

# Design Review Group

Ifiok Immanuel

Eleanor Furlow

Steve Abbott

 The University of Georgia  
Tifton Campus Conference Center



Georgia State Financing  
& Investment Commission

**GSFIC**

Professional  
Partnership Workshop

# DRG – Who we are

Gifton Passley  
Assistant Director  
Construction Services

Ifiok Immanuel  
Sr. Architect, SFI

Larry Jennings  
Sr. Electrical Engineer, SFI

Eleanor Furlow  
Architect, SFI

Steven Abbott  
Fire Protection Specialist, SFI

Jonathan Shaw  
User Experience Designer

Ken Nuttall  
Sr. Structural Engineer

Vacant  
Sr. Architect

Gerard Mastrella  
Sr. Civil Engineer

Glenn Haller  
Sr. Mechanical Engineer

# DRG – Who we are

Subject Matter Expert to GSFIC Project Managers during design and construction

Subject Matter Expert to  
Using Agencies, contractors and other entities

# DRG – What we do

- **Constructability** – Manage proper application of bond proceeds
- **Life Safety & Fire Protection** – 4 Deputized State Fire Inspectors
- **BIM** – Reviews & Animation
- **Special Inspections** Program & Selection Process

- Fire Alarm & Fire Sprinkler Field Inspections
- Building Assessments & Cost Estimating
- Scheduled Monthly Project Kick-off Meetings
- Twice Weekly Project Intake Meetings

# DRG Reviews

Review Group ▶ PLAN REVIEW ▶ 2015 Review Projects ▶ Constructability ▶

Name	Date modified	Type
DBHDD-018	4/11/2016 3:10 PM	File folder
DCY-103	6/27/2016 3:43 PM	File folder
DCY-104	10/5/2016 2:57 PM	File folder
DHS-002	3/13/2017 2:08 PM	File folder
DOD-026	3/7/2016 2:28 PM	File folder
DOT-081	1/19/2016 6:50 AM	File folder
DOT-081A	2/29/2016 8:54 AM	File folder
GBI-053	2/14/2017 2:25 PM	File folder
GDA-033A	1/19/2016 6:50 AM	File folder
GDA-035A	1/19/2016 6:50 AM	File folder
GDA-035A2	1/19/2016 6:50 AM	File folder
GDA-035A3	1/20/2016 4:47 PM	File folder
GDA-036	1/19/2016 6:50 AM	File folder
GDC-117A	7/27/2016 1:57 PM	File folder
GWCC-035	7/28/2015 8:04 PM	File folder
GWCC-035A	1/19/2016 6:51 AM	File folder
J-181A	1/19/2016 6:51 AM	File folder
J-209	8/19/2016 7:23 AM	File folder
J-236	1/19/2016 6:51 AM	File folder
J-237	1/19/2016 6:51 AM	File folder
J-238	4/13/2016 10:06 AM	File folder
J-239	4/4/2016 3:16 PM	File folder
J-240	2/15/2016 3:52 PM	File folder
J-240A	2/15/2016 4:09 PM	File folder
J-242	11/21/2016 1:46 PM	File folder
J-258	1/19/2016 6:51 AM	File folder
J-263	5/17/2016 11:24 AM	File folder
J-264	4/20/2016 2:42 PM	File folder
SBE-026B	1/19/2016 6:51 AM	File folder
SBE-028A	1/19/2016 6:51 AM	File folder
SBE-029	1/19/2016 6:51 AM	File folder
SWCC-009	1/19/2016 6:51 AM	File folder
TCSG-295	3/14/2016 3:10 PM	File folder
TCSG-316	1/19/2016 6:51 AM	File folder
TCSG-318	1/3/2017 1:44 PM	File folder
TCSG-323	1/19/2016 6:51 AM	File folder

2015 = 36 NEW projects,

Review Group ▶ PLAN REVIEW ▶ 2016 Review Projects ▶ Constructability ▶

Name	Date modified	Type
DOT-074B Southwest	3/25/2016 10:45 AM	File folder
DOT-088	2/2/2017 2:31 PM	File folder
DOT-098	6/23/2016 2:35 PM	File folder
GBA-182	2/15/2017 11:06 AM	File folder
GBA-184	3/22/2017 7:37 AM	File folder
GBA-185	2/9/2017 9:12 AM	File folder
GBI-054	5/9/2017 1:50 PM	File folder
GDC-124	3/13/2017 3:40 PM	File folder
GMC-010	8/15/2016 11:58 AM	File folder
J-266	3/12/2017 10:49 PM	File folder
J-267	1/9/2017 3:07 PM	File folder
J-268	12/2/2016 5:01 PM	File folder
J-269	2/13/2017 3:27 PM	File folder
J-271	3/1/2017 12:16 PM	File folder
J-272A	9/1/2016 8:44 AM	File folder
J-273	9/21/2016 5:56 PM	File folder
SBE-030	8/15/2016 1:33 PM	File folder
SBE-031	3/28/2016 3:24 PM	File folder
TCSG-265	4/21/2017 1:33 PM	File folder
TCSG-314	2/16/2017 8:30 AM	File folder
TCSG-317	3/6/2017 3:27 PM	File folder
TCSG-327_site n specs	2/17/2017 11:37 AM	File folder
TCSG-327A	2/17/2017 4:09 PM	File folder
TCSG-327B	2/17/2017 4:26 PM	File folder
TCSG-327C	2/17/2017 4:41 PM	File folder
TCSG-327D	2/20/2017 10:09 AM	File folder
TCSG-327E	2/20/2017 10:27 AM	File folder
TCSG-327F	2/20/2017 11:05 AM	File folder
TCSG-330	3/29/2017 1:00 PM	File folder
TCSG-335	1/25/2017 11:07 AM	File folder

2016 = 30 NEW projects + 36 still active -in design from 2016

569 Reviews Total

Review Group ▶ PLAN REVIEW ▶ 2017 Review Projects ▶ Constructability ▶

Name	Date modified	Type
DBHDD-019	4/26/2017 2:27 PM	File folder
DHS-002	3/13/2017 2:08 PM	File folder
DOT-089	5/3/2017 2:26 PM	File folder
GBA-188A	3/28/2017 9:25 PM	File folder
GBA-188B	3/14/2017 3:43 PM	File folder
GDA-037	3/29/2017 10:24 AM	File folder
GMC-011	3/9/2017 11:14 AM	File folder
GTA-001	5/8/2017 6:51 PM	File folder
GWCC-035B	2/8/2017 10:35 AM	File folder
GWCC-043	3/1/2017 2:48 PM	File folder
J-206	2/13/2017 4:37 PM	File folder
J-272B	4/26/2017 2:49 PM	File folder
J-290	3/29/2017 12:53 PM	File folder
J-295	3/27/2017 8:14 AM	File folder
SBE-033	5/3/2017 8:48 AM	File folder
SWCC-013	1/26/2017 8:36 AM	File folder
TCSG-334	2/13/2017 3:24 PM	File folder

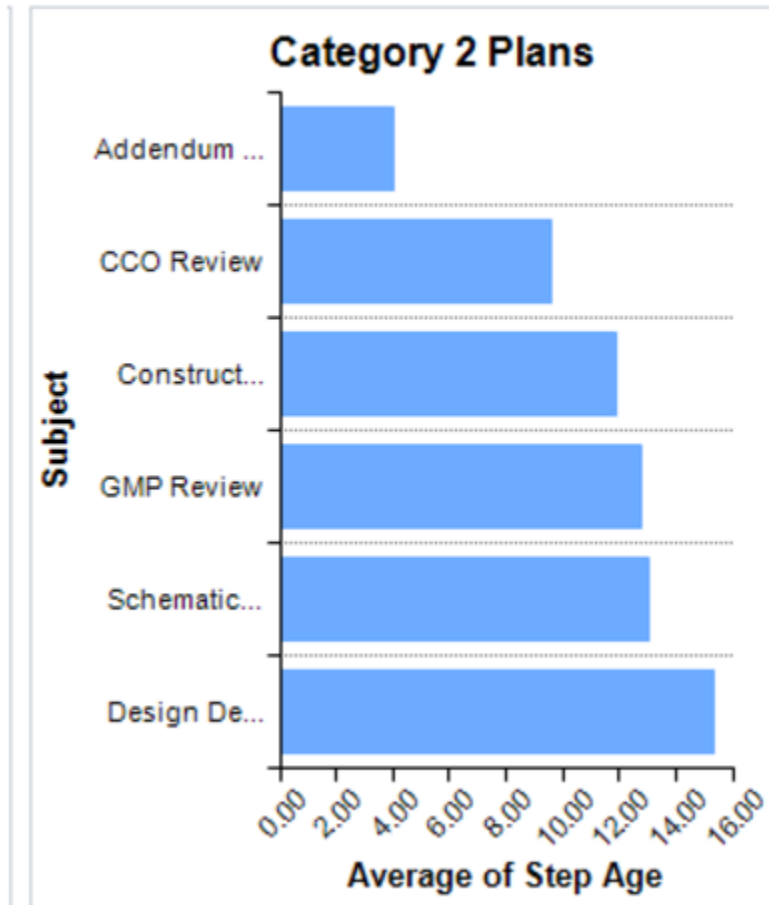
2017 [May] 17 NEW + 30 from 2016

194 Reviews in 4 months

<https://app.smartsheet.com/b/home>

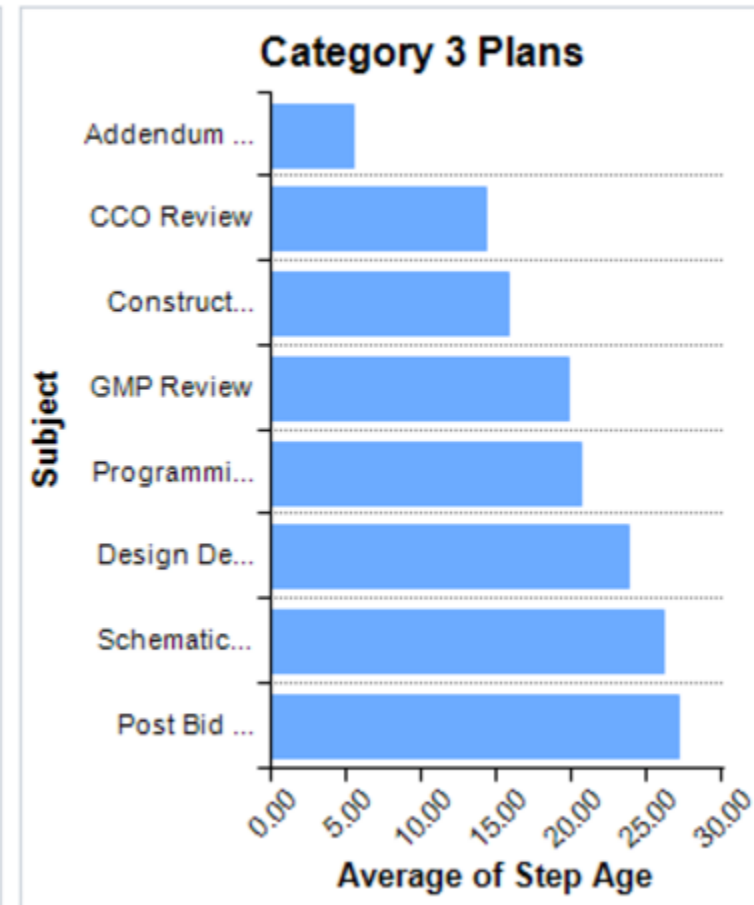
# DRG Reviews

Design Review Step Avg Processing Ages (in days)



Goal - 14 Days

Design Review Step Avg Processing Ages (in days)



Goal - 21 Days

<https://gsfic.georgia.gov/construction-formspublicationspolicies>

Site investigations  
Special Inspection Coordination  
SD and DD Phase Checklists  
Process Guide,  
Commissioning Guide,  
BIM Guide  
on GSFIC's website



# Building Information Modeling

<http://gsficbimlab.org/>

## TheBIMLab

**TCSG 327**  
TCSG 327

**State Capitol Campus**  
State Capitol Panoramas

**Judicial Building**  
Courtrooms  
Archives Rooftop Pano  
Judicial Building

**GSFIC Bid Rooms**  
GSFIC Bid Rooms

**Georgia Film Academy**  
GFA Hallways  
Floor Plan  
GFA Existing Space  
GFA Animation  
GFA Still Renders

**J-266**  
J-266 Animations

**J-269**  
J-269 Animation



TCSG 327



State Capitol Panoramas

TCSG 327

State Capitol Campus

Judicial Building

# State of Georgia Work vs Private Sector

**Certification of Ownership: required for any project using GO bonds or exceeding \$1M in design & construction costs**

**Special Inspections, materials testing and NPDES inspections:**

**Design Professional = Building Official  
Not AHJ**



## **DRG Process Guide**

along with the



## **State Construction Manual**

and ongoing communication with



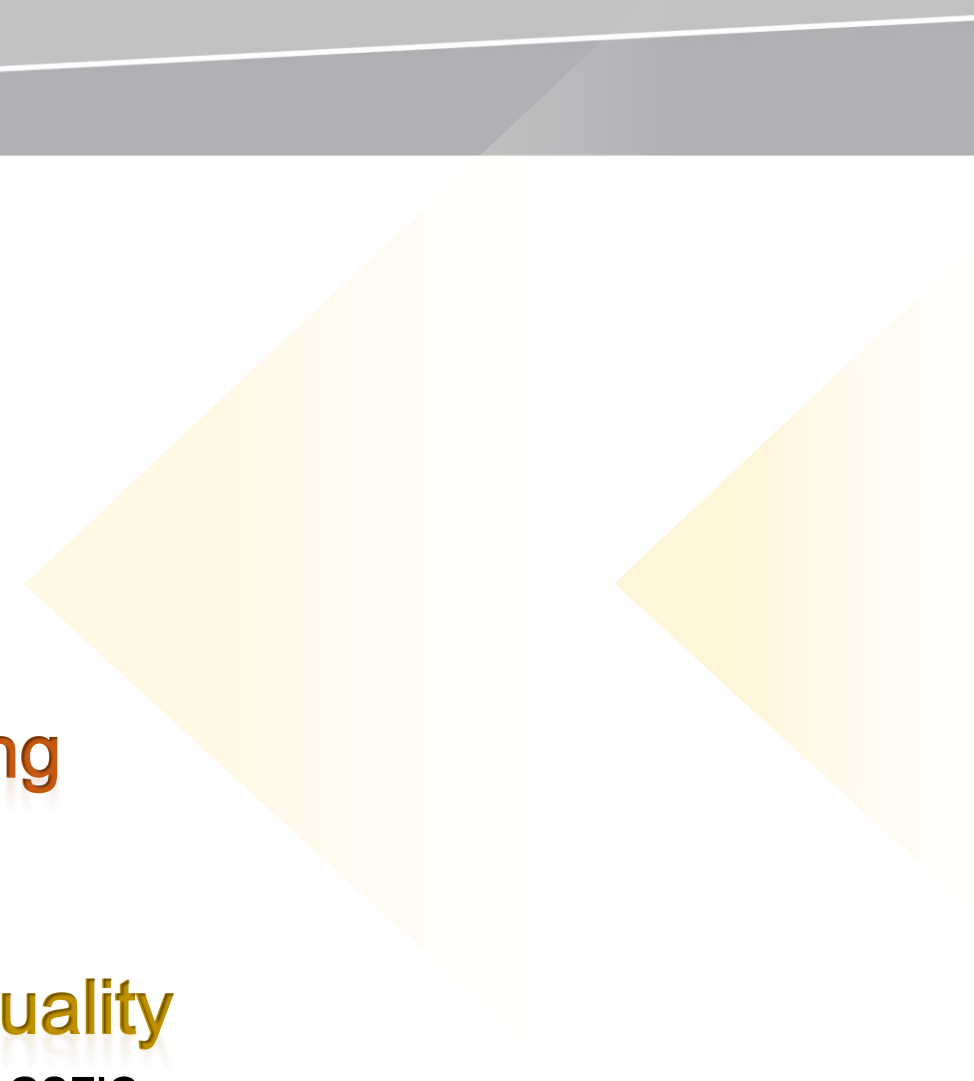
## **GSFIC PM & Authorized Using Agency Rep.**

results in



## **On Time, on Budget, High Quality**

This is the goal of the Construction Division - GSFIC



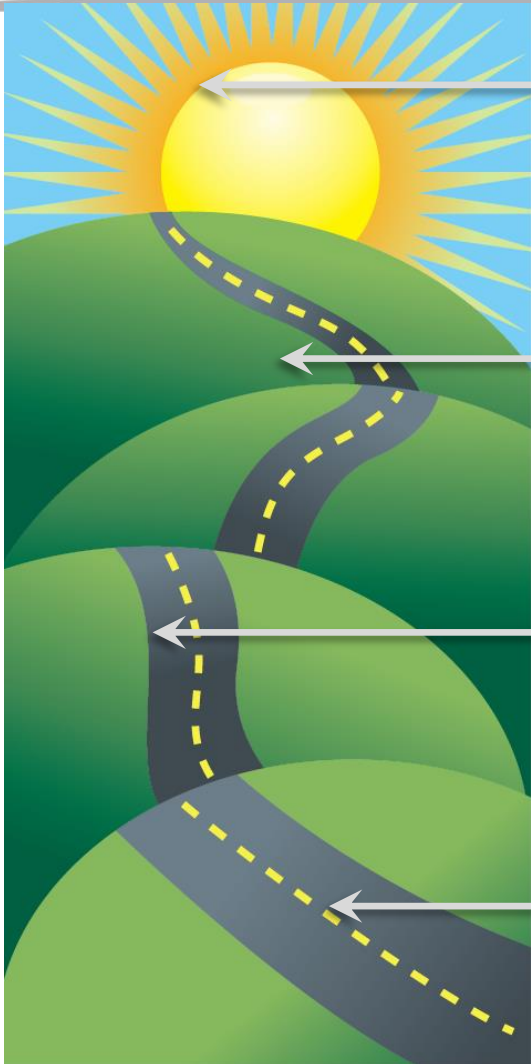
# The DRG Road



**Fire  
Marshal**

**Constructability**

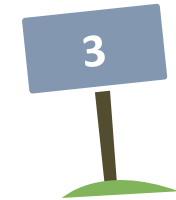
# DRG Journey Check Points



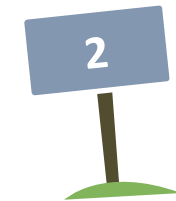
**Upload conformed documents to e-Builder**



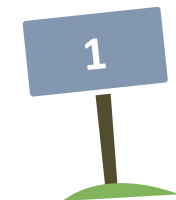
**Provide responses and revisions to review comments**



**Initiate Project document upload to e-Builder**



**Attend Project Kick-off Meeting @ GSFIC office**



# Fire Marshal Review Journey

100% Civil + Life Safety -  
signed & sealed

**Site Letter**

All documents signed &  
sealed . New Construction/  
Renovation

**Construction Permit/  
Approval**

GSFIC & Non-GSFIC Projects

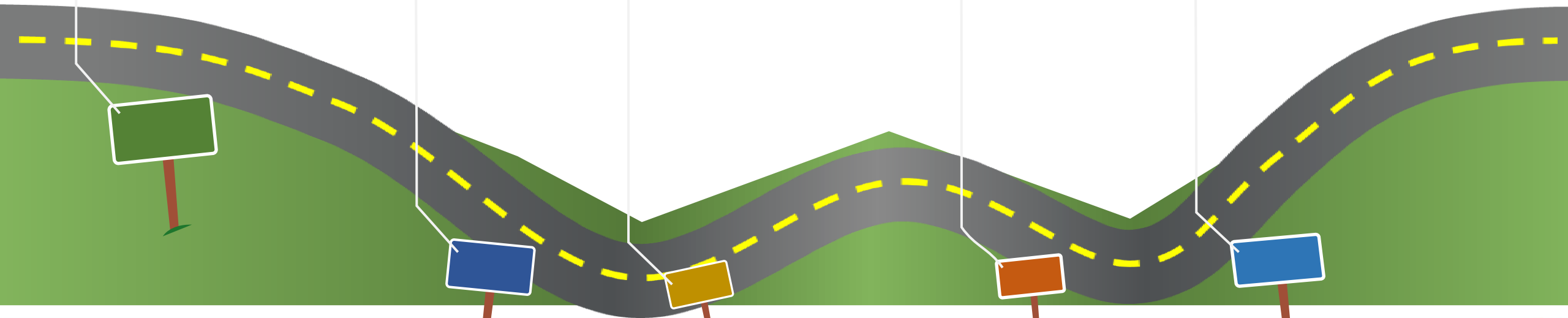
**Hardcopies to SFM  
@ 2 MLK Drive**

100% Civil & Structural, Life  
Safety - signed & sealed

**Shell Permit**

Submitted by sub-  
contractors

**Fire Alarm &  
Fire Protection**



# Awesome!!

Submit Back  
Check Docs for  
**CCO, GMP,  
100% CD**

7 days to respond for  
**back check**

Revise  
Documents &  
Respond to  
comments

# Oops!!!

Initiate process  
& upload  
without  
'clicking'  
submit

Submit mislabeled  
documents

Upload Documents  
without adequate  
responses

Upload incorrect  
or incomplete  
documents



# Stormy Days Ahead

Failure to  
address all  
comments

Delay back check  
beyond 7 days

Move to next  
phase with **open**  
back check  
**comments**

Did not read the Process Guide

Exceeded SCL

Danger Ahead!

GSFIC Front End Docs not included

Did not use current adopted codes

Awesome!!!



# DRG Project Kick-off

To familiarize DRG with project specific information

Familiarize Design Professional with DRG processes & expectations

Share lessons learned from similar projects

Purpose: To familiarize GSFIC Design Review Group with project specific information to aid in review.  
To familiarize Design Professional with GSFIC Design Review Group processes, procedures, and expectations  
To share lessons learned from similar projects

## AGENDA

- Pre-design
- Programming/Scope Discussion
- Site Investigation
- Plan Review Process
- Constructability Reviews
- State Fire Marshal Approvals
- Other Approvals

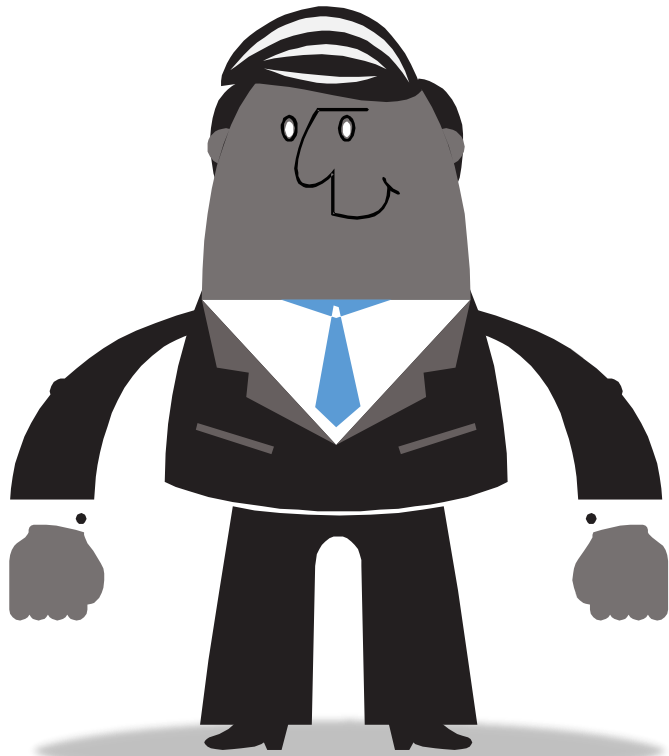
## DRG TEAM MEMBERS

- Ron Kern [A/FM] 4. 463.5684
- Ifiok Immanuel [A/FM] 3.5686
- Eleanor Furlow [A/FM] 3.5796
- Jerry Mastrella [C] 3.5679
- Ken Nuttall [S] 3.5688
- Glenn Haller [M/P] 3.5789
- Steve Abbott [FP/FM] 4.656.2661
- Justin Poblete [FP/FM] 4.656.2662
- Larry Jennings [E] 4.232.1399

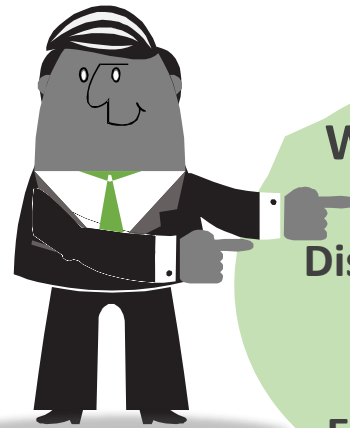
DESIGN REVIEW GROUP

The slide features a blue header with the GSFIC logo and the title "DRG Project Kick-Off". The background is a photograph of a modern office interior with cubicles and a central desk with a potted plant. Overlaid on the image are several text boxes and labels. On the left, a vertical label reads "CONSTRUCTABILITY". In the center, a vertical label reads "FIRE MARSHAL". On the right, a vertical label reads "EXIT". The main content is organized into two columns of text boxes. The left column lists project phases: "SCHEMATIC DESIGN", "DESIGN DEVELOPMENT", "COMPONENT CHANGE ORDER", "GMP", and ".100% CD.". The right column lists approval steps: "SITE LETTER", "SHELL PERMIT", "CONSTRUCTION PERMIT", and "FP & FA APPROVALS".

**INTENT**  
Introduce DRG  
& DP Team  
+  
DRG Lead



**WHO TO BRING**  
Project  
Architect,  
Project A/E's  
CM



**We answer  
your  
questions**



**WHAT WE DO**  
Discuss Review  
Process  
+ Set  
Expectations

## Happy Meeting

You've read the DRG Process Guide  
You share your Project Information:  
Scope, Budget & Schedule

We discuss:  
Site / Predesign,  
QA/QC Hurdles,  
DRG Publications,  
Fire Marshal Submittals,  
Review Levels, e-Builder,  
Checklists



## Unhappy Meeting

You have not read the Process  
Guide



# DRG Review Comments

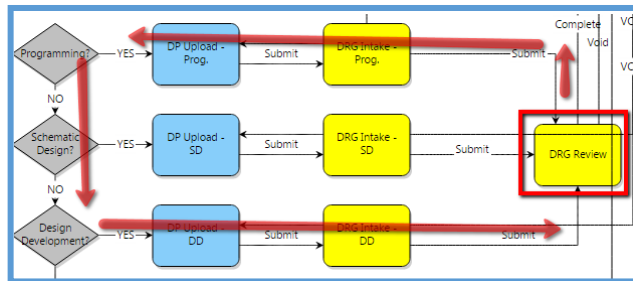
DRG REVIEWS UPLOADED DOCUMENTS AND GENERATES COMMENTS WHICH SHOULD BE ADDRESSED BY DP WITH REVISIONS TO DOCUMENTS SUBMITTED AT NEXT PHASE.

No back checks are required for SD and DD submittals.

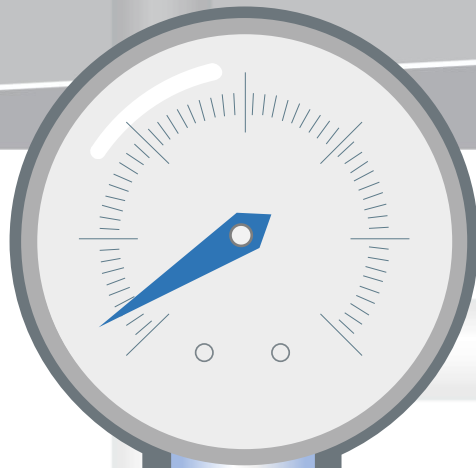
100% CDs, CCOs & GMPs will be back checked till all comments closed

Comments closed  
100% CDs, CCOs & GMPs will be back checked till all

All comments should be closed by 3<sup>rd</sup> back-check!



Comm. No.	Drawing/ Specification Reference Number	Room/ Detail Number	Reviewer's Comments	Architect's/ Engineer's Response	Status Open/Closed
<b>Architectural Constructability Review Comments</b>					
<b>CD Review Comments</b>					
Project: Atlanta, Georgia				Date: 10/23/12	
Reviewer: Iflok Immanuel				Date: 11/19/12	
Phone No 404-463-5686				Date: 11/30/12	
				DD Date: 12/4/12	
				CCO#3: 2/13/13	
				GMP: 4/19/13	
				Date: 6/5/13	
				CD Date: 8/5/13	
52	A-501	1/A-501	Steel column at mechanical penthouse screen wall references structural however details are not provided on structural drawings.	note is referencing to refer to structural for column sizes.	Closed
53	A-501	1/A-501	4" perforated corrugated metal panel on steel detail not provided.	See 2/A-623 and 3/A-623	Closed
54	A-506	1/A-506	Verify that electric vault has a 3-hour minimum fire-resistance rating. Also submit vault plans to GA Power for review.	This has been coordinated. Vault plan to be submitted.	Closed
55	A-610		Omit reference to Won-door on plans or list 3 manufacturers; Except in the most unusual circumstances there can be no justification for listing fewer than three proprietary names otherwise the owner will not have the benefit of competition.	Omitted.	Closed
56	A-703	10/A-703	Overlapping stringer at north stair section. Is this a graphics error? See comment #72.	Graphics error	Closed
<b>BIM Model (See attached images)</b>					
57	Mechanical		Pipes intersecting with pipes	to be coordinated	Open
58			Pipes and ducts intersecting	to be coordinated	Open
59			Floating roof components	to be coordinated	Open
60			Roof intersecting ducts	Roof design was not completed nor coordinated at completion of DD. Final roof height of mechanical penthouse was not coordinated at the date of DD. Future issuances should have this coordinated.	Open
61			Plumbing pipes embedded in the ceiling	To be coordinated.	Open
62	Arch/Mech	Roof	Duplicate/intersecting mechanical equipment at roof. These components should be deleted at CD completion. In the interim they should be hidden.	Arch mechanical equipment reflects SD sizes and is shown for coordination as well as renderings that were based on the Revit model. Do you want us to delete these components at the completion of CDs?	Open
63	Arch/Mech	Roof	Ductwork extends beyond the penthouse roof	Extensive coordination on penthouse has taken place since DD. We hope to have these issues resolved soon.	Open
64	Mechanical/ Structural	Level 0 - Level 5	Several locations with pipes and ductwork intersecting beams and columns.	to be coordinated	Open
65	Mechanical/ Electrical		Light fixtures embedded in ductwork.	to be coordinated	Closed
				to be coordinated. I believe these are cable through	



# DRG Stays Connected



# Design through Construction

- DRG Fire Protection Shop Drawings & Performs Site Inspections
- Review and Inspection of Fire Alarm Systems
- Assessment of Existing Buildings

# Design Submittals

**(ASTM E 1804)**

**Completeness** - to match industry standards

**(PDF)**

**Uploads** - PDF & CAD/ BIM native formats

**(File Name)**

**Grouped by A/E Discipline** - Not zipped. Use GSFIC Project Number

**(Call)**

**Reviewer if you have questions**

**(QA/QC)**

**Perform** - before upload

**(Back Check)**

**Reference Sheet #** - where changes have been made in responses

**(Specs)**

**Single PDF File**

**('03' Folder)**

**File Destination** - remains the same for every upload

**(Submit)**

**Hit This Button** - This is common oversight

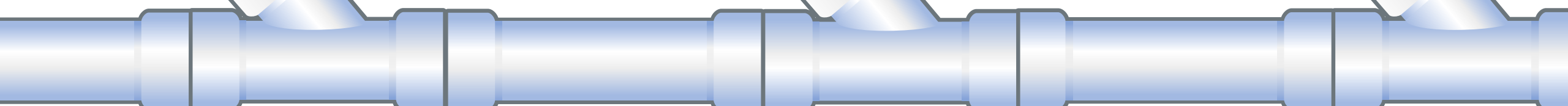
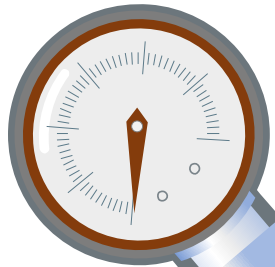


# Construction Phase

**Approved Fire Marshal Plans**  
Must be on site always

**Approved Shop Drawings** – Fire Projection and Fire Alarm onsite prior to installation

**Prefunction testing** - conducted prior to requesting DRG inspection



# Fire Alarm Inspections



# Fire Protection Inspections



# Fire Protection Inspections



# Fire Protection Inspections



Bookmark this!!!!



**Design Review Group**

- Constructability Reviews
- Life Safety and Fire Protection
- BIM Reviews and Animations
- Special Inspection Program and Selection Process
- Building Assessments and Cost Estimating

Know your DRG Process Guidel

**Always** Start your design with construction codes in mind 

**Always** Include GSFIC Front End documents in project manual 

**Always** Provide thorough responses to reviewer comments 

**Process Guide!  
Construction Codes!  
Review Comments!**





Stay tuned for

**Electronic Fire Marshal Reviews .....**

**Onsite BIM VR Experience**

Questions??

The University of Georgia  
Tifton Campus Conference Center



Professional  
Partnership Workshop