APPROVED JURISDICTIONAL DETERMINATION FORM **U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): February 7, 2018

В.	DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Herman Property, SPK-2017-00317
C.	PROJECT LOCATION AND BACKGROUND INFORMATION: State: California County/parish/borough: Madera County City: Center coordinates of site (lat/long in degree decimal format): Lat. 37.0043°, Long120.0405° Universal Transverse Mercator: 10 763343.84 4099440.17 Name of nearest waterbody: Unnamed tributary to Dry Creek Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Fresno River Name of watershed or Hydrologic Unit Code (HUC): Fresno River, 18040007 ☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request. ☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc) are associated with this action and are recorded on a different JD form:
D.	REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY): ☐ Office (Desk) Determination. Date: ☐ Field Determination. Date(s): September 18, 2017
SE	CTION II: SUMMARY OF FINDINGS
	RHA SECTION 10 DETERMINATION OF JURISDICTION.
	ere are no "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in review area. [Required] Waters subject to the ebb and flow of the tide. Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There are "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

1. Waters of the U.S.

1.	Indicate presence of waters of U.S. in review area (check all that apply): '
	TNWs, including territorial seas
	☐ Wetlands adjacent to TNWs
	Relatively permanent waters ² (RPWs) that flow directly or indirectly into TNWs
	Non-RPWs that flow directly or indirectly into TNWs
	Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
	Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
	Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
	Impoundments of jurisdictional waters
	☐ Isolated (interstate or intrastate) waters, including isolated wetlands

b. Identify (estimate) size of waters of the U.S. in the review area:

Non-wetland waters: None Wetlands: 0.45 acre.

c. Limits (boundaries) of jurisdiction based on: 1987 Delineation Manual

Elevation of established OHWM (if known):

2. Non-regulated waters/wetlands (check if applicable):3

Describing properties of the p jurisdictional. Explain: Isolated wetland on the south end of the property lacks evidence of hydrologic connection to waters of the US.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

¹ Boxes checked below shall be supported by completing the appropriate sections in Section III below.

² For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

³ Supporting documentation is presented in Section III.F.

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW

Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody⁴ is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:

Watershed size: Pick List
Drainage area: Pick List
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:

(a) Relationship with TNW:

☐ Tributary flows directly into TNW.

☐ Tributary flows through 3 tributaries before entering TNW.

Project waters are **30 (or more)** river miles from TNW.

Project waters are 5-10 river miles from RPW.

Project waters are 30 (or more) aerial (straight) miles from TNW.

Project waters are 2-5 aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW⁵: No jurisdictional tributaries lie within the project area. The description provided here is to establish hydrologic connectivity from the project site to the TNW. The tributaries on site lack wetland features or an OHWM, therefor are not considered jurisdictional. Subsequently a detailed description of the on-site tributaries is not provided here. Flow route to TNW: Unnamed non-jurisdictional tributary, Schmidt Creek, Dry Creek, Fresno River, San Joaquin River (TNW)

Tributary stream order, if known:

⁴ Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

⁵ Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

	(b)	General Tributary	y Characteristics (check all that appl	y):
	` ,	Tributary is:	☐ Natural	
		•	Artificial (man-made). Explain:	
			☐ Manipulated (man-altered). Ex	plain:
				F
		Tributary proper	ties with respect to top of bank (esti	mate):
		Average wid		114.6).
		Average dep		
			e slopes: Pick List.	
		7.1.0.ago 0.a.	5 5.5 p 5 5. 1 1 2. 1 2. 1 3.	
		Primary tributary	substrate composition (check all that	it apply):
		Silts	Sands	Concrete
		☐ Cobbles	□ Gravel	☐ Muck
		Bedrock	☐ Vegetation. Type/% co	
		Other. Ex		
		Outlot: 27	, planii	
		Tributary condition	on/stability [e.g., highly eroding, slou	ghing banks]. Explain:
			riffle/pool complexes. Explain:	gg
		Tributary geomet		
			at (approximate average slope):	
		granan,	(-FF	
	(c)	Flow:		
	` '	Tributary provide	s for: Pick List	
			e number of flow events in review ar	ea/year: Pick List
		Describe flo		,
			n on duration and volume:	
		Surface flow is: F	Pick List. Characteristics:	
		_		
		Subsurface flow:	Unknown. Explain findings:	
		☐ Dye (or o	ther) test performed:	
		Tributary has (ch	eck all that apply):	
		☐ Bed and	banks	
			(check all indicators that apply):	
		☐ clear,	natural line impressed on the bank	the presence of litter and debris
		☐ chang	ges in the character of soil	destruction of terrestrial vegetation
		☐ shelvi	ing	the presence of wrack line
		☐ veget	ation matted down, bent, or absent	sediment sorting
			tter disturbed or washed away	scour
		☐ sedim	ent deposition	multiple observed or predicted flow events
		□ water	staining	abrupt change in plant community
		☐ other	(list):	
		☐ Discontin	uous OHWM.7 Explain: Occasional	break in OHWM into open swales.
		If factors other th	an the OHWM were used to determ	ne lateral extent of CWA jurisdiction (check all that
		apply):		
			E Line indicated by:	☐ Mean High Water Mark indicated by:
		oil or	scum line along shore objects	survey to available datum;
		☐ fine sl	hell or debris deposits (foreshore)	☐ physical markings;
		☐ physic	cal markings/characteristics	vegetation lines/changes in vegetation types.
		☐ tidal g	gauges	
		other 🗌	(list):	
(iii)		emical Character		
				d, oily film; water quality; general watershed
		haracteristics, etc.		
	Ider	ntify specific pollut	ants, if known:	
(iv)	Bio	logical Characte	ristics. Channel supports (check	all that apply):

⁶A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break. ⁷Ibid.

			Riparian corridor. Characteristics (type, average width): Wetland fringe. Characteristics: Habitat for: Federally Listed species. Explain findings: Fish/spawn areas. Explain findings: Other environmentally-sensitive species. Explain findings: Aquatic/wildlife diversity. Explain findings:
2.	Cha	arac	teristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW
	(i)		ysical Characteristics: General Wetland Characteristics: Properties: Wetland size: 0.45 acre Wetland type. Explain: Seasonal wetland swale Wetland quality. Explain: low, actively managed for herbaceous cover Project wetlands cross or serve as state boundaries. Explain:
		(b)	General Flow Relationship with Non-TNW: Flow is: Intermittent flow. Explain: No flow was observed during the site visit but, evidence of sediment transport was observed. Ponding was observed in Google Earth imagery, March 18, 2015 and April 5, 2014.
			Surface flow is: Overland sheetflow Characteristics: Overland sheetflow is provided via a swale draining to the west of SW – 1. The broad swale downslope, is approximately 10 feet wide with a depth averaging less than 1 foot. The swale exhibits flow patterns, deposits of fine-grained sand in some areas of slack water, and a biotic crust in the form of dried algal mats in digressional areas where water pools. A defined bed and bank was not observed.
			Subsurface flow: Unknown . Explain findings: Dye (or other) test performed:
		(c)	Wetland Adjacency Determination with Non-TNW: ☐ Directly abutting ☐ Not directly abutting ☐ Discrete wetland hydrologic connection. Explain: The SW – 1 wetland is joined to a RPW via the described non-jurisdictional swale which connects with Schmidt Creek, an ephemeral drainage, Schmidt Creek drains to Dry Creek a RPW. Dry Creek is a tributary of the Fresno River which is a tributary of the San Joaquin River a TNW. ☐ Ecological connection. Explain: ☐ Separated by berm/barrier. Explain:
		(d)	Proximity (Relationship) to TNW Project wetlands are 30 (or more) river miles from TNW. Project waters are 30 (or more) aerial (straight) miles from TNW. Flow is from: Wetland to navigable waters. Estimate approximate location of wetland as within the 500-year or greater floodplain.
	(ii)	Cha c Ide	emical Characteristics: aracterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed haracteristics; etc.). Explain: ntify specific pollutants, if known: Pesticides and herbicides, further explanation found in Significant Nexus Determination (section III.C.2)
	(iii)		Riparian buffer. Characteristics (type, average width): Vegetation type/percent cover. Explain: As identified by Live Oak and Associates, Inc. the dominat species in the wetland is barnyard grass Echinochloa crus-galli (FACW) 50% cover. Other species include Polygonum aviculare ssp. Depressuml (FAC) 10%, Malva parviflora (UPL) 2%, Amaranthus albus (FACU) 2%, Echinochloa crus-galli (FACW) 1%. Habitat for: Federally Listed species. Explain findings: Fish/spawn areas. Explain findings: Aquatic/wildlife diversity. Explain findings:

3. Characteristics of all wetlands adjacent to the tributary (if any)

All wetland(s) being considered in the cumulative analysis: 1
Approximately **0.45** acre in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

- Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
- 2. Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: SW 1 has clearly defined hydrologic connection with down slope non-RPW via a non-wetland swale. The swale lacks jurisdictional features but, provides hydrologic connection between the wetland and non-RPW. The wetland provides drainage for an actively managed orchard. As identified in the February 2017, *Investigation of Potential Waters of the United States Herman Property/Castellina Madera County, California,* the management of this orchard includes the application of pesticides and herbicides. The San Joaquin River (Mendota to Bear Creek) (TNW) is identified as an impaired water by the EPA in the 2012 Waterbody Report, as relates to pesticides. The application of pesticides on this property likely provides a contribution of pollutants to the San Joaquin River. The jurisdictional wetland likely provides some function to reduce the amount pollutants that flow directly into other Waters of the US.
- 3. Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW. Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D.	DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THA
	APPLY):

1.	INWS and Adja	cent Wetlands.	Check all that ap	oply and provide siz	e estimates in	review area:
	☐ TNWs:	linear feet,	wide, Or	acres.		

	☐ Wetlands adjacent to TNWs: acres.
2.	 RPWs that flow directly or indirectly into TNWs. Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:
	Provide estimates for jurisdictional waters in the review area (check all that apply): Tributary waters: linear feet wide. Other non-wetland waters: acres. Identify type(s) of waters:
3.	Non-RPWs ⁸ that flow directly or indirectly into TNWs. Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.
	Provide estimates for jurisdictional waters within the review area (check all that apply): Tributary waters: linear feet, wide. Other non-wetland waters: acres. Identify type(s) of waters:
4.	Wetlands directly abutting an RPW that flow directly or indirectly into TNWs. Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands. Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
	□ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:
	Provide acreage estimates for jurisdictional wetlands in the review area: acres.
5.	Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs. Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.
	Provide acreage estimates for jurisdictional wetlands in the review area: acres.
6.	Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs. ☑ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.
	Provide estimates for jurisdictional wetlands in the review area: 0.45 acre.
7.	Impoundments of jurisdictional waters.9 As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional. Demonstrate that impoundment was created from "waters of the U.S.," or Demonstrate that water meets the criteria for one of the categories presented above (1-6), or Demonstrate that water is isolated with a nexus to commerce (see E below).
DE(LATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, GRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH TERS (CHECK ALL THAT APPLY): 10 which are or could be used by interstate or foreign travelers for recreational or other purposes.

E.

⁸See Footnote # 3.

⁹ To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

¹⁰ Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

	 ☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce. ☐ which are or could be used for industrial purposes by industries in interstate commerce. ☐ Interstate isolated waters. Explain: ☐ Other factors. Explain:
	Identify water body and summarize rationale supporting determination:
	Provide estimates for jurisdictional waters in the review area (check all that apply): Tributary waters: linear feet, wide. Other non-wetland waters: acres. Identify type(s) of waters: Wetlands: acres.
F.	NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY): ☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements. ☐ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce. ☐ Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR). ☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: ☐ Other: (explain, if not covered above):
	Provide acreage estimates for non-jurisdictional waters in the review area, where the <u>sole</u> potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply): Non-wetland waters (i.e., rivers, streams): linear feet, wide. Lakes/ponds: acres. Other non-wetland waters: acres. List type of aquatic resource: Wetlands: acres.
	Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard where such a finding is required for jurisdiction (check all that apply): Non-wetland waters (i.e., rivers, streams): linear feet, wide. Lakes/ponds: acres. Other non-wetland waters: acres. List type of aquatic resource: Wetlands: Isolated wetland acres. 0.11 acre
<u>SE</u>	CTION IV: DATA SOURCES.
Α.	SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below): Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Data sheets prepared/submitted by or on behalf of the applicant/consultant. Office concurs with data sheets/delineation report. Office does not concur with data sheets/delineation report. Data sheets prepared by the Corps: Corps navigable waters' study: U.S. Geological Survey Hydrologic Atlas: USGS NHD data. USGS 8 and 12 digit HUC maps. U.S. Geological Survey map(s). Cite scale & quad name: 1:24K; Kismet USDA Natural Resources Conservation Service Soil Survey. Citation: National wetlands inventory map(s). Cite name: State/Local wetland inventory map(s): FEMA/FIRM maps: 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929) Photographs: Aerial (Name & Date): Google Earth, August 7, 2017, March 31, 2017, and April 5, 2014 or Other (Name & Date): USACE Mapped photo log for site visit conducted September 18, 2017. Previous determination(s). File no. and date of response letter:
	 Applicable/supporting case law: Applicable/supporting scientific literature: Other information (please specify):

B. ADDITIONAL COMMENTS TO SUPPORT JD: The Corp does not concur with the entirety of the submitted delineation report. The Corp does not concur that SW-1 is a non-jurisdictional wetland based on the evidence provided in the

delineation report. The Corp also does not concur that SW-1 is the only wetland within the project area. The non-jurisdictional wetland (NW – 1) identified in the project area was delineated by the Corp during the September 18, 2017 site visit. NW – 1 has been determined to be a non-jurisdictional wetland based on the lack of evidence of any identifiable hydrologic connection between that wetland and other Waters of the US (WOUS). The wetland identified as SW – 1 has been determined to be jurisdictional based on a hydrologic connection with downstream WOUS. The hydrologic connection is provided via a non-jurisdictional swale flowing east to west and directly abuts SW – 1. This swale is visible in aerial imagery and on the ground during the September 2017 site visit. A significant nexus determination was made based upon the ability to convey pesticides to an already impaired water, The San Joaquin River. Confirmation of the use of pesticides as it relates to farming practices is referenced in the February 2017 delineation report, *Investigation of Potential Waters of the United States Herman Property, Castellina Madera County, California pg.2 and 24.*