

General Waste Discharge Requirements for Winery Process Water

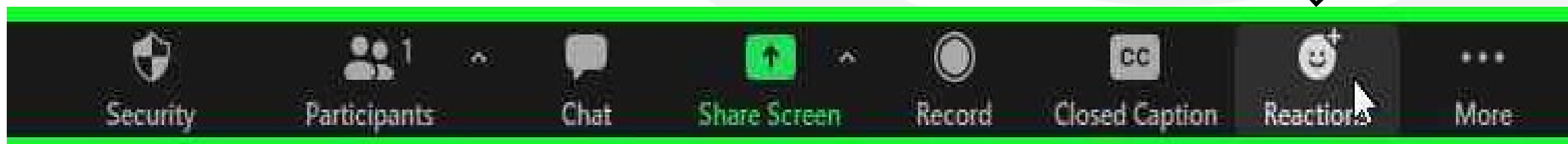
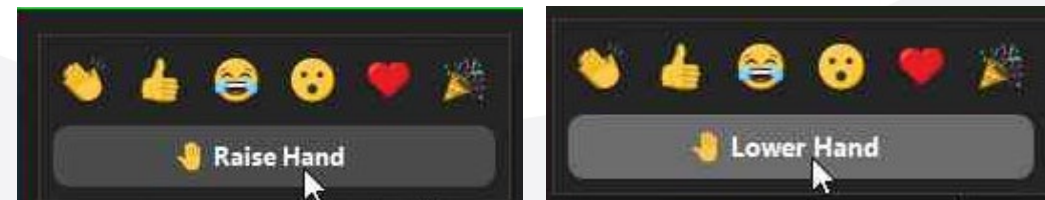
Introduction and Next Steps



2021 Virtual Webinars

Meeting Participation

- Utilize Zoom chat or raise hand options



- Please stay on mute during presentation/when not speaking



- Please save verbal questions until after the presentation



Presentation Topics

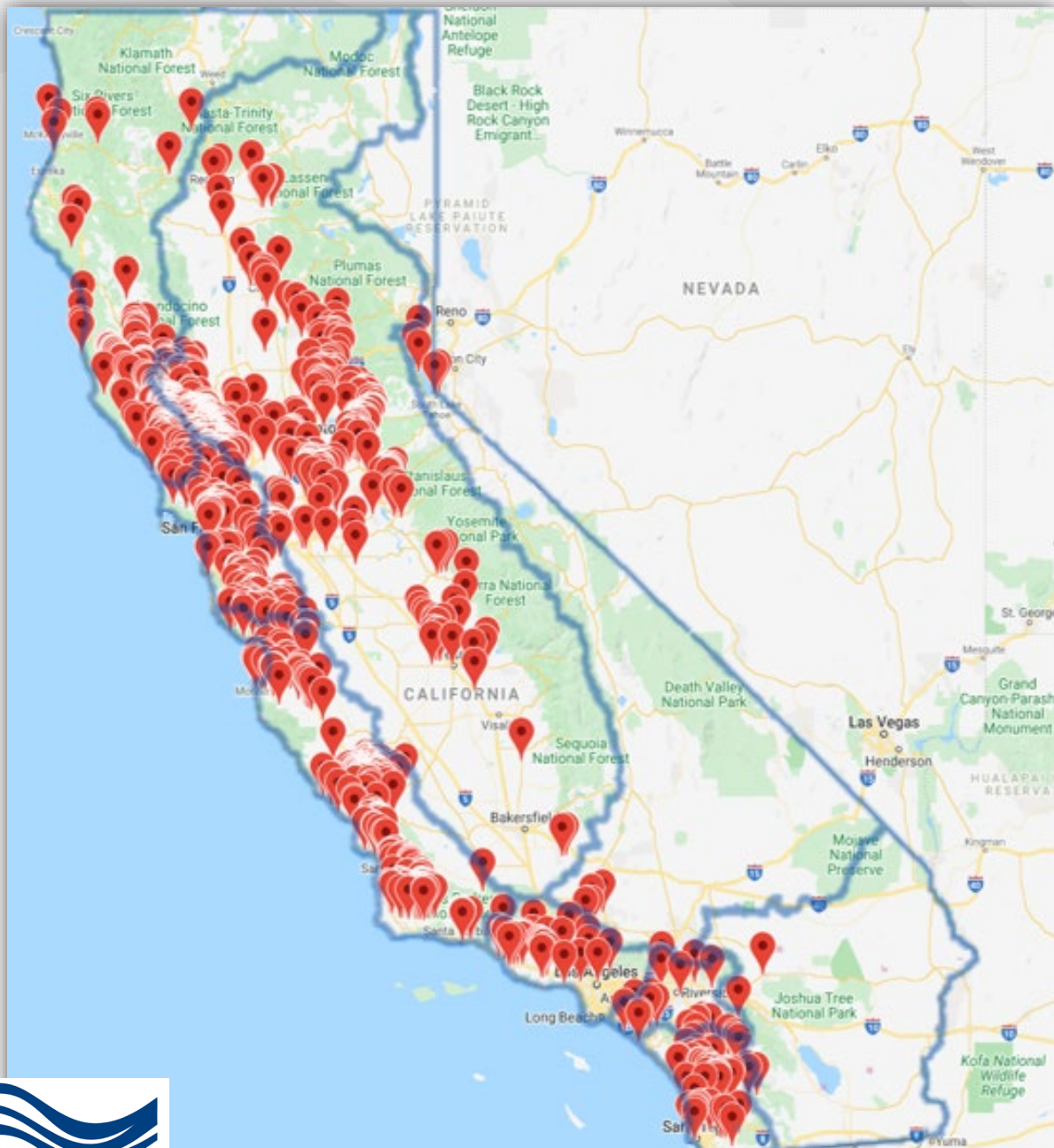
- Order Overview
- Application and Enrollment
- Tier Requirements
- Questions and Answers



State Water Board Adoption

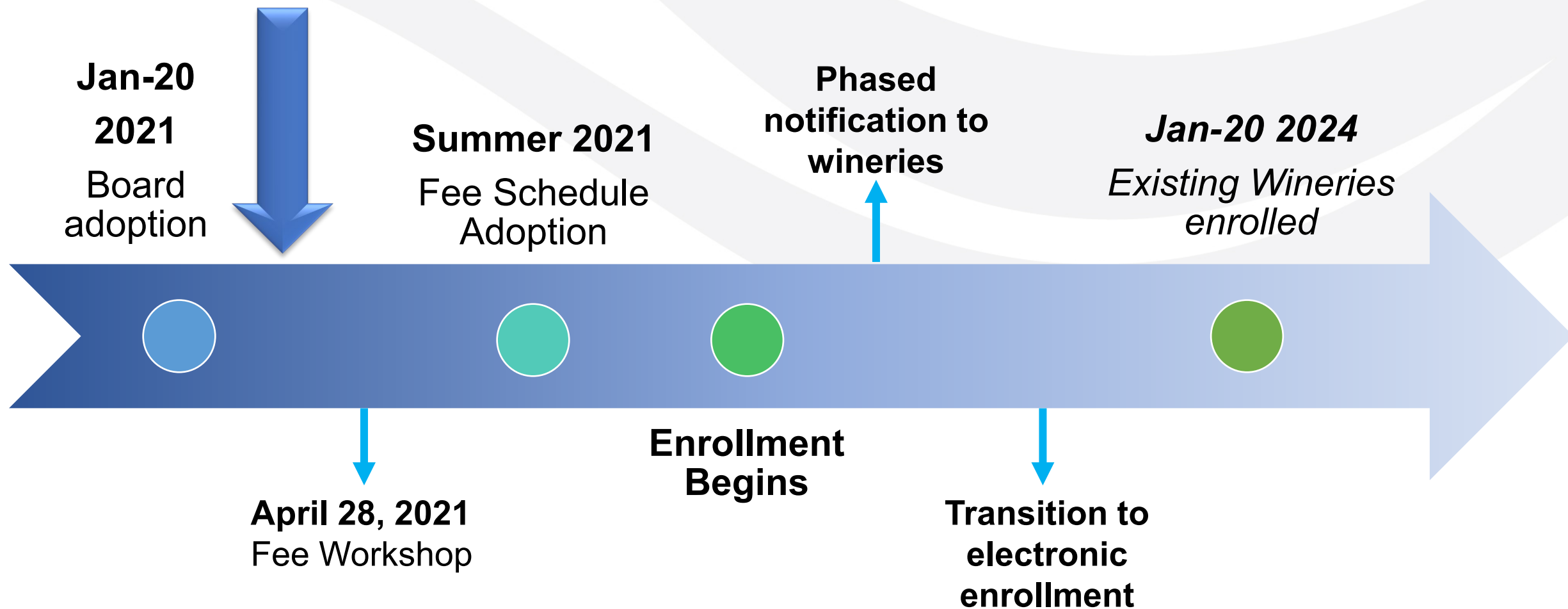
- January 20, 2021
- California Environmental Quality Act Mitigated Negative Declaration
- General Order (included 2 change sheets)





Statewide General
Order for wineries
generating
>10,000-15,000,000
gallons of process
water a year with
discharges to land

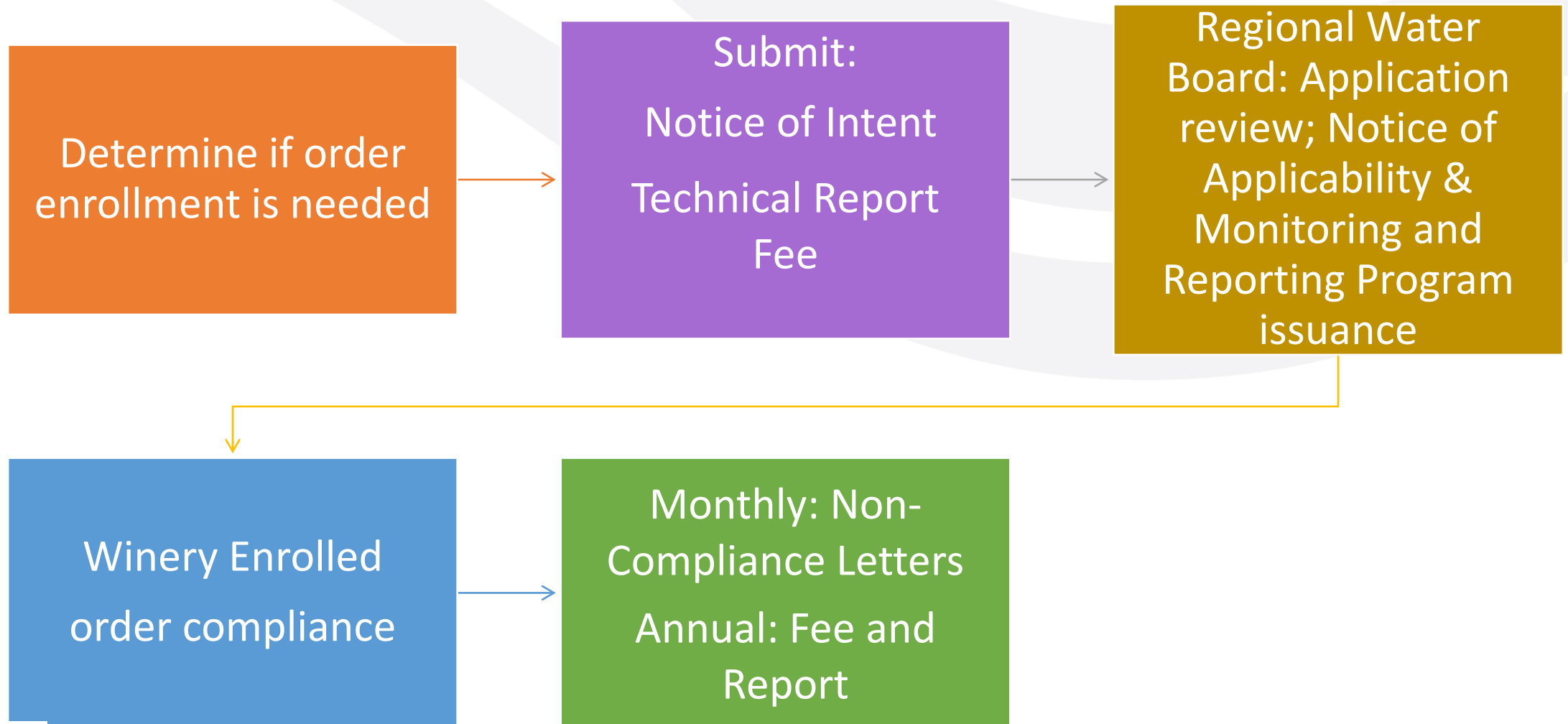
Implementation Timeline



Order Tiers

Tier	Cutoffs (gal/yr of process water)
Not covered by Order	<i>Exempt: $\leq 10,000$</i>
Tier 1	$>10,000 - 30,000$
Tier 2	$>30,000 - 300,000$
Tier 3	$>300,000 - 1,000,000$
Tier 4	$>1,000,000 - 15,000,000$

Enrollment Process and Components



Compliance Schedules

Existing Wineries with WDRs

- Enroll over time

Existing Wineries without WDRs

- ≤ 3 years to enroll (1-20-2024)
- ≤ 5 year compliance schedule

New Wineries

- Enroll 180 days before opening

Exempt < 10,000 gpy



- General practices to manage process water

Tier 1: >10,000-30,000 gpy



- Enroll
- General process water specifications
- Effluent flow monitoring
- Separation of commingled domestic and process water systems
- Partial Annual Report and non-compliance

Tier 2: >30,000 – 300,000 gpy



Tier 1 plus

- Source water, effluent, pond, disposal, and solids monitoring
- Expanded/New ponds sizing and liner compliance
- Land application area BOD and Nitrogen loading rates
- Subsurface disposal hydraulic and effluent limits (Nitrogen, TSS, BOD)
- Fixed Dissolved Solids Threshold
- Control plan criteria in response to limit exceedances
- Full Annual Report

Requirement Summary per Tier

**gallons of
process water
per year = gpy**

Requirement Summary per Tier

gallons of
process water
per year = gpy

Tier 3: >300,000 – 1,000,000 gpy



Tier 2 plus

- All ponds require sizing, liner, and testing compliance

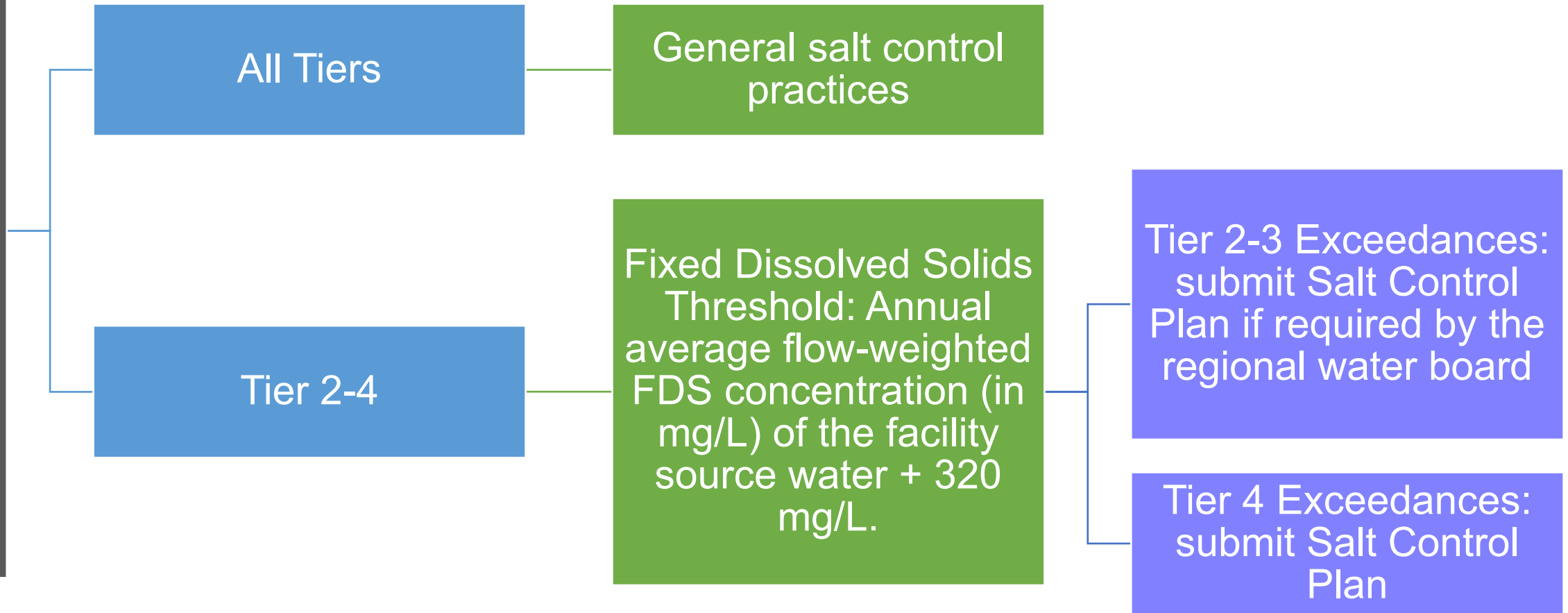
Tier 4: >1,000,000 – 15,000,000 gpy



Tier 3 plus

- Groundwater monitoring (exception criteria provided for ponds and land application areas)
- Reporting required in response to an exceedance
- Semiannual Report

Salt Control



Process Water Pond Requirements



Tier 1 Pond Specifications

Meet general pond specifications

Report pond capacity and hydraulic conductivity information to the regional water boards

Tier 2 Existing Pond Specifications

Meet general pond specifications

Report pond capacity and hydraulic conductivity information to the regional water boards



New Tier 2 and all Tier 3 Pond Specifications



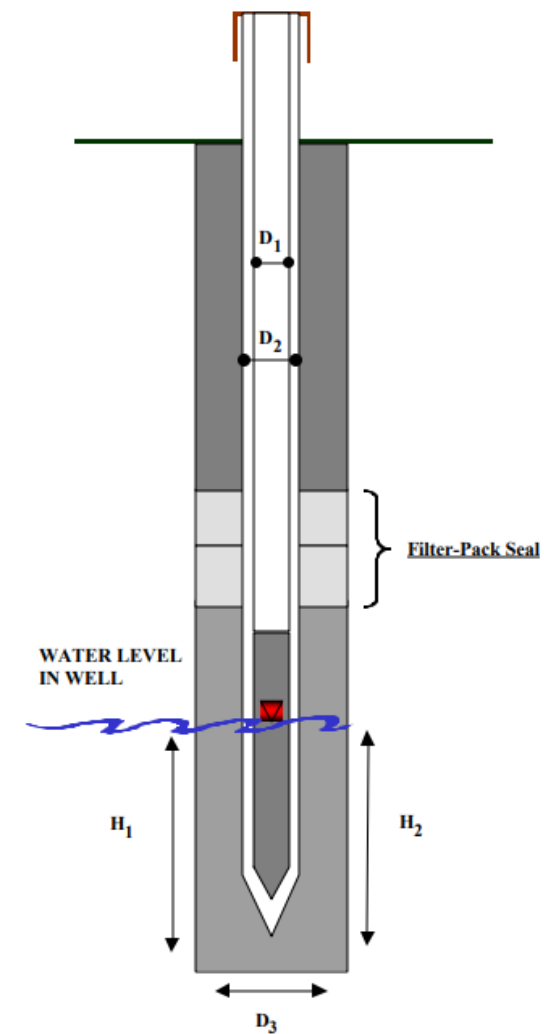
Meet 100-year, 24-hour storm design standard or 25-year, 24-hour storm design standard with operation and management practices approved by the regional water board

Demonstrate ponds have minimal leaking and meet the hydraulic conductivity standard of 1×10^{-6} centimeters per second (cm/s) and conduct testing every 5 years

Tier 4 Pond Specifications

Tier 3 +

Tier 4: Groundwater monitoring required* some exemptions available





Land Application Area (LAA) Specifications

Tier 1 Land Application Areas

Meet general specifications for Land Application Areas



Tier 2 and 3 Land Application Areas

Meet general specifications for Land Application Areas

Comply with average BOD loading limit of 100 lb/ac/d over the course of any discharge cycle (i.e., irrigation cycle)

Apply waste constituents at agronomic rates

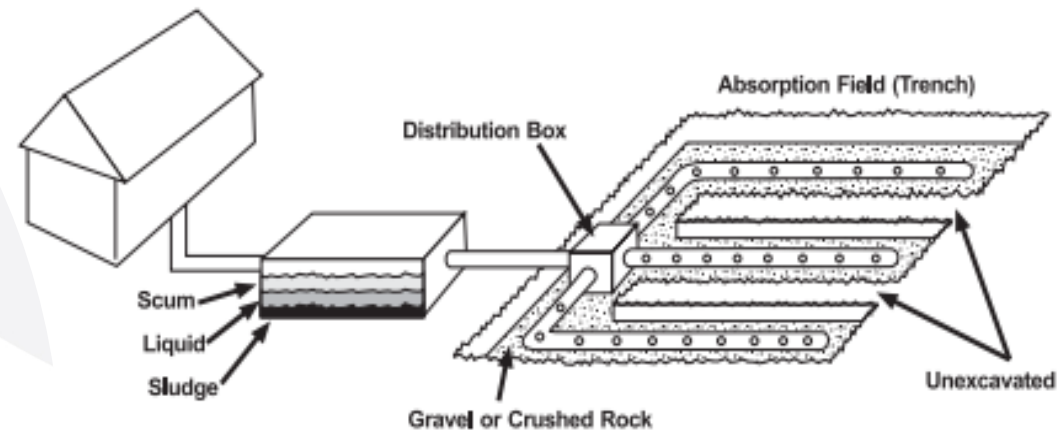
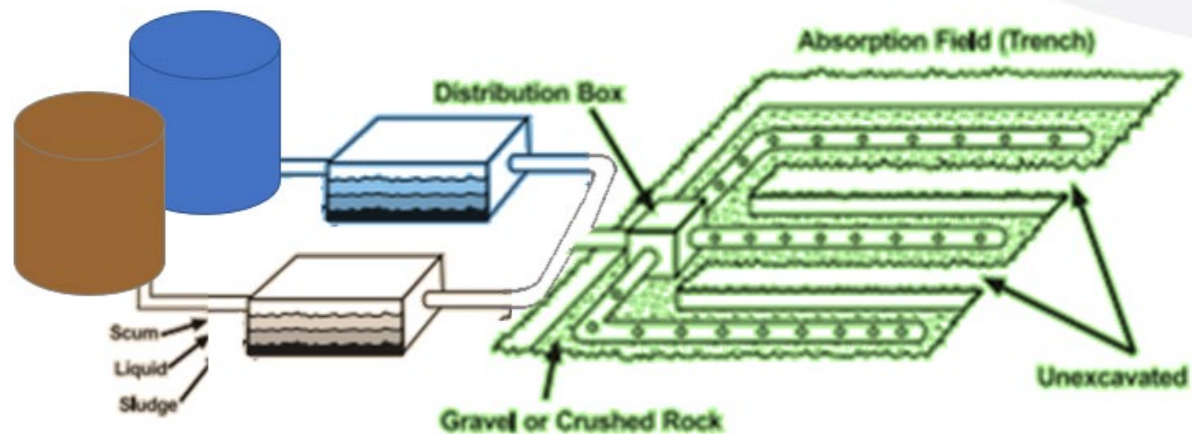


Tier 4 Land Application Areas

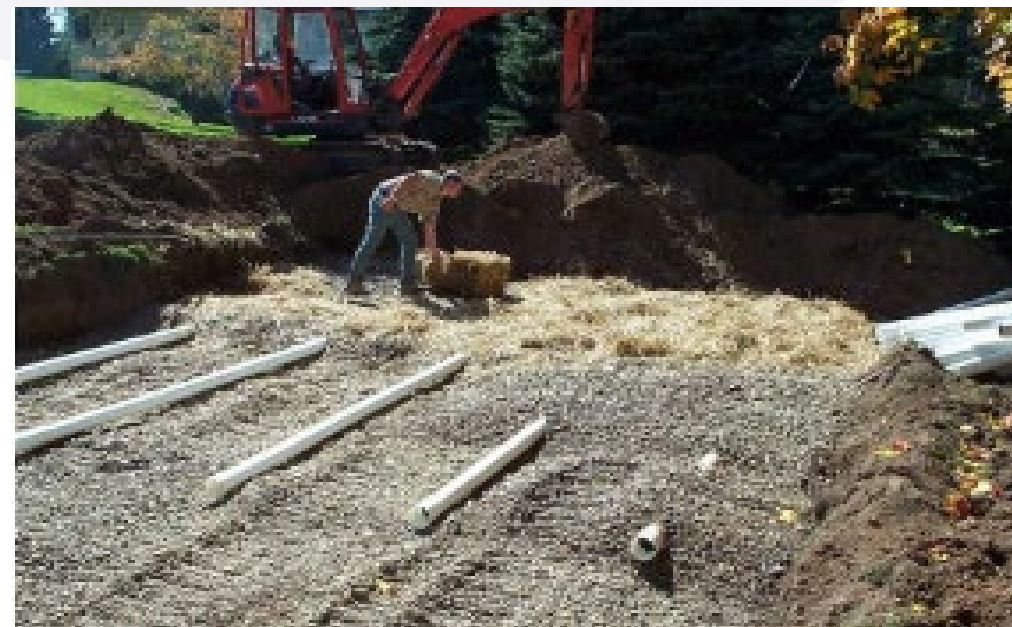
Tier 3 +

Tier 4: Groundwater monitoring is required* some exemptions available





Subsurface Disposal System (SDS) Specifications



Tier 1 Subsurface Disposal Systems

Meet general SDS specifications



Tier 2 Subsurface Disposal Systems

Meet hydraulic loading limit and general SDS specifications

Monitor treated effluent prior to discharge into the subsurface disposal area

Meet Effluent Limits: total nitrogen 10 mg/L; BOD 300 mg/L; TSS 330 mg/L*
alternative groundwater monitoring option instead of the nitrogen effluent limit

Existing SDS Nitrogen effluent limit exceedances (three consecutive samples):
Submit a Nitrogen Control Plan if required by the regional water board

New Expanding SDS Nitrogen effluent limit exceedances (three consecutive samples): Submit a Nitrogen Control Plan

Tier 3 and 4 Subsurface Disposal Systems

Tier 2 +

All Tier 3 SDS: Submit a Nitrogen Control Plan when effluent limits are exceeded

Tier 4: Groundwater monitoring is required

Monitoring and Reporting



Monitoring and Reporting Program (MRP)

- Order includes a model MRP
- Final MRP issued with Notice of Applicability

Monitoring Reports

- Monthly Compliance letters – instances of non-compliance
- Semi-annual groundwater reports
- Annual report

Monitoring and Reporting (cont.)

All Tiers

Compliance Monitoring

- Tier determination
- FDS threshold
- Pond freeboard, dissolved oxygen
- Land application area loading rates
- SDS effluent limits

Monitoring locations:

- Winery effluent

Site Dependent

Monitoring locations:

- Facility
- Ponds
- Effluent to land and land application area
- Effluent to Subsurface disposal system and disposal area
- Process solids
- Groundwater

Other Proposed General Order Requirements

- Solids specifications
- Groundwater limitations
- Technical provisions
- Standard provisions



Next Steps

- Document accessibility
- Implementation Guidance Development
- Fee Schedule Development
- Electronic Enrollment and Reporting Tool Development



Thank You, Questions?

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Stay informed – join the e-Lyris!

https://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.html

Select 'Statewide General WDRs for Wineries' under 'Water Quality', fill out information, submit

Program Webpage:

https://www.waterboards.ca.gov/water_issues/programs/waste_discharge_requirements/winery_order.html

California Environmental Lab Accreditation Program Certified Laboratories

<https://waterboards.maps.arcgis.com/apps/webappviewer/index.html?id=bd0bd8b42b1944058244337bd2a4ebfa>

Image Citations

- Slide 5: Map of wineries in the state of California from the [American Wine Guide webpage](http://www.americanwineryguide.com/wineries/?state=204&sname=California) (<http://www.americanwineryguide.com/wineries/?state=204&sname=California>). Regional water quality control board boundary overlay from the [State Water Resources Control Board webpage](https://www.waterboards.ca.gov/waterboards_map.html) (https://www.waterboards.ca.gov/waterboards_map.html)
- Slide 15: Screenshot image of a winery from Google Earth, 2021
- Slide 17: Screenshot image of a winery from Google Earth, 2021
- Slide 17: Diagram of a groundwater monitoring well from the [Oregon State Department of Environmental Quality Groundwater Monitoring Well Design, Construction, and Decommissioning Guidance Manual](https://www.oregon.gov/deq/FilterDocs/GroundwaterMonitoringWellDrilling.pdf) (<https://www.oregon.gov/deq/FilterDocs/GroundwaterMonitoringWellDrilling.pdf>)

Image Citations

- Slide 22: Top images of a subsurface disposal system from/adapted from the [U.S. EPA onsite wastewater treatment system 2002 manual, PDF page 162](https://www.epa.gov/sites/production/files/2015-06/documents/2004_07_07_septics_septic_2002_osdm_all.pdf) (https://www.epa.gov/sites/production/files/2015-06/documents/2004_07_07_septics_septic_2002_osdm_all.pdf)
- Slide 22: Bottom right closeup image of a drainfield installation from the [State of Michigan Department of Environment, Great Lakes, and Energy Onsite wastewater webpage](https://www.michigan.gov/egle/0,9429,7-135-3313_71618_51002---,00.html) (https://www.michigan.gov/egle/0,9429,7-135-3313_71618_51002---,00.html)

Image Citations (cont.)

- Slide 23: Left [El Dorado County Webpage](https://www.edcgov.us/Government/emd/environmentalhealth/pages/septic_components_-_leach_lines.aspx)
(https://www.edcgov.us/Government/emd/environmentalhealth/pages/septic_components_-_leach_lines.aspx)
- Slide 26: Left image of water sampling equipment from a [Public Lab website posted workshop](https://www.google.com/search?q=water+sampling&tbm=isch&ved=2ahUKEwico6bnuL3vAhX2JDQIHT0RCLUQ2-cCegQIABAA&oq=water+sampling&gs_lcp=CgNpbWcQAzlCCAAyAggAMgIIADICCAAYAggAMgIIADICCAAYAggAMgIIADICCAABQkW5Y_XNgpnVoAHAAeACAAdcBiAHQBpIBBTauNi4xmAEAoAEBqgELZ3dzLXdpei1pbWfAAQE&sclient=img&ei=1ipVYJzgJvbJ0PEPvaKgqAs&bih=937&biw=1920#imgsrc=AQXdbd5OYcdi4M)
(https://www.google.com/search?q=water+sampling&tbm=isch&ved=2ahUKEwico6bnuL3vAhX2JDQIHT0RCLUQ2-cCegQIABAA&oq=water+sampling&gs_lcp=CgNpbWcQAzlCCAAyAggAMgIIADICCAAYAggAMgIIADICCAAYAggAMgIIADICCAABQkW5Y_XNgpnVoAHAAeACAAdcBiAHQBpIBBTauNi4xmAEAoAEBqgELZ3dzLXdpei1pbWfAAQE&sclient=img&ei=1ipVYJzgJvbJ0PEPvaKgqAs&bih=937&biw=1920#imgsrc=AQXdbd5OYcdi4M)
- All other photos were accessed from the PowerPoint online creative commons and categorized as unknown authors and licensed for use under [Creative Commons CC BY-SA](https://creativecommons.org/licenses/by-sa/3.0/) (<https://creativecommons.org/licenses/by-sa/3.0/>)