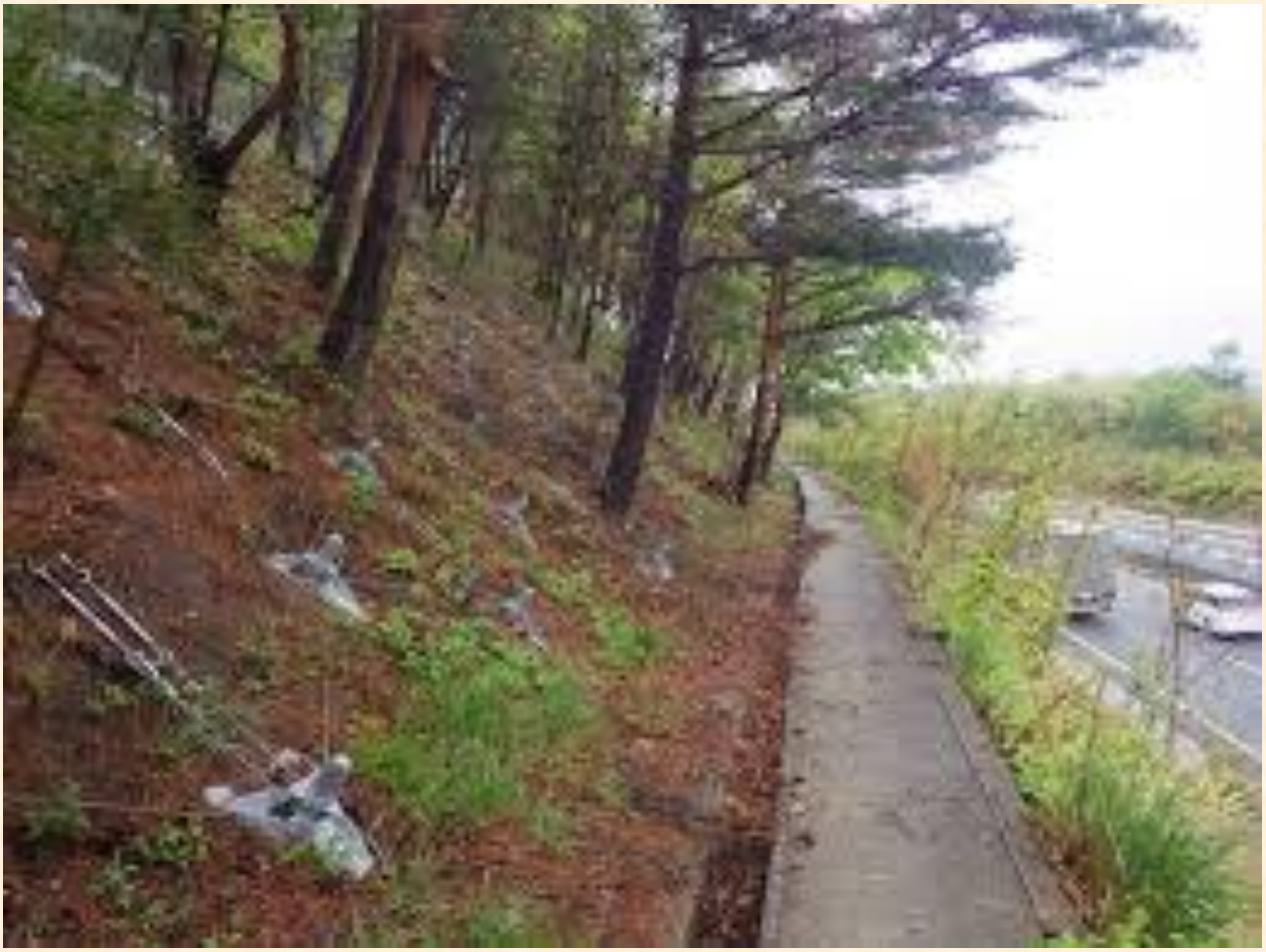


# LESSONS FROM FAIURES

**CIVIL ENGINEERING DEPARTMENT NEWS LETTER**

**2015-16 | JULY - DECEMBER 2015 |**

**HOD s Message:**

This newsletter published for the year 2015-16 is dedicated entirely to the subject of Geo Technical Engineering. Especially remedies to failures. In the prior edition geo technical failures were discussed. Current edition is entirely dedicated to the various remedies to the geo technical failures occurred across the World.

# DEPARTMENT VISION

"To enrich the society through Civil Engineering education for socio-economic development and welfare of the people."

# DEPARTMENT MISSION

"An integrated development of Civil Engineering Professionals with technological knowledge and managerial skills; possessing environmental, ethical and human values".

## Program Educational Objectives

**Upon graduation, students of the program will:**

I. To provide basic scientific training to the students so as to solve Civil Engineering problems with scientific outlook rather than mere continuation of traditional practices.

II. To provide training in basic engineering sciences so that students apply the concepts of basic engineering sciences to the solution of Civil Engineering problems.

III. To train the students in the broad areas of Civil Engineering and inter-disciplinary areas.

IV. To mould the students professionally competent with managerial and communication skills.

V. To train the students to mitigate natural

# Program Outcomes

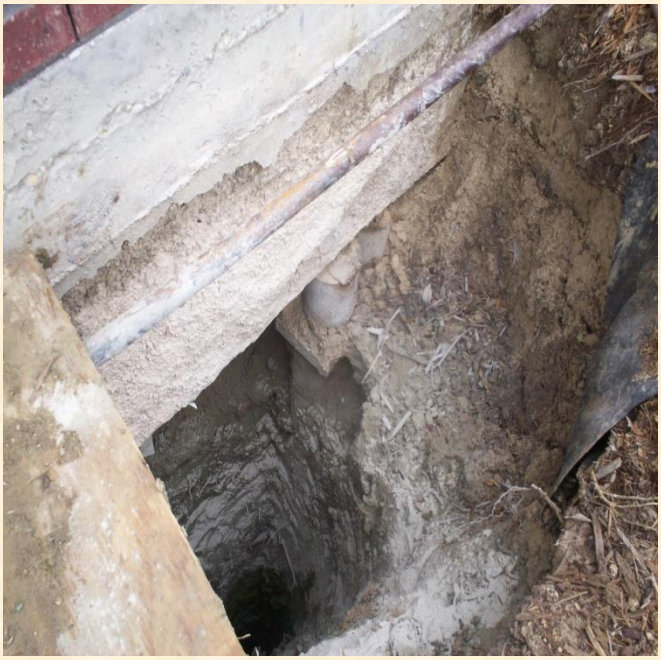
- Graduates will have an ability to apply the knowledge of basic sciences like Physics, Mathematics and Chemistry for the solution of Civil Engineering Problems.
- Graduates will have sound knowledge in basic engineering sciences like Engineering Mechanics, Solid Mechanics, Fluid Mechanics to solve Civil Engineering problems.
- Graduates will have generalized knowledge in Civil Engineering and inter-disciplinary knowledge to design and execute Civil Engineering Projects.
- Graduates will have an ability to design and conduct experiments as well as to analyse and interpret data.
- Graduates will have an ability to demonstrate knowledge and understanding of engineering and management principles and apply these principles in their profession.
- Graduates will have an ability to identify, formulate and solve engineering problems.
- Graduates will have requisite knowledge to pursue Post-graduate / Research Programmes and for life-long learning.
- Graduates will have computational and drafting skills.
- Graduates will be professionally competent with managerial and communication skills.
- Graduates mitigate environmental problems and natural disasters like earthquakes, cyclones and floods.
- Graduates perform professional duties with environmental, ethical and human values.
- Graduates will have broad education necessary to understand the impact of Civil Engineering solutions in global societal context.

*Shall We Start*

*Applying the lessons*

*!!!!!!!!!!!*

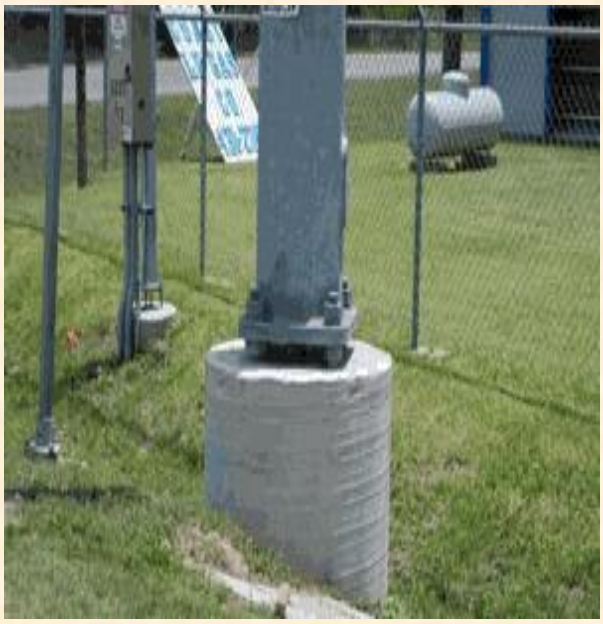
## Drilled shaft for foundation repair



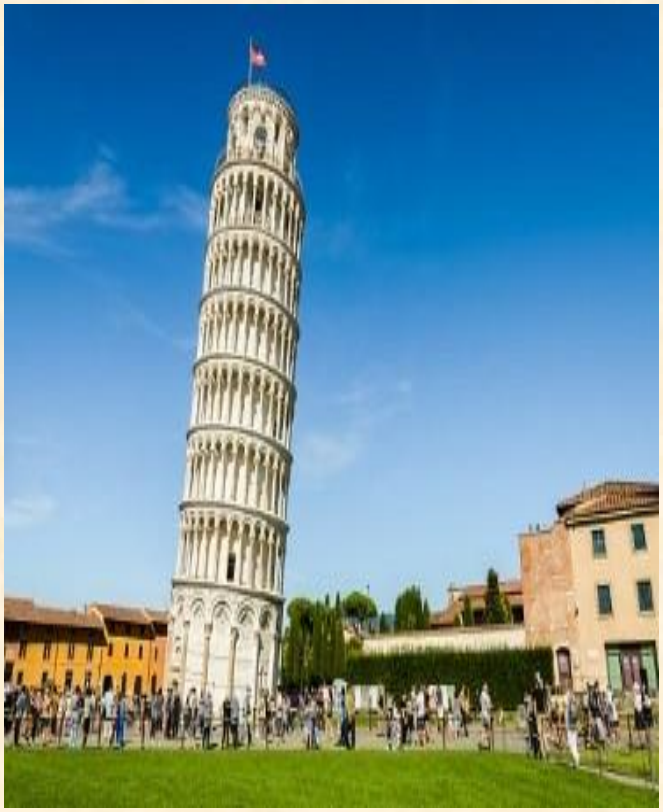
- Note the concrete cylinders adjacent to the shaft, these are "pressed piles" or what we prefer to call "pushed cylinders".
- That system failed so another foundation repair company that does not use pressed pilings was called to improve the foundation system using drilled concrete piers.

## Foundation Improvement

- This is our preferred foundation improvement element.
- Properly designed and constructed drilled piers will prevent future settlement and provide some uplift resistance to swelling clay soil for the pier element itself (i.e. using adequately deep straight shaft piers or using a belled pier), reducing the risk of the slab



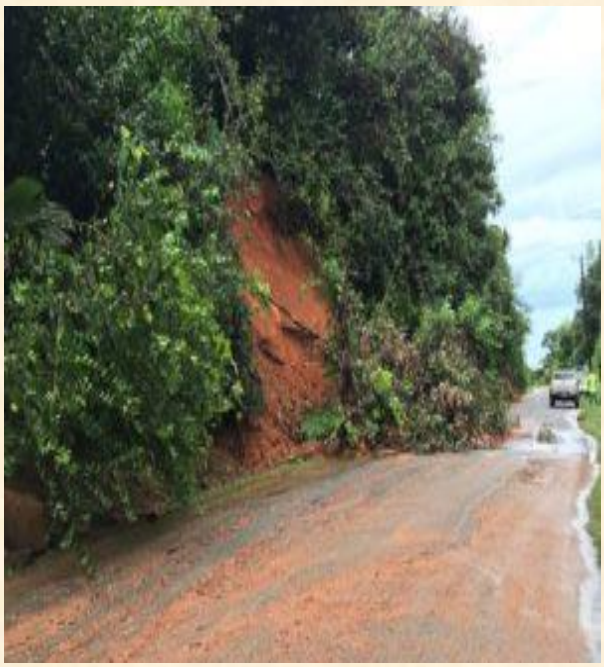
## Stabilisation of the Tower of Pisa



- The Tower is founded on weak, highly compressible soils and its inclination has been increasing inexorably over the years to the point at which it was about to reach leaning instability.
- The Committee adopted a controlled removal of small volumes of soil from beneath the north side of the Tower foundation (under excavation).
- This technique provided an ultra-soft method of increasing the stability of the Tower.

## Slope Failures Mitigation Measures

- Retaining walls are used to stabilize the slopes surrounding a property.
- Rock bolts are used to stabilize slopes that are composed mainly of fractured rocks
- Concrete frames are laid on a slope, within which plants grow to protect the slope from weathering and erosion



## SUCCESS EMERGING OUT OF FAILURES

### National/International Conferences /Seminars/Workshops Organized:

A one day National seminar on 'Advances in Water Resources Engineering (AWARE)' was organized by the department of Civil Engineering on 26th September 2015. Resource persons, Prof. N.V.Umamahesh, NIT, Warangal Prof.D.Nagesh Kumar, IISc, Bangalore Prof. K.Srinivasa Raju BITS PILANI, Hyderbad gave talk on topics like Applications of Optimization Techniques in Water Resources Engineering, Introduction to RS&GIS and its Applications in Water Resources Engineering and introduction to ANN and its application in Water Resources Engineering. Nearly, 100 students and 40 faculty members from various engineering colleges across the State got benefited from this seminar.

### Book Publications by Faculty:

- A Book authored by Dr. K.S.Sairam entitled 'Design of steel Structures' has been revised by Pearson education, India, 2015, ISBN: 948-93-325-4210-5

### Guest Lecture Delivered by Faculty

- Prof.M.Rama Rao, delivered a guest lecture on 'Mind Map and Memory Techniques' for the Faculty of Chirala Engineering college, in ISTE approved one week induction training programme at Chirala Engineering college on 1st December 2015.

Prof .M.Rama Rao, delivered a guest lecture on 'Mind Map and Memory Techniques' for the final year B.Tech students, at Bapatla Engineering college, Bapatala on 1st December 2015.

## Research Papers Published in Refereed Journals:

- A research paper on 'Functionally graded materials an overview' written by Asst Prof, N.Tejaswini, K.Ramesh Babu and Prof., K.S.Sai ram , was published in the International Journal of Advances in Engineering Science and Technology (IJAEST) ,Vol 4, Issue 3, pp.183-188 , ISSN : 2319-1112.
- A research paper on 'CBR studies on expansive soil using stabilized rice husk ash cushion' written by Prof, M. Rama Rao and Assistant Prof., K. Ramesh Babu and K. Siva Kiran , was published in the International Journal of Engineering Science and Management (IJESM) ,Vol. 1, Issue 2, pp.54-59 , ISSN : 2454-4140.
- A research paper on 'A study on Flow and Strength Properties of Steel Fiber Reinforced Self-Compacting Concrete with varying Fiber Aspect ratio' written by Assistant Prof M. L. N.Krishna Sai, B. Krishna Chaitanya, R. Vaishnav Kumar , was published in the International Journal of Engineering Science and Management (IJESM) ,Vol. 1, Issue 2, pp.193-199 , ISSN : 2454-4140.

## Paper Presentations in Conferences /Seminars/published in proceedings:

- Prof M.Rama Rao Assistant Prof P.Samatha Chowdary , Published and presented a paper on "Influence of Curing Period on Lime-Stabilized Expansive Soil using Rice Husk Ash and Stone Dust as Additives" at Indian geotechnical conference organized by Indian Geotechnical society during 17th-19th December 2015.PP:77-79.
- Prof. K.S.Sai Ram, T.A.Vijaya Jyothi 'Transient response of laminated composite spherical shell cap' at international conference on Innovations in Structural Engineering organized by Department of Civil Engineering by Osmania University during 14th-16th December,pp.55-59.
- Assistant Prof M. L. N.Krishna Sai, B. Krishna Chaitanya, R. Vaishnav Kumar Published and presented a paper on 'A study on Flow and Strength Properties of Steel Fiber Reinforced Self-Compacting Concrete with varying Fiber Aspect ratio' at international conference in engineering science and management "organized by TR Publications on 8th November at AGRA pp.379-384, ISSN :978-81-931974-0-0.
- Prof . A.Srinivasa Prasad and Assistant Prof. K.Leela Krishna presented and published a paper on 'Forecasting Inflow of Srisilam dam using Artificial Neural Networks ' at one day National Conference on water environment and society organized by Centre for

Water Resources JNTU Hyderabad organized during 30th -31st July, pp.568-573, ISSN :978-93-83635-87-0.

## Conferences/ Symposia/Workshops Attended

- Prof. A.Srinvasa Prasad, Assistant professor K.Leela Krishna attended a two day workshop on 'Urban Flood Management', organized by Centre of water resources management, Department of Civil Engineering, Bits Pilani, Hyderabad campus on 20th & 21st November 2015.
- Prof. A.Srinvasa Prasad, Assoc.Prof., P.V.S.Maruthi krishna ,Assistant professor, M.L.N. Krishna Sai, J.Usha Kranti, M.Srikanth Kumar K.Leela Krishna, K.Sushmita Chowdary attended a two day workshop on 'Applications of Computational Techniques in Engineering 2015' organized by Chemical Department, R.V.R& J.C. College of engineering, Chowdavaram Guntur, during 6th - 7th t November 2015.
- Professors. M.Rama Rao attended a national summit on 'Quality in Education', organized by CII-Insitute of Quality, Bangalore during 22nd-23rd September 2015.
- Professors. M.Rama Rao, A.Srinvasa Prasad, Assoc.Prof., P.V.S.Maruthi krishna, Assistant professor K .Leela Krishna attended a one day national seminar on ' Structural Hazards and Allied Knowledge of Earthquakes (SHAKES) ' , organized by IGC Guntur Chapter and MVR College of Engeering, Kanchikacherla mandal , Krishna Dt., on 29h August 2015.
- Professors. M.Rama Rao attended a one day workshop on 'Recent Advances in Civil Engineering', organized by

IGS- Guntur Chapter and Chirala Engineering college on 25th July 2015.

- Professors. M.Rama Rao attended a one day workshop on 'Lessons Learnt from Recent Earthquakes and Land Slides' organized by IGS- Pune Chapter and College of Engineering Pune on 11th July 2015.

Any other relevant information

K.Leela Krishna have become a Life member with ID No: LM-2015-7613 in "Indian Water Resources Society (IWRS)

Success is born from the womb of failure.

Dr.K.Srinivasu

HOD, Civil Engg.

## LESSONS FROM FAIURES

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