WAUBONSEE COMMUNITY COLLEGE

INVITATION FOR BID (IFB)

03-18-003 Pavement Improvements, Repairs and Maintenance
Wednesday, April 11, 2018 @ 2:00 p.m.

Waubonsee Community College (WCC) seeks sealed bids from qualified vendors to provide pavement improvements, repairs and maintenance for the Sugar Grove, Aurora Downtown and Plano Campuses.

A mandatory pre-bid meeting will be held on Thursday, March 22, 2018 at 2:00 PM in Bodie Hall, Room 147, Sugar Grove Campus.

Responses to this IFB shall be submitted in a sealed envelope to the address below. **Envelopes must be clearly identified with the name of the Project and Due Date/Time.** Proposals received after the date and time specified in this IFB will not be considered.

Theresa Larson, Purchasing Manager
Waubonsee Community College
4S783 State Route 47
Dickson Building Room 259
Sugar Grove, IL 60554-9903

PROPOSED SCHEDULE

IFB Issued	Wednesday, March 14, 2018
Pre-bid Meeting	Thursday, March 22, 2018 @ 2:00 p.m.
Last Day for Submittal of Questions	Friday, April 6, 2018
Bids Due	Wednesday, April 11, 2018 @ 2:00 p.m. CST (DKN 259)
Recommendation of Award	Wednesday, May 16, 2018

All correspondence or questions concerning the IFB should be addressed to purchasing@waubonsee.edu.

TABLE OF CONTENTS

INCLUDED WITH BID

TECHNICAL SPECIFICATIONS

DRAWINGS:

- AURORA DOWNTOWN CAMPUS
- PLANO CAMPUS
- SUGAR GROVE CAMPUS (3)

COLLEGE OVERVIEW

Waubonsee Community College (WCC), located forty-five miles west of Chicago, Illinois, has served more than 250,000 students since its inception. As one of 48 public community colleges in the Illinois Community College System, WCC is governed by a board of trustees composed of seven community members elected from the district at large and a student trustee selected by the student body. WCC serves 22 municipalities, 12 public high school districts and nine private high schools in a five-county, 600-square-mile district with the current district population estimated at 428,120. In order to proactively address student and community needs, WCC has cultivated a learning-centered culture that values, and an infrastructure that advances, continuous quality improvement.

Vision
Waubonsee Community College opens the door of knowledge, sparks imaginations, and enlightens lives through learning. We welcome the diverse abilities, goals, and experiences of individuals standing on the threshold of discovery. Our success is defined by the dreams we help shape, the opportunities we help design, and the futures we help create.

Values
Quality — We constantly redefine what it means to be "the best," seeking to improve in every area and exceed the expectations of those we serve.

Value — We focus every resource directly on the search for learning, creating tangible benefits in everything we do.

Innovation — We are actively engaged on the frontiers of education, continuously improving the learning environment for our students and communities.

Service — We view the world from the perspective of those we serve — anticipating needs and striving to exceed expectations while demonstrating a caring, knowledgeable, consistent connection with each individual every time they meet us.

Accessibility — We remove barriers to learning formed by time, geography, education, culture, experience or beliefs to provide a full range of quality educational opportunities for all who can benefit.

Mission Statement
Waubonsee Community College is a public, comprehensive community college which was organized in 1966, as mandated by the Illinois Public Community College Act, to provide education and training services for individuals in portions of Kane, Kendall, DeKalb, LaSalle and Will counties of District 516. The philosophy of Waubonsee Community College is based on the premise that education is the cornerstone of a literate, democratic society; that learning is a lifelong process; and that the pursuit of knowledge must be supported by institutional policies that demonstrate the values of quality, value, innovation, service and accessibility.

GENERAL REQUIREMENTS

Information

1. Bid documents are available for download from the college's purchasing webpage at https://www.waubonsee.edu/local-businesses-employers-and-vendors/bidrfprfi-opportunities.
2. It is the responsibility of the Bidder to check the college's purchasing webpage for any addendum to the bid specifications prior to submitting a bid to be assured that the bid is complete.
3. The Bid may not be modified, withdrawn or canceled by the Bidder for a period of 60 days from the date and time of the bid opening.
4. The college reserves the right to award this project to one Contractor or split the award based on the best interests of the college.
5. The price bid for each item is the full purchase price, including delivery to destination, rigging expenses, balancing provisions no matter what the cause for imbalance, and includes all transportation and handling charges, premiums on bonds, material or service costs, patent royalties and all other overhead charges of every kind and nature. Unless otherwise specified, prices shall remain firm for the contract period. List all costs individually on a separate sheet.
6. If any portion of this job is to be sub-contracted, Contractor must disclose this information in bid document and identify the name, address, phone and contact person of the sub-contractor along with copies of all certificates and licenses.
7. WCC reserves the right to approve or reject all Sub-Contractors and to reject any bid where an unacceptable sub-contractor is identified. If this information is not disclosed, Contractor may be immediately disqualified. Contractor is responsible for all work done by sub-contractor(s) and all actions of sub-contractor(s) while on college premises
8. WCC is exempt from Federal, State and Municipal taxes.
9. The college will issue a purchase order upon award by the college's Board of Trustees. Invoices will be paid monthly for work completed. The college's payment terms are net 30 days.
10. It is the policy of the board of trustees to encourage the participation of businesses owned by minorities, females and persons with disabilities in contracts the college awards. This policy shall be furthered by complying with the Business Enterprise for Minorities, Females and Persons with Disabilities Act, 30 ILCS 575/0.01 et seq. and by cooperating with the Illinois Business Enterprise Council.

Instructions

1. Provide one (1) original and two (2) copies of your Bid in a sealed envelope. They should be addressed to the Purchasing Manager, Waubonsee Community College, State Route 47 at Waubonsee Drive, Sugar Grove, IL 60554. Identify the Bid Number and Name on the envelope.
2. Complete and return a ***signed*** Authorization for Bid and all attachment pages as identified in this bid document.
3. Provide a minimum of three (3) education client references for similar services performed, preferably services performed for community colleges.
4. **A Bid Bond in the amount of 10% of the Contractor's bid is required.**
5. **A 100% Performance and Payment Bond is required.**
6. The Prevailing Wage Act requires contractors and subcontractors to pay laborers, workers and mechanics employed on PUBLIC WORKS construction projects no less than the general prevailing rate of wages (consisting of hourly cash wages plus fringe benefits) for work of a similar character in the county where the work is performed.
7. **Certified payroll is required.**
8. Erasures or changes in bids must be initialed. White-out is NOT permitted.

9. Respondents may not contact any college employee to discuss this IFB. **All correspondence or questions concerning the IFB should be addressed to purchasing@waubonsee.edu.**
10. All questions must be submitted in writing and will be responded to by addendum. Do not expect an immediate answer. Include your email address and/or fax number for any necessary communication.
11. Respondents are responsible for checking the college's purchasing webpage for updates to the IFB and will be required to acknowledge receipt of the addenda in the IFB response.
12. All late, faxed or emailed Bids will be rejected.
13. Bids may be withdrawn by written request from Bidder or his agent prior to the date and time established for opening of Bids. Withdrawn Bids may be resubmitted up to the date and time designated for receipt of Bids.
14. Before submitting a Bid, the Contractor should visit the site and is responsible for knowing the conditions affecting the work. Failure to visit the site shall not be accepted as a valid reason for any changes by the success Bidder.
15. **A mandatory pre-bid meeting will be held on Thursday, March 22, 2018 at 2:00 PM in Bodie Hall, Room 147, Sugar Grove Campus.**

SCOPE OF WORK

Project Overview

Two improvements to the Sugar Grove campus at the North side of parking lot N5 also affecting the areas around the Well House and the Campus Operations building as shown in the detailed architectural drawings.

Various maintenance tasks include:

- Asphalt: New paving, milling & resurfacing, crack-filling & seal-coating
- Concrete: Replacing damaged curbs and sidewalks as noted
- Permeable Pavers: Removing and re-setting settled & replacing damaged pavers as noted
- General: Re-striping roads and lots, re-stoning road shoulders and landscaping restoration where applicable

Schedule

- Start no earlier than 5/16/18 (work should start as soon as possible after that date).
- Substantial Completion Date: no later than 8/3/18.

General Conditions

1. While the college is much quieter during the summer months, there are still a wide variety of classes and programs taking place. Safety measures must be implemented to protect vehicle and pedestrian traffic while work is taking place or areas are closed.
    a. Notification signs, barricades, cones, flaggers, etc. are to be utilized to maintain safety for any road or lane closures per I-DOT standards.
    b. Notification signs, barricades, cones and caution tape will be used to protect and direct pedestrian traffic on sidewalks.
2. The college's Project Manager will manage all communications to the college. An outlined work schedule is to be provided to the Project Manager no later than two weeks prior to work starting. An updated schedule is to be provided to WCC PM every two weeks while work is taking place.
3. Site Examination
    a. Bidders are required to field measure and examine the sites so they will fully understand what is to be done and the conditions under which the work shall be performed. The site is considered open

for inspection to all Bidders. The Owner will not entertain additional costs to the construction work for failure on the Bidder's part who does not inspect the site.

b. Measurements provided in the Scope of Work are estimates only and should not be used for bidding purposes.

4. Change Orders
    a. The successful bidder shall be required to follow the Owner's guidelines for change order mark-ups, namely that any change order proposal submitted to for an increase to the contract sum shall be limited to a maximum of ten percent (10%) of the cost of the additional materials and labor for the general conditions and profit of the Contract. This includes any increase to the performance bond. The performance bond is considered part of the general conditions costs.

5. Workers and laborers for the awarded contractor and their subcontractor(s) may use WCC's indoor restroom facilities, but are expected not to track significant amounts of mud, etc. into the buildings; if this is not feasible, the awarded contractor is required to provide portable toilet. Location to be verified with owner.
6. All curb repairs and asphalt patching/resurfacing are to be completed prior to seal-coating.

Scope of Work

1. The Scope of Work includes all labor, materials, tools, appliance, equipment, and facilities necessary to do all of the Work noted in the Scope. All Work shall be done to the satisfaction and under the supervision of the college's Campus Operations Project Manager or authorized representative.
2. Scope as reflected in the provided drawings, descriptions and technical specifications.

Sugar Grove Campus Improvements	
Location	**Description**
Northeast Corner of Lot N5 to the OPS building	Sidewalk & Crosswalk updates to connect OPS building to N5 per detailed architectural drawing.
Northwest Corner of N5 & Well House (WH) Lot	Close entrance to lot & pave Well House Lot per detailed architectural drawing.
Sugar Grove Campus Asphalt Repair Tasks	
Location	**Description**
Walking path from HCC to DKN & HCC to AKL	Mill & resurface noted areas (9) to eliminate tripping hazards on path from HCC to DKN & adjacent to concrete at DKN building (approx. 430 sq ft)
Waubonsee Dr. South from Lot S5	Mill and resurface deteriorated shoulder in noted areas (approx. 300 sq ft)
South Entrance	Mill and resurface deteriorated asphalt at concrete transition (approx. 60 sq ft)
Lot S5 walking path #1 (between Circle Dr and Lot S5)	Mill and resurface the Southern 95 ft of the path that is badly deteriorated (approx. 855 sq ft)

Circle Drive along the South and West perimeter of Lot S1 as noted on drawing	Mill and resurface Circle Drive along lot S1 as noted.
OPS building Lot	Mill & Resurface at 3 noted inlets (approx. 150 sq ft)
Sugar Grove Campus Asphalt Lots and Drives - Crack Filling, Seal-coating, and Re-striping	
Location	**Description**
Lot N8 & access drive to the East of lot (includes lot on North side of AKL)	Crack Fill as needed (Estimated 1100 LF) and Seal-coat and re-stripe (Total area estimated 220,500 SF)
Lot S1	Crack Fill as needed (Estimated 500 LF) and Seal-coat and re-stripe (Total area estimated 81,800 SF)
Sugar Grove Campus Concrete Repairs/Replacements/Alterations (Includes repairing adjacent Asphalt as required)	
Location	**Description**
Damaged Curbs (9 total locations): 4 in Lot N8; 3 in North Lot N4; 1 on Circle Drive North of APC building; 1 at North side of Lot S1	Replace Damaged curbs, repair adjacent asphalt as needed, and restore landscaping (approx. 61 LF)
Southwest corner of Circle Dr. and Waubonsee Dr.	Replace existing curb and gutter with spillway as noted, repair adjacent asphalt as needed, and restore landscaping (approx. 12 LF)
South Entrance	Cut-out and replace heavy duty concrete pavement where pothole has formed at South entrance as noted (approx. 60 sq ft)
Sidewalk at transition from Lot N4 to APC building East entrance	Replace large section of sidewalk @ east entrance to APC building (including new red plastic ADA Plates) (342 sq ft)
Replace damaged or settled sidewalk (2 locations): 1) South of AUD, 2) SW of COL @ circle	Replace damaged or settled sidewalk to eliminate trip hazards (approx. 325 sq ft for both areas)
Decorative Permeable Paver circle off Southwest corner of SCI building	Demolish decorative permeable paver circle & replace with blonde light duty concrete sidewalk, aligning with existing adjacent walks (Pavers to be salvaged and stacked on pallets) (approx. 711 sq ft)
Decorative permeable paver circles as noted in 4 locations: 1) West of SCI; 2) North of COL; 3) large circle between SCI, ERK, COL, & AUD; 4) East of SCI (near ERK)	Replace cracked/damaged curb at the perimeter of decorative permeable paver circles as noted (approx. 46 LF)
Sugar Grove Campus Permeable Paver Repairs	
Location	**Description**

Decorative inlayed pavers in concrete sidewalk (4 locations): 1) North of APC building; 2) West of APC building; 3) Southeast of APC building; 4) Southwest of COL building	Remove Pavers, fill in CA7/Bedding material and compact, re-set pavers and fill with jointing sand as needed to bring pavers up to level with adjacent pavers or concrete and eliminate trip hazards.
Decorative permeable paver circles (5 locations): 1) Half circle North of SCI building; 2) Circle West of SCI building; 3) Circle East of SCI (near ERK); 4) Large circle between COL, SCI, ERK, and AUD buildings; 5) Circle at North entrance to COL building	Remove Pavers, fill in CA7/Bedding material and compact, re-set pavers and fill with jointing sand as needed to bring pavers up to level with adjacent pavers or concrete and eliminate trip hazards. Includes replacing damaged pavers (from salvaged pavers) as needed and demolishing concrete base from removed bollard.
ADA Parking Space on West of Lot N1 as noted	Remove Pavers, fill in CA7/Bedding material and compact, re-set pavers and fill with jointing sand as needed to bring pavers up to level with adjacent pavers or concrete and eliminate trip hazards.
Lot N1 damaged pavers noted	Replace 3 damaged Unilock permeable pavers in Lot N1 as noted using WCC stockpile.

Aurora Downtown Campus	
Location	**Description**
Paver Lot East of building and inlaid pavers Southwest of building (7 total areas noted)	Remove Pavers, fill in CA7/Bedding material and compact, re-set pavers and fill with jointing sand as needed to bring pavers up to level with adjacent pavers or concrete as noted to eliminate trip/plowing hazards
Paver Lot East of building	Re-stripe entire lot to match existing.

Protection

1. Extreme care shall be taken by Contractor to safeguard all existing facilities, site amenities, utilities, irrigation systems, windows, and vehicles on or around the job site. Damage done to public and/or private property by the Contractor, shall be the responsibility of the Contractor and shall be repaired and/or replaced by Contractor at no additional cost to the college.
2. The Contractor shall use all means to protect existing objects, structures and vegetation.
3. Contractor is responsible for any landscape or surface restoration as a result of this project.
4. In the event of damage, the Contractor shall immediately make all repairs, replacements and dressings to damaged materials, to the approval of the college, at no additional cost to the college.

Waste and Disposal

1. Contractor shall be responsible for all cleaning required for work under the Contractor's jurisdiction as well as for keeping all work areas, passageways, ramps, stairs and all other areas of the premises free of accumulation of surplus materials, rubbish, debris and scrap which may be caused by the Contractor's operations.
2. Remove rubbish, debris and scrap promptly upon its accumulation and in no event later than the end of each workday. Contractor is responsible for the management and removal of waste materials, including hazardous materials, to be disposed of in accordance with all applicable laws, regulations, codes, rules, and standards.
3. Burning of rubbish or debris is not allowed at the site. Rubbish, debris and scrap is not to be thrown through any window or other opening, or dropped from any great height; it shall be conducted to the ground, to waiting truck(s) or removable container(s) by means of approved chutes or other means of controlled conveyance.
4. Spillages of oil, grease or other liquids that could cause a slippery or otherwise hazardous situation or stain a finished surface shall be cleaned up immediately.
5. If rubbish and debris is not removed, or if surfaces are not cleaned as specified above, the college reserves the right to have said work done by others and the related cost(s) will be deducted from monies due the Contractor.

INSURANCE AND INDEMNITY REQUIREMENTS

1. SAFETY**:** The Contractor, its agents, employees, material men and its Subcontractors will perform all work on the project in a safe and responsible manner, and in compliance with all Federal, State and local safety requirements and standards.

2. INDEMNIFICATION**:** The work performed by the Contractor shall be at the risk of the Contractor exclusively. To the extent permitted by law, Contractor shall indemnify, defend, and hold harmless Owner, affiliated companies of Owner, their partners, joint venturers, representatives, members, designees, officers, directors, shareholders, employees, agents, successors, and assigns ("Indemnified Parties"), from and against any and all claims for bodily injury, death or damage to property, demands, damages, actions, causes of action, suits, losses, judgments, obligations and any liabilities, costs and expenses (including but not limited to investigative and repair costs, attorney's fees and costs, and consultants' fees and costs) which arise in whole or in part or are in any way connected with the Work performed, Materials furnished, or Services provided under this Agreement by Sub-Contractor or its

agents.

3. INSURANCE: The insurance required shall be written for the duration of the Contract in amounts not less than the following minimum limits or as required by law whichever is greater. The Insurer must give the college at least 30 days prior written notice of cancellation and termination of the firm's coverage thereunder. ***All subcontractors the firm hires must comply with the same requirements.***

    a. Comprehensive General Liability including Contractor's protective liability, Contractual liability, Completed Operations and Products liability. The latter shall be written for a period of one year from the date of acceptance by the Owner, to be renewed annually as long as the contract is in force. Minimum limits shall be as follows:

        i. Not less than $1 million dollars Each Occurrence, $2 million Products/Completed Operations aggregate, $1 million Personal and Advertising Injury limits, and $2 million General Aggregate subject to a per project aggregate.

        ii. **Firm shall provide Waubonsee Community College with a Certificate of Insurance and endorsement naming Waubonsee Community College District No. 516, its officers, agents, employees and assigns as Additional Insured thereunder on a primary and noncontributory basis**.

    b. Workman's Compensation as required by all applicable laws including employer's liability in the amount of $500,000.00 or as otherwise limited by law.

    c. Comprehensive Business Automobile Liability including non-ownership and hired car coverage as well as owned vehicles. Minimum limits shall be as follows:

        i. Written in the amount of not less than $1 million each accident and covering any auto.

    d. Umbrella Liability Insurance: Written in the amount of no less than $5 million each accident.

4. PROPERTY INSURANCE: It is agreed that the Contractor shall purchase and maintain property insurance for its material left at the job site. Contractor waives all rights of subrogation against Owner for loss of, or damage to, Contractor's work, tools, machinery, equipment, materials or supplies.

AUTHORIZATION OF BID

I HEREBY AUTHORIZE THIS BID, ACKNOWLEDGING THAT I UNDERSTAND AND AGREE TO THE BID INSTRUCTIONS AND SPECIFICATIONS. I WARRANT THAT ALL INFORMATION PROVIDED IN THE SUBMITTED BID IS TRUE AND ACCURATE. I FURTHER WARRANT THAT FAILURE TO HAVE READ ALL THE PROVISIONS OF THIS SOLICITATION SHALL NOT BE CAUSE TO ALTER ANY RESULTING CONTRACT OR REQUEST ADDITIONAL COMPENSATION. BY SIGNING THIS DOCUMENT, I CERTIFY THAT THE FIRM IS NOT BARRED FROM BIDDING IN THE STATE OF ILLINOIS OR AT THE FEDERAL LEVEL.

_____
Name of Firm

_____
Authorized Signature Typed or Printed Name Date

_____
Address

_____
City State Zip Code

_____
Telephone Number Fax Number

_____
Email Address

Bids must be made in the official name of the firm or individual which business is conducted, stating official business address, and must be signed in ink by a person authorized to legally bind the person, partnership, company, or corporation submitting the Bid.

Acknowledgement of Addenda

I acknowledge having received addenda # _____.

To Be Returned with Bid

- ☐ AUTHORIZATION OF BID
- ☐ BID FORM
- ☐ SUBCONTRACTOR INFORMATION
- ☐ REFERENCES
- ☐ CERTIFICATE OF COMPLIANCE WITH ILLINOIS DRUG-FREE WORKPLACE ACT
- ☐ CERTIFICATE OF COMPLIANCE WITH ILLINOIS HUMAN RIGHTS ACT
- ☐ ELIGIBILITY CERTIFICATION AND NON-COLLUSION AFFIDAVIT
- ☐ BUSINESS ENTERPRISE PROGRAM INFORMATION

BID FORM

Name of Bidder (Firm Name): _____

TOTAL BASE BID FOR 03-18-003 Pavement Improvements, Repairs and Maintenance
Having examined the bid documents as prepared by Waubonsee Community College, and having inspected the site and the conditions affecting and governing the construction of said Project, the Bidder hereby proposes to furnish all labor and materials, supervision, coordination, transportation, services and equipment, and performance and payment bonds for the sum shown below. ***Please print clearly.***

TOTAL BASE BID	**$**
Performance and Payment Bond	**$**
TOTAL	**$**

Alternates
Scope as reflected in the provided drawings, descriptions and technical specifications.

Sugar Grove Campus Asphalt Lots and Drives - Crack Filling, Seal-coating, and Re-striping

Alternate #	Location	Description	Cost ($)
1	College Drive from North Entrance to Lot N1, including OPS building lot	Crack Fill as needed (Estimated 550 LF) and Seal-coat and re-stripe (Total area estimated 107,300 SF)	
2	Circle Drive - entire length, from intersection with College Dr (near soccer field) to Lot S1 (near the Kiln Shelter). Includes the drop off lanes North of the APC building and between College Dr. & Circle Dr	Crack Fill as needed (Estimated 800 LF) and Seal-coat and re-stripe (Total area estimated 159,000 SF)	
3	Lot N5 and access drive to the East (between N5 & Tennis courts)	Crack Fill as needed (Estimated 500 LF) and Seal-coat and re-stripe (Total area estimated 90,700 SF)	
4	Lot N4 & access drive to the East & South (Between N4 & N2 & drive south of N2)	Crack Fill as needed (Estimated 1100 LF) and Seal-coat and re-stripe (Total area estimated 220,500 SF)	
5	Lot S2 (All Asphalt paved areas from Waubonsee Dr to Lot S1)	Crack Fill as needed (Estimated 200 LF) and Seal-coat and re-stripe (Total area estimated 91,000 SF)	
6	Lot S5 & S5 walking paths #1 & #2 toward Lot S2.	Crack Fill as needed (Estimated 400 LF) and Seal-coat and re-stripe (Total area estimated 82,300 SF)	

7	Waubonsee Drive (Entire length from courtyard outside BDE & Bldg. A to the South entrance)	Crack Fill as needed (Estimated 350 LF) and Seal-coat and re-stripe (Total area estimated 69,900 SF)	
8	Walking path from HCC to DKN & HCC to AKL	Crack Fill as needed (Estimated 50 LF) and Seal-coat (Total area estimated 9,000 SF)	
9	Walking Path from Northwest corner of AKL to Southwest corner of WGL	Seal-coat (Total area estimated 5,200 SF)	

Sugar Grove Campus Concrete Repairs/Replacements/Alterations
(Includes repairing adjacent Asphalt as required)

Alternate #	**Location**	**Description**	**Cost ($)**
10	Replace ADA ramps with cast iron plates (25 total locations): N8 & adjacent drive, turn-around North of APC, & West side of N4 along APC building	Demolish concrete ADA ramps with cast iron plates and replace with new concrete ramps with red plastic domed plates (total estimated 1561 sq ft)	
11	OPS building West loading dock	Saw cut and replace concrete as needed to eliminate lip as trucks back into dock	

Sugar Grove Campus Miscellaneous Maintenance and Repair Work

Alternate #	**Location**	**Description**	**Cost ($)**
12	ADA Parking Spaces at East side of Lot N2	Re-stripe ADA spaces	
13	Circle Dr. from West of DKN Building to Kiln Shelter (non-curbed areas)	Re-stone shoulders in non-curb areas.	
14	Waubonsee Dr. from Circle Dr to South campus entrance	Re-stone shoulders in non-curb areas.	

Plano Campus

Alternate #	**Location**	**Description**	**Cost ($)**
15	Paver lot North and East of building (7 total areas noted)	Remove Pavers, fill in CA7/Bedding material and compact, re-set pavers and fill with jointing sand as needed to bring pavers up to level with adjacent pavers or concrete as noted to eliminate trip/plowing hazards	
16	Paver lot North and East of building	Re-stripe entire lot to match existing, unless otherwise noted	

Unit Prices

- The following unit prices shall be used for additions or deductions in the contract work. The unit prices shall be based on materials, construction and conditions as specified, and shall be include the cost for the item; all fees, charges, insurance, overhead and profit; and shall not be subject percentage charges for changes in the work.
- The Owner reverses the right to increase or decrease the quantities of work by up to twenty (20%) percent at the unit prices quoted with unit price adjustment.

Item	Description	Unit	Unit Cost ($)
1	Undercutting, installation and compaction of Subbase Material.	Cubic Yard	
2	Reinforced concrete curb & gutter with aggregate base.	Linear Foot	
3	Full depth bituminous pavement section with aggregate base.	Square Yard	
4	Crack filling	Linear Foot	
5	Seal Coating	Square Yard	
6	Striping	Linear Foot	
7	Light duty concrete pavement replacement	Square Foot	

What is your warranty for parts and labor? _____

Will subcontractors be used on this project? YES _____ NO _____

Identify all subcontractors on a separate sheet providing complete contact information and purpose.

REFERENCES OF SIMILAR WORK PERFORMED

_____
Name
_____
Company Name
_____
Address
_____
City State ZIP Code

_____
Name
_____
Company Name
_____
Address
_____
City State ZIP Code

_____
Name
_____
Company Name
_____
Address
_____
City State ZIP Code

CERTIFICATE OF COMPLIANCE WITH ILLINOIS DRUG-FREE WORKPLACE ACT

Required when Bidders have more than 25 employees

_____ Contractor, does hereby certify pursuant to Section 3 or the Illinois Drug-Free Workplace Act (Ill. Rev. Stat. Ch. 127 132.313) that [he, she, it] shall provide a drug-free workplace for all employees engaged in the performance of work under the contract by complying with the requirements of the Illinois Drug-Free Workplace Act, further certified, that [he, she, it] is not ineligible for award of this contract by reason of debarment for a violation of the Illinois Drug- Free Workplace Act.

Firm Name:_____

By:_____

(Authorized Agent of Contractor)

CERTIFICATE OF COMPLIANCE WITH ILLINOIS HUMAN RIGHTS ACT

_____ Contractor, does hereby certify pursuant to P.A. 87-1257, the Illinois Human Rights Act, the (he, she, it) has adopted a written sexual harassment policy that includes at a minimum the following information: (i) the illegality of sexual harassment; (ii) the definition of sexual harassment under Illinois law; (iii) a description of sexual harassment, utilizing examples; (iv) an employer's internal complaint process, including penalty; (v) the legal recourse, investigative and complaint process available through the Department of Human Right Commission; (vi) directions on how to contact the Department and Commission; and (vii) protection against retaliation as provided by Section 6-101 of the Illinois Human Rights Act.

Firm Name:_____

By:_____

(Authorized Agent of Contractor)

ELIGIBILITY CERTIFICATION AND NON-COLLUSION AFFIDAVIT

Required by all Bidders

Public Act 85-1295 (Illinois Revised Statutes, 1987, ch. 38, art. 33E) requires that all contractors bidding for public agencies in the State of Illinois certify that they are not barred from bidding on public contracts for bid rigging or bid rotation.

The following certification must be signed and submitted with bidder's bid proposal. **FAILURE TO DO SO WILL RESULT IN DISQUALIFICATION OF THE BIDDER.**

_____, as part of its bid on a

(name of contractor)

contract for the 03-18-002 Emergency Generator Repair and Maintenance project, hereby certifies that said contractor is not barred from bidding on the aforementioned contract as a result of a violation of either Section 33E-3 or 33E-4 of Article 33E of Chapter 38 of the Illinois Revised Statutes.

The undersigned further certifies and affirms that this proposal was prepared independently for this project and that it contains no fees or amounts other than for legitimate execution of this work as specified and that it includes no understandings or agreements in restraint of trade.

Firm Name:

_____

By:_____

(Authorized Agent of Contractor)

_____ Title

SUBSCRIBED and SWORN TO before me

this _____day of_____.

_____ NOTARY PUBLIC

STATE OF ILLINOIS BUSINESS ENTERPRISE FOR MINORITIES, FEMALES AND PERSONS WITH DISABILITIES ACT INFORMATION

Vendor shall provide the following information on the status of its business so that the college can comply with the Business Enterprise for Minorities, Females and Persons with Disabilities Act, 30 ILCS 575/1, et seq.

Diverse Business (information about the business owner(s) only)

- ☐ African American
- ☐ Alaskan Native/Native American
- ☐ Asian American
- ☐ Disabled
- ☐ Female
- ☐ Hispanic American
- ☐ Veteran
- ☐ Not Applicable

Small Business

- ☐ HUBZone small business
- ☐ Service-disabled veteran-owned small business
- ☐ Small Business
- ☐ Small disadvantaged business
- ☐ Veteran-owned small business
- ☐ Women-owned small business
- ☐ Not Applicable

Certifying Organization

- ☐ DCMS (Department of Central Management Services) Business Enterprise Program
- ☐ CMBDC (Chicago Minority Business Development Council)
- ☐ IDOT (Illinois Department of Transportation)
- ☐ WBDC (Women's Business Development Center)
- ☐ Other (Please Specify)
- ☐ Not Applicable

For more information please visit:

http://www.illinois.gov/cms/business/sell2/bep/Pages/Default.aspx

WAUBONSEE COMMUNITY COLLEGE - STANDARD TERMS AND CONDITIONS

Legal Entity: Waubonsee Community College District 516, commonly known as Waubonsee Community College is described herein as "Buyer" or "WCC".
Seller: The "Seller" means any person, business or entity designated on this purchase order or contracted to provide "Deliverables." Deliverables means the tangible and/or intangible personal property, product, service, software, information technology, telecommunications technology, apparatus, equipment, supplies, repairs, or other goods delivered pursuant to this purchase order, including items incident to the provision of services.
Limitation of Authority: All purchases shall be made in accordance with Illinois law. No officer or employee of WCC not expressly authorized under Illinois law, shall make any purchase on its behalf, or enter into any contract of purchase, verbal or written, for any Deliverable of any kind or description, or accept any of them on approval or otherwise. Seller is directed to applicable Illinois law to verify the authority of any person purportedly signing on behalf of the Legal Entity. The Buyer will not be responsible for articles delivered and/or services performed for its account without a specific written purchase order that has been authorized by the Purchasing Manager.
Governing Law and Limitation of Liability: This Agreement shall be governed and construed in accordance with the law of Illinois without reference to its conflict of laws and/or provisions. It is the intent of the parties that arbitration and mediation shall not be a remedy or prerequisite required by this contract, and any reference to "arbitration" or "mediation" contained in any contract or agreement resulting from the execution of this Purchase Order is void and of no legal effect. The parties waive any right to demand a trial by Jury and agree that the venue for litigation arising from this Purchase Order or any Contract or Agreement entered into subsequent to the execution of this Purchase Order shall be in the Circuit Court for the 16th Judicial Circuit, Kane County, Illinois regardless of the place of business or residence of Seller. The parties agree that this venue is convenient for all of them and each consent to the personal jurisdiction of such court. In the event of any litigation the prevailing party shall have the right to recover its reasonable attorney's fees and costs. WCC shall not be liable to the Seller, or to any subcontractor, regardless of the form of action, for any consequential, incidental, indirect, or special damages, or for any claim or demand based on a release of information, or patent, copyright, or other intellectual property right infringement.
Indemnification: The Seller agrees to hold harmless and indemnify WCC, its officers, agents, trustees and employees, and defend each of them, against any losses, damages, judgments, claims, expenses, costs and liabilities imposed upon or incurred by or asserted against WCC, its officers, agents, trustees or employees, including reasonable attorneys' fees and expenses, arising out of the acts or omissions of Seller, its officers, agents or employees, resulting from or connected with Seller's performance hereunder or failure to comply with any applicable law or regulation.
Bidding: Seller certifies that it is not barred from bidding on agreement/contract as a result of a conviction for either bid rigging or bid rotating under Illinois law. WCC reserves the right to reject any and all bids, and waive any bid irregularities.
Purchases: A purchase order is required for all orders. Seller shall invoice Buyer for the goods at the time of final shipment unless otherwise provided for in this purchase order. Invoices shall show the purchase order number for each separate purchase order number issued. Failure to do so may result in a delay of payment. Packing slip shall be affixed to outside of package(s), listing contents of each package and notating an authorized purchase order number. Shipments without a purchase order will be rejected at the receiving dock.
Warranty:
1) Seller warrants that all Deliverables furnished hereunder will be free from defects in design, material, and workmanship, and will conform to applicable specifications, drawings, samples, and descriptions. This warranty is in addition to any warranties available under law, from the manufacturer, or any standard warranty of Seller.

2) At the time of delivery, no software shall contain any virus, timer, counter or other limiting design, instruction, or routine that would erase data or programming or cause the software or any hardware or computer system to become inoperable or otherwise incapable of being used in the full manner for which it was designed.
3) No Deliverable shall violate or infringe upon the rights of any third party, including, without limitation, any patent, copyright, trademark, trade secret, or other proprietary rights of any kind.
4) Seller warrants that it has full title to the Deliverables and has the right to grant to WCC the rights and licenses contemplated herein without the consent of any third party.

Assignment: This purchase order may not be assigned, and no duty or right hereunder may be delegated, or monies payable hereunder, by Seller and Seller may not use any sub-contractor to perform hereunder, without the prior written consent of Buyer, which consent may be given or withheld at Buyer's sole discretion. Any assignment made without such consent shall be null and void.

Prices: Buyer accepts Seller's quote or bid prices as recorded on Seller's proposal and on this purchase order which shall not be changed prior to delivery or completion of services without Buyer's prior written agreement. Unless otherwise provided in this purchase order, the price includes all charges for freight and insurance. No separate charges, except those clearly recorded on Seller's proposal and on this purchase order can, or will be allowed. Seller represents that the price charged for the goods and services covered by this purchase order is commercially reasonable and is the lowest price charged by Seller to buyers of a class of purchasers similar to Buyer under conditions similar to those specified in this purchase order. All prices quoted are in U.S. dollars.

Cancellation:

1) In addition to all other rights and remedies provided for hereunder or under law (including without limitation, damages) Buyer may cancel all or any part of this purchase order:
   a) if Seller breaches any of the terms, warranties or provisions hereof
   b) upon the occurrence of any event entitling Buyer to reject the goods
   c) if any insolvency proceeding is instituted by or against Seller
   d) if Seller provides material false information to Buyer
2) Buyer, at Buyer's sole discretion, may cancel this purchase order at any time as to the goods not then delivered.
3) Buyer shall not be deemed to have canceled this purchase order unless it notifies Seller of its intent to do so in writing. Upon receipt of such notice Seller will immediately stop work and notify any other parties performing any part of the work to stop work and will protect property in Seller's possession in which Buyer has or may acquire an interest.
4) Unless Buyer exercises its right to cancel because of the events described in paragraph (1) above or because of other event or condition caused by or under the control of Seller, Seller may claim:
   a) Reimbursement for actual out-of-pocket cost incurred by Seller as a result of such cancellation (exclusive of costs for materials that Seller can use on other orders) and
   b) A reasonable profit on the work performed by Seller prior to cancellation. Such claim must be made within twenty (20) days of the notice of cancellation and the total amount of such claim shall not exceed the purchase price for the completed goods. In the event of cancellation Seller shall deliver to WCC all material and information as may have been involved in the provision of services or Deliverables to the date of termination.

Taxes: Waubonsee Community College is exempt from Federal Excise and State Sales Taxes and such taxes shall not be included in prices. Federal Excise Tax Exception Certificate will be furnished upon request.

Articles or Services: Deliverables and/or services to be delivered or performed shall be in accordance with the terms, prices, delivery time, specifications, and conditions as recorded on Seller's proposal and as itemized on this purchase order. Stated delivery time must be adhered to. Buyer reserves the right to cancel this order if Seller does not make deliveries as specified on this order. No substitutions of articles or change of any nature shall be made without written authorization from the Buyer.

Inspection, Acceptance and Payment by Buyer: All Deliverables shall be received subject to Buyer's right to inspection and rejection. Those rejected as a result of inspection will be held for Seller's inspection at Seller's risk and, if Seller directs, will be returned at Seller's expense. Freight to and from original destination for excess goods except for customary quantity variations recognized by trade practice, will be paid by Seller. Payment for Deliverables on an order prior to inspection shall not constitute acceptance.

Responsibility for Deliverables and Risk of Loss: All shipments are to be made "F.O.B. Destination" unless otherwise specified on Seller's proposal and on this purchase order and accepted by Buyer. Seller assumes and accepts that all risk of loss of goods covered hereby shall be borne by Seller until goods have been received and accepted by Buyer or received, installed, and accepted by Buyer, whichever is applicable. When articles are sold "F.O.B. Point of Origin" and the purchase order confirms this, Seller is to prepay shipping charge and record prepaid charges on invoice and attach the original receipt, freight bill or express receipt to the invoice.

OSHA: All equipment and material shall be in accordance with applicable OSHA Rules and Regulations in effect at the time of order.

MSDS: Seller shall forward any required material safety data sheet (MSDS) to Buyer on all products subject to this order.

Prevailing Wage: When a contract/order requires construction of Public Works as defined in the Illinois Prevailing Wage Act, including new structures, renovation, remodeling and expansion of existing structures, maintenance and repair of equipment on a construction site, transportation of equipment or materials to or from a construction site:

1) Seller and its subcontractors must pay prevailing wage to any laborers or workers working on the project. It is Seller's responsibility to determine the appropriate current prevailing wage rate.
2) Seller shall maintain a certified payroll which will be required prior to payment, and shall be required to submit a Wage Certification Form and maintain records in accordance with the Prevailing Wage Act [820 ILCS 130/1-12]
3) Prior to payment of the purchase price, Seller shall furnish lien waivers, releases, affidavits, and other documents as Buyer requires, keeping Buyer's premises lien free.

Bonds: For Public Works projects over $50,000, the Seller shall furnish a Performance Bond and a Labor and Material Bond in an amount equal to the contract before commencing work. The surety on the bond shall be a company that is licensed by the Department of Insurance authorizing it to execute surety bonds and the company shall have a financial strength rating of at least A- as rated by A.M. Best Company, Inc., Moody's Investor Service, Standard & Poor's Corporation, or a similar rating agency.

Confidential Data: Seller shall develop, implement, maintain and use appropriate administrative, technical and physical security measures to preserve the confidentiality, integrity and availability of all confidential data, whether in hard copy or electronically maintained or transmitted, received from, or on behalf of WCC or its students. These measures will be extended by contract to all subcontractors used by the Seller. Unless authorized by WCC, Seller may not copy, store, or transmit unencrypted confidential and sensitive data on non-WCC-owned/leased computing devices, or other portable storage or computing devices. Seller shall destroy such data when they are no longer needed for the purpose for which they were released.

Non-Disclosure: Seller shall not announce this agreement and relationship in any press releases or other publications, or use WCC's name or logo's in any marketing materials without prior written consent of WCC.

1) All information that is obtained and work performed under this agreement and the Seller's Waubonsee Community College contract/order is considered sensitive, may or may not require use of sensitive and personal data and information and falls under one or more categories of information that is subject to protection from disclosure and misuse, including but not limited to: personal information and highly restricted personal information in connection with law enforcement sensitive data and information, the Privacy Act of 1974, 5 U.S.C. § 552a et. seq., the Family Educational Rights and Privacy Act of 1974, 20 U.S.C. § 1232g et

seq. (FERPA), and personal information as defined under and governed by the Personal Information Protection Act, 815 ILCS 530 et seq.

2) Seller agrees to comply with all federal and state statutes, rules and regulations as identified in the Waubonsee Acceptable Usage Agreement (located at www.waubonsee.edu/it), understands that disclosure of any information, by any means, for a purpose or to an extent unauthorized herein, shall be grounds for immediate termination of the contract/order and this agreement, and may subject the offender to criminal and civil sanctions.
3) All source materials/data/information and resultant work products compiled or created and any information or portion of information derived therefrom are the property of the Waubonsee Community College and must not be used by Seller for any purpose other than the purpose outlined by the contract/order and this agreement.
4) Neither Seller, nor its officers, directors, agents, or employees shall divulge, sell, or distribute any information obtained from Waubonsee Community College or derived therefrom at any point in time to a third party, even after termination or expiration of a contract/order, except as may otherwise be required by law.
5) Seller shall notify each of its officers, directors, agents, and employees having access to the Waubonsee Community College information that such information may be used only for the purpose and to the extent authorized in this contract.

Insurance: During the term of this agreement, upon Buyer's request, Seller shall maintain, and require its subcontractors to maintain, insurance policies with limits acceptable to Buyer, to protect against claims that may arise from this purchase order. In addition, Seller and its subcontractors shall maintain Workman's Compensation insurance and Comprehensive Automobile Liability insurance coverage in amounts as required by Illinois law. Seller may be required to provide additional insurance as noted in the BID/RFP documents including but not limited to professional liability, E & O (Errors and Omissions), environmental liability and umbrella coverage. WCC, its officers, agents, employees and assigns as will be named as Additional Insured thereunder on a primary and noncontributory basis and certificate holder for all work performed on Buyer's property.

Independent Contractor: Seller shall perform its obligations as an independent contractor of WCC and nothing herein shall be deemed to constitute Seller and WCC as partners, joint venturers, or principal and agent. Seller has no authority to represent WCC and shall not represent that it or any of its subcontractors are in any manner agents or employees of WCC.

License: Upon payment in full for software, Seller grants to WCC a perpetual, non-exclusive, worldwide, irrevocable, fully paid right and license to install and use the software on all computing devices used by or for the benefit of WCC. This license is subject to the limitation on the maximum number of end users or other limitations listed on Seller's proposal, but if none, this license shall be deemed to be enterprise-wide and the software may be used by all WCC end users without any maximum number. Any Deliverable under this purchase order that may be subject to a copyright shall be considered a "work for hire" as defined by the U.S. Copyright Act and shall be owned by WCC and WCC shall be considered the author of such item. If a Deliverable shall not be considered a "work for hire" under the U.S. Copyright laws, Seller hereby irrevocably assigns all right, title, and interest in the Deliverable, including all intellectual property rights effective from the moment of creation of the Deliverable.

Smoke Free Campus: The policy of the WCC Board of Trustees is to have a smoke free college environment. Smoking on college grounds and inside college facilities and college vehicles is prohibited. Smoking is only permitted inside private vehicles.

Affirmative Action/Equal Opportunity: Waubonsee Community College is an Affirmative Action/Equal Opportunity Employer and does not discriminate against any employee or service provider because of race, sex, color, age, religion, national origin, marital status, veteran's status, physical or mental disability or any other protected status under federal or state law.

Entire Agreement: This purchase order, together with any written documents incorporated by reference, constitutes the entire agreement between Buyer and Seller with respect to this transaction and supersedes all previous communications. Any additional or different terms by the Seller or Seller's acknowledgement are rejected by the Buyer unless expressly agreed to in writing by an authorized representative of the Buyer. This agreement shall be binding upon and inure to the benefit of all heirs, personal representative, successors and assigns of the Seller.

END OF DOCUMENT

SECTION 015639 - TEMPORARY TREE AND PLANT PROTECTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.

B. Related Requirements:
1. Section 311000 "Site Clearing" for removing existing trees and shrubs.

1.3 DEFINITIONS

A. Caliper (DBH): Diameter breast height; diameter of a trunk as measured by a diameter tape at a height 54 inches above the ground line for trees with caliper of 8 inches or greater as measured at a height of 12 inches above the ground.

B. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and defined by a circle concentric with each tree with a radius 1.5 times the diameter of the drip line unless otherwise indicated.

C. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 INFORMATIONAL SUBMITTALS

A. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.
1. Use sufficiently detailed photographs or video recordings.

1.5 FIELD CONDITIONS

A. The following practices are prohibited within protection zones:
1. Storage of construction materials, debris, or excavated material.
2. Moving or parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

B. Do not direct vehicle or equipment exhaust toward protection zones.

C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones and organic mulch.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements: Previously used materials may be used when approved by Architect.
   1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and weighing a minimum of 0.4 lb/ft.; remaining flexible from minus 60 to plus 200 deg F; inert to most chemicals and acids; minimum tensile yield strength of 2000 psi and ultimate tensile strength of 2680 psi; secured with plastic bands or galvanized-steel or stainless-steel wire ties; and supported by tubular or T-shape galvanized-steel posts spaced not more than 96 inches apart.
      a. Height: 48 inches.
      b. Color: High-visibility orange, nonfading.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

B. Prepare written report, endorsed by arborist, listing conditions detrimental to tree and plant protection.

3.2 PREPARATION

A. Locate and clearly identify trees, shrubs, and other vegetation to remain. Flag each tree trunk at 54 inches above the ground.

B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

C. Tree-Protection Zones: Mulch areas inside tree-protection zones and other areas indicated. Do not exceed indicated thickness of mulch.
   1. Apply 2-inch uniform thickness of organic mulch unless otherwise indicated. Do not place mulch within 6 inches of tree trunks.

3.3 PROTECTION ZONES

A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people and animals from easily entering protected areas except by entrance gates. Construct fencing so as not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

B. Maintain protection zones free of weeds and trash.

C. Maintain protection-zone fencing and signage in good condition as acceptable to Architect and remove when construction operations are complete and equipment has been removed from the site.
   1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.

2. Temporary access is permitted subject to preapproval in writing by arborist if a root buffer effective against soil compaction is constructed as directed by arborist. Maintain root buffer so long as access is permitted.

3.4 EXCAVATION

A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Section 312000 "Earth Moving" unless otherwise indicated.

B. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches back from new construction and as required for root pruning.

C. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

3.5 REGRADING

A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

B. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.

C. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with backfill soil. Place backfill soil in a single uncompacted layer and hand grade to required finish elevations.

3.6 REPAIR AND REPLACEMENT

A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or to be relocated that are damaged by construction operations, in a manner approved by Architect.
1. Submit details of proposed pruning and repairs.
2. Perform repairs of damaged trunks, branches, and roots within 24 hours according to arborist's written instructions.
3. Replace trees and other plants that cannot be repaired and restored to full-growth status, as determined by Architect.

B. Trees: Remove and replace trees indicated to remain that are more than 66 percent dead or in an unhealthy condition before the end of the corrections period or are damaged during construction operations that Architect determines are incapable of restoring to normal growth pattern.
1. Small Trees: Provide new trees of same size and species as those being replaced for each tree that measures 4 inches or smaller in caliper size.
2. Large Trees: Provide two new tree(s) of 4-inch caliper size for each tree being replaced that measures more than 4 inches in caliper size.
    a. Species: As selected by Architect.

3.7 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove excess excavated material, displaced trees, trash, and debris and legally dispose of them off Owner's property.

END OF SECTION

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Protecting existing vegetation to remain.
2. Removing existing vegetation.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Removing above- and below-grade site improvements.
6. Temporary erosion and sedimentation control.

1.3 DEFINITIONS

A. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow.

B. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.

C. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 MATERIAL OWNERSHIP

A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 INFORMATIONAL SUBMITTALS

A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
1. Use sufficiently detailed photographs or video recordings.

1.6 FIELD CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.

B. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.

C. Utility Locator Service: Notify Call Before You Dig for area where Project is located before site clearing.

D. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."
   1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to requirements in Section 015639 "Temporary Tree and Plant Protection."

C. Protect existing site improvements to remain from damage during construction.
   1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.

B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

D. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

A. Protect trees and plants remaining on-site according to requirements in Section 015639 "Temporary Tree and Plant Protection."

B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.4 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
   1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
   2. Grind down stumps and remove roots larger than 2 inches in diameter, obstructions, and debris to a depth of 18 inches below exposed subgrade.

3. Use only hand methods or air spade for grubbing within protection zones.
4. Chip removed tree branches and stockpile in areas approved by Owner .

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

3.5 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to depth of 6 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.
1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects larger than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.

C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
1. Limit height of topsoil stockpiles to 72 inches.
2. Do not stockpile topsoil within protection zones.
3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
4. Stockpile surplus topsoil to allow for respreading deeper topsoil.

3.6 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.7 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION

<INTENTIONALLY LEFT BLANK>

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Excavating and filling for rough grading the Site.
2. Preparing subgrades for walks pavements and turf and grasses.
3. Subbase course for concrete walks and pavements.
4. Subbase course and base course for asphalt paving.

B. Related Requirements:
1. Section 311000 "Site Clearing" for site stripping, grubbing, stripping[and stockpiling] topsoil, and removal of above- and below-grade improvements and utilities.

1.3 DEFINITIONS

A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.

C. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.

D. Fill: Soil materials used to raise existing grades.

E. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

1.4 REFERENCES

A. The Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition, herein referred to as IDOT.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of the following manufactured products required:
1. Geotextiles.
2. Aggregate Gradations.
3. Geofoam.

4. Warning tapes.

1.6 QUALITY ASSURANCE

A. Geotechnical Testing Agency Qualifications: Qualified according to ASTM E 329 and ASTM D 3740 for testing indicated.

1.7 FIELD CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving operations.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.

B. Utility Locator Service: Notify "Call Before You Dig" for area where Project is located before beginning earth-moving operations.

C. Do not commence earth-moving operations until temporary site fencing and erosion- and sedimentation-control measures specified in Section 311000 "Site Clearing" are in place.

D. Do not commence earth-moving operations until plant-protection measures specified in Section 015639 "Temporary Tree and Plant Protection" are in place.

E. The following practices are prohibited within protection zones:
1. Storage of construction materials, debris, or excavated material.
2. Parking vehicles or equipment.
3. Foot traffic.
4. Erection of sheds or structures.
5. Impoundment of water.
6. Excavation or other digging unless otherwise indicated.
7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

F. Do not direct vehicle or equipment exhaust towards protection zones.

G. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.

B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.

C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.
1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; IDOT CA-1 gradation in accordance with IDOT Section 1004.01.

E. Aggregate Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; IDOT CA-6 gradation in accordance with IDOT Sections 1004.01 and 1004.04 for Aggregate Base Course.

F. Granular Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; IDOT CA-11 or CA-13 gradations in accordance with IDOT Section 1004.01.

G. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; IDOT CA-7 gradation in accordance with IDOT Sections 1004.01 and 1004.05 for Porous Granular Backfill.

H. Sand: ASTM C 33/C 33M; fine aggregate.

I. Impervious Fill: Clayey gravel and sand mixture capable of compacting to a dense state.

2.2 GEOTEXTILES

A. Filter Fabric (Subsurface Drainage Geotextile): Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and IDOT Section 1080.03.

B. Geotextile Fabric (Separation Geotextile): Woven geotextile fabric, manufactured for separation applications, made from polyolefins or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and IDOT Section 1080.02.

PART 3 - EXECUTION

3.1 PREPARATION

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

B. Protect and maintain erosion and sedimentation controls during earth-moving operations.

C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
   1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

3.3 EXPLOSIVES

A. Explosives: Do not use explosives.

3.4 EXCAVATION, GENERAL

A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
   1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
   2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:
      a. 12 inches outside of concrete forms at footings.
      b. 6 inches outside of minimum required dimensions of concrete cast against grade.

3.5 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.6 SUBGRADE INSPECTION

A. Notify Architect when excavations have reached required subgrade.

B. If Architect determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

C. Proof-roll subgrade with a pneumatic-tired and loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
   1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
   2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.

D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.

E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.7 UNAUTHORIZED EXCAVATION

A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.
   1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.8 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
   1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

3.9 BACKFILL

A. Place and compact backfill in excavations promptly, but not before completing the following:
   1. Removing concrete formwork.
   2. Removing trash and debris.
   3. Removing temporary shoring, bracing, and sheeting.

B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.10 SOIL FILL

A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

B. Place and compact fill material in layers to required elevations as follows:
   1. Under grass and planted areas, use satisfactory soil material.
   2. Under walks and pavements, use satisfactory soil material.

C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.11 SOIL MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
   1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
   2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.12 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in loose depth for material compacted by hand-operated tampers.

B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.

C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:
   1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
   2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 92 percent.
   3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.

3.13 GRADING

A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
   1. Provide a smooth transition between adjacent existing grades and new grades.
   2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.

B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:
   1. Turf or Unpaved Areas: Plus or minus 1 inch.
   2. Walks: Plus or minus 1 inch.
   3. Pavements: Plus or minus 1/2 inch.

3.14 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.

B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:
   1. Place base course material over subbase course under hot-mix asphalt pavement.
   2. Shape subbase course and base course to required crown elevations and cross-slope grades.
   3. Place subbase course and base course 6 inches or less in compacted thickness in a single layer.
   4. Place subbase course and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
   5. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.

3.15 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified geotechnical engineering testing agency to perform tests and inspections.

B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.

C. Testing agency will test compaction of soils in place according to ASTM D 1556, ASTM D 2167, ASTM D 2937, and ASTM D 6938, as applicable. Tests will be performed at the following locations and frequencies:
   1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of paved area or building slab but in no case fewer than three tests.

D. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.16 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
   1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.

C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.17 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION

<INTENTIONALLY LEFT BLANK>

SECTION 321216 - ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Cold milling of existing asphalt pavement.
2. Hot-mix asphalt patching.
3. Hot-mix asphalt paving.
4. Hot-mix asphalt overlay.

B. Related Requirements:
1. Section 312000 "Earth Moving" for subgrade preparation, fill material, unbound-aggregate subbase and base courses, and aggregate pavement shoulders.
2. Section 321373 "Concrete Paving Joint Sealants" for joint sealants and fillers at pavement terminations.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.
1. Include technical data and tested physical and performance properties.
2. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For manufacturer and testing agency.

B. Material Certificates: For each paving material. Include statement that mixes containing recycled materials will perform equal to mixes produced from all new materials.

C. Material Test Reports: For each paving material, by a qualified testing agency.

D. Field quality-control reports.

1.5 REFERENCES

A. The Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition, herein referred to as IDOT.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by authorities having jurisdiction or the DOT of state in which Project is located.

B. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing indicated.

C. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of of IDOT for asphalt paving work.
   1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

1.7 FIELD CONDITIONS

A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:
   1. Prime Coat: Minimum surface temperature of 60 deg F.
   2. Tack Coat: Minimum surface temperature of 60 deg F.
   3. Asphalt Binder Course: Minimum surface temperature of 40 deg Fand rising at time of placement.
   4. Asphalt Surface Course: Minimum surface temperature of 60 deg Fat time of placement.

PART 2 - PRODUCTS

2.1 ASPHALT MATERIALS

A. Asphalt Paving Courses:
   1. HMA Wearing Course: Comply with IDOT Specifications for Mix "C", N50, Surface Course.
   2. HMA Leveling Course: Comply with IDOT Specifications for IL-19, N50, Binder Course.

B. Tack Coat: ASTM D 977 emulsified asphalt, or ASTM D 2397 cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

C. Water: Potable.

2.2 AUXILIARY MATERIALS

A. Sand: ASTM D 1073, Grade No. 2 or No. 3.

B. Seal Coating: Asphalt emulsion pavement sealer according to ASTM D2939.
   1. Asphalt Content: Min 20% per ASTM D2172.

C. Crack Sealing: Hot-Poured Joint Sealer according to ASTM D 6690, Type II.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that subgrade is dry and in suitable condition to begin paving.

B. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
   1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
   2. Proof roll with a loaded 10-wheel, tandem-axle dump truck weighing not less than 15 tons.
   3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.

C. Proceed with paving only after unsatisfactory conditions have been corrected.

3.2 COLD MILLING

A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.
1. Mill to a depth of 2 inches.
2. Mill to a uniform finished surface free of excessive gouges, grooves, and ridges.
3. Control rate of milling to prevent tearing of existing asphalt course.
4. Repair or replace curbs, manholes, and other construction damaged during cold milling.
5. Excavate and trim unbound-aggregate base course, if encountered, and keep material separate from milled hot-mix asphalt.
6. Patch surface depressions deeper than 1 inch after milling, before wearing course is laid.
7. Keep milled pavement surface free of loose material and dust.
8. Do not allow milled materials to accumulate on-site.

3.3 PATCHING

A. Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.

B. Tack Coat: Before placing patch material, apply tack coat uniformly to vertical asphalt surfaces abutting the patch. Apply at a rate of 0.05 to 0.15 gal./sq. yd..
1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

C. Placing Patch Material: Fill excavated pavement areas with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

3.4 REPAIRS

A. Leveling Course: Install and compact leveling course consisting of hot-mix asphalt surface course to level sags and fill depressions deeper than 1 inch in existing pavements.
1. Install leveling wedges in compacted lifts not exceeding 3 inches thick.

B. Crack and Joint Filling: Remove existing joint filler material from cracks or joints to a depth of 1/4 inch.
1. Clean cracks and joints in existing hot-mix asphalt pavement.
2. Use emulsified-asphalt slurry to seal cracks and joints less than 1/4 inchwide. Fill flush with surface of existing pavement and remove excess.
3. Use hot-applied joint sealant to seal cracks and joints more than 1/4 inchwide. Fill flush with surface of existing pavement and remove excess.

3.5 SURFACE PREPARATION

A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.

B. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.
1. Mix herbicide with prime coat if formulated by manufacturer for that purpose.

C. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd..

1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

3.6 SEALCOATING

A. Clean pavement surface and ensure all cracks have been properly sealed.

B. Sealer should not be installed in rainy conditions. Pavement temperatures shall be a minimum of 50 degrees and the air temperature shall be a minimum of 50 degrees and rising.

C. Install in two coats:
1. First Coat: 0.10 - 0.12 gallons/sq.yd.
2. Second Coat: 0.06 - 0.08 gallons/sq.yd.

3.7 PLACING HOT-MIX ASPHALT

A. Place paving in accordance with IDOT Specifications, Article 406.
1. Complete a section of asphalt base course before placing asphalt surface course.

B. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

3.8 JOINTS

A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
1. Clean contact surfaces and apply tack coat to joints.
2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
3. Offset transverse joints, in successive courses, a minimum of 24 inches.
4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method according to AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."
5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
6. Compact asphalt at joints to a density within 2 percent of specified course density.

3.9 COMPACTION

A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.
1. Complete compaction before mix temperature cools to 185 deg F.

B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.

C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
1. Average Density: 96 percent of reference laboratory density according to ASTM D 6927 , but not less than 94 percent or greater than 100 percent.
2. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent or greater than 96 percent.

D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.

E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.

F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.

G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.10 INSTALLATION TOLERANCES

A. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:
1. Base Course: Plus or minus 1/2 inch.
2. Surface Course: Plus 1/4 inch, no minus.

B. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:
1. Base Course: 1/4 inch.
2. Surface Course: 1/8 inch.
3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

3.11 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.

C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.

D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to ASTM D 979 or AASHTO T 168.
1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
    a. One core sample will be taken for every 1000 sq. yd. or less of installed pavement, with no fewer than three cores taken.
    b. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.

E. Replace and compact hot-mix asphalt where core tests were taken.

F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

END OF SECTION

SECTION 321313 - CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Driveways.
2. Roadways.
3. Parking lots.
4. Curbs and gutters.
5. Walks.

B. Related Sections:
1. Section 321373 "Concrete Paving Joint Sealants" for joint sealants in expansion and contraction joints within concrete paving and in joints between concrete paving and asphalt paving or adjacent construction.

1.3 DEFINITIONS

A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, fly ash and other pozzolans, and ground granulated blast-furnace slag.

1.4 REFERENCES

A. The Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition, herein referred to as IDOT.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Sustainable Design Submittals:
1. Laboratory Test Reports: For concrete paving mixtures, documentation indicating that cured concrete complies with Solar Reflectance Index requirements.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified ready-mix concrete manufacturer.

B. Material Certificates: For the following, from manufacturer:
1. Cementitious materials.
2. Steel reinforcement and reinforcement accessories.
3. Fiber reinforcement.
4. Admixtures.
5. Curing compounds.
6. Applied finish materials.
7. Bonding agent or epoxy adhesive.
8. Joint fillers.

C. Field quality-control reports.

1.7 QUALITY ASSURANCE

A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.

B. Testing Agency Qualifications: Qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.

C. Concrete Testing Service: Engage a qualified testing agency to perform material evaluation tests and to design concrete mixtures.

D. ACI Publications: Comply with ACI 301 unless otherwise indicated.

1.8 PROJECT CONDITIONS

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

PART 2 - PRODUCTS

2.1 FORMS

A. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, and smooth exposed surfaces.
1. Use flexible or uniformly curved forms for curves with a radius of 100 feet or less. Do not use notched and bent forms.

B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.

2.2 STEEL REINFORCEMENT

A. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, fabricated from as-drawn steel wire into flat sheets.

B. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.

C. Epoxy-Coated Welded Wire Reinforcement: ASTM A 884/A 884M, Class A, plain steel.

D. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.

E. Galvanized Reinforcing Bars: ASTM A 767/A 767M, Class II zinc coated, hot-dip galvanized after fabrication and bending; with ASTM A 615/A 615M, Grade 60 deformed bars.

F. Epoxy-Coated Reinforcing Bars: ASTM A 775/A 775M or ASTM A 934/A 934M; with ASTM A 615/A 615M, Grade 60 deformed bars.

G. Steel Bar Mats: ASTM A 184/A 184M; with ASTM A 615/A 615M, Grade 60, deformed bars; assembled with clips.

H. Plain-Steel Wire: ASTM A 82/A 82M, as drawn.

I. Deformed-Steel Wire: ASTM A 496/A 496M.

J. Epoxy-Coated-Steel Wire: ASTM A 884/A 884M, Class A coated, plain.

K. Epoxy-Coated, Joint Dowel Bars: ASTM A 775/A 775M; with ASTM A 615/A 615M, Grade 60, plain-steel bars.

L. Tie Bars: ASTM A 615/A 615M, Grade 60, deformed.

M. Hook Bolts: ASTM A 307, Grade A, internally and externally threaded. Design hook-bolt joint assembly to hold coupling against paving form and in position during concreting operations, and to permit removal without damage to concrete or hook bolt.

N. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified, and as follows:
1. Equip wire bar supports with sand plates or horizontal runners where base material will not support chair legs.
2. For epoxy-coated reinforcement, use epoxy-coated or other dielectric-polymer-coated wire bar supports.

O. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating, compatible with epoxy coating on reinforcement.

P. Zinc Repair Material: ASTM A 780.

2.3 CONCRETE MATERIALS

A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:
1. Portland Cement: ASTM C 150, white portland cement Type I/II. Supplement with the following:
   a. Fly Ash: ASTM C 618, Class C or Class F.
   b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

B. Normal-Weight Aggregates: ASTM C 33, Class 4S, uniformly graded. Provide aggregates from a single source.
1. Maximum Coarse-Aggregate Size: 3/4 inch nominal.
2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

C. Water: Potable and complying with ASTM C 94/C 94M.

D. Air-Entraining Admixture: ASTM C 260.

E. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.
1. Water-Reducing Admixture: ASTM C 494/C 494M, Type A.
2. High-Range, Water-Reducing Admixture: ASTM C 494/C 494M, Type F.

2.4 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry.

B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

C. Water: Potable.

D. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Axim Italcementi Group, Inc.; Caltexol CIMFILM.
      b. BASF Construction Chemicals, LLC; Confilm.
      c. ChemMasters; Spray-Film.
      d. Conspec by Dayton Superior; Aquafilm.
      e. Dayton Superior Corporation; Sure Film (J-74).
      f. Edoco by Dayton Superior; BurkeFilm.
      g. Euclid Chemical Company (The), an RPM company; Eucobar.
      h. Kaufman Products, Inc.; VaporAid.
      i. Lambert Corporation; LAMBCO Skin.
      j. L&M Construction Chemicals, Inc.; E-CON.
      k. Meadows, W. R., Inc.; EVAPRE.
      l. Metalcrete Industries; Waterhold.
      m. Nox-Crete Products Group; MONOFILM.
      n. Sika Corporation, Inc.; SikaFilm.
      o. SpecChem, LLC; Spec Film.
      p. Symons by Dayton Superior; Finishing Aid.
      q. TK Products, Division of Sierra Corporation; TK-2120 TRI-FILM.
      r. Unitex; PRO-FILM.
      s. Vexcon Chemicals Inc.; Certi-Vex EnvioAssist.

E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Anti-Hydro International, Inc.; A-H Curing Compound #2 DR WB.
      b. ChemMasters; Safe-Cure Clear.
      c. Conspec by Dayton Superior; D.O.T. Resin Cure.
      d. Dayton Superior Corporation; Day-Chem Rez Cure (J-11-W).
      e. Edoco by Dayton Superior; DSSCC Clear Resin Cure.
      f. Euclid Chemical Company (The), an RPM company; Kurez W VOX.
      g. Kaufman Products, Inc.; Thinfilm 420.
      h. Lambert Corporation; AQUA KURE - CLEAR.
      i. L&M Construction Chemicals, Inc.; L&M CURE R.
      j. Meadows, W. R., Inc.; 1100-CLEAR SERIES.
      k. Nox-Crete Products Group; Resin Cure E.
      l. SpecChem, LLC; PaveCure Rez.
      m. Symons by Dayton Superior; Resi-Chem Clear.
      n. Tamms Industries, Inc., Euclid Chemical Company (The); TAMMSCURE WB 30C.
      o. TK Products, Division of Sierra Corporation; TK-2519 WB.
      p. Vexcon Chemicals Inc.; Certi-Vex Enviocure 100.

2.5 RELATED MATERIALS

A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber in preformed strips.

B. Bonding Agent: ASTM C 1059, Type II, non-redispersible, acrylic emulsion or styrene butadiene.

2.6 DETECTABLE WARNING MATERIALS

A. Detectable Warning Tile: Replaceable Cast in Place Detectable/Tactile Warning Tiles.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
a. Access Products, Inc..
2. Size of Stamp: One piece matching detectable warning area shown on Drawings.
3. Fasteners/Anchors: 12 min.

2.7 PAVEMENT MARKINGS

A. Pavement-Marking: Per Specification 321723 "Pavement Markings".
1. Color: As indicated.

2.8 WHEEL STOPS

A. Wheel Stops: Precast, air-entrained concrete, 2500-psi minimum compressive strength, 4-1/2 inches high by 9 inches wide by 72 inches long. Provide chamfered corners and drainage slots on underside and holes for anchoring to substrate.
1. Dowels: Galvanized steel, 3/4 inch in diameter, 10-inch minimum length.

2.9 CONCRETE MIXTURES

A. Proportion mixtures to provide normal-weight concrete with the following properties:
1. Concrete Paving and cast-in-place Concrete Curb and Gutter: Meet all properties of IDOT Class PV mix per IDOT Specifications Section 1020.04.

2.10 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116M. Furnish batch certificates for each batch discharged and used in the Work.
1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.

B. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.
1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph.

2. Proof-roll with a pneumatic-tired and loaded, 10-wheel, tandem-axle dump truck weighing not less than 15 tons.
3. Correct subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch according to requirements in Section 312000 "Earth Moving."

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Remove loose material from compacted subbase surface immediately before placing concrete.

3.3 EDGE FORMS AND SCREED CONSTRUCTION

A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

3.4 STEEL REINFORCEMENT

A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.

C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.

D. Install welded wire reinforcement in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

E. Zinc-Coated Reinforcement: Use galvanized-steel wire ties to fasten zinc-coated reinforcement. Repair cut and damaged zinc coatings with zinc repair material.

F. Epoxy-Coated Reinforcement: Use epoxy-coated steel wire ties to fasten epoxy-coated reinforcement. Repair cut and damaged epoxy coatings with epoxy repair coating according to ASTM D 3963/D 3963M.

G. Install fabricated bar mats in lengths as long as practicable. Handle units to keep them flat and free of distortions. Straighten bends, kinks, and other irregularities, or replace units as required before placement. Set mats for a minimum 2-inch overlap of adjacent mats.

3.5 JOINTS

A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.
1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.

B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.

1. Continue steel reinforcement across construction joints unless otherwise indicated. Do not continue reinforcement through sides of paving strips unless otherwise indicated.
2. Provide tie bars at sides of paving strips where indicated.
3. Butt Joints: Use bonding agent at joint locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
4. Doweled Joints: Install dowel bars and support assemblies at joints where indicated. Lubricate or coat with asphalt one-half of dowel length to prevent concrete bonding to one side of joint.

C. Isolation (Expansion) Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.
1. Locate expansion joints at intervals of 50 feet unless otherwise indicated.
2. Extend joint fillers full width and depth of joint.
3. Terminate joint filler not less than 1/2 inch or more than 1 inch below finished surface if joint sealant is indicated.
4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
6. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.

D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows[, to match jointing of existing adjacent concrete paving]:
1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate grooving-tool marks on concrete surfaces.
a. Tolerance: Ensure that grooved joints are within 3 inches either way from centers of dowels.

E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.6 CONCRETE PLACEMENT

A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.

B. Remove snow, ice, or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.

C. Moisten subbase 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.

D. Comply with IDOT and ACI 301 requirements for measuring, mixing, transporting, and placing concrete.

E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.

F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.

G. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.

1. Consolidate concrete along face of forms and adjacent to transverse joints with an 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 dislocating reinforcement dowels and joint devices.

H. Screed paving surface with a straightedge and strike off.

I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

J. Curbs and Gutters: Use design mixture for automatic machine placement. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing.

K. Slip-Form Paving: Use design mixture for automatic machine placement. Produce paving to required thickness, lines, grades, finish, and jointing.
1. Compact subbase and prepare subgrade of sufficient width to prevent displacement of slip-form paving machine during operations.

L. Cold-Weather Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:
1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
2. Do not use frozen materials or materials containing ice or snow.
3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.

M. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:
1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.

3.7 FLOAT FINISHING

A. General: Do not add water to concrete surfaces during finishing operations.

B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
1. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.

3.8 DETECTABLE WARNINGS

A. Detectable Warning Tile: Install detectable warning tile per manufacturer's written recommendations. .

3.9 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

B. Comply with IDOT and ACI 306.1 for cold-weather protection.

C. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.

D. Curing Methods: Cure concrete by moisture curing moisture-retaining-cover curing curing compound or a combination of these as follows:
   1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
      a. Water.
      b. Continuous water-fog spray.
      c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
   2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover, placed in widest practicable width, with sides and ends lapped at least 12 inches and sealed by waterproof tape or adhesive. Immediately repair any holes or tears occurring during installation or curing period using cover material and waterproof tape.
   3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas that have been subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating, and repair damage during curing period.

3.10 PAVING TOLERANCES

A. Comply with tolerances in IDOT and ACI 117 and as follows:
   1. Elevation: 3/4 inch.
   2. Thickness: Plus 3/8 inch, minus 1/4 inch.
   3. Surface: Gap below 10-foot- long, unleveled straightedge not to exceed 1/2 inch.
   4. Joint Spacing: 3 inches.
   5. Contraction Joint Depth: Plus 1/4 inch, no minus.
   6. Joint Width: Plus 1/8 inch, no minus.

3.11 WHEEL STOPS

A. Securely attach wheel stops to paving with not less than two galvanized-steel dowels located at one-quarter to one-third points. Install dowels in drilled holes in the paving and bond dowels to wheel stop. Recess head of dowel beneath top of wheel stop.

3.12 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
   1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.
      a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
   2. Slump: ASTM C 143/C 143M; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
   3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
   4. Concrete Temperature: ASTM C 1064/C 1064M; one test hourly when air temperature is 40 deg F and below and when it is 80 deg F and above, and one test for each composite sample.

5. Compression Test Specimens: ASTM C 31/C 31M; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
6. Compressive-Strength Tests: ASTM C 39/C 39M; test one specimen at seven days and two specimens at 28 days.
    a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.

C. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.

D. Test results shall be reported in writing to Architect, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.

E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.

F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.

G. Concrete paving will be considered defective if it does not pass tests and inspections.

H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

I. Prepare test and inspection reports.

3.13 REPAIRS AND PROTECTION

A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Architect.

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

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

D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION

SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Cold-applied joint sealants.
   2. Joint-sealant backer materials.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.4 REFERENCES

A. The Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition, herein referred to as IDOT.

1.5 FIELD CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:
   1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
   2. When joint substrates are wet.
   3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
   4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.

2.2 COLD-APPLIED JOINT SEALANTS

A. Single-Component, Self-Leveling, Silicone Joint Sealant: ASTM D 5893/D 5893M, Type SL.
   1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
      a. Crafco Inc.; RoadSaver Silicone SL.
      b. Dow Corning Corporation; 890-SL.
      c. Pecora Corporation; 300 SL.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Surface Cleaning of Joints: Before installing joint sealants, clean out joints immediately to comply with joint-sealant manufacturer's written instructions.
   1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.

3.3 INSTALLATION OF JOINT SEALANTS

A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.

B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions.

C. Install joint-sealant backings to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
   1. Do not leave gaps between ends of joint-sealant backings.
   2. Do not stretch, twist, puncture, or tear joint-sealant backings.
   3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.

D. Install joint sealants immediately following backing installation, using proven techniques that comply with the following:
   1. Place joint sealants so they fully contact joint substrates.
   2. Completely fill recesses in each joint configuration.
   3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nonsag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint:
   1. Remove excess joint sealant from surfaces adjacent to joints.
   2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.

F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING AND PROTECTION

A. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.

B. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

END OF SECTION

<INTENTIONALLY LEFT BLANK>

SECTION 321400 - UNIT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
1. Concrete pavers set in aggregate setting beds.

B. Related Requirements:
1. Section 321313 "Concrete Paving" for concrete base under unit pavers and for cast-in-place concrete curbs and gutters serving as edge restraints for unit pavers.
2. Section 321443 "Porous Unit Paving" for unit paving using grid pavers or pavers with openings between them.

1.3 ACTION SUBMITTALS

A. Product Data: For materials other than water and aggregates.

B. Product Data: For the following:
1. Pavers.

C. Sieve Analyses: For aggregate setting-bed materials, according to ASTM C 136.

D. Samples for Initial Selection: For each type of unit paver indicated.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.

B. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

1.5 FIELD CONDITIONS

A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain each type of unit paver, joint material, and setting material from single source with resources to provide materials and products of consistent quality in appearance and physical properties.

2.2 CONCRETE PAVERS

A. Sugar Grove Campus - Concrete Pavers: Solid paving units made from normal-weight concrete with a compressive strength not less than 5000 psi, water absorption not more than 5 percent according to ASTM C 140, and no breakage and not more than 1 percent mass loss when tested for freeze-thaw resistance according to ASTM C 67.
   1. Manufacturers: Subject to compliance with requirements, provide products by the following:
      a. Unilock.
   2. Thickness: Match existing.
   3. Face Size and Shape: Match existing.
   4. Color: Match existing.

2.3 AGGREGATE SETTING-BED MATERIALS

A. Sand for Leveling Course: Sound, sharp, washed, natural sand or crushed stone complying with gradation requirements in ASTM C 33/C 33M for fine aggregate.

B. Sand for Joints: Fine, sharp, washed, natural sand or crushed stone with 100 percent passing No. 16 sieve and no more than 10 percent passing No. 200 sieve.
   1. Provide sand of color needed to produce required joint color.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces indicated to receive unit paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Sweep concrete substrates to remove dirt, dust, debris, and loose particles.

3.3 INSTALLATION, GENERAL

A. Do not use unit pavers with chips, cracks, voids, discolorations, or other defects that might be visible or cause staining in finished work.

B. Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.

C. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.

D. Joint Pattern: Match and continue existing unit paver joint pattern.

E. Tolerances: Do not exceed 1/32-inch unit-to-unit offset from flush (lippage) nor 1/8 inch in 10 feet from level, or indicated slope, for finished surface of paving.

F. Tolerances: Do not exceed 1/16-inch unit-to-unit offset from flush (lippage) nor 1/8 inch in 24 inches and 1/4 inch in 10 feet from level, or indicated slope, for finished surface of paving.

3.4 AGGREGATE SETTING-BED APPLICATIONS

A. Compact soil subgrade uniformly to at least 95 percent of ASTM D 1557 laboratory density.

B. Proof-roll prepared subgrade to identify soft pockets and areas of excess yielding. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.

C. Place separation geotextile over prepared subgrade, overlapping ends and edges at least 12 inches.

D. Place aggregate base, compact by tamping with plate vibrator, and screed to depth indicated.

E. Place aggregate base, compact to 100 percent of ASTM D 1557 maximum laboratory density, and screed to depth indicated.

F. Place drainage geotextile over compacted base course, overlapping ends and edges at least 12 inches.

G. Place leveling course and screed to a thickness of 1 to 1-1/2 inches, taking care that moisture content remains constant and density is loose and uniform until pavers are set and compacted.

H. Treat leveling course with herbicide to inhibit growth of grass and weeds.

I. Set pavers with a minimum joint width of 1/16 inch and a maximum of 1/8 inch, being careful not to disturb leveling base. If pavers have spacer bars, place pavers hand tight against spacer bars. Use string lines to keep straight lines. Fill gaps between units that exceed 3/8 inch with pieces cut to fit from full-size unit pavers.
   1. When installation is performed with mechanical equipment, use only unit pavers with spacer bars on sides of each unit.

J. Vibrate pavers into leveling course with a low-amplitude plate vibrator capable of a 3500- to 5000-lbf compaction force at 80 to 90 Hz. Use vibrator with neoprene mat on face of plate or other means as needed to prevent cracking and chipping of pavers. Perform at least three passes across paving with vibrator.
   1. Compact pavers when there is sufficient surface to accommodate operation of vibrator, leaving at least 36 inches of uncompacted pavers adjacent to temporary edges.
   2. Before ending each day's work, compact installed concrete pavers except for 36-inch width of uncompacted pavers adjacent to temporary edges (laying faces).
   3. As work progresses to perimeter of installation, compact installed pavers that are adjacent to permanent edges unless they are within 36 inches of laying face.
   4. Before ending each day's work and when rain interrupts work, cover pavers that have not been compacted and cover leveling course on which pavers have not been placed with nonstaining plastic sheets to protect them from rain.

K. Spread dry sand and fill joints immediately after vibrating pavers into leveling course. Vibrate pavers and add sand until joints are completely filled, then remove excess sand. Leave a slight surplus of sand on the surface for joint filling.

L. Do not allow traffic on installed pavers until sand has been vibrated into joints.

M. Repeat joint-filling process 30 days later.

3.5 REPAIRING, POINTING, AND CLEANING

A. Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

END OF SECTION

SECTION 321443 - POROUS UNIT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Related Requirements:
1. Section 312000 "Earth Moving" for excavation and compacted subgrade.
2. Section 321313 "Concrete Paving" for cast-in-place concrete curbs that serve as edge restraints for porous paving.
3. Section 321400 "Unit Paving" for nonporous unit paving.

1.3 ACTION SUBMITTALS

A. Product Data: For materials other than aggregates.

B. Product Data: For the following:
1. Pavers.

C. Samples:
1. Full-size units of each type of unit paver indicated.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.

B. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

PART 2 - PRODUCTS

2.1 CONCRETE UNIT PAVERS

A. Source Limitations: Obtain each type of paver from single source that has resources to provide materials and products of consistent quality in appearance and physical properties.

B. Sugar Grove Campus
1. Solid Concrete Pavers for Porous Paving: Solid interlocking paving units of shapes that provide openings between units, complying with ASTM C 936/C 936M, and made from normal-weight aggregates.
2. Basis-of-Design Product: Subject to compliance with requirements, provide Eco-Optiloc by Unilock or comparable product.
3. Color: Match existing paver color.

C. Plano Campus
1. Solid Concrete Pavers for Porous Paving: Solid interlocking paving units of shapes that provide openings between units, complying with ASTM C 936/C 936M, and made from normal-weight aggregates.

2. Basis-of-Design Product: Subject to compliance with requirements, provide Eco-Optiloc by Unilock or comparable product.
3. Color: Match existing paver color.

2.2 AGGREGATE SETTING-BED MATERIALS

A. Graded Aggregate for Subbase: Sound crushed stone or gravel complying with requirements in Section 312000 "Earth Moving" for subbase material.

B. Graded Aggregate for Base Course: Sound crushed stone or gravel complying with requirements in Section 312000 "Earth Moving" for dcourse material.

C. Sand for Leveling Course: Sound, sharp, washed, natural sand or crushed stone complying with gradation requirements in ASTM C 33/C 33M for fine aggregate.

D. Separation Geotextile: Woven geotextile fabric, manufactured for separation applications; made from polyolefins or polyesters, with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured according to test methods referenced:
1. Survivability: Class 2; AASHTO M 288.
2. Apparent Opening Size: No. 60 sieve, maximum; ASTM D 4751.
3. Permittivity: 0.02 per second, minimum; ASTM D 4491.
4. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

E. Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured according to test methods referenced:
1. Survivability: Class 2; AASHTO M 288.
2. Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.
3. Permittivity: 0.5 per second, minimum; ASTM D 4491.
4. UV Stability: 50 percent after 500 hours' exposure; ASTM D 4355.

PART 3 - EXECUTION

3.1 PREPARATION

A. Proof-roll prepared subgrade according to requirements in Section 312000 "Earth Moving" to identify soft pockets and areas of excess yielding. Proceed with porous paver installation only after deficient subgrades have been corrected and are ready to receive subbase and base course for porous paving.

3.2 INSTALLATION, GENERAL

A. Do not use unit pavers with chips, cracks, voids, discolorations, and other defects that might be structurally unsound or visible in finished work.

B. Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.

C. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.

D. Tolerances:
1. Variation in Plane between Adjacent Units (Lipping): Do not exceed 1/16-inch unit-to-unit offset from flush.

2. Variation from Level or Indicated Slope: Do not exceed 1/8 inch in 24 inches and 1/4 inch in 10 feet or a maximum of 1/2 inch.

3.3 SETTING-BED INSTALLATION

A. Compact subgrade uniformly to at least 95 percent of ASTM D 1557 laboratory density.

B. Proof-roll prepared subgrade to identify soft pockets and areas of excess yielding. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.

C. Place drainage geotextile over prepared subgrade, overlapping ends and edges at least 12 inches.

D. Place aggregate subbase and base, compact by tamping with plate vibrator, and screed to depth indicated.

E. Place aggregate subbase and base, compact to 100 percent of ASTM D 1557 maximum laboratory density, and screed to depth indicated.

F. Place drainage geotextile over compacted subbase, overlapping ends and edges at least 12 inches.

G. Place leveling course, and screed to a thickness of 1 to 1-1/2 inches, taking care that moisture content remains constant and density is loose and constant until pavers are set and compacted.

3.4 PAVER INSTALLATION

A. Set unit pavers on leveling course, being careful not to disturb leveling base. If pavers have lugs or spacer bars to control spacing, place pavers hand tight against lugs or spacer bars. If pavers do not have lugs or spacer bars, place pavers with a 1/16-inch- minimum and 1/8-inch- maximum joint width. Use string lines to keep straight lines. Fill gaps between units that exceed 3/8 inch with pieces cut to fit from full-size pavers.
   1. When installation is performed with mechanical equipment, use only unit pavers with lugs or spacer bars on sides of each unit.

B. Compact pavers into leveling course with a low-amplitude plate vibrator capable of a 3500- to 5000-lbf compaction force at 80 to 90 Hz. Use vibrator with neoprene mat on face of plate or other means as needed to prevent cracking and chipping of pavers. Perform at least three passes across paving with vibrator.
   1. Compact pavers when there is sufficient surface to accommodate operation of vibrator, leaving at least 36 inches of uncompacted pavers adjacent to temporary edges.
   2. Before ending each day's work, compact installed concrete pavers except for 36-inch width of uncompacted pavers adjacent to temporary edges (laying faces).
   3. As work progresses to perimeter of installation, compact installed pavers that are adjacent to permanent edges unless they are within 36 inches of laying face.
   4. Before ending each day's work and when rain interrupts work, cover pavers that have not been compacted and leveling course on which pavers have not been placed with nonstaining plastic sheets to protect them from rain.

C. Place graded aggregate fill immediately after vibrating pavers into leveling course. Spread and screed aggregate fill level with tops of pavers.
   1. Before ending each day's work, place aggregate fill in installed porous paving except for 42-inch width of unfilled paving adjacent to temporary edges (laying faces).
   2. As work progresses to perimeter of installation, place aggregate fill in installed paving that is adjacent to permanent edges unless it is within 42 inches of laying face.
   3. Before ending each day's work and when rain interrupts work, cover paving that has not been filled with nonstaining plastic sheets to protect it from rain.

D. As work progresses, remove and replace pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

END OF SECTION

SECTION 321723 - PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes painted markings applied to asphalt and concrete pavement.

1.3 REFERENCES

A. The Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition, herein referred to as IDOT.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.
   1. Include technical data and tested physical and performance properties.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 50 deg F12.8 deg C , and not exceeding 95 deg F.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Basis-of-Design Product: Subject to compliance with requirements, provide [product indicated on Drawings] <Insert manufacturer's name; product name or designation> or comparable product by one of the following:
   1. Aexcel Inc.
   2. Benjamin Moore & Co.
   3. Color Wheel Paints & Coatings.
   4. Columbia Paint & Coatings.
   5. Conco Paints.
   6. Coronado Paint; Division of INSL-X Products Corporation.
   7. Diamond Vogel Paints.
   8. Dunn-Edwards Corporation.
   9. Ennis Traffic Safety Solutions, Inc.
   10. Frazee Paint.
   11. General Paint.
   12. Kwal Paint.
   13. M.A.B. Paints.
   14. McCormick Paints.
   15. Miller Paint.
   16. Parker Paint Mfg. Co. Inc.

17. PPG Industries.
18. Pratt & Lambert.
19. Rodda Paint Co.
20. Rohm and Haas Company; a subsidiary of The Dow Chemical Company.
21. Scott Paint Company.
22. Sherwin-Williams Company (The).

2.2 PAVEMENT-MARKING PAINT

A. Pavement-Marking Paint: Comply with IDOT Specification 1095.02 for Paint Pavement Markings.
1. Color: Match existing.

B. Glass Beads: Per IDOT Section 1095.07, Type A.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that pavement is dry and in suitable condition to begin pavement marking according to manufacturer's written instructions.

B. Proceed with pavement marking only after unsatisfactory conditions have been corrected.

3.2 PAVEMENT MARKING

A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.

B. Allow paving to age for a minimum of 30 days before starting pavement marking.

C. Sweep and clean surface to eliminate loose material and dust.

D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 16 mils.
1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils, firmly secured to pavement. Mask an extended area beyond edges of each stencil to prevent paint application beyond the stencil. Apply paint so that it cannot run beneath the stencil.
2. Broadcast glass beads uniformly into wet markings at a rate of 6 lb/gal..

3.3 PROTECTING AND CLEANING

A. Protect pavement markings from damage and wear during remainder of construction period.

B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION

AURORA DOWNTOWN CAMPUS

RIVER STREET

- Concrete
- Paver
- Asphalt
- General

>Any notes on this page, not in color do not apply to this project.

>All Work on Drive/Lot to be performed on weekends or overnight.

All Areas highlighted in Green are settled pavers than need to be removed and reset to be level with the adjacent concrete.

Re-stripe Entire Lot/Drive to match existing

DOWNER PLACE (FORMERLY KNOWN AS MILL STREET)

HOYT PLACE

GALENA BOULEVARD

Fox River

ADA RAMP 4 C5.1
WORK POINT #1 GRID A-5 N: 8766.5952 E: 6852.3016
FOXWALK LIGHT STANDARD STREET AND RETAIL LEVEL WALK (TYP.)
TREE GRATE 4 C5.3 (TYP.)
PAVEMENT TYP. DOWNER PL. 4 C5.5
MAJOR COLLECTOR PATCH (TYP) 9 C5.3
CONCRETE STAIR (6 RISERS) 3 C6.2
SEATING AREA, TYP. 7 C5.6
CITY OF AURORA CONCRETE CURB & GUTTER (TYP.) 11 C5.0
ADA RAMP 13 C5.0
DEPRESSED CURB & GUTTER 11 C5.0
SPEED TABLE 'A'
GUTTER TRANSITION 9 C5.1
ADA RAMP 13 C5.0
GROUND MOUNT HANDRAIL 4 C6.2
MAINTENANCE EDGE, TYP. 8 L1.1
PLANTER CURB (TYP.) 7 C5.0
SIGN TYPE 'A' (BY OTHERS)
SIGN 1 7 C5.1
ELECTRIC TRANSFORMER
EMERGENCY GENERATOR
SERVICE YARD (SEE ARCHITEC DRAWINGS)
DESIGNATED DUMPSTER LOCATION
RAMP
RAMP
BAS METER
CONCRETE (HEAVY DUT
PIPE BOLLARD, TYP. (12 EACH) 8 C5.5
FOXWALK LIGHT STANDARD STREET AND RETAIL LEVEL WALK (TYP.)
BENCH (TYP.) 2 C5.3
PROJECT LIMITS
TREE GRATE (TYP.) 4 C5.3
MAJOR COLLECTOR PATCH (TYP.) 9 C5.3
CITY OF AURORA CONCRETE CURB & GUTTER (TYP.) 11 C5.0
PAVEMENT TYP. RIVER ST. & GALENA BLVD 5 C5.5
ADA RAMP 3 C5.1
FOXWALK STREET SCAPE GUIDELINES
21.00' 16.77' 32.75' 8.50' 18.83' 18.83' 38.00' 38.00' 18.83' 18.84' 16.50' 33.00' 16.50' 16.50' 33.00' 16.50' 32.66'
WORK POINT #2 GRID X-5 N: 8945.0042 E: 7210.2172
ADA RAMP 3 C5.1
FOXWALK LIGHT STANDARD STREET AND RETAIL LEVEL WALK (TYP.)
CITY OF AURORA CONCRETE CURB & GUTTER (TYP.) 11 C5.0
TREE GRATE 4 C5.3 (TYP.)
FOUR STORY CONCRETE PARKING GARAGE
IRRIGATION SLEEVE, TYP.
CONCRETE PAVEMENT (LIGHT DUTY) 1 C5.0
GROUND MOUNT HANDRAIL - RAMP 6 C6.2
CONCRETE WALK WITH THICKENED EDGE 9 C5.3
GATE AT PLAY AREA 2 C5.4
BUILDING PLAZA ENLARGEMENT 16 C5.0
MAINTENANCE EDGE, TYP. 8 L1.1
WITH STEEL EDGE
PLANTING BED EDGE, TYP. 10 L1.1
SINGLE HANDRAIL 6 C5.4
DOUBLE HANDRAIL 4 C5.4
BUILDING STAIRS 1 C6.2
BUILDING STAIR CHEEK WALL 10 C6.3
CONCRETE PIER W/ VENEER & PLANTER URN TYPE A (TYP.) 2 C6.3
PLANTING BED EDGE, TYP. 10 L1.1
PLANTER CURB (TYP.) 7 C5.0
PLANTER CURB 7 C5.0
PLAY AREA SURFACE AND BASE BY OTHERS
PLAY AREA WALL 2/3 C6.1
DROP OFF AREA
3 CAR QUEUE
ADA RAMP 13 C5.0
UPLIGHT (TYP.)
ADA PARKING 5 C5.1
ADA PARKING SIGN 1 C5.1
PLANTER CURB 7 C5.0
PLANTING BED EDGE, TYP. 10 L1.1
SEATING AREA, TYP. 7 C5.6
HEAVY DUTY CONCRETE (TYP.) 2 C5.0
MAJOR COLLECTOR PATCH (TYP) 9 C5.3
SIGN 2 7 C5.1
ADA RAMP,TYP. 13 C5.0
6 C5.6
DEPRESSED CURB & GUTTER 11 C5.0
SPEED TABLE 'C'
SIGN 1 7 C5.1
SIGN TYPE 'A' (BY OTHERS)
CONCRETE PIER W/ VENEER & PLANTER URN, TYPE B
EXISTING BRIDGE ABUTMENT
SIGN 4 7 C5.1
RIVERWALK CONCRETE WALL 3,4 C6.0
CONNECT TO EXISTING PATH
CITY OF AURORA EMERGENCY BOAT LAUNCH
8' CONCRETE BAND AT ELECTRICAL MANHOLE
EXISTING CURB TO REMAIN
DEPRESSED CURB & GUTTER 11 C5.0
CONCRETE CURB PERMEABLE PAVER - SECTION (TYP.) 10 C5.0
BENCH (TYP.) 2 C5.3
SPEED TABLE 'B'
BIKE LOOP (TYP.) 1 C5.3
TRASH RECEPTACLE 3 C5.3
FLAG POLE 5 C5.3
NO WORK ON TOP OF SIDEWALK VAULT
SIGN Z 7 C5.1
ADA RAMP 13 C5.0
1" TO 2" WHOLE ROUND WASHED COBBLE STONE BETWEEN WALLS, 4" DEPTH
RIVERWALK CONCRETE WALL 7 C6.2
MODULAR BLOCK WALL 2 C6.2
FOUR STORY BRICK AND CONCRETE COMMERCIAL BUILDING NO. 31 WEST AURORA BUSINESS CENTER
CHANGE HEIGHT FOOTING 6.04 FT. SOUTH AND SW LINE
TEMPORARY AGGREGATE TRAIL TO EMERGENCY BOAT LAUNCH TO BE CONSTRUCTED BY WAUBONSEE COMMUNITY COLLEGE
PAVEMENT TYP. RIVERWALK PLAN 1 C5.6
RIVERWALK CONCRETE WALL 1 C6.0
RIVERWALK CONCRETE WALL 2 C6.0
RIVERWALK CONCRETE WALL 1 C6.1
AGGREGATE TRAIL 17 C5.0
FUTURE STAGE/ OVERLOOK
CONCRETE STAIR (4 RISERS)
CONCRETE STAIR (6 RISERS) 3 C6.2
FUTURE LOWER RIVERWALK
CONCRETE STAIR (5 RISERS) 3 C6.2
RIVERWALK CONCRETE WALL 2 C6.0
CONCRETE STAIR (6 RISERS)
PROJECT LIMITS
UNIT PAVER HERRINGBONE PATTERN
ADA PARKING - 3 CARS
FOXWALK LIGHT STANDARD RIVER LEVEL WALK (TYP.)
PARKING - 4 CARS
PARKING - 5 CARS
BENCH (TYP.) 2 C5.3
BIKE LOOP (TYP.) 1 C5.3
CONCRETE CURB PERMEABLE PAVER - SECTION (TYP.) 10 C5.0
8' (TYP.)
FOUR STORY CONCRETE PARKING GARAGE

RIVERWALK GUARDRAIL 7 C5.4
PLAY AREA FENCE 5 C5.4
FOXWALK LIGHT STANDARD - STREET AND RETAIL LEVEL WALK
FOXWALK LIGHT STANDARD - RIVER LEVEL WALK
FOXWALK BOLLARD STANDARD
UPLIGHT
IRRIGATION SLEEVE
IRRIGATION JUNCTION BOX
REGULATORY SIGN SEE 7 C5.1 FOR SIGN SCHEDULE

PLANO CAMPUS

Concrete
Paver
Asphalt
General

STATE ROUTE 34

OHW

WAUBONSEE DRIVE

MATCHLINE
MATCHLINE

R.O.W.

WAUBONSEE DRIVE

R.O.W.

T/P 64,168 (V/S) 12"DIP

San Sub Flag

Re-set Settled pavers to eliminate trip/plow hazard.

Re-Stripe Entire Lot to match existing, except as otherwise noted.

Re-set Settled pavers to eliminate trip/plow hazard.

4 spaces Red hazard striped for no parking (Fire Lane) to match current striping.

Hazard Stripe with "Fire Lane No Parking" text

PROPOSED BUILDING

NORTH END

PROPERTY LINE (PROJECT LIMITS)

SOUTH END

PROPERTY LINE (PROJECT LIMITS)

Fence

Edge of Water
On 3-13-07

MATCHLINE
MATCHLINE

LAKE PLANO

Re-set Settled Pavers to level or eliminate tripping hazards.

Transformer Pad

PROPERTY LINE (PROJECT LIMITS)

PROPERTY LINE (PROJECT LIMITS)

SUGAR GROVE CAMPUS
ASPHALT REPAIRS

College Drive
Circle Drive
Waubonsee Drive
OPS
APC
HCC
SCI
ERK
FLD
AKL
WGL
AUD
COL
STC
VON
BDE
DKN
CER
AB
BLDG A
Kiln Shelter
N1
N2
N4
N5
N8
S1
S2
S3
S5
S6

CF/SC/RS Entire OPS building Lot
Mill & re-surface at inlets (3) to address cracking & settlement
SC/RS
Various Asphalt, sidewalk, curb, and grade/ landscaping changes in this area. See detail drawing(s)
Various sidewalk, curb, and grade/ landscaping changes in this area. See detail drawing(s)
CF/SC/RS
CF/SC/RS Entire Lot & Adjacent Roads
CF/SC/RS Entire Lot & Adjacent Roads
CF/SC/RS Entire Lot & Adjacent Roads
Re-Stripe ADA Spaces
Add additional ADA spaces here
CF/SC/RS Drive
CF/SC/RS whole asphalt area North side of AKL, NOTE: STRIPING HAS BEEN SIGNIFICANTLY REVISED AND NEEDS TO BE REPLACED TO MATCH EXISTING
CF/SC/RS asphalt path from HCC to AKL & HCC to DKN
SC asphalt path from Northwest AKL to Southwest WGL
Mill & resurface significant cracks, deteriorated shoulder, and transitions to concrete at DKN to eliminate trip hazards. (9 locations, aprox 430 total sq ft)
Restore stone shoulders along Circle Drive from West DKN building to the Kiln Shelter.
Add Stop Bar
Mill & Resurface badly cracked Asphalt.
CF/SC/RS remainder of path
CF/SC/RS Entire path
Mill & resurface aprox 85 ft of path nearest Lot S5 (est 855 sq ft)
CF/SC/RS Entire Lot
Restore stone shoulders along Waubonsee Drive from South entrance to Lots S5 & S6, and from Lots S5 & S6 to intersection with Circle Drive.
Mill & Resurface asphalt shoulders of rd (aprox 300 sq ft)
Mill & Resurface Asphalt at transition to concrete (aprox 80 sq ft)

RED text = Asphalt
BLUE text = Concrete
GREEN text = Pavers
FUSCIA = General Notes or Striping only
Note: Some concrete (curb) repairs may also require asphalt to be repaired after the curb replacement

CF/SC/RS = Crack Fill, Seal coat, & Re-Stripe

SUGAR GROVE CAMPUS
CONCRETE REPAIRS

College Drive
Circle Drive
Waubonsee Drive

OPS
N5
N4
N2
N1
N8
S1
S2
S3
S5
S5 Path #1
S5 Path #2
S6
APC
HCC
SCI
ERK
FLD
AKL
WGL
COL
AUD
DKN
VON
BDE
CER
STC
BLDG A
AB
Kiln Shelter

Various Asphalt, sidewalk, curb, and grade/ landscaping changes in this area. See detail drawing(s)

Various sidewalk, curb, and grade/ landscaping changes in this area. See detail drawing(s)

Saw cut, remove & re-pour concrete to remove lip at dock ramp (aprox 40 sq ft)

Remove & Replace Damaged Curb(4) (aprox 20 LF)

Install Flat Curb (aprox 30 LF)

Replace Damaged Curb @ spillway (aprox 8 LF)

Replace concrete ramps, including replacing steel plates with red plastic domed ADA plates (aprox 114 sq ft)

Remove and Re-Settled Pavers to eliminate trip hazards (aprox 200 sq ft)

Replace concrete sidewalk including installing new red plastic domed ADA Plates. 18x19 (342 sq ft)

(2) 9x9 (81 sq ft)

Replace concrete ramps, including replacing Steel Plates with red plastic domed ADA plates (14 total, aprox 531 sq ft)

(10) 3x9 (27 sq ft)

Re-Stripe ADA Spaces

Add'l added ADA spaces here

Replace concrete ramps, including replacing steel plates with red plastic domed ADA plates (4) (aprox 396 sq ft)

Approx 9x9 & 9x11 (aprox 180 sq ft)

Replace Damaged Curb (aprox 14 LF)

Re-Set Settled Pavers (aprox 200 sq ft)

Re-set Settled & replace damaged pavers & demolish 1ft x 1ft concrete from removed bollard. (est 200 sq ft)

Skim coat walk @ top of Gas vault (24 sq ft)

Replace Damaged Curb (aprox 3 LF)

Replace Damaged Curb (aprox 22 LF)

Re-Set Settled & replace damaged pavers (est 225 sq ft)

Replace concrete ramps, including replacing Steel Plates with red plastic domed ADA plates (4) (aprox 520 sq ft)

Replace Damaged Curb (aprox 12 LF)

(est 225 sq ft)

Demolish paver circle, surrounding curbs & surrounding sidewalks to nearest joint & replace with standard concrete sidewalk (aprox 711 sq ft)

Replace Damaged & Re-set Pavers & eliminate trip hazards @ curbs/walks

(est 80 sq ft)

Replace Damaged Curb (6 LF)

Replace Damaged Curb (6 LF)

Skim coat walk @ top of Gas vault (24 sq ft)

Replace damaged walk (aprox 75 sq ft)

Replace Damaged Pavers

Re-Set settled pavers (Est 64 sq ft of pavers to re-set)

Replace cracked & Settled sidewalk (aprox 250 Sq Ft)

Re-set Settled Pavers to eliminate trip hazards @ curbs/walks & re-caulk expansion joints. (Est 144 Sq ft of pavers to re-set)

Replace Damaged Curb (aprox 8 LF)

Remove existing curb & install spillway (aprox 12 LF)

Cut out & replace damaged concrete@ pothole (aprox 60 sq ft)

RED text = Asphalt
BLUE text = Concrete
GREEN text = Pavers
FUSCIA = General Notes or Striping only
Note: Some concrete (curb) repairs may also require asphalt to be repaired after the curb replacement

CF/SC/RS = Crack Fill, Seal coat, & Re-Stripe

Restore stone shoulders along Circle Drive from Kiln Shelter to West DKN building. (Stretch of Circle Drive from West of DKN to West of N8 was re-surfaced & re-stoned in 2016)

Restore stone shoulders along Waubonsee Drive from South entrance to Lots S5 & S6, and from Lots S5 & S6 to intersection with Circle Drive.

SUGAR GROVE CAMPUS COMBINED SCOPE OF WORK

College Drive
Circle Drive
Waubonsee Drive
CF/SC/RS Entire OPS building lot
Mill & re-surface at inlets (3) to address cracking & settlement
SC/RS
Various Asphalt, sidewalk, curb, and grade/ landscaping changes in this area. See detail drawing(s)
Saw cut, remove & re-pour concrete to remove lip at dock ramp (aprox 40 sq ft)
OPS
Various sidewalk, curb, and grade/ landscaping changes in this area. See detail drawing(s)
CF/SC/RS
CF/SC/RS Entire Lot & Adjacent Roads
Remove & Replace Damaged Curb(4) (aprox 20 LF)
Install Flat Curb (aprox 30 LF)
N5
Replace Damaged Curb @ spillway (aprox 8 LF)
Replace concrete ramps, including replacing steel plates with red plastic domed ADA plates (aprox 114 sq ft)
Remove and Re-Settled Pavers to eliminate trip hazards (aprox 200 sq ft)
APC
16x19 (342 sq ft)
(2) 30x9 (81 sq ft)
(10) 3x9 (27 sq ft)
N4
Replace concrete ramps, including replacing Steel Plates with red plastic domed ADA plates (15)
Replace Damaged Curb (aprox 8 LF)
CF/SC/RS Entire Lot & Adjacent Roads
Replace concrete ramps, including replacing steel plates with red plastic domed ADA plates (4) (aprox 396 sq ft)
Re-Stripe ADA Spaces
N2
Alow added ADA spaces here
Replace Damaged Curb (aprox 14 LF)
Replace Damaged Curb (aprox 14 LF)
CF/SC/RS Drive
Re-Set Settled Pavers (aprox 200 sq ft)
Re-Set Settled & replace damaged pavers & demolish 1ft x 1ft concrete from removed bollard. (est 200 sq ft)
Skim coat walk @ top of Gas vault (24 sq ft)
Replace Damaged Curb (aprox 3 LF)
Replace Damaged Curb (aprox 22 LF)
Re-Set Settled & replace damaged pavers (est 225 sq ft)
FLD
ERK
SCI
Replace Damaged Curb (aprox 12 LF)
(est 225 sq ft)
Replace concrete ramps, including replacing Steel Plates with red plastic domed ADA plates (4) (aprox 520 sq ft)
HCC
CF/SC/RS whole asphalt area North side of AKL, NOTE: STRIPING HAS BEEN SIGNIFICANTLY REVISED AND NEEDS TO BE REPLACED TO MATCH EXISTING
Demolish paver circle, surrounding curbs & surrounding sidewalks to nearest joint & replace with standard concrete sidewalk (aprox 711 sq ft)
AKL
Replace Damaged & Re-set Pavers & eliminate trip hazards @ curbs/walks
(est 80 sq ft)
Replace Damaged Curb (6 LF)
Replace Damaged Curb (6 LF)
CF/SC/RS asphalt path from HCC to AKL & HCC to DKN
SC asphalt path from Northwest AKL to Southwest WGL
Skim coat walk @ top of Gas vault (24 sq ft)
WGL
AUD
COL
Replace damaged walk (aprox 75 sq ft)
Replace Damaged Pavers
N1
Re-Set settled pavers (Est 64 sq ft of pavers to re-set)
Mill & resurface significant cracks, deteriorated shoulder, and transitions to concrete at DKN to eliminate trip hazards. (9 locations, aprox 430 total sq ft)
Replace cracked & Settled sidewalk (aprox 130 Sq Ft)
Re-set Settled Pavers to eliminate trip hazards @ curbs/walks & re-caulk expansion joints. (Est 144 Sq ft of pavers to re-set)
SC/RS
Circle Drive
DKN
VON
BDE
STC
CER
Replace Damaged Curb (aprox 8 LF)
Kiln Shelter
Restore stone shoulders along Circle Drive from West DKN building to the Kiln Shelter.
S1
CF/SC/RS
BLDG A
Add Stop Bar
S3
S2
Mill & Resurface badly cracked Asphalt.
CF/SC/RS
Remove existing curb & install spillway (aprox 12 LF)
CF/SC/RS remainder of path
CF/SC/RS
Circle Drive
S5 Path #1
S5 Path #2
CF/SC/RS Entire path
Mill & resurface aprox 95 ft of path nearest Lot S5 (est 855 sq ft)
Waubonsee Drive
S5
CF/SC/RS Entire Lot
S6
Restore stone shoulders along Waubonsee Drive from South entrance to Lots S5 & S6, and from Lots S5 & S6 to intersection with Circle Drive.
Mill & Resurface asphalt shoulders of rd (aprox 300 sq ft)
Waubonsee Drive
AB
CF/SC/RS
Cut out & replace damaged concrete@ pothole (aprox 60 sq ft)
Mill & Resurface Asphalt at transition to concrete (aprox 80 sq ft)

RED text = Asphalt
BLUE text = Concrete
GREEN text = Pavers
FUSCIA = General Notes or Striping only
Note: Some concrete (curb) repairs may also require asphalt to be repaired after the curb replacement

CF/SC/RS = Crack Fill, Seal coat, & Re-Stripe