



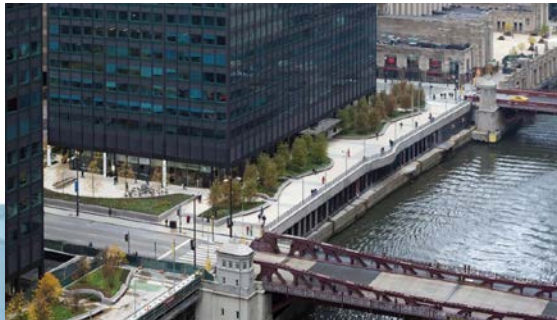
PARK PLACE PARKING GARAGE

RESTORATION SERVICES

- Condition Assessment
- Façade/Building Envelope Survey
- Plaza Leaking/Waterproofing Review
- Forensic Investigation
- Structural Analysis
- Repair/Rehabilitation
- Leak Mitigation

PARKING SOLUTIONS

- Structural Engineering
- Functional Design
- Architecture
- Prime Design
- Design-Build Criteria



JOHNS ISLAND CLUB

PARKING DECK PLAZA REHABILITATION



Andrew Kong
Restoration Manager



ENGINEERING // TRANSPORTATION // STRUCTURES // ENVIRONMENTAL // SURVEY // SUE // LANDSCAPE
ARCHITECTURE // PLANNING // WATER RESOURCES // CREATIVE SERVICES // PARKING SOLUTIONS

About me

Experience	15+ years of parking, plaza systems & building enclosure related experience
Education	MBA (Duke University – Fuqua School of Business) & M.Sc. (Queens Univ. – Ont., Canada)
Expertise	Restoration Engineering – Program Management – Operations – Process Improvement



2019 Spring Convention | April 8-10 | Jacksonville, Florida

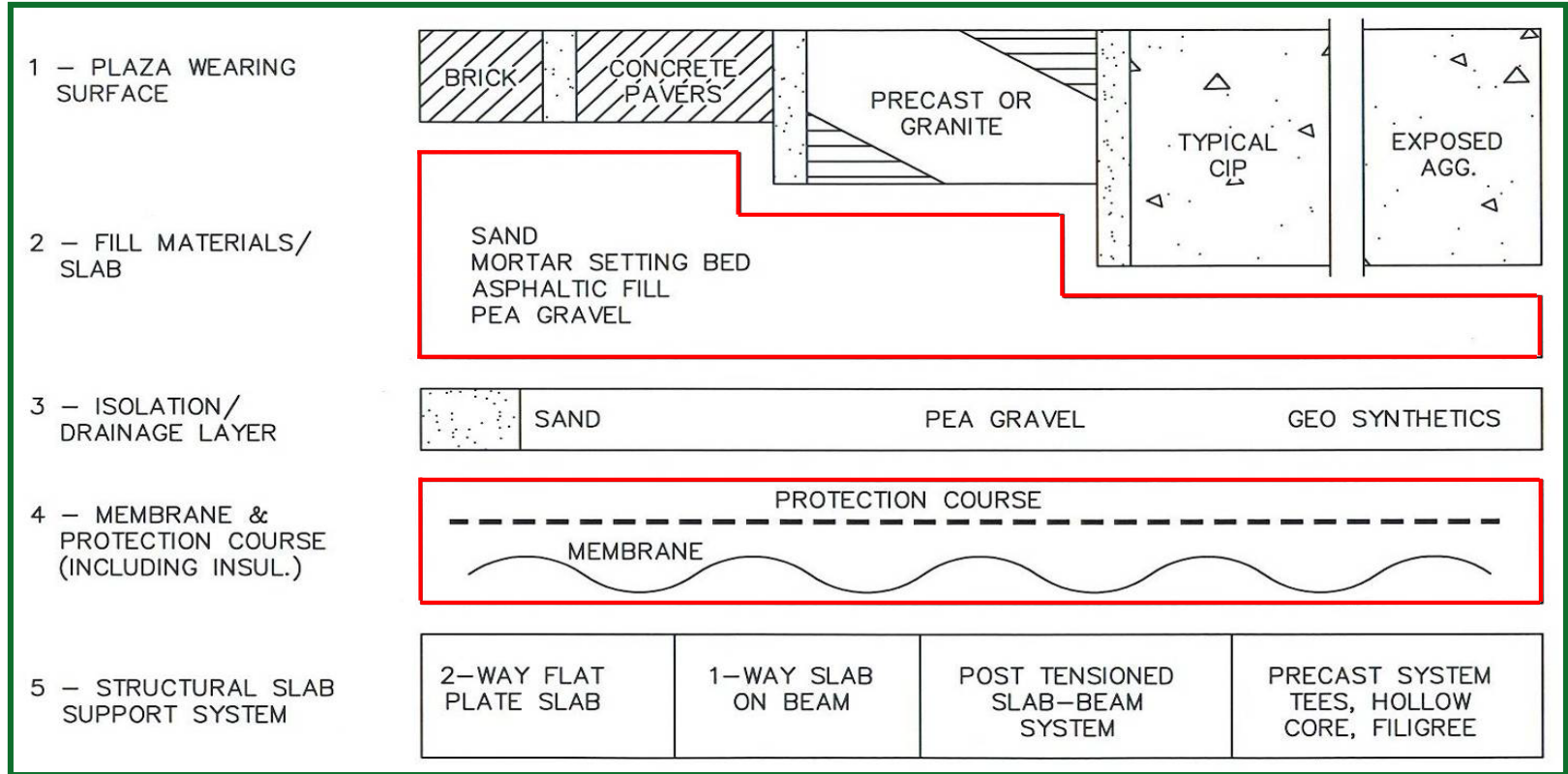
Waterproofing
with **Aesthetics**
making it dry and appealing to the eye

AGENDA

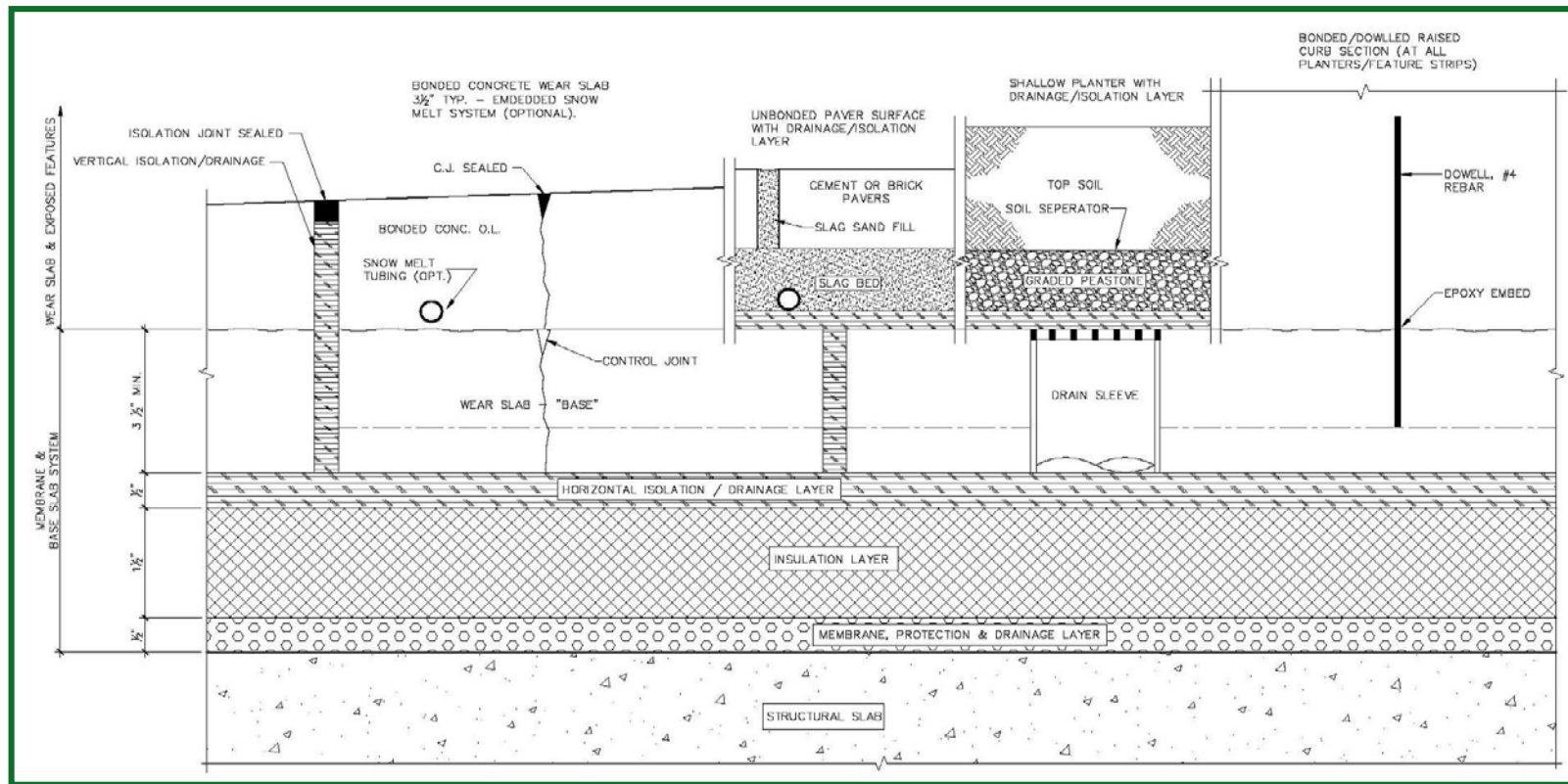
- ✓ Basic plaza design & types
- ✓ Investigation and prior repairs
- ✓ Client expectations
- ✓ Challenges
- ✓ Implementation
- ✓ Outcome
- ✓ Lessons learned



BASIC PLAZA DESIGN



BASIC PLAZA DESIGN



PLAZA SYSTEMS- PUBLIC THOROUGHFARE



2019 Spring Convention | April 8-10 | Jacksonville, Florida

Waterproofing
with **Aesthetics**
making it dry and appealing to the eye

PLAZA SYSTEMS- GREEN ROOF & COURTYARD



2019 Spring Convention | April 8-10 | Jacksonville, Florida

Waterproofing
with **Aesthetics**
making it dry and appealing to the eye

INVESTIGATIONS & PRIOR REPAIRS

- Most problems start below the surface.
- Excavations need to be thorough
 - Go to the structural slab
 - Identify key locations
 - Drains
 - Expansion Joints
 - Terminations
 - Transitions
 - Obtain samples
- Things to look for
 - Material failure
 - Design/detailing issues
 - Drainage issues
 - Construction deficiencies

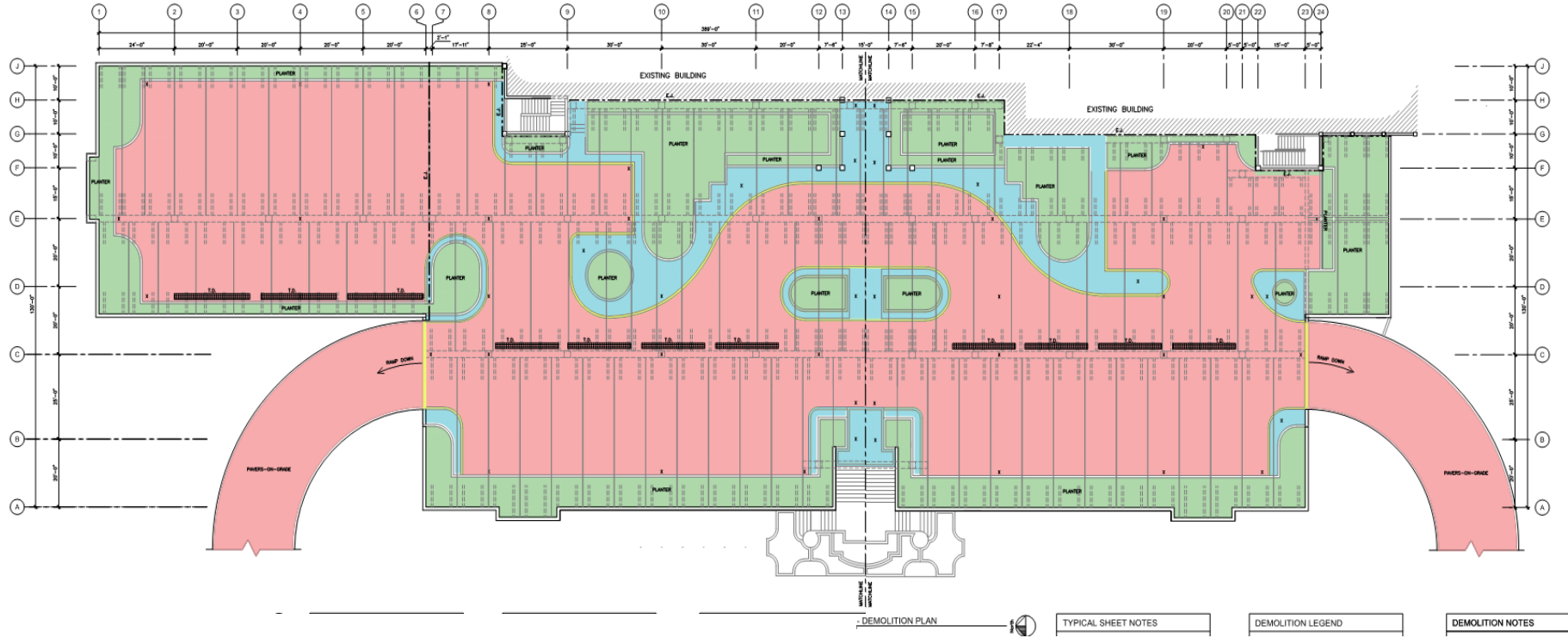


CLIENT EXPECTATIONS

- Aesthetics
- Schedule
 - Pre-planned events
 - Utilization of the club house by members
- Oversized ambulance access
- Budget constraints
- Long-term results



THE PLAZA LAYOUT



2019 Spring Convention | April 8-10 | Jacksonville, Florida

Waterproofing
with **Aesthetics**
making it dry and appealing to the eye

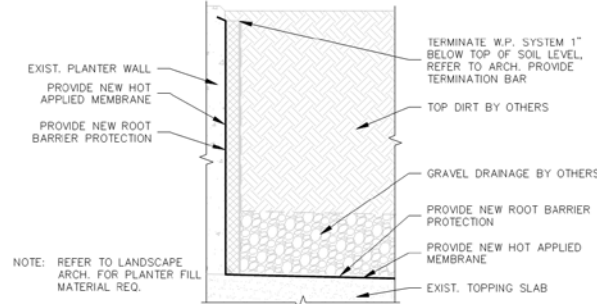
CHALLENGES

- Lower level occupied
- Existing details
 - Expansion joints
 - Trench drains
- Existing elevations
- Conduit in planter boxes
- Planter drains
- Planter detailing

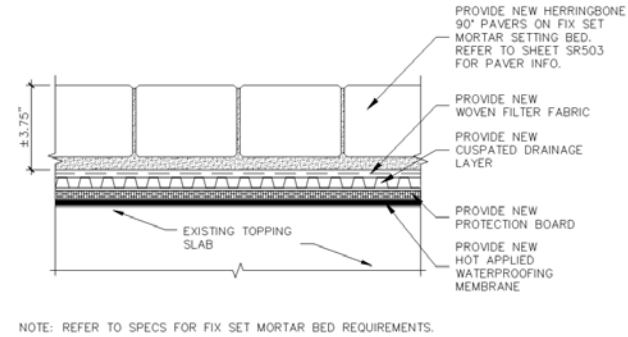


IMPLEMENTATION

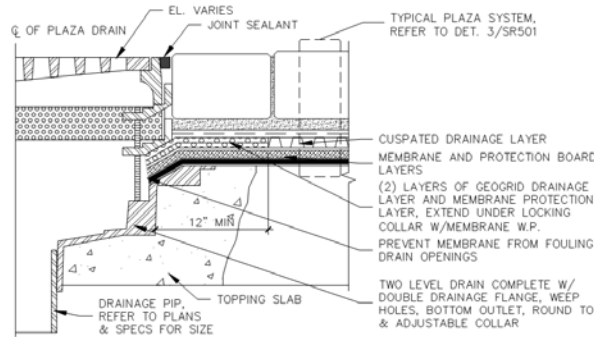
- Hot-Applied Rubberized Asphalt
- Long track record of successful performance
- Bonded to substrate
- Fabric reinforced
- Verify compatibility with substrate, previous membrane, form release agents.
- Sensitive to moisture in concrete.
- Fumes/noise from kettle.
- 215 mils typical with 10-year warranty



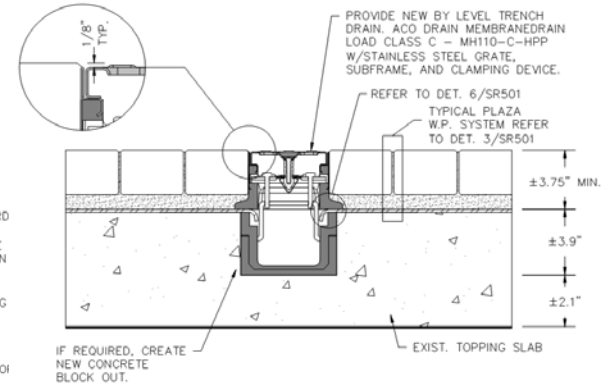
1 PLANTER WATERPROOFING DETAIL
NO SCALE



3 NEW PLAZA WATERPROOFING SYSTEM
3"=1'-0"



6 BY-LEVEL PLAZA DRAIN DETAIL
3"=1'-0"



7 NEW BY-LEVEL TRENCH DRAIN DETAIL
1" = 1'-0"



IMPLEMENTATION - CONT.

- Surface preparation
- Phasing
- Testing of different mortar mixes
- Mock up of waterproofing
- New detailing



IMPLEMENTATION – CONT.

- Detailing of unforeseen conditions
- Weather condition



IMPLEMENTATION – CONT.



2019 Spring Convention | April 8-10 | Jacksonville, Florida

Waterproofing
with **Aesthetics**
making it dry and appealing to the eye

OUTCOME



OUTCOME – CONT.



LESSONS LEARNED

- Sequencing
 - Planter box mortar will leak
- Think outside the box detailing
- Know your teams capability and experience
- Ensure scope is clear

ACKNOWLEDGEMENT & QUESTIONS

- Weitz Company
 - Nick Pizza, John Stokely & Steve Provines
- Western Specialty Contractors
 - Porter Croft
- Johns Island Club
 - Rex Wilson, MBA

