МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

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У збірнику представлені результати сучасних наукових і науково-технічних досліджень та розробок із дослідження, проектування, експлуатації та реконструкції будівельних конструкцій, будівель і споруд; будівельної фізики та енергоефективності будівель і споруд; удосконалення й проектування сільських будівель та вулично-дорожньої інфраструктури.

Призначений для наукових й інженерно-технічних працівників, аспірантів і магістрів.

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UDC 624.134.4

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PROTECTION OF THE CONSTRUCTION PIT OF THE KT PUBLIC GARAGE IN VARAŽDIN (CROATIA)

Protection of construction pit for public garage on Kapucinski Square (KT) in Varaždin was performed in cohesionless soil under high level of underground water. Original design was to seal off pit bottom by jet grouting. That design solution was the result of local experience and practice. In accordance with the proposal made by geotechnical monitoring, new design solution was done. New design consisted of deepening the diaphragm and continuous pumping of groundwater. There have been additional investigations which have confirmed the design assumptions. The price analyzes showed that the new solution is more economically. Construction of pit and underground garage construction was carried out successfully and in accordance with the new project solution under the constant geotechnical supervision.

***Keywords**: construction pit, permeability, supervising geotechnical engineer, monitoring.*

UDC 624.131.65

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AN EXAMPLE OF THE CLIMATE IMPACT ON THE LANDSCAPE AND ARCHITECTURE CHANGES

Extreme droughts have appeared in the year 2003, and extreme precipitation in the year 2006. on the area of northwest Croatia. Its influences on arhitecture and landscape will be shown in this paper. Quantities of precipitation within a certain area and during a certain period of time vary from time to time and are related to season of the year and soil moisture. In a more general sense, precipitation certainly has an effect on the state of the surroundings, i.e. the landscape; this paper deals with the influence of precipitations and droughts on architecture, i.e. buildings and structures. in a technical sense. The central examples are: - influence of extreme precipitation on landscape by appearence of sliding of natural slope, and influence of extreme droughts on the soil of buildings' foundation where the moisture content is reduced.

***Keywords:** precipitation, landscape, landslide, drought, moisture, soil, constructions, damage.*

UDC 624.131.55

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ANALISYS OF VIBROSTABILITY TESTS OF SEVERAL FOUNDATIONS SOILS IN TERMS OF CURRENT PROGREES

Liability to appearance of supplementary settlement of various soils under dynamic loads is analyzing. Generic theoretical computations of previous researchers are adducing. Results of vibrostamp tests in container with soil held at NUUEKh are considering. Existing experimental data from other test sites with various soil conditions and vibrations parameters are analizyng.

Keywords: *vibrocreep, soil, foundation.*

UDC 624.131.524

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EFFECT OF DYNAMIC PRESSURE INJECTION FOR DISTRIBUTION SOLUTIONS IN SOIL MASS FOR PULSE AMPLIFICATION OF FOUNDATIONS

The article, the influence of dynamic pressure injection by the radius of distribution in the soil solution of the soil mass. On the basis of experimental studies, the dependences of the main parameters of the proposed changes on the formation of heavy equipment of the soil mass.

Keywords: *strengthening the foundations, the base, the radius distribution of the solution, the dynamic pressure of the injection, the penetration of the solution.*

UDC 624.131.23

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O.V. Kuts, post-graduate student
Poltava National Technical Yuri Kondratyuk University

THE INFLUENCE OF VALLEYS, SITUATED IN A SEAM ROOF OF A WATERPROOF HORIZON, ON THE PHYSICAL AND MECHANICAL CHARACTERISICS OF LOESS SOILS

The results of an assessment in the changes of loess soils' characteristics with the incorporation of the influence of filtration flow of groundwater is given. According to the results of modeling stress-strain relationships for the "structure-foundation" system with existence of valley the assumptions about decreasing of strength and strain characteristics was confirmed.

Keywords: *loess soils, the characteristics of strength, groundwater, valleys.*

UDC 624.154

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RESEARCH STRESS-STRAIN STATE FOUNDATION WITH PILES OF DIFFERENT LENGTHS RISE BUILDINGS IN KIEV

The show research the formation of the stress-strain state of foundation structures depending on the device variant foundation adopted length of piles and their location within the grillage on the real object of Kiev. Through numerical simulation shows the features of redistribution efforts in foundation construction.

Keywords: *numerical simulation, pile foundation, location of piles, piles of different lengths.*

UDC 624.138.4

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T.V. Mishyrova, PhD.
M.G. Mishyrova, master
Kharkiv National O.M. Beketov University of Urban Economy

STUDY ATTACHING SUBSIDING BASIS FOR THE RECONSTRUCTION INDUSTRIAL BUILDING LTD «Rhett» LTD

The results of laboratory studies silicification subsidence of loess loam forming the basis of reconstruction of industrial buildings, LLC «Rhett» LTD in Kharkov.

Keywords: *silicification, chemical grouting soils, improving the properties of the construction of earth foundations, soil subsidence.*

UDC 624.154.1

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WORK OF PILES'S GROUP INCORPORATED A GRILLAGE WITH CERTAIN INFLEXIBILITY

The results of researches about influence of grillage with certain inflexibility to work of piles in a group are shown in this article.

Keywords: *group of piles, flexible grillage, inflexible grillage.*

UDC 624.131.54

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O.V. Sukhodub, engineer
TOV «EKFA», Poltava

WORKING OF SYSTEM «BASE – FOUNDATION – BUILDING» AT ADDITION

Shows the results of geodetic observations of the deformation of bases and foundations single-story public building, which is addition during the dismantling of old structures and the expansion of the underground part.

Keywords: *addition, reconstruction, base of foundation, geodetic observations, the decompression, sediment.*

UDC 624.131

. Siplivets, postgraduate student
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ELASTO-PLASTIC CALCULATION OF THE SOIL MASSIF WITH THE SUPPORTED OPENING FROM ACTION DYNAMIC LOADING

Tunnel construction together with the soil massif, which form the related system are presented. Source of fluctuations of such system is dynamic loading. At definition intense the deformed condition of system elasto-plastic properties of its materials are considered. Such problem definition causes additional difficulties, as at its decision the principle of superposition is inapplicable. For definition of movements and tension in system, it is possible to use only direct step methods.

Keywords: *stress-strain state, elasto-plastic properties, theory of plastic flow, direct step methods, Newmark's modified method.*

UDC 624.131.54

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TASKS OF EXPERIMENTAL RESEARCH OF SATURATED SANDS UNDER DYNAMIC IMPACTS

Peculiarities of the experimental researches of water-saturated sands under dynamic impacts are considered. Developed research installation for testing of soil, based on the shaker table and a compression device CR_C-1m.

Keywords: *vibrokompression, water-saturated sands, shaking table, testing.*

UDC 627.824

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FEATURES OF WORK FOR THE ASSESSMENT OF TECHNICAL STATE OF HYDRAULIC CONSTRUCTIONS ON EXAMPLE OF SURVEY GAYVORONOVSKOYA HYDROPOWER STATION

The issues relating to the assessment of technical condition of hydraulic constructions on the example of the survey Gayvoronovskoy hydropower station.

***Keywords**: technical state, hydraulic constructions, dam, building hydropower station.*

UDC 624.131.54

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APPOINTMENT FACTORS OF STIFFNESS OF SOIL IN CALCULATIONS COMBINING PILE- PLATE FOUNDATIONS FOR DYNAMIC EFFECTS

The main problems that arise in the design of buildings and structures on pile foundations during the action horizontal loads, the principles of calculation method of pile foundations structures when accounting for the hardness of the soil Foundation. Method of variable stiffness base allows the calculations take into account the efforts that arise in the pile foundations, and also allows you to perform calculations of «structure – base», taking into account the peculiarities of deformation of soils.

***Keywords:** coefficient for the Foundation, deformation of the soil, the system «building – base».*

UDC 626.862.1

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O.M. Menaylov, Ph.D., professot
M.M. Korzachenko, teacher
Chernihiv State Institute of Economics and Management

DESIGNING OF THE DRAINAGE SYSTEM OF A RESIDENTIAL HOUSE IN THE NEIGHBORHOOD MASANY IN CHERNIGOV

In this work we considered and analyzed the causes of water saturation conditions of soils microdistrict Masany, Chernihiv. An example of designing the drainage system, which is one of the effect activities on water level.

***Keywords:** drainage, flooding, groundwater.*

UDC 621.016.7

M.L. Zotsenko, Prof., DrSc.
Poltava National Technical Yuri Kondratyuk University

SOIL-CEMENTS PILES, MANUFACTURED BY BORING-MIXING METHOD

The experimental and theoretical studies and experience in implementing soil-cements piles, which are made by boring-mixing method. The main attention is paid to ways of increasing the strength soil-cement. The method of quality control of manufacturing soil-cements piles is formulated. The economic efficiency of pile construction in specific circumstances is reviewed.

***Keyword**s: soil-cement, metal fittings, vibration, quality control*.

UDC 624.154.5

S.V. Ihnatov, master of science
Belarusian national technical university

INJECTION PRESSURE INFLUENCE ON GROUND PILES BEARING CAPACITY

The paper presents the results of experimental studies of the soil variability properties determination around the bore-injected piles, the results of the field static load pile test and comparison of these data with calculations by the current regulations and numerical simulations with and without consideration of the variability of soil properties, compressed by the injection.

***Keywords:** soil, injection, deposit, the base, the density of the solution, pile.*

UDC 624.15:614.8

G. Kaplenko, Ph.D.
G. Levchenko, Ph.D.
V. Siedin, Dr. Sci. (Techn.), Professor,
Pridneprovsk State Academy of Civil Engineering and Architecture

FEATURES OF STRAIN FOUNDATION TURBINES TG-3 KRAMATORSKIY CHP BY REASON UNDERFLOODING

The article presents the study of the effect of changes of physical and mechanical characteristics of the foundation soils as a result of flooding of the territory, a pair of steam leaks and violations of their insulation, infiltration of outside air into the room at the turbine building of the foundation deformation of turbine TG-3 Kramatorskoy CHP.

***Keywords:** deformation of foundations, flooding, temperature effect.*

UDC 624.155.624.155.12

I.A. Karpuk, PhD
V.M. Karpuk, professor
Odessa State Academy of Civil Engineering and Architecture

THE PRIMARY AND SECONDARY SLUDGE PREDICTION OF SINGLE DEPRESSED PILE TAKING INTO ACCOUNT ITS COLLABORATION

The authors consider the proposed method of determining the primary and secondary of two adjacent alternately depressed and loaded piles, which takes into account the effect of the method of immersion, the distance between them and the level of loading.

Keywords: *settlements, single pile, prismatic driven pile.*

UDC 624.131.3

Yu. Kirichek, Prof., DrSc.
A. Tregub, scientist
Prydniprovs'ka State Academy of Civil Engineering and Architecture

ANALYSIS OF SHALLOW FOUNDATION WITH NONLINEAR PROPERTIES

Analysis of shallow foundations with nonlinear properties and coefficients of safety is offered.

Keywords: *resistance of the bases, non-linear method, reliability, coefficient of safety.*

UDC 624.131.225:624.131.27

D.M. Kiperman, graduate V.S. Nosenko, PhD
I.P. Boyko, PhD, professor
Kyiv National University of Construction and Architecture

THE QUESTIONS OF CLASIFICATIONS AND PROPERTIES OF SOFT SOILS

Considered different interpretations of the term «soft ground», physical and mechanical properties of soft soils, regularities of deformation, structural strength.

Keywords: *soft soils, structural strength ,highly compressible soils, multi-layer model.*

UDC 624.15

O.V. Kichaeva, Ph.D.
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RISK ASSESSMENT FOR THE RECONSTRUCTION OF BUILDINGS

The article describes a complex approach to risk assessment for the reconstruction of the buildings of deposits, which consists in qualitative and quantitative analysis. In the framework of the quantities of development of the method of probabilistic risk assessment of the reconstructed buildings on the criteria of non-uniform deformation and strength of the walls of the building

Keywords: *probabilistic assessment, random variables, statistical parameters, probability density function, stress-deformed state, the reconstructed building.*

UDC 624.012.45:624.07.2

M.V. Korniyenko, Ph.D.
L.A. Murashko, Ph.D.
T.V. Dyptan, Engineer
O.V. Kozak, postgraduate student
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DESIGN OF CENTRAL LOADED PLATE BASES UNDER SEPARATE COLUMNS IN ACCORDANCE WITH MODERN STANDARDS

The features of the columnar design of reinforced concrete foundations for European standards.

Keywords: *punching, stress state of soil, the strength of the material.*

UDC 550.519: 624.15

M.V. Korniyenko, Ph.D.
V.I. Polishchuk, Engineer
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ABOUT POSSIBILITY TO INDICATE THE UNSTABLE SOIL BASE BY NATURAL ELECTROMAGNETIC EMANATION

The techniques of geophysical detection of unstable areas soil foundation and the rock mass by natural electromagnetic emanation are proposed. Examples of apply are shown.

Keywords: *natural impulse electromagnetic field, unstable soil base.*

UDC 624.138

I.I. Lartseva, candidate of technical sciences
M.V. Petrunyak, candidate of technical sciences
K.A. Timofeeva, a graduate student
Poltava National Technical Yuri Kondratyuk University

TO IDENTIFY OF WATERTIGHTNESS OF SOIL-CEMENT

Presented research watertightness of soil-cement method of determining the absolute permeability (as described in the test on the gas permeability of rocks to determine their reservoir properties).

Keywords: *soil-cement, watertight diaphragm, watertightness, gas permeability.*

UDC 666.9

A.M. Livinskiy, academician,
first vice-presidentUkrainian Academy of Sciences, d.t.s., professor
A.V. Stoyan, head of technical department the company «Terminal-M», graduate student
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USE OF MECHANIZED SILAGE TECHNOLOGIES FOR THE SURFACES COVERED WITH PLASTER AND FLOORING

The article deals with the advanced technology of stacking of dry mixes kits mechanization via mobile silage. Showing photo equipment and describe how they work and technology use on construction sites.

Keywords: *building mix, floors, plaster coating, mobile silo, mixer, plaster station.*

UDC 666.9

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A.V. Stoyan, head of technical department the company «Terminal-M», graduate student
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MODERN TECHNOLOGY OF USE DRY BUILDING MIXES

The article describes the main problems of application of dry mixes in large high-rise building, is a diagram of the use of mechanized technology and silo are its advantages over conventional technology application of dry building mixes on the site.

Keywords: *dry building mixes, machine silage technology, the automation of the production process, silage.*

UDC 624.042

I.Y. Luchkovskiy, Dr. of Technical Sciences, Professor,
A.V. Samorodov, Ph.D., associate prof.,
S.V. Esakova, S.V. Tabachnikov, graduates
Kharkiv National University of Construction and Architecture

ANALYTICAL METHOD OF DETERMINING THE DEPTH OF PILE FOUNDATIONS FOR A GIVEN PULLING LOADS

This paper presents a method for evaluation of the bearing capacity of the ground and use the optimum depth of the piles, working on pulling loads.

Keywords: *pile, pulling loads, the lateral surface, resistance, depth of the piles, bearing capacity.*

UDC 624.15

I.V. Mayevska, Ph.D
N.V. Blashchuk, Ph.D
T.O. Bondar, Graduate
Vinnytsa National Technical University

IMPROVEMENT WORK OF SOIL PILLOWS THROUGH HARD HORIZONTAL PLATE

Proposed use in concrete slab on ground of soil pillow to reduce the depth of excavation and increase the effect of soil pillow. The results of physical and numerical modeling of pier foundation on the soil pillow.

Keywords: *foundation, soft soils, soil pillow, horizontal reinforcing the basics.*

UDC 624.131

O.A. Makovetskiy, Dr. Sn.(Tech), Ass. Prof.
K.A. Miller, V.V. Galimova, undergraduates
Perm State Technical University

DESIGN OF PIT FENCING CONSTRUCTED FROM SECANT GROUTING ELEMENTS

The basic principles of design of pit fencing made with the use of soil jet grouting technology.

Keywords: *jet grouting, soil-concrete anchors.*

UDC 624.131.7

O.A. Makovetskiy, Dr.Sn.(Tech), Ass.Prof.
D.K. Serebrennikova, undergraduate
Perm National Technical University

EVALUATING THE EFFECTIVENESS OF THE DEFORMATION CHARACTERISTICS OF GEOMASSIV

The aim is to construct an adequate mathematical model reflecting the improved physical and mechanical properties of the base, after the creation of geomassiv.

Keywords: *mathematical model, geomassiv, monitoring.*

UDC 624.154.1

I.T. Mirsayapov, Prof.
I.V. Korolyova, PhD
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BEARING CAPACITY AND SETTLEMENTS OF REINFORCED SOIL BASES

The article discusses design models bearing capacity and deformation of reinforced soil base vertical elements. Development of new analytical expressions of the mechanical condition of reinforced base with a joint deformation of the soil and reinforcing elements. Resistance reinforced base shift in the boundary zones formed of earth resistance by compression reinforcing elements and the resistance to bending of reinforcing elements. The bearing capacity of the soil under the reinforcing elements is determined from the strength of triaxial compression. The value of shear force, the perceived reinforcing elements is determined from the equation of equilibrium moments of the external and internal forces of the most loaded section of the reinforcing element, clamped through the shear plane of the soil. The resistance of reinforced soil compression in the middle part defined of the requirements of strength under triaxial compressive. Deformation of the reinforced base determined by the method of layer-stack surround the stress-strain state and joint deformation of the soil and reinforcing elements.

Keywords*: reinforced base, the calculation of the deformation, load-bearing capacity, the vertical reinforcement, three dimensional stress of soil.*

UDC 693.542.4:691.4

A.P. Novitskiy, graduate
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ANALYSIS OF SOIL-CEMENT FLOWABILITY

This article describes factors that affect flowability of soil-cement, during mixing technology. The method of cement mortar flowability's analysis is explained. Also analysis of influence plasticizing additions on soil-cement is explored.

Keywords: *soil-cement, cement mortar flowability, plasticizing additions.*

UDC 624.131

L.V. Nuzhdin, Ph.D., Professor
M.L. Nuzhdin, Head of RVC «Geotechnics»
K.V. Kozminykh, mahystrant
Novosibirsk State University of Architecture and Civil Engineering (Sibstrin)

IMPROVEMENT OF FORECAST ACCURASY OF FOUNDATIONS BASED ON FIELD RESEARCH DEFORMABILITY OF THE SOIL WEDGE DILATOMETER

The article described application of layer-stack design scheme with taking into account actual distribution of ground base deformability by deformation modulus relaxation method field studies. That improves the accuracy of ground base deformation. Conclusion made on the analysis calculations sediment real foundations.

Keywords: *WD-100 dilatometer, relaxation method, ground base deformation, layer-stack design scheme.*

UDC 624.131

A.A. Petrakov, Prof.
V.V. Yarkin, Ph.D.
K.O. Bryzhata, Graduate
Donbas National Academy of Civil Engineering and Architecture

EFFECT OF DESIGN MODELS ON THE STRESS STATE BEARING STRUCTURES ON FRAME CONSTRUCTIONS WITH FOUNDATION SLAB

The shown the basic model of the ground base, the technique of the theoretical studies on the basis of professional software package Lira and conducted comparison of the results of the computational model of design model with constant and variable coefficient of rigidity and advice on selecting the design model.

Keywords: *design model, the Winkler model, the model is generalized stiffness professor Klepikova, linearly deformed half-space model.*

UDC 624.137.5:625.745

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COMPARATIVE ANALYSIS OF THE STRESS AND DEFORMEDSTATE OF THE ANGLE RETAINING WALL ON PILE FOUNDATION

The results of research of the stress and deformed state of the angle retaining wall are resulted on pile foundation with the use of the complex LIRA.

Keywords*: pile retaining wall, soil massif, three-dimensional finite-elements analysis.*

UDC 624.15

A.B. Ponomaryov, Prof., DrSc.
A.V. Zaharov, PhD.
M.A. Bezgodov, post-graduate student
Perm National Research Polytechnic University

STUDY THE FACTOR OF INCREASING THE PILES LOAD CAPACITY OVER TIME

The article describes the positive experience in the construction of pile foundations in saturated clay soils with consideration of the effect of the time factor in their bearing capacity. The results of experimental studies which support the adoption of this decision.

Keywords: *bearing capacity of piles, the time factor, clay soils, thixotropic hardening.*

UDC 624.131.543:51

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T.P. Kasharina, DrSc., Prof.
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STUDY QUESTIONS OF GROUNDREINFORCED DESIGN

The authors consider questions of theoretical and experimental studies designed groundreinforced design, as well as an algorithm for the design of such facilities.

Keywords: *groundreinforced retaining structure, armored belt, design parameters.*

UDC 624.15

V.O. Sakharov, Ph.D.
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INVESTIGATION OF THE INFLUENCE OF THE SEISMIC LOADS ON THE INTERACTION OF COMPLEX OF HIGH-RISE BUILDINGS WITH VISCO - ELASTO - PLASTIC SOIL FOUNDATION

Analysis of the results of modelling the complex interactions of high-rise buildings with ground foundation under seismic loads are given in the article. The model of the visco-elasto-plastic soil's deformation is presented to describe its non-linear behaviour when the dynamic loads expose. Calculations were carried out by direct numerical integration of the finite element method in time for the explicit scheme for the system of the «soil – foundation – building» in 3D by ASSR «VESNA-DYN». The features of nonlinear deformation of the elements of the system under seismic loads are displayed.

Keywords*: seismic, accelerogram, high-rise buildings, nonlinear soil foundation, «soil– foundation –building», viscosity, elasticity and plasticity.*

UDC 624.15

V.O. Sakharov, Ph.D.
V.A. Melnik, postgraduate
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INVESTIGATION OF THE INFLUENCE OF SEISMIC ISOLATION ON THE STRESS-STRAIN STATE OF 47-STOREY BUILDING

In the arcticle comparative results of calculations of high-rise buildings under seismic loads as system "basement-foundation-building" aregiven. The calculations were made in three-dimensional case by direct dynamic method using the Newmark's scheme. Influence of using elastomeric isolators on changes of construction's stress-strain stateisshown.

Keywords: *seismicity, dynamic, high-risebuilding, Newmark, seismic isolation, rubber supports, basement-foundation-building.*

UDC 624.15

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COMBINED PILE-RAFT FOUNDATIONS IMPLEMENTATION IN UKRAINE: UNDERGROUND PARKING DEVELOPMENT IN ODESSA AS AN EXAMPLE

Problems of combined pile-raft foundations implementation in Ukraine are shown in the article, underground parking development being an example. An excavation walls' collapse is regarded. The case analysis of parking boundary wall destruction is given. Phased implementation of the CPRF project to prevent a recurrence of accidents is demonstrated.

Keywords*: combined pile-raft foundations, CFA pile.*

UDC 624.153.7

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RECONSTRUCTION OF BERTHING CONSTRUCTIONS USING ANCHORS "TITAN"

It is shown the experience of deep-water berthing constructions reconstruction using anchors «Titan». The technical characteristics and the results of the control and acceptance testing of anchors are presented.

Keywords: *reconstruction, berth, anchor «Titan».*

UDC 69.059.5

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AUTOMATION OF EXPERIMENTAL STUDY OF BASES AND FOUNDATIONS

It is presented the innovation complex of scientific study of foundations, which based on tensometric measurement method.

Keywords: *tensometric devices, taring sensors, analysis of the results.*

UDC 69.04

R.O. Timchenko, doctor of sciences, professor
A.V. Bogatymskiy, graduate student
Kryvyi Rih National University

THE CALCULATION OF THE ROUND FOUNDATION ON THE UNDERMINED TERRITORIES

The calculation of the slab foundation of the tower constructions on the undermined territories is describet in the article.

Keywords: *round foundation, basis, curvature, ground.*

UDC 622.012.001

R.O. Timchenko, doctor of sciences, professor
S.O. Popov, doctor of sciences, professor
Kryvyi Rih National University

THE DEVELOPMENT FORECASTING OF HAZARDOUS DISPLACEMENT AREAS OF A TERRESTRIAL SURFACE AND MOUNTAIN MASSIF WITH THE RESUMPTION OF THE DEPOSITS DEVELOPMENT OF FERRUGINOUS QUARTZITE

The technique of determining parameters of the hazardous areas displacement of a terrestrial surface and the mountain massif with reserves resumption of the ferruginous quartzite deposits is projected in the article.

Keywords: *forecasting, development, zone deformations.*

UDC 624.131.54

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S.O. Popov, doctor of sciences, professor,
D.A. Krishko, candidate of sciences, senior lecturer
M.O. Kravchenko, master student
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THE APPLICATION OF GEOLOGICAL AND INFORMATION SYSTEMS IN THE ENGINEERING AND GEOLOGICAL RESEARCHES

Different directions for the application of geological and information systems in the engineering and geological researches are described in the article.

Keywords: *geological and information systems, engineering and geological researches, principles of building.*

UDC 627.33:624.046

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RESULTS OF CARRYING SOIL MEDIA STRUCTURES OF THE OPERATED SPACER TYPE

The results of studies of bearing capacity of soil media structures of the operated spacer type on the basis of the developed design scheme of the «structure – basis» to determine the basis for the development soil sublimit and limit stressed state.

Keywords*: sublimit and limit stressed state, soil media, the construction of the spacer type, operation.*

UDC 624.131.524

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DEFORMABILITY SOILS CHARACTERISTICS IN CALCULATIONS OF BASES BY THE FINITE ELEMENT METHOD

The substantiation of the need for careful analysis used in the computational scheme of the finite element method characteristics of deformation properties of soils the bases.

Keywords*: compressibility, module soil deformation, elastic modulus of the soil.*

UDC 624.131.54

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COMPARATIVE ANALYSIS OF PARAMETERS OF STIFFNESS OF GEOTECHNICAL FEATURES REINFORCED BASE BY JET-GROUTING ARE FOUND CALCULATED OR BY EXPERIMENT

The technique of verifying the values of the deformation modulus of the foundation soil on the results of soil tests piles. A comparative analysis of the calculated and experimental values of the deformability characteristics of soils.

Keywords: *modulus of deformation, load-bearing capacity, precipitation.*

UDC 725.94; 624.044; 624.074.354;624.012.1

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SCIENTIFICAL AND TECHNICAL SUPPORT OF A BELLTOWER OF THE SOFIEVSKY CATHEDRAL

The results of the scientific and technical support of monument of architecture of bell Tower of the Sofia cathedral, built on prosadochnykh soils in XVIII century.

Keyworld: *Hydro-geological monitoring, geodetic supervision, information-measuring system, settlement model.*

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