



CONTRACT

VILLAGE OF SUGAR MOUNTAIN
TROPICAL STORM HELENE RECOVERY
(FUNDED BY FEMA)

Sugar Mountain Drive Road/Embankment Repair Project

THIS CONTRACT, made this day _____, by and between **CONTRACTOR NAME**, hereinafter called the "Contractor" and the **VILLAGE OF SUGAR MOUNTAIN, NC**, hereinafter called the "Village," WITNESSETH, that the Contractor and the Village for the consideration stated herein mutually agree as follows:

WHEREAS, the Village desires to engage Contractor to perform road/embankment repair services related to damages resulting from Tropical Storm Helene (hereinafter individually or collectively referred to as the "Property"), pursuant to the terms of this Contract;

Authority and Responsibility

The "Village" referred to throughout this document shall mean the Village and all its staff, Departments, Divisions, policies and practices, that provides the funds for the Contract. The successful Bidder shall enter into this Contract for repair/restoration work with the Village. The Village is responsible for the administration of the work covered by these General Provisions and Scope of Work, only to the extent referenced therein, and is also the designated administrative authority that checks and approves plans.

The "Inspector" is the Village's designated representative who is assigned with the duty to manage and inspect specific assigned FEMA programs and projects and shall serve as the project quality control inspector and coordinator, carrying out all the functions of contract administration with the goal of providing project quality and timely construction scheduling and completion.

The "Contractor" is the name of the Contractor and its Owner(s) performing a project under an executed repair/restoration contract. The Contractor shall perform all work described in the Scope of Work, in accordance with the contract documents and the general provisions and scope of work included herein. The Contractor shall perform as project manager, maintaining continuous contact with the Village and the Inspector regarding the project status and any problems.

NOW THEREFORE, the Contractor and the Village, for the consideration stated herein, mutually agree as follows:

1. STATEMENT OF WORK. The Contractor shall furnish all supervision, labor, materials, machinery, tools, equipment, and services necessary to perform road/embankment repair services at Sugar Mountain Drive. All work shall be completed in an efficient and workmanlike manner and in strict accordance with the Scope of Work and the Request for Bids, which the Contractor acknowledges receiving and which are incorporated into this Contract as if fully set forth herein. The following documents are hereby incorporated into and made part of this Contract:
 - a. This Contract
 - b. Attachment A: Scope of Work
 - c. Attachment B: Pricing and Bid/Pay Items
 - d. Attachment C: Project Specifications
 - e. Attachment D: Contract Terms and Conditions for Construction Contracts

In the event of a conflict between the attachments listed above, the Contract Terms and Conditions shall govern, followed by the Scope of Work, then the Pricing and Bid/Pay Items, unless otherwise specified.

2. CONTRACT PRICE. The Contractor shall be compensated based on the number of units used times the unit rates in the Price Proposal for the repair/restoration services listed herein.
3. CONTRACT AWARDS AND NOTICE TO PROCEED. The Village may award multiple contracts under the Request for Bids when doing so is determined to be in the Village's best interest. All awards shall be made to the lowest responsible and responsive bidders in accordance with applicable procurement requirements. The Village further reserves the right to reject any or all bids, to waive informalities, and to make multiple or no awards at its sole discretion.

This Contract is non-exclusive and does not guarantee the Contractor any minimum or specific volume of work. Execution of this Contract does not obligate the Village to issue a Notice to Proceed (NTP) for any portion of the work.

For each assignment of work, the Village will issue a written NTP specifying the scope and description of work, estimated quantities, required timeline for completion, and payment terms applicable to that assignment. No work of any kind shall begin until the Contractor receives a written Notice to Proceed (NTP) for that specific assignment.

4. PAYMENT, COMPENSATION, AND QUALITY REQUIREMENTS.
 - a. Method of Payment. Payment will be made as progress payments based on the approved Schedule of Values and the unit prices established in the Rate Sheet (Attachment B). Each progress payment is contingent upon:
 - Completion of the portion of work corresponding to the applicable line items in the approved Schedule of Values.
 - Inspection and approval of the completed work by the Village.
 - Submission of an invoice by the Contractor to the Village reflecting the approved progress payment amount, including all required certifications of inspection and other applicable work certifications.

- All documentation required for FEMA Public Assistance reimbursement, including load tickets, haul logs, material certifications, and disposal site documentation, shall be included with each invoice.

Final payment for 100% of the work will be issued upon full completion of all contracted work, satisfaction of all inspection and documentation requirements, and resolution of any deficiencies.

- b. Compensation Structure. Services will be billed on a unit rate basis as specified in Attachment B. The Contractor may submit itemized invoices upon completion of each project or monthly for ongoing services. All invoices must include:

- Location(s) of work performed.
- Materials used and quantities.
- Start and completion dates.
- Material source and disposal site information.

All pricing must align with the approved Rate Sheet unless otherwise authorized in writing by the Village. No price adjustments will be made for underruns or overruns of actual quantities compared to estimated quantities. Unit prices include all labor, equipment, materials, overhead, and profit, unless otherwise specified. Contract quantities are approximate; no minimum or maximum amount of work is guaranteed.

- c. Quality Control and Inspections. The Contractor is responsible for performing all necessary quality control to ensure compliance with required specifications. The Village reserves the right to inspect the work at any time. Any work failing to meet specifications must be corrected by the Contractor at no additional cost. The Contractor, by execution of this Contract, agrees to hold the Village harmless from all claims or liens for labor or materials furnished or used in the performance of the work, whether provided by the Contractor or any subcontractor.

Authorized local, state, and federal government agency representatives shall have the right to examine and inspect work included in any Repair/Restoration Work contract financed by the Village and will inform the Village directly of any noncompliance with the terms of the contract. Also, these representatives shall be permitted to examine and inspect all contracts, materials, equipment, payroll, and conditions of employment pertaining to the repair/ restoration work, including all relevant data and records.

Work performed without the required local permits and inspections will be subject to scrutiny and possible non-acceptance by the Village. **The Inspector will provide coordination between the Contractor and the Village, but it is the Contractor's ultimate responsibility to ensure that the necessary interim and final inspections are requested and performed.**

The Inspector and the Village will make periodic visits to the job site during repair/restoration. The Contractor will be expected to fully cooperate in the conduct of these inspections. If the Contractor is not on the job, he shall designate a responsible person who is regularly on the job to discuss conditions with these authorized representatives.

Final Inspection and Payment. Final inspections by the Inspector and the Village will be made before 100% payment is made to the Contractor. Upon completion of all work and the correction of any deficiencies, full payment shall be authorized to the Contractor.

5. **PERFORMANCE CRITERIA.** In order for the Village to complete repair/restoration activities on an efficient basis, specific performance standards and time limits for contract execution and completion have been outlined in the Village's written contract award policy, which the Contractor may review upon request. Failure of the Contractor

to comply with these performance standards and time limits may result in rejection of bids, awards, and/or contract termination. Failure to maintain the performance standards outlined below will result in re-award of current awards to other Contractors and possible exclusion from the active Contractors' list.

The Contractor must have a working record acceptable to the Village, as defined by the performance criteria outlined in this section.

The Contractor must perform warranty work in a timely and conscientious manner. Falsification or alteration of bid and/or contract documents will be grounds for termination of existing work and exclusion from the Village's FEMA programs.

The Contractor must make regular payments to suppliers and subcontractors. The Contractor must ensure that liens are not filed against property included in the project, and that any liens or judgments against him are satisfied such that they do not affect his financial capability to accomplish repair/restoration work.

The Contractor will receive written notification from the Village prior to any negative action taken regarding his performance and may appeal the Village's actions in accordance with the written complaint procedure for the appropriate program.

The Contractor shall furnish all supervision, technical personnel, labor, materials, machinery, tools, equipment, fixtures, and services, including transportation services, and shall perform all required work in an efficient and workmanlike manner. The Contractor shall perform all the repair/restoration work as described in the scope of work and plans, in accordance with the provisions of all the Contract Documents. Permits shall be posted and maintained by the Contractor at the job site at all times for the purposes of viewing by the Village. A copy of the scope of work shall be available at the job site at all times.

The Contractor is responsible for any damages caused by encroachment on adjacent properties or on regulated setback areas. Encroachment damage shall be corrected by the Contractor at no cost to the Village.

The Contractor shall exercise due caution in the protection of existing utilities and structures and facilities during the period of repair/restoration. Facilities include all water, gas and sewer lines; lighting, power, cable/satellite TV or telephone conduits and wires; building connections in place; and other surface and subsurface structures or lines. If, in the performance of the work, the Contractor disturbs, disconnects, or damages any of the above, all expenses of whatever nature arising from such disturbance, or in replacing or repair thereof, shall be paid by the Contractor, unless otherwise stated in the contract documents due to special circumstances.

6. **PERFORMANCE STANDARDS.** All work must be performed in accordance with applicable NCDOT Design Standards and Specifications. The Contractor shall comply with all applicable Federal, State, and Local laws, ordinances, rules, and regulations, including MUTCD and OSHA standards. Contractor shall ensure compliance with applicable Local, State, and Federal safety and environmental regulations.
7. **TIME, MOBILIZATION, AND LIQUIDATED DAMAGES.** Timely performance is essential to the Village's operational needs, emergency response capabilities, and compliance with applicable reimbursement requirements. For each Notice to Proceed (NTP), the Contractor shall commence work promptly upon receipt and shall fully complete the assigned work within the number of calendar days specified in the NTP. Failure to begin or complete the work within the required timeframe constitutes a material breach of this Contract unless the Village grants a written extension due to circumstances beyond the Contractor's control.

Storage of equipment will be permitted only for the duration of the contract and removed prior to job closing.

Any damage resulting from mobilization of equipment shall be corrected by the Contractor prior to job closeout. When adjacent property is affected by any work done by the Contractor, it shall be the responsibility of the Contractor to take whatever steps are necessary to protect the adjacent property.

8. CARE OF WORK. The Contractor shall exercise proper precaution at all times and shall be responsible for all damages to persons or property, whether occurring within or beyond the project limits, that arise from its fault or negligence in connection with the prosecution of the work. The Contractor shall be responsible for the proper care and protection of all work performed throughout the duration of the road/embankment repair project until completion and final acceptance.

The Contractor shall not execute an agreement with any subcontractor, nor permit any subcontractor to perform any portion of the work included in this Contract, without prior written approval (change order) signed by the Village. The Contractor shall submit a list of proposed subcontractors for approval before commencement of the work, which approval shall not be unreasonably delayed or withheld.

Subcontractors shall be bound by the terms and conditions of the contract insofar as it applies to their work, but this shall not relieve the Contractor from full responsibility for the proper completion of all work.

The Contractor agrees to observe all applicable laws, ordinances, and codes governing construction, roadwork, and public infrastructure. The Contractor shall promptly pay all bills for labor performed and materials furnished in connection with the road/embankment repair services and shall keep all project areas free and clear of liens or claims of lien at all times.

9. INDEMNIFICATION OF VILLAGE. The Contractor shall indemnify and save harmless the Village and agents of the Village from liability for any injury or damages to persons or property resulting from its prosecution of work under this Contract, including all work performed by its subcontractors. The Contractor shall, at all times, comply with all applicable laws, ordinances, regulations, orders and decrees, and shall protect and indemnify the Village and agents of the Village against all claims, loss, damage, injury, fines, penalties, and costs - including court costs and attorney's fees, charges, liability and exposure, however caused - arising from or based on the violation of any law, ordinance, regulation, order or decree, whether by its employees and its subcontractors, or in any way connected with the Contractor's negligent performance or nonperformance of the terms of the Contract.

The Contractor shall supervise and direct the work, using skillful labor and proper equipment for all tasks. Safety of the Contractor's personnel and equipment is the responsibility of the Contractor.

Any unusual, concealed or changed conditions are to be immediately reported to the Village. The Contractor shall be responsible for the protection of existing utilities, roads, adjacent buildings, and other permanent fixtures. Any unnecessary damage will be repaired at the Contractor's expense.

10. INSURANCE. The Contractor shall maintain the following insurance and provide certificates of coverage to the Village prior to commencement of work:

- **Workers' Compensation & Employer Liability Insurance:** The Contractor shall maintain valid Workers' Compensation coverage for all employees and subcontractors engaged in work at the site, in accordance with Chapter 97 of the North Carolina General Statutes. The Contractor shall maintain Employer's Liability insurance with minimum limits of \$500,000.00 per occurrence for bodily injury by accident as well as injury by disease.

- **Commercial General Liability Insurance:** The Contractor shall carry, and require subcontractors to carry, commercial general liability insurance with minimum limits of \$1,000,000.00 per occurrence for bodily injury, death, and property damage, and \$2,000,000.00 general aggregate. Coverage shall include contractual liability and the use of all equipment including, but not limited to excavating machinery, trenching machines, cranes, hoists, rollers, concrete mixers, and motor vehicles used in the performance of the Contract.
- **Automobile Liability Insurance:** The Contractor shall carry, and require subcontractors to carry, commercial automobile liability insurance with a combined single limit of \$1,000,000.00 per occurrence for bodily injury and property damage.

Failure to maintain the insurance shall be grounds for termination of the Contract. The Contractor is advised that it bears the financial responsibility for replacement of materials and equipment stored on site that are stolen or damaged during construction, and for damage to improvements made under the terms of this Contract due to vandalism, mishap, wind, high water, or fire. Insurance requirements in this Section do not limit the Contractor's indemnification obligations under Section 9.

11. **COMPLIANCE WITH LAWS, STANDARDS, AND PERMITTING REQUIREMENTS.** The Contractor and all subcontractors shall comply with all applicable federal, state, and local laws, ordinances, rules, and regulations governing construction and public-works projects, including but not limited to MUTCD and OSHA requirements and all North Carolina Department of Transportation (NCDOT) standards and specifications.

The Contractor shall obtain, at its own expense, all permits, licenses, approvals, and inspections required to perform the road/embankment services work. This includes securing any necessary local permits prior to the commencement of work, providing all required notices, coordinating with local inspection authorities, and allowing inspectors access to work areas for review of work in progress as required by applicable regulations. The Contractor shall be responsible for paying all associated fees and charges for such permits and approvals and for maintaining all required documentation throughout the duration of the project. This compliance requirement applies to all work performed under this Contract and supersedes any duplicative references in other sections.

12. **WRITTEN CHANGE ORDERS.** No changes to the scope of work under this Contract shall be made without a written Change Order duly approved and executed by both the Contractor and the Village. All Change Orders shall be prepared jointly by the Contractor and the Village and must be fully executed before any work described therein is performed.

Unless otherwise negotiated and expressly approved in the Change Order, the unit prices set forth in the original Agreement shall apply to all additions, deletions, or modifications to the work.

No work outside the original scope shall be performed without an executed Change Order. Any extra work performed without prior written authorization shall be deemed unauthorized and completed at the Contractor's sole expense. The Village may require such unauthorized work to be removed and replaced at the Contractor's expense.

All change orders will be negotiated directly by the Contractor and the Village and/or Inspector based upon costs included on the actual contractor's bid proposal.

13. **TERMINATION OF CONTRACT.** The Village may terminate this Contract, in whole or in part, immediately for cause, including but not limited to breach of contract, non-performance, failure to supply adequate labor or materials, abandonment of the work, insolvency or bankruptcy, or any other default in the prompt and diligent performance

of the work. Written notice of termination shall be provided to the Contractor and may specify a final date by which corrective action must occur if the Village elects to allow an opportunity to cure.

The Village may also terminate this Contract for reasons beyond the Contractor's control that render the Contractor unable to complete the work, or if the Village is unable to authorize or fund completion of the remaining work. In such cases, the Village shall provide five (5) days' written notice of termination.

Upon any termination of this Contract, the Contractor shall be entitled to payment for all work satisfactorily completed as of the effective termination date, including the value of materials properly delivered and accepted for incorporation into the work. The Village may withhold amounts necessary to cover damages, costs of completion, or other claims arising from the Contractor's breach.

If termination occurs due to the Contractor's default, the Village shall have full authority to employ others to complete the work or to enter into new contracts for completion. Any additional costs incurred by the Village in completing the work, including administrative and managerial expenses, may be charged against the unpaid contract balance. If the unpaid balance exceeds the cost of completion, the remainder shall be paid to the Contractor. If the cost of completion exceeds the unpaid balance, the Village may pursue all legal remedies to recover the difference.

The Contractor shall not be held liable for delays caused by conditions beyond its control and without its fault or negligence; however, such delays shall not prevent the Village from terminating the Contract if the delay materially affects project completion. Extensions of time for weather, unforeseen site conditions, or other justifiable reasons may be granted only upon written approval by the Village.

Nothing in Section 13 limits the Village's rights under this Section to terminate the Contract for cause or convenience.

14. **SUSPENSION/TERMINATION OF SUBCONTRACTORS.** The Village may, at its sole discretion, advise the Contractor to suspend or terminate the services of a subcontractor for breach of the conditions of applicable sections of this Contract, including faulty workmanship or deviation from bid specifications.
15. **EMPLOYMENT REQUIREMENTS.** It is specifically agreed as part of the consideration of the signing of this Contract that the parties hereto, their agents, officials, employees, or servants will not discriminate in any manner on the basis of age, handicap, race, color, creed, sex or national origin with reference to the subject matter of this Contract, no matter how remote. This provision shall be enforced by action for specific performance, injunctive relief, or other remedy as by law provided; and this provision shall be construed in such manner as to prevent and eradicate all discrimination based on age, handicap, race, color, creed, sex or national origin. The Contractor agrees to comply with all equal employment, affirmative action, and labor standards compliance requirements outlined in the Request for Bids, all of which are incorporated herein by reference, and which the Contractor by execution of this Contract acknowledges that it has received, all of which form a part of this Contract as fully as if they were herein repeated.
16. **DISPUTE RESOLUTION.** In the event that there is any question or dispute with respect to the interpretation or the manner of implementation of this Contract or related documents or with respect to the execution and progress of the work called for hereunder, the parties hereto agree to first attempt to resolve the matter through good-faith informal discussions. If the dispute cannot be resolved informally, the parties shall submit the matter to mediation conducted by a mutually agreed upon neutral mediator. Only if mediation is unsuccessful may either party pursue legal action. To the extent suit must be filed, the parties agree that this Contract is governed by the laws of the State of North Carolina and venue is appropriate in Avery County.

17. DEBARMENT AND SUSPENSION PROVISION. The Contractor certifies that neither the company itself nor any of its principals or subcontractors is currently debarred, suspended, or otherwise excluded from, or ineligible for participation in, Federal assistance programs.
18. ASSIGNMENT. Neither Village nor Contractor shall assign any rights or duties under this Contract without the prior written consent of the other party. Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge the assignor from any obligation under this Contract. Nothing contained in this paragraph shall prevent the Contractor from employing independent consultants, associates, and subcontractors to assist in the performance of the work covered by this Contract.

The Contractor and the Village hereby agree to the full performance of the covenants contained herein.

19. FEMA COMPLIANCE. All work performed under this Contract shall comply with FEMA Public Assistance requirements, including procurement, documentation, cost reasonableness, and record-keeping standards. The Contractor shall cooperate fully in providing all documentation required for reimbursement and shall maintain all records for the duration required by FEMA regulations.

IN WITNESS HEREOF, they have executed this Contract, this day and year first above written.

CONTRACTOR

VILLAGE OF SUGAR MOUNTAIN

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

This Contract has been pre-audited in accordance with the Local Government Budget and Fiscal Control Act.

Susan Phillips, Village Manager/Finance

**VILLAGE OF SUGAR MOUNTAIN
TROPICAL STORM HELEN RECOVERY
Sugar Mountain Drive Road/Embankment Repair Contract**

ATTACHMENT A: Scope of Work

The Contractor shall provide road/embankment repair services for Sugar Mountain Drive. The Scope of Work includes but is not limited to:

- Asphalt milling, removal, and paving/resurfacing
- Placement, grading, and compaction of base materials
- Repair or reconstruction of road shoulders and side slopes/embankments
- Removal, installation, and/or replacement of drainage structures, including culverts, ditches, and storm drains
- Erosion control and stabilization as required
- Provision and maintenance of traffic control measures consistent with NCDOT and MUTCD standards
- Other roadway repair services as may be specified

Notice to Proceed

- The Village will issue a Notice to Proceed (NTP) to authorize the commencement of work. No work shall begin until the NTP is issued by the Village.
- The NTP will include a timeline for completion.

Performance Standards

- All work must be performed in accordance with applicable NCDOT Design Standards and Specifications.
- The Contractor shall comply with all applicable federal, state, and local laws, ordinances, rules, and regulations, including the MUTCD and OSHA standards.
- Contractor shall ensure compliance with applicable local, state, and federal safety and environmental regulations.

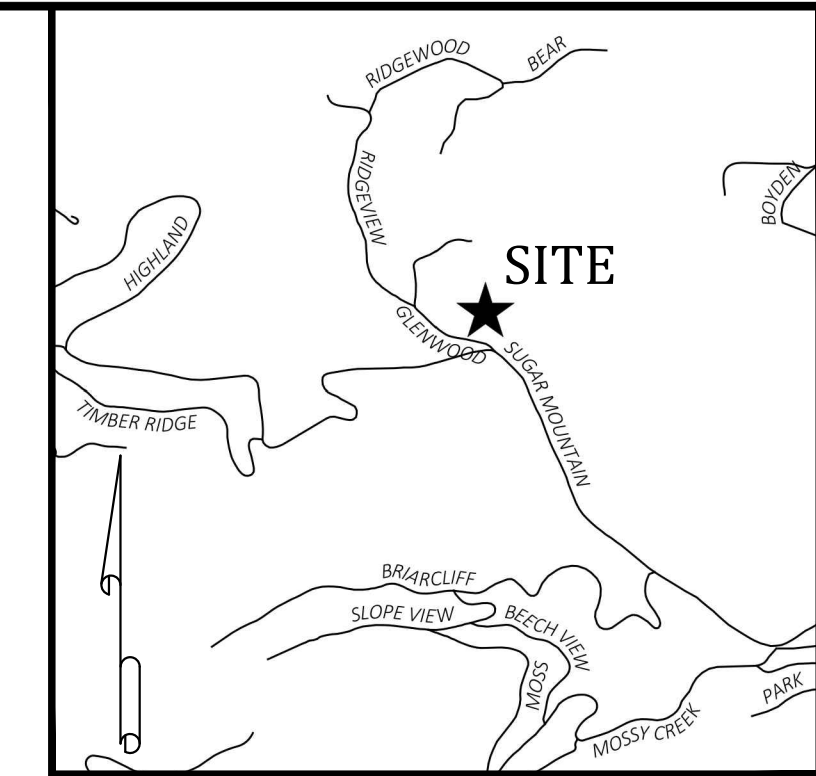
Documentation & Reporting

The Contractor shall:

- Submit a brief work plan, if requested.
- Maintain a daily log of progress and work completed.
- Provide before-and-after photos.
- Provide documentation to show where all materials are purchased and where all materials are disposed of.
- Submit an itemized invoice and pay sheet consistent with Attachment B.

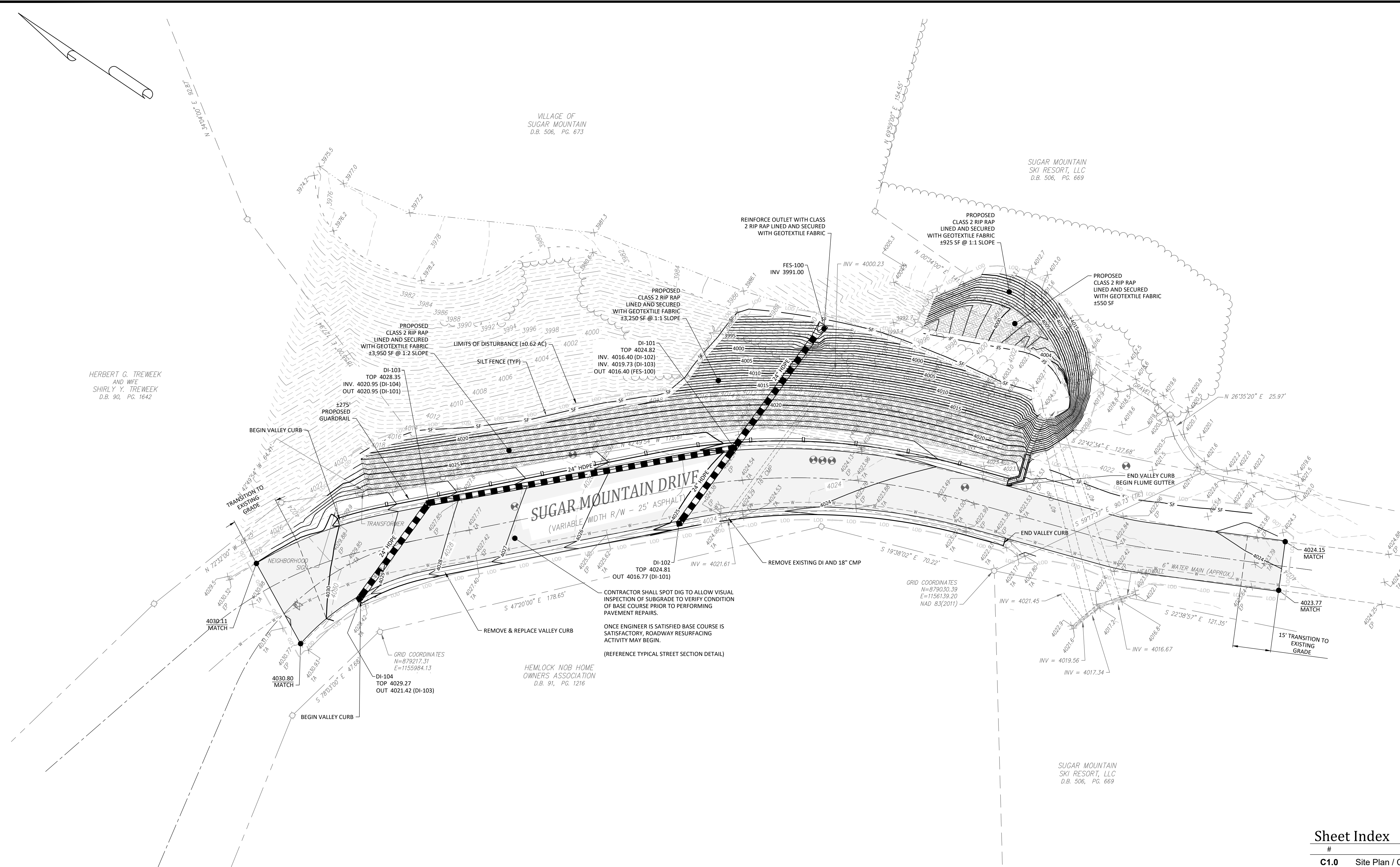
Design Plans

The design plans for the repairs are included below:



Vicinity Map
SCALE: 1" = 1000'

#	DATE	DESCRIPTION



HERBERT G. TREWEEK
AND WIFE
SHIRLY Y. TREWEEK
D.B. 90, PG. 1642

VILLAGE OF
SUGAR MOUNTAIN
D.B. 506, PG. 673

SUGAR MOUNTAIN
SKI RESORT, LLC
D.B. 506, PG. 669

HEMLOCK NOB HOME
OWNERS ASSOCIATION
D.B. 91, PG. 1216

SUGAR MOUNTAIN DRIVE (VARIABLE WIDTH R/W - 25' ASPHALT)

Legend

○	EXISTING IRON PIPE	TC	TOP OF CONCRETE
○	NO POINT SET	TA	TOP OF ASPHALT
⊕	WATER VALVE	BC	BACK OF CURB
⊕	BORE - SOIL BORING LOCATION	EP	EDGE OF PAVEMENT
⊕	SPOT ELEVATION	NG	NATURAL GRADE
D.B.	DEED BOOK	DMH	STORM MANHOLE
M.B.	MAP BOOK	SMH	SEWER MANHOLE
PAGE	PAGE	DIP	DUCTILE IRON PIPE
R/W	RIGHT OF WAY	CMP	CORRUGATED METAL PIPE
B/B	BACK-TO-BACK	USE	UNDERGROUND ELECTRIC
---	EXISTING EDGE OF PAVEMENT	---	BOUNDARY LINE
---	ADJOINER LINE	---	EXISTING CENTER OF DITCH
---	EXISTING TOE OF DITCH	---	EXISTING TOE OF DITCH
---	EXISTING TOP OF BANK	---	EXISTING CONTOUR LINE - MAJOR
---	EXISTING CONTOUR LINE - MINOR	---	EXISTING WOODS LINE (FROM AERIAL)
---	PROPOSED CONTOUR LINE - MAJOR	---	PROPOSED CONTOUR LINE - MINOR
---	PROPOSED CONTOUR LINE - MINOR	---	PROPOSED GUARDRAIL
---	PROPOSED RIP RAP @ 1:1 SLOPE	---	PROPOSED RIP RAP @ 1:1 SLOPE
---	PROPOSED RIP RAP @ 1:2 SLOPE	---	PROPOSED RIP RAP @ 1:2 SLOPE
---	PROPOSED RIP RAP	---	PROPOSED RIP RAP

General Notes:

- CONTACT NORTH CAROLINA ONE-CALL CENTER, INC. (NC ONE-CALL) AT 811 TO HAVE ALL UNDERGROUND UTILITIES LOCATED PRIOR TO EXCAVATING OR TRENCHING.
- CONTRACTOR SHALL STOCKPILE TOPSOIL FOR USE IN LANDSCAPE AREAS.
- THIS SITE DISTURBS LESS THAN 1/2 ACRE. STORMWATER MANAGEMENT FOR THIS SITE IS NOT REQUIRED.
- THIS PROJECT DISTURBS LESS THAN 1 ACRE. EROSION CONTROL PLAN APPROVAL IS NOT REQUIRED.
- BOUNDARY AND TOPOGRAPHIC INFORMATION SHOWN HEREON WAS PREPARED BY CONSULTING GROUP, PLLC AS SHOWN ON DRAWING ENTITLED TOPOGRAPHICAL SURVEY - SUGAR MOUNTAIN DRIVE, DATED SEPTEMBER 22, 2025, ATTACHED TO THIS DRAWING SET FOR REFERENCE.

Rock Rip Rap:

- ALL ROCK RIP RAP WITHIN THE CHANNEL SHALL CONSIST OF WELL-GRADED MIXTURE OF STONE. LARGER STONE SHALL PREDOMINATE, WITH SUFFICIENT SMALLER SIZES TO FILL VOIDS BETWEEN THE STONES AND FORM A UNIFORM LOOK. THE MAXIMUM STONE DIAMETER SHOULD BE NO GREATER THAN 1.5 TIMES THE D(50) SIZE.
- THE THICKNESS OF THE LAYER SHALL BE AT LEAST 1.5 TIMES THE MAXIMUM STONE DIAMETER OR AS SHOWN ON THE PLAN.
- STONE QUALITY FOR THE RIP RAP SHALL BE FROM FIELD STONE OR QUARRY STONE. THE STONE SHOULD BE HARD, ANGULAR AND HIGHLY WEATHER RESISTANT. THE SPECIFIC GRAVITY OF THE INDIVIDUAL STONES SHOULD BE AT LEAST 2.5.

Demolition Notes:

- THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR THE PROTECTION OF ALL PROPERTY CORNER MONUMENTS, AND SHALL HAVE, AT HIS EXPENSE, ALL CORNERS MONUMENTS REPLACED WHICH ARE DISTURBED BY CONSTRUCTION ACTIVITIES.
- THE CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL EXISTING UTILITIES ON THE SITE PRIOR TO DEMOLITION. THE LOCATION OF EXISTING WATER AND SEWER IS SHOWN ON PLANS. HOWEVER, UNDERGROUND UTILITIES ARE UNKNOWN AND THE CONTRACTOR SHALL CALL THE ONE CALL CENTER (NC ONE CALL @ 1-800-632-4949) TO HAVE THESE UTILITIES LOCATED AT LEAST 48 HOURS PRIOR TO THE START OF EXCAVATION OR TRENCHING.
- ASPHALT AND/OR CONCRETE TO BE REMOVED OR DEMOLISHED SHALL BE SAW CUT ALONG LINES OF JOINTS (EXPANSION JOINTS) WHICH WILL PERMIT A NEAT SURFACE WHEN RESTORED, EXISTING SURFACES SHALL BE DISCARDED WITHOUT UNDERMINING THE EXISTING PAVEMENT/ CONCRETE TO REMAIN.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OFF ALL UTILITIES TO REMAIN IN PLACE.
- THE CONTRACTOR SHALL ENSURE THAT EXISTING DRAINAGE DURING THE PHASE IS MAINTAINED.

Sheet Index

#	Title
C1.0	Site Plan / Cover
C1.1	Plan & Profile - Sugar Mountain Drive
C1.2	Details
V1.0	Survey - Ark Consulting Group, PLLC (1 sheet)

Engineer

Ark Consulting Group, PLLC
925-A Conference Drive
Greenville, NC 27858
(252) 558-0888

Contact: Derrick C. Smith, PE
derrick.smith@arkconsultinggroup.com

SITE PLAN / COVER

SUGAR MOUNTAIN DRIVE

Village of Sugar Mountain, Banner Elk Township, Avery County, North Carolina

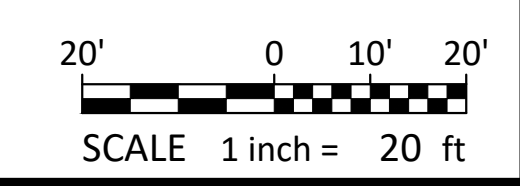
Ark Consulting Group, PLLC
ENGINEERS & SURVEYORS
925-A Conference Dr.
Greenville, NC 27858
(252) 558-0888
www.arkconsultinggroup.com

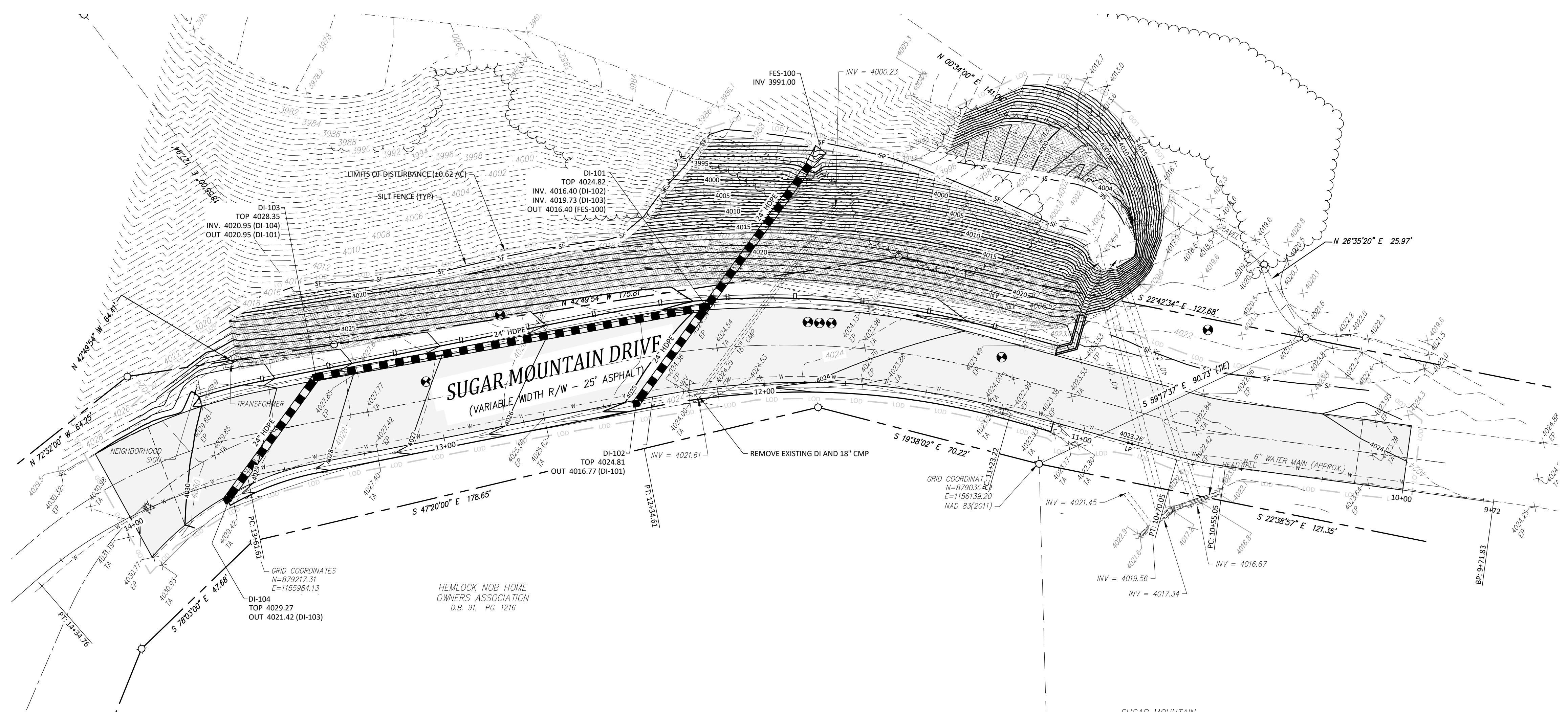
Professional Engineer
Derrick C. Smith
10/10/2025

Project Manager:	DCS
Drawn By:	BAB
Checked By:	BCF
Project Number:	25147
Drawing Number:	D-1686

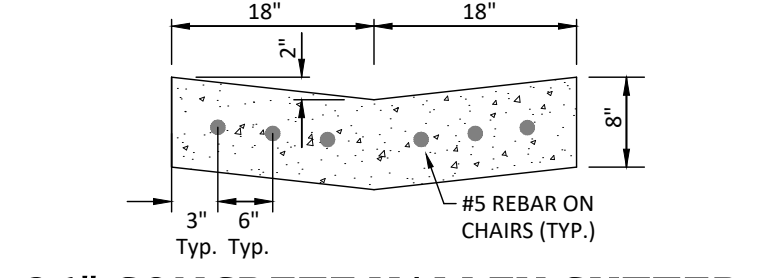
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Date: October 10, 2025

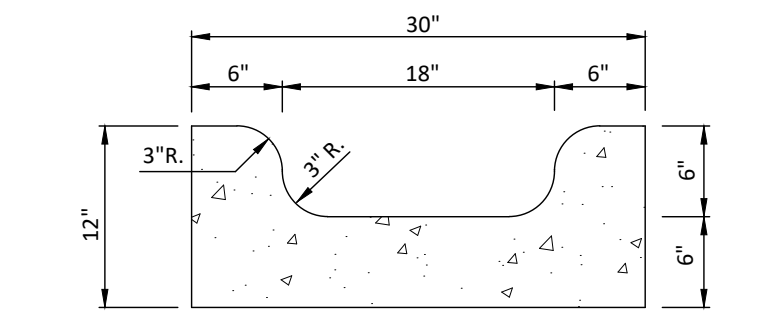




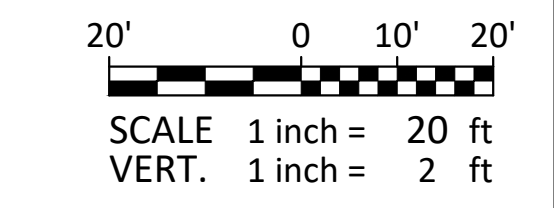
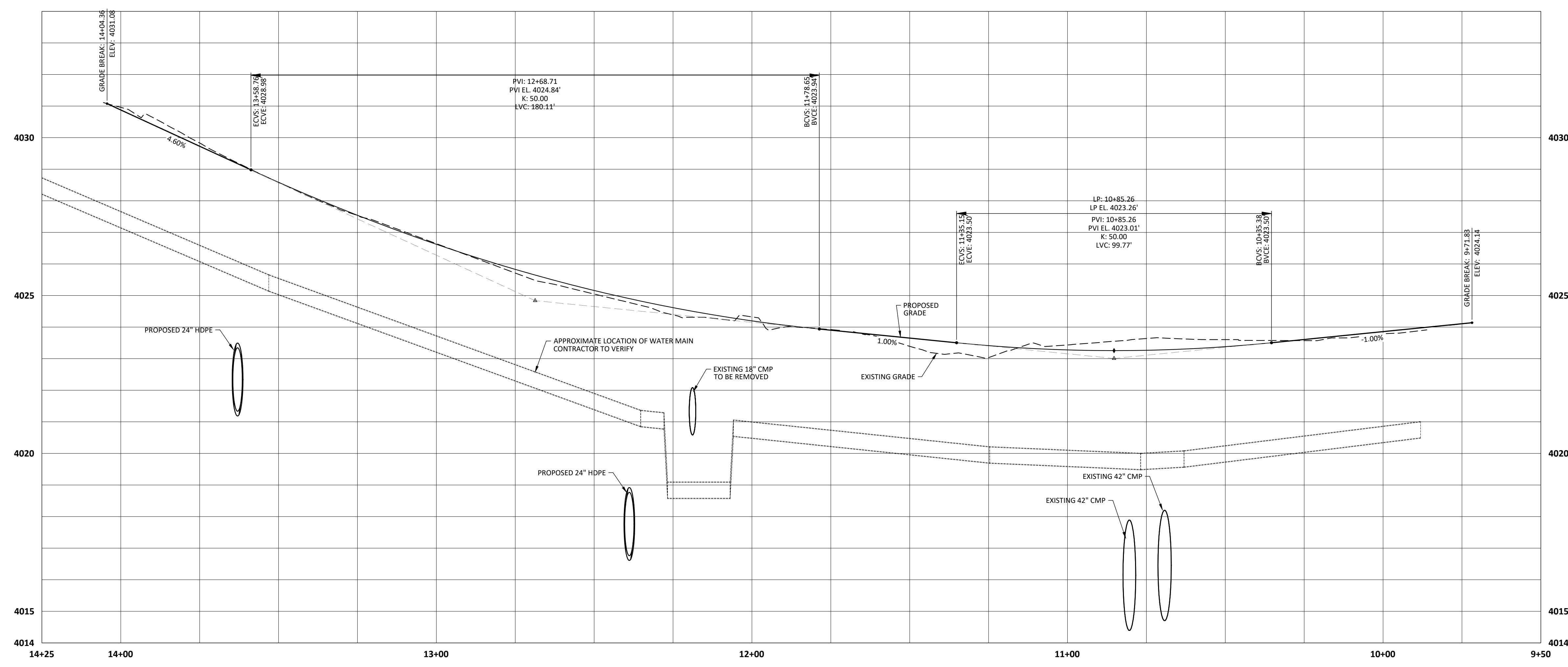
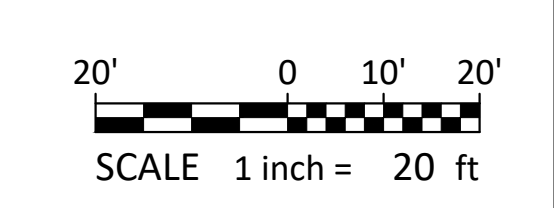
- GENERAL NOTES:
- CONTRACTION JOINTS SHALL BE SPACED AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS. JOINT SPACING MAY BE ALTERED BY THE ENGINEER TO PREVENT UNCONTROLLED CRACKING.
 - CONTRACTION JOINTS MAY BE INSTALLED BY THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. WHERE SUCH JOINTS ARE NOT FORMED BY TEMPLATES, A MINIMUM DEPTH OF 1 1/2" SHALL BE OBTAINED.
 - ALL CONTRACTION JOINTS SHALL BE FILLED WITH JOINT FILLER.
 - EXPANSION JOINTS SHALL BE SPACED AT 90' INTERVALS, AND ADJACENT TO ALL RIGID OBJECTS.
 - ALL CURB AND GUTTERS ARE TO BE POURED WITH CLASS "A" CONCRETE. (3000 PSI)
 - FLEXIBLE FORMS ARE TO BE USED WHEN RADII IS LESS THAN 200.



36" CONCRETE VALLEY GUTTER
NOT TO SCALE



SPECIAL GUTTER
NOT TO SCALE



#	DATE	DESCRIPTION
REVISIONS:		

PLAN & PROFILE - SUGAR MOUNTAIN DRIVE
SUGAR MOUNTAIN DRIVE
 Village of Sugar Mountain, Banner Elk Township, Avery County, North Carolina

W. Client: P1139
ARK CONSULTING GROUP PLLC
 ENGINEERS & SURVEYORS
 925-A Conference Dr.
 Banner Elk, NC 28608
 (751) 558-8888
 www.arkconsultinggroup.com
 10/10/2025

Project Manager:	DCS
Drawn By:	BAB
Checked By:	BCF
Project Number:	25147
Drawing Number:	D-1686

C1.1
 Date: October 10, 2025

**VILLAGE OF SUGAR MOUNTAIN
TROPICAL STORM HELEN RECOVERY
Sugar Mountain Drive Road/Embankment Repair Contract**

ATTACHMENT B: Pricing and Bid/Pay Items

The Contractor shall be compensated based on the number of units used times the unit rates below. Progress payments can be requested and will be based on verified quantities used at the time of the request.

Item No.	Est. Quantities	Unit	Item Description	Unit Price	Amount
1	1	LS	Mobilization		
2	1	LS	Bonding		
3	550	SY	Geotextile Erosion Control Fabric		
4	1,150	SY	Saw, Cut, and Remove Existing Asphalt Pavement		
5	80	LF	Remove Existing 18-Inch CMP Storm Drainage Pipe		
6	1,500	CY	Unclassified Excavation (Engineer Directed)		
7	1,500	CY	Contractor Grade Fill (Compacted in Place)		
8	1,200	TN	Class 2 Rip Rap (Permanent Boulder Slope Armor)		
9	50	TN	Class A Stone (Rip Rap)		
10	200	SY	Mill Pavement to 2" Depth at Transition to Existing		
11	350	TN	CABC Stone Base (8" Depth Rebuild)		
12	1,150	SY	Asphalt Pavement (2.5" I19.0C Intermediate Course)		
13	1,150	SY	Asphalt Pavement (2" S-9.5C Surface Course)		
14	550	LF	30-Inch Valley Curb		
15	20	LF	30-Inch Concrete Flume Gutter		
16	280	LF	24-Inch HDPE (Dual Wall) Storm Drainage Piping		
17	2	EA	Drop Inlet (6-8)Ft. Depth Heavy Duty w/ Gutter Inlet		
18	2	EA	Drop Inlet (8-10)Ft. Depth Heavy Duty w/ Gutter Inlet		
19	280	LF	Sugar Mountain Standard Spec. Wooden Guardrail		
20	800	CY	Disposal of Unsuitable Material - Village Permitted Disposal Site		
21	3,000	TN	Disposal of Unsuitable Material - Offsite Permitted Disposal Site		
22	1	LS	Traffic Control		
23	1	LS	Erosion Control Measures		
24	1	LS	Seeding and Mulching		
25	1	LS	Maintenance of Traffic Control		
26	1	N/A	Testing Allowance (Documented Direct Cost)	\$20,000	
Total for Roadway Construction=					

The Village shall retain five percent (5%) of the total amount due from each Progress Payment until final acceptance of the work by the Village. Retainage shall be withheld from each progress payment and will be released only after:

- All work has been completed to the satisfaction of the Village.
- All required documentation (including daily logs, before-and-after photos, and final invoicing) has been received and approved.
- Any deficiencies or punch list items identified by the Village have been corrected.

Retainage shall be released within thirty (30) days of final acceptance unless otherwise agreed in writing.

**VILLAGE OF SUGAR MOUNTAIN
TROPICAL STORM HELEN RECOVERY
Sugar Mountain Drive Road/Embankment Repair Contract**

ATTACHMENT C: Project Specifications

The Project Specifications are detailed below:

SECTION 01300 - SUBMITTALS

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

CONSTRUCTION SCHEDULE:

Before Work is started, CONTRACTOR for Contract of the project shall submit to ENGINEER for review a minimum of five copies of the schedule of the proposed construction operations. OWNER shall cooperate with CONTRACTOR in arrangements for continuity of service and operation of valves and other control facilities. The construction schedule shall indicate the sequence of the Work, the time of starting and completion of each part for the general contractor and all subcontractors, the installation date for each major item of equipment, and the time for making connections to existing piping, structures, or facilities, for water testing of below grade structures prior to backfilling operations, and time for testing and start of each part or piece of equipment.

The construction schedule shall be a comprehensive, fully developed, horizontal Gantt-Chart or bar-chart type schedule, and shall include sufficient detail to communicate and/or illustrate the construction progress for such items/tasks as listed above. At least one copy of the construction schedule shall be submitted on one sheet, large enough to show the entire schedule for the entire construction period.

At least every 90 days the schedule shall be revised as necessary to reflect changes in the progress of the Work. Reviewed and approved construction schedules which indicate one or more tasks more than 30 days behind schedule shall also be revised and submitted to review. These revised schedules shall include a progress report as described in this section.

Failure of the CONTRACTOR to provide acceptable, updated/revised construction schedules and required progress reports will be grounds for the ENGINEER to recommend the OWNER withhold a portion of requested partial payment.

OWNER may require CONTRACTOR to add to his plant, equipment, or construction forces, as well as increase the working hours, if operations fall behind schedule at any time during the construction period.

In preparation of the construction schedule, the CONTRACTOR shall coordinate the schedule with his subcontractors schedules, the schedule of values, submittals schedule, progress reports, schedule of payments, and other required schedules and reports.

The following requirements shall be taken into consideration in preparing the proposed schedule of construction operations:

Shop drawing submittal schedule, review time, and any revision and resubmittal time.

The CONTRACTOR shall allow ample time in the schedule for equipment / utilities testing, record drawing preparation and acceptance prior to final completion.

PROGRESS REPORTS:

A progress report shall be furnished to ENGINEER with each copy of the application for progress payment. If the Work falls behind schedule, CONTRACTOR shall submit additional progress reports at such intervals as ENGINEER may request.

Each progress report shall include sufficient narrative to describe current and anticipated delaying factors, their effect on the construction schedule, and proposed corrective actions. Any Work reported complete, but which is not readily apparent to ENGINEER, must be substantiated with satisfactory evidence.

SURVEY DATA:

All field books, notes, and other data developed by CONTRACTOR in performing surveys required as part of the Work shall be available to ENGINEER for examination throughout the construction period. All such data shall be submitted to ENGINEER with the other documentation required for final acceptance of the Work.

SHOP DRAWINGS, MATERIAL CERTIFICATES AND PRODUCT DATA:

Engineering data covering all equipment and fabricated materials which will become a permanent part of the Work under this contract shall be submitted to ENGINEER for review prior to installation.

Shop drawings are technical drawings and data that have been specially prepared for this project.

Material Certificates are notarized statements by an official of the supplier certifying that the materials meet the specifications and are used in lieu of or in addition to shop drawings and product data.

Product data includes standard printed information on manufactured products that has not been specially-prepared for this project.

These data shall include drawings and descriptive information in sufficient detail to show the kind, size, arrangement and operation of component materials and devices; the external connections, anchorages and supports required; performance characteristics; and dimensions needed for installation and correlation with other materials and equipment.

All submittals, regardless of origin, shall be stamped with the approval of CONTRACTOR and identified with the name and number of the Contract, CONTRACTOR's name, and references to applicable specification paragraphs and Contract Drawings. Each submittal shall indicate the intended use of the item in the Work. When catalog pages are submitted, applicable items shall be clearly identified. The current revision, issue number, and date shall be indicated on all drawings and other descriptive data.

CONTRACTOR's stamp of approval is a representation to OWNER and ENGINEER that CONTRACTOR accepts full responsibility for determining and verifying all quantities, dimensions, field construction criteria, materials, catalog numbers, and similar data, and that he has reviewed or coordinated each submittal with the requirements of the Work and the Contract Documents.

All deviations from the Contract Documents shall be identified on each submittal and shall be tabulated in CONTRACTOR's letter of transmittal. Such submittals shall, as pertinent to the deviation, indicate essential details of all changes proposed by CONTRACTOR (including modifications to other facilities that may be a result of the deviation) and all required piping and wiring diagrams.

CONTRACTOR shall accept full responsibility for the completeness of each submission, and, in the case of a resubmission, shall verify that all exceptions previously noted by ENGINEER have been taken into account. In the event that more than one resubmission is required because of failure of CONTRACTOR to account for exceptions previously noted, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER for review of the additional resubmissions.

Any need for more than one resubmission, or any other delay in obtaining ENGINEER's review of submittals, will not entitle CONTRACTOR to extension of the Contract Time unless delay of the Work is directly caused by a change in the Work authorized by a Change Order or by failure of ENGINEER to return any submittal within 21 days after its receipt in ENGINEER's office.

ENGINEER's review of drawings and data submitted by CONTRACTOR will cover only general conformity to the drawings and specifications, external connections, and dimensions which affect the layout. ENGINEER's review does not indicate a thorough review of all dimensions, quantities,

and details of the material, equipment, device, or item shown. ENGINEER's review of submittals shall not relieve CONTRACTOR from responsibility for errors, omissions, or deviations, nor responsibility for compliance with the Contract Documents.

Five copies of each drawing and necessary data shall be submitted to ENGINEER. ENGINEER will not accept submittals from anyone but CONTRACTOR. Submittals shall be consecutively numbered in direct sequence of submittal and without division by subcontracts or trades. Resubmittals shall bear the number of the first submittal followed by a letter (A, B, etc.,) to indicate the sequence of the resubmittal.

When the drawings and data are returned marked DISAPPROVED or RESUBMIT, the corrections shall be made as noted thereon and as instructed by ENGINEER and five corrected copies resubmitted.

When corrected copies are resubmitted, CONTRACTOR shall in writing direct specific attention to all revisions and shall list separately any revisions made other than those called for by ENGINEER on previous submissions.

When the drawings and data are returned marked APPROVED AS NOTED, APPROVED, or RECORD COPY, no additional copies need be furnished.

LAYOUT DATA:

CONTRACTOR shall keep neat and legible notes of measurements and calculations made by him in connection with the layout of the Work. Copies of such data shall be furnished to the ENGINEER for use in checking CONTRACTOR's layout as provided under Lines and Grades. All such data considered of value to OWNER will be transmitted to OWNER by ENGINEER with other records upon completion of the Work.

RECORD DRAWING:

CONTRACTOR shall keep one record copy of all specifications, drawings, addenda, modifications, and shop drawings at the site in good order and annotated to show all changes made during the construction process. These shall be available to the ENGINEER and shall be delivered to the ENGINEER upon completion of the project. Complete record drawings shall be submitted to the ENGINEER and then approved by the ENGINEER before final payment is approved.

Updated record drawings shall be submitted for all work that is covered up including piping and utility work within 30 days of the installation.

An updated record drawing shall be prepared by the CONTRACTOR and submitted to the ENGINEER as a condition for approval for any pay request which includes pay items for sanitary sewer or water items.

Annotations on the drawings shall include the exact location of each service stub in relation to the next lowest manhole and centerline of street. Lengths, sizes and types of materials for mains and services shall also be shown.

REPORTS:

DAILY REPORTS:

The CONTRACTOR'S Site Superintendent shall prepare and maintain, at the site, daily construction reports recording the following information concerning events at the Project site:

- List of subcontractors at Project site.
- Approximate count of personnel at Project site.
- Time of arrival and departure of testing agency representative.
- Equipment at Project site.
- Material deliveries.
- High and low temperatures and general weather conditions.
- Accidents.
- Meetings and significant decisions.
- Unusual events.
- Stoppages, delays, shortages, and losses.
- Emergency procedures.
- Orders and requests of authorities having jurisdiction.
- Change Orders, Field Orders, and/or Work Change Directives received and implemented.
- Services connected and disconnected.
- Equipment or system tests and startups.
- Work/tasks started and/or completed.
- Substantial Completions authorized.

These daily reports shall be made available to the Engineer, Owner, or the Resident Project Representative for examination. These reports, as with Record Drawings, shall be kept up-to-date and will be checked as a partial basis for approval of the Pay Request.

MATERIAL LOCATION REPORTS:

The CONTRACTOR'S Site Superintendent shall prepare and submit to the Resident Project Representative prior to review of the monthly pay request, a comprehensive list of materials delivered to and stored at the Project site. The list shall be cumulative, with item numbers corresponding to the Schedule of Values and the Stored Materials as outlined in the Supplementary Conditions, showing materials previously reported plus items recently delivered. Include with the list, items which are stored away from the Project site. Items stored at locations away from the site have to be approved by the Owner, as outlined in Section 01010 - Project Requirements. The CONTRACTOR shall prepare a maintenance schedule and log of maintenance activities for the individual stored materials. This schedule and log should be kept up-to-date for review by the RPR and OWNER.

The Contractor shall also submit to the RPR, a site map of the storage area, indicating the location of the stored materials, for confirmation of storage by the RPR during review of the Pay Request. The site map should be neat, legible, and of sufficient size to illustrate the location of the individual stored materials.

CLARIFICATION/INFORMATION REQUEST REPORTS:

The CONTRACTOR, in requesting clarification, information, and/or deviation, shall prepare and submit to the ENGINEER a Request for Information (RFI). The RFI should include a detailed description of the request, and in the case of a clarification or deviation, any proposed changes requested to complete the Work. Multiple RFI's should be sequentially numbered and dated to logically track the submittals.

END OF SECTION 01300

SECTION 01400 - QUALITY CONTROL

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract; including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

TESTING LABORATORY SERVICES:

All tests which require the services of a laboratory to determine compliance with the Contract Documents shall be performed by an independent commercial testing laboratory acceptable to ENGINEER. The laboratory shall be staffed with experienced technicians, properly equipped, and fully qualified to perform the tests in accordance with the specified standards.

Testing Laboratory Services for Materials Qualification: CONTRACTOR shall be responsible for all testing laboratory services in connection with concrete materials and mix designs, the design of asphalt mixtures, gradation tests for embedment, fill, and backfill materials, and all other tests and engineering data required for ENGINEER's review of materials and equipment proposed to be used in the Work. CONTRACTOR shall pay all costs for services for materials qualifications.

Testing Laboratory Services for Field Quality Control: The testing laboratory for field quality control shall be selected by and work for the OWNER but be paid for by the CONTRACTOR from the testing allowance. A copy of the Testing Laboratory's monthly invoices shall be submitted to the Engineer for review prior to being included in the Contractor's monthly pay request. All charges of testing laboratories for field quality control tests made in the field or laboratory on concrete, moisture-density (Proctor) and relative density tests on course aggregate base course, embedment, fill, and backfill materials, in-place field density tests on course aggregate base course, embedments and fills, and other materials and equipment, during and after their incorporation in the Work shall be paid by CONTRACTOR out of the testing allowance as discussed in SECTION 01010. The CONTRACTOR shall be responsible for scheduling of testing agency for field quality control. To verify that equipment, materials, and installations conform to the requirements outlined in the contract documents, the CONTRACTOR shall also schedule such additional testing as deemed necessary by the ENGINEER. Testing due to failed tests and wasted time due to improper scheduling by the CONTRACTOR will be paid for by the CONTRACTOR, not out of the testing allowance. Field sampling and testing will be performed by the testing laboratory personnel, in the general manner indicated in the specifications, with minimum interference with construction operations. ENGINEER shall determine the exact time and location of field sampling and testing, and may require such additional sampling and testing as necessary to determine that

materials and equipment conform with data previously furnished by CONTRACTOR and with the Contract Documents.

Arrangements for delivery of samples and test specimens to the testing laboratory will be made by CONTRACTOR. The testing laboratory shall perform all laboratory tests within a reasonable time consistent with the specified standards and shall furnish a written report of each test.

CONTRACTOR shall furnish all sample materials and cooperate in the sampling and field testing activities, interrupting the Work when necessary. When sampling or testing activities are performed in the field by testing laboratory personnel, CONTRACTOR shall furnish personnel and facilities to assist in the activities.

OWNER shall not require the CONTRACTOR to retain any testing laboratory against which CONTRACTOR has reasonable objection, and if at any time during the construction process the services become unacceptable to CONTRACTOR, he may request in writing that such services be terminated. The request must be supported with evidence of improper testing. If ENGINEER and OWNER determine that sufficient cause exists, CONTRACTOR may terminate the services and engage a different testing laboratory.

Transmittal of Test Reports: Written reports of tests and engineering data furnished by CONTRACTOR for ENGINEER's review of materials and equipment proposed to be used in the Work shall be submitted as specified for Shop Drawings in Section 01300.

The testing laboratory will furnish four copies of a written report of each test performed by laboratory personnel in the field or laboratory. Three copies of each test report will be transmitted to the ENGINEER and one copy to CONTRACTOR within three days after each test is completed. Testing laboratory will provide Resident Inspector and CONTRACTOR copies of field reports and test results on a daily basis prior to leaving the site. Notify ENGINEER and CONTRACTOR immediately of failing test results.

END OF SECTION 01400

SECTION 01700 - PROJECT CLOSEOUT

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

DESCRIPTION OF REQUIREMENTS:

Provisions of this section apply to the procedural requirements for the actual closeout of the Work, not to administrative matters such as final payment or the change over of insurance. Closeout requirements relate to both substantial and final completion of the Work; they also apply to individual portions of completed work as well as the total Work. Specific requirements contained in other sections have precedence over the general requirements contained in this section.

PROCEDURES AT SUBSTANTIAL COMPLETION:

Prerequisites: Comply with the General Conditions, Special Conditions and complete the following before requesting the ENGINEER's inspection of the work, or a designated portion of the Work, for certification of substantial completion.

Submit executed warranties, workmanship bonds, maintenance agreements, inspection certificates and similar required documentation for specific units of work, enabling OWNER's unrestricted occupancy and use.

Submit record drawing documentation, maintenance manuals, tools, spare parts, keys and similar operational items.

Complete final cleaning, and remove temporary facilities.

Inspection Procedures: Upon receipt of CONTRACTOR's request, ENGINEER will proceed with inspection or advise CONTRACTOR of prerequisites not fulfilled. Following initial inspection, ENGINEER will either prepare CERTIFICATE OF SUBSTANTIAL COMPLETION, or advise CONTRACTOR of work which must be performed prior to issuance of the CERTIFICATE OF SUBSTANTIAL COMPLETION. The ENGINEER will repeat the inspection when requested and assure

that the Work has been substantially completed. Results of the completed inspection will form the initial "punch-list" for final acceptance.

PROCEDURES AT FINAL ACCEPTANCE:

Reinspection Procedure: The ENGINEER will reinspect the Work upon receipt of the CONTRACTOR's notice that, except for those items whose completion has been delayed due to circumstances that are acceptable to the ENGINEER, the Work has been completed, including punch-list items from earlier inspections. Upon completion of reinspection, the ENGINEER will either recommend final acceptance and final payment, or will advise the CONTRACTOR of work not completed or obligations not fulfilled as required for final acceptance. If necessary, this procedure will be repeated.

RECORD DOCUMENTATION:

Record Drawings: Maintain at the construction site a complete set of prints of the Contract Drawings and shop drawings for record mark-up purposes throughout the Contract Time. Mark-up these drawings during the course of the work to show both changes and the actual installation, in sufficient detail to form a complete record for the OWNER's purposes. Give particular attention to work which will be concealed and difficult to measure and record at a later date, and work which may require servicing or replacement during the life of the project. Record Drawings shall show all field changes of dimension and detail, station number of all service laterals, wyes, and tees measured from the nearest downstream manhole and the lengths of all service lines.

END OF SECTION 01700

SECTION 02200 - EARTHWORK

PART 1 - GENERAL:

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

DESCRIPTION OF WORK:

Extent of earthwork is indicated on drawings.

Preparation of subgrade for curb and gutter and pavements as well as slope repair is included as part of this work.

Definition: "Excavation" consists of removal of material encountered to subgrade elevations indicated and subsequent disposal of materials removed.

QUALITY ASSURANCE:

Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction and NCDOT specs.

Testing and Inspection Service: Owner will engage soil testing and inspection service for quality control testing during earthwork operations.

SUBMITTALS:

Test Reports-Excavating: Submit following reports directly to Architect/Engineer from the testing services, with copy to Contractor:

Test reports on soil and embedment.

Field density test reports.

One optimum moisture-maximum density curve for each type of soil encountered.

JOB CONDITIONS:

Existing Utilities: Locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.

Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, consult utility owner immediately for directions. Cooperate with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility owner.

Do not interrupt existing utilities serving facilities occupied and used by Owner or others, during occupied hours, except when permitted in writing by Engineer, then only after acceptable temporary utility services have been provided.

Provide minimum of 48-hour notice to Engineer, and receive written notice to proceed before interrupting any utility.

Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies for shut-off of services if lines are active.

Use of Explosives: The use of explosives is not permitted.

Protection of Persons and Property: Barricade open excavations occurring as part of this work and post with warning lights.

Operate warning lights as recommended by authorities having jurisdiction.

Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout and other hazards created by earthwork operations.

Perform excavation within drip-line of large trees to remain by hand, and protect the root system from damage or dryout to the greatest extent possible. Maintain moist condition for root system and cover exposed roots with burlap. Paint root cuts of 1" diameter and larger with emulsified asphalt tree paint.

PART 2 - PRODUCTS

SOIL MATERIALS:

Definitions:

Satisfactory soil materials are defined as those complying with ASTM D2487 soil classification Groups GW, GP, GM, GC, SM, SW and SP.

Unsatisfactory soil materials are defined as those complying with ASTM D2487 soil classification groups ML, MH, CL, CH, OL, SC, OH and PT.

Aggregate for Aggregate Base Course: Aggregate meeting the requirements of Section 520, Paragraph (a) of "Standard Specifications for Roads and Structures" as issued by NCDOT.

Drainage Fill: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, with 100% passing a 1-1/2" sieve and not more than 5% passing a No. 4 sieve.

Select Backfill: Job excavated or borrow material consisting of coarse sands, fine sands, with not more than 15% by weight passing the No. 200 sieve. This does not include clays, silts, organic soils or any materials not acceptable as fill material. Select backfill must receive prior approval from the Engineer before use.

Backfill and Fill Materials: Satisfactory soil materials free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter.

PART 3 - EXECUTION

EXCAVATION:

Roadway Excavation:

Excavation for the roadway shall conform to the lines, grades, cross sections, and dimensions indicated on the drawings and shall include the excavation of all unsuitable materials from the subgrade. Subgrade shall conform to proposed line, grade and cross-section. This operation shall include any reshaping and wetting or drying required to obtain proper compaction. All soft or otherwise unsuitable material shall be removed and replaced with suitable material.

Excavation is Unclassified, and includes excavation to subgrade elevations indicated, regardless of character of materials and obstructions encountered.

Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be at Contractor's expense.

Undercut Excavation: When excavation has reached required subgrade elevations, provide a proof rolling of the prepared pavement subgrade with a heavy roller or loaded dump truck (+25 tons) in the presence of the Engineer's Representative. The proof rolling shall be covered by the wheels of the proof roller operating at a speed between 2-1/2 and 3-1/2 miles per hour.

Any areas that rut or pump excessively shall be scarified by the contractor allowed to dry. If the areas continue to rut or pump they shall be undercut and backfilled with select material as directed by the Engineer.

After undercut and backfill operations are complete, a final proofrolling of the undercut areas will be performed in the presence of the Engineer's Representative.

Stability of Excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.

Maintain sides and slopes of excavations in safe condition until completion of backfilling.

Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.

Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.

Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.

Dewatering: Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area.

Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, well points, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations.

Establish and maintain temporary drainage ditches and other diversions outside excavation limits to convey rain water and water removed from excavations to collecting or run-off areas. Do not use trench excavations as temporary drainage ditches.

Material Storage: Stockpile satisfactory excavated materials where directed, until required for backfill or fill. Place, grade and shape stockpiles for proper drainage. Locate and retain soil materials away from edge of excavations. Do not store within drip line of trees indicated to remain.

Dispose of excess soil material and waste materials as herein specified.

Excavation for Pavements: Cut surface under pavements to comply with cross-sections, elevations and grades as shown.

Cold Weather Protection: Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degree F (1 degree C).

COMPACTION:

General: Control soil compaction during construction providing minimum percentage of density specified for each area classification as indicated below.

Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density at optimum moisture content as determined by ASTM D 698.

Structures, Building Slabs, Steps and Pavements: Compact top 12" of subgrade at 100% maximum density. Each layer of backfill or fill material below top 12" shall be compacted to 95% maximum density.

Lawn or Unpaved Areas: Compact top 6" of subgrade and each layer of backfill or fill material at 90% maximum density.

Walkways: Compact top 6" of subgrade and each layer of backfill or fill material at 95% maximum density.

Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations.

Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.

Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing until moisture content is reduced to a satisfactory value.

BACKFILL AND FILL:

General: Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below.

In excavations, use satisfactory excavated or borrow material.

Under grassed areas, use satisfactory excavated or borrow material.

Under walks and pavements, use subbase material, or satisfactory excavated or borrow material, or combination of both.

Backfill excavations as promptly as work permits, but not until completion of the following:

Inspection, testing, approval, and recording locations of underground utilities.

Removal of trash and debris.

Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break-up sloped surfaces steeper than 1 vertical to 4 horizontal feet so that fill material will bond with existing surface.

When existing ground surface has a density less than that specified under "Compaction" for particular area classification, break up ground surface, pulverize, moisture-condition to optimum moisture content, and compact to required depth and percentage of maximum density.

Placement and Compaction: Place backfill and fill materials in layers not more than 8" in loose depth for material compacted by heavy compaction equipment, and not more than 4" in loose depth for material compacted by hand-operated tampers.

Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.

Place backfill and fill materials evenly adjacent to structures, piping or conduit to required elevations. Take care to prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping or conduit to approximately same elevation in each lift.

GRADING:

General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated, or between such points and existing grades.

Grade areas as shown on the Drawings to prevent ponding. Finish surfaces free from irregular surface changes, and as follows:

Lawn or Unpaved Areas: Finish areas to receive topsoil to within not more than 0.10' above or below required subgrade elevations.

Walks: Shape surface of areas under walks to line, grade and cross-section, with finish surface not more than 0.05' above or below required subgrade elevation.

Pavements: Shape surface of areas under pavement to line, grade and cross-section, with finish surface not more than 1/2" above or below required subgrade elevation.

Patches in driveways and roadways shall be graded to depth required to match existing pavement or to provide minimum pavement specified.

Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.

PAVEMENT SUBBASE COURSE:

General: Subbase course consists of placing subbase material, in layers of specified thickness, over subgrade surface to support a pavement base course.

See other Division-2 sections for paving specifications.

Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.

Shoulders: Place shoulders along edges of subbase course to prevent lateral movement. Construct shoulders of acceptable soil materials, placed in such quantity to compact to thickness of each subbase course layer. Compact and roll at least a 12" width of shoulder simultaneously with compacting and rolling of each layer of subbase course.

Placing: Place subbase course material on prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness. Maintain optimum moisture content for compacting subbase material during placement operations.

When a compacted subbase course is shown to be 6" thick or less, place material in a single layer. When shown to be more than 6" thick, place material in equal layers, except no single layer more than 6" or less than 3" in thickness when compacted.

FIELD QUALITY CONTROL:

Quality Control Testing During Construction: Allow testing service to inspect and approve subgrades and fill layers before further construction work is performed.

Perform field density tests in accordance with ASTM D 1556 (sand cone method) or ASTM D 2167 (rubber balloon method), as applicable.

Footing Subgrade: For each strata of soil on which footings will be placed, conduct at least one test to verify required design bearing capacities. Subsequent verification and approval of each footing subgrade may be based on a visual comparison of each subgrade with related tested strata, when acceptable to Architect/Engineer.

Paved Areas and Building Slab Subgrade: Make at least one field density test of subgrade for every 2000 sq. ft. of paved area or building slab, but in no case less than 3 tests. In each compacted fill layer, make one field density test for every 2000 sq. ft. of overlaying building slab or paved area, but in no case less than 3 tests.

Foundation Wall Backfill: Take at least 2 field density tests, at locations and elevations as directed.

If in opinion of Architect/Engineer, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, provide additional compaction and testing at no additional expense.

MAINTENANCE:

Protection of Graded Areas: Protect newly graded areas from traffic and erosion. Keep free of trash and debris.

Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.

Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

Settling: Where settling is measurable or observable at excavated areas during general project warranty period, remove surface (pavement, lawn or other finish), add backfill material, compact,

and replace surface treatment. Restore appearance, quality, and condition of surface or finish to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

DISPOSAL OF EXCESS AND WASTE MATERIALS:

Removal to Designated Areas on Owner's Property: Transport acceptable excess excavated material to designated soil storage areas on Owner's property. Volumes of fill and/or debris need to have haul records indicating volume and disposal locations need to be recorded for delivery and/or disposal. Stockpile soil or spread as directed by Engineer.

Removal from Owner's Property: Remove waste materials, including unacceptable excavated material, trash and debris, and dispose of it off Owner's property. Volumes of fill and/or debris need to have haul records indicating volume and disposal locations need to be recorded for delivery and/or disposal.

END OF SECTION 02200

SECTION 02513 - BITUMINOUS CONCRETE PAVING

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General and Special Conditions and Division-1 Specification sections apply to work of this section.

Related Work Specified Elsewhere:

Earthwork: Section 02200

DESCRIPTION OF WORK:

The extent of work under this item includes the placement of aggregate base course and bituminous concrete pavement.

Bituminous concrete paving shall also mean bituminous paving, asphalt, or asphalt concrete as may be used in other sections of the specifications or drawings.

SUBMITTALS:

Material Certificates: Bituminous Concrete Paving:

Provide 2 copies of materials certificates signed by the material producer and the Contractor, and notarized, certifying that each material item complies with, or exceeds, specified requirements.

Job Mix Formula:

Provide 2 copies of the proposed job mix formula at least 15 days prior to beginning work. If this formula has not been previously approved by NCDOT for the type of pavement specified, Contractor shall, at his own expense take whatever measures are necessary in order to obtain said approval prior to beginning work or have a mix design prepared by an approved Testing Lab.

JOB CONDITIONS:

Weather Limitations: Construction operations shall be conducted in accordance with the weather limitations given in the applicable sections of "Standard Specifications for Roads and Structures" as issued by N. C. Department of Transportation. No asphalt concrete shall be placed when the ambient temperature is less than 40 degrees F in the shade away from artificial heat.

Grade Control: Establish and maintain required lines and elevations as necessary to match existing grades and/or proposed grades on the drawings.

PART 2 - PRODUCTS

MATERIALS:

Aggregate for Aggregate Base Course: Aggregate meeting the requirements of Section 520, Paragraph (a) of "Standard Specifications for Roads and Structures" as issued by NCDOT

Asphalt Concrete Plant Mix: Materials meeting the requirements of Section 610 of "Standard Specifications for Roads and Structures" as issued by N.C.D.O.T.

Tack Coat: Material meeting the requirements of Section 605 of "Standard Specifications for Roads and Structures" as issued by N.C.D.O.T.

Crack Sealant: Material meeting the requirements of Division 10 of "Standard Specifications for Roads and Structures" as issued by N.C.D.O.T.

Pavement Marking Paint: Paint shall be a ready mixed type paint product conforming to Federal Specification FP03 with spraying consistency suitable for use as a retroreflective pavement marking. Glass beads are dropped by suitable pressurized means into the wet paint as it is applied to the pavement. Color, without drop-on beads, shall visually match the color chips that correspond to the Federal Standard Number 595b for the following colors:

Crystal: Color No. 17886 (White)
Yellow: Color No. 13538
Black: Color No. 37038

Glass Beads: Materials meeting the requirements of Section 1087-4 of "Standard Specifications for Roads and Structures" as issued by NCDOT.

PART 3 - EXECUTION

GENERAL:

Install the aggregate base course, bituminous concrete base course and bituminous surface course in accordance with the applicable provisions of "Standards Specifications for Roads and Structures" as issued by the North Carolina Department of Transportation, except as otherwise noted herein.

SUBGRADE:

Shape surface of areas under base course to line, grade and cross-section shown on drawings, with finish surface not more than 1/2" above or below the required subgrade elevation.

Patches in driveways and roadways shall be graded to depth required to match existing pavement or to provide minimum pavement specified.

AGGREGATE BASE COURSE:

Place base course material on prepared subgrade in layers of uniform thickness. Grade the base course evenly to thickness indicated on drawings and compact to 100%. AASHTO T 180.

Maintain a uniform surface on the base course until the placement of the bituminous surface course is complete.

Provide a proof rolling of the compacted aggregate base course with a heavy roller or loaded dump truck (+25 tons) in the presence of the Engineer's Representative and the Village of Sugar Mountain's Representative. The proof rolling shall be covered by the wheels of the proof roller operating at a speed between 2- 1/2 and 3-1/2 miles per hour.

Any areas that rut or pump excessively shall be allowed to dry or shall be undercut and backfilled with select backfill or coarse aggregate base course as directed by the Engineer.

After undercut and backfill operations are complete, a final proof rolling of the undercut areas will be performed in the presence of the Engineer's Representative and the Village of Sugar Mountain's Representative.

Perform thickness and density testing on placed stone base prior to asphalt placement to verify specified thickness and density have been achieved for the aggregate base course.

TACK COAT:

Tack coat shall be applied to contact surfaces of previously constructed asphalt or portland cement concrete and surfaces abutting or projecting into asphalt concrete pavement. All application of tack coat shall be in conformance with Section 605 of the "Standard Specifications for Roads and Structures" as issued by N.C.D.O.T.

Tack coat shall be uniformly applied at a rate 0.02 to 0.05 gallons per square yard. No more tack coat material shall be applied than can be covered with base, binder, or surface course during the following day's operations. No base, binder or surface mixture shall be deposited thereon until the tack coat has sufficiently cured to properly receive paving.

All exposed surfaces, not intended to contact paving, shall be protected sufficiently to prevent tack coat from being tracked or splattered on said surfaces. After the tack coat has been applied, it shall be protected until it has cured for a sufficient length of time to prevent it from being picked up by traffic.

CRACK SEALING:

Crack sealant shall be applied to cracks in contact surfaces of previously constructed asphalt cement concrete surfaces. All application of crack sealant shall be in conformance with Section 657 of the "Standard Specifications for Roads and Structures" as issued by N.C.D.O.T.

Install the sealant so that it forms a complete watertight bond with a high degree of elasticity, with maximum flexibility and longevity under extreme temperature ranges.

PLACING BITUMINOUS CONCRETE PAVEMENT:

Place bituminous concrete pavement in as continuous an operation as possible. The Contractor shall spread the materials to uniform density and strike a smooth finish true to cross-section and free from inequalities. Spread mixture at minimum temperature of 225 degrees F. Place each course in the required amounts, so that when compacted, they will conform to the indicated grade, cross section, and thickness.

Asphalt shall be put down in one or two courses, as required to meet NCDOT compaction requirements. Surface course on 36' wide streets shall be installed in 3 pulls.

Provide joints between old and new pavements and between successive days' work for continuous bond between adjoining work. Clean contact surfaces and apply tack coat.

Rolling: Begin rolling when bituminous concrete mixture will bear roller weight without excessive displacement. Repair surface defects with hot bituminous concrete material as rolling progresses. Cut out and patch defective areas and roll to blend with adjacent satisfactory paving. Continue

rolling until maximum density is attained and roller marks eliminated.

Protect paving from damage and vehicular traffic until bituminous concrete mixture has cooled and attained its maximum degree of hardness.

FIELD QUALITY CONTROL:

General: Test the in-place bituminous concrete courses for compliance with requirements for thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by the Engineer.

Thickness: In-place compacted thickness will not be acceptable if exceeding following allowable variation from required thickness:

Course Aggregate Base Course: 1/2", plus or minus

Bituminous Concrete Course: 1/4", plus or minus.

Surface Smoothness: Test finished surface of each bituminous concrete course for smoothness, using 10' straightedge applied parallel with, and at right angles to centerline of paved area. Surfaces will not be acceptable if exceeding the following tolerances for smoothness:

Base Course Surface: 1/4".

Wearing Course Surface: 1/8".

Check surfaced areas at intervals as directed by the Engineer.

Quality Assurance / Quality Control: Contractor shall provide asphalt thickness and density data to ensure required asphalt thickness and compaction based on mix design have been achieved in conformance with the standards set forth by N.C.D.O.T.

PLACEMENT OF PAVEMENT MARKINGS:

Pavement markings shall be applied in conformance with Section 1205 of the "Standard Specifications for Roads and Structures" as issued by N.C.D.O.T.

END OF SECTION 02513

SECTION 02514 - PORTLAND CEMENT CONCRETE CURB AND GUTTER

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of Contract, including General, Supplemental General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

DESCRIPTION OF WORK:

Extent of portland cement concrete paving is shown on drawings, including curbs, gutters, and sidewalks.

Prepared subbase is specified in "Earthwork" section.

Concrete and related materials are specified in Division 3.

QUALITY ASSURANCE:

Codes and Standards: Comply with local governing regulations if more stringent than herein specified.

SUBMITTALS:

Furnish samples, manufacturer's product data, test reports, and materials' certifications as required in referenced sections for concrete and joint fillers and sealers.

JOB CONDITIONS:

Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

Utilize flagmen, barricades, warning signs and warning lights as required.

PART 2 - PRODUCTS

MATERIALS:

Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects.

Use flexible spring steel forms or laminated boards to form radius bends as required.

Coat forms with a non-staining form release agent that will not discolor or deface surface of concrete.

Concrete Materials: Comply with requirements of applicable Division-3 sections for concrete materials, admixtures, bonding materials, curing materials, and others as required.

Expansion Joint Materials: Bituminous Fiber, 1/2" thick, complying with NCDOT Spec. Section 1028 and Section 420-12.

Joint Filler Materials: Hot poured rubber asphalt conforming to NCDOT Spec. Section 1028.

Liquid-Membrane Forming Curing Compound: Complying with ASTM C 309, Type I, Class A unless other type acceptable to Engineer. Moisture loss not more than 0.055 gr./sq. cm. when applied at 200 sq. ft./gal.

AGGREGATE BASE COURSE BENEATH CURB AND GUTTER:

Aggregate meeting the requirements of Section 520, Paragraph (a) of "Standard Specifications for Roads and Structures as issued by NCDOT

CONCRETE MIX, DESIGN AND TESTING:

Comply with requirements of applicable Division-3 sections for concrete mix design, sampling and testing, and quality control, and as herein specified.

Design mix to produce normal-weight concrete consisting of portland cement, aggregate, water-reducing or high-range water-reducing admixture (super-plasticizer), air-entraining admixture and water to produce the following properties:

Compressive Strength: 3000 psi, minimum at 28 days, unless otherwise indicated.

Slump Range: Not greater than 3".

Air Content: 5% plus or minus 1.5%.

PART 3 - EXECUTION

SUBSURFACE PREPARATION:

Remove loose material from compacted subbase surface immediately before placing aggregate base course. No aggregate base course shall be placed until the foundation has been inspected and approved by the Engineer.

Place aggregate base course material on prepared subgrade in layers of uniform thickness. Grade the base course evenly to thickness indicated on drawings and compact before placing concrete.

FORM CONSTRUCTION:

Set forms to required grades and lines, rigidly braced and secured. Install sufficient quantity of forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.

Check completed formwork for grade and alignment to following tolerances.

Top of forms not more than 1/8" in 10'.

Vertical face on longitudinal axis, not more than 1/4" in 10'.

Clean forms after each use, and coat with form release agent as often as required to ensure separation from concrete without damage.

CONCRETE PLACEMENT:

General: Comply with requirements of Division-3 sections for mixing and placing concrete, and as herein specified.

Do not place concrete until subbase and forms have been checked for line and grade. Moisten subbase if required to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.

Place concrete using methods which prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints with internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocation of reinforcing, dowels, and joint devices.

Deposit and spread concrete in a continuous operation between transverse joints, as far as possible. If interrupted for more than 1/2-hour, place a construction joint.

Drop top of curb as shown in details of plans at all radii of intersections, to allow construction of handicapped ramps and sidewalks.

Curbs and Gutters: Automatic machine may be used for curb and gutter placement at Contractor's option. If machine placement is to be used, submit revised mix design and laboratory test results which meet or exceed minimums specified. Machine placement must produce curbs and gutters to required cross-section, lines, grades finish, and jointing as specified.

JOINTS:

General: Construct expansion, weakened-plane (contraction), and construction joints true-to-line with face perpendicular to surface of concrete. Construct transverse joints at right angles to the centerline, unless otherwise indicated.

When joining existing structures, place transverse joints to align with previously placed joints, unless otherwise indicated.

Weakened-Plane (Contraction) Joints: Provide weakened-plane (contraction) joints, sectioning concrete sidewalk at 5' intervals. Construct weakened-plane joints for a depth equal to at least 1/4 concrete thickness, as follows:

Tooled Joints: Form weakened-plane joints in fresh concrete by grooving top portion with a recommended cutting tool and finishing edges with a jointer.

Inserts: Use embedded strips of metal or sealed wood to form weakened-plane joints. Set strips into plastic concrete and carefully remove strips after concrete has hardened.

Construction Joints: Place construction joints at end of placements and at locations where placement operations are stopped for a period of more than 1/2-hour, except where such placements terminate at expansion joints.

Construct joints as shown or, if not shown, use standard metal keyway-section forms.

Locate expansion joints at 90' o/c. for each curb and gutter section and 50' o/c. for each sidewalk section unless otherwise indicated, and at beginning and end of all curb and gutter radii, connections with rigid objects including existing curb and gutter and catch basins.

Extend joint fillers full-width and depth of joint, and not less than 1/2" or more than 1" below finished surface where joint sealer is indicated. If no joint sealer, place top of joint filler flush with finished concrete surface.

Furnish joint fillers in one-piece lengths for full width being placed, wherever possible. Where more than one length is required, lace or slip joint filler sections together.

Protect top edge of joint filler during concrete placement with a metal cap or other temporary material. Remove protection after concrete has been placed on both sides of joint.

Fillers and Sealants: Comply with manufactures requirements for preparation of joints, materials installation, and performance. Place at all curb and gutter template joints.

CONCRETE FINISHING:

After striking-off and consolidating concrete, smooth surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust floating to compact surface and produce uniform texture.

After floating, test surface for trueness with a 10' straightedge. Distribute concrete as required to remove surface irregularities, and refloat repaired areas to provide a continuous smooth finish.

Work edges of slabs, gutters, back top edge of curb, and formed joints with an edging tool, and round to 1/2" radius, unless otherwise indicated. Eliminate tool marks on concrete surface.

After completion of floating and troweling when excess moisture or surface sheen has disappeared, complete surface finishing, as follows:

Broom finish, by drawing a fine-hair broom across concrete surface, perpendicular to line of traffic. Repeat operation if required to provide a fine line texture acceptable to Engineer.

Do not remove forms for 24 hours after concrete has been placed. After form removal, clean ends of joints and point-up any minor honeycombed areas. Remove and replace areas or sections with major defects, as directed by Engineer.

CURING:

Protect and cure finished concrete paving, complying with applicable requirements of Division-3 sections. Use membrane-forming curing and sealing compound or approved moist-curing methods.

REPAIRS AND PROTECTIONS:

Repair or replace broken or defective concrete, as directed by Engineer.

Drill test cores where directed by Engineer, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.

Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.

Sweep concrete and wash free of stains, discolorations, dirt and other foreign material just prior to final inspection.

END OF SECTION 02514

SECTION 02736 - STORM SEWER SYSTEM

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including General Supplemental General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

Related Work Specified Elsewhere:

Excavation, Trenching and Erosion Control: See Division-2 sections.

Concrete: See Division-2 sections.

DESCRIPTION OF WORK:

The extent of storm sewer system work is shown on the drawings.

Storm sewer system work includes, but is not limited to, all of the following.

Storm sewer pipe.

Drop inlets, frames and gratings.

Curb inlets, frames and gratings.

Reinforced concrete and brick junction box.

Rip Rap

QUALITY ASSURANCE:

Code and Standards: Comply with requirements of the Village of Sugar Mountain and with requirements of applicable Division - 2 sections for excavation and backfilling required in connection with storm sewer system work.

SUBMITTALS:

Shop Drawings and Storm Sewer System: Submit shop drawings for the storm sewer system, including details of underground structures, metal accessories, fittings, and connections, and any variations from those details shown on the drawings.

PART 2 - PRODUCTS

CONDUIT MATERIALS:

Reinforced Concrete Pipe (RCP): Concrete Pipe shall be in accordance with ASTM C-76, Class III All pipe shall have tongue-and groove type joint. All pipe shall be stamped by supplier - "R.C.". Joint material shall be RAM-NEK Performed Plastic Gasket, Type I rope form sealing compound conforming to Federal Specifications SS-S-210A.

Polyvinyl Chloride (PVC): PVC storm sewer pipe and fittings shall be manufactured and tested in accordance with ASTM F949. PVC pipe shall be manufactured from 12454 cell class material per ASTM D1784. Pipe and fittings shall have a minimum pipe stiffness of 46 lbs/in/in when tested in accordance with ASTM D2412. Joints shall be integral bell-gasketed joint.

High Density Polyethylene (HDPE): HDPE storm sewer pipe and fittings shall be manufactured and tested in accordance with ASTM F2648. HDPE pipe shall be manufactured from 435420C (ESCR Test Condition B) cell class material per ASTM D3350. Joints shall be integral bell-gasketed joint.

MASONRY MATERIALS:

Concrete Masonry Units (Manhole Block): ASTM C 139.

Manhole Drop Inlet and Catch Basin Brick: ASTM C 32, Grade MS.

Concrete Brick: ASTM C 55, Grade N1.

Masonry Mortar: ASTM C 270, Type M, approximately 1:1/4:2 Portland cement, lime, sand.

Concrete Block: ASTM C-90, Grade N 1.

For minor amounts of mortar, packaged materials complying with ASTM C 387, Type M, will be acceptable.

Plasticizing Agent - Omicron or equal. Use in accordance with manufacturer's instructions.

METAL ACCESSORIES:

General: All metal accessories for manholes, catch basins and drop inlets shall be gray cast iron, ASTM A 48, Class 30B. Frames, grates and covers shall be factory coated with an asphalt base paint. Install metal accessories as shown on the drawings and as follows:

Manhole frames and covers shall be V-1384 as manufactured by Vulcan Foundry Corporation, or approved equal. Furnish covers with cast-in legend "Storm" or "Sanitary" as applicable on roadway face.

Catch basin frames and grates shall be V-4066-2 (NCDOT Type C) as manufactured by Vulcan Foundry Corporation., or approved equal.

Drop inlet frames and grates shall be V-5660 as manufactured by Vulcan Foundry Corporation, or approved equal.

Manhole steps shall be plastic coated steel bar as manufactured by MA Industries or cast iron as V-1999 manufactured by Vulcan Foundry Corporation, or approved equal.

Rip Rap: Rip rap shall be accomplished in accordance with Section 868 of the N.C. State Highway Specifications for Roads and Structures. Rip rap shall be located and be of the class shown on plans.

Filter Cloth: Filter cloth shall be composed of strong rot proof synthetic fibers formed into a fabric of either the woven or nonwoven type. Either type of fabric shall be free of any treatment or coating which might significantly alter its physical properties after installation.

The filter cloth shall have a puncture strength to withstand a minimum force of 100 lbs., in accordance with ASTM D751. Filter cloth as manufactured by Monsanto, Carthage Mills, Inc., or approved equal will be acceptable.

Temporary Silt Fence: Temporary silt fence shall be accomplished in accordance with Section 1605 of the N.C. State Highway Specifications for Roads and structures dated July 1, 1995 and as shown on the plans.

PART 3 - EXECUTION

INSPECTION:

Contractor must examine the areas and conditions under which storm sewer system work is to be installed. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the Engineer.

INSTALLATION OF CONDUIT (PIPE):

General:

Perform excavation, trenching and backfilling as specified in appropriate Division-2 Sections. Conduct backfill operations of open-cut trenches closely following laying, jointing and bedding of pipe, and after initial inspection and testing are completed.

Inspect conduit before installation to detect any apparent defects. Mark defective materials with white paint and promptly remove from the site.

Particular care shall be taken to prevent damage to pipe and fitting linings and coatings. Pipe shall be protected during handling against impact shocks and free fall.

Lay conduit beginning at the low point of a system, true to the grades and alignment indicated with unbroken continuity of invert. The line and invert grade of each pipe shall be checked from top line carried on batter boards not over 24' apart or by a laser and target.

Cross above or below other pipe a minimum of 6" unless otherwise directed by the Engineer.

Place bell ends of conduit or the groove end of concrete facing upstream.

Bell holes shall be excavated for each joint to assure bedding supports the barrel of the pipe and to facilitate making a perfect joint. Preparatory to making pipe joints, all surfaces of the portion of the pipe to be jointed or of the factory-made jointing materials shall be clean and dry.

Install gaskets in accordance with manufacturer's recommendations for the use of lubricants, cements, and other special installation requirements.

Cleaning Conduit: Clear the interior of conduit of dirt and other superfluous material as the work progresses.

Place plugs in the ends of uncompleted conduit at the end of the day or whenever work stops.

Flush lines between manholes if required to remove collected debris.

Interior Inspection: Inspect conduit to determine whether line displacement or other damage has occurred.

A light held in a manhole shall show a full circle of light when viewed from the adjoining end of the line.

Make inspections after lines between manholes, or manhole locations, have been installed and approximately two feet of backfill is in place and at completion of the project.

If the inspection indicates poor alignment, debris, displaced pipe, infiltration or other defects, take whatever steps are necessary to correct such defects to the satisfaction of the Engineer.

Connection to Existing Structures: Pipe connections to existing structures shall be made in such manner that the finished work will conform as nearly as practicable to the essential applicable requirements specified for new structures, including all necessary concrete work, cutting, and shaping.

UNDERGROUND STRUCTURES:

General: Manholes may be precast manhole sections or constructed with concrete masonry units (manhole block), manhole brick or concrete brick masonry as specified under Part 2 - Products unless otherwise noted.

Drop inlets or curb inlets may be constructed with concrete brick or manhole brick masonry as specified under Part 2 - Products. Construct all drainage structures with a grouted invert to channel flow through structure from inlet pipes to outlet pipe. Where pipes are skewed, the grouted channel shall form a smooth radius. Structures shall not be backfilled until inspected by the Engineer or his representative unless otherwise directed.

Construct all structures in accordance with all authorities having jurisdiction and as hereinafter specified.

Masonry Construction Manholes: At Contractor's option, use either manhole brick, concrete brick or concrete masonry (manhole block) units to construct masonry manholes.

Mix mortar with only enough water for workability. Re-tempering of mortar will not be permitted. Keep mortar mixing and conveying equipment clean. Do not deposit mortar upon, or permit contact with, the ground.

Lay masonry in mortar so as to form full bed with ends and side joints in one operation, and with full bed and vertical joints, not more than 3/8" wide on the inside. Protect fresh masonry from freezing and from too rapid drying.

Curb Inlet and Drop Inlets: Construct curb inlet or drop inlet to the sizes and shapes as shown on the drawings and as specified for masonry manholes.

Use concrete which will attain a 28-day compressive strength of not less than 3,000 psi.

Set cast iron frames and gratings to the elevations indicated.

Field revisions may be necessary for manholes and catch basins constructed on existing lines, as directed by Engineer.

Concrete Block retaining walls shall be constructed where existing concrete block walls must be removed for sidewalk or curb and gutter construction unless otherwise directed by the Engineer. Constructed shall be where located by Engineer according to detail for masonry manhole structures.

Installation of filter cloth shall be in accordance with the manufacturer's recommendations. Care shall be taken to insure that the cloth develops no rips, holes, deterioration, or damage during installation. During all periods of shipment and storage, the cloth shall be maintained, wrapped in a heavy duty protection covering to protect the fabric from direct sunlight ultraviolet rays, mud, dirt, dust and debris.

END OF SECTION 02736

SECTION 02910 - EROSION AND POLLUTION CONTROL

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

DESCRIPTION OF WORK:

The extent of the work required under this section is that required to minimize water, air, and noise pollution and soil erosion and siltation.

Temporary erosion control measures which may be necessary include, but are not limited to, temporary berms, dikes, dams, drainage ditches, silt basins, silt ditches, silt fences, rip rap, perimeter swales, slope drains, structures, vegetation, mulches, mats, netting, gravel or any other methods or devices that are necessary to control or restrict erosion. Temporary erosion control measures may include work outside the right-of-way or construction limits where such work is necessary as a result of construction such as borrow pit operations, haul roads, plant sites, equipment storage sites, and disposal of waste or debris. The Contractor shall be liable for all damages to public or private property caused by silting or slides originating in waste areas furnished by the Contractor.

Related Work Specified Elsewhere:

Fertilizing, Seeding and Mulching: Section 02920

QUALITY ASSURANCE:

Codes and Standards:

North Carolina Sedimentation Pollution Control Act of 1973 and the Rules and Regulations promulgated pursuant to the provisions of said act.

"Standard Specifications for Roads and Structures", North Carolina Department of Transportation (DOT).

In the event of conflict between the regulations listed above and the requirements of these specifications, the more restrictive requirement shall apply.

SANCTIONS:

Failure of the Contractor to fulfill any of the requirements of this section may result in the Owner ordering the stopping of construction operations until such failure has been corrected. Such suspension of operations will not justify an extension of contract time nor additional compensation.

Failure on the part of the Contractor to perform the necessary measures to control erosion, siltations, and pollution will result in the Engineer notifying the Contractor to take such measures. In the event the Contractor fails to perform such measures within 24 hours after receipt of such notice, the Owner may suspend the work as provided above, or may proceed to have such measures performed with other forces and equipment, or both. The cost of such work performed by other forces will be deducted from monies due the Contractor on his contract.

PART 2 - PRODUCTS

SILT FENCES:

Posts: Steel posts shall be 5' in height and be of the self-fastener angle steel type.

Posts shall be spaced at 8' max. when silt fence is backed with wire mesh, and 5' when no wire mesh is used or as required by the Engineer.

Woven Wire: Woven wire fencing shall conform to ASTM A116 for Class 3 galvanizing. Fabric shall be a minimum of 32" in width and shall have a minimum of 6 line wires with 12" stay spacing. The top and bottom wires shall be 12 gauge while the intermediate wires shall be 12-1/2 gauge. Wire fabric shall be fastened to posts with not less than #9 wire staples 1-1/2" long.

Fabric: Provide woven synthetic fiber designed specifically for silt fence conforming to NCDOT Standard Specifications for Roads and Structures Section 1056 Type 3 in Table 1056-1. Minimum roll width shall be 24".

DRAINAGE STONE:

NCDOT Class VI select material meeting the gradation requirements of standard size 57 in Table 1005-1 as described in Section 1005 and 1006.

RIP RAP:

Class B in accordance with NCDOT specifications.

FILTER CLOTH:

For use under rip rap provide geotextile which meets requirements of NCDOT Standard Specifications for Roads and Structures Section 1056 Type 2 in Table 1056-1.

MATTING FOR EROSION CONTROL:

Matting for erosion control shall be jute matting or excelsior matting. Other acceptable material manufactured especially for erosion control may be used when approved by the Engineer in writing before being used. Matting for erosion control shall not be dyed, bleached, or otherwise treated in a manner that will result in toxicity to vegetation.

TEMPORARY SEEDING:

Temporary seeding, when required, shall be performed in accordance with the recommendations contained in "Guide for Sediment Control on Construction Sites in North Carolina", published by the Soil Conservation Service and Section 02920 of these specifications.

PART 3 – EXECUTION

GENERAL:

The Contractor shall take whatever measures are necessary to minimize soil erosion and siltation, and water, air, and noise pollution caused by his operations. The Contractor shall also comply with the applicable regulations of all legally constituted authorities relating to pollution prevention and control. The Contractor shall keep himself fully informed of all such regulations which in any way affect the conduct of the work, and shall at all times observe and comply with all such regulations. In the event of conflict between such regulations and the requirements of the specifications, the more restrictive requirements shall apply.

EROSION AND SILTATION CONTROL:

The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent the eroding of soil and the silting of rivers, streams, lakes, reservoirs, other water impoundments, ground surfaces, or other property.

Prior to suspension of operations on the project or any portion thereof, the Contractor shall take all necessary measures to protect the construction area, including but not limited to borrow sources, soil type base course sources, and waste areas, from erosion during the period of suspension.

Provide diversion ditches and berms as necessary to prevent concentrated flow of water across disturbed areas.

Stockpile excavated material on the opposite side of the utility trenches from the watercourses to the extent that is possible.

In the event that stockpiles are placed on the watercourse side of the trench, provide silt fence or silt berms with stone filter outlets along the entire length of the stockpile that is on the watercourse side of the trench. Upon the completion of backfilling, the measures shall be removed and the site graded to its natural grade or as shown on plans.

Maintain natural buffer zones along all watercourses sufficient to retain all visible siltation within the first 25 percent of the buffer width.

Provide a settling basin with a gravel filter outlet for all water pumped from trenches or dewatering equipment. Pumping of that water directly into any stream, pond, or watercourse is prohibited.

Tamp, fertilize, seed and mulch the disturbed areas as soon as practicable after line is installed and, in all cases, no later than 14 days after completion of the line segment or work at a particular site.

When construction operations are suspended for more than 14 days, provide temporary seeding and mulching of all disturbed areas including those areas in which further construction is necessary.

Erosion control measures installed by the Contractor shall be acceptably maintained by the Contractor.

Silt fences shall be provided where shown on the drawings and/or as necessary to prevent erosion.

Catch basins and Drop Inlets shall be protected from silt by placing rock inlet sediment traps around the openings until vegetative cover is established.

Temporary rock check dams shall be constructed where shown on the drawings.

Seeding for erosion control shall be performed in accordance with Section 02920.

Stream Or Ditch Crossings shall be performed in accordance with details shown on plans. Complete crossing in one working day. Carefully stabilize disturbed slopes by tamping with equipment buckets and mechanical or hand tamping. Distribute topsoil evenly on slopes and tamp.

Where rip rap is required, carefully place at least one foot thick over filter cloth.

Fertilize, seed, and mulch each crossing's slopes as soon as practicable after completing the crossing and in no case more than two weeks after disturbance of the slopes.

WATER AND AIR POLLUTION:

The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent pollution of rivers, streams, and water impoundments. Pollutants such as chemicals, fuels, lubricants, bitumens, raw sewage, and other harmful waste shall not be discharged into or alongside of rivers, streams, or impoundments, or into natural or manmade channels leading thereto.

The Contractor shall comply with all State or local air pollution regulations throughout the life of the project.

DUST CONTROL:

The Contractor shall control dust throughout the life of the project within the project area and at all other areas affected by the construction of the project, including, but not specifically limited to, unpaved secondary roads, haul roads, access roads, disposal sites, borrow and material sources, and production sites. Dust control shall not be considered effective where the amount of dust creates a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property.

NOISE CONTROL:

The Contractor shall exercise every reasonable precaution throughout the life of the project to prevent excessive and unnecessary noise. The Contractor shall choose his methods so as to minimize the disturbance of area residents.

END OF SECTION 02910

SECTION 02920 - FERTILIZING, SEEDING AND MULCHING

PART 1 - GENERAL

RELATED DOCUMENTS:

The general provisions of the Contract, including the General and Special Conditions and Division-1 Specification sections apply to work of this section.

DESCRIPTION OF WORK:

Permanent Seeding: Permanent seeding is required for all areas disturbed by construction, except for areas covered by structures, pavements, etc.

Temporary Seeding: Soil stabilization shall be achieved on any area of a site where land-disturbing activities have temporarily or permanently ceased according to the following schedule:

1. All perimeter dikes, swales, ditches, perimeter slopes and all slopes steeper than 3 horizontal to 1 vertical (3:1) shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 7 calendar days from the last land-disturbing activity.
2. All other disturbed areas shall be provided temporary or permanent stabilization with ground cover as soon as practicable but in any event within 14 calendar days from the last land-disturbing activity.
3. As deemed necessary by the Engineer.

The following conditions and/or exemptions shall apply in meeting the stabilization requirements above:

1. Extensions of time may be approved by the permitting authority based on weather or other site-specific conditions that make compliance impracticable.
2. All slopes 50' in length or greater shall apply the ground cover within 7 days except when the slope is flatter than 4:1. Slopes less than 50' shall apply ground cover within 14 days except when slopes are steeper than 3:1, the 7 day-requirement applies.
3. Any sloped area flatter than 4:1 shall be exempt from the 7-day ground cover requirement.
4. Slopes 10' or less in length shall be exempt from the 7-day ground cover requirement except when the slope is steeper than 2:1.
5. Although stabilization is usually specified as ground cover, other methods, such as chemical stabilization, may be allowed on a case-by-case basis.

6. For portions of projects within one mile and draining to trout waters and High Quality Waters as classified by the Environmental Management Commission, stabilization with ground cover shall be achieved as soon as practicable but in any event on all areas of the site within 7 calendar days from the last land-disturbing act.
7. For portions of projects located in Outstanding Resource Waters watersheds as classified by the Environmental Management Commission, stabilization with ground cover shall be achieved as soon as practicable but in any event on all areas within 7 calendar days from the last land-disturbing act.
8. Portions of a site that are lower in elevation than adjacent discharge locations and are not expected to discharge during construction may be exempt from the temporary ground cover requirements if identified on the approved E&SC plan or added by the permitting authority.

QUALITY ASSURANCE:

Codes and Standards: In general, follow procedures and guides published by the Soil Conservation Service, United States Department of Agriculture.

PART 2 - PRODUCTS

FERTILIZER:

Provide commercial fertilizer conforming to statutory requirements and all rules and regulations adopted by the North Carolina Board of Agriculture.

LIMESTONE:

Provide agricultural limestone conforming to all statutory requirements and all rules and regulations adopted by the North Carolina Board of Agriculture.

SEED:

Provide seed conforming to all statutory requirements and all rules and regulations adopted by the North Carolina Board of Agriculture.

Provide seed in accordance with requirements shown below. Deliver to site in original containers, labeled to show that the requirements of the N.C. Seed Law are met.

Quality of seed shall conform to the following:

<u>Common Name</u>	<u>Minimum Seed Purity</u> %	<u>Minimum Germination</u> %	<u>Maximum Weed Seed</u> %
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Grasses

Fescue Tall (KY.-31)	98	90	1.00
Common Bermudagrass	99	90	0.1
Centipede	80	90	1.00
Rye	80	90	1.00

Seeding containing prohibited noxious weed seed shall not be accepted. Seed shall be in conformance with state seed law restrictions for restricted noxious weeds.

If seed of the accepted quality cannot be bought, secure prior approval before making changes or exceptions.

MULCH:

Mulch for erosion control shall consist of grain straw or other acceptable material, and shall have been approved by the Engineer before being used. All mulch shall be reasonably free from mature seedbearing stalks, roots, or bulblets of Johnson Grass, Nutgrass, Sandbur, Wild Garlic, Wild Onion, Bermuda Grass, Crotalaria, and Witchweed, and free of excessive amount of restricted noxious weeds as defined by the North Carolina Board of Agriculture at the time of use of the mulch. Also there shall be compliance with all applicable State and Federal domestic plant quarantines. Straw mulch that is matted or lumpy shall be loosened and separated before being used.

Material for holding mulch in place shall be asphalt or other approved binding material applied in accordance with this section.

JUTE MESH:

Use jute mesh on seeded areas where slope is steeper than 2 horizontal to one vertical (2:1 slope). Use woven jute yarn weighing approximately 90 lbs. per 100 sq. yds. and having 3/4" openings.

PART 3 - EXECUTION

GENERAL:

Follow procedures set forth in the publication "Guide for Sediment Control on Construction Sites in North Carolina" by the United States Department of Agriculture, Soil Conservation Service, and as specified herein.

Scarify soil to a depth of three (3) inches and work into a satisfactory seed bed by discing, use of cultipackers, harrows, drags and other approved means.

Preparation outlined above shall not be done when the soil is frozen, wet or otherwise in an unfavorable condition.

Begin and complete seeding operations as outlined below as soon as possible after final grading is completed, but in no event later than 30 days after completion of final grading.

Seeding and mulching operations shall not begin until electrical service has been installed within the project, unless directed by the Engineer.

Distribute lime and fertilizer, uniformly over seed bed and harrow, rake, or otherwise work same into seed bed.

Distribute seed uniformly over seed bed. Cover seed lightly after seeding.

No lime, fertilizer, or seed shall be applied during a strong wind, when soil is wet or otherwise unworkable. Should rain follow seeding before rolling is begun, the bed shall not be rolled.

PERMANENT SEEDING:

Application of Lime, Fertilizer and Seed:

Apply lime at the rate of 2 tons per acre.

Apply fertilizer at a rate and analysis which will provide the following amounts of nutrients:

Nitrogen: 100 pounds per acre
Potash: 200 pounds per acre
Phosphorous: 200 pounds per acre

Apply 600 pounds per acre of 20% superphosphate or equivalent in addition to that listed above or use an analysis which will provide the additional phosphorous.

Provide permanent seeding in accordance with the following schedule:

(January 1 – March 31)
Common Bermuda grass (unhulled) - 20 pounds per acre
Rye (grain) - 25 pounds per acre

(April 1 – July 31)

Common Bermuda grass (hulled)	- 15 pounds per acre
Weeping Lovegrass	- 5 pounds per acre
Centipede	- 8 pounds per acre

(August 1 – December 31)

Common Bermuda grass (unhulled)	- 20 pounds per acre
Tall Fescue	- 60 pounds per acre
Rye (grain)	- 25 pounds per acre

Seed Bed Protection:

Straw Mulch	- 2 tons per acre (visual)
Asphalt Tack	- 0.03 gallons per square yard

TEMPORARY SEEDING:

Seed in accordance with Soil Conservation Service recommendations with regard to seed type, rate of application, fertilizer, etc.

APPLICATION OF MULCH:

Apply mulch immediately after permanent seeding at a uniform rate sufficient to achieve approximately 80% coverage of ground surface. Care must be taken to prevent the mulch from being applied too thickly and smothering the seedlings. Mulch for temporary seeding should be applied based upon the recommendations of the Soil Conservation Service for the particular type of seed to be used.

Mulch Anchoring:

On ground slopes less than 4%, anchor mulch with a straight blade disk or anchoring tool. Press mulch into soil about three inches. Operate equipment across slopes.

On ground slopes greater than 4%, apply asphalt with suitable applicator at a rate of not less than 150 gallons per ton of mulch.

Peg and twine anchoring may be used on steep slopes. Drive 8" wood stakes every 3 to 4 feet in all directions. Stretch in a crisscross and square in all directions. Secure twine around pegs and drive pegs flush with surface.

REPAIR AND MAINTENANCE:

Maintain the grass on the area for a period of 90 days after the grass growth appears. Reseed bare areas and repair all eroded areas during that period.

Repairs: Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be over 60% damaged, reestablish following original lime, fertilizer and seeding recommendations.

All areas which do not exhibit satisfactory ground cover within 45 days of seed application shall be replanted.

END OF SECTION 02920

SECTION 03305 – CONCRETE

PART 1 - GENERAL

RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division - 1 Specification Sections apply to work of this section.

DESCRIPTION OF WORK:

Concrete work includes, but is not specifically limited to, concrete piers, pipe encasement, concrete curbs and gutters, concrete drives, walks and other concrete items required in the project.

RELATED ITEMS SPECIFIED ELSEWHERE:

Storm Sewer System: Section 02736
Gravity Sanitary Sewer System: Section 02737
Portland Cement Concrete Curb and Gutter: Section 02514

QUALITY ASSURANCE:

Codes and Standards: AC1 301 "Specifications for Structural Concrete for Buildings"; AC1 347 "Recommended Practice for Concrete Formwork", AC1 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete"; comply with applicable provisions except as otherwise indicated.

Workmanship: The Contractor is responsible for correction of concrete work which does not conform to the specified requirements, including strength, tolerances and finishes. Correct deficient concrete as directed by the Engineer.

Concrete Testing Service: Employ a testing laboratory acceptable to the Engineer to perform material evaluation tests and to design concrete mixes at Contractor's expense.

Certificates of material properties and compliance with specified requirements may be submitted in lieu of testing. Certificates of compliance must be signed by the materials producer and the Contractor.

PART 2 - PRODUCTS

CONCRETE MATERIALS:

Portland Cement: ASTM C150, Type 1, unless otherwise acceptable to the Engineer.

Aggregates: ASTM C33, except local aggregates of proven durability may be used when acceptable to the Engineer.

Water: Clean, potable.

Design strength: 3000 psi for sidewalks curb and gutter, drives, etc.; 3,000 PSI with 3/8" aggregate for masonry fill; 2500 psi for pipe blocking and encasement.

No admixtures containing calcium chloride may be used. Use Pozzolith by Master Builders, Plastiment or Plasticrete by Silka and Chemstrong A, R, or W by Castle Chemical Company or approved equal. Retarders and accelerators shall be used only as directed by the Engineer.

Air-Entraining Admixture: ASTM C260. Only use admixtures having neutralized vensol resins. Use MB-VR by Master Builders, SIKA AER by Sika Chemical Company, or CASTLE VR by Castle Chemical Company, or approved equal.

Use air-entraining admixture in all concrete, providing not less than 4% nor more than 6% entrained air.

Water-Reducing Admixture: ASTM C494, Type A, D, and E. Only use admixtures which have been tested and accepted in mix designs, unless otherwise acceptable.

Mortar: Mortar used for sewer structures shall conform to ASTM Specification C-144 as to aggregate and strength. Mortar shall be prepared from cement in perfect condition and shall be prepared in box for that purpose. No mortar that has stood beyond 45 minutes shall be used. Proportion by volume for different kinds of work shall be:

Brick Masonry 1 part cement to 2 parts sand

Jointing 1 part cement to 1 part sand

Concrete: Concrete shall be only plant-mixed or transit-mixed concrete conforming to ASTM C-94 for Ready-Mix Concrete.

FORM MATERIALS:

Provide form materials with sufficient stability to withstand pressure of placed concrete without bow or deflection.

Exposed Concrete Surfaces: Acceptable panel-type to provide continuous, straight, smooth, as-cast surfaces. Use largest practical sizes to minimize form joints.

Unexposed Concrete Surfaces: Suitable material to suit project conditions.

CURING COMPOUND:

Liquid membrane forming curing compound shall comply with ASTM C300, Type I Class A, minimum 22% solids.

REINFORCING MATERIALS:

Reinforcing Bars: ASTM A615, Grade 40

Welded Wire Fabric: ASTM A185

JOINT MATERIALS:

Self-Expanding Cork Joint Filler: Provide resilient and non-extruding type premolded cork units complying with ASTM D1752, Type III.

Water - Stop: PVC meeting Corps of Engineers CRD-C572 with center bulb.

PART 3 - EXECUTION

FORMING AND PLACING CONCRETE:

Ready-Mixed Concrete: ASTM C94. Furnish delivery tickets for each load showing amount of each material in the batch, time batched, date, job.

Formwork: Construct so that concrete members and structures are of correct size, shape, alignment, elevation and position, complying with ACI 347. Provide 3/4" chamfer on all exposed corners.

Provide openings in formwork to accommodate work of other trades. Accurately place and securely support items built into forms.

Clean and adjust forms prior to concrete placement. Apply form release agents or wet forms, as required. Retighten forms during and after concrete placement if required to eliminate mortar leaks.

Reinforcement: Position, support and secure reinforcement against displacement. Locate and support with metal chairs, runners, bolsters, spacers and hangers, as required. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.

Install welded wire fabric in as long lengths as practicable, lapping at least one mesh.

Joints: Provide construction, expansion, weakened-plane (contraction), isolation, and control joints as indicated or required. Locate construction joints so as to not impair the strength and appearance of the structure. Place isolation and control joints in slabs-on-ground to stabilize differential settlement and random cracking.

Provide expansion and weakened-plane (contraction) joints where shown or required. Construct weakened-plane joints for a depth equal to at least 1/4 concrete thickness, either tooled, or with inserts unless otherwise shown. Tool edges of joints where slabs, walks, drives, curbs and gutters, etc. are constructed or replaced.

Place construction joints at the end of pours and at locations where placement operations are stopped for more than 1/2 hour, except where such pours terminate at expansion joints. Construct joints as shown or, if not shown, use standard metal keyway sections.

Provide premolded joint filler for expansion joints abutting curbs, manholes, and other fixed objects. Locate at 20' o.c. for pavement lanes unless otherwise specified.

Concrete Placement: Comply with ACI 304, placing concrete in a continuous operation within planned joints or sections. Do not begin placement until work of other trades affecting concrete is completed.

Consolidate placed concrete using mechanical vibrating equipment with hand rodding and tamping, so that concrete is worked around reinforcement and other embedded items and into all parts of forms.

Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placement and curing.

In cold weather comply with ACI 306.

In hot weather comply with ACI 305.

CONCRETE FINISHES:

Exposed-to-view Surfaces: Provide a smooth rubbed finish for exposed formed concrete surfaces and surfaces that are to be covered with a coating or covering material applied directly to concrete. Remove fins and projects, patch defective areas with cement grout, and rub smooth.

Slab Trowel Finish: Apply trowel finish to interior monolithic slab surfaces that are exposed-to-view or are to be covered with resilient covering, paint or other thinfilm coating. Consolidate concrete surface by finish troweling, free of trowel marks, uniform in texture and appearance.

Curing: Begin initial curing as soon as free water has disappeared from exposed surfaces. Where possible, keep continuously moist for not less than 72 hours. Continue curing by use of moisture-retaining cover or membrane-forming curing compound. Apply curing compound according to manufacturer's instructions and Federal Specification TT-C-00800. Cure formed surfaces by moist curing until forms are removed. Provide protections as required to prevent damage to exposed concrete surfaces.

Drives, Walks, Curbs and gutter Finishing: After striking-off and consolidating, smooth the concrete surface by screeding and floating. Work edges of slabs, gutters, and other formed joints with an edging tool to a ½" radius. After floating and when excess moisture or surface sheen has disappeared, complete surface finishing as follows:

Broom finish by drawing a fine-hair broom perpendicular to line of traffic, as acceptable to the ENGINEER.

END OF SECTION 03305

**VILLAGE OF SUGAR MOUNTAIN
TROPICAL STORM HELEN RECOVERY
Sugar Mountain Drive Road/Embankment Repair Contract**

ATTACHMENT D: Contract Terms and Conditions for Construction Contracts

Within Attachment D, the word “subcontractor” shall refer to any firm or individual employed by the Contractor. Since the parties anticipate that federal funding will be applied to this Contract, the following federal contract clauses must be complied with, where applicable, in addition to the clauses already contained herein.

PART I. REQUIRED CONTRACT PROVISIONS

1. REMEDIES.

In accordance with Part III of this Attachment, the parties shall have all remedies available to them under North Carolina law and in equity, including those set forth in this Contract. Upon default by the Village, these remedies shall include payment for the reasonable value of the services rendered by Contractor for work performed consistent with prevailing guidelines. Upon default by Contractor, remedies available to the Village shall include the cost of completion of the project, remediation of improper work, and such other damages as may be incurred.

2. TERMINATION FOR CAUSE AND CONVENIENCE.

This Contract may be terminated by the Contractor, only with cause, upon Contractor’s giving written notice to the Village that is in material breach of this Contract and upon such default not having been cured by the Village within 30 days of such notice. The Village may terminate this Contract upon providing written notice to Contractor that it no longer requires Contractor’s services under this Contract. Upon such termination by either party, (i) the Contractor shall continue to perform services and develop a plan for the orderly stoppage of the work, which shall include the delivery, or otherwise making available, to the Village all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as may have been accumulated by the Contractor in performing this Contract, whether completed or in process, and (ii) the Village shall pay the Contractor all fees and expenses due for services rendered through the 30th day after the notice of termination. Notwithstanding any such Termination, Contractor shall use best efforts to assist the Village regarding any unresolved and unsettled reimbursement claims with FEMA, including through first and second level appeals and as otherwise necessary or requested by the Village. Contract rates and payment terms shall apply to any work performed post termination.

3. EQUAL EMPLOYMENT OPPORTUNITY

During the performance of this Contract, the Contractor agrees as follows:

- (a) The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, sexual orientation, gender identity, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, sexual orientation, gender identity, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

- (b) The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, or national origin.
- (c) The Contractor will not discharge or in any other manner discriminate against any employee or applicant for employment because such employee or applicant has inquired about, discussed, or disclosed the compensation of the employee or applicant or another employee or applicant. This provision shall not apply to instances in which an employee who has access to the compensation information of other employees or applicants as a part of such employee's essential job functions discloses the compensation of such other employees or applicants to individuals who do not otherwise have access to such information, unless such disclosure is in response to a formal complaint or charge, in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or is consistent with the Contractor's legal duty to furnish information.
- (d) The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (e) The Contractor will comply with all provisions of any rules, regulations, and relevant orders of the Secretary of Labor.
- (f) The Contractor will furnish all information and reports required by any rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
- (g) In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of the said rules, regulations, or orders, this Contract may be canceled, terminated, or suspended in whole or in part and such other sanctions may be imposed and remedies invoked as by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

4. DAVIS-BACON ACT.

Pursuant to 2 CFR, Part 200, Appendix II, the Davis-Bacon Act **DOES NOT** apply to the Public Assistance Program or other FEMA grant cooperative programs outside of the Emergency Management Preparedness Grant Program, Homeland Security Grant Program, Port Security Grant Program, Tribal Homeland Security Grant Program, Port Security Grant Program, and Transit Security Grant Program. As such, those provisions are inapplicable for this Contract executed under the FEMA Public Assistance Program.

5. COPELAND ANTI-KICKBACK ACT.

Recipient and subrecipient contracts are required to include a provision for compliance with the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations. This requirement applies to all contracts for construction or repair work above \$2,000 in situations where the Davis-Bacon Act also applies. It **DOES NOT** apply to the FEMA Public Assistance Program.

6. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

- (a) *Overtime Requirements.* No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- (b) *Violation; Liability for Unpaid Wages; Liquidated Damages.* In the event of any violation of the clause set forth in paragraph (a) of this section, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a) of this section, in the sum of \$27 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a) of this section.
- (c) *Withholding for Unpaid Wages and Liquidated Damages.* The Village shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b) of this section.
- (d) *Subcontracts.* The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a) through (d) of this section and also a clause requiring the subs to include these clauses in any lower tier subcontracts. The Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a) through (d) of this section.

7. RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT

The regulation at 37 C.F.R. § 401.2(a) defines funding agreement as “any contract, grant, or cooperative agreement entered into between any federal agency, other than the Tennessee Valley Authority, and any contractor for the performance of experimental, developmental, or research work funded in whole or in part by the federal government. This term also includes any assignment, substitution of parties, or subcontract of any type entered into for the performance of experimental, developmental, or research work under a funding agreement as defined in the first sentence of this paragraph. This requirement **DOES NOT** apply to the FEMA Public Assistance, Hazard Mitigation Grant Program, Fire Management Assistance Grant Program, Crisis Counseling Assistance and Training Grant Program, Disaster Case Management Grant Program, and Federal Assistance to Individuals and Households – Other Needs Assistance Grant Program, as FEMA awards under these programs do not meet the definition of “funding agreement.”

8. CLEAN AIR ACT AND THE FEDERAL WATER POLLUTION CONTROL ACT

(a) *Clean Air Act.*

- (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. § 7401 et seq.
- (2) The Contractor agrees to report each violation to the Village and understands and agrees that the Village will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
- (3) The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

(b) *Federal Water Pollution Control Act.*

- (1) The Contractor agrees to comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.
- (2) The Contractor agrees to report each violation to the Village and understands and agrees that the Village will, in turn, report each violation as required to assure notification to the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.
- (3) The Contractor agrees to include these requirements in each subcontract exceeding \$150,000 financed in whole or in part with Federal assistance provided by FEMA.

(c) *Clean Water Act.* The Contractor hereby agrees to adhere to the provisions which require compliance with all applicable standards, orders, or requirements issued under Section 508 of the Clean Water Act which prohibits the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities.

9. DEBARMENT AND SUSPENSION

- (a) This Contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such, the Contractor is required to verify that none of the Contractor's principals (defined at 2 C.F.R. § 180.995) or its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
- (b) The Contractor must comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, and must include a requirement to comply with these regulations in any lower tier-covered transaction it enters into.
- (c) This certification is a material representation of fact relied upon by the Village. If it is later determined that the Contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the Village, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

- (d) The bidder or proposer agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower-tier-covered transactions.

10. BYRD ANTI-LOBBYING AMENDMENT, 31 U.S.C. § 1352 (as amended)

Contractors who apply or bid for an award of \$100,000 or more shall file the required certification. Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, officer or employee of Congress, or an employee of a Member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. Each tier shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures are forwarded from tier to tier up to the recipient who in turn will forward the certification(s) to the awarding agency.

Required Certification: Upon request, Contractor must sign and submit to the non-federal entity the following certification.

APPENDIX A, 44 C.F.R. PART 18 – CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements. The undersigned certifies, to the best of his or her knowledge and belief, that:

- (a) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (b) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form- LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- (c) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. Chap.38, Administrative Remedies for False Claims and Statements, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official

Name and Title of Contractor's Authorized Official

Date

11. PROCUREMENT OF RECOVERED MATERIALS

- (a) In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:
 - (1) Competitively within a timeframe providing for compliance with the contract performance schedule,
 - (2) Meeting contract performance requirements, or
 - (3) At a reasonable price.
- (b) Information about this requirement, along with the list of EPA-designated items, is available at EPA's Comprehensive Procurement Guidelines web site, <https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program>.
- (c) The Contractor also agrees to comply with all other applicable requirements of Section 6002 of the Solid Waste Disposal Act.

12. PROHIBITION ON CONTRACTING FOR COVERED TELECOMMUNICATIONS EQUIPMENT AND SERVICES

Pursuant to Section 889(b)(1) of the John S. McCain National Defense Authorization Act for Fiscal Year 2019 and 2 C.F.R. §200.216, the Contractor shall not obligate or expend funds on certain telecommunication products or from certain entities for national security reasons. As defined in the statutes set forth herein, no party to this Contract, including Contractor's subcontractors, shall obligate or expend any funds to do any of the following:

- (a) Procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system;
- (b) Enter into, extend, or renew a contract to procure or obtain any equipment, system, or service that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology of any system; or
- (c) Enter into, extend, or renew contracts with entities that use covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system.

13. DOMESTIC PREFERENCES FOR PROCUREMENT

As appropriate, and to the extent consistent with applicable law, the Contractor shall, to the greatest extent practicable, purchase, acquire, and use goods, products, and materials produced in the United States, including but not limited to iron, aluminum, steel, cement, and other manufactured products.

PART II. ADDITIONAL CONTRACT PROVISIONS

The Uniform Rules authorize FEMA to require additional provisions for non-Federal entity contracts. Although FEMA does not currently require additional provisions, FEMA recommends the following and they are included as follows:

1. ACCESS TO RECORDS

- (a) The Contractor agrees to provide the Village, the NC Department of Public Safety, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this Contract for the purposes of making audits, examinations, excerpts, and transcriptions.
- (b) The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
- (c) The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.
- (d) In compliance with the Disaster Recovery Act of 2018, the Village and the Contractor acknowledge and agree that no language in this contract is intended to prohibit audits or internal reviews by the FEMA Administrator or the Comptroller General of the United States.

2. CHANGES

Any change, modification, change order, or constructive change must be within the scope of the contract, and any changes made must be agreed upon by both parties in writing. Such a change can be made as to the method, price, or schedule of work without breaching the contract so long as the change is allowable, allocable, within the scope of the agreement, and reasonable for the completion of the project scope.

3. DHS SEAL, LOGO, AND FLAGS

The Contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

4. COMPLIANCE WITH FEDERAL LAW, REGULATIONS, AND EXECUTIVE ORDERS

This is an acknowledgement that FEMA financial assistance will be used to fund all or a portion of the contract. The Contractor will comply with all applicable Federal law, regulations, executive orders, FEMA policies, procedures, and directives.

5. NO OBLIGATION BY FEDERAL GOVERNMENT

The Federal Government is not a party to this Contract and is not subject to any obligations or liabilities to the non-Federal entity, contractor, or any other party pertaining to any matter resulting from the contract.

6. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS

The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor's actions pertaining to this contract.

7. AFFIRMATIVE SOCIOECONOMIC CONTRACTING STEPS

The Contractor must take all necessary affirmative steps, consistent with 2 C.F.R. § 200.321, to ensure that small businesses, minority businesses, women's business enterprises, veteran-owned businesses, and labor surplus area firms are used when possible in the award of subcontracts and procurement under this Contract. These requirements apply to all tiers of subcontracting. affirmative steps must include:

- (a) Placing qualified small and minority businesses, women's business enterprises, veteran-owned businesses, and labor surplus area firms on solicitation lists.
- (b) Soliciting these business types whenever they are potential sources.
- (c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by these business types.
- (d) Establishing delivery schedules, where the requirement permits, that encourage participation by these business types.
- (e) Using the services and assistance, as appropriate, of organizations such as the U.S. Small Business Administration and the Minority Business Development Agency of the U.S. Department of Commerce.

The Contractor must maintain documentation demonstrating compliance with these affirmative steps and make such documentation available to the Owner upon request.

8. COPYRIGHT AND DATA RIGHTS

Contractor shall comply with the requirements of 2 C.F.R. §200.315 et seq. regarding intangible property and shall provide the federal government and Village the rights to obtain, reproduce, publish, or otherwise use data produced pursuant to this Contract and shall have the right to authorize others to use such intangible property as deemed appropriate.

No materials, to include but not limited to reports, maps, or documents produced as a result of this contract, in whole or in part, shall be available to the Contractor for copyright purposes. Any such materials produced as a result of this contract that might be subject to copyright shall be the property of the Owner and all such rights shall belong to the Owner.

9. ENERGY POLICY AND CONSERVATION ACT

The Contractor hereby recognizes the mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (P.L. 94-163).

10. BREACH OF CONTRACT TERMS

Any violation or breach of terms of this contract on the part of the Contractor or the Contractor's subcontractors may result in the suspension or termination of this Contract or such other action that may be necessary to enforce the rights of the parties of this contract. The duties and obligations imposed by the contract documents and the rights and remedies

available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

11. COMPLIANCE WITH THE OFFICE OF MANAGEMENT AND BUDGET

The parties agree to comply with the regulations, policies, guidelines, and requirements of the Office of Management and Budget, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards", 2 CFR Part 200, as they relate to the use of Federal funds under this contract.

12. FLOOD DISASTER PROTECTION

This contract is subject to the requirements of the Flood Disaster Protection Act of 1973 (P.L. 93 234). Nothing included as a part of this contract is approved for acquisition or construction purposes as defined under Section 3(a) of said Act, for use in an area identified by the Secretary of HUD as having special flood hazards which is located in a community not then in compliance with the requirements for participation in the National Flood Insurance Program pursuant to Section 201(d) of said Act; and the use of any assistance provided under this contract for such acquisition for construction in such identified areas in communities then participating in the National Flood Insurance Program shall be subject to the mandatory purchase of flood insurance requirements or Section 102(a) of said Act.

Any contract or agreement for the sale, lease, or other transfer of land acquired, cleared or improved with assistance provided under this Contract shall contain, if such land is located in an area identified by the Secretary as having special flood hazards and in which the sale of flood insurance has been made available under the National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4001 et seq., provisions obligating the transferee and its successors or assigns to obtain and maintain, during the ownership of such land, such flood insurance as required with respect to financial assistance for acquisition or construction purposes under Section 102(a) of Flood Disaster Protection Act of 1973.

13. PATENTS

- (a) The Contractor shall hold and save the Owner and its officers, agents, servants, and employees harmless from liability of any nature or kind, including cost and expenses for, or on account of any patented or unpatented invention, process, article, or appliance manufactured or used in the performance of the contract including its use by the Owner, unless otherwise specifically stipulated in the Contract Document.
- (b) License or Royalty Fees: License and/or Royalty Fees for the use of a process which is authorized by the Owner of the project must be reasonable, and paid to the holder of the patent, or his authorized license, direct by the Owner and not by or through the Contractor.
- (c) If the Contractor uses any design device or materials covered by letters, patent or copyright, he shall provide for such use by suitable agreement with the owner of such patented or copy-righted design device or material.
- (d) It is mutually agreed and understood, that without exception the contract prices shall include all royalties or costs arising from the use of such design, device or materials, in any way involved in the work. The Contractor and/or his Sureties shall indemnify and save harmless the Owner of the project from any and all claims for infringement by reason of the use of such patented or copy-righted design, device or materials or any trademark or copy- right in connection with work agreed to be performed under this contract, and shall indemnify the Owner for any cost, expense, or damage which it may be obliged to pay by reason of such infringement at any time during the prosecution of the work or after completion of the work.

14. CONFLICT OF INTEREST

- (a) No officer or employee of the local jurisdiction or its designees or agents, no member of the governing body, and no other public official of the locality who his/her tenure or for one year thereafter, shall have any interest, direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed. Further, the Contractor shall cause to be incorporated in all subcontracts the language set forth in this paragraph prohibiting conflict of interest.
- (b) No member of or delegate to Congress, or Resident Commissioner, shall be admitted to any share or part of this contract or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

15. INTEREST OF CONTRACTOR

The Contractor covenants that he presently has no interest and shall not acquire any interest direct or indirect in the above described project or any parcels therein or any other interest which would conflict in any manner or degree with the performance of his services hereunder. The Contractor further covenants that in the performance of this Contract no person having any such interest shall be employed.

16. POLITICAL ACTIVITY

The Contractor will comply with the provisions of the Hatch Act (5 U.S.C. 1501 et seq.), which limits the political activity of employees.

17. PERSONNEL

The Contractor represents that it has, or will secure at its own expense, all personnel required in performing the services under this Contract. Such personnel shall not be employees of or have any contractual relationship with the Owner.

All the services required hereunder will be performed by the Contractor or under its supervision, and all personnel engaged in the work shall be fully qualified and shall be authorized or permitted under State and local law to perform such services.

No person who is serving sentence in a penal or correctional institution shall be employed on work under this Contract.

18. SUBCONTRACTS

- (a) The Contractor shall not enter into any subcontract with any subcontractor who has been debarred, suspended, declared ineligible, or voluntarily excluded from participating in contracting programs by any agency of the United States Government or the State of North Carolina.
- (b) The Contractor shall be as fully responsible to the Owner for the acts and omissions of the Contractor's subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by the Contractor.
- (c) The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractor to the Contractor by the terms of the contract documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that the Owner may exercise over the Contractor under any provision of the contract documents.

- (d) Nothing contained in this contract shall create any contractual relation between any subcontractor and the Owner.

19. PROVISIONS REQUIRED BY LAW DEEMED INSERTED

Each and every provision of law and clause required by law to be inserted in this contract shall be deemed to be inserted herein and the contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the contract shall forthwith be physically amended to make such insertion or correction.

PART III. NON-DISCRIMINATION AND AFFIRMATIVE ACTION CLAUSES

It is agreed that the scope of services in an order may require compliance with the following provisions. Such are included only to the extent that they are implicated by the scope of services and required by applicable law:

1. SECTION 503 OF THE REHABILITATION ACT OF 1973 (29 USC 793)

- (a) The Contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is otherwise qualified. The Contractor agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices such as the following: employment upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.
- (b) The Contractor agrees to comply with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.
- (c) In the event of the Contractor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations, and relevant orders of the Secretary of Labor issued pursuant to the Act.
- (d) The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the Director, provided by or through the contracting officer. Such notices shall state the Contractor's obligation under the law to take affirmative action to employ and advance in employment qualified handicapped employees and applicants for employment, and the rights of applicants and employees.
- (e) The Contractor will notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contractor is bound by the terms of Section 503 of the Rehabilitation Act of 1973, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.
- (f) The Contractor will include the provisions of this clause in every subcontract or purchase order of \$10,000 or more unless exempted by rules, regulations, or orders of the Secretary issued pursuant to Section 503 of the Act, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the Director of the Office of Federal Contract Compliance Programs may direct to enforce such provisions, including action for noncompliance.

2. SECTION 504 OF THE REHABILITATION ACT OF 1973, AS AMENDED

The Contractor will not discriminate against qualified disabled person, nor will the person be excluded from participation in, be denied the benefits of, nor otherwise be subjected to discrimination under this Contract which receives or benefits from Federal financial assistance.

3. AGE DISCRIMINATION ACT OF 1975, AS AMENDED

The Contractor will not discriminate against any qualified person on the basis of age, nor will the person be excluded from participation, be denied the benefits of, nor otherwise be subjected to discrimination under this Contract which receives or benefits from Federal financial assistance.

4. SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974

The Contractor will not discriminate in any manner on the basis of race, color, religion, sex or national origin or other legally protected status with reference to the subject matter of this Contract, no matter how remote. This provision shall be enforced by action for specific performance, injunctive relief, or other remedy provided by law; and this provision shall be construed to such manner as to prevent and eradicate all discrimination based on race, color, religion, sex or national origin.

5. SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968 - COMPLIANCE IN THE PROVISION OF TRAINING, EMPLOYMENT AND BUSINESS OPPORTUNITIES

- (a) The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (Section 3). The purpose of Section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by Section 3, shall, to the greatest extent feasible, be directed to low and very low-income persons, particularly persons who are recipients of HUD assistance for housing.
- (b) The parties to this contract agree to comply with HUD's regulations in 24 CFR part 75, which implement Section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the Part 75 regulations.
- (c) The Contractor agrees to send to each labor organization or representative or workers with which the Contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the Contractor's commitments under the Section 3 clause, and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the Section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.
- (d) The Contractor agrees to include this Section 3 clause in every subcontract subject to compliance with regulations in 24 CFR part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract in this Section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR part 75. The Contractor will not subcontract with any subcontractor where the Contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR part 75.

- (e) The Contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the Contractor is selected but before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR part 75 require employment opportunities to be directed, were not filled to circumvent the Contractor's obligations under 24 CFR part 75.
- (f) Noncompliance with HUD's regulations in 24 CFR part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

6. DISCRIMINATION DUE TO BELIEFS

No individual involved in administering or operating the project funded under this grant may discriminate against any program participant or applicant on the basis of political affiliation or political beliefs. All decisions regarding eligibility, participation, access to services, and treatment under the program must be made without regard to an individual's political affiliation or political beliefs.

7. CIVIL RIGHTS

The Contractor shall comply with the provisions of Title VI of the Civil Rights Act of 1964. No person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.

8. CERTIFICATION OF NONSEGREGATED FACILITIES

By the submission of a bid, the bidder, offeror, applicant or subcontractor certifies that he/she does not maintain or provide for his/her establishments, and that he/she does not permit employees to perform their services at any location, under his/her control, where segregated facilities are maintained. He/she certifies further that he/she will not maintain or provide for employees any segregated facilities at any of his/her establishments, and he/she will not permit employees to perform their services at any location under his/her control where segregated facilities are maintained. The bidder, offeror, applicant or subcontractor agrees that a breach of this certification is a violation of the equal opportunity clause of this contract. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation and housing facilities provided for employees which are segregated by explicit directive or are, in fact, segregated on the basis of race, color, religion, or national origin because of habit, local custom, or any other reason.

He/she further agrees that (except where he/she has obtained for specific time periods) he/she will obtain identical certification from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the equal opportunity clause; that he/she will retain such certifications in his/her files; and that he/she will forward the following notice to such proposed subcontractors (except where proposed subcontractors have submitted identical certifications for specific time periods).

PART IV. NORTH CAROLINA CONTRACT TERMS AND CONDITIONS.

1. Contractor shall submit records of payment for materials and payments to subcontractors for the work described herein on a monthly basis to the Village. At all times relevant to this contract, Contractor shall keep and maintain records for construction and other daily work for comparison with the Village's records.
2. Contractor shall keep the site and the surrounding area reasonably free from rubbish at all times and shall remove debris from the site from time to time or when directed to do so by the Village. Before final inspection and

acceptance of the project, the Contractor shall thoroughly clean all work sites, and completely prepare the project and site for use by the Village.

3. This Contract is entered into in Avery County, North Carolina, and shall be construed in accordance with the laws of the State of North Carolina. The parties hereby agree that Avery County, North Carolina, is an appropriate venue for the resolution of any disputes arising as a result of this contract. If a dispute arises out of or relates to the Contract which cannot be resolved informally between the parties, the parties agree to conduct pre-litigation mediation, consistent with the rules of Mediated Settlement Conferences for the Superior Court of North Carolina, prior to the filing of any suit arising out of this Contract.
4. Contractor shall provide and maintain, at Contractor's expense, such insurance as will protect Contractor and the Village from claims under the Workers' Compensation Act and such comprehensive general liability insurance as will protect the Village and Contractor from all claims for bodily injury, death, or property damage which may arise from the performance of Contractor or by Contractor's employees during the course of Contractor's functions and services required under this Agreement, such insurance being in amounts of at least one million dollars (\$1,000,000.00) for general liability insurance per occurrence/two million dollars (\$2,000,000.00) aggregate of Commercial General Liability and Workers' Compensation coverage. The Contractor shall furnish such additional insurance as may be required by North Carolina law, including motor vehicle insurance in amounts not less than the statutory limits. Each Certificate of Insurance shall bear the provision that the policy cannot be canceled, reduced in amount, or coverage eliminated. Contractor shall ensure all materials and the premises and structures that are the subject of this contract, that is, the proposed construction and renovation to the Village, until completion of the project and final payment by the Village. Contractor shall list the Village as an additional insured for the duration of this work. Copies of these policies shall be provided to the Project Manager and Town Manager.
5. All materials provided by Contractor, or any other party shall be free from liens, encumbrances, and claims of any individual, partnership, corporation, or entity. Contractor hereby waives any and all claims of liens related to this project on behalf of itself or its subcontractors.
6. Time is of the essence in the completion of this project.
7. Contractor agrees to indemnify and hold harmless the Village of any and all liability arising from any breach of contract or any other action related to, or incidental to, the performance of this contract.
8. Contractor warrants the materials used in this project to be of highest quality and fit and proper for the purposes which they are to be used. Where specifications are general in nature, all materials are to be equal to or exceed those specified. Contractor further warrants that all work will be completed in a workmanlike manner according to the highest standards and guaranteed to be free from defect due to inferior installation, inferior construction, or negligence. Contractor further warrants that all construction/renovation shall be free from structural defects and defects in workmanship under normal use and service, for a period of twelve (12) months after the date of installation and acceptance by the Village.

Where items of equipment or materials carry a manufacturer's warranty for any period of twelve (12) months, then the manufacturer's warranty shall apply for that particular piece of equipment or material. Contractor shall replace such defective equipment or materials, without cost to the Village, within the manufacturer's warranty period.

Additionally, the Village may bring an action for latent defects caused by the negligence of Contractor, which is hidden or not readily apparent to the Village at the time of beneficial occupancy or final acceptance, whichever occurred first, in accordance with applicable federal and North Carolina law.

9. The Village shall not be responsible for incidental or consequential damages as a result of any breach of this contract, or for any Acts of God, fire, riot, war, civil unrest, or impossibility beyond the control of the Village.
10. Records of Contractor's personnel, consultants, additional services and expenses pertaining to the project, and records of accounts between the Village and other parties shall be kept on a generally recognized account basis, and all such records shall be available to the Village or its authorized representative at mutually convenient times.
11. All designs, drawings, specifications, design calculations, notes and other works developed in the performance of this contract shall become the sole property of the Village.
12. In event of termination, Contractor shall receive payment for services rendered prior to the receipt of written termination notice from the Village, less costs of the Village to complete and finish the work. Any work done by Contractor and any materials delivered by Contractor or any other supplier prior to termination shall become the property of the Village.
13. If any provision of this contract is unenforceable, invalid, or illegal, the remaining provisions will continue in full force and effect.
14. In the event that any incorporated documents conflict with the terms and conditions of this contract, the terms and conditions set forth in this document shall control.
15. Each Contractor shall verify the work authorization of its employees and subcontractors employees through E-Verify in accordance with N.C. GS§64-26(a), and shall sign an affidavit that they have complied with the requirements of this law.