

	Quick Open Link	www.Engineering-International.com	Group	Last Updated
1	FreeStandingWall.xlsb	Free Standing Masonry & Concrete Wall Design Based on TMS 402-16 & ACI 38-19	Foundation	5/17/2024
2	EccentricFooting.xlsb	Eccentric Footing Design Based on ACI 38-19	Foundation	5/17/2024
3	Flagpole.xlsb	Flagpole Footing Design Based on Chapter 18 of IBC & CBC	Foundation	5/17/2024
4	MasonryRetainingWall.xlsb	Masonry Retaining / Fence Wall Design Based on TMS 402-16 & ACI 38-19	Foundation	5/17/2024
5	ConcreteRetainingWall.xlsb	Concrete Retaining Wall Design Based on ACI 38-19	Foundation	5/17/2024
6	Masonry-Concrete-RetainingWall.xlsb	Retaining Wall Design, for Masonry Top & Concrete Bottom, Based on TMS 402-16 & ACI 38-19	Foundation	5/17/2024
7	ConcretePier.xlsb	Concrete Pier (Isolated Deep Foundation) Design Based on ACI 38-19	Foundation	5/17/2024
8	ConcretePile.xlsb	Drilled Cast-in-place Pile Design Based on ACI 38-19	Foundation	5/17/2024
9	PileCaps.xlsb	Pile Cap Design for 4, 3, 2-Piles Pattern Based on ACI 38-19	Foundation	5/17/2024
10	PileCapBalancedLoads.xlsb	Determination of Pile Cap Balanced Loads and Reactions	Foundation	5/17/2024
11	ConventionalSlabOnGrade.xlsb	Design of Conventional Slabs on Expansive & Compressible Soil Grade Based on ACI 360	Foundation	5/17/2024
12	PT-SlabOnGround.xlsb	Design of PT Slabs on Expansive Soil Ground Based on PTI DC10.5-12 & PTI 3rd Edition	Foundation	5/17/2024
13	BasementConcreteWall.xlsb	Basement Concrete Wall Design Based on ACI 38-19	Foundation	5/17/2024
14	BasementMasonryWall.xlsb	Basement Masonry Wall Design Based on TMS 402-16	Foundation	5/17/2024
15	BasementColumn.xlsb	Basement Column Supporting Lateral Resisting Frame Based on ACI 38-19	Foundation	5/17/2024
16	MRF-GradeBeam.xlsb	Grade Beam Design for Moment Resisting Frame Based on ACI 318-16	Foundation	5/17/2024
17	BraceGradeBeam.xlsb	Grade Beam Design for Brace Frame Based on ACI 38-19	Foundation	5/17/2024
18	GradeBeam.xlsb	Two Pads with Grade Beam Design Based on ACI 38-19 & AISC 360-22	Foundation	5/17/2024
19	CircularFooting.xlsb	Circular Footing Design Based on ACI 38-19	Foundation	5/17/2024
20	CombinedFooting.xlsb	Combined Footing Design Based on ACI 38-19	Foundation	5/17/2024
21	BoundarySpringGenerator.xlsb	Mat Boundary Spring Generator	Foundation	5/17/2024
22	DeepFooting.xlsb	Deep Footing Design Based on ACI 38-19	Foundation	5/17/2024
23	FootingAtPiping.xlsb	Design of Footing at Piping Based on ACI 38-19	Foundation	5/17/2024
24	IrregularFootingSoilPressure.xlsb	Soil Pressure Determination for Irregular Footing	Foundation	5/17/2024
25	PAD.xlsb	Pad Footing Design Based on ACI 38-19	Foundation	5/17/2024
26	PlainConcreteFooting.xlsb	Plain Concrete Footing Design Based on ACI 38-19	Foundation	5/17/2024
27	RestrainedRetainingWall.xlsb	Restrained Retaining Masonry & Concrete Wall Design Based on TMS 402 & ACI 318	Foundation	5/17/2024
28	RetainingWall-DSA-OSHDP.xlsb	Retaining Wall Design Based on 2022 CBC Chapter A	Foundation	5/17/2024
29	TankFooting.xlsb	Tank Footing Design Based on ACI 318-19, ASCE 7-22 & AWWA D103-19	Foundation	5/17/2024
30	TankAnchorage.xlsb	Tank Anchorage Design Based on ACI 318-19 & AWWA D103-19	Foundation	5/17/2024
31	TemporaryFootingforRectangularTank.xlsb	Temporary Tank Footing Design Based on ACI 38-19	Foundation	5/17/2024
32	UnderGroundWell.xlsb	Under Ground Well Design Based on ACI 350-06 & ACI 38-19	Foundation	5/17/2024
33	StudBearingWallFooting.xlsb	Footing Design for Stud Bearing Wall Based on 2021 IBC / ACI 38-19	Foundation	5/17/2024
34	WallFooting.xlsb	Footing Design of Shear Wall Based on ACI 38-19	Foundation	5/17/2024
35	FixedMomentCondition.xlsb	Fixed Moment Condition Design Based on ACI 38-19	Foundation	5/17/2024
36	FloodWay.xlsb	Concrete Floodway Design Based on ACI 350-06 & ACI 38-19	Foundation	5/17/2024
37	LateralEarthPressure.xlsb	Lateral Earth Pressure of Rigid Wall Based on AASHTO 17th & 2021 IBC	Foundation	5/17/2024
38	Shoring.xlsb	Sheet Pile Wall Design Based on 2021 IBC / 2022 CBC / ACI 38-19	Foundation	5/17/2024
39	CompositeElementDurability.xlsb	Composite Element Design Based on AISC 360-22 & ACI 38-19	Foundation	5/17/2024
40	SeismicEarthPressure.xlsb	Seismic Earth Pressure of Deep Stiff Wall Based on FEMA P-750 & AASHTO/IBC	Foundation	5/17/2024
41	Caisson.xlsb	Caisson Design Based on 2021 IBC & 2022 CBC	Foundation	5/17/2024
42	RectangularMachineFooting.xlsb	Rectangular Machine or Tank Footing Design Based on ACI 38-19	Foundation	5/17/2024
43	Tieback.xlsb	Sheet Pile Wall, with Tieback Anchors, Design Based on AASHTO (HB-17), 2021 IBC & ACI 38-19	Foundation	5/17/2024
44	ScrewPiles.xlsb	Screw Pile Design Based on 2021 IBC & AISC 360-22	Foundation	5/17/2024
45	SlopeStability.xlsb	Slope Stability Analysis Based on AASHTO 17th & 2021 IBC	Foundation	5/17/2024
46	UnderFootingSewer.xlsb	Underground Utilities Way Design Based on AASHTO-17th & 2021 IBC	Foundation	5/17/2024
47	LandslideRepair.xlsb	Landslide Repair Design Based on 2021 IBC & AASHTO 17th	Foundation	5/17/2024
48	RingFoundation.xlsb	Ring Foundation Design Based on 2021 IBC & ACI 38-19	Foundation	5/17/2024
49	DrivenPile.xlsb	Driven Precast Concrete Pile Design Based on 2021 IBC & ACI 38-19	Foundation	5/17/2024
50	EquipmentFooting.xlsb	Foundation Design for Dynamic Equipment Based on ACI 351.3 & ACI 38-19	Foundation	5/17/2024
51	Counterfort-Retaining-Wall.xlsb	Counterfort Retaining Wall Design Based on 2021 IBC & ACI 38-19	Foundation	5/17/2024
52	Retaining-Wall-Repair.xlsb	Retaining Wall Repair Design Based on AASHTO/2021 IBC & TMS 402-16	Foundation	5/17/2024
53	MatFoundation.xlsb	RC Mat Slab Design Based on 2021 IBC, ACI 38-19, AASHTO 17th Edition & ACI 360	Foundation	5/17/2024
54	BinWall.xlsb	Trapezoidal Loads Retaining Wall Design Based on ACI 318-19	Foundation	5/17/2024
55	TreeRootFoundation.xlsb	Tree Root Foundation Design Based on AASHTO (HB-17), 2021 IBC & 2022 CBC	Foundation	5/17/2024
56	ElasticStripFoundation.xlsb	Elastic Strip Foundation Analysis using Finite Element Method Based on 2021 IBC	Foundation	5/17/2024
57	PT-Rebar-GroundSlab.xlsb	Design of PT Slabs with Rebar Stiffening Beam Based on ACI 318-19, PTI DC10.5-12 & PTI 3rd Edition	Foundation	5/17/2024
58	SonotubeFooting.xlsb	Sonotube Footing Design Based on 2021 IBC, ASCE 7-22, & ACI 318-19	Foundation	5/17/2024
59	RigidFootingMomentCapacity.xlsb	Rigid Footing Moment Capacity Design Based on ASCE 41-17 & ACI 318-19	Foundation	5/17/2024
1	PerforatedShearWall.xlsb	Perforated Shear Wall Design Based on 2021 IBC / 2022 CBC / NDS 2018	Wood	5/17/2024
2	ShearWallOpening.xlsb	Wood Shear Wall with an Opening Based on 2021 IBC / 2022 CBC / NDS 2018	Wood	5/17/2024
3	WoodColumn.xlsb	Wood Post, Wall Stud, or King Stud Design Based on NDS 2018	Wood	5/17/2024
4	GreenCompositeWall.xlsb	Composite Strong Wall Design Based on ACI 318-19, AISI S100/SI-10 & ESR-3064P	Wood	5/17/2024
5	WoodBeam.xlsb	Wood Beam Design Based on NDS 2018	Wood	5/17/2024
6	CantileverBeam.xlsb	Wood Beam Design Based on NDS 2018	Wood	5/17/2024
7	Diaphragm-Ledger-CMUWall.xlsb	Connection Design for Wall & Diaphragm Based on 2021 IBC / 2022 CBC	Wood	5/17/2024
8	DoubleJoist.xlsb	Double Joist Design for Equipment Based on NDS 2018, ICC PFC-4354 & PFC-5803	Wood	5/17/2024
9	DragForces.xlsb	Drag / Collector Force Diagram Generator	Wood	5/17/2024
10	EquipmentAnchorage.xlsb	Equipment Anchorage to Wood Roof Based on NDS 2018 / 2021 IBC / 2022 CBC	Wood	5/17/2024
11	LagScrewsConnection.xlsb	Lag Screw Connection Design Based on NDS 2018	Wood	5/17/2024
12	Subdiaphragm.xlsb	Subdiaphragm Design Based on ASCE 7-22	Wood	5/17/2024
13	ToeNail.xlsb	Toe-Nail Connection Design Based on NDS 2018	Wood	5/17/2024
14	TopPlateConnection.xlsb	Top Plate Connection Design Based on NDS 2018	Wood	5/17/2024
15	Truss-Wood.xlsb	Wood Truss Design Based on NDS 2018	Wood	5/17/2024
16	WoodBoltConnection.xlsb	Bolt Connection Design Based on NDS 2018	Wood	5/17/2024
17	WoodDiaphragm.xlsb	Wood Diaphragm Design Based on SDPWS-21	Wood	5/17/2024
18	WoodJoist.xlsb	Wood Joist Design Based on NDS 2018 / NDS 01, ICC PFC-4354 & PFC-5803	Wood	5/17/2024
19	WoodShearWall.xlsb	Shear Wall Design Based on 2021 IBC / 2022 CBC / SDPWS-21	Wood	5/17/2024
20	WoodTables.xlsb	Tables for Wood Post Design Based on NDS 2018	Wood	5/17/2024
21	TransferDiaphragm-Wood.xlsb	Wood Diaphragm Design for a Discontinuity of Type 4 out-of-plane offset irregularity	Wood	5/17/2024
22	WoodPolePile.xlsb	Wood Pole or Pile Design Based on NDS 2018	Wood	5/17/2024
23	WoodMember.xlsb	Wood Member (Beam, Column, Brace, Truss Web & Chord) Design Based on NDS 2018	Wood	5/17/2024
24	BendingPostAtColumn.xlsb	Connection Design for Bending Post at Concrete Column Based on NDS 2018 & ACI 318-19	Wood	5/17/2024
25	CurvedMember.xlsb	Curved Wood Member (Wood Torsion) Design Based on NDS 2018	Wood	5/17/2024
26	StrongCustomFrame.xlsb	4E-SMF with Wood Nailer Design Based on AISC 358-22 & NDS 2018	Wood	5/17/2024
27	CLT-TwoWayFloor.xlsb	Two-Way Floor Design Based on NDS 2018, using Cross-Laminated Timber (CLT), by FEM	Wood	5/17/2024

28	CLT-ShearWall.xlsb	Shear Wall Design, using Cross-Laminated Timber (CLT), Based on NDS 2018	Wood	5/17/2024
29	HybridMember.xlsb	Hybrid Member (Wood & Metal) Design Based on NDS 2018, AISI S100 & ESR-3064P	Wood	5/17/2024
30	BeamReinforcement.xlsb	Beam Reinforcement Design by Finite Element Method	Wood	5/17/2024
31	BambooShearWall.xlsb	Shear Wall Design, using Laminated Bamboo, Based on NDS 2018	Wood	5/17/2024
32	WoodRepairProtection.xlsb	Wood Repair & Protection Design Based on 2016 CEBC, ASCE 41-17, ACI 318-19 & NDS 2018	Wood	5/17/2024
33	ToFixSaggingBeam.xlsb	To Fix Sagging Beam, Using External Post-Tensioning Systems, Based on NDS 2018	Wood	5/17/2024
34	ToFixSaggingGirder.xlsb	To Fix Sagging Girder, by Bent HSS Tube Arch, Based on NDS 2018 & AISC 360-22	Wood	5/17/2024
35	MechanicallyLaminatedDecking.xlsb	Mechanically Laminated Decking Design Based on 2022 CBC/2021 IBC 2304.9	Wood	5/17/2024
36	WoodAnchorage.xlsb	Sill Plate/Nailer Connection Design Based on NDS 2018	Wood	5/17/2024
37	FlitchPlateBeam.xlsb	Flitch Plate Beam Design Based on AISC 360-22 & NDS 2018	Wood	5/17/2024
38	CantileverWoodDiaphragm.xlsb	Cantilever Wood Diaphragm Design Based on SDPWS-21	Wood	5/17/2024
39	NotchingDesign.xlsb	Notching Design for Wood and Steel Beam Based on 2021 IBC, NDS 2018, & AISC 360-22	Wood	5/17/2024
40	TudorArches.xlsb	Tudor Arches Design Using Finite Element Method in Structural Mechanics	Wood	5/17/2024
41	CLT-Wall-Wind.xlsb	Wall of Cross-Laminated Timber (CLT) Design, for Perpendicular to Plane Loads, Based on NDS 2018	Wood	5/17/2024
1	MasonryShearWall-CBC.xlsb	Masonry Shear Wall Design Based on 2022 CBC Chapter A (both ASD and SD)	Masonry	5/17/2024
2	MasonryShearWall-IBC.xlsb	Masonry Shear Wall Design Based on TMS 402-16 & 2021 IBC (both ASD and SD)	Masonry	5/17/2024
3	AnchorageToMasonry.xlsb	Fastener Anchorage Design in Masonry Based on TMS 402-16	Masonry	5/17/2024
4	FlushWallPilaster-CBC.xlsb	Masonry Flush Wall Pilaster Design Based on 2022 CBC Chapter A	Masonry	5/17/2024
5	FlushWallPilaster-IBC.xlsb	Masonry Flush Wall Pilaster Design Based on TMS 402-16	Masonry	5/17/2024
6	BearingWallOpening.xlsb	Design of Masonry Bearing Wall with Opening Based on TMS 402-16	Masonry	5/17/2024
7	BendingPostAtTopWall.xlsb	Design for Bending Post at Top of Wall, Based on TMS 402-16	Masonry	5/17/2024
8	DevelopmentSpliceMasonry.xlsb	Development & Splice of Reinforcement in Masonry Based on TMS 402-16 & 2021 IBC & 2022 CBC	Masonry	5/17/2024
9	Elevator-DSA-QSHPP.xlsb	Elevator Masonry Wall Design Based on 2022 CBC Chapter A & 2021 IBC	Masonry	5/17/2024
10	GirderAtWall.xlsb	Design for Girder at Masonry Wall Based on TMS 402-16	Masonry	5/17/2024
11	HorizontalBendingWall.xlsb	Masonry Wall Design at Horizontal Bending Based on TMS 402-16	Masonry	5/17/2024
12	MasonryBeam.xlsb	Masonry Beam Design Based on TMS 402-16	Masonry	5/17/2024
13	MasonryBearingWall-CBC.xlsb	Allowable & Strength Design of Masonry Bearing Wall Based on 2022 CBC Chapter A	Masonry	5/17/2024
14	MasonryBearingWall-IBC.xlsb	Allowable & Strength Design of Masonry Bearing Wall Based on TMS 402-16 & 2021 IBC	Masonry	5/17/2024
15	MasonryColumn-CBC.xlsb	Masonry Column Design Based on 2022 CBC Chapter A	Masonry	5/17/2024
16	MasonryColumn-IBC.xlsb	Masonry Column Design Based on TMS 402-16 & 2021 IBC	Masonry	5/17/2024
17	BeamToWall.xlsb	Beam to Wall Anchorage Design Based on TMS 402-16	Masonry	5/17/2024
18	CollectorToWall.xlsb	Collector to Wall Connection Design Based on TMS 402-16	Masonry	5/17/2024
19	HybridMasonry.xlsb	Hybrid Masonry Wall Design Based on TMS 402-16	Masonry	5/17/2024
20	PT-MasonryShearWall.xlsb	Post-Tensioned Masonry Shear Wall Design Based on TMS 402-16 (SD Method)	Masonry	5/17/2024
21	MasonryWallOpening.xlsb	Masonry Shear Wall with Opening Design Using Finite Element Method	Masonry	5/17/2024
22	MasonryCracking.xlsb	Anticipated Cracking Design of Masonry Wall Based on TMS 402-16	Masonry	5/17/2024
23	EnhanceExistingColumn.xlsb	Existing Column Enhancement Based on 2015 IEBC, ASCE 41-17 & ACI 318-19/TMS 402-16	Masonry	5/17/2024
24	EnhanceExistingWall.xlsb	Existing Wall Enhancement Based on 2015 IEBC, ASCE 41-17 & ACI 318-19/TMS 402-16	Masonry	5/17/2024
25	GrillageBeamWall.xlsb	Design for Grillage Beam Masonry Wall Based on TMS 402-16	Masonry	5/17/2024
26	MasonryElement.xlsb	Masonry Plate/Shell Element Design (ASD) Based on 2021 IBC & TMS 402-16	Masonry	5/17/2024
27	LightlyLoadedColumn.xlsb	Lightly Loaded Column Design Based on TMS 402-16 (UNCRACKED and CRACKED)	Masonry	5/17/2024
1	Wind-ASCE7-22.xlsb	Wind Analysis Based on ASCE 7-22	Lateral	5/17/2024
2	Seismic-2021IBC.xlsb	Seismic Analysis Based on 2021 IBC	Lateral	5/17/2024
3	Wind-ASCE7-16.xlsb	Wind Analysis Based on ASCE 7-16	Lateral	5/17/2024
4	PipeRiser.xlsb	MCE Level Seismic Design for Metal Pipe/Riser Based on ASCE 7-22 & AISI S100	Lateral	5/17/2024
5	RigidDiaphragm.xlsb	Rotation Analysis of Rigid Diaphragm Based on 2021 IBC / 2022 CBC	Lateral	5/17/2024
6	FlexibleDiaphragm.xlsb	Flexible Diaphragm Analysis	Lateral	5/17/2024
7	TwoStoryMomentFrame.xlsb	Two Story Moment Frame Analysis using Finite Element Method	Lateral	5/17/2024
8	X-BracedFrame.xlsb	X-Braced Frame Analysis using Finite Element Method	Lateral	5/17/2024
9	OpenStructureWind.xlsb	Wind Analysis for Open Structure (Solar Panels) Based on ASCE 7-22, 10 & 05	Lateral	5/17/2024
10	RoofScreenWind.xlsb	Wind Load, on Roof Screen / Roof Equipment, Based on ASCE 7-22, 10 & 05	Lateral	5/17/2024
11	AxialRoofDeck.xlsb	Axial Capacity of 1 1/2" Type "B" Roof Deck Based on ICBO ER-2078P	Lateral	5/17/2024
12	DeformationCompatibility.xlsb	Column Deformation Compatibility Design using Finite Element Method	Lateral	5/17/2024
13	DiscontinuousShearWall.xlsb	Discontinuous Shear Wall Analysis Using Finite Element Method	Lateral	5/17/2024
14	FlexibleDiaphragmOpening.xlsb	Flexible Diaphragm with an Opening Analysis	Lateral	5/17/2024
15	Handrail.xlsb	Handrail Design Based on AISC 360-22 & ACI 318-19	Lateral	5/17/2024
16	InteriorWallLateralForce.xlsb	Interior Wall Lateral Forces Based on 2021 IBC / 2022 CBC	Lateral	5/17/2024
17	LateralFrameFormulas.xlsb	Lateral Frame Formulas	Lateral	5/17/2024
18	LiveLoad.xlsb	Live Load Reduction Based on ASCE 7-22, 2021 IBC / 2022 CBC	Lateral	5/17/2024
19	Seismic-SingleFamilyDwellings.xlsb	Seismic Analysis for Family Dwellings Based on 2021 IBC / 2022 CBC & ASCE 7-22	Lateral	5/17/2024
20	ShadeStructureWind.xlsb	Wind Analysis for Shade Open Structure Based on ASCE 7-22, 10 & 05	Lateral	5/17/2024
21	ShearWallForces.xlsb	Shear Wall Analysis for Shear Wall with Opening Using Finite Element Method	Lateral	5/17/2024
22	ShearWall-NewOpening.xlsb	Relative Rigidity Determination for Shear Wall with New Opening	Lateral	5/17/2024
23	ShearWallRigidity.xlsb	Rigidity for Shear Wall & Shear Wall with Opening Using Finite Element Method	Lateral	5/17/2024
24	Sign.xlsb	Sign Design Based on AISC 360-22, ACI 318-19, and IBC 1807.3	Lateral	5/17/2024
25	SignWind.xlsb	Wind Analysis for Freestanding Wall & Sign Based on ASCE 7-22, 10 & 05	Lateral	5/17/2024
26	Snow.xlsb	Snow Load Analysis Based on ASCE 7-22, 10, 05, & UBC	Lateral	5/17/2024
27	WallLateralForce-CBC.xlsb	Lateral Force for One-Story Wall Based on 2022 CBC	Lateral	5/17/2024
28	WallLateralForce-IBC.xlsb	Lateral Force for One-Story Wall Based on 2021 IBC	Lateral	5/17/2024
29	Seismic-ASCE7-22.xlsb	Seismic Analysis Based on ASCE 7-22	Lateral	5/17/2024
30	WindGirtDeflection.xlsb	Wind Girt Deflection Analysis of Wood, Metal Stud, and/or Steel Tube	Lateral	5/17/2024
31	StorageRacks.xlsb	Lateral Loads of Storage Racks, with Hilti & Red Head Anchorage, Based on ASCE 7-22	Lateral	5/17/2024
32	Wind-Alternate.xlsb	Wind Analysis for Building with h < 60 ft, Based on 2021 IBC/ASCE 7-22	Lateral	5/17/2024
33	CeilingSeismic.xlsb	Suspended Ceiling Seismic Loads Based on ASCE 7-22	Lateral	5/17/2024
34	ResponseSpectrumGenerator.xlsb	Earthquake Response Spectrum Generator	Lateral	5/17/2024
35	Tornado-Hurricane.xlsb	Wind Analysis for Tornado and Hurricane Based on 2021 IBC Section 423 & FEMA 361/320	Lateral	5/17/2024
36	StiffnessMatrix.xlsb	Stiffness Matrix Generator for Irregular Beam/Column	Lateral	5/17/2024
37	PT-ColumnDrift.xlsb	Lateral Drift Mitigation for Cantilever Column using Post-Tensioning	Lateral	5/17/2024
38	BlastMitigation.xlsb	Blast Deformation Mitigation for Gravity Column using Post-Tensioning	Lateral	5/17/2024
39	Wind-SolarPanels.xlsb	Wind Design for Rooftop Solar Panels Based on ASCE 7-22	Lateral	5/17/2024
40	Seismic-vs-Wind.xlsb	Three, Two, and One Story Comparison of Seismic and Wind Based on 2021 IBC / 2022 CBC	Lateral	5/17/2024
41	SC-Frame.xlsb	Self-Centering Lateral Frame Design Based on ASCE 7-22, AISC 360-22 & ACI 318-19	Lateral	5/17/2024
42	UnitConversion.xlsb	Unit Conversions between U.S. Customary System & Metric System	Lateral	5/17/2024
43	GeneralBeam.xlsb	General Beam Analysis	Lateral	5/17/2024
44	Wind-TrussedTower.xlsb	Wind Analysis for Trussed Tower Based on ASCE 7-22	Lateral	5/17/2024
45	PT-Frame.xlsb	Post-Tensioned Lateral Frame Analysis using Finite Element Method	Lateral	5/17/2024
46	External-PT-Beam.xlsb	Beam Strengthening Analysis Using External Post-Tensioning Systems	Lateral	5/17/2024

47	LaterDriftCompatibility.xlsx	Lateral Drift Compatibility Analysis using Finite Element Method	Lateral	5/17/2024
48	SlopedDiaphragm.xlsx	Seismic Analysis for Sloped Flexible Diaphragm	Lateral	5/17/2024
49	FloorVibration.xlsx	Two-Way Floor Vibration Design Based on The Structural Engineer, Vol. 94-1, 2016	Lateral	5/17/2024
50	RetrofitWeakStory.xlsx	Retrofit Soft, Weak, or Open-Front Story Based on FEMA P807/ASCE 41-17	Lateral	5/17/2024
51	FourStoryMomentFrame.xlsx	Four Story Moment Frame Analysis using Finite Element Method	Lateral	5/17/2024
52	4-LevelShelving.xlsx	Lateral Loads of 4 Level Shelving, with Hilti Anchorage, Based on ASCE 7-22	Lateral	5/17/2024
53	BoxMomentFrame.xlsx	Box Moment Frame Analysis for Enhanced/New Wall Opening	Lateral	5/17/2024
54	High-RiseBuilding.xlsx	High-Rise Structural Embedded Design Based on 2022 CBC/2021 IBC	Lateral	5/17/2024
55	Bracing-FlexibleDiaphragm.xlsx	Flexible Diaphragm Design with Tension Rod Cross Bracing	Lateral	5/17/2024
56	BaseIsolatedBuilding.xlsx	Base Isolated Building Design Based on ASCE 7-22	Lateral	5/17/2024
57	CanopyWind.xlsx	Wind Load on Canopy Based on ASCE 7-22 Section 30.9	Lateral	5/17/2024
58	BinSiloWind.xlsx	Wind Analysis for Bin or Silo, Supported by Columns, Based on ASCE 7-22	Lateral	5/17/2024
59	CircularWind.xlsx	Wind Analysis for Circular Structure Based on ASCE 7-22	Lateral	5/17/2024
60	CircularDiaphragm.xlsx	Circular Flexible Diaphragm Analysis	Lateral	5/17/2024
61	NewRoofLoads.xlsx	Support Design, for New Loads on Existing Roof, Based on ASCE 41-17, AISC 360-22 & ACI 318-19	Lateral	5/17/2024
62	ReversedLateralFrame.xlsx	Reversed Lateral Frame Design Based on ASCE 41-17 & 7-22, AISC 360-22 & ACI 318-19	Lateral	5/17/2024
63	ArchRoofWind.xlsx	Wind Analysis for Open Arch Roof Based on ASCE 7-22	Lateral	5/17/2024
64	KBRF.xlsx	Knee Braced Moment Resisting Frame (KBRF) Analysis using Finite Element Method	Lateral	5/17/2024
65	Green-Roof.xlsx	Green Roof Seismic Analysis Based on 2021 IBC, ASCE 41-17 & ASCE 7-22	Lateral	5/17/2024
66	PoleMountClamp.xlsx	Pole Mount Clamp Design Based on ACI 318-19 & AISC 360-22	Lateral	5/17/2024
67	PondingDesign.xlsx	Ponding Design for Roof Beam Based on 2021 IBC, 2022 CBC, & AISC 360-22	Lateral	5/17/2024
68	Typ-Truss.xlsx	Typical Truss Analysis by Finite Element Method Based on 2021 IBC / 2022 CBC	Lateral	5/17/2024
69	Fink-Truss.xlsx	Fink Truss Analysis by Finite Element Method Based on 2021 IBC / 2022 CBC	Lateral	5/17/2024
70	Howe-Truss.xlsx	Howe Truss Analysis by Finite Element Method Based on 2021 IBC / 2022 CBC	Lateral	5/17/2024
71	Attic-Truss.xlsx	Attic Truss Analysis by Finite Element Method Based on 2021 IBC / 2022 CBC	Lateral	5/17/2024
72	Floor-Truss.xlsx	Flat Truss Analysis by Finite Element Method Based on 2021 IBC / 2022 CBC	Lateral	5/17/2024
73	Scissor-Truss.xlsx	Scissor Truss Analysis by Finite Element Method Based on 2021 IBC / 2022 CBC	Lateral	5/17/2024
74	SolarCarport.xlsx	Solar Carport Pole & Footing Design Based on AISC 360-22, ACI 318-19, and 2021 IBC 1807.3	Lateral	5/17/2024
75	TensionOnly-BracedFrame.xlsx	Tension-Only Braced Frame Analysis using Finite Element Method	Lateral	5/17/2024
76	NonbuildingSeismic.xlsx	Nonbuilding Seismic Analysis Based on ASCE 7-22 Chapter 15	Lateral	5/17/2024
77	TwoSpanFrame.xlsx	Two Span Moment Frame Analysis using Finite Element Method	Lateral	5/17/2024
78	SetBackFrame.xlsx	Set Back Moment Frame Analysis using Finite Element Method	Lateral	5/17/2024
79	ContainerBuilding.xlsx	Container Building Lateral Design Based on 2021 IBC / 2022 CBC & ASCE 7-22	Lateral	5/17/2024
80	BlastLoads.xlsx	Determination of Blast Loads on Buildings Based on BIPS 06/FEMA 426, & UFC 3-340-02	Lateral	5/17/2024
1	Aluminum-I-WF-Capacity.xlsx	Aluminum I or WF Member Capacity Based on Aluminum Design Manual 2015 (ADM-I)	Aluminum	5/17/2024
2	Aluminum-C-CS-Capacity.xlsx	Aluminum C or CS Member Capacity Based on Aluminum Design Manual 2015 (ADM-I)	Aluminum	5/17/2024
3	Aluminum-RT-Capacity.xlsx	Aluminum RT Member Capacity Based on Aluminum Design Manual 2015 (ADM-I)	Aluminum	5/17/2024
4	Aluminum-PIPE-Capacity.xlsx	Aluminum PIPE Member Capacity Based on Aluminum Design Manual 2015 (ADM-I)	Aluminum	5/17/2024
5	StructuralGlass.xlsx	Glass Wall/Window/Stair Design, Based on ASTM E1300, using Finite Element Method	Aluminum	5/17/2024
6	P-Delta-Effect.xlsx	P-Delta Effect Analysis by Finite Element Method	Aluminum	5/17/2024
7	CopperPipe.xlsx	Copper Pipe Design using Finite Element Method	Aluminum	5/17/2024
1	TwoWaySlab.xlsx	Two-Way Slab Design Based on ACI 318-19 using Finite Element Method	Concrete	5/17/2024
2	VoidedBiaxialSlabs.xlsx	Voided Two-Way Slab Design Based on ACI 318-19	Concrete	5/17/2024
3	AnchorageToConcrete.xlsx	Base Plate and Group Anchors Design Based on ACI 318-19 & AISC 360-22	Concrete	5/17/2024
4	AnchorageToPedestal.xlsx	Anchorage to Pedestal Design Based on ACI 318-19 & AISC 360-22	Concrete	5/17/2024
5	CircularColumn.xlsx	Circular Column Design Based on ACI 318-19	Concrete	5/17/2024
6	ConcreteColumn.xlsx	Concrete Column Design Based on ACI 318-19	Concrete	5/17/2024
7	SuperCompositeColumn.xlsx	Super Composite Column Design Based on AISC 360-22 & ACI 318-19	Concrete	5/17/2024
8	SpecialShearWall-CBC.xlsx	Special Concrete Shear Wall Design Based on ACI 318-19 & 2022 CBC Chapter A	Concrete	5/17/2024
9	OrdinaryShearWall.xlsx	Ordinary Concrete Shear Wall Design Based on ACI 318-19	Concrete	5/17/2024
10	ConcretePool.xlsx	Concrete Pool Design Based on ACI 318-19	Concrete	5/17/2024
11	Corbel.xlsx	Corbel Design Based on IBC 09 / ACI 318-19	Concrete	5/17/2024
12	CouplingBeam.xlsx	Coupling Beam Design Based on ACI 318-19	Concrete	5/17/2024
13	DeepBeam.xlsx	Deep Beam Design Based on ACI 318-19	Concrete	5/17/2024
14	Non-DeepBeam.xlsx	Typical Member Section (Non Deep Beam) Design Based on ACI 318-19	Concrete	5/17/2024
15	DevelopmentSpliceConcrete.xlsx	Development & Splice of Reinforcement Based on ACI 318-19	Concrete	5/17/2024
16	EquipmentMounting.xlsx	Design for Equipment Anchorage Based on 2021 IBC & 2022 CBC Chapter A	Concrete	5/17/2024
17	ExistingShearWall.xlsx	Verify Existing Concrete Shear Wall Based on ASCE 41-17 / 2022 CBC & 2021 IBC	Concrete	5/17/2024
18	Friction.xlsx	Shear Friction Reinforcing Design Based on ACI 318-19	Concrete	5/17/2024
19	PipeConcreteColumn.xlsx	Pipe Concrete Column Design Based on ACI 318-19	Concrete	5/17/2024
20	PT-ConcreteFloor.xlsx	Design of Post-Tensioned Concrete Floor Based on ACI 318-19	Concrete	5/17/2024
21	Punching.xlsx	Slab Punching Design Based on ACI 318-19	Concrete	5/17/2024
22	Slab.xlsx	Concrete Slab Perpendicular Flexure & Shear Capacity Based on ACI 318-19	Concrete	5/17/2024
23	VoidedSectionCapacity.xlsx	Voided Section Design Based on ACI 318-19	Concrete	5/17/2024
24	DiaphragmShear.xlsx	Concrete Diaphragm in-plane Shear Design Based on ACI 318-19	Concrete	5/17/2024
25	SMRF-ACI.xlsx	Seismic Design for Special Moment Resisting Frame Based on ACI 318-19	Concrete	5/17/2024
26	SpecialShearWall-IBC.xlsx	Special Reinforced Concrete Shear Wall Design Based on ACI 318-19 & 2021 IBC	Concrete	5/17/2024
27	SuspendedAnchorage.xlsx	Suspended Anchorage to Concrete Based on 2021 IBC & 2022 CBC	Concrete	5/17/2024
28	TiltupPanel.xlsx	Tilt-up Panel Design based on ACI 318-19	Concrete	5/17/2024
29	Multi-StoryTilt-Up.xlsx	Multi-Story Tilt-Up Wall Design Based on ACI 318-19	Concrete	5/17/2024
30	WallPier.xlsx	Wall Pier Design Based on 2022 CBC & 2021 IBC	Concrete	5/17/2024
31	BeamPenetration.xlsx	Design for Concrete Beam with Penetration Based on ACI 318-19	Concrete	5/17/2024
32	ColumnSupportingDiscontinuous.xlsx	Column Supporting Discontinuous System Based on ACI 318-19	Concrete	5/17/2024
33	PlateShellElement.xlsx	Plate/Shell Element Design Based on ACI 318-19	Concrete	5/17/2024
34	TransferDiaphragm-Concrete.xlsx	Concrete Diaphragm Design for a Discontinuity of Type 4 out-of-plane offset irregularity	Concrete	5/17/2024
35	Silo-Chimney-Tower.xlsx	Concrete Silo / Chimney / Tower Design Based on ASCE 7-22, ACI 318-19 & ACI 313-16	Concrete	5/17/2024
36	ConcreteBeam.xlsx	Concrete Beam Design, for New or Existing, Based on ACI 318-19	Concrete	5/17/2024
37	AnchorageWithCircularBasePlate.xlsx	Anchorage Design, with Circular Base Plate, Based on ACI 318-19 & AISC 360-22	Concrete	5/17/2024
38	DirectCompositeBeam.xlsx	Composite Beam/Collector Design, without Metal Deck, Based on AISC 360-22 & ACI 318-19	Concrete	5/17/2024
39	CompositeMomentConnection.xlsx	Composite Moment Connection Design Based on ACI 318-19	Concrete	5/17/2024
40	MetricBars.xlsx	Flexural & Axial Design for Custom Metric Bars Based on Linear Distribution of Strain (ACI 318-19)	Concrete	5/17/2024
41	EnhanceExistingBeam.xlsx	Existing Concrete Beam Enhancement Based on 2015 IEBC, ASCE 41-17 & ACI 318-19	Concrete	5/17/2024
42	EnhanceExistingFloor.xlsx	Existing Concrete Floor Enhancement Based on 2015 IEBC, ASCE 41-17 & ACI 318-19	Concrete	5/17/2024
43	BearingWall-ICF.xlsx	Bearing Wall Design of Insulated Concrete Form (ICF) Based on ACI 318-19 & 2021 IBC	Concrete	5/17/2024
44	Lintel-ICF.xlsx	Lintel Design of Insulated Concrete Form (ICF) Based on ACI 318-19 & 2021 IBC	Concrete	5/17/2024
45	ConnectionToWall.xlsx	Design for Connection to Wall Based on AISC 360-22 & ACI 318-19	Concrete	5/17/2024
46	IrregularSection.xlsx	Irregular Section Design of Concrete Beam/Column Based on & ACI 318-19	Concrete	5/17/2024

47	CoupledShearWalls.xlsx	Coupled Shear Walls Design Based on ASCE 7-22 & ACI 318-19	Concrete	5/17/2024
48	ConcreteStair.xlsx	Concrete Stair Design Based on 2021 IBC & ACI 318-19	Concrete	5/17/2024
49	SlabOnWall.xlsx	Design for Two-Way Concrete Slab on Wall Based on ACI 318-19 using Finite Element Method	Concrete	5/17/2024
1	BeamConnection.xlsx	Beam Connection Design Based on AISC 360-22	Steel	5/17/2024
2	AngleCapacity.xlsx	Angle Steel Member Capacity Based on AISC 360-22	Steel	5/17/2024
3	HSS-WF-Capacity.xlsx	Tube, Pipe, or WF Member Capacity Based on AISC 360-22	Steel	5/17/2024
4	MetalStuds.xlsx	Metal Member Design Based on AISI S100-07/SI-10 (2021 IBC) & ESR-3064P	Steel	5/17/2024
5	SMRF-CBC.xlsx	Seismic Design for Special Moment Resisting Frames Based on 2022 CBC	Steel	5/17/2024
6	SCBF-Parallel.xlsx	Seismic Design for Special Concentrically Braced Frames Based on CBC/IBC & AISC 341-22	Steel	5/17/2024
7	SCBF-Perpendicular.xlsx	Bracing Connection Design, with Perpendicular Gusset, Based on CBC/IBC & AISC 341-22	Steel	5/17/2024
8	ColumnAboveBeam.xlsx	Connection Design for Column above Beam, Based on AISC Manual & AISC 360-22	Steel	5/17/2024
9	BeamGravity.xlsx	Steel Gravity Beam Design Based on AISC 360-22	Steel	5/17/2024
10	BeamWithTorsion.xlsx	WF Simply Supported Beam Design with Torsional Loading Based on AISC 360-22	Steel	5/17/2024
11	HSS-Torsion.xlsx	HSS (Tube, Pipe) Member Design with Torsional Loading Based on AISC 360-22	Steel	5/17/2024
12	FixedBoltedJoint.xlsx	Fixed Bolted Joint, with Beam Sitting on Top of Column, Based on AISC 358-22 8ES/4ES & FEMA-350	Steel	5/17/2024
13	BraceConnection.xlsx	Typical Bracing Connection Capacity Based on AISC 360-22	Steel	5/17/2024
14	BRBF.xlsx	Buckling-Restrained Braced Frames Based on AISC 360-22 & AISC 341-22	Steel	5/17/2024
15	BSEF-SMF.xlsx	Bolted Seismic Moment Connection Based on AISC 341-22, 358-22, 360-22 & FEMA-350	Steel	5/17/2024
16	BoltedMomentConnection.xlsx	Bolted Non-Seismic Moment Connection Based on AISC 341-22, 358-22, 360-22 & FEMA-350	Steel	5/17/2024
17	ChannelCapacity.xlsx	Channel Steel Member Capacity Based on AISC 360-22	Steel	5/17/2024
18	CompositeCollectorBeam.xlsx	Composite Collector Beam with Seismic Loads Based on 2022 CBC / 2021 IBC	Steel	5/17/2024
19	CompositeFloorBeam.xlsx	Composite Beam Design Based on AISC Manual 9th	Steel	5/17/2024
20	CompositeFloorBeamWithCantilever.xlsx	Composite Beam Design Based on AISC 360-22 / 2021 IBC / 2022 CBC	Steel	5/17/2024
21	CompositeFloorGirder.xlsx	Composite Girder Design Based on AISC 360-22 / 2021 IBC / 2022 CBC	Steel	5/17/2024
22	DragConnection.xlsx	Drag Connection Based on AISC 360-22 & AISC 341-22	Steel	5/17/2024
23	DragForcesforBraceFrame.xlsx	Drag / Collector Forces for Brace Frame	Steel	5/17/2024
24	EBF-CB.xlsx	Seismic Design for Eccentrically Braced Frames Based on 2022 CBC & AISC 341-22	Steel	5/17/2024
25	EBF-IBC.xlsx	Seismic Design for Eccentrically Braced Frames Based on 2021 IBC & AISC 341-22	Steel	5/17/2024
26	EnhancedCompositeBeam.xlsx	Enhanced Composite Beam Design Based on AISC 360-22 / 2021 IBC / 2022 CBC	Steel	5/17/2024
27	EnhancedSteelBeam.xlsx	Enhanced Steel Beam Design Based on AISC 360-22	Steel	5/17/2024
28	ExteriorMetalStudWall.xlsx	Exterior Metal Stud Wall Design Based on AISI S100-07/SI-10 & ESR-3064P	Steel	5/17/2024
29	FloorDeck.xlsx	Depressed Floor Deck Capacity (Non-Composite)	Steel	5/17/2024
30	GussetGeometry.xlsx	Gusset Plate Dimensions Generator	Steel	5/17/2024
31	MetalShearWall.xlsx	Metal Shear Wall Design Based on AISI S100-07/SI-10, ER-5762 & ESR-3064P	Steel	5/17/2024
32	MetalShearWallOpening.xlsx	Metal Shear Wall with an Opening Based on AISI S100-07/SI-10, ER-5762 & ESR-3064P	Steel	5/17/2024
33	Metal-Z-Purlins.xlsx	Metal Z-Purlins Design Based on AISI S100-07/SI-10	Steel	5/17/2024
34	OCBF-CB.xlsx	Ordinary Concentrically Braced Frames Based on 2022 CBC & AISC 341-22	Steel	5/17/2024
35	OCBF-IBC.xlsx	Ordinary Concentrically Braced Frames Based on 2021 IBC & AISC 341-22	Steel	5/17/2024
36	CantileverFrame.xlsx	Web-Tapered Cantilever Frame Design Based on AISC-ASD 9th, Appendix F	Steel	5/17/2024
37	QMRFB-CB.xlsx	Intermediate/Ordinary Moment Resisting Frames Based on 2022 CBC	Steel	5/17/2024
38	QMRFB-IBC.xlsx	Intermediate/Ordinary Moment Resisting Frames Based on 2021 IBC	Steel	5/17/2024
39	PlateGirder.xlsx	Plate Girder Design Based on AISC 360-22	Steel	5/17/2024
40	RectangularSection.xlsx	Rectangular Section Member Design Based on AISC 360-22	Steel	5/17/2024
41	RoofDeck.xlsx	Design of 1 1/2" Type "B" Roof Deck Based on ICBO ER-2078P	Steel	5/17/2024
42	BasePlate.xlsx	Base Plate Design Based on AISC 360-22	Steel	5/17/2024
43	SMRF-IBC.xlsx	Special Moment Resisting Frames Based on 2021 IBC, AISC 341-22 & AISC 358-22	Steel	5/17/2024
44	SPSW.xlsx	Seismic Design for Special Plate Shear Wall Based on AISC 341-22 & AISC 360-22	Steel	5/17/2024
45	SteelColumn.xlsx	Steel Column Design Based on AISC 360-22	Steel	5/17/2024
46	SteelStair.xlsx	Steel Stair Design Based on AISC 360-22	Steel	5/17/2024
47	TripleW-Shapes.xlsx	Simply Supported Member of Triple W-Shapes Design Based on AISC 360-22	Steel	5/17/2024
48	PortalFrame.xlsx	Portal Frame Analysis using Finite Element Method	Steel	5/17/2024
49	WebTaperedPortal.xlsx	Web Tapered Portal Based on AISC-ASD 9th Appendix F and/or AISC Design Guide 25	Steel	5/17/2024
50	WebTaperedFrame.xlsx	Web Tapered Frame Based on AISC-ASD 9th Appendix F and/or AISC Design Guide 25	Steel	5/17/2024
51	WebTaperedGirder.xlsx	Web Tapered Girder Design Based on AISC-ASD 9th Appendix F and/or AISC Design Guide 25	Steel	5/17/2024
52	WeldConnection.xlsx	Weld Connection Design Based on AISC 360-22	Steel	5/17/2024
53	WF-Opening.xlsx	Check Capacity of WF Beam at Opening Based on AISC 360-22	Steel	5/17/2024
54	HSS-Opening.xlsx	Check Capacity of HSS Tube Beam at Opening Based on AISC 360-22	Steel	5/17/2024
55	MomentAcrossGirder.xlsx	Design for Fully Restrained Moment Connection across Girder Based on AISC 360-22	Steel	5/17/2024
56	BeamSplice.xlsx	Beam Bolted Splice Design Based on AISC 360-22	Steel	5/17/2024
57	FilledCompositeColumn.xlsx	Filled Composite Column Design Based on AISC 360-22 & ACI 318-19	Steel	5/17/2024
58	CellularBeam.xlsx	Cellular Beam Design Based on AISC 360-22	Steel	5/17/2024
59	DoubleAngleCapacity.xlsx	Double Angle Capacity Based on AISC 360-22	Steel	5/17/2024
60	T-ShapeCapacity.xlsx	T-Shape Member Capacity Based on AISC 360-22	Steel	5/17/2024
61	CantileverColumn.xlsx	Cantilever Column & Footing Design Based on AISC 360-22, ACI 318-19, and IBC 1807.3	Steel	5/17/2024
62	Truss-Metal.xlsx	Light Gage Truss Design Based on AISI S100-07/SI-10 & ESR-3064P	Steel	5/17/2024
63	SleeveJointConnection.xlsx	Sleeve Joint Connection Design, for Steel Cell Tower / Sign, Based on AISC 360-22	Steel	5/17/2024
64	MomentToColumnWeb.xlsx	Moment Connection Design for Beam to Weak Axis Column Based on AISC 360-22	Steel	5/17/2024
65	ConXL.xlsx	Seismic Bi-axial Moment Frame Design Based on AISC 358-22 & ACI 318-19	Steel	5/17/2024
66	ThinCompositeBeam.xlsx	Thin Composite Beam/Collector Design Based on AISC 360-22 & ACI 318-19	Steel	5/17/2024
67	BoltConnection.xlsx	Bolt Connection Design Based on AISC 360-22	Steel	5/17/2024
68	SCCS-OCCS.xlsx	Cantilever Column System (SCCS/OCCS) Design Based on AISC 341-22, AISC 360-22 & ACI 318-19	Steel	5/17/2024
69	Non-PrismaticCompositeGirder.xlsx	Non-Prismatic Composite Girder Design Based on AISC 360-22 / 2022 CBC / 2021 IBC	Steel	5/17/2024
70	EndPlateConnection.xlsx	Endplate Splice Moment Connection Based on AISC 341-22, 358-22, 360-22 & FEMA-350	Steel	5/17/2024
71	Z-ProfileTreadRiser.xlsx	Flexure Capacity for Z-Profile Tread and Riser Based on AISC 360-22	Steel	5/17/2024
72	SC-WB.xlsx	Strong-Column Weak-Beam Design Based on AISC 341-22 and AISC 360-22	Steel	5/17/2024
73	C-PSW-CF.xlsx	Composite Plate Shear Wall Design Based on AISC 341-22 & ACI 318-19 - Concrete Filled (C-PSW/CF)	Steel	5/17/2024
74	MTBF.xlsx	Multi-Tiered Braced Frame Design Based on AISC 341-22	Steel	5/17/2024
75	SeismicColumn.xlsx	Filled Composite Column (FCC) Design for C-SMF/C-IMF/C-OCF Based on ASCE 7-22, AISC 341-22 & ACI 318-19	Steel	5/17/2024
76	SCBF-4-Story.xlsx	Plastic Mechanism Analysis, for Capacity-Limited Horizontal Seismic Load Effect, Based on AISC 341-22	Steel	5/17/2024
77	SCBF-3-Story.xlsx	Plastic Mechanism Analysis, for Capacity-Limited Horizontal Seismic Load Effect, Based on AISC 341-22	Steel	5/17/2024
78	SCBF-2-Story.xlsx	Plastic Mechanism Analysis, for Capacity-Limited Horizontal Seismic Load Effect, Based on AISC 341-22	Steel	5/17/2024
79	T-SMF.xlsx	Double-Tee Connection Design for SMF Based on AISC 341-22, 358-22, 360-22	Steel	5/17/2024
80	SteelCorbel.xlsx	Steel Corbel Design Based on AISC-ASD 9th, Appendix F	Steel	5/17/2024
81	Stiffeners.xlsx	Proportions and Stiffeners Design for I-Shaped Member Based on AISC 360-22	Steel	5/17/2024
82	MomentToTubeColumn.xlsx	Moment Connection Design for Beam to Tube Column Based on AISC 360-22	Steel	5/17/2024
83	Prestressed-Steel-Arch.xlsx	Prestressed Steel Arch Design Based on 2021 IBC/2022 CBC & AISC 360-22	Steel	5/17/2024
84	RoofBentGirder.xlsx	Web-Tapered Roof Girder Design Based on AISC-ASD 9th Appendix F and 2021 IBC/2022 CBC 1605	Steel	5/17/2024

1	Arch-Bridge.xlsx	Arch Bridge Analysis using Finite Element Method	Bridge	5/17/2024
2	Bridge-ConcreteGirder.xlsx	Prestressed Concrete Girder Design for Bridge Structure Based on AASHTO 17th Edition & ACI 318-19	Bridge	5/17/2024
3	Bridge-ConcreteColumn.xlsx	Bridge Column Design Based on AASHTO 17th & ACI 318-19	Bridge	5/17/2024
4	Bridge-BoxSection.xlsx	Bridge Design for Prestressed Concrete Box Section Based on AASHTO 17th Edition & ACI 318-19	Bridge	5/17/2024
5	ConcreteTunnel.xlsx	Concrete Tunnel Design Based on AASHTO-17th & ACI 318-19	Bridge	5/17/2024
6	DoubleTee.xlsx	Prestressed Double Tee Design Based on AASHTO 17th Edition & ACI 318-19	Bridge	5/17/2024
7	BoxCulvert.xlsx	Concrete Box Culvert Design Based on AASHTO 17th Edition & ACI 318-19	Bridge	5/17/2024
8	SteelRoadPlate.xlsx	Steel Road Plate Design Based on AASHTO 17th Edition & AISC 360-22 using Finite Element Method	Bridge	5/17/2024
9	FlangeTaperedGirder.xlsx	Flange Tapered Plate Girder Design Based on AISC 360-22	Bridge	5/17/2024
10	PrestressedConcreteCircularHollowSection.xlsx	Prestressed Concrete Circular Hollow Pole/Pile Design Based on ACI 318-19 & AASHTO 17th	Bridge	5/17/2024
11	Falsework.xlsx	Falsework Design for Steel Girder Bridge Based on NDS 2018 & AASHTO 17th	Bridge	5/17/2024
12	PolygonCapacity.xlsx	Polygon Section Member (Tubular Steel Pole) Design Based on ASCE 48-14	Bridge	5/17/2024
13	Truss-Bridge.xlsx	Truss Analysis using Finite Element Method	Bridge	5/17/2024
14	ConcreteWall-Mount.xlsx	Mounting Design on Concrete Wall/Tunnel Based on FEMA E-74, 2021 IBC, and 2022 CBC Chapter A	Bridge	5/17/2024
15	VehicularBarrierWall.xlsx	Vehicular Barrier Wall Design Based on ASCE 7-22 & ACI 318-19	Bridge	5/17/2024
16	FootbridgeVibration.xlsx	Footbridge Vibration Design Based on The Structural Engineer, Vol. 94-1, 2016	Bridge	5/17/2024
17	MSE-Wall.xlsx	Design of Mechanically Stabilized Earth Wall Based on AASHTO/2021 IBC & TMS 402-16	Bridge	5/17/2024
18	ElastomericBearingBridge.xlsx	Elastomeric Bearing Bridge Analysis using Finite Element Method	Bridge	5/17/2024
19	CableStructure.xlsx	Cable Structure Design Based on ASCE 19-10 & AASHTO 17th	Bridge	5/17/2024
20	WildlifeCrossing.xlsx	Wildlife Crossing Design Based on AASHTO-17th & ACI 318-19	Bridge	5/17/2024
21	ArchBridgeLimits.xlsx	Arch Bridge Limits Analysis Based on ACI 318-19, AISC 360-22 & AASHTO-17th	Bridge	5/17/2024
22	BollardAnchorage.xlsx	Bollard/Flagpole Anchorage Design Based on ACI 318-19	Bridge	5/17/2024
23	Repairing-Bridge.xlsx	Bridge Design and Repair, by Added New Arch, using Finite Element Method	Bridge	5/17/2024
24	Curved-Pipe-Tube.xlsx	Curved Steel HSS (Tube, Pipe) Member Design Based on AISC 360-22	Bridge	5/17/2024
25	ArticulatingConcreteBlock.xlsx	Articulating Concrete Block (ACB) Design Based on NCMA ACB Manual 2nd Edition	Bridge	5/17/2024
26	HybridRetaining.xlsx	Hybrid Retaining Structural Design Based on 2021 IBC/AASHTO, TMS 402-16 & AISC 360-22	Bridge	5/17/2024
27	SuperCompositeGirder.xlsx	Super Composite Girder Design Based on 2022 CBC/2021 IBC, AISC 360-22 & ACI 318-19	Bridge	5/17/2024
28	TowerDrift.xlsx	Tower Drift Analysis for Cable Stayed Bridge by Finite Element Method	Bridge	5/17/2024
29	UndergroundVault.xlsx	Masonry Vault Design Based on 2021 IBC & TMS 402-16	Bridge	5/17/2024
30	HeavyHaulRailway.xlsx	Subgrade Design for Heavy Haul Railway on Soft Soil Based on AASHTO & ACI 318-19	Bridge	5/17/2024
31	UndergroundRectangularBox.xlsx	Underground Rectangular Section Design using Finite Element Method	Bridge	5/17/2024
32	GabionRetainingWall.xlsx	Design of Gabion Retaining Wall Based on AASHTO 17th & 2021 IBC	Bridge	5/17/2024
33	SteelSheetPiling.xlsx	Steel Retaining Wall Design Based on 2021 IBC / 2022 CBC & AISC 360-22	Bridge	5/17/2024
34	CantileverDiaphragm.xlsx	Cantilever Diaphragm Analysis using Tension-Only Braced Frame	Bridge	5/17/2024
35	VehicleSecurityBarrier.xlsx	Vehicle Security Barrier Design Based on AASHTO-17th, 2021 IBC, AISC 341-22, & ACI 318-19	Bridge	5/17/2024
36	FiberWrapColumn.xlsx	Column Repair Design of Carbon Fiber Wrap Based on 2021 IBC, ACI 318-19, & AASHTO-17th	Bridge	5/17/2024
37	PostCompressionStructure.xlsx	Post-Compression Structure Analysis using Finite Element Method	Bridge	5/17/2024
38	HybridSuspensionBridge.xlsx	Hybrid Suspension Bridge Design Based on ASCE 19-10 & AASHTO 17th	Bridge	5/17/2024
39	HeavyLoadsSlab.xlsx	Analysis of Concrete Floor Slabs on Grade Subjected to Heavy Loads Based on AASHTO/ACI 318-19	Bridge	5/17/2024
40	SeismicSlopeStability.xlsx	Seismic Slope Stability Analysis Based on Mononobe-Okabe Method, AASHTO 17th & 2021 IBC	Bridge	5/17/2024
41	FlexiblePipeCover.xlsx	Flexible Pipe Cover Design Based on AASHTO / NCSPA Design Manual	Bridge	5/17/2024
42	CurvedRigidFooting.xlsx	Curved Rigid Footing Design Based on ASCE 41-17 & ACI 318-19	Bridge	5/17/2024
43	CSP-DeepFoundation.xlsx	CSP Deep Foundation Design Based on 2021 IBC, ACI 318-19 & AASHTO 17th	Bridge	5/17/2024

Microsoft Excel non-commercial use - Quick-Link.xlsxm

33	CeilingSeismic.xlsxb	Suspended Ceiling Seismic Loads Based on ASCE 7-10	Lateral	5/3/2016
34	ResponseSpectrumGenerator.xlsxb	Earthquake Response Spectrum Generator	Lateral	5/3/2016
35	Tornado-Hurricane.xlsxb	Wind Analysis for Tornado and Hurricane Based on 2015 IBC Section 423 & FEMA 361/320	Lateral	5/3/2016
36	StiffnessMatrix.xlsxb	Stiffness Matrix Generator for Irregular Beam/Column	Lateral	5/3/2016
37	PT-ColumnDrift.xlsxb	Lateral Drift Mitigation for Cantilever Column using Post-Tensioning	Lateral	5/3/2016
38	BlastMitigation.xlsxb	Blast Deformation Mitigation for Gravity Column using Post-Tensioning	Lateral	5/3/2016
39	Wind-SEAOC-PV2.xlsxb	Wind Design for Low-Profile Solar Photovoltaic Arrays on Flat Roof, Based on SEAOC PV2-2012	Lateral	5/3/2016
40	Seismic-vs-Wind.xlsxb	Three, Two, and One Story Comparison of Seismic and Wind Based on 2015 IBC / 2013 CBC	Lateral	5/3/2016
41	SC-Frame.xlsxb	Self-Centering Lateral Frame Design Based on ASCE 7-10, AISC 360-10 & ACI 318-14	Lateral	5/3/2016
42	UnitConversion.xlsxb	Unit Conversions between U.S. Customary System & Metric System	Lateral	5/3/2016
43	GeneralBeam.xlsxb	General Beam Analysis	Lateral	5/3/2016
44	Wind-TrussedTower.xlsxb	Wind Analysis for Trussed Tower Based on ASCE 7-10	Lateral	5/3/2016
45	PT-Frame.xlsxb	Post-Tensioned Lateral Frame Analysis using Finite Element Method	Lateral	5/3/2016
46	External-PT-Beam.xlsxb	Beam Strengthening Analysis Using External Post-Tensioning Systems	Lateral	5/3/2016
47	LateralDriftCompatibility.xlsxb	Lateral Drift Compatibility Analysis using Finite Element Method	Lateral	5/3/2016
48	SlopedDiaphragm.xlsxb	Seismic Analysis for Sloped Flexible Diaphragm	Lateral	5/3/2016
49	FloorVibration.xlsxb	Two-Way Floor Vibration Design Based on The Structural Engineer, Vol. 94-1, 2016	Lateral	5/3/2016
50	RetrofitWeakStory.xlsxb	Retrofit Soft, Weak, or Open-Front Story Based on FEMA P807/ASCE 41-13	Lateral	5/3/2016
51	FourStoryMomentFrame.xlsxb	Four Story Moment Frame Analysis using Finite Element Method	Lateral	5/3/2016
52	4-LevelShelving.xlsxb	Lateral Loads of 4 Level Shelving, with Hilti Anchorage, Based on ASCE 7-10	Lateral	5/3/2016
	BoxMomentFrame.xlsxb	Box Moment Frame Analysis for Enhanced New Wall Opening	Lateral	5/25/2016
1	PerforatedShearWall.xlsxb	Perforated Shear Wall Design Based on 2015 IBC / 2013 CBC / NDS 2015	Wood	5/12/2016
2	ShearWallOpening.xlsxb	Wood Shear Wall with an Opening Based on 2015 IBC / 2013 CBC / NDS 2015	Wood	5/12/2016
3	WoodColumn.xlsxb	Wood Post, Wall Stud, or King Stud Design Based on NDS 2015	Wood	5/12/2016
4	GreenCompositeWall.xlsxb	Composite Strong Wall Design Based on ACI 318-14, AISI S100/SI-10 & ER-4943P	Wood	5/12/2016
5	WoodBeam.xlsxb	Wood Beam Design Based on NDS 2015	Wood	5/12/2016
6	CantileverBeam.xlsxb	Wood Beam Design Based on NDS 2015	Wood	5/12/2016
7	Diaphragm-Ledger-CMUWall.xlsxb	Connection Design for Wall & Diaphragm Based on 2015 IBC / 2013 CBC	Wood	5/12/2016
8	DoubleJoist.xlsxb	Double Joist Design for Equipment Based on NDS 2015, ICC PFC-4354 & PFC-5803	Wood	5/12/2016
9	DragForces.xlsxb	Drag / Collector Force Diagram Generator	Wood	5/12/2016
10	EquipmentAnchorage.xlsxb	Equipment Anchorage to Wood Roof Based on NDS 2015 / 2015 IBC / 2013 CBC	Wood	5/12/2016
11	LagScrewsConnection.xlsxb	Lag Screw Connection Design Based on NDS 2015	Wood	5/12/2016
12	Subdiaphragm.xlsxb	Subdiaphragm Design Based on ASCE 7-10	Wood	5/12/2016
13	ToeNail.xlsxb	Toe-Nail Connection Design Based on NDS 2015	Wood	5/12/2016

Quick Access Toolbar: Open Any One, Split, Print, +, -

Microsoft Excel non-commercial use - Bridge-ConcreteColumn.xlsxb

Purchaser's LOGO PROJECT: CLIENT: DATE: PAGE: DESIGN BY: REVIEW BY:

Bridge Column Design Based on AASHTO 17th & ACI 318-14

INPUT DATA & DESIGN SUMMARY

8	CONCRETE STRENGTH	f_c'	=	5	ksi
9	REBAR YIELD STRESS	f_y	=	60	ksi
10	SECTION SIZE	C_x	=	120	in
11		End	=	12	in
12		C_y	=	48	in
13	FACTORED AXIAL LOAD	P_u	=	8000	k
14	FACTORED MAGNIFIED MOMENT	$M_{u,x}$	=	18000	ft-k
15		$M_{u,y}$	=	18000	ft-k
16	FACTORED SHEAR LOAD	$V_{u,x}$	=	30	k
17		$V_{u,y}$	=	20	k
18	COLUMN VERT. REINFORCEMENT	#	15	#	18 at x dir.
19		#	5	#	18 at y dir.
20	LATERAL REIN. OPTION (0=Spirals, 1=Ties)			1	Ties
21	LATERAL REINFORCEMENT	#	4	@	12 in o.c.
22		#	3	@	12 in o.c. straight legs

THE COLUMN DESIGN IS ADEQUATE.

(Total 40 # 18)

Quick Access Toolbar: Save, Save As, Split, Print, Open, Undo, +, -

0.85 f_c'