

**Estimated Crews for Terminal Expansions**

The Trans Mountain Expansion Project requires upgrades to four existing terminals. The scope at each of the terminals varies greatly, and is reflected in the various estimated crew sizes listed below. The estimated totals listed here are peak construction totals, and on any given day it is expected that 50-75% of the total estimated workers may be on site. Information about the construction activities at each terminal can be found at www.transmountain.com.

Occupation	Edmonton Terminal	Burnaby Terminal	Sumas Terminal	Westridge Marine Terminal
Construction/Project Managers	2	3	1	2
Contractor Superintendents	7	10	3	8
Management and Field Office Support	23	37	6-8	20-22
Labourers	12	70	20	55-70
Equipment Operators/Crane Operators	30	45	8-10	25-30
Security	3	4	1	4
Safety	9	12	3	10-15
Inspection	12	18	3	10-15
Survey	8	12	2	12-14
Hydro Vac	32	40	4	20
Electricians	18	30	6	30-40
Boilermakers/Welders	40	100-120	10	20-30
Foremen (all trades)	18	25	4-6	25-30
Coating Contractors	30	50	10	7-10
Welding Supervisors	6	12	2	--
Pipefitters	12	25	4	20
Pipe Welders	15	30	2-4	--
Carpenters	5-10	7-15	2-4	15-25
QA/QC	7	10	2-3	7-10
Pile Drivers	--	--	--	3-5
Deck Engineers	--	--	--	6-10
Iron Workers/Steel Erectors	--	--	--	20
Rebar Erectors	--	--	--	10-15
Mechanics	--	--	--	3-5
Drivers and other Operators	--	--	--	8-15
Concrete Finishers	--	--	--	7-10
Approximate Total	290-300	540-560	80-90	350-430



Estimated Crews for Pump Stations

Twelve new pump stations are to be constructed as a part of the Trans Mountain Expansion Project. The pump stations, along with other ancillary facilities, have been grouped into four groups based on geographical location. Each group will be awarded to a general contractor (with the possibility of a contractor being awarded more than one group) who will develop an execution strategy for manpower. It is possible that the general contractor will maintain site specific crews or share crew resources between multiple sites, or some combination of strategies. A contractor may hire one crew and build three stations. Each crew will then move through the three stations in sequence. After the site is cleared and leveled the trades follow: Carpenters, Ironworkers, Millwrights, Pipefitters; and then Electricians. As the trade finishes at one site they move to the next site. Inspection is done throughout the process. Alternatively, the general contractor may have one crew of millwrights who travel from site to site within the group, but keep a crew of pipefitters dedicated to each site. The table below shows the estimated crew size required to construct one pump station.

Table with 2 columns: Occupation, Pump Station Crew Members. Lists various roles like Construction Manager, General Contractor Superintendent, etc., with corresponding crew member counts, totaling 40+.

Pump Station (PS) Groupings

Table with 4 columns: Group 1, Group 2, Group 3, Group 4. Lists specific pump station locations and their unit counts for each group.

**Estimated Crews for Pipeline Spreads**

The following estimate is based upon one spread with a crew size of 450. There will be seven spreads with crew sizes ranging from 200-300 (BC Lower Mainland) and up to 650 (Alberta and BC Interior) at peak construction.

Occupation	Crew Members per Spread
Management	5
Professional Staff	6
Inspectors	6
Accounting/Administration	18
Sandblasters	5
Foremen	40
Security	2
Welders	40
Welders Helpers	40
Buckers	1-2
Carpenters (journeymen not required)	5
Equipment Operators	105
Labourers	130
Drivers	28
Approximate Total	450