



Consulting Engineers of Alberta members offer a wide range of services to assist their clients toward their ultimate goals. The following matrix provides a simple, easy-to-use guide to help clients in the initial selection of an appropriate consulting engineering firm.

# FIELDS OF SPECIALIZATION

#### **LEGEND**

8. Energy

- Telecommunications 6. Computer Science
- 7. Electrical
- - 14. Geotechnical 15. Industrial
  - 16. Marine & Coastal

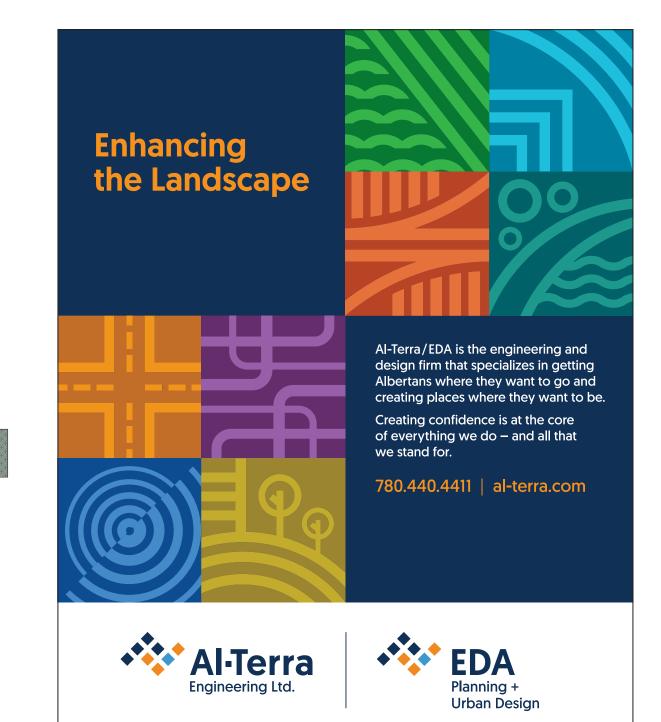
- 26. Project Management 28. Structural - Buildings
- 29. Structural Other

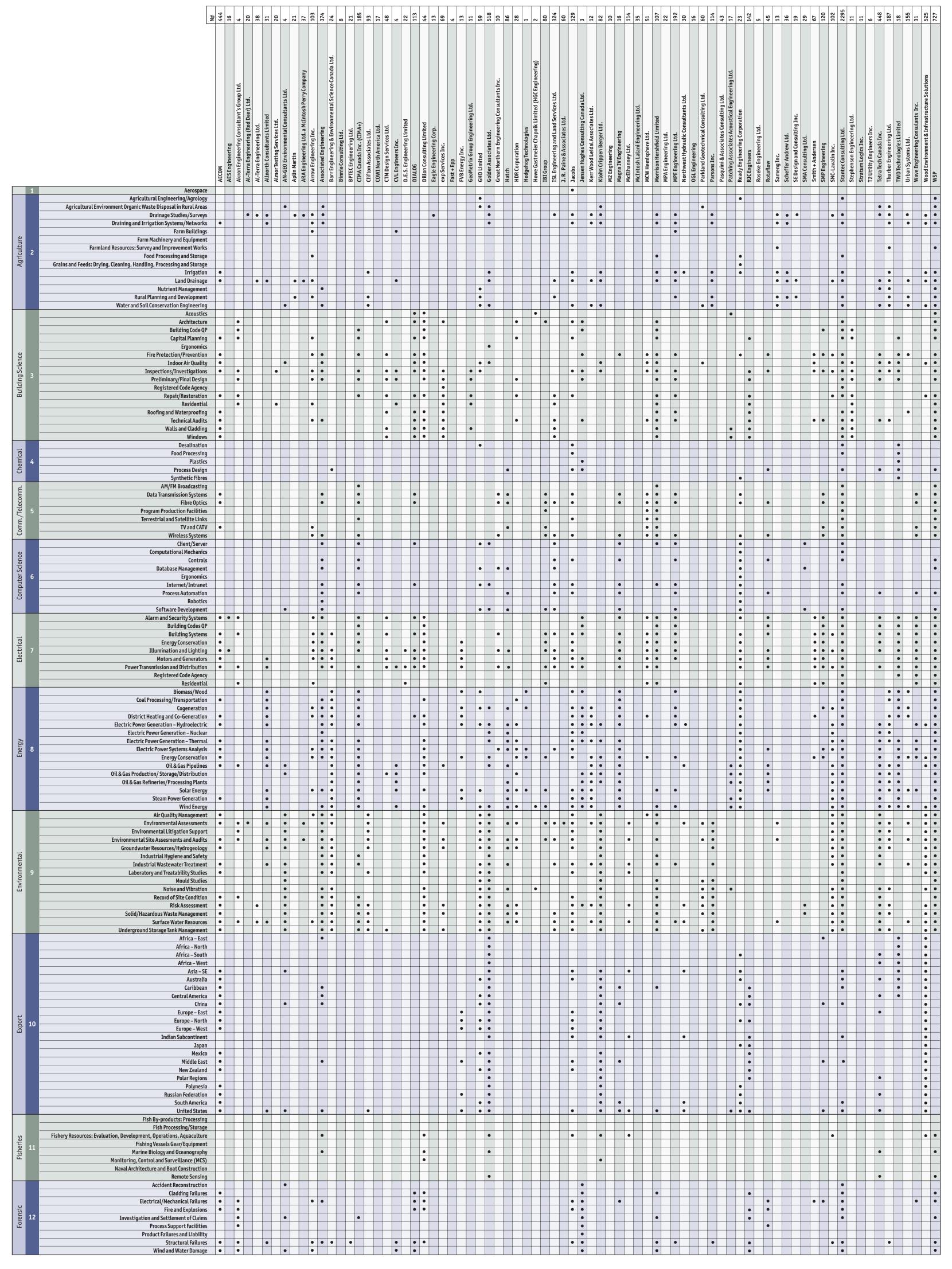
32. Transportation

A searchable database of CEA member companies and their fields of specialization is available online:

#### www.cea.ca

As the matrix shows, while engineering design is a major component of the capabilities of CEA members, they can provide advice and assistance from the financial pre-feasibility phase of projects through to completion and beyond.

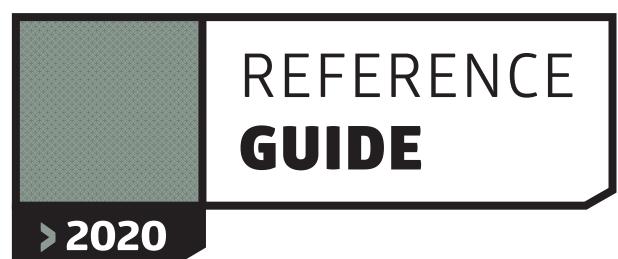




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## FIELDS OF SPECIALIZATION

18. Mechanical

19. Mediation

21. Municipal

20. Mining Engineering

22. Occupational Health

LEGEND

- Chemical Engineering Communications/ Telecommunications
- 6. Computer Science Electrical 8. Energy
- 9. Environmental 17. Materials
- 10. Export 11. Fisheries
- 12. Forensic 13. Forestry
- 14. Geotechnical
- 15. Industrial
- 23. Petroleum Engineering 16. Marine & Coastal
- 25. Pressure Vessels
- 26. Project Management 27. Research
- 28. Structural Buildings 29. Structural - Other
- 30. Surveying

31. Temporary Works 32. Transportation

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As the matrix shows, while engineering design is a major component of the capabilities of CEA members, they can provide advice and assistance from the financial pre-feasibility phase of projects through to completion and beyond.

	Building Materials: Plywood, Lumber Manufacturing, etc. Forest Harvesting	AECOM AES Engineering	ineering Co	Al-Ter Al-Ter	nsuttants Limited ng Services Ltd.	ironmental Consulta	ARA Engineering L Arrow Engineering	Associated Engineering     Barr Engineering & Environmental Science Canada Ltd.	onsultin gineerii	CIMA Canada Inc. (CIMA+) Clifton Associates Ltd.	COWI North America Inc.		DIALOG Concutting Limited	Eagle Engineering Corp.		FVB Energy Inc. GeoMetrix Group Engineering Ltd.	GHD Limited Golder Associates Ltd.	Great Northern Engineering Consultants Inc.		Howe Gastmeier Chapnik Limited (HGC Engineering)  181 Group	ISL Engineering and Land Services Ltd.  J. R. Paine & Associates Ltd.		Associates Ltrger Ltd.	M2 Engineering  Magna IV Engineering	MCI	nisphere Ltd. Hershfield Lim	MPE Engineering Ltd.	Northwest Hydraulic Consultants Ltd.  OGL Engineering	Parkland Geotechnical Consulting Ltd.	Pasquini & Associates Consulting Ltd. Patching Associates Acoustical Engineering Ltd.	Rady Engineering Corporation RJC Engineers	Roseke Engineering Ltd. Rotaflow	Sameng Inc. Scheffer Andrew Ltd.	SE Design and Consulting Inc. SMA Consulting Ltd.		ı Inc. ısulting Ltd	Stephenson Stratum Log	T2 Utility Engineers Inc. Tetra Tech Canada Inc.	Thurber Engineering Ltd. TWDTechnologies Limited	Urban Systems Ltd. Wave Findineering Consulants Inc.	frastr
13	Forestry Forestry Engineering Pulp, Paper and Fiber Board Pulp/Paper Plants, Products	•						•		•				•			•							•		•					•					•			•		•
	Timber Engineering Timber Grading, Wood Species Identification, Wood Damage Assessment Earth Structures	•	•		•			•		•		•			•		•					•	•		• •		•		•							•			•		•
14	Foundations Laboratory Testing Site Investigations Soil and Rock Mechanics	•	•				•	•		• •	• •	•		•	•		•	•			•	• •	•		• •		•		•			•				• •	•	•	•		•
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	Machine Design/Analysis Manufacturing Facilities Materials Handling	•		-		•		• •		•				•					•	•		• •		•		•				•		•				•		•			
15	Materials Storage Plant Maintenance Product & Process Design Prototyping and Product Development	•			•	•		• •		•	•	•						•	•		•	•		•		•				•	•	•		•		•		•	•		•
	Time Motion Studies  Transportation/Automotive Equipment  Erosion Protection				•			• •		•				•			• •	•	•	•	•	•	• •		•			•	•	•			•			•		•	•		•
16	Marinas Ports and Terminals Underwater Surveys	•						•		•			•	•			• •	•			•	•	•	•	•			•	•		•		•			• •		•			•
	Waterfront Planning Analysis Corrosion Control and Remediation Design and Selection	•	•		•			•	•	•							•	•		•	•	•	•		• •	•			•	•	•					•		•	• •		•
17	Quality Issues Specifications and Manuals Testing and Certification	•	•					•		•				•			•					•	•		•				•			•				•		•	• •		•
_	Welding Building Codes QP Computational Fluid Dynamics	•	•					• •	•	•												•			•	•	•					•			•	•		•	•		
	Computer Aided Engineering Cranes and Derricks Finite Element Analysis Fire Protection Systems	•	•		•			•		•			•	•			•	•				•		•	•	• •	•				•	•			•	• •		•	•		
18	Heating, Ventilation and A/C Machine Design Plumbing and Piping	•	•		•			• •		•	•		0 0	•		•	•	•			•	•		• •		• •	•				•	•			•	• •		•	•		
	Refrigeration Registered Code Agency Residential Software Development		•				•	•		•			•			•										• •									•	•			•		
19			•					•		•							•	•					•		•											•		•		•	
20	Metallurgy Extractive – Ferrous Metals  Metallurgy Extractive – Non-Ferrous Metals  Metals/Minerals/Ore Dressing							• •		•								•							•						•					• •		•			
	Non-Ferrous Metals – Fabricating/Rolling/Forging/Casting/Extruding/etc.  Open Pit/Underground Mining Infrastructure Rehabilitation Residuals Management	•	• (	• •		•		• •		• •		•	•		•	•	• •	•	•	•	• •	•	•	• •		•	•		•		•		• •	• •	•	• •		•		• •	•
21	Roads and Street Stormwater Management Wastewater Collection, Treatment and Disposal	•	•		• (	•	•	• •	•	• •	•	•	•	_	•		• •	•	•	•	• •	•	• •	•		•	•	•	•	• •	•			• •		• •	•	-		•	•
	Wastewater Management Water Supply, Treatment and Distribution Area Classifications – Electrical Area Classifications – Hazardous	•				• •		• •	•	• •	•	•	•		•		•		•	•	•	•	• •	• •	•	•	•		•	•	•	•		•	_	•		• •		•	• •
22	Area Classifications – Industrial Pre-Start Health and Safety Reviews Acquisitions and Divestitures									•							•					•									•	•				•					•
23	Evaluations Expert Witness Exploration Feasibility Studies					•				• •												•	•									•				•		•			•
	Reservoir Engineering Well Test Analysis							•		•	•							•				•										•				•		•			•
24	Drainage Studies Industrial Parks Land Use	•	•		• (	•	• •	• •	•	• •	•		• •		•		• •		•	•	•	•	• •		•	•	•		•	•		•	• •	•		• •	•			•	•
۵-	Site Plans Subdivision Plans Urban and Rural Design Design Modifications	•	• (		•		• •	•	•	• •	•		•		•		•			•	•	•	•	•	•	•	•		•	• •			• •	•		•		•		• •	•
25	Process Piping Design Buildings Construction Management	•		• • •		•		•	• •	• •		•		•	•		• •	•	•	•	•	•	• •	•	• •	• •	•			•	• •	•	• •	•	• •	• •	•	•	•	•	• •
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26	Procurement Management Project Control and Risk Management Related Management Services	•	•	•	•	•	•	•	•	•		•			•	• •	• •				•	•	•	• •	•	•			•		•	•	•	• •		• •		•	•	• •	• •
	Sewers and Water Telecommunications Transportation Value Engineering	•			•	•	•			• •	-	•				•	•	•	•	•	• •	•	•		• •	•	•		•	•	•	•	•	• •	•	• •		• •	•	•	• •
27	Feasibilty Studies Technology Assessment Commercial		•	•			•	•	•		•	•	•	•	•	_		•	•	•	•	-	•	•	•	• •	•	•	•		•	•		_	•	•		•		• •	•
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28	Inspections and Investigations Institutional Lowrise Parking Facilities	•	•				•	•	•	•		•		•	•	•	•		•		•	• •				•				•	•					• •	•	•		•	•
	Residential Restoration and Repair Seismic Retrofit	•	•				•	•	•	•		•	• •		•	•			•		•	•				•	•			•	•					• •	•	•			
29	Bridges Bunkers and Silos Dams and Locks Nuclear	•	•		•			• •		•	•	•	• •	•	•	•		•	•	•	•	• •	•		•	•		•	•		•	•				• •	•		•		•
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30	Aerial Photography: Photogrammetry/Photo Interpretation/Cartography Construction Layout Surveys Geographic Information Systems Remote Sensing/Satellite Data Interpretation/Imagery	•		• • •	•	•	•	•	•	•		•			•		• •			•	•	•	•		•	•	•	•	•	•			•	•		• •		•		•	•
	Remote Sensing/Satellite Data Interpretation/Imagery Resource Surveys Topographic Surveys Excavation Enclosures	•	•	• • •	•		•	• •	•	• •		•	•		•	•	•			•	•		•		•	•	•	• •		•	•		•	•		•		•	•		•
31	Formwork Lifting and Moving Scaffolding	•	•		•		•		•	•		•	•	•		•		•			•								•		•					•			•		
	Structural Shoring Airports Highway and Road Safety Intelligent Transportation Systems	•	•	_			•	•		• •		•		_	•	•	•	•	•	•	• •	• •			•	•			•		•		•			• •	•			•	•
32	Long Distance Rail Pavement Design Pavement Management Services	•		• •	• •		•	•		• •		•					•	•	•	•	• •				•	•	•		•		•		•	•		• •	•	• •	•	•	•
	Ports and Harbours Roads and Highways Terminals and Service Centres	•		• • •	• (	• •	•	•	• •	•	•	•		• •	•		•	•	•	•	•	• •		•	• •	•	•		•	•	•			• •	•	• •	•	• •	•	•	•
	Traffic Engineering and Control Transportation Planning Urban Public Transit	•		• • •		•	•		• • • •			•							•	•	•	•			•	•			•				•	•		• •		• •		•	•