

SURAT KETERANGAN
MELAKUKAN KEGIATAN PENGABDIAN KEPADA MASYARAKAT
INSTITUT TEKNOLOGI NASIONAL
No. 654/C.02.01/LPPM/X/2021

Yang bertanda tangan di bawah ini,

Nama : Iwan Juwana, S.T., M.EM., Ph.D.
Jabatan : Kepala
Unit Kerja : LPPM-Itenas
JL. P.K.H. Mustafa No.23 Bandung

Menerangkan bahwa,

No.	Nama	NPP	Jabatan
1	Dr.techn. Indra Noer Hamdhan, S.T., M.T.	20030105	Tenaga Ahli
2	Dr. Yuki Achmad Yakin, S.T., M.T.	20140601	Tenaga Ahli
3	Desti Santi Pratiwi, S.T., M.T.	20190804	Tenaga Ahli
4	Badriana Nuranita, S.T., M.T.	20200201	Tenaga Ahli
5	Euneke Widyaningsih, S.T., M.T.	20190803	Tenaga Ahli
6	Rinaldi Alamsyah, S.T.	-	Tenaga Ahli

Telah melakukan kegiatan Pengabdian kepada Masyarakat sebagai berikut:

Nama Kegiatan : NGC Plaxis Training Series #6 Modelling of Slope Stability
Tempat : Webinar/Video Conference
Waktu : 29 September – 01 Oktober 2021
Sumber Dana : Plaxis

Demikian surat keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Bandung, 19 Oktober 2021

Lembaga Penelitian dan Pengabdian
kepada Masyarakat (LPPM) Itenas
Kepala,

Iwan Juwana, S.T., M.EM., Ph.D.
NPP. 20010601

LAPORAN KEGIATAN PENGABDIAN KEPADA MASYARAKAT



NGC PLAXIS TRAINING SERIES #6 MODELLING OF SLOPE STABILITY

Ketua Tim :

Dr. techn. Indra Noer Hamdhan, ST., MT.

Anggota Tim :

Dr. Yuki Achmad Yakin, ST., MT.

Desti Santi Pratiwi, ST., MT.

Badriana Nuranita, ST., MT.

Euneke Widyaningsih, ST., MT.

Rinaldy Alamsyah, ST.

Program Studi Teknik Sipil

Fakultas Teknik Sipil dan Perencanaan

Institut Teknologi Nasional

Bandung

2021

HALAMAN PENGESAHAN

Judul : NGC Plaxis Training Series #6: MODELLING OF SLOPE STABILITY

Ketua Tim Pengusul

Nama : Dr. techn. Indra Noer Hamdhan

NIP : 11785

Jabatan/Golongan : Lektor / IIID

Jurusan/Fakultas : Teknik Sipil / Fakultas Teknik Sipil dan Perencanaan

Bidang Keahlian : Rekayasa Geoteknik

Alamat Kantor : Jl. PHH Mustofa No. 23 Bandung

Lokasi Kegiatan

Wilayah Mitra : Provinsi Jawa Barat

Desa/Kecamatan : -

Kota/Kabupaten : Kota Bandung

Provinsi : Jawa Barat

Jarak PT ke Mitra : -

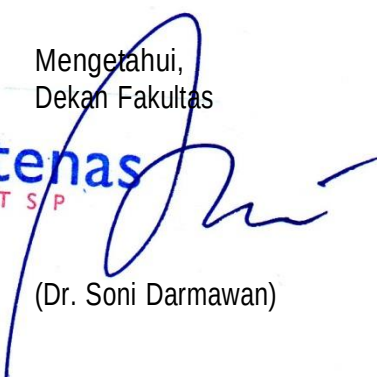
Luaran : -

Waktu Pelaksanaan : 29 September - 1 Oktober 2021

Total Biaya : Rp10 000.000,00

Bandung, **2 Oktober 2021**

Mengetahui,
Dekan Fakultas




(Dr. Soni Darmawan)

Ketua Tim Pengusul



(Dr. techn. Indra Noer Hamdhan)

Disahkan Oleh
Ketua LP2M,

Iwan Juwana, S.T., M.EM., Ph.D.
NIP: 20010601

LAPORAN KEGIATAN

Tujuan

Tujuan dari kegiatan NGC Plaxis Training Series #6 : MODELLING OF SLOPE STABILITY ini adalah untuk memberikan wawasan, pengetahuan, praktik, serta wadah diskusi kepada para peserta baik yang berasal dari akademisi maupun praktisi yang bergerak di bidang geoteknik terutama struktur terowongan serta membutuhkan *upgrading* keahlian dan pengetahuan terkait perangkat lunak PLAXIS 3D.

Deskripsi Kegiatan

Kegiatan ini dilaksanakan selama 3 hari, yakni pada 29 September - 1 Oktober 2021 selama 4 (empat) jam setiap hari-nya, dari pukul 16.00 – 20.00 WIB. Lokasi pelaksanaan kegiatan ini dilaksanakan melalui pertemuan *online* (tatap maya) via aplikasi Zoom. Jumlah peserta yang mengikuti pelatihan ini yaitu sebanyak 45 peserta yang tercatat pada formulir pendaftaran maupun daftar hadir setiap harinya yang disampaikan melalui *Google form*. Adapun peserta yang mengikuti pelatihan ini berasal dari berbagai institusi, seperti Institut Teknologi Nasional Bandung, Universitas Kristen Maranatha, Universitas Syiah Kuala, Universitas Kristen Petra, dan berbagai konsultan geoteknik swasta, BUMN, maupun institusi pemerintahan.

Materi-materi yang disampaikan pada kegiatan pelatihan ini adalah sebagai berikut (jadwal pelaksanaan terlampir):

- Introduction to PLAXIS 2D & 3D Lecture
- Mohr Coulomb Model Lecture
- Structural Element in PLAXIS 2D & 3D Lecture
- Initial Stresses Lecture
- Modelling of Slope Stability Lecture
- Slope Stability using Gabion Reinforcement (PLAXIS 2D) Exercise
- Slope Stability using Gabion Reinforcement (PLAXIS 3D) Exercise
- Slope Stability using Soil Nailing (PLAXIS 2D) Exercise
- Slope Stability using Soil Nailing (PLAXIS 3D) Exercise
- Slope Stability using Boredpile Reinforcement (PLAXIS 2D) Exercise
- Slope Stability using Boredpile Reinforcement (PLAXIS 3D) Exercise
- Slope Stability using Geotextile Reinforcement (PLAXIS 2D) Exercise
- Slope Stability using Geotextile Reinforcement (PLAXIS 3D) Exercise

Para peserta yang mengikuti pelatihan ini mendapatkan Modul Pelatihan dan sertifikat resmi dari *Bentley Institute*.

BUKTI KEGIATAN

Poster Pelatihan



NGC PLAXIS TRAINING SERIES #6
PLAXIS 2D & 3D TRAINING
Modelling of Slope Stability

Dr.techn. Indra Noer Hamdhan
Lecturer of Civil Engineering
Department, Itenas

Dr. Yuki Achmad Yakip
Lecturer of Civil Engineering
Department, Itenas

Desti Santi Pratiwi, S.T., M.T.
Lecturer of Civil Engineering
Department, Itenas

Rinaldi Alamsyah, S.T.
Lecturer Assistant of Civil Engineering
Department, Itenas

Zoom
RABU-JUMAT
29 Sept - 1 Oct 2021
16.00 - 20.00 WIB
Bentley e-certificate

Registrasion fee:
200k for academic
300k for professional

Registrasion Link:
bit.ly/PlaxisTrainingSeries6
limited seat (only 40 seats)

Contact Person:
Euneke Widyaningsih, S.T., M.T.
+62 857-2023-5903

supported by:

Bentley
Channel Partner

PT. DELTA SIGMA NUSANTARA

HATTI JABAR

itenas
Institut Teknologi Nasional
www.itenas.ac.id

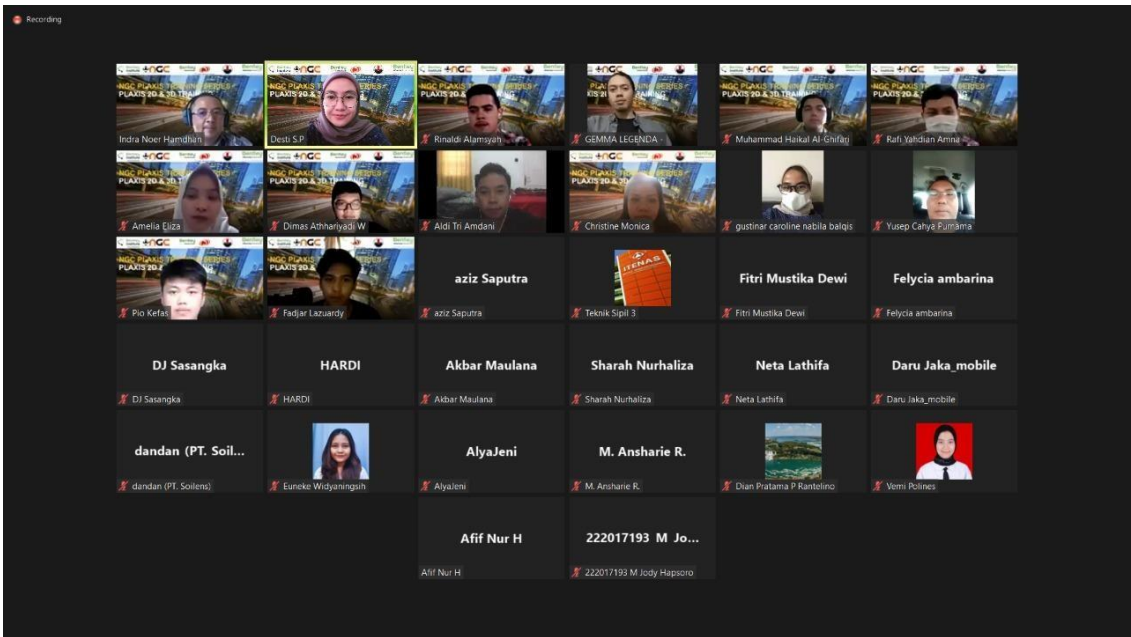
MENGKALI POTENSI MEMBINA PRESTASI

it's good start

itenas
Institut Teknologi Nasional
www.itenas.ac.id

itenas.ac.id **@itenas.official** **Institut Teknologi Nasional Bandung** **humas@itenas.ac.id**

Dokumentasi Hari Pertama Kegiatan



Finite Element Modelling In Geotechnical Engineering

NUMERICAL VS CONVENTIONAL ANALYSIS

method of analysis	Equil.	Comp.	Const. Behav.	B.C. Force	B.C. Displ.
Closed form	yes	yes	linear elastic	yes	yes
Limit equilibrium	yes	no	rigid with failure criterion	yes	no
Lower bound	yes	no	ideal plasticity with associated flow	yes	no
Upper bound	no	yes	ideal plasticity with associated flow springs	no	yes
Beam-spring	yes	yes	flow springs	yes	yes
Numerical analysis	yes	yes	any	yes	yes

2 | © 2021 National Geotechnical Center, ITENAS

Bentley Channel Partner NGC Bentley Institute

Your network bandwidth is low

NGC PLAXIS TRAINING SERIES PLAXIS 2D & 3D TRAINING

Indra Noer Hamdhan

Zoom Meeting

You are viewing Yuki Achmad Yakin's screen

View Options

Recording

View

Concept of Plasticity Mohr Coulomb Model

DILATANCY Model Mechanism

loose soils are non-dilatant or contractant

$\psi = 0$

dense soils are dilatant

$\psi \neq 0, \text{ but } < \phi'$

strength = friction + dilatancy

$\phi + \psi$

Bentley Channel Partner NGC Bentley Institute

NGC PLAXIS TRAINING SERIES PLAXIS 2D & 3D TRAINING

Yuki Achmad Yakin

Unmute Start Video

Participants 35

Chat

Share Screen

Record

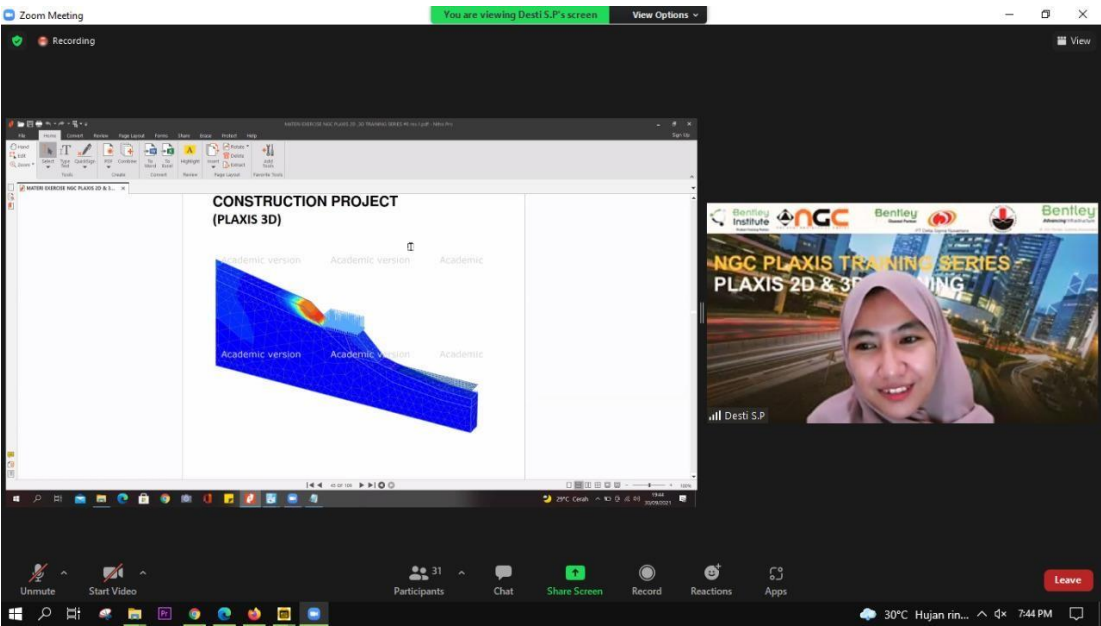
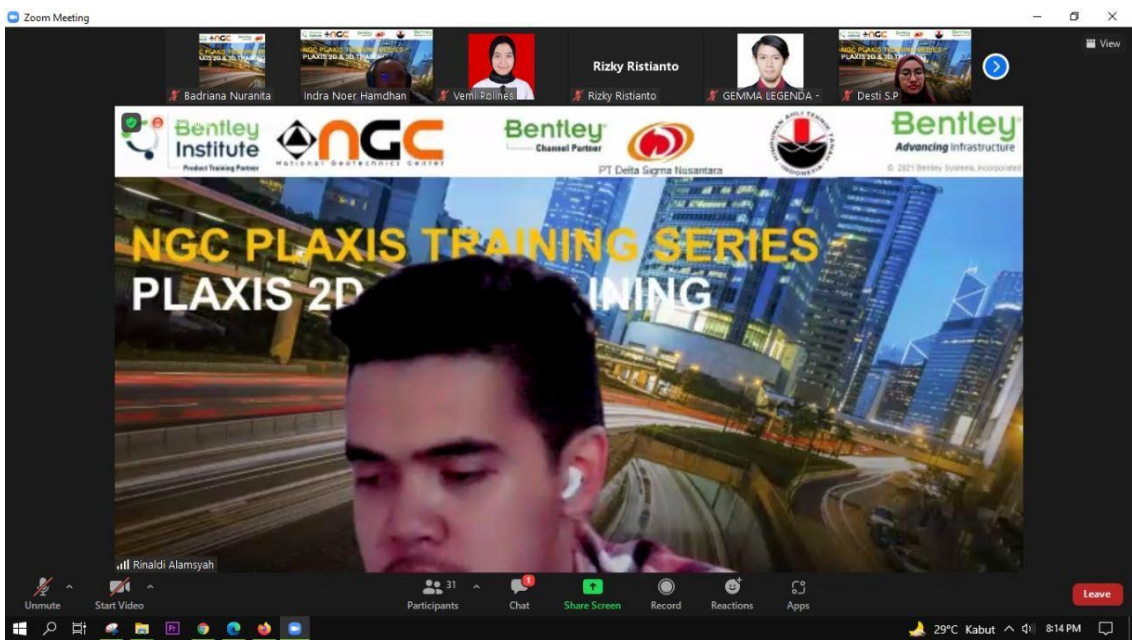
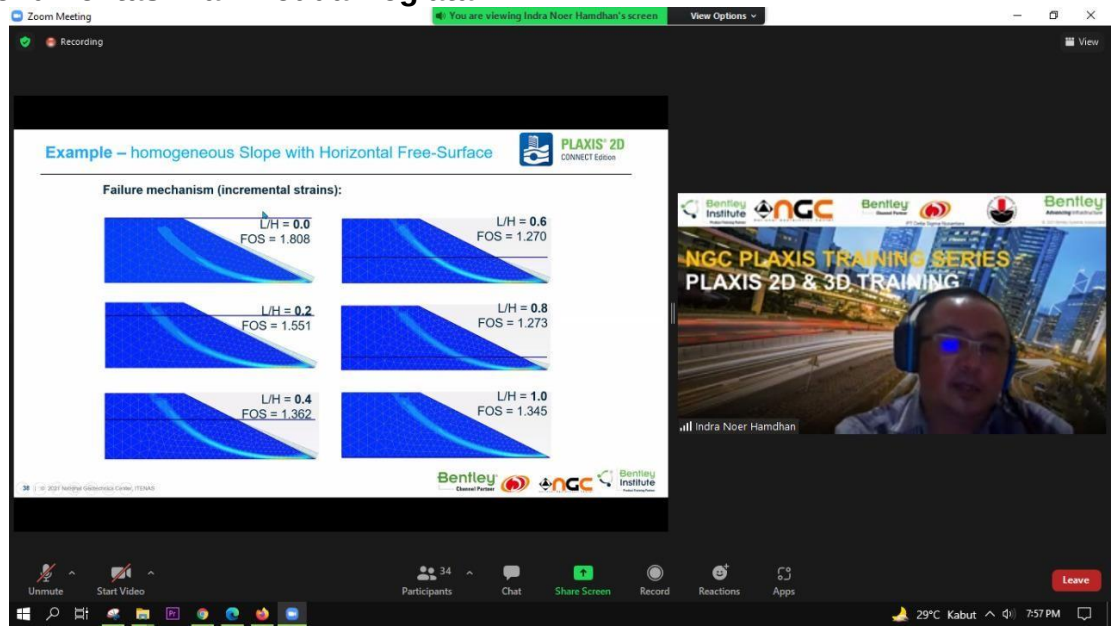
Reactions

Apps

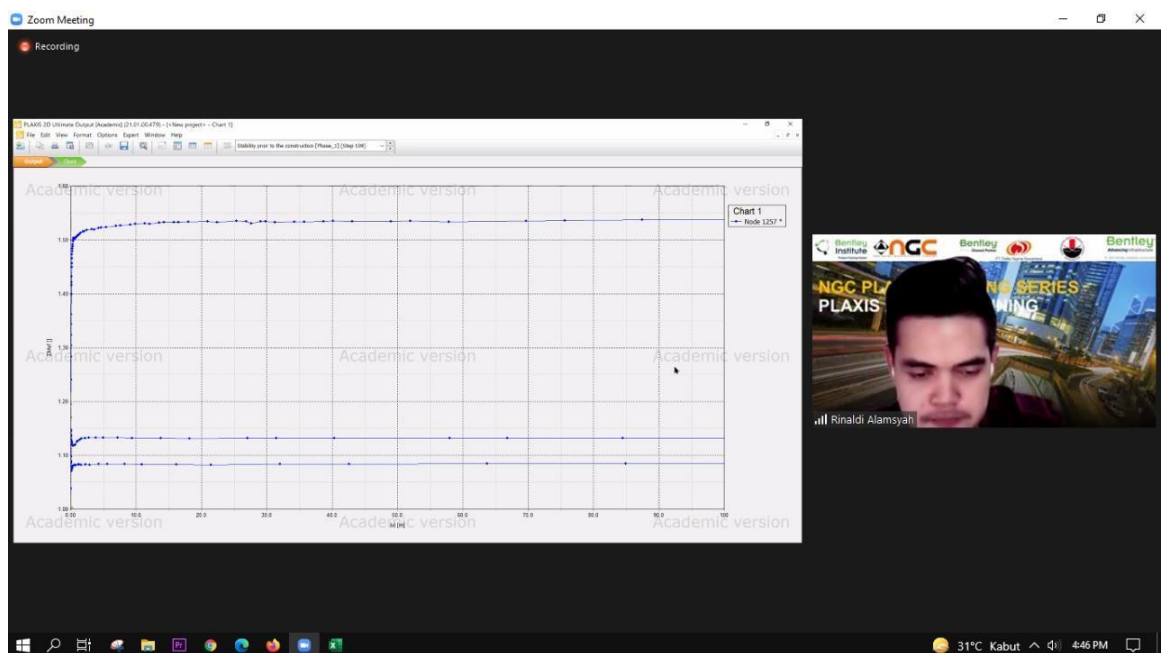
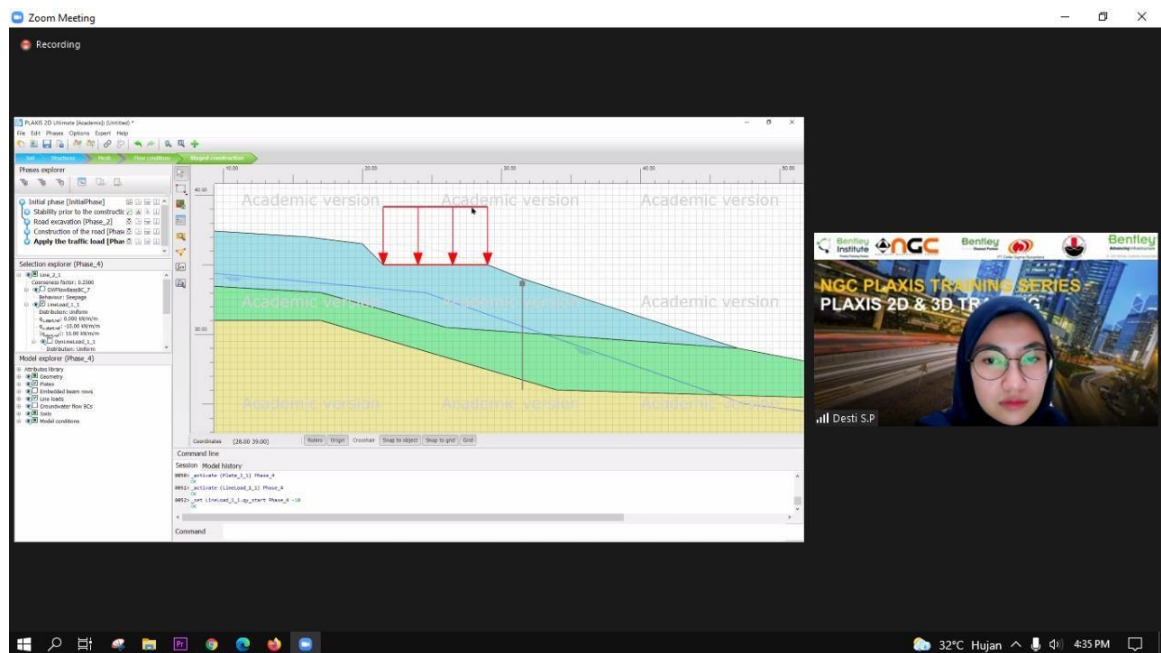
Leave

30°C Kabut 5:24 PM

Dokumentasi Hari Kedua Kegiatan



Dokumentasi Hari Ketiga Kegiatan



DAFTAR PESERTA PELATIHAN

FirstName	LastName	EmailAddress	Company/University/InstituteName
<Firstname>	<Lastname>	<emailaddress>	<AccountName>
Afif Nur	Hani	afif.21116139@student.itera.ac.id	Institut Teknologi Sumatera
Akbar Maulana	Ibrahim	akbarmaulanaibrahim97@gmail.com	Institut Teknologi Nasional Bandung
Aldi Tri	Amdani	aldiriamdani@gmail.com	Institut Teknologi Nasional Bandung
Alya Sofha	Fadhilah	alyajeni13@gmail.com	Institut Teknologi Nasional Bandung
Amelia	Eliza	ameliaeliza15@gmail.com	Institut Teknologi Nasional Bandung
Aziz	Saputra, ST	azizsaputra892@gmail.com	PT. Surya Marzq Konsultindo
Badriana	Nuranita	nuranitaana@gmail.com	Institut Teknologi Nasional Bandung
Bela	Arrosyid	bela.arrosyid@medcoenergi.com	Medco Energi
Budi	Santoso	mhilmyk@gmail.com	PT. Pratama Daya Cahya Manunggal
Christine Monica	Panjaitan	christine.monica712@gmail.com	Institut Teknologi Sumatera
Dandan	Anugrah	dandan.anugrah@soilens.com	PT. Soilens
Daru Jaka	Sasangka	darujakasasangka@gmail.com	Politeknik PU
Desti Santi	Pratiwi	destisantipratiwi@gmail.com	Institut Teknologi Nasional Bandung
Dian Pratama Putra	Rantelino	dianrantelino@gmail.com	Politeknik Pekerjaan Umum
Dimas Athharyadi	Wahab	dimasaw8810@gmail.com	Institut Teknologi Nasional Bandung
Euneke	Widyaningsih	eunekewidya@gmail.com	Institut Teknologi Nasional Bandung
Felycia Ambarina	Rismawan	fellyciaambarina@gmail.com	Institut Teknologi Nasional Bandung
Fitri Mustika	Dewi	fmustikadewi@gmail.com	Institut Teknologi Nasional Bandung
Gemma	Legenda	gemma.legenda.tpjj16@polban.ac.id	PT. Geocon Rekacipta
Ghina Kusumah	Dewi	ghinakusumah@gmail.com	Institut Teknologi Nasional Bandung
Gogot	Budi.	gogot@petra.ac.id	Petra Christian University
Gustinar Caroline Nabila	Balqis	gustinarcaroline@gmail.com	Institut Teknologi Nasional Bandung
Hardi Reza	Jatnika	rezahardi16@gmail.com	Konsultan
Ira Rizki	Nadila	ira.rizki@mhs.itenas.ac.id	Institut Teknologi Nasional Bandung
Kirman	Yahya	kirmany2020@gmail.com	Ukrida
Monica Marshella Calista	Putri	monicalista99@gmail.com	Institut Teknologi Nasional Bandung
Muchamad Ansharie	Raasyid	arieraasyid1104@gmail.com	Institut Teknologi Nasional Bandung
Muhammad Fadjar	Lazuardy	Lazuardyfadjar@gmail.com	Institut Teknologi Nasional Bandung
Muhammad Haikal	Al-Ghifari	hklekal@gmail.com	Institut Teknologi Nasional Bandung
Muhammad Jody	Hapsoro	Jody_Wyvern@yahoo.com	Institut Teknologi Nasional Bandung
Neta Lathifa	Rahmanisa	netalathifar@gmail.com	Institut Teknologi Nasional Bandung
Nor Puji	Lestari	norpujilestari@gmail.com	Politeknik Negeri Semarang
Pio	Kefas	pio.kefas@geotekindo.com	PT Geotekindo
R. Fitri Virliani	Anugrah	binarybiner@gmail.com	Institut Teknologi Nasional Bandung
Rafi Yahdian	Amna	rafiyahdian6@gmail.com	Institut Teknologi Nasional Bandung
Rinaldi	Alamsyah	Alamsyahrinaldi@gmail.com	Institut Teknologi Nasional Bandung
Rizky	Ristianto	rizky.eki53@gmail.com	Institut Teknologi Nasional Bandung
Sharah	Nurhaliza	sharahnurhaliza9@gmail.com	Institut Teknologi Nasional Bandung
Siva Hulwun Aprilianti	Awalia	sivahulwunapwal@gmail.com	Institut Teknologi Nasional Bandung
Try Lesthari	Sihotang	lestharitri@gmail.com	Institut Teknologi Sumatera
Vemi	Widoanindyawati	vemiway@gmail.com	Politeknik Negeri Semarang
Yusep Cahya	Purnama	yusep.kerja@gmail.com	Konsultan

LAMPIRAN BUKTI SERTIFIKAT PELATIHAN



The certificate features a green and dark blue curved header. The Bentley Institute logo is centered at the top. Below it, the title 'Certificate of Accomplishment' is written in green. The recipient's name, 'Euneke Widyaningsih', is highlighted in green and underlined. The course details are listed in a structured format with labels and values separated by lines. The signature of Vinayak Trivedi is in the bottom right, with his title and company name below it. The Bentley logo is in the bottom right corner.

Bentley[®] Institute

Certificate of Accomplishment

THIS CERTIFICATE IS PRESENTED TO

Euneke Widyaningsih

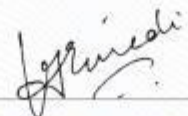
upon successful completion of

PLAXIS Training Series: PLAXIS 3D Training, Modelling of Slope Stability | EN

Product: PLAXIS 3D Version: CONNECT Edition

Course Date: September 29, 2021 - October 1, 2021 Learning Units: 12

Training Partner: NATIONAL GEOTECHNICS CENTER ITENAS



Vinayak Trivedi
Global Head, Bentley Institute
Bentley Systems Inc.

Certificate ID: 2017533003

Bentley[®]
Advancing Infrastructure

LAMPIRAN JADWAL KEGIATAN
RUNDOWN NGC PLAXIS TRAINING SERIES #6
PLAXIS 2D & 3D TRAINING
MODELLING OF SLOPE STABILITY
29th September – 01st October 2021

DAY 1

No	Name	Session Time (hh:mm)	Total Time (hh:mm)	Name	Type
1	INH	16:00 - 17:00	01:00	Introduction to PLAXIS 2D & 3D	Lecture
2	YK	17:00 - 17:45	00:45	Mohr Coulomb Model	Lecture
3		17:45 - 18:30	00:30	Isoma maghrib	
4	INH	18:30 - 19:30	01:00	Structural Element in PLAXIS 2D & 3D	Lecture
5	INH	19:30 - 19:45	00:15	Initial Stresses	Lecture
6	INH	19:45 - 20:45	01:00	Modelling of Slope Stability	Lecture

DAY 2

No	Name	Session Time (hh:mm)	Total Time (hh:mm)	Name	Type
7	RA & DSP	16:00 - 17:00	01:00	Slope Stability using Gabion Reinforcement (PLAXIS 2D)	Exercise
8	RA & DSP	17:00 - 18:00	01:00	Slope Stability using Gabion Reinforcement (PLAXIS 3D)	Exercise
9		18:00 - 18:30	00:30	Isoma maghrib	
10	RA & DSP	18:30 - 19:30	01:00	Slope Stability using Soil Nailing (PLAXIS 2D)	Exercise
11	RA & DSP	19:30 - 20:30	01:00	Slope Stability using Soil Nailing (PLAXIS 3D)	Exercise

DAY 3

No	Name	Session Time (hh:mm)	Total Time (hh:mm)	Name	Type
11	RA & DSP	16:00 - 17:00	01:00	Slope Stability using Boredpile Reinforcement (PLAXIS 2D)	Exercise
12	RA & DSP	17:00 - 18:00	01:00	Slope Stability using Boredpile Reinforcement (PLAXIS 3D)	Exercise
13		18:00 - 18:30	00:30	Isoma maghrib	
14	RA & DSP	18:30 - 19:30	01:00	Slope Stability using Geotextile Reinforcement (PLAXIS 2D)	Exercise
15	RA & DSP	19:30 - 20:30	01:00	Slope Stability using Geotextile Reinforcement (PLAXIS 3D)	Exercise