

15. An area shall be considered to have achieved final stabilization when it has a minimum uniform 70% perennial vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated surface erosion and subsurface characteristics sufficient to resist sliding and other movements.
16. If earth disturbance activities are to cease for more than 4 days the operator shall stabilize any exposed disturbance by seeding, mulching, or other means. During non-germination periods, mulch must be applied. Disturbed areas which are not at finished grade and which will be redistributed within 1 year must be stabilized in accordance with temporary vegetative stabilization. Disturbed areas which are to be finished grade or which will not be redistributed within 1 year must be stabilized with permanent vegetative stabilization.
17. Erosion control blankets are recommended to be installed on all slopes 3:1 or greater.
18. The operator shall remove the site, recycle, or dispose of all building materials and wastes in accordance with the PA DEP's solid waste management regulations at 25 pa. Code 260.1 et seq. and 287A.1 et seq. The contractor shall not illegally burn, dump, or discharge any building material or wastes at the site.
19. The Contractor is responsible for ensuring that any material brought on site is clean fill. From FP-001. Must be retained by the property owner for any fill material affected by a spill or release of a regulated substance but qualifying as clean fill due to analytical testing.
20. Fill materials shall be free of foreign particles, brush, roots, sod, or other foreign or objectionable materials that would interfere with or prevent construction of their design.
21. Frozen materials or a soft, mucky, or highly compressible materials shall not be incorporated into fills.
22. Fill shall not be placed on saturated or frozen surfaces.
23. Steps or springs encountered during construction shall be handled in accordance with the standard and specification for subsurface drain or other approved method.
24. All graded areas shall be permanently stabilized immediately upon reaching finished grade. Cut slopes in competent bedrock and rock fills need not be vegetated. Sides within 50 feet of a surface water, or as otherwise shown on the plan drawings, shall be blanketed according to the standards of this plan.
25. Immediately after earth disturbance activities cease in any area or subarea of the project, the operator shall stabilize all disturbed areas. During non-germination months, mulch or other seed-retaining stabilizing material shall be applied to the disturbed area. Areas not at finished grade which will be reactivated within 1 year, may be stabilized in accordance with the temporary stabilization specifications. Those areas which will not be reactivated within 1 year shall be stabilized in accordance with the permanent stabilization specifications.
26. Permanent stabilization is defined as a minimum uniform, perennial 70% vegetative cover or other permanent non-vegetative cover with a density sufficient to resist accelerated erosion and fill slopes shall be capable of resisting failure due to slumping, sliding, or other movements.
27. E&S BMP's shall remain functional as such until all areas tributary to them are permanently stabilized or until they are placed by another BMP approved by the Department.

- ### Construction Sequence:
- A generalized construction sequence is provided below. The construction sequence is intended to provide a general course of action in order to assist the contractor with construction of the channel. Necessary parts for proper and complete execution of work pertaining to this plan, whether specifically mentioned or not, are to be performed by the contractor. The contractor shall comply with all requirements listed in this section. The contractor may be required to alter construction based on differing conditions encountered in the field.
1. Use and maintain existing access road.
 2. Locate the channel centerline and extent of grading, with staking and/or flagging, prior to construction.
 3. Install sill fence near the existing stream as necessary before excavation. After excavation practices, sill fence may be installed within excavation areas if necessary.
 4. Strip and stockpile topsoil if encountered.
 5. Prior to channel construction excavate a test trench from the quarry rim to elevation 101' or to the top of native material under the observation of the Department's Representative. Slope, step, and stabilize the sides of the test trench as needed for Department's Representative to access within 3 feet of the bottom for observation of subsurface conditions. Remove all loose material from test excavation to expose subgrade for observation.
 6. If native soil is not encountered above elevation 98' continue excavating the test trench eastward from the quarry with a bottom elevation greater than 98' to 3+25. If native soil is still not encountered, deepen the trench in increments no greater than 6" until native soil is encountered and set the outlet elevation at the elevation where native soil is encountered. If native soil is encountered below elevation 98', revise the grade of the channel. To the extent practical, keep a maximum of 1.7% channel grade to maintain use of R-5 rip-rap for 3' flow depth as directed by the Department's Representative.
 7. Begin excavation of the channel from the downslope end at Sta 0+00. Match the end of the channel to the existing stream channel with the same width, depth, and bank slopes. Proceed upgradient maintaining an upslope barrier to protect the work until the final completion is made to the site.
 8. Excavated materials may be spread on the ground surface at the Department's direction.
 9. Pump water, as necessary, out of excavation areas.
 10. Install rip-rap in the lower tier of the channel.
 11. Install NA Green Channel lining on the upper tier of the channel's.
 12. If lowering of the water level in the quarry is needed so that the weir outlet can be installed in relatively dry conditions refer to the Pumping Plan.
 13. Complete the channel excavation up until the interface of the channel to the pond.
 14. Install rip-rap in the remaining portion of the lower tier of the channel's.
 15. Install NA Green Channel lining on the remaining upper tier portion of the channel.
 16. Install topsoil and erosion control blankets on disturbed areas (outside of the channel).

A generalized construction sequence is provided below. The construction sequence is intended to provide a general course of action in order to assist the contractor with construction of the channel. Necessary parts for proper and complete execution of work pertaining to this plan, whether specifically mentioned or not, are to be performed by the contractor. The contractor shall comply with all requirements listed in this section. The contractor may be required to alter construction based on differing conditions encountered in the field.

1. Use and maintain existing access road.
2. Locate the channel centerline and extent of grading, with staking and/or flagging, prior to construction.
3. Install silt fence near the existing stream as necessary before excavation. After excavation practices, silt fence may be installed within excavation areas if necessary.
4. Strip and stockpile topsoil if encountered.
5. Prior to channel construction excavate a test trench from the quarry rim to elevation 101'.

If native soil is not encountered above elevation 98' continue excavating the test trench eastward from the auarru with a bottom elevation 98' to Sta 3-25. If native soil is still not encountered, deepen the trench in increments no greater than 6" until native soil is encountered and set the outlet elevation at the elevation where native soil is encountered.

If native soil is encountered above or below elevation 98', revise the grade of the channel. To the extent practical, keep a maximum of 1.7% channel grade to maintain use of R-5 rip-rap for 3" flow depth as directed by the Department's Representative.

Begin excavation of the channel from the downslope end at Sta 0+00. Match the end of the channel to the existing stream channel with the same width, depth, and bank slopes.

Install a geotextile fabric upslope barrier to protect the work until the final connection is made to the inlet.

6. Begin excavation of the channel from the downslope end at Sa 0+00. Match the end of the channel to the existing stream channel with the same width, depth, and bank slopes. Proceed upgradient maintaining an upslope barrier to protect the work until the final connection is made to the tailer.
7. Excavated materials may be spread on the ground surface at the Department's direction.
8. Pump water, as necessary, out of excavation areas.
9. Install riprap in the lower tier of the channel.
10. Install NA Green Channel lining on the upper tier of the channel.
11. If lowering of the water level in the quarry is needed so that the weir outlet can be installed in relatively dry conditions refer to the Pumping Plan.
12. Complete the channel excavation up until the interface of the channel to the pond.
13. Install riprap in the remaining portion of the lower tier of the channel.
14. Install NA Green Channel lining on the remaining upper tier portion of the channel.
15. Install topsoil and erosion control blankets on disturbed areas outside of the channel.

- **Silt Fence** – Silt fence should be inspected weekly and after each runoff event. Needed repairs should be initiated immediately after the inspection.
- **Geotextiles** – Where visible, geotextile should be inspected weekly and after runoff event. If geotextile is damaged, it will be repaired immediately after the inspection.
- **Rock** – All riprap shall be inspected at least weekly and after each runoff event. Displaced riprap shall be replaced immediately.

- **Erosion Control Blanket** – Blanketed areas shall be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage throughout the blanketed area. Damaged or displaced blankets shall be restored or replaced within 4 calendar days.
- **Pumped Water Filter Bag** – Filter bags shall be inspected daily. If any problem is detected, pumping shall cease immediately and not resume until the problem is corrected.
- **Temporary Seeding** – Seeded areas will be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage. If areas that have been vegetated are observed to have any rills, gullies or eroded areas, the area will be regraded and new seeding will be applied as soon as practicable.
- **Permanent Seeding** – Seeded areas will be inspected weekly and after each runoff event until perennial vegetation is established to a minimum uniform 70% coverage. If areas that have been vegetated are observed to have any rills, gullies or eroded areas, the area will be regraded and new seeding will be applied as soon as practicable.
- **Mulch and Soil Supplements** – Mulched areas will be inspected weekly and after each runoff event. If areas that have been mulched are observed to have any rills, gullies or eroded areas, the area will be regraded and new mulch will be applied as soon as practicable.

An existing portable pump is attached to a floating raft within the quarry pit. The pump is a Flygt high head impeller. According to the manufacturer, the pump may be capable of pumping 780 gpm, but that would be the maximum and at the end of the pump curve. The pump may be no lower than 65 ft under water. The pump discharges to a buried discharge line that discharges at the existing Primrose Creek channel. The contractor or Department will verify the buried pipe discharge diameter.

The pump has reportedly maintained pumping 0.78 million gallons per day (541 gpm)

The current water level in the quarry is at approximately 95 ft. The quarry may need to be lowered in a safe and controlled manner for the installation of the weir outlet.

The lower tier of the channel is sized for a higher flow rate than the current pump capacity. The existing discharge line may be directed into the completed channel where it meets Primrose Creek while the remaining channel and outlet is constructed.

level in a safe and controlled manner to allow for installation of the quarry outlet.

1. The existing decant pipe condition is unknown but is currently used for dewatering. A second temporary overland discharge pipe from the pump location at the quarry to the proposed discharge point may be installed to facilitate pumping.
2. The recommended temporary pipe is 12-inch HDPE and shall discharge to the lower tier channel.
3. Provide air bridges or protective soil cover for the piping at anticipated construction crossings, otherwise the temporary piping may be placed at grade.
4. Mobilize and setup the active pumping system including:
 - a. Fuel storage containment system in accordance with an approved spill prevention control and countermeasures plan.

- b. Suction hose attached with flutation buoys and intake screen.
 - c. Pipe connections for pump and discharge lines.
5. Alternative to initial pumping in step 4; mobilize and set up a siphon system including:
- a. 12-inch manual shutoff valves with anchors and fittings. One valve must be located near the proposed 12-inch HDPE pipe discharge. A second valve may be used near the inlet pipe and the contractor may use the pipe and fittings for filling/charging the line.
 - b. Air release valve located toward the downstream side of the pipeline high point to allow air to escape from the 12-inch pipeline during line filling.
 - c. Supply pump, fittings and intake screens as required to fill the entire 12-inch siphon pipeline with water.
6. General pump operation procedure:
- i. Close the 12-inch valve near the pipe discharge, open the air release valve, fill the line by pumping until all air is removed from the pipeline
 - ii. Close the air release, open the inlet of the 12-inch pipe with the inlet submerged, removing the pump connection and/or closing the inlet isolation valve (if used)
 - iii. Open the 12-inch valve near the pipe discharge and operate the siphon as directed by the owner
 - iv. After siphoning is discontinued or no longer possible, convert to the pumping system as described in step 5 above.
6. Connect all piping and position suction hoses attached to flutation buoys with positioning ropes secured to the shore with intake screens so limit debris entering the suction pump.
7. Initiate pumping dewatering operations (or siphoning) at an anticipated flow rate of 780 gallons per minute with an impoundment drawdown rate of approximately 0.23 ft per day and discharge pumped clear water to the pipe outlet protection at the outlet of the level 12-inch HDPE pipe. It is the contractor's responsibility to lower the water level in the pit in a manner that does not endanger the properties along the receiving stream.
8. Monitor the area around the impoundment for signs of seepage or instability during drawdown. Adjustments to allowable drawdown rates may be considered based on observations during initial pumping.
9. Keep a daily record of the estimated impoundment water level, pipe and pipe outlet conditions, condition of the downstream channel.
10. As the water level decreases, move pumping operations to a new elevation as needed. Reposition suction hoses, flutation buoys, positioning ropes, discharge pipe, and spill controls as required.
11. Continuously monitor discharge for any potential solids intrusion. When solids are encountered, suspend pumping until a suitable combination of the suction hose and flutation buoy with solid/catchers can be located. Discharge by gravity, unless this will be sufficient, suspend to control any solid discharge.
12. Allow drawdown to continue so that the quarry outlet can be installed in relatively dry conditions.
13. Maintain low water levels in the impoundment by pumping as needed until the channel can be constructed and pit and vegetation is completed.

QUARRY DISCHARGE OUTLET PROJECT
NEW HOPE CRUSHED STONE & LIME CO.

SOLEBURY TOWNSHIP

BUCKS COUNTY

NOTES

02248-C-002



SUBMITTED BY:
Heather Trexler, PG, Project Manager

APPROVED BY:

DATE:	12/01/2023	PLOT DATE:	12/01/2023
DRAWN BY:	JNB	CHECKED BY:	HT

ALL EXISTING CONDITIONS SHALL BE CHECKED
AND VERIFIED BY THE CONTRACTOR AT THE SITE

REVISIONS

NO.	BY	DATE	DESCRIPTION
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