

THE TOP 50

Trenchless Engineering Firms Take Innovation to the Next Level

By Andrew Farr



In Hillsborough County, Florida, the South County Potable Water Transmission Main project involved the design, permitting and construction of 10.5 miles of 42- and 48-in. transmission mains using HDD. Photo courtesy of McKim & Creed.

EDITOR'S NOTE: Specific revenue figures are shown for trenchless work in the United States and Canada in the first two columns of the ranking. ALL figures are in U.S. dollars.

When it comes to trenchless engineering, innovations such as resilient fault crossings, longer microtunneling drives at larger diameters and complex curved drives have pushed the envelope on the new installation side. But unique rehabilitation projects are also being completed with precision, such as the *Trenchless Technology 2024 Project of the Year for Rehabilitation*, the Front Street Interceptor, which involved a non-circular pipe design to rehab a rectangular-shaped concrete box arch pipe in Harrisburg, Pennsylvania.

Ranking	Engineering Company	2023 Trenchless Net - USA (\$ Mil)	2023 Trenchless Net - CAN (\$ Mil)	2023 NA Trenchless Net (\$ Mil)	2023 NA Company Net (\$ Mil)	Trenchless %	No. of Trenchless Specialists	Previous Ranking
1	Stantec	218.415	68.192	286.607	2,908.496	9.8	502	1
2	Jacobs	225.081	36.412	261.493	11,231.538	2.3	875	2
3	AECOM	95.828	34.381	130.209	10,945.000	1	100+	3
4	WSP USA Inc.*	78.300	43.600	122.400	3,724.000	3.3	170	4
5	CDM Smith	114.000		114.000	1,470.000	7.8	250	5
6	Black & Veatch	70.400	11.000	81.400	4,734.000	1.7	100+	6
7	Delve Underground	41.655	12.549	54.203	109.484	49.5	170	8
8	McKim & Creed	50.836		50.836	164.143	30.9	229	14
9	T2 Utility Engineers	40.330	10.420	50.750	50.750	100	398	7
10	KCI Technologies Inc.	48.968		48.968	466.652	10.5	320	9

“As we wrap up 2024, a notable trend is the increased adoption of trenchless technologies for both new utility installations and the revitalization of existing systems,” says Steve Fradkin, tunneling and trenchless leader at Stantec. “This shift is fueled by improved client awareness of the benefits of trenchless construction, particularly in reducing community disruptions and extending the life of existing assets.”

Trenchless Technology’s final print issue of the year regularly features expanded coverage of trenchless engineering, probing new trends and projects that are pushing the boundaries of design for underground pipeline installation and rehabilitation. It also includes our annual ranking of the Top 50 Trenchless Engineering Firms; 2024 marks the 29th year of the ranking.

The Top 50 ranking is compiled from revenue and project data sub-

mitted by engineering companies via a survey. Examining the results of the Top 50 survey can offer some insights into the health of the market.

Trenchless Technology would like to thank all participating engineering firms for their thorough review of these figures and for working with our staff to make sure the information submitted is accurate and consistent. Only revenue figures submitted to *Trenchless Technology* were used to compile this ranking.

The Survey

The Top 50 are ranked by North American trenchless revenue in 2023 or the company’s last fiscal year, shown in the third column: 2023 NA Trenchless Net. Specific revenue figures are shown for trenchless work in the United States and Canada in the first two columns of the ranking. All figures are in U.S.

dollars. Trenchless revenue on the survey is defined as the net revenue generated by a firm from trenchless professional services including design, construction oversight and inspection using the new installation or rehabilitation methods shown in Figure 1.

A Look at the Numbers

For the third consecutive year, Stantec ranks No. 1 in trenchless engineering in North America, reporting more than \$286 million in trenchless revenue. Stantec also retains the top spot for trenchless work in Canada at more than \$68 million. Jacobs is ranked No. 2 overall with more than \$261 million and retains its No. 1 ranking for trenchless revenue in the United States with \$225 million. Rounding out the top 10 are AECOM (\$130.2 million); WSP (\$122.4 million); CDM Smith (\$114 million); Black & Veatch (\$81.4

Figure 1: Total projects by method (2023 or Previous Fiscal Year – only Top 50 firms reflected in totals.)

AUGER BORING	885
DIRECT PIPE	124
GUIDED BORING/PILOT TUBE	221
HDD	7,352+
MICROTUNNELING	496
PIPE RAMMING	135
*UTILITY TUNNELING	2,233
NON-JACK METHODS	143
PIPE BURSTING/SPLITTING	149
PIPELINE REHABILITATION (WATER, STORM, SEWER, OIL & GAS, ETC.)	12,116.107+
PIPELINE EVALUATION STUDIES (WATER, STORM, SEWER, OIL & GAS, ETC.)	57,724.321+
SUBSURFACE UTILITY ENGINEERING	10,589+
OTHER	283+

*Utility Tunneling defined as 10-ft diameter or less.

million); Delve Underground (\$54.2 million); McKim & Creed (\$50.8 million); T2 Utility Engineers (\$50.7 million); and KCI Technologies Inc. (\$48.9 million).

WSP USA Inc. reported \$500,000 in trenchless design work in Mexico for 2023, the only firm on the top 50 to report trenchless revenue from Mexico.

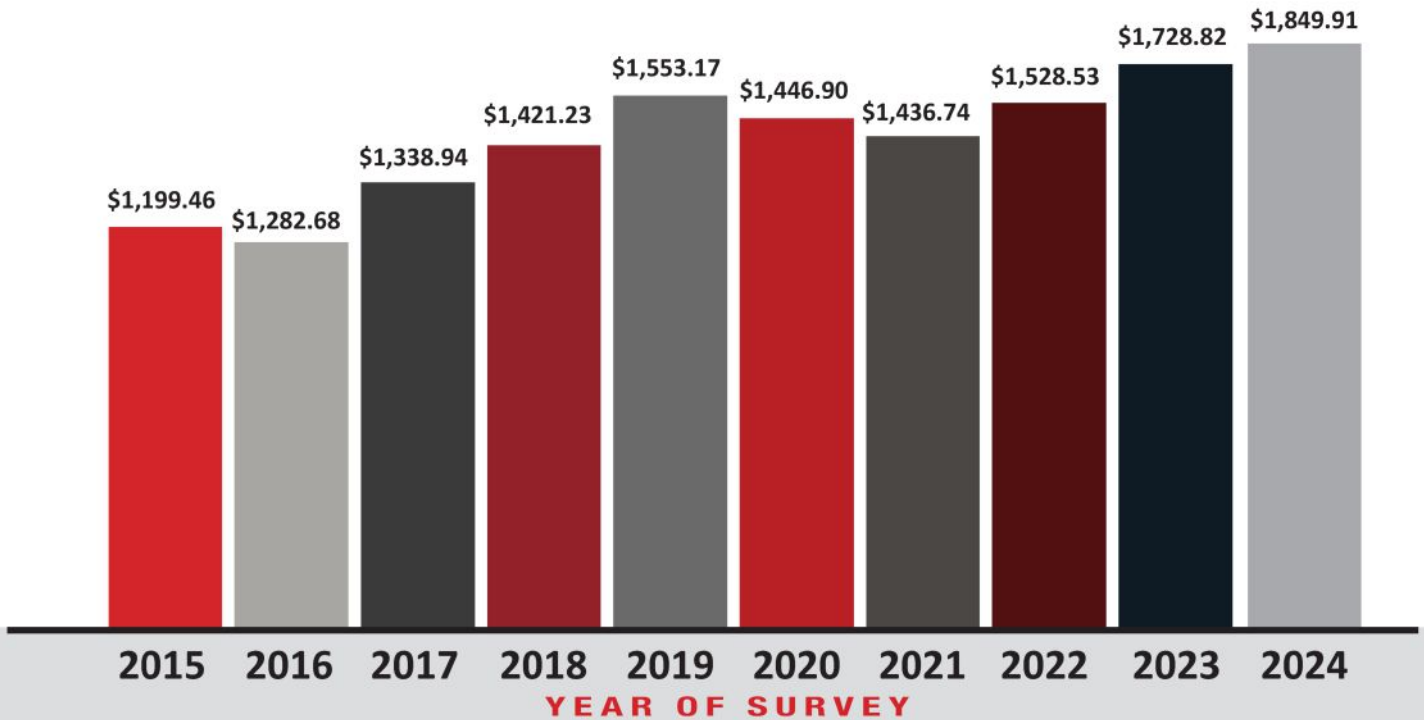
This year there are four 100 percent trenchless companies to make the Top 50: T2 Utility Engineers, Kilduff Underground Engineering, Inc., Staheli Trenchless Consultants and CNA Consulting Engineers. Kleinfelder makes a notable jump up to No. 25 after ranking 32nd a year ago, and McKim & Creed moves into the top 10 at No. 8 after ranking 14th in 2023.

In terms of trenchless revenue in North America, this year's Top 50

Ranking	Engineering Company	2023 Trenchless Net - USA (\$ Mil)	2023 Trenchless Net - CAN (\$ Mil)	2023 NA Trenchless Net (\$ Mil)	2023 NA Company Net (\$ Mil)	Trenchless %	No. of Trenchless Specialists	Previous Ranking
11	Hazen and Sawyer	44.389		44.389	377.841	11.7	170	13
12	CCI Inc.	19.070	24.688	43.758	49.371	88.6	29	10
13	GHD	15.229	26.417	41.646	546.100	7.6	60	11
14	HDR	41.551		41.551	2,564.860	1.6	150+	12
15	Brown and Caldwell	34.000		34.000	450.000	7.5	150	NA
16	Lockwood, Andrews & Newnam, Inc.	31.200		31.200	77.000	40.5	172	17
	Burgess & Niple, Inc.	31.200		31.200	133.200	23	32	18
18	RJN Group	29.690		29.690	39.856	74	133	19
19	Carollo Engineers	28.740		28.740	320.000	9	35	21
20	Rummel, Klepper & Kahl, LLP	27.888		27.888	323.412	8.6	70	16
21	Woolpert, Inc.	22.500		22.500	273.661	8.2	160	23
22	Consor	0.262	3.792	18.579	265.409	7	45	26
23	HBK Engineering, LLC	17.925		17.925	126.000	14.2	275	22
24	Johnson, Mirmiran & Thompson, Inc.	17.835		17.835	316.300	5.6	70+	28
25	Kleinfelder	16.051		16.051	470.084	3	25	32
26	Weston & Sampson	15.707		15.707	141.000	11	180	27

FIGURE 2: 10-YEAR RECAP

Total Trenchless Revenue for Top 50
(All figures in millions)



firms collectively reported more than \$1.8 billion in trenchless design work, a 7 percent increase over the top 50 in 2023. Still, trenchless work comprises a small percentage of most of these companies' work. The Top 50 did nearly \$55.2 billion in total company revenue. Of that, 3.3 percent was in trenchless design.

While there are 29 companies in the Top 50 that report less than \$20 million in trenchless revenue in North America, the big companies hold a significant market share. The top 5 firms each report more than \$100 million in trenchless revenue,

and together, those firms' trenchless revenue represents 49 percent of the total top 50.

While variables can influence survey results year to year, this year's figures show an overall positive trend in the market when compared to the results of the 2023 survey – see figure 2 showing the 10-year recap.

On the workforce front, this year's survey revealed more than 5,752 professionals specializing in trenchless design among the Top 50, another increase over 2023.

"Staffing remains a notable chal-

lenge, affecting not only the trenchless industry, but the tunneling sector as a whole," adds Fradkin. "Finding qualified, experienced professionals along with well-trained entry-level employees is crucial to managing the growing number of trenchless projects. We are optimistic that continued advancements in training and educational programs will help address this concern."

Projects

In addition to revenue, *Trenchless Technology* collects information about trenchless projects completed

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27	Dewberry	15.280		15.280	711.450	2.2	73	NA
28	GEI Consultants, Inc.	11.776	2.050	13.826	327.550	4.2	53	NA
29	Burns & McDonnell, Inc.	13.270		13.270	7,400.000	<1	25	33
30	Wade Trim	13.034		13.034	133.023	10	71	25
31	Shannon & Wilson	11.961		11.961	104.602	11.4	39	29
32	FK Engineering Associates	10.878		10.929	12.143	90	30	35
33	CHA Consulting, Inc.	10.700		10.700	335.100	3	40	NA
34	HNTB Cos.	10.673		10.673	1,327.535	<1	40	NA
35	Farnsworth Group, Inc.	10.100		10.100	85.800	11.8	79	36
36	Brierley Associates Corp.	9.200	0.150	9.300	20.100	46	12	31
37	Hubbell, Roth & Clark, Inc.	8.328		8.328	52.277	15.9	43	34
38	GeoEngineers, Inc.	7.920		7.920	74.805	11	31	38
39	Associated Engineering		7.500	7.500	272.000	2.8	15	37
40	R.V. Anderson Associates Ltd.		7.200	7.200	48.000	15	15	39
41	Dibble	5.773		5.773	38.540	15	10	NA
42	Terracon Consultants, Inc.	5.125		5.125	1,150.000	<1	90	42



by the Top 50 in their reported fiscal year. The project breakdown by method is shown in Figure 1. Firms were asked to provide total projects for each discipline and total linear footage for both the Pipeline Rehabilitation and Pipeline Evaluation Studies categories. Project totals should be viewed as rough estimates. Some firms disclose to *Trenchless Technology* that while they track which projects are trenchless, they do not track by specific discipline or method.

Of the reported projects this year, more than 10,589 subsurface utility engineering projects were completed among the Top 50. Utility tunneling, which is defined on the survey as work for 10-ft diameter or less, reported more than 2,233 projects. Horizontal directional drilling (HDD) also remains a top market discipline with more than 7,352 completed projects reported. In the auger boring category, 885 projects were reported, along with microtunneling (496), guided boring/pilot tube (221), pipe bursting/slit-

A considerable amount of engineering was used in the planning, implementation and verification of the AECOM-designed Front Street Interceptor rehabilitation project for Capital Region Water in Harrisburg, Pennsylvania, which repaired a critical concrete box arch pipe.

ting (149), non-jack methods (143+), pipe ramming (135) and Direct Pipe (124). For pipeline rehabilitation, which includes water, storm, sewer, oil and gas, etc., the Top 50 reported more than 12,116,107 lf. For Pipeline Evaluation Studies – also including water, storm, sewer, oil and gas, etc. – the Top 50 reported more than 57,724,321 lf completed.

There are several projects completed by engineering companies to make the Top 50 that exemplify some of the innovative engineering across the industry. One trend on the new installation side appears to be the improved accuracy of HDD that is allowing for preferred instal-

lations of water transmission mains.

The City of League, Texas, recently completed a 3.5 mile, 36-in. transmission line constructed to connect two booster pump stations. CDM Smith provided design and construction phase services for the project which required construction of the main using primarily HDD. Fusible PVC was used to minimize impacts through extensive urban development, highways estuaries and water bodies.

“A promising trend in HDD installations is the use of automated steering systems to improve accuracy, efficiency and productivity of drilling operations, including

shallow drills,” says Robert Garland, P.E., DBIA, ENV SP, Regional Director at McKim & Creed. “Many of our clients are trending towards the use of shallow drills in place of open cut for citywide water main replacement projects to minimize community impacts during construction and to maintain depths that will facilitate future operation and maintenance needs.”

Hillsborough County, Florida’s One Water Campus Program is a wide-ranging drinking water, wastewater and reclaimed water master plan developed to provide reliable utility services in southern Hillsborough County to meet the

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43	Kilduff Underground Engineering, Inc.	4.050		4.050	4.050	100	20	43
44	Whitman, Requardt & Associates, LLP	3.952		3.952	207.000	2	53	50
45	Gannett Fleming, Inc.	3.655		3.655	513.000	<1	20	NA
46	Aldea Services Inc.	1.192	1.877	3.068	12.056	26	49	NA
47	ARKK Engineers, LLC	2.976		2.976	7.010	42.5	15	44
48	Staheli Trenchless Consultants	2.765		2.765	2.765	100	6	NA
49	Remington & Vernick Engineers	2.600		2.600	89.000	3	40	46
50	CNA Consulting Engineers	2.400		2.400	2.400	100	13	NA
Totals		1,544.658	290.228	1,849.910	55,208.363	3.3	5,752+	

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region’s recent growth. The South County Potable Water Transmission Main project was an initial phase of this critical program, serving as a catalyst for resolving potable water pressure and demand issues, providing system redundancy, and setting the stage for the success of the rest of the critical program. The project included design, permitting and construction of 10.5 miles of 42- and 48-in. water mains and utilized HDD. McKim & Creed partnered with Westra Construction Corp. on this design-build project to provide SUE, environmental surveys, a route/alignment study, corrosivity evaluation and mitigation plan, hydraulic/transient modeling, pipe material selection and community outreach.

On the rehabilitation side, the Great Lakes Water Authority recently rehabilitated its B-39 Outfall Sewer in Detroit, Michigan. FK Engineering Associates provided design services on the project which involved sliplining a failing 13-ft diameter concrete sewer with a 10-ft

Top 10 by Trenchless Percent

Engineering Company	Trenchless %
1 T2 UTILITY ENGINEERS	100
2 KILDUFF UNDERGROUND ENGINEERING, INC.	100
3 STAHOLI TRENCHLESS CONSULTANTS	100
4 CNA CONSULTING ENGINEERS	100
5 FK ENGINEERING ASSOCIATES	90
6 CCI INC.	88.6
7 RJN GROUP, INC.	74
8 DELVE UNDERGROUND	49.5
9 ARKK ENGINEERS, LLC	42.5
10 LOCKWOOD, ANDREWS & NEWNAM, INC. (LAN)	40.5

diameter glass fiber reinforced polymer mortar pipe. The existing sewer was below the level of the Detroit River, into which it discharges, and had always been submerged since its construction in the 1930s. The 1,000-ft sewer contained multiple compound curves, further complicating the repair. The initial steps for reconstruction included installation of a flap gate, allowing for isolating the outfall from the river, while maintaining the outfall's ability to discharge during wet weather. The project was completed on time and on budget, allowing for many years of maintenance-free service. FK Engineering ranked No. 32 and 90 percent of its work is in trenchless design.

Also in Michigan, Hubbell, Roth & Clark Inc., provided trenchless technology design and construction engineering for the City of Marysville to remove excess inflow and infiltra-



A shot of microtunneling work on the Stantec-designed York Downs Sanitary Sewer Connection project in Markham, Ontario. Courtesy of Stantec.

tion from the aging sanitary sewer collection system in 2023. The project construction cost was \$4.6 million and was funded under Michigan's Clean Water State Revolving Loan Fund. Trenchless work included 21,400 lf of cured-in-place pipe lining and joint grouting, in addition to the rehabilitation of 144 manholes.

Participating in the Top 50 Survey

Submittals from engineering companies are imperative to making *Trenchless Technology's* Top 50 ranking as comprehensive as possible. If you are a trenchless engineering company and would like to learn more about how to participate, please contact Andrew Farr at afarr@benjaminmedia.com.

Andrew Farr is a contributing editor for *Trenchless Technology*.

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