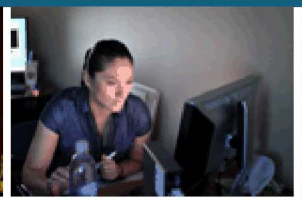
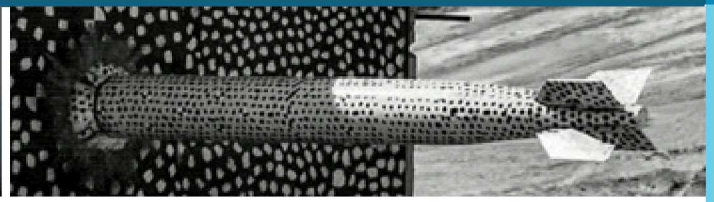
This paper describes objective technical results and analysis. Any subjective views or opinions that might be expressed in the paper do not necessarily represent the views of the U.S. Department of Energy or the United States Government.

SAND2018-14278C

Transforming Internal Web Development at Sandia





PRESENTED BY

Cara Corey, Lanny Gilbertson, and Brian Byers

Virtual InterLab 2018 – November 29, 2018

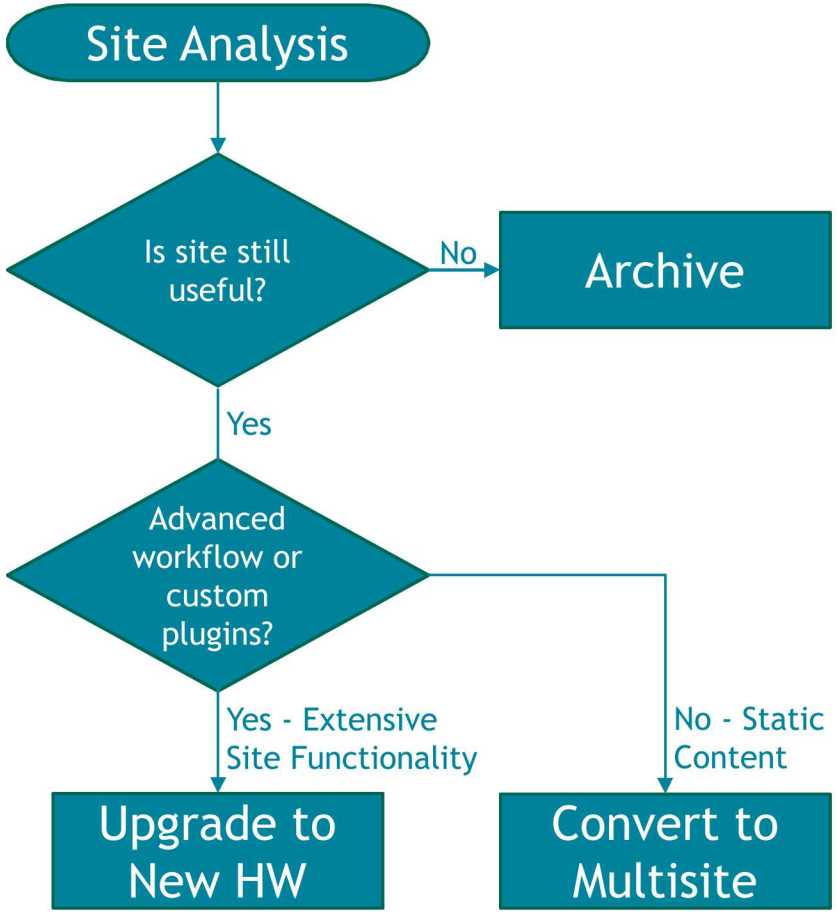
Sandia National Laboratories is a multimission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525.

Background – end of FY17, going into FY18

- **Changing business model** – no more service center (recharge) model
  - All the funding we needed → no need for customers to pay us
  - No customer funding → anticipated huge increase in work requests
  - Huge increase in work → urgent need to prioritize work
- **Taking too long for us to complete projects** – we started from scratch with almost every new project
- **Customers waiting too long** for us to even begin working on their requests – backlog of projects from FY16 still
- **Supporting too many technologies for both websites and web apps** (HTML, WordPress, Drupal, Ruby) – and too shallow in our support resources on all of them
- New corporate emphasis on **efficiency, effectiveness, and simplification**
- **Discouraged, uninspired, frustrated team members** (who were feeling a bit panicky)

Background – end of FY17, going into FY18 (cont.)

- **Current Web Servers Scheduled For Retirement** – The servers hosting all of our 160+ legacy sites were schedule to be retired at the end of FY18.
- All of the sites we owned needed some type of action
  - 116 sites - Archived
    - Required lots of communication.
  - 27 sites – Converted (Recreated Using WordPress Multisite)
    - Previous standalone site retired
  - 25 sites - Upgraded to Next Generation Hardware
    - One-off type sites with too much custom functionality to easily support within the Multisite environment.
    - Underlying code was updated and tested on the new servers



What We Aimed For – Our Goals & Principles

1. **Reduce** the technologies we support
   - WordPress for internal sites (using the Multisite feature)
   - Cascade Server for external sites
2. **Reuse** anything we can
   - Don't start from scratch (over and over)
3. **Automate** anything we can
   - Stop doing the same manual processes over and over
4. Get to **done**
   - Don't let customers or our own need for perfection continually keep us from being finished with a project
5. **Simplify** our business model
   - We do websites, not applications
   - We do development; our customers maintain their own content

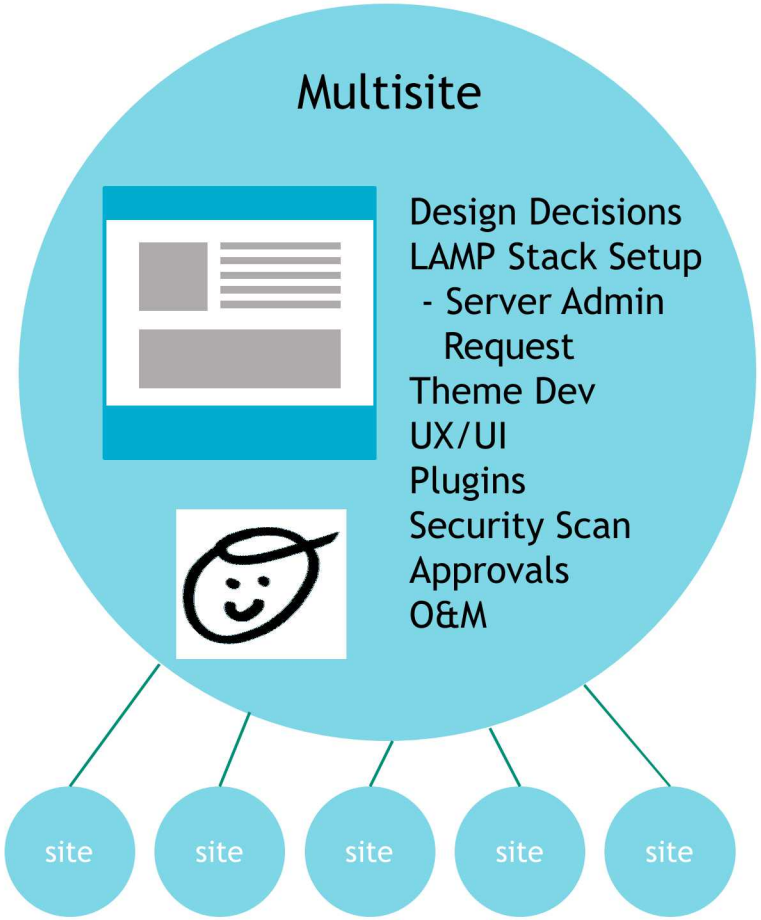
What We Did Next!

New Approach to Sites

BEFORE

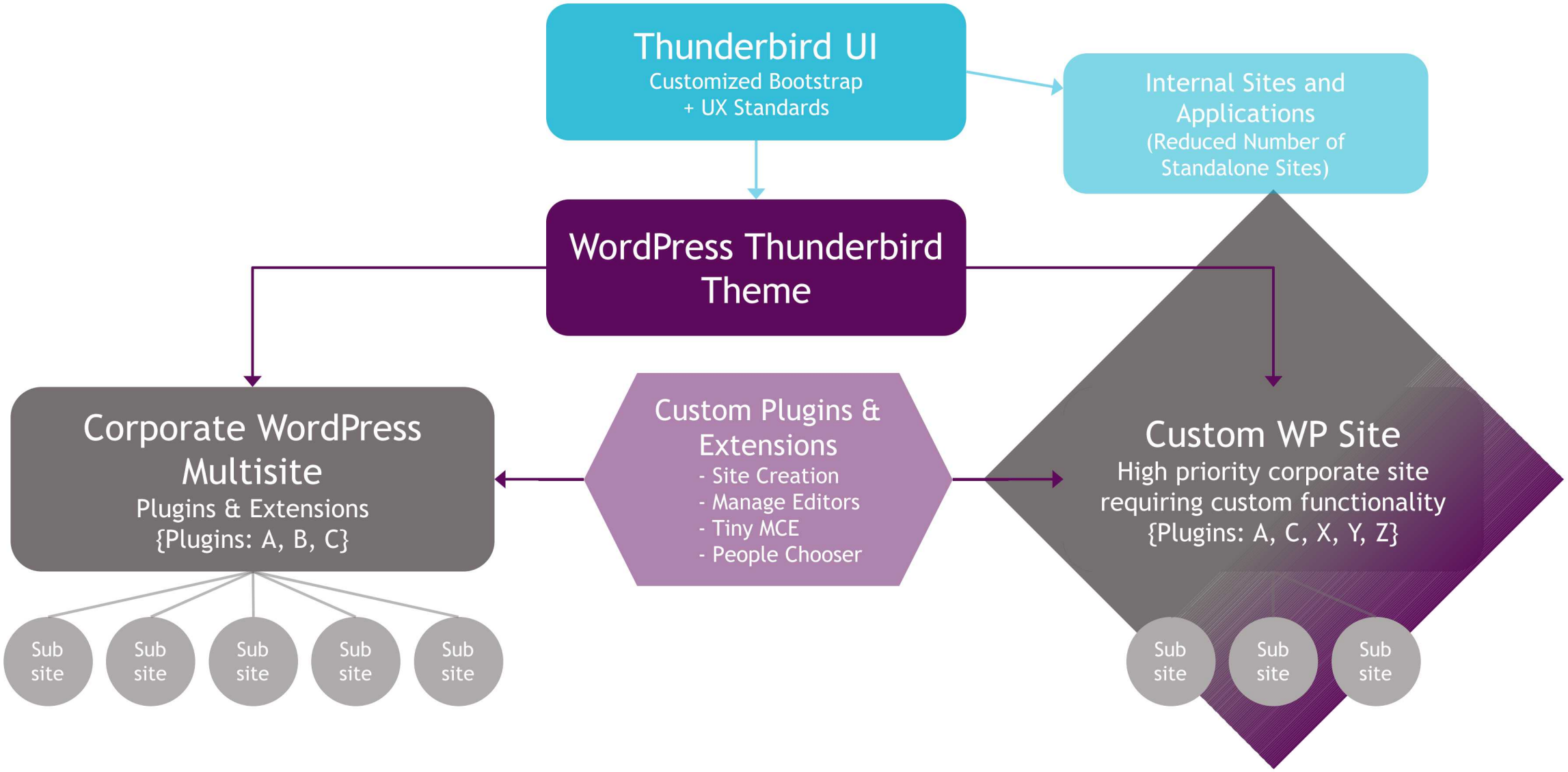
Repeated dozens of times.

AFTER



Do once and leverage hundreds of times.

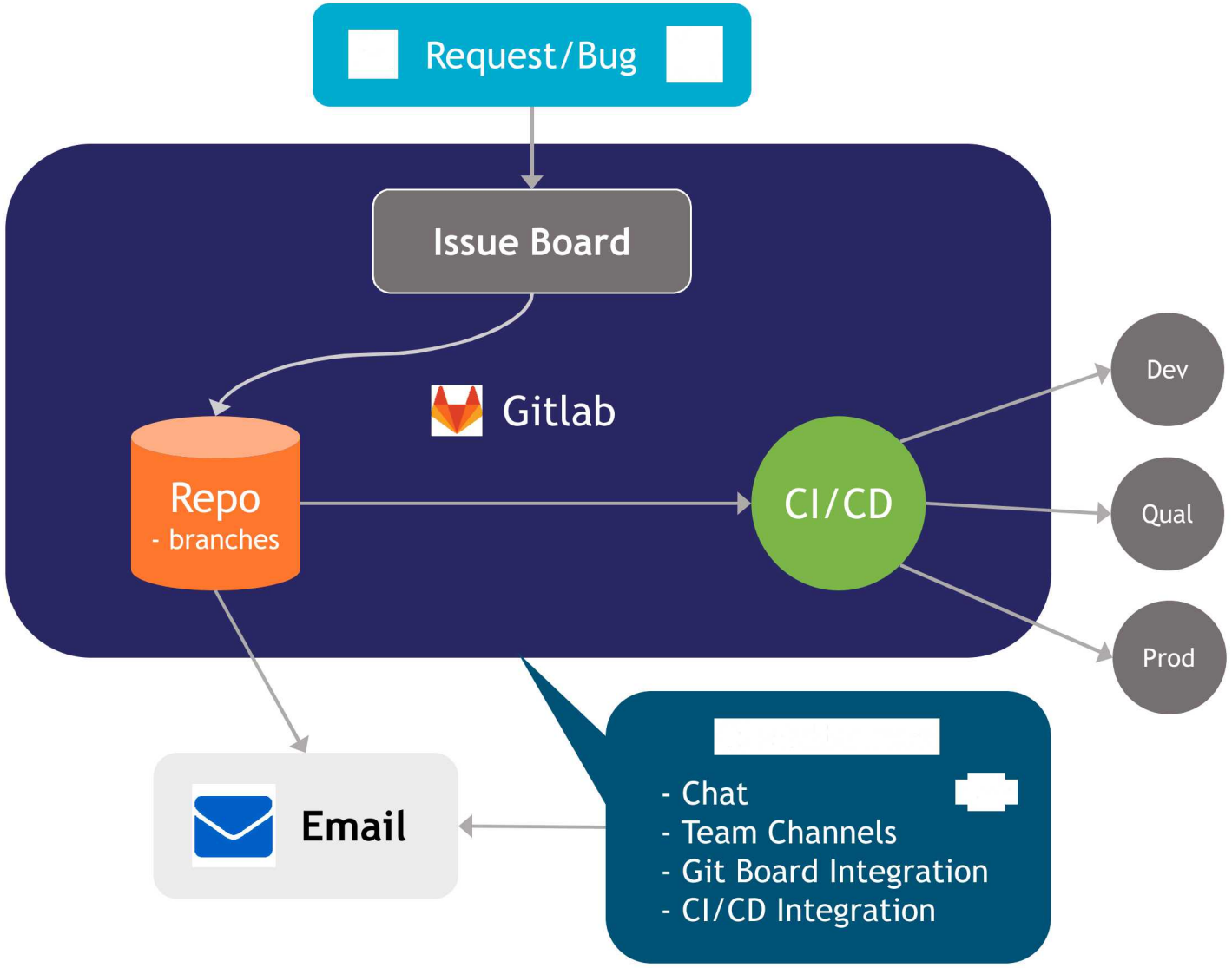
Current Architecture & Development Focus



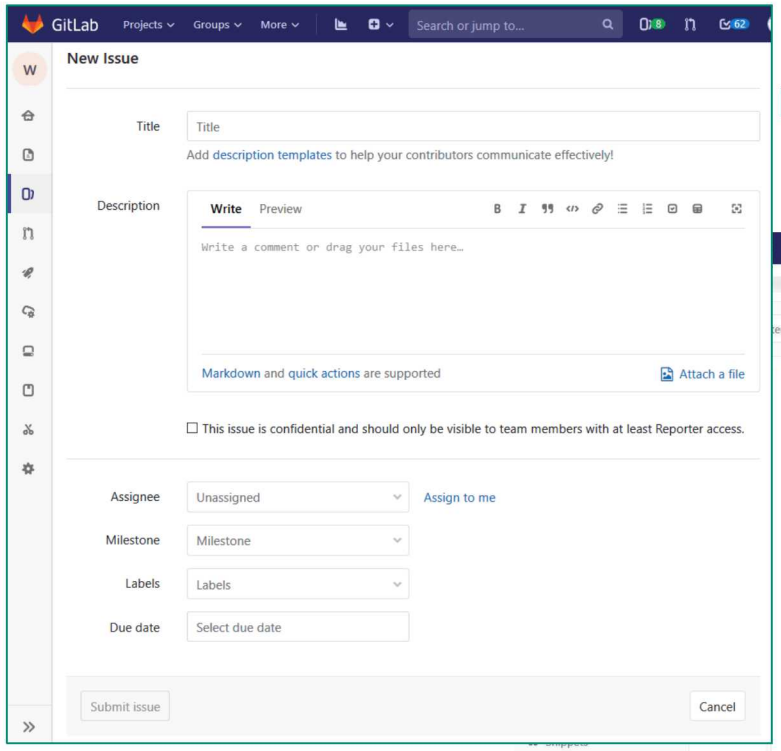
Current Status

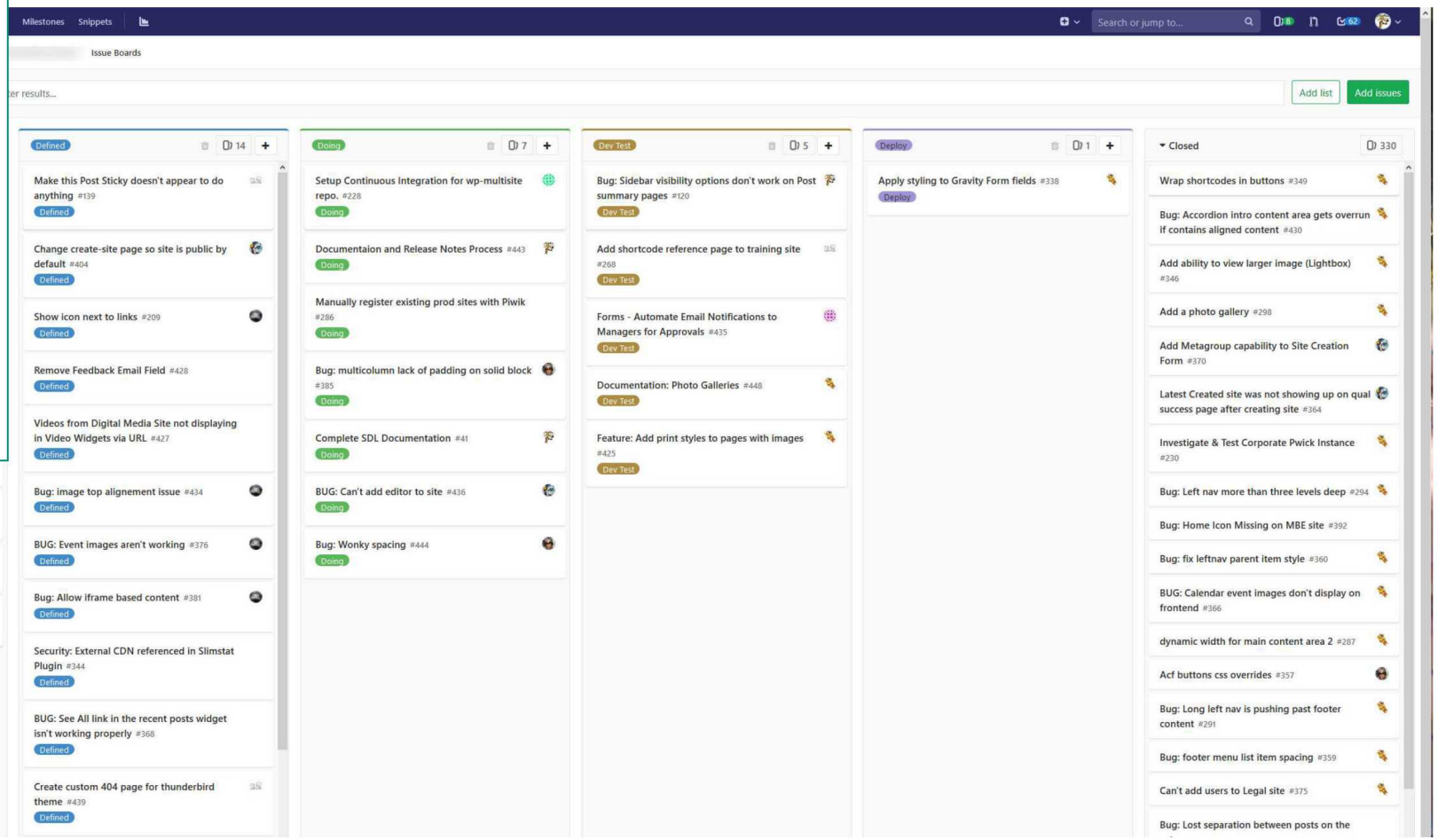
- Development team releases 2 - 3 deployments to production per month
  - Over 20 deployments during last 3 quarters
  - Releases include new functionality, enhancements to existing features, bug fixes, and/or other updates
  - Backlog items prioritized based on number of sites likely to benefit from requested feature
    - Focus on reusable components vs. individual site customizations
- Another team is focused on site migrations and supporting new customers
  - Over two dozen standalone sites recreated in WP-MS environment so old sites could be retired
  - Created training site and in-person lab-based classes
  - Several sites created entirely by line customers without Corporate Web Team help, but many get some type of assistance

Team Processes & Tools

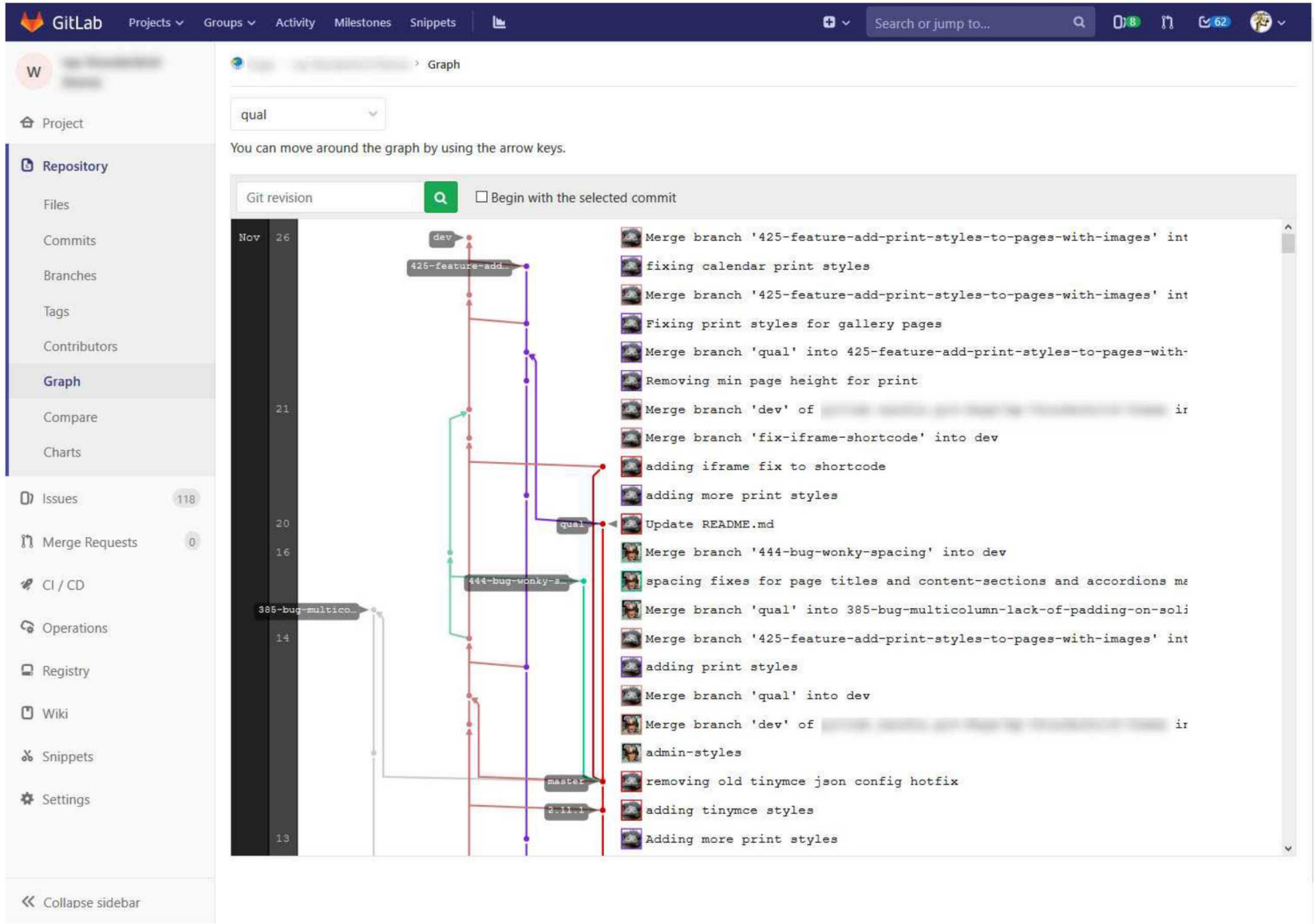


Issue Board


GitLab
Projects
Groups
More
Search or jump to...
New Issue
Title
Add description templates to help your contributors communicate effectively!
Description
Write
Preview
Write a comment or drag your files here...
Markdown and quick actions are supported
Attach a file
This issue is confidential and should only be visible to team members with at least Reporter access.
Assignee
Unassigned
Assign to me
Milestone
Milestone
Labels
Labels
Due date
Select due date
Submit issue
Cancel

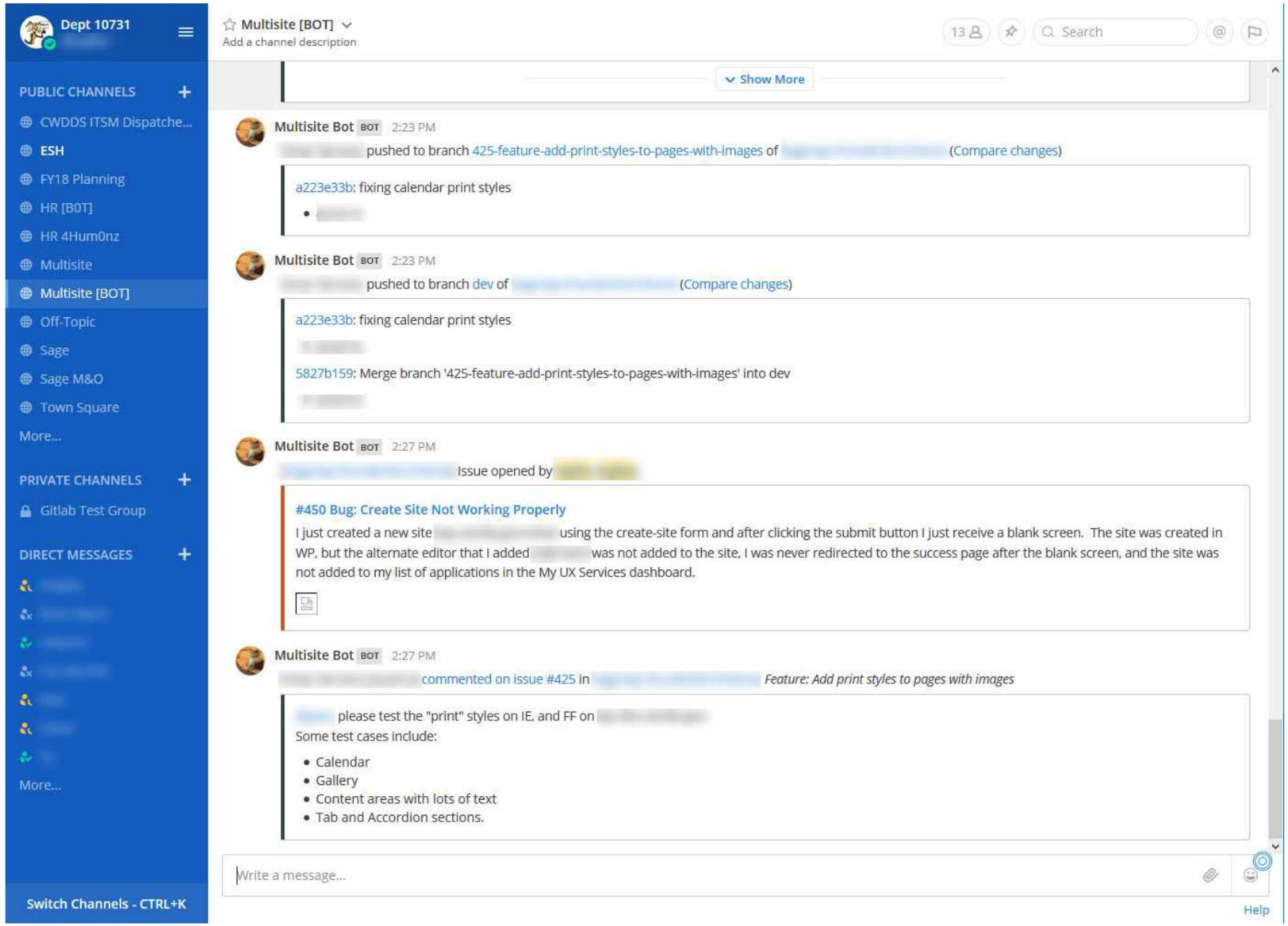

Milestones
Snippets
Search or jump to...
Issue Boards
Add list
Add issues
Defined
Doing
Dev Test
Deploy
Closed
Make this Post Sticky doesn't appear to do anything #139
Change create-site page so site is public by default #404
Show icon next to links #209
Remove Feedback Email Field #428
Videos from Digital Media Site not displaying in Video Widgets via URL #427
Bug: image top alignement issue #434
BUG: Event images aren't working #376
Bug: Allow iframe based content #381
Security: External CDN referenced in Slimstat Plugin #344
BUG: See All link in the recent posts widget isn't working properly #368
Create custom 404 page for thunderbird theme #439
Setup Continuous Integration for wp-multisite repo. #228
Documentaion and Release Notes Process #443
Manually register existing prod sites with Piwik #286
Bug: multicolumn lack of padding on solid block #385
Complete SDL Documentation #41
BUG: Can't add editor to site #436
Bug: Wonky spacing #444
Bug: Sidebar visibility options don't work on Post summary pages #120
Add shortcode reference page to training site #268
Forms - Automate Email Notifications to Managers for Approvals #435
Documentation: Photo Galleries #448
Feature: Add print styles to pages with images #425
Apply styling to Gravity Form fields #338
Wrap shortcodes in buttons #349
Bug: Accordion intro content area gets overrun if contains aligned content #430
Add ability to view larger image (Lightbox) #346
Add a photo gallery #298
Add Metagroup capability to Site Creation Form #370
Latest Created site was not showing up on qual success page after creating site #364
Investigate & Test Corporate Pwick Instance #230
Bug: Left nav more than three levels deep #294
Bug: Home Icon Missing on MBE site #392
Bug: fix leftnav parent item style #360
BUG: Calendar event images don't display on frontend #366
dynamic width for main content area 2 #287
Acf buttons css overrides #357
Bug: Long left nav is pushing past footer content #291
Bug: footer menu list item spacing #359
Can't add users to Legal site #375
Bug: Lost separation between posts on the

Code Repository & Version Management



Code merges into specified branches trigger continuous deployment tasks to various dev/qual/prod server environments.

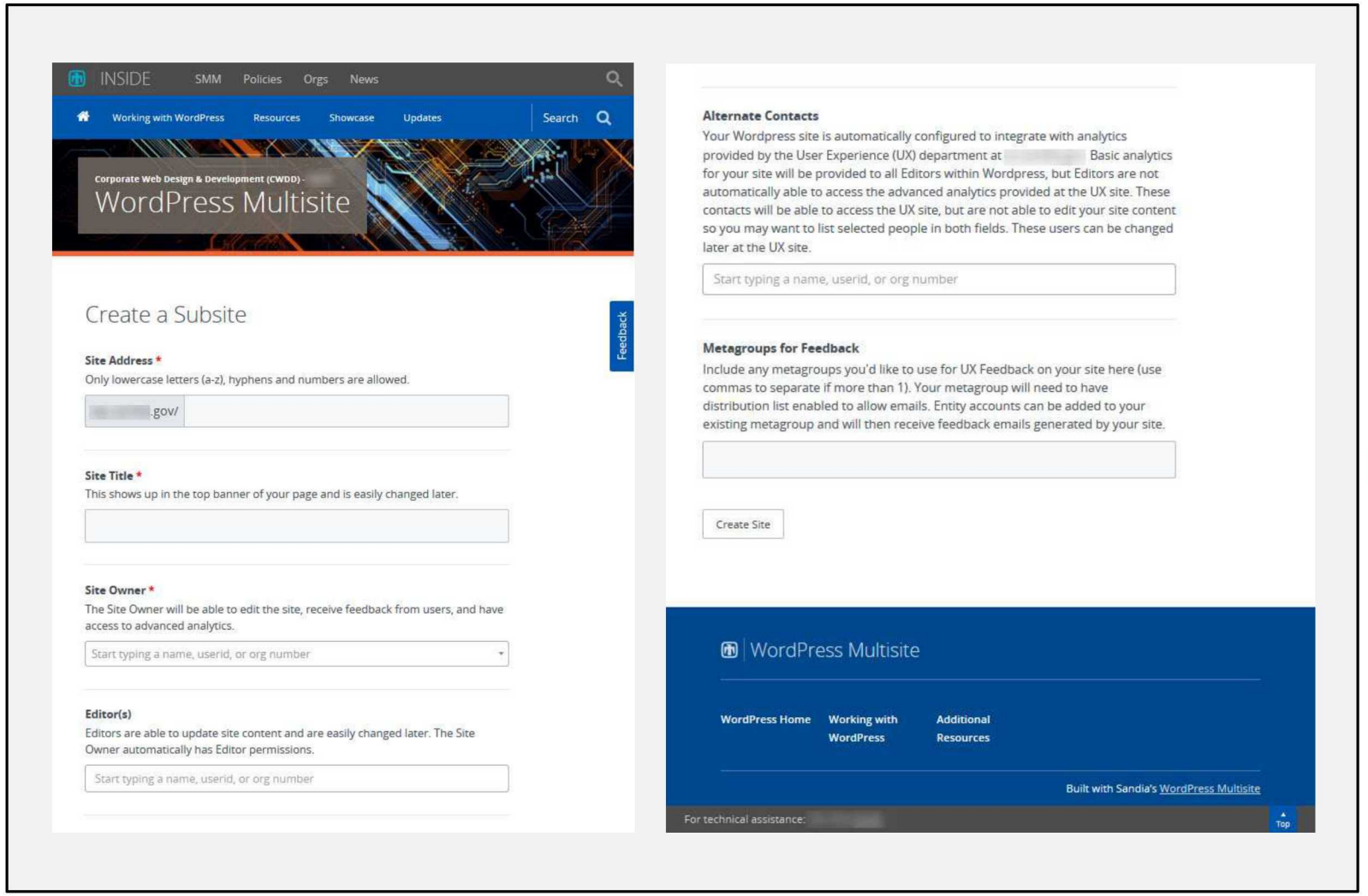
Mattermost

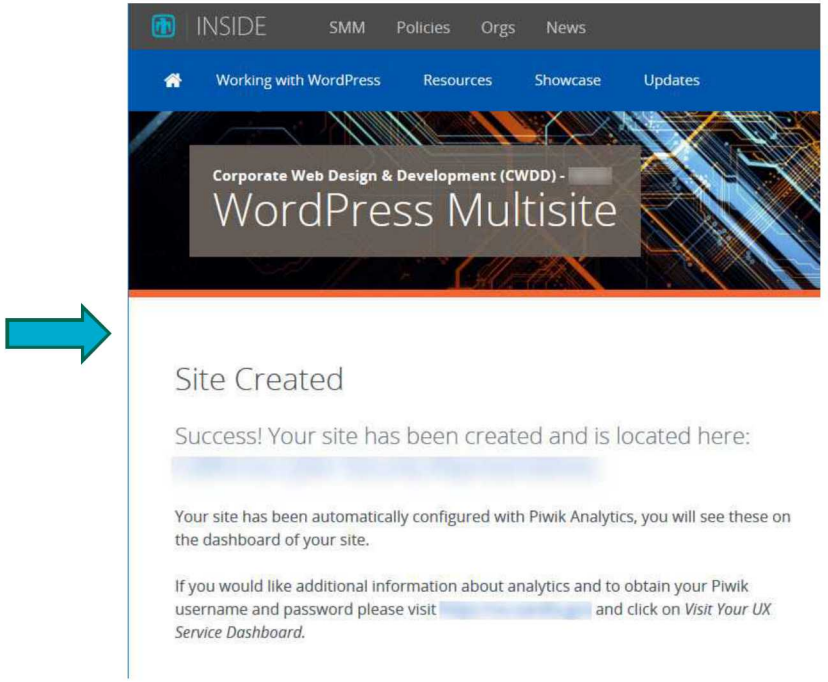


Each major project has 1 – 2 Mattermost channels.

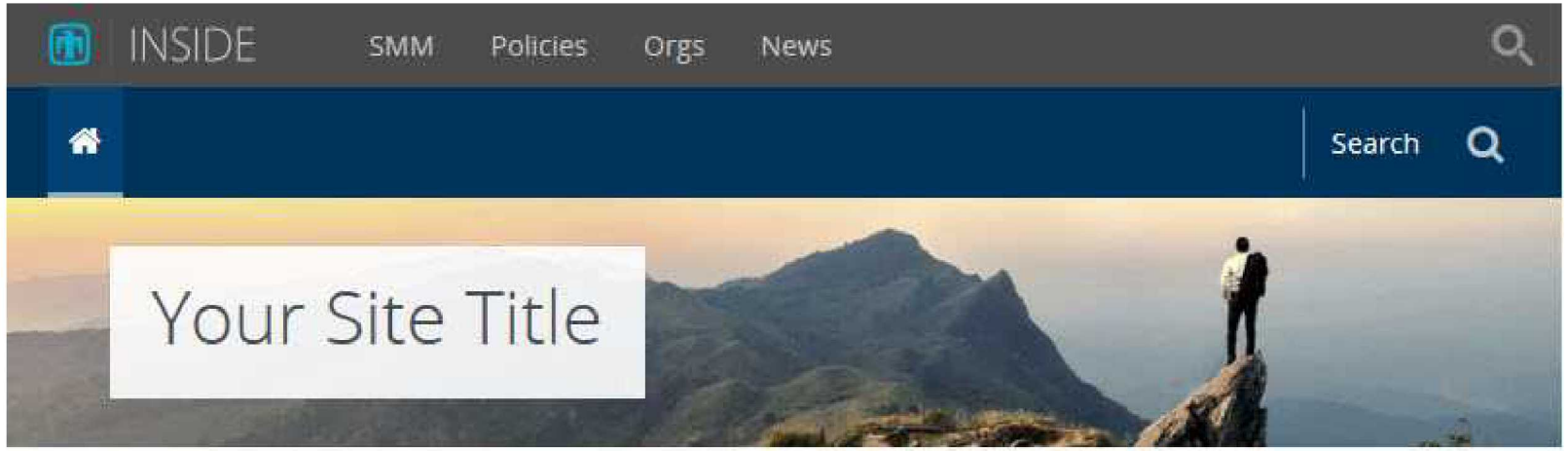
- One channel used for general team chat
- The second channel shows autogenerated messages from:
  - Issue Updates
  - Code Check-ins

Site Creation Automation





New Site

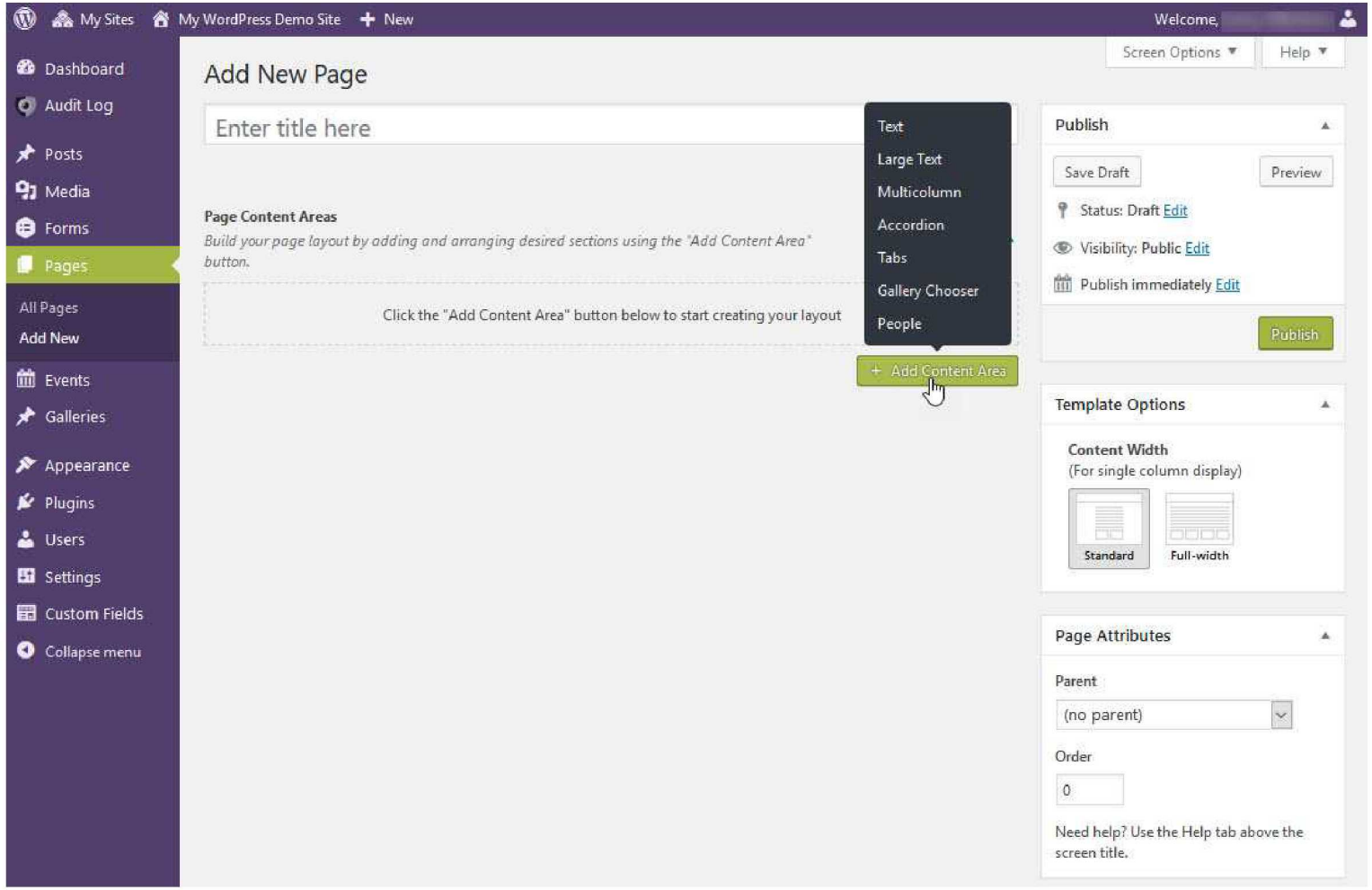


Feedback

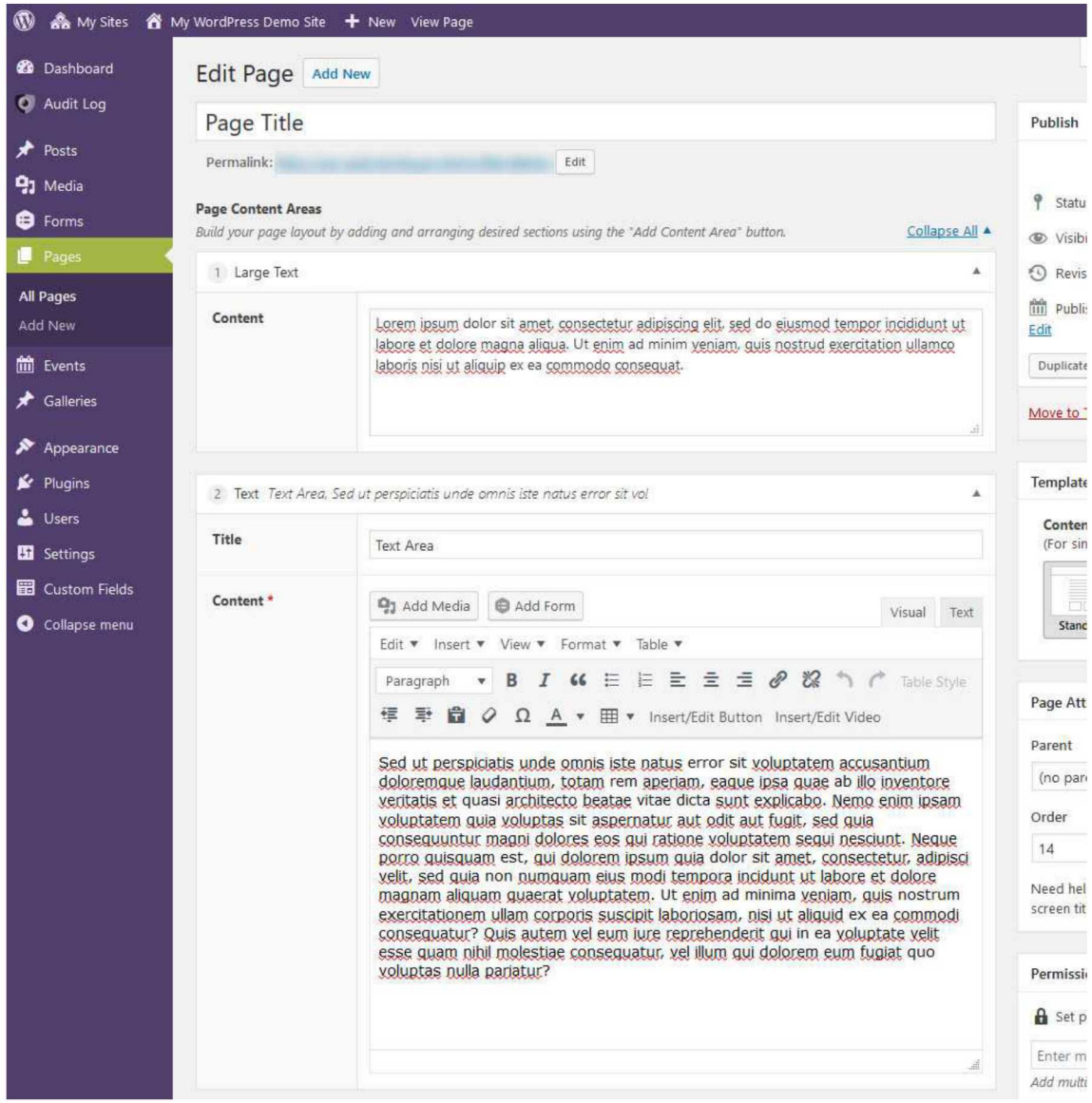
Getting Started

We hope you enjoy your new site! Help and training documentation is located at [redacted]. If you're having trouble, please work with the staff in Corporate Web Design & Development ([redacted]) to help you move forward or send an email to [redacted]@sandia.gov which will automatically create a support ticket in ITSM assigned to our team.

Adding Content



Adding Content – Text & Rich Text



Page Title

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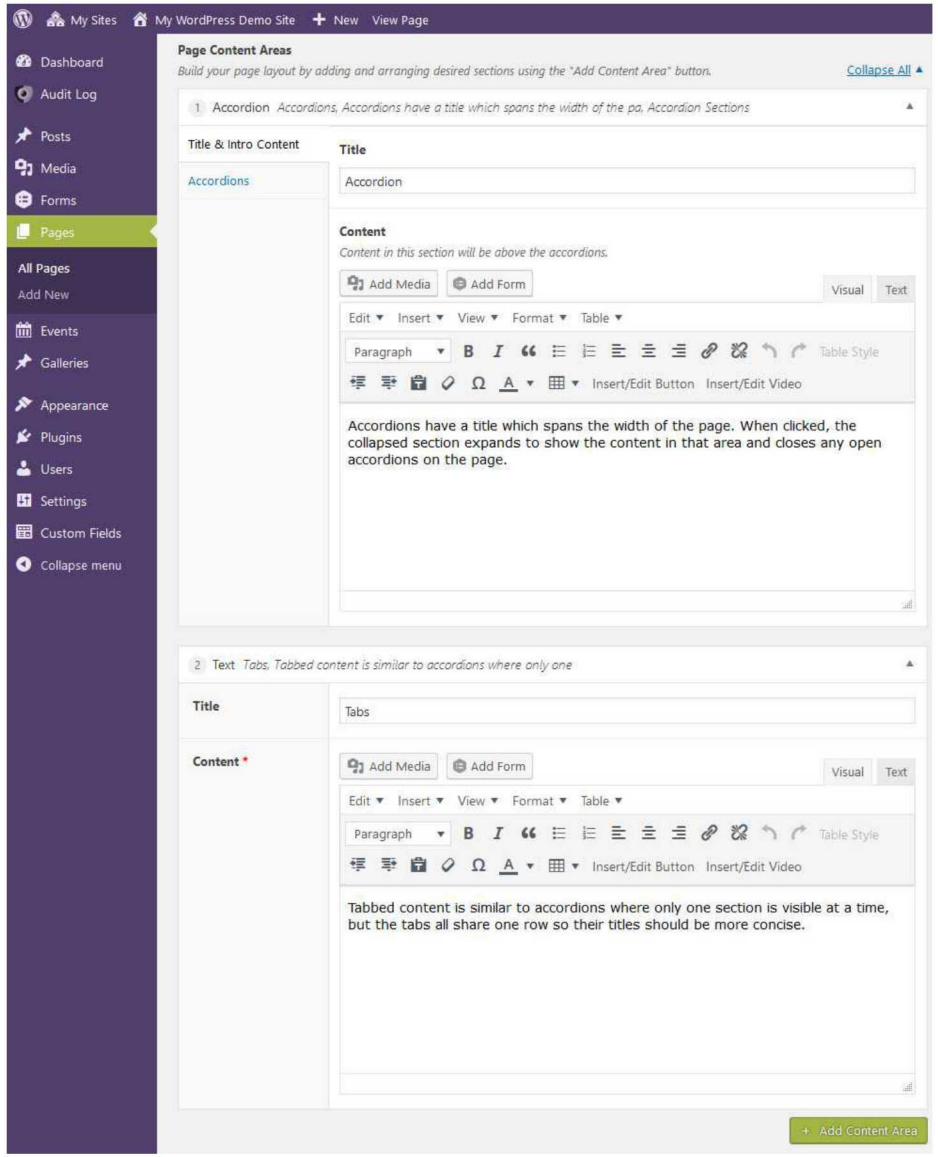
Adding Content – Tabs & Accordions



Accordion Area

Accordion A

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Accordion B

Accordion C

Tab Area

Tab 1 | Tab 2 | Tab 3

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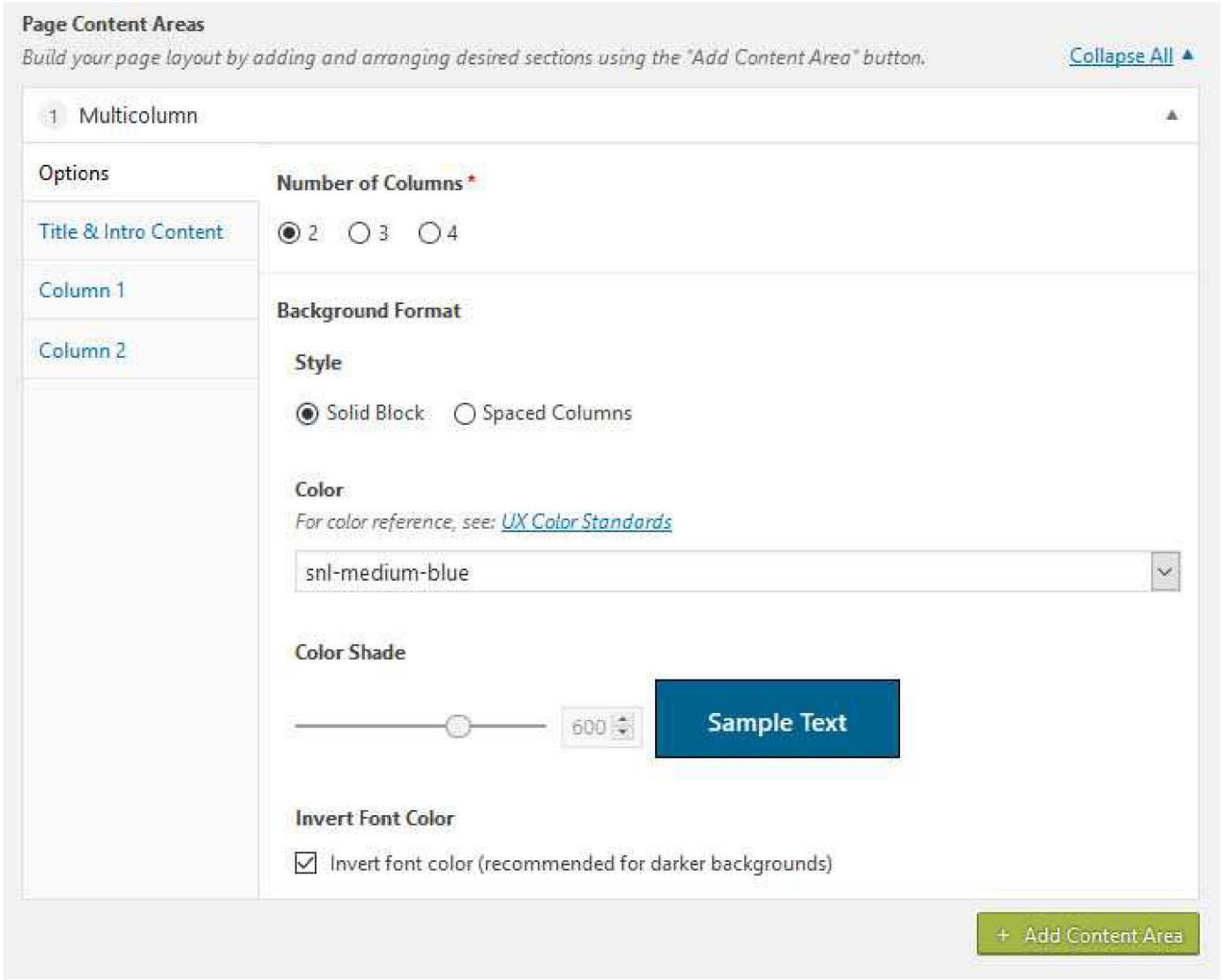
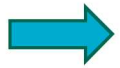
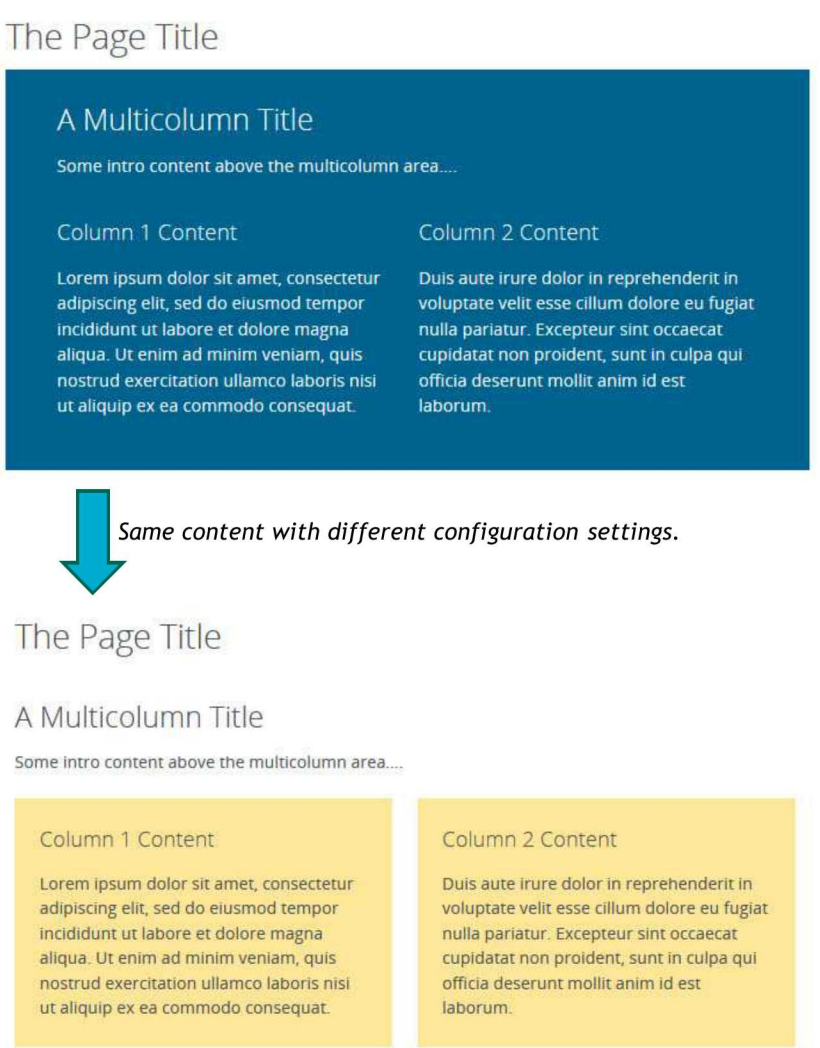
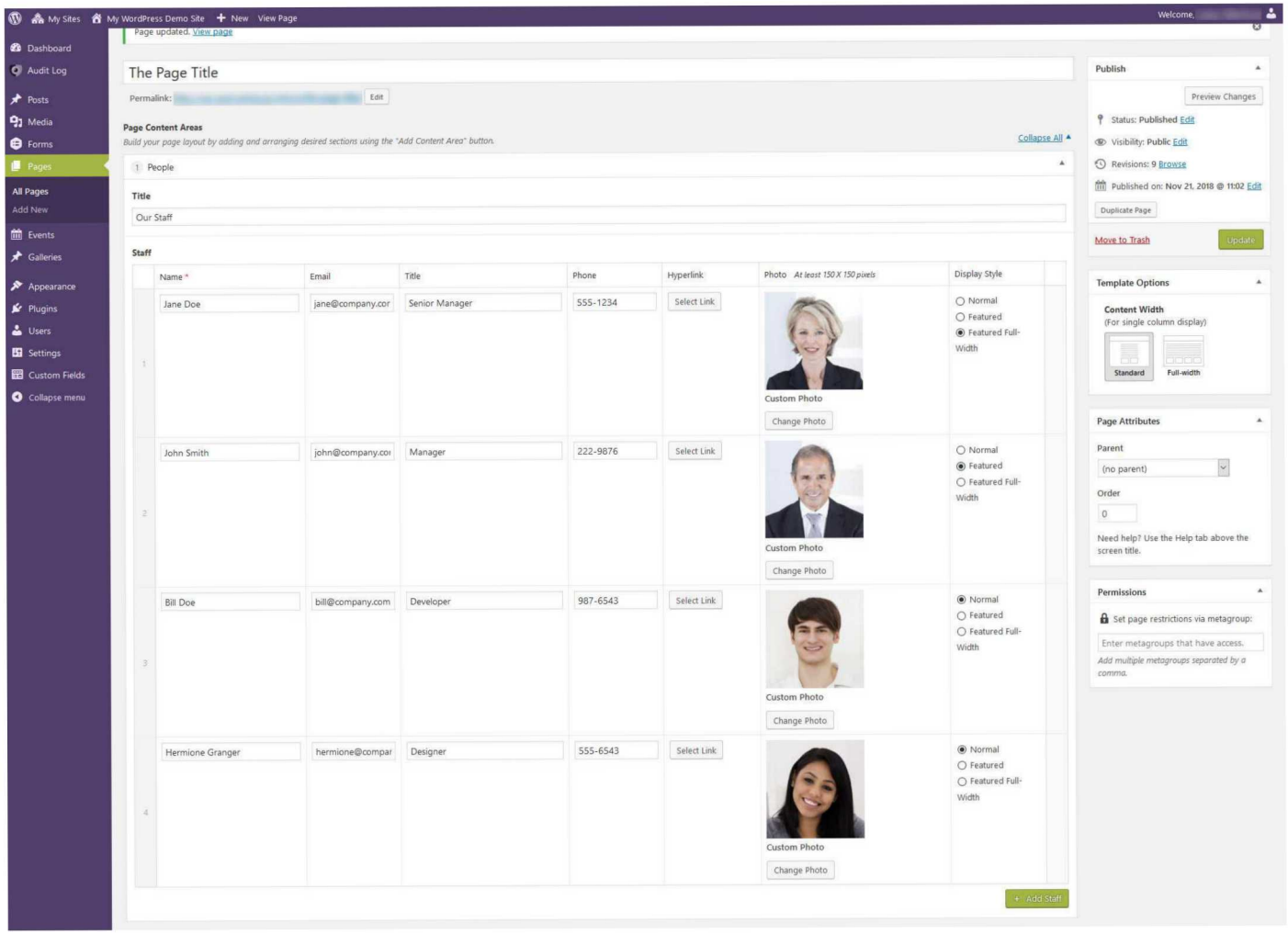
Adding Content – Multicolumn Text

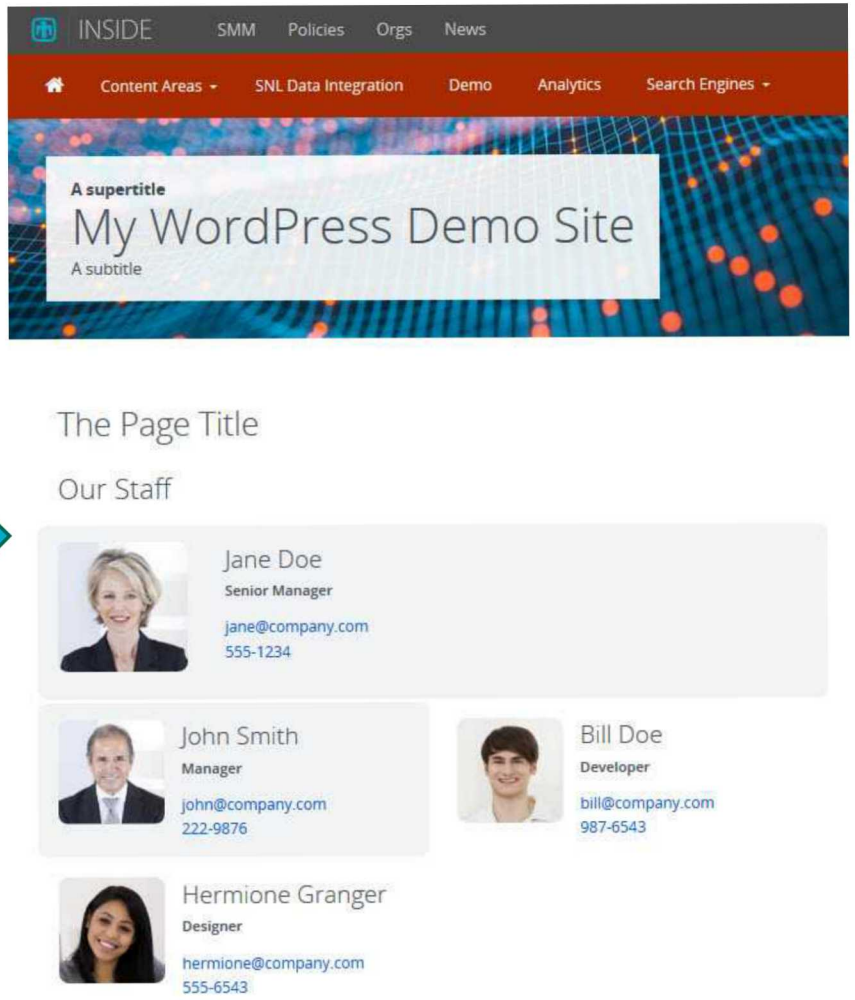






Adding Content - People





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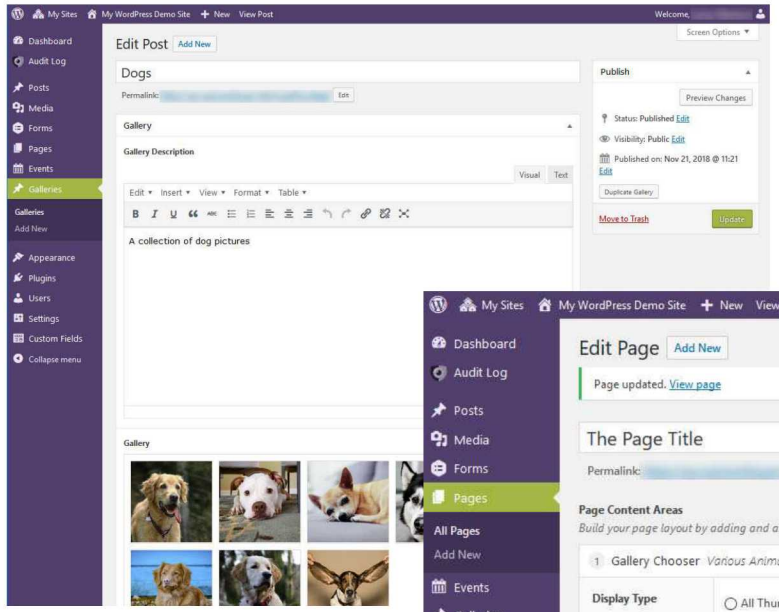

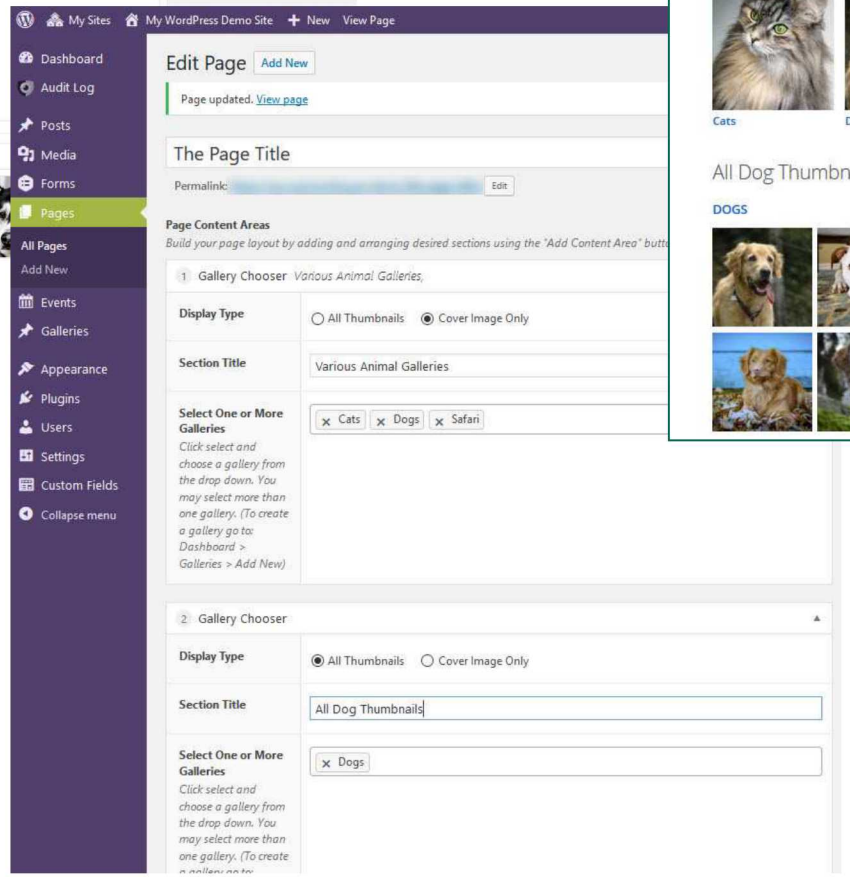

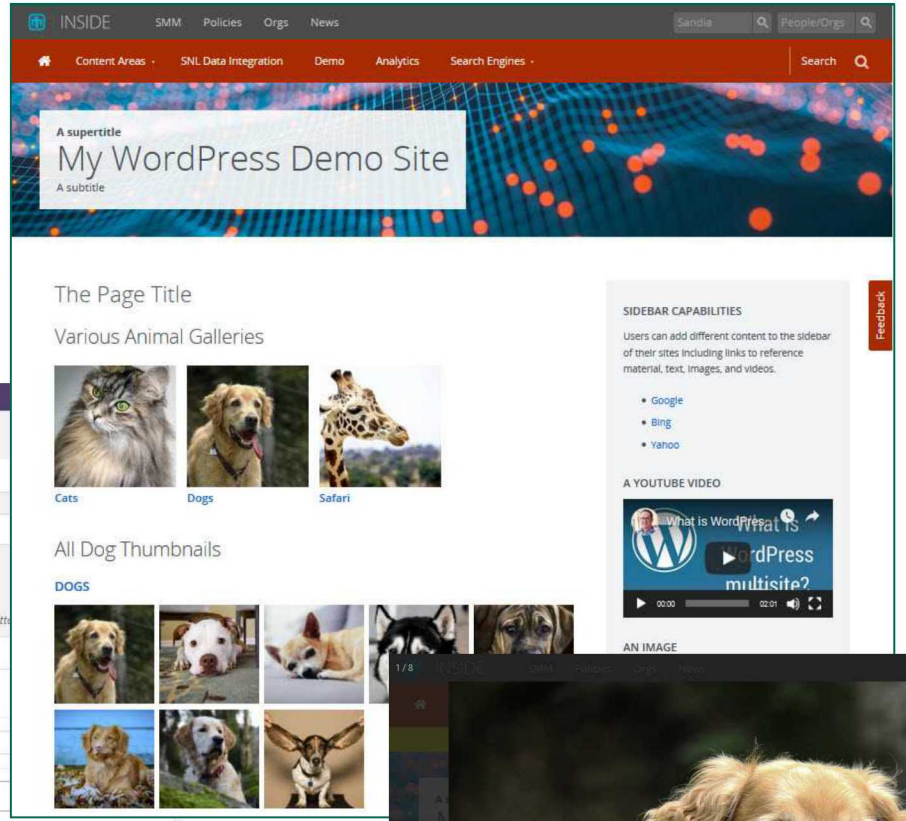

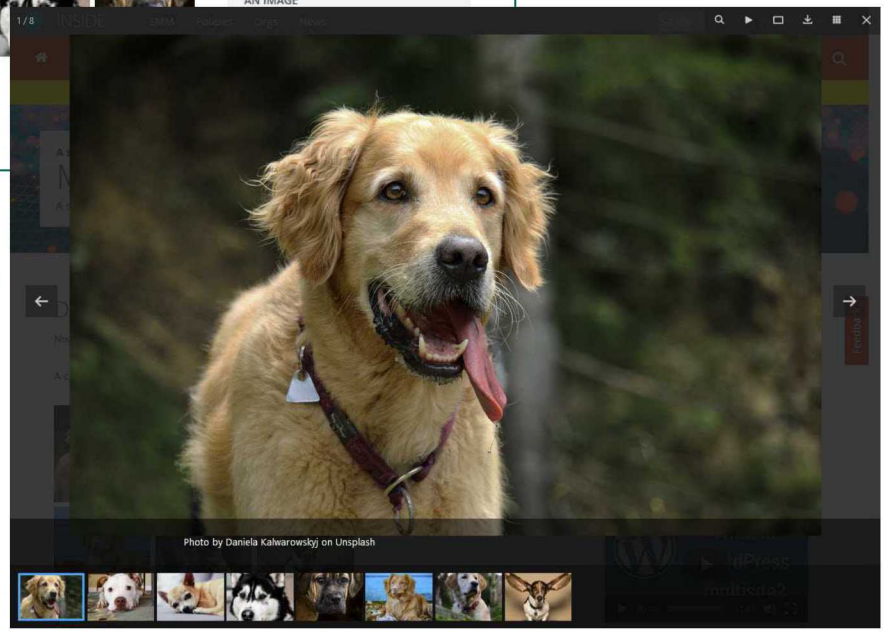

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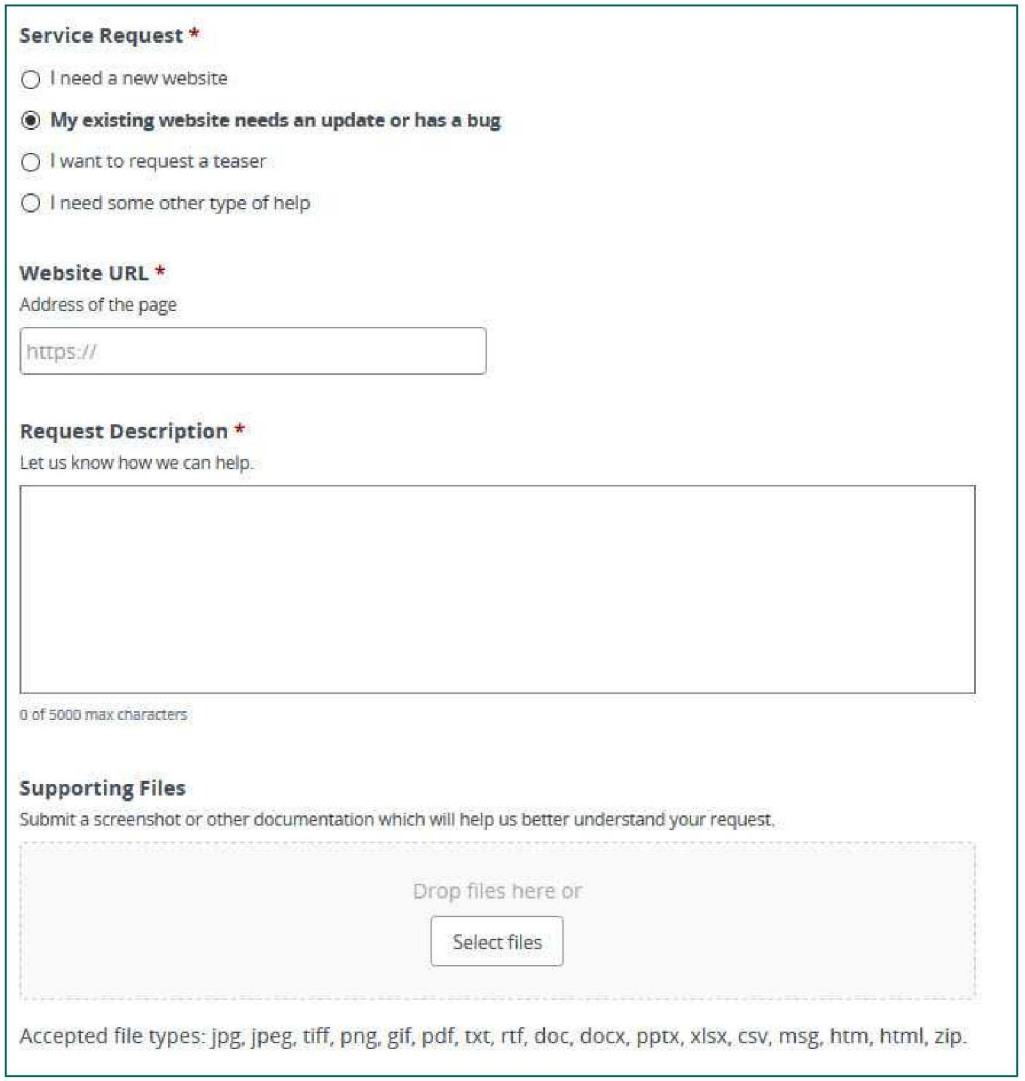

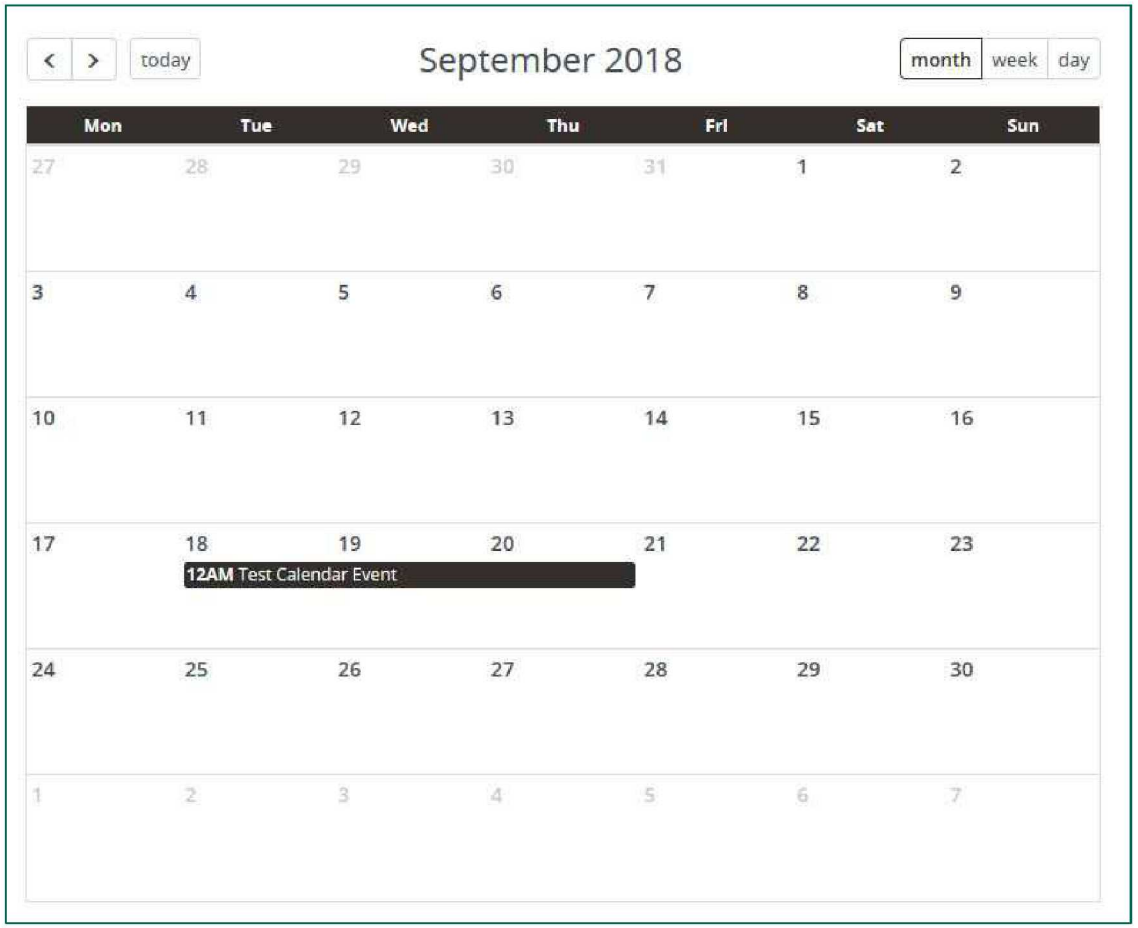

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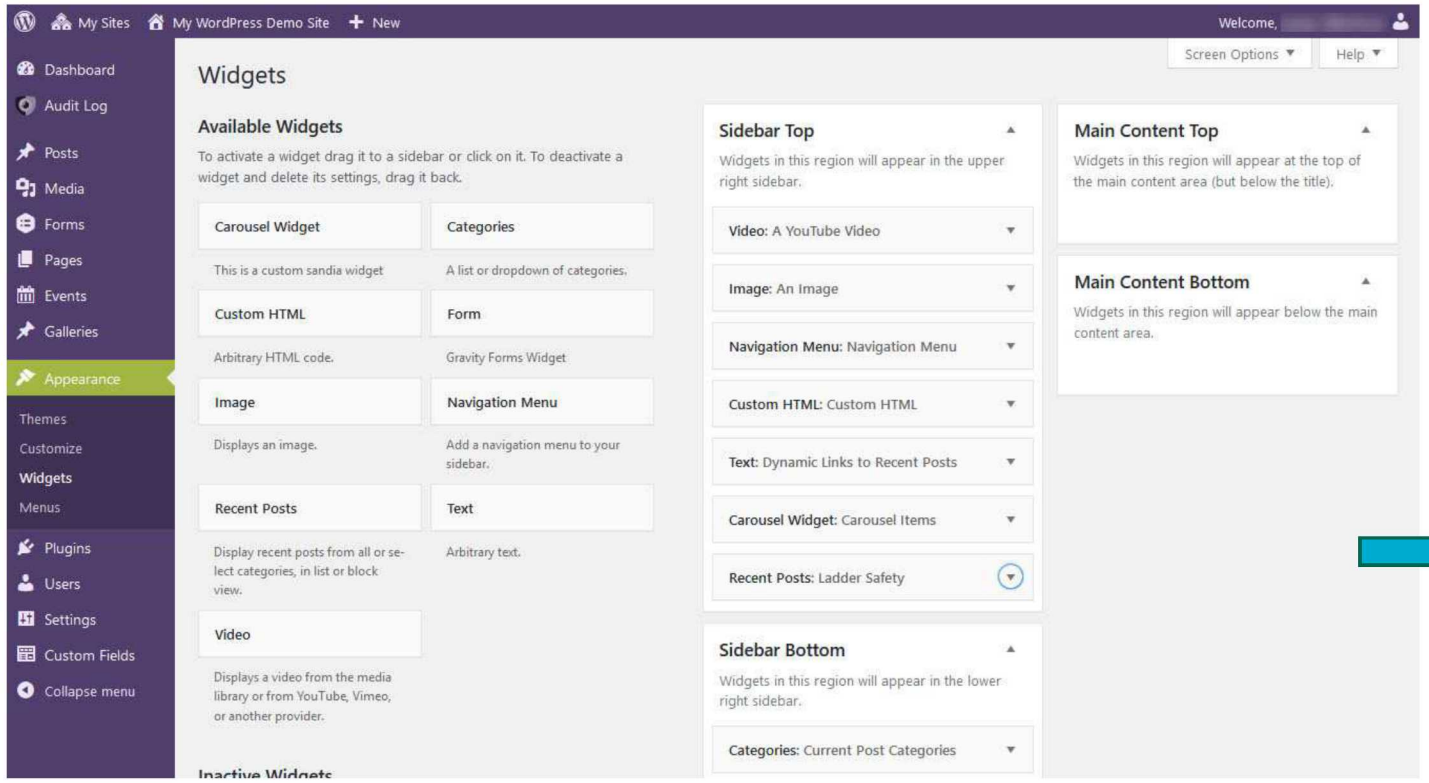
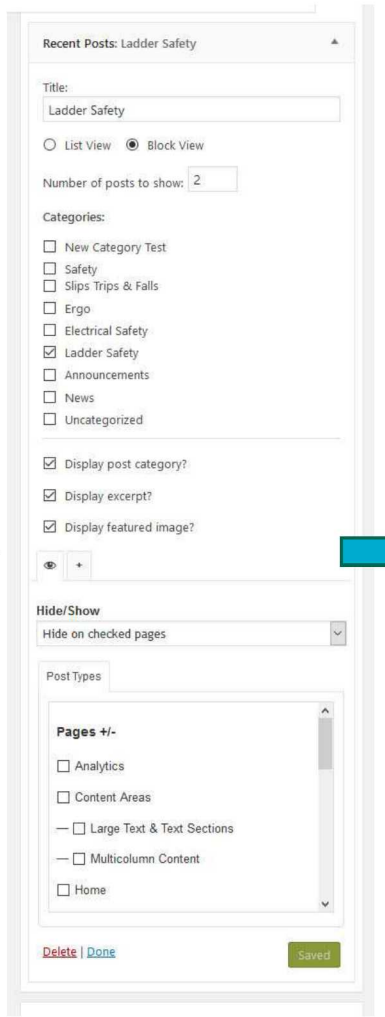
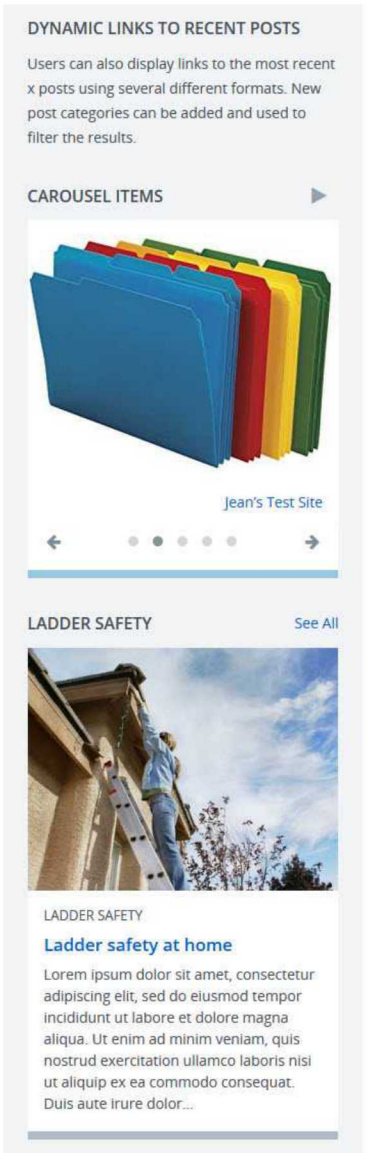
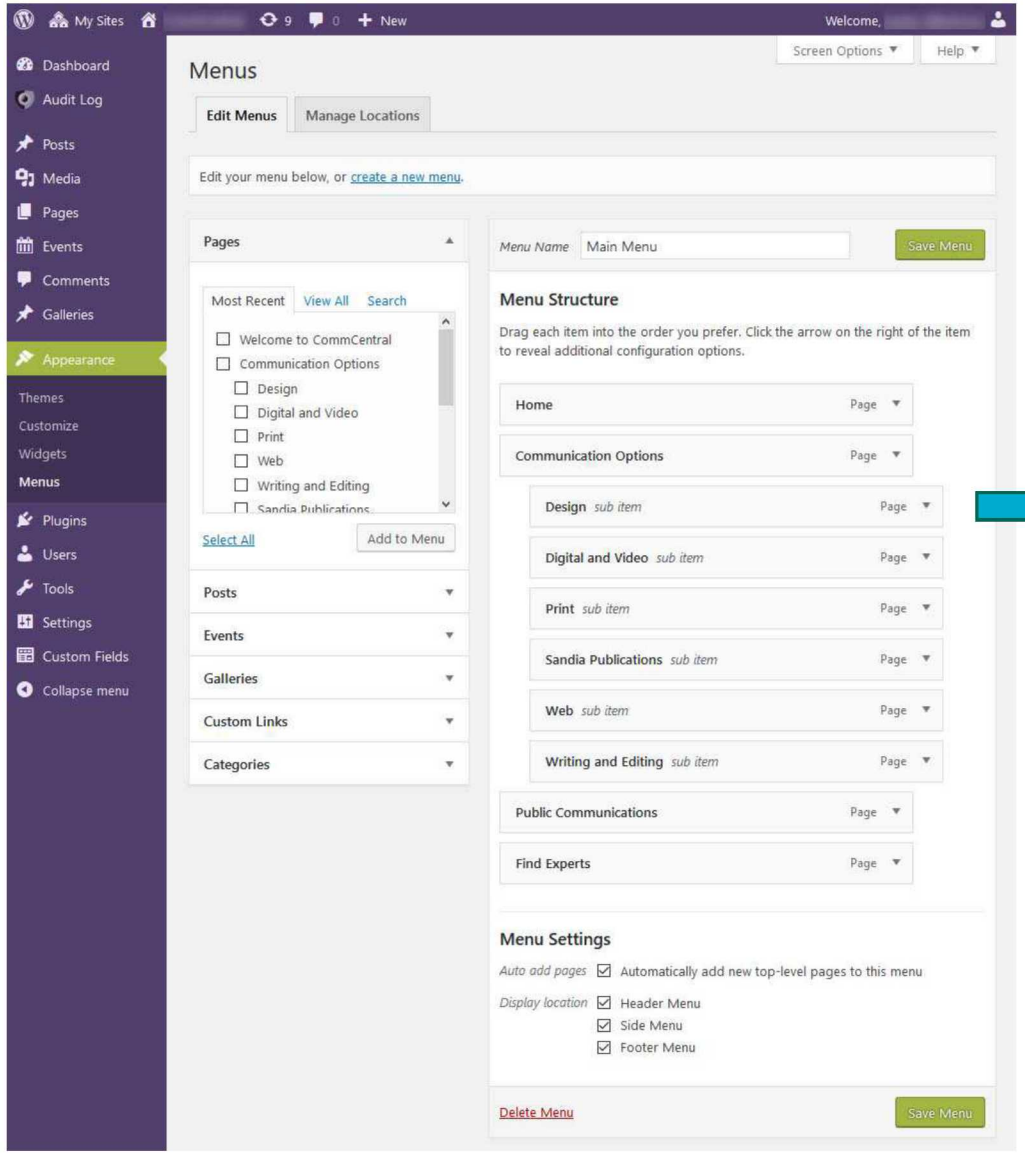
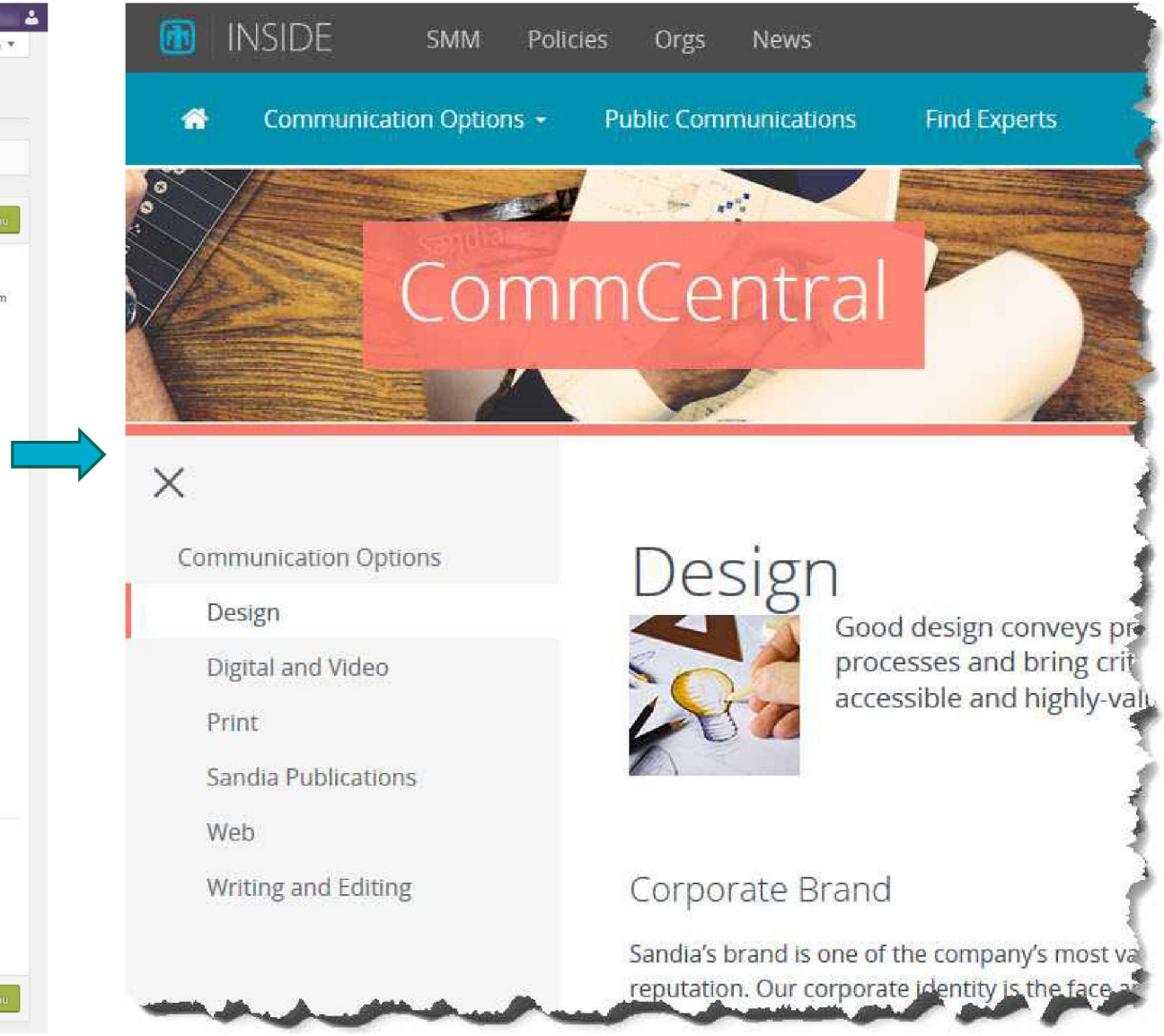




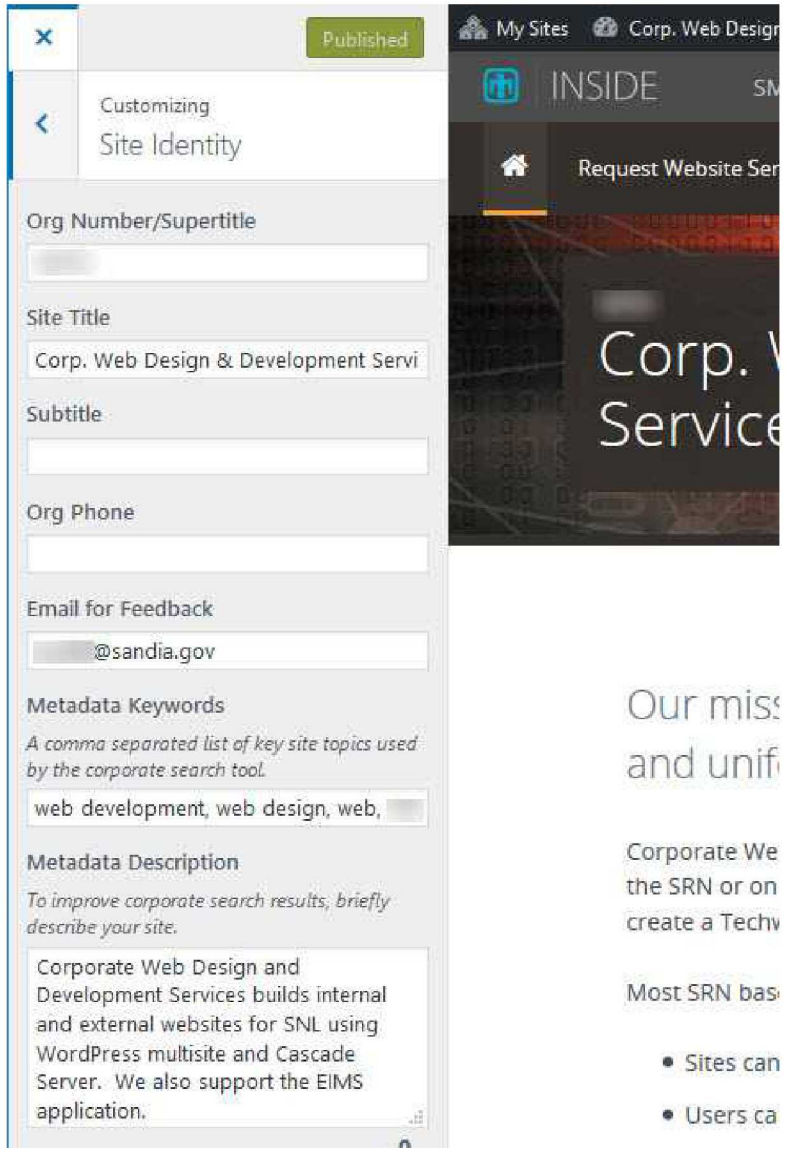


Customized Menus





Site Identity



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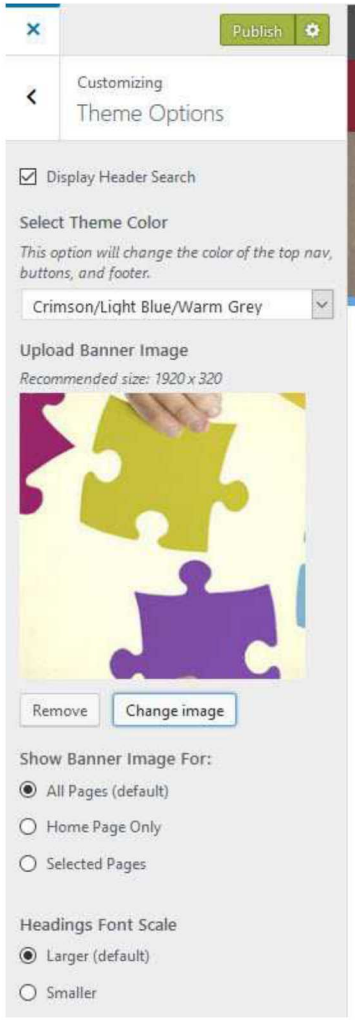
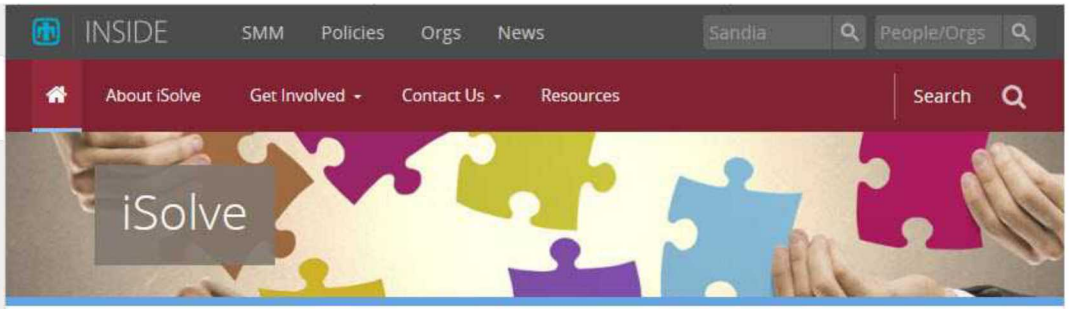
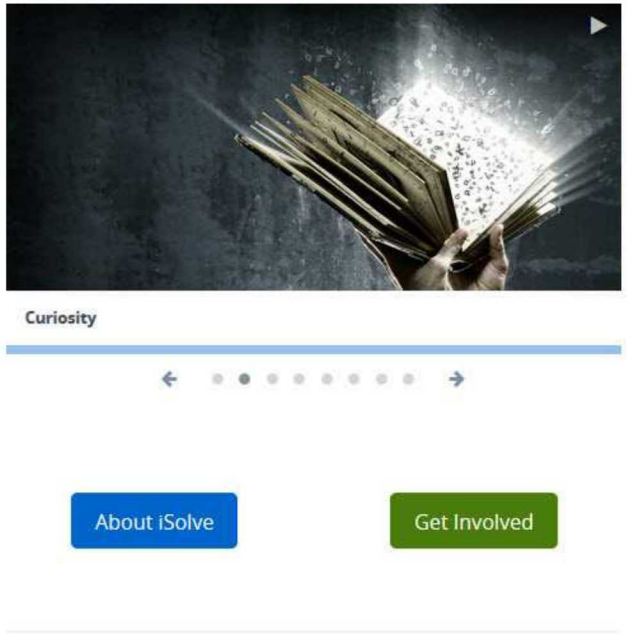
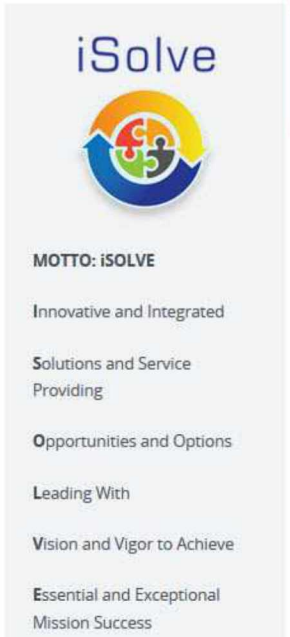
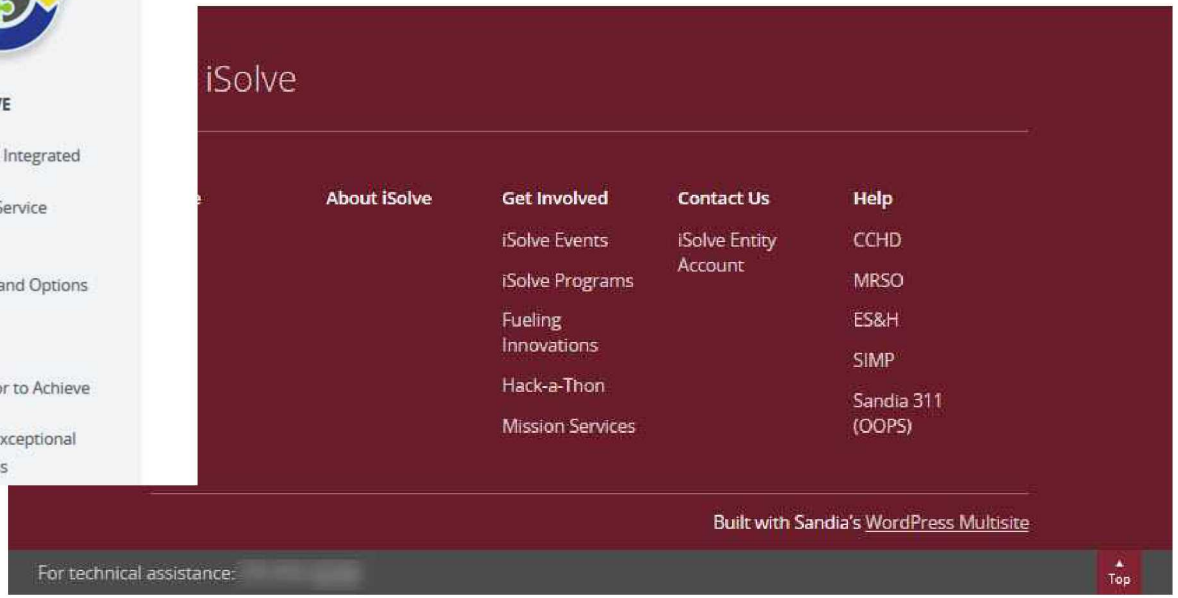


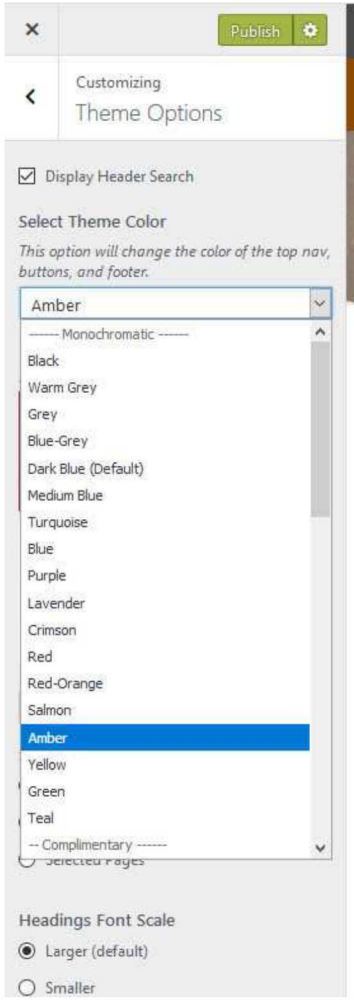


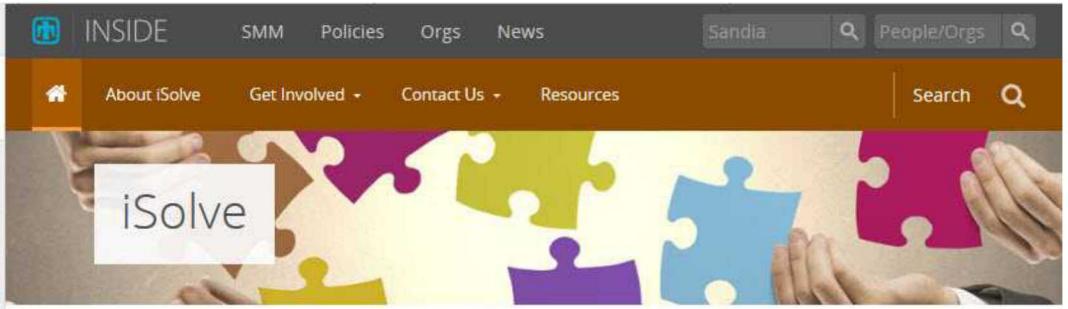


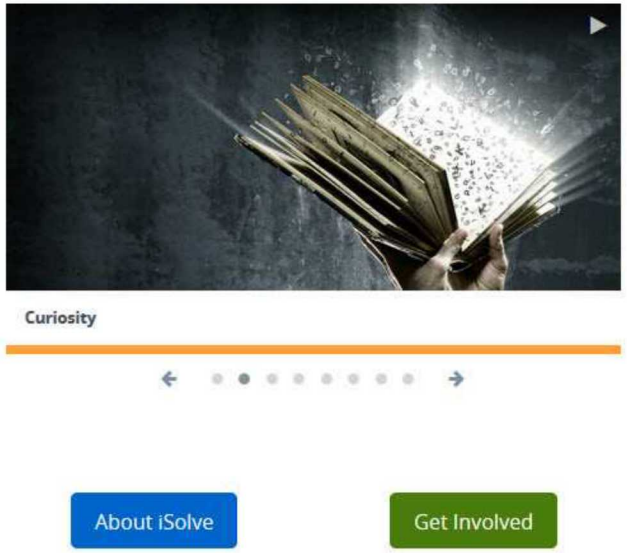


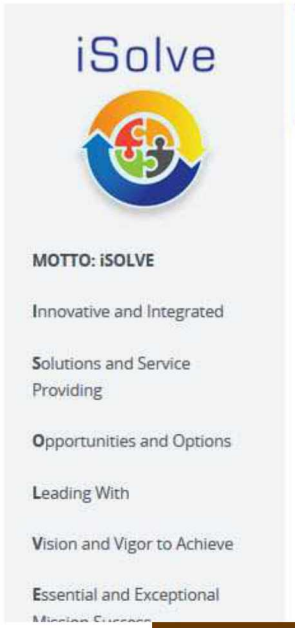


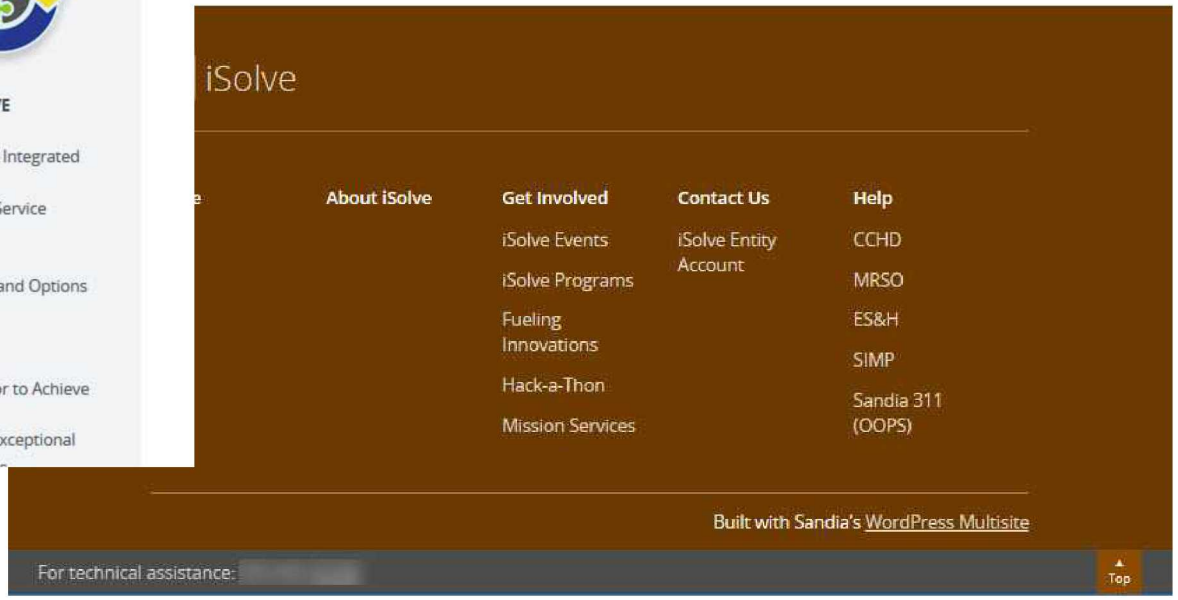
Site Theme Options



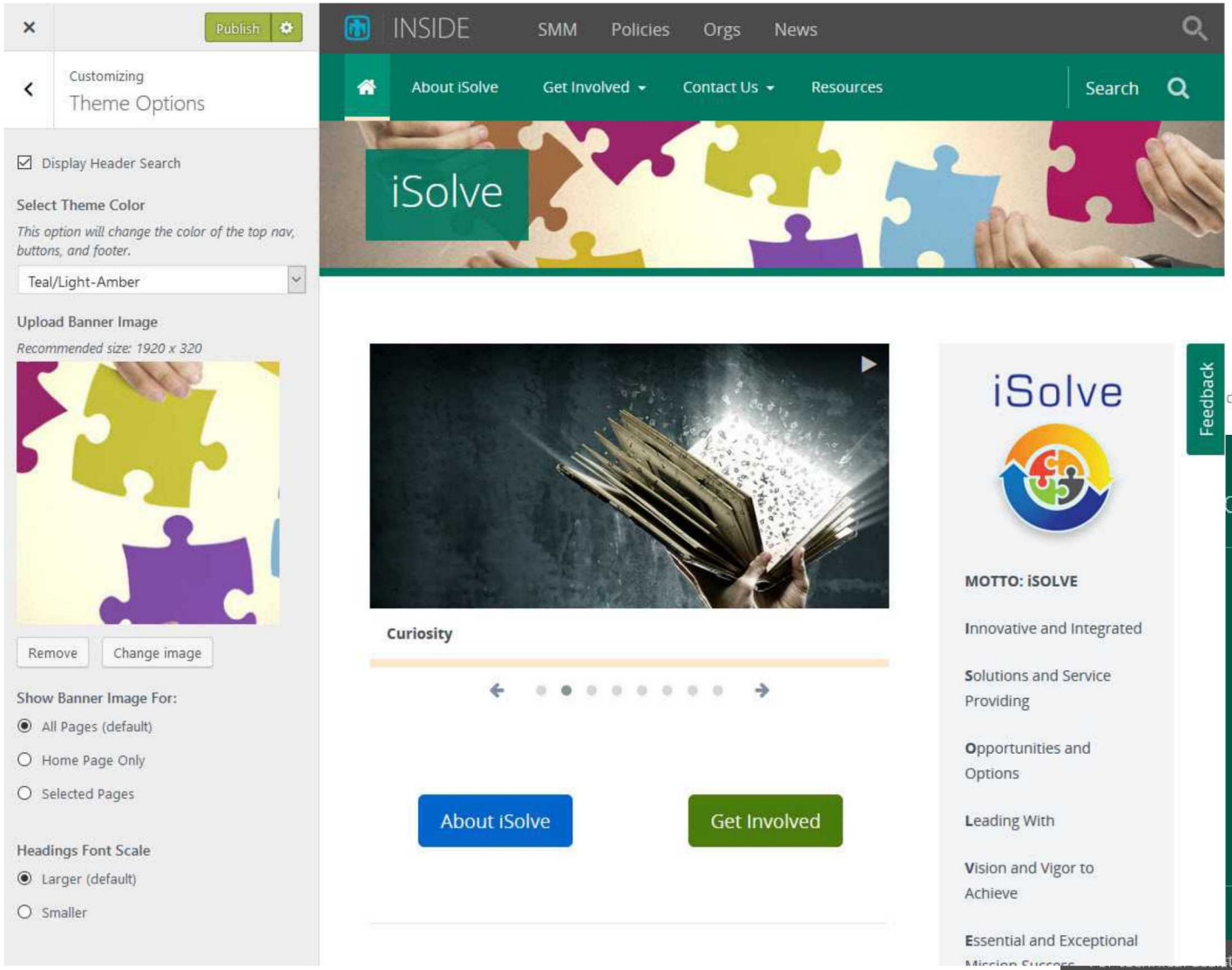




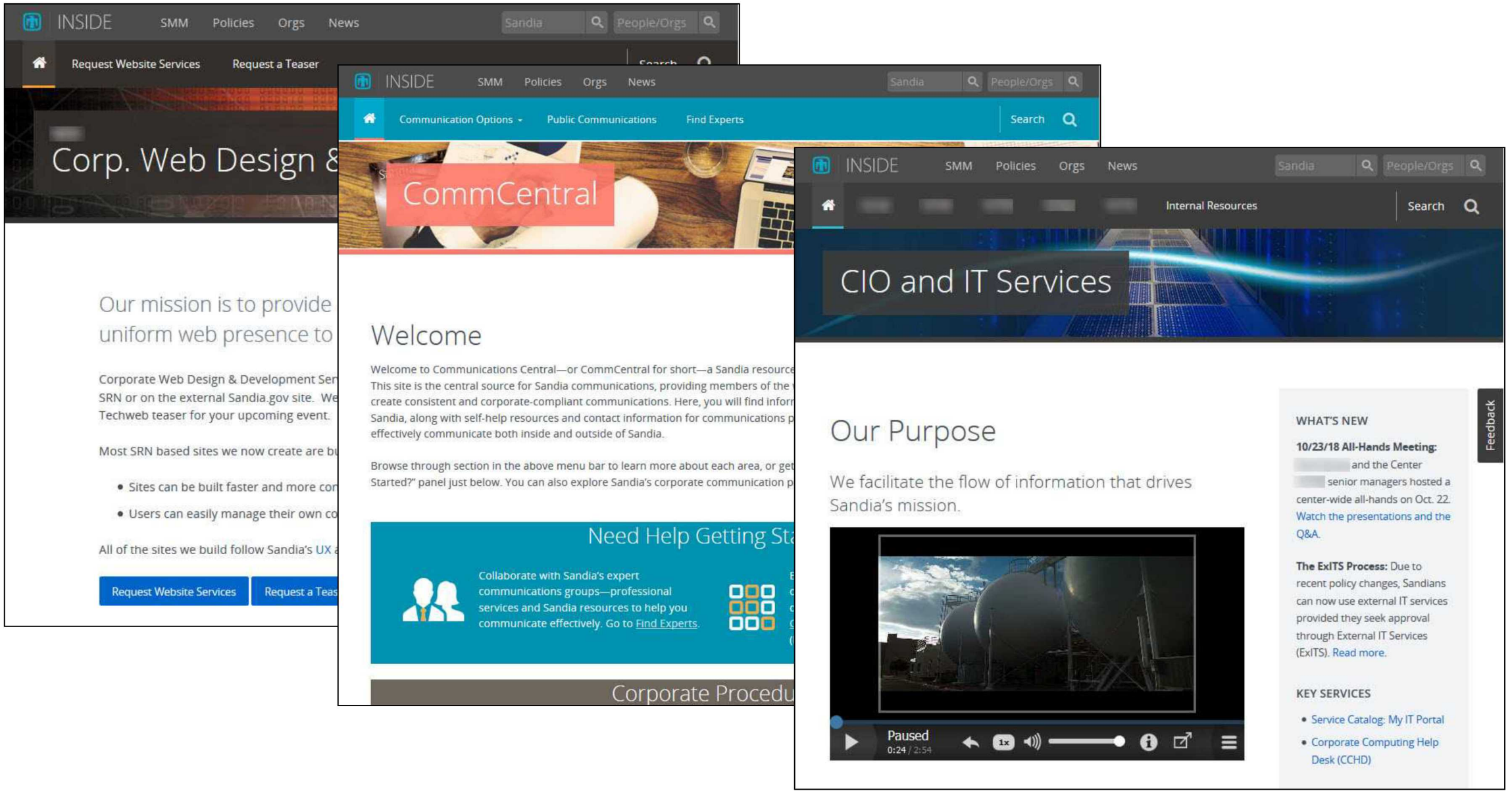




Site Theme Options



Results


INSIDE
SMM
Policies
Orgs
News
Sandia
People/Orgs
Request Website Services
Request a Teaser
Corp. Web Design &
Our mission is to provide
uniform web presence to
Corporate Web Design & Development Ser
SRN or on the external Sandia.gov site. We
Techweb teaser for your upcoming event.
Most SRN based sites we now create are bu
Sites can be built faster and more cor
Users can easily manage their own co
All of the sites we build follow Sandia's UX
Request Website Services
Request a Teas
INSIDE
SMM
Policies
Orgs
News
Sandia
People/Orgs
Communication Options
Public Communications
Find Experts
Search
CommCentral
Welcome
Welcome to Communications Central—or CommCentral for short—a Sandia resource
This site is the central source for Sandia communications, providing members of the
create consistent and corporate-compliant communications. Here, you will find infor
Sandia, along with self-help resources and contact information for communications p
effectively communicate both inside and outside of Sandia.
Browse through section in the above menu bar to learn more about each area, or get
Started?" panel just below. You can also explore Sandia's corporate communication p
Need Help Getting Sta
Collaborate with Sandia's expert communications groups—professional services and Sandia resources to help you communicate effectively. Go to Find Experts.
Corporate Procedu
INSIDE
SMM
Policies
Orgs
News
Sandia
People/Orgs
Internal Resources
Search
CIO and IT Services
Our Purpose
We facilitate the flow of information that drives Sandia's mission.
Paused
0:24 / 2:54
1x
WHAT'S NEW
10/23/18 All-Hands Meeting:
and the Center
senior managers hosted a center-wide all-hands on Oct. 22. Watch the presentations and the Q&A.
The ExITS Process: Due to recent policy changes, Sandians can now use external IT services provided they seek approval through External IT Services (ExITS). Read more.
KEY SERVICES
Service Catalog: My IT Portal
Corporate Computing Help Desk (CCHD)
Feedback

Service Site - Home

What is WordPress?

WordPress is an open source website creation tool which powers 29% of the web including some of the largest news sites in the world.

A custom WordPress theme has been developed for use at Sandia to allow you to quickly build a responsive (i.e., works on phones, tablets, and desktops) website which incorporates SNL's web standards without having to hire a developer or learn HTML.

Is WordPress for You?

WordPress is a good option if you're looking to deliver information to a large population on the SRN. If you have a lot of documents to manage or want team collaboration tools then other content management options are a better choice.

	WordPress	SharePoint	Confluence
Information Delivery	X	X	X

Feedback

REQUEST A NEW SITE

Submitting the WordPress Site Creation Form will create a new site ready for use. If you want a site just for training or testing purposes, please use our quality environment instead of production.

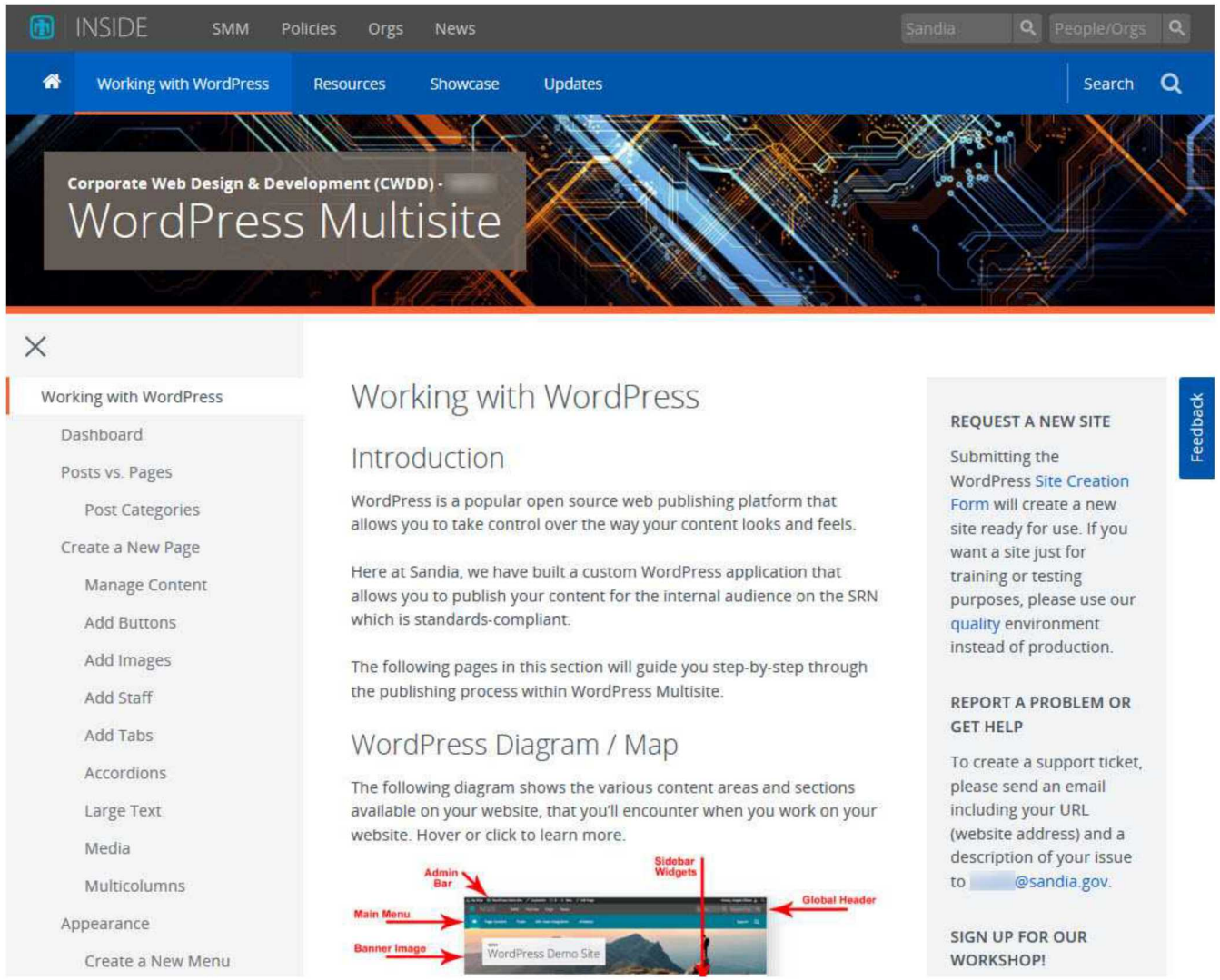
REPORT A PROBLEM OR GET HELP

To create a support ticket, please send an email including your URL (website address) and a description of your issue to @sandia.gov.

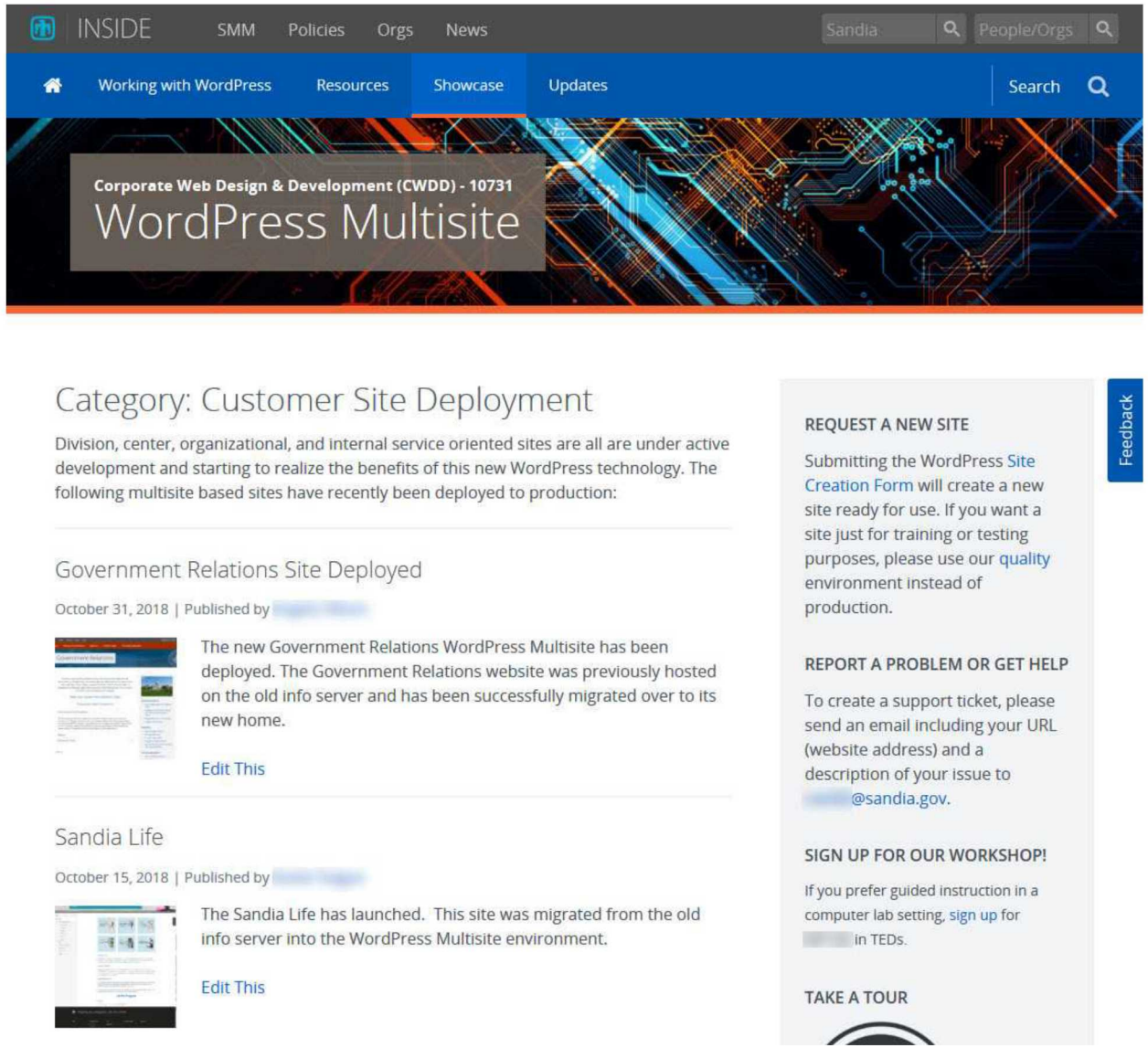
SIGN UP FOR OUR WORKSHOP!

If you prefer guided instruction

Service Site – Training



Service Site – Showcase



Service Site – Updates

Category: SNL Multisite Updates

Release 2.11.1

November 19, 2018 | Published by

Updates to the Manage Editors plugin to enhance the role assignment functionality under the Settings -> Manage Editors screen: #410 – Integrate person lookup with the Enterprise Person Service and gracefully handle multiple roles within a site #339 - Update...

Edit This

Release 2.11.0

November 13, 2018 | Published by

This release includes: #298 - Added new Photo Gallery content area. Editors can now create photo galleries which can be played in slideshow mode and displayed in different ways. #346 - Added Lightbox (full page viewer) for images #430 -...

Edit This

Release 2.10.0

REQUEST A NEW SITE

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REPORT A PROBLEM OR GET HEL

To create a support ticket, please send an email including your URL (website address) and a description of your issue to @sandia.gov.

SIGN UP FOR OUR WORKSHOP!

If you prefer guided instruction in a computer lab setting, sign up for in TEDs.

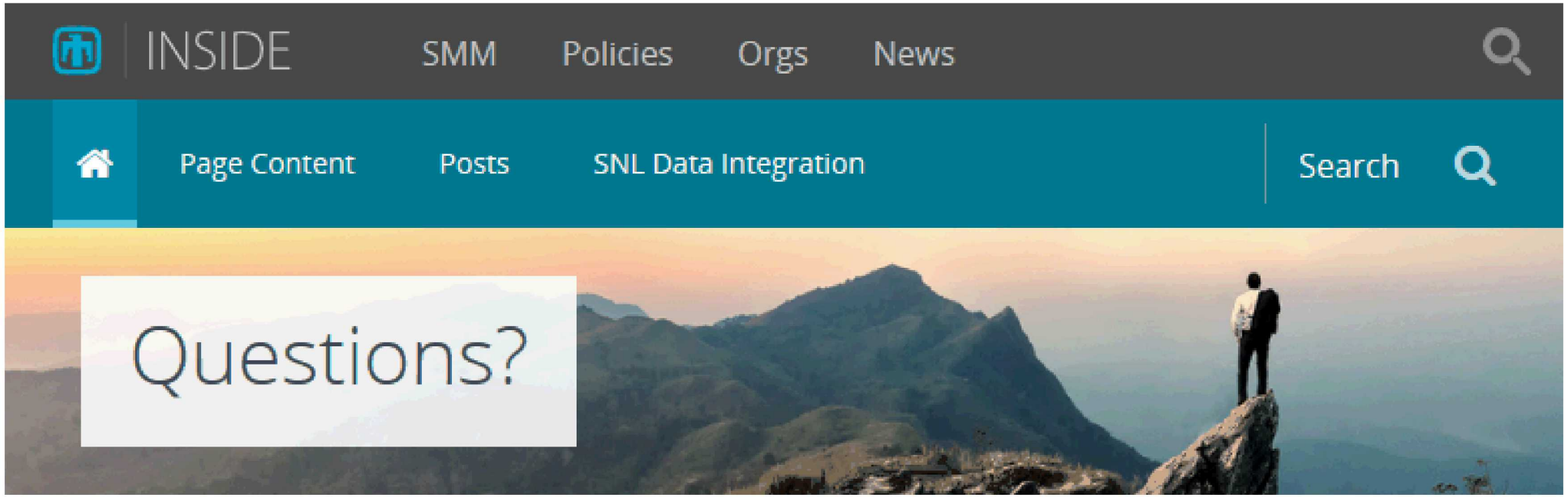
dback

Release 2.11.0

November 13, 2018 | Published by

This release includes:

- #298 – Added new Photo Gallery content area. Editors can now create photo galleries which can be played in slideshow mode and displayed in different ways.
- #346 – Added Lightbox (full page viewer) for images
- #430 – Fix for Bug: Accordion intro content area gets overrun if it contains aligned content
- #349 – New shortcode options in TinyMCE Insert dropdown (Search, Calendar, Thumbs Rating)

Categorized in: SNL Multisite Updates

Any Questions?