



MINSEA PANEL DISCUSSION INTRODUCTION

WHO AM I?

- Braun Intertec employee for over 15 years
- Deep foundations specialization for 10 years



Twin Cities graduate with BCE
(thanks COVID)



Who are We? - TECHNICAL SERVICES



GEOTECHNICAL ENGINEERING

Asphalt Mix Designs	Pulse-Echo Testing
Condition Surveys & Management	Recycled Mix Design
Construction Oversight	Rehabilitation Alternatives
Cone Penetration Testing	Resistivity Imaging
Cross-Hole Sonic Logging	Rock Slopes/Stability
Dilatometer	Seismic
Flexible & Rigid Design	Soil & Rock Anchors and testing
Foundations (shallow to deep)	Strain Gauging
Geostructural Design	Streambank Stabilization/Erosion
Geotechnical Investigation	Structural Reinforcement
Ground Improvement	Vane Shear
Load Testing & Pressuremeter	
Material Characterization	
Numeric Modeling	
Pavement Failure Evaluations	



ENVIRONMENTAL CONSULTING

Air Permitting & Compliance	Petroleum Remediation
Archaeological/Historical Survey	Pollution Prevention Plan
Asbestos/Lead/Hazardous Material	Public Water Supply Registration
Brownfield Redevelopment	Risk Management Planning
Environmental Compliance Training	Radiation Safety
Ergonomic Evaluation	Respiratory Protection Program
Facility Response Plan	Remediation/Design
Hazardous Waste Management	Routine Inspection
Hydrogeology	Safety Training & Compliance
Indoor Air Quality	SPCC Plan
Industrial Hygiene	Spill Response
Industrial Wastewater	Stormwater, EAW, EAI, SWPPP
Integrated Contingency Plan	Tier Inventory
Noise Survey	Toxic Release Inventory
Phase I Environmental Assessment	Threatened & Endangered Species
Phase II Environmental Assessment	Wetland Delineation
Permitting	Vapor Intrusion
• NPDES discharge	
• POTW pretreatment	
• CAFO	



CONSTRUCTION MATERIALS ENGINEERING & TESTING

17 AASHTO Certified Laboratories

Asphalt & Bituminous	Mass Concrete Temperature Monitoring
Cementitious Mortar	Masonry
Concrete Chemistry	Mechanical Testing & Analysis
Concrete Engineering & Mix Design	Quality Control/Assurance Program
Concrete/Masonry Aggregates	Management
Concrete Maturity	Petrography
Concrete Testing	Post-Installed Anchor Observation & Testing
Custom Testing Fabrication	Special Inspection
Deep Foundations	Soil & Aggregate
Fireproofing, Firestopping & Intumescent Paint	Wood & Light Gauge Metal Framing Observation
Floor Flatness	
Geotechnical Laboratory Testing	
Load Testing	



BUILDING & STRUCTURE SCIENCES

Barrier Management Survey	Infrared Thermal Imaging Services
Building & Code Firestop Inspection	Moisture Vapor Emission Testing
Building Envelope Assessment & Testing	MN B3 Testing & Consulting
Building Enclosure Commissioning	NFPA 80 Fire Door Inspection
Below-Grade Waterproofing	NFPA 285 Observation
Consulting, Assessment & Testing	Peer Reviews
Facility Management Assessment	• Architectural
Field QA/QC – Observation, Inspection & Testing	• Firestopping
• Roofing (RRO Certified)	• Structural
• Waterproofing	Pre-Construction Condition Survey
• Air Barrier (ABAA Field Audits)	Property Condition Assessment
• Fenestrations	Repair and Rehabilitation Design
• EIFS	Smoke & Fire Damper Inspection
• Curtain Wall/Windows (AAMA/FGIA Certified)	Structural Condition Assessment
Fire & Life Safety	Structure Verification Services
Forensic Investigation	• As-Built Documentation
• Investigation & Troubleshooting	• Loading Capacity Evaluation
• Insurance & Litigation Claims	Vibration & Structure Monitoring Services
Ground Penetrating Radar	WUFI Modeling
In-Situ Building Component Load Testing	
ICC 500 Storm Shelter Peer Review & Consulting	



NONDESTRUCTIVE TESTING & EXAMINATION

API 510, 653, 570	Positive Material Identification
Computerized Radiography	Special Inspection
Conventional Radiography	Structural Steel Erection & Fabrication
Liquid Penetrant	Ultrasonic, Phased Array/TOFD, Shearwave, Thickness
Magnetic Particle	Visual Inspection, CWI, ICC
Mechanical Integrity	Weld/Welder Qualification
NACE Coatings, Paint, Failure Analysis & Consulting	
Pipeline Integrity	
Portable Hardness	

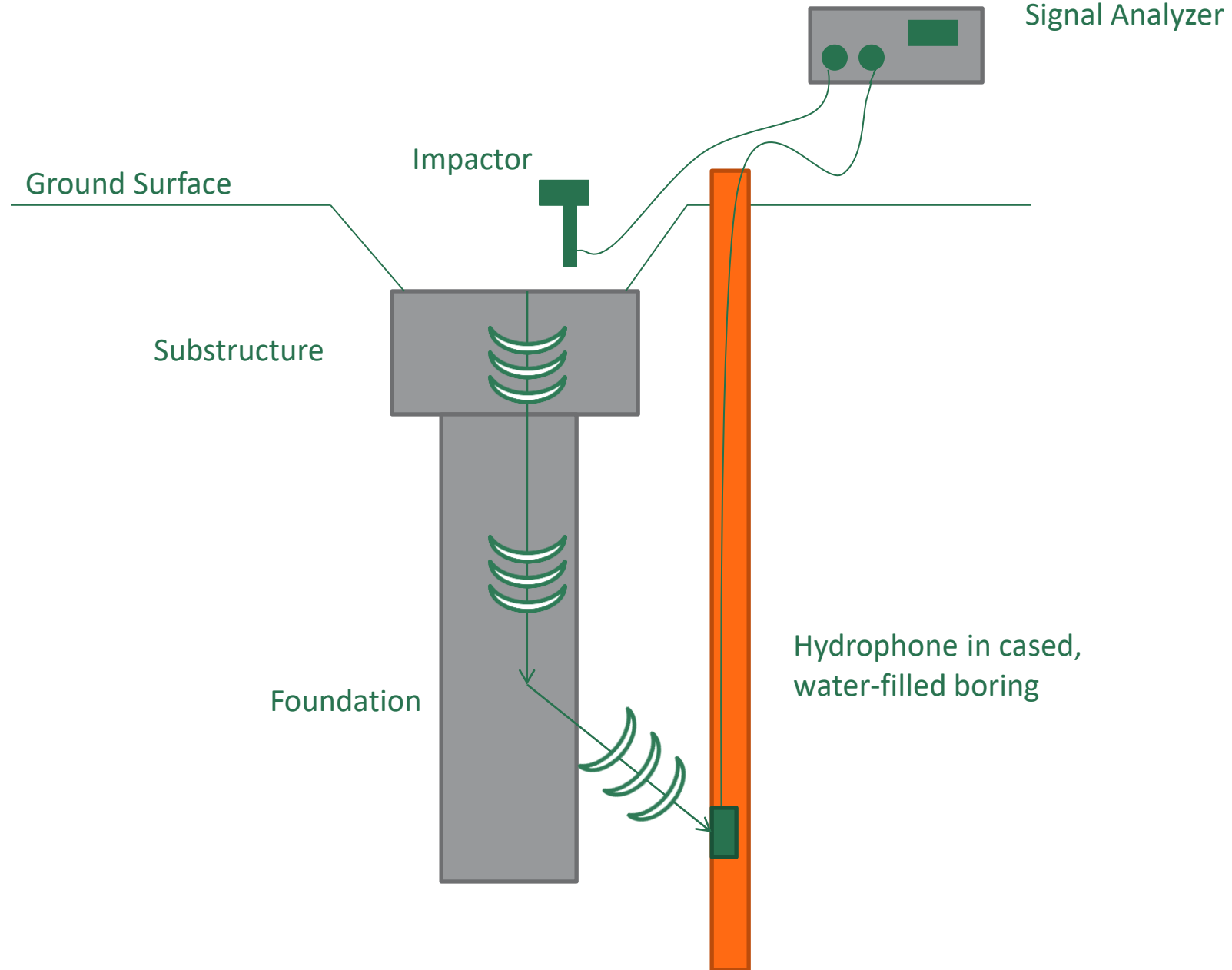
Existing Structure Foundation Evaluation



Existing Structure Foundation Evaluation Cont.



Parallel Seismic



Low-Strain Dynamic Testing (Pulse Echo)



References

- Ryan Drury, PE – Braun Intertec Geotechnical Engineer
715.370.3201, rdrury@braunintertec.com
- Andrew Aarons, PE – Braun Intertec Specialty Testing
612.248.0530, aaarons@braunintertec.com
- Jason Hanlon, PE – Braun Intertec Structural Engineer
612.747.7893, jhanlon@braunintertec.com
- ASTM D1143, D4945, D4729, D8381 and many others
- Principles of Geotechnical Engineering, Braja M. Das
- Consultation with experienced engineers and architects