Feature Characterization Matrix - Glossary

CATEGORY	ATTRIBUTE - TITLE	ATTRIBUTE - DESCRIPTION	ATTRIBUTE - DETAILED DEFINITION
ENGINEERING	**49 CFR 192 Class Location 1**	Length within 49 CFR 192 Class Location 1	Federal pipeline safety regulations defines Class Location 1 as any area that extends 660-feet on either side of the centerline of any continuous 1-mile length of onshore pipeline ("class location unit") that has 10 or fewer buildings for human occupancy. (See 49 CFR 192.5(b)(1).) In general, Class Location 1 is SoCalGas' most preferred Class Location for new pipeline construction.
ENGINEERING	**49 CFR 192 Class Location 2**	Length within 49 CFR 192 Class Location 2	Federal pipeline safety regulations defines Class Location 2 as any class location unit that has more than 10 but fewer than 46 buildings intended for human occupancy. (See 49 CFR 192.5(b)(2).)
ENGINEERING	**49 CFR 192 Class Location 3**	Length within 49 CFR 192 Class Location 3	Federal pipeline safety regulations defines Class Location 3 as any class location unit that has 46 or more buildings intended for human occupancy or any area where the pipeline lies within 300-feet of either a building or a small, well-defined outside area (such as a playground, recreational area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. (The days and weeks need not be consecutive.) (See 49 CFR 192.5(b)(3).)
ENGINEERING	**49 CFR 192 Class Location 4**	Length within 49 CFR 192 Class Location 4	Federal pipeline safety regulations define Class Location 4 as any class location unit where buildings with four or more stories are prevalent. (See 49 CFR 192.5(b)(4).) Where possible, SoCalGas intends to seek to avoid this Class Location for new pipeline construction.
ENGINEERING	**Adverse Soil Conditions**	Length within Adverse Soil Conditions (Soil Behavior Class 0-2' & 2-6', Hydric Soils)	Installation of a pipeline within adverse soil conditions, such as acid sulfate soils, expansive soils or clays, fine textured saturated soils in seismic zones, organic soils, water-saturated soils or wetlands, gravel to boulder sized rock or high bedrock, can challenge the construction, operation, and maintenance of the pipeline. Non-standard construction equipment may be required, increasing cost, and damage over time from adverse soils may decrease the lifespan of the pipeline, requiring more frequent or more extensive maintenance.
SOCIAL	**Agricultural/Pasture Land**	Agricultural/pasture land use within 50 feet of centerline	Installation and operation of the pipeline within agriculture/pastureland (e.g., prime farmland, unique farmland, or other farmland of statewide or local importance) use can offer advantages over other developed land use due to fewer limitations from existing infrastructure and construction efficiencies. Note, this criterion does not take into account land that is under deed restriction or subject to a Williamson Act contract, which would be evaluated in more detail in a future phase.
ENGINEERING	**CL Length with 15% Slope**	Length of centerline with slope greater than 15 percent (%)	Constructability access and workspace must be considered for installation of a pipeline on sloped terrain. A centerline perpendicular to and/or parallel to the slope increases the complexity which equates to slower construction productivity. When slopes exceed 15%, there is greater potential for grading, shoring, and/or benching of the construction corridor, reduced access points to the construction corridor, and soil instability, all leading to additional construction costs.
ENVIRONMENTAL	**Coastal Zone**	Length within Coastal Zone Boundary	The Coastal Zone is a legislatively-defined geographic region that establishes the area regulated under the Coastal Act Section 30103, encompassing both land and water areas along the length of the California coastline from the Oregon border to the Mexico border.
SOCIAL	**Commercial Land**	Commercial land within 50 feet of centerline	Commercial land is land designated for use by businesses that provide services to the public, such as offices, retail stores, hotels, and restaurants. Installation and operation of the pipeline within commercial land use can present constructability challenges and delays due to potential impacts to businesses when the pipeline is being installed (such as customer parking and access). There may also be an increased potential for future third party line strikes due to proximity to potential future land disturbing activities.
ENVIRONMENTAL	**Conservation Areas**	Conservation areas within 50 feet of centerline	Protected species are more commonly found in conservation areas. Planning phase timing anticipated to increase due to environmental permitting/approvals, and construction/maintenance restrictions for land use in these areas. Slower construction production due to restrictions in clearing and high potential for construction phase re-routing around the sensitive species locations.
SOCIAL	**Cultural & Tribal Resources**	Length of CL within Cultural & Tribal Resource areas	This criterion encompasses areas or sites that have been identified as potential cultural resource locations by Tribal Nations, Bureau of Indian Affairs, or State Historic Preservation Office with data from the TIGER (Topologically Integrated Geographic Encoding and Referencing) system and Line Census American Indian areas for the United States. Boundary details are reported by the federally recognized tribal governments through the Census Bureau, or the Bureau of Indian Affairs (BIA), or based on treaty or other historical document.
SOCIAL	**Disadvantaged Communities**	Total Length within Disadvantaged Communities per Senate Bill 535	As identified by Senate Bill 535 CalEnviroScreen data, disadvantaged communities are areas disproportionally affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation. In general, SoCalGas will seek to minimize routing new pipeline through disadvantaged communities.

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ENVIRONMENTAL	**Federal Endangered or Threatened Species Critical Habitat**	Endangered/Sensitive Species Critical Habitat within 500 feet of the centerline	Defined as the specific areas within a geographical area occupied by a species, at the time a species was listed, that contain the physical or biological features essential to the conservation of federal endangered or threatened species that may need special management or protection. In locations where current conceptual routing encroaches on or within 500 feet of endangered or sensitive species' critical habitat, BMcD will request advisement from SoCalGas Environmental team to determine if rerouting is needed. In general, SoCalGas will seek to minimize routing new pipeline through federal endangered or threatened species critical habitats.
SOCIAL	**Federal Facility/Property**	Length within Federal Facility/Property	Installation of a pipeline within federal property presents additional permitting, constructability, and O&M considerations, such as those associated with heavy equipment loads, vibrations, and site access during planning, operation, construction and post-commissioning maintenance activities.
ENVIRONMENTAL	**Floodplain**	Length within 100-Year Floodplain Area	Aggregation of FEMA floodplain data derived to the 100 year boundary for flood risk. A 100 year flood is a flood event that has a 1 in 100 chance (1% probability) of being equaled or exceeded in any given year. Based on the expected 100 year flood flow rate, the flood water level can be mapped as an area of inundation.
ENGINEERING	**HCA**	Length within High Consequence Areas (HCA)	High Consequence Areas (HCA) identifies specific locales and areas where a release could have the most significant adverse consequences, as identified in accordance with federal pipeline safety regulations. (See CFR §192.903.)
SOCIAL	**Industrial Land**	Industrial land within 50 feet of the centerline	Industrial land generally refers to land designated for use by businesses, but the public does not tend to visit these facilities, such as manufacturing and distribution centers.
SOCIAL	**Institutional Land**	Institutional land (schools, educational facilities, hospitals, churches, daycares, nursing homes) within 100 feet of centerline	Locating the pipeline within institutional land use is generally less preferred due to potential conflicts during construction related to heavy traffic and use at these facilities.
SOCIAL	**Landfills & Hazardous Waste Sites**	Landfills & Hazardous Waste Sites	Installation of a pipeline within a landfill or known hazardous waste site is not feasible due to unknown soil properties of waste, contaminants, and unanticipated soil movement from compaction. In locations where current conceptual routing encroaches on or within landfills or known hazardous waste sites, pipeline routing is to be refined/rerouted to avoid these locations where possible. In general, SoCalGas will seek to minimize routing new pipeline through landfills and hazardous waste sites.
ENGINEERING	**Mainline Valve (MLV)**	Mainline Valve (MLV) quantity per 49 CFR 192 Class Location	Mainline valve locations are based on Federal pipeline safety regulations 49 CFR 192 Class Location and are as follows: Class 1 Location: all points in Class 1 within 10 miles of MLV (Mainline Valve every 20 miles) Class 2 Location: all points in Class 2 within 7 1/2 miles of MLV (Mainline Valve every 15 miles) Class 3 Location: all points in Class 3 within 4 miles of MLV (Mainline Valve every 8 miles) Class 4 Location: all points in Class 4 within 2 1/2 miles of MLV (Mainline Valve every 5 miles)
SOCIAL	**Maintained Public & Recreational Areas**	Maintained Public and Recreational Areas within 50 feet of centerline	Maintained land that is being used for public and recreational purposes (state, local and federal parks per United States Fish and Wildlife Service (U.S.F.W.S), sports fields, golf courses). Must be evaluated with consideration to length of Class 3 Location and HCA.
SOCIAL	**NRHP historic locations**	Number of NRHP historic locations within 100 feet of centerline	The NRHP (National Register of Historic Places) is the official list of the Nation's historic places worthy of preservation. In locations where current conceptual routing results in encroaching on or within a registered historic place, pipeline routing is to be refined/rerouted to avoid these locations where possible. In general, SoCalGas will seek to minimize routing new pipeline through NRHP historic locations.
ENGINEERING	**Number of Overhead Utility Crossings**	Number of overhead utilities within 25 feet and/or crossing centerline	Pipelines installed near overhead high-voltage AC transmission power lines are subject to AC interference, which has the potential to adversely impact the pipeline's cathodic protection. Also, installation of a pipeline beneath overhead utilities may reduce construction productivity due to height restrictions and require additional safety measures for construction personnel. Additional costs in pipeline design and construction should be expected for AC mitigation engineering and installation.
ENGINEERING	**Physical Conflict**	Physical conflict with known existing structures	Physical conflicts with pipeline routing may include but are not limited to, man-made structures like buildings, retaining walls, stormwater canals, electrical transmission towers, or natural terrain features like cliffs and fissures. In general, SoCalGas will seek to minimize routing new pipeline in locations where current conceptual routing encroaches on a physical conflict.

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ENGINEERING	**Pipeline Constructability - Inadequate Temporary Workspace**	Inadequate Workspace for Pipeline construction	Different pipe size diameters and single versus multiple pipeline installations require different size temporary workspaces for pipeline construction, due to size of equipment, size of trench, amount of spoil excavated, and quantity of equipment pieces, etc. In general, urban locations are more space constrained, equating to a slower construction production rate, often requiring traffic control. On the other hand, rural locations often have fewer space constraints, allowing for larger workspaces and increased construction productivity. Additional workspaces at trenchless crossings consider numerous constructability factors, including but not limited to, larger excavations, pullback pipe string areas, parking, equipment passing lanes, directional drill pads, etc. In locations where current conceptual routing results in inadequate temporary construction workspace, pipeline routing is to be refined/rerouted to a feasible constructible route.
SOCIAL	**Proximity to Buildings**	Number of building within 100 feet of Centerline	Where possible, and in consideration of other technical, environmental, and social factors, SoCalGas will strive to minimize locating new pipeline within 100 feet of residences.
ENGINEERING	**Railroad Crossings**	Number of Railroad Crossings	Railroad crossings may present additional permitting and/or right-of-way considerations and may also require trenchless crossing construction methods.
ENGINEERING	**Road Crossings**	Number of road crossings	Road crossings may present additional permitting and/or right-of-way considerations and may also require trenchless crossing construction methods and traffic control/mitigation plans.
ENGINEERING	**Route Length**	Total Route Length	Typically, shorter routes are less complex and have the potential to reduce overall environmental disturbance, construction cost, and timeframe. However, in some scenarios, there may be opportunities to increase the pipeline route's length to avoid sensitive areas or other constraints. Therefore, pipeline route length must be balanced against other technical, environmental, and social considerations.
ENVIRONMENTAL	**Stream Crossings**	Number of streams crossed (Including Headwaters)	Stream crossings can present permitting and constructability considerations, including the need for trenchless crossings (HDDs or Auger Bores), uncertain soil conditions, flooding potential, and overall delays to construction timeline.
ENGINEERING	**Trenchless Crossings**	Number of Trenchless Crossings	Trenchless Crossings (HDDs or Auger Bores) can present permitting and constructability considerations, including uncertain soil conditions, flooding potential, and space constraints (particularly for larger diameter HDDs) and overall delays to construction timeline.
ENGINEERING	**Trenchless Crossings length**	Total length of Trenchless crossings	Trenchless Crossings (HDDs or Auger Bores) can present permitting and constructability considerations, including uncertain soil conditions, flooding potential, and space constraints (particularly for larger diameter HDDs).
ENGINEERING	**Underground Foreign Utilities**	Number of foreign utility crossings	Utility owners/operators may have different requirements for crossing methods and clearances. In construction, may require deep crossings where engineered trenches would be needed.
ENVIRONMENTAL	**Wetlands**	Wetlands crossed within 50 feet of centerline	Locating pipeline in wetland areas presents additional environmental, permitting, and constructability considerations, which could impact overall project schedule and cost.