

# SITE INSPECTION REPORT

## CATEGORY D – DRAINAGE CHANNELS & NAVIGATIONAL WATERWAYS

Applicant <b>CITY OF DEADWOOD</b>	PA ID #	Applicant Representative <b>KEVIN KUCHENBECKER</b>	Applicant Representative Title <b>INTERIM PUBLIC WORKS DIRECTOR</b>
Site Inspection Date <b>09/27/22</b>		Site Inspector Name <b>SAMUEL MANSON P.E.</b>	
Work Order #		Damage # <b>352941 &amp; 352940</b>	
GPS Start Latitude <b>44° 22' 27.35" N</b>		GPS Start Longitude <b>103° 43' 48.32" W.</b>	
GPS End Latitude <b>44° 21' 53.03" N</b>		GPS End Longitude <b>103° 43' 54.14" W</b>	
Physical Location (Address of Damage Site)  <b>N/A</b>  <b>- WHITEWOOD CREEK PINE ST → COMFORT INN.</b>	Date Damaged <b>BETWEEN 6/30 AND 7/21 of 2019.</b>	Age of Facility	Legal Responsibility
		Year Built: <b>1900</b>  <input type="checkbox"/> Exact <input checked="" type="checkbox"/> Approximate	<input checked="" type="checkbox"/> Yes  <input type="checkbox"/> No  Quantity of Material Deposited by Incident (if applicable):
Purpose	Type:	Shape:	Dimensions
<input checked="" type="checkbox"/> Flood Control <input type="checkbox"/> Navigation <input type="checkbox"/> Water Supply <input type="checkbox"/> Hydropower <input checked="" type="checkbox"/> Recreation <input type="checkbox"/> Other (Specify):	<input checked="" type="checkbox"/> Drainage <input type="checkbox"/> Navigational <input type="checkbox"/> Other (Specify):	<input type="checkbox"/> V-Ditch <input type="checkbox"/> Trapezoidal <input type="checkbox"/> Rectangular <input checked="" type="checkbox"/> Other (Specify): <b>NATURAL CREEK - VARIES</b>	Depth Top <b>VARIES.</b> Width
<b>Facility Description:</b> (Pre-disaster design, function, capacity, dimensions, and footprint) <b>Facility Description Only (Capture Damages on Next Page)</b> <p><b>WHITEWOOD CREEK ENCOUNTERED DAMAGES FROM THE EVENT THAT HAD TO BE INSPECTED 3 YEARS AFTER THE EVENT. THE CREEK FUNCTIONS AS A DRAINAGE CHANNEL THROUGHOUT THE CITY OF DEADWOOD. THE MAJORITY OF DAMAGES OCCURED ON THE SIDE SLOPES OF THE CREEK BANKS AND TO STORM WATER OUTFALLS.</b></p> <p><b>- SEE ADDENDUM FOR MORE INFORMATION.</b></p>			

Applicant Representative Signature: \_\_\_\_\_

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Recipient Authorized Representative Signature (if applicable): \_\_\_\_\_

Work Order # (if applicable): \_\_\_\_\_ Damage # \_\_\_\_\_

Category D

## Facility Component Damages

Site #	Damage Component Material/Model/Type/Capacity	Location Address/GPS/begin-end	Damage Dimensions: (L x W x D/L x Dia) Electrical/Mechanical/etc.	
1	SEE ADDENDUM			
Method of Repair (change in design, materials, size, capacity etc.)			Cause of Damage	
			FA	Quantity
			CTR	Units
			Both	% Complete
Site #	Damage Component Material/Model/Type/Capacity	Location Address/GPS/begin-end	Damage Dimensions: (L x W x D/L x Dia) Electrical/Mechanical/etc.	
2	SEE ADDENDUM			
Method of Repair (change in design, materials, size, capacity etc.)			Cause of Damage	
			FA	Quantity
			CTR	Units
			Both	% Complete
Site #	Damage Component Material/Model/Type/Capacity	Location Address/GPS/begin-end	Damage Dimensions: (L x W x D/L x Dia) Electrical/Mechanical/etc.	
3	SEE ADDENDUM			
Method of Repair (change in design, materials, size, capacity etc.)			Cause of Damage	
			FA	Quantity
			CTR	Units
			Both	% Complete
Site #	Damage Component Material/Model/Type/Capacity	Location Address/GPS/begin-end	Damage Dimensions: (L x W x D/L x Dia) Electrical/Mechanical/etc.	
4	SEE ADDENDUM.			
Method of Repair (change in design, materials, size, capacity etc.)			Cause of Damage	
			FA	Quantity
			CTR	Units
			Both	% Complete

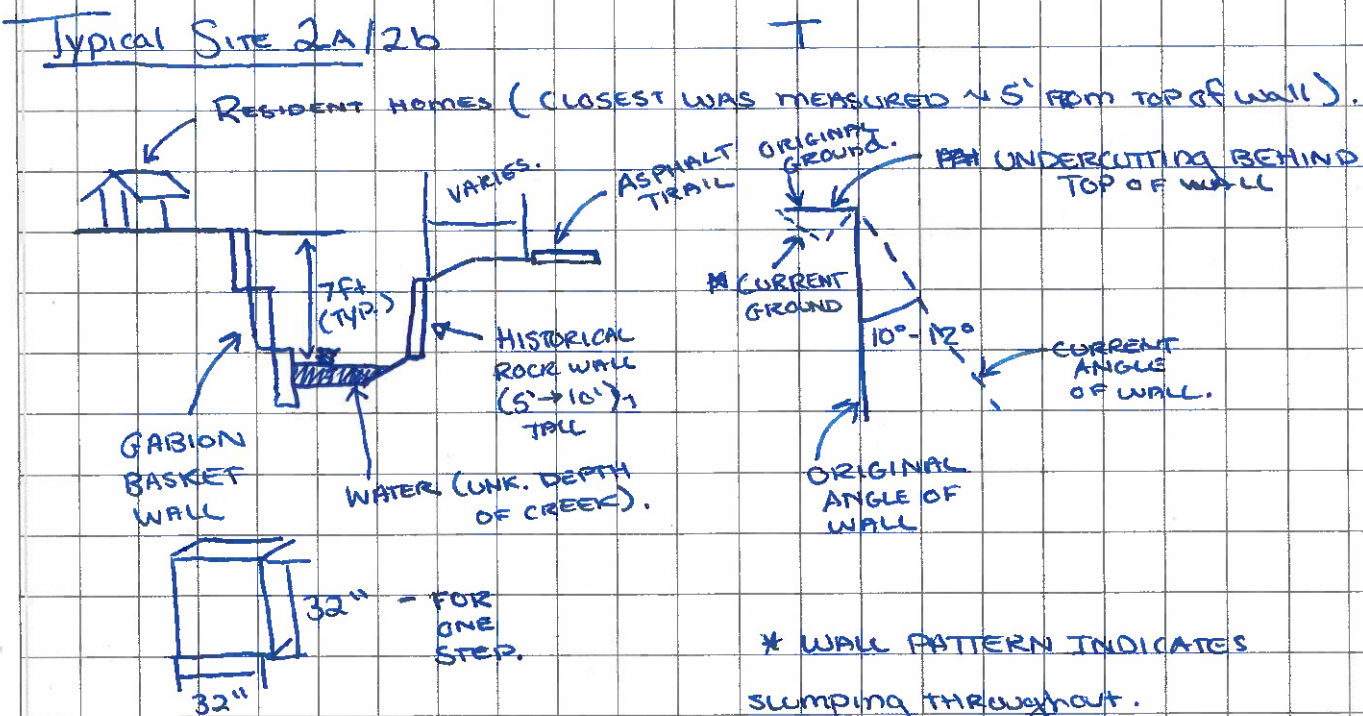
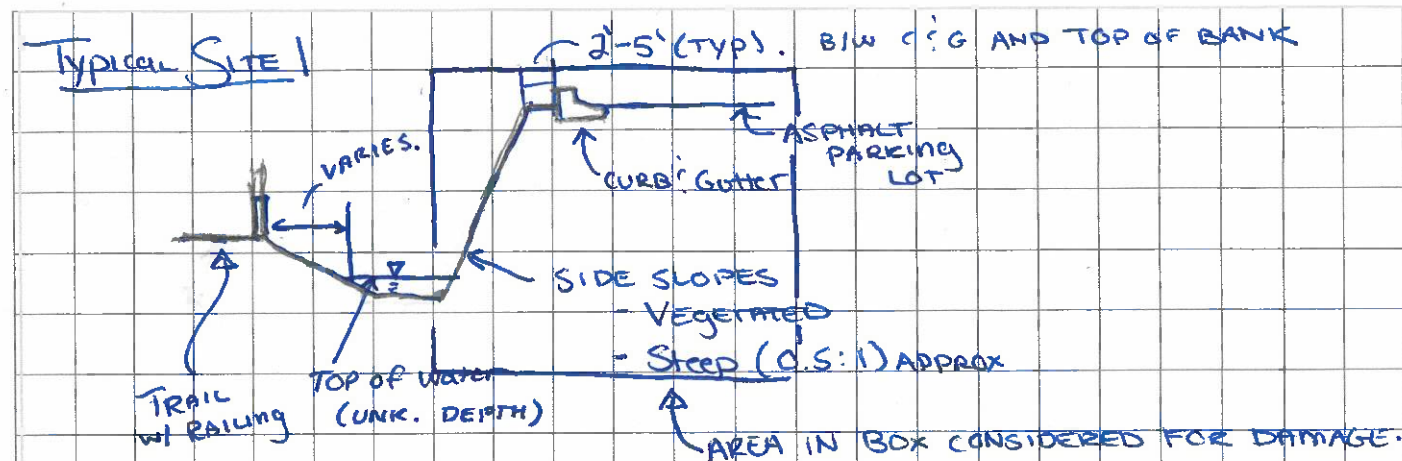
**Component Types:** 1-Embankment 2-Culvert 3-Weir 4-Fencing 5-Armor 6-Spillway 7-Dam 8-Service Road 9-Lining 10-Overflow Structure 11-Sprinkler Head 12-Drainage System 13-Vegetative Cover 14- Valve 15-Control Gate 16-Controls 17-Generator 18-Electrical Panel 19-Electrical Wire 20-SCADA 21-Other (Specify)

**Cause of Damage:** 1- Surface water flooding 2-Wind Driven Rain 3-Sewer Back up 4-Foundation Seepage 5-Lightning 6-High Winds 7-Tree Damage 8-Wind Blown Debris 9-Earthquake 10- Fire 11-Explosion 12-Other (Specify)

Applicant Representative Initials: \_\_\_\_\_

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Recipient Authorized Representative Initials (if applicable): \_\_\_\_\_

Work Order # (if applicable): \_\_\_\_\_ Damage # 35294SKETCH: (Click grid to upload an image): dm

\* WALL PATTERN INDICATES  
SLUMPING THROUGHOUT.

- SEE ADDENDUM FOR MORE INFORMATION.

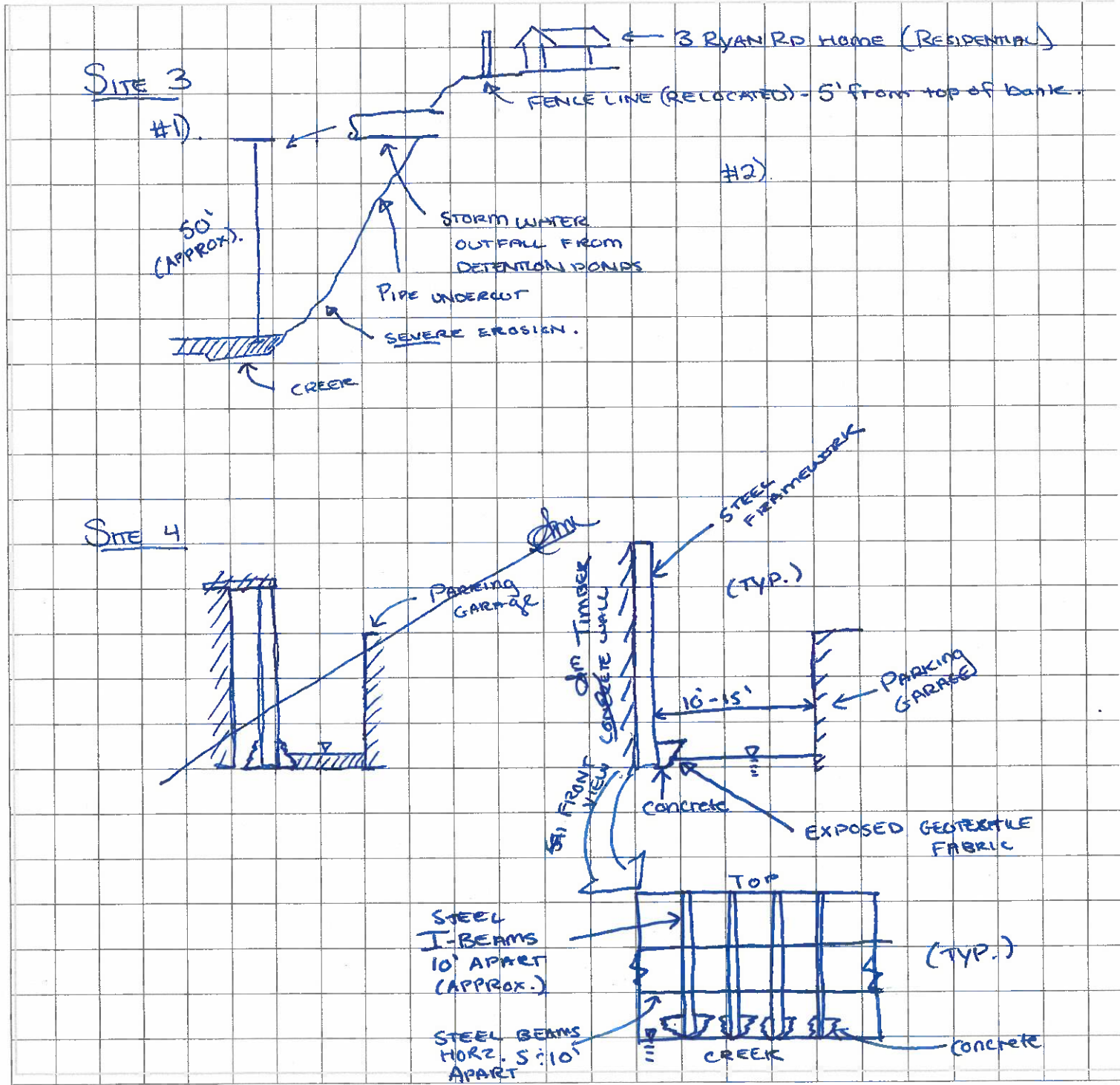
NOTES:

Applicant Representative Initials: \_\_\_\_\_

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Recipient Authorized Representative Initials (if applicable): \_\_\_\_\_

SKETCH: (Click grid to upload an image):



NOTES:

Applicant Representative Initials: \_\_\_\_\_

Recipient Authorized Representative Initials (if applicable): \_\_\_\_\_



**NOTE FOR SITE INSPECTOR:** Please ask the Applicant representative the following questions. Although the PDMG may have already asked some of these questions, the Applicant representative at the site inspection may have additional information. Use the Additional Notes section to record any additional explanation.

#### Mitigation Considerations

FEMA Public Assistance encourages protection of disaster-damaged facilities by providing assistance for cost-effective hazard mitigation measures that reduce or eliminate the risk of similar damage from happening again in a future event. For each question, elaborate on the answer in the space provided for comments.

1. Identify the specific cause of damage (such as wave action eroded or undermined the channel slope protection, water eroded material below the toe of the channel slope protection, etc.).

SEE ADDENDUM

2. Does the Applicant plan to perform additional work to protect damaged facilities against similar damage in a future event?

☒ Yes  
☐ No  
☐ Unsure

Comments:

\* UPGRADES TBD UNTIL OTHER COSTS ARE DETERMINED.

3. Will the Applicant provide a proposal for hazard mitigation work?

☒ Yes  
☐ No  
☐ Unsure

Comments:

IF REQUIRED

4. Would the Applicant like FEMA to prepare a proposal for hazard mitigation work?

☐ Yes  
☐ No  
☒ Unsure

Comments:

IF REQUIRED.

#### Insurance Considerations

FEMA is legally prohibited from duplicating benefits from other sources and will reduce eligible costs by the amount of insurance proceeds received.

1. Does the damaged facility have insurance coverage and/or is it an insurable risk (e.g., buildings, equipment, vehicles)?

☐ Yes  
☒ No  
☐ Unsure

Comments:

#### Environmental & Historic Preservation Considerations

FEMA is required to ensure that work complies with applicable environmental and historic preservations laws, regulations, and executive orders.

1. Is the damaged facility(ies) located within a floodplain or a coastal high hazard area and/or does it have an impact on a floodplain or wetland? Can the project site be impacted by flooding? Will work occur within 200 feet of a waterway/waterbody?

☒ Yes  
☐ No  
☐ Unsure

Comments:

IT IS A CREEK SO ALL WORK IS WITHIN THE FLOODPLAIN.

- EHP IS CONTACTED, H2H IS STARTED.

2. Is the damaged facility located within or adjacent to a Coastal Barrier Resource System Unit or an Otherwise Protected Area?

☐ Yes  
☒ No  
☐ Unsure

Comments:

Work Order # (if applicable): \_\_\_\_\_ Damage # \_\_\_\_\_

Category D

3. Will the proposed facility repairs/reconstruction change the pre-disaster conditions (e.g., footprint – including depth of footprint, material, location, capacity, use or function), including construction of an access road, establishing a staging area, or other work outside of the constructed right-of-way? If yes, describe changes or work outside of the constructed right-of-way. Provide detailed justification for the change (e.g. codes and standards).

- ☒ Yes  
☐ No  
☐ Unsure

Comments: SEE ADDENDUM.

4. Is the damaged facility(ies) listed on a local/state/national historic register or is it a locally recognized landmark? Is it older than 45 years? (Provide the age of the facility) Are there more, similar buildings near the site?

- ☒ Yes  
☐ No  
☐ Unsure

Comments:

EHP CONSULTED AND WAS  
ON THE SITE INSPECTION

POC:

5. Are there any large, undeveloped or undisturbed areas on, or near, the project site? (Select "yes" if there are large tracts of forestland, grassland, or naturally preserved areas, etc.)

- ☒ Yes  
☐ No  
☐ Unsure

Comments:

SEE COMMENT #4

6. Are there any hazardous materials at or adjacent to the damaged facility?

- ☐ Yes  
☒ No  
☐ Unsure

Comments:

7. Are there any other environmental or controversial issues associated with the damaged facility and/or work item? (select yes if facility is a road maintained by a Tribal Government or if the project necessitates the establishment of a new borrow area or the horizontal expansion of an existing borrow area.)

- ☒ Yes  
☐ No  
☐ Unsure

Comments:

SEE COMMENT #4.

8. Are there any known endangered species in the work area?

- ☒ Yes  
☐ No  
☐ Unsure

Comment

LIKELY CONSIDERING THIS  
IS A CREEK.

Additional Notes / Comments:

APPLICANT IS ACTIVELY WORKING w/ SHPO ON RESOLVING EHP CONCERNS. ENTIRE CREEK IS ON THE HISTORIC REGISTER. EHP WAS ON SITE (STEVE HARDEGAN R8 EHP).A

Applicant Representative Initials: \_\_\_\_\_

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Recipient Authorized Representative Initials (if applicable): \_\_\_\_\_

## **Whitewood Creek Site Inspection Addendum**

DR4467-SD Project #123108 Whitewood Creek

Applicant: City of Deadwood

Between June 30<sup>th</sup> and July 21<sup>st</sup>, 2019 Whitewood Creek in Deadwood, South Dakota was inundated with rapid flood waters and high velocity flows. Whitewood Creek runs through the center of Deadwood, SD and is adjacent to several homes. The event caused severe creek bank erosion to unimproved and improved creek banks. The creek is actively maintained and owned by the applicant as evidenced by their historical classification and maintenance records.

Originally Whitewood Creek's grant request was separated into two projects, Projects 123107 and 123108. After discussion with the applicant it was determined that the projects should be consolidated into Project 123108 because of the similar scopes and locations. FEMA site inspections were conducted on January 2020 and revised in April 2020. As the project continued to progress into 2022 new Program Delivery Managers (PDMG) were assigned to the project that could provide technical experience and assistance to the applicant's recovery process.

The new PDMGs (Jackson Massey and Samuel Manson, P.E.) noted through the review of the project that the Site Inspections and Damage, Description and Dimensions (DDD) were not accurate in capturing the actual damages. Materials were misclassified, damage sites were missed and photos were inconclusive of the damage. Since the DDD is written off the Site Inspection Report (SIR) for FEMA to determine eligibility of the applicant's project a new SIR needed to be created.

On September 27, 2022 FEMA staff from Public Assistance, Technical Assistance Group, Environmental Historical Preservation and Mitigation met with the State of South Dakota, City of Deadwood and Deadwood's Consulting Engineers to correct the site inspection and identify all the damages after the fact. It is understood that this is a site inspection 3 years after the event, and careful consideration needed to take place to assure damages are a direct result of DR4467-SD. The applicant had not done any repairs to the creek after the disaster and previously damaged items have been exasperated by the riverine flows.

### **Site Layout:**

The original DDD will be reworked to reflect the numbering system and locations referenced on the engineer's plans. Currently there are three (3) project sites and in the site inspection there were ten (10) stops made. Please refer to the Appendix A for a specific layout of the FEMA stops and project sites. In addition, Appendix A contains all photos from the site inspection and some photos from the applicant. Notations were made by Samuel Manson, P.E. that highlight evidence of damage. For the purposes of damage identification this report will break out damage findings in 10 Stops or areas. On the photo page all photos, unless notated otherwise, are taken at the date of this inspection.

### **Stop #1: Creek Damages adjacent to Parking Garage**

This creek area is surrounded by retaining walls and supports that are partially submerged underneath the creek. After the event the high velocity waters sped through the narrow retaining wall area causing heavy scouring on the concrete foundations for the steel bracing as evidenced by Photos 35-40. In

addition, geotextile fabric has been exposed and gabion baskets were destroyed due to the rapidly flowing water as shown in Photos #40 and #46.

On the other side of the steel braced timber wall severe erosion took place underneath the parking garage. The slope underneath the parking garage to the creek is unvegetated embankment and has shown signs of weathering as seen in Photos #41, #42, #44 and #45. In Photo #45 it is evident that the concrete protection around the supports have been removed.

### **Stop #2: Grizzly Structure**

The applicant wanted to show us an improvement they made just outside the previous damage. They added a Grizzly Structure that was meant to capture heavy debris for future events. Essentially it is a metal cage placed upstream from the creek sections that are routed underneath the city. The applicant is not requesting funding for the Grizzly Structure. See Photo #43.

### **Stops #3, #4: Privately owned homes behind City Hall**

The creek experienced minor damages behind the City Hall. The applicant asked FEMA to look at the retaining walls on the West side of the creek to see if there was a potential for funding. Upon inspection it was inconclusive whether or not the event caused the undercutting because the retaining walls that were damaged appeared older than the surrounding retaining walls. Since the damage was minor and inconclusive the applicant did not express interest in pursuing FEMA funds for that section.

### **Stop #5: Parking Lot and Project Site 1**

Stop #5 is the first area where the applicant has engineering plans identifying designs for the project. Photo 1 shows the area where the applicant plans on repaving the asphalt parking lot and place a 2-tier retaining wall. The banks of the creek seem to have eroded closer to the parking lot and could compromise the asphalt parking lot if left untreated. The Timber Wall adjacent to the old railroad bridge is clearly slumping and shows shear damage from high velocity waters as shown in Photos #2-#4.

The applicant provided FEMA with photos of the creekbanks shortly after the event. Photos #48-#59 show the unvegetated creek banks and the amount of erosion that took place. For the purposes of the damage description the entire earthen hillside from the rock wall on the north end to the timber wall on the south end is damaged. Looking at pre-disaster photos and site inspection notes the best way to estimate the volume of earthen embankment is to assume a 8FT height at 1:1 slope throughout. Please see Appendix E for a more detailed breakdown.

An area of environmental concern was noted as there are remnants of a Roundhouse located underneath the parking lot (See Photo #5). FEMA EHP was on site and will evaluate this item as it relates to the project.

### **Stop #6: North Banks of Creek – Project Sites 2a/2b**

The site inspection group walked along the north banks of Whitewood Creek to get the best view of the gabion basket wall on the southern bank for Site 2b. Starting from Project Site #1 and working our way towards the southwest the gabion basket wall progressively got more and more damaged. The gabion basket wall spans approximately 1,035 feet to a 7-foot depth. The wall has three tiers with each tier measuring at 32 inches in height. The baskets are 32" x 32" x 32" (L x W x H) and it is assumed 6 baskets



are used in each cross-sectional area. There are many homes and improvements that abut the gabion basket wall with the closest being a shed about 5-feet away from the top of wall.

The first 300 feet of wall from the railroad bridge had small sections of wire breakage and basket damage on the toes (See Photos #11-#15). A considerable portion of the 300 feet of wall is shown to be undercut by the riverbanks.

The remaining 735 feet of wall has begun to deform considerably from the erosion due to severe undercutting from the event (See Photos #16-#18). Originally the wall was placed perpendicular to the creek, however, is now angled at approximately 10-12 degrees from the original alignment (see SIR sketches). Uneven settling throughout the wall has created vertical bulges as a direct result of the compromised base. Also, the wall has horizontally deformed partly as a result of the increased shear stresses from the typical water level of the creek pushing against the banks. Due to the wall's deformations the backfill along the wall has begun to create a ditch where water can pool and seep through the back of the wall to the creek. This compromises the wall's form and function because it rapidly deteriorates its structural integrity.

Since the inspection took place three years after the event a lot of the damages from the original site inspection have been exacerbated because no construction took place. The applicant has indicated that the wall was damaged from the event and had been undercut. For the purposes of this site inspection the entire wall alignment on the southern bank of the creek should be considered damaged.

#### **Stop #7: South Bank of Creek**

A concerned resident allowed the site inspection group onto their property to get a better view of Site 2a, and to see the effects of Site 2b. The notations made in Stop #6 on the gabion basket wall were more apparent when inspecting the top of gabion basket wall. In addition, there was significant damage on the north bank of the creek where a rock wall was identified. The rock wall on Site 2a was accurately captured on the original site inspection so little to no changes are needed for the damage component on the DDD.

#### **Stop #8 & #9: Comfort Inn Parking Lot (Site 3a) – Bottom of Bank**

Behind the Comfort Inn on the east side of the creek there were several eroded sections. The biggest section was a 50' tall gully that had formed alongside an outlet pipe. During the event, floodwaters overtopped retention ponds above the outlet pipe and flowed down the adjacent cul-de-sac and eroded the aforementioned creek banks. The creek banks have been getting progressively worse as they threaten an adjacent landowner at 3 Ryan Rd.

To the north-west another section of erosion took place where three outlets are located at the same location. Stormwater came down Ryan Rd. and deposited rapidly flowing waters out of the pipes and eroded away the creek banks.

It is clear that the water surge has damaged the stormwater outlet running from the lower retention pond to the discharge point. The pipe is angled and undercut and has no structural support to allow future stormwater conveyance. There was no subsurface scoping of the pipe by the applicant. For the purposes of the damage description it is evident that the entire pipe length from the pond to the discharge point should be considered damaged.

**Stop #10: Upper and Lower Retention Ponds**

Stops 8 and 9 contain the discharge points for the tiered retention pond stormwater storage systems. During the inspection it was noted that the lower retention pond had been heavily vegetated. It is unclear the amount of storage and volumes the ponds are able to hold which is why the applicant plans on revisiting the ponds on the project. There was no physical damage to the ponds that were able to be seen at this time. The applicant has provided FEMA staff with easements that state they are the owner of the ponds.

**The Disaster #4467DR, which occurred between 6/30/2019 and 7/21/2019 , caused:**

- **Damage #352940; Whitewood Creek Embankments**

During the incident period, heavy storms caused high velocity flooding in the City of Deadwood, and along Whitewood Creek, which flows through the city. The creek, with its source in the canyons above Deadwood, was specifically affected as the embankment lining the creek was washed away. With continued rain in the area the fast-moving water up-rooted trees and vegetation lining the creek, eroding the banks and moving all debris down-slope causing extensive damage to embankments along the creek's path.

- **General Facility Information:**

- **Facility Type:** Drainage Channels
- **Facility:** Whitewood Creek
- **Facility Description:** Whitewood Creek provides a drainage avenue for the majority of Deadwood, SD. The City maintains the creek to ensure a water outlet due to snow melt and rain events. Entering the town from the SW, the creek is approximately 12 to 15 feet wide and anywhere from 8 to 12 feet deep along the upper end, with deeper and wider areas measured along its course before leaving town along White Creek Road, on the NE side of town.
- **Approx. Year Built:** 1900
- **Location Description:** City of Deadwood, SD
- **Start GPS Latitude/Longitude:** 44.35606, -103.73928
- **End GPS Latitude/Longitude:** 44.37260, -103.72881
- **Purpose:** Flood Control
- **Shape:** Rectangular
- **Dimensions (top) Width (ft):** 15
- **Dimensions (top) Depth (ft):** 12
- **Quantity of Material Deposited by Incident:** NA

- **General Damage Information:**

- **Date Damaged:** 7/3/2019
- **Cause of Damage:** Unconsolidated earthen material, rock, and debris were washed downstream by surface water flooding

- **Facility Damage:**

- **Site 1 (Start: 44.356063 -103.739284; End: 44.358859 -103.739326):**

- Embankment, 5,866.6667 CY of unconsolidated, earthen material, 1,056 FT long x 15 FT wide x 10 FT deep, surface water flooding, 0% work completed.
- Site 2, Location 1 (44.35928 -103.73926):
  - Embankment, 177.7778 CY of unconsolidated, earthen material, 60 FT long x 8 FT wide x 10 FT deep, surface water flooding, 0% work completed.
- Site 2, Location 2 (Start: 44.360542 -103.738718; End: 44.365029 -103.736302):
  - Embankment, 7,822.2222 CY of unconsolidated, earthen material, 2,640 FT long x 8 FT wide x 10 FT deep, surface water flooding, 0% work completed.
- Site 3, Location 1a (Start: 44.363951 -103.734533; End: 44.363927 -103.732218):
  - Embankment, 3,888.8889 CY of unconsolidated earthen material, 700 FT long x 10 FT wide x 15 FT deep, surface water flooding, 0% work completed.
- Site 3, Location 1b (44.363927 -103.732218):
  - Embankment, 1,851.8519 CY of unconsolidated earthen material, 100 FT long x 10 FT wide x 50 FT deep, surface water flooding, 0% work completed.
- Site 3, Location 2 (Start: 44.364009 -103.732115; End: 44.364945 -103.731519):
  - Embankment, 1,111.1111 CY of unconsolidated earthen material, 400 FT long x 7.5 FT wide x 10 FT deep, surface water flooding, 0% work completed.
- Site 4, Location 1 (Start: 44.369223 -103.733937; End: 44.372603 -103.728808):
  - Embankment, 15,972.2222 CY of unconsolidated earthen material, 2,300 FT long x 12.5 FT wide x 15 FT deep, surface water flooding, 0% work completed.
- Site 4, Location 2 (Start: 44.369223 -103.733937; End: 44.369964 -103.730542):
  - Armoring, 1,763.5556 CY of rock component , 992 FT long x 4 FT wide x 12 FT deep, surface water flooding, 0% work completed.

**The Disaster #4467DR, which occurred between 6/30/2019 and 7/21/2019 , caused:**

- **Damage #352941; Sherman Street Retaining Wall Bulkhead Failure**
  - **General Facility Information:**
    - **Facility Type:** Sediment, Debris, Retention/Detention Basins
    - **Facility:** retaining wall
    - **Facility Description:** Site 1: 150ft long quarry stone retention wall with primary use being to stop embankment erosion along Charles St and Whitewood Creek. Site 2: is a 400 ft long timber retaining wall with primary use being to stop embankment erosion between Charles St. and Whitewood Creek
    - **Approx. Year Built:** 1900
    - **Location Description:** Charles St., City of Deadwood , South Dakota 57732
    - **Purpose:** stop embankment erosion
    - **Capacity:** N/A
    - **Quantity of Material Deposited by Incident:** N/A
  - **General Damage Information:**
    - **Date Damaged:** 6/30/2019 to 7/21/2019
    - **Cause of Damage:** Swift moving waters inundated the area causing undermining of both sites retaining walls
  - **Facility Damage:**
    - site 1: 44.369876 -103.730853:
      - Retaining Wall, Flat Quarry Stone, 150 LF long x 8 LF high, Swift moving waters inundated the area causing undermining of retaining wall, 0% work completed.
    - Site 2: 44.370523 -103.728956:
      - Retaining Wall, wood Timber construction, 400 LF long x 10 LF high, Swift moving waters inundated the area causing undermining of retaining wall, 0% work completed.



Appendix D: Engineering Plans and DDD Coordination Table

**COORDINATION TABLE FOR WHITEWOOD CREEK RESTORATION PROJECTS**

FEMA Proj#	FEMA Site#	GPS Coordinates		Albertson Eng. (AEI) Proj Area#	Bid Package	Design Completion Status	Expected Start of Construction
		Start	End				
123107	Site 1	44.356063 -103.739284	44.358859 -103.739326	n/a	n/a	n/a	Already completed
123107	Site 2, Loc 1	44.35928 -103.73926	n/a	n/a	n/a	n/a	Already completed
123107	Site 2, Loc 2	44.360542 -103.738718	44.365029 -103.736302	n/a	n/a	n/a	Already completed
123107	Site 3, Loc 1a	44.363951 -103.734533	44.363927 -103.732218	n/a	n/a	n/a	Already completed
123107	Site 3, Loc 1b	44.363927 -103.732218	n/a	n/a	n/a	n/a	Already completed
123107	Site 3, Loc 2	44.364009 -103.732115	44.364945 -103.731519	Project Area 3	2	95%	2023
123107	Site 4, Loc 1	44.369223 -103.733937	44.372603 -103.728808	Project Area 2b	1	95%	2023
123107	Site 4, Loc 2	44.369223 -103.733937	44.369964 -103.730542	Project Area 2b	1	95%	2023
123108	Site 1	44.369876 -103.730853	n/a	Project Area 2a	1	95%	2023
123108	Site 2	44.370523 -103.728956	n/a	Project Area 1	1	95%	2023

APPENDIX E: Site 1 Breakdown

