

METHODOLOGY
for conducting preliminary and final stages
OF THE WORLD CONSTRUCTION CHAMPIONSHIP (WCC)
within the team nomination
Geodetic engineer

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1. PURPOSE AND SCOPE

These methodological recommendations (hereinafter referred to as the Methodology) determine the procedure and conditions for holding the preliminary and final stages of the World Construction Championship (WCC) (hereinafter referred to as the Championship) within the team nomination “Geodetic engineer”.

The preliminary stage of the Championship is not mandatory, i.e. Participant Organizations shall make their own decisions and determine the option of selecting specialists to participate in the final stage of the Championship:

- or independently organize and hold the preliminary stage in the organization using the Tasks developed for the preliminary stage of the Championship according to the Methodology,

- or, conduct the selection of Participants according to the qualification criteria in accordance with Appendix No. 1 to the Methodology.

The lists of Finalists shall be sent within the terms established by Section 9 of the Methodology, in accordance with the Quotas presented in Appendix No. 3 to the General Procedure for the Championship.

The participating organization shall provide the Organizer with information about the finalists in the format in accordance with Appendix No. 6 to the Methodology and ensure their registration on the Official website of the Championship <https://pro-wcc.ru> (hereinafter - the Official website) in the section “Participants”/

The methodology within the team nomination for the “Geodetic engineer” competence is designed to identify the level of competence and provide a consolidated assessment of the knowledge, skills and abilities of employees performing engineering and geodetic work in the construction and operation of industrial construction facilities.

2. TERMS AND DEFINITIONS

Abbreviation	Decryption
Jury/Expert jury	A group of experts evaluating the results of tasks performed by Participants on nominations
Task/Task of the Championship	Task, during performance and according to the results of which the Participants demonstrate the level of knowledge, abilities and skills on the nomination
Quotas	Number of places for specialists of Participant Organizations established by the Organizing Committee for each nomination in the final stage of the Championship
Nomination	Name of the activity (profession) on which the Championship competitions are held
Organizer	A team of diverse specialists under the direction of the Ministry of Construction of Russia and Rosatom State Corporation, responsible for organizing and holding of the Championship
Participant Organization	An Organization whose specialists take part in Championship competitions/General partner-Participant
Organizing	Federal Organizing Committee of the Championship

committee	
Official site	Website of the Championship containing complete, reliable, updated information about the Championship
Site	The site of the nomination, the place where the Participant /team of Participants complete the Tasks of the final stage of the Championship
Participant / Team of Participants	Specialist / Team of specialists taking part in the Championship competitions
Organization-developer	An Organization not participating in the competitions but providing methodological support for nominations
Technical expert	A representative of the Organization-developer who works on the site of the final stage of the Championship and ensures holding of the nomination competitions and the work of Expert Jury
Finalist	Specialist participating in the final competitions of the Championship
Championship	World Construction Championship (WCC) shall mean the international championship in industrial construction

3. REGULATIONS

Tasks are based on the general types of engineering and geodetic works and the labour functions of surveyors, regardless of country affiliation.

Labour functions and types of work performed by surveyor in the Russian Federation and in the countries-States of the Eurasian Economic Union (hereinafter – the EAEU) are identical and are prescribed in the national legislative acts of each country:

Russian Federation (main documents):

- SP 126.13330.2017 Geodetic works in construction. Updated version of SNiP 3.01.03-84;
- SP 151.13330.2012 Engineering surveys for site selection, design development and construction of nuclear power plants. Part I. Engineering surveys for the development of pre-project documentation (selection of the location and site of the NPP);
- SP 151.13330.2012 Engineering surveys for site selection, design development and construction of nuclear power plants. Part II. Engineering surveys for development of design and working documentation and supervision of construction;
- STO SRO-S 60542960 00032-2014 Nuclear facilities. Organization of construction. Part 1 Preparatory period of construction. Part 2 Main construction period;
- SNiP 10-01-94 System of normative documents in construction. Basic principles (with Amendments N 1,2);
- SP 47.13330.2016 Engineering surveys for construction. Basic principles. Updated version of SNiP 11-02-96;
- SP 126.13330.2012 Geodetic works in construction. Updated version of SNiP 3.01.03-84;
- SNiP 14-01-96 Basic principles for the creating and boarding of the state urban cadastre of Russian Federation.
- SP 42.13330.2011. Set of rules. Urban planning. Planning and development of urban and rural settlements. Updated version of SNiP 2.07.01-89;

- SP 43.13330.2012. Construction of industrial enterprises. Updated version of SNiP 2.09.03-85 (with Amendments No. 1, 2);
- SP 18.13330.2011 General plans of industrial enterprises. Updated version of SNiP II-89-80*;
- SP 45.13330.2017 Earthworks, grounds and footings. Updated version of SNiP 3.02.01-87;
- SP 20.13330.2011 Loads and impacts. Updated version of SNiP 2.01.07-85*;
- SP 70.13330.2012 Bearing and enclosing structures. Updated version of SNiP 3.03.01-87 (with Amendments No. 1, 3);
- SP 22.13330.2011 Foundations of buildings and structures. Updated version of SNiP 2.02.01-83;
- SP 48.13330.2011 Organization of construction. Updated version of SNiP 12-01-2004 (with Amendments No. 1);
- SP 70.13330.2012 Bearing and enclosing structures. Updated version of SNiP 3.03.01-87 (with Amendments No. 1, 3);
- SP 12-131-95 Occupational safety in construction. Model regulations on the procedure of training and testing of knowledge on labour protection of managers and specialists of organizations, enterprises and institutions of construction, construction material industry and housing and communal services (with Amendments N 2);
- SNiP III-4-80* "Safety in construction" (with Amendments 1-5);
- "Town-planning code of the Russian Federation" from 29.12.2004 N 190-FZ (edited from 27.06.2019) (with amendments and additions, effective from 01.07.2019);
- GKINP-02-033-82 Instructions for topographic survey at scale 1:5000, 1:2000, 1:1000 and 1:500;
- GOST 8.417-2002 State system for ensuring the uniformity of measurements. Units of quantities;
- GOST 22268-76 Geodesy. Terms and definitions;
- GOST 21.301-2014 System of design documentation for construction. General requirements for presentation of report documents on engineering investigation;
- GOST 4401-81 "Standard Atmosphere. Parameters" (with Amendments N 1);
- GOST 15467-79 "Product quality control. Basic concepts. Terms and definitions" (with Amendments N 1);
- GOST 23615-79 (ST SEV 5061-85) System for ensuring the accuracy of geometric parameters in construction. Statistical analysis of accuracy. (with Amendments N 1) Interstate standard;
- GOST 23616-79 System for ensuring the accuracy of geometric parameters in construction. Control of accuracy (with Amendments N 1) Interstate standard;
- GOST 24846-2012 Soils. Measuring methods of strains of structures and building bases;
- GOST 26433.1-89 System for ensuring the accuracy of geometric parameters in construction. Rules of measurement. Prefabricated elements. Interstate standard;
- GOST 26433.2-94 System for ensuring the accuracy of geometric parameters in construction. Rules for performing measurements of parameters of buildings and structures. Interstate standard;

- GOST 31380-2009 Global navigation satellite systems. Consumers instrumentation. Classification. Interstate standard;
- GOST 8.563-2009 State system for ensuring the uniformity of measurements (GSI). Procedures of measurements;
- GOST R 8.565-96 State system for ensuring the uniformity of measurements (GSI). Metrological ensuring of atomic power stations exploitation. Basic principles;
- GOST R 22.1.12-2005 Safety in emergencies. Structured system for monitoring and control of building / construction engineering equipment. General requirements (with Amendments N 1);
- GOST R 51774-200 Total stations. General specifications;
- GOST R 51872-2002 Executive geodetic documentation. Performance rules;
- GOST R 53606-2009 Global navigation satellite system. Methods and technologies of geodetic and cadastral works execution. Metrological support. Basic principles;
- GOST R 53607-2009 Global navigation satellite system. Methods and technologies of geodetic and cadastral works execution. Determination of relative coordinates by pseudo-range measurements. Basic principles;
- GOST R ISO/TO 10017-2005 Statistical methods. Guidance on application for according to GOST R ISO 9001;
- GOST R ISO 17123-1-2011 State system for ensuring the uniformity of measurements (GSI). Optics and optical instruments. Field procedures for testing geodetic and surveying instruments. Part 1. Theory;
- GOST R ISO 17123-2-2011 State system for ensuring the uniformity of measurements (GSI). Optics and optical instruments. Field procedures for testing geodetic and surveying instruments. Part 2. Levels;
- GOST R ISO 17123-3-2011 State system for ensuring the uniformity of measurements (GSI). Optics and optical instruments. Field procedures for testing geodetic and surveying instruments. Part 3. Theodolites;
- GOST R ISO 17123-4-2011 State system for ensuring the uniformity of measurements (GSI). Optics and optical instruments. Field procedures for testing geodetic and surveying instruments. Part 4. Electro-optical distance meters (EDM instruments)
- GOST R ISO 17123-5-2011 State system for ensuring the uniformity of measurements (GSI). Optics and optical instruments. Field procedures for testing geodetic and surveying instruments. Part 5. Total stations;
- GOST R ISO 17123-8-2011 GSI. Optics and optical instruments. Field procedures for testing geodetic and surveying instruments. Part 8. GNSS field measurement systems in real-time kinematic (RTK);
- GOST 21.508-93 System of design documentation for construction. Rules of fulfilment of working documentation of general layouts of enterprises, buildings and civil housing objects (as Amended). Interstate standard;
- GOST 12.0.004-90 Occupational safety standards system. Organization of training for labour safety. General provisions. Interstate standard;
- STO SRO-S 60542960 00043-2015 Nuclear facilities. Geodetic monitoring of buildings and structures during construction and operation;
- PTB-88: Safety regulations for topographic and geodetic works.

Republic of Armenia (main documents):

- Law of the Republic of Armenia “On Urban Planning” dated May 26, 1998 No. ZR-217 (as amended by the Laws of the Republic of Armenia No. ZR-265 dated 30.03.2018);
- Law of the Republic of Armenia “On licensing” dated May 20, 2020 no. ZR-271;
- Law of the Republic of Armenia “On responsibility for administrative offenses in the urban development.” Date of adoption 23.04.1999;
- Law of the Republic of Armenia on determining (evaluating) the impact on the environment and its expertise. Date of adoption 21.06.2014;
- Set of documents approved by the government of the Republic of Armenia from 19.03.2015, No. 596, including: the issuance of permits and other documents for the building, procedure for providing permits for urban planning documentation in electronic form, a list and classification of objects according to risk level;
- Regulations approved by the government of the Republic of Armenia on the development, examination, acceptance, approval and adjustment of projects for various purposes;
- Regulations on the examination of urban planning documentation. Approved by the government of the Republic of Armenia of 19.03.2015.;
- SNRA II-6.02-2006 “Earthquake-proof Construction”, 2nd edition;
- SNRA IV-13.01-96 “Stone and reinforced masonry structures”;
- SNRA 1-2.01-99 “Engineering surveys for construction. Basic principles”;
- SNRA II-7.02-95 “Construction thermophysics of building envelopes”;
- SNRA 11.05.01-96 “Railways. Track 1520 mm”;
- SNRA 11.05.03-96 “Airports”;
- SNRA II-8.03-96 “Artificial and natural lighting”;
- SNRA IV-11.05.02-99 “Highways”;
- SNRA IV-10.01.01-2006 “Foundations of buildings and structures”;
- SNRA IV-11.05.04-97 “Railway and road tunnels”;
- SNRA IV-12.03.01-04 “Gas Distribution systems”;
- SNRA IV-11.07.01-2006 “Accessibility of buildings and structures for people with limited mobility”;
- SNRA IV-11.07.01-2011 “Building climatology”;
- SNRA II-8.04.02-2005 “Fire automation of buildings and structures”;
- SNRA 30-01-2014 “Urban planning. Planning and development of cities and rural localities”;
- SNRA 31-01-2014 “Residential buildings. Part I. Multi-family housing”;
- SNRA 33-01-2014 “Hydraulic structures. Basic principles”;
- SNRA 31-03. 01-2014 “Buildings for general education purposes”;
- SNRA 20-06-2014 “Reconstruction, restoration and strengthening of buildings and structures. Basic provisions”, 2nd edition;
- SNRA 40-01. 01-2014 “Internal water supply and sewerage of buildings”;

- SNRA 21-01-2014 “Fire safety of buildings and structures”;
- SNRA 24-01-2016 “Thermal protection of building”

Republic of Belarus (main documents):

- The law of Republic of Belarus “On geodetic and cartographic activities”, dated 14 July 2008 No. 396-Z (as amended by the Laws of the Republic of Belarus dated 22.12.2011 №326-Z);
- Law of the Republic of Belarus “On architectural, urban planning and construction activities in the Republic of Belarus” dated 05.07.2004 No. 300-Z;
- TKP 45-1.03-313-2018 Geodetic works in construction. Basic principles”;
- GOST 22268-76 Geodesy. Terms and definitions;
- GOST 23616-79 System for ensuring the accuracy of geometric parameters in construction. Control accuracy;
- GOST 26433.0-85 System for ensuring the accuracy of geometric parameters in construction. Rules of measurement. General provisions;
- GOST 26433.2-94 System for ensuring the accuracy of geometric parameters in construction. Rules for performing measurements of parameters of buildings and structures;
- GOST 21.110-2013 System of design documentation for construction. Specification of equipment, products and materials;
- STB 1941-2009 System for ensuring the accuracy of geometric parameters in construction. Production tolerance;
- SNB 1.02.01-96 Engineering surveys for construction;
- STB 21.303-99 System of design documentation for construction. Engineering and geodetic surveys. Main requirements for the preparation and execution of documentation;
- STB 2255.2012-99 System of design documentation for construction. Main requirements for documentation of the construction project;
- STB 2331-2015 Buildings and structures. Classification. Basic principles;
- STB 1958-2009 “Construction. Construction of monolithic concrete and reinforced concrete structures. Nomenclature of monitored indicators of quality. Quality control of work”;
- STB 1968-2009 “Construction. Installation of prefabricated structures. Nomenclature of monitored indicators of work quality;
- TKP 5.1.08-2012 (03220) National System for Conformity Assessment of the Republic of Belarus. Marks of conformity. Description and application procedure;
- TKP 5.2.25-2012 (03220) National System for Conformity Assessment of the Republic of Belarus. Registration of declarations of conformity with project documentation, buildings and structures;
- TKP 45-1.01-289-2013 Methodological documents in construction. Recommendations and manuals in the field of architecture and construction. Rules for development, approval, and application;
- TKP 45-1.04-78-2007 (02250) Technical operation of industrial buildings and structures. General procedure for the conduct;

- TKP 45-1.02-104-2008 (02250) Project documentation for the repair, modernization and reconstruction of residential and public buildings and structures. Procedure for development and approval;

- TKP 45-3.02-108-2008 (02250) High-rise buildings. Building design standards;

- TKP 45-1.03-161-2009 (02250) Organization of construction production;

- TKP 45-1.03-314-2018 “Construction of building structures, buildings and structures. Main requirements”;

- TKP 45-1.04-206-2010 (02250) Repair, reconstruction and restoration of residential and public buildings and structures. Main requirements for the design.

Republic of Kazakhstan (main documents):

- GKINP (GNTA)–01–020–09 “Main provisions. About the state geodetic and leveling networks of the Republic of Kazakhstan;

- Law of the Republic of Kazakhstan “On geodesy and cartography” of July 3, 2002 N 332;

- RDS RK 1.03-01-2018 “Geodesic service and organization of geodetic works in construction”;

- SN RK 1.03-03-2018 “Geodetic works in construction”;

- SP RK 1.02-105-2014 “Engineering surveys for construction. Basic principles”;

- SP RK 1.02-101-2014 “Engineering and geodetic surveys for construction. Basic principles”;

- SN RK 1.02-02-2016 “Engineering surveys for construction. Seismic microzoning. General provisions”;

- SP RK 1.01-103-2014 " Construction terminology. Engineering surveys”;

- RDS RK 1.01-01-2014 “State standards in the field of architecture, urban planning and construction. Basic principles”;

- SP RK 1.04-101-2012 “Inspection and assessment of the technical condition of buildings and structures”;

- SN RK 1.03-05-2011 “Occupational health and safety in construction”;

- SP RK 1.04-103-2013 “Instrumentation for monitoring the condition of high-rise and unique buildings and structures”;

- SN RK 1.03-01-2016 “Duration of construction and the backlog in the construction of enterprises, buildings and structures. Part I;

- SN RK 1.03-02-2014 “Duration of construction and the backlog in the construction of enterprises, buildings and structures. Part II”;

- SN RK 1.03-00-2011 Construction production. Organization of construction of enterprises, buildings and structures;

- SN RK IV-3.03-11-2013 “Railway and road tunnels”;

- SN RK 3.03-12-2013 “Bridges and pipes”;

- SN RK 3.03-14-2014 “Railways”;

- SN RK 3.03-15-2014 “Designing railway stations”;

- SN RK 3.03-17-2013 “Undergrounds”;

- SN RK 3.03-19-2013 “Airports”;
- SN RK 3.03-20-2014 “Terminal buildings”;
- SN RK 3.03-22-2013 “Industrial transport”;
- SN RK 3.04-01-2013 “Hydraulic structures”;
- SN RK 3.04-02-2014 “Design of concrete and reinforced concrete structures of hydraulic structures”;
- SN RK 3.04-03-2014 “Foundations of hydraulic structures”;
- SN RK 3.04-04-2014 “Concrete and concrete reinforced dams”;
- SN RK 3.04-06-2014 “Hydraulic Tunnels”;
- SN RK 3.04-08-2014 “Design, construction and operation of hydraulic structures in the territories that are being worked by mining operations”;
- SN RK 3.04-09-2012 “River hydraulic structures”;
- CN RK 3.04-10-2014 “Hydraulic engineering marine and river transport facilities”;
- SN RK 3.05-01-2013 “Main pipelines”;
- SN RK 3.05-04-2014 “Underground storage of oil, petroleum products and liquefied gases”;
- SN RK 5.01-02-2013 “Foundations of buildings and structures.

Kyrgyz Republic (basic requirements):

- Law of the Kyrgyz Republic “On geodesy and cartography” dated March 20, 2002 No. 43;
- Law of the Kyrgyz Republic “On urban planning and architecture of the Kyrgyz Republic” dated January 11, 1994 N 1372-XII;
- Law of the Kyrgyz Republic “On the basics of urban planning legislation of the Kyrgyz Republic” of July 13, 2011 N 95 (as amended by the law of the Kyrgyz Republic of May 24, 2013 N 77);
- Law of the Kyrgyz Republic “On ensuring the uniformity of measurements” dated 09.07.14 No. 118;
- Law of the Kyrgyz Republic Technical regulation “Safety of construction materials, products and structures” dated January 29, 2010 No. 18;
- Law of the Kyrgyz Republic “About individual housing construction in the Kyrgyz Republic” of December 21, 1991 N 689-XII;
- Resolution of the government of the Kyrgyz Republic on approval of the Regulations on the design and construction of experimental facilities in the Kyrgyz Republic dated January 24, 2009 No. 46;
- Resolution of the government of the Kyrgyz Republic “Rules for assigning the level of responsibility for licensing work performed in construction activities” dated August 30, 2001 No. 499;
- KMS 1.0-2017 National system for standardization of the Kyrgyz Republic;
- KMS 1.5-2017 National system for standardization of the Kyrgyz Republic. General requirements for the construction, presentation, design, and content of standards and specifications;

- KMS 1.7-2017 National system for standardization of the Kyrgyz Republic. Terms and definitions;
 - SNiP KR 30-01-2001 Urban planning. Planning and construction of cities and urban-type settlements;
 - SN KR 31-04:2018 Public buildings and structures;
 - SNiP KR 12-01-99 Safety in construction;
 - SP RK 1.02-105-2014 "Engineering surveys for construction. Basic principles;
 - SN KR 12-02:2018 Organization of construction production;
 - SNiP KR 10-01:2017 System of normative documents in construction. Basic principles;
 - SN KR 31-05:2018 Production buildings;
 - SN KR 11-03:2018 Composition, procedure for development and approval of project documentation for buildings, structures and complexes in the Kyrgyz Republic;
 - SN KR 20-02:2018 Antiseismic construction. Design standards;
 - SNiP KR 2.01.02-94 Construction in areas of the Kyrgyz Republic with a seismicity of more than 9 points;
 - RDS 31-01-99 Procedure for engineering survey of buildings and structures subject to re-profiling, redevelopment or reconstruction on the territory of the Kyrgyz Republic;
 - SNiP KR 12-03-00 Commissioning of completed construction projects;
 - SNiP KR 30-02:2007 Composition, procedure for development, coordination and approval of urban planning documentation.
- Common documents for the Russian Federation and the EAEU member states.
- MSN 10-01-2012 The inter-state system of normative documents in construction. Basic principles.
 - GOST 27751-2014 Reliability of building structures and foundations. Basic principles (Reissue). Interstate standard
 - GOST 31937-2011 Buildings and structures. Rules for inspection and monitoring of technical condition. Interstate standard.

4. REQUIREMENTS TO PARTICIPANTS

Participants who meet the requirements set out in Annex No. 1 to the Methodology are allowed to participate in the Championship.

5. THE ORDER OF THE PRELIMINARY STAGE OF THE CHAMPIONSHIP (if applicable)

5.1 The purpose of the preliminary stage of the Championship is to identify and select the Finalists who are able to demonstrate a high level of knowledge and skills that meet international requirements.

5.2. The preliminary stage of the Championship is held within the terms established by the Organizing Committee: from 03 August to 11 December 2020.

5.3. Participant Organizations shall independently organize and hold the preliminary stage using the Tasks developed for the preliminary stage of the Championship and the Methodology.

5.4 Mode of the preliminary stage of the Championship: full-time, on a day-release basis in the Participant Organizations.

5.5 The Organizer does not provide any clarifications about the Task for the Participants during the organization and conduct of the preliminary stage of the Championship.

5.6 The Organizer communicates on the issues of holding the preliminary stage of the Championship only with persons officially authorized and responsible in the Participant Organizations for organizing and holding the Championship (hereinafter - Responsible person (s)).

5.7 The theoretical part of the tasks of the preliminary stage of the Championship is either posted on the information and educational resource of the Private institution of State Atomic Energy Corporation «ROSATOM» “The Branch centre of the capital construction” (hereinafter-the Resource), or provided by the Organizer in electronic form at the official request of the participating Organizations (indicating the contact details of the Responsible person(s)).

5.8 Participant Organizations can independently choose a tool for testing Participants: either a Resource, or the organization’s own electronic resource, or another tool. Information about selecting a tool to test the Participants shall be sent to the Organizer.

5.9 In case a Resource is selected as the tool to conduct the test part of the Task, the Organizer shall only perform the following works for Participant Organizations:

- shall confirm the registration of Participants and provide Participants with access to the Resource from a personal computer and to the Task from a mobile device,

- shall publish Tasks of the preliminary stage,

- shall generate uploads with the results of completion the task by Participants for those responsible in Participant Organizations, but no more than 1 (one) time in 3 (three) business days,

- in case of errors in the Resource, the Organizer shall fix them no later than 2 (two) business days.

5.10 the Organizer does not provide Participants with an Internet connection (hereinafter referred to as the Internet) and in case of Internet failures when Participants pass the test part of the Task, the Organizer shall not be responsible for the results of the Tasks performed by the Participants.

5.11 For additional information and clarifications on the preliminary stage of the Championship, the Participants may contact only the Responsible Persons in their organization.

5.12 The Responsible Person provides organizational and technical support to the Participants during the preliminary stage of the Championship.

5.13 The Participant Organizations, by their own decision, can make up to 30% amendments to the Task of the preliminary stage of the Championship. The Organizer must be officially notified of the introduction of such amendments, indicating detailed information, in which sections of the Task and to what extent the amendments were made. The Notice shall be sent by the Participant Organizations to the Organizer jointly with the final lists of the Finalists. The final lists of Finalists can be accepted for work by the Organizer only if there is a notice of amendments, if such amendments were made.

5.14 The Participant Organizations independently choose the time and place for the preliminary stage, organize workplaces for the Participants, incl. independent provision with all tools and materials, personal protective equipment and work clothes (if required) to the Participants to complete the Task of the preliminary stage in accordance with Annex No. 2 to this Methodology. The organizer shall neither go to the site for the execution of the Task nor participate in the organization and conduct of the preliminary stage.

5.15 The sequence and procedure for completing the Task are defined in Annex No. 2 of this Methodology.

5.16 At the site of conducting the preliminary stage:

5.16.1 Workplace allocation

Jobs are allocated by drawing lots. The drawing lots is carried out by the Jury before the procedure for familiarizing the Participants with their workplaces.

The draw is made in the presence of all Participants in a manner that excludes the planned distribution of jobs or equipment.

In the process of preparing the site for the nomination, the numbers shall be assigned to workplaces by means of visual marking. Before the start of the competition, the Jury shall present for all the public anonymized envelopes with enclosed numbers of workplaces in accordance with the marking procedure. Team representatives take the envelopes and place themselves at their workplaces. Based on the drawing results, a protocol shall be prepared (Annex No. 4, Form 1).

5.16.2 Familiarizing with a workplace

Before the start of the competition, the Participants receive time to familiarize themselves with their workplaces (no more than 30 minutes). The Participants use this time to familiarize themselves with equipment, tools, rigging and materials. Measuring instruments of the Participants are compared with those of the Jury in order to avoid errors (if applicable). At the end of the familiarization period, the Participants shall confirm their familiarization with all equipment and materials by signing the Protocol of familiarization of the Participants with the equipment and workplaces (Annex No. 4, form 2).

5.16.3 Replacement of equipment and devices

In order to comply with the unity of the conditions for the final stage of the Championship and the unity of interpretation in the assessment criteria, the Participants shall perform the Task on the Championship equipment. Participants shall not be allowed to use equipment that they have brought with them.

5.16.4 Familiarization with the Task

Immediately before the start of the competition, the Jury shall familiarize the Participants with the current Task, the assessment criteria for the Task, work regulations and rules of conduct at the site, hold a safety briefing. Based on the results of familiarization, the corresponding protocols are drawn up (Annex No. 4, forms 4, 5).

5.16.5 Abnormal situations

Any deviation from this Methodology shall be considered as an abnormal situation. The decision on an emergency situation is made by the chairman of the Jury and is confirmed by a simple vote of the members of the Jury with the preparation of the corresponding protocol (Annex No. 4, form 6).

5.16.6 Beginning and completion of work

Participants shall wait for the Chairman of the Jury to indicate the beginning and completion of the work. In case, for reasons beyond the control of the Participant, he/she had to interrupt the performance of the Task (hereinafter-Forced stop), the Participant shall immediately inform the Chairman of the Jury or the member of the Jury responsible for recording the time. In this case, the start and end time of the stop shall be recorded. After confirmation by the Jury Chairman, the Participant shall have the right to receive additional time equal to the time of Forced stop. The

amount of extra time shall be determined by a panel decision of the Jury and shall be recorded in the Protocol of an emergency situation (Annex 4, form 6).

5.16.7 Communication and contacts of Participants

Participants shall not be allowed to communicate with third parties during the official time of the Championship, including areas outside their site, with the exception of lunch breaks and official communication times. During the competition, it is forbidden to contact other Participants without the permission of the Chairman of the Jury. Periods of time (15-30 minutes) allocated for official communication of Participants can be held before the start of the Task and after the end of work on the site. Use of any information exchange equipment (mobile phones, electronic devices) shall be prohibited. Members of the Jury shall not be allowed to help Participants in any way in the interpretation of the Task, except with the permission of the Chairman of the Jury. Any questions that arise shall be referred to the Chairman of the Jury for decision.

5.16.8 Illness or accident

If any of the Participants gets sick or falls victim to an accident, the Chairman of the Jury shall be immediately notified of this and shall decide to award points to the Participant for the amount of work performed.

5.16.9 Labour Protection

All Participants on the site shall comply with labour protection and safety requirements. Failure by Participants to comply with labour protection standards and regulations results in the loss of points in accordance with the assessment criteria, or the exclusion of Participants from performing Tasks if such a violation has led or could have led to a dangerous situation for people or damage to equipment. Each case shall be reviewed by the full Jury and a vote is taken for each case by the Jury members. The decision shall be made by a simple majority of votes and formalized by the Protocol of emergency situations. When making a decision, the Jury members shall be guided by the requirements of labour protection for the nomination.

In order to ensure measures to prevent the spread of a new coronavirus infection on the territory of the Russian Federation, all persons present at the nomination site shall comply with a set of protective measures against the COVID-19 infection.

6. PROCEDURE FOR THE FINAL STAGE OF THE CHAMPIONSHIP

6.1 The Organizing Committee shall establish the dates and venue of the final stage of the Championship annually and publish them on the official website of the Championship.

6.2 The form of participation in the Championship is full-time, with a day release.

6.3 The Participants shall arrive at the venue of the final stage of the Championship no later than 1 (one) day before the start of the competition.

6.4 Prior to the start of the Championship competitions, the Participants shall undergo a General labour protection and safety briefing, receive registration badges, and participate in a General organizational meeting in the Championship region. The time and place shall be determined by the Organizer and notified additionally no later than 5 (five) days before the start of the Championship competitions.

6.5 At the site of conducting the final stage:

6.5.1 Workplace allocation

Before the start of the competitions, a draw of jobs is conducted between the teams of Participants in order to exclude the possibility of obtaining more favourable conditions for completing the task. The draw is conducted by Technical experts in public.

6.5.1.1 Procedure for drawing jobs:

In the process of preparing the site for the nomination, the numbers shall be assigned to workplaces by means of visual marking.

The draw of jobs can be conducted either in electronic format using the randomizer program (random number generator) or using impersonal envelopes with enclosed workplace numbers in accordance with the marking. In the latter case, before the start of the competition, the Technical expert shall present for all the public impersonal envelopes with enclosed numbers of workplaces in accordance with the marking procedure. Representatives from the teams of Participants shall sort out the envelopes, show the contents to experts and other Participants and place them at their workplace.

When using the randomizer, the Technical expert shall enter the names of Participant Organizations into the program, and the system automatically assigns workplace numbers to the teams of Participants.

The Organizer shall select the format for the workplace draw and the Technical experts shall communicate it to the Participants at the site of the final stage.

At the end of the procedure for drawing workplace by a Technical expert, a Protocol is drawn up (Annex 4, form 1).

6.5.2 Familiarizing with a workplace and the Task

Participants are allowed to perform the Task only after passing the briefing on labor protection and safety at the workplace.

Immediately before the beginning of the Task, the Technical Experts conduct an introductory briefing of the Participants regarding the work regulations at workplaces, acquaint the Participants with the content of the Task and the evaluation criteria. Based on the results of familiarization, the corresponding protocols are drawn up (Annex No. 4, forms 4, 5).

No more than 30 minutes are allotted to conduct an introductory briefing and provide explanations on the work regulations, which are not included in the total time for completing the Task.

No more than 30 minutes are allotted for familiarization with a workplace and study of the Task, which are not included in the total time for completing the Task.

6.5.3 Beginning and completion of work

The participant must wait for the instructions of the Technical Expert to begin and complete the work. In case for reasons beyond the control of the Participant, he/she had to interrupt the Task, he/she shall immediately report the forced stop to the expert of the Jury. In this case, the start and end time of the stop shall be recorded.

After confirmation by the Jury Chairman, the Participant shall have the right to receive additional time equal to the time of forced stop. The amount of extra time shall be determined by a panel decision of the Jury and shall be recorded in the Protocol of an emergency situation (Annex 4, form 6).

6.5.4 Abnormal situations.

Any deviations from this Methodology and the provisions of the General Procedure for the Championship regarding the competitions of the final stage shall be considered as an abnormal situation. The decision on an abnormal situation is made by the experts of the Jury by a simple vote of experts with the preparation of the corresponding protocol. (Annex No.4, Form 6)

6.5.5 Communication and contacts of Participants, Technical experts, Expert jury

Any communication during the performance of Tasks by Participants shall be regulated by the General order of the Championship.

6.5.6 Illness or accident

In case of an accident or sudden illness, the Participant shall first report the incident to the Expert jury on the site, who shall take measures to provide first aid to the victims, call an ambulance, and, if necessary, send the victim to the nearest medical facility.

The Expert jury shall make a collective decision on whether it is possible to compensate for the lost time. If a Participant has to withdraw from further participation in the Championship, he/she receives points for the amount of work performed.

6.5.7 Replacement of equipment and devices

The participant can ask for the opportunity to replace the equipment or device with the one brought with him. Permission for the replacement is determined by a general vote of the Jury members with the registration of the protocol (Annex 4, form 3). In this case, the responsibility for the serviceability of the device, the accuracy of its measurements and verification issues lies with the Participant.

7. TASK AND EVALUATION STRATEGY

7.1 Preliminary stage (if applicable)

7.1.1 The task of the preliminary stage contains a theoretical and practical part.

7.1.2 The task of the theoretical part contains 50 (fifty) test questions with multiple choice answers, of which 1 (one) can be correct. Task completion time is no more than 50 (fifty) minutes without a break. The team Participants shall perform the theoretical part of the Task separately. The points scored by the Participants are summed up and the average value of the team's points is calculated.

7.1.3 Practical task is presented in Annex No. 2 to the Methodology. Task completion time is no more than 8 (eight) hours with a lunch break. Tasks shall be performed by the team.

7.1.2 The results of the practical Task completed by the Participants shall be evaluated by the Jury in accordance with the assessment criteria provided for in Annex 2 to the Methodology.

7.1.3 The final result of completing Tasks by the team is calculated by summing the average score of the team for the theoretical part of the Task and the points for the practical part of the Task by the team.

7.1.3 The Jury's Decisions on the results of the Tasks completed by the Participants shall be drawn up in the final Protocol in accordance with Annex 5 to the Methodology.

7.2 Final stage

7.2.1 The Task of the final stage contains practical tasks in which Participants will have to solve a set of engineering and geodetic issues, including creating a topographical basis for design (topographic survey of an area on a scale of 1:500), planning and high-altitude stakeout of the project, setting out a site with specified design points with reference to the local coordinate system, geodesic control of the accuracy of geometric parameters, comparing the geometric design data of the object with its actual dimensions and identifying the zone of deviations, geometric levelling, etc.

7.2.2 The time allowed to complete the Task – no more than 20 hours for two days, including the lunch break.

7.2.3 Performing Tasks will help to identify the level of basic competencies of engineers-surveyors who solve complex of engineering and geodesic issues in the field of industrial construction:

- knowledge of various methods and technologies for performing topographic surveys using Total stations and satellite equipment;
- the ability to perform field geodetic works when setting out;
- determination of the planned high-altitude coordinates of points using ground and satellite methods;
- knowledge of the method of adjusting geodesic and leveling networks;
- knowledge of the method of calculating geometric parameters;
- use of specialized field software.

7.2.4 The Task and assessment criteria are verified in accordance with the Verification Procedure.

7.2.5 The results of the Task completed by the Participants shall be evaluated by the Jury in accordance with the assessment criteria within 2 (two) days of the final competition. The Jury shall provide the participants with final results and valuation sheets for review. Participants confirm that they have familiarized themselves with the results by signing the valuation sheets.

7.2.6 The Jury's Decisions on the results of the Tasks completed by the Participants shall be drawn up in the final report sheet in accordance with Annex 5 to the Methodology. The report form sheet can be supplemented by a decision made by the Organizer.

8. EXPERT JURY

8.1 Preliminary stage (if applicable)

8.1.1 To assess the performance of the Tasks by the Participants, the Organizations-Participants shall independently create an Expert Jury within the team nomination "Geodetic engineer".

8.1.2 The jury within the team nomination "Geodetic engineer" consists of the Chairman and 2 (two) members of the Jury.

8.1.3 The Chairman of the Jury is determined by a simple drawing of lots.

8.2 Final stage

8.2.1 To assess the performance of the Final Stage Tasks by the Participants, a Jury within the team nomination « Geodetic engineer» shall be formed, consisting of experts from the Participant Organizations.

8.2.2 The requirements for the Expert jury and the principle of forming the personal composition of the Jury are established by the Regulations on the work of the Expert jury.

8.2.3 The activity of the Expert Jury is regulated by official documents: The General order of the Championship, The Regulations on the work of the Expert Jury, and The Methodology.

9. THE PROCEDURE FOR DETERMINING THE FINALISTS AND WINNERS OF THE CHAMPIONSHIP

9.1 The Procedure for determining the Finalists (if applicable)

9.1.1 The winners of the preliminary stage of the Championship are determined by the organizations independently on a basis of the maximum score received by the Participants within

the team nomination “Geodetic engineer”. The final scores of teams are compared, and the overall rating of teams for the nomination is generated.

9.1.2 Participant Organizations shall form and approve the final Protocol according to Annex 5 of the Methodology based on the results of the preliminary stage of the Championship.

9.1.3 The Participant Organizations shall determine the Finalists independently based on the overall rating of the winners of the preliminary stage in accordance with Quotas according to the General order of the Championship.

9.1.4 In case several teams of Participants scored the same number of points, the winners shall be determined by the time of completion of the Task, the teams of Participants who completed the Tasks faster go to the final stage of the Championship.

9.1.5 All finalists shall register on the official website of the Championship and fill out a Participant’s questionnaire.

9.1.6 The Participant Organizations shall send an official email to the Organizer’s email address with the list of Finalists approved by the organization’s director, or an authorized representative (main and reserve members), for the nominations in the form prescribed as per Appendix No. 6 to the Methodology, in both PDF and Excel format, within the period established by the Organizer and published on the Official website of the Championship.

9.2 The procedure for determining the winners of the Championship

9.2.1 The Jury shall sum up the results of the Championship in the nomination and determine the winners.

9.2.2 The team of Participants that has received the highest number of points based on the results of the Task and has taken 1 (first) place in the overall rating of the teams of Participants shall be named the winner in the nomination.

9.2.3 In case several teams of Participants have scored the same number of points, the winners shall be determined by the introduction of an additional assessment criterion, which the Technical expert and the Jury shall announce to the Participants before the start of the competition.

9.2.4 The Jury shall create a list of winners of the final stage of the Championship and draw up the final Protocol, which shall be submitted to the Organizer along with the Protocols and rating sheets with the results of Tasks.

10. REPLACEMENTS

10.1. Participant Organizations shall ensure a reserve team of Participants for the nomination to replace Finalists in the event of unforeseen circumstances and forced cancellation of participation of Participants from the first team in the final stage of the Championship.

10.2. The number of reserve Participants shall be equal to the number of the main Participants.

10.3. Specialists of the reserve team shall meet the qualification criteria for Participants specified in the Methodology.

10.4. Reserve team members shall register on the official website of the Championship and fill out a Participant’s questionnaire.

10.5. Participants can be replaced no later than 2 (two) weeks before the start of the final stage of the Championship. The date of replacement shall be the date when the Organizer sends a response to the Participant Organizations with confirmation of the replacement.

10.6. The Organization participating in the Championship shall replace the Participant from the reserve team of Participants by sending an official notification to the Organizer indicating the reason for the replacement, indicating data about the Participants of the main and reserve teams and receiving a response from the Organizer confirming the replacement.

11. APPEALS

11.1 Within the framework of the final stage of the Championship, the Participants may appeal against the quality of the evaluation of the results and Jury work on the evaluation and summing up procedure.

11.2 The appeal is filed on the terms and conditions established by the Regulation on the appeal commissions for nominations.

11.3 Appeals are reviewed by the Appeals Commission.

12. RIGHTS, POWERS AND OBLIGATIONS

The rights, powers and obligations of the Participants, Expert Juries, Technical Experts, the Organizer are established in the General Procedure for the Championship.

13. AWARDS

The winners and laureates of the Championship are provided with awards and prizes in accordance with the General Procedure for the Championship.

Annexes

Annex No.1

Qualification criteria for Participants

Team composition: 2 (two) persons.

Specialists who meet the requirements are allowed to participate in the Championship:

No.	Section Name	Section Content
1.	General description of competence	Engineer surveyor is a specialist who has a professional education and performs a complex of geodetic works in solving various engineering and technical tasks, including design, construction support, when performing construction and installation and geological exploration works, operation of engineering structures and basic equipment. A Engineer surveyor shall perform works on geodesic support for the construction and operation of buildings and engineering structures: conduct a topographic survey of the area, create a geodetic control network, perform leveling, conduct a stakeout, executive surveys, vertical territorial planning, control the installation of technological equipment and structures, monitor the deformations of buildings and structures.

		Specialists of organizations of the EAEU countries (Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia) who perform engineering and geodetic works in the field of industrial construction are allowed to participate in the Championship.
2.	Requirements to qualification characteristics/ profession (Possible job titles, professions)	Compliance of functional (official) duties: surveyor, leading surveyor, senior surveyor, engineer surveyor, chief specialist of engineering surveys departments, senior topographer, land management engineer, leading mineral surveyor (construction), senior mineral surveyor (construction), leading specialist (complex or types of engineering surveys), chief specialist (complex or types of engineering surveys)
3.	Requirements for education and trainings	<p>- Specialized secondary professional education (training programs for middle-level specialists) and at least 3 years of work experience in the position.</p> <p>Specializations:</p> <ul style="list-style-type: none"> - Applied geodesy; - Land management; - Mining geodesy; - aerial phototopography. <p>or</p> <ul style="list-style-type: none"> - Higher industry-specific education (Specialist Degree programs, bachelor's degree, master's degree) and at least 1 year of work experience in the position held. <p>Specializations:</p> <ul style="list-style-type: none"> - Applied geodesy; - Geodesy and remote sensing; - Land management and cadastre; - military map making. <p>or</p> <ul style="list-style-type: none"> - Higher education (non-major) - bachelor's degree, specialist's degree, master's degree and complementary professional education - professional retraining programs in the field of mining geodesy, surveying, engineering and geodetic surveys. <p>Complementary professional education - professional development programs in the field of engineering and geodetic surveys at least once every five years.</p>

4.	Requirements to skills	<ul style="list-style-type: none"> - Use the normative and technical documentation in the field of engineering and geodetic surveys for planning and organizing the performance of a specific type of engineering and geodetic work. - Analyze and evaluate information necessary for planning engineering and geodetic surveys, setting and solving professional tasks in the field of engineering and geodetic surveys. - Perform the optimal choice of methods and means of geodetic works. - Use modern technologies of geodetic works in engineering surveys. - Perform engineering and geodetic works during engineering and technical surveys for the design, construction and monitoring of engineering structures. - Process and equalize observations when laying the levelling line and assess accuracy of measurements at the station. - Apply methods and software for adjusting geodesic and leveling networks. - Evaluate the accuracy of determining the planned and high-altitude position of geodetic points based on adjustment materials. - Process observations of vertical angles and zenith distances at a geodetic point, assess accuracy of observations. - Make angular observations, linear measurements and satellite-based definitions in the topographic surveys. - Restitute coordinate systems in accordance with the technical specifications. - Make a topographic survey of the area to create survey plans, including the survey of underground utilities. - Create digital terrain models. - Assess the accuracy of geodetic measurements at a point (geodetic point). - Use software to process satellite measurements, tacheometric survey. - Use software to create engineering topographic plans and terrain models in electronic form for information systems providing urban planning activities with geodetic information. - Control geodetic works on the creation of state geodetic, levelling, gravimetric networks, fine and special purpose networks. - Work with software and databases for accounting,
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		<p>analysis and systematization of results of engineering and geodetic works.</p> <ul style="list-style-type: none"> - Collect, systematize and analyze information about the topographic and geodetic infrastructure of the work area. - Prepare data to calculate the needs of forces and means necessary to perform engineering and geodetic surveys, based on the technical specifications of the customer. - Distribute tasks to perform engineering and geodetic works among contractors. - Use surveying instruments and tools. - Use the standards and forms established for engineering and survey documentation. - Ensure compliance with the labour protection requirements when performing works in the field.
5.	Requirements to knowledges:	<ul style="list-style-type: none"> - Methods and ways to build geodetic networks, determine the coordinates of individual points. - Principles of operation, structure of devices and methods of verification of devices, tools for engineering and geodetic surveys. - Methods of evaluation and quality indicators of engineering and geodetic measurements. - Methods of production of geodetic observations and measurements used in the performance of a specific type of engineering and geodetic works. - Methods of processing the results of field geodetic works. - Software used to process measurement data- tacheometric survey, satellite measurements. - Technologies for mathematical processing of field observations for geometric and trigonometric levelling. - Legislative regulatory acts regulating the planning of satellite definitions of coordinates and heights of points on the earth's surface. - Traditional and modern methods and technologies of geodetic works. - Methods of production and methods of mathematical processing of satellite definitions. - Adjustment of spatial coordinates of individual points and geodetic control network points obtained using satellite equipment. - Technologies and software for the adjustment of geodetic control networks, levelling lines and their systems, satellite definitions. - Organization and technologies of engineering and geodetic surveys. - Legislative regulatory acts for quality control of geodetic

		<p>works.</p> <ul style="list-style-type: none"> - Software to create engineering topographic plans and mathematical models of terrain in electronic form for information systems providing urban planning activities with geodetic information. - Requirements of legislative regulatory acts to the content of reports on performed engineering and geodetic works. - Technical regulations to ensure safety of buildings and structures. - Methods of analysis of geospatial information. - Geoinformation systems and technologies. - Labor protection requirements when performing field and laboratory engineering and geodetic surveys.
6.	Requirements to employment functions	<ul style="list-style-type: none"> - Obtaining engineering and geodetic information to ensure the construction and operation of engineering structures and basic equipment. - Determination of the planned high-altitude coordinates of points of terrain and industrial sites, as well as elements of building structures of engineering structures using ground and satellite methods. - Application of effective methods and means of measurement, performance of field geodetic works. Processing of results of mixed high-precision geodetic measurements, control of results, their interpretation and evaluation of the quality of results. - Conduction of topographic surveys of terrain and field processing of topographic survey materials. - Creation of electronic engineering plans and digital terrain models for information systems providing urban planning activities with geodetic information.
7.	Requirements for the availability of special permits and documents set forth in official documents	<p>In case of work experience of more than 5 years - information about professional development programs in the field of engineering and geodetic surveys at least once every five years.</p>

Tasks (practice), assessment criteria, timing, forms of reporting documents and list of materials and equipment for the preliminary stage of the Championship

Before the start of the preliminary stage of the Championship the Jury shall:

- select an area for survey of no more than 0.5 Ha. If necessary, sites for survey can be marked with clear borders. The site should be open with a smooth relief, without buildings and tall trees,
- install the planned high-altitude network points on the site in an amount sufficient for all Participants to complete the Task,
- at the discretion of the Jury, the system of coordinates and heights of points can be unified or conditional.

1. Practical Task.

Module 1. Topographic survey of a site at a scale of 1:500. Participants shall make a topographic survey of the area at a scale of 1:500: using the resection method and link it to the points of the geodetic base.

Module 2. Plan-altitude stakeout the project.

Participants shall perform a Plan-altitude stakeout of the site project: perform calibration with a set of satellite transportable receiver (hereinafter – Rover), make a stakeout of the site by coordinates with Stakeout app, fixing the vertices by painting the necessary points. Sign each staked out point in accordance with the numbering placed on the plan. As a result of execution tasks, Participants hand over a site taken out in the field with staked out design points

Module 1. Topographic survey of a site.

Item No.	Content of operation	Equipment and tool
1	Select a location for the Total station so that the entire site to be surveyed can be viewed from it.	Total station, tripod, surveying rod with a reflector, tape, GNSS receiver, surveying rod, controller
2	Use resection method by reference points to orientate the Total station. Perform calibration with the Rover to work in a common coordinate system.	
3	Conduct a survey of the terrain and relief of the specified site and store measurements in the memory of the Total station and Rover.	
4	Saving projects on removable memory card	SD card or USB
5	Creating a topographical plan in reference points coordinate system	
6	Designing topographical plan according to the necessary requirements	
At the end of Module 1, the Jury shall evaluate the completeness of the data obtained and coding of the data.		

Module 2. Plan-altitude stakeout the project.

Item No.	Content of operation	Equipment and tool
1	Set up the Total station so that to stakeout from single station.	Total station, tripod, surveying rod with a reflector, tapeline, GNSS receiver, surveying rod, controller
2	Use resection method by reference points to orientate the Total station. Perform calibration with the Rover to work in a common coordinate system.	
3	Stakeout points according to the coordinates of the statement 1, fixing the vertices with metal pegs or painting the necessary points. Sign each survey peg in accordance with the numbering placed on the plan.	

At the end of the Module 2, Participants shall hand over a staked out site with the project points placed.

2. Criteria for evaluating the practical task of the preliminary stage of the Championship.

The maximum number of points received by a team during the practical stage of the Championship is 125 points.

Module 1. Topographic survey of a site at a scale of 1:500.

No.	Control type	Scores for items	
		Completed	Not completed
1	The Total station location was selected according to the task requirements	5	0
2	The Instrument is in working condition	5	0
3	Oriented by reference points	10	0
4	Topographic survey of a site	10	0
5	Transferring data from the Instrument to the computer	5	0
Criteria for evaluating a topographical plan			
1.	Convectional signs are shown in full	5	-5
2.	The convectional signs meet the requirements for 1:500 scale plans	5	-5
3.	Relief mapped	5	-5
4.	Coordinate grid mapped	5	-5
5.	Marginal representation	5	-5
6.	The topographical plan mapped in the specified coordinate system	5	-5

Module 2. Plan-altitude stakeout of the project.

No.	Control type	Scores for items	
		Completed	Not completed
1.	The station location was selected according to the task requirements	5	0
2.	The Instrument is in working condition	5	0
3.	Oriented by reference points	5	0
4.	The site is staked out with survey pegs	10	0
5.	Design marks are staked out	10	0
6.	Numbering and design marks are marked to all survey pegs	5	0
Criteria for evaluating horizontal and vertical stakeout			
1.	Site dimensions correspond to the required dimensions	5	-5
2.	Sides of individual squares are equal to 5 meters (allowable discrepancy ± 2 cm)	5	-5
3.	Diagonals of the platform are equal	5	-5
4.	Distances from the ground to the design mark correspond to the calculated marks of statement 3 (allowable discrepancy ± 2 cm)	5	-5

3. Timing of the preliminary stage of the Championship

	Theoretical part of the preliminary stage of the Championship
10 minutes	Briefing for Participants on how to pass the test
60 minutes	Testing
10 minutes	Summing-up test results
	Practical part of the preliminary stage of the Championship
30 minutes	Draw of work places. Safety and labour protection briefing.
30 minutes	Introduce participants to working places and site
30 minutes	Introduce Participants to the Task and assessment criteria
240 minutes (4 hours)	Module 1 Execution Topographic survey of a site at a scale of 1:500
	Lunch break
120 minutes (2 hours)	Module 2 Execution “Planned and high-altitude stakeout of the site project”

20 minutes/ per 1 participant	Results processing, Summing-up the practical part of the preliminary stage of the Championship
	Summing-up the overall results of the preliminary stage of the Championship

4. List of materials and equipment for the practical task of the preliminary stage of the Championship

Equipment, tools and materials per one Participant			
Item	Name	Link to the site with technical characteristics or technical characteristics of the equipment	Quantity
1	Total station	https://geosystems.ru/shop/takheometry/ or an analogue	1
	Set of GNSS equipment with a controller	https://geosystems.ru/shop/gnss-oborudovanie/ or an analogue	1
2	Tripod	At the discretion of the organization	1
3	Surveying rod	At the discretion of the organization	1
4	Single-prism reflector, metal reading line	At the discretion of the organization	1
5	Software product to create a topographical plan	At the discretion of the organization	1
6	AutoCAD Software	any version from 2006 to 2018 https://www.autodesk.ru	1
7	Forms and statements for completing tasks	According to the Methodology	1
8	Personal computer	Computer assembled with a monitor. Processor: Intel Pentium 4 1.6 GHz or compatible (recommended Intel Core 2 Duo 2.4 GHz); RAM: at least 2 GB; video subsystem: graphics accelerator based on a graphics processor of NVIDIA GeForce 6600 class or ADM Radeon X700 or more productive; Operating system: Microsoft Windows 7 or later.	1
11	Hammer	At the discretion of the organization	1
12	Tapeline		1
Equipment and tools that participants should have in their tool box			
1	Scientific calculator	At the discretion of the organization	1
2	Pencil	At the discretion of the organization	1
3	Ballpoint pen	At the discretion of the organization	1

4	Rubber	At the discretion of the organization	1
5	Tablet in the form of a plaque with a clip	At the discretion of the organization	1
6	Black marker	At the discretion of the organization	1
7	Black tape	At the discretion of the organization	1
Consumable materials			
1	Wooden or metal survey pegs	Round or rectangular cross-section with a length sufficient to perform high-altitude stakeout	12

5. List of materials and tools required for Jury work

Equipment, materials and office equipment per expert			
Item	Name	Link to the site with technical characteristics or technical characteristics of the equipment	Quantity
1	A4 paper	At the discretion of the organization	1
2	Ballpoint pen	At the discretion of the organization	1
3	Stapler	At the discretion of the organization	1
4	Tablet in the form of a plaque with a clip	At the discretion of the organization	1
5	Black marker	At the discretion of the organization	1
6	Calculator	At the discretion of the organization	1
7	Tapeline	At the discretion of the organization	1
8	Timer	At the discretion of the organization	1

Safety requirements and technical requirements for the site of the preliminary stage of the Championship

1.1. Following Participants are allowed to participate in the preliminary stage of the Championship on the site:

- those who were instructed on labour protection and safety;
- those who are familiar with the fire safety rules,
- those who know how to apply first aid in case of accidents and can do it;

- those who do not have contraindications to the performance of competitive tasks for health reasons;

- those who are able to use geodesic equipment when performing competitive tasks in accordance with the operating instructions.

1.2. In the premises where the Championship is held, safety signs shall be placed to indicate the dangers present:

- F04 Fire Extinguisher
- E 22 Exit sign
- E 23 Fire exit sign
- E C 01 First aid kit
- P01 No smoking

1.3. In cases of fire, take measures to evacuate people and try to put out the flames with fire extinguishers, and in case of a complex fire, inform the fire service by phone 01 or 112.

1.4. It is required to wear special signal vests or suits with signal stripes on the site of performing practical tasks of the Championship.

1.5. It is forbidden to perform fieldwork in a thunderstorm, with the approach of a thunderstorm, it is necessary to stop fieldwork, pack tools, put metal objects aside, and take shelter in the room.

1.6. If an explosive device or other foreign suspicious items are detected, it is necessary to isolate access to them by others and immediately inform experts and law enforcement officials. It is forbidden to perform any actions with the detected device.

1.7. When completing Tasks and while on the territory and in the premises of the Championship venue, Participants shall strictly observe:

- labour protection and safety instructions;
- safe methods and techniques for performing works;
- independently use serviceable surveying equipment allowed to perform the competitive task;
- maintain personal hygiene and safety measures related to the distribution of COVID-19.

Recommended forms of protocols for Jury work

Form 1

**Drawing report sheet
for workplace allocation**

Nomination _____.

Chairman of the
Jury _____

We, the undersigned, confirm that the drawing was carried out fairly and honestly. We have no complaints.

Item	Name of the foreman	Workplace number	Signature

Date _____ 2021

Chairman of the Jury _____

Form 2

**Report sheet on familiarization of the Participants with the equipment
and workplaces**

Nomination _____.

Chairman of the Jury _____

We, the undersigned, confirm that we were given the opportunity to fully familiarize ourselves with the equipment and workplaces on the site, test the equipment for the time necessary for familiarization, received and studied instructions for using the tool and consumable. We confirm the skill of using the equipment and consumables.

Item	Name of the foreman	Comments on information received	Signature

Date _____ 2021

Chairman of the Jury _____

Nomination _____.

Chairman of the Jury _____

We, the undersigned, take responsibility for the serviceability of the replaced equipment and devices, the accuracy of its measurements and verification issues

Item	Team Number	Protocol on the replacement of equipment and instruments	Signature

Date _____ 2021

Chairman of the Jury _____

Form 4

Report sheet on familiarization of the Participants with the Task and assessment criteria

Nomination _____.

Chairman of the Jury _____

We, the undersigned, confirm that we have been given the opportunity to fully familiarize ourselves with the Task and the assessment criteria.

Item	Name of the foreman	Comments and misunderstanding on information received	Signature

Date _____ 2021

Chairman of the Jury _____

Form 5

Report sheet on familiarization of the Participants with safety and labor protection rules

Nomination _____

Safety and labour protection briefing was conducted by _____

Chairman of the Jury _____

Jury member Full name	Signature

Date _____ 2021

Chairman of the Jury _____

Recommended forms of final reporting documents for Jury work

Form 1

LIST

of Championship Participants

Nomination « _____ ».

Period of conducting: _____.

Place of conducting: _____.

No.	Participant's Full Name	Position	Organization	Contacts
1.				
2.				
3.				
4.				
5.				
...				

Form 2
LIST
of Jury members

No.	Full name	Position	Organization	Contact details/e-mail	Nomination
1.					
2.					
3.					
4.					
5.					
6.					
...					

Form 3

Final Report sheet
The Jury

Date _____2021

Nomination «_____».

Period of conducting: _____.

Place of conducting: _____.

No.	Participant's Full Name	Position	Task Assessment			Final score (point count)	Place
			Module 1	Module 2.	Module N		
1.							
2.							
3.							
4.							
5.							
6.							
...							

Members of the Jury					
1.	Full name	Position	Organization	Signature	Date
2.	Full name	Position	Organization	Signature	Date
...					
Chairman of the Jury:					
1.	Full name	Position	Organization	Signature	Date

Head of organization (authorized person)

_____ / _____ /

Responsible employee:

_____ / _____ /

Form of providing the Organizer with a list of Finalists

Reserve composition of Participants for participation in the final stage of the Championship:

Item	Full Name	Position	Organization	E-mail	Contact phone	Specialty within the nomination (if applicable)	Registration mark on the Official website (yes / no)
Nomination							
Nomination							
...							

Reserve composition of Participants for participation in the final stage of the Championship:

Item	Full Name	Position	Organization	E-mail	Contact phone	Specialty within the nomination (if applicable)	Registration mark on the Official website (yes / no)
Nomination							
...							

Head of organization (authorized person)

_____ / _____ /

Responsible employee:

_____ / _____ /