CITY OF KENNEWICK HEARING EXAMINER
James M. Driscoll, Hearing Examiner

AGENDA

MONDAY, DECEMBER 11, 2017 @ 6:00 PM

KENNEWICK CITY HALL, COUNCIL CHAMBER

210 W. 6TH AVE, KENNEWICK, WA 99336

Procedure for Participation

- Please sign in if you wish to receive a copy of the decision when it is issued and if you plan to give testimony.
- When recognized by the Examiner, state your name, address and whether you are representing only yourself or others.
- All remarks, comments, and questions should be addressed to the Hearing Examiner and not to the audience or parties. You may offer written comments or other items (such as photographs) to the Hearing Examiner as an exhibit for the permanent record. Please provide at least three (3) copies of each item submitted: one copy for the Hearing Examiner, one for the Official Record, and one for Staff). During an Appeal Hearing, if the appellant and the applicant are different parties, then a fourth copy of all documentation is requested.

I. CALL TO ORDER

II. PROCEDURAL INFORMATION

III. PUBLIC HEARING

A. Preliminary Plat (PP) No. 17-05/PLN-2017-02581 “Apple Valley Phs. 3 & 4”, proposing to develop approximately 31.4 acres of land in 2 phases with 93 single-family lots and 9 tracts of land. The site is located at west of S. Sherman Street and south of Bob Olson Parkway at 7003 Bob Olson Parkway. The site is currently zoned Residential, Low Density (RL), the Comprehensive Plan designation is Low Density Residential. The applicant & property owner is Matt Smith, Tri-Cities Development, 15 SW Colorado, Suite 1, Bend, OR 97702.

IV. ADJOURN

ECONOMIC DEVELOPMENT AND COMMUNITY PLANNING DEPARTMENT

STAFF REPORT AND RECOMMENDATION TO THE HEARING EXAMINER

FILE NO: PP 17-05/PLN-2017-02581

Staff Report Date: December 5, 2017

Public Hearing Date and Location: December 11, 2017, Kennewick City Hall

Report Prepared By: Wes Romine
Development Services Manager

Report Reviewed By: Gregory McCormick, AICP
Planning Director

Summary Recommendation: The City of Kennewick RECOMMENDS that Preliminary Plat 17-05 be APPROVED with conditions.

Summary of Proposal: Apple Valley Phases 3 & 4, Preliminary Plat for a subdivision on a portion of 1 parcel that total approximately 31.4 acres in size, proposed to be divided into 93 lots for single family homes.

Proposal Location: West of S. Sherman Street and south of Bob Olson Parkway at 3280 S. Van Buren Street. Parcel Nos. 1-1789-2XX-0006-000.

Legal Description:
1-1789-2XX-0006-000
Portion of the Northwest Quarter of Section 17, Township 8 North, Range 29 East of the Willamette Meridian, City of Kennewick, Washington described as follows:
Tract K of the final plat of Apple Valley Phase 1, according to the plat thereof recorded in Volume 15 of Plats at page 0569, records of the Benton County Auditor's office.

Property Owner: Tri-Cities Development, LLC
15 S.W. Colorado Avenue, Suite 1
Bend, OR 97702

Applicant: Matt Smith
Tri-Cities Development, LLC
15 S.W. Colorado Avenue, Suite 1
Bend, OR 97702

Engineer: Jason Mattox
HDJ – A Division of PBS
6115 Burden Blvd., Suite E
Pasco, Washington 99301

Surveyor: Alex Matarazzo
HDJ – A Division of PBS
6115 Burden Blvd., Suite E
Pasco, Washington 99301

Approval Criteria:
1. Comprehensive Plan – Land Use
2. KMC Title 18 – Zoning
3. KMC Title 17 – Subdivisions
4. KMC Section 5.56 – Public Works Construction Standards
5. Washington State Environmental Policy Act

Preliminary Plat Key Application Processing Dates:

Pre-Application/Feasibility Meeting	NA
Application Submittal	October 3, 2017
Determination of Completeness Issued	October 3, 2017
Notice of Application Mailed	October 10, 2017
City Department Review Meeting	October 18, 2017
SEPA Threshold Determination Issued	March 14, 2016
Property Posting Sign	October 10, 2017 & November 21, 2017
Date of Published Notice of Public Hearing	November 26, 2017
Date of Mailed Notice of Public Hearing	November 22, 2017
SEPA Appeal Period Ends	March 28, 2016
Public Hearing Date	December 11, 2017

Exhibits:
1 Staff Report
2 Application
3 Notice of Application/Mailing List
4 Vicinity Map
5 Preliminary Plat Plans
6 Conceptual Grading Plan
7 Soils Sampling Report
8 Geotechnical Investigation/Geohazards Assessment Report
9 Trip Generation Letter
10 Wetland Assessment Report
11 SEPA Determination
12 City Department Comments
13 Outside Agency Comments

Staff Analysis of Proposal & Discussion:

Apple Valley Phases 3 & 4, Preliminary Plat (PP 17-05) is a request for a 93 lot single-family home subdivision on a 31.4 acre portion of an approximately 44 acre parcel of land that will be developed in two phases. The lots range in size from 7,560 square feet to 25,250 square feet and an average lot size of 10,178 square feet. The project will include 9 tracts of land

to be used for open space, walkways, storm ponds, and smaller remainder portions of land to be used for future development. The project is located west of S. Sherman Street and south of Bob Olson Parkway at 3180 S. Van Buren Street. Access to the lots will be from Bob Olson Parkway and internal streets of Apple Valley Phase 2 that currently has infrastructure improvements being built. The site is zoned Residential Low Density (RL) which allows a minimum lot size of 7,500 square feet. The City of Kennewick's Single-Family Residential Design Standards apply to this project.

A Preliminary Plat (KMC 17.10) is the first step in a subdivision process for subdivisions with more than nine (9) lots and is an approval for overall lot layout and compliance with land use regulations. A Final Plat is required to create lots for preliminary plats and is the last phase in the subdivision process, and must be recorded prior to the creation of individual lots. Final plat approval is based on the Preliminary Plat conditions of approval. A civil permit with a detailed review of street, utility and stormwater construction standards, and street and utility construction or bonding for incomplete work is required prior the final plat approval.

Property History:

1. The subject parcel was annexed into the City in April of 2006 with a Residential Low Density (RL) zoning designation (Ord. 5142).

2. The zoning for the Southridge Sub-area was clarified by City Council in December of 2011 and the zoning for the subject property remained as Residential Low Density (RL) (Ord 5385).

3. The applicant applied for a Planned Residential Development PRD 15-01 and a Preliminary Plat PP 15-06 that was complete for processing on November 19, 2015. The project included a subdivision proposal for the entire 136.4 acre plat area. A Mitigated Determination of Non-significance was issued on March 14, 2016. On September 21, 2016 the PRD 15-01 & PP 15-06 applications were withdrawn.

Density/Lot Size:

> Per the Table of Residential Development Standards (KMC 18.12.010 A.2) the Residential Low Density (RL) zoning district does not have a minimum or maximum density requirement, however the minimum lot size allowed is 7,500 square feet. The smallest lot is proposed is 7,560 square feet.

STAFF COMMENT: The preliminary plat as proposed meets the Residential Development Standards contained in KMC 18.12.010(A.2), as well as the Single-Family Residential Design Standards.

Traffic:

The City's traffic engineer has determined that this project meets concurrency for transportation.

Bob Olson Parkway is to be completed by the City with the development contribution for improvements coming from the Traffic Impact Fee. Full residential street improvements are required on interior plat roadways.

Traffic mitigation fees of approximately $938 per dwelling unit will be required per the City of Kennewick's traffic mitigation ordinance (Ord. 5596). The $938 per dwelling unit Traffic

Impact Fee may have a cost of living increase adjustment in 2018. Traffic mitigation fees can be paid at the time of building permit issuance or deferred until occupancy with a recorded covenant of payment obligation form.

It is the Traffic Engineer's professional opinion that the street layout will likely generate neighborhood speeding concern complaints, so traffic calming elements will be required and installed per approval of the City Traffic Engneer.

Storm Water:

The City stormwater standard for residential subdivisions is to be designed to retain and dispose of the calculated difference between a 25-year, 24 hour event for the developed state and the 24-hour event for the natural pre-developed state. Detention ponds (control outlet) may be used only where it can be clearly demonstrated that infiltration, or retention, are not feasible per City of Kennewick Standard Specifications. Prior to Final Plat approval the applicant will be required to submit detailed civil engineering drawings for review and approval to the City's Public Works department. This submittal will include a stormwater plan that meets City standards.

Streets & Utilities:

A separate permit will be required from the Department of Public Works prior to construction for driveways, sidewalks, wheelchair ramps and utility extensions (water, sewer, street, storm drainage, street lights, fire hydrants, etc.). Full street improvements for residential streets within the subdivision will be required per KMC 5.56.270 and are required to be constructed per Kennewick Standard Detail 2-1, sheet 2 of 4. The Residential Design Standards allow curb tight sidewalks as an option to separated sidewalks; however the sidewalk at driveway curb cuts needs to meet ADA standards.

There is an existing 12-inch water main along the north side of the property at Bob Olson Parkway (formerly W. Hildebrand). The developer will be required to loop the water mains to avoid buildup of stagnant water and minimize bacteria regrowth.

There are existing 8-inch sanitary sewer mains installed by Apple Valley Phases 1 and 2 to connect the proposed 3 and 4 phases.

Parks:

Based on the City's Comprehensive Park Plan the applicant's required amount of land to be dedicated for park land is 4.9 acres for the entire 136.4 acre are per the previously issued Mitigated Determination of Non-significance that is use for this project. Because the area does not fit the City's needs for a City Park, park fees in the amount of $46,635.58 are required in lieu of dedication of park land. Based on a percentage of lots to be developed in the subject application park fees in the amount $7,852.92 will be required for The Apple Valley Phases 3&4. Per the Mitigated Determination of Non-significance (ED 15-62), park fees are required to be paid to mitigate impacts to park zone 6W – Southridge. Fees will be required to be paid prior to signing the final plat mylar based on a percentage of lots being developed in each phase.

Critical Areas:

There are Erosion Hazard and Steep Slope critical areas on the site. There is also a pond area that has the potential to be a Wetland critical area. Both of these areas were

addressed in the previous application for PRD 15-01 and PP 15-06 with a critical area report and wetland report. For the current application the Department of Ecology commented that the wetland report may not be correct in stating the wetland is not a Federal or State regulated water. On November 8, 2017 the City received a response from the applicant's wetland consultant, (EAS) that disputed the Department of Ecology concerns. The response was forwarded to the Department of Ecology and there was no response. Per the preliminary plat application, the pond area will be left undeveloped. The City of Kennewick Critical Area maps do not show an existing Wetland on the site. The current application has an area with Erosion Hazard Critical Area through the center of the proposed subdivision area. Staff recommends the project to be conditioned to comply with the recommendations of the Critical Area report.

Schools:

Per a memo from Doug Carl of the Kennewick School district, the schools that will serve the subdivision are the Sage Crest Elementary School, Chinook Middle School, and Southridge High School. Students living in the proposed subdivision are in a walking zone for Sagecrest Elementary School and Southridge High School. Chinook Middle School is in a bussing zone. All new streets within the subdivision will be required to have 5-foot wide sidewalks which will connect to Ridgeline Drive with sidewalks that connect to Southridge High School. New sidewalks on streets within the subdivision will also connect to Bob Olson Parkway and S. Sherman Street. With the exception of approximately 700 feet of property to be developed at a future date, S. Sherman Street will connect to W. 38th Avenue that has sidewalks and a safe walking route to Sage Crest Elementary School. The undeveloped section of S. Sherman has a wide gravel shoulder that can serve as a safe walking route until later phases of the Apple Valley subdivision are completed and additional sidewalk is added to the west side of S. Sherman Street.

Per the memo the Kennewick School District has the capacity to add students at all levels at the three schools mentioned above.

Surrounding Property:

The surrounding property to the east and south is zoned Residential Medium Density (RM) and proposed to be developed with single-family housing. Property to the north and west is vacant and zoned Residential Low Density (RL) and will also be developed with single-family housing.

Staff Comment: It is staff's opinion that the proposed Preliminary Plat will be harmonious with the surrounding properties.

Provisions for Public Health, Safety, and Welfare:

Staff Comment: It is Staff's opinion that appropriate provisions have been made for, but not limited to, the public health, safety, and general welfare, for open spaces, drainage ways, streets or roads, alleys, public sidewalks, utility easements and other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation areas, playgrounds, schools and school grounds, and the proposed subdivision has considered all other relevant facts and other planning features that assure safe walking conditions for students who walk to and from school.

Comprehensive Plan:

Staff is of the opinion that this request is consistent with and generally conforms to the City's Comprehensive Plan, and it will implement, goals and policies of the Comprehensive Plan. Particularly the following:

RESIDENTIAL GOAL 1: *"Provide for attractive, walkable, and well designed residential neighborhoods, with differing densities and compatible with neighboring areas."*

Staff Comment: The proposed Preliminary Plat is consistent with the Comprehensive Plan Land Use, is zoned similar to much of the surrounding property and complies with development standards for Residential Low Density (RL) zoning.

RESIDENTIAL GOAL 2: *"Provide appropriate public facilities supporting residential areas."*

Staff Comment: City water and sewer is available at Bob Olson Parkway and internal streets of the earlier phases of Apple Valley. The proposed subdivision is in the vicinity of an elementary, middle and high school.

RESIDENTIAL GOAL 3: *"Promote a variety of residential densities with a minimum target of 3 units per acre as averaged throughout the urban area."*

Staff Comment: The density for the proposed development area is 3 units per acre.

CRITICAL AREAS AND SHORELINE GOAL 3: *"Regulate or mitigate activities in or adjacent to critical areas or the shoreline to avoid adverse environmental impacts"*.

Staff Comment: Critical area report(s) have been prepared it is recommended that the project be conditioned to comply with the recommendations of the critical area report.

The City of Kennewick hereby RECOMMENDS that Preliminary Plat 17-05 be APPROVED with the following conditions:

1. Comply with City of Kennewick regulatory controls, policies and codes, including the Single-family Residential Design Standards.

2. All fees required by the City shall be paid prior to the approval of the final plat.

3. Construct residential streets per City of Kennewick Standard Detail 2-1, sheet 2 of 4. The Single-Family Residential Design Standards allow an option for curb tight sidewalks which may be used.

4. Development shall be in conformance with the plat drawing (Exhibit 5).

5. Comply with Traffic Engineer memorandum dated October 20, 2017 (Exhibit 12).
6. Comply with Public Works memorandum dated October 17, 2017 (Exhibit 12).
7. Comply with Kennewick Irrigation District letter dated October 26, 2017 (Exhibit 13).

8. Grading activity is to be inspected by a qualified geotechnical engineer. At completion of grading it must be certified that the cut and fill of the site is per the recommendations of the Geotechnical Investigation/Geohazards Assessment Report prepared by PBS/HDJ Design Group (Exhibit 8).
9. Geo-Tec reports are required for each lot at the time of building permit submittal. With prior approval a blanket geological report may be accepted as long as all applicable codes are met regarding soil bearing capacity.
10. Provide dust control method(s) such as hydroseeding for all areas of the site that are disturbed. Re-hydroseeding may be required.
11. In lieu of dedication of park land park fees are required in the amount of **$7,852.92** for impacts to Park Planning Zone 6W-Southridge. Park fees will be collected prior to signing the final plat mylar.
12. A landscape plan must be submitted for approval of all common areas, open spaces and rights-of-way not left in a natural state, listing the number, location, and species of trees, sizes of plant material, and ground cover prior to final plat approval. The landscape plan shall be prepared by a licensed landscape architect or licensed landscape installer drawn to a legible scale.
13. Common area landscaping and residential street trees are required to be installed or bonded for prior to final plat.
14. Execute a written agreement to the satisfaction of the City Attorney which will allow the City to make arrangements for maintenance of any common areas, open spaces, private roads, and common landscape areas should the Homeowner's Association fail or refuse to maintain these areas.
15. The Preliminary Plat (PP 17-05) expires 5 years from the approval date. The City may grant an extension, but any extension application must be applied for before the approved preliminary plat expires.

Report Prepared By and Contact Person:
Wes Romine
Development Services Manager
wes.romine@ci.kennewick.wa.us 509-585-4558

EXHIBIT 2

KENNEWICK

Department only

PP 17-05 / PLN- 2017-02581 Fee $ 2,282.00

ED 17-29

PAID

OCT 03 2017

CITY OF KENNEWICK

BY

City Of Kennewick
Preliminary Plat Application

Date:	August 8th, 2017
Name Or Number Of Plat:	Apple Valley Phase 3 &4
General Location:	Bob Olsen Parkway and Sherman Street
Parent Parcel Numbers:	117892000001005
Applicant Name:	Matt Smith - Tri-Cities Development Company LLC
Address:	15 SW Colorado, Suite 1
City, State, Zip:	Bend, OR 97702
Phone Number:	541-382-6691
E-mail:	matt@wspi.net
Owner's Name:	Matt Smith - Tri-Cities Development Company LLC
Address:	15 SW Colorado, Suite 1
City, State, Zip:	Bend, OR 97702
Surveyor's Name:	Alex Matarazzo - PBS
Address:	400 Bradley Boulevard; Suite 106
City, State, Zip:	Richland, WA 99352
Engineer's Name:	Jason Mattox - PBS
Address:	400 Bradley Boulevard; Suite 106
City, State, Zip:	Richland, WA 99352

Area Of Plat: 31.4 Acres Zoning: RL #/Lots: 93

Min. Lot Size: 7,560 Average Lot Size: 10,187

Proposed Land Use: Single Family Residential Subdivision

Plat Will Be Served By: (Check Those Which Apply)

Telephone Co:	Verizon ☑	Other	None to the applicants knowledge,
Water System:	Well ☐	Private ☐	City ☑
Sewer System:	Septic ☐	City ☑	
Natural Gas:	Yes ☑	No ☐	
Cable Tv:	Yes ☑	No ☐	

Irrigation District: Kennewick Irrigation District Power: PUD Benton

I certify that the information given above is true and complete to the best of my knowledge.

SIGNATURE OF APPLICANT: _____

Matt Smith, V.P. Tri Cities Development Co, LLC

This preliminary plat is being submitted with my consent.

SIGNATURE OF OWNER: _____

Matt Smith, V.P. Tri Cities Development Co, LLC

Received by: _____ Date: _____ Fee paid: _____

____SEPA Checklist

____ESA Supplement

____Affidavit of Posting

____Ownership Report

____Receipt No.

____File No.

Date Received Stamp

KENNEWICK
WASHINGTON

NOTIFICATION OF MAILING

I, x Bianca Orozco, on 11/22, 2017

Mailed 17 copies of NOPH

for PP 17-05

to Appl., Prop. own., Surveyor & Prop own. w/in 300'

as shown on the attached list.

PP 17-05/PLN 2017-02581
APPLE VALLEY PHASE 3 & 4
300' MAILING LIST/LABELS

x
Signature

CITY OF KENNEWICK WASHINGTON

NOTICE OF APPLICATION

Proposal: An application for a preliminary plat has been submitted by Matt Smith of Tri-Cities Development (15 SW Colorado, Suite 1, Bend, OR 97702). The site is located west of S. Sherman Street and south of Bob Olsen Parkway at 7003 Bob Olson Parkway. The project consists of 2 phases with 93 lots and 9 tracts of land on approximately 31.4 acres. The smallest lot size is 7,560 square feet, the largest lot size is 22,250 square feet, and the average lot size is 10,162 square feet. The site is currently zoned Residential Low Density (RL). The project is subject to the single-family design standards. The Comprehensive Plan designation is Low Density Residential. The file number is PP 17-05/PLN-2017-02581.

Open Record Hearing: The City of Kennewick Hearing Examiner will conduct an open record hearing at 6:00 p.m. on **December 11, 2017** in the Council Chambers in Kennewick City Hall at 210 W. 6th Avenue, Kennewick, WA 99336. Testimony will be taken at this meeting. The Hearing Examiner is expected to make a decision for the Preliminary Plat following this meeting.

Public Comment Period: You may submit comments at any time until **November 30, 2017**, before 4:30 p.m. Comments submitted on or before November 30, 2017 will be included in the Hearing Examiner's meeting packet. Comments after November 30, 2017 can be submitted at the Public Hearing. If you have questions on the proposal, contact Wes Romine, Development Services Manager at (509) 585-4558 or via e-mail at wes.romine@ci.kennewick.wa.us.

Environmental Documents and/or Studies Applicable to this Study: A Mitigated Determination of Non-significance No.15-62 was issued on March 14, 2016 for a similar project on a larger area of land which satisfies SEPA for this project. The time for appealing SEPA issues is fourteen (14) calendar days from the issue date.

Determination of Completeness: The application was declared complete on October 3, 2017 for the purpose of processing.

Project Permits Associated with this Proposal: None

Preliminary Determination of Regulations Used for Project Mitigation: Title 18 (Zoning), Title 17 (Subdivision), Title 4 of the Kennewick Municipal Code and the land use policies contained in the Kennewick Comprehensive Plan.
Estimated Date of Decision: Within 10 business days of the Hearing date of December 11, 2017.

To Receive Notification of the Decision and/or the Environmental Determination: Contact the Development Services Division at 210 W. 6th Avenue, Kennewick, WA 99336 or via telephone at (509) 585-4280.

Appeal: Any person aggrieved by the decision of the Kennewick Hearing Examiner on this proposal may appeal to the Superior Court of Benton County within twenty-one (21) days of the date of decision.

Wes Romine, Development Services Manager

The City of Kennewick welcomes full participation in public meetings by all citizens and does not discriminate on the basis of disability, pursuant to the requirements of the American with Disabilities Act of 1990, pub. L 101-336. No qualified individual with a disability shall be excluded or denied the benefit of participating in such meetings. If you wish to use auxiliary aids or require assistance to comment at this public meeting, please contact the City of Kennewick, Wes Romine, Development Services Department at (509) 585-4558 or TDD (509) 585-4425 or through the Washington Relay Service Center TTY at #711 at least ten days prior to the date of the meeting to make arrangements for special needs.

210 W. Sixth Avenue / PO Box 6108, Kennewick WA 99336

EXHIBIT 3

Permitting Map

October 9, 2017

This plan is suitable for informational use only. City of Kennewick accepts no liability for any error whatsoever.

StreetName

SurveyCityLimits

SV_CI_KENNEWICK_10

SV_CI_RICHLAND_10

SV_CI_COUNTY_10

SurveyUrbanGrowthBoundary

1 inch = 900 feet 1:10,800

0 455 910 1,820 ft

0 137.5 275 550 m

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

ArcGIS WebApp Builder
City of Kennewick

37
JACOB & LAURA ROTH
216 N JOHNSON ST
KENNEWICK, WA 99336-2928

37
SOUTHRIDGE TRI-CITIES
DEVELOPMENT LL
8205 N DIVISION
SPOKANE, WA 99208

37
KING OF KINGS EVANGELICAL
LUTHERAN C
5209 W 5TH AVE
KENNEWICK, WA 99336

37
JF & GLADYS MOORE
3514 S SHERMAN ST
KENNEWICK, WA 99337-0000

37
MARK AND ELIZABETH THOMPSON
2317 FERNDALE AVE
RICHLAND, WA 99354-1926

37
ASAY & AMY SIMMONS
6676 W 33RD PL
KENNEWICK, WA 99338

37
KENNTH & MARY MAE BANKS
6652 W 33RD PL
KENNEWICK, WA 99338

37
SHAUN & KATHLEEN MIERZWA
6628 W 33RD PL
KENNEWICK, WA 99338

37
BILL & CHERYL NEWSOME
6629 W 33RD PL
KENNEWICK, WA 99338

37
MARJORIE & KYLE SPLATTSTOESSER
6635 W 33RD PL
KENNEWICK, WA 99338

37
MATTHEW SCHAFER
6681 W 33RD PL
KENNEWICK, WA 99338

37
MARIE JOY & ROLANDO TAPAWAN
6675 W 33RD PL
KENNEWICK, WA 99338

37
KDS DEVELOPMENT LLC
32814 SE 110TH ST
ISSAQUAH, WA 98027

37
PBS ENGINEERING & ENVIRONMENTAL
JASON MATTOX
6115 BURDEN BLVD #E
PASCO, WA 99301-8930

37
MATT SMITH
TRI-CITIES DEVEL. CO LLC
15 SW COLORADO STE. 1
BEND OR 97702

37
PBS
ALEX MATARAZZO
400 BRADLEY BLVD STE. 106
RICHLAND WA 99352

37
PBS
JASON MATTOX
400 BRADLEY BLVD STE. 106
RICHLAND WA 99352

PP 17-05/PLN 2017-02581
APPLE VALLEY PHASE 3 & 4
300' MAILING LIST/LABELS

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CITY OF KENNEWICK WASHINGTON

AFFIDAVIT OF PROPERTY POSTING

The **Public Notice**

sign was posted on **October 10, 2017** (date) at this location:

South side of Bob Olson Parkway – 1200 ft west of S. Sherman, adjacent to **Bob Olson Parkway** (street) as depicted in the attached picture(s).

Type of application: **Preliminary Plat PP 17-05.**

Proposal **93 lot subdivision**

Applicant **name** **Matt Smith – Tri-Cities Development**

Signature _____ Phone # **509-585-4558**

Date **October 10, 2017**

State of Washington
County of Benton

I certify that I know or have satisfactory evidence that Wes Romine

signed this instrument and acknowledge it to be their free and voluntary act for the uses and purposes mentioned in the instrument.

Marcia Fuher
Notary Public in and for the State of Washington

MARCIA FUHER
NOTARY PUBLIC
STATE OF WASHINGTON
COMMISSION EXPIRES
APRIL 19, 2019

Residing at Kennewick

My appointment expires 4/19/2019

EXHIBIT 3

KENNEWICK WASHINGTON

AFFIDAVIT OF PROPERTY POSTING

The Notice of Public Hearing

sign was posted on 11/21/2017 (date) at this location:

SW intersection of 31st Avenue and Bob Olson Parkway

Project/Permit # PP 17-05/PLN-2017-02581

Proposal 93 lot Preliminary Plat.

Posted by Steve Donovan

Signature _____ Phone # 509-585-4361

Date 11/13/2017

Signature Witnessed by _____


PUBLIC NOTICE
PRELIMINARY-PLAT APPLICATION
DIVIDE A 31.4 ACRES INTO 93 LOTS
APPLICANT : Tri-Cities Development
FILE #: PP 17-05/PLN-2017-02581
CONTACT: WES 585-4558
PUBLIC HEARING: December 11,2017
6:00PM AT CITY HALL
CITY OF KENNEWICK

Permitting Map

October 9, 2017

This plan is suitable for informational use only. City of Kennewick accepts no liability for any error whatsoever.

StreetName

SurveyCityLimits

SV_CI_KENNEWICK_10

SV_CI_RICHLAND_10

SV_CI_COUNTY_10

SurveyUrbanGrowthBoundary

1 inch = 900 feet 1:10,800

0 455 910 1,820 ft

0 137.5 275 550 m

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp.,

ArcGIS WebApp Builder
City of Kennewick

EXHIBIT 4

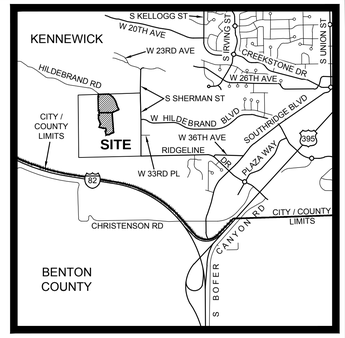
APPLE VALLEY - PHASES 3 & 4

PRELIMINARY PLAT

Located In The NW 1/4 Of Sec. 17, T. 8 N., R. 29 E., W.M.

Scale 1" = 80'

0 40 80 160



VICINITY MAP
NOT TO SCALE

APPLICANT/DEVELOPER:
TRI-CITIES DEVELOPMENT CO. LLC
ATTN: MATT SMITH
15 SW COLORADO AVENUE
SUITE 1
BEND, OR 97702
(541) 382-6691

ENGINEER:
PBS
ATTN: JASON MATTOX, PE
400 BRADLEY BLVD, SUITE 106
RICHLAND, WA 99352
PHONE: (509) 942-1600

SURVEYOR:
PBS
ATTN: ALEX MATARAZZO, PLS
400 BRADLEY BLVD, SUITE 106
RICHLAND, WA 99352
PHONE: (509) 942-1600

LEGEND

⊙	5/8" x 30" IRON REBAR WITH YELLOW PLASTIC CAP STAMPED: "HDJ - LS 25893" PURSUANT TO SURVEY VOL. 1, PG. 4595
EL	ELEVATION
INTX	INTERSECTION
PG.	PAGE
R/W	RIGHT-OF-WAY
SF	SQUARE FEET
TYP	TYPICAL
SW, IRR & UTIL ESMT	SIDEWALK, IRRIGATION & UTILITY EASEMENT (OR A COMBINATION THEREOF)
VOL.	VOLUME
	SECTION LINE OR SUB-SECTION LINE
	EXISTING RIGHT-OF-WAY
	EXISTING EASEMENT
735	EXISTING GROUND CONTOUR AS DERIVED FROM AERIAL PHOTOGRAPHY PROVIDED BY GEOTERRA ON FEBRUARY 20, 2015
	PARCEL 1 BOUNDARY
	PROPOSED RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY CENTERLINE
	PROPOSED LOT BOUNDARY
	PROPOSED PHASE LINE
	FUTURE RIGHT-OF-WAY
	FUTURE RIGHT-OF-WAY CENTERLINE

LAND USE TABLE

SITE AREA:	31.45 ACRES
TOTAL LOT COUNT:	93 LOTS + 9 TRACTS
SINGLE FAMILY RESIDENTIAL LOTS:	93 LOTS
MINIMUM LOT AREA:	7,560 SF
MAXIMUM LOT AREA:	25,250 SF
OVERALL AVG. LOT AREA:	10,162 SF
RIGHT OF WAY DEDICATION:	252,133 SF (5.79 ACRES)
TRACTS A, B, C, D, E, F, G, H, I:	179,348 SF (4.12 ACRES)
TRACT A USE:	STORM RETENTION AREA
TRACTS B AND C USE:	PUBLIC SIDEWALK
TRACT D, E, F, AND G USE:	RESERVED FOR FUTURE LOTS
TRACT H USE:	PUBLIC SIDEWALK, UTILITIES, AND LANDSCAPING
TRACT I USE:	SEWER TRACT

BASIS OF BEARINGS:
NORTH 88°03'17" EAST ALONG THE NORTH LINE OF THE NORTHEAST 1/4 OF SECTION 17, T. 8 N, R. 29 E, W.M., PER SURVEY IN BOOK 1 OF SURVEYS AT PAGE 4595. DISTANCES SHOWN ARE TRUE GROUND LENGTH

BASIS OF ELEVATION:
FOUND 2-1/2" BRASS CAP ON NORTHEAST CORNER SECTION 17, T. 8 N, R. 29 E, W.M., HELD CITY OF KENNEWICK DATUM, NGVD 1929 ELEVATION OF 879.59' PER SURVEY IN BOOK 1 OF SURVEYS AT PAGE 1540.

CITY OF KENNEWICK FILE #:
PP 17-05 / PLN-2017-02581

PRELIMINARY
SUBJECT TO AGENCY REVIEW
NOT FOR CONSTRUCTION

PBS Engineering and Environmental Inc.
400 Bradley Blvd, Suite 106
Richland, WA 99352
509.942.1600
pbsusa.com

PBS

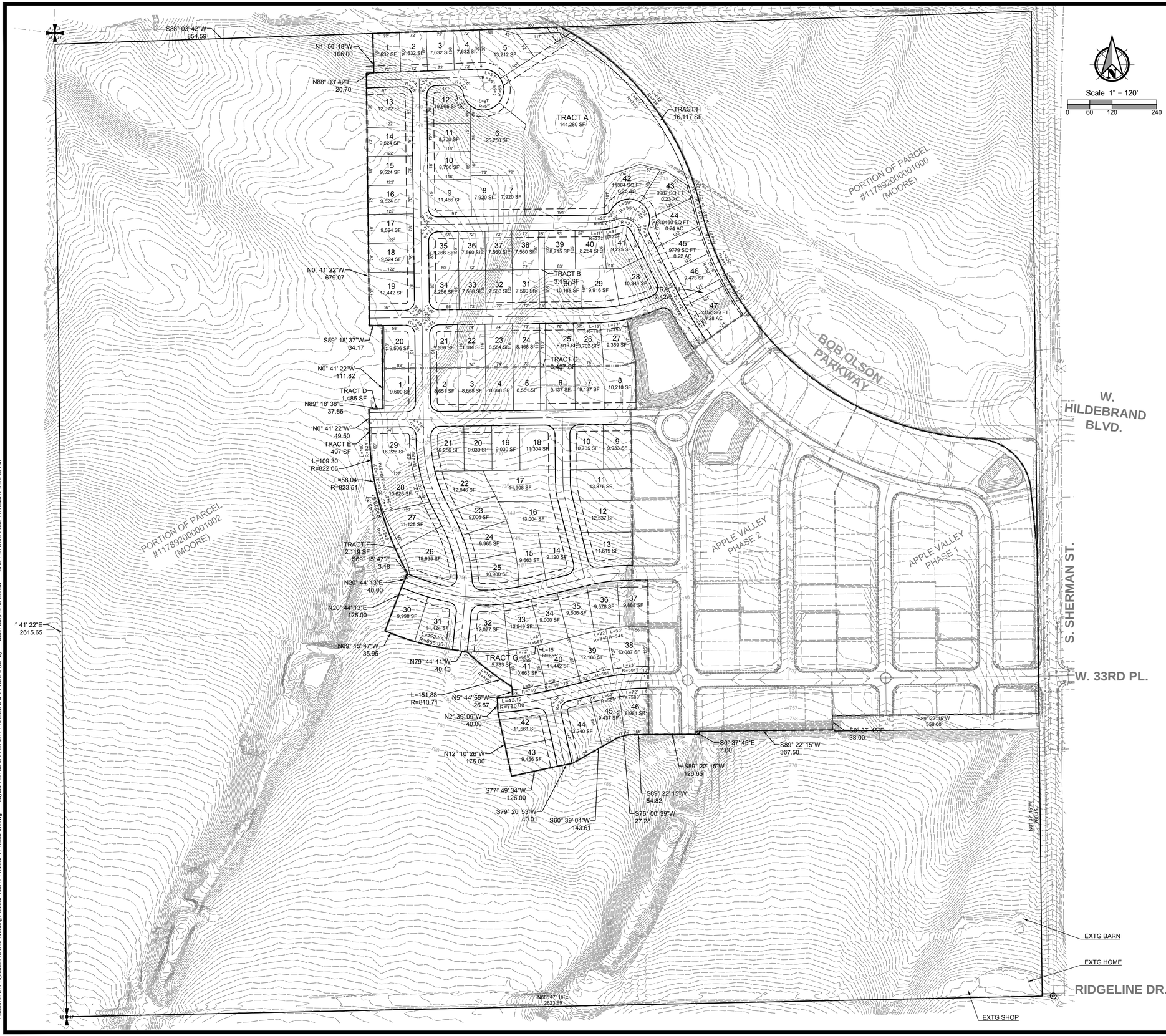
PRELIMINARY PLAT FOR:
APPLE VALLEY - PHASES 3 & 4
A SUBDIVISION LOCATED IN THE CITY OF KENNEWICK, WASHINGTON

811 Know what's below. Call before you dig.

JASON L. MATTOX — STATE OF WASHINGTON — 44707 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

DESIGNED:	BMW
CHECKED:	JLM
NOV 2017	HDJ3949.000
SHEET ID	
SHEET	1 OF 2

Filename: E:\Projects\3949\Cad\Working\Phase3-4\3949-Phase3-4-PrelimPlat.dwg Layout Tab: 3949-PREPLAT-PHASES 3 & 4-PAGE 1 (OF 2) User: Stephanie Garcia CAD Plot Date/Time: 11/16/2017 4:36:35 PM



LEGAL DESCRIPTION:

A PARCEL OF LAND LOCATED WITHIN THE NORTHWEST QUARTER OF SECTION 17 IN TOWNSHIP 8 NORTH IN RANGE 29 EAST, W.M., CITY OF KENNEWICK, BENTON COUNTY, WASHINGTON, DESCRIBED MORE PARTICULARLY AS FOLLOWS:
COMMENCING AT THE SOUTHEAST CORNER OF SAID NORTHWEST QUARTER OF SECTION 17; THENCE S 88°47'16" W ALONG THE SOUTH LINE OF SAID NORTHWEST QUARTER OF SECTION 17 A DISTANCE OF 30.00 FEET TO THE WESTERLY RIGHT OF WAY LINE OF SOUTH SHERMAN STREET; THENCE N 00°37'45" W ALONG THE WEST RIGHT OF WAY LINE OF SOUTH SHERMAN STREET A DISTANCE OF 719.23 FEET TO THE **TRUE POINT OF BEGINNING**;
THENCE S 89°22'15" W A DISTANCE OF 550.06 FEET;
THENCE N 00°37'45" W A DISTANCE OF 3.00 FEET;
THENCE S 89°22'15" W A DISTANCE OF 364.04 FEET;
THENCE S 00°37'45" E A DISTANCE OF 8.31 FEET;
THENCE S 89°22'15" W A DISTANCE OF 59.01 FEET TO A POINT ON THE ARC OF A NON TANGENT CURVE TURNING TO THE RIGHT, HAVING A RADIUS OF 828.59 FEET; THE RADIUS POINT OF WHICH BEARS N 00°05'19" W; THENCE ALONG SAID CURVE, HAVING AN ARC LENGTH OF 39.39 FEET, WITH A DELTA ANGLE OF 02°43'26", A CHORD BEARING OF N 88°43'36" W, AND A CHORD LENGTH OF 39.39 FEET TO A NON TANGENT LINE;
THENCE S 89°22'15" W A DISTANCE OF 92.62 FEET;
THENCE S 75°00'39" W A DISTANCE OF 27.28 FEET;
THENCE S 60°39'04" W A DISTANCE OF 143.63 FEET;
THENCE S 79°20'53" W A DISTANCE OF 40.02 FEET;
THENCE S 77°49'34" W A DISTANCE OF 126.01 FEET;
THENCE N 12°10'26" W A DISTANCE OF 175.02 FEET;
THENCE N 02°39'09" W A DISTANCE OF 40.00 FEET TO A POINT ON THE ARC OF A NON TANGENT CURVE TURNING TO THE LEFT, HAVING A RADIUS OF 780.08 FEET; THE RADIUS POINT OF WHICH BEARS N 02°39'09" W; THENCE ALONG SAID CURVE, HAVING AN ARC LENGTH OF 42.15 FEET, WITH A DELTA ANGLE OF 03°05'46", A CHORD BEARING OF N 85°47'58" E, AND A CHORD LENGTH OF 42.15 FEET TO A NON TANGENT LINE;
THENCE N 05°44'55" W A DISTANCE OF 26.67 FEET TO A POINT ON THE ARC OF A NON TANGENT CURVE TURNING TO THE RIGHT, HAVING A RADIUS OF 828.59 FEET; THE RADIUS POINT OF WHICH BEARS N 32°24'53" E; THENCE ALONG SAID CURVE, HAVING AN ARC LENGTH OF 146.38 FEET, WITH A DELTA ANGLE OF 10°07'20", A CHORD BEARING OF N 52°31'27" W, AND A CHORD LENGTH OF 146.19 FEET TO A NON TANGENT LINE;
THENCE N 45°37'45" W A DISTANCE OF 5.52 FEET;
THENCE N 79°44'11" W A DISTANCE OF 40.14 FEET TO A POINT ON THE ARC OF A NON TANGENT CURVE TURNING TO THE RIGHT, HAVING A RADIUS OF 655.07 FEET; THE RADIUS POINT OF WHICH BEARS N 07°22'02" E; THENCE ALONG SAID CURVE, HAVING AN ARC LENGTH OF 152.85 FEET, WITH A DELTA ANGLE OF 13°22'10", A CHORD BEARING OF N 75°56'52" W, AND A CHORD LENGTH OF 152.51 FEET TO A TANGENT LINE;
THENCE N 69°15'47" W A DISTANCE OF 35.95 FEET;
THENCE N 20°44'13" E A DISTANCE OF 125.01 FEET;
THENCE N 25°16'54" E A DISTANCE OF 40.13 FEET TO A POINT ON THE ARC OF A NON TANGENT CURVE TURNING TO THE RIGHT, HAVING A RADIUS OF 823.59 FEET; THE RADIUS POINT OF WHICH BEARS N 60°53'01" E; THENCE ALONG SAID CURVE, HAVING AN ARC LENGTH OF 403.26 FEET, WITH A DELTA ANGLE OF 28°03'14", A CHORD BEARING OF N 15°05'22" W, AND A CHORD LENGTH OF 399.24 FEET TO A NON TANGENT LINE;
THENCE N 00°41'22" W A DISTANCE OF 59.01 FEET;
THENCE N 89°18'38" E A DISTANCE OF 37.87 FEET;
THENCE N 00°41'22" W A DISTANCE OF 117.51 FEET;
THENCE N 00°41'23" W A DISTANCE OF 106.15 FEET;
THENCE S 89°18'37" W A DISTANCE OF 34.18 FEET;
THENCE N 00°41'22" W A DISTANCE OF 679.14 FEET;
THENCE N 88°03'42" E A DISTANCE OF 20.71 FEET;
THENCE N 01°56'18" W A DISTANCE OF 106.01 FEET TO THE SOUTH RIGHT OF WAY OF W. HILDEBRAND ROAD AS ESTABLISHED BY DEED RECORDED UNDER AUDITOR'S FILE NUMBER 366689, RECORDS OF BENTON COUNTY;
THENCE N 88°03'42" E ALONG SAID SOUTH RIGHT OF WAY WHICH IS 30.00 FEET SOUTH OF AND PARALLEL WITH THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 17 A DISTANCE OF A DISTANCE OF 506.15 FEET TO A POINT ON THE SOUTHWESTERLY RIGHT OF WAY LINE OF BOB OLSON PARKWAY AS ESTABLISHED BY DEED RECORDED UNDER AUDITOR'S FILE NUMBER 2017-005228, RECORDS OF BENTON COUNTY;
THENCE ALONG SAID RIGHT OF WAY LINE AS FOLLOWS:
SAID POINT ON RIGHT OF WAY BEING A POINT ON THE ARC OF A NON TANGENT CURVE TURNING TO THE RIGHT, HAVING A RADIUS OF 738.00 FEET; THE RADIUS POINT OF WHICH BEARS S 27°35'58" W; THENCE ALONG SAID CURVE, HAVING AN ARC LENGTH OF 632.16 FEET, WITH A DELTA ANGLE OF 49°04'43", A CHORD BEARING OF S 37°51'40" E, AND A CHORD LENGTH OF 613.01 FEET TO A POINT OF REVERSE CURVATURE TURNING TO THE LEFT, HAVING A RADIUS OF 812.00 FEET; THENCE ALONG SAID CURVE, HAVING AN ARC LENGTH OF 1043.32 FEET, WITH A DELTA ANGLE OF 73°37'06", A CHORD BEARING OF S 50°07'51" E, AND A CHORD LENGTH OF 973.02 FEET TO A POINT OF REVERSE CURVATURE TURNING TO THE RIGHT, HAVING A RADIUS OF 150.00 FEET;
THENCE ALONG SAID CURVE, HAVING AN ARC LENGTH OF 212.15 FEET, WITH A DELTA ANGLE OF 81°02'08", A CHORD BEARING OF S 46°25'20" E, AND A CHORD LENGTH OF 194.91 FEET TO A TANGENT LINE;
THENCE S 05°54'16" E A DISTANCE OF 169.46 FEET TO A POINT ON THE WEST RIGHT OF WAY LINE OF SOUTH SHERMAN STREET;
THENCE S 00°37'45" E ALONG SAID WEST RIGHT OF WAY OF SOUTH SHERMAN STREET A DISTANCE OF 476.45 FEET TO THE **SAID TRUE POINT OF BEGINNING.**

HAVING AN AREA OF 2,363,146 SQUARE FEET, 54.25 ACRES.

PRELIMINARY
SUBJECT TO AGENCY REVIEW
NOT FOR CONSTRUCTION

PBS Engineering and Environmental Inc.
6607 W. Grandridge Blvd. Ste 106
Richland, WA 99352
509.942.1600
pbsusa.com

PBS

PRELIMINARY PLAT FOR:

APPLE VALLEY - PHASES 3 & 4

A SUBDIVISION LOCATED IN THE CITY OF KENNEWICK, WASHINGTON

811 Know what's **below.** **Call** before you dig.

JASON L. MATTOX
STATE OF WASHINGTON
44707
REGISTERED
PROFESSIONAL ENGINEER
PRELIMINARY

DESIGNED:	BMW
CHECKED:	JLM
NOV 2017	HDJ3949.000
SHEET ID	
SHEET	2 OF 2

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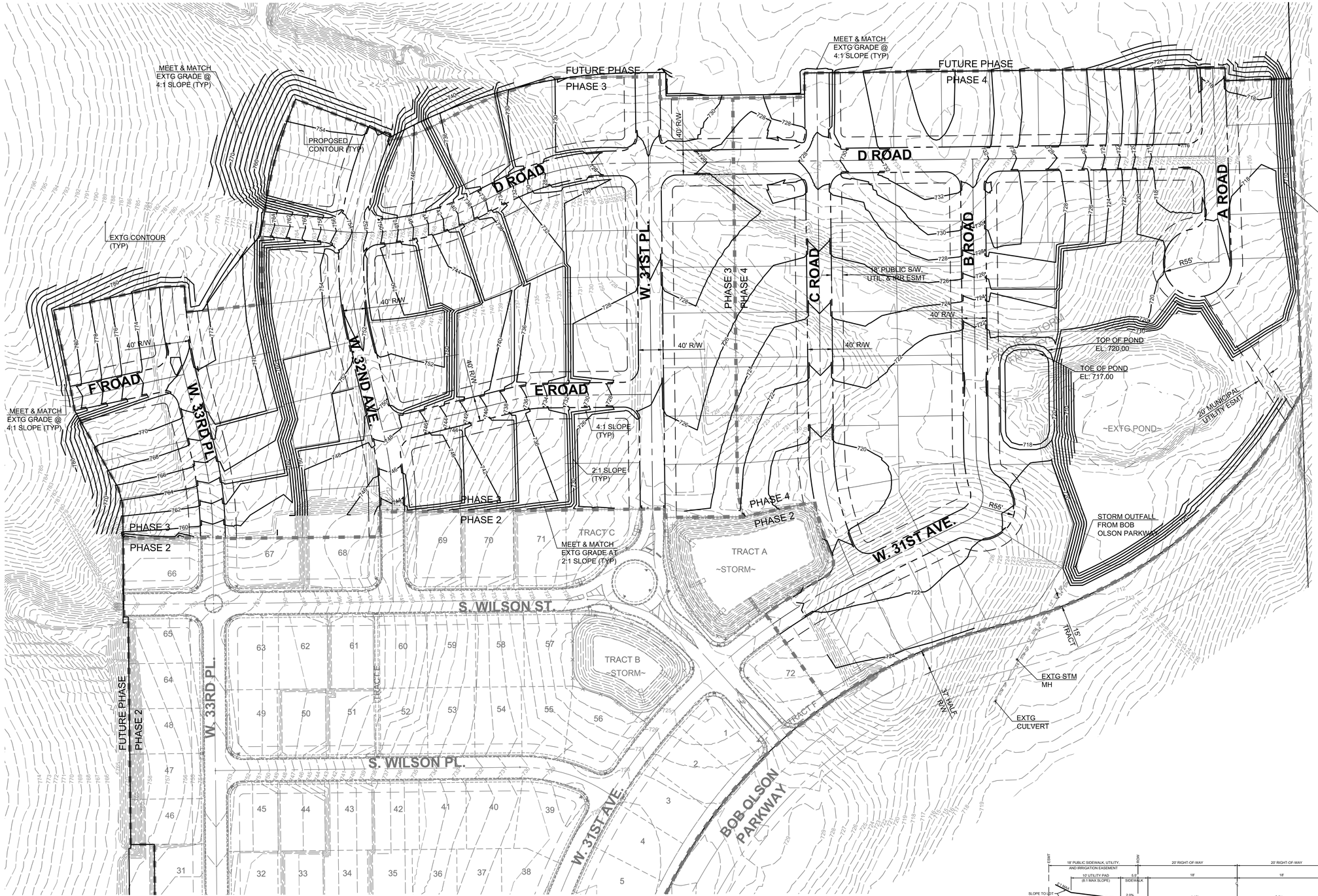

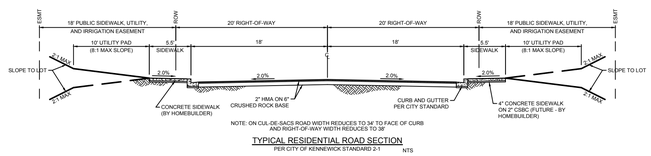

TYPICAL RESIDENTIAL ROAD SECTION
PER CITY OF KENNEWICK STANDARD 2-1 NTS

PRELIMINARY
SUBJECT TO AGENCY REVIEW
NOT FOR CONSTRUCTION

PBS Engineering and Environmental Inc.
400 Bradley Blvd, Ste 106
Richland, WA 99352
509.942.1600
pbsusa.com

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PRELIMINARY GRADING PLAN FOR:

APPLE VALLEY - PHASES 3 & 4

A SUBDIVISION LOCATED IN THE CITY OF KENNEWICK, WASHINGTON

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JASON L. MATTOX
STATE OF WASHINGTON
44307
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

DESIGNED:	BMW
CHECKED:	JLM
AUG 2017	HDJ3949.000
SHEET ID	
SHEET	1 OF 1

Soil Sampling Report For:
The Parks, Planned Residential Development
Kennewick, Benton County, Washington

April 2016

Prepared for

HDJ Design Group

Walla Walla, WA

Prepared by

EAS: Environmental Assessment Services, LLC

Richland, Washington

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Table of Contents

List of Figures

List of Appendices

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1.0 Introduction

Environmental Assessment Services, LLC (EAS) was contracted by the Jason Mattox, PE, with HDJ Design Group to provide soil sampling and analytical services for The Parks, a Planned Residential Development (PRD), located in the south part of Kennewick, Benton County, Washington (refer to Figure 1: Site Map).

1.1 Project Background

The need for the soil sampling and analyses is driven by correspondence to Mr. Wes Romine with Kennewick Development Services, from Ms. Gwen Clear with Washington State Department of Ecology (Ecology), dated December 1, 2015 and included in Appendix A to this report. Based upon the historical agricultural use of the subject property, Ecology recommended "that soils be sampled and analyzed for lead and arsenic, and for organochlorine pesticides." Ecology also stated that if these contaminants were found at concentrations above the Model Toxics Control (MTCA) cleanup levels that the potential buyers be notified of such.

1.2 Terms and Conditions

EAS personnel conducted the soil sampling per procedures specified in Statement of Work for: The Parks Environmental Property Work, Kennewick, WA, included as Appendix B to this report. Soils were analyzed by OnSite Environmental Inc. in Redmond, WA, an Ecology accredited laboratory for the prescribed analyses.

This work was performed for the sole use of Mr. Jason Mattox, PE, HDJ Design Group, and their representatives. No other party should rely on the information contained herein without the prior written consent of EAS.

1.3 Limitations and Exceptions of Assessment

The assessment involved no exceptions or limitations to the project scope of work or EAS's standard operating procedures.

1.4 Methodology Used

EAS's soil sampling methodology included:

- Development of sampling strategy and laboratory analyses;
- Decontamination of field sampling equipment;
- Sample collection, documentation, storage and shipping;
- Review of analytical results; and
- Report Preparation.

2.0 Development of Sampling Strategy and Laboratory Analyses

2.1 Sampling Strategy

Gwen Clear with Ecology was contacted by phone on January 19, 2016 to discuss a sampling strategy for the project. She indicated that grab samples from depths of six (6) inches and twelve (12) inches below ground surface (bgs) were preferred, over a grid-like pattern over the subject property. EAS developed the project SOW based upon this guidance, establishing 13 pre-determined (approximate) sampling points stratified as shown in Figure 2 of the SOW and including a field duplicate sample for each sampling depth (6" and 12" bgs).

2.2 Laboratory Analyses

The constituents of potential concern (COPCs) – lead, arsenic and organochlorine pesticides – were confirmed with Ms. Clear (Ecology). OnSite Environmental Inc., an Ecology accredited environmental lab, was contracted to conduct the analytical testing for the COPCs using EPA Method 8081B for organochlorine pesticides and EPA Method 6010C for lead and arsenic. OnSite Environmental Inc. provided pre-cleaned certified 8 oz. sample containers, chain-of-custody forms and sample labels for the samples. Copies of the Certificate of Compliance for the sample containers are included with the laboratory analytical results in Appendix C to this report.

3.0 Decontamination of Field Sampling Equipment

3.1 Pre-Sampling Decontamination

All field sampling equipment including spade, soil auger and stainless steel trowels were pre-cleaned at EAS facilities and allowed to air dry at least 24 hours prior to use. The equipment was cleaned in an Alconox ™ solution and rinsed three (3) times in deionized water with a purity of 18.2 megohms. The equipment was wrapped in aluminum foil for transport to the field.

3.2 Decontamination of Sampling Equipment During Field Sampling

The spade and soil trowels were decontaminated in the field after collection of each sample. Field decontamination entailed a “rough” wash in tap water, followed by washing the equipment with a brush in an Alconox ™ solution and the rinsing three (3) times in deionized water with a purity of 18.1 megohms. The items were allowed to air dry then wrapped in foil prior to each use.

4.0 Sample Collection, Documentation, Storage and Shipping

4.1 Sample Collection

Soil samples were collected from thirteen (13) pre-determined locations (refer to Figure 2). The global position system (gps) coordinates for each location are provided in Table 1 below. Each soil pit was dug to a depth of six (6) inches bgs and a grab sample was collected and placed in a certified clean 8 oz. glass sample container with a Teflon lid. The soil pit was then excavated to a total depth of twelve (12) inches bgs where another grab sample was collected and placed in a certified clean 8 oz. sample container. A field duplicate sample was collected for each sampling depth (6 " bgs and 12" bgs). Each grab sample was collected by using a decontaminated stainless steel soil-sampling trowel.

Table 1: Soil Sample Collection Location

Sampling Point	Latitude	Longitude	Sample Nos.	Sample Depth (bgs)
1	46°11'02.0" N	119°13'16.5" W	Parks-SS-01-06	6 inches
			Parks-SS-01-12	12 inches
2	46°11'02.0" N	119°13'03.7" W	Parks-SS-02-06	6 inches
			Parks-SS-02-12	12 inches
3	46°11'02.0" N	119°12'47.5" W	Parks-SS-03-06	6 inches
			Parks-SS-03-12	12 inches
4	46°10'57.0" N	119°13'10.0" W	Parks-SS-04-06	6 inches
			Parks-SS-04-12	12 inches
5	46°10'57.0" N	119°12'56.0" W	Parks-SS-05-06	6 inches
			Parks-SS-05-12	12 inches
6	46°10'52.6" N	119°13'16.5" W	Parks-SS-06-06	6 inches
			Parks-SS-06-12	12 inches
7	46°10'52.6" N	119°13'05.0" W	Parks-SS-07-06	6 inches
			Parks-SS-07-06A	6 inches
			Parks-SS-07-12	12 inches
8	46°10'48.0" N	119°12'47.5" W	Parks-SS-08-06	6 inches
			Parks-SS-08-12	12 inches
9	46°10'48.0" N	119°13'09.0" W	Parks-SS-09-06	6 inches
			Parks-SS-09-12	12 inches
			Parks-SS-09-12A	12 inches
10	46°10'48.8" N	119°12'54.0" W	Parks-SS-10-06	6 inches
			Parks-SS-10-12	12 inches

11	46°10'43.0" N	119°13'17.5" W	Parks-SS-11-06 Parks-SS-11-12	6 inches 12 inches
12	46°10'42.0" N	119°13'05.0" W	Parks-SS-12-06 Parks-SS-12-12	6 inches 12 inches
13	46°10'43.0" N	119°12'46.4" W	Parks-SS-13-06 Parks-SS-13-12	6 inches 12 inches

4.2 Sample Documentation

Sample labels were prepared for each soil sample and applied to the sample container upon sample collection. Per the project SOW, each sample was labeled with the client name (EAS), project number (7033-12 Parks), sample identification number (e.g., Parks-SS-01-06), date and time, analyses (EPA 8081B, As, Pb) and preservative ($\leq$ 6°C). Sample labels were secured to the sample container by applying clear tape over the label. The sample information for each sample (sample number, date/time, analyses, and name of EAS staff collecting the sample) was recorded in the EAS project field notebook. The gps coordinates for each sample location were also recorded in the field notebook.

4.3 Sample Storage

Soil samples were placed into a sample cooler for temporary storage once the sample label was completed and attached and the sample documentation was completed in the field notebook. Sufficient ice was placed in the cooler to maintain the sample temperatures at $\leq$ 6°C. Upon return to EAS facilities, the samples were stored in a locked refrigerator in the EAS laboratory overnight until prepared for shipment the next day.

4.4 Sample Shipment

Each sample was recorded on a Chain of Custody (CoC) form. Information recorded included our company name (EAS), project number (7033-12 Parks), project manager (D. Phipps), sampled by (D. Phipps), sample number (e.g., Parks-SS-01-06), date and time sampled, matrix (soil), number of containers, analyses (EPA 8081B for organochlorine pesticides & EPA 6010C for As & Pb) and box checked to indicate turnaround time. The CoC was signed and dated to relinquish the samples to the lab. The original CoC was placed in a plastic ziplock bag and packed in the cooler with the samples for that specific cooler and CoC. A copy of the CoC is included in Appendix C of this report.

Each sample container was packed in bubble wrap to ensure sample integrity to the lab. The samples were placed into two shipping coolers; each with sufficient ice to ensure that the samples arrived at the laboratory at a temperature of $\leq$ 6°C and the CoC for that specific cooler. Packaging tape was wrapped completely around each cooler at two locations to ensure that the hinges were covered.

CoC security tape was placed on each cooler so that the integrity of the cooler and its contents could be verified upon receipt at the analytical laboratory.

The sample coolers were shipped overnight by a commercial air-freight company on March 3, 2016 and were delivered to the analytical laboratory, OnSite Environmental in Redmond, WA on March 4, 2016.

5.0 Review of Analytical Results

The COPCs for this sampling effort included the following:

- Organochlorine pesticides
- Arsenic (As)
- Lead (Pb)

EPA Method 8081B was used for detection of organochlorine pesticides and EPA Method 6010C was used for detection of As & Ph.

5.1 Analytical Results

The analytical results for each of the 28 soil samples collected and submitted to OnSite Environmental Inc. for the project are presented in Appendix C of this report. Arsenic (As) was not detected in any of the samples. Lead (Pb) was detected in all of the samples with concentrations ranging from 6.7 mg/kg (parts per million – ppm) to 13 mg/kg (ppm). Heptachlor epoxide (an organochlorine pesticide) was detected in sample number Parks-SS-08-12 at 7.8 µg/kg (parts per billion – ppb).

Model Toxics Control Act (MTCA) Regulation and Statute (WDOE Publication No. 94-06, Revised 2013) was reviewed to determine the cleanup levels for lead and heptachlor epoxide. Table 740-1 Method A Soil Cleanup Levels for Unrestricted Land Use list a **cleanup level of 250 mg/kg (ppm) for lead**. **Heptachlor epoxide** is not listed in this table; it is listed in Table 749-2 Priority Contaminants of Ecological Concern for Sites that Qualify for the Simplified Terrestrial Ecological Evaluation Procedure with a cleanup level of 0.6 mg/kg (ppm) and in Table 749-3 Ecological Indicator Soil Concentrations for Protection of Terrestrial Plants & Animals (for wildlife) with a **cleanup level of 0.4 mg/kg (ppm), which equates to 400 ppb**.

Lead concentrations for the soil samples collected and analyzed for The Parks property ranged from 6.7 to 13 ppm, well below the MTCA Level A Cleanup level of 250 ppm for lead.

Heptachlor epoxide was detected in one sample, Parks-SS-08-12, at a concentration of 7.8 ppb, well below the most conservative MTCA Cleanup level of 400 ppb for the pesticide.

6.0 Conclusions

Per Ecology recommendations, soils were sampled at 13 pre-determined (approximate) sampling points stratified over the site and analyzed for lead, arsenic and organochlorine pesticides. As noted in the previous section, lead (Pb) and heptachlor epoxide (an organochlorine pesticide) were detected in soil samples collected from the site.

Lead was detected in all of the soil samples collected from the site. Concentrations ranged from 6.7 to 13 ppm, well below the MTCA Level A Cleanup level of 250 ppm for lead.

Heptachlor epoxide was detected in one sample, Parks-SS-08-12, at a concentration of 7.8 ppb, well below the most conservative MTCA Cleanup level of 400 ppb for the pesticide.

All detections of lead and heptachlor epoxide were well below their associated MTCA Cleanup levels and warrant no further action.

There is no indication that soils on the site contain residual concentrations of pesticides, arsenic or lead that are above MTCA cleanup levels.

7.0 References

Google® Earth Aerial Photographs 2015

Washington State Department of Ecology, Model Toxics Control Act Regulation and Statute, Washington Department of Ecology, Revised 2013, Publication No. 94-06

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Figures

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Figure 1: Site Map (Google Earth, 2015) The sampled property area is located in the south part of Kennewick, Washington, to the north of Interstate 82 and west of Hwy 395.

Figure 2 – Sampling Location Map (Google Earth, 2015) The approximate locations of the 13 sampling locations are represented with the orange triangles in the photo.

Appendices

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Appendix A - Washington Department of Ecology Project Correspondence

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

December 1, 2015

Wes Romine
Kennewick Development Services
P.O. Box 6108
Kennewick, WA 99336

Re: PLN-2015-01863 and PLN-2015-01862

Dear Mr. Romine:

Thank you for the opportunity to comment on the notice of application for The Parks, a Planned Residential Development to develop approximately 137.4 ac into 553 residential units in 10 phases, proposed by Chad Bettesworth of Pahlisch Homes. We have reviewed the application and have the following comment.

TOXICS CLEAN-UP

Based upon the historical agricultural use of this land, there is a possibility the soil contains residual concentrations of pesticides. Ecology recommends that the soils be sampled and analyzed for lead and arsenic, and for organochlorine pesticides. If these contaminants are found at concentrations above the Model Toxics Control Act cleanup levels Ecology recommends that potential buyers be notified of their occurrence.

If you have any questions or would like to respond to these Toxics Clean-up comments, please contact **Valerie Bound** at (509) 454-7886 or email at valerie.bound@ecy.wa.gov.

WATER QUALITY

Project with Potential to Discharge Off-Site
The NPDES Construction Stormwater General Permit from the Washington State Department of Ecology is required if there is a potential for stormwater discharge from a construction site with disturbed ground. This permit requires that the SEPA checklist fully disclose anticipated activities including building, road construction and utility placements. Obtaining a permit is a minimum of a 38 day process and may take up to 60 days if the original SEPA does not disclose all proposed activities.

The permit requires that Stormwater Pollution Prevention Plan (Erosion Sediment Control Plan) is prepared and implemented for all permitted construction sites. These control measures must be able to prevent soil from being carried into surface water (this includes storm drains) by stormwater runoff. Permit coverage and erosion control measures must be in place prior to any clearing, grading or construction.

More information on the stormwater program may be found on Ecology's stormwater website at: http://www.ecy.wa.gov/programs/wq/stormwater/construction/. Please submit an application or contact **Ray Latham** at the Department of Ecology, (509) 575-2807, with questions about this permit.

Sincerely,

Gwen Clear

Gwen Clear
Environmental Review Coordinator
Central Regional Office
(509) 575-2012
crosepacoordinator@ecy.wa.gov

4936

Appendix B – Statement of Work for: The Parks Environmental Property Work, Kennewick, WA

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Statement of Work for: The Parks Environmental Property Work, Kennewick, WA

Summary of Tasks

The following tasks are included in the statement of work (SOW) for The Parks Environmental Property Work (EPW):

1. Visual assessment of potential wetland areas to determine which areas will need to have a wetland delineation, assessment and rating
2. Delineation, assessment and rating of any wetlands on the subject property area
3. Soil sampling and analysis for Arsenic (As), Lead (Pb), and organochlorine pesticides

The Parks EPW area entails approximately 158 acres of undeveloped land in southeast Kennewick (refer to Figure 1).

Wetlands

Washington Department of Ecology (Ecology) in correspondence to Kennewick Development Services dated December 7, 2015 indicated that there are ravines on the subject property that may contain wetlands. Ecology also noted there is a pond on the property that will need to have the existing wetland functions evaluated to determine buffer zones and origin and history of the pond investigated to determine if it is a jurisdictional wetland under local, state or federal law.

Visual Assessment of Potential Wetlands

Staff will walk over the site and note all locations (e.g., ravines, ditches, ponds, seeps, etc.) that potentially contain wetlands and warrant further evaluation. A field-check for hydric soils and/or saturation will be conducted using a push probe to a depth of ~20 inches or refusal due to rock bottom. Areas that are potential wetlands will be flagged for future delineation. Areas that are checked but determined not to be wetlands will be noted in an EPW field notebook along with characteristics observed and used to make the determination.

Delineation, Assessment and Rating of Wetlands

All wetlands on the subject property will be delineated following procedures outlined in Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), U.S. Army Corps of Engineers (September 2008). The approximate border of any wetlands on the site will be flagged to aid surveyors in mapping the areas in the near future. All wetlands on the subject property will be rated following

procedures outlined in Washington State Wetland Rating System For Eastern Washington, 2014 Update.

Soil Sampling

Soil sampling will be conducted at 13 pre-determined (approximate) sampling points stratified as shown on Figure 2. Two grab samples, approximately an 8 oz jar full each, will be collected from each of the 13 sampling points. Samples will be collected from approximately 6 inches below ground surface (bgs) and from approximately 12 inches bgs. Field duplicate samples will be collected from two of the predetermined sampling points for quality assurance purposes; one from a depth of 6 inches and the other from a depth of 12 inches. Soil samples will be obtained by using a hand-held soil auger. Soils will be placed into a decontaminated stainless steel bowl that is lined with clean aluminum foil for each sample. Soil samples will be shipped to a Washington State Department of Ecology accredited environmental laboratory for analyses.

Decontamination

The soil auger, stainless steel sampling bowls, and any scoops, trowels, etc. that may be used for the soil sampling will be pre-cleaned at EAS facilities and allowed to air dry at least 24 hours prior to use but no longer than two weeks before use. All sampling equipment that may contact the sample material will be cleaned in an Alconox™ solution and rinsed three (3) times in deionized water with a purity of 10 megohms or greater. This same procedure will be used to clean all soil sampling equipment after completion of the sampling.

The soil auger will be decontaminated in the field after each sample collection. Field decontamination will entail a “rough” wash in tap water, followed by washing the auger with a brush in Alconox and water, followed by rinsing three (3) times in deionized water.

Sample Documentation

All soil samples will be placed in certified clean 8 oz. jars and labeled with the following information:

- Client name (EAS)
- Project number (7033-12Parks)
- Sample ID (e.g., Parks-SS-01-06); where SS = soil sample, 01 = sampling point, and 06 = sampling depth in inches bgs.
- Date and time
- Analysis (EPA 8081B, As, Pb)
- Preservative ($\leq$ 6 °C)

Sample labels will be secured with clear tape. Sample information will also be recorded in the EPW field notebook along with location coordinates acquired from a hand-held global positioning system (GPS) for each sample location.

Sample Storage

Samples will be placed into a sample cooler with sufficient ice to ensure that the sample is maintained at a temperature of ≤ 6 °C. Samples may be temporarily stored in a designated refrigerator in the EAS laboratory until shipment if not shipped the same day collected.

Sample Shipment

All samples to be shipped for analyses will be documented on a Chain of Custody (CoC) form. The following information will be listed on the CoC:

- Company (EAS)
- Project number (7033-12Parks)
- Project manager (D. Phipps)
- Sampled by (D. Phipps)
- Sample Identification (e.g., Parks-SS-01-06)
- Date & time sampled
- Matrix (soil)
- Number of containers
- Analyses (EPA 8081B & EPA 6010C/200.7 for As & Pb)
- Box checked to indicate turnaround time in working days

The CoC will be signed and dated to relinquish samples to the lab. The original CoC will accompany the samples and the carbon copy retained by EAS for the project file.

Samples will be packed in bubble wrap and/or other protective material to ensure sample integrity to the lab. Samples will be placed in a cooler with the CoC and sufficient ice to ensure that the samples arrive to the laboratory at a temperature of ≤ 6 °C. Tape will be wrapped around the cooler, including any hinges, at least two times to ensure that the cooler does not come open during transit. A CoC security tape will be placed on the cooler by the sampler and integrity will be verified by the receiving laboratory technician to ensure that it was not compromised during shipping.

Reporting

A project report will be prepared to document the wetland findings (including Washington state wetland ratings for all wetlands on the site) and to document the soil sampling locations and analytical results. The analytical results will be compared to Model Toxics Control Act (MTCA) clean-up levels for each analyte to determine if further investigation and potentially clean-up actions are needed.

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Appendix C – Analytical Results and Sample Container Certificates of Compliance

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OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 15, 2016

Deborah Phipps
Environmental Assessment Services
350 Hills Street, #12
Richland, WA 99354

Re: Analytical Data for Project 7033-12 PARKS
Laboratory Reference No. 1603-054

Dear Deborah:

Enclosed are the analytical results and associated quality control data for samples submitted on March 4, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

Case Narrative

Samples were collected on March 2, 2016 and received by the laboratory on March 4, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-01-06**					
Laboratory ID:	03-054-01					
alpha-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	56	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*69*	*53-107*				
DCB	*87*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-01-12**					
Laboratory ID:	03-054-02					
alpha-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	56	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*70*	*53-107*				
DCB	*87*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-02-06**					
Laboratory ID:	03-054-03					
alpha-BHC	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	12	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	12	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	12	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	12	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	59	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*64*	*53-107*				
DCB	*76*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-02-12**					
Laboratory ID:	03-054-04					
alpha-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	56	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*66*	*53-107*				
DCB	*85*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-03-06**					
Laboratory ID:	03-054-05					
alpha-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	56	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*75*	*53-107*				
DCB	*93*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-03-12**					
Laboratory ID:	03-054-06					
alpha-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	56	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*75*	*53-107*				
DCB	*95*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-04-06**					
Laboratory ID:	03-054-07					
alpha-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	56	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*75*	*53-107*				
DCB	*94*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-04-12**					
Laboratory ID:	03-054-08					
alpha-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	56	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*68*	*53-107*				
DCB	*90*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-05-06**					
Laboratory ID:	03-054-09					
alpha-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	57	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*64*	*53-107*				
DCB	*78*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-05-12**					
Laboratory ID:	03-054-10					
alpha-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	56	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*75*	*53-107*				
DCB	*93*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-06-06**					
Laboratory ID:	03-054-11					
alpha-BHC	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	12	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	12	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.9	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	12	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	12	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	59	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*72*	*53-107*				
DCB	*92*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-06-12**					
Laboratory ID:	03-054-12					
alpha-BHC	**ND**	5.8	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.8	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.8	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.8	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.8	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.8	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.8	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	12	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	12	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.8	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	12	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	12	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	12	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	58	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*74*	*53-107*				
DCB	*93*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-07-06**					
Laboratory ID:	03-054-13					
alpha-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	57	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*77*	*53-107*				
DCB	*97*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-07-06A**					
Laboratory ID:	03-054-14					
alpha-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.7	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	57	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*75*	*53-107*				
DCB	*93*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-07-12**					
Laboratory ID:	03-054-15					
alpha-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	11	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	56	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*76*	*53-107*				
DCB	*97*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0309S1					
alpha-BHC	**ND**	5.0	EPA 8081B	3-9-16	3-9-16	
gamma-BHC	**ND**	5.0	EPA 8081B	3-9-16	3-9-16	
beta-BHC	**ND**	5.0	EPA 8081B	3-9-16	3-9-16	
delta-BHC	**ND**	5.0	EPA 8081B	3-9-16	3-9-16	
Heptachlor	**ND**	5.0	EPA 8081B	3-9-16	3-9-16	
Aldrin	**ND**	5.0	EPA 8081B	3-9-16	3-9-16	
Heptachlor Epoxide	**ND**	5.0	EPA 8081B	3-9-16	3-9-16	
gamma-Chlordane	**ND**	10	EPA 8081B	3-9-16	3-9-16	
alpha-Chlordane	**ND**	10	EPA 8081B	3-9-16	3-9-16	
4,4'-DDE	**ND**	10	EPA 8081B	3-9-16	3-9-16	
Endosulfan I	**ND**	5.0	EPA 8081B	3-9-16	3-9-16	
Dieldrin	**ND**	10	EPA 8081B	3-9-16	3-9-16	
Endrin	**ND**	10	EPA 8081B	3-9-16	3-9-16	
4,4'-DDD	**ND**	10	EPA 8081B	3-9-16	3-9-16	
Endosulfan II	**ND**	10	EPA 8081B	3-9-16	3-9-16	
4,4'-DDT	**ND**	10	EPA 8081B	3-9-16	3-9-16	
Endrin Aldehyde	**ND**	10	EPA 8081B	3-9-16	3-9-16	
Methoxychlor	**ND**	10	EPA 8081B	3-9-16	3-9-16	
Endosulfan Sulfate	**ND**	10	EPA 8081B	3-9-16	3-9-16	
Endrin Ketone	**ND**	10	EPA 8081B	3-9-16	3-9-16	
Toxaphene	**ND**	50	EPA 8081B	3-9-16	3-9-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*78*	*53-107*				
DCB	*96*	*59-121*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-054-15										
	MS	MSD	MS	MSD		MS	MSD				
gamma-BHC	**45.8**	**45.3**	50.0	50.0	ND	**92**	**91**	41-116	1	12	
Heptachlor	**40.9**	**39.7**	50.0	50.0	ND	**82**	**79**	41-115	3	13	
Aldrin	**43.6**	**41.6**	50.0	50.0	ND	**87**	**83**	44-118	5	15	
Dieldrin	**101**	**98.2**	125	125	ND	**80**	**79**	38-121	3	13	
Endrin	**101**	**98.9**	125	125	ND	**81**	**79**	46-118	2	15	
4,4'-DDT	**101**	**92.5**	125	125	ND	**81**	**74**	34-117	9	21	
Surrogate:											
TCMX						*75*	*73*	*53-107*			
DCB						*96*	*95*	*59-121*			

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
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TOTAL METALS
EPA 6010C

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	03-054-01					
Client ID:	**PARKS-SS-01-06**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**12**	5.6	6010C	3-11-16	3-14-16	
Lab ID:	03-054-02					
Client ID:	**PARKS-SS-01-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**9.5**	5.6	6010C	3-11-16	3-14-16	
Lab ID:	03-054-03					
Client ID:	**PARKS-SS-02-06**					
Arsenic	**ND**	12	6010C	3-11-16	3-14-16	
Lead	**8.2**	5.9	6010C	3-11-16	3-14-16	
Lab ID:	03-054-04					
Client ID:	**PARKS-SS-02-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**7.5**	5.6	6010C	3-11-16	3-14-16	
Lab ID:	03-054-05					
Client ID:	**PARKS-SS-03-06**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**13**	5.6	6010C	3-11-16	3-14-16	
Lab ID:	03-054-06					
Client ID:	**PARKS-SS-03-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**9.0**	5.6	6010C	3-11-16	3-14-16	

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	03-054-07					
Client ID:	**PARKS-SS-04-06**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**7.9**	5.6	6010C	3-11-16	3-14-16	
Lab ID:	03-054-08					
Client ID:	**PARKS-SS-04-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**8.7**	5.6	6010C	3-11-16	3-14-16	
Lab ID:	03-054-09					
Client ID:	**PARKS-SS-05-06**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**8.9**	5.7	6010C	3-11-16	3-14-16	
Lab ID:	03-054-10					
Client ID:	**PARKS-SS-05-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**7.9**	5.6	6010C	3-11-16	3-14-16	
Lab ID:	03-054-11					
Client ID:	**PARKS-SS-06-06**					
Arsenic	**ND**	12	6010C	3-11-16	3-14-16	
Lead	**9.3**	5.9	6010C	3-11-16	3-14-16	
Lab ID:	03-054-12					
Client ID:	**PARKS-SS-06-12**					
Arsenic	**ND**	12	6010C	3-11-16	3-14-16	
Lead	**8.7**	5.8	6010C	3-11-16	3-14-16	

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	03-054-13					
Client ID:	**PARKS-SS-07-06**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**9.1**	5.7	6010C	3-11-16	3-14-16	
Lab ID:	03-054-14					
Client ID:	**PARKS-SS-07-06A**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**8.8**	5.7	6010C	3-11-16	3-14-16	
Lab ID:	03-054-15					
Client ID:	**PARKS-SS-07-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**8.9**	5.6	6010C	3-11-16	3-14-16	

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C
METHOD BLANK QUALITY CONTROL

Date Extracted: 3-11-16
Date Analyzed: 3-11&14-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0311SM3

Analyte	Method	Result	PQL
Arsenic	6010C	**ND**	10
Lead	6010C	**ND**	5.0

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C
DUPLICATE QUALITY CONTROL

Date Extracted: 3-11-16
Date Analyzed: 3-11&14-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 03-096-02

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Lead	**ND**	**ND**	NA	5.0	

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C
MS/MSD QUALITY CONTROL

Date Extracted: 3-11-16
Date Analyzed: 3-11&14-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 03-096-02

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**91.0**	91	**93.4**	93	3	
Lead	250	**226**	90	**225**	90	0	

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-054
Project: 7033-12 PARKS

% MOISTURE

Date Analyzed: 3-9-16

Client ID	Lab ID	% Moisture
PARKS-SS-01-06	03-054-01	11
PARKS-SS-01-12	03-054-02	11
PARKS-SS-02-06	03-054-03	15
PARKS-SS-02-12	03-054-04	11
PARKS-SS-03-06	03-054-05	10
PARKS-SS-03-12	03-054-06	10
PARKS-SS-04-06	03-054-07	10
PARKS-SS-04-12	03-054-08	11
PARKS-SS-05-06	03-054-09	12
PARKS-SS-05-12	03-054-10	11
PARKS-SS-06-06	03-054-11	15
PARKS-SS-06-12	03-054-12	14
PARKS-SS-07-06	03-054-13	12
PARKS-SS-07-06A	03-054-14	12
PARKS-SS-07-12	03-054-15	10

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Chain of Custody

Company: EAS
Project Number: 7033-12 PARKS
Project Name: PARKS SOIL SAMPLING
Project Manager: Deborah Phipps
Sampled by: Deborah Phipps

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-054

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	6010 (As, Pb)					% Moisture
1	PARKS-SS-01-06	3/2/16	0955	Soil											X							X					X
2	PARKS-SS-01-12		1005												X							X					X
3	PARKS-SS-02-06														X							X					X
4	PARKS-SS-02-12														X							X					X
5	PARKS-SS-03-06														X							X					X
6	PARKS-SS-03-12														X							X					X
7	PARKS-SS-04-06														X							X					X
8	PARKS-SS-04-12														X							X					X
9	PARKS-SS-05-06														X							X					X
10	PARKS-SS-05-12	3/2/16		Soil											X							X					X

	Signature	Company	Date	Time
Relinquished	Deborah Phipps	EAS	3/3/16	1300
Received	[illegible]	[illegible]	3/4/16	940
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Please email results to:
deborah.phipps@easbio.com
(Invoice to same email please)

Chromatograms with final report ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

EXHIBIT 7

Chain of Custody

Page 2 of 2

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Laboratory Number: 03-054

Company: EAS
Project Number: 7033-12 PARKS
Project Name: PARKS SOIL SAMPLING
Project Manager: Deborah Phipps
Sampled by: Deborah Phipps

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	6010 (As, Pb)	% Moisture
11	PARKS-SS-06-06	3/2/16	1430	Soil											X							X	X
12	PARKS-SS-06-12	"	1440	"											X							X	X
13	PARKS-SS-07-06	"	1325	"											X							X	X
14	PARKS-SS-07-06A	"	1325	"											X							X	X
15	PARKS-SS-07-12	3/2/16	1335	Soil											X							X	X

	Signature	Company	Date	Time	Comments/Special Instructions
Relinquished	Deborah Phipps	EAS	3/3/16	1300	
Received		Courier Fed Ex	3/4/16	940	
Relinquished					
Received					
Relinquished					
Received					
Reviewed/Date		Reviewed/Date			Chromatograms with final report ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

March 15, 2016

Deborah Phipps
Environmental Assessment Services
350 Hills Street, #12
Richland, WA 99354

Re: Analytical Data for Project 7033-12 PARKS
Laboratory Reference No. 1603-053

Dear Deborah:

Enclosed are the analytical results and associated quality control data for samples submitted on March 4, 2016.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

Case Narrative

Samples were collected on March 2, 2016 and received by the laboratory on March 4, 2016. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-08-06**					
Laboratory ID:	03-053-01					
alpha-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	56	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*60*	*53-107*				
DCB	*74*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-08-12**					
Laboratory ID:	03-053-02					
alpha-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**7.8**	5.6	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	56	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*62*	*53-107*				
DCB	*74*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-09-06**					
Laboratory ID:	03-053-03					
alpha-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	12	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	61	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*64*	*53-107*				
DCB	*78*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-09-12**					
Laboratory ID:	03-053-04					
alpha-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	12	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	61	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*72*	*53-107*				
DCB	*91*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-09-12A**					
Laboratory ID:	03-053-05					
alpha-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	12	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	6.1	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	61	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*74*	*53-107*				
DCB	*95*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-10-06**					
Laboratory ID:	03-053-06					
alpha-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	57	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*70*	*53-107*				
DCB	*92*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-10-12**					
Laboratory ID:	03-053-07					
alpha-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.6	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	56	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*70*	*53-107*				
DCB	*90*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-11-06**					
Laboratory ID:	03-053-08					
alpha-BHC	**ND**	5.3	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.3	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.3	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.3	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.3	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.3	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	5.3	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.3	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	53	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*69*	*53-107*				
DCB	*84*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-11-12**					
Laboratory ID:	03-053-09					
alpha-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	57	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*69*	*53-107*				
DCB	*88*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-12-06**					
Laboratory ID:	03-053-10					
alpha-BHC	**ND**	5.8	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.8	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.8	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.8	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.8	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.8	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	5.8	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	12	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.8	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	12	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	12	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	58	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*68*	*53-107*				
DCB	*85*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-12-12**					
Laboratory ID:	03-053-11					
alpha-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	57	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*70*	*53-107*				
DCB	*88*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-13-06**					
Laboratory ID:	03-053-12					
alpha-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	57	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*66*	*53-107*				
DCB	*83*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**PARKS-SS-13-12**					
Laboratory ID:	03-053-13					
alpha-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.7	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	11	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	11	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	57	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*68*	*53-107*				
DCB	*85*	*59-121*				

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

ORGANOCHLORINE PESTICIDES EPA 8081B QUALITY CONTROL

Matrix: Soil
Units: ug/Kg (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0308S1					
alpha-BHC	**ND**	5.0	EPA 8081B	3-8-16	3-8-16	
gamma-BHC	**ND**	5.0	EPA 8081B	3-8-16	3-8-16	
beta-BHC	**ND**	5.0	EPA 8081B	3-8-16	3-8-16	
delta-BHC	**ND**	5.0	EPA 8081B	3-8-16	3-8-16	
Heptachlor	**ND**	5.0	EPA 8081B	3-8-16	3-8-16	
Aldrin	**ND**	5.0	EPA 8081B	3-8-16	3-8-16	
Heptachlor Epoxide	**ND**	5.0	EPA 8081B	3-8-16	3-8-16	
gamma-Chlordane	**ND**	10	EPA 8081B	3-8-16	3-8-16	
alpha-Chlordane	**ND**	10	EPA 8081B	3-8-16	3-8-16	
4,4'-DDE	**ND**	10	EPA 8081B	3-8-16	3-8-16	
Endosulfan I	**ND**	5.0	EPA 8081B	3-8-16	3-8-16	
Dieldrin	**ND**	10	EPA 8081B	3-8-16	3-8-16	
Endrin	**ND**	10	EPA 8081B	3-8-16	3-8-16	
4,4'-DDD	**ND**	10	EPA 8081B	3-8-16	3-8-16	
Endosulfan II	**ND**	10	EPA 8081B	3-8-16	3-8-16	
4,4'-DDT	**ND**	10	EPA 8081B	3-8-16	3-8-16	
Endrin Aldehyde	**ND**	10	EPA 8081B	3-8-16	3-8-16	
Methoxychlor	**ND**	10	EPA 8081B	3-8-16	3-8-16	
Endosulfan Sulfate	**ND**	10	EPA 8081B	3-8-16	3-8-16	
Endrin Ketone	**ND**	10	EPA 8081B	3-8-16	3-8-16	
Toxaphene	**ND**	50	EPA 8081B	3-8-16	3-8-16	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*87*	*53-107*				
DCB	*105*	*59-121*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
MATRIX SPIKES											
Laboratory ID:	03-053-01										
	MS	MSD	MS	MSD		MS	MSD				
gamma-BHC	**38.2**	**36.8**	50.0	50.0	ND	**76**	**74**	41-116	4	12	
Heptachlor	**34.9**	**33.8**	50.0	50.0	ND	**70**	**68**	41-115	3	13	
Aldrin	**37.5**	**36.2**	50.0	50.0	ND	**75**	**72**	44-118	4	15	
Dieldrin	**86.4**	**83.7**	125	125	ND	**69**	**67**	38-121	3	13	
Endrin	**89.0**	**86.9**	125	125	ND	**71**	**69**	46-118	2	15	
4,4'-DDT	**92.6**	**90.3**	125	125	ND	**74**	**72**	34-117	3	21	
Surrogate:											
TCMX						*66*	*64*	*53-107*			
DCB						*79*	*76*	*59-121*			

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	03-053-01					
Client ID:	**PARKS-SS-08-06**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**11**	5.6	6010C	3-11-16	3-14-16	
Lab ID:	03-053-02					
Client ID:	**PARKS-SS-08-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**11**	5.6	6010C	3-11-16	3-14-16	
Lab ID:	03-053-03					
Client ID:	**PARKS-SS-09-06**					
Arsenic	**ND**	12	6010C	3-11-16	3-14-16	
Lead	**9.8**	6.1	6010C	3-11-16	3-14-16	
Lab ID:	03-053-04					
Client ID:	**PARKS-SS-09-12**					
Arsenic	**ND**	12	6010C	3-11-16	3-14-16	
Lead	**9.4**	6.1	6010C	3-11-16	3-14-16	
Lab ID:	03-053-05					
Client ID:	**PARKS-SS-09-12A**					
Arsenic	**ND**	12	6010C	3-11-16	3-14-16	
Lead	**9.4**	6.1	6010C	3-11-16	3-14-16	
Lab ID:	03-053-06					
Client ID:	**PARKS-SS-10-06**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**11**	5.7	6010C	3-11-16	3-14-16	

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	03-053-07					
Client ID:	**PARKS-SS-10-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**9.6**	5.6	6010C	3-11-16	3-14-16	
Lab ID:	03-053-08					
Client ID:	**PARKS-SS-11-06**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**10**	5.3	6010C	3-11-16	3-14-16	
Lab ID:	03-053-09					
Client ID:	**PARKS-SS-11-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**11**	5.7	6010C	3-11-16	3-14-16	
Lab ID:	03-053-10					
Client ID:	**PARKS-SS-12-06**					
Arsenic	**ND**	12	6010C	3-11-16	3-14-16	
Lead	**9.3**	5.8	6010C	3-11-16	3-14-16	
Lab ID:	03-053-11					
Client ID:	**PARKS-SS-12-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**9.9**	5.7	6010C	3-11-16	3-14-16	
Lab ID:	03-053-12					
Client ID:	**PARKS-SS-13-06**					
Arsenic	**ND**	11	6010C	3-11-16	3-14-16	
Lead	**9.9**	5.7	6010C	3-11-16	3-14-16	

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C

Matrix: Soil
Units: mg/kg (ppm)

Analyte	Result	PQL	EPA Method	Date Prepared	Date Analyzed	Flags
Lab ID:	03-053-13					
Client ID:	**PARKS-SS-13-12**					
Arsenic	**ND**	11	6010C	3-11-16	3-11-16	
Lead	**6.7**	5.7	6010C	3-11-16	3-11-16	

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C
METHOD BLANK QUALITY CONTROL

Date Extracted: 3-11-16
Date Analyzed: 3-11-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0311SM2

Analyte	Method	Result	PQL
Arsenic	6010C	**ND**	10
Lead	6010C	**ND**	5.0

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C
DUPLICATE QUALITY CONTROL

Date Extracted: 3-11-16
Date Analyzed: 3-11-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 03-053-13

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	**ND**	**ND**	NA	10	
Lead	**5.90**	**8.00**	30	5.0	C

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

TOTAL METALS
EPA 6010C
MS/MSD QUALITY CONTROL

Date Extracted: 3-11-16
Date Analyzed: 3-11-16

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 03-053-13

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	**100**	100	**98.2**	98	2	
Lead	250	**238**	93	**237**	92	1	

Date of Report: March 15, 2016
Samples Submitted: March 4, 2016
Laboratory Reference: 1603-053
Project: 7033-12 PARKS

% MOISTURE

Date Analyzed: 3-8-16

Client ID	Lab ID	% Moisture
PARKS-SS-08-06	03-053-01	11
PARKS-SS-08-12	03-053-02	10
PARKS-SS-09-06	03-053-03	18
PARKS-SS-09-12	03-053-04	18
PARKS-SS-09-12A	03-053-05	18
PARKS-SS-10-06	03-053-06	12
PARKS-SS-10-12	03-053-07	11
PARKS-SS-11-06	03-053-08	6
PARKS-SS-11-12	03-053-09	12
PARKS-SS-12-06	03-053-10	13
PARKS-SS-12-12	03-053-11	13
PARKS-SS-13-06	03-053-12	13
PARKS-SS-13-12	03-053-13	12

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-napthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1- Sample extract treated with a Sulfuric acid/Silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in method 8260C, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

EXHIBIT 7

Chain of Custody

Page 1 of 2

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: EAS
Project Number: 7033-12 PARKS
Project Name: PARKS SOIL SAMPLING
Project Manager: Deborah Phipps
Sampled by: Deborah Phipps

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-053

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	6010 (As, Pb)					% Moisture
1	PARKS-SS-08-06	3/2/16	1150	Soil											X							X					X
2	PARKS-SS-08-12		1200												X							X					X
3	PARKS-SS-09-06		1405												X							X					X
4	PARKS-SS-09-12		1415												X							X					X
5	PARKS-SS-09-12A		1415												X							X					X
6	PARKS-SS-10-06		1305												X							X					X
7	PARKS-SS-10-12		1315												X							X					X
8	PARKS-SS-11-06		1555												X							X					X
9	PARKS-SS-11-12		1605												X							X					X
10	PARKS-SS-12-06	3/2/16	1620	Soil											X							X					X

	Signature	Company	Date	Time
Relinquished	Deborah Phipps	EAS	3/3/16	1300
Received		OnSite Env	3/4/16	940
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Chromatograms with final report ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

EXHIBIT 7

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Chain of Custody

Page 2 of 2

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: EAS
Project Number: 7033-12 PARKS
Project Name: PARKS SOIL SAMPLING
Project Manager: Deborah Phipps
Sampled by: Deborah Phipps

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days) (TPH analysis 5 Days)
☐ _____ (other)

Laboratory Number: 03-053

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx	Volatiles 8260C	Halogenated Volatiles 8260C	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	GOLD (As, Pb)	% Moisture
11	PARKS-SS-12-12	3/2/16	1630	Soil											X							X	X
12	PARKS-SS-13-06	3/2/16	1655	Soil											X							X	X
13	PARKS-SS-13-12	3/2/16	1705	Soil											X							X	X

Deborah Phipps 3/3/16

	Signature	Company	Date	Time
Relinquished	Deborah Phipps	EAS	3/3/16	1300
Received	Jennifer Ev		3/4/16	940
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions
Please email results to:
deborah.phipps@easbio.com
(Invoice to same email please)

Chromatograms with final report ☐

Data Package: Standard ☐ Level III ☐ Level IV ☐ Electronic Data Deliverables (EDDs) ☐ _____

7033-12 The Rocks (8oz. jars)

EXHIBIT 7

PRECLEANED CERTIFIED

Certificate of Compliance

The enclosed containers have been chemically cleaned by using the specified USEPA cleaning procedures for low level chemical analysis. Representative containers have been tested by independent certified laboratories for their appropriate use. ESS containers meet and exceed the required detection limits established by the USEPA in SPECIFICATIONS AND GUIDANCE FOR CONTAMINANT-FREE SAMPLE CONTAINERS (OSWER Directive #9240.0-05A).

EXTRACTABLE ORGANIC COMPOUNDS (PROCEDURE 1)

Analyte	Quantitation Limit (ug/L)
PESTICIDES/PCB'S	
Alpha-BHC	<0.005
Beta-BHC	<0.005
Delta-BHC	<0.005
Gamma-BHC (Lindane)	<0.005
Heptachlor	<0.005
Aldrin	<0.005
Heptachlor Epoxide	<0.005
Endosulfan I	<0.005
Dieldrin	<0.005
4,4'-DDE	<0.005
Endrin	<0.005
Endosulfan II	<0.005
4,4'-DDD	<0.005
Endosulfan Sulfate	<0.005
4,4'-DDT	<0.005
Methoxychlor	<0.005
Endrin Ketone	<0.005
Endrin Aldehyde	<0.005
Alpha-Chlordane	<0.005
Gamma-Chlordane	<0.005
Toxaphene	<0.005
Aroclor-1016	<0.2
Aroclor-1221	<0.2
Aroclor-1232	<0.2
Aroclor-1242	<0.2
Aroclor-1248	<0.2
Aroclor-1254	<0.2
Aroclor-1260	<0.2
Aroclor-1262	<0.2
Aroclor-1268	<0.2
SEMIVOLATILES	
Phenol	<1
bis-(2-Chloroethyl) ether	<1
bis-(2-Chloroisopropyl) ether	<1
2-Chlorophenol	<1
2-Methylphenol	<1
2,2'-Oxybis-(1-Chloropropane)	<1
4-Methylphenol	<1
N-Nitroso-di-n-propylamine	<1
Hexachloroethane	<1
Nitrobenzene	<1
Isophorone	<1
2-Nitrophenol	<1
2,4-Dimethylphenol	<1
bis-(2-Chloroethoxy) methane	<1
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<1
Naphthalene	<0.2
4-Chloroaniline	<1
Hexachlorobutadiene	<1
4-Chloro-3-Methylphenol	<1
2-Methylnaphthalene	<0.2
Hexachlorocyclopentadiene	<1
2,4,6-Tricholrophenol	<1
2,4,5-Tricholrophenol	<1
1,2-Diphenylhydrazene	<1
Carbazole	<1
2-Chloronaphthalene	<0.15
2-Nitroaniline	<1
Dimethylphthalate	<1
Acenaphthylene	<0.2
2,6-Dinitrotoluene	<1
3-Nitroaniline	<1
Acenaphthene	<0.2
2,4-Dinitrophenol	<5
4-Nitrophenol	<5
Dibenzofuran	<1
2,4-Dinitrotoluene	<1
Diethylphthalate	<1
4-Chlorophenyl-Phenylether	<1
Flourene	<0.15
4-Nitroaniline	<1.5
4,6-Dinitro-2-Methyphenol	<1
N-Nitrosodiphenylamine	<1
N-Nitrosodimethylamine	<1
4-Bromophenyl-Phenylether	<1
Hexachlorobenzene	<1
Pentachlorophenol	<1
Phenanthrene	<0.2
Anthracene	<0.1
Di-n-Butylphthalate	<0.2
Fluoroanthene	<0.1
Pyrene	<0.15
Butylbenzylphthalate	<1
1,2'-Dichlorobenzene	<1
1,3'-Dichlorobenzene	<1
1,4'-Dichlorobenzene	<1
3,3'-Dichlorobenzidine	<1
Benzo[a]anthracene	<0.15
Chyrsene	<0.1
bis-(2-Ethylhexyl) Phthalate	<1
Di-n-Octylphthalate	<1
Benzo[b]flouranthene	<0.2
Benzo[k]flouranthene	<0.15
Benzo[a]pyrene	<0.15
Indeno(1,2,3-cd)pyrene	<0.2
Dibenzo[a,h]anthracene	<0.15
Benzo[g,h,i]perylene	<0.15
Benzoic Acid	<5
Benzyl Alcohol	<1
TPH Diesel	**<50.00**

PURGEABLE VOLATILE ORGANIC COMPOUNDS (PROCEDURE 2)

Analyte	Quantitation Limit (ug/L)
Acetone	<2.0
Benzene	<0.1
Bromoform	<0.1
Bromobenzene	<0.1
Bromochloromethane	<0.1
Bromodichloromethane	<0.1
Bromomethane	<0.1
z-Butylbenzene	<0.1
n-Butylbenzene	<0.1
sec-Butylbenzene	<0.1
tert-Butylbenzene	<0.1
Carbon Tetrachloride	<0.1
Carbon Disulfide	<0.1
Chlorobenzene	<0.1
Chloroethane	<0.1
Chloromethane	<0.1
2-Chlorotoluene	<0.1
4-Chlorotoluene	<0.1
2,4-Chlorotoluene	<0.2
Chloroform	<0.1
Dibromomethane	<0.1
1,2-Dibro 3-Chloropropane	<0.1
Dibromochloromethane	<0.1
1,2-Dibromoethane (EDB)	<0.1
1,2-Dichlorobenzene	<0.1
1,3-Dichlorobenzene	<0.1
1,4-Dichlorobenzene	<0.1
Dichlorodifluoromethane	<0.1
1,1-Dichloroethane	<0.1
1,2-Dichloroethane	<0.1
1,1-Dichloroethene	<0.1
cis-1,2-Dichloroethene	<0.1
trans-1,2-Dichloroethene	<0.1
1,2-Dichloropropane	<0.1
1,3-Dichloropropane	<0.1
2,2-Dichloropropane	<0.1
1,1-Dichloropropene	<0.1
cis-1,3-Dichloropropene	<0.1
trans-1,3-Dichloropropene	<0.1
Ethylbenzene	<0.1
2-Hexanone	<0.5
Hexachlorobutadiene	<0.1
Isopropylbenzene	<0.1
4-Isopropyltoluene	<0.1
Methylene Chloride	<0.5
Napthalene	<0.5
Propylbenzene	<0.1
Styrene	<0.1
1,1,1,2-Tetrachloroethane	<0.1
1,1,2,2-Tetrachloroethane	<0.1
Tetrachloroethene	<0.1
Toluene	<0.1
1,2,3-Trichlorobenzene	<0.1
1,2,4-Trichlorobenzene	<0.1
1,1,1-Trichloroethane	<0.1
1,1,2-Trichloroethane	<0.1
Trichloroethene	<0.1
Trichlorofluoromethane	<0.1
Trichlorotrifluorcethane	<0.1
1,2,3-Trichloropropane	<0.1
1,2,3-Trimethylbenzene	<0.1
1,2,4-Trimethylbenzene	<0.1
1,3,5-Trimethylbenzene	<0.1
Vinyl Acetate	<0.5
Vinyl Chloride	<0.1
Methyl-Tert-Butyl-Ether	<0.1
4-Methyl-2-pentanone	<0.5
ethyl-tert-butylether	<0.1
tert-amylmethylether	<0.1
diisopropylether	<0.1
tert-butanol	<0.1
o-xylene	<0.1
m-xylene(1)	<0.2
p-xylene(1)	<0.2
TPH as Gasoline	**<50.00**

METALS, CYANIDE & SULFIDE COMPOUNDS (PROCEDURE 3)

Analyte	Detection Limit (ug/L)
Aluminum	<0.5
Antimony	<0.03
Arsenic	<0.01
Barium	<0.03
Beryllium	<0.01
Cadmium	<0.03
Chromium	<0.06
Copper	<0.08
Iron	<3
Lead	<0.05
Magnesium	<4
Manganese	<0.1
Mercury	<0.2
Molybdenum	<0.5
Nickel	<0.05
Potassium	<50
Selenium	<0.5
Silver	<0.02
Sodium	<6
Thallium	<0.09
Zinc	<0.3
Flouride	<100
Nitrate + Nitrite	<50

This certificate only applies to the enclosed containers and not to any added preservative (except HCL vials). ESS uses only Analytical Grade chemicals. All ESS PrePreserved® containers include a case label with the reagent manufacturer and their lot number. Chemical C of A's can be found online using their lot number. For additional assistance or questions, call 800 233-8424 or email at: essorders@essvial.com.

ON-TIME PRODUCTS FOR ENVIRONMENTAL SAMPLING & ANALYSIS

ENVIRONMENTAL SAMPLING SUPPLY

For more information on our cleaning & monitoring procedures, please call

1-800-233-8425

www.essvial.com

011416

7033-12 The Parks (8 oz Jars)

EXHIBIT 7

PRECLEANED CERTIFIED

Certificate of Compliance

The enclosed containers have been chemically cleaned by using the specified USEPA cleaning procedures for low level chemical analysis. Representative containers have been tested by independent certified laboratories for their appropriate use. ESS containers meet and exceed the required detection limits established by the USEPA in SPECIFICATIONS AND GUIDANCE FOR CONTAMINANT-FREE SAMPLE CONTAINERS (OSWER Directive #9240.0-05A).

EXTRACTABLE ORGANIC COMPOUNDS (PROCEDURE 1)

Analyte	Quantitation Limit (ug/L)
PESTICIDES/PCB'S	
Alpha-BHC	<0.005
Beta-BHC	<0.005
Delta-BHC	<0.005
Gamma-BHC (Lindane)	<0.005
Heptachlor	<0.005
Aldrin	<0.005
Heptachlor Epoxide	<0.005
Endosulfan I	<0.005
Dieldrin	<0.005
4,4'-DDE	<0.005
Endrin	<0.005
Endosulfan II	<0.005
4,4'-DDD	<0.005
Endosulfan Sulfate	<0.005
4,4'-DDT	<0.005
Methoxychlor	<0.005
Endrin Ketone	<0.005
Endrin Aldehyde	<0.005
Alpha-Chlordane	<0.005
Gamma-Chlordane	<0.005
Toxaphene	<0.005
Aroclor-1016	<0.2
Aroclor-1221	<0.2
Aroclor-1232	<0.2
Aroclor-1242	<0.2
Aroclor-1248	<0.2
Aroclor-1254	<0.2
Aroclor-1260	<0.2
Aroclor-1262	<0.2
Aroclor-1268	<0.2
SEMIVOLATILES	
Phenol	<1
bis-(2-Chloroethyl) ether	<1
bis-(2-Chloroisopropyl) ether	<1
2-Chlorophenol	<1
2-Methylphenol	<1
2,2'-Oxybis-(1-Chloropropane)	<1
4-Methylphenol	<1
N-Nitroso-di-n-propylamine	<1
Hexachloroethane	<1
Nitrobenzene	<1
Isophorone	<1
2-Nitrophenol	<1
2,4-Dimethylphenol	<1
bis-(2-Chloroethoxy) methane	<1
2,4-Dichlorophenol	<1
1,2,4-Trichlorobenzene	<1
Naphthalene	<0.2
4-Chloroaniline	<1
Hexachlorobutadiene	<1
4-Chloro-3-Methylphenol	<1
2-Methylnaphthalene	<0.2
Hexachlorocyclopentadiene	<1
2,4,6-Tricholrophenol	<1
2,4,5-Tricholrophenol	<1
1,2-Diphenylhydrazene	<1
Carbazole	<1
2-Chloronaphthalene	<0.15
2-Nitroaniline	<1
Dimethylphthalate	<1
Acenaphthylene	<0.2
2,6-Dinitrotoluene	<1
3-Nitroaniline	<1
Acenaphthene	<0.2
2,4-Dinitrophenol	<5
4-Nitrophenol	<5
Dibenzofuran	<1
2,4-Dinitrotoluene	<1
Diethylphthalate	<1
4-Chlorophenyl-Phenylether	<1
Flourene	<0.15
4-Nitroaniline	<1.5
4,6-Dinitro-2-Methyphenol	<1
N-Nitrosodiphenylamine	<1
N-Nitrosodimethylamine	<1
4-Bromophenyl-Phenylether	<1
Hexachlorobenzene	<1
Pentachlorophenol	<1
Phenanthrene	<0.2
Anthracene	<0.1
Di-n-Butylphthalate	<0.2
Fluoroanthene	<0.1
Pyrene	<0.15
Butylbenzylphthalate	<1
1,2'-Dichlorobenzene	<1
1,3'-Dichlorobenzene	<1
1,4'-Dichlorobenzene	<1
3,3'-Dichlorobenzidine	<1
Benzo[a]anthracene	<0.15
Chyrsene	<0.1
bis-(2-Ethylhexyl) Phthalate	<1
Di-n-Octylphthalate	<1
Benzo[b]flouranthene	<0.2
Benzo[k]flouranthene	<0.15
Benzo[a]pyrene	<0.15
Indeno(1,2,3-cd)pyrene	<0.2
Dibenzo[a,h]anthracene	<0.15
Benzo[g,h,i]perylene	<0.15
Benzoic Acid	<5
Benzyl Alcohol	<1
TPH Diesel	**<50.00**

PURGEABLE VOLATILE ORGANIC COMPOUNDS (PROCEDURE 2)

Analyte	Quantitation Limit (ug/L)
Acetone	<2.0
Benzene	<0.1
Bromoform	<0.1
Bromobenzene	<0.1
Bromochloromethane	<0.1
Bromodichloromethane	<0.1
Bromomethane	<0.1
z-Butylbenzene	<0.1
n-Butylbenzene	<0.1
sec-Butylbenzene	<0.1
tert-Butylbenzene	<0.1
Carbon Tetrachloride	<0.1
Carbon Disulfide	<0.1
Chlorobenzene	<0.1
Chloroethane	<0.1
Chloromethane	<0.1
2-Chlorotoluene	<0.1
4-Chlorotoluene	<0.1
2,4-Chlorotoluene	<0.2
Chloroform	<0.1
Dibromomethane	<0.1
1,2-Dibro 3-Chloropropane	<0.1
Dibromochloromethane	<0.1
1,2-Dibromoethane (EDB)	<0.1
1,2-Dichlorobenzene	<0.1
1,3-Dichlorobenzene	<0.1
1,4-Dichlorobenzene	<0.1
Dichlorodifluoromethane	<0.1
1,1-Dichloroethane	<0.1
1,2-Dichloroethane	<0.1
1,1-Dichloroethene	<0.1
cis-1,2-Dichloroethene	<0.1
trans-1,2-Dichloroethene	<0.1
1,2-Dichloropropane	<0.1
1,3-Dichloropropane	<0.1
2,2-Dichloropropane	<0.1
1,1-Dichloropropene	<0.1
cis-1,3-Dichloropropene	<0.1
trans-1,3-Dichloropropene	<0.1
Ethylbenzene	<0.1
2-Hexanone	<0.5
Hexachlorobutadiene	<0.1
Isopropylbenzene	<0.1
4-Isopropyltoluene	<0.1
Methylene Chloride	<0.5
Napthalene	<0.5
Propylbenzene	<0.1
Styrene	<0.1
1,1,1,2-Tetrachloroethane	<0.1
1,1,2,2-Tetrachloroethane	<0.1
Tetrachloroethene	<0.1
Toluene	<0.1
1,2,3-Trichlorobenzene	<0.1
1,2,4-Trichlorobenzene	<0.1
1,1,1-Trichloroethane	<0.1
1,1,2-Trichloroethane	<0.1
Trichloroethene	<0.1
Trichlorofluoromethane	<0.1
Trichlorotrifluoroethane	<0.1
1,2,3-Trichloropropane	<0.1
1,2,3-Trimethylbenzene	<0.1
1,2,4-Trimethylbenzene	<0.1
1,3,5-Trimethylbenzene	<0.1
Vinyl Acetate	<0.5
Vinyl Chloride	<0.1
Methyl-Tert-Butyl-Ether	<0.1
4-Methyl-2-pentanone	<0.5
ethyl-tert-butylether	<0.1
tert-amylmethylether	<0.1
diisopropylether	<0.1
tert-butanol	<0.1
o-xylene	<0.1
m-xylene(1)	<0.2
p-xylene(1)	<0.2
TPH as Gasoline	**<50.00**

METALS, CYANIDE & SULFIDE COMPOUNDS (PROCEDURE 3)

Analyte	Detection Limit (ug/L)
Aluminum	<0.5
Antimony	<0.03
Arsenic	<0.01
Barium	<0.03
Beryllium	<0.01
Cadmium	<0.03
Chromium	<0.06
Copper	<0.08
Iron	<3
Lead	<0.05
Magnesium	<4
Manganese	<0.1
Mercury	<0.2
Molybdenum	<0.5
Nickel	<0.05
Potassium	<50
Selenium	<0.5
Silver	<0.02
Sodium	<6
Thallium	<0.09
Zinc	<0.3
Flouride	<100
Nitrate + Nitrite	<50

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011416

August 10, 2017

Matt Smith, P.E.
William Smith Properties
15 S.W. Colorado Avenue, Suite 1
Bend, Oregon 97702

Via email: matt@wspi.net

Re: Geotechnical Engineering Services – Critical Areas
Apple Valley Phase 3&4
Kennewick, Washington
PBS Project No. HDJ3949.000

Dear Mr. Smith:

PBS Engineering and Environmental Inc. (PBS) is pleased to submit this letter summarizing our geotechnical engineering services as they relate to the mapped critical areas on the Apple Valley site in Kennewick, Washington. HDJ completed a geotechnical investigation and geohazards assessment on Apple Valley Phases 1 & 2 formerly The Parks at Thompson Hill on June 8th, 2015. Subsequent test pits and evaluations were again conducted on the Phase 3&4 site on August 9th, 2017.

PROJECT UNDERSTANDING

Proposed development of Apple Valley Phase 3&4 will consist of dividing the 31.4-acre property into approximately 93 single-family, residential lots.

SITE CONDITIONS

Multiple areas within the proposed development are designated as critical areas due to high erosion potential and/or steep slopes. The City of Kennewick defines steep slopes as slopes exceeding 15 percent (6.7H:1V [horizontal to vertical]). The inclinations of site slopes are as steep as 18 percent (5H:1V), but are generally 10 percent or flatter.

The portions of the planned development mapped as critical areas have been previously developed as agricultural land for grazing. Preliminary site grading plans generally show fill being placed in low areas of the site to raise or flatten site grades and facilitate stormwater drainage. Current plans include construction of new roadways, stormwater drainage and infiltration facilities, and installation of utilities.

SUBSURFACE CONDITIONS

PBS observed the excavation of nine test pits at the site on August 9th , 2017, to depths ranging from 8.5 to 16.5 feet below the existing ground surface (bgs). Subsurface conditions included loose to medium dense silty sand and sandy silt overlying moderately to strongly cemented silty sand with occasional gravel and cobble, though the depth the cemented soils were encountered varied across the site, from 7 to 12 feet bgs.

400 Bradley Boulevard, Suite 300, Richland, WA 99352
509.942.1600 Main
866.727.0140 Fax
www.pbsenv.com

Groundwater was not encountered during the explorations. Review of well logs for water wells installed near the site indicate static groundwater is present at a depth of over 50 feet bgs.

CRITICAL AREAS

Steep Slopes - Due to the inclination of slopes (5H:1V to 6.7H:1V) in the proposed development area, the site has been identified as having hazards associated with steep slopes. Within the proposed development area, site grading will be designed to support the slope. Site slopes show no obvious signs of recent instability such as exposed soil, scarps, seeps, etc.

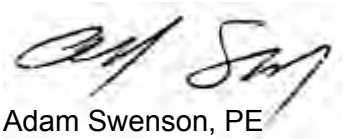
Soil Erosion – The near-surface silt soils encountered on the site (within the upper 4-6 feet of the soil profile) can be easily eroded when exposed to wind and water. Site slopes are currently covered predominately with grass. No obvious signs of recent erosion, such as rills, gullies, loose soil, etc., were observed at the site. Development of the site will likely include measures to reduce erosion during construction and implement measures for ongoing erosion control such as covering exposed soils with erosion control matting or planting appropriate vegetation.

CLOSING

In order to assure that the critical areas are properly addressed in design, we recommend that we work closely with our design engineers in development of the grading plan and reserve the right to make further recommendations once a fully-developed grading plan has been devised.

We trust this letter meets your current needs. Please feel free to contact me at 509.375.7844 or Adam.Swenson@pbsusa.com with any questions or comments.

Sincerely,
PBS Engineering and Environmental Inc.



Adam Swenson, PE
Geotechnical Staff Engineer

AS

Geotechnical Investigation/ Geohazards Assessment Report

Pahlisch Homes – The Parks at Thompson Hill
Kennewick, Washington

June 8, 2015

Prepared by:

HDJ Design Group, PLLC
6115 Burden Boulevard, Suite E
Pasco, Washington 99301
(509) 547-5119

HDJ Design Group Project No. 3949-00

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APPENDICIES

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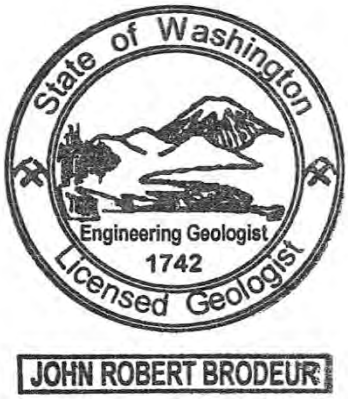
CERTIFICATE OF ENGINEER

Geotechnical Investigation Report
Pahlisch Homes – The Parks at Thompson Hill
Kennewick, Washington

The technical information and data contained in this report were prepared under the direction and supervision of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.

Prepared by:



John R. Brodeur, PE, LEG
Geotechnical Engineer, Geophysicist

And

Adam Swenson, PE
Geotechnical Engineer

1.0 INTRODUCTION

1.1 Project Background

HDJ Design Group, PLLC (HDJ) is pleased to present the results of our geotechnical investigation and geohazards assessment for "The Parks at Thompson Hill" Planned Residential Development (PRD) located on the west side of S. Sherman Street, across from the intersection of W. Hildebrand Boulevard, in Kennewick, Washington (site). The site is shown in the attached Appendix A, Figure 1: Site Location Map.

The Parks at Thompson Hill is a proposed residential development by Pahlisch Homes consisting of approximately 150 acres that will be divided into several development phases. This geotechnical report covers the first phase of the development, encompassing 20 acres located in the southeast portion of the larger 150 parcel.

HDJ's investigation of this 20-acre portion of the site was accomplished by excavating eleven exploration test pits to allow HDJ field personnel to observe, sample, and test the soil to assess subsurface conditions.

This report presents the results of our geotechnical investigation and geohazards assessment for this site. The report provides a description of site soils and soil profiles, a review of the regional and local geology, and a description of the local drainage systems and groundwater regime. This information was used to conduct a geohazards assessment of the site which is focused on the erosion hazards associated with the natural drainages at the site. Geotechnical recommendations and specifications are provided for construction of the development and for constructing homes in the development in a manner that is consistent with standard International Building Code (IBC) criteria.

1.2 Scope of Services

HDJ's geotechnical investigation scope of services for the project was limited to the following:

- **Geologic and Geotechnical Literature Review:** Relevant, readily available, geologic information on the site and surrounding area was reviewed for information regarding geologic conditions and hazards at or near the site.
- **Surface mapping:** Surface slopes, drainage, and soil conditions on the property were measured and assessed for potential impacts on the proposed development; in particular, the impact on the site grading plans. Surface features generally reflect the underlying bedrock topography in this area.
- **Subsurface Exploration and Soil Sampling:** Eleven exploration test pits were excavated at the site to observe, sample, and test the soil to determine subsurface conditions. The test pits were excavated using a trackhoe. The test pits were logged, representative soil samples were collected, in-situ soil testing was conducted, and soil moisture conditions were determined by our geotechnical staff.
- **Laboratory Testing:** Soil samples collected during the investigation were returned to the geotechnical laboratory for characterization, classification, and testing using the Unified Soil Classification System, along with soil descriptions derived from the Burmister soil classification method. Laboratory tests included natural moisture contents and grain-size analysis on selected soil samples.
- **Geotechnical Engineering Studies:** The data collected during the subsurface exploration, literature research, and laboratory testing work was analyzed, and specific

geotechnical design parameters and construction recommendations were developed for the proposed project.

- **Report Preparation:** This report contains the results of HDJ's site exploration work, including a summary of the site soil profile and underlying geology. This report includes a geohazards assessment as well as geotechnical specifications for site grading and development, and general geotechnical specifications for the design and construction of homes in the development.

2.0 SITE INVESTIGATION

2.1 Field Investigation

HDJ's field investigation of the site included the excavation of eleven exploration test pits at locations shown on Figure 2 – Site Exploration and Development Map. The test pits allowed us to examine and sample the soils, perform in-situ soil testing, and assess the subsurface conditions while developing and understanding of the near-surface soil profile.

Eleven exploration test pit logs, designated as TP-1 through TP-11, are provided in Appendix B.

Test pits were excavated to a maximum depth of 17 feet below the ground surface (bgs), although most test pits reached refusal on bedrock well above the 17-foot depth. The eleven test pits were spread around the site to obtain appropriate spatial coverage across the site.

2.2 Literature Review

The literature review for this project included a review of references on the geology of the area and the collection and review of nearby groundwater well logs obtained from the State of Washington database.

Information about the basic geology of the Pasco Basin is provided in Lindsey (1996) and a discussion of the underlying Miocene-age basalt bedrock structure is provided in Reidel (et al., 1994).

Groundwater well logs from the area all show shallow bedrock with groundwater being drawn from one of the interbedded sand layers between basalt flows. One domestic well log from a well located just west of the site shows a typical subsurface soil profile with basalt bedrock at about 10 feet bgs.

3.0 LABORATORY TESTING AND ANALYSIS

Soil samples collected during the field investigation were returned to our geotechnical laboratory for characterization, classification, and testing. Soil testing for this project included dry sieve analyses to determine the grain-size distribution of select soil samples. Soil characterization and classification results are shown on the test pit logs. The test pit logs and Sieve Analysis Plot Results are provided in Appendix B.

4.0 SITE CONDITIONS

4.1 Regional and Local Geology

The site is located near the center portion of a valley located between tectonic uplifts in the basalt bedrock. To the north of the site, Thompson Hill is located on the axis of a southeast-to northwest-trending anticlinal fold belt in the basalt bedrock that underlies the area. This fold belt extends from Wallula Gap at the southeast end to Rattlesnake Mountain.

South of the site, the underlying bedrock rises as a monocline that eventually levels out at or south of the Interstate 82 (I-82). The valley that exists on the site is a synclinal depression in the basalt bedrock with the approximate center or axis of the synclinal depression located just north of the site.

The synclinal depression in the bedrock is the substructure that formed the local valley. This valley and the anticlinal uplift of Thompson Hill are part of a series of parallel fold belts that were created by northeast to southwest compression of the continental plate. Basalt bedrock within the fold belt is composed of the Elephant Mountain and Pomona members of the Miocene-age (8 - 17 Ma [age]) Columbia River Basalt Group (CRBG).

Most of the folding and tectonic activity that created the fold belt occurred during the Miocene time (greater than 5 M ybp [millions of years since beginning of interval]) when the basalt lava flows were deposited. This area is now considered to be tectonically quiet and stable.

Ringold Formation (Ringold) sediments typically overlay the basalt bedrock; however, the Ringold sediments were deposited in valleys. In contrast, this site is located above the deposition elevation of most Ringold sediments.

The Ringold sediments that we do find at this site are the carbonate cemented silt and massive carbonate (limestone) that formed at the top of the Ringold just before the Pleistocene glaciation. These carbonate sediments were formed under drying lakebed conditions where annual runoff accumulates in the valleys and evaporates leaving the evaporite salts and carbonate.

The carbonate unit at the top of the Ringold is called the Plio-Pleistocene unit, or the Cold Creek member. The Plio-Pleistocene carbonate unit can be seen sitting on top of bedrock at the KID canal crossing over I-82 just west of this site. This unit can be followed all along the base of the KID canal as the canal extends around the north side of Thompson Hill.

This same carbonate unit was found in most of the test pits at the site as a thin layer covering the bedrock or colluvial gravel layer on top of bedrock. This carbonate layer can seal the bedrock and cause groundwater to be perched on top of the bedrock.

4.2 Site Description and Surface Conditions

The site was previously farmed and portions of the site contained a cherry orchard. The development area was not irrigated this year and currently consists of short brush and grass.

The surface soil at the site is a combination of late-Pleistocene (Holocene) glacio-fluvial (water deposited) and eolian (wind deposited) fine sand with some silt.

The surface topography has rolling hills with developed wash channels that drain from the south to the north toward a main drainage in the center of the valley that trends toward a westerly direction.

Figure 3 is extracted from the City of Kennewick Critical Areas Map and shows areas of the site that are designated as Geologically Hazardous Areas due to the erosion hazards or to the presence of slopes that are greater than 15%. Please note that two of the south-to-north drainage channels drain onto the property as shown by the green stippling pattern. These drainages probably developed in the late Pleistocene when flood waters backed up and flowed over the slope from the south.

Those drainages remain today but have not produced any runoff in the recent past. All three drainages are now blocked by the Interstate and by the KID canal adjacent to and down-slope of the Interstate. The drainages level out toward the north end of the site near the center of the valley.

4.3 Site Soil Profile

The basic soil profile at this site consists of near-surface fine sand and silt that sits on top of carbonate-cemented basalt bedrock, or colluvial basalt cobble and gravel. This profile is relatively consistent across the site; however, the depth to bedrock varies in an irregular manner from 2 to 17 feet bgs.

The primary, near-surface soil that we encountered at the site is composed of light olive-brown, fine sand and silt. This soil is classified between **SM** for silty sand and **ML** for sandy silt. Two samples of this soil type were subjected to sieve analysis and showed silt content of 21 percent and 57 percent. The soil samples were in a dry condition with no evidence of any subsurface water sources.

The near-surface silty sand soil is cemented with carbonate cementation and the degree of cementation varies significantly as indicated by a large variation observed in the dynamic penetrometer (DP) measures of soil strength.

Dynamic penetrometer (DP) measures of soil strength in the test pits typically exceeded 10 standard blows, indicating the soil is in a medium dense condition. At this site, six DP test horizons showed DP measures that exceeded 20 standard blows, indicating these soil layers are in a dense condition. The primary reason for the high DP measures of the sandy silt soil is that the high-strength layers are highly cemented with carbonate cementation. This variability in the soil density and soil strength (DP) is the result of the soil deposition mechanism and the development of the pedogenic carbonate cementation.

The near-surface silty sand soil is a combination of late Pleistocene lacustrine soil and post-Pleistocene eolian (wind deposited) soil.

The late Pleistocene lacustrine soil is primarily silt that was deposited under deep-water flood conditions on a temporary lake bottom after a significant flood episode.

In some areas of Kennewick, this late Pleistocene lacustrine silt soil formed as a loose soil matrix that is held together by carbonate cementation. Under those conditions, if the soil becomes wet and the carbonate cementation breaks down, the low-density soil can collapse into a higher density. This soil is, therefore, referred to as collapsible silt. Collapsible silt was not encountered in our test pit explorations.

The post-Pleistocene eolian soil is wind-deposited fine sand and silt that was deposited on and mixed with, any late-Pleistocene lacustrine soil at the site.

The depth to bedrock is of primary concern for development of the site as it impacts the design of the site grading, the design and construction of the sewage collection system, as well as the design of the stormwater infiltration system. Bedrock depth is indicated next to the test pit designations on the test pit map, Figure 2.

The shallowest bedrock was at 1.8 feet deep in test pit TP-4 that was excavated at the bottom of a shallow, north-trending drainage that is an erosion hazard area.

Bedrock varied from about 5.5 to 7.5 feet deep near S. Sherman Street in test pits TP-1, TP-2, and TP-3. Depth to bedrock appears to increase to the north and to the west; however, little can be concluded about any trends in bedrock depth from the sparse data available from the test pits.

HDJ's test pits were excavated by Troy McDaniel with EMAC Construction who has also been working on the same bedrock up on Thompson Hill in the Southcliffe development. Mr. McDaniel excavated the new sewer line along S. Sherman Street where he encountered bedrock along most of the route. According to Mr. McDaniel, the rock could be removed with some difficulty using a large trackhoe and it did not require blasting.

4.4 Infiltration Test Results

Infiltration tests were conducted in test pits TP-1, TP-3 and TP-8. All infiltration tests were conducted within the silty sand overburden above bedrock. However, the bedrock was only to depths of 5.5 feet bgs and 6 feet bgs in test pits TP-1 and TP-3, respectively. TP-8 encountered bedrock at approximately 17 feet bgs and the infiltration test was completed in an adjacent test pit within the overburden soil.

Infiltration test results are plotted as drawdown curves versus time on the Infiltration Test Results page in Appendix B.

A steady-state infiltration rate was achieved in all three infiltration tests.

The lowest infiltration rate observed was in test pit TP-8, located in the northwest portion of the project site, where the bedrock was 17 feet deep. The infiltration plot shows a steady-state infiltration rate of 4.6 inches per hour (in/hr).

Recommendations for infiltration rate for stormwater design are provided in the following Section 4.6

Infiltration of stormwater along the south portion of the property may be difficult at this site due to the shallow bedrock. Additionally, the surface of the bedrock is probably sealed with carbonate cementation. If water is put into the soil along the south portion of the property, it could flow downhill along the top of the sealed bedrock and daylight out to the surface in a depression or home crawl space below.

4.5 Groundwater

The only groundwater well log that was found to be near the proposed development indicates that the groundwater below the site is found within permeable zones in the basalt bedrock at a depth of approximately 120 feet bgs. This is well below any depth of concern for the residential development of the area. Copies of the nearby well logs are provided in Appendix B.

It is possible that a perched groundwater condition could develop on the site in the future where irrigation or infiltrated water from above the site becomes perched on a confining layer of carbonate above the bedrock. However, no perched water zones were found in any of the 11 test pits excavated at this site. If any perched water zones do develop in the future as the site becomes developed and stormwater and irrigation water infiltration increases, they are likely to be small local areas that can be drained by the stormwater collection system.

5.0 GEOHAZARDS ASSESSMENT

At this site the geohazards map (Figure 3) shows natural drainage channels as green stippled areas, indicating these areas are erosion hazard zones due to the potential for storm water to flow down the channels as runoff. These drainages flatten out toward the north portion of the project at the center of the valley where more erosion hazard areas are designated.

Only eastern drainage channel near Sherman Street would have outfall onto the development property. This erosion hazard can only occur if runoff can build within the drainage. However, the original drainage channel extended across the KID canal and across Interstate 84. Both of these structures currently block the flow of any surface water from above and they limit the extent and size of the potential runoff area.

Site grading plans call for all existing drainages to be filled in with soil during site grading operations. In addition, the newly designed stormwater system will be collecting any street runoff from the new development, removing any additional stormwater contribution during a storm.

The bottom line is that no runoff is expected from the north trending drainages in this area. If it does occur, runoff will not pass the Interstate or the KID canal and is not expected to flow onto the property. Stormwater simply cannot flow down these drainage channels any longer even for a very high intensity storm.

The only other geohazards on this site are associated with the steep slopes (greater than 15%) within or adjacent to the drainage channels and some minor steep areas in the middle of the site. These steep slopes will be cut or filled during site grading operations and are not expected to exist after grading operations. Thus they will no longer be geo-hazards.

6.0 GEOTECHNICAL DESIGN RECOMMENDATIONS

6.1 Earthwork

6.1.1 Site Preparations

Clear and grub the site of any surface vegetation and use the grub material as landscape fill or remove it from the site. Remove all roots and organic material, loose or soft soil, and old topsoil from all areas to receive pavement, foundations, driveways, etc.

Positive drainage away from structures and pavement subgrade areas should be constructed and maintained throughout the project.

6.1.2 Excavations

The near-surface silty sand soil at this site is easily excavated with a conventional backhoe. The underlying basalt bedrock and/or basalt cobble and gravel colluvium can be excavated with a large trackhoe, but it is difficult and time consuming.

A maximum slope of 1 vertical to 1.5 horizontal (1V:1.5H) is recommended for all excavation sidewalls at the site when shoring or bracing are not used to support the excavations That maximum excavation slope angle may need to be decreased depending upon the performance of the soil. Any trenching or excavations over 4 feet deep, such as basement

excavations, will require the previously-mentioned side slopes and/or shoring and bracing of the excavation.

The aforementioned information on slope protection is based on Occupational Health and Safety Administration (OSHA) regulations and is provided entirely as a service to HDJ's Client. Under no circumstances should the Client, their contractors or subcontractors, interpret this information to mean, or otherwise imply, that HDJ Design Group assumes responsibility for construction site safety and/or temporary slope stability, or the Contractor's activities. Such responsibility is not implied and should not be inferred.

6.1.3 Structural Fill Placement and Compaction

All graded areas across this site are considered to be structural fill areas that require compaction to specified values.

For structural fill, use existing on-site soil or approved imported soil. The on-site soil can be used as structural fill, provided it is free of organics and boulders that are greater than 6 inches in diameter, and it is installed in lifts and compacted in place. Imported structural fill soil should be sand or gravel that is well graded from fine to coarse and contains less than 15 percent by weight passing the No. 200 Sieve (silt). Crushed gravel is the best structural fill for foundation subgrade areas.

All structural fill soil shall be installed in 8-inch, maximum loose lifts, moisture conditioned to optimum moisture content, and compacted to a dry density of at least 95 percent of its maximum dry density, as determined by the modified proctor test, ASTM International (ASTM) D1557.

Large, heavy, vibratory-roller compactors or wheel-roller compaction equipment generally produces the best soil compaction results for large areas. If light weight compaction equipment is used to compact the soil, the maximum lift thickness may need to be decreased.

Mass grading and soil placement and compaction shall be monitored with nuclear density gauge measurements. Due to the high variability of the silt content of the soil at the site, more than one proctor may be required to obtain the correct maximum soil density.

Moisture requirements for soil compaction will vary as the silt content of the cut soil varies. It may be necessary to increase or decrease the water content during soil compaction to match the requirements of the soil.

6.2 Site Grading Design

Grading design for the development should consider the depth to bedrock across the site to try to avoid deep cuts along the south portion of the project where the bedrock appears to be the shallowest. Grading design should fill the existing shallow drainages on the south side where the soil is eroded down almost to bedrock. Borrow soil for filling should come from the north side of the project where the overburden is deep and soil cuts can avoid contact with bedrock.

Grading design should drain water down the natural slope to the north and into infiltration structures built into the soil where the depth to bedrock is the greatest.

Grading design for the single-family residential lots and town homes should be configured with level or gently sloping home pad areas on each lot, with transition slopes between lots set at a maximum grade of 1V:2H, to retain valuable level lot space. Lots can also be graded with a 10-foot-nominal slope in the middle of the lots to accommodate the construction of daylight basement homes.

All engineered cut or fill slopes should be set at a maximum slope angle of 1V:2H, or 50 percent. For areas where slopes greater than 50 percent are required, near-vertical, gravity mass rockery retaining walls, or some other retaining structure, can be installed. Gravity mass rockery walls are typically the lowest in cost and they can be configured in any geometry required without extensive soil reinforcement.

Grading design should provide a balance of the cut and fill and allow up to 20 percent shrinkage of the fill soil during placement.

Grading design should consider the IBC slope setback requirements from ascending or descending slopes for each lot to confirm the size and adequacy of the buildable areas on each lot.

6.3 Site Stormwater Infiltration and Management

The stormwater management for the residential development shall comply with the Eastern Washington Stormwater Management Manual (Ecology, 2004). Stormwater disposal/ infiltration devices are required to be registered with the Washington State Department of Ecology as Underground Injection and Control (UIC) facilities.

Stormwater disposal systems shall be designed for on-site retention and disposal of a 25-year, 24-hour storm, as per City of Kennewick requirements.

At this site, stormwater will be infiltrated into the silty sand overburden on top of the bedrock through infiltration trenches, drywells, or surface swales. As a result, depth to bedrock should be confirmed at each infiltration structure by test pit excavation or seismic refraction survey.

In general, shallow and wide infiltration trenches have performed better than drywells in the Southridge area. Drywells that require deep installation and a soil treatment zone below may not be suited for the shallow bedrock conditions at each infiltration site. Infiltration into near-surface infiltration trenches or surface ponds, may be a better option in order to maintain the required soil treatment zone thickness.

For stormwater design purposes, we recommend using the lowest field infiltration test rate that we obtained from three field tests. We recommend using the field test rate of 3 in/hr, divided by a correction factor of 2, for a net design infiltration rate of 1.5 in/hr. Please note that this infiltration rate is only for use when infiltrating into the overburden soil on top of bedrock.

We recommend geotechnical engineering review of the stormwater disposal plan. Some additional site-specific exploration may be needed at each specific infiltration structure to verify depth of bedrock and to determine the general slope of the underlying bedrock topography. Understanding the bedrock topography can help to determine the potential for down-gradient impacts for disposal of groundwater at each location.

6.4 Home Foundations

6.4.1 Design

Single-family homes or townhomes can be supported on conventional spread footings in a manner consistent with IBC requirements. All footings should be supported on properly prepared subgrade in native soils, or on structural fill as previously discussed in this report.

Footings shall have minimum widths consistent with IBC Table 1805.3.1, and the bottom of the exterior footings shall be at least 24 inches below the lowest adjacent exterior grade for frost protection.

Foundations will bear on eolian fine sand and silt. HDJ recommends the footings be sized to be consistent with the requirements of IBC Section 1804 and as summarized in Table 1804.2. For a silty sand soil type, foundations should exert a maximum soil bearing pressure of 1,500 pounds per square foot (lb/ft^2). Please note that this allowable soil bearing pressure assumes a minimum confinement depth, or depth of burial, of 2 feet.

Continuous wall and isolated spread footings shall be a minimum of 12 inches wide for a one-story home and 15-inches wide for a two-story home, consistent with IBC Table 1805.4.2.

An assessment of loading on the foundation system should be completed by the structural engineer or home designer to verify that the footing sizes comply with the aforementioned IBC requirements, and the footings are correctly proportioned for the specified bearing capacity.

For consideration of short period seismic and wind pressures, the allowable footing bearing pressure may be increased by one-third. Use a dynamic bearing capacity of 1,950 lb/ft^2 when sizing footings for transient forces.

For lateral forces, use a friction coefficient of 0.25 between the base of the footings and the underlying subgrade soil.

6.4.2 Settlement

For a continuous wall footing bearing on the upper silty sand soil buried 2 feet deep and with a load of 80 percent of the allowable maximum bearing pressure (1,500 lb/ft^2), we estimate the maximum total settlement will be less than 0.25 inch with a maximum differential settlement of approximately 50 percent of the maximum settlement over 50 feet. This settlement estimate assumes that all foundation subgrade soil has been compacted in place, or is composed of compacted structural fill as previously described in this report.

The settlement estimates described in the previous paragraph, assume that no disturbance of the foundation soil would be permitted during excavation and construction, and that footings are prepared as previously described.

6.4.3 Foundation Backfill

The clear space around the exterior of all foundations and between the stem walls and the footing trenches shall be backfilled in lifts not exceeding 1 foot thick and compacted to 90 percent of maximum dry density as per ASTM D1557. Care must be taken with the backfilling operation to provide foundation subgrade soil confinement pressure and to densify the soil to help limit the infiltration and water-induced settlement around the

foundation. Compaction of the soil around the stem walls and basement walls is particularly important on structures that do not have gutters.

6.4.4 Foundation Walls and Lateral Earth Pressure

For foundation wall design purposes, use the following data:

Assumed Soil Density (pounds per cubic foot)		=	110 lb/ft^3
Soil Internal Friction		=	30 degrees
Coefficient of At-Rest Pressure	Ko	=	0.5
At-Rest Earth Pressure Equivalent Fluid Density		=	55 lb\ft^3
Coefficient of Active Earth Pressure	Ka	=	0.33
Active Earth Pressure Equivalent Fluid Density		=	36 lb\ft^3
Coefficient of Passive Earth Pressure	Kp	=	3.0
Passive Earth Pressure Equivalent Fluid Density		=	330 lb\ft^3
Coefficient of Lateral Sliding		=	0.25

Basement foundation walls must be designed to conform to the at-rest lateral earth pressure as indicated in the previous data. Free-standing concrete walls that do not support structures can be designed to the active earth pressure.

Foundation wall backfill shall be placed in layers and compacted to at least 90 percent of the maximum dry density, as per ASTM D 1557, to fully mobilize the passive resistance of the wall. Backfill placed within 3 feet of the wall should be placed in lifts not exceeding 6 inches thick and compacted using hand-operated compaction equipment such as a jumping jack or a heavy plate wacker.

6.5 Seismic Design Criteria

The silty sand overburden on top of the bedrock at this site conforms to a seismic design Site Class E for a “soft soil” profile. However, the seismic design process allows averaging the soil conditions in the upper 100 feet of the soil profile. When considering the shallow bedrock at this site, we recommend the use of a seismic design Site Class C for a very dense soil and soft rock profile.

For this site, use the seismic design parameters as shown in the following Table 1.

Table 1: 2012 IBC Seismic Design Parameters

	Short Period	1 sec
Maximum Credible Earthquake Acceleration	S_s = 0.420	S_1 = 0.162
Site Class	C	
Site Coefficient	F_a = 1.200	F_v = 1.638
Adjusted Spectral Acceleration	S_{MS} = 0.504	S_{M1} = 0.265
Design Response Acceleration	S_{DS} = 0.336	S_{D1} = 0.177
Design Peak Ground Acceleration	0.14 g	

7.0 SUMMARY CONCLUSIONS

HDJ has completed a geotechnical investigation of the Phase 1 area of The Parks at Thompson Hill. This investigation was completed by excavating 11 exploration test pits at different locations around the site, and by conducting three test pit infiltration tests.

Basic soil profile at this site consists of silty sand to sandy silt overburden sitting on top of dense basalt bedrock or basalt gravel and cobble colluvium.

The sandy silt layer on top of bedrock is a combination of late Pleistocene lacustrine soil and post-Pleistocene eolian soil and the measured silt content varied from 21 percent to 57 percent silt content.

The thickness of the overburden or the depth of the bedrock varied from 2 feet to 17 feet deep. There was significant spatial variability to the bedrock depth, although a general trend was apparent indicating deeper bedrock to the north and west sides of the site.

The surface of the bedrock was consistently covered and presumably sealed with carbonate cementation that we correlate with the pre-Pleistocene carbonate unit at the top of the Ringold Formation called the Plio-Pleistocene unit.

A local unconfined aquifer has not developed in this area due to the shallow bedrock. Domestic water has been provided to homes in the area by drilling deep into the water-bearing interbeds between the basalt flows.

The shallow bedrock at this site is a critical factor that must be considered in the site grading design, in the design and layout of the sewage collection system, and in the design of the stormwater infiltration scheme.

The mass grading design should avoid any grading cuts into areas that contain shallow bedrock.

The sewer system design should also avoid deep cuts in areas with shallow bedrock. However, there may be no way to avoid some bedrock excavation for the sewer lines in the south portion of the project. A sewer trench can probably be excavated into the bedrock with a large trackhoe if required.

The bedrock depth issue also affects the stormwater infiltration system design. Shallow infiltration trenches should be considered for use in areas with shallow bedrock. Drywells may be used at the north portion of the project site, but depth to bedrock should be confirmed at every infiltration point by either a test pit or by seismic refraction survey.

Because the surface of the bedrock may be sealed with carbonate cementation, it is possible that local perched groundwater conditions could develop somewhere on a low spot in the bedrock topography. As a result, we recommend conducting a seismic refraction survey at each infiltration point to determine the topography of the bedrock and general slope trend at each infiltration structure location

A geohazards assessment of the site focused on the potential for soil erosion within the existing natural drainages. Our assessment concludes that the potential for any stormwater flow within the existing drainages is very low and the drainages will be filled in anyway during site grading operations. We conclude that there are no erosion hazards at this site.

General geotechnical recommendations are provided for site grading design, stormwater infiltration design and site grading operations. Geotechnical recommendations based on IBC standards for the previously discussed soil conditions, are also included in this report for the design and construction of the home structure foundations.

8.0 CONSTRUCTION OBSERVATION AND TESTING

Geotechnical engineering construction observation is required during mass grading construction of the development to observe soil conditions and monitor the soil placement and compaction operations.

Geotechnical engineering construction observation is not required for the construction of the homes within the development, provided soil conditions at each home construction site are consistent with the conditions described in this report. HDJ did not have an opportunity to determine the soil conditions at each lot and every home foundation location. Some variation in soil conditions are expected across the site.

If soil conditions are encountered at any of the home sites that are not consistent with the findings in this report, we recommend that the site where the unusual conditions occur be inspected and assessed by a geotechnical engineer to determine if any changes in our recommendations are warranted.

9.0 LIMITATIONS AND RESTRICTIONS

The opinions, discussion, and conclusions presented in this report are based on information obtained or collected in the conduct of this geotechnical investigation. Soil conditions that are encountered beyond our exploratory test pits may vary, and unanticipated soil conditions and seasonal soil moisture variations are commonly encountered and cannot be fully determined by a few test pits or soil borings. Such variations may result in changes to our recommendations and may require that additional expenditures be made to attain a properly constructed project.

If there is a substantial lapse of time between submission of this report and the start of excavation work at the site; if site conditions have changed due to natural causes, or if the basic project scheme is significantly modified from that assumed in the preparation of this report, HDJ recommends that the report be reviewed to determine the applicability of the conclusions and recommendations.

This report was prepared exclusively for the Client and their architects and engineers for aiding in the design and construction of the proposed project and is not to be used for other projects of similar type or at a site in close proximity to this site. This report is not to be photographed, photocopied, or reproduced in total or in part, without the written consent of the Client and HDJ Design Group.

10.0 REFERENCES

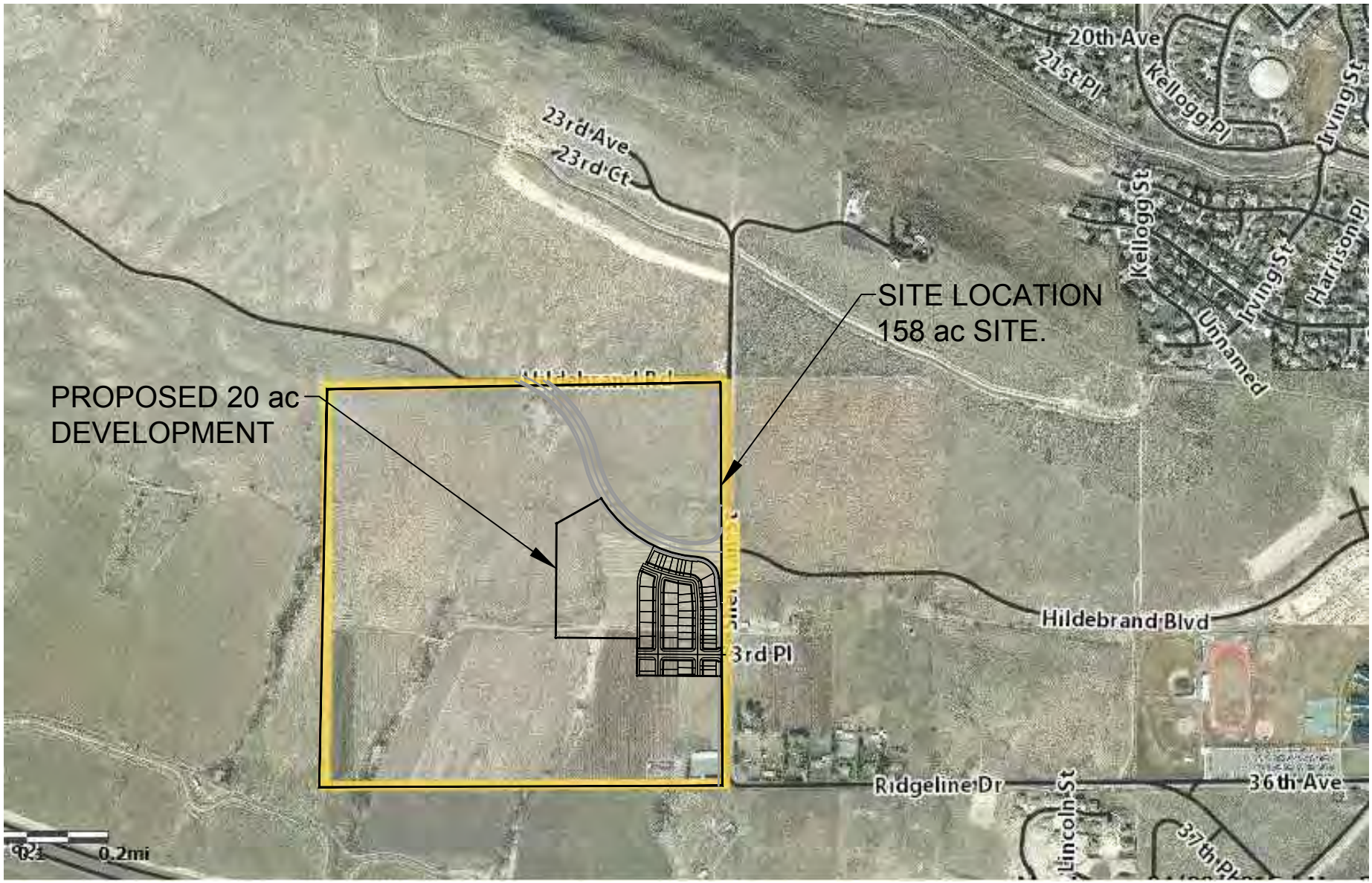
Lindsey, K.A. (1996). *The Miocene to Pliocene Ringold Formation and Associated Deposits of the Ancestral Columbia River System, South-Central Washington and North-Central Oregon.* Washington Department of Natural Resources, Division of Geology and Earth Resources, Open-File Report 96-8, 45 p., 4 Appendices.

Reidel, S.P., N.P., Campbell, K.R. Fecht, and K.A. Lindsey (1994). *Late Cenozoic Structure and Stratigraphy of South-Central Washington.* Bulletin 80, WA Div. Geol. Earth Resources, WA Dept. Nat. Resources

Schuster, J.E., C.W. Gulick, S.P. Reidel, K.R. Fecht and S. Zurenko, (1997). *Geologic Map of Washington – Southeast Quadrant.* Geology Map GM-45, WA Div. Geol. Earth Resources, WA Dept. Nat. Resources

APPENDIX A

Figure 1: Site Location Map
Figure 2: Site Exploration and Development Map
Figure 3: Critical Areas Map



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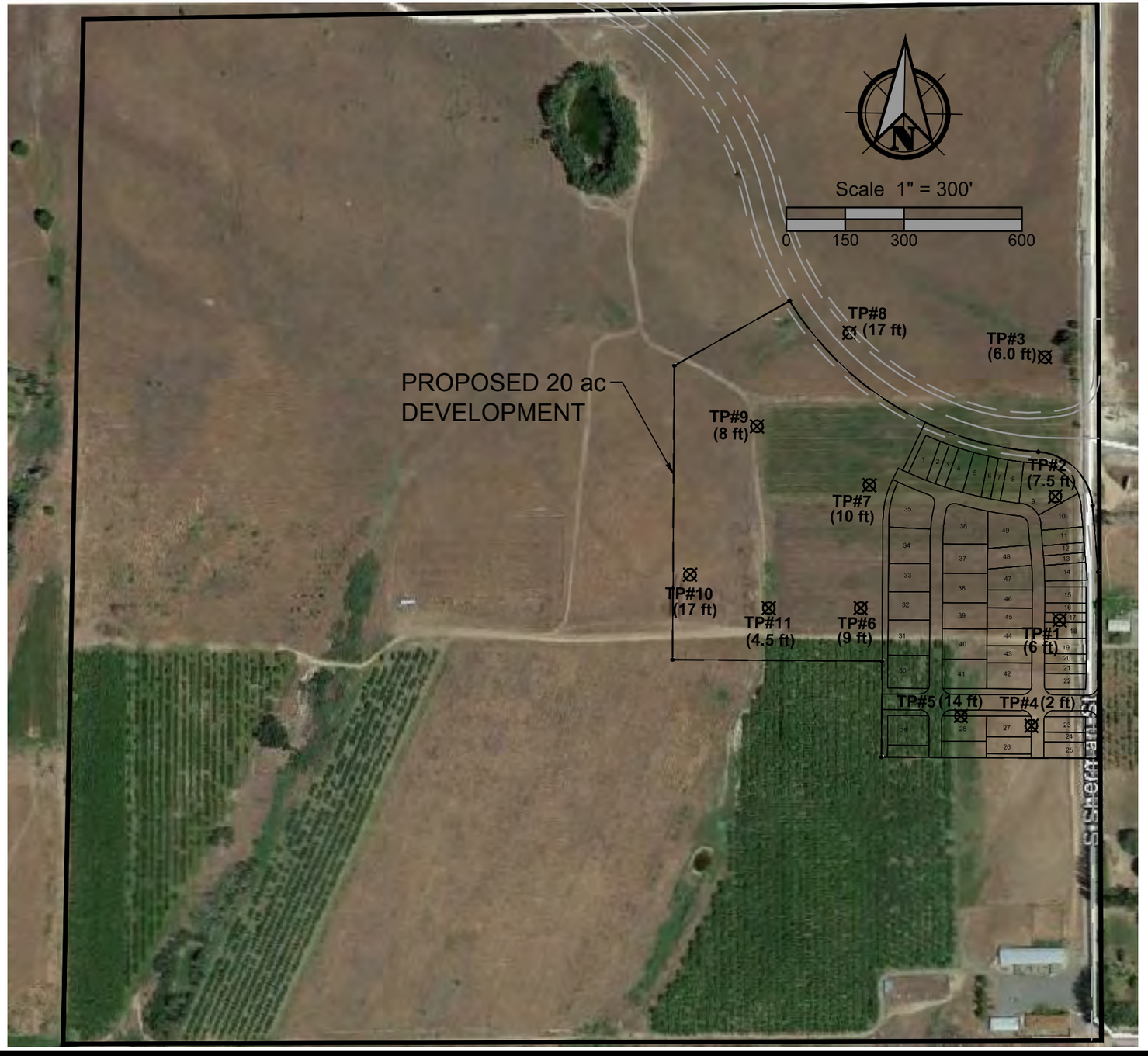
SITE LOCATION MAP
PAHLISCH HOMES SOUTHRIDGE PRD

DESIGNED: JRB	SCALE: H: N/A V: N/A	FIGURE	
DRAWN BY: AJJ		1	
CHECKED: JRB	MAY 2015 3949-00		



SITE EXPLORATION AND DEVELOPMENT MAP

PAHLISCH HOMES SOUTHRIDGE PRD

LOCATED IN THE CITY OF KENNEWICK, WA

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DESIGNED: JRB	**SCALE** H: 1"=300 V: 1"=300	**FIGURE**
DRAWN: AJJ	**DATE:** JUNE 2015	**2**
CHECKED: JRB	**JOB NO.:** 3949-00	

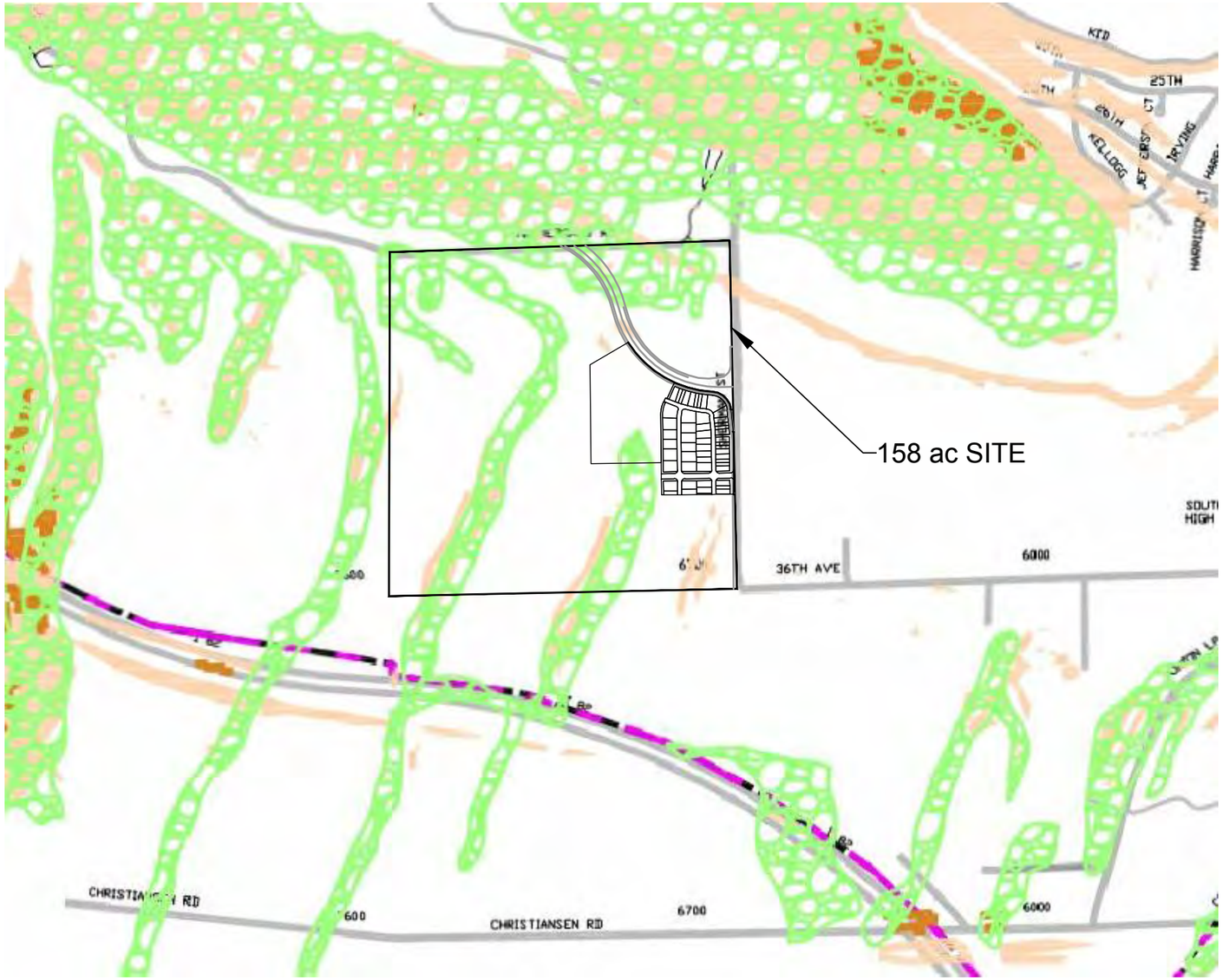

EXHIBIT 4
City of Kennewick
Critical Areas Map
Geologically Hazardous Areas
2007

HDR

- Steep Slopes* (>15%)
- Extreme Slope Hazard* (>40% Slope)
- Erosion Hazard**
- Landslide Hazard (Known)**
- City Limits
- UGA Boundary

* Derived from the United States Geological Survey 7.5-minute Digital Elevation Model

** Data taken from Soil Survey Benton County Area, Washington, July 1971. Provided by United States Department of Agriculture.

Disclaimer: This map is intended to be used as a reference and does not provide a final critical areas designation. All data presented should be considered advisory in nature and approximate in location, due to integration of multiple data types and variation in spatial accuracy of source data. Field inspection is advised to certify the presence of critical areas on a site-specific basis.

CRITICAL AREAS MAP

PAHLISCH HOMES SOUTHRIDGE PRD

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DESIGNED: JRB	SCALE H: 1"=1000' V: 1"=1000'	FIGURE
DRAWN: AJJ	DATE: JUNE 2015	3
CHECKED: JRB	JOB NO.: 3949-00	

APPENDIX B

Test Pit Logs TP-1 through TP-11
Infiltration Test Results
Sieve Analysis Plot Results
Nearby Groundwater Well Logs

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THE PARKS AT THOMPSON HILL

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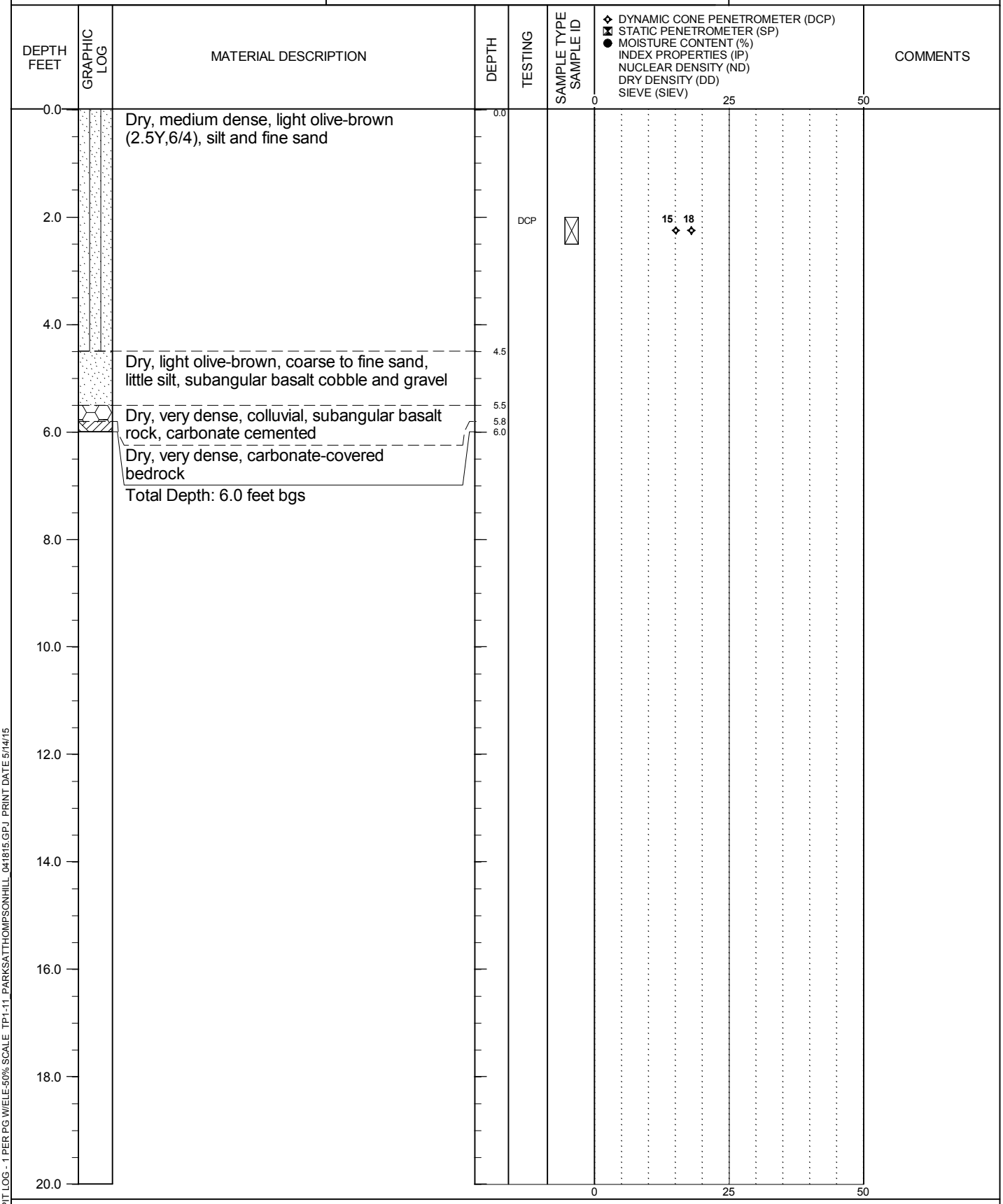
3949-00

FIGURE TP-1
Page 1 of 1

APPROX. TEST PIT TP-1 LOCATION:
(See Site Plan)



LOGGED BY: A. Jaimes
COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

TEST PIT TP-1

TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

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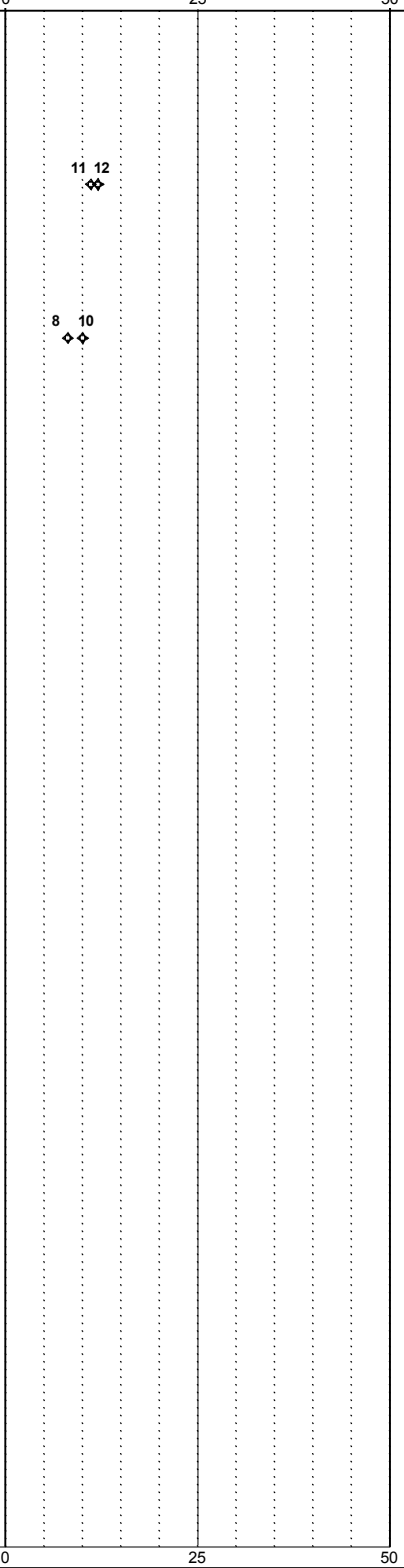
FIGURE TP-2
Page 1 of 1

APPROX. TEST PIT TP-2 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE / SAMPLE ID	COMMENTS
0.0		Moist, medium dense, light olive-brown (10YR,4/4), fine sand, some silt, little coarse to medium sand, trace gravel USCS Classification: **SM**, silty sand	0.0	SIEV DCP		
4.0		Moist, light olive-brown, fine sand and silt	4.0	DCP		
6.0		Dry, angular, basalt cobble and gravel, some fine sand and silt	6.0			
7.3		Dry, very dense, colluvial basalt rock, carbonate cemented	7.5			
8.0		Total Depth: 7.5 feet bgs				

DYNAMIC CONE PENETROMETER (DCP)
STATIC PENETROMETER (SP)
MOISTURE CONTENT (%)
INDEX PROPERTIES (IP)
NUCLEAR DENSITY (ND)
DRY DENSITY (DD)
SIEVE (SIEV)



LOGGED BY: A. Jaimes
COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

TEST PIT TP-2

TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

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FIGURE TP-3
Page 1 of 1

APPROX. TEST PIT TP-3 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE / SAMPLE ID	COMMENTS
0.0		Damp, medium dense, olive-brown, fine sand and silt	0.0			
2.0		Damp, medium dense, olive brown, fine sand and silt	2.0			
4.0		Damp, loose, light brown and gray, volcanic ash	5.0			
6.0		Damp, medium dense, olive-brown, fine sand with silt, colluvial gravel subrounded, cemented	5.8 / 6.0			
		Total Depth: 6.0 feet bgs				
8.0						
10.0						
12.0						
14.0						
16.0						
18.0						
20.0						

DYNAMIC CONE PENETROMETER (DCP)
STATIC PENETROMETER (SP)
MOISTURE CONTENT (%)
INDEX PROPERTIES (IP)
NUCLEAR DENSITY (ND)
DRY DENSITY (DD)
SIEVE (SIEV)

0 25 50

0 25 50

LOGGED BY: A. Jaimes
COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

TEST PIT TP-3

TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

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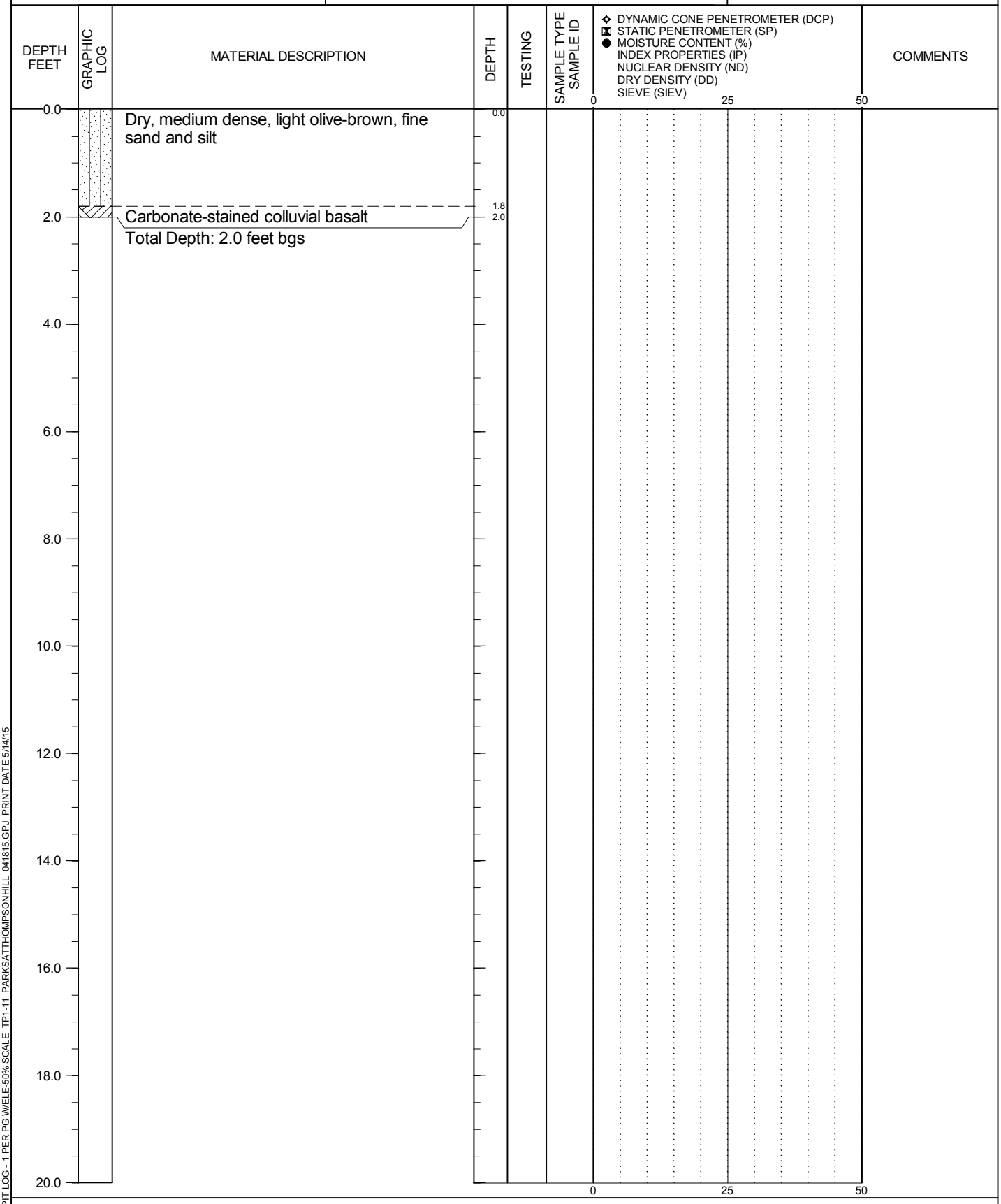
FIGURE TP-4
Page 1 of 1

APPROX. TEST PIT TP-4 LOCATION:
(See Site Plan)



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COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

TEST PIT TP-4

TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

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FIGURE TP-5
Page 1 of 1

APPROX. TEST PIT TP-5 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE / SAMPLE ID	COMMENTS
0.0		Dry, medium dense, light olive-brown, fine sand and silt	0.0			
2.0		Dry, medium dense, light olive-brown, fine sand and silt	2.0	DCP	12 15	
13.8		Subrounded, carbonate-stained colluvial rock	13.8			
14.0		Total Depth: 14 feet bgs	14.0			

DYNAMIC CONE PENETROMETER (DCP)
STATIC PENETROMETER (SP)
MOISTURE CONTENT (%)
INDEX PROPERTIES (IP)
NUCLEAR DENSITY (ND)
DRY DENSITY (DD)
SIEVE (SIEV)

0 25 50

TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

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COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

TEST PIT TP-5

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THE PARKS AT THOMPSON HILL

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3949-00

FIGURE TP-6
Page 1 of 1

APPROX. TEST PIT TP-6 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE SAMPLE ID	DYNAMIC CONE PENETROMETER (DCP) / STATIC PENETROMETER (SP) / MOISTURE CONTENT (%) / INDEX PROPERTIES (IP) / NUCLEAR DENSITY (ND) / DRY DENSITY (DD) / SIEVE (SIEV)	COMMENTS
0.0		Damp, medium dense, light olive-brown, fine sand and silt	0.0				
2.0		Damp, medium dense, light olive-brown (2.5Y,5/4), silt, some fine sand, trace coarse to medium sand, trace gravel	2.0	SIEV DCP	☒	14 17	
		USCS Classification: **ML**, sandy silt	3.0				
4.0		Dry, medium dense, light olive-brown, silt and fine sand					
6.0							
8.0							
		Dry, medium dense, light olive-brown, fine sand and silt	8.8 9.0				
10.0		Total Depth: 9 feet bgs					
12.0							
14.0							
16.0							
18.0							
20.0							

0 25 50

LOGGED BY: A. Jaimes
COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

TEST PIT TP-6

TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

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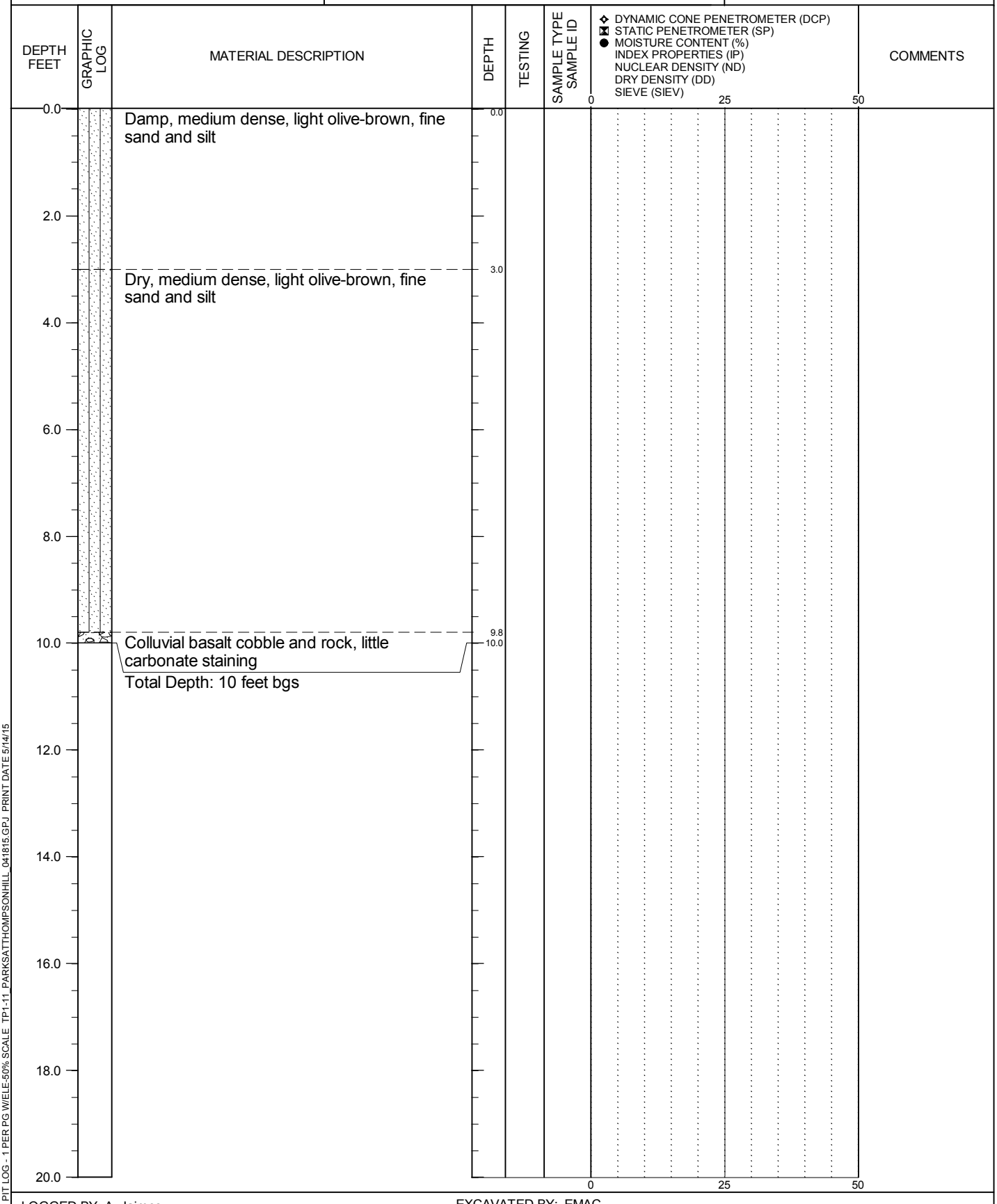
3949-00

FIGURE TP-7
Page 1 of 1

APPROX. TEST PIT TP-7 LOCATION:
(See Site Plan)



TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

LOGGED BY: A. Jaimes
COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

TEST PIT TP-7

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Fax: 509/547-5129

THE PARKS AT THOMPSON HILL

HDJ DESIGN GROUP PROJECT NUMBER:
3949-00

FIGURE TP-8
Page 1 of 1

APPROX. TEST PIT TP-8 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE / SAMPLE ID	COMMENTS
0.0		Damp, medium dense, olive-brown, fine sand and silt	0.0			
3.0		Damp, medium dense, olive-brown, fine sand and silt	3.0			
16.8		Subrounded, cemented basalt, some carbonate cementation and clasts	16.8			
17.0		Total Depth: 17 feet bgs	17.0			

DYNAMIC CONE PENETROMETER (DCP)
STATIC PENETROMETER (SP)
MOISTURE CONTENT (%)
INDEX PROPERTIES (IP)
NUCLEAR DENSITY (ND)
DRY DENSITY (DD)
SIEVE (SIEV)

0 25 50

2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0

0 25 50

LOGGED BY: A. Jaimes
COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

TEST PIT TP-8

TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

HDJ DESIGN GROUP
6115 Burden Blvd., Suite E
Pasco, Washington 99301-8930
Phone: 509/547-5119
Fax: 509/547-5129

THE PARKS AT THOMPSON HILL

HDJ DESIGN GROUP PROJECT NUMBER:
3949-00

FIGURE TP-9
Page 1 of 1

APPROX. TEST PIT TP-9 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE SAMPLE ID	COMMENTS
0.0		Damp, medium dense, olive-brown, fine sand and silt				
5.5		Dry, medium dense, light olive-brown, fine sand and silt				
7.8		Dry, medium dense, light olive-brown, fine sand and silt	8.0			
		Total Depth: 8 feet bgs				

DYNAMIC CONE PENETROMETER (DCP)
STATIC PENETROMETER (SP)
MOISTURE CONTENT (%)
INDEX PROPERTIES (IP)
NUCLEAR DENSITY (ND)
DRY DENSITY (DD)
SIEVE (SIEV)

0 25 50

2.0 4.0 6.0 8.0 10.0 12.0 14.0 16.0 18.0 20.0

0 25 50

LOGGED BY: A. Jaimes
COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

TEST PIT TP-9

TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

FIGURE TP-10

Page 1 of 1

HDJ DESIGN GROUP
6115 Burden Blvd., Suite E
Pasco, Washington 99301-8930
Phone: 509/547-5119
Fax: 509/547-5129

THE PARKS AT THOMPSON HILL

HDJ DESIGN GROUP PROJECT NUMBER:
3949-00

APPROX. TEST PIT TP-10 LOCATION:
(See Site Plan)

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE SAMPLE ID	DYNAMIC CONE PENETROMETER (DCP) STATIC PENETROMETER (SP) MOISTURE CONTENT (%) INDEX PROPERTIES (IP) NUCLEAR DENSITY (ND) DRY DENSITY (DD) SIEVE (SIEV)	COMMENTS
0.0		Damp, medium dense, olive-brown fine sand and silt	0.0			0 25 50	
2.0							
		Dry, medium dense, light olive-brown fine sand and silt	2.5				
4.0							
6.0							
8.0							
10.0							
12.0							
14.0							
16.0			16.8				
		Angular, cemented basalt, some carbonate cementation and clasts	17.0				
18.0		Total Depth: 17 feet bgs					
20.0						0 25 50	

LOGGED BY: A. Jaimes
COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

TEST PIT TP-10

TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

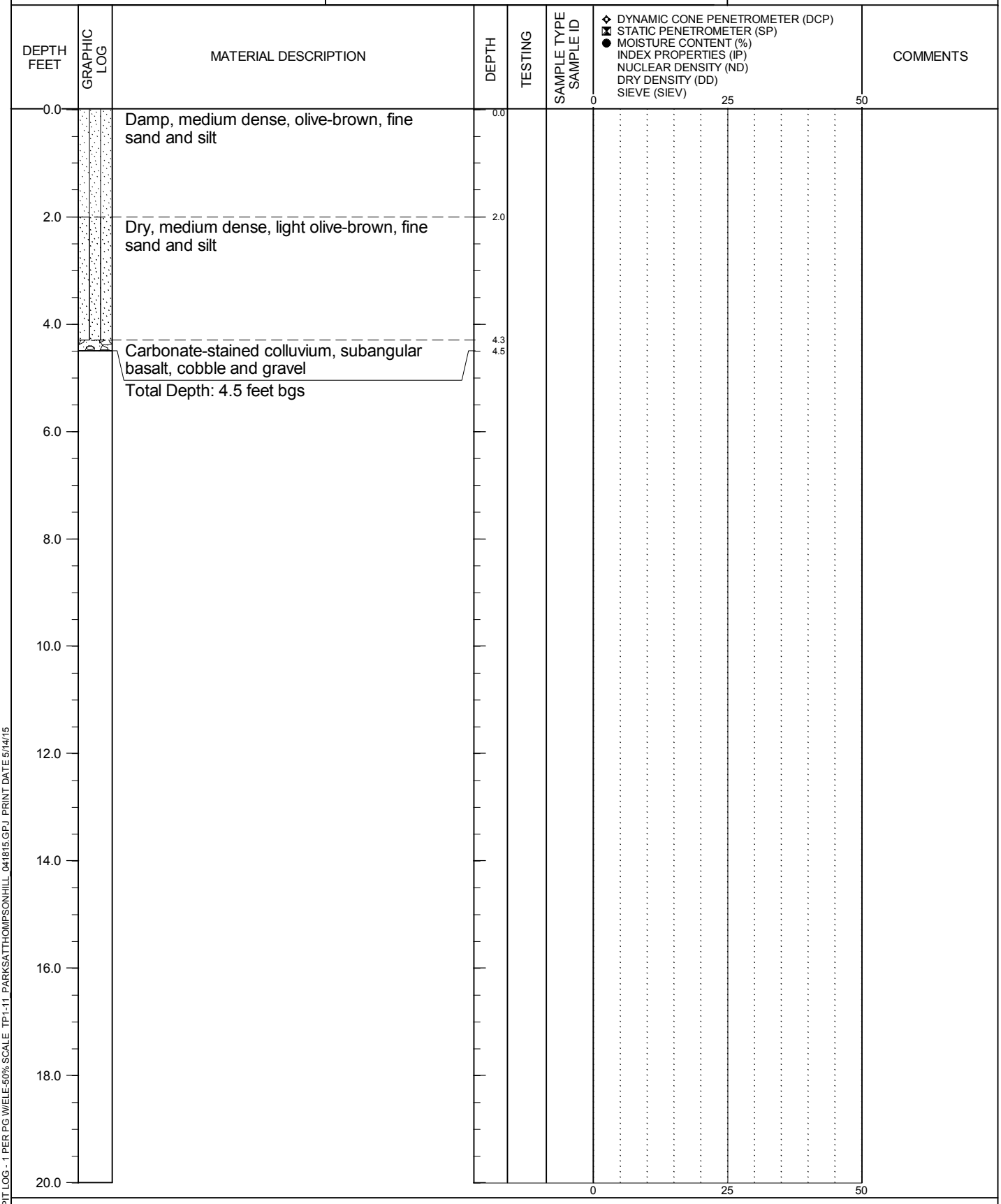
HDJ DESIGN GROUP
6115 Burden Blvd., Suite E
Pasco, Washington 99301-8930
Phone: 509/547-5119
Fax: 509/547-5129

THE PARKS AT THOMPSON HILL

HDJ DESIGN GROUP PROJECT NUMBER:
3949-00

FIGURE TP-11
Page 1 of 1

APPROX. TEST PIT TP-11 LOCATION:
(See Site Plan)



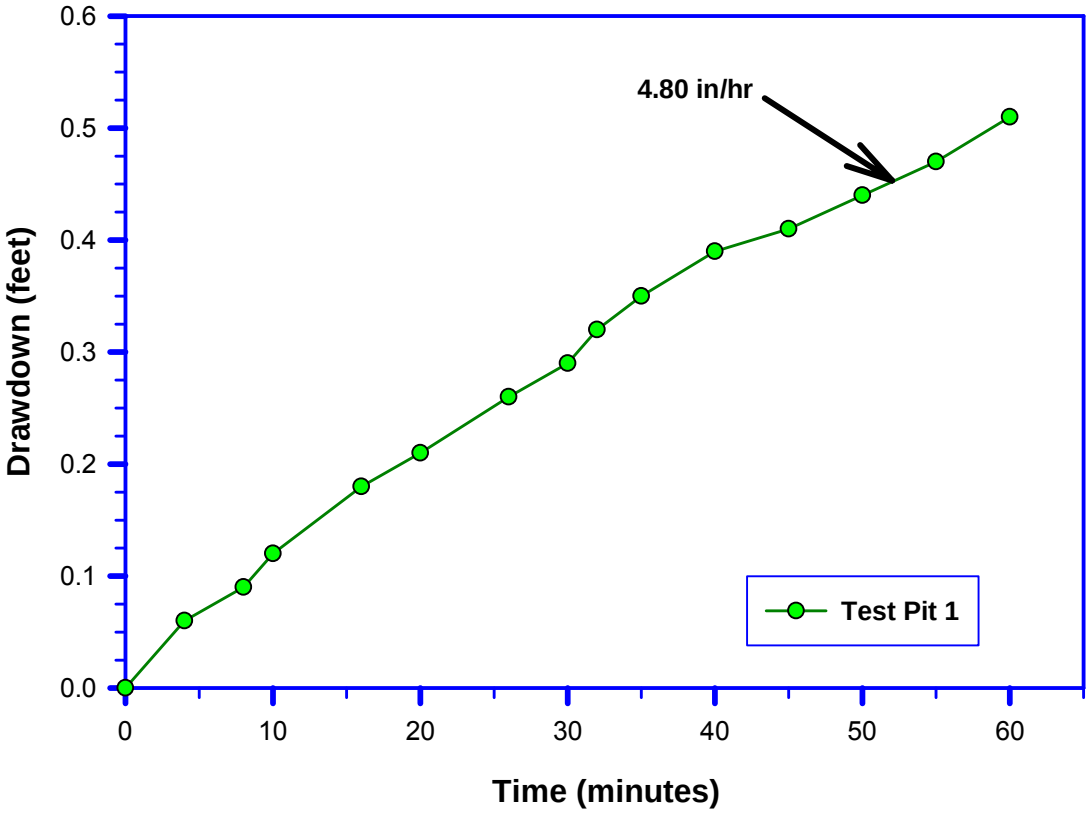
LOGGED BY: A. Jaimes
COMPLETED: 4/01/15

EXCAVATED BY: EMAC
EXCAVATION METHOD: Excavator

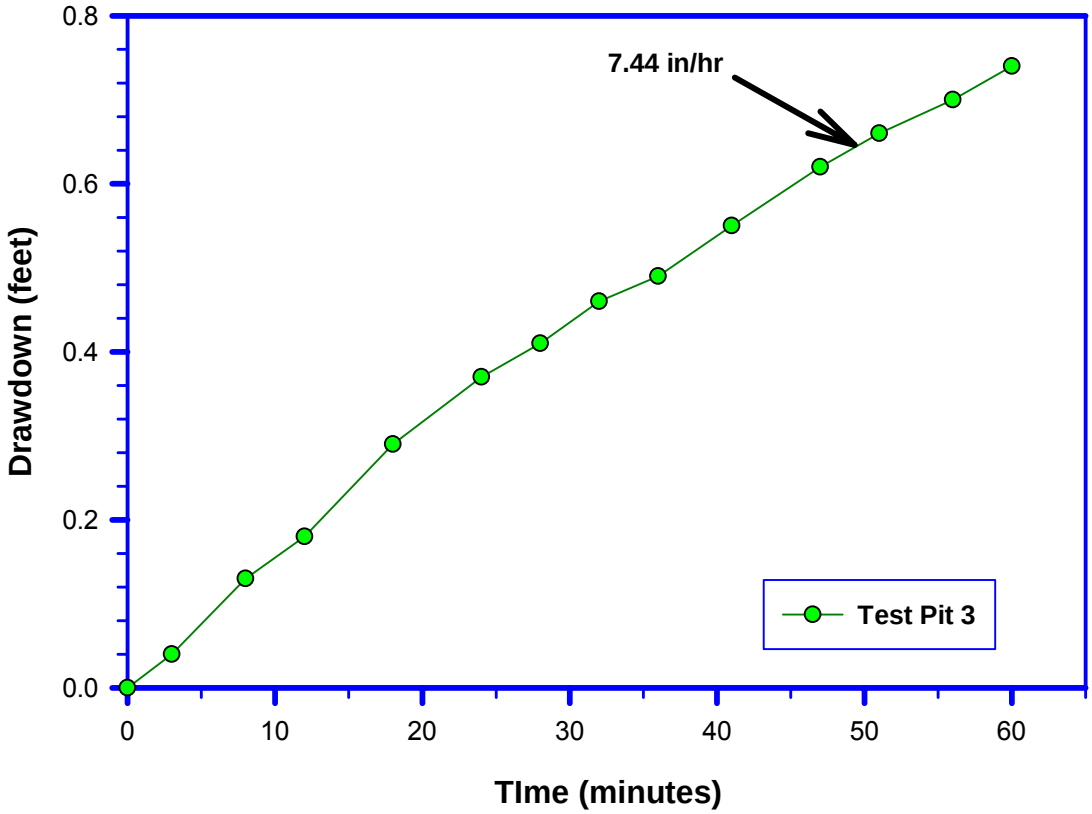
TEST PIT TP-11

TEST PIT LOG - 1 PER PG W/ELE-50% SCALE TP1-11_PARKSATTHOMPSONHILL_041815.GPJ PRINT DATE 5/14/15

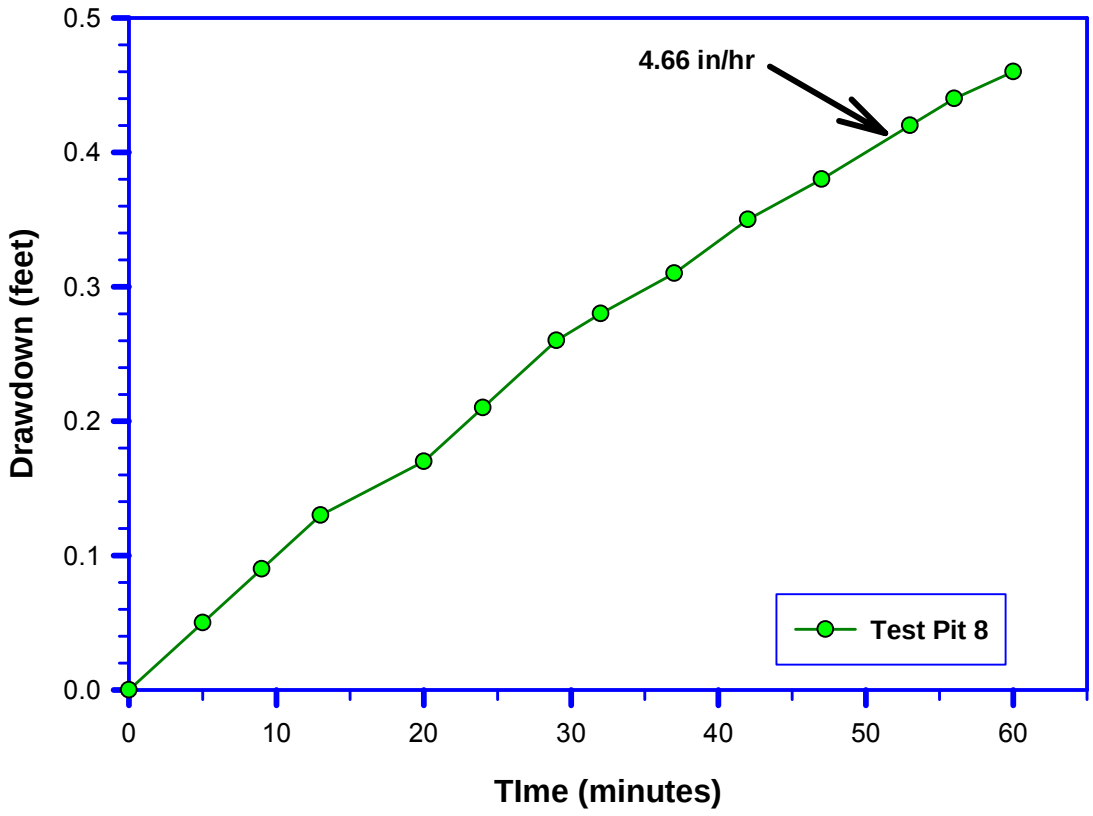
Infiltration Test 1: Test Pit 1



Infiltration Test 2: Test Pit 3



Infiltration Test 3: Test Pit 8



HDJ DESIGN GROUP PLLC
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Particle-Size Distribution of Soils Using Sieve Analysis ASTM D 6913

Project
The Parks at Thompson Hill
Kennewick, WA

Project No.
3949-00

Test Date
4/7/15

Tested By
A Jaimes

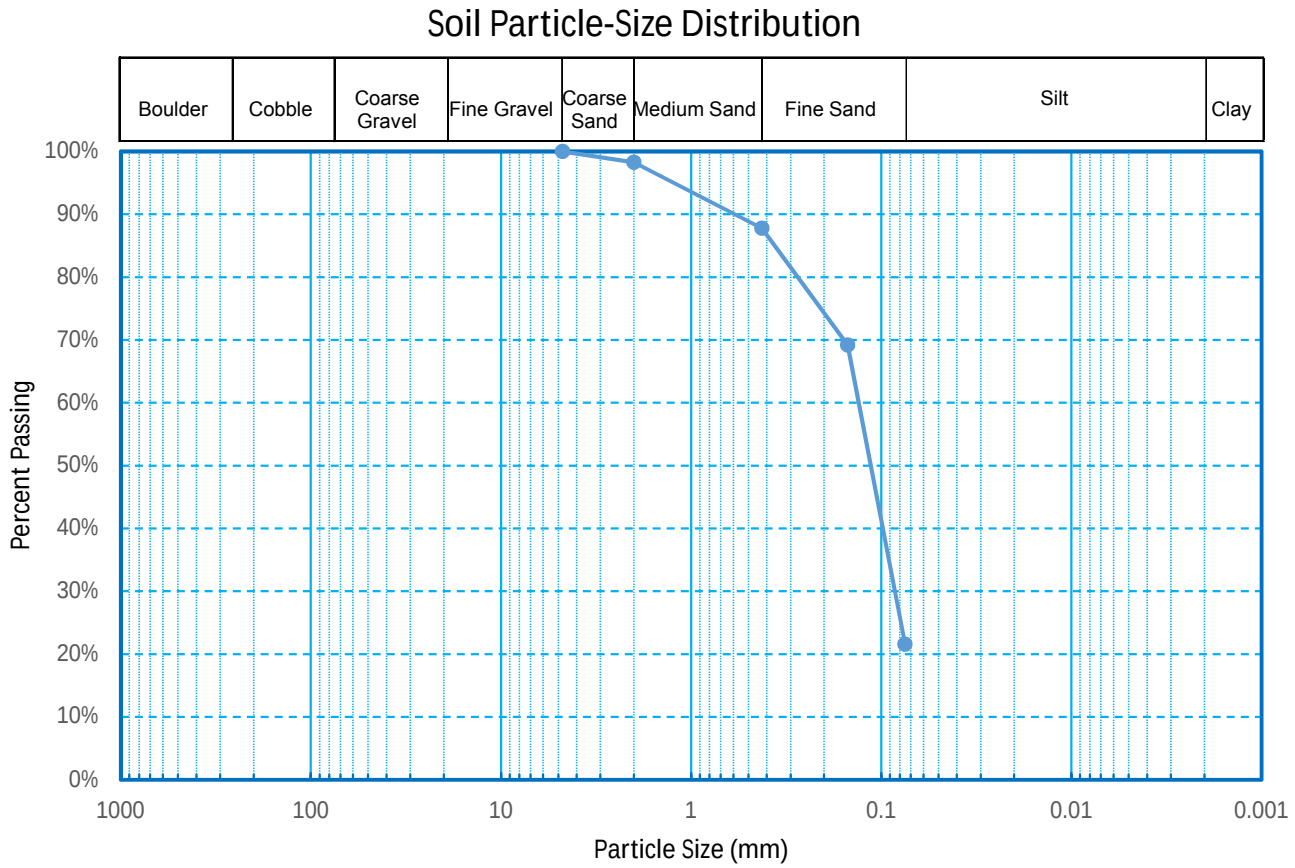
Sample Location
TP-2 @ 2 ft

Sample Description
Damp, light olive brown (2.5Y 5/4), fine sand, some silt, little coarse to medium sand, trace gravel

USCS Classification
SM silty sand

Summary Results

	Coarse Gravel
	Fine Gravel
1.7%	Coarse Sand
10.5%	Medium Sand
66.2%	Fine Sand
21.6%	Silt/Clay



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Particle-Size Distribution of Soils Using Sieve Analysis ASTM D 6913

Project
The Parks at Thompson Hill
Kennewick, WA

Project No.
3949-00

Test Date
4/7/15

Tested By
A Jaimes

Sample Location
TP-6 @ 2

Sample Description
Damp, light olive brown (2.5Y 5/4), silt and fine sand,

USCS Classification
ML sandy silt

Summary Results

	Coarse Gravel
	Fine Gravel
	Coarse Sand
2.0%	Medium Sand
40.5%	Fine Sand
57.6%	Silt/Clay

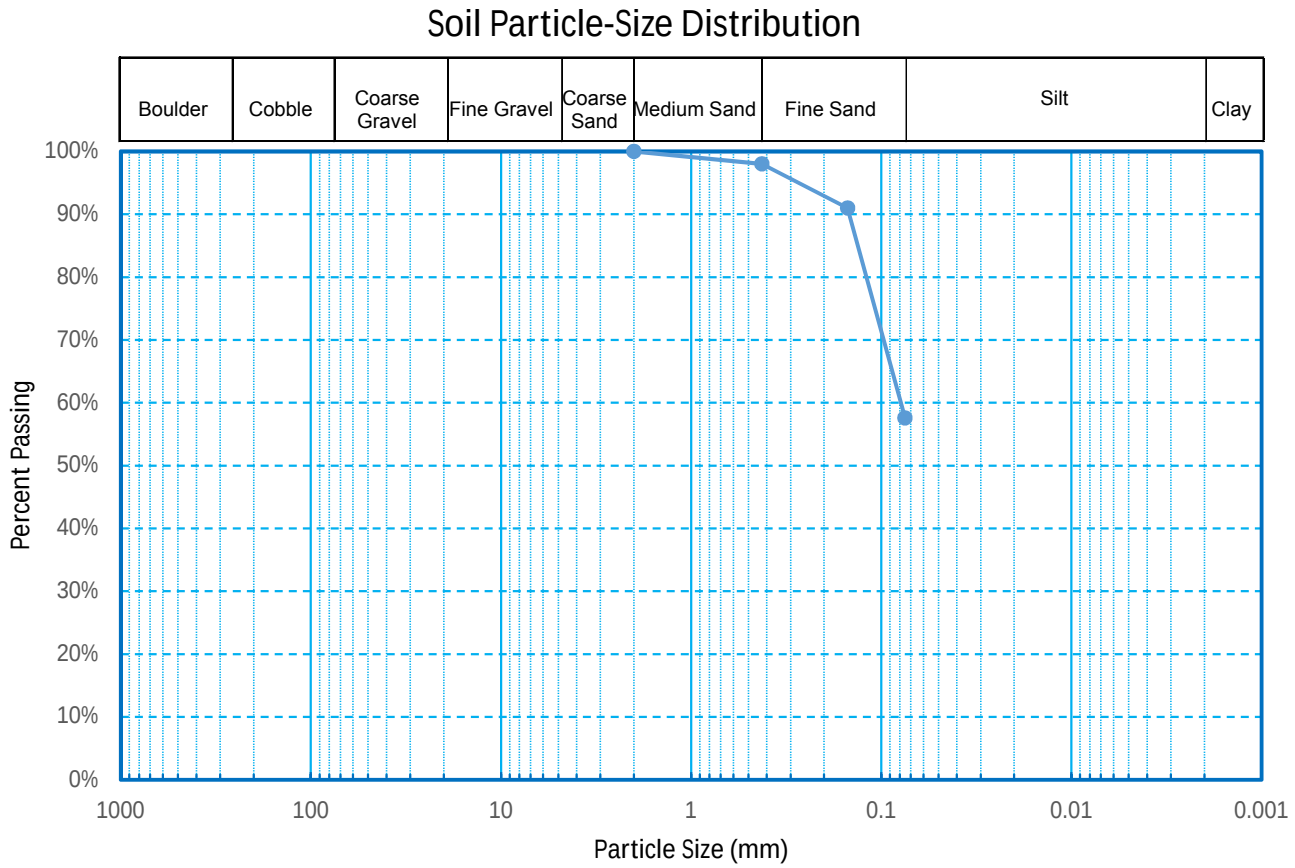


EXHIBIT 8

File Original with Department of Ecology
Second Copy - Owner's Copy
Third Copy - Driller's Copy 106857

WATER WELL REPORT
STATE OF WASHINGTON

Notice of Intent AWL 03918.9
UNIQUE WELL I.D # AEQ-793
Water Right Permit No.

(1) OWNER: Name Harold Brinkley Address 320 N. Johnson Kenn Wa 99336

(2) LOCATION OF WELL: County Benton SW 1/4 NW 1/4 Sec 17 T 8 N.R. 29E WM

(2a) STREET ADDRESS OF WELL: (or nearest address) W 36th AVE.

TAX PARCEL NO.

E

(3) PROPOSED USE: ☑ Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other ☐ DeWater

(4) TYPE OF WORK: Owner's number of well (if more than one) 1
☐ New Well Method: ☐ Dug ☐ Bored
☑ Deepened ☐ Cable ☐ Driven
☐ Reconditioned ☑ Rotary ☐ Jetted
☐ Decommission

(5) DIMENSIONS: Diameter of well 6" inches
Drilled 623 feet. Depth of completed well 625 ft.

(6) CONSTRUCTION DETAILS
Casing Installed:
☑ Welded 5 " Diam. from 0 ft to 350 ft
☐ Liner installed " Diam. from ft. to ft.
☐ Threaded " Diam from ft to ft.

Perforations: ☑ Yes ☐ No
Type of perforator used Torch
SIZE of perforations 12" X 1/4" in by in.
30 perforations from 330 ft to 350 ft

Screens: ☐ Yes ☑ No ☐ K-Pac Location
Manufacturer's Name
Type Model No.
Diam Slot Size from ft. to ft.
Diam. Slot Size from ft to ft

Gravel/Filter packed: ☐ Yes ☑ No ☐ Size of gravel/sand
Material placed from ft to ft.

Surface seal: ☐ Yes ☐ No To what depth? ft
Material used in seal
Did any strata contain unusable water? ☐ Yes ☐ No
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level 250 ft below top of well Date 9-11-01
Artesian pressure lbs per square inch Date
Artesian water is controlled by (Cap, valve, etc)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☐ No If yes, by whom?
Yield gal /min with ft drawdown after hrs
Yield gal /min. with ft. drawdown after hrs.
Yield: gal./min. with ft drawdown after hrs.
Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal /min with ft drawdown after hrs
Airtest 30 gal./min with ft drawdown after 4 hrs
Artesian flow g p m Date
Temperature of water Was a chemical analysis made? ☐ Yes ☐ No

(10) WELL LOG or DECOMMISSIONING PROCEDURE DESCRIPTION
Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. Indicate all water encountered.

MATERIAL	FROM	TO
Black Basalt	350	453
Green clay - HARD	453	470
Porus Basalt & Green clay	470	484
Red Porus Basalt	484	496
Black Basalt	496	605
Fractured porous water	605	621
Bering Basalt (30GPM)	"	"
Hard Black Basalt	621	625

RECEIVED
DEC 20 2001
DEPARTMENT OF ECOLOGY
WELL DRILLING UNIT
DEC 24 2001

Work Started 8-27, 01 Completed 9-12, 01

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

Type or Print Name TODD HANEY License No 2343
(Licensed Driller/Engineer)

Trainee Name License No
Drilling Company Statewide Well Drilling
(Signed) License No. 2343
(Licensed Driller/Engineer)
Address 101 KAU Trail RD PASCO 99301
Contractor's Registration No STATEWDO15L2 Date 12-3 01

(USE ADDITIONAL SHEETS IF NECESSARY)

Ecology is an Equal Opportunity and Affirmative Action employer. For special accommodation needs, contact the Water Resources Program at (360) 407-6600. The TDD number is (360) 407-6006.

ECY 050-1-20 (11/98)

File Original and First Copy with Department of Ecology
Second Copy — Owner's Copy
Third Copy — Driller's Copy

WATER WELL REPORT
STATE OF WASHINGTON

Application No.
Permit No.

EXHIBIT 8

(1) OWNER: Name Harold Brindley Address PO Box [illegible] Kennewick, Wa. 99336

(2) LOCATION OF WELL: County Benton — ¼ ¼ Sec. 17 T. [illegible] N., R. 29E W.M.

and distance from section or subdivision corner north of Kennewick Irrigation Dist. Canal rt. of way

(3) PROPOSED USE: Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(4) TYPE OF WORK: Owner's number of well (if more than one)
New well ☒ Method: Dug ☐ Bored ☐
Deepened ☐ Cable ☐ Driven ☐
Reconditioned ☐ Rotary ☒ Jetted ☐

(5) DIMENSIONS: Diameter of well 6 inches.
Drilled 352 ft. Depth of completed well 352 ft.

(6) CONSTRUCTION DETAILS:
Casing installed: 6 " Diam. from 0 ft. to 20 ft.
Threaded ☐ 5 " Diam. from 12 ft. to 352 ft.
Welded ☒ " Diam. from ft. to ft.

Perforations: Yes ☒ No ☐
Type of perforator used torch
SIZE of perforations ¼ in. by 10 in.
30 perforations from 112 ft. to 132 ft.
30 perforations from 332 ft. to 352 ft.
perforations from ft. to ft.

Screens: Yes ☐ No ☒
Manufacturer's Name
Type Model No.
Diam. Slot size from ft. to ft.
Diam. Slot size from ft. to ft.

Gravel packed: Yes ☐ No ☒ Size of gravel:
Gravel placed from ft. to ft.

Surface seal: Yes ☒ No ☐ To what depth? 20 ft.
Material used in seal cement
Did any strata contain unusable water? Yes ☐ No ☒
Type of water? Depth of strata
Method of sealing strata off

(7) PUMP: Manufacturer's Name
Type: H.P.

(8) WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level 116 ft. below top of well Date 4-26-74
Artesian pressure lbs. per square inch Date
Artesian water is controlled by (Cap, valve, etc.)

(9) WELL TESTS: Drawdown is amount water level is lowered below static level
Was a pump test made? Yes ☐ No ☒ If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "

Recovery data (time taken as zero when pump turned off) (water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Type of test 8
Test gal./min. with 209 ft. drawdown after 2 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? Yes ☐ No ☒

(10) WELL LOG:

Formation: *Describe by color, character, size of material and structure, and show thickness of aquifers and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of formation.*

MATERIAL	FROM	TO
top soil	0	1
broken basalt M	1	10
basalt black H	10	27
broken, deteriorated rock, red w/clay seams	27	30
brown rock	30	31
void	31	33
basalt, black H	33	50
fractured rock, grey LGDM	50	54
basalt black M	54	103
broken & deteriorated rock	103	121
fractured rock	121	132
basalt grey M	132	154
basalt, black H	154	322
basalt, broken, water bearing	322	325
basalt, fractured, grey M	325	354

Work started 4-22 19 74 Completed 4-26 19 74

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Hansen Drilling Co., Inc.
(Person, firm, or corporation) (Type or print)

Address 6711 NE 59th Ave. Vancouver
0251: Jess Kuhnhausen

[Signed] Jess Kuhnhausen (Well Driller) RM Hansen
#C051

License No. 223 02 1155 Date May 2 19 74

S. F. No. 7356—OS—(Rev. 4-71). 6/5/74 (USE ADDITIONAL SHEETS IF NECESSARY)

HDJ DESIGN GROUP PLLC
engineers | landscape architects | planners | surveyors

June 2, 2015

John Deskins, Traffic Engineer
City of Kennewick
210 W 6th Ave.
Kennewick, WA 99336

RE: The Parks Trip Generation and Distribution Letter

I prepared this trip generation letter for The Parks subdivision to calculate the trip generation, distribution, and assignment as directed in the City of Kennewick's TIA guidelines. The trips are assigned to the key intersections for Mitigation Cost Calculations.

Project Description
The project proposes a new 559 lot Planned Unit Development (PUD). The proposed PUD is located north of Ridgeline Drive and west of S Sherman Street. (See Figure 1 for the vicinity map and Figure 2 for the site plan for the proposed subdivision.) The PUD is on 137.38 acres. Proposed are 114 townhomes and 445 single family homes with 21 acres of open space as well as other recreation facilities.

The first phases (A1 and A2) of the PUD will include 49 units that include 23 townhomes and 26 single family homes and is scheduled for completion in 2015. The remainder will be completed based on the housing market, but we assume 10 years.

The access points are from streets that connect to W Hildebrand Boulevard, S Sherman Street, and Ridgeline Drive as shown in the attached site plan. These access points are proposed for STOP sign control on the access roadway. The site plan shows neighborhood traffic circles as on-site traffic controls and as traffic calming measures for the higher volume local streets. These intersections should not require additional traffic control other than street name signs. For the intersections of the low volume local street with the higher volume local street, a two-way STOP sign plan is recommended with the low volume street stopping for the higher volume local street. This will address future sight distance restrictions associated with the build out of higher density housing.

Trip Generation
The project site is currently vacant and does not generate any trips. Trip generation estimates were prepared based on the average trip rate for 445 detached single family homes (land use code 210) and 114 townhomes (land use code 230) from the *Trip Generation Manual,* 9th Edition. The supporting calculations are attached. No adjustments were made for transit, pass-by, or diverted links for the number of trips generated by the proposed development, and are shown in Tables 1, 2, and 3.

Table 1 – Trip Generation for Detached Single Family Homes

Land Use:	210	
Independent Variable:	Unit	
Size:	445	
Average Weekday	**4,236**	
Total Trips	AM	PM
In	83	280
Out	250	165
Total	**333**	**445**

Table 2 – Trip Generation for Townhomes

Land Use:	230	
Independent Variable:	Unit	
Size:	114	
Average Weekday	**662**	
Total Trips	AM	PM
In	9	40
Out	42	20
Total	**51**	**60**

Table 3 – Total Trip Generation for the PUD

Land Use:	210 and 230	
Independent Variable:	Unit	
Size:	559	
Average Weekday	**4898**	
Total Trips	AM	PM
In	92	320
Out	292	185
Total	**384**	**505**

Trip Distribution

The trip distribution for the proposed project is shown on Figure 1. It is based on the residential zoned land, and the completion of Hildebrand Boulevard and Ridgeline Road from Sherman Street to Clodfetler Road. The trip distribution is also based on engineering judgement, attraction to commercial destinations, and the local highways. The distribution was finalized after consultation with City of Kennewick staff.

Key Intersections

The City of Kennewick has noted three projects to be considered for mitigation: Hildebrand and Sherman Street Roundabout; Ridgeline and Sherman Street Roundabout; and the Ridgeline and US 395

Full Access Solution. The data and costs associated with the project mitigation are shown on Table 4 – Mitigation Cost Calculation.

Mitigation Cost Calculations
The project mitigation is noted in Table 4 and based on traffic generated by the proposed development going through the projects.

Table 4 - Mitigation Cost Calculations

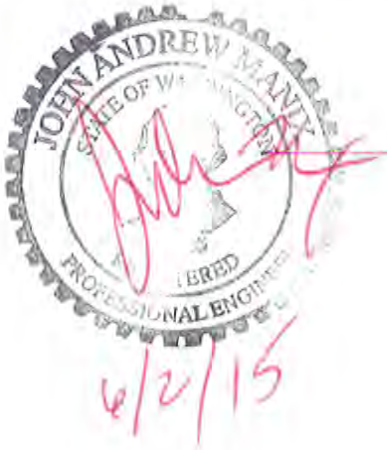
Specific Mitigation Projects	Mitigation Cost Estimate	Build-out Projected ADT (2025)	Total ADT Project Trips	Percent of Trips using Mitigation	Project Trips using Mitigation	Percentage Responsible	Cost
Hildebrand and Sherman Roundabout	$250,000	10,870	4898	35%	1714	15.8%	$39.427
Ridgeline and Sherman Roundabout	$250,000	5,920	4898	20%	980	16.5%	$41,386
Ridgeline and US 395 Full Access Solution	$5,000,000	37,600	4898	10%	490	1.3%	$65.133
Total Costs	$5,500,000						$145,929

Traffic Calming
Traffic calming was investigated as a component of the site plan to minimize speeding and improve traffic safety. Figure 2 shows the calming plan using neighborhood traffic circles installed at the intersection of the higher volume local streets. There are several other traffic calming alternatives including lower cost options but these traffic circles offer an attractive alternative that is effective at speed control without the negative impacts of the low cost alternatives. With short blocks and little opportunity to cut through on the residential street, no other traffic calming should be necessary.

If you have any questions or comments, feel free to contact me at by email at manixj@HDJDG.com or on my cell phone at 360-607-1854.

Respectfully,
HDJ Design Group, PLLC

John Manix, PE



Attachments:
- Trip Generation Calculation Summary
- Figure 1 – Vicinity Map
- Figure 2 – Site Plan
- Figure 3 – Trip Distribution, School Boundary and Residential Zoning
- Figure 4 – Trip Distribution and Assignment
- Figure 5 – School Signing, School Walk Routes and Traffic Calming

ITE Trip Generation

Trip Generation Based on Weighted Average Rates

HDJ Design Group

General			
Land Use Code	Single-Family Detached (dw)		
Independent Variable	Dwellings		
Size (X)		445	
Land Use Code		210	

Date: 6/2/2015 Analyst: JAM Project: The Parks

	In	Out	Total
Average Weekday	2,118	2,118	4,236
New Trips	2,118	2,118	4,236
Weekday AM Peak	83	250	334
New Trips	83	250	334
Weekday PM peak	280	165	445
New Trips	280	165	445

Per Trip Generation Manual, 9th Edition for Trip Generation Letter

Analysis Period	Weekday		
Average Rate	**Rate**		**Trips**
	9.52		4236
Entering / Exiting			
% Entering	50%		2118
% Exiting	50%		2118
New Trips			
% internal	0		
% pass by	0		
		In	Out
Total Trips		2118	2118
Internal Trips		0	0
Passby Trips	0	0	0
New Trips		2118	2118

Analysis Period	Weekday AM Peak for adjacent streets		
Average Rate	**Rate**		**Trips**
	0.75		334
Entering / Exiting			
% Entering	25%		83
% Exiting	75%		250
New Trips			
% internal	0		
% pass by	0		
		In	Out
Total Trips		83	250
Internal Trips		0	0
Passby Trips		0	0
New Trips		83	250

Analysis Period	Weekday PM peak for adjacent streets		
Average Rate	**Rate**		**Trips**
	1		445
Entering / Exiting			
% Entering	63%		280
% Exiting	37%		165
New Trips			
% internal	0		
% pass by	0		
		In	Out
Total Trips		280	165
Internal Trips		0	0
Passby Trips		0	0
New Trips		280	165

ITE Trip Generation

Trip Generation Based on Weighted Average Rates

HDJ Design Group

General			
Land Use Code	Residential Condo/Townhouse (Units)		
Independent Variable	Dwellings		
Size (X)		114	
Land Use Code		230	

Date: 6/2/2015 Analyst: JAM Project: The Parks

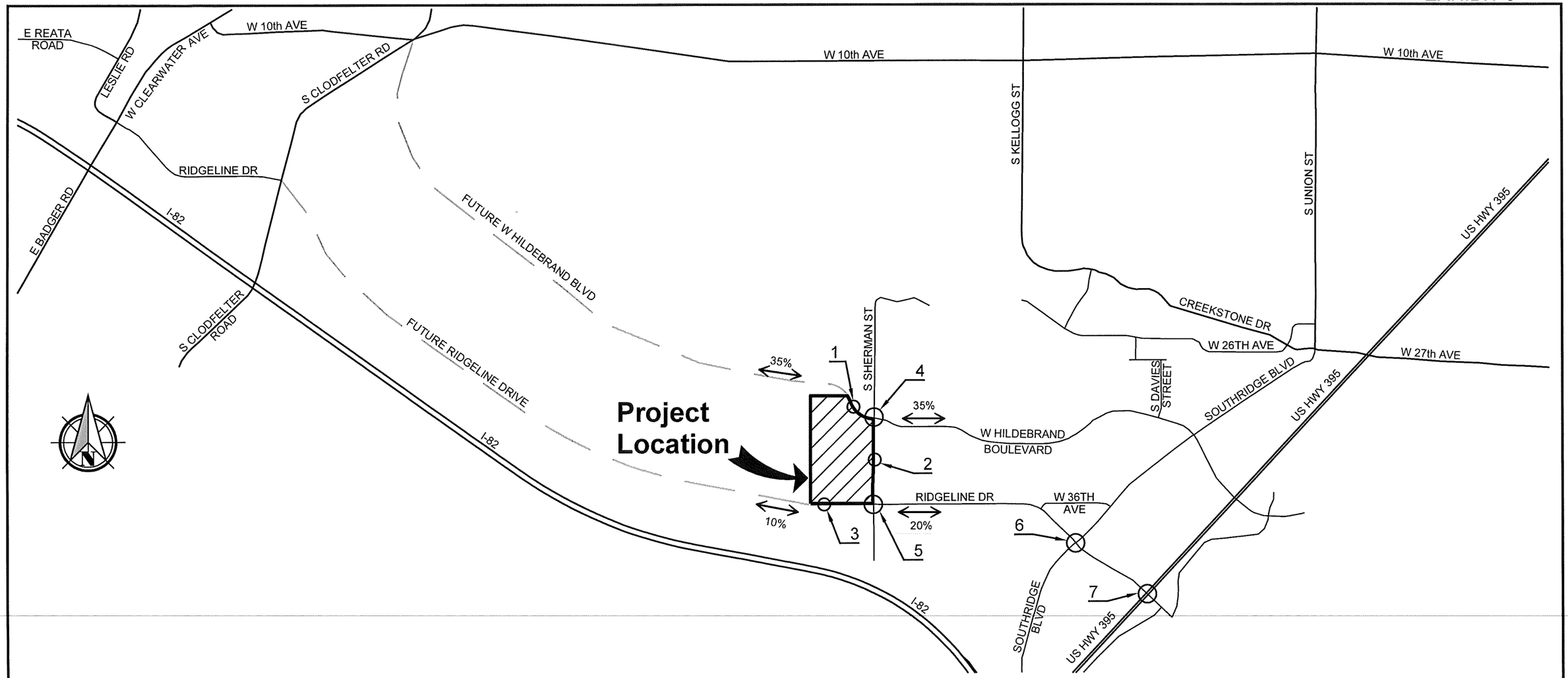
	In	Out	Total
Average Weekday	331	331	662
New Trips	331	331	662
Weekday AM Peak	9	42	50
New Trips	9	42	50
Weekday PM peak	40	20	59
New Trips	40	20	59

Per Trip Generation Manual, 9th Edition for Trip Generation Letter

Analysis Period	Weekday		
Average Rate	**Rate**		**Trips**
	5.81		662
Entering / Exiting			
% Entering	50%		331
% Exiting	50%		331
New Trips			
% internal	0		
% pass by	0		
		In	Out
Total Trips		331	331
Internal Trips		0	0
Passby Trips	0	0	0
New Trips		331	331

Analysis Period	Weekday AM Peak for adjacent streets		
Average Rate	**Rate**		**Trips**
	0.44		50
Entering / Exiting			
% Entering	17%		9
% Exiting	83%		42
New Trips			
% internal	0		
% pass by	0		
		In	Out
Total Trips		9	42
Internal Trips		0	0
Passby Trips		0	0
New Trips		9	42

Analysis Period	Weekday PM peak for adjacent streets		
Average Rate	**Rate**		**Trips**
	0.52		59
Entering / Exiting			
% Entering	67%		40
% Exiting	33%		20
New Trips			
% internal	0		
% pass by	0		
		In	Out
Total Trips		40	20
Internal Trips		0	0
Passby Trips		0	0
New Trips		40	20



LEGEND

XX%	PERCENTAGE OF AVERAGE DAILY TRAFFIC FROM PROJECT
	PROPOSED DEVELOPMENT
	MAJOR INTERSECTION
	SITE ACCESS

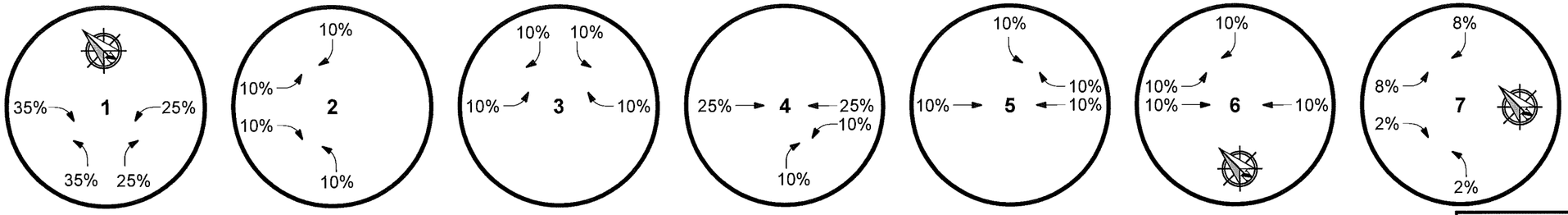


FIGURE 1

HDJ DESIGN GROUP PLLC
engineers | landscape architects | planners | surveyors
314 W 15th Street
Vancouver, WA 98660-2927
360/695-3488
503/924-4005
360/695-8767 fax
Internet: www.hdjdg.com

Trip Distribution & Assignment
The Parks

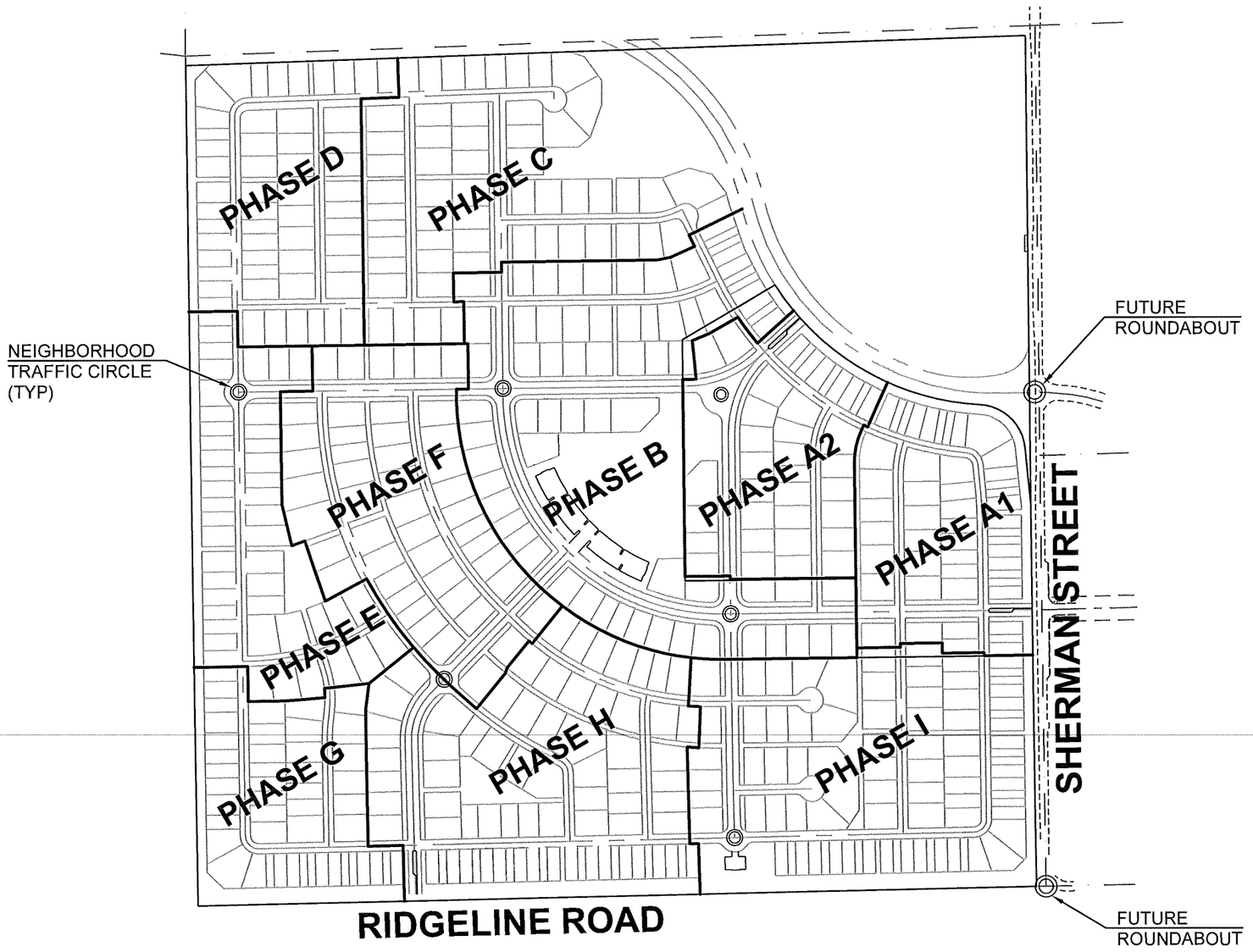


FIGURE 2

HDJ DESIGN GROUP PLLC
engineers | landscape architects | planners | surveyors
314 W 15th Street
Vancouver, WA 98660-2927
360/695-3488
503/924-4005
360/695-8767 fax
Internet: www.hdjdg.com

Site Plan
The Parks

Wetlands Assessment Report For:
The Parks, Planned Residential Development
Kennewick, Benton County, Washington

February 2016

Prepared for

HDJ Design Group

Walla Walla, WA

Prepared by

EAS: Environmental Assessment Services, LLC

Richland, Washington

EAS ENVIRONMENTAL ASSESSMENT SERVICES
RICHLAND, WASHINGTON

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Table of Contents

List of Figures

List of Appendices

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1.0 Introduction

Environmental Assessment Services, LLC (EAS) was contracted by the Jason Mattox, PE, with HDJ Design Group to provide wetland assessment services for The Parks, a Planned Residential Development (PRD), located in the south part of Kennewick, Benton County, Washington (refer to Figure 1: Site Map).

1.1 Project Background

The need for the wetland assessments is driven by correspondence to Mr. Wes Romine with Kennewick Development Services, from Ms. Gwen Clear with Washington State Department of Ecology (Ecology), dated December 7, 2015 and included in Appendix A to this report. Areas to be addressed in the wetland assessment per the referenced correspondence from Ecology include an existing pond in the north portion of the project area (referred to as "North Pond" in this report) and two natural ravines that run generally south to north (referred to as Area A and Area B in this report. Ms. Clear stated in her correspondence that there "are at least three natural ravines which may contain wetland areas" in her correspondence however there are only two within the confines of the proposed project area that contained any potential wetland features; the other low area along the east side, near the residence on the property did not have any evidence (e.g. wetland vegetation, stream, etc.) of potential wetlands (refer to Figure 2: Site Topographic Map).

1.2 Terms and Conditions

US Army Corps of Engineers (ACOE) recognized criteria for identification and delineation of wetlands includes at least one positive wetland indicator from each of three diagnostic environmental characteristics – hydrology, soil, and vegetation. EAS personnel conducting the wetland assessments followed the ACOE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) for determination of existent wetlands on the assessed property.

EAS personnel involved in this wetland assessment have completed ACOE 38-Hour Wetland Delineation & Management Training, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Training, Eastern Washington Wetland Rating System Training (2004 Version and 2014 Update), and have conducted previous wetland determinations, assessments and delineations in eastern Washington.

This work was performed for the sole use of Mr. Jason Mattox, PE, HDJ Design Group, and their representatives. No other party should rely on the information contained herein without the prior written consent of EAS.

1.3 Limitations and Exceptions of Assessment

The assessment involved no exceptions or limitations to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).

1.4 Methodology Used

EAS's wetland assessment methodology included:

- Regulatory agency records review;
- On-site assessment of the project area and site photography (Appendix B);
- Interviews with current property owner and applicable irrigation district;
- Evaluation of findings and wetland determinations; and
- Report Preparation.

2.0 Regulatory Agency and Physical Features Review

2.1 National Wetlands Inventory

The U.S. Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI) website was reviewed to determine if any of the project is indicated as wetlands. Freshwater ponds are indicated in the north central and eastern portions of the property and just south of the property, near Area A (see Figures 3a & 3b). Wetlands are not indicated in the ravines (Areas A & B).

2.2 Geological and Hydrological Setting

The USDA Soil Survey for the area mapped the North Pond area as Esquatzel silt loam with 0 to 2% slopes (EuA) (see Figure 4). This soil series is identified as prime farmland if irrigated; it is well drained and typically with a depth to water table of more than 80 inches. The two ravines (Areas A and B) are mapped as Warden silt loam with 15 to 30% slopes and severely eroded (WdE3) (see Figure 4). This soil series is also well drained with a depth to water table of more than 80 inches typically. Neither of these soils is identified as a hydric soil.

A 7.5-minute topographic map (Figure 2) was reviewed for the assessed area. The topography of the site overall slopes to the north-northeast toward the Columbia River with several small ravines evident, also running generally to the north-northeast. Intermittent streams and small ponds are indicated in some of the ravines, including those within the confines of the project area. The North Pond on the north central portion of the project area is indicated as such on the topographic map.

Climate data was reviewed for the preceding three months (November, December and January) to determine if normal hydrology factors should be present. Recorded precipitation for the three-month period was 3.70 inches, nearly half an inch above the combined average for the three months of 3.23 inches.

The surrounding properties appear to have been historically in agricultural uses similar to the assessed property. The adjoining property to the south is currently being developed and recent excavation activities are evident.

2.3 Historical Photos Review

Historical aerial photographs of the assessed area were reviewed for the following years – 1996, 2004 and 2009 (Figures 5a – 5c) – to determine if the terrain of the site has been altered through the last 20 years. Small areas of potential open water areas are evident in all three photographs, in the western most ravine (Area B) and in the North Pond in the north central portion of the property.

2.4 Irrigation Considerations

The project area has historically been in agricultural use for raising livestock (cattle) and for orchard use. The land has been irrigated for several decades and

the AP Canal lies directly up gradient to the south of the property, between the property and Interstate 82. Irrigation for 2016 has not begun and the canal was not holding water during the wetlands assessments.

Mr. J. F. Moore, current owner of the majority of the property (140 acres) and previous owner of the smaller (20 acre) parcel of the property was interviewed on February 17, 2016 regarding irrigation practices for the site historically and anticipated practices for 2016. Mr. Moore stated that he uses gravity fed water from the "newer" canal, more distant to the south, for irrigation on the site. He stated that he intends to farm a "little bit" this year but that most of the orchards have been removed. Mr. Moore stated that he controls water flow into the "little canyons" (Areas A and B) and into the north pond. According to Mr. Moore, he can choose to release overflow wastewater from the AP Lateral Canal into these areas through piping that runs from a pump station near the south part of his property directly into the canyons and the pond. He stated that he has observed natural water flow through the little canyons only one time in over 40 years on the site, during the winter several years ago when there were several inches of snow followed by a warm Chinook wind that caused rapid snowmelt. He stated that the north pond was originally dug as a livestock pond over 40 years ago but has never "sealed". According to Mr. Moore the pond will hold water for only a few (2 – 3) days before going dry unless water is regularly supplied through the two overflow pipes into the pond. According to Mr. Moore, one pipe was not providing enough water so another was added. Photos of the pipes are included in Appendix A to this report.

3.0 Wetland Assessment

3.1 Wetland Assessment

Deborah Phipps of EAS conducted the site investigation on February 16 & 17, 2016. Field conditions were partly cloudy, with light winds and temperatures around 50 to 55 degrees F. Photographs taken during the assessment are included as Appendix B. Per the ACOE guidance, recognized criteria for identification and delineation of wetlands includes at least one positive wetland indicator from each of three diagnostic environmental characteristics – vegetation, soil, and hydrology. EAS personnel conducting the wetland assessments followed the ACOE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (AWR Supplement) for determination of existent wetlands on the assessed property. The project area lies within the Columbia/Snake River Plateau region, referred to as Land Resource Region B (LRR B) in the AWR Supplement.

Vegetation, soils and hydrology factors were examined at several locations on the property. All points had wetland vegetation present or in the near vicinity. The table below provides a summary of the soil and hydrology features observed at each location examined and a wetland determination for each sampling point based upon soil and hydrology indicators.

3.1.1 Area A

Area A is dominated by reed canarygrass, *Phalaris arundinacea,* teasel, *Dipsacus fullonum,* crab grass,*Digitaria sp.,* and tumble weeds, *Salsola kali.* No surface water, surface soil cracks, drainage patterns or other wetland hydrology indicators were observed in the area. Soils and hydrology were checked at several locations along the bottom of the ravine, from the south end near the south property edge to the north end of the area near the center of the site. Soil profiles for sampling points at the south and north extents Area A are provided in Table 3 below. Though reed canarygrass is a facultative wetland (FACW) species for the Arid West region and typically occurs in wetlands, the soils and hydrology conditions present in Area A at this point in time do not support classification of the area as a wetland.

3.1.2 Area B

Area B is dominated by reed canarygrass, *Phalaris arundinacea,* through most of the ravine and by poison hemlock, *Conium maculatum,* in a deeper small pond area in the north part of the area, just south of the dirt road that runs east to west across the property. Both of these species are FACW for the Arid West region. Cottonwoods, *Populus balsamifera,* are common along the upper banks of Area B and erosion is evident through the ravine with the roots of most of the larger cottonwoods exposed. Soils and hydrology were checked at several locations along the bottom of the ravine, from the south end near the south property edge to the north end of the area near the center of the site, where a slightly deeper, possible pond area was observed. Soil profiles for sampling points at the south, central and north extents Area B are provided in Table 3 below. Though reed

canarygrass and poison hemlock are facultative wetland (FACW) species for the Arid West region and typically occurs in wetlands, the soils and hydrology conditions present in Area B at this point in time do not support classification of the area as a wetland.

3.1.3 North Pond

Wetland vegetation is present in parts of the North Pond, mainly tule, *Scirpus tabernaemontani,* which is an Olbigate (OBL) species in the Arid West, and reed canary grass, a FACW species. Cottonwoods are present along the upper banks of the pond. Substantial surface soil cracks are present in the pond area indicating wetland hydrology is present. Soils were examined at the apparent low point of the pond and also showed wetland indicators; gleyed soils (Gley 1 3/10Y) were observed at a depth of about 14 to 17 inches.

Table 3: Wetland Field Investigation Summary

Area	Test Pit #	Latitude (N)	Longitude (W)	Soils	Hydrology	Wetland?
A	UP A-1	46.177750	119.216750	10YR3/3 to 6"; 10YR4/3 6-12"; 10YR4/2 12-17"	No indicators present	No
A	UP A-2	46.178722	119.215944	10YR2/1 to 4"; 10YR3/2 4-9"; 10YR4/2 9-12"; 10YR4/1 12-16"	No indicators present	No
B	UP B-1	46.177722	119.221556	5YR3/1 to 2"; 10YR4/2 2-11"; 7.5YR4/3 11-18"	No indicators present	No
B	UP B-2	46.178000	119.221250	10YR3/2 to 2"; 10YR4/2 2-12"; 2.5YR4/2 12-16"	No indicators present	No
B	UP B-3	46.178278	119.221083	10YR3/2 to 3"; 2.5YR3/3 3-7"; 10YR3/3 7-12"; 10YR4/3 12-19"	No indicators present	No
North Pond	Wet 1	46.184056	119.217000	10YR4/2 to 10"; 10YR4/1 10-14"; Gley1 3/10Y 14-17"; 2.5YR4/2 17-19"; 2.5YR 5/3 19-22"	Surface Soil Cracks	Yes

4.0 Findings and Conclusions

4.1 Confirmation of Presence or Absence of Wetlands

Our wetland assessments determined that there is currently a wetland present on the assessed property. This wetland is located in the north central portion of the site and is referred to as the North Pond in this report. Wetland vegetation, soil and hydrology indicators are present in the pond. An interview with the current property owner confirmed that the pond was established decades ago as a "farm pond" and receives water at the discretion of the farm operator in the form of wastewater overflow that is pumped from the nearby irrigation canal (AP Canal). Two PVC pipes were observed in the southeast part of the pond that supports this allegation. "Farm Ponds" are considered "artificial" wetlands and thus are not subject to state regulation as a wetland or federal regulation under the Clean Water Act.

Our wetland assessment determined that Areas A and B do not currently have soil or hydrology indicators present that indicate the presence of wetlands. Both areas do have wetland vegetation present. An interview with the current property owner, Mr. J. F. Moore, revealed that these two areas, like the North Pond, receive water at the discretion of the farm operator in the form of wastewater overflow that is pumped from the nearby irrigation canal. PVC pipes were observed at the south end of the ravine (the end nearest the pump and up gradient) that supports this allegation.

4.2 Conclusions

Based upon the above listed findings we conclude that there are no state or federally regulated wetlands present on the assessed property at this time. We conclude that the North Pond does have vegetation, soil and hydrology wetland indicators present but was established decades ago as a farm pond and hence is an "artificial" wetland and not subject to state regulation or federal regulation under the Clean Water Act.

5.0 References

Google® Earth Aerial Photographs, 1996, 2004, 2009 & 2015

Guard, B.J. 1995. Wetland Plants of Oregon & Washington. Lone Pine Publishing. Redmond, WA.

U.S. Army Corps of Engineers, Wetlands Regulatory Assistance Program, *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, September 2008.

USDA Web Soil Survey, http://websoilsurvey.nrcs.usda.gov/app/, accessed February 2016

USGS Topographic Map, www.mytopo.com/maps, accessed February 2016

Washington State Department of Ecology, Focus on Irrigation-Influenced Wetlands, Shorelands and Environmental Assistance Program, July 2010, Publication Number: 10-06-015

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Figures

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Figure 1: Site Map (Google Earth, 2015) The assessed property is located in the south part of Kennewick, Washington, to the north of Interstate 82. Three areas, identified as Area A, Area B and North Pond in the photo, were assessed for the presence of wetlands.

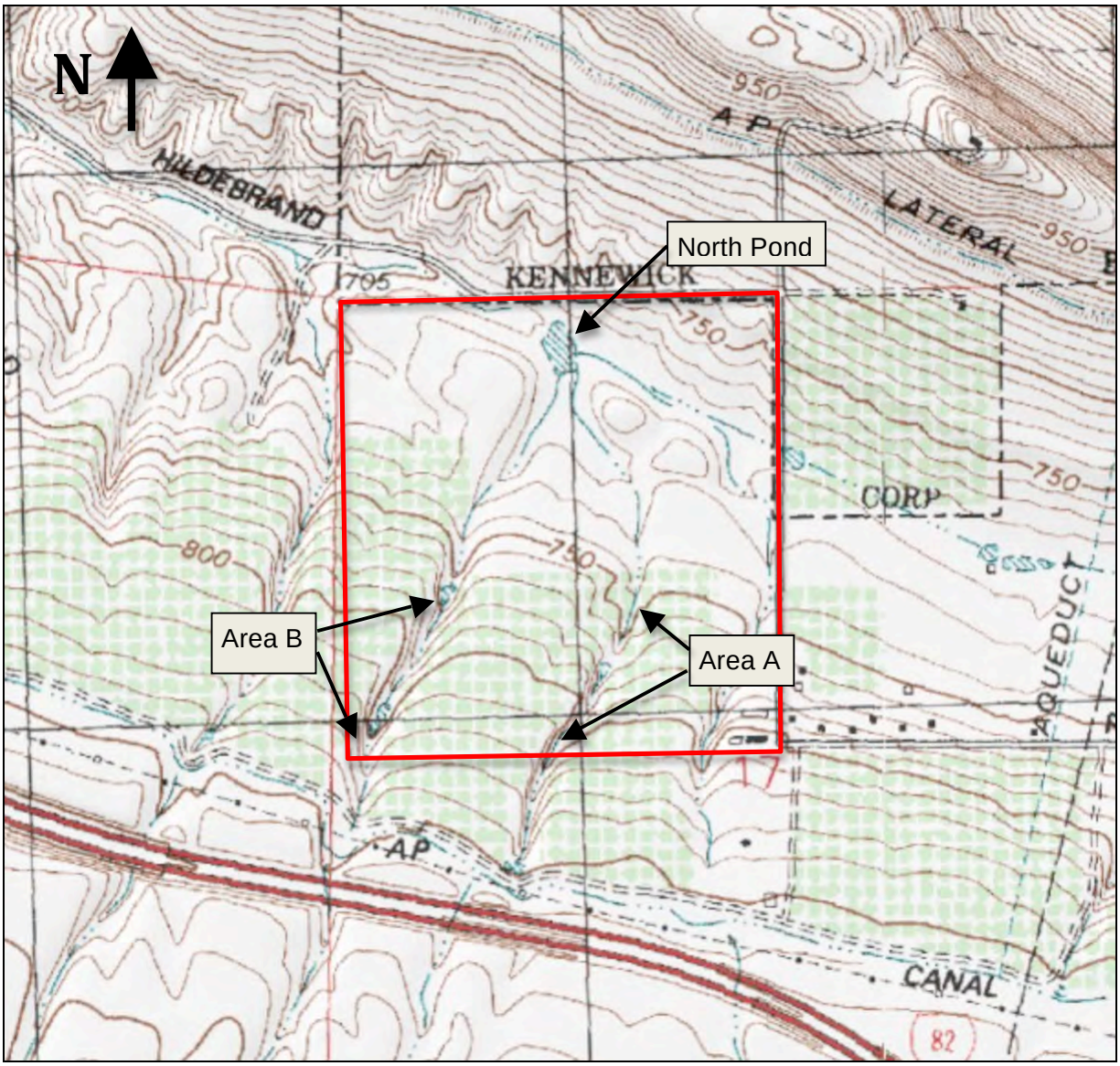

Figure 2: Site Topographic Map (mytopo.com, 2016) The property slopes to the north-northeast overall, toward the Columbia River. Intermittent streams are indicated through the small ravines and into the north pond in the northeast portion of the property however no surface water was observed on the site during the assessment.

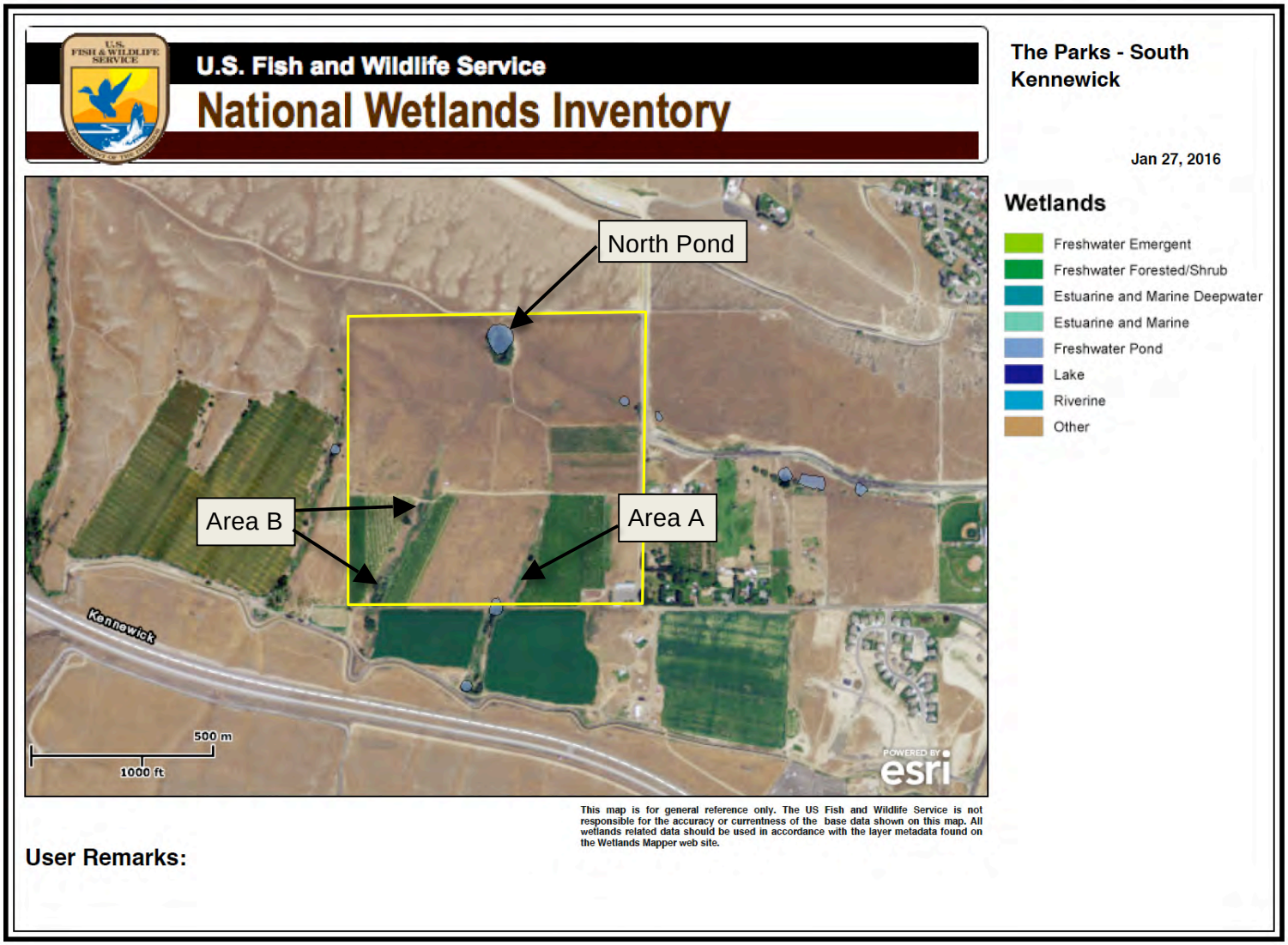

Figure 3a: NWI Aerial Map (USFWS NWI, 2016) The NWI map shows the north pond as a freshwater pond; it does not indicate wetlands in the ravine areas on the property. It does show a small freshwater pond near Area A, on the adjoining property to the south of the site. That pond was not evident during the site assessment and that area is currently being developed.

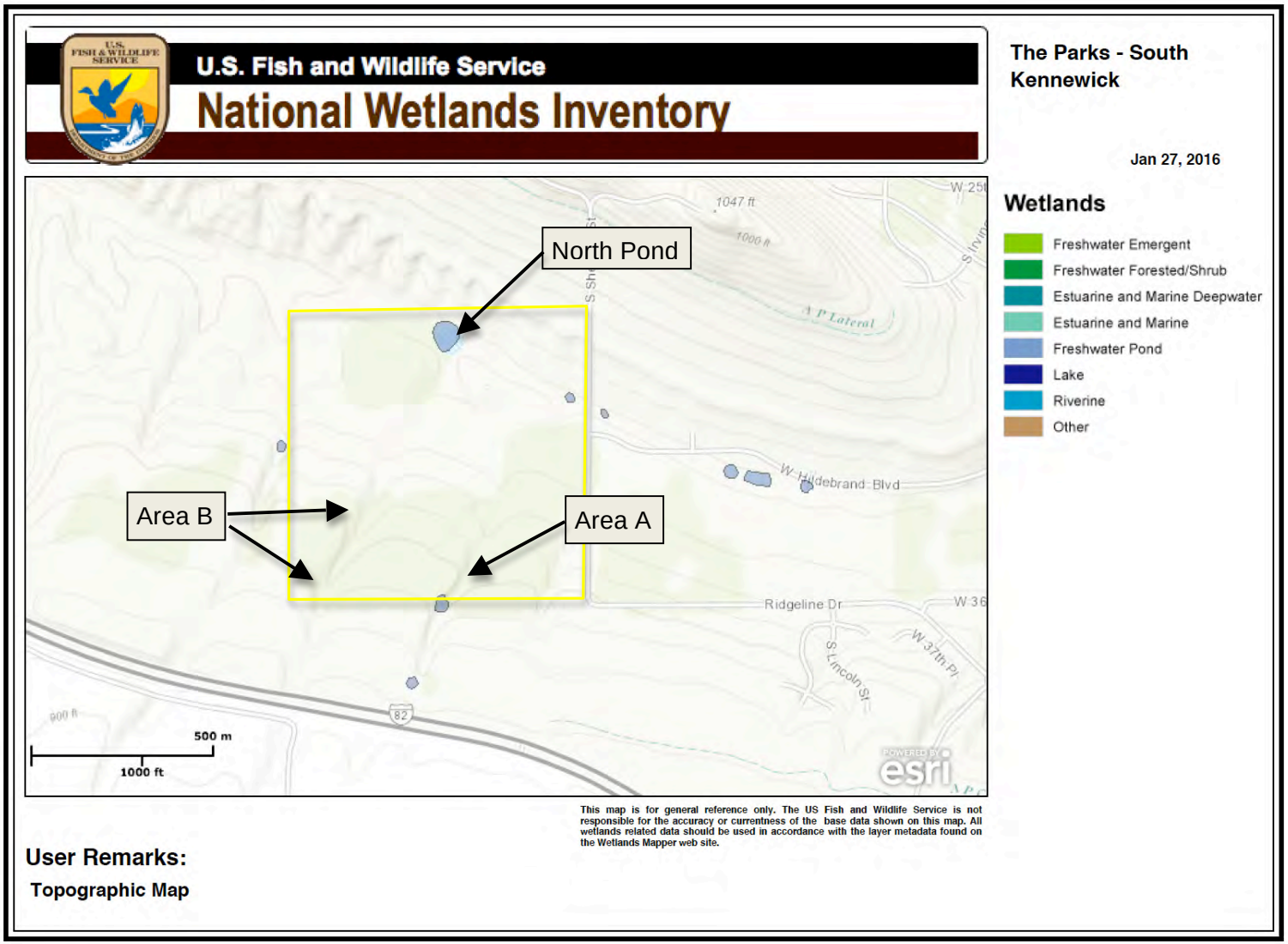

Figure 3b: NWI Topographic Map (USFWS NWI, 2016) The NWI map shows the north pond as a freshwater pond; it does not indicate wetlands in the ravine areas on the property. A small pond is indicated along the east side of the property but no evidence of such was observed during the wetlands assessment.

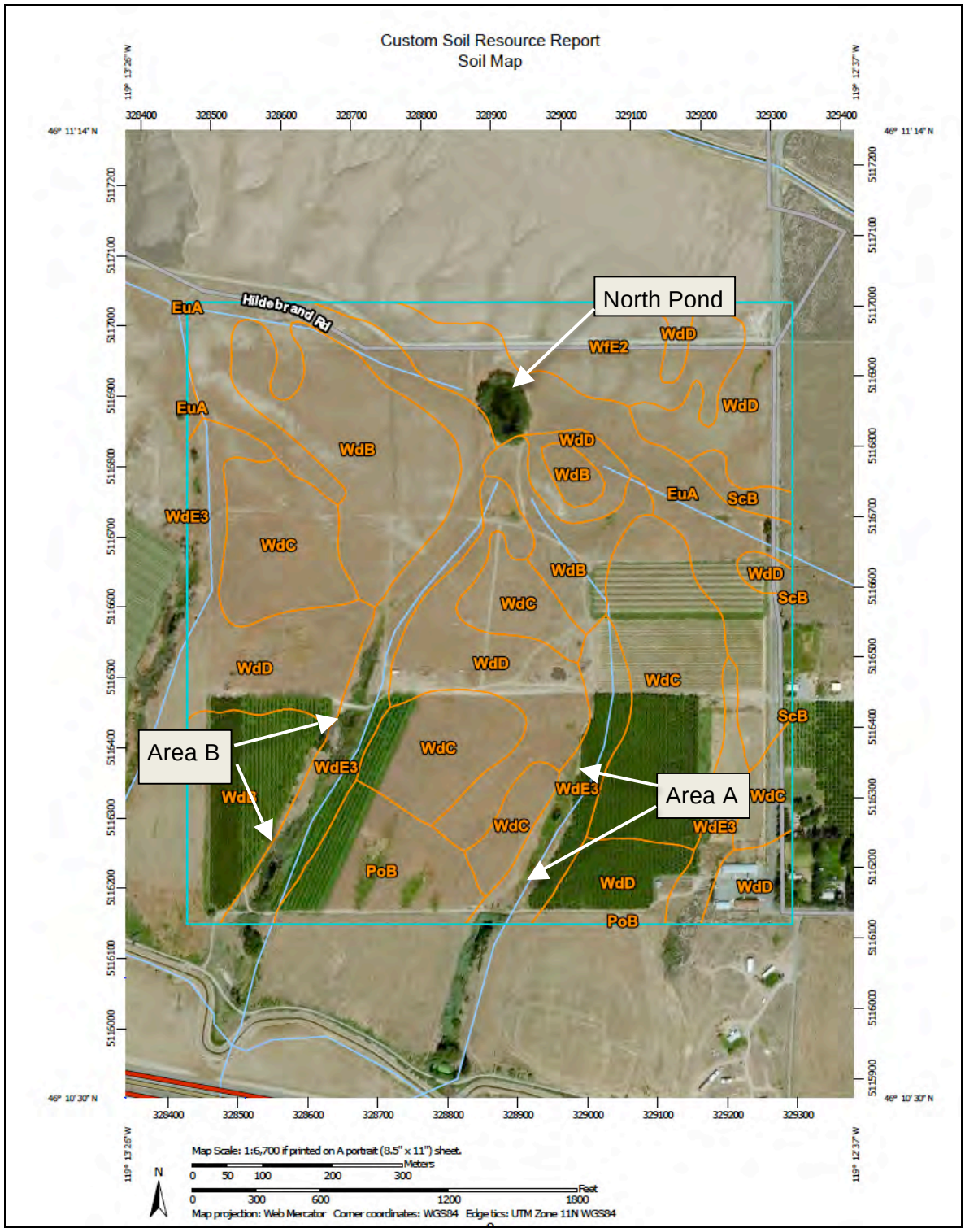

Figure 4: Soil Survey Map (USDA NRCS, 2010) Areas A and B are mapped as Warden silt loam with 15 to 30% slopes and severely eroded (WdE3) and the north pond is mapped as Esquatzel silt loam with 0 to 2% slopes (EuA); neither soil is listed as a hydric soil and both are well drained.

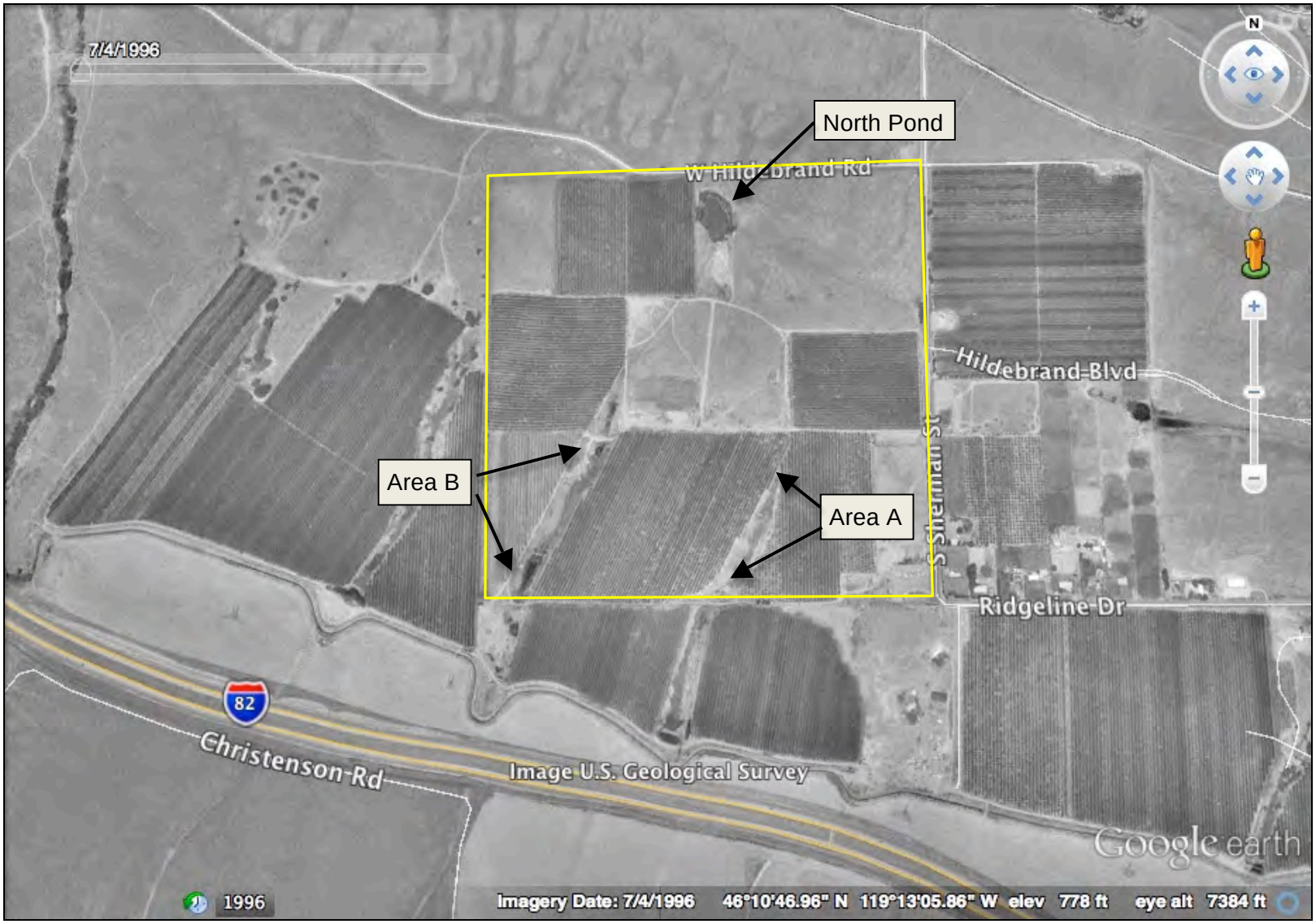

Figure 5a: Historical Map (USGS, 1996). The assessed areas are indicated as Areas A & B and North Pond. Surface water is appears to be present in Area B and possibly in the North Pond.

Figure 5b: Historical Map (Google earth, 2004). The assessed areas are indicated as Areas A & B and North Pond. Surface water is appears to be possibly present in Area B and the North Pond.

Figure 5c: Historical Map (USDA FSA, 2009). The assessed areas are indicated as Areas A & B and North Pond. Surface water is appears to be possibly present in the south portion of Area B and the North Pond.

Appendices

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Appendix A - Washington Department of Ecology Project Correspondence

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

December 7, 2015

Wes Romine
Kennewick Development Services
P.O. Box 6108
Kennewick, WA 99336

Re: PLN-2015-01863 and PLN-2015-01862

Dear Mr. Romine:

Thank you for the opportunity to comment on the notice of application for The Parks, a Planned Residential Development to develop approximately 137.4 acres into 553 residential units in 10 phases, proposed by Chad Bettesworth of Pahlisch Homes. We have reviewed the application and have the following additional comments to Ecology's comments dated December 1, 2015.

SHORELANDS/ENVIRONMENTAL ASSISTANCE

It is noted that there are plans to accommodate an existing pond within an open space area. Depending on existing wetland functions, designated natural buffer zones which support the wetland functions may need to be included in development plans, depending on the origin and history of the pond and whether it is considered "jurisdictional' under local, state or federal law.

There are at least three natural ravines which may contain wetland areas that need protection or mitigation if disturbed. A wetland delineation report that is authored by a biologist with training and experience in wetland delineation should review these ravine areas to determine whether they contain biologic wetlands. The hydrologic drivers (precipitation, groundwater, etc.) of any site wetland features should also be addressed in the wetland report. Ecology considers isolated wetlands as "waters of the state" regardless of origin of water, until any artificial water inputs would change so that the wetland would not satisfy wetland criteria.

Indirect impacts to site wetlands from potential storm-water inputs should also be addressed in wetland reports prepared for the site. All direct and indirect wetland impacts should be avoided to the extent possible or mitigated if not possible to avoid. Final plat maps should not be approved until all critical areas (including wetlands) are identified and mitigated.

If you have any questions or would like to respond to these Shorelands/Environmental Assistance comments, please contact **Catherine Reed** at (509) 575-2616 or email at catherine.reed@ecy.wa.gov .

Sincerely,

Gwen Clear

Gwen Clear
Environmental Review Coordinator
Central Regional Office
(509) 575-2012
crosepacoordinator@ecy.wa.gov

4936b

Appendix B – Site Photographs

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Photo B1: This photo is to the north-northeast from the south end of Area A.

Photo B2: The adjoining property to the south and up gradient of Area A is currently being developed.

Photo B3: Reed canarygrass is prevalent through Area A. This is in the south part of the area looking to the north-northeast.

Photo B4: This sampling point is located in the south part of Area A (UP A-1). The pit was dug to a depth of 17″; hydric soil indicators and wetland hydrology indicators were absent.

Photo B5: This photo is showing the soil profile for the sampling point located in the north portion of Area A (UP A-2). The pit was dug to a depth of 16″ at which point a hard pan was encountered. Hydric soil indicators and wetland hydrology indicators were absent.

Photo B6: This photo is showing the north portion of Area A; the view is to the north.

Photo B7: This photo is to the north-northeast from the south end of Area B.

Photo B8: There is evidence of extensive erosion through Area B; the roots of cottonwood trees along the banks of the ravine are exposed through most of the area.

Photo B9: This pipe is located at the southwest corner of Area B. According to the property owner, Mr. J. F. Moore, this is an overflow wastewater pipe that allows him to pump wastewater from the canal into the ravine at his discretion.

Photo B10: This sampling point was dug in the south part of Area B (UP B-1). The hole was dug to a depth of 18″. Hydric soil indicators and wetland hydrology indicators were absent.

Photo B11: This soil profile is from a sampling point about half way across Area B (UP B-2). The soil was examined to a depth of about 16″; hydric soil indicators and wetland hydrology indicators were absent.

Photo B12: This soil profile is from a sampling point about in the north end of Area B (UP B-3). The soil was examined to a depth of about 19″; hydric soil indicators and wetland hydrology indicators were absent.

Photo B13: This view is to the north-northwest, looking across the North Pond.

Photo B14: This photo is showing one of the two pipes that allow water flow into the pond; both are located in the southeast corner area of the pond.

Photo B15: This photo is of the second pipe that supplies water to the pond.

Photo B16: This view is to the west looking across the north portion of the pond.

Photo B17: This photo is of the soil pit that was dug in the lowest area of the pond. The pit was dug to a depth of 22 inches. A layer of gleyed soil was evident from about 14 to 17 inches indicating hydric soils. Surface soil cracks were present over most of the area as well, an indication of wetland hydrology.

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EXHIBIT 11
210 West 6th Avenue
Kennewick, WA 99336
Phone: (509) 585-4280
cedinfo@ci.kennewick.wa.us

ADOPTION OF EXISTING ENVIRONMENTAL DOCUMENT

Adoption for (check appropriate type) _X_ DNS ___ EIS ___ OTHER ___

Description of current proposal: 93 lot single-family subdivision on 31.4 acres, to be built in two phases

Proponent: City of Kennewick, WA

Location of current proposal: West of S. Sherman Street and south of Bob Olson Parkway at 3316 S. Sherman Street.

Title of document being adopted: Mitigated Determination of Non-significance ED 15-62

Agency that prepared document being adopted: City of Kennewick

Date adopted document was prepared: March 14, 2016

Description of document (or portion) being adopted: Planned Residential Development for a 553 lot subdivision which includes the area of the current proposed 93 lot single-family subdivision.

If the document being adopted has been challenged (WAC 197-11-630), please describe: No changes proposed to MDNS.

The document is available to be read at (place/time): Kennewick City Hall; 210 West 6th Avenue, Kennewick Washington; Monday through Friday 8:30 a.m. to 4:30 p.m.

We have identified and adopted this document as being appropriate for this proposal after independent review. The document meets our environmental review needs for the current proposal and will accompany the proposal to the decision-maker.

Name of Agency adopting document: City of Kennewick

Contact person, if other than responsible official: Wes Romine Phone #: 509-585-4558

Responsible Official: Gregory McCormick, AICP

Position/Title: Community Planning Director Phone #: (509) 585-4463

Address: 210 West 6th Avenue, P.O. Box 6108, Kennewick, WA 99336

Date: October 18, 2017 Signature: Gregory J. McCormick

EXHIBIT 11

ED #15-62

CITY OF KENNEWICK
MITIGATED DETERMINATION OF NON-SIGNIFICANCE

FILE/PROJECT NUMBER: **ED 15-62 FOR PRD 15-01/PP 15-06**

DESCRIPTION OF PROPOSAL: **PLANNED RESIDENTIAL DEVELOPMENT FOR 553 LOT SUBDIVISION**

PROPONENT: **CHAD BETTESWORTH, PAHLISCH HOMES**

LOCATION OF PROPOSAL, INCLUDING STREET ADDRESS, IF ANY: **SOUTH OF W. HILDEBRAND BLVD (BOB OLSON PARKWAY) AND WEST OF S. SHERMAN STREET AT 3514 S. SHERMAN STREET.**
LEAD AGENCY: CITY OF KENNEWICK

DETERMINATION: The City of Kennewick has determined that this proposal does not have a probable significant adverse impact o the environment. An Environmental Impact Statement (EIS) will not be required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the City. This information is available to the public on request. Application for other required permits may require further review under SEPA procedures.

___ There is no comment period for this DNS.

___ This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS.

__X__ This DNS is issued under 197-11-340(2); the City will not act on this proposal for fifteen days from the date below. Comments must be submitted by **March 29, 2016** . After the review period has elapsed, all comments received will be evaluated and the DNS will be retained, modified, or withdrawn as required by SEPA regulations.

RESPONSIBLE OFFICIAL: Gregory McCormick, AICP
POSITION/TITLE: Community Planning Director
ADDRESS: 210 W 6th Ave., P.O. Box 6108, Kennewick, WA 99336
PHONE: (509) 585-4463

__X__ Changes, modifications and /or additions to the checklist have been made on the attached Environmental Checklist Review.

This DNS is subject to the attached conditions:
___ No conditions.
__X__ See attached condition(s).

Date: **March 14, 2016** Signature: Gregory J. McCormick

****

Appeal: An appeal of this determination must be submitted to the Community Planning Department within fourteen (14) calendar days after the date issued. This appeal must be written and make specific factual objections to the City's threshold determination. Appeals shall be conducted in conformance with Section 4.12.090(9) of the Kennewick Municipal Code and the required fees pursuant to the City's adopted Fee Schedule shall be paid at time of appeal submittal.

Copies of this DNS were mailed to: Dept. of Ecology, WA Dept of Fish & Wildlife, WSDOT, Yakima Nation, CTUIR, PRD 15-01 &PP 15-06 File

CITY OF KENNEWICK
ENVIRONMENTAL CHECKLIST REVIEW

E. D. File #15-62 **Reviewed by: Wes Romine**
Action: PRD 15-01 & PP 15-06 **March 14, 2016**

The City of Kennewick has reviewed the checklist and made additions & corrections to it.

Please note the following condition(s):

1.) Park Fees

For this proposal, PRD 15-01/PLN-2015-01862 & PP 15-06/PLN-2015-01863, conditions include the mitigation fees for impacts for the addition of 553 dwelling units in Park Planning Zone 6W – Southridge. In lieu of land dedication, fees are required to be paid to Park Planning Zone 6W in the amount of **$46,635.58** as calculated per the City's Park Fee Determination Process form. This fee must be paid at the time of final plat as a percentage of lots in each final plat phase.

.

ED 15-62
for
PRD 15-01 & PP 15-06

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

***Instructions for applicants*: [help]**

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:
Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

***Use of checklist for nonproject proposals:* [help]**

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. BACKGROUND [help]

Evaluation for Agency Use Only

1. Name of proposed project, if applicable: [help]
The Parks

2. Name of applicant: [help]
Pahlisch Homes
63088 NE 18th Street, Suite 100
Bend, OR 97701

3. Address and phone number of applicant and contact person: [help]

Chad Bettesworth
chadb@pahlischhomes.com
(541) 280-6242

4. Date checklist prepared: [help]

October 23rd, 2015

5. Agency requesting checklist: [help]

City of Kennewick

6. Proposed timing or schedule (including phasing, if applicable): [help]

Phase 1: Spring 2016
Phase 2: Fall 2016
Phases 3-10: as market demands

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. [help]

The Parks at Thompson Hill PRD is planned to be staged in 10 phases. The Phase 1-3 Preliminary Plat will be submitted concurrent with PRD Application. Each Phase of development will be developed under a separate prelim plat per COK municipal code. When the PRD is fully developed there are no additional plans for expansion or activities.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. [help]

- A geotechnical study has been completed at the site with detailed observation of the on-site soil characteristics and will seek to address development of any defined critical areas.
- A traffic analysis and Trip Generation Letter have been developed for the PRD
- An engineered stormwater plan and grading plan will be fully developed with each phase of construction drawings.

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9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. [help]

A preliminary plat for Phases 1-3 to be approved by the City of Kennewick and will be considered concurrent with the Planned Residential Development application

10. List any government approvals or permits that will be needed for your proposal, if known. [help]

Engineering plans would be permitted through City of Kennewick for infrastructure improvements necessary to construct public streets and utilities with service to individual lots. Building permits will be issued for each residential unit within the development.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.) [help]

The proposed PRD will develop approximately 137.4 acres into a mix of single family homes, townhomes, common areas and open spaces and will consist of 553 residential units. Phase 1 will develop a portion of 20 acres into the the single family homes, townhomes, and open spaces and will consist of 46 residential units.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist. [help]

The PRD is bounded by S. Sherman Street to the east, W. Hilebrand Blvd. to the north and Ridgeline Drive to the south. Phase 1 is in the northeast corner of the site at the intersection of Hildebrand Blvd and S. Sherman Street.

The PRD is identified as Parcel # 117892000001000

Phase 1 will be located south and east of the intersection of Hildebrand and Sherman Street, and will be located within parent parcel # 117892000001000.

Evaluation for Agency Use Only

Per the Preliminary Plat drawing, the Preliminary Plat application covers phases 1-3 on 35.76 acres to be divided into 130 lots and 14 tracts.

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B. ENVIRONMENTAL ELEMENTS [help]

Evaluation for Agency Use Only

1. Earth

a. General description of the site [help]
(check one): ☐ Flat, ☐ rolling, ☑ hilly, ☑ steep slopes, mountainous, ☐ other _____
While most of the site is hilly between 5-10% there are portions of the site less than 5% and other portions identified on the City's GIS as Steep Slopes >15%

b. What is the steepest slope on the site (approximate percent slope)? [help]
The steepest slope for the PRD is approximately 50%. Within the boundaries of Phase 1, the steepest slope is approximately 10%.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. [help]

The soils in the PRD boundary are a mixture of Warden silty loams and sandy loams.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. [help]

The City of Kennewick GIS indicates areas of erosion hazard and steep slopes within the PRD boundary. There does not appear to be unstable soils within Phase 1.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. [help]

PRD development would seek to regrade each phase as necessary for street, utility and residential development. The fill and excavation would be limited to the PRD site and would be conducted in accordance with the recommendation of a geotechnical engineer.

Any grading prior to approval of a Civil Permit will require a separate grading permit.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. [help]

Potential erosion, both wind blown and runoff, are possible as a result of construction and will be managed with a temporary erosion control plan approved by the City of Kennewick.

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g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? [help]

The PRD will be approximately 35% impervious area. While Phase 1 will be approximately 35% impervious area.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: [help]

During construction erosion control measures will be implemented such as person operated watering devices and silt fencing. After construction the majority of the pervious surface on the site will be grass and landscaping consistent with single family yards. The site will also have common landscape open spaces consisting of live ground cover and trees. These aspect of development will be present throughout the overall PRD as well as Phase 1

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. [help]

During construction there will be exhaust emissions from construction equipment as well as dust. After project completion there would be normal air emissions resulting from a residential neighborhood setting.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. [help]

There are no known off-site sources of emissions will affect this proposal.

c. Proposed measures to reduce or control emissions or other impacts to air, if any: [help]

During construction, emissions will be limited to working hours and dust will be controlled by person operated watering devices.

3. Water

a. Surface Water: [help]

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. [help]

There is an existing un-named seasonal pond within the PRD boundary located near the northern boundary of the development. There are no bodies of water located within the Phase 1 boundary.

Evaluation for Agency Use Only

Per the City GIS Map and the Wetland Assessment Report prepared in February of 2016, the seasonal pond is fed by irrigation water and not classified as a state or federally regulated wetland.

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2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. [help]

There will be potential mass grading and for individual home grading within 200 feet of the pond. There would be no development within the designated Open Space planned to be surrounding the pond as shown on the PRD landscape plan..

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. [help]

No fill or dredge material would be placed in or removed from the existing pond.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. [help]

The overall development does not propose or require any surface water withdrawls or diversions.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. [help]

The project does not lie within a 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. [help]

The proposal does not involve any discharges of waste materials to surface waters.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. [help]

No groundwater will be withdrawn for development of the project. No water will be directly discharged to the groundwater with the project.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number

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of animals or humans the system(s) are expected to serve. [help]

No waste material will be discharged into the ground with the development of the project..

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. [help]

Stormwater runoff will be collected within the roadway prism and disposed of via surface and subsurface methods consistent with City of Kennewick standards for stormwater disposal. There will be no off-site discharges of stormwater proposed with the project. All stormwater plans will be developed consistent with the Eastern Washington Stormwater Manual.

2) Could waste materials enter ground or surface waters? If so, generally describe. [help]

It is not anticipated that this will occur since waste materials are not allowed to be discharged to City of Kennewick owned and maintained storm systems.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

The proposal will alter the existing drainage patterns on-site. There are two drainages on-site that will be filled with the development in order to complete the overall plan of development.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any: [help]

The stormwater disposal methods will be in compliance with the City of Kennewick standards as well as the Washington State Department of Ecology Eastern Washington Stormwater Manual.

4. Plants [help]

a. Check the types of vegetation found on the site: [help]

deciduous tree: ☐ alder ☐ maple ☐ aspen ☑ other
evergreen tree: ☐ fir ☐ cedar ☐ pine ☑ other

shrubs ☐

grass ☐

pasture ☑

crop or grain ☐

☐ bullrush

Orchards, vineyards or other permanent crops. ☑

wet soil plants: ☐ cattail ☐ buttercup
skunk cabbage ☐

other water plants: ☐ water lily ☐ eelgrass ☐ milfoil

other types of vegetation ☐

b. What kind and amount of vegetation will be removed or altered? [help]

Existing pasture, orchards, and native vegetation will be removed during the course of the PRD. During Phase 1, a portion of the orchard and native grasses will be removed.

c. List threatened and endangered species known to be on or near the site. [help]

There are no threatened or endangered species known to be on or near the site to the applicant's knowledge.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: [help]

The single family residential lots will be landscaped with grass and trees. The open areas and common areas will be landscaped with ground cover and trees. An overall Landscape Development Plan has been submitted with the PRD outlining the locations and types of landscaping to be used within the PRD.

e. List all noxious weeds and invasive species known to be on or near the site.

There are not any noxious weeds or invasive species known to be on or near the site.

5. Animals

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. Examples include: [help]

birds: ☑ hawk ☐ heron ☐ eagle ☑ songbirds ☐ other:

mammals: ☑ deer ☐ bear ☐ elk ☐ beaver ☐ other: ☐

fish: ☐ bass ☐ salmon ☐ trout ☐ herring ☐ shellfish ☐ other

b. List any threatened and endangered species known to be on or near the site. [help]

There are no threatened or endangered species known to be on or near the site to the applicant's knowledge.

c. Is the site part of a migration route? If so, explain. [help]

Yes, Canada Geese and ducks are known to migrate through the Columbia Basin.

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d. Proposed measures to preserve or enhance wildlife, if any: [help]

There are no direct measures being proposed to solely enhance wildlife. There will be open spaces within the development which wildlife will continue to use.

e. List any invasive animal species known to be on or near the site.

No known invasive animal species are known to be on or near the site to the applicant's knowledge.

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. [help]

The project will require energy in order to serve the proposed homes with electricity and gas.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. [help]

This project is not anticipated to have any impacts to adjacent properties potential solar use.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: [help]

The proposed homes will be constructed in accordance with all applicable building and energy codes as recognized by the City of Kennewick.

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe. [help]

There are no recognized toxic health hazards usually associated with the development of Residential homes within a defined urban area.

1) Describe any known or possible contamination at the site from present or past uses. [help]

There are no known or possible contamination at the site from present or past uses to the applicant's knowledge.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

There are no existing hazardous chemicals/conditions or pas pipelines that might affect the project development and design to the applicant's knowledge.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

No storage, use or production of toxic or hazardous chemicals is being proposed with the development.

4) Describe special emergency services that might be required.

Both the PRD and subsequent phases will require police, fire and ambulance services.

5) Proposed measures to reduce or control environmental health hazards, if any: [help]

None at this time.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? [help]

There are no known sources of noise in the area that will affect this proposal. Phase 1 is adjacent to Hildebrand Blvd and S. Sherman Street, which will have noise from traffic. Other phases of the PRD will also border Hildebrand, Sherman and Ridgeline Drive, which will have traffic noise. There are existing farming operations to the south and west of the property

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. [help]

During each phase of construction, there will be construction noise due to equipment and home construction. At full build out, noise would be typical of urban homes with traffic entering and exiting the site.

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Noise shall comply with the City of Kennewick Noise Ordinance, KMC 9.52

3) Proposed measures to reduce or control noise impacts, if any: [help]

Construction hours will be limited to working hours defined by the City of Kennewick

8. Land and shoreline use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. [help]

The current use of the PRD is an operating orchard, pasture land and vacant land zoned RL. The current use of the surrounding land is used in a similar manner and also zoned RL. The proposal is not anticipated to affect land uses nearby

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or non-forest use? [help]

The orchard in the southern portion of the PRD will be converted from ag to single family homes. At full development, approximately 42 acres of farmland from ag use to residential will be converted. During Phase 1-3, approximately 13 acres will be converted from farmland to residential.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

The proposal will not affect surrounding working farms or forest lands. The proposal could be affected by the application of pesticides depending on the application technique used and weather conditions.

c. Describe any structures on the site. [help]

There is an existing residence and outlying buildings on the site located in the south east corner at the intersection of Ridgeline and Sherman Street. There are no structures on the Phase 1-3 portions of the site.

d. Will any structures be demolished? If so, what? [help]

The existing residence and outlying buildings will be removed during the final phase of the PRD. No structures will be removed in Phase 1-3 of the project.

e. What is the current zoning classification of the site? [help]

The site is currently zoned RL, per City of Kennewick zoning maps

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f. What is the current comprehensive plan designation of the site? [help]

Low density residential per City of Kennewick maps

g. If applicable, what is the current shoreline master program designation of the site? [help]

None

h. Has any part of the site been classified as a critical area by the city or county? If so, specify. [help]

Portions of the PRD have been classified and identified on City of Kennewck's GIS as areas of erosion hazard and areas of slopes greater than 15% (steep slopes)

i. Approximately how many people would reside or work in the completed project? [help]

Within the fully built PRD of 553 units there would be approximately 1800 residents. During Phase 1-3 there would be 125 housing units with approximately 408 residents.

j. Approximately how many people would the completed project displace? [help]

The overall PRD would seek to develop the acreage where the existing home is located and the existing single family homes residents would need to be relocated. In Phase 1-3, no people reside within the area of work.

k. Proposed measures to avoid or reduce displacement impacts, if any: [help]

No measures are being proposed with Phase 1-3. The overall PRD seeks to develop a multiphase residential development that would offset the impacts of the removal of the existing home. The existing owner of the home is being compensated for the home and underlying property.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: [help]

The PRD is to be built in accordance with City of Kennewick RL zoning requirements

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

This project will not seek to alter the nearby agricultural and forest lands of long term commercial significance.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. [help]

At full build out, the PRD would provide 553 residential units. During Phase 1-3, 125 residential units will be provided.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. [help]

At full build out of the overall PRD, one single family house will be replaced by a mix of single family homes and townhomes.

c. Proposed measures to reduce or control housing impacts, if any: [help]

Housing impacts and density within the PRD will be controlled by the City of Kennewick zoning code for an RL designation and the City's Planned Residential Development Code.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? [help]

Maximum height of any proposed structure would be 30 feet per the zoning code.

b. What views in the immediate vicinity would be altered or obstructed? [help]

Views in the immediate vicinity would be altered by rooftops.

c. Proposed measures to reduce or control aesthetic impacts, if any: [help]

The aesthetic impacts will be controlled by the City of Kennewick zoning code for an RL designation. The overall PRD will dictate the plan of development guidelines for future phases as well as where the open space and ares of common use will be for the development.

11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur? [help]

The proposal would produce light from the residential street lights adjacent to the roadways. Light would also be produced from fixtures on the outside of homes. Light would be present in the evening hours.

b. Could light or glare from the finished project be a safety hazard or interfere with views? [help]

Not to the applicant's knowledge.

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c. What existing off-site sources of light or glare may affect your proposal? [help]

None to the applicant's knowledge.

d. Proposed measures to reduce or control light and glare impacts, if any: [help]

Any lighting would be directed downward.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity? [help]

Existing recreational opportunities exist at the Southridge Sports Complex and at Southridge High School. The Canyon Lakes Golf Course is within 5 miles of the site.

b. Would the proposed project displace any existing recreational uses? If so, describe. [help]

No existing recreational uses will be displaced with this project.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: [help]

The PRD plans to include open and common spaces with walking trails. A community center and pool will be built for residents and their guest.

park fees in lieu of dedication of park land will be paid to park zone 6W Southridge.

13. Historic and cultural preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe. [help]

No buildings of historical significance are located on the site.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. [help]

Not to the applicant's knowledge.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. [help]

No areas of cultural significance are identified on the City of Kennewick's GIS mapping.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

No impacts to resources are anticipated.

If historic artifacts are found work will be stopped immediately and the City of Kennewick and appropriate agencies will be notified.

14. Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. [help]

The site is located south of Hildebrand Blvd, east of S. Sherman Street and north of Ridgeline Drive. Phase 1-3 is located at the corner of Hildebrand and Sherman Street, and will be accessed from Sherman Street.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? [help]

The site is not currently served by public transit. The closet transit stop is located at the Southridge Sports Complex.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? [help]

The project would have the ability to provide on-street parking as well as a driveway at each individual home. There would be a parking lot provided at the community center. The development would not eliminate any existing parking spaces.

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d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). [help]

The PRD will require the development of new public streets within the overall plan of development. It is anticipated that existing Sherman Street will require improvement.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. [help]

The site is not in the immediate vicinity of water, rail, or air transportation.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates? [help]

During full build out, the PRD would generate approximately 4,841 average weekday trips, with a pm peak of 499. A trip generation letter was prepared with the PRD submittal package.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe. [help]

The proposal will not interfere with or affect the movement of agricultural and forest products in the area.

h. Proposed measures to reduce or control transportation impacts, if any: [help]

The project would be subject to transportation impact fees imposed by the City of Kennewick.

15. Public services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. [help]

This project would increase the need for public services as population in the area increases due to the number of residential units increasing. The PRD is phased, so the demand for public services will increase incrementally.

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D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS [help]

(IT IS NOT NECESSARY to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

   Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

   Proposed measures to protect or conserve plants, animals, fish, or marine life are:

b. Proposed measures to reduce or control direct impacts on public services, if any. [help]
The residents of the development will be subject to local taxes and levies used to support public services.

16. Utilities

a. Check utilities currently available at the site: [help]
☑electricity, ☑natural gas, water☑ refuse service☑
☐telephone, ☑sanitary sewer, ☐septic system,
other irrigation (KID)

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. [help]
The PRD development will require public water and sewer. Power from Benton PUD, gas from Cascade Natural Gas, communication from Charter and Frontier, and irrigation from Kennewick Irrigation District.

C. SIGNATURE [help]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of signee Jason Mattox

Position and Agency/Organization Principal/ HDJ Design Group, PLLC

Date Submitted: 10/23/15

3. How would the proposal be likely to deplete energy or natural resources?

   Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

   Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

ESA LISTED SALMONIDS CHECKLIST

The Listed Salmonids Checklist is provided in order that the City can identify a project's potential impacts (if any) on salmonids that have been listed as "threat ened" or "endangered" under the Federal Endangered Species Act (ESA). A salmonid is any fish species that spends part of its life cycle in the ocean and returns to fresh water. Potential project impacts that may result in a "taking" of listed salmonids must be avoided, or mitigated to insignificant levels. Generally, under ESA, a "taking" is broadly defined as any action that causes the death of, or harm to, the listed species. Such actions include those that affect the environmental in ways that interfere with or reduce the level of reproduction of the species.

If ESA listed species are present or ever were present in the watershed where your project will be located, your project has the potential for affecting them, and you need to comply with the ESA. The questions in this section will help determine if the ESA listing will impact your project. The Fish Program Manager at the appropriate Department of Fish and Wildlife (DFW) regional office can provide additional information. Please contact the Dept. of Fish and Wildlife at 1701 S. 24th, Yakima WA 98902-5720, Phone No. 509-575-2740.

1. Are ESA listed salmonids currently present in the watershed in which your project will be?
   Yes **_X_** No___

Please Describe.

2. Has there ever been an ESA listed salmonid stock present in this watershed?
   Yes **_X_** No___

Please Describe.

NOTE: Kennewick is located in the upper Mid-Columbia watershed. Salmonids are present in the watershed - questions no. 1 and no. 2 already answered "yes". Questions A-1 and A-2 are also answered.

PROJECT SPECIFIC: The questions in this section are specific to the project and vicinity.

A1. Name of watershed: Upper Mid-Columbia

A2. Name of nearest waterbody: Columbia River

A3. What is the distance from this project to the nearest body of water?
The project is located approximately 3.6 miles to the Columbia River, 4.4 miles to the Yakima River by way of the Amon Basin, 1000 feet to an irrigation canal to the south and 1500 feet to an irrigation canal to the north.
Often a buffer between the project and a stream can reduce the chance of a negative impact to fish.

Page 24 of 27

A4. What is the current land use between the project and the potentially affected water body (parking lots, farmland, etc.)

The land use to the south of the PRD is cultivated orchards, land to the north is vacant land. Land between the PRD and the major Rivers is a densely developed urban city and undeveloped land.

A5. What percentage of the project will be impervious surface (including pavement & roof area)?

During Phase 1, the impervious area will be approximately 35% of the project area.
At full build out, the PRD will be approximately 35% impervious area.

FISH MIGRATION: The following questions will help determine if this project could interfere with migration of adult and juvenile fish. Both increases and decreases in water flows can affect fish migration.

B1. Does the project require the withdrawal of

a. Surface water? Yes____ No__✔__
Amount
Name of surface water body

b. Ground water? Yes____ No__✔__
Amount
From Where
Depth of well

B2. Will any water be rerouted? Yes_____ No__✔__
If yes, will this require a channel change?

B3. Will there be retention ponds? Yes__✔__ No_____
If yes, will this be an infiltration pond or a surface discharge to either a municipal storm water system or a surface water body?

The project may implement the use of surface infiltration ponds on-site. There will not be a direct discharge to a surface water body.

If to a surface water discharge, please give the name of the waterbody.

N/A

B4. Will this project require the building of new roads? (Increased road mileage may affect the timing of water reaching a stream and may, thus, impact fish habitat.)

Yes, the proposal requires building new roads.

B5. Are culverts proposed as part of this project? Yes ____ No __✔__

B6. Are stormwater drywells proposed as part of this project? Yes __✔__ No_____

B7. Will topography changes affect the duration/direction of runoff flows? Yes ✔ No___

If yes describe the changes.
The site will be graded to direct roadway runoff to on-site infiltration facilities while home runoff will be directed to surface infiltration.

B8. Will the project involve any reduction of a floodway or floodplain by filling or other partial blockage of flows? Yes_____ No ✔

If yes, how will the loss of flood storage be mitigated by your project?

WATER QUALITY: The following questions will help determine if this project could adversely impact water quality. Degraded water quality can affect listed species. Water quality can be made worse by runoff from impervious surfaces, altering water temperature, discharging contaminants, etc.

C1. Will your project either reduce or increase shade along or over a waterbody?
Yes ____ No ✔ (Removal of shading vegetation or the building of structures such as docks or floats often result in a change in shade.)

C2. Will the project increase nutrient loading or have the potential to increase nutrient loading or contaminants (fertilizers, other waste discharges, or runoff) to the waterbody?
Yes ____ No ✔

C3. Will turbidity (dissolved or partially dissolved sediment load) be increased because of construction of the project or during operation of the project? (In-water or near water work will often increase turbidity.)
Yes ____ No ✔

C4. Will your project require long term maintenance, i.e., bridge cleaning, highway salting, chemical sprays for vegetation management, clearing of parking lots?
Yes ____ No ✔
Please Describe.

Vegetation: The following questions are designed to determine if the project will affect riparian vegetation, which can impact listed species.

D1. Will the project involve the removal of any vegetation from the stream banks?
YES ____ NO ✔

If yes, please describe the existing conditions and the amount and type of vegetation to be removed.

D2. If any vegetation is removed, do you plan to re-plant? YES ____ NO ✔

If yes, what types of plants will you use?

E. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand the City is relying on them to make its decision.

Signature _____ Date 10/23/15

Memorandum
Public Works

Leading the Way

To: Wes Romine, Development Services Manager

From: Fernando Garcia, Development Services Supervisor

Date: October 17, 2017

Re: Public Works Consolidated Comments

Project: PP No.17-05 / PLN-2017-02581

1. Developer will be required to provide construction of public roads, sidewalks, streetlights, storm drainage, and designate sidewalk and utility easements all in conformance with the latest City of Kennewick (COK) Standard Specifications and details.

2. As part of all residential development construction plans, there shall be a separate schematic drawing which, at a minimum, shows the power source(s), wiring diagram, street light pole spacing, and street permanent signing per COK Standard Specifications 7-10. Combine signing, striping, and illumination plans onto the same drawing with other elements left off.

3. Provide a 15-ft sidewalk utility easement adjacent to Bob Olson Blvd including the property on Tract A; 15-ft easement will be required before final Plat is signed by COK.

4. Due to project phasing, any temporary dead end street 150-feet or greater from the street intersection will require construction of a temporary cul-de-sac, constructed with 6-inches of base rock and 2-inches of Hot Mix Asphalt (HMA).

5. There is an existing 12-inch water main along the north side of the property in W Hildebrand Blvd. installed by COK, Record Drawing F-3006_29.

6. Developer will be required to loop all water mains to avoid the buildup of stagnant water which will assist in minimizing bacteria re-growth, and also minimize taste and odor concerns associated with stagnant water.

7. Construct water mains per Hydraulic Analysis dated June 15, 2017.

8. Potable water is not available for irrigation purposes. Provide irrigation water to irrigate proposed plat.

9. There are existing 8-inch sanitary sewer mains installed by Apple Valley Phases one and two to connect proposed phases 3 and 4.

10. Provide sanitary sewer main sizes on the sanitary sewer comprehensive plan for review.

11. Residential sub-divisions shall be designed to retain and dispose of the calculated difference between a 25-year, 24-hour, event for the developed state and the 24-hour event for the natural pre-developed state. Detention ponds (control outlet) may be used only where it can be clearly demonstrated that infiltration, or retention, are not feasible per City of Kennewick Standard Specifications section 5-9.02.

12. Provide storm main sizes on storm comprehensive plan for City review. Provide infiltration testing at the location and depth of the planned infiltration structures as well as a soils log 5 feet below that point.

13. Existing pond is located at the natural low point for the surrounding area, and has been identified as a potential regional stormwater pond site that could serve a larger area than this development. Developer will be required to install an onsite stormwater system to mitigate the increased storm water flows before discharging to existing pond. Based on contours, Lots 1-5 of Phase 4 could potentially be needed for an expanded regional stormwater pond, and it recommended that this area be developed in a future phase, after a regional stormwater pond needs and analysis has been completed.

14. Construction civil drawings shall include only the infrastructure proposed with phases 3 and 4 of the project. Design Engineer has the option of showing future phases in a lighter line style to assure clarity for review, permitting, and construction.

15. Sidewalks shall be widened an additional 18-inches when adjoining a wall, or fence, per COK detail 2-10, sheet 1 of 8, note 4.

16. For civil plan reviews submit the following:
    a. Application for Civil Review and Permitting
    b. One full size set (24" x 36") Xerox copy of the construction plans with Storm Calculations
    c. One full size PDF copy of each shall be submitted to the Public Works Department for review.

17. Plan review and utility fees will be quoted from the construction cost from the Contractor selected by the Developer to construct the project. Cost shall be paid in the amount of five percent (5%), and the construction cost shall be determined by the actual bid document reviewed, and approved, by the City Engineer.

18. Kennewick Survey Data requirements:
    a. All projects will be built with current City Survey Data.
    b. For detailed information on Kennewick Survey Data and Record Drawings & Easements go to COK website @ https://www.go2kennewick.com/314/Civil-Plan-Review
    c. Questions contact Matt Garrity at matthew.garrity@ci.kennewick.wa.us 509-585-4531

MEMORANDUM

Fire Department

To: Wes Romine, Development Services Manager

From: Joe Terpenning, Deputy Fire Marshal

Date: October 19, 2017

Re: 3316 South Sherman

Project: PLN 2017-02581

1. No comment, approved as submitted.

FIRE DEPARTMENT
210 W 6TH AVE * PO Box 6108* Kennewick, WA 99336
509-585-4563 * 509-585-4442 Fax

MEMORANDUM

Traffic Engineering Division

To: Wes Romine, Development Services Manager

From: Joe Seet, Assistant Traffic Engineer

Date: October 20, 2017

Re: Traffic Engineering Comments for 3316 S SHERMAN ST. ZONED RL. APPLE VALLEY PS 3 & 4

Project: PP 17-05/PLN-2017-02581

Disclaimer

The comments provided below are based on the project documents as submitted for the above referenced project. Subsequent project document submittals with revisions will require new reviews to determine the accuracy and validity of the comments below.

KMC 13.16 Transportation Impact Fees

1. The 2017 Traffic Impact Fees is $938/unit based on a land use of Single-Family Detached Housing. Based on the submitted project documents, Traffic Impact Fees are estimated at $87,234 based on an estimated project size of 93 units.
2. Residential single family and duplexes – The final fee may be deferred until the time of closing of the sale of the unit by recording a covenant against the property.

Proposed Driveway(s)

1. Per KMC 5.56.410, maximum residential driveway width is 24’ or 50% of the lot frontage or whichever is less.
2. Refer to CoK Dwg. No. 2-10 (9 & 10 of 10) for proposed driveways.
3. Provide sight distance triangles per KMC 18.27.060 and KAC 13-46.050(7) for proposed intersections and driveways.

Right of Way and Easement

1. Bob Olson Parkway is functionally classified as Principal Arterial.

2. All of the internal streets within the proposed plat are functionally classified as local residential streets. Full street improvements are required, pavement, curb, gutter, sidewalk and street lighting, per City of Kennewick Standard Drawing 2-1.
3. 74' public right of way for the internal streets within the proposed plat to be dedicated to the City.
4. 15' public utility easements are required to be recorded along the proposed development's frontages.

American Disability Act (ADA) Compliance

1. All proposed pedestrian facilities within the public right of way and easement, including but not limited to driveways, sidewalks, curb ramps, etc., shall be ADA compliant while maintaining Pedestrian Accessibility Route (PAR) accessibility, continuity and connectivity.
2. At all proposed sidewalk termini, provide asphalt transition ramps or match into existing sidewalks for ADA compliance.
3. All of the connections between the proposed and existing sidewalks must be ADA compliant.

Street Lights

1. Per KMC 5.53, roadway lighting is required. The design and installation of roadway lighting shall be per City of Kennewick Standard Drawings 6-1 and 6-2 is required. The Civil plans will need to include a signing, striping, and street lighting plan sheet. The street lighting plan will need to include details on the conduits, j-boxes, meter locations, etc. (Added 12/4/17)

Roadway & Sidewalks

1. All of the proposed internal streets that terminate at and does not continue any further beyond the phase limits shall be signed and barricaded per MUTCD requirements.
2. All of the proposed internal sidewalks that terminate at and does not continue any further beyond the phase limits shall be signed and barricaded per MUTCD requirements.

Traffic Calming

1. Traffic calming elements are required for these 2 proposed phases. The street network layout does not reflect the use of traffic calming design features and would most likely generate neighborhood speeding concern complaints. Provide an updated Trip Generation and Distribution Letter.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 W Alder St • Union Gap, WA 98903-0009 • (509) 575-2490

October 24, 2017

Wes Romine
Kennewick Development Services
P.O. Box 6108
Kennewick, WA 99336

Re: PP 17-05, PLN-2017-02581

Dear Mr. Romine:

Thank you for opportunity to comment on the pre-threshold determination for the 2 phase development of approximately 31.4 acres into 93 lots, proposed by Tri-Cities Development. We have reviewed the environmental checklist and have the following comment.

SHORELANDS/ENVIRONMENTAL ASSISTANCE

It appears a Wetland Assessment Report was prepared in February 2016. The report was not provided within the materials submitted for review. Comments from the City of Kennewick state the pond is seasonal fed by irrigation water and is therefore not a Federal nor State regulated water. This however may not be correct. Wetlands and water that are unintentionally influenced by irrigation are subject to regulatory authority. Please see the attached Department of Ecology's publication, Focus on Irrigation-Influenced Wetlands (July 2010). In addition the SEPA checklist, suggests aspen are found onsite. In the arid west, aspen are often associated with wetland habitat, including those that have a higher categorical rating and buffer width. The existing topographic details on the plat suggest a swale may extend south of the pond near an area where additional wetland signatures were noted on aerial images (GoogleEarth). Further review of potential wetland habitat in the area is needed.

The Department of Ecology recommends the reported Wetland Assessment and associated materials (photos, maps, rating forms) be submitted for review and comment prior to permitting and construction to avoid and minimize potential impacts to wetland habitat and their associated buffers.

If impacts to the wetland and buffer habitat are unavoidable, mitigation may be required.

If you have any questions or would like to respond to these Shorelands/Environmental Assistance comments, please contact **Lori White** at (509) 575-2616 or email at lori.white@ecy.wa.gov .

TOXICS CLEAN-UP

Based upon the historical agricultural use of this land, there is a possibility the soil contains residual concentrations of pesticides. Ecology recommends that the soils be sampled and analyzed for lead and arsenic, and for organochlorine pesticides. If these contaminants are found at concentrations above the Model Toxics Control Act cleanup levels Ecology recommends that potential buyers be notified of their occurrence.

If you have any questions or would like to respond to these Toxics Clean-up comments, please contact **Valerie Bound** at (509) 454-7886 or email at valerie.bound@ecy.wa.gov.

Sincerely,

Gwen Clear

Gwen Clear
Environmental Review Coordinator
Central Regional Office
(509) 575-2012
crosepacoordinator@ecy.wa.gov

ATTACHMENT/6996

Focus on Irrigation-Influenced Wetlands

DEPARTMENT OF ECOLOGY State of Washington

Shorelands and Environmental Assistance Program July 2010

Background

Much of the deep-soil native habitats in eastern Washington have been converted to agriculture. A large portion of this land, particularly in the Columbia River Basin, is under irrigation. Additionally, some agricultural areas in western Washington are also irrigated. In many areas, the regional groundwater table is higher than it was before irrigation. Many wetlands have formed adjacent to irrigation conveyance systems and in low-lying areas where irrigation occurs. Some confusion exists as to whether these wetlands are considered "jurisdictional" – that is, whether they are regulated under federal, state, or local laws. This focus sheet explains how wetlands in irrigation areas are regulated under Washington state law. Applicable provisions of federal or local laws are not addressed by this document. *Consult with the U.S. Army Corps of Engineers for applicability of federal law and your local city or county planning department for applicability of local laws.*

Keep in mind: If a wetland falls under federal, state, or local regulation, it only means that the wetland is subject to the provisions of the law. This does not mean the wetland cannot be impacted – it simply means that the law applies and governs the proposed impact. In many cases, certain land use actions may be exempt from regulation or a wetland impact may be allowed under a permitting program.

Wetland Definition

The same definition of wetlands is used in the three state laws that regulate wetlands: the Growth Management Act, RCW 36.0A.030 (20); the Shoreline Management Act, RCW 90.58.030 2(h); and the Water Pollution Control Act, WAC 173-201A.020:

> *Wetlands means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas created to mitigate conversion of wetlands.*

"Artificial" Wetlands

State law distinguishes between wetlands that are regulated as wetlands and those that are "artificial" wetlands. "Artificial" wetlands such as stormwater ponds and irrigation ditches may still be regulated by other state laws. Even if they are found to be "artificial" wetlands, they may be considered "waters of the state" and regulated as a surface water body under state water quality law (RCW 90.48 and WAC 173-201A). Different standards for protection may apply. Contact Ecology's wetland staff for assistance (see More Information on page 3).

Basically, this definition means:

1. A wetland must have indicators of three features: water, plants, and soils. It must have enough water to support "water-loving" (hydrophytic) plants, so the water must be present during the growing season. The presence of water creates low-oxygen conditions that support hydrophytic plants and also creates specialized soil characteristics.

2. The definition also distinguishes between "natural" and "artificial" wetlands. The definition requires that if an irrigation induced wetland is to be considered artificial, and thus not subject to state regulation as a wetland, it must meet both of the following characteristics:
   a. It was intentionally created; and
   b. It is in a formerly non-wetland (upland) site.

Clarification of the terms "intentionally created" and "non-wetland"

The term "intentionally created," and the examples given in the definition, require that the artificial wetland not be the result of an accident or an unexpected by-product of some other intentional act. Therefore, artificial wetlands are found where someone **intentionally** creates a water feature such as a ditch, pond, or canal. The only situation where an artificial wetland results from an **unintentional** action is when construction of a road (after July 1, 1990) inadvertently creates a new wetland.

The term "non-wetland" means an area where wetland characteristics are lacking, i.e., an upland area. Thus, if someone intentionally creates a new water feature, such as a ditch or pond, in an area that was already wetland, the new water feature is still regulated under state law as a wetland.

In irrigated agricultural areas, wetlands can result from localized conditions (e.g., a leaking irrigation ditch) or as a result of a region-wide rise in groundwater resulting from regional irrigation projects. These types of wetlands are regulated by state wetland law and cannot be filled or drained without appropriate mitigation. However, if the irrigation practices are changed (such as moving irrigation away from a particular field for a year or two, or water conservation practices are implemented), and the wetland dries up and no longer performs wetland functions, then no mitigation is required.

Examples

The following examples may help illustrate how the wetland definition applies to artificial wetlands in real-world situations.

1. **A ranch pond was built to supply water to livestock on a dry hillside and wetland conditions form over time**. Clearly, the pond meets both criteria for being an artificial wetland, as it was an intentionally created water feature in an upland site.

2. **Wetland vegetation is found along the inside edge or bottom of an irrigation canal**. The canal is an intentionally created water feature. If the canal was dug through uplands, then the wetland within the canal is not regulated as a wetland. If the canal was dug through an existing wetland, then the wetlands within the canal are subject to regulation.

3. **A wetland is found down-gradient of a leaking irrigation canal or pipe**. The wetland is subject to regulation because it is an unintentional result of digging the canal. However, the canal (or a leaking irrigation pipe) can be repaired or lined to improve water conservation. If the wetland disappears as a result of the improvement, the loss of the wetland is not regulated. If wetland conditions persist, then it cannot be further altered without a permit.

4. **A wetland is found within a field that is irrigated**. The wetland is subject to regulation because it was not intentionally created. Although filling the wetland would be regulated, changes in irrigation practices (such as going from flood to drip irrigation) that would dry up the wetland would not be regulated.

5. **A wetland is found in a field that is not irrigated, but irrigation water from a field higher up has raised the groundwater table**. The wetland is subject to regulation because it was not intentionally created as part of a water feature.

6. **Wetland indicators (water, plants and soils) are found within a stormwater pond**. The wetland is not subject to regulation as a wetland if the stormwater pond was created in an upland area. However, if the stormwater pond is created within a wetland, then it is subject to regulation.

These examples are intended to provide a general idea of how state regulations apply to wetlands in irrigated agricultural areas. Landowners and applicants are encouraged to contact Ecology's regional wetland staff for assistance in determining how state wetland law applies to their situation (see More Information below).

More Information

Ecology will post up-to-date information on this topic on the Irrigation-Influenced Wetlands web page: http://www.ecy.wa.gov/programs/sea/wetlands/irrigation.html.

For information on how state law addresses isolated wetlands, see Ecology Publication # 01-06-020 (http://www.ecy.wa.gov/biblio/0106020.html).

For more information or assistance in determining state authority to regulate wetlands, contact the regional wetlands specialist for the county in which the wetland is located: http://ecy.wa.gov/programs/sea/wetlands/contacts.html.

Wes Romine

From: Jason L. Mattox <Jason.Mattox@pbsusa.com>
Sent: Wednesday, November 08, 2017 3:21 PM
To: Wes Romine
Cc: Matthew W. Smith - William Smith Properties (matt@wspi.net)
Subject: FW: Wetland Assessment Report
Attachments: Soil Sampling Report for The Parks (4-16).pdf

Wes,

Please see email response from Deborah Phipps at EAS below in regards to the wetland comments received from Ecology at Apple Valley Phase 3&4. It is Deborah's opinion that her report done back in February of 2016 addressed the issues that Ecology is identifying in their letter dated October 24th, 2017.

In addition to that we addressed the toxic cleanup portion of Ecology's letter with the soil sampling report that was done for the site back in April of 2016. I have included a copy of that report with this email.

Please let me know if you are looking for a more formal response on these Ecology issues from Deborah at EAS to include in the record.

Again for the Record, when this report was originally done in 2016 the project was being referred to as The Parks, the name has since been changed to Apple Valley.

Jason Mattox, PE
Senior Civil Engineer/Operations Manager

PBS
400 Bradley Blvd., Suite 106, Richland, WA 99352
office: 509.942.1600 | cell: 509.430.4252
jason.mattox@pbsusa.com
pbsusa.com

From: Deborah Phipps [mailto:deborah.phipps@easbio.com]
Sent: Wednesday, November 8, 2017 11:46 AM
To: Jason L. Mattox <Jason.Mattox@pbsusa.com>
Subject: Re: Wetland Assessment Report

Hopefully that will do it. I don't recall seeing any Aspen stands so am not sure of what she is talking about there and the report explains that the pond was intentionally dug and did not form as result of irrigation runoff so that should address that aspect as well. If you get more feedback looking for further explanation please let me know and we'll work through it.

V/R,

Deborah

Deborah Phipps |Sr. Environmental Scientist
Environmental Assessment Services, LLC
8(a) Alaska Native Corporation-Owned Small Disadvantaged Business/Primary NAICS 541620
350 Hills St., Suite 112
Richland, WA 99354
Phone|509.375.4212
Cell|509.554.1069
www.easbio.com

From: Jason L. Mattox <Jason.Mattox@pbsusa.com>
Sent: Wednesday, November 8, 2017 10:55:56 AM
To: Deborah Phipps
Subject: RE: Wetland Assessment Report

Wes at the City of Kennewick, was going to send that to Ecology. So that should be taken care of.

Jason Mattox, PE
Senior Civil Engineer/Operations Manager

PBS
400 Bradley Blvd., Suite 106, Richland, WA 99352
office: 509.942.1600 | cell: 509.430.4252
jason.mattox@pbsusa.com
pbsusa.com

From: Deborah Phipps [mailto:deborah.phipps@easbio.com]
Sent: Wednesday, November 8, 2017 10:46 AM
To: Jason L. Mattox <Jason.Mattox@pbsusa.com>
Subject: Re: Wetland Assessment Report

I would start by sending in a copy of the wetland report, it doesn't sound like that was included previously.

Deborah Phipps |Sr. Environmental Scientist
Environmental Assessment Services, LLC
8(a) Alaska Native Corporation-Owned Small Disadvantaged Business/Primary NAICS 541620
350 Hills St., Suite 112
Richland, WA 99354
Phone|509.375.4212
Cell|509.554.1069
www.easbio.com

From: Jason L. Mattox <Jason.Mattox@pbsusa.com>
Sent: Wednesday, November 8, 2017 9:04:12 AM
To: Deborah Phipps
Subject: Wetland Assessment Report

Deborah,

We are continuing to work with Matt Smith on his project in Kennewick out near Sherman Street and Bob Olsen Parkway. Back in 2016 you had done a wetland assessment of the project site, and specifically a large Ag pond that was located in the northern portion of the site. We are now pursuing a preliminary plat around that Ag pond and we have a pending application in for review with the City of Kennewick. Through the SEPA process the Department of Ecology issued the City the attached letter and provided their primer on Irrigation Influenced Wetlands. The City planning staff is now asking the applicant (Matt Smith) to have his expert respond to Ecology's comments. They are asking for a formal response to their letter so that it can be put on file. We have already addressed the Toxic Cleanup portion through your previous soil sampling on-site.

Please let me know the timing of when you could address this issue, any work done on your part would be covered by Matt Smith. Thanks

Fyi… The project was previously called The Parks, but the name has changed to Apple Valley.

Jason Mattox, PE
Senior Civil Engineer/Operations Manager

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400 Bradley Blvd., Suite 106, Richland, WA 99352
office: 509.942.1600 | cell: 509.430.4252
jason.mattox@pbsusa.com
pbsusa.com

2015 South Ely Street
Kennewick, WA 99337
Customer Service 509-586-9111
Business 509-586-6012
FAX 509-586-7663
www.kid.org

October 26, 2017

Wes Romine
Development Services Manager
City of Kennewick
210 W. 6th Avenue
Kennewick, WA 99336

Subject: KID Comments for PP 17-05/PLN-2017-02581 – Apple Valley Phases 3-4

Dear Mr. Romine:

This letter provides Kennewick Irrigation District (KID) review comments on Preliminary Plat 17-05 for Apple Valley Phases 3-4 submitted by Matt Smith of Tri-Cities Development, 15 S.W. Colorado, Suite 1, Bend, Oregon 97702. **These comments/conditions of approval are preliminary and subject to pending KID Board action on November 7th, 2017. A final letter shall be provided to the City of Kennewick on February 8th, 2017**. Apple Valley is generally located west of S. Sherman Street and north of Ridgeline Drive at 3514 S. Sherman Street and includes the following parcels:

- 1-1789-200-0001-001 (19.07 irrigable acres)
- 1-1789-200-0001-002 (120.83 irrigable acres)

The properties identified on the proposed preliminary plat are located within the KID boundaries. The properties within this preliminary plat are classified as irrigable land and consist of **139.90 irrigable acres**. KID provides the following comments as a condition of approval by the legislative authority for R.C.W. 58.17.310:

1) The following are KID easement requirements:
    a. Dedicate to KID an irrigation easement 10 feet in width via a recorded deed to match any irrigation system components, centered on an irrigation pipe line.
    b. Dedicate to KID an irrigation easement 10 feet in width, five (5) feet in width if adjacent to a utility easement, along the road frontage of all lots.
        i. Within the City of Kennewick KID allows a "Sidewalk, Utility and Irrigation easement" and an "Access and Irrigation easement." Please change the easements to reflect this.

2) This Development is within the Southridge Master Plan Benefit Area. Compliance with Southridge Master Irrigation Facilities Plan and KID Resolution No. 2016-04 is required.

3) The property owner or developer is required to install an irrigation system that conforms to the most recent edition of the KID Standard Specifications pursuant to Resolution 86-15-A. This includes providing distribution pipelines adequate to provide individual pressurized

irrigation services to each lot within the preliminary plat. This system will be dedicated to the KID upon completion, at the time of final plat.

a. Please note, as an alternative to immediate construction the owner may choose to delay installation of the irrigation system by entering into a facilities installation agreement with the KID. The owner must provide the KID with an irrigation system design that conforms to the most recent addition of the KID standard specifications. This irrigation system may be bonded and delayed up to five years. The facility installation agreement charge is $350.00. The owner must establish an approved bonding mechanism with the KID in an amount approved by KID.

4) The property owner or developer is required to submit an irrigation plan designed by a professional engineer for review and approval by the KID. The plan may be hand drawn or computer drafted. The plan shall be accurate and to a scale not to exceed one (1) inch = 50 feet. This is a vital step of the approval process. After approval of the plan, completion of all the facilities is required prior to KID signature on the Final Plat. Please contact me at 586-9111 for more information regarding this irrigation plan.
   a. In addition, this plan shall ensure all reasonable measures are taken to protect any easements, ROW's, and facilities. In the event any KID facilities are damaged during construction, the damage must be fully repaired to KID's then-existing standards.
   b. For each phase of the Project, KID review and approval of construction and grading plans is required to allow KID to assure all reasonable measures to protect any easements and ROW's. Such review and approval will be coordinated as part of the City's review and Final Plat approval process.
   c. No permanent structures are allowed within the KID's ROW.

5) The KID must inspect any new irrigation system installations or modifications. The property owner or developer shall contact the KID to arrange an inspection at least 48 hours in advance of the desired inspection date.

6) Prior to approval of each phase, the current year's assessment must be paid. If the final plat is submitted for review after May 31st of a given year or submitted for review prior to May 31st but not submitted for final approval prior to June 15th, the next year's estimated assessment (125% of the current year's assessment) must be paid prior to plat approval.

7) Prior to approval of the first phase, the United States Bureau of Reclamation (USBR) construction loan for **all parcels** owned by the property owner within the boundaries of the KID must be paid and all other USBR requirements associated with this payout must be completed.

8) The Review and Inspection fees in place at the time of each review request must be paid. At the time of application the review fees are as follows:
   a. A Preliminary Plat review fee of $825.00 which must be paid prior to scheduling for final plat approval at a KID Board meeting for the first phase.
   b. For each Phase an inspection fee $350 for the first 20 lots/tracts plus $25 per lot/tract after 20 lots/tracts.
   c. Final Plat review fee for each phase of $225.00.

Page 2 of 4

9) Per KID Policy 4.17, "Irrigable Land Recalibration Principles," as land within the boundaries of the KID is subdivided or developed; KID will remove the irrigation water allocation from the impermeable surfaces, such as streets, from the plats.

10) In order to receive KID irrigation water delivery, a Watermaster (or point of contact) for the subdivision must be appointed. This water master can be appointed by the Home Owners Association (or similar organization) officers, or must be elected from among the property owners within the boundary of this proposed subdivision. If no HOA (or similar organization) is organized, than an election method similar to the attached document is required.

11) Prior to approval of each phase, an electronic file (AutoCAD 2004 format) and hard copy (6-mil mylar, sealed by a professional engineer) of construction as-builts must be provided to KID.

12) All subdivisions of land are required to be approved by the KID Board of Directors during a KID Board Meeting. KID Board Meetings are regularly scheduled on the first and third Tuesdays of each month. All conditions must be completed prior to submittal to KID for final approval. The submittal for final approval must be received by KID a minimum of two weeks prior to a regularly scheduled Board Meeting in order to be considered at that meeting.

13) Conditions Related to Design, Grading, and Construction
    a. Provisions should be made to allow canal, flood waters and irrigation return flows from up gradient water users to drain through existing drainage paths.
    b. Pursuant to RCW 58.17.310 (1), the KID would like to inform the City of Kennewick that portion of the development lies below an unlined earthen canal section (A). Unlined earthen canal sections are more likely to have a canal embankment breach occur than lined sections. Should a canal embankment breach occur near this development, there is potential for the public safety to be at risk. In order to mitigate this risk, the KID will require:
        i. Rights-of-Way that shall include all reasonably necessary features to allow the KID to operate, maintain and replace the irrigation system. Features shall include drainage systems and/or features that will carry irrigation return flows from up gradient water users, excess water and/or flood waters away from the irrigation water distribution system should a canal failure and/or breach occur.
        ii. As an alternative to i (above), pursuant to KID Policy 4.3, "Developer Risk Mitigation", plat developers may enter into a written agreement with the KID to provide other acceptable means of protecting persons and property. This may include the lining or piping of canals where appropriate. In instances where the KID agrees that canals may be lined or piped as an alternate to providing drainage, the KID Board of Directors may negotiate a cost share or contribution to the expense of lining.
    c. For each phase of the Project, KID review and approval of construction plans is required to allow KID to assure all reasonable measures to protect any easements and

ROWs. Such review and approval will be coordinated as part of the City's review and Final Plat approval process.

14) Conditions Related to Residential Use, The Applicant Shall:
   a. Include the potential failure of KID system components in its public offering statement for the plat pursuant to RCW 58.19.055(1)(r), which requires a public offering statement to include "[a] list of any physical hazards known to the developer which particularly affect the development or the immediate vicinity in which the developer is located and which are not readily ascertainable by the purchaser"; and

15) Future review, KID reserves the following rights regarding future review of the plat:
   a. KID reserves the right to provide review comments under RCW 58.17.330(1) and RCW 58.17.330(2) in response to future design submittals by the Applicant prior to final plat approval. The scope of these reviews will be limited to Phases that are adjacent to the District's Rights of Way. KID review of construction plans will be consistent with the City of Kennewick's plan review timelines.
   b. KID reserves the right to review and comment on the Applicant's plat line revisions for potential additional revisions to protect KID system components for Phases that are adjacent to KID's easements or ROWs.
   c. KID reserves the right to review and comment on the Applicant's CC&Rs to evaluate whether they should include any terms regarding protection of KID system components after construction and fencing requirements.
   d. KID reserves the right to submit additional comments during the City's review process under the State Environmental Policy Act (SEPA).
   e. All subdivisions of land are required to be approved by the KID Board of Directors.

Please provide notice to KID of any Public meeting or hearing where this project will be an agenda item. If you have any questions regarding these comments, please contact me at the address/phone number listed below.

Sincerely,

Ben Woodard, P.E.
Assistant Engineering Manager

Enc: Sample Water Master Information

C: LB\correspondence\File: [03-8-29]

Sample Watermaster Election Process

That the Water Users are deemed to agree as a condition of water delivery as follows::

i. The LID participants will elect a Watermaster from among themselves, as follows:

   a. Election of First Watermaster. The first Watermaster shall be elected prior to April 1, 2011, and shall be elected as described in paragraph d. below.

   b. Resignation of Watermaster. If the Watermaster resigns, the parties shall meet at a place and time designated by the resigning Watermaster in a written notice and elect a new Watermaster, or if the Watermaster does not designate a time and a place for such a meeting, the parties shall meet at a time and a place first designated in writing by two of the parties hereto to elect a new Watermaster.

   c. Death or Incapacity of Watermaster. If the Watermaster dies or becomes incapacitated, the parties shall meet at a time and a place first designated in writing by two of the parties hereto to elect a new Watermaster.

   d. Elections and Replacement of Watermaster. The Watermaster shall be assigned by the elected members of the Royal Ann Estates Homeowner Association Board of Directors. If the Homeowner's Association defaults or stops functioning, the Watermaster shall be elected by and may be replaced by a sixty percent (60%) majority of the Water Users participating in the LID at an election called for by a majority of the properties that are subject hereto. Each property shall have one (1) vote. If more than one person owns a property, the owners of the property shall designate in writing the person who shall have the right to vote for that property. If the owners of the property cannot agree on the person who shall vote for the property, that property shall have no vote in the election. The owners' properties which are calling for an election or replacement of a new Watermaster shall give or cause the other parties to be given a written notice stating the place and time of the election. Any notice required under this paragraph, which notice shall be mailed by U.S. Mail as certified mail to the common address identified above for the property not more than thirty days and not less than ten days

prior to the election. Any election held hereunder shall be held in Benton County, Washington, between 6:00 p.m. and 9:00 p.m.

ii. Powers and Duties of Watermaster. The Watermaster shall have the power and it shall be his or her duty to take all actions reasonably necessary to fulfill the purposes of this agreement, including but not limited to:

a. Provide a primary point of contact for KID to communicate system problems, outages, schedules, drought mitigation measures, etc.

b. Assist KID in providing the LID participants information regarding system problems, outages, water schedules, drought mitigation measures, etc.

iii. Qualified Immunity of Watermaster from Liability. The Watermaster shall not be liable for any damages caused to the parcels or persons subject hereto so long as the Watermaster acts in good faith.

iv. No water delivery unless a Watermaster is performing duties. If at any time a Watermaster no longer is performing his/her duties, as outlined above, for more than 30 days, KID will stop water delivery to the participants of the LID until a new Watermaster has been elected.

v. Alternate Watermaster. An alternate Watermaster may be elected in the same manner as described above for the Watermaster. This alternate Watermaster can function as Watermaster for a limited time, not to exceed 60 days, in case of the elected Watermaster being unavailable.

Department of Energy

Bonneville Power Administration
2211 North Commercial Avenue
Pasco, Washington 99301

TRANSMISSION BUSINESS LINE

October 18, 2017

In reply refer to: Preliminary Plat Application PP 17-05/PLN-2017-02581
Located within a Portion of the NW¼, of Section 17, Township 8 North, Range 29 East, W.M., Benton County, Washington

Wes Romine A.I.A
City of Kennewick
Development Services Manager
210 W. 6th Avenue
Kennewick, WA 99336

Dear Wes:

The Bonneville Power Administration (BPA) has had the opportunity to review Preliminary Plat Application PP 17-05/PLN-2017-02581. The project consists 2 phases with 93 lots on approximately 31.4 acres. The project is generally located at west of S. Sherman Street and south of Bob Olson Parkway at 3316 S. Sherman Street, Kennewick, WA.

In researching our records, we have found that this proposal will not directly impact BPA facilities in that area. BPA does not have any objections to the approval of this request at this time.

Thank you for the opportunity to review this application.

Sincerely,

Joseph E. Cottrell II
Field Realty Specialist

PUBLIC HEALTH
Prevent • Promote • Protect
BENTON-FRANKLIN HEALTH DISTRICT

October 11, 2017

Wes Romine, Planner
City of Kennewick
210 W 6th Avenue
Kennewick, WA 99336

RE: Apple Valley Phs 3 and 4 – Preliminary Plat
PP 17-05/PLN-2017-02581
Applicant: Matt Smith, Tri-Cities Development

Dear Mr. Romine:

This office has reviewed the above referenced proposal and has no objections provided municipal services, such as sewer and water, are provided to the proposed lots.

In an effort to promote active lifestyles, we would encourage you to consider and include the development of safe bicycle paths, the adoption of zoning rules favoring sidewalks in residential and commercial areas, traffic-free areas and traffic patterns that encourage people to walk, measures to ensure safe streets, and incentives to encourage the public to use mass transit rather than private cars, in this and in all future developments within the City of Kennewick.

If you have any questions, please contact me at the Kennewick Health Office, phone 460-4318.

Sincerely,

JoDee A. Peyton, R.S.
Environmental Health Specialist II

DOUG CARL • *Capital Projects Director*
5501 W. METALINE AVE. • KENNEWICK, WA 99336
P: (509) 222-7667 • F: (509) 222-5057
DOUG.CARL@KSD.ORG • WWW.KSD.ORG

December 5, 2017

Wes Romine
Development Services Manager
City of Kennewick
210 W. 6th Ave.
Kennewick, WA 99336

Wes,

This memo is written in regards to your request for the Kennewick School District #17 to address capacity questions in regards to the Apple Valley Phases 3 & 4 Preliminary Plat application. The school district was asked to identify the boundary schools for this development and state if each of the schools were within walking zones or received bussing. The boundary schools for this development are Sagecrest Elementary (Walking Zone), Chinook Middle School (Bussing Zone) and Southridge High School (Walking Zone).

The Kennewick School District has a Ten-Year Plan in place that forecasts future growth. It is impossible to know exactly where pockets of growth may occur, but the district works closely with the City of Kennewick and Benton County to make sure that we own property near projected areas of growth. Having property near potential growth areas allows us to add schools where the students are living, and to avoid additional bussing or redistricting of our boundaries. That being said, we do occasionally have to redistrict to keep our schools within our preferred enrollment numbers.

The Kennewick School District has the capacity to add students at all levels and at the three schools mentioned in this letter. Forecasted growth in additional boundary areas of the Kennewick School District makes it difficult to know if any redistricting could result because of this proposed development.

Sincerely,

Doug Carl