AGENDA
AD HOC TECHNOLOGY COMMITTEE

REGULAR MEETING
MONDAY, NOVEMBER 6, 2017, AT 9:00 AM
BOARD ROOM – GATEWAY COMPLEX

1. MEETING CALLED TO ORDER: Donald J. Liddle, Chairman

2. ROLL CALL: Liddle, England, Solloway, Kern, Lanier, Slee, Weihrich, and Kelso, ex-officio member

3. APPROVAL OF REPORT: Regular Meeting of September 18, 2017 (Attachment)
   Regular Meeting of October 2, 2017 (Attachment)
   Regular Meeting of October 16, 2017 (Attachment)

4. RESIDENTS’ FORUM

5. UNFINISHED BUSINESS
   a. Strategic Planning Process Presentation (Attachment)

6. NEW BUSINESS
   a. Future Planning

7. RESIDENTS’ FORUM

8. NEXT MEETING: The next regular meeting will be held on Monday, November 20, 2017, at 9:00 a.m. in the Board Room at Gateway Complex.

9. ADJOURNMENT

DJL/dr

cc: GRF Board
A regular meeting of the Ad Hoc Technology Committee was convened by the Chair, Donald J. Liddle, at 9:00 a.m. on Monday, September 18, 2017, in the Board Room at Gateway Complex.

Present, in addition to the Chair, were Mary A. England, Vice Chair, Wayne B. Lanier, Heinz Weihrich, and Robert D. Kelso, ex-officio member and GRF Board representative. Frederick J. Kern and Christopher J. Slee joined the meeting in progress. Sheldon Solloway was excused. Also attending were Geraldine Pyle, President, and Carl W. Brown and Mary Lou Delpech, Directors, GRF; Timothy O'Keefe, CEO; Richard S. Chakoff, CFO; Joseph Bruzdzinski, Information Technology Manager; and several residents.

Mr. Liddle introduced Mr. O'Keefe, who made a presentation to the Committee on information technology at the Golden Rain Foundation, including an overview of existing and planned projects, as well as technologies that are being explored for the future. Discussion followed. (Attachment)

After a brief discussion, the Committee agreed to continue full Committee meetings twice a month in the same location and at the same time until subcommittees are formed. At that time, the Committee will consider meeting monthly.

Mr. Liddle opened discussion on ideas on ways to proceed with Committee work. During discussion, he asked the Committee to develop a list of possible areas for the Committee to focus for the next meeting.

Dr. Lanier announced that there will be a tour of Mutual 48’s solar and EV (Electronvolt) set up on October 5, 2017, in conjunction with Informed Rossmoor Voices.

During the Residents’ Forum, Mr. Brown asked if Anthony W. Grafals, General Counsel, will review use of chat boards for Committee communication. He also requested that the Siemen’s SiPass Access Control System use a universal reader. Dale J. Harrington commented that digitizing blue prints is a good thing and that he supports Docu-sign.

Committee member Mary England prepared supplemental minutes. (Attachment)

There being no further business to come before the Committee, the meeting was adjourned at 10:33 a.m.

The next regular meeting of the Ad Hoc Technology Committee will be held on Monday, October 2, 2017, at 9:00 a.m. in the Board Room at Gateway Complex.

Donald J. Liddle, Chair
Ad Hoc Technology Planning Committee
GRF IT Overview

Current Systems

Server Based Software Applications

- Jenark (Accounting, Work Order, Member Records)
- ActiveNet (Recreation)
- AmanoNet (Gate Access)
- ClubSoft (Golf reservations, point-of-sale and inventory management)
- SiPass (Access Control) upcoming

Desktops:

- 3+ year hardware replacement plan (~30 devices/yr)
  - HP All-In-One
- In process:
  - Upgrade to windows 10 on all computers
  - Upgrade to Office 365 on all computers
  - Upgrade of Antivirus / Malware to better protect the foundation

Backup:

- 2 Nimble storage devices for multiple virtual servers (MOD and Gateway)
  - In process of adding cloud based mirror server
- Additional needs:
  - Backup power for MOD and Gateway
  - Dedicated A/C unit for Gateway server room
  - Backup phone equipment at Gateway
- Disaster Recovery Plan:
  - In process

Other

- Satellite-based water management systems for MOD and golf courses
- DocuSign implementation for mutuals
Enhancements

In process:

- Redesign of the front gate video camera system from the front gate to MOD recorder
- Deployment of phone system enhancements
  - Online Chat for the Order desk
  - Email support request for Order desk
- Del Valle Clubhouse Remodel
  - New Computer installations
  - Setup wireless access and installation of unknown tablet type and quantity
  - Installation of new Phone paging system for staff and residents
  - Installation of new phones
  - Integration of new cameras into the current camera system

Initiatives in various stages of development:

- Access control and universal membership card implementation at fitness center
- Mobile Device Management "MDM" for all field devices and smartphones
- Document scanning project
- Online room reservation system
- MOD Conference Rooms
- Video conference equipment installation
- New fleet maintenance tracking software and server installation

Exploring:

- Water reclamation
- App-based on demand shuttle service
- Autonomous shuttle bus system
- Organic recycling
• Online Work order system with personal field devices would allow access to remote work order processing

• Replacing GRF Fiber Optic cable
  o MOD to Gateway
  o Gateway to Creekside
  o Gateway to DV
  o Gateway to Gard Gate
  o Creekside to Event Center
GRF AD HOC TECHNOLOGY COMMITTEE MEETING MINUTES 9 18 2017

AGENDA

5. NEW BUSINESS

5a. CEO presentation. Presentation by Tim O'Keefe on GRF IT covering overview of existing, planned, extending, and exploring technologies for GRF IT. Presentation Outline to be provided to Committee members. Attending in addition to the CEO were the CFO, and IT Manager. Following the presentation, Committee members and residents asked questions.

5a. Q & A:

1. Recovering recycle waste as revenue – have you considered it?

2. Disaster Recovery – does it include Gate? A: Have designed program Disaster Recovery plan. GRF Business Continuity Plan for GRF is now in works. Phones, IT, cabling Securitas response. Mention and reference to the GRF All-Hazards Emergency Plan was made.

3. GRF EP Plan is online, GRF separate and distinct responsibility (for GRF amenities and assets)

4. Is there a possibility for a WC City joint program on water reclamation project? Not yet ...CEO will raise this with the new City Manager.

5. Fiber Optic conduit, is there room in conduit for expanding Fiber Optic capacity in conduit? A: contractor would need to propose upgrade. Has GRF looked at Google wireless? Not yet. Has GRF IT developed a Requirements and specifications document? A: Not yet. What is the “useful life” of the current Fiber Optic Network? A: About five years.

6. What is status of GRF Solar Farm? 2 locations, 1 Megawatt system, has “Power Purchase Agreement, Third party owns system. 20-30% savings, $6M savings over 20 yrs projections. The City of Walnut Creek & Contra Costa Fire District (CCFD) are asking for modifications, projection is for 2018 spring Installation, forecast Solar will be online 7/1/2018. Solar Farm is designed to provide to 60-65% energy requirements for GRF, with LED, etc. implementations, do not project to sell back energy.

5 b. Meeting Logistics: After discussion the Committee agreed to continue full Committee meetings twice a month, same location, times until sub-committees form. Then consider monthly full Committee meetings.
5. NEW BUSINESS

5.c. Ideas on Ways to proceed with Committee work:

Bob suggests members develop a list of what we want to consider what is included as GRF IT? Example: Is recycling IT?

Chris Slee suggests 8-9 areas? Mary England passed around a copy of technology ideas from March 8, 2017 GRF Technology Interest Meeting (which Chris Slee put together).

What if GRF is doing an IT area, CEO suggests stay focused on bigger picture stuff.

Don Liddle asks committee to develop IT list for next meeting.

Kelso recommends Committee nail down the things that are clearly GRF purview and areas interesting to members. EX: Cell phone coverage, is of interest, does Committee look at Cell services for members?

Don Liddle: Focus on GRF scope that GRF provides for – and also included those grey areas

Fred Kern to Tim O’Keefe? What do you think the Committee needs to handle? CEO suggests that the Committee Charter is to develop a 5 year plan so focus on the big picture areas.

Chris Slee: Look at customers of GRF, ex: Comcast Cable. Drawing lines such as not going over what GRF is already doing and planning is not helpful.

BK: GRF Board Committees need to explore where, how to communicate, such as CHAT Board.

Question raised by Carl Brown on how Committee communicates. Do you want the “Chat Board”? To communicate? Mary England mentioned the prior Technology Interest Group was very time-consuming, BK: GRF Board and Committees need to explore where, how to communicate, such as CHAT Board.

Don Liddle: 2-3 can email together, just cannot have a QUORUM of Committee members which constitutes a meeting, must notify members in advance for a meeting.

Tim O’Keefe: GRF is subject to the open meeting requirements, can look at rules.

ANNOUNCEMENTS:

10/5/2017 tour of Mutual 48 Solar & EV through Informed Rossmoor Voices
GRF AD HOC TECHNOLOGY COMMITTEE MEETING MINUTES 9 18 2017

AGENDA (continued)

6. RESIDENTS FORUM:

Carl Brown asks if Tony Grafals will review use of CHAT Board for Committee communication. Also requests of Selmens’ SiPass Access Control System can be using a universal reader. If putting in Optical Fiber, will GRF likely consider migrating to Internet, via dark fiber?

Leo Harrington, Terra Granada, good for Blue Prints to be digitized, Docu-sign is great.

7. ADJOURNMENT at 10:33 AM

8. NEXT MEETING: 10/2/2017 9 AM

Meeting Minutes Submitted by: Mary A. England
A regular meeting of the Ad Hoc Technology Committee was convened by the Chair, Donald J. Liddle, at 9:02 a.m. on Monday, October 2, 2017, in the Board Room at Gateway Complex.

Present, in addition to the Chair, were Mary A. England, Vice Chair, Wayne B. Lanier, Heinz Weihrich, Frederick J. Kern, Christopher J. Slee and Robert D. Kelso, ex-officio member and GRF Board representative. Frederick J. Kern, Christopher J. and Sheldon Solloway were excused. Also attending were Geraldine Pyle, President, and Melvin C. Fredlund and Mary Lou Delpech, Directors, GRF; Timothy O'Keefe, CEO; and several residents.

Mary Neff recommended the following criteria for Committee IT Project consideration, evaluation, and selection:

1. GRF Operations Cost Savings
2. GRF Operations Improved Efficiency
3. GRF Operations Reduced Costs
4. Return on Investment (ROI)

Committee discussion included scope of Committee proceedings, which will focus on GRF Operational IT Project Areas. Question of whether projects which primarily benefit GRF Members, such as Comcast are to be addressed. Agreement on the evaluation of Comcast opportunities and competitors is appropriate.

A procedural document for evaluating project ideas will be drafted by Wayne B. Lanier.

Various documents for the Committee’s consideration were submitted by Christopher J. Slee, Heinz Weihrich, Bob Kelso, and Mary England. (Attachments)

Supplemental minutes were prepared by Mary England. (Attachment)

There being no further business to come before the Committee, the meeting was adjourned at 10:59 a.m.

The next regular meeting of the Ad Hoc Technology Committee will be held on Monday, October 16, 2017, at 9:00 a.m. in the Board Room at Gateway Complex.

______________________________
Donald J. Liddle, Chair
Ad Hoc Technology Planning Committee

DJL/dr
MONDAY, OCTOBER 2, 2017

On the Minutes ..
Minutes should

- Support Open Meetings
  - i.e. allow those not physically present to have some understanding of the meeting
- Include all supporting presentation materials etc.
  - i.e. in this case Tim O'Keefe's presentations etc.
  - E.g. submissions like those Mary England has handed out in the past if considered or reviewed at all by the board
- Record significant points of Q&A, decisions
- Not be a list of "activities"
  - E.g. not we met, we talked about x, we left!

On "Ways to Proceed" ... "Technologies to Consider"

Rather than just throw things out, starting from the March 8 meeting:

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<th>March 8</th>
<th>Idea Generation Mtg</th>
<th>Sleee Suggestions</th>
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<td>137 Total Ideas</td>
<td>Manage 7</td>
<td>Physical Technologies</td>
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<td>News 4</td>
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<td>Idea Generation 5</td>
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<td>WebNews 1</td>
<td>• Front Office</td>
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<td>• Out of Office</td>
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<td>Infra-Tech 1</td>
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<td>• IT Infrastructure</td>
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Technologies can

- Address current issues
- Support future opportunities
- Create future opportunities

I.e. just picking "technologies to consider" misses the point, and risks

- being a set of "solutions" looking for a real problem or opportunity
- Missing the real "customer" demands
  - E.g. I've heard considerable discussion about renters vs members and whether GRF has an unquantified revenue shortfall
- Becoming a set of pet projects
Systematic Approach
We need a systematic approach to identifying needs and opportunities. Classically:

Mission: some excerpts from the GRF Mission Statement:
- "Develop a community or communities for senior citizens"
- "Provide services and community facilities to the occupants of the community or communities"

Customers: who do we serve? What are the various communities? Relative Volumes, Priorities etc.?
- Primary
  - Members
  - Clubs
  - ... etc.
- Secondary
  - Mutuals
  - ... etc.

Products and Services: what do we provide for these segments?
- Directly?
- Indirectly? e.g thru the Mutuals, MOD, etc.
- Orchestrated? E.g. through Comcast, ATT

- e.g. last 15 years has been about self service channels, GRF has few

Capabilities: What capabilities [processes] do we need to deliver those products and services?
- Business ... People, Processes, Facilities
- Technical ... Applications, Data, Technology

i.e. we need a MODEL of GRF and it’s eco-system to systematically find needs and opportunities
- We need to explore these areas for opportunities more than pick technologies

Guiding Principles ... should guide our approach ...

e.g.

Favor newer and prospective customers
- They bring expectations essential to ongoing progress
- Long term customers are too often
  - frustrated with silent, resigned acceptance
  - satisfied with lower expectations and resistant to change
- Relevance and Survival rely on change

Deliver the products and services customers expect and/or will appreciate
- Not just the ones we [currently] [choose to] provide
- Ease of End user experience is key
- Support learning and adaption through experience (e.g. "Agile")

Reengineer Capabilities to better deliver better products while reducing costs
• Not just automate for “better sameness”
• E.g. “self service” channels should displace “in person” over time
• E.g. Kindle books displace physical books

Develop a considered As-is, Can be, Should be integrated approach
• I.e. “Should be” is directional, but not part of a plan
• Not just provide a list to be cherry picked

Position as early majority, main street on the Technology adoption curve
• Benchmark wherever possible
• Only early adopter with a compelling case, opportunity
• Laggard generates frustration

Make an informed trade-off between desires and needs
• Some needs may not appear attractive but are pre-requisites to desires
• ROI is appealing, but very difficult for new products and infrastructure

Address Life-Cycle issues, not just initial technology adoption
• Products and services require governance mechanisms, service organizations, backup, recovery, continuity etc.

Plan: we need to agree what constitutes a “Plan”
From Mirriam Webster:
• 1: drawing or diagram drawn on a plane: such as
  o a : a top or horizontal view of an object
  o b : a large-scale map of a small area
• 2
  o a : method for achieving an end
  o b : an often customary method of doing something : procedure
  o c : a detailed formulation of a program of action
  o d : goal, aim
• 3: an orderly arrangement of parts of an overall design or objective
• 4: a detailed program (as for payment or the provision of some service)

Written account of intended future course of action (scheme) aimed at achieving specific goal(s) or objective(s) within a specific timeframe. It explains in detail what needs to be done, when, how, and by whom, and often includes best case, expected case, and worst case scenarios. See also planning.

Read more: http://www.businessdictionary.com/definition/plan.html

Lastly, different technologies have different Clockspeed’s – the rate of change – so:
• A 5 year time horizon may be required for things like electric vehicles
• Past 2 years is close to star gazing for many IT applications and/or user adoption Patterns

i.e. we need clear expectations on what need to be answered to deliver a product from this Board
GRF Operations:
- Data mining
- Sync data bases
- GRF fiber
- Backup improvements
- Online account and interaction- pay bills, online class registration, buy tickets
- Mobile MOD equipment
- GRF Youtube channel- fitness center training, Rossmoor orientations, board meetings, club meetings, lectures, performances?
- Clubs website
- Updated GRF website
- Online gate access lists

Residents:
- cell phone coverage
- electric car charging and standards
- Comcast contract
- data survey- most pressing tech issues, cell phone ownership
-
I have put together the following links for the GRF AD HOC Technology committee to review. I think this will help put the next meeting in context and inform the committee of relevant background.

GRF AD HOC Technology Committee Background Resources for Reference:


http://rossmoor.com/resident-information/rossmoor-governance/golden-rain-foundation/general-plan/


https://groups.yahoo.com/neo/groups/rossmoortechnology/conversations/messages/321

Mary A. England
AGENDA:

3. 09/18/2017 Meeting Minutes approval deferred pending inclusion of submitted detail and handouts. GRF Counsel to present rationale for “brief” GRF minutes. Committee name and title does not include “Planning”.

4. RESIDENTS’ FORUM

Mary Neff recommended the following criteria for Committee IT Project consideration, evaluation, and selection:

1. GRF Operations Cost-savings
2. GRF Operations Improved Efficiency
3. GRF Operations Reduced Costs
4. Return on Investment (ROI)

Committee Chair agreed, reinforced that IT Project Areas are to benefit GRF to better run operations, benefits residents as well.

5. NEW BUSINESS

SCOPE: Committee discussion included scope of Committee proceedings which will focus on GRF Operational IT Project Areas. Question of whether projects which primarily benefit GRF Members such as Comcast are to be addressed. Agreement on the evaluation of Comcast opportunities and competitors is appropriate.

PROCEDURE: A procedural document for evaluating project areas will be drafted by W. Lanier.

PROJECT AREAS: Discussion of potential GRF IT Project Areas focused on:

1. IT Integration
2. Infrastructure
3. Transportation
4. Communication
5. Water Resources Reclamation

Summary of the discussion of above GRF Operations Project Areas includes:
1. **IT Integration:** Database integration (4), Mobile (GPS) & Interactive Workorder System Integrated with Jenark (or enterprise Database), Single Sign-on Portal for GRF Member access to GRF Functions such as Member Services, Financial transactions (AP), Resident Services, Fitness Center

2. **Infrastructure:** Fiber (Cable) Network for GRF and Member use, Solar project and Energy Audit (GRF Facility interior lighting, street lighting, HVAC, etc.) Request made for presentation by GRF Solar Consultant, including biography, Tim O'Keefe will follow-up.

3. **Transportation:** EV Charging opportunities/costs, GRF Fleet of Vehicles/Bus/Truck EV opportunities, GRF Transit Study 2017, grants?

4. **Communication:** Emergency Alert System (independent of devices), GRF Video “YouTube” (for training, meetings, reference), Website re-design for business and member access (Single sign-on portal), Interactive workorder system linked to billing, notifications, mobile network (cellular) reliability

5. **Water Resources Reclamation:** Explore independent Water sources for golf courses, landscape, supplier to Mutuals?

6. **RESIDENT FORUM**

   Follow-up Question on how to distribute Committee work products. Email distribution of documents can be done among Committee members.

**Attachments:**

1. Bob Kelso list of project ideas
2. Chris Slee Documentation
3. Mary A. England draft of 9/18/2017 Minutes, Committee resources list
4. Heinz Weihrich diagram of Tech & Innovation Distruptors

Draft submitted by Mary A. England 10/03/2017 V.2
A regular meeting of the Ad Hoc Technology Committee was convened by the Chair, Donald J. Liddle, at 9:00 a.m. on Monday, October 16, 2017, in the Board Room at Gateway Complex.

Present, in addition to the Chair, were Mary A. England, Vice Chair, Sheldon Solloway, Attendance Secretary, Frederick J. Kern, Christopher J. Slee, Heinz Weihrich, and Robert D. Kelso, ex-officio member and GRF Board representative. Wayne B. Lanier was excused. Also attending were Geraldine Pyle, President, and Melvin C. Fredlund, Directors, GRF; and Anthony W. Grafals, General Counsel.

Mr. Grafals addressed the Committee on the subject of the legal implications of the content of meeting minutes and the GRF policy on open Committee meetings.

A motion was made by Mr. Liddle, seconded by Ms. England, and CARRIED with two members abstaining, to include as part of the Committee’s reports, as attachments, documents submitted during a meeting and members to provide any documents designed for consideration at the next meeting be submitted 10 days prior to that meeting so they could be included as attachments to the agenda.

Committee members England, Kern, and Slee each presented their approaches to achieving the Committee’s mission. The Chair appointed those three members to prepare a suggested method of proceeding for presentation at the next meeting.

After a brief discussion, the Committee agreed to continue full Committee meetings twice a month in the same location and at the same time until subcommittees are formed. At that time, the Committee will consider meeting monthly.


There being no further business to come before the Committee, the meeting was adjourned at 11:05 a.m.

The next regular meeting of the Ad Hoc Technology Committee will be held on Monday, November 6, 2017, at 9:00 a.m. in the Board Room at Gateway Complex.

______________________________
Donald J. Liddle, Chair
Ad Hoc Technology Planning Committee

DJL/dr
GRF Ad Hoc Technology Committee: Strategic Technology Plan Draft Process Roadmap

1. Is a GRF Strategic Technology Planning Process to assess positioning of current and future-state of Technologies
2. Is a Timeline, Roadmap, with Milestones and Deliverables
3. Final Committee work product recommendations are decision-making tools for GRF Board
GRF Ad Hoc Technology Committee: Strategic Technology Plan Milestones Draft Process Roadmap

- GRF Technology Plan that anticipates GRF's technology needs for next 5 years:

- Is NOT an IT/Technology, Software Development Project

- Plan: integrated, systematic approach for ID, prioritizing, implementing, maintaining existing/new services, effective and cost-efficient GRF operations

- Needs to be Team-based, consensus-based, collaborative process

- Deliverables, reports, options, recommendations best if delivered early
GRF Ad Hoc Technology Committee:
Strategic Technology Plan Milestones Draft Process Roadmap

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<td>Sub-Committees do initial Strategic Analysis of Projects (Strengths, Weaknesses, Opportunities, Competition-SWOC)</td>
<td></td>
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<tr>
<td>Sub-Committees present SWOC to Committee</td>
<td></td>
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</tr>
<tr>
<td>Committee evaluates Priorities of Project Areas based on “Business Value”</td>
<td></td>
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</tr>
<tr>
<td>Research Best Practices for Priority Projects</td>
<td></td>
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</tr>
<tr>
<td>Assess Project “Best Practices” for Cost: Benefit Analysis</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Re-assess Projects Priority based on Cost: Benefit Analysis</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Consensus on Preliminary Priority Project recommendations for near-term funding</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Re-Prioritize Projects for draft initial recommendations based on identified GRF OPNS “Business Value”</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluate lost opportunity if Priority Projects not funded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimate 2018 Operations Budget impact for Priority Projects (near-term) based on broad estimate of costs (savings, increases)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

10/14/2017
Mary A. England
Ad-Hoc Technology Committee

- Cannot govern
- Something that has no process
- And no agreed outputs
Enterprise Architecture Elements ... Framework ... What and Why?

- **Guiding Principles Frameworks**
  - Business strategy, governance, organization, and key business processes

- **Applications architecture** which provides a blueprint for the individual systems to be deployed, the interactions between the application systems, and their relationships to the core business processes
  - Data architecture

- **Technology Layer**
  - Describes the platforms ... hardware, software, and network infrastructure

- **Business Layer**
  - Application Layer

- **Implementation & Migration**
  - Strategy & Motivation

- **Tend to jump between Layers and have no logical filing system**
On what constitutes a "Plan"

From Mirriam Webster:

1. drawing or diagram drawn on a plane: such as
   a: a top or horizontal view of an object
   b: a large-scale map of a small area

2. a: method for achieving an end
   b: an often customary method of doing something: procedure
   c: a detailed formulation of a program of action
   d: goal, aim

3. an orderly arrangement of parts of an overall design or objective

4. a detailed program (as for payment or the provision of some service)
Guiding Principles ... What and Why?

Conway's law is an adage named after computer programmer Melvin Conway, who introduced the idea in 1967; it was first dubbed Conway's law by participants at the 1998 National Symposium on Modular Programming. It states that

"organizations which design systems ... are constrained to produce designs which are copies of the communication structures of these organizations — M. Conway"

The law is based on the reasoning that in order for a software module to function, multiple authors must communicate frequently with each other. Therefore, the software interface structure of a system will reflect the social boundaries of the organization(s) that produced it, across which communication is more difficult. Conway's law was intended as a valid sociological observation, although sometimes it’s taken in a humorous context.

Steam Engines replaced Water Wheels ... i.e. AUTOMATED

Small Electric motors changed work i.e. REENGINEERED

Internet rewired Communications i.e. REINVENTED

Favor newer and prospective customers
  - They bring expectations essential to ongoing progress

Favor longer term customers are too often
  - frustrated with silent, resigned acceptance
  - satisfied with lower expectations and resistant to change
  - Relevance and Survival rely on change

Deliver the products and services customers expect and /or will appreciate
  - Not just the ones we [currently] [choose to] provide
  - Ease of End user experience is key
  - Support learning and adaption through experience (e.g. “Agile”)

Reengineer Capabilities to better deliver better products while reducing costs
  - Not just automate for “better sameness”
  - E.g. “self service” channels should displace “in person” over time
  - E.g. Kindle books displace physical books

Develop a considered As-is, Can be, Should be integrated approach
  - i.e. “Should be” is directional, but not part of a plan
  - Not just provide a list to be cherry picked

Position as early majority, main street on the Technology adoption curve
  - Benchmark wherever possible
  - Only early adopter with a compelling case, opportunity
  - Laggard generates frustration

Make an informed trade-off between desires and needs
  - Some needs may not appear attractive but are pre-requisites to desires
  - ROI is appealing, but very difficult for new products and infrastructure

Address Life-Cycle issues, not just initial technology adoption
  - Products and services require governance mechanisms, service organizations, backup, recovery, continuity etc.

Guiding Principles apply to each deliverable
"Requirements" ... a long standing joke ... and a disturbing truth

How the customer explained it
How the Project Leader understood it
How the Analyst designed it
How the Programmer wrote it
How the Business Consultant described it

How the project was documented
What operations installed
How the customer was billed
How it was supported
What the client needed

"Requirements" ... Words don't work without DESIGNING something.
### B. Business Model ... a starter

- **Key Partners**
  - Mutuials
  - Outsourcers
  - Contractors
  - Subcontractors
  - Alternates
  - Recreation

- **Key Activities**
  - Purchasing
  - Property Mgmt
  - Billing / Admin
  - Work Force Mgmt
  - Sales
  - Energy Mgmt
  - Infrastructure Mgmt

- **BVA**
  - **Value Proposition**
    - Products and Services
      - Security / Help
      - Facilities Management
      - Meeting Places
      - Performing Arts
      - Sports
      - Aquatics
      - Golf
      - Tennis etc.
      - Landscaping
      - Water Mgmt
    - Event Management
    - Recreation
    - Support
    - AV support
    - Residential
    - Maintenance
    - Tech Support
    - Transportation
    - Information / Publicity
    - News
    - Communications

- **CVA**
  - **Customer Relationships**
    - Personal Assistance:
      - Dedicated Personal Assistance:
    - Self Service:
    - Automated Services:
      - Communities:
      - Co-creation:

- **Customer Segments**
  - Residents
    - In-house
    - Outside
    - Groups
    - Clubs

- **Channels**
  - Paper
  - Store Front
  - Phone
    - TV Video
    - Web
    - Mobile
    - Smart Home
    - Wearables
    - IOT

- **Cost Structure**

- **Revenue Streams**
  - Transfer Fees
  - Coupon
  - Transactions

**CPARS color schemes give charts instant clarity**

[Link to Inesha WordPress blog]
[Link to Business Model Canvas]
C. Applications

Customer Enabling
Allow Customer to self serve

Customer Interacting
Collaborations
- Relationship Marketing
- Channel/Sales Support
- Customer Care
- Transactions and Billing

Enablers:
- Security
- Personalization
- Catalogs
- Content Mgmt
- Commerce Transactions
- Knowledge Mgmt
- Social Community
- Information Access
- Search

Framework
Integrating Architecture

Back Office Systems
Operational Systems
Decision Support Systems [Planning, Analysis]
C. Data Architecture

TBD ... show existing sources, duplicates etc.
D. [Technical] Infrastructure

Platform Architecture

- Tools
- O/Software
- Hardware
- Networking

EVs, Self-driving cars, etc. are just another platform
C. Applications ...
E. Opportunity: Solution Process Scenario

Callouts to explain improvements

“Cartoon” or Diagram that quickly captures and illustrates the concept, with markups for key feature, benefits

Key feature: 90% online service
# E. Opportunity: Basis For Interest Template

<table>
<thead>
<tr>
<th>Problem/Opportunity</th>
<th>Solution Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Customer problem/opportunity the solution addresses</td>
<td>- Definition and description of the solution</td>
</tr>
<tr>
<td>- Most likely causes</td>
<td>- Value proposition and implicit promise to the customer (end-user)</td>
</tr>
<tr>
<td>- How the solution will address the issue</td>
<td>- Features and benefits</td>
</tr>
<tr>
<td>- Enabling technology</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basis for Success</th>
<th>Target Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Fit with core competencies/ experience base</td>
<td>- Industry/ industries this solution addresses</td>
</tr>
<tr>
<td>- Uniqueness/ differentiation of the solution</td>
<td>- Market segment(s) and estimated size</td>
</tr>
<tr>
<td>- Sustainability of the solution</td>
<td>- Customer selection criteria</td>
</tr>
<tr>
<td></td>
<td>- Specific existing and potential customers</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Critical Success Factors</th>
<th>Economics</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Imperatives that must be accomplished</td>
<td>- Attractiveness of the economics for the customer</td>
</tr>
<tr>
<td>- Barriers that must be overcome</td>
<td>- Attractiveness of the economics for the provider</td>
</tr>
<tr>
<td>- Business System Diamond Gaps</td>
<td></td>
</tr>
<tr>
<td>- Competitor's offerings and likely response</td>
<td></td>
</tr>
</tbody>
</table>

| Functionality | |
|---------------||
| - Major feature and functions required | |
| - Major enabling technology implications | |
Technology and Innovation

Phase Gate Governance

March 8, 2017
# F. Proposed <client> eBusiness Roadmap

## Internet/Interact

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Marketing Website Planning (43)</td>
<td>Marketing Website Implementation (43)</td>
<td>eBusiness Document Exchange (7)</td>
<td>eBusiness Document Exchange (7)</td>
</tr>
<tr>
<td></td>
<td>eBusiness Possibilities: Workshops and Executive Education (56, 52)</td>
<td></td>
<td>Front-end to a Single Legacy System (9, 13, 14, or 28)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Website Audience Measurement (40)</td>
<td></td>
<td>HR Self Service (48)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>eBusiness-Enabled Planning (38, 39)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Knowledge Center Utilities (48)</td>
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</tbody>
</table>

## Infrastructure

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Basic Infrastructure</td>
<td>(63, 57)</td>
<td>(63, 57)</td>
<td>(70, 61)</td>
<td>(70, 61)</td>
</tr>
<tr>
<td>Internet/Inform</td>
<td>(58)</td>
<td>(58)</td>
<td>(58, 59)</td>
<td>(58, 59)</td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internet/Interact</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infrastructure</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integration with subsidiary Web Infrastructure</td>
<td>(34)</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

## Organization & Processes

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>eBusiness Organization Design and Development (55)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop Processes for Current eBusiness Projects (52)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Develop Processes for New eBusiness Projects (53)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Develop Processes for Future eBusiness Projects (54)</td>
<td></td>
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</tr>
</tbody>
</table>

*Annual recurring costs are not included. Diagram does not specifically illustrate dependencies among initiatives.
A Phase-Gated Process

Accepted best practice in engineering, software engineering
Note: This will be somewhat of hybrid because of the differences between software and other engineering. Software centric processes are usually more prescriptive than engineering models (I think!)

0. Discovery
- Potential Projects
- Conceptual Design
  - Set of integrated ideas and concepts about what it should do, behave, and look like, understandable by the users ...

1. Scoping
- Approved Project

2. Business Case

3.1 Design
- Final Design
  - Final construction plans, physical definitions and detailed specifications. Quantities, final estimates for construction

3.2 Construct
- "Product"
  - Elements of a working product, assembled together ready for testing

4. Testing
- Launchable Product
  - Provably ready product that has acceptable defects and limitations

5. Operation
- Results
  - Satisfied Customers, Business Model, Results, Learning

Wikipedia Phase-gate model

Page 36
0. Discovery

Cluster and Prioritize

Cluster and Prioritize
Cannot cherry pick
projects in isolation...
may be "Bite the
Bullet" items

Idea Funnel

Ideas come to the
Director of Capital
Projects (DCP) from
everywhere:
• Member comments
• Member surveys
• Amenity user
comments
• Board Input
• Input of General Plan
Committee (GPC)
• Staff Input
• TD.com feedback
• Town hall meetings
• Other sources
Ideas rejected may be
put into the funnel by
anyone at any time.

Preliminary
Idea List

All Ideas are put on
the Preliminary Idea
List, which is
circulated quarterly
to the Board, GPC &
pasted on website.

GM & Staff

Board GPC
Liaison

GPC Chair

Circulated quarterly
to Board, GPC &
pasted to website.

General Manager (GM) & Staff, Board of Directors GPC
Liaison, and GPC Chair review Preliminary Idea List. Other
reviewers may be invited, such as Finance Committee (FC)
Chair. Based on their knowledge and judgement, ideas are
categorized as follows and posted on the website.

1 – Next few years
2 – Next five years
3 – Future years
4 – Operational
5 – Other

Will need some "tweaking"

"If you don't know
what you don't know"
Explore, Benchmark,
Research, Visit, Survey

Critical Benchmark
Tech Adoption Curve
Leading? Lagging?

From Tahoe-Donner, (courtesy Dwight Walker) included here for illustrative purposes,
Plan Scenarios

Each business scenario is qualified and a high level business value calculation completed, resulting in prioritized action recommendations based upon Business Economic Value and Business Strategic Value.
1. Scoping

**1. Scoping**

- Benchmark
- Op Scenario
- "Architecture Features
- Benefits
- Inclusions
- Exclusions

**Problem/Oportunity**
- Customer problem/opportunity the solution addresses
- Most likely causes
- How the solution will address the issue

**Solution Concept**
- Definition and description of the solution
- Value proposition and implicit promise to the customer (end-user)
- Features and benefits
- Enabling technology
- Approach used to deliver the solution

**Basis for Success**
- Fit with core competencies/experience base
- Uniqueness/differentiation of the solution
- Sustainability of the solution

**Target Audience**
- Industry/in industries this solution addresses
- Market segment(s) and estimated size
- Customer selection criteria
- Specific existing and potential customer and functions affected
- Likely adopting demographics

**Critical Success Factors**
- Imperatives that must be accomplished
- Barriers that must be overcome
  - Business System Diamond Gaps
  - Competitor's offerings and likely response

**Economics**
- Attractiveness of the economics for the customer
- Attractiveness of the economics for the provider

**Sites Functionality**
- Major feats
- Major snags

**Features vs. Benefits**

Examples: "Which Means to You"

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Been in business for 23 years&quot;</td>
<td>Service provider longevity/POM</td>
</tr>
<tr>
<td>&quot;Low E glass&quot;</td>
<td>Mirror for heat/Sunscreen</td>
</tr>
<tr>
<td>&quot;Constant Force Balance System&quot;</td>
<td>8000 cycles = 20 years longevity</td>
</tr>
<tr>
<td>&quot;Fusion Welded Frames and Sashes&quot;</td>
<td>Durability, energy savings</td>
</tr>
<tr>
<td>&quot;Argon Gas&quot;</td>
<td>Swimming pool</td>
</tr>
<tr>
<td>&quot;Warranty&quot;</td>
<td>Durability, longevity, POM</td>
</tr>
</tbody>
</table>

**More detailed Feature / Benefits Scope**

From Tahoe-Donner, etc. (courtesy Dwight Walker) included here for illustrative purposes,
2. Business Case

Bus Case

Bus Process
Rationale
Phased Plan
Feasibility
- Business
- Technical
Cost/Ben

Evaluate Alternatives

Choose

Schematic Design Package

Communicate With Stakeholders

Director of Communications + DCP Assisted by PTF/SC

Decision Paper - Schematic Design Phase

Request for Funding Next Stage

Board

Board approves funding for Conceptual Design Phase

Sources
- Vendors
- Suppliers
- Benchmarking

- Board
- GPC
- GM

- Cost of Ownership
- Performance
- Opportunity
- Risk
- Timing
- Customer Service

Project Communication Plan

- Members
- Users
- Board
- Community
- Regulatory
- Special Interest

Feedback

From Tahoe-Donner, (courtesy Dwight Walker) included here for illustrative purposes,
## Rossmoor ad-hoc Technology Committee

<table>
<thead>
<tr>
<th>Projects already identified and moving into Design/Implementation stage</th>
<th>Projects identified in research stage</th>
<th>Projects Identified - Still in early review stage</th>
<th>Down the Road projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document Scanning Projects</td>
<td>Multiple Data Base Integration project/s</td>
<td>Bus &quot;on Call&quot; system</td>
<td>Electric Buses (need Grant $)</td>
</tr>
<tr>
<td>Electronic Docu Sign for Mutuals</td>
<td>Access Control systems</td>
<td>Autonomous Bus System</td>
<td>Web Site Update</td>
</tr>
<tr>
<td>UPS and Backup Power for Servers and Phone systems</td>
<td>Mobile Device Management &amp; Online Work Order systems</td>
<td>Electric Vehicle Charging Stations</td>
<td></td>
</tr>
<tr>
<td>Fiber Optic Cable Replacement Project</td>
<td>EFT systems for Mutuals and MOD</td>
<td>Solar Power Generation Del Valle/Gateway/etc.</td>
<td></td>
</tr>
<tr>
<td>LED Street lighting Project</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LED Office and public rooms Project</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Nice to have? /Maybe/Special interest**

Rossmoor wide Cell towers

Rossmoor owned WiFi
Start with known RM issues
then find Technologies

2. Approaches

New Technologies:

- RMleCom
- Approaches 101-17

Start with Disruptive Technologies.

See "New Media, a Handout"

Disruptive Innovations - Potential in the Future

Monetizing Disruptive Innovations

- Inexpensive
- Opportunistic
- Time-consuming
- Risky
- Incremental
- Coke
- (a) Possibilities of Successfully Disrupting
- (b) Possibilities of Disrupting
- (c) Possibilities of Disrupting

Electronic Data Processing, including

- Projects in Progress
- Early review
- Solar power for the future etc.
- Data Mining
- SWAP
- Web site
- Online public access
- Research
- Mobile phone charging
- Early review
- Autostore
- Fast track
- Business model
- Independent
- Business development
- New business development
Note: this document should be a DRAFT & will be continuously improved throughout the process. Some diagrams, graphics, processes are "placeholders", pending Committee & sub-committee input of actual GRF processes.

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1. Scoping ...........................................................................................................................................................................................................
## Glossary

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Term</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFI</td>
<td>Basis for Interest</td>
<td>Summary Outline of an Initiative of Project</td>
</tr>
<tr>
<td>PDP</td>
<td>Project Definition Document</td>
<td>Detailed definition for a specific Project</td>
</tr>
<tr>
<td>TOGAF</td>
<td>The Open Group Architecture Framework</td>
<td></td>
</tr>
<tr>
<td>ROI</td>
<td>Return on Investment</td>
<td>Cost-savings, Operational efficiencies, years to payback</td>
</tr>
<tr>
<td>OPN</td>
<td>Operations</td>
<td>Operational Units, functions, divisions, departments</td>
</tr>
<tr>
<td>COA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOR</td>
<td>Area of Responsibility</td>
<td>Scope of responsibility of Operational Unit, function, division, departments</td>
</tr>
<tr>
<td>BVA</td>
<td>Value Added</td>
<td></td>
</tr>
<tr>
<td>CVA</td>
<td>Value Added</td>
<td></td>
</tr>
</tbody>
</table>
Introduction

Background:

The Golden Rain Foundation (GRF) Ad Hoc Technology Committee is engaged in a GRF Strategic Technology planning process. The output of the committee will be a GRF Strategic Technology Plan that:

1. Evaluates and assesses the existing and future-state of GRF technologies.
2. Anticipates GRF's technology needs for next 5 years
3. Develops a Plan that delivers integrated, systematic approach for identifying, prioritizing, implementing, and maintaining existing/new GRF services
4. Evaluates solutions based on criteria which prioritize effective and cost-efficient GRF operations
5. Delivers a timeline, roadmap, with milestones and deliverables
6. Assesses GRF-related needs and recommend priority technology-related projects and processes
7. Delivers preliminary and final recommendations for decision-making tools for GRF Board Committees and Board Directors

Project Management Process:

Committee recommends all GRF Projects, (proposed and funded) utilize a standardized Project Management Process. A standardized Project Management process flow is vital to GRF Technology-enabled Projects. It is recommended that in the future, staff, consultants, etc following a planned, step-wise process to define the project scope and impact of the project.

Coordination between GRF Board Committees:

Strategic Planning for GRF Technologies will need to coordinate with the GRF Board Planning & Finance & Policy Committee. GRF Committees will benefit by benchmarking “Best Practices” from similar communities with missions and services similar to GRF. The Committee needs to be acutely aware of the GRF need for financial and fiscal responsibility.
The GRF Strategic Planning Process Hierarchy of Initiatives, Projects

Let it be said “there are many moving parts” to an enterprise, an organization such as GRF. To make sense of the “many moving parts”, the Committee will need to categorize, organize, and structure our output. Although GRF Technology Project Areas can be categorized a number of ways, one such way of designating and defining a hierarchy of project priorities as follows:

A **GRF Technology “Initiative”** can be an umbrella for a collection of projects. An example would be the area of Universal Communications (see attached Initiative Definition Document). A Universal Communications Initiative will encompass a spectrum of projects, each necessary for GRF member and staff communication, anywhere, anytime, by any communication channel (voice, mobile device, email, text, web portal, etc).

A **GRF Technology “Project”** will have a more narrow scope than an Initiative. An example would be MOD Work Order System Project. (see attached Project Definition Document).

The Committee anticipates that there may be several “Initiative” level recommendations and a number of “Project” level recommendations. Projects may have significant dependencies which may elevate the dependencies, such as infrastructure requirements to the Initiative level.
Primary Committee Deliverables ... Some Examples

Although the Process will produce several Deliverables, the Initiatives, Projects, and Adoption or Implementation Roadmap are the recommendations that will be evaluated, adopted for funding and potential implementation. Other deliverables provide the Framework – Guiding Principles etc. – and the Coordinating Architecture – i.e. the way the parts fit together.

Some examples are useful to provide some context.

Basis for Interest Analysis: Example

This table is used for Phase 0: Idea, refined during Phase 1, Scoping, and 2 Business Case Development. It is intentionally a short 2-page summary document. It is a handy reference to explain a project or initiative.

A Basis for Interest analysis will be produced by sub-committees for ALL known initiatives and projects so that the GRF Board will have a COMPLETE catalog of all such GRF processes considered by the Committee. This happens whether or not it is a program recommended by this Committee or simply an existing initiative that this Committee discovers as part of its work. The table is recommended this is the FIRST step in any project or initiative and the first opportunity for the GRF Board to “gate” the process (See Phase Gate Planning Process below).

An example of the Table can be seen below. The GRF Universal Communications Initiative, describes “The ability to communicate from and to anyone by any channel, any device”.

---

Page 6 | 28

Page 49
# Universal Communications Initiative

“The ability to communicate from and to anyone by any channel, any device”

<table>
<thead>
<tr>
<th>Problem/Opportunity</th>
<th>Solution Concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Processes require flexible communications</td>
<td>• Everyone has addresses for all channels</td>
</tr>
<tr>
<td>• Any time, any place, any channel</td>
<td>• Email, text, voice, video (e.g. webcams)</td>
</tr>
<tr>
<td>• Showing consistent timely data</td>
<td>• On all the time, with forwarding / failover</td>
</tr>
<tr>
<td>• Example problems</td>
<td>• With adequate bandwidth for video etc.</td>
</tr>
<tr>
<td>• Cannot email, text Securitas</td>
<td>• All devices: e.g. TV, phone, PC, tablet,</td>
</tr>
<tr>
<td>• No kiosk forces paper sign ups and travel</td>
<td>• Enabling: Comcast connectivity? Mesh</td>
</tr>
<tr>
<td>• Cannot see if pickle ball courts are full</td>
<td>networking? Cell, webcams, Cast devices</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Basis for Success (competences, assets)</th>
<th>Target Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Assets: Cabling in many locations but poor bandwidth, coverage in common locations, Xfinity network</td>
<td>• GRF, MOD, Residents, Mutuals</td>
</tr>
<tr>
<td>• Competences: Limited expertise in networking, management, ability to recognize opportunities and / or failure points</td>
<td>• Likely Adopters: Almost any application that requires mobility and/or remote coverage</td>
</tr>
<tr>
<td></td>
<td>• Especially health, safety related</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Critical Success Factors</th>
<th>Economics</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Barriers: Geographic connectivity</td>
<td>• GRF: Rework processes to save money</td>
</tr>
<tr>
<td>• Universal directory of access info [longer term]</td>
<td>• E.g. work force updates, retasking</td>
</tr>
<tr>
<td>• Maintained and data accuracy</td>
<td>• Online open meetings</td>
</tr>
<tr>
<td>• “Touchpoint” integration for accuracy</td>
<td>• Members: Decreased frustration</td>
</tr>
<tr>
<td>• App integrations</td>
<td>• Cost: TBD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dependencies</th>
<th>Benefits are derived by enabling apps</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Directory management (longer view)</td>
<td>• GRF: Rework processes to save money</td>
</tr>
<tr>
<td>• Comcast, ATT etc. to support channels</td>
<td>• E.g. work force updates, retasking</td>
</tr>
<tr>
<td>• Online cell coverage maps</td>
<td>• Online open meetings</td>
</tr>
</tbody>
</table>

**Benchmarks**

- Google Gives San Francisco Free Wi-Fi in Public
- Online cell coverage maps .. [https://opensignal.com/](https://opensignal.com/)

### Implementation Approach and Projects

- 1: Communications and addresses
- 2: Connectivity
- 3: Meeting room devices
- 4: Cell coverage improvement

The various boxes outline the initiative or project. The icons on the left:

- Identify where the program stands on the current industry Technology Adoption Curve. For example, is the proposed solution in an early adoption phase or lagging. And is GRF’s current position in this area visionary or late main street?
- Architecture Level: is this a new business service or product? Or an enabling technology?
- ?
Operations Concept Diagram: Example

A second page, an Operations Concept Diagram, can support the Basis for Interest. It illustrates the solution and highlights some of the most significant improvements, changes.
Project Definition: Example
This is a format based on one from “Manage a Great Project” .co.uk

The Project Definition is more

Include an example ... even if only partially done.
This Committee Roadmap is a suggested timeline for specific milestone and draft deliverables for the first 9 months of Committee work.

The Committee will also deliver a GRF Strategic Technology Roadmap which prioritizes Initiatives and Projects based on dependencies such as:

1. Infrastructure acquisition and implementation precedes many “end-user” projects
2. Cost-savings, operational efficiency, revenue generating projects take precedence over “nice to have” projects
3. Business Continuity is priority over “end-user” projects or “nice to have” projects. This GRF area is a necessity business imperative. (addressing technologies for emergency/disaster readiness, response, recovery for a resilient organization.)
Phase-Gated Planning Process

See https://en.wikipedia.org/wiki/Phase-gate_process

The Committee utilizes a Phase-Gated Planning Model for developing and evaluating future Technology related projects recommendations. This is an industry standard approach for engineering, architecture and other technology projects. It is broadly similar to parts of methodologies used for software, though software has increasingly diverged from the waterfall model in steps 3 and 4 to adopt more “Agile” techniques that are made possible by the unique characteristics of software.

A Phase-Gated Process

Accepted best practice in engineering, software engineering

Note: This will be somewhat of hybrid because of the differences between software and other engineering. Software centric processes are usually more prescriptive than engineering models (I think!)

1. Scoping
   - Conceptual Design
     - Set of integrated ideas and concepts about what it should do, behave, and look like, understandable by the users...

2. Business Case
   - Approved Project

3.1 Design
   - Final Design
     - Final construction plans, physical definitions and detailed specifications. Quantities, final estimates for construction

3.2 Construct
   - “Product”
     - Elements of a working product, assembled together ready for testing

4. Testing
   - Launcheable Product
     - Provably ready product that has acceptable defects and limitations

5. Operation
   - Results
     - Satisfied Customers Business Case Results Learning

Wikipedia Phase-gate model
The Committee will move initiatives through the first three phases -- Phase-Gated Planning. This presents the opportunity for project review and acceptance at the completion of each of the following initial phases:

0. **Discovery Phase**: Ideas are generated for potential Initiatives.

1. **Scoping Phase**: Set of integrated ideas, concepts about what it should do, behave and look like, defined to be understood by the end users of the project.

2. **Business Case**: Outlining the business process(es) which will benefit from the Initiative, Project, to incorporate analysis of the investment costs and business benefits.

0. **Discovery**

Ideas can come from many directions:

- Members
- GRF Staff and MOD
- Board and supporting Committee(s)
- Mutuels

And can be generated in various ways:

- Current operations, issues and opportunities [As-Is]
  - Systematic surveys
  - Walk thurs, “Staple Yourself to an Order”\(^1\)
  - Financial Analysis of existing cost structures – capital, people and operating costs

- New product / service opportunities
  - Customer needs and problems
  - Customer “holes” ... where there is no product or service solution available

- New or existing technologies that have not yet been applied
- Benchmarking
  - Thru research or site visits

The Committee uses Basis For Interest forms to evaluate the Preliminary Idea List and decide which should move into the next phases.

---

\(^1\) [https://hbr.org/2004/07/staple-yourself-to-an-order](https://hbr.org/2004/07/staple-yourself-to-an-order)
All ideas are put on the Preliminary Idea List, which is circulated quarterly to the Board, GPC & posted on website.

1. Scoping
A GRF Initiative or Project needs to be analyzed in detail. One method to analyze the Scoping can include:

Steps, considerations
- Reason for the project (need or opportunity for improvement)
- Scope of the project and how it meets the need or opportunity
- Financial impact as an information-stage estimate
- Customer service impact
- Risks such as environmental, ADA, code compliance, health & safety
- Opportunities such as energy impact, operational improvement
- Alternatives available and evaluation of their impacts

- Benchmark
- Operating Scenario
- “Architecture” ... how the parts fit together
- Features
- Benefits
- Inclusions
- Exclusions

PIPs are posted on the website

Exit Gating
- Committee decides which should be moved into next phase

2. Business Case
Selection Criteria for Initiative & Project Prioritization
The Selection Criteria for Initiative Project Prioritization are of critical importance in making recommendations to GRF Board decision-makers.
Categorizing Criteria can be helpful, e.g.
1. Customer Derived Value
2. Financial & Operational Criteria (Operational cost-savings, Improved operational efficiency)
3. Feasibility based on dependencies Criteria (Infrastructure requirements take precedence)
4. Business Continuity Criteria (Disaster Readiness & Recovery for Business functions, Communications Channels)
5. Timing and Sequencing Criteria (1, 2, 3 above drive early, near, or late-term approval)

**Business Case and Strategic Evaluation of Technology Options**

Presenting optional solutions (or none recommended) to the GRF Board will require rigorous evaluation of Technical Solutions.

Evaluating potential solutions to identified operational issues in GRF business processes will need to ask questions focused on:

how to evaluate possible technologies as solutions (Benchmark solutions) and what components of a project each optional solution may address? In order to evaluate optional solutions, we look at the following and evaluate the solution based on:

1. Priority
2. Problem
3. Pricing
4. Platform
5. Product
6. Performance
7. People
8. Potential
9. Process
10. Pitfalls

The technology evaluation chart (page ? 28) highlights the information involved in this process.

**Deliverables**

**Introduction**

Deliverables broadly follow a simplified version of an Enterprise Architecture.
“Enterprise architecture (EA) is “a well-defined practice for conducting enterprise analysis, design, planning, and implementation, using a comprehensive approach at all times, for the successful development and execution of strategy. Enterprise architecture applies architecture principles and practices to guide organizations through the business, information, process, and technology changes necessary to execute their strategies. These practices utilize the various aspects of an enterprise to identify, motivate, and achieve these changes.”

The Open Group Architecture Framework (TOGAF) is a leading approach and taken at a high level, provides a solid guide for the elements a Technology Plan needs to address.

---

2 https://en.wikipedia.org/wiki/Enterprise_architecture
A. Coordinating Architecture Elements
These ultimately ensure that Initiatives and Project fit together in a way the makes the Roadmap feasible. For example, one business initiative relies on an enabling tool that must be added to Technical Architecture before it can be attempted. So the enabling tool must appear in the Roadmap before attempting the Business level initiative.

- Guiding Principles and Frameworks
  - These are “tests” to ensure that the other components are heading in the right direction.
- Business Architecture
- Applications Architecture
- Data, Information Architecture
- Technical / Platform Architecture

Conceptually these elements fit together on a single diagram. Pragmatically, this is difficult to achieve in a single diagram and often confusing to the audience. This chart will be useful when GRF Operations are identified in the layers and boxes below. (From⁴)

⁴ http://www.ittoday.info/Articles/What_Is_Enterprise_Architecture.htm#.WfF8_miPLBU
Guiding Principles
The Committee understands that technology for technology sake is interesting research science but not useful unless applied successfully. The march of technology has been to inject a new form of capital into processes – improving effectiveness and efficiency – in service of better outcomes for customers. Typically this involves relocating people from day-to-day operations into higher valued added work. For example:

- Newspapers and books are increasingly electronically based with authors and editors directly gathering and producing content.
  - Typesetters and printers have largely gone by the way side.
  - Many news outlets have now never had a print medium.
  - Now Kindle books are displacing physical books
- Vacuum cleaners and polishers replaced brushes, mops and scrubbing;
  - Roomba threatens to remove much of the need for human control of vacuum cleaners
- Online transactions have replaced travel. Self service is now the norm.
  - Web search is the norm for discovering travel opportunities.
    - Travel agents have been eliminated from simple ticket sales and pushed up into higher value travel coordination
  - Tickets are issued online, printed locally, or not at all. Mobile phones and other devices are replacing physical paper.

B. Business Level

- Strive for better customer products and services delivered more effectively and efficiently
- Deliver the products and services customers expect and /or will appreciate
  - Not just the ones we [currently] [choose to] provide
  - Ease of End user experience is key
  - Support learning and adaption through experience (e.g. “Agile”)
- Favor newer and prospective customers
  - They bring expectations essential to ongoing progress
  - Long term customers are too often
    - satisfied with lower expectations and resistant to change
    - prone to leave, frustrated after silent, resigned acceptance
  - Relevance and Survival rely on change
- Reengineer Capabilities to better deliver better products while reducing costs
  - Not just automate for “better sameness”
  - E.g. “self service” channels should displace “in person” over time
  - “Reengineering Work: Don’t Automate, Obliterate”

• Proactively manage business continuity as a critical risk

C1. Applications

• Bias to proven, best of breed solutions
  o Use packaged solutions where possible
  o Avoid getting stranded by [excessive] customization and diverging from the baseline

• Recognize the trade of between integrated applications and best of breed point solutions
  o Integrates application usually includes second or third class answers in specific areas
  o Point solutions may require custom integrations
  o Allow marketplace players to integrate wherever possible
  o The trade off is often between custom development and custom integration

C2. Data

• Coordinate data to ensure timely consistency and accuracy
  o Inconsistent data drives inconsistent performance
  o Reduce redundancy and duplication wherever practical

D. Technology

• Position as early majority, main street on the Technology adoption curve
  o Benchmark wherever possible
  o Only be an early adopter with a compelling case, opportunity
  o Being a Laggard generates frustration and misses proven opportunities

• Address Life-Cycle issues, not just initial technology adoption
  – Products and services require governance mechanisms, service organizations, backup, recovery,

E. Opportunities and Solutions

• Develop a considered As-is, Can be, Should be integrated approach
  o i.e. “Should be” is directional, but not part of a plan
  o Not just provide a list to be cherry picked

F. Migration Planning

• Make an informed trade-off between desires and needs
  o Some needs may not appear attractive but are pre-requisites to desires
  o ROI is appealing, but very difficult for new products and infrastructure
B. Business Architecture

The business model describes the Operations of GRF, its relationships to customers and therefore the areas where Technology can contribute.

Note: this should be continuously improved during the process

B. Business Model ... a starter


<table>
<thead>
<tr>
<th>Key Partners</th>
<th>Key Activities</th>
<th>Value Proposition</th>
<th>Customer Relationships</th>
<th>Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mutals</td>
<td>Purchasing</td>
<td>Products and Services</td>
<td>Personal Assistance: Dedicated Personal Assistance:</td>
<td>Paper</td>
</tr>
<tr>
<td>Outsourcers</td>
<td>Property Mgmt</td>
<td>Security / Help</td>
<td>Self Service: Automated Services: Communities: Co-creation:</td>
<td>Store Front</td>
</tr>
<tr>
<td>Contractors</td>
<td>Billing / Admin</td>
<td>Facilities Management</td>
<td></td>
<td>Phone</td>
</tr>
<tr>
<td>Subcontractors</td>
<td>Work Force Mgmt</td>
<td>Meeting Places</td>
<td></td>
<td>TV Video</td>
</tr>
<tr>
<td>Alternates</td>
<td>Sales</td>
<td>Performing Arts</td>
<td></td>
<td>Web</td>
</tr>
<tr>
<td>Recreation</td>
<td>Energy Mgmt</td>
<td>Sports</td>
<td></td>
<td>Mobile</td>
</tr>
<tr>
<td></td>
<td>Infrastructure Mgmt</td>
<td>Aquatics</td>
<td></td>
<td>Smart Home</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Golf, Tennis etc.</td>
<td></td>
<td>Wearables</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Landscaping</td>
<td></td>
<td>IOT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water Mgmt</td>
<td></td>
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<td></td>
<td></td>
<td>Event Management</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Recreation</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Support</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>AV support</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>Residential</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Maintenance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tech Support</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Transportation</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Information / Publicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>News</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Communications</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Counseling, support</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Staff</td>
<td>Key Resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MOD</td>
<td>Facilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Volunteers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fleets</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost Structure</th>
<th>Revenue Streams</th>
<th>Transfer Fees</th>
<th>Coupon</th>
<th>Transactions</th>
</tr>
</thead>
</table>

CPARS color schemes give charts instant clarity
C1. Applications Architecture
C2. Data Architecture

Major Subject Areas and existing databases. This identifies duplicate data (which drives inconsistency and inaccuracy); it can also illustrate how data is partitioned, synchronized and coordinated.

**Information Architecture**

*Subject Data (Only applicable to major databases)*

![Diagram of Information Architecture]

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D. Technical (Platform) Architecture
Describes the supporting technologies, developing and enabling tools

Technical Infrastructure Blueprints

Development Tools

Platform Environment

Applications Enablers
Office Automation (WP, SS, FAX, Graphics)
Database/DBMS
Transaction Processing Monitor (e.g. CICS)
Workflow Management
Document Management

Communications
Network & Communications
Communications Management
Communications
Electronic Mail
Middleware
Application specific
Terminal emulation

Hardware/Systems Software
Operating Systems
Scheduling
Security
Computer Performance Measurement

Operational Tools
Operations Automation
Tape Management
DASD/Storage Management
Configuration Management
E1. Basis for Interest (BFI) Template

The Project Interest Definition Document:

This document is a template for assessing Project interest and includes:
1. Problem/Opportunity
2. Solution Concept
3. Basis for Success
4. Beneficiaries/Target Audience
5. Critical Success Factors
6. Economics
7. Dependencies & Infrastructure requirements
8. Benchmarks
9. Implementation Approach
### E. Opportunity: Basis For Interest Template

“Pithy marketing description tag line”

<table>
<thead>
<tr>
<th>Problem/Opportunity</th>
<th>Solution Concept</th>
</tr>
</thead>
</table>
| • Customer **problem/opportunity** the solution addresses  
  • Most likely **causes**  
  • How the solution will **address** the issue | • **Definition** and description of the solution  
• Value proposition and implicit promise to the customer (end-user)  
• **Features and benefits**  
• Enabling technology |

<table>
<thead>
<tr>
<th>Basis for Success (competences, assets)</th>
<th>Target Audience</th>
</tr>
</thead>
</table>
| • Fit with core competencies/ experience base  
• Uniqueness/ differentiation of the solution  
• **Sustainability** of the solution | • **Industry/ industries** this solution addresses;  
• Market segment(s) and estimated size  
• Customer selection criteria  
• Specific existing and potential customers and functions affected  
• Likely Adoption demographics |

<table>
<thead>
<tr>
<th>Critical Success Factors</th>
<th>Economics</th>
</tr>
</thead>
</table>
| • Imperatives that must be accomplished  
• **Barriers** that must be overcome  
  • Business System Diamond Gaps  
• Competitor’s offerings and likely response | • Customer: Attractiveness of the economics  
• Provider (e.g. GRF) Attractiveness of the economics |

<table>
<thead>
<tr>
<th>Dependencies</th>
<th>Implementation Approach and Projects</th>
</tr>
</thead>
</table>
| • Supporting initiatives or programs that must be done to achieve | • **Approach** used to deliver the solution  
• Phases or projects to deliver |

<table>
<thead>
<tr>
<th>Benchmarks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Existing <strong>actual examples</strong> or <strong>possible comparisons</strong></td>
<td></td>
</tr>
</tbody>
</table>

---

**Technology Adoption Curve**

Crossing the Chasm, Geoffrey Moore
E2. Project Definition Document (PDP)
The Project Definition Document includes Title, Purpose, Goal/Benefits, Objectives, Scope, Exclusions, Deliverables. If a Project is of value to GRF, there is need to evaluate essential customer Requirements or business benefit to be achieved, dependencies, and constraints/barriers which clarify relationships with other projects and processes. Clarifying assumptions, risks, uncertainties is critical to project definition.

If a specific Project is under consideration, the budget for acquisition or migration, conversion, transition, implementation, and maintenance cost projections are essential for approval by the GRF Finance Committee and Board of Directors. Desired Outcomes/Success Criteria must be evaluated. A cost-savings model for each project is of benefit since some projects may be best outsourced, or if a core competency for GRF staff, operational budget cost-savings.

Include the Document document from Make a Great Project.co.uk

Feature Benefit Charts

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Been in business for 23 years”</td>
<td>Service provider longevity/POM</td>
</tr>
<tr>
<td>“Low E glass”</td>
<td>Mirror for heat/Sunscreen</td>
</tr>
<tr>
<td>“Constant Force Balance System”</td>
<td>8000 cycles = &gt;20 years longevity</td>
</tr>
<tr>
<td>“Fusion Welded Frames and Sashes”</td>
<td>Durability, energy savings</td>
</tr>
<tr>
<td>“Argon Gas”</td>
<td>Swimming pool</td>
</tr>
<tr>
<td>“Warranty”</td>
<td>Durability, longevity, POM</td>
</tr>
</tbody>
</table>
GRF Board direction of strategic business direction will be valuable in terms of defining:

Core GRF Competencies: Is this business process a core competency?

If a business process is a GRF core competency, does GRF want to outsource it? If not, should we outsource it?

Is GRF managing IT strategically? What does that mean? Will GRF partner with suppliers/vendors/contractors/consultants/entrepreneurs?

<table>
<thead>
<tr>
<th>PRIORITY LEVEL</th>
<th>PROBLEM to SOLVE</th>
<th>PRICING MODEL</th>
<th>PLATFORM</th>
<th>PRODUCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate</td>
<td>Communication</td>
<td>Enterprise license</td>
<td>Dependencies on infrastructure requirements</td>
<td>Proof of concept</td>
</tr>
<tr>
<td>Near-term</td>
<td>Commerce</td>
<td>Seat license</td>
<td></td>
<td>Beta development</td>
</tr>
<tr>
<td>Long-term</td>
<td>Core GRF Competency</td>
<td>Transactional model</td>
<td></td>
<td>Generally available</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In/Outsource</td>
<td></td>
<td>Industry standard</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sun-setting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PEOPLE IMPACT</th>
<th>PROCESS IMPACT</th>
<th>POTENTIAL ROI</th>
<th>PERFORMANCE</th>
<th>PITFALLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRF Human resource</td>
<td>Integration issue?</td>
<td>Cost of acquisition,</td>
<td>Measure process improvement</td>
<td>Lost opportunity</td>
</tr>
<tr>
<td>GRF in-house skills</td>
<td>End-User access?</td>
<td>Manage/maintain,</td>
<td>Measure product reliability</td>
<td>costs-risk of not implementing</td>
</tr>
<tr>
<td>GRF recruit skills</td>
<td>Continuity of GRF</td>
<td>Operational cost-saving of In/Outsource</td>
<td>Measure customer satisfaction</td>
<td>Security risks</td>
</tr>
<tr>
<td>GRF Training</td>
<td>business process</td>
<td></td>
<td></td>
<td>Vendor v. Partner</td>
</tr>
</tbody>
</table>

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