# Memorandum

Date: October 4, 2016

To: Amy Duerr Day

From: Adam Wheeler, PE

Browne Wheeler Engineers, Inc.

Re: Soundview Drive NE RUE

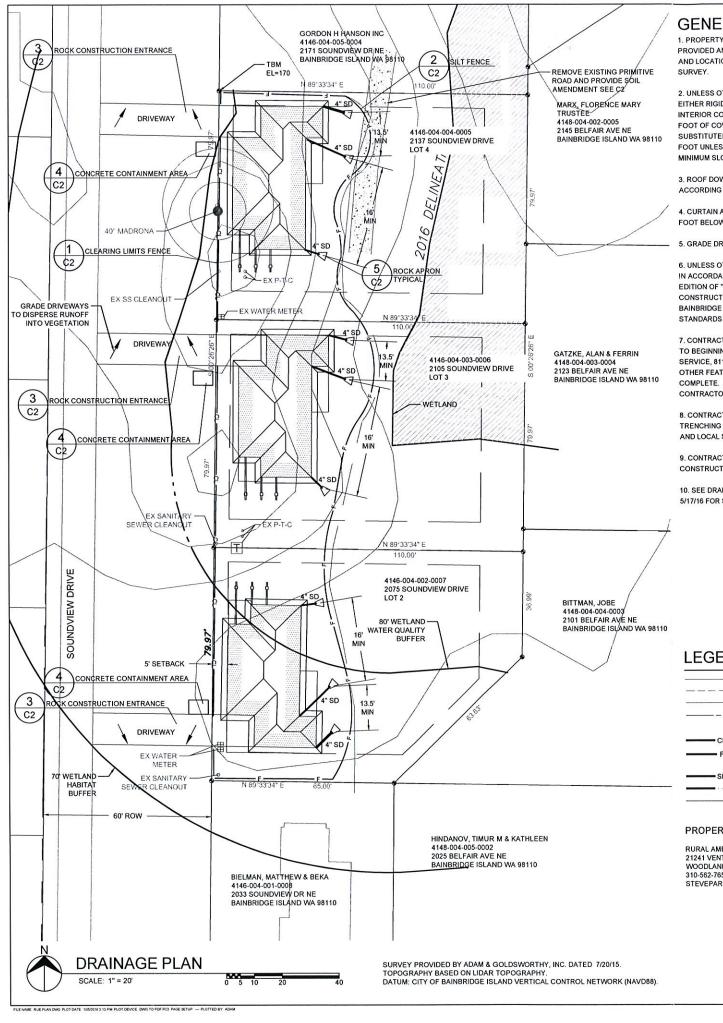


We have reviewed the City's Notice of Incomplete Application, in particular the Drainage Plan Revisions portion. The City requested that we consider low impact development methods to reduce the impact of the proposed project. Low impact development methods are a set of practices that when implemented infiltrate or evapotranspirate runoff to mimic the natural condition. In this particular case permeable soils on the site are very shallow and in some instances do not exist. Because of this rainfall on the site quickly turns to runoff and flows towards the wetland to the east. Since the soils are not permeable opportunities to infiltrate runoff from the roofs is very limited. For this reason we did not view low impact methods that rely on infiltration as feasible.

In fact the use of pervious pavement in this particular area would not be recommended because after rain fall events water would be stored in the water storage gravel under the pavement and saturate the low permeable native soils. The native soils would then lose their ability to resist vehicle loads and deform causing the pervious pavement to crack and fail.

When we designed our drainage system we recognized how runoff was generated on the site and how it sheet flow across the site. We attempted to mimic this condition to reduce the impact of the project. We are proposing to sheet flow disperse the driveways over the maximum length possible before it leaves the property. In addition, we are proposing to disperse the runoff from the roofs with multiple the splash pads. We believe this system best mimics the existing hydrology on the site.

We do agree that removing the existing gravel road would decrease the runoff from the site and we are proposing to does this as part of the project.



## **GENERAL NOTES**

1. PROPERTY LINES AND EASEMENTS SHOWN ARE BASED ON INFORMATION PROVIDED AND OTHER EASEMENTS NOT SHOWN MAY EXIST. TOPOGRAPHY AND LOCATION OF FEATURES IS APPROXIMATE AND NOT BASED ON DETAILED

2. UNLESS OTHERWISE SPECIFIED, STORM DRAIN PIPE SHALL BE 4" DIAMETER, EITHER RIGID PVC (ASTM D3034) WITH THREE FEET OF COVER, OR SMOOTH INTERIOR CORRUGATED POLYETHYLENE (ADS N12 OR EQUIVALENT) WITH ONE FOOT OF COVER. OTHER PIPE MATERIALS SPECIFIED MAY NOT BE SUBSTITUTED. PIPE SHALL BE LAID AT A MINIMUM SLOPE OF 2% (1/4" PER FOOT UNLESS OTHERWISE NOTED). CARE SHALL BE TAKEN TO MAINTAIN MINIMUM SLOPE AND AVOID LOW POINTS ALONG THE PIPE.

3. ROOF DOWNSPOUTS SHALL BE CONNECTED TO ROOF DRAIN LINES SHOWN ACCORDING TO ARCHITECTURAL DETAILS.

4. CURTAIN AND FOUNDATION DRAINS SHALL DAYLIGHT AT A POINT AT LEAST 1 FOOT BELOW THE LOWEST FOOTING.

5. GRADE DRIVEWAY AND PAVED AREAS TO DRAIN AWAY FROM BUILDINGS.

6. UNLESS OTHERWISE SPECIFIED, MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CURRENTLY ADOPTED EDITION OF "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION", APWA/WSDOT EXCEPT AS MODIFIED BY THE CITY OF BAINBRIDGE ISLAND IN CURRENT EDITION OF "DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS".

7. CONTRACTOR SHALL OBTAIN AN UNDERGROUND UTILITIES LOCATE PRIOR TO BEGINNING CONSTRUCTION (UNDERGROUND UTILITIES LOCATION SERVICE, 811), THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES AND OTHER FEATURES ON THE PLAN ARE APPROXIMATE AND MAY NOT BE COMPLETE. ACTUAL LOCATIONS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AS REQUIRED.

8. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR WORKER SAFETY. ALL TRENCHING AND OTHER ACTIVITIES SHALL BE IN ACCORDANCE WITH STATE AND LOCAL SAFETY REGULATIONS AND REQUIREMENTS.

9. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS BEFORE

10. SEE DRAINAGE REPORT BY BROWNE WHEELER ENGINEERS, INC DATED 5/17/16 FOR SPLASH PAD PLAN.

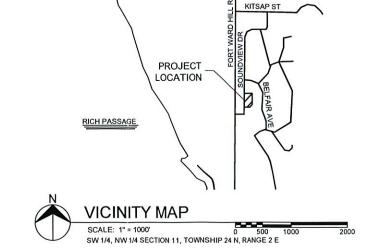
### LEGEND

EXISTING HOUSE/DRIVEWAY EXISTING MAJOR CONTOUR EXISTING MINOR CONTOUR PROPERTY LINE ● PROPERTY CORNER/STAKE PROPOSED CLEARING LIMITS FENCE PROPOSED SILT FENCE PROPOSED CLEANOUT PROPOSED STORM DRAIN PROPOSED DITCH - PROPOSED BUILDING

#### PROPERTY OWNER:

**RURAL AMERICAN PROPERTIES** 21241 VENTURA BI VD #276 WOODLAND HILLS CA 91364 310-562-7650 STEVEPARKES2@YAHOO.COM





BLAKELY AVE NE

YAMA RIDGE RD

HILL CIRCLE

ODDFELLOWS ROAD

REV. 1 10/4/16 AEW MODIFIED DESIGN TO ADDRESS SITE PLAN CHANGES.

#### **DRAINAGE PLAN RURAL AMERICAN / DUERR DAY REASONABLE USE EXEMPTION**

BROWNE • WHEELER ENGINEERS, INC
241 ERICKSEN AVENUE NE
BAINBRIDGE ISLAND, WA 98110
P 206.842.0605 INFO@BrowneWheeler.COM Rural American Properites 21241 Ventura Blvd #276 Woodland Hills CA 91364

Contact: Amy Duerr Day ald@amyduerrday.com

DATE -5/17/16-C1 DESIGNED AEW DRAWN NDW CHECKED DWB 1 OF 2

PROJECT # PA15-002

