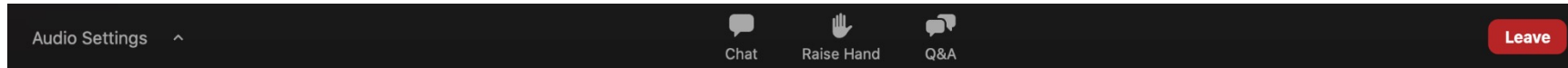


Crafting a QA/QC Process for the Long Haul

Attendee Control Panel

Select & Test Audio



Ask Questions



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Moderator

Ryan Graff
Continuing Education Manager
Endeavor Business Media
rgraff@endeavorb2b.com

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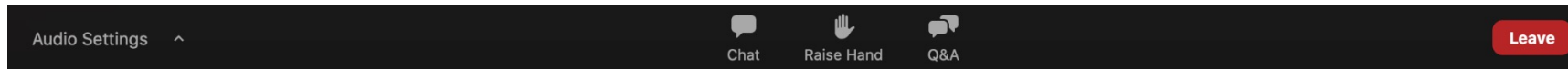
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Best Practices

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2. Close all other windows and programs.
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4. Interact!

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1. Go to: zoom.us/join
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with Passcode: **10312**



Bioretention Done Right

0.25 CEUs/2.5 PDHs



Doug Beyerlein

Co-Founder, Clear Creek Solutions

This course will discuss how bioretention systems are designed, how different engineered soil media impact the movement of stormwater runoff through the engineered soil layers, and how this is typically modeled. Modeling assumptions, good and bad, will be identified along with their potential impact on bioretention facility sizing and effectiveness in providing water quality treatment.



Heather Seitz

PE, CFM, LEED AP

Project Specialist

ICON Engineering

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Agenda

- Defining QA and QC
- Benefits
- Roles
- How to Create a Process that Lasts
- Customer Expectations
- Team Effort
- Final Thoughts
- Recommendations and References



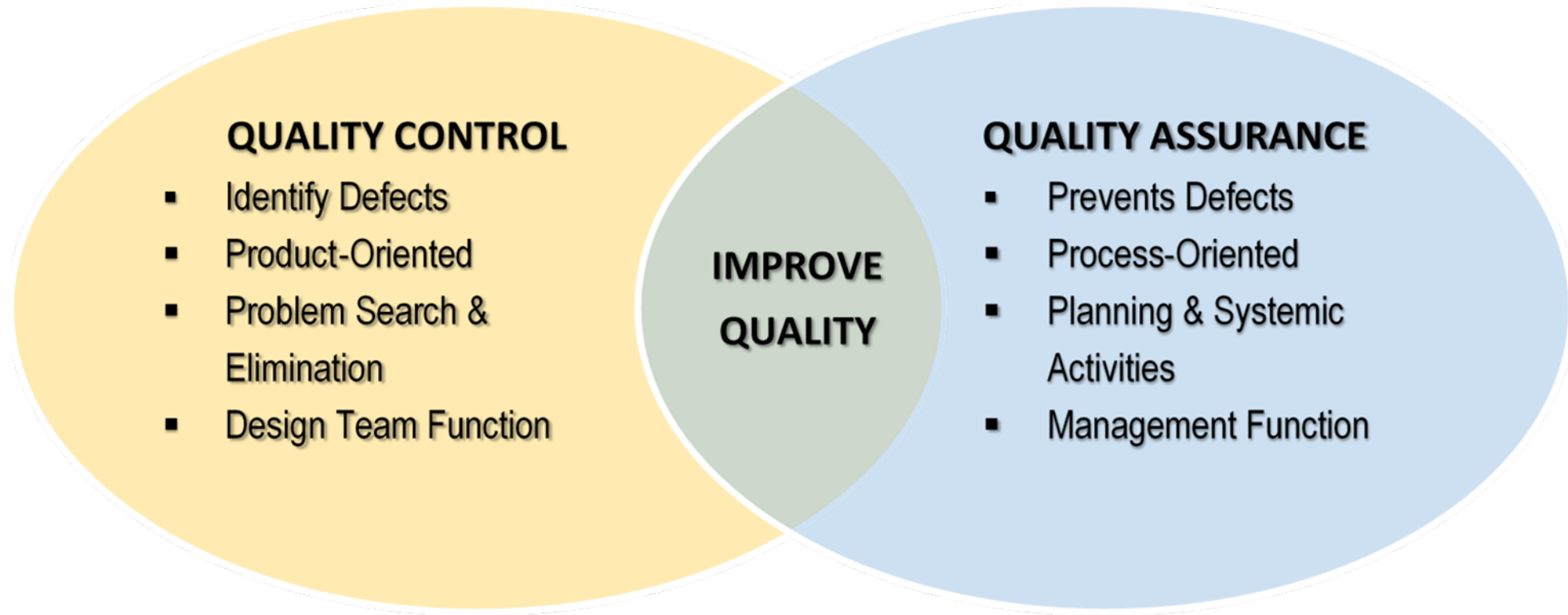
Poll Question

What industry do you work in:

- Federal, State or Local Government
- Consulting
- Construction
- Other

Defining QA and QC

- ISO 9000 defines Quality Control as: A part of quality management focused on fulfilling quality requirements
- ISO 9000 defines Quality Assurance as: A part of quality management focused on providing confidence that quality requirements will be fulfilled
- Other industries (i.e. manufacturing-especially food and health care) have very stringent programs
- Some engineering/construction firms are just getting started or still working on their programs



Quality Control

- Looking for mistakes
- Product based
- Checking/correcting roles for staff
- Can be organized using a variety of different tools



Quality Assurance

- Eliminating mistakes
- Process based
- Planning Roles for managers
- Quality of materials, services, inspections, post-sale service



Poll Question

How would you rate your current quality program:

- Solid, just needs a few tweaks
- Could be better
- Non-existent

Benefits



- Increase profits and customer satisfaction
- Reduce construction costs, future maintenance, risk of re-work or lawsuit
- Projects/systems that function better

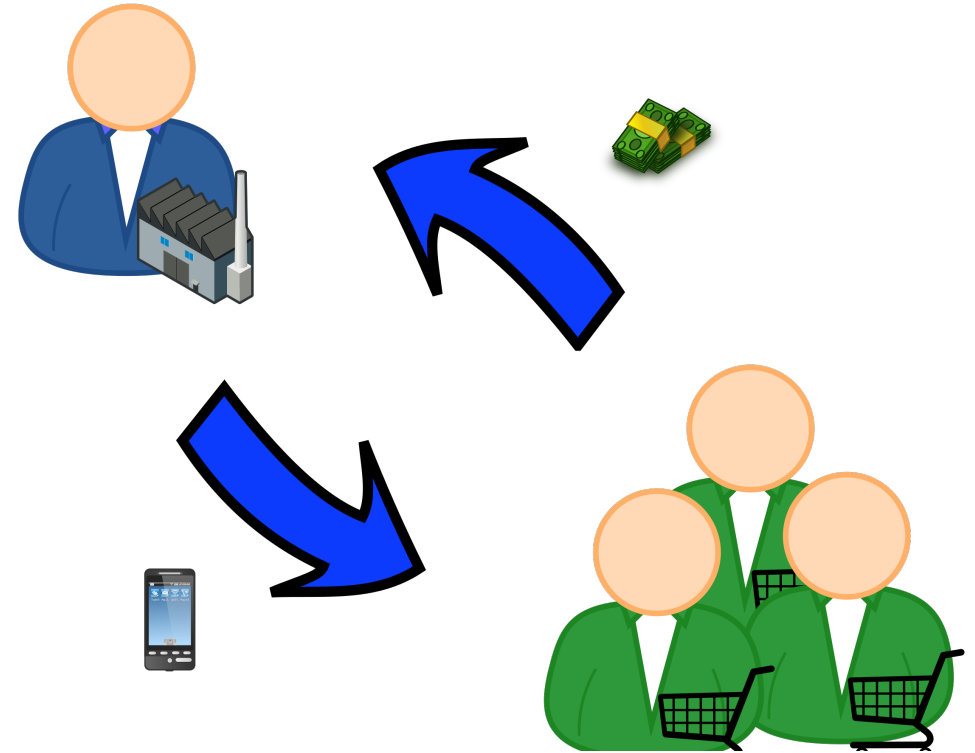
Roles

Producer-

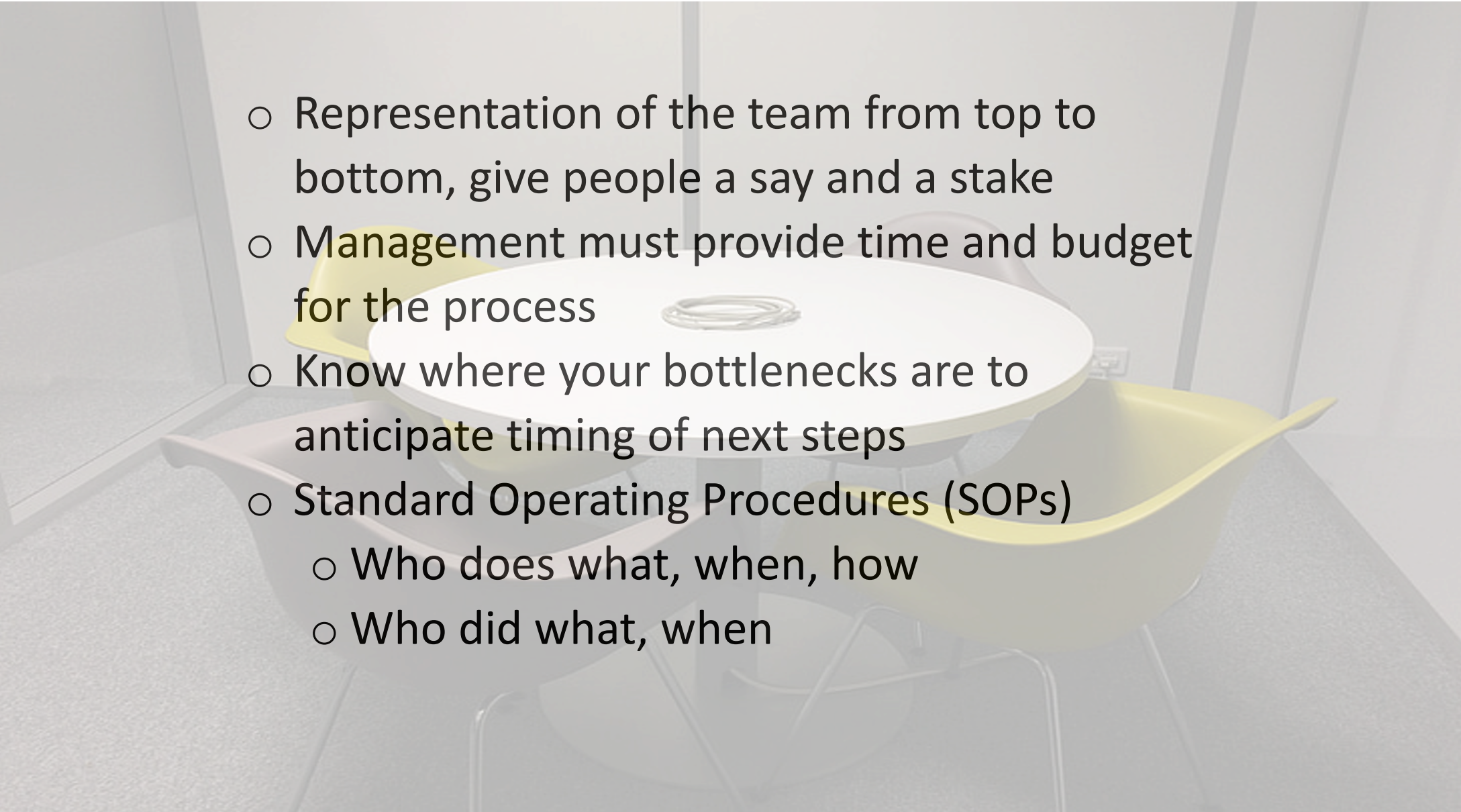
- Need at least one team member who will take the lead (quality champion)
- Set standards and follow them
- Continually identify where improvements can be made
- Be persistent

Consumer

- Tell your producers what you want and when
- Be specific and comprehensive
- Act if you don't get what you want



How to Create a Process That Lasts

- 
- Representation of the team from top to bottom, give people a say and a stake
 - Management must provide time and budget for the process
 - Know where your bottlenecks are to anticipate timing of next steps
 - Standard Operating Procedures (SOPs)
 - Who does what, when, how
 - Who did what, when

- Technology-bluebeam, pdfs, word, teams, red pen (not sticky notes)
 - Be consistent-at least for each project
 - Designate a place to store review items
- Look at pieces individually AND look at the whole
- Provide quality items for review
- Schedule an after action review (AAR) for all projects-everyone has a different definition of “the project went well”
- Accountability
- Incentives for improvements/error avoidance

- Treat as a process not an end goal-checklists should be reviewed/updated regularly
- Have to have follow through, official endorsement is great but there has to be a vehicle to move forward
- Introduce the process/changes to all, allow time for feedback
- Training for all users
- Implementation date



Project Kickoff Checklist

This is a tool to help organize the start of a project. Save under your project file and adjust each item as needed-revise, add/hide or mark as N/A.

Project Name	
Project Number	
Principal	
Project Manager	
Project QC Lead	
Master Contract Executed	
Prof. Liability Insurance Certs	
Gen. Liability Insurance Certs	

Subconsultants	Firm	Contact Name	Email	Phone Number	Contract Executed	Fees	Insurance Cert.
SUE							
Survey / ROW							
Structural							
Landscape Architecture							
Electrical							
Geotechnical							
Traffic							
Environmental							
Ecological							
Other							

Tasks	Assigned To	Reviewer
Utility Coordination		
Drawings		
Quantities		
Cost Estimate/Bid Form		
Specifications		
Design/Drainage Report		
Reports from Subs		
Reports - Other		
CLOMR		
Permits		
Utility Relocations		

Project - STATUS OF CONSTRUCTION PLANS (FOR SUBMITTAL)

This is an optional tool for tracking plans for larger projects

Submittal Deadline is Monday 9/14/20

QA/QC starts 9/7/20

STATUS LEGEND	
Finalizing Sheet for Review	
In Review	
Finalizing for Submittal	
In Back-check Review	
Ready for Submittal	

CONSTRUCTION PLANS			STATUS															Individual Priorities	Sheet Count	
	NAME	LEAD	SHT 1	SHT 2	SHT 3	SHT 4	SHT 5	SHT 6	SHT 7	SHT 8	SHT 9	SHT 10	SHT 11	SHT 12	SHT 13	SHT 14	SHT 15			
1	COVER SHEET		1																11	1
2	STANDARD PLANS LIST		2																10	1
3	GENERAL NOTES		3																8	1
4	SOIL BORING LOG		4	5															7	2
5	SUMMARY OF APPROXIMATE QUANTITIES		6																1	1
6	TYPICAL ROADWAY SECTIONS		7	8	9														1	3
7	ROADWAY GEOMETRY		10	11	12														2	3
8	DEMOLITION PLANS		13	14	15	16													3	4
9	ROADWAY PLAN & PROFILE		17	18	19	20	21	22	23										4	7
10	INTERSECTION DETAILS		24	25	26	27	28	29	30										5	7
11	CURB RAMPS		31	32	33														6	3
12	DRIVEWAY DETAILS		34	35	36														7	3
13	FENCING PLANS		37	38	39	40													8	4
14	STORM PLAN & PROFILE		41	42	43	44	45	46	47	48	49	50	51						9	11
15	TRAFFIC CONTROL PLANS		52	53	54	55													6	4
16	SIGNING AND PAVEMENT MARKING PLANS		56	57	58	59													10	4
17	TRAFFIC SIGNAL PLANS		60	61	62	63	64	65	66	67									3	8
18	UTILITY PLANS		68	69	70	71	72	73	74	75	76								4	9
19	EROSION & SEDIMENT CONTROL PLANS		77	78	79	80	81	82	83	84	85	86	87	88	89	90	91		2	15
20	ROADWAY CROSS SECTIONS		92-118																5	27

118

OTHER DELIVERABLES		LEAD	STATUS
1	Specs		
2	Cost Estimate		
3	Utility Clearance Letters		
4	Drainage Report		
5	ROW Plans	Surveyor	
6	Geotech Report	Geotech Sub	

This section might not be needed because these documents will be tracked on the checklist

Project Review Checklist

Project Name	
Project Number	
Principal	
Project Manager	
Project QC Lead	

This is a tool to help organize the review and progress of a project. Save under your project file and adjust each item as needed-revise, add/hide or mark as N/A.

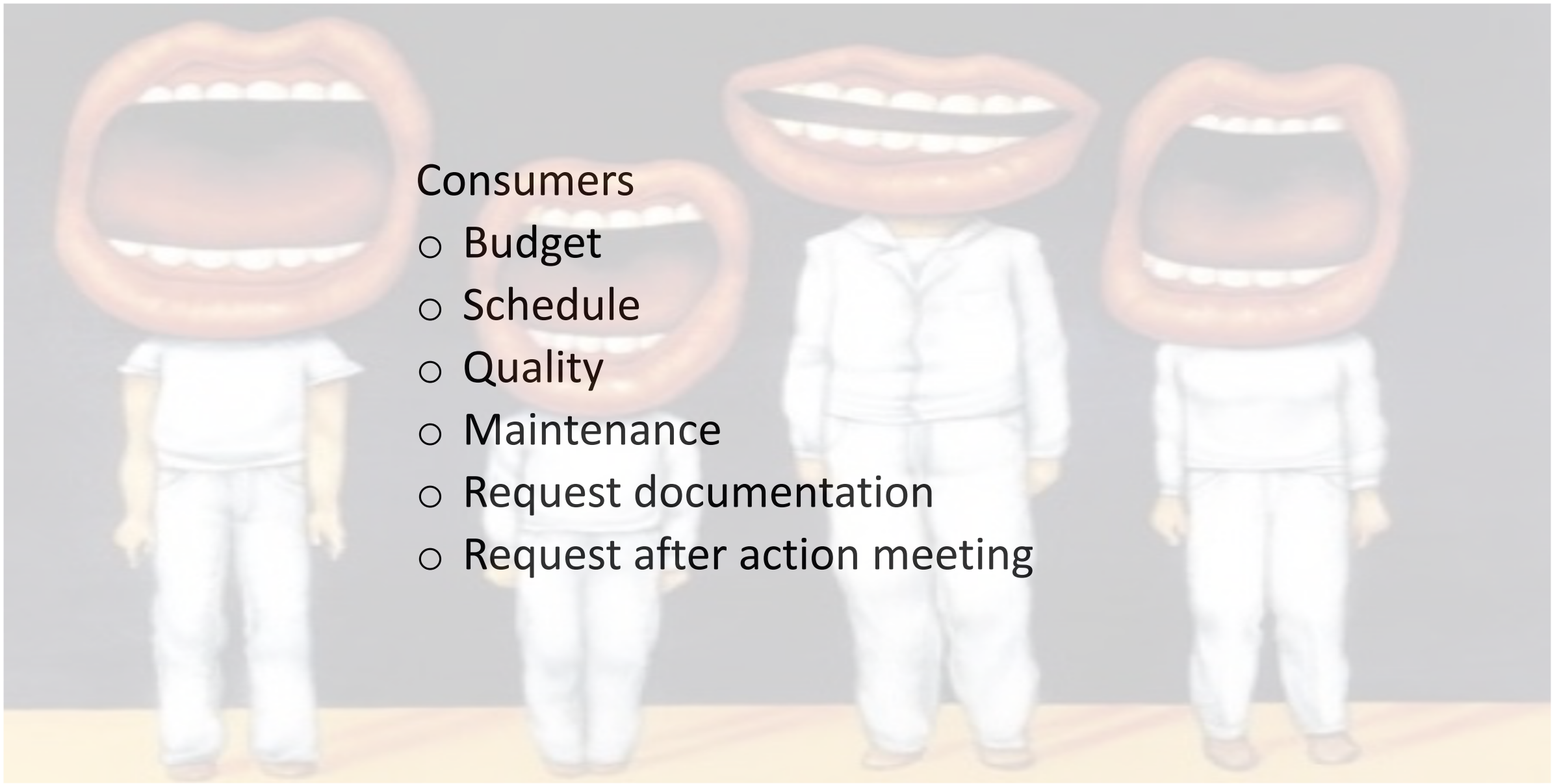
Review Items	Assigned Reviewer	Completion Dates																				Review Doc Format (found in QA/QC folder)	
		Reviewed				Updated				Back Checked				Final Updates				Ready for Submittal					
		30%	60%	95%	Final	30%	60%	95%	Final	30%	60%	95%	Final	30%	60%	95%	Final	30%	60%	95%	Final		
Drawings																							
Internal	Heather Seitz	10/7/20 HS				10/8/2020 EX				10/9/2020 EX				10/16/2020 EX				10/17/2020 EX				pdf	
Subconsultants																							
SUE																							
Survey / ROW																							
Structural																							
Landscape Architecture																							
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Customer Expectations

Producers

- Get Feedback from Actual Clients
 - Coffee meeting
 - Survey all clients anonymously
 - Check-in phone call
- Benchmark against other companies
 - Don't view them as competition, look at them as an aspiration





Consumers

- Budget
- Schedule
- Quality
- Maintenance
- Request documentation
- Request after action meeting

Poll Question

How often do you have project follow-up or review meetings?

- After every project
- After major projects
- After projects that had multiple issues
- Never

Team Effort

- Communication
- Set expectations from the start
- Review from time to time-evaluate to make sure everyone understands tasks/mission clearly



- Documentation of decisions
- Need thorough reviewers, who aren't afraid to make the comments, and staff who aren't afraid to receive them
- May need specialists for some items



- Have a process for staff leave/turnover
 - multiple reviewers
 - keep everyone informed of project process/decisions
- Make general objectives more specific as you work down from the top but everyone should recognize the connection between their efforts and the overall success of the company



Final Thoughts

- Customers will always compare an experience with the best experience they've had
- People remember negative experiences and share them more frequently than positives
- Quality Control and Quality Assurance is never an expense but an investment in the future health of the enterprise-Zubry



Recommendations and References

- Quality Control/Quality Assurance and Improvement, ASET 130-Textbook, Boris Zubry, 2018
- Essentials of Organizational Behavior, Robbins and Judge, 2010
- The Challenge of Organizational Change, Kanter, Stein and Jick, 1992
- Champions of Change, Nadler and Nadler, 1998
- The Accidental Leader, Robbins and Finley, 2004

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Certificates

Will receive email notification within 48 hours. Must have attended full session.



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Job Site Management Series:

Soil Stabilization, Flocculant Applications, Winter Preparation

0.3 CEUs/3 PDHs



Pete Hanrahan
Hanrahan Environmental

20% Savings Bundle on:

- Erosion Control and Ground Stabilization in the Third Dimension
 - Flocculant Applications in Soil Stabilization
- Preparing Construction Sites for Winter Shutdown



Freshwater Wetlands: What Are They & Why Are They Important/Protected?

Next Tuesday, November 9
0.1 CEU/1 PDH



Tom Dombrowski
Prince William County, VA

Wetlands are an important natural component of our Green Infrastructure. Discuss what wetlands are, the different types, and why they are protected (Clean Water Act Section 404) due to the important functions and values they provide us.



Monitoring Outfalls to Water Bodies

Next Thursday, November 11
0.1 CEU/1 PDH

Stormwater sampling to measure monitoring goals requires expertise, time, and money. Discuss techniques gathered from 20 years of outfall investigations, including pollutant collection, data manipulation, and data summary.



Gordon England
Brevard County, FL