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**PUBLIC WORKS ENGINEERING DIVISION**

## Inspection Summary

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Permit #: PRPWFC20162083, Public Works Infrastructure Permit - Commercial

WATER UTILITIES FACILITY

Address: 1200 SE HAMBLER RD, LEES SUMMIT, MO 64081

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This work has been inspected and the inspection results noted below. Please call for re-inspection once all corrective actions have been completed. Do not cover any work until approved.

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Inspection Item:

<b>Inspection:</b>	<b>Inspector:</b>	<b>Outcome:</b>	<b>Date:</b>
PW-Storm - Sewer Construction Inspection	Brice Lawson	Partial	Friday, February 10, 2017

Informational

- 1 Brice Lawson 11/03/2016 3:58 PM  
She Digs It began removing the wall on the existing CI-8479 in preparation to the connection to this CI.

Informational

- 2 Brice Lawson 11/07/2016 3:09 PM  
She Digs It installed CI 10A and poured the invert and collar around the 38"by 60" concrete elliptical pipe.

CI 10A was butted up next to the existing CI 8479 and the joint between the two has been partially grouted. Four rebar pins were drilled into the base of the existing CI and poured in the invert of CI 10A.

Gene Williams and I discussed this connection to the existing CI today.

Informational

- 3 Brice Lawson 11/28/2016 10:56 AM  
The exterior pipe collars have been installed at the HDPE storm pipe connections for MH 30C and GI 30D.

Corrective Action Required

- 4 Brice Lawson 11/29/2016 2:24 PM  
The interior collars and the inverts were installed in GI 30E, GI 30D and MH30C.

The invert in MH 30C needs to be smoothed.

Corrective Action Required

5 Brice Lawson 11/30/2016 2:36 PM  
The oufall structure 10C has been installed and the 48" HDPE pipe has been connected to it. The collar and invert have been installed.

The collar on the inside of the structure needs to be filled in.

Informational

6 Brice Lawson 12/02/2016 7:05 AM  
On 12/1/16 MH-40B base was installed and the remaining 12" HDPE pipe towards the pond.

CI 30B base was installed. The remaining 30" HDPE pipe towards the pond was installed and connected to CI 30B. The remaining 30" HDPE pipe was installed towards MH 30C.

Corrective Action Required

7 Brice Lawson 12/02/2016 3:45 PM  
She Digs It poured the interior pipe collars on CI 30B. They installed CI 31A and connected the 18" HDPE pipe from CI31A to CI30B.

They installed the invert, interior and exterior collars on MH40B

The lid for MH 30C has been installed but needs to be seated down on the base section.

Informational

8 Brice Lawson 12/12/2016 3:52 PM  
The base for GI 40C was installed and the remainder of the 12" HDPE storm pipe was installed between GI 40C and MH 40B

Informational

9 Brice Lawson 12/30/2016 3:33 PM  
She Digs It installed the 4" underdrain into the southeast side of GI 30D and sealed the hole that was made in the manhole.

They installed the top section and lid with grate on GI 40C.

Informational

10 Brice Lawson 01/12/2017 4:10 PM  
She Digs It installed the remainder of the 36" HDPE storm pipe between 20A and 20B which was about 20'. The base for MH-20B has been installed.

Informational

11 Brice Lawson 01/13/2017 3:44 PM  
She Digs It installed the cone section on MH 20B. They installed 20' of the 30" HDPE pipe towards CGI 20C. They installed collars on the connections of the 36" and 30" HDPE pipes at MH 20B and the invert in the MH 20B

Informational

12 Brice Lawson 01/17/2017 3:46 PM  
She Digs It installed FES 50A and connected 20' of 42" HDPE storm pipe.

Informational

- 13 Brice Lawson 01/18/2017 2:51 PM  
She Digs It installed the remainder of the 42" HDPE storm pipe between CI 50B and FES 50A. They installed CI 50B and installed approx 35' of 42" HDPE from CI 50B towards FI 50C. They are using 3/4" rock for bedding. They installed the interior and exterior collars and invert in CI50B.

Informational

- 14 Brice Lawson 01/19/2017 4:53 PM  
She Digs It installed the remainder of the 42" HDPE storm pipe between CI 50B and FI 50C. They installed the invert and collars for FI 50C.

Informational

- 15 Brice Lawson 01/26/2017 11:37 AM  
On 1/24/17 She Digs It installed JB 10B, installed the remainder of the 38" by 60" elliptical RCP pipe and connected this pipe to JB 10B. They installed the remainder of the 48" HDPE pipe between 10C and JB 10B and connected it to JB 10B. The collars were installed and the invert was poured.

Informational

- 16 Brice Lawson 01/26/2017 11:43 AM  
On 1/25/17 She Digs It installed the installed the 18" culvert at the southwest corner of the site. They installed the dual 24" HDPE mitered pipes at the northwest corner of the site.

The space between the dual mitered pipes was not filled with flowable fill to the spring line as shown on the plans. Casey Williams is aware of this and plans to have the Design Engineer address this issue.

Informational

- 17 Brice Lawson 01/26/2017 11:52 AM  
She Digs It installed CGI 20C, installed and connected the remainder of the 30" HDPE pipe between CGI 20C and MH 20B. They installed CGI 20D and installed the 30" HDPE from CGI 20D to CGI 20C. The collars were installed on the pipes at CGI 20C. The invert was installed in CGI 20C. An opening was in the north wall of CGI 20D to accept the roof drain.

Informational

- 18 Brice Lawson 01/27/2017 3:58 PM  
She Digs It installed GI 21A and the 85' of 24" HDPE pipe from GI 21A to CGI 20D. They installed approx. 100' of 24" HDPE from CGI 20D towards CGI 20E.

Informational

- 19 Brice Lawson 01/31/2017 7:16 AM  
She Digs It installed the invert and collar in GI 21A and the collars and invert in CGI 20D.

Corrective Action Required

- 20 Brice Lawson 02/01/2017 3:08 PM  
The 18" culvert at the southwest corner of the site is proposed to be 25' in length. It has been installed and it measures approx. 20' in length.

-Make the proper adjustments to install this culvert according to the approved plan.-

The dual 24" mitered pipes have been installed at the northwest corner of the site without

the space between them filled to the spring line with flowable fill as shown on the plan.

-Make the proper adjustments to these pipes to construct according to the approved plan.

#### Partial Correction

21 Brice Lawson 02/10/2017 7:18 AM

At Casey's request here is a list of items that need to be completed thus far pertaining to the storm sewer construction:

The dual pipes that were installed in the northwest corner were proposed to have flowable fill installed between them up to the spring line. The pipes were installed without flowable fill. This change has been approved by HDR and Gene Williams.

- The 20' of the 18" culvert in the southwest corner has been installed. The plans show this to be 25' long. Properly install the remaining 5'

- Complete the installation of the roof drains from 40B, 20D and 20E

- Complete the installation of the 4" under drains at the three remaining areas and the area that was removed while installing the 4" sewer pipe going to the oil interceptor

Brice Lawson 02/10/2017 4:14 PM

Approx. 8' of the 4" underdrain has been repaired where the trench was dug for the sewer pipe going to the oil interceptor. This repair is located between MH-30C and GI-30D.

CI-10A:

- Seal the gap between the structure walls
- Seal the gap between the concrete lids
- Install the approved City of LS cover
- Complete the seal for the concrete lid to structure joint

JB-10B:

- Add Steps

Outfall Structure-10C:

- Add steps
- Seal the concrete lid to the structure
- Install the 3rd weir opening

Outlet-20A:

- Make proper repairs to the first pipe joint from the pond as this joint is separated

MH-20B:

- Add steps 16" O/C as needed
- Remove debris

CGI-20C:

- No inspection this structure is covered with fabric

CGI-20D:

- Install the roof drains from here to the building
- Grout the interior collar
- Seal the concrete lid to the structure
- Remove debris
- Install the grate per the plan

CGI-20E:

- Has not been installed

CI-30B:

- Move steps
- Replace the concrete lid so that the opening is over the relocated steps
- Install the approved City of LS cover
- Remove the 4" knockouts
- Seal the concrete lid to the structure

MH-30C:

- Properly seat/seal the concrete lid to the structure
- The concert lid does not match the thickness shown on the plans. Rebuild the lid to the proper thickness
- Properly install the casting and lid
- Grout the lift holes

GI-30D:

- Grout the lift holes
- Properly install the frame, grate and adj. ring
- Grout around the north interior collar and 4" under drain pipe
- The concrete lid is not 8" thick. Replace the lid with one that is built per the plan and properly seal

GI-30E:

- Install the frame and grate
- Seal the concrete lid to the structure
- Grout the lift holes
- The concert lid is not 8" thick. Replace this lid with one that is built per the plan and properly seal

CI-31A:

- Seal the concrete lid to the structure
- Remove the 4" knockouts
- Install the approved City of LS cover
- Grout the interior collar

MH-40B:

- Install the approved City of LS cover
- Install the frame
- Remove debris
- Grout the collars
- Verify that the elevation of the lid is correct

GI-40C:

- Remove the debris

FI-50C:

- Install the approved City of LS cover
- Remove the 4" knockouts
- Seal the concrete lid to the structure

Install line 60 with the flowable fill

PW-Sanitary Sewer  
Construction Inspection

Brice Lawson

Partial

Friday,  
February 10,  
2017

Informational

- 1 Brice Lawson 11/10/2016 7:01 AM  
On 11/9/16 She Digs It installed 28' of 8" SDR 26 and encased 20' of it centered at the crossing of the elliptical concrete pipe.

Informational

- 2 Brice Lawson 11/15/2016 6:49 AM  
On 11/11/16 She Digs It installed approx 170' of 8" SDR26 sewer pipe between MH A1 and MH A2.

Informational

- 3 Brice Lawson 11/16/2016 6:48 AM  
On 11/11/16 She Digs It installed the base and barrel section for MH A1 and connected the 8" sewer pipe on the east side of MH.

Informational

- 4 Brice Lawson 11/16/2016 3:26 PM  
She Digs It installed the 8" SDR26 sanitary pipe from MH A2 to MH A3 and installed MH A3.

Informational

- 5 Brice Lawson 11/18/2016 3:01 PM  
She Digs It installed approx. 60' of 4" SDR 26 from MH A3 towards the oil/water interceptor.

Informational

- 6 Brice Lawson 11/22/2016 6:45 AOn 11/21/16 She Digs It installed more of the 4" SDR 26 sewer lateral pipe between MH A3 and the oil/water interceptor. This pipe ends close to where the oil/water interceptor is proposed to be located.

Informational

- 7 Brice Lawson 12/07/2016 1:57 PM  
She Digs It installed MH-A4 and installed the 8" SDR26 sanitary pipe from MH-A3 to MH-A4. The joint between the cone and base was sealed with butyl joint sealant and the outside joint was wrapped. The lift holes were grouted in on MH-A3 and MH-A4. The utility marker tape was installed above the sewer pipe.

Informational

- 8 Brice Lawson 12/13/2016 3:03 PM  
She Digs It installed the 4" SDR 26 sewer service line from MH-A4 to the building service line. The connection was made with a Strongback Fernco. This connection is southeast of MH-A4

They installed the 4" SDR 26 sewer service line from MH-A4 towards the connection to the building southwest of MH-A4. This line is capped about 5' short of the building. They are waiting for the building wall to be poured.

Corrective Action Required

- 9 Brice Lawson 12/13/2016 3:12 PM  
Connect the 4" sewer service line to the building sewer service line. This is located southwest of MH-A4 near the building footing.

Informational

- 10 Brice Lawson 12/15/2016 11:02 AM  
The inverts were installed in manholes A2, A3 and A4.

Informational

- 11 Brice Lawson 01/17/2017 3:30 PM  
She Digs It damaged the service wye connection to the 8" sanitary sewer main for I believe 1161 SE Hamblen Rd. This repair is located 16' behind the curb on the 8" sanitary main. A 8" by 6" wye, two strongback ferncos and a 6" coupler were installed to make the repair.

Corrective Action Required

- 12 Brice Lawson 02/10/2017 7:09 AM  
At Casey William's request here is a list of items that remain to be completed on the sanitary sewer construction:

Conect the 4" san. service to the building southwest of MH-A4

Air test the 8" sewer pipe between MH-A3 and MH-A4

San. MH-A1:

- Complete the invert at the connection to the private 8" pipe
- Remove debris from the MH
- Make the proper adjustments to the invert where it is collecting sediment
- The frame has not been sealed
- Verify that the lid is at the proper elevation

San. MH-A4:

- Install the proper cover

San. MH-A2:

- Install the proper cover

PW-Storm - Sewer  
Construction Inspection

Brice Lawson

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She Digs It began removeing the wall on the existing CI-8479 in preperation to the connection to this CI.

Informational

- 2 Brice Lawson 11/07/2016 3:09 PM  
She Digs It installed CI 10A and poured the invert and collar around the 38"by 60" concrete eliptical pipe.

CI 10A was butted up next to the existing CI 8479 and the joint between the two has been partially grouted. Four rebar pins were drilled into the base of the existing CI and poured in the invert of CI 10A.

Gene Williams and I discussed this connection to the existing CI today.

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- 3 Brice Lawson 11/28/2016 10:56 AM  
The exterior pipe collars have been installed at the HDPE storm pipe connections for MH 30C and GI 30D.

Corrective Action Required

- 4 Brice Lawson 11/29/2016 2:24 PM  
The interior collars and the inverts were installed in GI 30E, GI 30D and MH30C.

The invert in MH 30C needs to be smoothed.



#### Corrective Action Required

5 Brice Lawson 11/30/2016 2:36 PM

The outfall structure 10C has been installed and the 48" HDPE pipe has been connected to it. The collar and invert have been installed.

The collar on the inside of the structure needs to be filled in.

#### Informational

6 Brice Lawson 12/02/2016 7:05 AM

On 12/1/16 MH-40B base was installed and the remaining 12" HDPE pipe towards the pond.

CI 30B base was installed. The remaining 30" HDPE pipe towards the pond was installed and connected to CI 30B. The remaining 30" HDPE pipe was installed towards MH 30C.

#### Corrective Action Required

7 Brice Lawson 12/02/2016 3:45 PM

She Digs It poured the interior pipe collars on CI 30B. They installed CI 31A and connected the 18" HDPE pipe from CI31A to CI30B.

They installed the invert, interior and exterior collars on MH40B

The lid for MH 30C has been installed but needs to be seated down on the base section.

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The base for GI 40C was installed and the remainder of the 12" HDPE storm pipe was installed between GI 40C and MH 40B

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Informational

17 Brice Lawson 01/26/2017 11:52 AM

She Digs It installed CGI 20C, installed and connected the remainder of the 30" HDPE pipe between CGI 20C and MH 20B. They installed CGI 20D and installed the 30" HDPE from CGI 20D to CGI 20C. The collars were installed on the pipes at CGI 20C. The invert was installed in CGI 20C. An opening was in the north wall of CGI 20D to accept the roof drain.

Informational

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She Digs It installed GI 21A and the 85' of 24" HDPE pipe from GI 21A to CGI 20D. They installed approx. 100' of 24" HDPE from CGI 20D towards CGI 20E.

Informational

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She Digs It installed the invert and collar in GI 21A and the collars and invert in CGI 20D.

Corrective Action Required

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#### Corrective Action Required

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- Complete the installation of the roof drains from 40B, 20D and 20E

- Complete the installation of the 4" under drains at the three remaining areas and the area that was removed while installing the 4" sewer pipe going to the oil interceptor

#### CI-10A:

- Seal the gap between the structure walls
- Seal the gap between the concrete lids
- Install the approved City of LS cover
- Complete the seal for the concrete lid to structure joint

#### JB-10B:

- Add Steps

#### Outfall Structure-10C:

- Add steps
- Seal the concrete lid to the structure
- Install the 3rd weir opening

#### Outlet-20A:

- Make proper repairs to the first pipe joint from the pond as this joint is separated

#### MH-20B:

- Add steps 16" O/C as needed
- Remove debris

CGI-20C:

- No inspection this structure is covered with fabric

CGI-20D:

- Install the roof drains from here to the building
- Grout the interior collar
- Seal the concrete lid to the structure
- Remove debris
- Install the grate per the plan

CGI-20E:

- Has not been installed

GI-21A:

- Grout the interior collar
- Seal the concrete lid to the structure

CI-30B:

- Move steps
- Replace the concrete lid so that the opening is over the relocated steps
- Install the approved City of LS cover
- Remove the 4" knockouts
- Seal the concrete lid to the structure

MH-30C:

- Properly seat/seal the concrete lid to the structure
- The concert lid does not match the thickness shown on the plans. Rebuild the lid to the proper thickness
- Properly install the casting and lid
- Grout the lift holes

GI-30D:

- Grout the lift holes
- Properly install the frame, grate and adj. ring
- Grout around the north interior collar and 4" under drain pipe
- The concrete lid is not 8" thick. Replace the lid with one that is built per the plan and properly seal

GI-30E:

- Install the frame and grate
- Seal the concrete lid to the structure
- Grout the lift holes
- The concert lid is not 8" thick. Replace this lid with one that is built per the plan and properly seal

CI-31A:

- Seal the concrete lid to the structure
- Remove the 4" knockouts
- Install the approved City of LS cover
- Grout the interior collar

MH-40B:

- Install the approved City of LS cover
- Install the frame
- Remove debris
- Grout the collars
- Verify that the elevation of the lid is correct

GI-40C:

- Remove the debris

FI-50C:

- Install the approved City of LS cover
- Remove the 4" knockouts
- Seal the concrete lid to the structure

Install line 60 with the flowable fill

**Comments:**

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