

1. Simple and difficult engineering and geological conditions.
2. Constructive measures to improve the reliability of structures in difficult engineering and geological conditions.
3. Assessment of the "difficult" soil conditions of the construction site and justification of the criteria for the correctness of the design of the foundations.
4. The sequence of designing foundations on subsidence soils.
5. Subsiding soil - definition, origin.
6. Subsiding soils - external features, mineralogical and granulometric composition.
7. Subsiding soil - physical and mechanical properties.
8. Subsiding soil - causes of increased humidity and the mechanism of subsidence.
9. Subsiding soils - characteristics of properties and laboratory means of their determination.
10. Subsiding soils – types of soil conditions and soil deformation zones in the bases of foundations.
11. Calculation of foundation subsidence.
12. Means of arrangement of bases that reduce deformations of subsidence soils.
13. Surface tamping of soil.
14. Deep soil compaction.
15. Calculation of pile foundations in subsidence soils.
16. Waterproofing and constructive measures in the arrangement of bases from subsidence soils.
17. Standard scheme for describing landslides and their causes
18. Landslide prediction methods, initial data for calculations.
19. Movement of soil on slopes - causes. Classification depending on the type of soil.
20. Classification of landslides according to the mechanism of the landslide process.
21. Design of stable slopes and slopes (main stages, measures)
22. Flooding of the territory. Protection.
23. Assessment of the potential possibility of flooding the territory.
24. Measures that reduce the harmful effects of possible flooding.
25. Designing foundations in potentially flooded areas.
26. Bulk soils. Design features.
27. Bulk soils. Classification
28. Man-made soils - types, properties.
29. Measures to prevent mechanical suffosion
30. Saline soils - design of bases and foundations
31. Saline soils - properties, research, foundation design.
32. Karst soils - design of bases and foundations.
33. Karst - causes of development, nature of manifestation, research.
34. Designing foundations and foundations in karst areas - details of calculations, construction of foundations, measures.
35. Soils with weak structural connections - foundation design.

36. Weak water-saturated soils - types, properties, research
37. Weak water-saturated soils - foundation design (calculations and measures).
38. Measures to reduce deformations of foundations from swelling soils, and to increase the reliability of structures on them.
39. Swelling soils – properties, design features.
40. Swelling soils - characteristics of properties, laboratory and field methods of their determination.