, mapping, construction management, inspection, detailed design and procurement services for 296.8 miles of 36” heavy crude pipeline. The interstate project crosses Nebraska, Kansas, and Oklahoma. The project was completed in 2010.

**TransCanada - Keystone Gulf Coast Project (Phase III)**
UniversalPegasus is providing preliminary survey, detailed engineering, GIS, drafting, construction management and inspection services to TransCanada for 484 miles of 36” heavy crude pipeline from Cushing, Oklahoma to the TX Gulf Coast near Beaumont. Included on this project is a 50 mile pipeline from Beaumont to the Houston, Texas marketplace.

**TransCanada - Keystone XL Pipeline / U.S. Steele City Project (Phase IV)**
UniversalPegasus is providing feasibility study, FEED, preliminary and as-built survey, GIS, mapping, detailed engineering, and inspection services for 855 miles of 36” heavy crude pipeline for TransCanada, from Montana/Canadian Border near Morgan, Montana to Steele City, Nebraska.

**Natural Gas Pipeline Projects**

**Alliance - Natural Gas Pipeline Project**
UniversalPegasus performed route selection, FEED, FERC filing, cost estimating, detailed engineering design, drafting, survey, mapping, procurement services, project management and construction inspection, for the 888 mile U.S. portion 36” Alliance Natural Gas Pipelines Project. UniversalPegasus provided services for both the pipeline and the compressor stations required for the project. Two unique aspects of the project are the transportation of natural gas in a high-pressure dense phase and the use of automatic welding machines for
pipeline construction, which was a first for onshore cross-country pipeline construction in the U.S.

**Boardwalk Pipeline Partners - Gulf Crossing Pipeline Project**
UniversalPegasus provided survey, engineering design, mapping, drafting and project management for 357 miles of 42" high pressure natural gas pipeline extended from Sherman, Texas to Tallulah, Louisiana. The project also included two compressor stations in Texas and two compressor stations in Louisiana and five meter stations for the measurement and delivery of gas transported within the new pipeline system.

**Enbridge - Vector Pipeline Project**
UniversalPegasus performed engineering design, drafting, route selection, estimates, FERC application support, field survey, right-of-way acquisition, material procurement, project management, construction management, inspection, and start-up assistance services, for the 270 mile, 42” natural gas pipeline from Chicago, Illinois to Dawn, Ontario, Canada.

**Enbridge - DC Pipeline Project**
UniversalPegasus provided project controls/administration, survey, right-of-way support, non-environmental permitting support, environmental permitting support, engineering/design, mapping, drafting, material management, construction contract management, startup and commissioning, as-builts and archiving for 270 miles of 36” natural gas pipeline from Bethel, Texas to Bridge City, Texas with a 24” lateral line from Crockett, Texas, including three (3) major pipeline interconnects and two (2) major compressor stations.

**Enterprise Products – Sherman Extension Pipeline Project**
UniversalPegasus provided survey, GIS, construction management and inspection, detailed design, and procurement services for 178 miles of 36” diameter pipeline and two electric drive compressor stations. The pipeline originating at a central delivery point on Enterprise’s Texas intrastate pipeline system near Morgan Mill, Texas and extends through the center of the current Barnett Shale development area to Sherman, Texas where it connects with Boardwalk’s 42” Gulf Crossing Expansion, which features interconnects with seven major interstate pipelines, including the Transcontinental Pipeline Company system that accesses markets in the Northeast. The project was completed in 2009 and will provide up to 1.1 billion cubic feet per day of transportation capacity for natural gas production from the growing Barnett Shale area of North Texas.

**Florida Gas Transmission - Phase III, V, VI, VII Projects**
UniversalPegasus performed survey, detailed engineering design, construction management, and inspection services for hundreds of miles of various diameter natural gas pipelines for FGT’s Phase III, V, VI, VII, and Turnpike replacement projects. The projects included 200+ miles of natural gas pipeline for Phase 5 and 6 for various looping sections of the FGT Pipeline as well as completing Phase 6 and 7 of the FGT Compressor Stations including the Turkey Point Compressor Station in Miami, Florida. The projects were completed throughout 2007-2008.

**Florida Gas Transmission - Phase VIII Project**
UniversalPegasus is providing s FERC filling, detailed engineering design, as-built drawings, construction management, and inspection services for 240 miles of 24”, 30”, and 36” pipeline and 10 compressor stations with 15 compressor units from Mississippi to Florida. The projected completion date is scheduled for 2010/2011.

**Gulf South - East Texas to Mississippi Expansion Project**
UniversalPegasus provided survey, engineering design, mapping, drafting and project management for approximately 240 miles of 42” high pressure natural gas pipeline. The pipeline extended from Keatchie, Louisiana to Harrisville, Mississippi with three compressor stations located in Panola County, Texas, Ouachita Parish, Louisiana and Madison Parish, Louisiana. The project included five (5) meter stations for the measurement of receipt and delivery of natural gas transported.

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Kinder Morgan - 42” Rockies Express Pipeline Project
UniversalPegasus provided construction management, inspection, as-builds, engineering design, drafting, material specification, material procurement, and issued IFB and IFC drawings for 135 miles of 36” pipeline and 192 miles of the 42” pipeline in Colorado and Wyoming. The project was constructed in two spreads in late 2006 and placed in service in January 2007.

Questar Energy - TransColorado Pipeline Project
UniversalPegasus provided route selection, preliminary and as-built survey, engineering design, drafting, material procurement, project management, construction management, inspection, and start-up assistance services for the 292 mile, 22” interstate natural gas pipeline system from Colorado to Kansas.

Regency Energy Partners - North Louisiana Enhancement Project
UniversalPegasus provided engineering design for the pipelines, multiple meter stations, right-of-way acquisition, environmental permitting, survey, preparation of regulatory filings, mapping, certified plats, procurement, non-environmental permitting, contractor bid evaluation, project management, construction inspection, and construction management. This project was designed to loop approximately 50 miles of existing North Louisiana assets and to construct approximately 80 miles of a 30” header to connect multiple interstate and intrastate pipelines to transport north Louisiana production to market, and a 10,000 HP mainline compressor station.

Tennessee Gas Pipeline Company- West-East Pipeline Project
UniversalPegasus performed project management, field survey, right-of-way, and mapping services for the 223 mile, 36” West-East Pipeline Project in Louisiana and Mississippi. Survey and mapping work included preliminary alignment, right-of-way requirements, environmental/archaeological provisions and exhibits, and construction planning. Services were coordinated from a field office in Vicksburg, Mississippi.

TransCanada – Bison Pipeline
UniversalPegasus provided as-built survey, mapping, construction management and inspection services for 303 miles of 30” natural gas pipeline in Wyoming, Montana, and North Dakota. The project was completed in 2011.

Transwestern Pipeline Company - Phoenix Lateral Project
UniversalPegasus provided detailed design of 63 miles of 42” pipeline, and construction management, inspection, materials handling, and survey services for 270-miles of 42” products pipeline in New Mexico and Arizona. The project was completed in 2009.

Transwestern Pipeline Company – Red Rock Expansion
UniversalPegasus provided construction management, as-built survey, and inspection services for 150 miles of 30” and 36” gas transmission pipeline from Gallup to Farmington, New Mexico and 25 miles of 36” gas pipeline from Topak, Arizona to Needles, California which included three major river crossings.

Tuscarora Pipeline Ltd. – Tuscarora Gas Transmission Project
UniversalPegasus provided engineering design, preliminary survey, mapping, material procurement, and inspection services for 230 miles of 20” natural gas pipeline, launcher/receiver, measurement, and SCADA facilities in Nevada and California. Approximately 150-miles of this project were conducted utilizing UniversalPegasus’s state of the art GPS technology and equipment without any conventional survey methods.

Williams - Sunstone Pipeline Project
UniversalPegasus provided Survey, GIS/GPS, Project Management, Feasibility Study, Consulting Engineering, FEED, & FERC for 600 miles of 42” (and variations for 30” and 36”) natural gas pipeline from Opal, WY to Stanfield, OR and two compressor stations, all in support of a FERC filing application.
Other Products Pipeline Projects

Air Liquide - Motiva Hydrogen Pipeline Project
UniversalPegasus provided survey, engineering design, drafting/mapping, construction inspection, and material procurement assistance for installation of an 85-mile, 20” pipeline to transport hydrogen from Air Liquide's Bayport plant to Motiva's refinery in Port Arthur, TX. ROW acquisition services and environmental services were provided by sub-contractors working for UniversalPegasus. Alignment drawings were prepared in Civil 3D and Land Development with CAD Overlay. Construction was complete during the first quarter of 2010.

Anadarko Petroleum – Baroil to Salt Creek Project
UniversalPegasus provided survey, project management, engineering, drafting, inspection, and construction management services for 150 miles of 16” CO2 pipeline from Baroil to Anadarko’s Salt Creek Facility located in Wyoming. Other project facilities included the following (approximately): 8 block valves, 1 HDD, 2 meter stations, and 2 scraper traps.

BP Pipelines – Anton Irish CO2 Pipeline Project
UniversalPegasus provided a feasibility study, FEED, and survey services for 45 miles of 8” CO2 pipeline from the Irish oilfield to Anton Station in West Texas.

Denbury Resources – Delhi Project
UniversalPegasus provided detailed engineering design and coordinated the third party survey, environmental permitting, right-of-way acquisition services, and provided material procurement support for the expansion of an existing CO2 pipeline which included the installation of approximately 80 miles of 24” and 16” pipelines, including a 6,100 foot HDD crossing of the Mississippi River and a meter station near Dunn, Louisiana.

Denbury Resources – Green Pipeline
UniversalPegasus provided routing and cost estimates throughout various phases of the Green Pipeline Feasibility Study, including the feasibility study phases. The project consisted of 287 miles of 24” CO2 pipeline from Donaldsville, LA to Hastings Field, TX. The pipeline was designed to transport both natural and man-made (anthropogenic) CO2. The CO2, a greenhouse gas, was injected into oil reservoirs to recover additional crude oil.

Denbury Resources - Tinsley Project
UniversalPegasus implemented tertiary recovery operations in Tinsley Oil Field in Mississippi. The project consisted of 31 miles of 24” pipeline, pig launching and metering facilities at Trace Junction near Canton, MS, pig receiving and metering facilities at Tinsley Station, 1 mainline valve, and 1 tie-in to existing CO2 pipeline supply at Old Canton Road Junction. Route involves 24 road bores, 2 railroad bores, and 6 directional drills for a total of about 9,400 feet. Includes injection of CO2 into mature oil reservoir of Tinsley Field, CO2 supply originates from Jackson Dome facility, 50 miles east of Tinsley Field. Nearly pure carbon dioxide will be moved from Jackson Dome and CO2 dehydration facility at Gluckstat to Tinsley Field via 24” pipeline designed to operate at 1,800 psi and deliver up to 600MMCFD of CO2.

Enterprise Products - Channelview to Mont Belvieu Pipeline Project
UniversalPegasus provided project management, engineering, survey, drafting, material procurement, right-of-way procurement assistance, and construction management services for the installation of a new 16” LPG pipeline from the Enterprise’s Channelview terminal to Mont Belvieu. The project included custody transfer measurement, satellite communications systems, PLC and flow computer programming, and SCADA system design, start up and commissioning.

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ONEOK NGL Gathering, LLC - Arbuckle Phase 2 Project
UniversalPegasus provided preliminary and as-built survey, GIS/GPS, mapping, detailed design, procurement, project management, construction management, and inspection for the 460 miles of 16” Natural Gas Liquids (NGL) pipeline from Velma, Oklahoma to Mont Belvieu, Texas. The project was completed in 2009.

OXYCHEM Petrochemicals Pipeline Company - Ethylene Pipeline Project
UniversalPegasus provided survey, engineering design, drafting, and complete procurement for all materials except the line pipe and end point metering facilities and instrumentation for 30 miles of 8” ethylene pipeline between Corpus Christi and Ingleside, Texas.

PetroSource Corporation – Wyoming CO2 Meter Project
UniversalPegasus provided EPCM services for 150 miles of 16” 2500 psig CO2 pipeline, metering, and regulatory stations for CO2 receipt and delivery.

Ridgeway – St. Johns CO2 Feasibility Study
UniversalPegasus provided engineering and GIS services throughout various phases of the St. Johns CO2 feasibility study, prospecting phase. The project consisted of 405 miles of 20” CO2 pipeline from St. Johns, AZ to Eastern NM. Facilities include two 2 unit compressor stations with a total of 20,000 BHP. Units are centrifugal turbine drive powered by gas. Other project facilities include (approximately): 20 block valves, 2 side valves, 3 river crossings, 5 directional drills, 2 meter stations, and 4 scraper traps.

Sun - MVPL Conversion Pipeline Project
UniversalPegasus performed engineering design, drafting, and project management, for the construction of 40 miles of 24” refined products pipeline, Conversion of 173 miles of 30” natural gas pipeline to products, service and conversion of 838 miles of 20” and 22” crude oil pipeline to products service between the Houston Ship Channel and Lima, Ohio. The project included construction of one new pump station, rebuilding of 22 existing pump stations, and construction of 3 terminals.