Teichert Aggregates
Shifler Mining and Reclamation Project
Project Description
February 2019

1. Introduction

Teichert Aggregates ("Teichert") proposes to mine and reclaim approximately 277 acres of the 319-acre Shifler property ("Project Site") for the purpose of supplying its existing Woodland aggregate (rock, sand, and gravel) processing facility ("Woodland Plant"), as discussed below. These activities are referred to as the Shifler Mining and Reclamation Project ("Project").

2. Project Location and Setting

Project Site

The Project Site is located approximately three miles west of the City of Woodland, in unincorporated Yolo County (Exhibit 1, Project Location). The Project Site consists of approximately 319.3 acres[1] (Exhibit 2, Project Site). The project site includes all or portions of four parcels[2] (APNs 025-120-032 (portion), 025-120-033, 025-430-001 (portion), and 025-430-002). The Project Site is generally bounded by County Road 94B to the west, Cache Creek to the north, and County Road 22 to the south.

The Project Site is currently in agricultural use. Moore Canal, a water conveyance structure owned and operated by the Yolo County Flood Control and Water Conservation District (YCFCWCD), bisects the Project Site from west to east. An existing electric conveyor formerly used to transport mined aggregate from Teichert's Storz mining site to the Woodland Plant lies along the northern boundary of the Project Site. Existing surface elevations on the Project Site range from approximately 98 to 112 feet above mean sea level (MSL), with the proposed mining area elevations between approximately 103 and 112 feet above MSL.

Surrounding land uses include Teichert's Woodland Plant site to the northeast; agricultural land to the east; the Monument Hill Memorial Park cemetery and rural residential uses to the south; the Yolo Fliers Club golf course, the Watts-Woodland Airport, and Wild Wings residential subdivision and golf course to the southwest; and Teichert's Storz mining site and the Cache Creek Nature Preserve to the northwest.

[1] The Project Site consists of the proposed mining area and surrounding areas needed for the proposed relocation/realignment of Moore Canal, setbacks, visual screening, noise and safety berms, aggregate conveyors, access roads, and other project-related uses. The four Shifler property parcels (APNs 025-120-032, 025-120-033, 025-430-001, and 025-430-002) in their entirety total approximately 442.4 acres. However, the portions of the Shifler property within the Cache Creek channel and on Monument Hill have been excluded from the Project Site. No disturbance is proposed to those portions of the Shifler property.
[2] The portions of the Moore Canal and Magnolia Canal that traverse the project site have been assigned APNs by Yolo County (APNs 025-120-010, 025-120-011, and 025-430-009), but these APNs are actually easements held by the Yolo County Flood Control and Water Conservation District (YCFCWCD).

Woodland Plant and Current Mining Sites

Teichert's Woodland Plant has been operating since the 1950s. Processing facilities include, but are not limited to, rock and asphalt plants. The processing plant and associated processing facilities of the Woodland Plant are located on the approximately 140-acre plant site, which is composed of four parcels (APNs 025-350-018 and -019; 025-120-039 and -041) (Exhibit 3, Vicinity Map.). The Woodland Plant has historically served the surrounding region, including, but not limited to, Yolo, Solano, and Sacramento counties.

The Woodland Plant is authorized to receive aggregate from the following approved mining sites: 1) Woodland Properties (ZF 95-095), consisting of the Muller, Coors, and Storz properties, with an approved mining area totaling 252 acres, all of which have completed mining and are currently being reclaimed; and 2) the Schwarzgruber site (ZF 2011-0035), with an approved mining area of 40 acres. (Exhibit 3.) Operations at the Woodland Plant are currently regulated by the Schwarzgruber surface mining permit (ZF 2011-0035) and development agreement (DA 12-152), as mining has been completed on all three Woodland Properties sites.

The remaining permitted aggregate reserves for the Woodland Plant are limited to the permitted reserves on the Schwarzgruber property. The current Schwarzgruber surface mining permit expires on January 1, 2028. However, these reserves could be exhausted in as soon as two years, depending on market demand. Accordingly, Teichert is seeking an additional mining site to supply the Woodland Plant once existing permitted reserves are exhausted.

3. Project Objectives

Teichert has identified the following objectives for the Project:

- To permit an additional 277 ± acres of permitted mining area with approximately 35.25 million tons sold (41.6 million tons mined) of Portland Cement Concrete (PCC) grade aggregate reserves for mining and processing at Teichert's Woodland plant for a period of 30 years;

- To extend the life of the existing Woodland Plant consistent with the requested 30-year life of the Shifler surface mining permit and allow it to continue to operate as needed to meet market demand;

- To allow Teichert to transfer the Esparto Plant's current annual permitted volume of 1 million tons sold (1,176,471 tons mined) to the Woodland Plant once mining is complete at Esparto or the Esparto surface mining permit expires, whichever occurs first;

- To ensure that irrigation water deliveries in Moore Canal are not affected by the Project;

- To reclaim the mined land to agriculture and a mix of habitat uses, including pond, grassland, riparian woodland, and native landscape, in accordance with the requirements of Surface Mining and Reclamation Act (SMARA), the Yolo County Off-Channel Mining Plan (OCMP), Off-Channel Surface Mining Ordinance (OCSMO), Surface Mining Reclamation Ordinance (SMRO), and Agricultural Surface Mining and Reclamation Ordinance (ASMRO).

4. Project Characteristics

Mining Plan

Teichert seeks to permit the Project Site as an aggregate mining site that would supply the existing Woodland Plant, which is located adjacent to and north/northeast of the Project Site. The proposed mining and reclamation plans for the Project Site are described below. Please also refer to the summary provided in Table 1 (Summary Table).

Mining Area, Depth, Anticipated Reserves

Teichert proposes to mine approximately 277 ± acres of the 319.3-acre Project Site (Exhibit 4, Mining Plan). All of the proposed mining area would be off-channel and set back more than 200-feet from Cache Creek. Depth of mining will vary depending on the location, quality, and quantity of aggregate reserves present. It is anticipated that the mining will occur up to a maximum depth of 5 feet below MSL elevation, approximately 110 feet below existing ground surface, near the northeastern corner of the mining area. The proposed depths of mining would be approximately 40 feet below existing ground surface in the southeastern portion of the mining area, approximately 65 feet below existing ground surface in the northwestern corner of the mining area, and approximately 70 feet below existing ground surface in the southwestern corner of the mining area. The total amount of aggregate (sand and gravel) proposed to be mined will vary depending upon the quality, quantity, and location of aggregate onsite, but will not exceed 35.25 million tons (approximately 23.5 million cubic yards) sold (41.6 million tons mined). As discussed below, Teichert is seeking a thirty-year surface mining permit that would allow for maximum aggregate sales of up to 2.2 million tons in a given year.

Moore Canal Relocation

As discussed previously, Moore Canal bisects the Project Site from west to east. Mining of the Project Site will require the relocation of Moore Canal along the western and northern boundary of the Project Site (Exhibit 5, Moore Canal Relocation). (Retention of the canal in its existing location would result in the loss of approximately 3.6 million cubic yards (5.4 million tons) of the mineable aggregate reserves onsite, which could make the Project potentially infeasible.) Relocation of the canal will occur before commencement of mining. As requested by the YCFCWCD, the relocated canal will be located a minimum

of 200 feet from the existing top of bank of Cache Creek, and the reclaimed mining slopes within 50 feet of the relocated canal will have 3:1 slopes.

The relocated Moore Canal would be concrete-lined and have an access road on each side for periodic maintenance by the YCFCWCD. Two over-crossings of the relocated Moore Canal would be constructed to facilitate the transport of aggregate by conveyor to the Woodland Plant site and to allow mining equipment to access the Project Site from the Woodland Plant site. These over-crossings would remain after completion of mining and reclamation to allow vehicular access across the relocated Moore Canal.

The project application includes a geotechnical study that demonstrates that that the relocated Moore Canal meets the required factors of safety and would not result in seepage of canal water into the mining area. (Geocon Consultants, Inc. 2016.)

Setbacks

As shown in Exhibit 4, mining activities on the Project Site will comply with the following minimum setbacks:

- 200 feet from existing channel bank of Cache Creek, as required by Section 10-4.429(d) of the OCSMO;
- 50 feet from the County Road 94B right-of-way on west side of property (with visual screening proposed along the right-of-way);
- 50 foot setback from Woodland Plant site to the north.

Section 10-4.429(d) of the OCSMO requires a minimum setback of 700 feet from the existing channel bank, but allows for that setback to be reduced to a minimum of 200 feet of unexcavated area with a demonstration that such a setback would not adversely affect channel stability. Consistent with this requirement, the nearest mining activities would be located approximately 300 feet from the creek with the relocated Moore Canal set back a minimum of 200 feet from the creek. The project application includes a geotechnical study that demonstrates that that the proposed setback meets the required factors of safety and would not adversely affect the stability of the Cache Creek channel (Geocon Consultants, Inc. 2016).

Section 10-4.429(c) of the OCSMO requires a setback of 1,000 feet from public rights-of-way and adjacent property lines of off-site residences, unless a landscaped buffer is provided to site-specific characteristics reduce potential aesthetic impacts. Where a landscaped buffer is proposed, setbacks for off-channel excavations may be reduced to a minimum of 50 feet from either the property line or adjoining right-of-way, whichever is greater. As discussed in further detail below, visual screening is proposed to shield views of the mining area from County Road 94B and County Road 22, as discussed in further detail below. Thus, a minimum 50-foot setback from those roads is required with the proposed visual screening. The Project would comply with these setbacks by providing a minimum 50-foot setback from County Road 94B to the west of the Project Site with visual screening consisting of berms and landscaping and a setback of approximately 400 feet or

more from County Road 22 to the south of the Project Site with visual screening provided by existing topography and landscaping.

Also, a 50-foot setback is proposed between the Project Site and the adjacent Woodland Plant site to the north.

Furthermore, Section 10-4.429(g) of the OCSMO provides the following additional requirements regarding the location of mining activities within unincorporated Yolo County:

> No mining activities shall occur within 2,000 feet of the community boundaries of Capay, Esparto, Madison, Woodland, and/or Yolo. This setback may be reduced by up to 500 feet when existing mature vegetation, proposed landscape buffers of a sufficient height and density to create a visual buffer (consisting of native species and fence-row habitat appropriate to the area), or other site-specific characteristics reduce potential incompatibilities between urban land uses and mining. Commercial mining shall not take place east of County Road 96.

Consistent with Section 10-4.429(g) of the OSCMO, the proposed mining area is not located within 2,000 feet of the community boundaries of Capay, Esparto, Madison, Woodland, or Yolo, nor is it located east of County Road 96.

As discussed in further detail below, berms and stockpiles could be located within mining setbacks, as necessary for noise attenuation, visual screening, and operational efficiency. However, no berms or stockpiles would be located within 100 feet of the top of bank of Cache Creek, as required by General Plan Policy CO-2.22.

In addition, several elderberry bushes located along the northern boundary of the project site near Cache Creek are potentially habitat for the endangered valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*), a threatened species under the federal Endangered Species Act (ESA). Consistent the United States Fish and Wildlife Service (USFWS) guidance for VELB, no disturbance would occur within 50 meters (165 feet) of the identified elderberry bushes.

Mining Slopes

Mining of the Project Site will comply with the following minimum slopes, as described as a ratio of horizontal to vertical:

- ¾:1 down to average low groundwater level during mining (52 feet MSL);
- 2:1 between average low groundwater level during mining (52 feet MSL) and 5 feet below average low groundwater level during mining (47 feet MSL);
- 1:1 below 5 feet below average low groundwater level during mining (47 feet MSL).

A slope stability analysis has been conducted by a Registered Civil Engineer documenting that the proposed mining slopes will exhibit adequate static and seismic factors of safety (Geocon Consultants, Inc. 2016.)

Visual Screening

Section 10-4.404 of the OCSMO requires that the visibility of mining operations, facilities, and landform alterations from public viewpoints and nearby residences be minimized through the use of berms, landscaping, or other measures. Consistent with this requirement, Teichert proposes the use of landscaping, consisting of vegetation and berms for visual screening of views of the proposed mining area from County Road 94B to the west and from County Road 22 to the south. (Exhibit 6, Visual Screening).

To screen views from County Road 94B, Teichert has already planted viewshed landscaping along the southern portion of the western perimeter of the mining area along County Road 94B. To screen the remaining views of the proposed mining area from County Road 94B, the northern section of the western perimeter of the mining area will be planted with native tree and shrub species prior to the commencement of mining. The visual landscape buffer along County Road 94B will extend along the north side of the relocated Moore Canal, eventually connecting with the existing Cache Creek riparian corridor. The relocated Moore Canal will also provide visual screening of views of the mining area from County Road 94B.

To screen views from County Road 22, Teichert has already planted viewshed landscaping in a low spot that borders the southern boundary of the site along County Road 22. Additional visual screening along the rest of the project boundary that borders County Road 22 is not needed, as views of the mining area are obscured by the existing hilly topography of Monument Hill.

In addition, a visual screening program is proposed to screen views of the proposed mining operations from the Monument Hill Memorial Park cemetery to the south of the Project Site. If agreed upon by the cemetery, the visual screening would be planted on the cemetery property prior to commencement of mining on the Project Site.

Reclamation Plan

Summary of Reclamation Plan

Teichert proposes to reclaim the approximately 277-acre mining area portion of the Project Site to agriculture and habitat uses (Exhibit 7, Reclamation Plan). Approximately 116 acres of the 277-acre mining area will be reclaimed to agricultural use. The remainder of the mining area would be reclaimed to a pond with riparian woodland along the fringes/shoreline. Slopes would be reclaimed to grassland. The amount of each habitat type could vary depending on actual mining depths and groundwater elevations.

After mining has ceased on the Project Site, all mining equipment will be removed from the Project site. Reclamation of the Project Site will occur as soon as feasible. Once groundwater elevations have reached equilibrium, reclamation of the pit floor would occur. Overburden and processing fines generated from the Woodland Plant will be used to create any remaining slopes and benches within the mining area. Reclamation to habitat uses (pond, riparian wetland, riparian oak woodland, and grassland/slopes) will include a minimum of 12 inches of soil (topsoil/overburden/silt) to be placed on all surfaces.

Agricultural reclamation will require the use of overburden and processing fines to raise the pit floor elevation above the average high groundwater level followed by the placement of a minimum of four feet of salvaged reclamation soils (stockpiled topsoil and upper layers of overburden) on the created land. Section 10-5.516 of the SMRO requires that reclaimed agricultural fields be located a minimum of five feet above the average high groundwater level. Average high groundwater levels would range from 75 feet MSL in the northwestern corner to 57 feet MSL in the southeastern corner of the western agricultural field and from 57 feet MSL in the northwestern corner to 47 feet MSL in the southeastern corner of the eastern agricultural field. (Luhdorff & Scalmanini Consulting Engineers 2016.) As required by the SMRO, the reclamation plan proposes reclaimed agricultural field elevations of a minimum of 5 feet above these average high groundwater elevations. An analysis that demonstrates the feasibility of the proposed agricultural reclamation has been conducted and is included as part of the reclamation plan for the Project, as required by Section 10.5-601(c)(2) of the SMRO. (EcoSynthesis 2017.)

Phasing

Section 10-5.522 of the SMRO requires that all proposed mining and reclamation plans include a phasing plan. The purpose of the phasing plan is to minimize the area of disturbed agricultural lands during each mining phase and to encourage the early completion of agricultural reclamation. Consistent with this requirement, mining and reclamation of the Project Site would occur in phases, as shown in Exhibit 8 (Phasing). Moore Canal would be relocated before the commencement of mining. Thereafter, mining and reclamation would be phased generally from west to east. This approach would allow agricultural reclamation of the western portion of the Project Site to occur during the mining of the eastern portion of the Project Site. Mining would occur in two phases: (Phase A (98.1 acres) and Phase B (179.0 acres). Reclamation would occur in three phases: Phase A (98.1 acres), Phase B (142.2 acres), Phase C (36.8 acres).

Reclamation Slopes

Reclamation of the Project Site will comply with the following minimum slopes, as described as a ratio of horizontal to vertical:

- 2:1 above average high reclaimed groundwater level (57 feet MSL at the reclaimed pond), except for reclaimed mining slopes that are within 50 feet of the relocated Moore Canal, which will have a minimum slope of 3:1;

- 4:1 between average high reclaimed groundwater level (57 feet MSL) and 5 feet below average high reclaimed groundwater level (52 feet MSL);
- 2:1 between 5 feet below average high reclaimed groundwater level (52 feet MSL) and 5 feet below average low reclaimed groundwater level (42 feet MSL);
- 1:1 below 5 feet below average low reclaimed groundwater level (42 feet MSL).

A slope stability analysis has been conducted by a Registered Civil Engineer documenting that the proposed mining slopes will exhibit adequate static and seismic factors of safety (Geocon Consultants, Inc. 2016).

Surface Mining Permit Life

The duration of mining activities at the Project Site will vary depending on market demand and the quality and quantity of aggregate present onsite. The Project Site is proposed to be mined after completion of mining at the Schwarzgruber site that currently supplies the Woodland Plant. Mining of the Schwarzgruber site could be completed in as soon as two years, depending on market demand. Thus, mining of the Project Site would commence in 2020 at the earliest. Mining of the aggregate reserves on the Project Site could take 20 years or longer, depending on market demand. OCMP Policy 2.4-3 limits surface mining permits to a maximum of 30 years, with the potential to extend the permit life by a maximum of 20 years with subsequent approvals. Accordingly, Teichert requests a permit duration of 30 years from the commencement of mining on the project site. Thus, if mining commenced in 2020, the permit would run until 2050. Reclamation activities could continue for an additional two years after the expiration of the surface mining permit.

TABLE 1
Shifler Mining and Reclamation Project
Summary Table

General Site Information	
Project Site	319.3 acres
Parcel APNs	APNs 025-120-032 (portion), 025-120-033, 025-430-001 (portion), and 025-430-002
Elevation	98 to 112 feet above mean sea level (MSL), 103 to 112 feet above MSL in the proposed mining area
General Plan Designation	Agriculture (AG), portion with Mineral Resource Overlay (MRO)
Zoning	Agricultural Intensive (A-N)
Current Land Use	Agriculture
Important Farmland?	Approximately 277 acres of Prime Farmland
Williamson Act Contract?	No.
Mining	
Mining Area	277 ± acres
Maximum Mining Depth	5 feet below MSL (110 feet below ground surface)
Average Mining Depth	Varies: approximately 40 feet below existing ground surface in the southeastern portion of the mining area, approximately 65 feet below existing ground surface in the northwestern corner of the mining area, and approximately 70 feet below existing ground surface in the southwestern corner of the mining area

Average high groundwater elevation (during mining)	60 feet above MSL (43 to 52 feet below ground surface)
Average low groundwater elevation (during mining)	52 feet above MSL (51 to 60 feet below ground surface)
Mining Slopes	¾:1 down to average low groundwater level during mining (52 feet MSL), 2:1 between average low groundwater level during mining (52 feet MSL) and 5 feet below average low groundwater level during mining (47 feet MSL), 1:1 below 5 feet below average low groundwater level during mining (47 feet MSL)
Mining Phasing	Two phases: 1) Phase A (98.1 acres) and 2) Phase B (179.0 acres)
Type of Minerals	Sand and gravel
Maximum Total Production	35.25 million tons (23.5 million cubic yards) sold/41.6 million tons mined (via Woodland Plant)
Maximum Annual Production	2.2 million tons sold/2,588,237 tons mined (via Woodland Plant)
Commencement of Mining	2020 at the earliest
Duration of Mining	up to 30 years, depending on market demand
Surface Mining Permit Expiration	30 years after commencement of mining, 2050 at the earliest
Reclamation	
Reclamation Area	277.1 ± acres
Average high groundwater elevation (post-reclamation pond level)	57 feet above MSL (41 to 55 feet below ground surface)
Average low groundwater elevation (post-reclamation pond level)	47 feet above MSL (51 to 65 feet below ground surface)
Reclamation Slopes	2:1 above average high reclaimed groundwater level (57 feet MSL) (except for reclaimed mining slopes within 50 feet of the relocated Moore Canal, which will be 3:1), 4:1 between average high reclaimed groundwater level (57 feet MSL) and 5 feet below average high reclaimed groundwater level (52 feet MSL), 2:1 between 5 feet below average high reclaimed groundwater level (52 feet MSL) and 5 feet below average low reclaimed groundwater level (42 feet MSL), 1:1 below 5 feet below average low reclaimed groundwater level (42 feet MSL).
Reclamation Phasing	Three phases: Phase A (98.1 acres), Phase B (142.2 acres), Phase C (36.8 acres)
Duration of Reclamation	32 years or within two years after completion of mining
Completion of Reclamation	Two years after completion of mining, estimated 2052, if mining ends in 2050
Reclamation End Use	**Acreage**
Agriculture	116.7 acres
Grassland Slopes	21.3 acres
Pond	112.9 acres
Lower Riparian Woodland/Wetland	13.0 acres
Upper Riparian Woodland	10.9 acres
Access Road	2.3 acres
Total	**277.1 acres**

Aggregate Processing at the Woodland Plant

Conveyor Transport

Aggregate mined at the Project Site will be processed at Teichert's existing Woodland Plant, located adjacent to and north/northeast of the Project Site. An electric-powered conveyor will be used to transport mined aggregate from the Project Site to the Woodland Plant. A conveyor over-crossing of the Moore Canal would be constructed to allow conveyor transport of mined aggregate to occur between the Project Site and the Woodland Plant.

Woodland Plant Regulated by Surface Mining Permits

The Woodland Plant is currently regulated by the surface mining permits and development agreements for the Woodland Properties and Schwarzgruber mining sites. Those entitlements require that the Woodland Plant cease operation upon expiration of those permits on January 1, 2028, unless additional mining sites, such as the Project Site, are permitted to supply the Woodland Plant. The Project includes a request for a mining permit and development agreement for the Project Site. If the Project were approved, the Woodland Plant would then be regulated by the terms of the surface mining permit requested for the Project Site once mining on the Schwarzgruber site has been completed or that permit expires, whichever occurs first.

Annual Production

The Schwarzgruber surface mining permit limits annual production at the Woodland Plant to 1 million tons sold (1,176,472 tons mined), averaged over a 10-year period. In order to meet temporary market demand, production may exceed this limitation by up to 20 percent (200,000 tons sold) in any year, provided that production over a consecutive 10-year period does not exceed 10 million tons sold. Thus, maximum permitted annual production at the Woodland Plant is 1.2 million tons sold (1,411,766 tons mined) pursuant to the Schwarzgruber surface mining permit.

As part of the Project, Teichert requests that it be allowed to transfer its annual production allotment from the Esparto Plant to the Woodland Plant, once mining of the Esparto site has been completed or the Esparto surface mining permit expires, whichever occurs first. The Esparto surface mining permit expires on January 1, 2028. Pursuant to that permit, the Esparto Plant is allowed to produce up to 1 million tons per year. The proposed transfer would allow the Woodland Plant to produce a maximum of 2.2 million tons sold (2,588,237 tons mined) in any one year, provided that production over a consecutive 10-year period does not exceed 20 million tons sold (23,529,430 tons mined).

Truck Traffic

Aggregate trucks going to and from the Woodland Plant currently access the site from its entrance on County Road 20. Trucks are required to use designated haul routes of County Road 20, County Road 96, and State Route 16 to and from Interstates 5 and 505 (Exhibit 9, Haul Routes). Local deliveries are allowed to use roads other than State Route 16, County Road 20, or County Road 96. No change to these designated haul routes is

proposed as part of the Project. A traffic analysis of the Project was conducted as required by Section 10-4.502(b)(4) of the OCSMO. (Fehr & Peers Associates 2015.)

Surface Mining Permit Life

Teichert requests a 30-year surface mining permit to allow for the mining and processing of aggregate mined at the Project Site. Mining of the Project Site is not expected to commence until after existing reserves on the Schwarzgruber property has been exhausted, likely not until 2020 at the earliest. Therefore, the requested 30-year surface mining permit life would be from 2020 to 2050 or later if the commencement of mining is delayed beyond 2020. The current Schwarzgruber surface permit expires in 2028. To accommodate the processing of material mined at the Project Site, Teichert requests to extend the permitted life of the Woodland Plant from the current expiration date of 2028 (under the Schwarzgruber surface mining permit) to thirty years after the commencement of mining of the Project Site, consistent with the requested mining permit for the Project Site.

Operational Characteristics

Hours of Operation

Teichert's existing operations at the Woodland Plant and the associated Schwarzgruber mining site are governed by Condition 38 of the Schwarzgruber surface mining permit, which provides:

> The hours of operation for the mining site are 6:00am to 6:00pm Monday through Saturday. Occasional 24-hour operations to fulfill contract requirements are allowed within the regulations established in Section 10-4.421 of the mining ordinance. The hours of operation for the Teichert-Woodland plant are 6:00am to 6:00pm Monday through Friday. For the months of August, September, and October, hours may be extended to 10:00pm (Monday through Friday) and 6:00am to 6:00pm Saturday and/or Sunday subject to compliance with Section 10-4.421 of the Mining Ordinance.

No changes are proposed to these existing hours of operation for the Shifler mining site or Woodland Plant.

Employment

The Woodland Plant currently has 28 employees for aggregate processing activities occurring at the Woodland Plant site, for mining and reclamation activities occurring at the Schwarzgruber mining site, and for associated functions. These employees include 22 operating engineers, 1 teamster, 1 laborer, and 4 clerical staff. It is anticipated that the Project would require similar levels of employment for the continued operation of the Woodland Plant and mining/reclamation of the Project Site.

Employment at Teichert's Esparto Plant has varied historically depending on production. While the Esparto Plant is currently idle, it was operating at peak production as recently as April 2017. At peak production, the Esparto Plant employs 24 people, including 18 operating engineers, 1 teamster, 1 laborer, and 4 clerical staff. Once mining ceases at the Esparto Plant, those employees would be transferred over to the Woodland Plant to accommodate the requested production increase. Thus, with the proposed transfer of the Esparto production allotment to the Woodland Plant, total employment at the Woodland Plant under peak production would consist of 52 people, including 40 operating engineers, 2 teamsters, 2 laborers, and 8 clerical staff.

Site Access

Mining equipment would access the Project Site from the Woodland Plant site via internal roads that connect with the Woodland Plant site. An over-crossing of the relocated Moore Canal would be constructed to allow mining equipment to move between the Woodland Plant site and the Project Site. Consistent with existing mining operations, an electric conveyor system will be used to transport the mined material to the Woodland Plant. Aggregate trucks would continue to access the Woodland Plant site via its existing entrance on County Road 20, using the existing haul routes discussed above.

Mining Characteristics

The first step of mining is the removal of overburden, i.e., the soil that overlays the sand and gravel proposed to be mined. Removal of overburden will be accomplished using scrapers, motor graders and bull dozers. Overburden will be progressively removed ahead of mining and stockpiled in setback areas and internal storage locations until retrieved for reclamation. The top layers of topsoil will be placed in temporary berms and/or stockpiles and seeded with naturalized annual grasses and forbs.

Aggregate above the groundwater will be harvested by scrapers and dozers. Aggregate mined below the water table will be extracted by a combination of equipment such as excavators, draglines, and potentially a floating dredge. Water trucks will be used to control dust. This mining process will be the same as currently employed by Teichert at other sites supplying the Woodland Plant.

Berms and Stockpiles

Berms and/or stockpiles could be located along the perimeter of mining areas, including within mining setbacks, to provide noise shielding of mining activities from nearby noise-sensitive uses and to allow mining to occur without the need to relocate berms and/or stockpiles before reclamation occurs. As required under the federal Mine Safety Health Administration (MSHA), a perimeter berm of a minimum of four feet in height would be located around the active mining area. In addition, berms would be used as noise barriers, as recommended in the noise analysis conducted by Bollard Acoustical Consultants. The

noise berms required as mitigation for mining within 300 feet of the nearest sensitive receptors would be a minimum of eight feet high. (Bollard Acoustical Consultants 2015.)

As required by Section 10-4.433 of the OCSMO, soil stockpiles shall not exceed 40 feet in height with slopes no steeper than 2:1 horizontal to vertical. Stockpiles could be located within mining setbacks so as to allow mining to occur without the need to relocate stockpiles before reclamation occurs. However, stockpiles would remain a minimum of 100 feet from the top of bank of Cache Creek, consistent with Yolo County General Plan Policy CO-2.22. Please refer to Exhibit 11 for a depiction of proposed stockpile locations.

Noise

Mining-related noise will comply with the standards outlined in Section 10-4.421 of the OCSMO. From 6 a.m. to 6 p.m., noise levels shall not exceed an average noise level equivalent (Leq) of 80 decibels (dBA) at the property boundaries and 60 dBA Leq for any nearby off-site residences or other noise-sensitive land uses. From 6 p.m. to 6 a.m., noise levels shall not exceed 65 dBA Leq at the property boundaries.

The nearest noise sensitive receptors to the Project Site consist of two rural residences located west of County Road 94B and one located east of the Project Site. As required by Section 10-4.502(b)(3) of the OCSMO, a noise analysis was conducted for the Project. The noise analysis recommends mitigation measures designed to ensure compliance with the OCSMO noise standards. These measures include the use of earthen berms along the Project Site boundary in areas where mining noise levels are projected to exceed OCSMO noise standards at the nearest sensitive receptors and/or limiting the occurrence of initial overburden removal activities in those areas to 6 a.m. to 6 p.m. (Bollard Acoustical Consultants 2015).

Flooding/Stormwater Management

The Project Site is not located within the 100-year or 200-year floodplains of Cache Creek (Cunningham Engineering 2016). As discussed previously, the mining area and relocated Moore Canal will be offset a minimum of 200 feet from the existing channel bank of Cache Creek. The enclosed geotechnical study demonstrates that that the proposed mining setback meets the required factors of safety and would not adversely affect the stability of the Cache Creek channel, as required by Section 10-4.429(d) of the OCSMO (Geocon Consultants, Inc. 2016).

The Project will be designed to prevent stormwater runoff from leaving the Project Site. The site will be graded to allow stormwater runoff to collect in the proposed mining pit, where it will gradually percolate or evaporate. At the conclusion of mining, the site would remain contoured so that stormwater runoff will be directed to the reclaimed mining area. Proposed stormwater detention basins located within the western and eastern reclaimed agricultural areas of the site will be sized to accommodate anticipated runoff from a minimum 20-year/1-hour storm, as required under Section 10-5.507 of the SMRO.

Disposition of Mining Waste

The proposed mining of sand and gravel is not anticipated to generate waste material. As discussed below, fine sediment, i.e., "fines," that would result from the processing of the mined material at the Woodland Plant would be removed from the settling ponds at the Woodland Plant and used for reclamation of the Project Site.

Water and Wastewater

The Project Site is currently provided with agricultural water from the YCFCWCD by way of the Moore Canal, which would continue to supply onsite agricultural activities during mining and after reclamation. There are two abandoned wells on the project site: one agricultural well located near the western boundary of the site and a domestic well located near the northern boundary of the site. The unused agricultural well could be retained as a monitoring well, but the domestic well is proposed to be removed during mining.

As occurs with existing mining operations associated with Teichert's Woodland Plant, water for aggregate processing and dust suppression would be supplied by two wells at the Woodland Plant site. Processing water would be recycled through the use of settling ponds located at the Woodland Plant site. The discharge of aggregate wash water to the settling ponds at the Woodland Plant site would continue to be regulated through Waste Discharge Requirements (WDRs) issued by the Central Valley Regional Water Quality Control Board (RWQCB). Also, Teichert is proposing modifications to the existing WDRs to allow for the use of fine sediment from aggregate processing (i.e., "fines") in the reclamation of the Project Site. The processing fines would be pumped from the Woodland Plant site as a slurry (mix of water and fines) and discharged into the mining area/pond in accordance with the requirements of the revised WDRs.

Potable water demand would be met through bottled drinking water, which would be provided at the adjacent Woodland Plant. Portable toilet facilities would be used at the Project Site and existing portable toilet facilities would continue to be used at the adjacent Woodland Plant.

Esparto Mining Site, Reclamation, and Plant Closure

The anticipated schedule for the mining, reclamation, and closure of Teichert's Esparto site would not be affected by the proposed Project. The Esparto surface mining permit is scheduled to expire on January 1, 2028, with or without the Project. However, closure of that site could occur sooner if Teichert determines that the existing permitted reserves are no longer economically feasible to mine. Reclamation and closure of the Esparto Plant and associated Reiff and Mast mining sites would occur in accordance with the approved reclamation plan for the Esparto facility.

Land Use Consistency

General Plan Designation

The Project Site is designated Agriculture (AG) under the Yolo County General Plan. A portion of the Project Site has a Mineral Resource Overlay (MRO). Teichert is requesting General Plan amendments (GPAs) to extend the MRO to cover the entire Project Site and to add the Project Site to the OCMP. The proposed GPAs are required in order to mine the Project Site.

Section 8-2.233(d) of the Yolo County Code requires that any GPA proposed by a private party first be authorized for further study by the Board of Supervisors. In accordance with this procedure, Teichert submitted a request for permission to file an application for the Project on September 19, 2014. The Board of Supervisors held a noticed public hearing regarding the proposed GPA on December 16, 2014. After hearing public comments, the Board of Supervisors voted in favor of authorizing further study regarding the proposed GPA.

Zoning

The Project Site is zoned Agricultural Intensive (A-N), which is consistent with the General Plan designation. As part of the Project, Teichert is requesting a rezone to add a Sand and Gravel Overlay (SG-O) zone to the Project Site. Surface mining operations are conditionally allowed in the A-N/SG-O zone with the approval of a surface mining permit. (Yolo County Code §§ 8-2.304, 8-2.906(g)(3), 10-4-501.) Consistent with this requirement, the proposed Project will include a request for a surface mining permit to mine the Project Site.

Reclamation End Uses

As discussed previously, the reclamation plan for the Project proposes to reclaim the site to agriculture and a mix of habitat uses, including pond, upper riparian woodland, lower riparian woodland/wetland, grassland, and native landscape. These uses are allowed under the Project Site's existing and proposed General Plan designation and zoning.

Agricultural Resources

Important Farmland

Under the State Department of Conservation's Farmland Mapping and Monitoring Program, the Project Site is designated "Prime Farmland" in the Yolo County Important Farmland 2016 map. (Department of Conservation 2017.) Mining and reclamation would be phased to minimize the temporal loss of Prime Farmland in the 277-acre mining area. Moreover, approximately 116 acres of Prime Farmland would be created as part of the proposed reclamation plan. The Project would result in the permanent net loss of approximately 161 acres of Prime Farmland. Teichert proposes to mitigate for the

permanent loss of Prime Farmland by placing or purchasing agricultural conservation easements on existing Prime Farmland in Yolo County, consistent with Section 10-5.525 of the SMRO.

Williamson Act

The Project Site is not encumbered by a Williamson Act contract. Most of the Project Site (APNs 025-120-032 and 025-430-002) was subject to a Williamson Act contract that expired at the end of January 2016. Thus, no mining will occur on Williamson Act lands.

Biological Resources

Special Status Species and Habitats

A biological resources assessment and a wetland delineation were conducted for the Project. The biological resources assessment identified potentially significant impacts to wetlands and waters of the United States and a number of special status species, including Valley elderberry longhorn beetle (VELB), western pond turtle, nesting white-tailed kite or Swainson's hawk, nesting northern harrier or short-eared hawk, other nesting raptors, nesting loggerhead shrike, nesting or roosting yellow-billed magpie, nesting tricolored blackbird, nesting birds protected under the Migratory Bird Treaty Act (MBTA), loss of foraging habitat for Swainson's hawk, white-tailed hawk, and tricolored blackbird, loss of winter foraging habitat for ferruginous hawk and merlin, loss of habitat for and disturbance to Chiroptera (bat) species) and oak woodland. (Teichert Materials 2018.) In addition, the wetland delineation identified a total of 1.855 acres of wetlands or waters of the U.S. (Ecorp Consulting 2012.) Mitigation measures are provided to reduce these impacts to a less than significant level.

Yolo Habitat Conservation Plan/Natural Communities Conservation Plan

The Yolo Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) was approved in 2018 and will apply to the Project. The Project will comply with the HCP/NCCP with respect to impacts to covered biological resources. Consistent with the HCP/NCCP, mitigation could include the payment of fees, on or off-site mitigation, and/or a combination of the two. Please also refer to the biological resources assessment for more detail regarding proposed mitigation.

Net Gain

OCSMO Section 10-4.502(i) requires that an application for a surface mining permit include a proposal for providing a "net gain" to the County, as determined by the following criteria:

1) Reclamation to multiple or conjunctive uses;

2) Enhancement and enrichment of existing resources; and/or
3) Restoration of past sites where the requirements of reclamation at the time no longer meet community expectations in terms of good stewardship of the land.

The OCSMO also provides that "net gain" may include participation in an established program whose goals are consistent with the above criteria.

Consistent with this requirement, Teichert proposes a monetary contribution towards the Cache Creek Conservancy for its use in enhancing the Lower Cache Creek corridor.

5. Requested Entitlements

Teichert anticipates that the entitlements necessary to implement the Project could include, but not be limited to, the following:

- Approval by the Board of Supervisors of a General Plan amendment to extend the Mineral Resource Overlay over the entire Project Site;
- Approval by the Board of Supervisors of a Cache Creek Area Plan (CCAP) amendment to: 1) include the Project Site in the OCMP boundary, and 2) include tonnage not yet analyzed as part of the CCAP;
- Approval by the Board of Supervisors of a rezone of 319.3 acres of the Project Site to apply the Sand and Gravel Overlay (SG-O) to the Agricultural Intensive (A-N) base zone;
- Approval by the Planning Commission of a 30-year off-channel surface mining permit to: 1) allow surface mining on ±277 acres of the 319-acre the Project Site, 2) allow processing of aggregate from the Project Site at the Woodland Plant, and 3) increase the maximum permitted production at the Woodland Plant upon cessation of mining activities at the Esparto site or expiration of the Esparto surface mining permit (95-094), whichever occurs first;
- Approval by the Planning Commission of a reclamation plan for the Project Site;
- Approval by the Board of Supervisors of a development agreement for the Project Site;Approval of other County entitlements as determined by the County;
- Approval of the relocation of Moore Canal from the Board of Directors of the YCFCWCD;
- Approval of a Clean Water Act Section 404 permit from the United States Army Corps of Engineers (Corps) for the fill of waters of the United States;
- Approval of a Clean Water Act Section 401 water quality certification from the Central Valley RWQCB;
- Approval of Waste Discharge Requirements (WDRs) from the Central Valley RWQCB for the use of sediment pond fines from the Woodland Plant site for reclamation of the Project Site.

6. Project Justification

The currently permitted aggregate reserves for Teichert's Woodland Plant could be exhausted in as soon as two years. The Project would allow for the continued operation of Woodland Plant, which employs 28 people and supplies aggregate to help meet the projected local and regional demand for aggregate. Aggregate products will be needed to construct levees in environmentally sensitive areas and to repair, maintain, and construct existing and proposed infrastructure.

The Project Site is likely the only remaining source of PCC-grade aggregate that can feasibly supply the Woodland Plant. It is located adjacent to the Woodland Plant site, which allows for transport of mined material to the Woodland Plant via electric conveyors rather than trucks using public roadways. Also, the site complies with all of the locational criteria in the OCMP and OCSMO. As required by the OCMP and OCSMO, the Project Site is located to the west of County Road 96 and is not located within 2,000 feet of the community boundaries of Capay, Madison, Esparto, Woodland, or Yolo. Moreover, the site is situated within the CCAP planning boundary.

The Project will provide for mining and reclamation of the site to current mining and reclamation standards, as provided in SMARA and the Yolo County OCSMO, SMRO, and ASMRO. The reclamation plan provides for a mix of agricultural and open space uses.

7. Technical Reports

Please also refer to the following technical reports that have been submitted as part of the Project application with reference to the OCSMO and SMRO provisions they are intended to satisfy:

- Teichert Materials and Ecorp Consulting, Inc. – biological inventory and analysis, including wetlands delineation and analysis of feasibility of species, weed control, and irrigation for proposed screening landscaping. (OCSMO § 10-4.502(b)(1).)

- Luhdorff & Scalmanini Consulting Engineers – groundwater analysis, including groundwater monitoring program and well survey. (OCSMO § 10-4.502(b)(2).)

- Bollard Acoustical Consultants, Inc. – noise analysis, including map of noise contours. (OSCMO § 10-4.502(b)(3).).

- Fehr & Peers – traffic analysis. (OCSMO § 10-4.502(b)(4).)

- Geocon Consultants – geotechnical study for operational slopes steeper than 2:1 and any slopes designed to provide flood protection from Cache Creek, including measures to prevent breaching and pit capture (OCSMO § 10-4.502(b)(5).); engineering analysis of off-channel excavations located within 700 feet of the existing channel bank. (OCSMO § 10.4-502(b)(7));

and geotechnical study to ensure that reclaimed slopes are stable (SMRO § 10.5-601(c)(3).)

- Peak & Associates – cultural resources survey (OCSMO § 10-4.502(b)(6).)

- Cunningham Engineering – engineering analysis of potential 100-year flood impacts. (OCSMO § 10.4-502(b)(8).)

- EcoSynthesis – soil analysis evaluating the methods and feasibility of agricultural reclamation (included as part of the reclamation plan). (SMRO §§ 10.5-601(c)(2) and ASMRO 10.8.502(a)(17).)

- ESA – air quality and greenhouse gas technical report.

Exhibits

1) Project Location
2) Project Site
3) Vicinity Map (showing location relative to Woodland Plant and other mining properties)
4) Mining Plan
5) Moore Canal Relocation
6) Visual Screening
7) Reclamation Plan
8) Phasing
9) Haul Routes
10) Ingress and Egress
11) Proposed Stockpile Locations