

Carson Loop 6D Pipeline Project Public Meeting

Agenda

System
Overview



Carson
Loop 6D

System Overview - Current System Assets

OUR GOAL IS TO MAINTAIN EXISTING ASSETS IN ORDER TO PRODUCE THE NATION'S HIGHEST QUALITY WATER



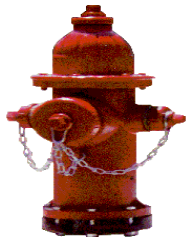
4 Treatment Plants
4 Raw Water Plants
2 Sludge Facilities



51 Distribution Pump Stations
41 Pressure Reducing Valves (PRV)



73 Potable and Raw Water Tanks



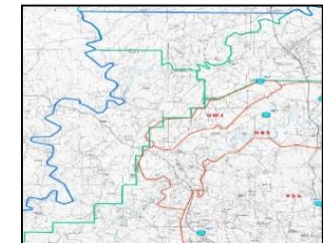
52,000 valves
15,000 hydrants



154 Buildings



6 Impoundments (Dams)



20 Pressure Gradients
Over 220,000 Meters/Connections

System Overview

Driver: Leakage is driven by Galvanized Steel and Un-Lined Cast Iron Pipes



- ✓ ***Galvanized Steel and Unlined CI account for only 15% of the system***
- ✓ **Galvanized Steel Pipe and Unlined CI Pipe Accounts for 67% of our Maintenance Activity**



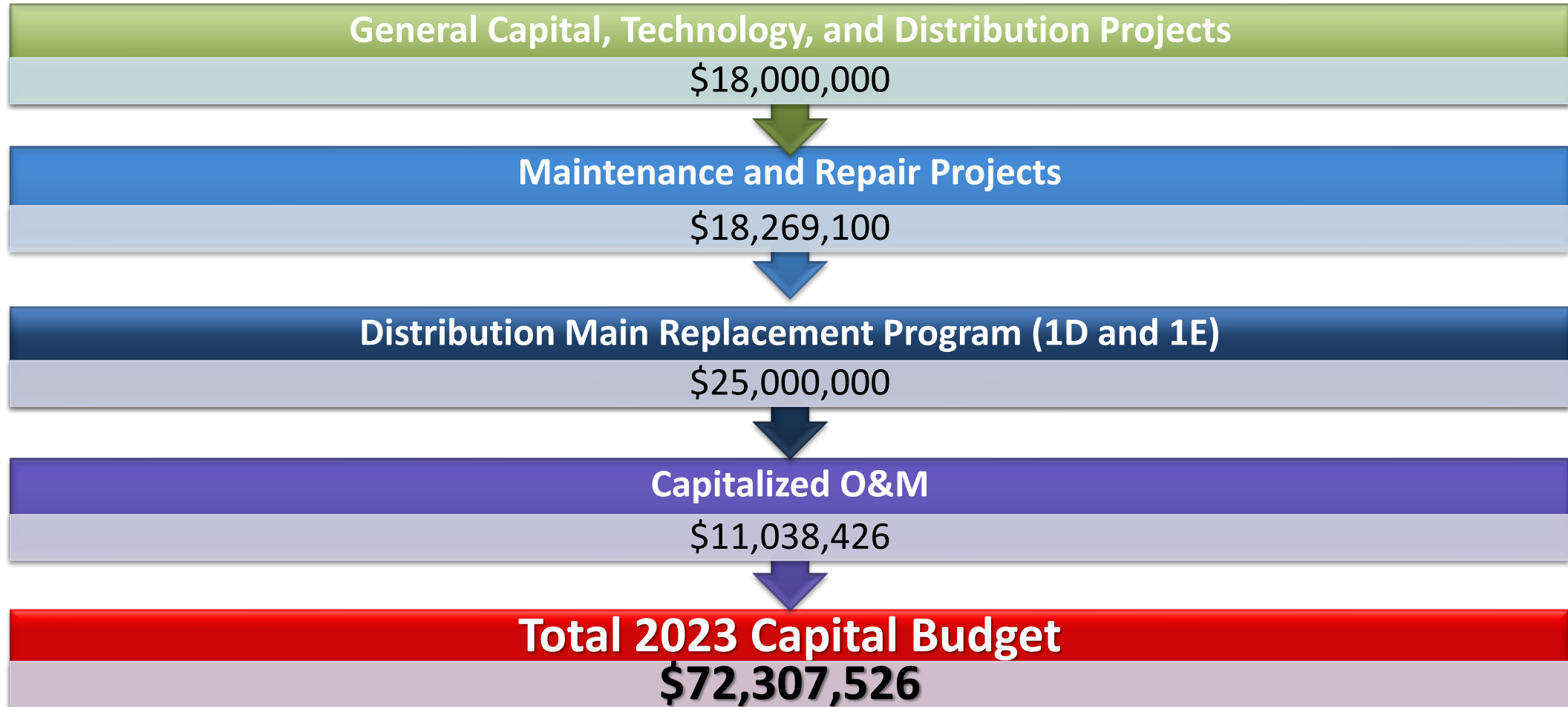
System Overview

Galvanized Steel Pipe by Age

| <u>Age in Years</u> | <u>GS (miles)</u> |
|---------------------|-------------------|
| 90+ years | 112.51 |
| 80-90 years | 8.21 |
| 70-80 years | 27.96 |
| 60-70 years | 54.14 |
| 50-60 years | 47.57 |
| 0-50 years | 14.12 |



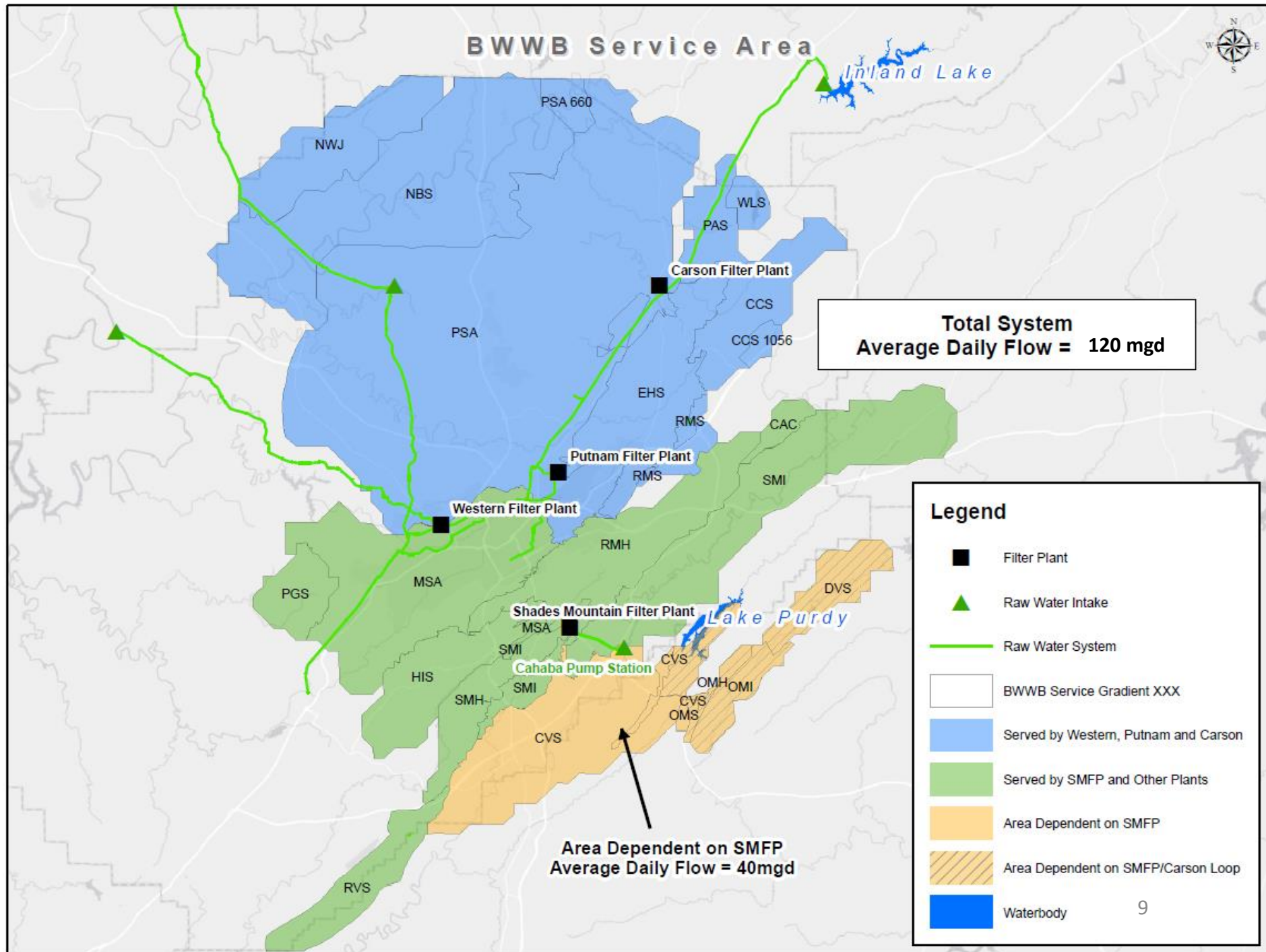
FY2023 Baseline Capital Budget



BWWB Supply Chain Product Increase Comparison

| Category | 2020 | 2022 | Percent Change |
|---------------------------|---------------|---------------|----------------|
| Asphalt Hot Mix Binder | \$49/ton | \$54/ton | 10.2% |
| Asphalt Hot Mix Seal | \$59/ton | \$72/ton | 22.0% |
| 6-Inch Ductile Iron Pipe | \$12.91/foot | \$22.58/foot | 74.9% |
| 8-Inch Ductile Iron Pipe | \$15.41/foot | \$28.50/foot | 84.9% |
| 12-Inch Ductile Iron Pipe | \$25.40/foot | \$44.26/foot | 74.2% |
| Meter Box & Lid | \$117.10/each | \$149.05/each | 27.3% |
| Crushed Stone-Backfill | \$11.00/ton | \$16.00/ton | 45.5% |

System Overview- Pressure Gradients



System Overview – Water Plants & Intakes

| Treatment Plant | Source Water | Description | Approved Capacity (MGD) | Average Daily Flow (MGD) |
|------------------------------|---|--|-------------------------|--------------------------|
| Shades Mountain Filter Plant | Cahaba River and Lake Purdy | The Shades Mountain Filter Plant can only be supplied with raw water from the Cahaba River system. | 80 | 55 |
| Western Filter Plant | Sipsey and Mulberry Forks | The Mulberry and Sipsey intakes and associated transmission systems provide water to the Western Filter Plant. During drought conditions, production can be shifted from the Shades Mountain Filter Plant to the Western Filter Plant and the H.Y. Carson Filter Plant. | 60 | 30 |
| Putnam Filter Plant | Inland Lake, Sipsey Fork, and Mulberry Fork | Inland Lake and the associated transmission system provide water to the Putnam Filter Plant. The Sipsey system is considered a secondary water supply for the Putnam Filter Plant and raw water customers. | 24 | 15 |
| H.Y. Carson Filter Plant | Inland lake | The H.Y. Carson Filter Plant and most of the raw water customers are supplied from Inland Lake. During an emergency, BWWB can deliver up to approximately 20 MGD from the Sipsey or Mulberry systems to the H.Y. Carson Filter Plant, in addition to the feed to the Western and Putnam Filter Plants and the industrial raw water customers. During drought conditions, production can be shifted from the Shades Mountain Filter Plant to the Western Filter Plant and the H.Y. Carson Filter Plant. | 25 | 15 |

Carson Loop 6D

Distribution Study Projects – Drought Mitigation and Risk Management

- Carson Loop

- ❖ Phases 1 through Phase 5
- ❖ Phase 6 A through C
- ❖ **Phase 6D**
- ❖ Phase 8 A through G

- Kiowa Road /Highway 79

- Bone Dry Road

- ALDOT Road Project- First Avenue North

- Everlee Interconnect - Hoover

Completed

Completed

Construction Phase: 2023

Completed

Bid Phase: 2023

Bid Phase: 2023

Scheduled in 2023

In Construction



Carson Loop Pipeline Overview

The Carson Loop Pipeline is a multi-phased project running from the Carson Filter Plant in Pinson, Alabama to the Cahaba Valley distribution system in the south region of our coverage area. The primary purpose of this pipeline is to provide an alternate source of potable water (filter water) south of town. The pipeline will be able to ease the demand on Lake Purdy, the Cahaba River and the Shades Mountain Filter Plant as the sole source of water for this area.

Current Project Scope: Carson Loop Phase 6D

- 3,650-feet of 36-Inch Ductile Iron Pipe
- Approximately 600-Foot Bridge
- Construction Duration: 18 months

Carson Loop Pipeline 6D Project Team

BWWB Representatives:

- Assistant General Manager – Derrick Murphy
- System Development Manager – Douglass Stockham
- Project Inspector – Todd Stewart

BWWB Independent Support Services:

- Field Services & Material Testing Firm: WSP
- Environmental Compliance Oversight: TTL, Inc

Design Engineer:

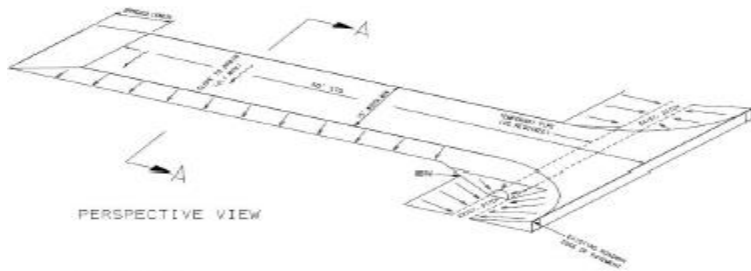
- Volkert, Inc

Contractor:

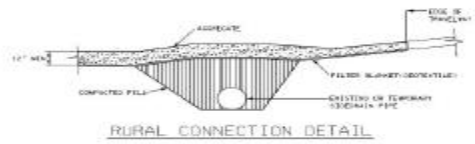
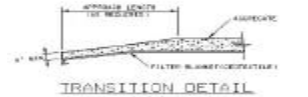
- Russo Corporation

Erosion Control- Best Management Practices Details

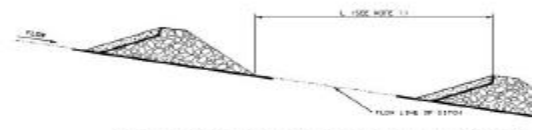
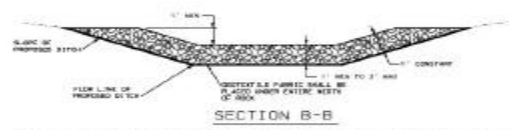
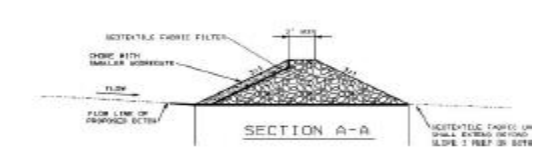
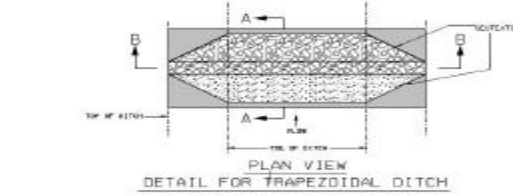
STABILIZED CONSTRUCTION ENTRANCE



- NOTES:
1. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED BY LOCATING BARS IN THE COURSE DESIGNATED LOCATIONS, SPACES OF AS APPROVED BY THE ENGINEER BASED ON SAFETY, ECONOMY AND CONSTRUCTION SEQUENCE. THESE ENTRANCES AND POINTS OF ENTRY FROM UNCONTROLLED AREAS OF THE PROJECT SHALL BE MAINTAINED UNTIL THE PROJECT IS COMPLETE. THESE ENTRANCES SHALL BE CONSTRUCTED WITH THE STABILIZED ENTRANCE. MATERIALS PLACED ON EITHER SIDE OF THE ENTRANCE SHALL BE USED AS DESIGNATED TO LIMIT AND DIRECT HIGHWAY TRAFFIC ALONG THE STABILIZED ENTRANCE.
 2. THE CONTRACTOR MAY PROVIDE AN ALTERNATIVE TECHNIQUE TO NON-METALIC WIRE MESH TRACING OF ENTRANCE. THE ALTERNATIVE MUST BE REVIEWED AND APPROVED BY THE ENGINEER PRIOR TO ITS USE.
 3. ALL MATERIALS SPILLED, DROPPED, OR TRACKED ONTO PUBLIC ROADS INCLUDING THE STABILIZED CONSTRUCTION ENTRANCE, ADJACENT AND CONTIGUOUS AREAS SHALL BE REMOVED IMMEDIATELY AND FREQUENTLY, OR AS DIRECTED BY THE ENGINEER.
 4. SUBGRADE SHALL BE ASBESTOS FREE. STEEL REINFORCING BARS SHALL BE USED AS APPROVED BY THE ENGINEER AND THE CONTRACTOR SHALL MAINTAIN THE PROTECTIVE AND IMPERMEABLE BARS.
 5. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL ALLOW IT TO PERFORM ITS FUNCTION TO PREVENT EROSION TRACKING. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE CLOSED WHEN NECESSARY TO MAINTAIN OR CONDUCT WORK THAT THE ENGINEER DETERMINES IS NECESSARY TO THE PROJECT AND LEADING TO THE STABILIZED ENTRANCE MAY BE REQUIRED TO LEAVE THE ROAD TRACKING.
 6. THE MINORAL SIZE OF A STABILIZED CONSTRUCTION ENTRANCE IS 1/2" (12.5) UNLESS OTHERWISE SPECIFIED IN THE PLAN. IF THE WIDTH OF ENTRANCE AND EXISTING VEHICULAR WIDTH IS 30' + FEET, A 30' + FEET SHALL BE USED IF APPROVED BY THE ENGINEER.



DETAILS OF ROCK DITCH CHECKS



TEMPORARY ROCK DITCH CHECKS IN ROADSIDE DITCHES

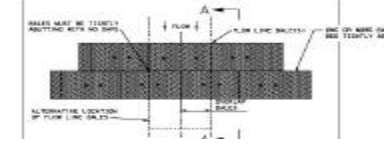
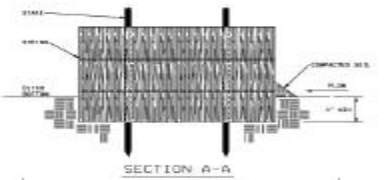
DETAIL FOR SPACING BETWEEN DITCH CHECKS

- NOTES:
1. MINORAL SPACING FOR ROCK DITCH CHECKS SHALL BE 30 FEET OR AS DIRECTED BY THE ENGINEER.
 2. ROCK DITCH CHECKS SHALL BE CHECKED WITH FILLER PAPERS.
 3. SEE LIST 11-3 FOR APPROVED CHECKS.

ROCK DITCH CHECK SELECTION GUIDELINES

THE TYPE AND SIZE OF ROCK USED TO CONSTRUCT THE CHECKS WILL BE SELECTED BY THE DESIGNER AND SHOWN ON THE PLAN. THE SLOPE OF ROCK CHECKS WILL BE PROPORTIONAL TO EXPECTED FLOW AND VELOCITY.

DETAILS OF HAY BALE DITCH CHECKS

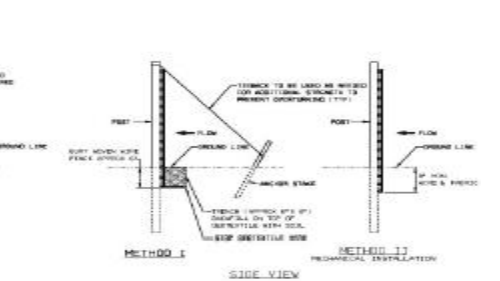
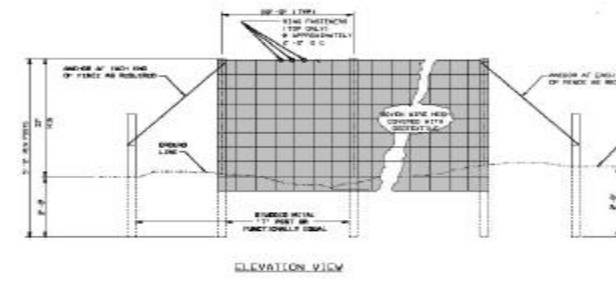


- NOTES:
1. MINORAL SPACING BETWEEN CHECKS SHALL BE 100 FEET UNLESS OTHERWISE SPECIFIED ON THE PLAN AS APPROVED BY THE ENGINEER. SEE SPECIFIC GUIDELINES IN EROSION CONTROL.
 2. HAY BALE CHECKS SHALL BE 18" HIGH, CHECKS MAY BE 6' WIDE OR 8' WIDE. HAY CHECKS SHALL BE PLACED WITH BUNDLES PARALLEL TO THE DITCH.
 3. HAY CHECKS SHALL BE PLACED IN A ROW AT REGULAR INTERVALS ALONG THE HAYCHECK WALL. THE HAY CHECKS SHALL BE PLACED WITH BUNDLES PARALLEL TO THE DITCH.
 4. HAY CHECKS SHALL BE PLACED IN A ROW AT REGULAR INTERVALS ALONG THE HAYCHECK WALL. THE HAY CHECKS SHALL BE PLACED WITH BUNDLES PARALLEL TO THE DITCH.
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HAY BALE DITCH CHECK SELECTION GUIDELINES

HAY CHECKS AND SPACING TO PREVENT FLOW TRACKING SHALL BE 100 FEET UNLESS OTHERWISE SPECIFIED.

DETAILS OF SILT FENCE INSTALLATION



- NOTES:
1. METHOD 1 FENCE INSTALLATION ALSO TO PREVENT TRACKING AND TRACKING IS REQUIRED.

QUESTIONS

