# 10. Phase 1A Regional Infrastructure Schedule. See traffic Intersections on page 7 and 8.



# ITY OF BLACK DIAMOND

Physical Address: 24301 Roberts Drive Mailing Address: PO Box 599

Black Diamond, WA 98010

Phone: (360) 886-5700 Fax: (360) 886-2592 www.ci.blackdiamond.wa.us

# MEMORANDUM

Date: August 27, 2012

To: Files PLN11-0001, PLN 11-0002

From: Andy Williamson, Steve Pilcher

Approval of Regional Facilities Implementation Schedule for Phase 1A, The Villages MPD Re:

Pursuant to Conditions of Approval Nos. 29 and 164 of The Villages MPD approval (Ordinance 10-946) and Sections 11.2 and 11.4.A of The Villages Master Planned Development Development Agreement (adopted by Ordinance 11-970), the Master Developer submitted a final "Detailed Implementation Schedule - Phase 1A Regional Infrastructure Improvements (August 25, 2012)". This document has been reviewed by the Designated Officials and by the contracted Major Development Review Team (MDRT) civil engineering (RH2) and traffic (Parametrix) consultants.

The undersigned Designated Officials hereby approve the implementation schedule for Phase 1A.

Andrew Williamson, Designated Official

Public Works and Traffic

Steve Pilcher, Designated Official

**Parks** 

# Detailed Implementation Schedule Phase 1A Regional Infrastructure Improvements

(revised August 25, 2012)

Pursuant to Conditions of Approval of The Villages MPD (Nos. 29 and 164) and Lawson Hills MPD (Nos. 27 and 169) and consistent with Sections 11.2 – 11.5 of The Villages and Lawson Hills MPD Development Agreements, the following provides a list of both on-site and off-site regional infrastructure and its timing necessary to serve Phase 1A. Acceptable engineering alternatives or equivalents may be proposed by the Master Developer during final engineering for the following list of on-site and off-site regional infrastructure improvements. Model home permits shall be excluded from associated triggers noted below.

# 1. The Villages MPD Community Connector

# Construction Threshold

The Villages MPD Community Connector through Phase 1A is proposed to be constructed in two phases: (1) the first phase will be constructed or bonded prior to recording Division 1A of Preliminary Plat 1A; and (2) the second phase will be constructed prior to occupancy of the 726th Dwelling Unit in Phase 1A or if necessary to provide dual emergency access routes to any developed lots within Phase 1A.

# **Improvement Details**

The first phase of The Villages MPD Community Connector will be constructed from a point approximately 500 feet south of SE Auburn – Black Diamond Road to the intersection with the Ring Road (aka Neighborhood Street with Bike Lane). Sidewalks will be replaced with a meandering path on either side of the roadway. This section of the Community Connector will consist of a single travel lane in each direction with 5 foot bike lanes. This first phase will include construction of a roundabout in which a future park will be developed. The roundabout will be designed in accordance with City of Black Diamond Engineering Design and Construction Standards and Chapter 915 of the WSDOT design manual.

The second phase of The Villages MPD Community Connector will connect the first phase with SE Auburn – Black Diamond Road. The Community Connector through Phase 1A will consist of a single travel lane in each direction with 5 foot wide bike lanes. The Cross Community Trail will be constructed along both the first and second phase of the Community Connector, and will consist of an 8 foot wide multi-use hard surface on the east side. Utilities will be installed with construction of the Community Connector to serve Phase 1A and future phases of The Villages MPD.

A portion of stormwater runoff from the Community Connector will be collected and routed to the Phase 1A stormwater treatment and infiltration facility. The remainder of stormwater from the Community Connector will be treated in rain gardens and infiltrated to maintain water balance to Horseshoe Lake. A stormwater conveyance line will be installed within the Community Connector and will provide conveyance capacity to the Phase 1A stormwater facility. Stormwater conveyance capacity will be provided for adaptive management techniques to allow flexibility to maintain water balance to Horseshoe Lake. A second water main (850)

pressure zone main) will be installed either within the Community Connector or the Ring Road to serve future phases of The Villages MPD. The Interim Sewer Force Main may be installed either in the Community Connector or the Ring Road through the Phase 1A site from the Interim Wastewater Pumping Station up to SE Auburn-Black Diamond Road. The Master Developer may elect to install a purple pipe system within the Community Connector for future use in the event that water for reuse is available.

# 2. The Ring Road (aka Neighborhood Street with Bike Lane)

#### Construction Threshold

The Ring Road (aka Neighborhood Street with Bike Lane) will be constructed in two phases: (1) the first phase will be constructed or bonded prior to recording Division 1A of Preliminary Plat 1A, but must also be completed and accepted by the City of Black Diamond's Master Development Review Team ("MDRT") / Public Works prior to the issuance of the first certificate of occupancy in Division 1A of Preliminary Plat 1A; and (2) the second phase will be constructed prior to occupancy within Divisions G, J and K of Preliminary Plat 1A.

### Improvement Details

The first phase of the Ring Road will include the section from SE Auburn – Black Diamond Road south to the intersection with the Community Connector. The second phase of the Ring Road will extend to the west from the intersection with the Community Connector to Road G.

The Ring Road will consist of a single lane in each direction with bike lanes and rain gardens/landscaping and a sidewalk on both sides. Utilities will be installed with construction of the Ring Road to serve Phase 1A and future phases of The Villages MPD.

Stormwater runoff from the Ring Road is proposed to be treated within rain gardens primarily located within the Right-of-Way and infiltrated where infiltratable soils exist. A second water main (850 pressure zone main) will be installed either within the Community Connector or the Ring Road to serve future phases of The Villages MPD. The Interim Sewer Force Main may be installed either in the Community Connector or the Ring Road through the Phase 1A site from the Interim Wastewater Pumping Station up to SE Auburn-Black Diamond Road.

# 3. Frontage Improvements on SE Auburn - Black Diamond Road

#### Construction Threshold

SE Auburn – Black Diamond Road frontage improvements will be constructed in three phases as Phase 1A develops: (1) the first phase will be constructed or bonded prior to recording Division 1A of Preliminary Plat 1A; (2) the second phase will be constructed prior to occupancy of the 726th Dwelling Unit in Preliminary Plat 1A; and (3) the third phase of frontage improvements will be constructed concurrent with the development of the adjacent multi-family parcel 1H of Preliminary Plat 1A.

# **Improvement Details**

The first phase of the SE Auburn – Black Diamond Road frontage improvements will include improvements from the east project frontage limits westward to the west side of the Main Street

intersection. The first phase of improvements will consist of: (1) a single lane roundabout at the intersection of SE Auburn – Black Diamond Road, Lake Sawyer Road and the Ring Road with deflector islands tapered back to match into the existing roadways; and (2) initially a stop control installed at the intersection of SE Auburn – Black Diamond Road and Main Street for Main Street entering to SE Auburn – Black Diamond Road, followed by a signal prior to the 726<sup>th</sup> Dwelling Unit in Preliminary Plat 1A. The ultimate signalized intersection improvement at SE Auburn-Black Diamond Road and Main Street will have a single through lane in each direction along with left turn lanes and turn pockets on SE Auburn-Black Diamond Road. Bike lanes (5 feet wide) will be constructed along SE Auburn – Black Diamond Road between proposed roundabouts concurrent with construction of these frontage improvements. The roundabouts will be designed in accordance with City of Black Diamond Engineering Design and Construction Standards and Chapter 915 of the WSDOT design manual.

The second phase of construction includes intersection improvements at SE Auburn — Black Diamond Road and the Community Connector. This intersection improvement will consist of a single lane roundabout. The second phase also completes frontage improvements between the Community Connector and Main Street and Main Street signal installation.

The third phase includes completion of frontage improvements from the roundabout at the intersection with the Community Connector to the west property line. This phase includes extending curb and gutter, sidewalks, bike lane and planter strips to the west property line of The Villages MPD.

The two roundabouts to be constructed with SE Auburn-Black Diamond Road frontage improvements are proposed to be constructed such that a second lane could be added to the inside of the roundabout by reducing the size of the interior island if warranted in the future. The sidewalk along the south side of SE Auburn-Black Diamond Road is proposed to be located such that a second eastbound lane could be added between the two roundabouts if warranted in the future by traffic counts.

All stormwater runoff from SE Auburn – Black Diamond Road frontage improvements is proposed to be treated and infiltrated in rain gardens within the right-of-way with the exception of the area near the roundabout at the Community Connector. A stormwater conveyance pipe will be stubbed across SE – Auburn Black Diamond Road at the Community Connector and at Main Street for future phases of The Villages MPD north of SE Auburn – Black Diamond Road.

# 4. Intersection of Community Connector and SE Auburn-Black Diamond Road

#### Construction Threshold

This intersection will be constructed as a single lane roundabout prior to occupancy of the 726th Dwelling Unit within Preliminary Plat 1A, with the second phase of the SE Auburn – Black Diamond Road frontage improvements.

#### Improvement Details

This single lane roundabout is proposed to be designed and constructed so that a second lane could be added to the interior of this roundabout in the future, if required. The roundabout will

be designed and constructed in accordance with City of Black Diamond Engineering Design and Construction Standards and Chapter 915 of the WSDOT design manual.

# 5. Intersection Improvements at SE Auburn-Black Diamond Road and Ring Road

# Construction Threshold

This intersection improvement (single lane roundabout) will be constructed or bonded prior to recording Division 1A of Preliminary Plat 1A, with the first phase of SE Auburn – Black Diamond Road frontage improvements.

# Improvement Details

The single lane roundabout is proposed to be designed and constructed so that a second lane could be added to the interior of this roundabout in the future, if required. The roundabout will be designed and constructed in accordance with City of Black Diamond Engineering Design and Construction Standards and Chapter 915 of the WSDOT design manual.

# 6. The Villages MPD Small Interim Wastewater Pumping Station

#### Construction Threshold

The Small Interim Wastewater Pumping Station must be completed and operational before issuance of the first building permit within Preliminary Plat 1A for which a sewer connection would be required.

# Improvement Details

The Small Interim Wastewater Pumping Station will be designed and constructed in accordance with the City of Black Diamond Engineering Design and Construction Standards as though the facility was intended to be a permanent facility. Prior to design of this facility, the Master Developer will submit a plan showing the interim service area boundary and maximum number of units (in ERUs) that can be served by this interim facility. Additional capacity created through an oversized wet well may be provided for off-peak pumping.

#### 7. The Villages MPD Interim Sewer Force Main

#### Construction Threshold

The Interim Sewer Force Main must be complete and operational before issuance of the first building permit within Preliminary Plat 1A for which a sewer connection would be required.

# Improvement Details

The Interim Sewer Force Main will be constructed from The Villages MPD Small Interim Wastewater Pump Station to City manhole 118 or other approved alternative connection point. City manhole 118 is located approximately 1800 feet east of the eastern boundary of the Phase 1A Preliminary Plat and requires construction within the Roberts Drive right-of-way for this length. A formal request has been submitted to the City for consideration of an alternative sewer connection location. The proposed alternative sewer connection location is superior from a reliability and power conservation standpoint. The preferred alternative proposes to connect to the Black Diamond Trunk operated by King County Metro. Design and construction of the Interim Sewer Force Main will be in accordance with The City of Black Diamond Engineering

Design and Construction Standards. The Interim Sewer Force Main will be installed through the Phase 1A site either within the Community Connector or the Ring Road.

# 8. Interim Stormwater Pond and Infiltration Facility

# Construction Threshold

The Interim Stormwater Pond and Infiltration Facility will be constructed in phases as determined necessary by the MDRT / Public Works through final engineering review of each division within Preliminary Plat Phase 1A.

#### Improvement Details

The infiltration facility of the interim stormwater pond for Phase 1A will be constructed with a minimum factor of safety of 40% for Phase 1A. This factor of safety is being provided for Phase 1A to provide an additional level of conservatism. The performance of the Phase 1A infiltration facility will be monitored to confirm design parameters. The project's Geotechnical Engineer will monitor flows into the infiltration facility, water depth within the infiltration facility, ground water elevation and ground water mounding to verify facility performance compared to design parameters. This factor of safety may be reduced for future phases of The Villages MPD and design parameters may be adjusted based on performance monitoring. Areas within Phase 1A that are not tributary to Horseshoe Lake can be developed and stormwater treated and infiltrated without this facility being constructed. If practical, recreational facilities may be provided within portions of the infiltration area.

# 9. Village Green (Park at Roundabout) in The Villages MPD

#### Construction Threshold

Construction of the Village Green will be commenced or bonded prior to recording Division 1A of Preliminary Plat 1A and will be completed no later than when Certificates of Occupancy or final inspection has been issued for 60% of the Dwelling Units located within ¼ mile of this park.

# Improvement Details

The approximately 1.17-acre centrally located Village Green will consist of a large open lawn area for civic gatherings, a small function outdoor open lawn space and park structures for pedestrian gatherings. A bike lane encircles the park and pedestrian connections across the park link with the north/south Cross Community Trail that runs through The Villages MPD Phase 1A Preliminary Plat. Connectivity between this park and the Civic Park to the northeast will be accomplished with a special pedestrian road crossing. Vegetation in the park will vary from open expansive lawn spaces to more densely planted areas that will include a mix of native and naturalized vegetation. Vegetation around the park will provide separation between vehicles and pedestrians. Rain gardens will also be incorporated into the Village Green.

# 10. Civic Park in The Villages MPD

# Construction Threshold

Construction of Civic Park will be commenced or bonded prior to recording Division 1A of Preliminary Plat 1A and will be completed no later than when Certificates of Occupancy or final inspection has been issued for 60% of the Dwelling Units located within ¼ mile of this park.

# Improvement Details

The approximately 1.65-acre Civic Park includes open lawn areas, children's gathering and play spaces, performance areas, viewpoints and park structures for civic gatherings. Lushly planted areas, rain gardens and open lawn areas will provide variety along the park pedestrian ways. Bike lanes and a Cross Community Trail run adjacent to this park. Connectivity to the Village Green to the south and retail core to the north will be accomplished with special pedestrian road crossings. A stormwater infiltration facility is proposed to be constructed under this park to allow adaptive management techniques to maintain water balance to Horseshoe Lake during construction and at full build-out.

# 11. SR 169/ Roberts Drive (Interim Improvement)

#### Construction Threshold

Completed engineering, design and construction drawings and related application materials necessary for permit issuance for this interim improvement will be submitted to WSDOT prior to the City of Black Diamond's issuance of the first residential or commercial building permit associated with Division 1A of Preliminary Plat 1A. The Master Developer shall diligently pursue issuance of all permits for this interim improvement, by taking such actions including but not limited to promptly responding to requests for additional information and/or promptly submitting permit application revisions requested by the permitting agencies. Construction of this improvement will commence as soon as reasonably practicable following issuance of all necessary permits, but in any event prior to issuance of the building permit for the 327<sup>th</sup> Equivalent Residential Unit (ERU) within Preliminary Plat 1A plus any additional time demonstrated to the reasonable satisfaction of the City's Designated Official to be necessary due to action, inaction, or events outside of the Master Developer's control.

# Interun Improvement Details

This intersection will be improved by shifting Roberts Drive to the south to provide approximately 500 feet separation between it and SE Black Diamond – Ravensdale Road. The SR169 / Roberts Drive intersection will be reconfigured to form a tee intersection instead of the currently existing Y configuration to improve safety and operation. This intersection improvement will include installation of a signal to control the intersection. Intersection improvements will include construction of a right turn lane on southbound SR 169. Roberts Drive behind the stop bar location at SR 169 will be designed per City of Black Diamond standards. The ultimate design is a roundabout – this is only an interim improvement.

# 12. SR 169/SE Black Diamond - Ravensdale Road (Interim Improvement)

#### Construction Threshold

Completed engineering, design and construction drawings and related application materials necessary for permit issuance for this interim improvement will be submitted to WSDOT prior to the City of Black Diamond's issuance of the first residential or commercial building permit associated with Division 1A of Preliminary Plat 1A. The Master Developer shall diligently pursue issuance of all permits for this interim improvement, by taking such actions including but not limited to promptly responding to requests for additional information and/or promptly submitting permit application revisions requested by the permitting agencies. Construction of this improvement will commence as soon as reasonably practicable following issuance of all necessary permits, but in any event prior to issuance of the building permit for the 327<sup>th</sup> Equivalent Residential Unit (ERU) within Preliminary Plat 1A plus any additional time demonstrated to the reasonable satisfaction of the City's Designated Official to be necessary due to action, inaction, or events outside of the Master Developer's control.

# Interim Improvement Details

This intersection improvement includes a four way signalized intersection to maintain access to the Palmer Coking Coal property at this location. Black Diamond – Ravensdale Road SE behind the stop bar location at SR 169 will be designed per City of Black Diamond standards. The ultimate design is a roundabout – this is only an interim improvement.

#### 13. SE 288th Street/216th Avenue SE

#### Construction Threshold

Rechannelization shall occur no later than recording of Division 1A of Preliminary Plat 1A.

#### Improvement Details

This intersection will be improved through rechannelizing the south leg of the intersection to provide a refuge/merge area for westbound left-turning vehicles.

# 14. Water Main Extension (from near Black Diamond Library to The Villages MPD)

# Construction Threshold

Construction of a dual 12-inch water main from near the Black Diamond Library westerly to The Villages MPD property (or engineering equivalent) will occur prior to recording Division 1A of Preliminary Plat 1A. The dual 12-inch water main must be completed, tested and in-service prior to the first occupancy permit being issued for a Dwelling Unit or a commercial use within Preliminary Plat 1A.

# Improvement Details

The Water Main Extension that connects The Villages MPD Phase 1A to the existing water system will have the following general design characteristics:

 The water main is currently proposed to consist of stacked 12-inch water lines (one located above the other in a single trench) to meet flow requirements and serve as redundant supply sources for The Villages MPD Phase 1A.

- The stacked water main configuration is proposed to minimize the width of construction trench and minimize disturbance to existing features and facilities. Deviation from the vertically stacked configuration will be required in isolated instances such as the Rock Creek Bridge crossing and where valves are required in the lower main.
- The stacked water main will be installed along the edge of the existing roadway system where feasible to minimize traffic impacts and facilitate future maintenance.
- There will be no service connections to the lower water main in order to maximize its integrity and minimize the potential for leakage.
- Valves will be installed to facilitate periodic flushing and routine maintenance.
- Initially, both water lines will operate on the 750 pressure zone but will be interconnected
  such that they can be isolated in the future. This isolation is proposed so that the lower
  main can be converted to the 850 pressure zone in the future. The lower line will have
  blocking and thrust restraint designed and installed for its ultimate intended use to serve
  the 850 pressure zone.
- Per the City of Black Diamond Engineering Design and Construction Standards, water velocity in mains shall not exceed 10 feet per second during highest demand and fireflow.
- Minimum system pressure is required to be 20 psi during fireflow analysis throughout the system.

The number of ERUs permitted prior to construction of a second supply line will be based on the City's water system computer simulated model.

Regional Infrastructure Improvement	Construction Threshold	Funding Responsibility
The Villages MPD Community Connector	The first phase will be constructed or bonded prior to recording Division 1A of Preliminary Plat 1A. The second phase will be constructed prior to occupancy of the 726th Dwelling Unit in Phase 1A or if necessary to provide dual emergency access routes to any developed lots within Phase 1A.	Master Developer
The Ring Road	The first phase will be constructed or bonded prior to recording Division 1A of Preliminary Plat 1A, but must also be completed and accepted by the MDRT / Public Works prior to the issuance of the first certificate of occupancy in Division 1A of Preliminary Plat 1A. The second phase will be constructed prior to occupancy within Divisions G, J and K of Preliminary Plat 1A.	Master Developer
Frontage Improvements on SE Auburn – Black Diamond Road	The first phase will be constructed or bonded prior to recording Division 1A of Preliminary Plat 1A. The second phase will be constructed prior to occupancy of the 726th Dwelling Unit in Preliminary Plat 1A. The third phase will be constructed concurrent with the development of the adjacent multi-family parcel 1H of Preliminary Plat 1A.	Master Developer
Intersection of Community Connector and SE Auburn – Black Diamond Road	Constructed as a single lane roundabout prior to occupancy of the 726th Dwelling Unit within Preliminary Plat 1A, with the second phase of SE Auburn – Black Diamond Road frontage improvements.	Master Developer
Intersection Improvements at SE Auburn – Black Diamond Road and Ring Road	Single lane roundabout will be constructed or bonded prior to recording Division 1A of Preliminary Plat 1A, with the first phase of SE Auburn – Black Diamond Road frontage improvements.	Master Developer
The Villages MPD Small Interim Wastewater Pumping Station	This must be completed and operational before issuance of the first building permit within Preliminary Plat 1A for which a sewer connection would be required.	Master Developer
The Villages MPD Interim Sewer Force Main	This must be completed and operational before issuance of the first building permit within Preliminary Plat 1A for which a sewer connection would be required.	Master Developer

	2.00	<del></del>
Interim Stormwater Pond and Infiltration Facility	Constructed in phases as determined necessary by the MDRT / Public Works through final engineering review of each division within Preliminary Plat 1A.	Master Developer
Village Green (Park at Roundabout) in The Villages MPD	Construction of this park will be commenced or bonded prior to recording Division 1A of Preliminary Plat 1A and will be completed no later than when Certificates of Occupancy or final inspection has been issued for 60% of the Dwelling Units located within ¼ mile of this park.	Master Developer
Civic Park in The Villages MPD	Construction of this park will be commenced or bonded prior to recording Division 1A of Preliminary Plat 1A and will be completed no later than when Certificates of Occupancy or final inspection has been issued for 60% of the Dwelling Units located within ¼ mile of this park.	Master Developer
SR 169/Roberts Drive	Completed engineering, design and construction drawings and related application materials necessary for permit issuance for this interim improvement will be submitted to WSDOT prior to the City of Black Diamond's issuance of the first residential or commercial building permit associated with Division 1A of Preliminary Plat 1A. The Master Developer shall diligently pursue issuance of all permits for this interim improvement, by taking such actions including but not limited to promptly responding to requests for additional information and/or promptly submitting permit application revisions requested by the permitting agencies. Construction of this improvement will commence as soon as reasonably practicable following issuance of all necessary permits, but in any event prior to issuance of the building permit for the 327th Equivalent Residential Unit (ERU) within Preliminary Plat 1A plus any additional time demonstrated to the reasonable satisfaction of the City's Designated Official to be necessary due to action, inaction, or events outside of the Master Developer's control.	Master Developer
SR 169/SE Black Diamond – Ravensdale Road	Completed engineering, design and construction drawings and related application materials necessary for permit issuance for this interim improvement will be submitted to WSDOT prior to the City of Black Diamond's issuance of the first residential or commercial building permit associated with Division 1A of Preliminary Plat 1A. The Master Developer shall diligently pursue issuance of all permits for this interim improvement, by taking such actions including but not limited to promptly responding to requests for additional information and/or promptly submitting permit application revisions requested by the permitting agencies.	Master Developer

	Construction of this improvement will commence as soon as reasonably practicable following issuance of all necessary permits, but in any event prior to issuance of the building permit for the 327th Equivalent Residential Unit (ERU) within Preliminary Plat IA plus any additional time demonstrated to the reasonable satisfaction of the City's Designated Official to be necessary due to action, inaction, or events outside of the Master Developer's control.	
SE 288 <sup>th</sup> Street/216 <sup>th</sup> Avenue SE	Rechannelization shall occur no later than recording of Division 1A of Preliminary Plat 1A.	Master Developer
Water Main Extension	Constructed prior to recording Division 1A of Preliminary Plat 1A, and available prior to the first occupancy permit being issued for a Dwelling Unit or a commercial use within Preliminary Plat 1A.	WSFFA Funding Responsibility or Master Developer