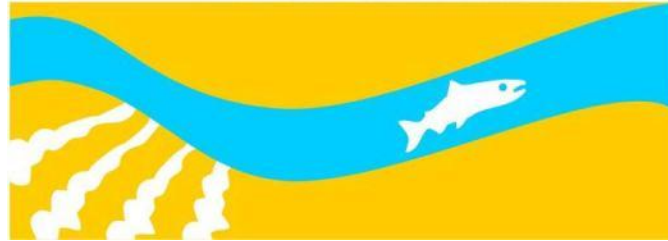


SAN JOAQUIN RIVER
RESTORATION PROGRAM



Seepage and Conveyance Technical Feedback Group

San Luis Canal Company

11704 Henry Miller Avenue, Dos Palos

April 26, 2012

Agenda

- Purpose:
 - Revise the SCTFG charter
 - Solicit input on peer review of the SMP;
 - Updates on Agreements and current projects

- Outcomes:
 - List of SCTFG charter revised objectives
 - List of peer reviewers
 - Questions for peer reviewers

Agenda

- SCTFG Charter
- Seepage Management Plan Peer Review
 - Panel
 - Objectives
- SPH Agreements Section
- Current Projects
- Next Steps



Brian Heywood

SCTFG CHARTER

SCTFG Charter

Purpose:

Brainstorm any needed revisions to SCTFG charter

- Revision #3, March 22, 2011
- Scheduled for Sept. 2011 revision



SCTFG Charter

- **Project Purpose:**

“Provide a constructive forum [for] information exchange ... among parties ... regarding ...flows and seepage.”
- **Benefits**

“Improved anticipation, resolution, and avoidance of issues and impacts associated with ... flows.”

SCTFG Charter

- Current Objectives/Focus
 - *“Convey Interim and Restoration Flows while avoiding seepage impacts”*
 - *“Identify locations for projects with potential for seepage impacts”*
 - *“Identify potential projects that would avoid seepage impacts”*
 - *“Set evaluation criteria for projects”*
 - *“Develop a common understanding of the process, procedures and expectations for projects”*
- New objectives?

SCTFG Charter

- Communications

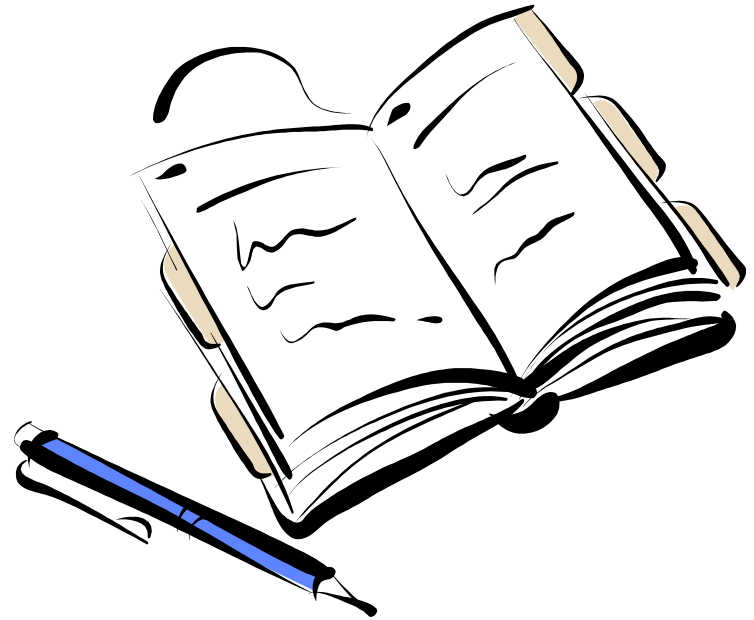
“The meeting participants will maintain responsibility for bringing forward issues and ideas from their constituents ...and informing ...constituents of the information...”

- Participants

- Agencies (Reclamation, DWR, CVFPB)
- Water Districts
- Landowners
- Restoration Administrator
- Settling Parties

SCTFG Charter

- Core Topics?
- Deliverables and milestones?



Katrina Harrison

SEEPAGE MANAGEMENT PLAN

Seepage Management Plan

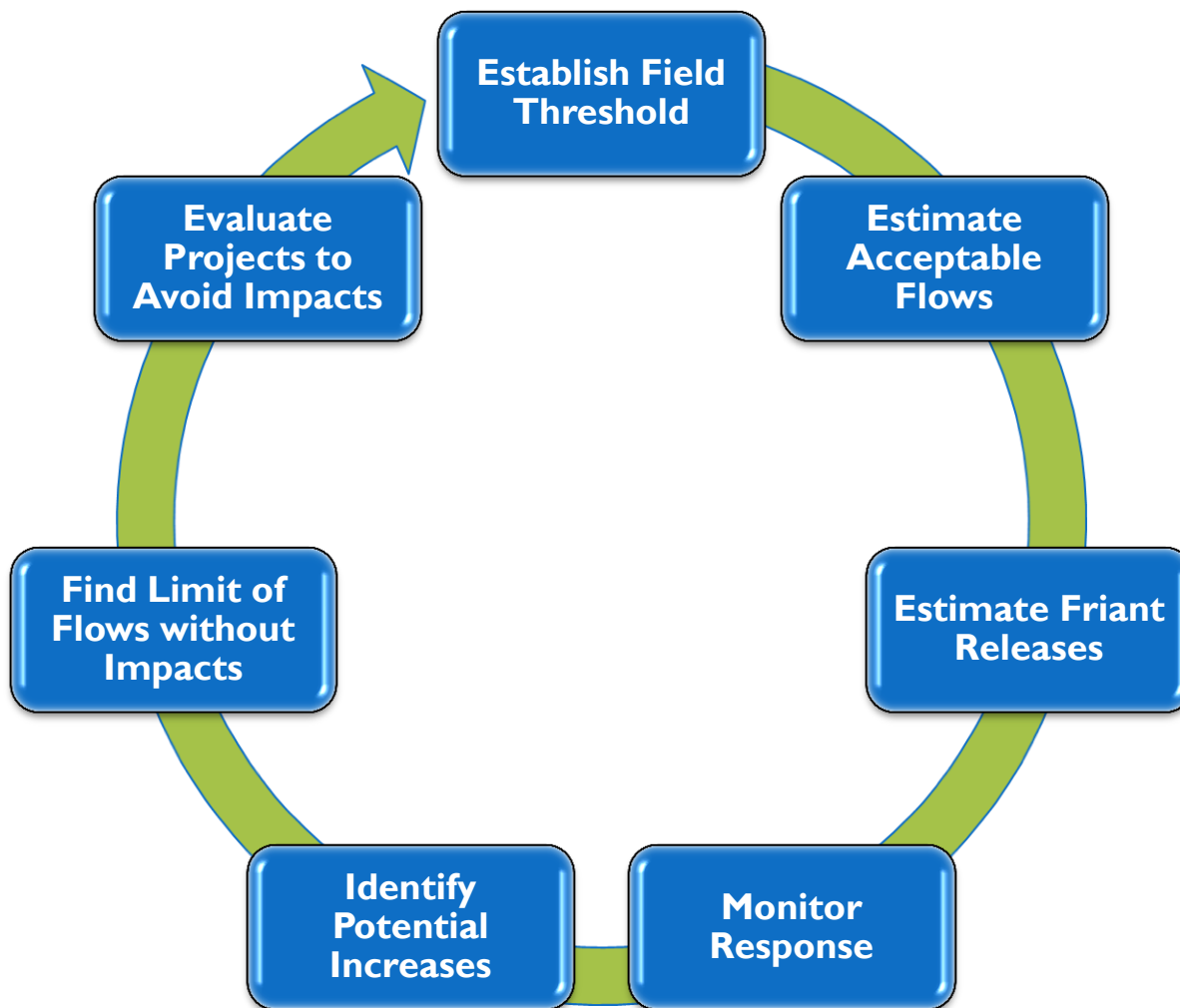
Purpose: Solicit input on questions for peer review panel (via short SMP review)

- Reclamation currently reviewing document
 - Consistency
 - Completeness
- Peer review of SMP
 - Confirmation of process
 - Guidance on more accurate methods
 - Transparency

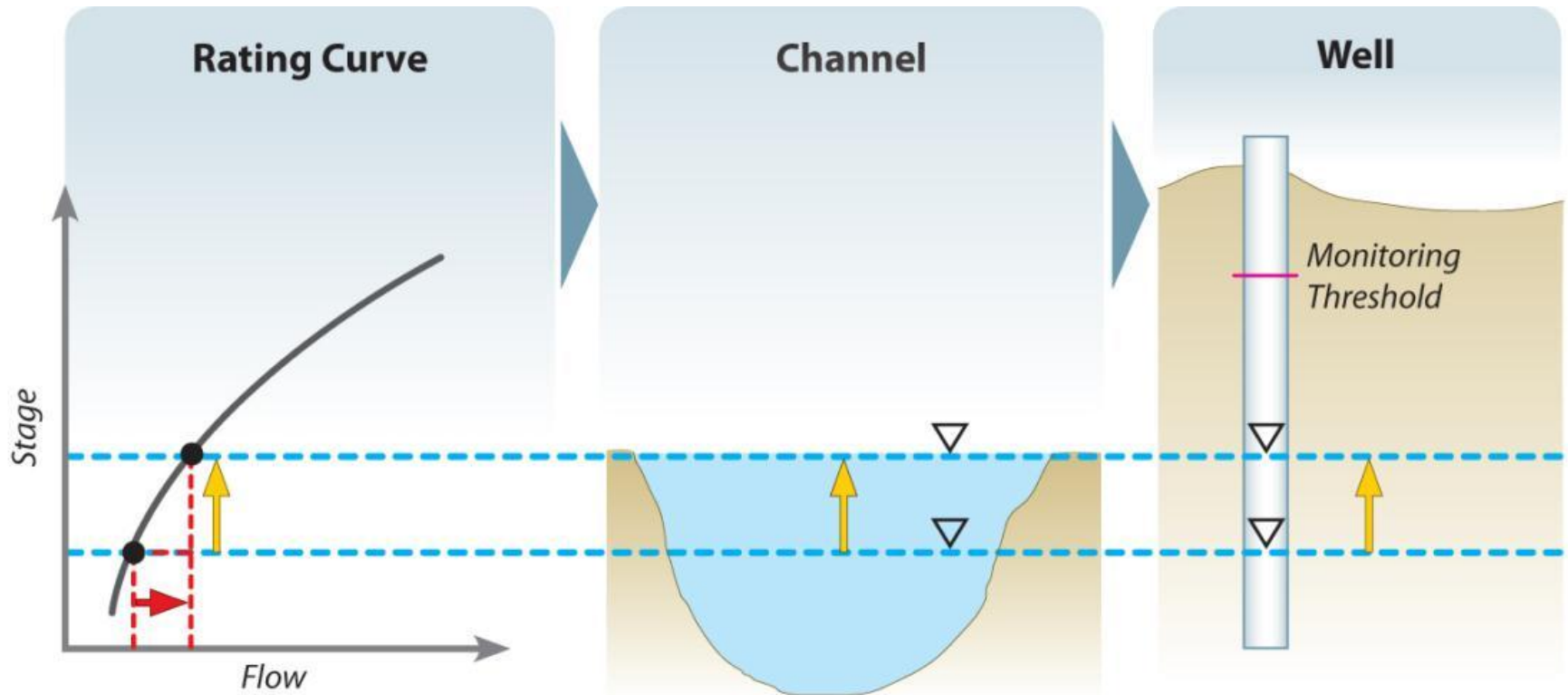
Objective of Peer Review

- “The objective of the Seepage Management Plan (SMP) Peer Review is to provide Reclamation with confirmation of the processes described in the SMP and, where appropriate, guidance on revisions to the document to increase the document’s technical accuracy.”
- Comments or suggestions on objective?

Iterative Approach to Increase Flows while Avoiding Impacts



Seepage Management Plan Conceptual Model



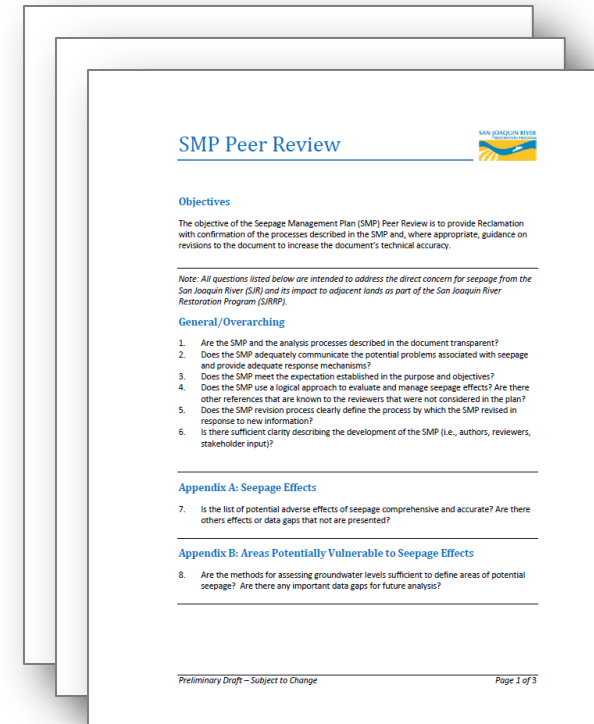
- Thresholds identify potential problems so that Reclamation can establish operating criteria to manage flows

Seepage Management Plan Topics

- Seepage Effects
- Areas Potentially Vulnerable to Seepage Effects
- Historic Groundwater and Surface Water Flow
- Sediment Texture and Other Data
- Operations
- Monitoring
- Groundwater and Soil Salinity Thresholds
- Landowner Claims Process
- Modeling

Questions for the Panel

- Switch to PDF File
- Comments? Suggestions?



Peer Review Candidate Criteria

- Technical expertise
 - Groundwater
 - Soils and salinity
 - Agronomy
- Unbiased
 - Not involved in development of SMP
 - Not an advocate?
- Local knowledge
 - Experience in the Central Valley
- Other suggestions on criteria?

Peer Review Panel - Candidates

- Al Blair, Ph.D, P.E. – Consultant
- Charles M. Burt, Ph.D., P.E., CID – Cal Poly ITRC
- Steven Deverel, Ph.D., – HydroFocus
- Thomas Harter, Ph.D. – UC Davis
- Jack Keller, Ph.D., Keller–Bliesner Engineering
- Joel Kimmelshue, Ph.D. – NewFields
- Albert Steele, P.G., C.H. – Consultant

Al Blair, Ph.D., P.E.

- 33 years of experience
- M.S. and B.S., Agricultural Engineering
- Design, contract, and litigation support to irrigation and water districts in TX, NM, AZ, and CA
- Expertise includes groundwater modeling, aquifer tests, and groundwater and surface water rights
- Local groundwater model experience in San Joaquin Valley



Charles Burt, Ph.D., P.E., CID

- Ph.D., Engineering, M.S., Irrigation and Drainage Engineering, B.S., Soil Science
- Author or co-author of 120 articles and study guides, related to on-farm irrigation, canal modernization, and efficiency
- First chairman of the IA Certification Board.
- Extensive field and design experience in drip, sprinkler, and surface irrigation
- Expert testimony for Settlement



Steven Deverel, Ph.D., P.G., P.H.

- Ph.D., Soil and Water Science, M.S. Soil-Plant-Water Relations, B.S. Agricultural Science and Management
- 27 years of experience
- Analyzes groundwater systems, chemical and physical soil processes, water quality
- Author of over 30 publications on vadose-zone hydrology, biogeochemistry, subsidence, groundwater geochemistry, quality, hydrology
- Expert testimony for Settlement

Thomas Harter, Ph.D.

- 16 years of experience
- Ph.D. Hydrology (emphasis subsurface hydrology); M.S. and B.S., Hydrology
- UC Davis, Dept. of Land, Air, and Water Resources
- Dr. Harter's research group has done extensive modeling, laboratory, and field work to evaluate the impacts of agriculture and human activity on groundwater flow and contaminant transport in complex aquifer and soil systems.



Jack Keller, Ph.D., P.G., P.H.

- Ph.D., Ag & Irrigation Eng'g, M.S. Irrig. Eng'g, B.S. Civil Eng'g
- Nationally and internationally recognized expert in the design, implementation, and management of irrigation systems
- Author of more than 90 technical papers, 50 major consulting reports, 9 handbooks and 2 textbooks (agricultural water resources planning and engineering, on-farm water management, and irrigation system design)



Joel Kimmelshue, Ph.D., CPSS

- 14 years of experience
- Ph.D. in Soil Science, water resources concentration
- development and management of agricultural-based soil/water/plant systems
- land reclamation, soil/plant nutrient dynamics and management, irrigation and drainage in arid and humid climates, soil classification, crop production.

Albert Steele, P.G., C.H.

- 35 years of experience
- M.S. and B.S., Geology
- Specializing in groundwater monitoring and banking projects
- He served on the advisory group for the SJRRP, performing technical review of proposed groundwater monitoring networks
- Designed monitoring well networks, developed monitoring protocols across San Joaquin Valley



Peer Review Panel

- Other suggestions?
 - Names?
 - Experience?

Katrina Harrison

SEEPAGE PROJECT HANDBOOK



Elements of the Seepage Project Handbook

- Introduction
- Site Evaluation
- Plan Formulation
- Environmental Compliance
- Data Collection
- Design
- Construction
- Agreements (Financial Assistance) ← Today

Agreements

Multiple to allow flexibility:

- Financial Assistance with districts for multiple projects (or interested landowners)
- Memorandum of Understanding with operators for operations and maintenance
- Agreement with landowner, operator, and Reclamation for each specific project

Process

- **Types of Financial Assistance Agreements:**
 - Grants
 - Cooperative Agreements

- 1. **Develop Scope of Work**
 - Requirements of work to be accomplished
- 2. **Advertisement**
 - grants.gov
 - Catalog of Federal Domestic Assistance

Process

3. Recipient Submittal

- grants.gov lists requirements
- SF-424, at minimum

4. Selection

- All meeting minimum criteria are evaluated by committee
- Selection is made per the selection criteria identified in the announcement

5. Reporting

- Federal Financial Report, Form SF-425 (quarterly)
- Request for Advance or Reimbursement, Form SF-270 (quarterly)
- Progress Reports (quarterly)
- Final Report, 90 days after completion of grant

Basic Roles and Responsibilities

- Reclamation
 - Develop and oversee the financial assistance in coordination with landowners
 - Develop and oversee site-specific agreements in coordination with landowners
 - Conduct periodic quality checks of the financial assistance recipient's work,
 - Collect required reports from the recipient, and
 - Develop a Memorandum of Understanding for operations and maintenance

Basic Roles and Responsibilities

- Landowner
 - Providing access to the seepage
 - Signing agreements with Reclamation and/or the water district to allow for financial assistance and O&M,
 - Following the terms of the financial assistance and site-specific agreements,
 - Developing and signing a Memorandum of Understanding for operations and maintenance, and

Basic Roles and Responsibilities

- Water District or operator
 - O&M of the seepage project
 - Collecting the necessary monitoring data
 - Developing, signing and following terms of financial assistance and site-specific agreements with Reclamation and/or the landowner
 - Developing and signing a Memorandum of Understanding for operations and maintenance,
 - Submitting the required receipts and reports to Reclamation.

Mandatory Terms

- Appendix A to 2 CFR 25 – Registration
 - The grant recipient will need to have a current DUNS number and Central Contractor Registration
- Appendix to 2 CFR 35 – Recipient Integrity
 - If the grant recipient currently has active federal grants, contracts, etc. over \$10 million, the recipient will be required to provide information pertaining to criminal convictions, civil proceedings resulting in fines, or administrative proceedings resulting in a fine

Mandatory Terms

- Appendix A to 2 CFR 170 – Subaward Reporting
 - The grant recipient must report each action that obligates \$25,000 or more in Federal funds
- Civil Rights, Discrimination
 - Recipients must comply with the Civil Rights Act, 14th amendment, Rehabilitation Act of 1973, Age Discrimination Act of 1975, and similar anti-discrimination statutes

Mandatory Terms

- OMB Circular A-133 – Audits
 - Recipients that expend \$500,000 or more a year in federal funds must have an independent audit
- Assurances
 - Standard assurances according to SF-424B (non-construction) or SF 424D (construction) will be included.
- 2 CFR 230 (A-122) – Cost Principles
 - Portions of 2 CFR 230 (A-122) may also need to be followed to determine which costs are allowed or disallowed

Agreement Terms

- Final design and construction
- Environmental compliance and permitting
- Operations and maintenance of physical project
- Long-term monitoring (adjacent groundwater, physical project performance, and project discharge amount and water quality)
- Cost-share: Cost of increased functionality/capacity of seepage project

Agreement Terms - Design

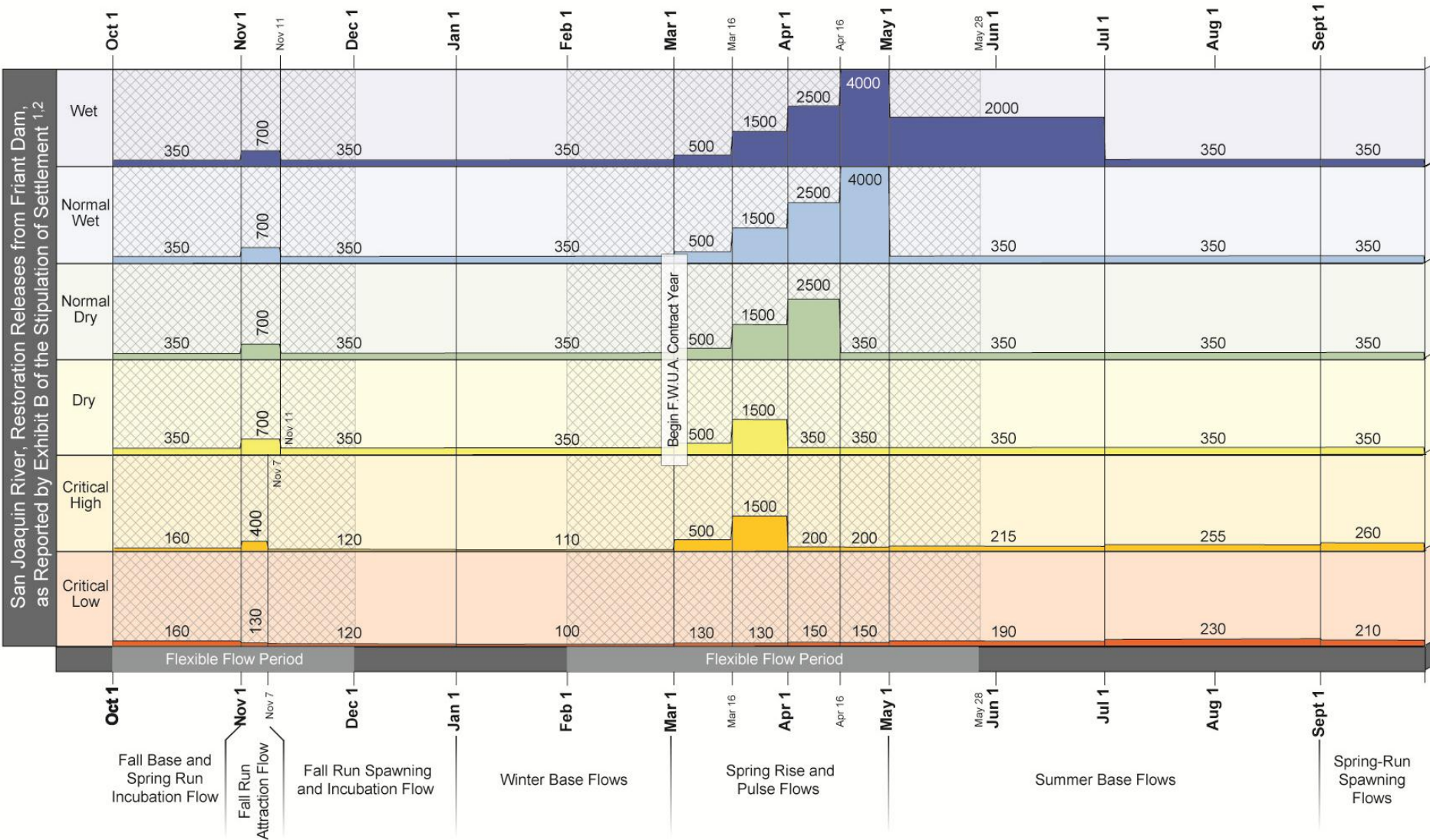
- Reclamation reviews 60% and 90% design, plans, drawings, specifications and cost estimates
- 3 weeks to review
- Reclamation shall retain the authority to approve the final design
- 2 weeks to review and approve the 100% design before construction may proceed



Agreement Terms - Discharge

- Pumping only during Interim or Restoration Flows over 350 cfs unless otherwise agreed
- Water discharged to the river or a district or landowner canal during this period, as agreed to by Reclamation, the district, and the landowner in an agreement for each project
- No reimbursement for pumping during flood flows

Restoration Flows



Brian Heywood

CURRENT SEEPAGE PROJECTS

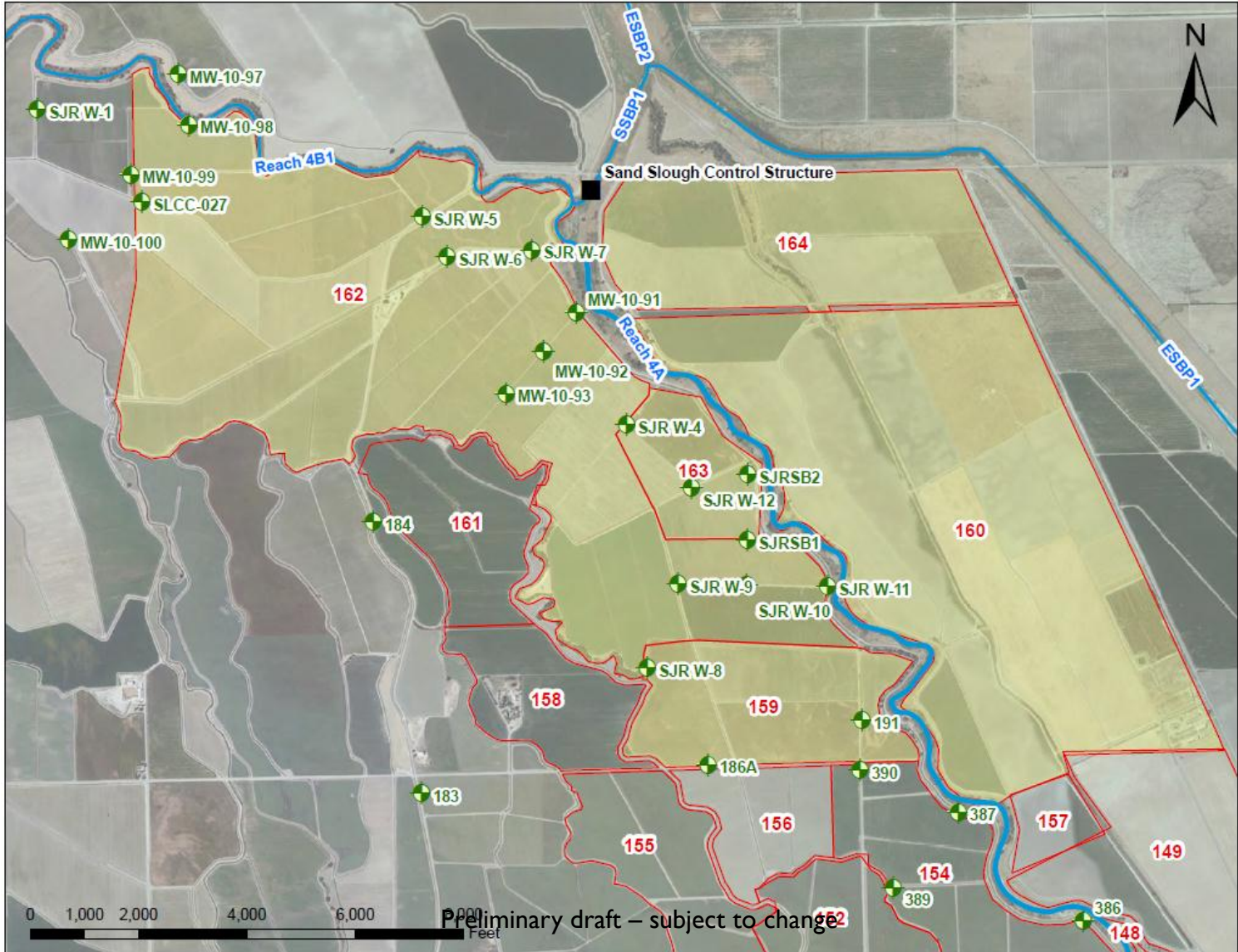
Reach 3 / 4A Landowner Meeting

- March 1, 2012 in Los Banos
 - Invited Reach 3/4A landowners with “priority” parcels
 - Provided update on SMP, SPH
 - Scheduled site visits

First Tier Parcel Groups

- Highest priority locations to resolve potential impacts and increase river flows
- Criteria
 - Observed 2011 seepage, and/or
 - District manager observed historical seepage, and/or
 - Shallow nearby groundwater level above 4 feet, unaffected by irrigation

Priority Parcel Groups



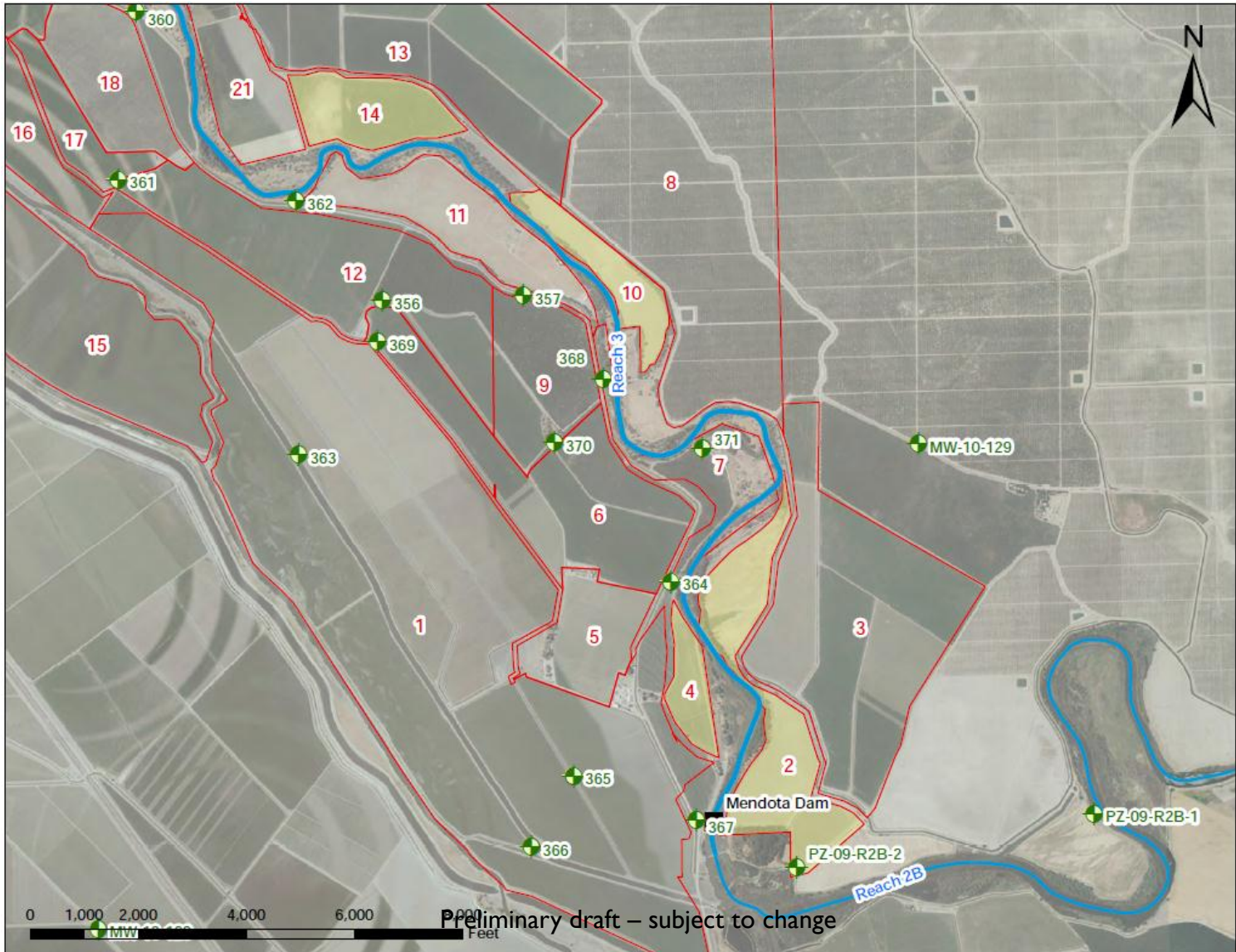
Priority Parcel Groups



Priority Parcel Groups



Priority Parcel Groups



Projects Initiated

- Implement projects beginning with locations most constraining on flow, whichever landowners are willing of the first tier
- Six site visits since March 1
- Nine Seepage Projects Initiated
- Implementation of first three would allow flows below Sack Dam up to approximately ~500 cfs

Projects Initiated

Richie Iest

- Parcel Group 167
 - Reach 4B adjacent to the Eastside Bypass
 - Site visit conducted on March 9
 - Working to stake additional monitoring locations
 - Preparing Methods TM

- Parcel Group 168
 - Reach 4B adjacent to the Eastside Bypass
 - Site visit conducted April 9
 - Working to stake additional monitoring locations
 - Preparing Methods TM

Projects Initiated

- Parcel Group 164
 - Reach 4A
 - Site visit conducted March 14
 - Hand augering completed
 - Additional well locations staked
 - Preparing Methods TM

- Parcel Group 87
 - Reach 3
 - Site Visit conducted March 1
 - Waiting on TEP for additional monitoring
 - Preparing Methods TM

Projects Initiated

- Parcel Group 74
 - Reach 3
 - Site visit to be scheduled soon

Projects Initiated

- Parcel Groups 14, 21, 24, 26
 - Reach 3
 - Site visit conducted on March 28
 - Will be working to stake additional monitoring locations
 - Preparing Methods TM

Projects Initiated

Harman

- Parcel Groups 101-103, 111, 112, 115, and 142
 - Reach 4A
 - Site visit conducted April 3
 - Will be working to stake additional monitoring locations
 - Preparing Methods TM

Projects Initiated

- Parcel Group 159
 - Reach 4A
 - Site visit to be scheduled soon
 - Additional monitoring locations staked, to be drilled first week of May
 - Working on records review

Projects Initiated

Willis

- Parcel Group 154
 - Reach 3
 - Site visit scheduled for May 3
 - Working on records review

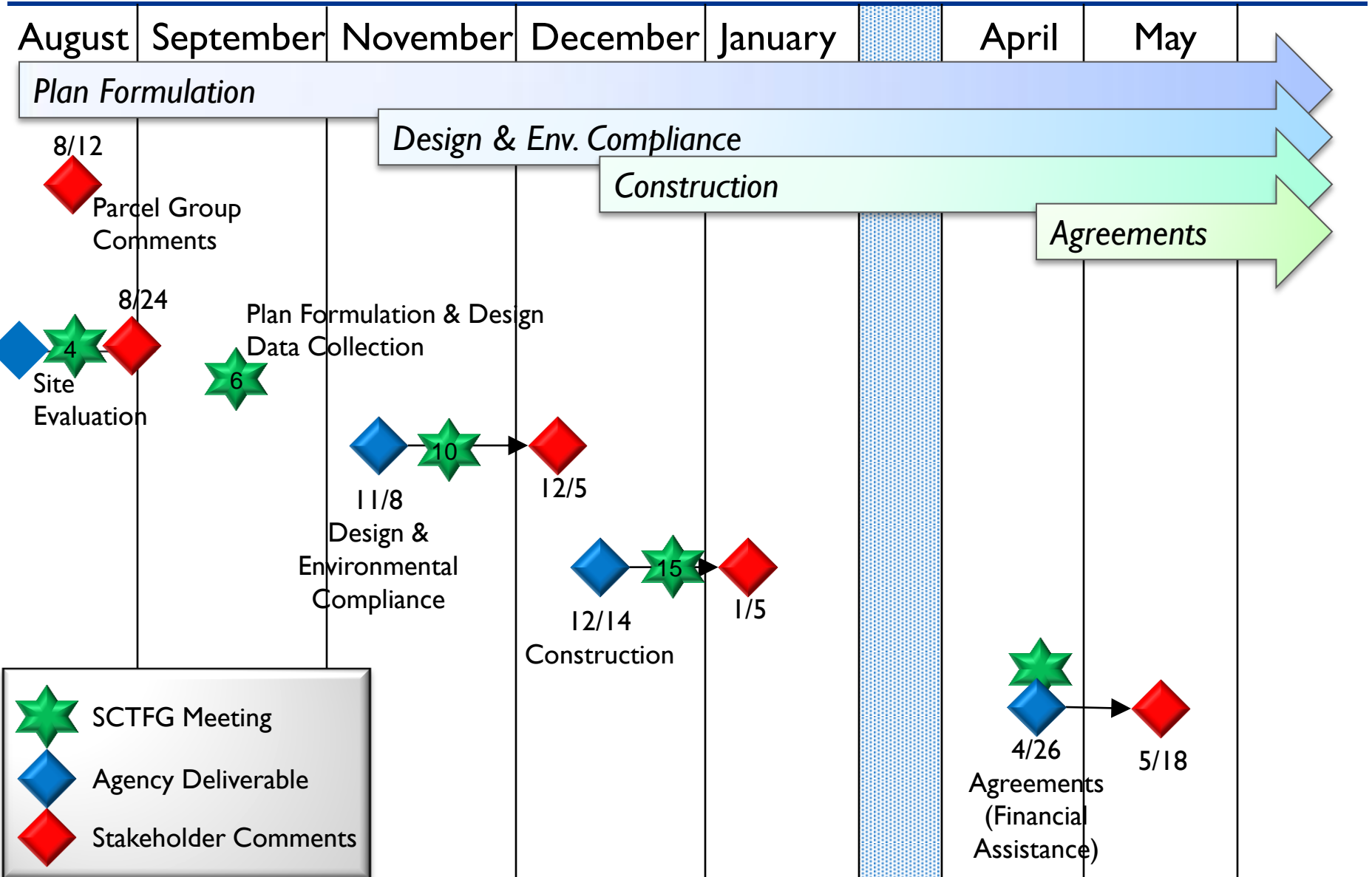
Patti Ransdell

NEXT STEPS AND FOLLOW- THROUGH

Next Steps

- Full SPH to be posted to restoresjr.net by COB, April 27
- Feedback from Landowners on entire SPH (including Agreements section)
 - Due May 18
- Next Meeting Date
 - TBD

Milestones for Handbook Preparation



- SCTFG Meeting
- Agency Deliverable
- Stakeholder Comments



Action Items and Review

- Update Action Items
 - Revised Actions
 - New Actions

Parking Lot Topics

- Impacts to Firebaugh
- California State Lands Commission findings
- Full range of alternatives including:
 - All tile/interceptor scenario
 - All easement scenario
- Identify potential willing sellers for acquisitions projects.



Contact

- Technical Feedback Group – Katrina Harrison
 - Phone: (916) 978-5465
 - kharrison@usbr.gov
- Seepage Concerns – Seepage Hotline
 - 916-978-4398
 - interimflows@restoresjr.net

