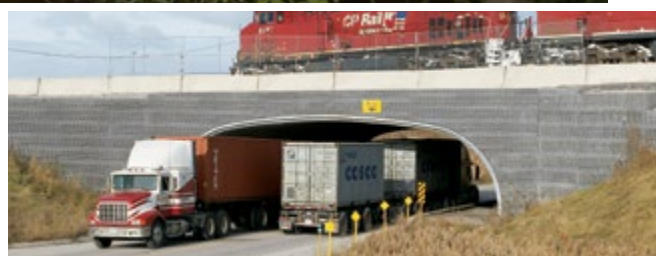





SUPER.COR®

ail.ca



BUILD IN VALUE WITH SUPER.COR® STRUCTURAL STEEL PLATE.

NET ZERO BY
2050 



Atlantic Industries Limited
We Support You.




Super-Cor® GRS Bridge provides wider,
safer roadway and increased flood
resilience in Kelowna replacement

VIEW PROJECT PROFILE



Stream Crossing, Kelowna, BC

We've been adding value to some of the world's most
successful infrastructure projects for over 60 years.



Grade Separation, Clyde River, PE

We're all about support.

Engineered structures from Atlantic Industries Limited (AIL) can support multiple lanes of highway traffic, the heaviest freight trains or the largest mining vehicles. However, those structures are only as strong as the people supporting them with full design and engineering services, on-time manufacturing and delivery and dependable field supervision. Our people have been supporting some of the world's largest infrastructure projects for over 60 years.

A Canada-wide network and international scope

With a Canada-wide network of sales teams, engineering offices and manufacturing facilities, AIL is a proven project partner ready to help you through every stage of your next infrastructure project. Plus, as a member of The AIL Group of Companies, we bring a world of resources and expertise to our projects in the transportation, public works, mining, development and forestry sectors.

AIL offers a wide range of efficient bridges — Structural Plate, Prefabricated, Modular — all engineered to deliver optimum performance and value for your application. We also provide supporting products like Corrugated Pipe, MSE Retaining Walls, Abutment Systems and Sound Barrier Walls. By design, our complete line of resilient and sustainable solutions are easy to ship and install with minimal equipment and labour requirements, making them ideal even in remote locations.



For project assistance throughout Canada, call 1-877-245-7473.
Outside Canada, call +1-778-355-7000.

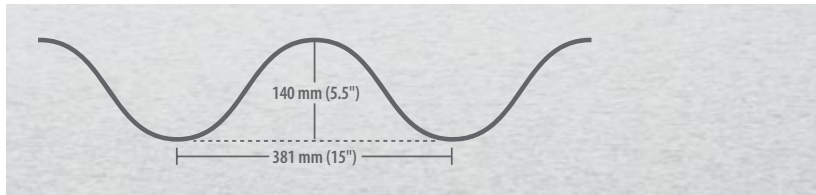


Suitable for medium-size applications.

RECOMMENDED FOR

- ▶ Grade Separations ▶ Road or Rail Underpasses ▶ Stream Crossings
- ▶ Box Structures ▶ Heavy Haul Road Crossings ▶ Stockpile Tunnels
- ▶ Bridge Rehabilitation ▶ Storage Structures ▶ Portals and Canopies
- ▶ Culvert Relines ▶ Wildlife Overpasses & Underpasses

Super-Cor® combines the advantages of lightweight construction with the superior strength and durability of deep-corrugated, galvanized steel to create some of the world's largest corrugated metal structures. With thousands of structures since the early 1990s, Super-Cor® is a proven choice for resilient and sustainable bridging solutions with a lower carbon footprint than concrete.

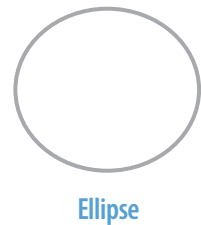
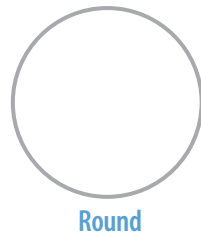
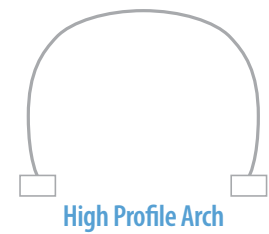


The larger, annular corrugations in Super-Cor® provide nine times the stiffness of conventional structural plate, allowing it to withstand the heaviest of loads. Not only is Super-Cor® the most versatile and economical corrugation on the market, it is also the most internationally accepted and widely used.

- ▶ Preferred solution to conventional bridges
- ▶ Ideal for Accelerated Bridge Construction
- ▶ Handles extreme loadings
- ▶ Optimal for spans of 3 m (10') to 25 m (82')
- ▶ Corrugation profile of 381 mm (15") pitch × 140 mm (5.5") depth
- ▶ Available in steel thicknesses of 4 mm (.16") to 8 mm (.32")
- ▶ Available in: Box Structures; Standard, Low or High Profile Arches; Rounds and Ellipses
- ▶ Bottomless designs are environmentally friendly
- ▶ Available with tested and approved protective coating systems
- ▶ Designed and manufactured to National Standards at our third-party quality-certified facility ISO 9001-2015

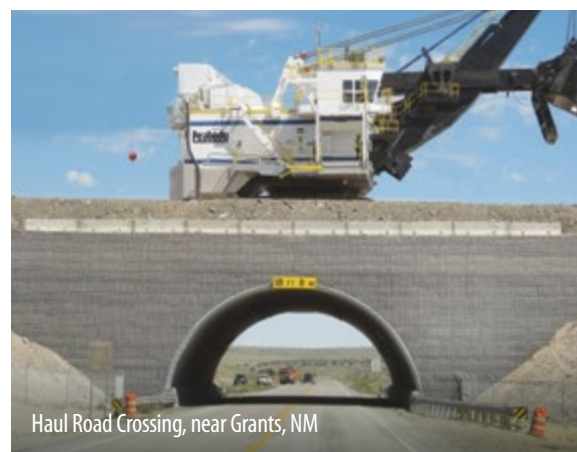


ALL is your single source for a comprehensive engineered package including specifications, drawings, structure, footings, headwalls, wingwalls and fascia finishes.





Lightweight and super strong, Super-Cor® is the most internationally accepted and widely used deep corrugation profile.





Premium coatings to extend the service life of structures in aggressive environments.

Building on the years of proven performance of polymer-coated corrugated steel pipe, AIL has partnered with some of the world's leading developers of coatings to provide Best·Kote® Structural Plate Coating. For extended service life of Super·Cor® structures, Best·Kote® offers superior protection and long-term durability.

- ▶ +75 YEAR service life
- ▶ Economical solution for extended service life of structure; ideal for aggressive environmental conditions
- ▶ Protects against corrosion, abrasion and inorganic acid, salts or alkali (diluted)
- ▶ Can be applied to all or part of a structure
- ▶ Special bolts and fasteners maintain integrity of coating during assembly



Best·Kote® offers long-lasting 360° protection against corrosion, abrasion and inorganic acid, salts or alkali (diluted).

Polymer System

This coating system provides two layers of protection — a zinc-rich base layer and a Polymer finish layer on top of the steel plate.

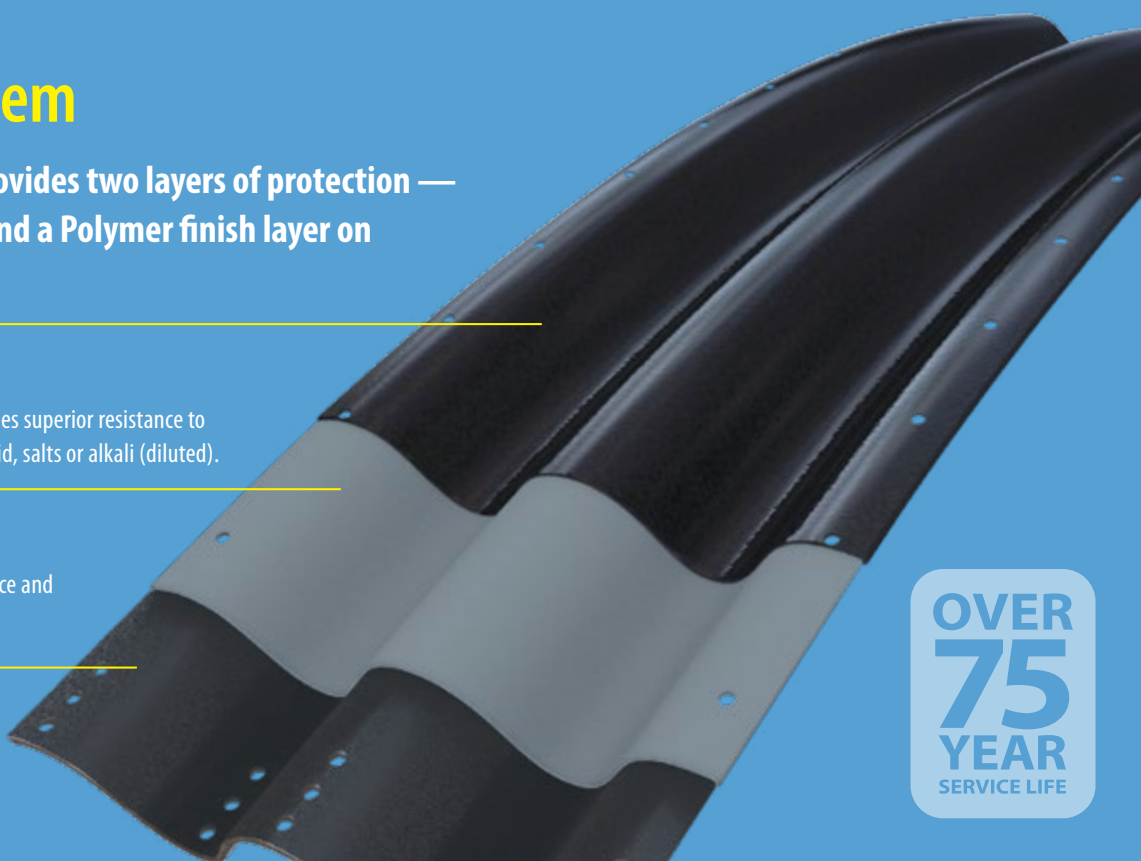
Polymer Finish Layer

Ethylene Acrylic Acid Polymer provides superior resistance to corrosion, abrasion and inorganic acid, salts or alkali (diluted).

Zinc-Rich Base Layer

Provides excellent corrosion resistance and barrier protection.

Steel Plate



OVER
75
YEAR
SERVICE LIFE

All's Buried Metal Bridges offer many advantages over concrete structures and girder-style bridges.

- ▶ Save time and money on all aspects of the structure: material, shipping, foundations and footings, labour and equipment and life cycle maintenance
- ▶ "Greener" alternatives to concrete structures
- ▶ Seamless, wider and safer road surface than girder-style bridges
- ▶ More flexible and resilient to climate change weather events than concrete structures
- ▶ Minimized site impact
- ▶ Ideal for Accelerated Bridge Construction
- ▶ Customized geometries to meet site-specific requirements
- ▶ Lightweight, easy to ship and install
- ▶ Larger, stronger for the heaviest loads
- ▶ Can accept a range of backfill materials
- ▶ A proven technology with global acceptance
- ▶ Value Engineering opportunities
- ▶ Equally suitable for urban, rural and remote locations



VIEW ALL BURIED METAL
BRIDGE BENEFITS



Buried Steel Bridges have a substantially lower life cycle carbon footprint than concrete bridges.

- ▶ Steel is the world's most recycled material*
- ▶ Less energy is used in the production and shipping of Buried Steel Bridges than concrete bridges
- ▶ Buried Steel Bridges can be built in significantly less time, reducing disruption time and detours and expediting construction schedules
- ▶ Buried Steel Bridges require less maintenance than concrete beam bridges
- ▶ Zinc used in galvanizing is a naturally occurring material and is 100% recyclable**

*Reference: www.aisc.org

**Reference: <https://galvanizeit.org/hot-dip-galvanizing/is-galvanizing-sustainable/hdg-environmental-advantages>

We design our Buried Metal Bridges to be resilient to the extreme weather events of climate change.



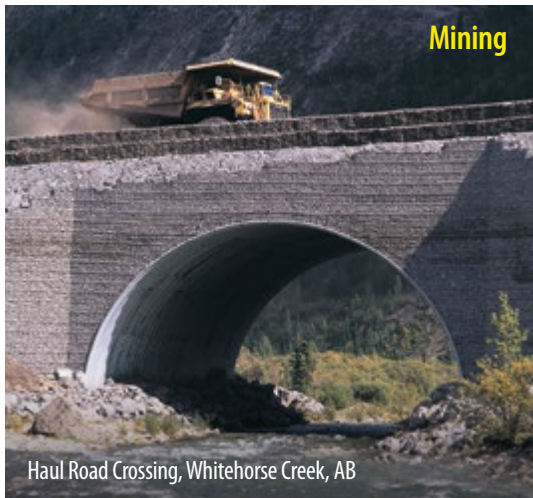
TAKE A VIDEO TOUR
TO LEARN MORE

Transportation



Grade Separation, Sunnyside, NL

Mining



Haul Road Crossing, Whitehorse Creek, AB

Development



Stream Crossing, Calgary, AB

[VIEW PROJECT PROFILE](#)



Strong

Larger, annular corrugations allow Super-Cor® structures to withstand the heaviest of loads.

Versatile

Long spans, shallow covers, a variety of shapes and reinforcement options extend Super-Cor's application range.

Durable

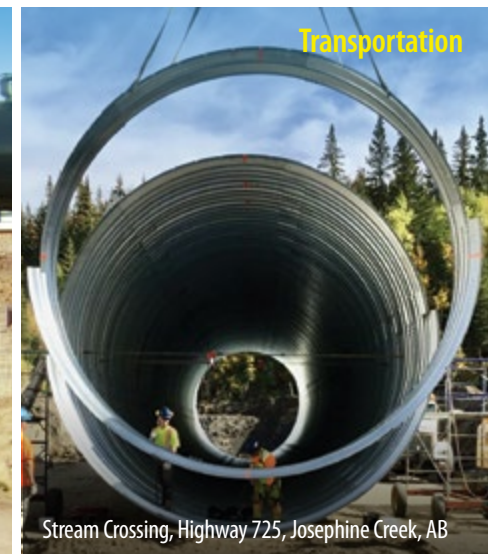
Heavy-duty galvanized coating is bonded to surface. Optional Best-Kote® Polymer Coating can extend service life to over 75 years.

Energy



Rail Overpass, Crude Oil Hub, Epping, ND

Transportation



Stream Crossing, Highway 725, Josephine Creek, AB



Rail

Stream Crossing, Edwardsport, IN



Development

Stream Crossing, McLendon-Chisholm, TX



Transportation

Stream Crossing, Ingramport, NS

Economical

Super-Cor® is easy to ship and install with local crews and equipment, even in remote locations.

Very Low Maintenance

Unlike conventional structures, which frequently require retrofits, Super-Cor® is virtually maintenance-free.

Environmentally Friendly

Made from recycled and recyclable steel, Super-Cor® structures typically install with less impact on stream beds and fish habitat.



Mining

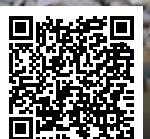
Conveyor Crossing, UT



Forestry

GRS Stream Crossing, Pine Creek, AB

MORE ABOUT GRS BRIDGES



Aesthetic treatments and more for today's Buried Metal Bridges

AIL's buried metal bridges and tunnels offer many opportunities to bring enhanced aesthetics to your projects, inside and out. From interior finishes and lighting to exterior end treatments and even urban greenways over top, take a look at what's available in our design aesthetics toolbox.



[VIEW COMPLETE
DESIGN IDEAS GALLERY](#)



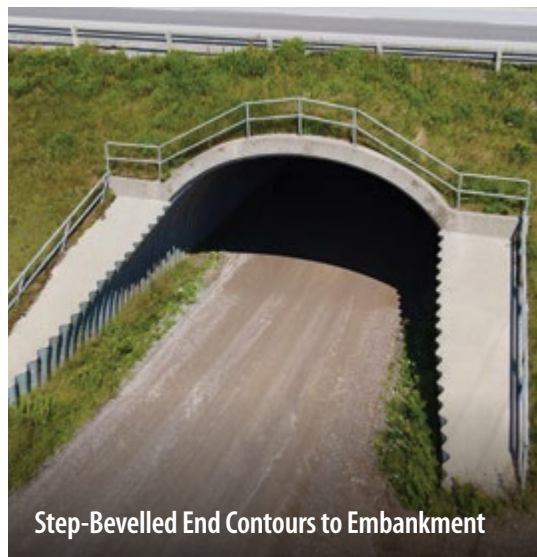
Interior Finishes and Architectural Lighting



Vegetated Headwalls



Urban Greenways



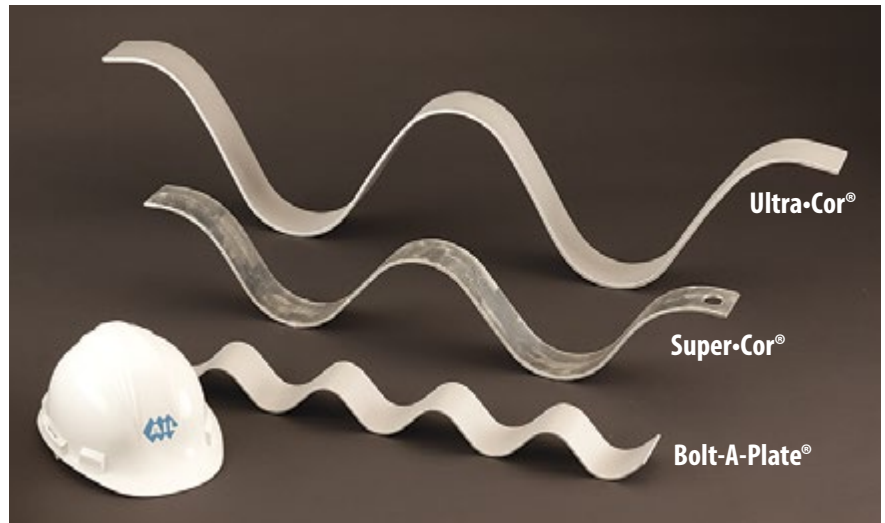
Step-Bevelled End Contours to Embankment



Precast Panel, Cast-in-Place, Masonry or Natural Stone Headwalls

A structural plate for every application.

We specialize in Value Engineering cost-effective solutions for applications of all types. Our high-quality products, engineering excellence and innovative designs are key to delivering the best results for our clients.



From the smallest structure to the world's largest Buried Metal Bridge — AIL has it covered.

BOLT-A-PLATE®
Structural Steel Plate

1.5 m 10 m

With spans that can reach 10 m, Bolt-A-Plate® is recommended for smaller applications. Available in a wide range of shapes.

SUPER-COR®
Structural Steel Plate

3 m 25 m

Deep-corrugated Super-Cor® is ideal for medium-sized applications, with spans able to reach 25 m. Available in a wide range of shapes.

ULTRA-COR®
Structural Steel Plate

18 m 35+ m

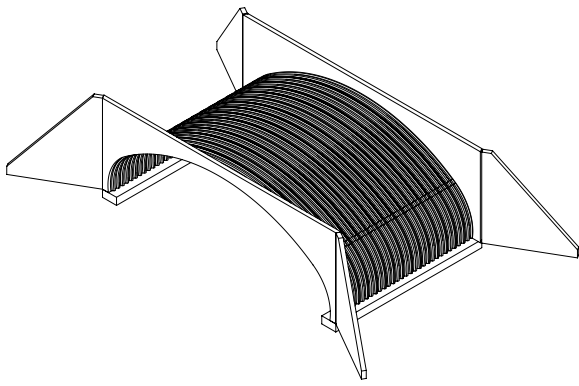
The ultra-deep corrugations of Ultra-Cor® make it ideal for the largest and most extreme applications, with spans able to exceed 35 m. Available in a wide range of shapes.

Super-Cor® Arches are optimal for spans of 3 m (10') to 25 m (82'). They can be installed with minimal environmental impact.

High-profile Super-Cor® arches are ideal for grade separations or in applications requiring large end areas or wider spans.

Your complete solution.

AIL is your single source for a comprehensive engineered package including the structure, footings, headwalls, wingwalls, fascia finishes and guiderail systems.



Rail Underpass under construction, Vicksburg, MO



SAVE TIME AND MONEY

Super-Cor® structures erect quickly with less labour and transportation costs. In some cases, it is not necessary to interrupt vital 24-hour traffic.



Mine Portal



Stream Crossing, Enterprise Creek, BC

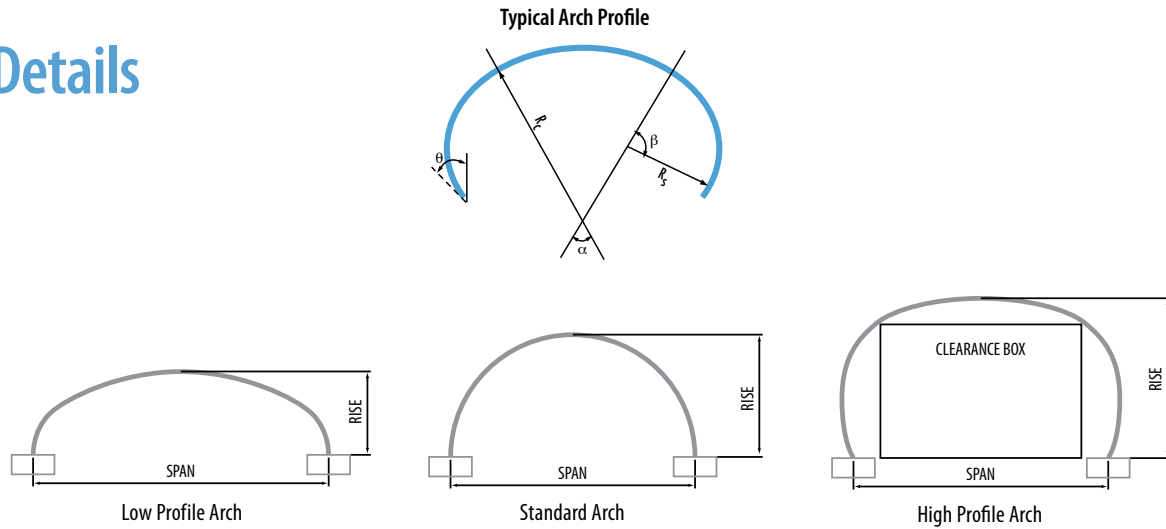


Geotextile Reinforced Soil (GRS) Bridge, Port Alberni, BC



Stream Crossing under construction, Kelowna, BC

Arch Details



Available Sizes

Custom sizes/geometries are also available. Consult your AIL Technical Sales Representative.

Arch No.	Max. Span (mm) (ft.-in.)	Bottom Span (mm) (ft.-in.)	Total Rise (mm) (ft.-in.)	End Area (m ²) (ft. ²)	Total S	Arch No.	Max. Span (mm) (ft.-in.)	Bottom Span (mm) (ft.-in.)	Total Rise (mm) (ft.-in.)	End Area (m ²) (ft. ²)	Total S
SCA1	6990 22-11	6990 22-11	3495 11-5	19.20 207	27	SCA40	13500 44-3	13479 44-3	4612 15-2	50.12 540	45
SCA2	7250 23-9	7250 23-9	3625 11-11	20.60 222	28	SCA41	13980 45-10	13980 45-10	6985 29-11	76.70 826	54
SCA3	7510 24-8	7510 24-8	3755 12-4	22.10 238	29	SCA42	14000 45-11	13958 45-10	4877 16-0	54.88 591	47
SCA4	7640 25-1	7640 25-1	3820 12-6	23.70 255	30	SCA43	14000 45-11	13872 45-6	6543 21-6	75.91 817	54
SCA5	8000 26-3	7994 26-3	3594 11-9	23.53 253	30	SCA44	14000 45-11	13641 44-9	7009 23-0	83.57 900	57
SCA6	8030 26-4	8030 26-4	4015 13-2	25.30 272	31	SCA45	14500 47-7	14433 47-4	5150 16-11	59.87 644	49
SCA7	8290 27-2	8290 27-2	4140 13-7	27.00 290	32	SCA46	15000 49-3	14960 49-1	5232 17-2	62.15 669	50
SCA8	8550 28-1	8550 28-1	4270 14-0	28.70 308	33	SCA47	15000 49-3	14780 48-6	7022 23-0	87.32 940	58
SCA9	8800 28-10	8800 28-10	4400 14-5	30.40 327	34	SCA48	15000 49-3	14663 48-1	7351 24-1	92.90 1000	60
SCA10	9000 29-6	8983 29-6	3760 12-4	28.15 303	33	SCA49	15010 49-3	15010 49-3	7505 24-11	88.50 952	58
SCA11	9000 29-6	8724 28-7	5168 16-11	40.67 438	40	SCA50	15500 50-10	15441 50-8	5520 18-1	67.55 727	52
SCA12	9060 29-9	9060 29-9	4530 14-10	32.20 347	35	SCA51	15530 50-11	15530 50-11	7765 25-6	94.70 1019	60
SCA13	9320 30-7	9320 30-7	4660 15-3	34.10 367	36	SCA52	16000 52-6	15942 52-4	4922 16-2	64.47 694	52
SCA14	9500 31-2	9456 31-0	3956 13-0	31.54 340	35	SCA53	16000 52-6	15870 52-1	6666 21-10	89.41 962	59
SCA15	9580 31-5	9580 31-5	4790 15-9	36.00 388	37	SCA54	16000 52-6	15543 51-0	7982 26-2	111.11 1196	66
SCA16	9840 32-3	9840 32-3	4920 16-2	38.00 409	38	SCA55	16050 52-8	16050 52-8	8025 26-4	101.10 1088	62
SCA17	10000 32-10	9967 32-8	3961 13-0	33.14 357	36	SCA56	16500 54-2	16406 53-10	5168 16-11	69.78 751	54
SCA18	10000 32-10	9740 31-11	4547 14-11	38.93 419	39	SCA57	16570 54-8	16570 54-8	8280 27-2	107.70 1160	64
SCA19	10000 32-10	9690 31-9	5371 17-7	47.06 507	43	SCA58	17000 55-9	16930 55-7	5224 17-2	72.02 775	55
SCA20	10100 33-2	10100 33-2	5045 16-6	40.00 431	39	SCA59	17000 55-9	16909 55-6	6720 22-1	94.96 1022	61
SCA21	10360 34-0	10360 34-0	5175 17-0	42.10 453	40	SCA60	17000 55-9	16478 54-0	8483 27-10	124.98 1345	70
SCA22	10500 34-5	10476 34-4	3974 13-9	34.75 374	37	SCA61	17220 56-6	17220 56-6	8610 28-4	114.60 1233	66
SCA23	10870 35-8	10870 35-8	5435 17-10	46.40 500	42	SCA62	17500 57-5	17451 57-3	5285 17-4	74.29 800	56
SCA24	11000 36-1	10947 35-11	4193 13-9	38.53 415	39	SCA63	17600 57-8	17600 57-8	8800 28-10	121.60 1309	68
SCA25	11000 36-1	10697 35-1	4776 15-8	44.86 483	42	SCA64	18000 59-1	17921 58-10	5547 18-2	80.14 863	58
SCA26	11000 36-1	10642 35-3	5864 19-3	56.27 606	47	SCA65	18000 59-1	17886 58-8	6999 23-0	104.17 1121	64
SCA27	11390 37-4	11390 37-4	5695 18-8	50.90 548	44	SCA66	18110 59-5	18110 59-5	9068 29-9	128.90 1387	70
SCA28	11500 37-9	11462 37-7	4221 13-10	40.26 433	40	SCA67	18500 60-8	18447 60-6	5617 18-5	82.59 889	59
SCA29	11910 39-1	11910 39-1	5955 19-6	55.70 599	46	SCA68	19000 62-4	18912 62-1	5889 19-4	88.82 956	61
SCA30	12000 39-4	11974 39-3	4259 14-0	42.02 452	41	SCA69	19000 62-4	18926 62-1	7099 23-3	110.10 1185	66
SCA31	12000 39-4	11781 38-8	5639 18-6	57.10 615	47	SCA70	19150 62-10	19150 62-10	9576 31-5	155.81 1550	74
SCA32	12000 39-4	11612 38-0	6113 20-0	63.68 685	50	SCA71	19500 64-0	19448 63-10	5968 19-7	91.46 984	62
SCA33	12430 40-9	12430 40-9	6210 20-4	60.60 652	48	SCA74	20190 66-3	20190 66-3	10083 33-1	160.00 1722	78
SCA34	12500 41-0	12447 40-10	4501 14-9	46.26 498	43						
SCA35	12940 42-6	12940 42-6	6470 21-3	65.80 708	50						
SCA36	13000 42-8	12964 42-6	4553 14-11	48.18 519	44						
SCA37	13000 42-8	12745 41-10	5890 19-4	64.39 693	50						
SCA38	13000 42-8	12662 41-6	6460 21-2	72.07 776	53						
SCA39	13460 44-2	13460 44-2	6730 22-1	71.10 765	52						

Structure numbers in bold denote single radius arch. All dimensions are to inside of crest of steel.

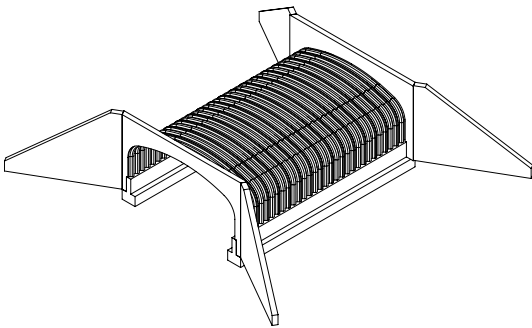
Ultra-Cor® is recommended for spans greater than 18 m (60').
Bolt-A-Plate® is recommended for spans less than 10 m (33').

Super-Cor® Boxes offer the perfect solution for long-span, low-rise situations with shallow cover.

Super-Cor® Boxes combine the strength and cost advantages of AIL's Super-Cor® corrugation profile with a special, patented reinforcement along the length of the structure. The extra strength of this reinforcement permits designs exceeding 20 m (65').

Your complete solution.

From preliminary specifications and drawings through to project completion, AIL is your single source for a comprehensive engineered package including the structure, footings, headwalls, wingwalls, fascia finishes and guiderail systems.



Service Road Underpass, Highway 103, NS



▶ TWO-STAGE CONSTRUCTION KEEPS TRAFFIC RUNNING

This highway twinning project required a two-stage construction sequence, with the structure for the new west-bound lanes being built first with a temporary MSE Wire Wall on the median side. Once this crossing was complete and opened to two-way traffic, the old three-span concrete bridge could be demolished in preparation for the new and re-aligned east-bound roadway to be constructed adjacent to the west-bound.



Value Engineered with Partial Coating



Two-Stage Construction, Highway Overpass, Windsor, NS

TAKE A 360°
VIDEO TOUR





Structural Cross Section

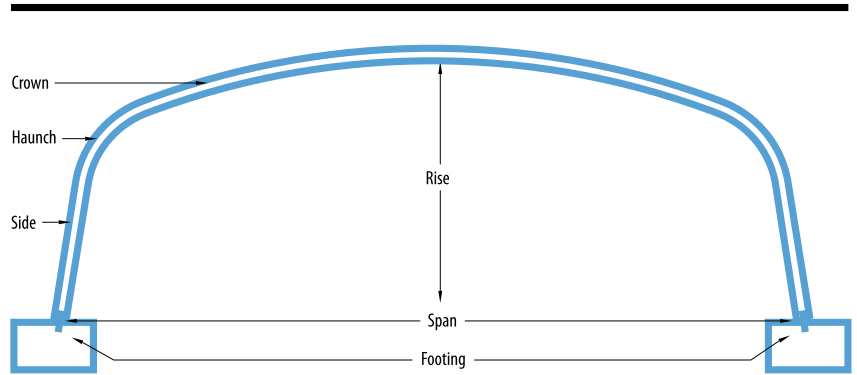
Recommended Cover Heights

Minimum 450 mm (18") for spans up to 8 m (26'). Minimum 600 mm (24") for spans above 8 m (26').

Shallower covers are possible when concrete pavement is used.

Maximum cover can be greater than 1500 mm (59"), though optimal is less than 1500 mm (59") for highway loading.

Finished Grade



Super-Cor® Box Culverts offer optimal clearance box and hydraulic flow geometry along with shallow covers.

Box Details

Available Sizes

Custom sizes/geometries are also available. Consult your AIL Technical Sales Representative.

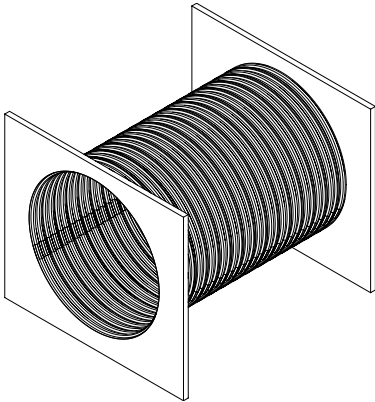
STRUCTURE NUMBER	SPAN			RISE			AREA		STRUCTURE NUMBER	SPAN			RISE			AREA	
	mm	ft.	ft.-in.	mm	ft.	ft.-in.	m ²	ft. ²		mm	ft.	ft.-in.	mm	ft.	ft.-in.	m ²	ft. ²
SB-3H	3527	11.571	11' 7"	1457	4.780	4' 9"	4.37	47.04	SB-13L	13018	42.709	42' 9"	2901	9.518	9' 6"	29.91	321.94
SB-4L	3913	12.838	12' 10"	1321	4.334	4' 4"	4.67	50.27	SB-13H	13130	43.077	43' 1"	3572	11.719	11' 9"	36.59	393.84
SB-4H	3933	12.903	12' 11"	1638	5.374	5' 4"	5.70	61.35	SB-14L	14011	46.000	46' 0"	3096	10.157	10' 2"	34.46	370.92
SB-5L	5153	16.906	16' 11"	1629	5.344	5' 4"	7.06	75.99	SB-14H	14091	46.230	46' 3"	4012	13.163	13' 2"	44.84	482.64
SB-5H	5051	16.571	16' 7"	2032	6.667	6' 8"	9.06	97.52	SB-15L	15069	49.438	49' 5"	3116	10.223	10' 3"	36.58	393.73
SB-6L	6005	19.701	19' 8"	1695	5.561	5' 7"	8.48	91.28	SB-15M	15008	49.238	49' 3"	3593	11.788	11' 9"	41.64	448.20
SB-6H	6093	20.000	20' 0"	2068	6.785	6' 9"	10.82	116.46	SB-15H	15056	49.396	49' 5"	4323	14.183	14' 2"	49.50	532.80
SB-7L	7002	22.000	22' 0"	1966	6.450	6' 5"	11.23	120.88	SB-16L	16011	52.529	52' 6"	3188	10.459	10' 6"	39.05	420.32
SB-7H	7016	23.018	23' 0"	2363	7.753	7' 9"	13.97	150.37	SB-16M	16023	52.568	52' 7"	3895	12.779	12' 9"	49.37	531.40
SB-8L	8008	26.273	26' 3"	2232	7.323	7' 4"	14.40	155.00	SB-16H	16005	52.509	52' 6"	4493	14.741	14' 9"	57.23	616.00
SB-8H	8011	26.282	26' 3"	2700	8.858	8' 10"	17.86	192.24	SB-17L	17098	56.095	56' 1"	3519	11.545	11' 7"	47.36	509.77
SB-9L	9065	29.740	29' 9"	2055	6.742	6' 9"	15.24	164.04	SB-17M	17086	56.056	56' 1"	4157	13.638	13' 8"	56.26	605.56
SB-9H	9047	29.681	29' 8"	2585	8.481	8' 6"	19.30	207.74	SB-17H	17086	56.056	56' 1"	4844	15.892	15' 11"	64.91	698.67
SB-10L	10092	33.110	33' 1"	2287	7.503	7' 6"	18.76	201.93	SB-18L	18004	59.068	59' 8"	3688	12.099	12' 1"	51.28	551.97
SB-10H	10108	33.162	33' 2"	2894	9.495	9' 6"	23.69	254.99	SB-18M	18026	59.140	59' 2"	4330	14.206	14' 2"	60.61	652.40
SB-11L	11023	36.164	36' 2"	2448	8.031	8' 0"	21.21	228.30	SB-18H	18095	59.366	59' 4"	5144	16.876	16' 10"	72.70	783.53
SB-11H	11024	36.168	36' 2"	3128	10.262	10' 3"	26.90	289.54	SB-19L	19037	62.457	62' 5"	3904	12.808	12' 10"	57.16	615.26
SB-12L	12021	39.438	39' 5"	2713	8.901	8' 11"	25.47	274.15	SB-19M	19010	62.368	62' 4"	4659	15.285	15' 3"	68.26	734.74
SB-12H	12024	39.448	39' 5"	3360	11.023	11' 0"	31.66	340.78	SB-19H	19021	62.404	62' 5"	5272	17.296	17' 3"	77.37	832.80

All dimensions are to inside crest of steel.

Super-Cor® Round structures permit construction of dramatically larger diameters than was previously possible with conventional structural plate pipe configurations.

This common and very versatile shape is frequently chosen for culverts, sewers and sub drains, but it can also be used for storage bins, access ways, tunnels, bridges and storm water retention/detention systems.

Round Details



Available Sizes

Smaller and custom sizes/geometries are also available.

Consult your AIL Technical Sales Representative.

Pipe No.	Diameter (mm)	Diameter (ft.-in.)	End Area (mm ²)	End Area (ft. ²)
SC66R	8400	27-7	55.4	596
SC68R	8650	28-5	58.7	632
SC70R	8910	29-2	62.3	671
SC72R	9170	30-1	66.0	710
SC74R	9430	30-11	69.8	751
SC76R	9690	31-10	73.7	793
SC78R	9950	32-7	77.7	836
SC80R	10200	33-6	81.7	879
SC82R	10460	34-4	85.9	925
SC84R	10720	35-2	90.2	971
SC86R	10980	36-0	94.6	1018
SC88R	11240	36-11	99.2	1068
SC90R	11500	37-8	103.8	1117
SC94R	12020	39-5	113.4	1221
SC98R	12530	41-1	123.3	1327
SC102R	13050	42-10	133.7	1439
SC106R	13570	44-6	144.6	1556
SC110R	14080	46-2	155.7	1676
SC114R	14600	47-11	167.4	1802
SC118R	15120	49-7	179.5	1932
SC122R	15640	51-4	192.1	2068

All dimensions are to inside crest of steel.



▲ LIGHTWEIGHT AND STRONG

In mine sites around the world, Super-Cor® is used under huge stock piles.



Buried Bridges are easy to install with local crews.

AIL's Buried Metal Bridges ship and install quickly and economically, with minimal equipment and labour requirements. Our technical teams will guide you through the complete project.



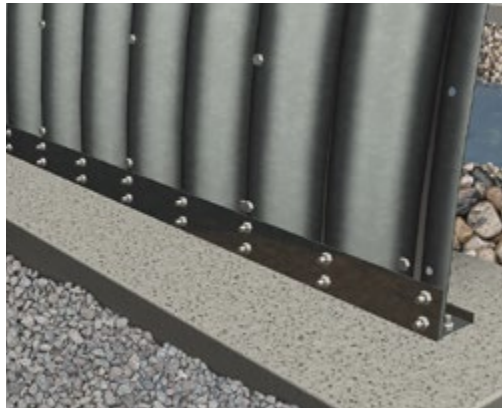
Precast or cast-in-place concrete footings are set over the prepared site.



The first arch segment is completely assembled on the ground.



It is then lifted into place and bolted to the footings on either side. In most cases, a boom truck is sufficient for this.



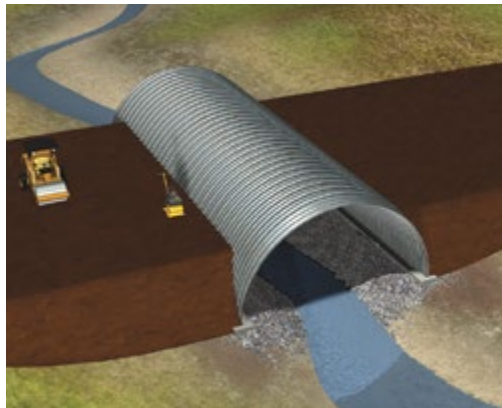
The segments bolt into base channels integrated into the concrete.



Plates then attach individually to make up other arch segments.



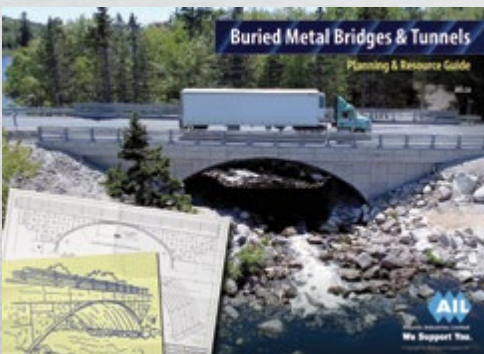
If specified, reinforcement ribs are then added.



Layers of engineered backfill are added in sequential lifts.



The road surface is then completed with safety barriers.



Download our Buried Metal Bridges & Tunnels Planning & Resource Guide

Discover how AIL's Buried Metal Bridges offer many advantages over concrete structures and bridges in this comprehensive guide with: benefits section, design ideas, aesthetic treatments, urban and northern sector/application galleries, complete product information and comparisons and installation details.

Visit ail.ca to download this Guide

Super•Cor® structures distribute superimposed loads to the surrounding engineered backfill, so it is essential to use care during installation and backfilling to ensure proper performance. The following guidelines will help ensure a successful project.

Structural Design

The combination of structural steel and surrounding soil allows Super•Cor® to support extremely heavy loads. Standard designs are developed in accordance with the latest edition of the Canadian Highway Bridge Design Code. However, design assistance and recommendations can be specified to your project. Contact your local AIL Technical Sales Representative for assistance.

Site Investigation and Preparation

A thorough site investigation should be conducted before installing a Super•Cor® structure. If footings are to be used, the foundation will have to be capable of supporting vertical and horizontal loads developed by the structure. The aim is to design a structurally sound foundation that will allow the structure to develop full interaction between the soil and the steel. Site preparation should provide a solid base for the structure. It should be good-quality material, free from rocks, roots, debris and organic material. Pre-shaping of the site will allow for different configurations, speed up backfill operations and encourage increased backfill contact. AIL can offer technical assistance on foundation investigation and site preparation for varying site conditions.

Excavation

Trench excavation will vary, depending on the nature of the *in situ* material. It is necessary to provide an excavated area that ensures adequate distance from soils with questionable structural integrity. If the native soil is stable, excavate only the area that is required to provide minimum bedding, backfill envelope and enough room for compaction equipment to manoeuvre. For stream-crossing applications, local authorities will impose guidelines for construction activity.

Foundations

Super•Cor® structures are flexible and can accommodate some differential settlement without distress. It is important, nevertheless, to minimize differential settlement by removing and replacing poor foundation material. Pile foundations often create differential settlement issues. Preparation should be confined to minimum, but practical, widths and should result in a uniform base for the structure. A bedding of loose material will provide a slight cushion and the bedding may be flat or shaped, depending on the structure configuration and construction methods being used. It is essential that all corrugations be filled.

Assembly

A Super•Cor® structure typically arrives at the job site in nested bundles curved to the proper radius. (Some smaller structures can be delivered fully or partially assembled). Included are bolts and any other special hardware that may be required, as well as instructions and shop drawings listing all components. Assembly is easy, requiring relatively simple tools. Correct lapping, bolt-tightening and shape-monitoring are all important to achieve the correct design dimensions. Your AIL Technical Representative can provide information and assistance to those unfamiliar with structural plate assembly.

Backfill

Super•Cor® structures require a stable, engineered backfill to retain their shape and structural integrity. The quality of the backfill envelope depends on the choice of material, placement of backfill and compaction of the envelope. AIL will detail suitable backfill materials for the structures. A well-graded, free-draining, granular backfill is preferred. There is no substitute for an examination by a geotechnical engineer.

Inspection

Inspection should be performed on a full-time basis by qualified personnel. Backfill is placed in a balanced manner in 150 mm (6") to 200 mm (8") lifts for the entire backfill envelope. Compaction testing is required to ensure that backfill material is compacted to the required density, as shown on issued drawings. It is necessary to utilize well-maintained compaction equipment of the appropriate size and specification for the application and as referenced in the drawing notes.

End Finishes

Special attention must be paid to bevelled or skewed ends. Incomplete structural rings may need to be reinforced with steel or concrete (or tied back) to maintain structural integrity. Exercise caution when placing backfill around them to avoid distortion. Standard End Finishes are: Squared, Bevelled, Partially Bevelled and Skewed.



CSPI delivers the industry's latest technical information, resources, assistance, guidance, and education on everything to do with Corrugated Steel Pipe and Structural Steel Plate solutions.

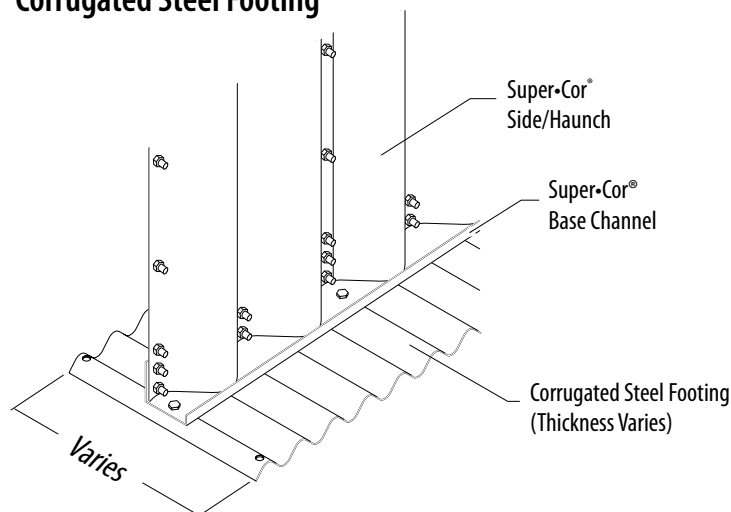
Visit cspi.ca to learn more.

Foundation Options

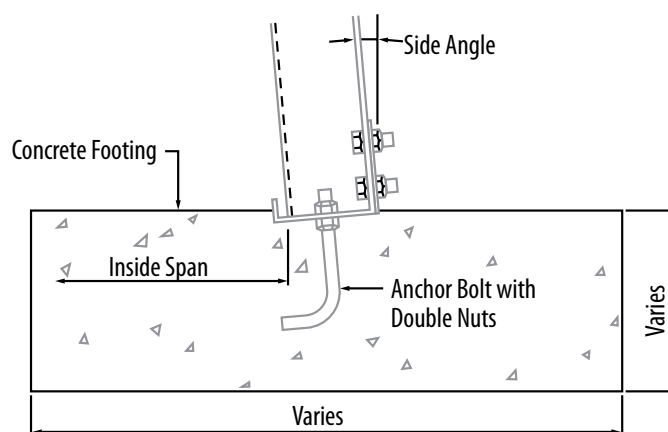
Super•Cor® packages come with a variety of footing options to suit various sites:

- ▶ Precast or cast-in-place concrete footings — the most common footing type, in which a receiving angle is embedded in concrete.
- ▶ Steel footing pads — used as a time-saving alternative to concrete footings in sites with non-erodible stream beds. If the site permits, footings should be buried a minimum of 600 mm (24") below flow line. Note: When footing pads are buried, the published end area of Super•Cor® will be reduced.

Corrugated Steel Footing



Concrete Footing



Headwall Options

In addition to enhancing their appearance, well-designed end treatments are essential to the structural and hydraulic performance of Super•Cor®.

- ▶ MSE Retaining Wall Systems with wire or concrete faces.
- ▶ Concrete, cast-in-place or precast
- ▶ Bolt-A-Bin® retaining wall systems
- ▶ Sheet Pile walls
- ▶ Welded wire gabion baskets

Coating Options

Super•Cor's heavy galvanized coating is metallurgically bonded to the steel surface, providing extended service life. Super•Cor® is supplied with a standard 915 g/m² (3 oz/ft²) coating. A heavier 1220 g/m² (4 oz/ft²) coating is also available. Properly designed and installed, Super•Cor® structures will have a design service life of over 75 years. Best•Kote® is used to achieve a design service life of 75 years in more aggressive environments.



FOR PROJECT ASSISTANCE THROUGHOUT CANADA, CALL 1-877-245-7473. OUTSIDE CANADA, CALL +1-778-355-7000.

The information and suggested applications in this brochure are accurate and correct to the best of our knowledge, and are intended for general information purposes only. These general guidelines are not intended to be relied upon as final specifications, and we do not guarantee specific results for any particular purpose. We strongly recommend consultation with an Atlantic Industries Limited Technical Sales Representative before making any design and purchasing decisions.



AIL products contain recycled content and are 100% recyclable.

ISO Certified

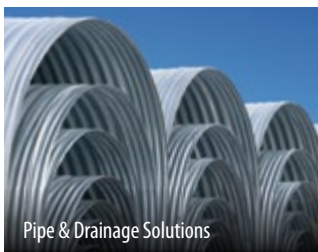
In keeping with AIL's ongoing commitment to high standards, our Plate Manufacturing Facility in Ayr, Ontario, and our Engineering Department in Cambridge, Ontario, have been certified to ISO 9001:2015.



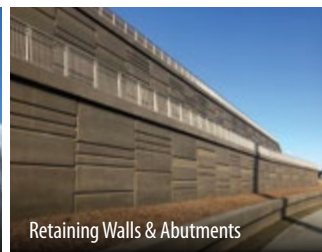
Structural Plate Bridges & Tunnels



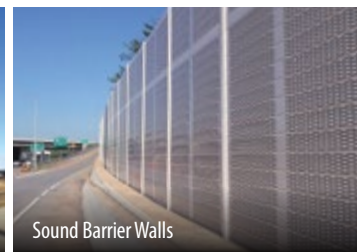
Prefabricated Bridges



Pipe & Drainage Solutions



Retaining Walls & Abutments



Sound Barrier Walls

AIL OFFERS A COMPLETE RANGE OF BRIDGE AND INFRASTRUCTURE SOLUTIONS.



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INTERNATIONAL



SOUND WALLS

