October, 2024

【Notice (Live Streaming)】

RRR Construction Technology Lectures

The RRR (Reinforced-soil Railway structures with Rigid facing) construction technology is now legitimately regarded as a high performance and high cost-effectiveness soil-reinforcement technology. A great number of those geosynthetic-reinforced soil (GRS) structures have been constructed in Japan and abroad, including, in particular, those for Japanese high-speed "bullet" railways, conventional railways and roads. RRR GRS Retaining Walls (RWs) are constructed following its unique staged procedure: first the embankment which is reinforced by many layers of planar reinforcements (geogrids) is constructed; then after sufficient deformation of the supporting ground and embankment has taken place, a full-height rigid (FHR) facing is constructed by casting-in-place concrete on the vertical wall face of the embankment ensuring a strong connection between the FHR facing and the reinforcement layers. RRR GRS RWs exhibit excellent constructability and high cost-effectiveness in comparison with conventional cantilever or gravity type retaining walls. Even when constructed on soft ground, detrimental effects of excessive settlements can be removed by this procedure. In addition, if necessary, the problem can be completely alleviated by preloading. With RRR GRS RWs, pile foundations for the facing become then unnecessary.

RRR structures performed extremely well during the 1995 Great Hanshin Earthquake, the 2011 Great East Japan Earthquake and the 2016 Kumamoto Earthquake among other major earthquakes in Japan and during extreme heavy rains including those in 1990 and 2012 in Kyushu-island. On the other hand, a number of conventional-type RWs and embankments collapsed in these events. Many of them have been reconstructed following the RRR technology, including sea walls for National Road No.1 in southwest Tokyo, following the 2007 Typhoon No.9; or bridges and embankments that collapsed by tsunami waves during the 2011 Great East Japan Earthquake in Northern Japan.

For bridges, RRR GRS Bridge Abutments support a simple-supported girder of a bridge by placing one end of the girder via a fixed bearing shoe place at the top of the FHR facing of the RRR GRS RW. A number of RRR GRS Bridge Abutments (199) have been constructed in place of conventional bridge abutments thanks to its high seismic and long-term stability, low construction cost and low maintenance cost particularly by essentially exhibiting zero bumps immediately behind the FHR facing.

Lastly, RRR GRS Integral Bridge is the more advanced recent bridge technology, for which, at the last stage of construction, both ends of a continuous girder are structurally integrated to the top ends of FHR facings of GRS RWs constructed as abutments. Because of its high performance and high cost-effectiveness due particularly to no bumps and no need for shoes maintenance works, a number of RRR GRS Integral Bridges have been constructed for railways at intersections with roads and waterways in Japan. Among them, several have been constructed to replace conventional simple girder bridges that were washed away tsunami waves in the 2011 Tohoku Earthquake. Relatedly, RRR-GRS Box Culverts (RRR-Box) also substantially reduce differential settlements and bumps, so they have been regularly constructed for railways including high-speed railways.

In this seminar, Professor Emeritus F. Tatsuoka (University of Tokyo and Tokyo University of Science, Japan) and Mr. T. Kosaka (Chief Secretariat, International Association of RRR Construction System (*RRR-I*)) will introduce in details the theoretical background and the actual design/construction aspects of RRR technology. The International Association of RRR Construction Method highly encourages all concerned agencies and engineers to participate in this seminar to understand the beneficial advantages of RRR technology in construction projects. Technical discussions among the attendees are also highly welcome.

Respectfully yours,

International Association of RRR Construction System (*RRR-I*)

RRR

www.rrr-sys.gr.jp/en/

Registration

(For non-Japanese attendees)

1. Subject： RRR Construction Method Technology Lecture (Live Stream)

2. Date & Time： December 11th (Wednesday) 2024 14:00～16:30 (Japan time)
(for reference) Philippine time 13:00～15:30 Myanmar time 11:30～14:00
India time 10:30～13:00 Indonesia time 12:00～14:30

3. Attending fees： None (free)

4. How to Apply： Please fill in and submit the application form (Google form) below,
a ZOOM invitation will then be sent back to you (limited to the first 100 submissions)

5. Program：as shown in the table below

Time (Japan)	Contents (Live Streaming)	Speaker
14:00～14:05	Opening Address	International Association of RRR Construction System (*RRR-I*)
14:05～15:05 (1 hour)	Geosynthetic-Reinforced Soil structures - Developments from Walls to Bridges -	University of Tokyo and Tokyo University of Science, Japan Professor Emeritus Fumio TATSUOKA
15:05～16:05 (1 hour)	Overview of RRR (GRS) Construction Methods	International Association of RRR Construction System (*RRR-I*) Chief Secretariat Takuya KOSAKA
16:05～16:25	Questions & Discussions	
16:25～16:30	Closing Address	International Association of RRR Construction System (*RRR-I*)

6. Application form: https://forms.gle/Uwq4u3986WgFRCGd8

Please fill out and submit the Google Form from the link or the QR code above

If you have any questions or difficulties registering for the event, do not hesitate to contact the RRR International secretariat.

【Contact information】

International Association of RRR Construction System (*RRR-I*)
1-23-6 5F, Yotsuya, Shinjuku-ku, Tokyo, Japan
TEL: +81-3-5368-4103 FAX: +81-3-5368-4105
Email : RRR-I@igi.co.jp
URL: https://www.rrr-sys.gr.jp/en/

RRR
www.rrr-sys.gr.jp/en/

2024 年 10 月吉日

各 位

RRR-I（インターナショナル）工法協会

RRR 工法技術講演会（英語）のお知らせ（ライブ配信）

拝啓　時下ますますご清祥のこととお喜び申し上げます。平素は、格別のご高配を賜り厚くお礼申し上げます。

さて、RRR（スリーアール）工法で建設された多くの盛土補強土壁(RRR-B)工法は、1995 年阪神大震災、2011 年東日本大震災などにおいて優れた耐震性を発揮しました。このような実績から、地震で崩壊した盛土や擁壁の復旧工事や整備新幹線の建設において本工法は広く適用されております。最近では地震のみならず、豪雨時の洪水によって崩壊した各地での鉄道盛土や台風による波浪・洗掘により崩壊した国道１号西湘バイパスの強化復旧にも採用され、高い評価を得ています。また、海外での適用事例も少しずつ増えています。

また、本工法の応用技術として、耐震性橋台やジオシンセティック補強土一体橋梁（RRR-A）工法も開発され、津波で被害を受けた三陸鉄道北リアス線の橋梁復旧工事や北海道新幹線、九州新幹線、北陸新幹線などに採用されていて、耐震性橋台は 199 基まで達しています。これらの工法は、長い歴史を持つ擁壁や盛土等の土構造物に変革をもたらしています。

今回、*RRR-I*（インターナショナル）工法協会主催の技術講演会にて、**東京大学・東京理科大学名誉教授 龍岡文夫先生**には「GRS 構造物 -擁壁から橋台への発展-」について、***RRR-I* 工法協会事務局長 小阪拓哉**からは「RRR(GRS)工法の概要」について、講演（ライブ配信）をさせていただく機会を設けました。お忙しい時期ではございますが、本案内を貴部署の方々に御回覧いただき、多くの方に視聴していただけましたら幸いです。

敬具

－　記　－

配信日時　：2024 年 12 月 11 日（水）14:00～16:30
CPD 単位　：2.0（JCCA による認定プログラム申請中）
参 加 費　：無料
申込方法　：RRR 工法協会ホームページから専用フォームにて申込み
URL はこちら→https://forms.gle/Uwq4u3986WgFRCGd8

参加申込フォーム

参加人数　：先着 100名（ZOOM の招待状を送付します.）
プログラム　：RRR 工法技術講演会

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16:25 ～ 16:30	Closing Address	International Association of RRR Construction System (*RRR-I*)

参考：フィリピン現地時間 － 13:00～15:30　　ミ ャ ンマー現地時間 － 11:30～14:00
イ ン ド　現地時間 － 10:30～13:00　　インドネシア現地時間 － 12:00～14:30

【お問合せ先】*RRR-I* 工法協会事務局
（TEL. 03-5368-4103 FAX. 03-5368-4105 Email. RRR-I@igi. co. jp　https://www. rrr-sys. gr. jp/en/）

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