CONTRACT DOCUMENTS
&
TECHNICAL SPECIFICATIONS

PROJECT NOS.

AID 2013-1
Alley from 1st Street to 2nd Street-St Joseph Avenue to Kansas Avenue

AID 2015-1
Saunders Avenue to Bellevue Avenue – 6th Street to 7th Street

MAP 2016
Minnesota Avenue and Intersection Improvements – 13th Street to 14th Street

CITY OF HASTINGS

November 2016

REGISTERED PROFESSIONAL ENGINEER
DAVID L. WACKER
E7030
STATE OF NEBRASKA
10/25/2016

ADVERTISEMENT FOR BIDS

The City of Hastings, Nebraska, will receive bids for the construction of the following projects:

Project No. AID 2013-1
Alley Improvement District
1st Street to 2nd Street – St Joseph Avenue to Kansas Avenue

Project No. AID 2015-1
Alley Improvement District
6th Street to 7th Street – Saunders Avenue to Bellevue Avenue

Project No. MAP – 2016
13th Street to 14th Street – Minnesota Avenue and Intersections

until 10:00 a.m. at the Office of the City Clerk of Hastings, Nebraska, on the 21st day of November, 2016, at which time and place all bids will be publicly opened and read aloud.

The Contract Documents, including plans and specifications, are on file at the Office of the City Clerk of Hastings, 220 N Hastings Avenue, Hastings, Nebraska 68901. Copies of the plans and specifications in electronic (PDF) format may be obtained by contacting: Diane Parker, 402-461-2330, Email dparker@cityofhastings.org or the City of Hastings Website www.cityofhastings.org/bids. A paper copy is available by depositing $75.00, plus sales tax ($5.25), plus shipping. (Non-refundable).

Each bid shall be accompanied by a certified check, drawn on a solvent bank in the State of Nebraska, or a bid bond in an amount of not less than five percent (5%) of the total bid of all contract construction costs, made payable to the City Treasurer of the City of Hastings, Nebraska, as security that the bidder to whom the contract may be awarded will enter into a contract to build

all the improvements in accordance with this notice and give bond in the sum hereinafter provided for the construction of improvements.

No bid shall be withdrawn after opening of bids without the consent of the City of Hastings, Nebraska, for a period of thirty (30) days after scheduled time of closing bids.

Time is of the essence in this contract. In evaluating bid(s) received, the City will consider the timelines of completion of prior construction contracts, existing workload of bidders and available manpower that bidder commits to the project.

The successful bidder will be required to furnish a Performance Bond in the sum of the full amount of the Contract within ten (10) days of the date of award. No additional time will be allowed the Contractor for providing the Performance Bond.

DATED AT HASTINGS, NEBRASKA, this 28th day of October, 2016.

CITY OF HASTINGS, NEBRASKA

_____
Kimberly S Jacobitz, City Clerk

Publish: November 2, 2016
November 9, 2016

Furnish 2 proofs of publication

NOTE TO CONTRACTORS/ SPECIAL PROVISIONS:

1. Contractors are requested to fill in each individual unit quantity blank and totals of each respective unit

2. Please check to verify that your bid surety accompanies your bid. Bids not accompanied with a surety will not be read.

3. These projects are Special Assessment Districts.

4. Contract, if awarded, will be awarded to the low bidder bid on an individual basis for each Project AID 2013-1, AID-2015-1 and MAP 2016.

5. These contract documents will serve any individual project that may be awarded a separate or individual contract based on bid.

6. It is understood and agreed that time is of the essence in the contract. Should the Contractor fail to perform the work within the period of time stipulated in the Contract Agreement, the Contractor shall pay to the City, as liquidated damages and not a penalty, (see table below) per working day of default unless extensions of time granted by the City specifically provide for the waiving of liquidated damages. Deductions will be in accordance with Article 108.08 of the 2007 Nebraska Department of Roads Standard Specifications for Highway Construction and its supplements and revisions.

SCHEDULE OF LIQUIDATED DAMAGES

CONTRACT AMOUNT		LIQUIDATED DAMAGES
More Than	**Up To And Including**	**Per Working Day**
$0	$25,000	$63
$25,000	$50,000	$105
$50,000	$100,000	$154
$100,000	$500,000	$210
$500,000	$1,000,000	$315
$1,000,000	$2,000,000	$420
$2,000,000	$5,000,000	$630
$5,000,000	$10,000,000	$840
$10,000,000		$980

7. The undersigned bidder agrees and understands that bidder will be appointed as Purchasing Agent for the City and will be issued an Exempt Sales Certificate to be used in accordance with specified requirements.

8. This contract shall be awarded only to responsible contractors who possess the potential ability to perform successfully under the terms and conditions of the contract. Consideration shall be given to such matters as contract integrity, record of past performance, financial and technical resources or accessibility to other necessary resources.

9. See attached Special Provisions below as outlined in the forgoing:

SPECIAL PROVISIONS

MINNESOTA AVENUE PAVING IMPROVEMENTS

TRAFFIC PHASING

The Contractor shall develop a construction schedule and phasing plan in accordance with the plans. These shall be submitted to the City's Project Manager for approval prior to starting work on the project. The Contractor's schedule shall outline the anticipated start and completion dates for the various tasks required to substantially complete the various segments of the project as well as the proposed final completion date for the project. The schedule shall breakdown the work to outline all major construction activities including grading, paving of the phased roadway segments, storm sewer work, and final grading and seeding. The Contractor's schedule shall be developed with consideration given to minimizing disruption to the residential properties.

The Contractor shall not close any portion of the public roads or drive access to adjacent residents without the permission of the City. The Contractor shall at all times, to the extent practicable, provide facilities of ingress and egress to and from the public roadway to maintain access to adjacent properties throughout the duration of the project. This may require the Contractor to construct some temporary roadways which will be considered subsidiary to gravel surfacing.

Prior to the start of construction, a public meeting will be required for the Contractor to attend to present a phasing plan and to the public. The phasing plan may be revised upon comments and concerns of the residents. The Contractor may present a different phasing plan to the public. If there is a consensus between the residents along the revised phase, the revised plan will be considered by the City for approval.

At completion of the driveway reconstruction on each phase, the Contractor shall promptly remove and dispose of all debris and waste material from the site. The Contractor shall limit the time within the right of way for each phase that is disturbed to the time required to complete the work as detailed on the plans. If the Contractor will require additional space outside the street right-of-way for storage of equipment and material during the duration of the project, then the Contractor, at his own expense, will be responsible to secure temporary property rights from the adjacent property owners.

TRAFFIC CONTROL AND CONSTRUCTION SIGNING

The Contractor shall furnish, install, and maintain throughout the course of the construction all necessary construction signs, traffic control signs, barricades and other warning devices to inform the traveling public of the construction within the project area. This shall include the removal or covering of existing traffic control signs, which are in conflict with the temporary construction

signing. Existing traffic control signs, which are removed, shall be delivered to the City for storage during the duration of the construction. At the completion of the work, the Contractor shall remove all temporary signs and construction barricades and restore all permanent traffic control signs along the roadways (which were covered during the construction) as directed by the City.

Prior to the start of construction, the contractor shall submit a traffic control plan to City for approval. The City reserves the right to modify the proposed construction signing and barricade plan as necessary throughout the course of the work to assure the safety of the traveling public. The Contractor shall coordinate and schedule all street closures with the City.

Payment for furnishing, installation, maintenance, and removal of all traffic control devices including construction signs and barricades for each phase of the project shall be paid for at the contract unit price bid for "Traffic Control". This work shall also include submittal of all construction phase revisions and all necessary removal, reinstallation or covering of existing traffic control signs which may conflict with the proposed construction signing and traffic control plan.

EARTHWORK

Roadway grading, including general excavation and embankment construction, shall be completed as shown on the plans. The Contractor shall strip and stockpile topsoil at all areas to be disturbed during construction as directed by the Engineer prior to start of grading work. The stockpiled topsoil shall be redistributed on the areas to be seeded or sodded as part of the finish grading work for the project. The topsoil shall be spread to an approximate depth of 6" inches at all areas to be seeded or sodded. The work associated with stripping, stockpiling and redistributing topsoil will not be paid for directly but shall be considered subsidiary to this item.

Clearing and grubbing of stumps, shrubs, small trees, and grasses will be considered subsidiary to this item. No direct payment for clearing and grubbing will be made. This work shall include, but not be limited to, the removal and disposal all stumps, shrubs, trees, and weeds within the limits of construction

The roadbed grading shall be compacted to a minimum of 95% of the standard proctor dry density. All other fill areas shall be compacted to 92% of the standard proctor density.

Payment for general roadway grading including excavation and construction of embankments shall be paid for at the contract unit price bid per lump sum for the pay item "Earthwork". There are approximately 925 cubic yards of excavation, and 100 cubic yards of embankment for the project utilizing a 1.0 balance factor. These quantities shall be considered established quantities, and no additional measurement or compensation will be made. This work shall include all items of work associated with the general roadway grading including stripping and stockpiling topsoil, general clearing and grubbing, furnishing off site borrow if needed, disposal of excess excavated materials, hauling, placement, compaction, water required to achieve compaction, earth shoulder construction, and final grading (including redistribution of topsoil).

PAVEMENT SUBGRADE PREPARATION

Where feasible, any areas in the construction area to receive structural fill should be proofrolled with a loaded dump truck, scraper, or similar rubber-tired equipment weighing at least 15 tons. Proofrolling should also be performed in areas requiring excavation after rough finished subgrade elevation is achieved. Proofrolling operations should be observed by the Engineer. Unstable and

unsuitable soils which are revealed by proofrolling, and which cannot be adequately densified in place, should be removed under the direction of the Engineer. It may be necessary to perform selective removal of soft, wet soils and/or stabilize existing soft soils in-place or fly ash stabilization.

To prepare the subgrade, the top 6 inches of the subgrade should be scarified and re-compacted to a minimum of 95 percent of the maximum dry density as determined by ASTM D698, Standard Proctor. The moisture content shall be between -1 and +3 percent of optimum content as determined by ASTM D698 Standard Proctor. The final subgrade should be proofrolled immediately prior to placement of the concrete to detect any localized areas of instability. Unstable areas should be reworked to provide a uniform subgrade.

The recommendation generally provided during construction for dealing with surficial wet conditions would be to scarify the top 12 inches of soil and allow the soils to dry back to a moisture content suitable for obtaining the required compaction. Because possibility highly plastic silt or clay, (MH) or (CH) soils in the area, such soils may need to be overexcavated and replaced with material meeting the ***Structural Fill*** Special Provision

Preparation of the subgrade at roadways, intersections, and drives as shown on the plans shall not be measured and paid for directly, but shall be subsidiary to the pay item for the Portland Cement Concrete pavement to be used at the roadway, intersection or drive.

STRUCTURAL FILL

Any imported fill materials shall have a liquid limit of less than 45, and a plasticity index of less than 20. Whenever possible, highly plastic silt (MH) or clay (CH) fill soils should not be placed within the upper 18 inches of pavement subgrades. In addition to the plasticity characteristics, the fill soils should also be relatively free of organic materials (less than about 2 percent by weight) and other deleterious material. Also, the soils should preferably not contain particle sizes larger than 3 inches.

Laboratory Proctor compaction tests and classification tests should periodically be performed on representative samples obtained from the proposed borrow areas to provide data necessary to determine acceptability and for quality control. The moisture content of suitable borrow soils should generally be no more than 3 percentage points below or above the optimum value at the time of compaction. More stringent moisture limits may be necessary with certain soils. Adjustment of moisture content may be necessary to allow compaction in accordance with project specifications.

Suitable fill material should be placed in thin lifts (lift thickness depends on type of compaction equipment, but in general, lifts of 8 inches loose measurement are recommended). The soil should be compacted by heavy compaction equipment such as a Caterpillar 815 sheepsfoot roller. Within small excavations, such as in utility trenches, around manholes or behind retaining walls, we recommend the use of "wacker packers", "Rammax" compactors or vibrating plate compactors to achieve the specified compaction. A loose lift thickness of 4 inches is recommended in small area fills.

ADJUSTING WATER VALVE BOX TO GRADE

The payment for adjusting the valve boxes to grade shall be paid for by “Each” for the bid item “Adjust Water Valve Box to Grade.”

OVEREXCAVATION

The Contractor shall excavate and dispose of unsuitable materials that are encountered below areas to receive pavement and replace it with off site borrow material as directed by the Engineer. The quantity of overexcavated material shall be measured based upon the field survey of the excavated area and the final grades and lines shown on the cross sections.

Payment for overexcavation of unsuitable material shall be made at the contract unit price bid per "Cubic Yard" for the pay item "Overexcavation". This payment shall be full compensation for all excavation and removal of unsuitable material including disposal of unsuitable material and furnishing, placement and compaction of off site borrow material to replace the unsuitable material as directed by the Engineer.

REMOVE AND RELOCATE MAILBOX

The Contractor shall remove and relocate existing mailboxes as shown on the plans or as directed by the Engineer. The mailboxes shall be temporarily moved to a location acceptable to the local postmaster during construction of the project. The mailboxes shall be reset following completion of the pavement and grading for the project in a location and manner similar to the existing installation. The Contractor shall exercise extreme care so as not to damage the existing mailboxes during removal and relocation. The Contractor shall be responsible for repair or replacement of any mailbox which is damaged as a result of his work on the project.

Removal of concrete footings at mailboxes shall not be paid for directly but shall be considered part of the work for the removal and relocation of the mailbox. Payment for the removal and relocation of mailboxes will not be differentiated by size or type and shall be paid for at the contract unit price bid per "Each" for the pay item "Remove & Reset Mailbox." This shall be full compensation for all labor, equipment, and material required for removal, disposal, back fill and compaction, and all other incidental items required to remove and relocate the mailboxes.

CURB INLET SEDIMENT FILTER

The Contractor shall select curb inlet filters from the Nebraska Department of Roads Approved Products List. The Contractor shall install the sediment filters as per the manufacturer's installation guidelines at all curb inlets until stabilization has been achieved as per the SWPPP. This shall be full compensation for all materials and work necessary to place, install, maintain and remove the curb inlet sediment filters. This work will be measured by "Each" and will be paid for by the bid item "____ Inlet Sediment Filter."

DETECTABLE WARNING PANELS

The Contractor shall select Detectable Warning Panels from the Nebraska Department of Roads Approved Products List and shall be red in color. The Contractor shall install the Detectable Warning Panels as per the manufacturer's installation guidelines at all handicapped ramps. This shall be full compensation for all materials and work necessary to provide and install the Detectable Warning Panels. The payment for Detectable Warning Panels shall be paid for by "Square Foot" for the bid item "Detectable Warning Panels."

TEMPORARY EROSION CONTROL

This work shall include installation of silt fence or temporary silt checks around inlets and at the stormwater outlets in accordance with the approved Storm Water Prevention Plan developed by

the Contractor and the City. Temporary silt checks shall be on NDOR approved products list for Type "Synthetic" or "Wattle". Temporary erosion control shall be installed according to manufacturer's specifications. The installation of the temporary erosion shall be full compensation for all the labor, equipment, material, excavation, backfill, stakes, maintenance, disposal, and all other incidental items required for this item shall be paid for by "Linear Foot" for the bid item "Temporary Erosion Control".

NPDES PERMIT

A Construction Storm Water Notice of Intent (CSW-NOI) for this project will be prepared by the City. Both the City and Contractor shall be listed as Certifying Officials and shall be required to sign the Notice of Intent. The Permit is issued under the General Permit of the National Pollutant Discharge Elimination System for Storm water Discharges from Construction Sites to Waters of the State of Nebraska (NPDES Permit Number NER 110000), see Appendix.

The City and Contractor shall develop a Storm Water Pollution Prevention Plan (SWPPP) to: minimize erosion on disturbed areas; minimize the discharge of sediment and other pollutants in storm water runoff; and maintain compliance with the requirements of NPDES Permit Number NWR110000. The City and Contractor shall familiarize himself with the requirements of NPDES Permit Number NWR 110000, SWPPP requirements, monitoring requirements and procedures, and periodic reporting and record keeping requirements respectively. The City shall be responsible for maintenance of the SWPPP and the Contractor shall be responsible for the implementation of the SWPPP. Physical erosion and sediment control structures used at the site shall be sufficient to comply with the requirements of the permit which are to be installed and maintained by the Contractor.

CONCRETE PAVEMENT

This section shall supplement the City of Hasting specifications. All cement shall be NDOR approved Type 1P.

MAP 2016

Water main and sewer main contracts are scheduled for separate letting by the developer. Sewer main must be placed in conjunction with the removal of the 13th street intersection. At the date of this writing, October 25, 2016, contracts are to be secured for fall and earlier spring construction.

Class of Concrete (1)	Base Cement Type*	Portland Cement (Min. lb/cy)	Pre-Blended Class Fly Ash* (Min. lb/cy)	GGBFS Slag (Min. lb/cy)	Class C Fly Ash (Min. lb/cy)	Silica Fume (Min. lb/cy)	Total Cementitious Materials (Min. lb/cy)	Total Agg. (Min. lb/cy)	Total Agg. (Max. lb/cy)	Coarse Agg. (%) (3)	Type of Coarse Agg.****	Air Content (% Min.-Max.) (2)	Water/Cement Ratio Max. (4)	28-Day Required Strength (Min. psi)
47B**	1P	423	141	0	0	0	564	2850	3150	30±3	Limestone	6.5 -9.0	0.45	3500
47B***	1P	423	141	0	0	0	564	2850	3150	30±3	Limestone	6.0 -8.5	0.45	3500
47BD	1P	494	164	0	0	0	658	2500	3000	30±3	Limestone	6.0 -8.5	0.42	4000
47B-HE	1P	564	188	0	0	0	752	2500	3000	30±3	Limestone	6.0 -8.5	0.40	3500
BX	1P	423	141	0	0	0	564	2850	3150	0	0 (5)	6.0 -8.5	0.48	3000

(1) Each class shall identify the minimum strength requirement. (For example, 47B-3500, where the last four digits indicate the strength in pounds per square inch. In the chart, strength of 3500 psi is indicated for 47B-3500; however, other strengths may be authorized elsewhere in the contract. The classes shown in the chart are typical examples.)
All classes of concrete shall be air-entrained.
A slump test shall be performed to check for consistency and/or workability. Any increase in slump must be pre-approved by the Engineer.
A water reducer admixture shall be used at the manufacturer's recommendations.

(2) As determined by ASTM C 138 or ASTM C 231.

(3) Coarse aggregate shall be limestone unless otherwise specified.

(4) The Contractor is responsible to adjust the water/cement ratio so that the concrete supplied achieves the required compressive strength without exceeding the maximum water/cement ratio. The minimum water/cement ratio for any slip form concrete pavement is 0.38.

(5) Single aggregate (sand-gravel) used for these classes of concrete.

(6) 47BFS is an acceptable substitute for 47B and 47BDFS is an acceptable substitute for 47BD.

(*) Refer to the NDOR approved products list for acceptable 1P cements.

(**) For slip form applications.

(***) For hand-pours and substructures applications.

(****) Quartzite aggregate can be used in place of limestone providing the aggregate meets Paragraph 3.b. of Subsection 1033.02.

CITY OF HASTINGS

PROPOSAL

(ALL BIDS MUST BE SUBMITTED ON THIS FORM)

TO MEMBERS OF THE CITY COUNCIL
CITY OF HASTINGS
HASTINGS, NEBRASKA

THE UNDERSIGNED, having examined the plans, specifications, general and special conditions and other contract documents, including any addenda thereto, and being acquainted with and fully understanding (a) the extent and character of the work covered by this proposal, (b) the location, arrangement, character, conditions of existing streets, roads, highways, railroads, pavements, surfacing, walks, driveways, curbs, gutters, trees, sewers, utilities, drainage courses and structures and other installations, both surface and underground, which may affect or be affected by the proposed work, (c) the nature and extent of the embankments and excavations to be made and the type, character and general condition of materials to be filled and excavated, (d) the necessary handling and re-handling of excavated materials, (e) the difficulties and hazards to the work which might be caused by storm and flood water, (f) local conditions relative to labor, transportation, hauling and rail facilities and (g) all other factors and conditions affecting or which may be affected by the work;

HEREBY PROPOSES to furnish all required materials, supplies, equipment, tools and plant, to perform all necessary labor and supervision and to construct, install, erect, equip and complete all work stipulated in, required by and in accordance with the contract documents and the plans, specifications and other documents referred to therein (as altered, amended or modified by all addenda thereto) for and in consideration of the following proposal for:

Project Nos.

Project No. AID 2013-1

Alley from 1st Street to 2nd Street – St Joseph Avenue to Kansas Avenue

Project No. AID 2015-1

Saunders Avenue to Bellevue Avenue – 6th Street to 7th Street

Project No. MAP – 2016

13th Street to 14th Street – Minnesota Avenue and Intersections

PROJECT QUANTITIES
PROJECT NO. AID 2013-1
ALLEY FROM 1ST STREET TO 2ND STREET
ST JOSEPH AVENUE TO KANSAS AVENUE

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES	UNIT	UNIT PRICE	AMOUNT
1	Remove Pavement	738.8	S.Y.	$ _____	$ _____
2	Remove Existing Storm Sewer Inlets	7.0	EACH	$ _____	$ _____
3	Remove Existing Storm Sewer Pipe	36.0	L.F.	$ _____	$ _____
4	Remove Existing Railroad Tracks and Ties	254.5	L.F.	$ _____	$ _____
5	Remove Unsuitable Material for Sub-base	250.0	C.Y.	$ _____	$ _____
6	Remove Existing Roof Drain	31.0	L.F.	$ _____	$ _____
7	Build 8" P.C.C. Pavement 47B-3500	581.3	S.Y.	$ _____	$ _____
8	Build 8" P.C.C. Pavement 47B-High Early-3500	157.0	S.Y.	$ _____	$ _____
9	Build Storm Sewer Inlet w/Frame and Grate	7.0	EACH	$ _____	$ _____
10	Build 12" R.C.P. Storm Sewer Pipe Class III	18.0	L.F.	$ _____	$ _____
11	Build 8" D.I.P. Roof Drain	31.0	L.F.	$ _____	$ _____
12	Build Class C Flyash Stabilized Subgrade	35.0	TONS	$ _____	$ _____
13	Build Embankment for Subgrade	250.0	C.Y.	$ _____	$ _____
14	Adjust Manhole to Grade	1.0	EACH	$ _____	$ _____
15	Adjust Valve Box to Grade	1.0	EACH	$ _____	$ _____
16	Fabric Silt Fence, Low Porosity	140.0	L.F.	$ _____	$ _____
17	Traffic Control, Barricades, and Maintenance thereof	1.0	L.S.	$ _____	$ _____

TOTAL $ _____

Amount shall be shown in both words and figures.
In case of a discrepancy, the amount shown in words will govern.

PROJECT QUANTITIES
PROJECT NO. AID 2015-1
ALLEY SAUNDERS AVENUE TO BELLEVUE AVENUE
BETWEEN 6TH STREET TO 7TH STREET

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES	UNIT	UNIT PRICE	AMOUNT
1	6" P.C. C. Concrete Pavement 47B-3500	492	S.Y.	$ _____	$ _____
2	5" P.C.C. Concrete Driveway 47B-3500	72	S.Y.	$ _____	$ _____
3	4" P.C.C. Concrete Sidewalk 47B	20	S.Y.	$ _____	$ _____
4	Gravel Surfacing	13.0	Tons	$ _____	$ _____
5	Concrete Header	12	L.F.	$ _____	$ _____
6	Install Storm Sewer Grate & Adjust to Grade	1	EACH	$ _____	$ _____
7	Inlet Sediment Filter	1	EACH	$ _____	$ _____
8	Adjust Manhole to Grade	1	EACH	$ _____	$ _____
9	Remove Pavement	30	S.Y.	$ _____	$ _____
10	Remove Sidewalk	20	S.Y.	$ _____	$ _____
11	Traffic Control	1	L.S.	$ _____	$ _____
12	Earthwork	1	L.S.	$ _____	$ _____
13	Overexcavation	100	C.Y.	$ _____	$ _____

TOTAL $ _____

Amount shall be shown in both words and figures.

In case of a discrepancy, the amount shown in words will govern.

PROJECT QUANTITIES
PROJECT NO. MAP - 2016
Minnesota Avenue and Intersection Improvements
13th Street to 14th Street

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITIES	UNIT	UNIT PRICE	AMOUNT
1	MOBILIZATION	1	L.S.	$ _____	$ _____
2	8" P.C. CONCRETE PAVEMENT 47B (3500)	3,168	S.Y.	$ _____	$ _____
3	6" P.C. CONCRETE DRIVEWAY 47B (3500)	175	S.Y.	$ _____	$ _____
4	4" P.C. CONCRETE SIDEWALK BX (3000)	27	S.Y.	$ _____	$ _____
5	DETECTABLE WARNING PANEL	8.0	S.F.	$ _____	$ _____
6	CRUSHED ROCK SURFACING	3	TON	$ _____	$ _____
7	STORM SEWER MANHOLE	1	EACH	$ _____	$ _____
8	CURB INLET	4	EACH	$ _____	$ _____
9	36" R.E. STORM SEWER PIPE	57	L.F.	$ _____	$ _____
10	24" R.E. STORM SEWER PIPE	188	L.F.	$ _____	$ _____
11	18" R.E. STORM SEWER PIPE	35	L.F.	$ _____	$ _____
12	CURB INLET SEDIMENT FILTER	4	EACH	$ _____	$ _____
13	REMOVE AND RESET MAILBOX	6	EACH	$ _____	$ _____
14	INSTALL BOLLARD	1	EACH	$ _____	$ _____
15	ADJUST VALVE BOX TO GRADE	1	EACH	$ _____	$ _____
16	REMOVE PAVEMENT	992	S.Y.	$ _____	$ _____
17	REMOVE DRIVEWAY	203	S.Y.	$ _____	$ _____
18	REMOVE SIDEWALK	26	S.Y.	$ _____	$ _____
19	REMOVE CURB INLET	2	EACH	$ _____	$ _____
20	REMOVE STORM SEWER MANHOLE	2	EACH	$ _____	$ _____
21	REMOVE STORM SEWER PIPE	191	L.F.	$ _____	$ _____
22	REMOVE DRIVEWAY CULVERT	2	EACH	$ _____	$ _____
23	REMOVE TREE	1	EACH	$ _____	$ _____
24	REMOVE WOOD LANDSCAPING	1	L.S	$ _____	$ _____
25	TRAFFIC CONTROL	1	L.S	$ _____	$ _____
26	EARTHWORK	1	L.S.	$ _____	$ _____
27	TEMPORARY EROSION CONTROL	100	L.F.	$ _____	$ _____
28	OVEREXCAVATION	500	C.Y	$ _____	$ _____
29	SEEDING	1500	S.Y.	$ _____	$ _____

TOTAL $ _____

Amount shall be shown in both words and figures.
In case of a discrepancy, the amount shown in words will govern.

The undersigned bidder agrees to furnish the required performance bond and to enter into a contract within ten (10) days after acceptance of the Proposal and further agrees to complete all work covered by the foregoing Proposal in accordance with specified requirements. The proposed work is to commence as soon as possible after the contract is signed and the required bond is approved with completion of work on or before is as follows:

AID-2013-1 – July 30, 2017

AID-2015-1 – July 15, 2017

MAP-2016 – June 15, 2017

Enclosed herewith is the required bid bond in the amount of 5% of Base Bid which the undersigned bidder agrees is to be forfeited to and become the property of the City of Hastings, Nebraska, as liquidated damages should this proposal be accepted and a contract awarded to bidder and bidder fail to enter into a contract in the form prescribed and to furnish the required performance bond within ten (10) days, but otherwise the aforesaid proposal guarantee will be returned upon bidder signing the contract and delivering the approved performance bond.

In submitting this bid, it is understood that the right is reserved by the City to reject any and all bids, and it is understood that this bid may not be withdrawn during a period of thirty (30) days after the scheduled time for the receipt of bids.

The undersigned bidder hereby certifies (a) that this bid is genuine and is not made in the interest of, or on the behalf of, any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation, (b) that bidder has not directly or indirectly induced or solicited any person, firm or corporation to refrain from bidding, (c) that bidder has not sought, by collusion or otherwise, to obtain for himself an advantage over any other bidder or over the City of Hastings and (d) that bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid.

The undersigned bidder agrees and understands that they will be appointed as Purchasing Agent for the City and will be issued an Exempt Sales Certificate to be used in accordance with specified requirements.

DATED IN _____ this _____ day of _____, 2016.

I/We hereby acknowledge receipt of Addenda Nos. _____.

SIGNATURE OF BIDDER:

If an Individual: _____ doing business as

_____

If a Partnership: _____

By: _____
Member of Firm

If a Corporation: _____

By: _____

Title: _____

Business Address of Bidder:

_____

_____

_____

AGREEMENT

This Agreement is made and entered into this _____ day of _____, 2016, by and between the City of Hastings, Nebraska, a Municipal Corporation, hereinafter referred to as the "City", and _____, hereinafter referred to as the "Contractor".

1. Improvements. The Contractor hereby agrees to construct certain improvements for the City, described as follows:

Project Nos.

Project No. AID 2013-1

Alley from 1st Street to 2nd Street – St Joseph Avenue to Kansas Avenue

Project No. AID 2015-1

Saunders Avenue to Bellevue Avenue – 6th Street to 7th Street

Project No. MAP 2016

Minnesota Avenue and Intersection Improvements – 13th Street to 14th Street

In connection with construction of the improvements, the Contractor will furnish all labor, tools, equipment and materials.

2. Price. For and in consideration of the construction of the improvements, the City agrees to pay to the Contractor the sum of $_____. The time and manner of payment shall be set forth in the contract document.

3. Specifications. The Contractor shall construct the improvements in accordance with the project specifications.

4. Project Manager. The City hereby designates the City Engineer as the Project Manager. The City Engineer may appoint a member of the Engineering Department Staff to so serve in his place. The Project Manager shall interpret and construe the contract documents and reconcile any apparent or alleged conflicts and inconsistencies therein. All work upon the improvements shall be subject to the approval of the Project Manager. The Project Manager shall determine any and all questions that arise concerning the performance of the work, the workmanship, quality of

materials, acceptability of the completed project and the contract documents. The decision of the Project Manager shall be final, conclusive and binding.

5. Schedule. The Contractor shall perform and complete all work within the time and in the manner established by the project specifications.

6. Performance Bond. To ensure prompt, faithful, sufficient and complete performance of this contract, the Contractor shall, upon execution of this contract, furnish to the City a performance bond issued by one or more sureties acceptable to the City. Said bond shall be in the full amount of the contract price and shall ensure the faithful performance of the contract. The bond shall be in a form acceptable to the City.

7. No Encumbrances. The work and materials for the project shall be completely installed and delivered to the City within the time provided herein free and clear of all liens, claims, encumbrances or demands of any kind.

8. Contract Documents. This contract shall consist of component parts, all of which are as fully a part of the contract as if set forth herein, or if not attached, as if hereto attached:

(a) Agreement (this instrument)

(b) Advertisement for Bids

(c) Proposal

(d) Performance Bond

(e) Technical Specifications

(f) Special Provisions General Requirements

(g) Plans and Typical Sections

(h) Addenda Nos.:

(i) Multiple Counterparts – This agreement may be executed in multiple counterparts containing the signatures of all parties on one or more counterparts, and each counterpart shall be considered an original of this document.

9. Applicable Law. The Contract shall comply with all applicable local, state and federal laws and regulations, which shall include but not be limited to: State of Nebraska Standard Specifications for Highway Construction, Series 2007 English Units Department of Roads and its

Supplements or Revisions; National Electric Code 2008; International Building Code 2009; International Fire Code 2003; NFPA Pamphlet No. 54, 2012; International Plumbing Code 2012, Uniform Mechanical Code 2009.

DATED this day and year first above written.

_____
CONTRACTOR

By: _____

Title: _____

CITY OF HASTINGS

By: _____

Title: _____

ATTEST:

_____
CITY CLERK

(SEAL)

APPROVED AS TO FORM:

_____
CITY ATTORNEY

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, _____,
as principal, and _____,
a corporation organized and existing under the laws of the State of _____,
and duly authorized to transact business in the State of Nebraska, as surety are held and firmly bound unto the CITY OF HASTINGS, NEBRASKA, a municipal corporation organized and existing under the laws of the State of Nebraska, hereinafter referred to as CITY, in the penal sum of _____ Dollars ($_____),
lawful money of the United States, for the payment of which will and truly be made, we the said principal and the said surety do hereby bind ourselves, our heirs, executors, administrators and assigns, jointly and severally, by these presents as follows:

The condition of this obligation is such that, whereas the principal, by an instrument in writing attached hereto and bearing the date of _____, 20____, has agreed with the CITY to do all work necessary and to furnish all labor, materials, supplies, tools and equipment to

_____

_____

_____

as specified thereby and in the specifications, proposals and contract forming the Contract Documents attached thereto and made a part hereof:

NOW THEREFORE, if the principal shall well and truly in good, sufficient and in a workmanlike manner, and to the satisfaction of the CITY perform and complete the work required, and shall defend, indemnify and save harmless the CITY against all damages, claims, demands, expenses and charges of every kind (including claims of patent infringement) arising from any act, omission or neglect of said principal, his agents, servants or employees, with relation to said work, and shall pay all costs, charges, rentals and expenses for labor, materials, supplies and equipment and deliver the said improvement to the CITY completed and ready for operation and free from all encumbrances or claims for labor, materials or otherwise, and shall pay all other expenses lawfully chargeable to the CITY, and this bond shall also be for the use and benefit of all persons who may

perform any work or labor or furnish any material in the execution of said Contract and may be sued on thereby in the name of any such party claiming the benefit hereof, then this obligation shall be void, otherwise the same shall remain in full force and effect. This obligation shall be in full force and effect for the full guarantee period provided in the specifications contained herein.

PROVIDED FURTHER, that said surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any change, extension of time, alteration or addition to terms of the Contract, to the work or to the specifications.

PROVIDED FURTHER, that if the principal of his, their or its subcontractor or subcontractors fail to duly pay for any labor, materials team, hire sustenance, provisions, provender or any other supplies or materials used or consumed by such contractor of his, their or its subcontractors in performance of the work contracted to be done, the surety will pay the same in any amount not exceeding the sum specified in the bond together with interest as provided by law.

IT WITNESS WHEREOF, said principal and surety have hereunto set their hands and seals at _____ this _____ day of _____, 20____,

This Bond is executed in triplicate counterparts.

_____
Principal

(SEAL)

_____
Street Address

_____
Witness

_____
City, State, Zip

_____
Name of Person Executing

ATTEST:

_____
Surety

_____

_____

By: _____
Title: _____

Nebraska Department of **REVENUE**

Purchasing Agent Appointment

and Delegation of Authority for Sales and Use Tax

FORM **17**

PURCHASING AGENT APPOINTMENT

Name and Address of Prime Contractor	Name and Address of Governmental Unit or Exempt Organization
Name	Name
Street or Other Mailing Address	Street or Other Mailing Address
City State Zip Code	City State Zip Code

Name and Location of Project	Appointment Information
Name	Effective Date (see Instructions)
Street or Other Mailing Address	Expiration Date
City State Zip Code	Nebraska Exemption Number (Exempt Organizations Only)
Identify Project	

The undersigned governmental unit or exempt organization appoints the above-named contractor and the contractor's delegated subcontractors as its agent to purchase and pay for building materials that will be annexed to real estate by them into the tax exempt construction project stated above.

sign here ▶ Authorized Signature of Governmental Unit or Exempt Organization _____ Title _____ Date _____

DELEGATION OF PRIME CONTRACTOR'S AUTHORITY

Name and Address of Subcontractor	Delegation Information
Name	Effective Date
Street or Other Mailing Address	Expiration Date
City State Zip Code	Portion of Project

The undersigned prime contractor hereby delegates authority to act as the purchasing agent of the named governmental unit or exempt organization to the above-named subcontractor.

sign here ▶ Signature of Prime Contractor or Authorized Representative _____ Title _____ Date _____

INSTRUCTIONS

WHO MUST FILE. Any governmental unit or organization that is **exempt** from sales and use tax may appoint as its agent a prime contractor to purchase building materials and/or fixtures that will be annexed to property that belongs to or will belong to the governmental unit or exempt organization pursuant to a construction contract with the governmental unit or exempt organization. The appointment of the prime contractor as its agent is completed by issuing a Purchasing Agent Appointment and Delegation of Authority for Sales and Use Tax, Form 17, to the prime contractor. The Form 17 is required to be given to the contractor **BEFORE** he or she annexes building materials. The governmental unit or exempt organization must identify the project (e.g., east wing, chapel construction, or new school auditorium). Most nonprofit organizations are NOT exempt from sales tax in Nebraska. In addition, not all governmental units are exempt from Nebraska sales tax. Refer to Contractor Information on our Web site for additional information on exempt entities. A contractor can confirm the exempt status of a governmental unit or exempt organization by contacting the Nebraska Department of Revenue.

The exemption from the payment of the Nebraska and local option sales and use taxes only applies if the governmental unit or exempt organization directly, or through its contractor, pays for the building materials. **IMPORTANT NOTE:** When an organization that requires licensure in order to be exempt (i.e., nonprofit hospitals), but is not licensed at the time of the construction project, the exempt organization **CANNOT**

issue either a purchasing agent appointment or an exemption certificate. If the exempt organization becomes licensed upon completion of the project, it may apply for a refund of the tax paid or collected by the contractors.

WHENTO FILE. A prime contractor engaging in a construction project with a governmental unit or exempt organization must receive a properly completed and signed Form 17 **BEFORE** any building materials are annexed. If Form 17 is not issued, the contractor must pay the sales and use taxes and the governmental unit or exempt organization may obtain a refund of the taxes paid by the contractor.

WHERE TO FILE. A copy of the completed form should be retained by the governmental unit or exempt organization issuing the Form 17. The original is to be retained by the prime contractor. Copies of this form must be made by the prime contractor for delegation purposes to any subcontractors working on the project identified on this form.

APPOINTMENT INFORMATION. Enter the dates the purchasing agent appointment will become effective and when it will expire. This appointment will not allow any purchases without payment of the tax by the prime contractor or subcontractor before the effective date or after the expiration date. The dates the delegation becomes effective and the expiration dates must be completed. The phrase "upon completion" or similar phrase is not acceptable as an expiration date. The governmental unit or exempt organization may need to issue another Form 17 if the project is not completed within the prior "effective" and "expiration" dates. Exempt organizations must enter their Nebraska Sales and Use Tax Exemption number.

DELEGATION OF PRIME CONTRACTOR'S AUTHORITY. The prime contractor may delegate his or her authority to act as the purchasing agent of the governmental unit or exempt organization to a subcontractor. The prime contractor must complete his or her copy of Form 17 for each subcontractor who is delegated authority to act as a purchasing agent. Reproductions of this delegation must be provided to the subcontractor, who must retain a copy for his or her records, and to the governmental unit or exempt organization.

Enter the dates the delegation of the subcontractor will become effective, when it will expire, and the portion of the project delegated. This delegation will not allow any purchases without payment of the tax by the subcontractor before the delegation date or after the expiration date. Any further delegation from a subcontractor to additional subcontractors must be delegated by providing a copy of the Form 17 that they received from the prime contractor and attaching it to a separate Form 17 with any further delegation to other subcontractors. The purchasing agent appointment is limited to the contractor's purchase of building materials and/or fixtures for the specific project and is only valid during the appointment dates shown on the Form 17.

EXEMPT SALE CERTIFICATE. A prime contractor who has been appointed to act as a purchasing agent by a governmental unit or exempt organization, and who hires a subcontractor operating as an Option 1 contractor, must provide to that subcontractor a completed copy of Form 17 and a Nebraska Resale or Exempt Sale Certificate, Form 13, with Section C, Part 2, completed. The subcontractor will retain these forms in his or her records, and will not charge the contractor sales tax on any portion of the invoice involving the annexation of materials to the specific project identified on the Form 17. If these forms are not provided to the subcontractor operating under Option 1, the subcontractor must collect and remit sales tax on the charge for the separately stated building materials portion of the invoice. If the Option 1 subcontractor does not separately state the charge for the building materials from contractor labor, then the entire charge is taxable to the prime contractor.

Contractors operating under Option 2 (maintaining a tax-paid inventory) who have been issued a Form 17 from a governmental unit or an exempt organization, must furnish each vendor a copy of the Form 17 and a Form 13, completing Section C, Part 2, when purchasing building materials that will be annexed to real estate. Forms 13 and 17 must be retained with the vendor's and contractor's records for audit purposes. A contractor or subcontractor may reproduce copies of these documents which will be furnished to the vendors for each invoice or order made by them.

Invoices from vendors for the purchase of building materials by the contractor as purchasing agent, or the authorized subcontractor, must clearly identify that such purchase is for the specific Form 17 project.

CREDIT/REFUND OF SALES AND USE TAX. A contractor or subcontractor who has been appointed as a purchasing agent before any materials are annexed, may withdraw sales or use tax-paid materials from inventory that will be annexed to real estate or used to repair property annexed to real estate and receive a credit for the sales or use tax amount previously paid on those materials.

The contractor or subcontractor may take a credit either against his or her current tax liability, or file a Claim for Overpayment of Sales and Use Tax, Form 7, and receive a refund of the sales or use tax paid on those materials.

TOOLS, EQUIPMENT, AND SUPPLIES. The purchase, rental, or lease of tools, supplies, or equipment (i.e., scaffolding, barricades, machinery, etc.) by a contractor for use in the completion of an exempt project CANNOT be purchased tax free, even if the contractor has been issued a Form 17. These items do not become annexed to the real estate.

OPTION 1 CONTRACTOR ONLY. If an Option 1 contractor is the **only** contractor involved in performing work for a governmental unit or exempt organization, a Form 17 is NOT required. The Option 1 contractor must only obtain a Form 13, Section B, from the exempt project owner.

PENALTY. Any person who signs this document with the intent to evade payment of tax is liable for the sales and use tax, interest, and penalty, and may be found guilty of a misdemeanor.

AUTHORIZED SIGNATURE. The purchasing agent appointment must be signed by an officer of the exempt organization or proper government official. The delegation of prime contractor's authority must be signed by the owner, partner, corporate officer, or other individual authorized to sign by a power of attorney on file with the Nebraska Department of Revenue.

Nebraska Department of **REVENUE**

Nebraska Resale or Exempt Sale Certificate

for Sales Tax Exemption

Form **13**

Name and Mailing Address of Purchaser	Name and Mailing Address of Seller
Name	Name
Legal Name	
Street Address (Do not use PO Box)	Street or Other Mailing Address
City State Zip Code	City State Zip Code

Check Type of Certificate

☐ Single Purchase If single purchase is checked, enter the related invoice or purchase order number _____.

☐ Blanket If blanket is checked, this certificate is valid until revoked in writing by the purchaser.

I hereby certify that the purchase, lease, or rental by the above purchaser is exempt from the Nebraska sales tax for the following reason:

Check One ☐ Purchase for Resale (Complete Section A.) ☐ Exempt Purchase (Complete Section B.) ☐ Contractor (Complete Section C.)

Section A—Nebraska Resale Certificate

I hereby certify that the purchase, lease, or rental of _____ (Description of Property or Service Purchased) from the seller listed above is exempt from the Nebraska sales tax as a purchase for resale, rental, or lease in the normal course of our business. The property or service will be resold either in the form or condition in which it was purchased, or as an ingredient or component part of other property or service to be resold.

I further certify that we are engaged in business as a: ☐ Wholesaler ☐ Retailer ☐ Manufacturer ☐ Lessor

of (Description of Product or Service Sold, Leased, or Rented) _____.

My Nebraska Sales Tax Permit Number is 01-_____.

If none, state the reason _____,

or Foreign State Sales Tax Number_____ State _____.

Section B—Nebraska Exempt Sale Certificate

The basis for this exemption is exemption category _____ (insert appropriate number for the category of exemption described on the reverse side).

If exemption category 2 or 5 is claimed, enter the following information:

Description of Items Purchased _____ Intended Use of Items Purchased _____.

If exemption category 3 or 4 is claimed, enter your Nebraska Exemption Certificate number. 05-_____

Do not enter your Federal Employer ID Number.

If exemption category 6 is claimed, the seller must enter the following information and sign this form below:

Description of Items Sold	Date of Seller's Original Purchase	Was tax paid when purchased by seller?	Was Item depreciable?
		☐ Yes ☐ No	☐ Yes ☐ No

Section C—For Contractors Only

1. Purchase of building materials or fixtures.

☐ As an Option 1 or Option 3 contractor, I hereby certify that the purchase of building materials and fixtures from the seller listed above are exempt from Nebraska sales tax. My Nebraska Sales or Use Tax Permit Number is: _____.

2. Purchases made by an Option 2 contractor under a Purchasing Agent Appointment on behalf of_____ (exempt entity) _____.

As an Option 2 contractor, I hereby certify that the purchase of building materials and fixtures from the seller listed above is exempt from Nebraska sales tax pursuant to the **attached** Purchasing Agent Appointment and Delegation of Authority for Sales and Use Tax, Form 17.

Any purchaser, agent, or other person who completes this certificate for any purchase which is not for resale, lease, or rental in the regular course of the purchaser's business, or is not otherwise exempted from sales and use taxes is subject to a penalty of $100 or ten times the tax, whichever amount is larger, for each instance of presentation and misuse. With regard to a blanket certificate, this penalty applies to each purchase made during the period the blanket certificate is in effect. Under penalties of law, I declare that I am authorized to sign this certificate, and to the best of my knowledge and belief, it is correct and complete.

sign here▶ _____ Authorized Signature _____ Title _____ Date

_____ Authorized Signature Name (please print)

Do not send this certificate to the Nebraska Department of Revenue. Keep it as part of your records.
Sellers cannot accept incomplete certificates.
revenue.nebraska.gov, 800-742-7474 (NE and IA), 402-471-5729

6-134-1970 Rev. 10-2014
Supersedes 6-134-1970 Rev. 3-2009

Instructions

Who May Issue a Resale Certificate. Form 13, Section A, is issued by persons or organizations making purchases of property or taxable services that will subsequently be resold in the purchaser's normal course of business. The property or services must be resold in the same form or condition as when purchased, or as an ingredient or component part of other property that will be resold.

Who May Issue an Exempt Sale Certificate. Form 13, Section B, may only be issued by governmental units and persons or organizations that are exempt from paying Nebraska sales and use tax. Nonprofit organizations that are exempt from paying sales and use tax are listed in the Nebraska Sales Tax Exemption Chart.

Enter the appropriate number from the "Categories of Exemption" in the space provided that properly reflects the basis for your exemption. If category 2 through 6 is the basis for exemption, you must complete the information requested in Section B.

For additional information about proper issuance and use of this certificate, please review Reg-1-013, Sale for Resale – Resale Certificate, and Reg-1-014, Exempt Sale Certificate.

Contractors. To make tax-exempt purchases of building materials and fixtures, Option 1 or Option 3 contractors must complete Form 13, Section C, Part 1.

To make tax-exempt purchases of building materials and fixtures pursuant to a construction project for an exempt governmental unit or an exempt nonprofit organization, Option 2 contractors must complete Form 13, Section C, Part 2. The contractor must also attach a copy of a properly completed Purchasing Agent Appointment and Delegation of Authority for Sales and Use Tax, Form 17, to the Form 13, and both documents must be given to the supplier when purchasing building materials. See the contractor information guides for additional information.

When and Where to Issue. The Form 13 must be given to the seller at the time of the purchase to document why sales tax does not apply to the purchase. The Form 13 must be kept with the seller's records for audit purposes (see Reg-1-012, Exemptions). Do not send Forms 13 to the Nebraska Department of Revenue.

Sales Tax Number. A purchaser who is engaged in business as a wholesaler or manufacturer is not required to provide an ID number when completing Section A. Out-of-state purchasers may provide their home state sales tax number. Section B does not require a Nebraska ID number when exemption category 1, 2, or 5 is indicated.

Fully Completed Resale or Exempt Sale Certificate. For a resale certificate to be fully completed, it must include: (1) identification of the purchaser and seller, type of business engaged in by the purchaser, and reason for the exemption; (2) sales tax permit number; (3) signature of an authorized person; and (4) the date of issuance.

For an exempt sale certificate to be fully completed, it must include: (1) identification of purchaser and seller; (2) a statement that the certificate is for a single purchase or is a blanket certificate covering future sales; (3) a statement of the basis for exemption, including the type of activity engaged in by the purchaser; (4) signature of an authorized person; and (5) the date of issuance.

Penalties. Any purchaser who gives a Form 13 to a seller for any purchase which is other than for resale, lease, or rental in the **normal** course of the purchaser's business, or is not otherwise exempted from sales and use tax under the Nebraska Revenue Act, is subject to a penalty of $100 or ten times the tax, whichever is greater, for each instance of presentation and misuse. In addition, any purchaser, or their agent, who fraudulently signs a Form 13 may be found guilty of a Class IV misdemeanor.

Categories of Exemption

1. Governmental agencies identified in Reg-1-012, Exemptions; Reg-1-072, United States Government and Federal Corporations; and Reg-1-093, Governmental Units. Governmental units are not assigned exemption numbers.

   Sales to the United States government, its agencies, instrumentalities, and corporations wholly owned by the U.S. government are exempt from sales tax. However, sales to institutions chartered or created under federal authority, but which are not directly operated and controlled by the United States government for the benefit of the public, generally are taxable. For construction projects for federal agencies, see Reg-1-017, Contractors.

   Purchases by governmental units that are **not** exempt from Nebraska sales and use taxes include, but are not limited to: governmental units of other states; sanitary and improvement districts; rural water districts; railroad transportation safety districts; and county historical or agricultural societies.

2. Purchases when the intended use renders it exempt as stated in paragraph 012.02D of Reg-1-012, Exemptions. See Nebraska Sales Tax Exemption Chart. Complete the description of the item purchased and the intended use on the front of Form 13.

   Beginning October 1, 2014, sales of repair and replacement parts for agricultural machinery and equipment used in commercial agriculture are exempt from sales and use taxes. When claiming this exemption, please enter "commercial agriculture" on the **Intended Use of Items Purchased** line.

3. Purchases made by organizations that have been issued a Nebraska Exempt Organization Certificate of Exemption. Reg-1-090, Nonprofit Organizations; Reg-1-091, Religious Organizations; and Reg-1-092, Educational Institutions, identify these organizations. These organizations are issued a Nebraska state exemption ID number. This exemption number must be entered in Section B of Form 13.

   Nonprofit **health care organizations** that hold a certificate of exemption are exempt for purchases of items for use at their facility, or portion of the facility, covered by the license issued under the Health Care Facility Licensure Act. Only specific types of health care facilities and activities are exempt. Purchases of items for use at facilities that are not covered under the license, or for any other activities that are not specifically exempt, are taxable.

4. Purchases of common or contract carrier motor vehicles, trailers, and semitrailers; accessories that physically become part of a common or contract carrier vehicle; and repair and replacement parts for these vehicles. The exemption number must be entered in Section B of the Form 13.

5. Purchases of manufacturing machinery and equipment made by a person engaged in the business of manufacturing, including repair and replacement parts or accessories, for use in manufacturing.

6. Occasional sales of used business or farm machinery or equipment productively used by the seller as a depreciable capital asset for more than one year in his or her business. The seller must have previously paid tax on the item being sold. The seller must complete, sign, and give the exemption certificate to the purchaser.

TABLE OF CONTENTS

General Provisions:

Section A—Definitions of Words and Terms 1

Section B—Legal Relations and Responsibility to the Public 1

Technical Specifications Division I—General Requirements 5

Technical Specifications Division II—Sitework:

Section A—Clearing and Grubbing 13

Section B—Earthwork 13

Section C—Foundation Course 13

Section D—Asphaltic Concrete 14

Section E—Performance Graded Binder 14

Section F—Portland Cement Concrete Pavement, Curb Wall, Integral Curb, Curb and Gutter and Sidewalk, Structural Concrete, Reinforcing Steel 40

Section G—Pavement, Curb and Gutter, Sidewalk and Drive Removal . . . 41

Section H—Removal of Existing Structures 42

Section I—Reinforced Concrete Pipe 42

Section J—Catch Basins, Manholes, Inlets and Junction Boxes 44

Section K—Sanitary Sewer . . . . . N/A

Section L—Water Mains . . . . . N/A

Section M—Topsoil, Seeding, Mulching, Fertilizing & Erosion Control . . 44

Section N—Polyurea Pavement Marking, Grooved. . . . . N/A

Section O—Method of Payment 50

Section P—Guarantee of Workmanship and Materials 50

Special Plan – Curb Ramps. 51

GENERAL PROVISIONS

Section A—Definitions of Words and Terms.

The State of Nebraska Standard Specifications for Highway Construction, Series 2007, Department of Roads, Bureau of Highways and its supplements are hereby incorporated as the General Specifications for the City of Hastings, Nebraska, herein after referred to as "2007 Standard State Specifications". Copies of these specifications may be obtained from the Department of Roads, Lincoln, Nebraska or on their website at www.dor.state.ne.us.

The following changes shall be made in Section 101., DEFINITIONS OF WORDS AND TERMS:

101.0327 Department	The City of Hastings Engineering Department which is authorized to improve and maintain the streets and alleys of the City of Hastings, Nebraska
101.0334 Engineer	The term State Engineer shall be amended to read City Engineer
101.0379 State	This term shall be construed to mean the City of Hastings
101.0358 Project	The specific section of the streets, alleys, parks or area of proposed construction together with all appurtenances and construction to be performed thereon under the contract
101.0367 Roadbed	The term "highway" shall be amended to word "street"
101.0370 Roadway	The portion of the highway within limits of construction; Term "highway" shall be amended to word "street"

Section B—Legal Relations and Responsibility to the Public.

Article 107 of the State of Nebraska Standard Specifications for Highway Construction, Series 2007, Department of Roads, Bureau of Highways, is hereby supplemented as follows:

1. Contractor to Protect and Hold the Owner Harmless.

The Contractor shall protect, defend, indemnify and save harmless the Owner and the Owner's officers, agents, servants and employees, hereinafter called the "Owner", against all claims and actions and all expenses incidental to the defense of such claims or actions, based upon or arising out of injuries or death of persons or damage to property caused by or sustained in connection with this contract or by conditions created thereby, and on request of the Owner will assume the defense of any claim or action brought against the Owner.

2. Contractor's and Subcontractor's Insurance.

Contractor shall not commence work under this contract until he has obtained the insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor permit any subcontractor to commence work on his subcontract until similar insurance required of the subcontractor has been so obtained and approved.

A. Worker's Compensation and Employer's Liability Insurance

The Contractor shall take out and maintain during the life of this Contract, if applicable, statutory Worker's Compensation Insurance with an insurance company authorized to write such insurance in the applicable state covering all his employees. In the case of any work sublet, the Contractor shall require each Subcontractor similarly to provide statutory Worker's Compensation Insurance for the Subcontractor's employees.

The Contractor shall take out and maintain during the life of this Contract, Employer's Liability Insurance with a minimum limit of $500,000 with an insurance company authorized to write such insurance in all states where the Contractor will have employees located in the performance of this Contract. The Contractor shall require each of his Subcontractors similarly to maintain Employer's Liability Insurance on his employees.

B. Public Liability Insurance

1. The Contractor shall maintain during the life of this Contract such Public Liability Insurance as shall protect him against claims for damages resulting from (a) bodily injury, including wrongful death and (b) property damage, which may arise from operations under this Contract, whether such operations be by himself or by any Subcontractor or anyone directly or indirectly employed by either of them. The minimum acceptable limits of liability to be provided by such Public Liability Insurance shall be as follows:

a. Bodily Injury Limits:	$1,000,000	Each Occurrence
	$2,000,000	Aggregate
Property Damage Limits:	$1,000,000	Each Occurrence
	$2,000,000	Aggregate

OR

b. Combined Single Limit:	$2,000,000	Aggregate

2. The Public Liability Insurance required by the preceding Subparagraph 1 shall include the following forms of coverage:

   a. The coverage shall be provided under a Comprehensive General Liability form of policy or similar thereto.

   b. X.C.U. Coverage – If the Contract requires any work procedures involving blasting's, excavating, tunneling or other underground work, the liability coverage shall include Standard Blasting or Explosion Coverage, Standard Collapse Coverage and Standard Underground Coverage, commonly referred to as XCU property damage liability coverage with limits of $1,000,000 each occurrence and $2,000,000 aggregate.

   c. The property damage coverage shall include a Broad Form Property Damage Endorsement.

   d. Contractual Liability coverage shall be included.

   e. Protective Liability coverage shall be included to protect the Contractor against claims arising out of operations performed by his Subcontractors.

   f. Products Liability and/or Completed Operations coverage shall be included.

3. Automobile Liability Insurance

The Contractor shall take out and maintain during the life of the Contract such Automobile Liability Insurance as shall protect him against claims for damages resulting from (1) bodily injury, including wrongful death and (2) property damage, which may arise from the operations of any owned, hired or non-owned automobiles used by or for him in any capacity in connection with the carrying out of this Contract. The minimum acceptable limits of liability to be provided by such Automobile Liability Insurance shall be as follows:

A. Bodily Injury Limits:	$1,000,000	Per Person
	$1,000,000	Per Accident
Property Damage Limits:	$1,000,000	Per Accident

OR

B. Combined Single Limit:	$1,000,000	Per Accident

4. Umbrella Liability Coverage

A minimum $2,000,000 limit will be required on all contracts. The City of Hastings retains the right to require a higher limit on a contract of higher value and/or complexity of work.

5. Certificate of Insurance

The Contractor shall furnish the City with two (2) copies of a certificate of insurance evidencing policies required in Paragraphs 2A, 2B, and 3 above. Such certificate shall specifically indicate that the Public Liability Insurance includes all extensions of coverage required in Paragraph 2B, Subparagraphs 1 and 2 above. Such certificate shall specifically state that the insurance company or companies issuing such insurance policies shall give the City at least thirty (30) days written notice in the event of cancellation of, or material change in, any of the policies. If the coverage on said certificate(s) is shown to expire prior to completion of all terms of this Contract, the Contractor shall furnish a certificate of insurance evidencing renewal of such coverage to the City. The certificates of insurance shall clearly show this Contract number. To the extent possible depending on the type of coverage required, City shall be named as an additional named insured on all such certificates of insurance.

6. Subcontractor's Insurance

The Contractor shall require each of his Subcontractors to take out and maintain during the life of his subcontract the same insurance coverage required of the Contractor under Paragraphs 2A, 2B, and 3 above, including the extension of coverage required under Paragraph 2B, Subparagraphs 1 and 2 above. Each Subcontractor shall furnish to the Contractor two (2) copies of a certificate of insurance, and such certificate shall contain the same information required in Paragraph 4 above. The Contractor shall furnish one copy of the certificate to the City.

7. Insurance Company

All insurance policies herein required of the Contractor shall be written by a company duly authorized to do business in the State of Nebraska. Minimum AM Best's rating should be no less than A-VII

TECHNICAL SPECIFICATIONS

DIVISION I

GENERAL REQUIREMENTS

1. **Right-of-Way.** The City of Hastings, Nebraska, will provide the necessary right-of-way to construct all portions of the project.

2. **Preconstruction Conference.** A preconstruction conference will be held prior to beginning work on the project. Attendance at this conference by the Contractor or his representative and any subcontractors will be required.

3. **Time Limit and Liquidated Damages.** A Notice to Proceed will be issued by the Owner. Liquidated damages will be assessed against the Contractor at the rate as specified in the contract documents per working day for each day the work is uncompleted after the expiration of the working days specified.

4. **Construction Schedule and Progress of Work.** The Contractor shall submit a construction schedule to the Engineer prior to commencing work. The schedule shall reflect the Contractor's consideration of a minimum of inconvenience to the public.

   Any deviations from work scheduling or traffic detouring shall be first approved by the Engineer.

5. **Public Access.** The area under construction may be closed to vehicular traffic. Pedestrian traffic shall be maintained as provided in Paragraph 15 of this section. The Contractor shall be responsible for all barricades, warning signs, flagmen, etc. needed to protect the public as outlined in the "Nebraska Manual of Uniform Traffic Control Devices".

6. **Description of Work.** This Project may consist of excavation, storm sewer, curb inlets, pavement replacement, prepackaged riprap installation and pavement installation, together with necessary appurtenances and accessories as noted on the specific plans for work.

7. **Location of Work.** The location of the work to be performed is identified on the proposal and the title sheet of the plans for each project.

8. **Purchasing Agent Appointment and Exempt Sales Certificate.** The Contractor performing the work under this contract will be issued a "Purchasing Agent Appointment" and "Exempt Sales Certificate" signed by the authorized representative of the Owner. It is to be used by the Contractor when purchasing tangible personal property to be actually incorporated into the contract work.

9. **Occupational Safety and Health Act Requirement.** The General Contractor, sub-contractors and suppliers of materials shall comply fully with the provisions of the Occupational Safety and Health Act of 1970, following the effective date thereof, with regard to all work performed and/or materials supplied and shall establish safe and healthful working conditions for employees in connection with such work according to all occupational safety and health standards applicable thereto which are promulgated and issued by the Secretary of Labor during the time of performance of such work and shall indemnify and hold the City of Hastings and the Engineer harmless of and from any and all penalties, fines or expenses which may incur by reason of the violation by subcontractor or supplier of any of the terms and provisions of said Act or said standards.

10. **Excusable Delays.** The right of the Contractor to proceed shall not be terminated nor shall the Contractor be charged with liquidated damages for any delays in the completion of the work due to the following:

(a) To any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools or labor by reason of war, National Defense or any other national emergency;

(b) To any act of the City;

(c) To causes not reasonably foreseeable by the parties to this contract at the time of the execution of the contract which are beyond the control and without the fault or negligence of the Contractor, including, but not restricted to, acts of God or of the public enemy, acts of another contractor in the performance of some other contract with the City, fires, floods, epidemics, quarantine, restrictions, strikes, freight embargoes and weather of unusual severity such as hurricanes, tornadoes, cyclones and other extreme weather conditions; and

(d) To any delay of any subcontractor occasioned by any of the causes specified in subparagraphs (a), (b) and (c) of this paragraph 13.

Provided, however, that the contractor promptly notified the City within ten (10) days in writing of the cause of the delay. Upon receipt of such notification, the City shall ascertain the facts and the cause and extent of delay. If, upon the basis of the facts and the terms of this contract the delay is properly excusable, the City shall extend the time for completing the work for a period of time commensurate with the period of excusable delay.

11. **Schedule of Construction.** Within ten (10) days after award of the contract, the Contractor shall submit a written progress schedule for the Engineer's approval outlining the manner in which he proposes to prosecute the work. No revision of the approved schedule of work shall be accomplished without first being submitted to and approved by the Engineer.

12. **Obstructions.** The contract prices shall include the cost of removal of quicksand, hardpan, boulders, rubbish, unforeseen obstacles, underground conduits, gas pipes, drain tile, trees, roots, tracks, pavements, sidewalks and the delay or damage caused by the same, whether these obstacles are shown on the contract drawings or not.

13. **Cost of Service.** The Contractor will be required to pay the cost of all water, power, lighting and heating required during construction, and such costs should be merged in the contract price.

14. **Accommodation of Public Vehicular Traffic.**

(a) In order to maintain traffic and to facilitate the ingress and egress to properties and businesses located near or along the side of the project, it may be necessary to construct temporary driveways or temporary cross-overs. These locations may necessitate the placement of temporary surfacing to ensure the movement of traffic through these areas. The temporary cross-overs and the temporary surfacing shall be paid for at the contract unit price for each item of work involved as provided for elsewhere in this special provision. The locations of the temporary cross-overs and the temporary surfacing shall be as directed by the Engineer.

(b) The schedule of sequence of the various portions of the job shall be made available to the Engineer at the preconstruction conference. Any variations from these accommodations to traffic provisions must be approved by the Engineer.

(c) It shall be the responsibility of the Contractor to furnish a flagman or flagmen to direct traffic when his equipment is operating over or adjacent to the roadbed being used by the traveling public. He shall take any other steps necessary to ensure the orderly movement of traffic through or around the work at all times during the day or night, including Sundays and holidays.

(d) All slow-moving equipment used under "Traffic Maintained" conditions including, but not limited to, asphalt pavers, distributors, aggregate spreaders, rollers and mechanical brooms, but not including dump trucks, shall be equipped with at least one revolving amber emergency light (more will be acceptable). All such slow moving equipment shall also be equipped with the standard "slow-moving vehicle" emblem meeting the requirements of Article 7, Section 39-723-10, R.R.S. 1943.

(e) Revolving amber emergency lights shall be provided with a minimum 50 candlepower bulb. Lights shall be sealed so as to be dust and water tight and shall be maintained in good operating condition at all times. Lights shall be level mounted on equipment and provide for 360 degree visibility on each revolution. All revolving lights used shall provide a light that is clearly visible day or night for a minimum distance of 800 feet. The use of magnetic mounted lights will be permissible provided that they meet requirements for visibility and level mounting as set forth above.

(f) Surfacing materials for detours, bypasses or crossings of the project shall be applied as shown in the plan or as directed by the Engineer. Measurement and payment for surfacing applied for accommodation of traffic will be made according to the Standard Specifications, special provisions or as "extra work" if not shown on the plans.

(g) Direct payment will not be made for the flagging service or for the work and materials, except as noted herein, that are incidental to the accommodation of traffic, but it shall be considered that all labor, equipment, materials (other than surfacing) and tools that are required in the work are subsidiary to the items for which the contract provides that direct payment be made, unless specific unit bid items are contained within the contract bid proposals or documents.

(h) It shall be the responsibility of the Contractor to provide and maintain all barricades necessary to close and/or divert traffic away from the streets where construction is taking place. All activities concerning placement of said barricades shall be coordinated with the Engineering Department.

15. **Existing Sanitary Sewer, Water and Existing Utilities Services.** Existing sanitary sewer and water service lines and mains shall be left in place, undisturbed and functioning, during installation of the storm sewer. The Contractor shall assume full responsibility to maintain continuous and uninterrupted service to users of the sewer and water system. The Contractor shall exercise every precaution to avoid damage to any existing utility line or appurtenance (including underground electrical and telephone cables) while performing his work, and he shall be held liable for any damage incurred as a result of his operations.

16. **Standard Water and Sewer Cast Iron Pipe** shall be Class 150, cement mortar lined or equal.

17. **Soils and Groundwater Conditions.** The successful Contractor shall be required to satisfy himself as to soils and groundwater conditions and will hold the Owner blameless for soils, rock, groundwater or other subsurface conditions encountered during construction of the project.

18. **Special Section.** The Contractor shall not order prefabricated special pipe sections, tees and manholes until order lengths have been verified in the field by the Engineer.

19. **Excess Excavation Disposal Sites.** All earth excavation shall be transported to a site as designated by the Engineer at the preconstruction conference.

In exercising every precaution, the Contractor will be required, among other things, to contact the owner of utilities in determining the exact location of all utilities in advance of his work. Location of utilities on the plans is approximate only, and telephone service lines are not shown.

20. **Maintenance of Surface Drainage and Storm Sewers.** During the course of construction, the Contractor shall conduct his operations in a manner that will not pond or divert surface drainage onto private property and shall maintain the existing surface drainage patterns until such time that the storm sewer system is operable. In addition, the Contractor shall provide temporary works construction which must be approved by the Engineer and shall remain in place until such time that the storm sewer system is operable. The work required for maintenance of surface drainage and storm sewers will not be paid for directly but shall be considered subsidiary to the bid items of the contract.

21. **Property Corners.** The Contractor shall protect existing property corners, and if disturbed or removed during the course of construction, he shall cause to have said corners replaced under the direction of a duly qualified Licensed Land Surveyor.

22. **Testing.** All materials will be inspected, tested and accepted by the Engineer before incorporated in the work. Any work in which untested and unaccepted materials are used without approval or written permission of the Engineer shall be performed at the Contractor's risk and may be considered as unacceptable and unauthorized and will not be paid for. Unless otherwise designated, tests in accordance with the most recent cited standard method of AASHO or ASTM, whichever are current on the date of advertisement, will be at the expense of the Contractor. All testing (concrete and subgrade) will be taken by the Engineer or a qualified representative of the Owner. The cost of concrete tests (compressive cylinder breaks) will be the responsibility of the Contractor. All materials being used are subject to inspection, test or rejection at any time prior to incorporation into the work. Copies of such tests will be furnished to the Contractor at his request.

23. **Miscellaneous Removal Items.** Items indicated for removal on the plans or in the specifications shall be stored at locations determined by the Engineer. Caution shall be exercised in the removal and storage of said items to ensure minimal damage to the article. Items which require removal and replacement shall be restored to equal condition prior to beginning of construction.

No separate measurement and payment will be made for removal and/or replacement of miscellaneous items, unless a separate bid item is included in the contract for such work. Said work not specifically identified in the bid items shall be considered subsidiary to the other bid items of the contract.

24. **Concrete Plugs** for storm sewer, collars and other miscellaneous items of work shall not be measured and paid for directly unless a separate bid item is included in the contract but shall be considered subsidiary to the bid items of the contract.

25. Concrete Mix Type.

(a) The concrete mix for P.C.C. Pavement, driveways and structural concrete shall be State of Nebraska 47B as specified in Section 1002 of the 2007 State of Nebraska specifications.

(b) The concrete mix for sidewalks shall be State of Nebraska Type BX as specified in Section 1002 of the 2007 State of Nebraska Specifications.

(c) All concrete shall have a minimum compressive strength of 2,000 psi at 7 days and 3,500 psi at 28 days unless otherwise noted in the plans and specifications.

26. Relaying of Storm Sewer Pipe shall be installed, measured and paid for in accordance with Section I of these specifications.

27. Stripping Topsoil.

(a) Description. This work shall consist of the removal of topsoil from cut areas or areas to be covered by embankments in such quantity as required to cover the slopes, ditches and shoulders in accordance with the details shown in the plans; subsequent placing, spreading and finishing of the topsoil material shall be as indicated in Section M "Topsoil, Seeding, Mulching, Fertilizing & Erosion Control."

(b) Construction Methods.

(1) Clearing and grubbing operations from the area from which the topsoil is to be obtained shall be completed prior to the removal of the topsoil.

(2) In the work of removing the topsoil, care shall be taken to avoid the incorporation of any appreciable quantities of subsoil.

(c) Measurement and Payment. Stripping will be measured and paid for at the contract unit price per cubic yard for "Stripping Topsoil", which payment shall be full compensation for furnishing all labor, equipment and materials necessary to complete the item of work, or as outlined in the Special Provisions.

28. Riprap.

(a) Description. This work shall consist of furnishing and placing riprap in accordance with the details shown in the plans or as directed by the Engineer.

(b) Materials. Riprap may consist of broken concrete of which at least 90 percent shall consist of pieces weighing not less than 50 pounds each. Pieces meeting this requirement shall be sound and free of fractures.

(c) Construction Method.

(1) The riprap shall be placed upon the slopes and ditch bottoms as indicated on the plans or as directed by the Engineer and shall be placed to a minimum depth of 12 inches in two layers.

(2) The riprap shall be placed to provide a uniform slope with a regular surface conforming to the lines and grades indicated on the plans or as directed by the Engineer.

(d) Measurement and Payment. Riprap will be measured and paid for at the contract unit price per square yard for "Riprap", which payment shall be full compensation for furnishing all labor, equipment and materials necessary to complete the item of work.

29. Prepackaged Riprap.

(a) Description. This work shall consist of furnishing and placing of commercially available, prepackaged riprap bags in accordance with the details shown in the plans or as directed by the Engineer.

(b) Materials. Material shall consist of prepackaged crushed concrete, stone, sand and gravel and cement in degradable bags as produced by U-Mix Products Co., 6200 Cornhusker Highway, P.O. Box 29288, Lincoln, Nebraska 68529, (402) 466-1953, or approved equal. Filled bag size is approximately 20 inches long by 13 inches wide by 4 inches thick.

(c) Construction Method. The standard building technique for a riprap wall is to stack the bags in a running bond pattern similar to brick or concrete block. The first row of bags should be placed side by side which forms a toe for the remainder of courses which are then placed end to end. Each course of bags should be overlapped in a step pattern which may vary from 2 inches to 8 inches dependent upon vertical wall conditions as indicated on the plans. When the riprap is used as a wall for reclamation or as a seawall, backfill should be used. The backfill shall be placed simultaneously with every other course of bags laid and shall be compacted to at least 90 percent proctor density. The course of bags shall be placed so as to follow the contour of the natural ground or excavation proposed and shall be flat and perpendicular to the base. The base course gradeline shall be established by laser and control points in the field. The bags shall be pinned together vertically with #4 rebar in accordance with the plan details illustrated. Since the bags are filled with a dry material which allows the bag to conform to the contours of the base and fill, they should be tamped or packed with a tamper or jitterbug to ensure proper bonding of each course as well as giving a flat surface for the following course of bags. This also fills the bags completely with material giving a physically uniform dimensional wall. Any variations in placement of the bags from the details illustrated on the plans will be instructed by the Engineer in the field.

(d) Measurement and Payment. Prepackaged, bagged riprap will be measured and paid for at the contract unit price per bag, which payment shall be full compensation for furnishing all labor, equipment and materials necessary to complete the item of work.

Reinforcing steel for pinning bagged, prepackaged riprap shall be paid for at the unit bid price per pound, which payment shall be full compensation for furnishing all labor, equipment and materials necessary to complete the item of work.

30. **Water.** The Owner will provide access to the Contractor of any and all water necessary to construct the proposed project. The water will be furnished from the fire hydrant nearest the project. It will be the responsibility of the Contractor to contact Hastings Utilities before use of any fire hydrant. Hastings Utilities will, upon deposit from the Contractor, furnish and install a meter, check valve and shut-off for the Contractor's use. The Contractor shall furnish all other necessary hose adaptors, hose and other equipment for the distribution and transportation of the water and shall be responsible for water usage fees.

31. **Opening Pavement for Use.** No section of pavement shall be opened to traffic until approval has been given by the Engineer.

At the option of the Engineer, certain sections of the project may be opened to traffic. In such cases, the section will be inspected, completed work tentatively accepted in writing at the discretion of the Engineer and the same turned over to the City for maintenance. Such action shall not in any way be construed as a final acceptance of the project.

The Contractor will not be held responsible for damages to portions of the project which have been tentatively accepted by the Engineer and opened to traffic prior to final approval and acceptance of the project, provided such damages are due to actions of the elements or to normal action of traffic. The Contractor shall be responsible for any damages which may have been occasioned by defective work or because of noncompliance with the Plans, Specifications and Contract.

Upon written authorization by the Engineer, the Contractor may cease to maintain barriers and lights as required; the project may be opened to traffic; and the Contractor is relieved from further maintenance and public liability on that portion of the project, providing all of his equipment has been removed from the right-of-way.

32. **Landfill Fees.** The Contractor will be responsible for securing his own disposal site or paying any associated fees for disposal at the Landfill.

33. **Salvage Rights.** The City of Hastings will retain the right to salvage any paving brick that it may wish for its use in other projects.

DIVISION II
SITEWORK

SECTION A—CLEARING AND GRUBBING

1. **Description.** The work of clearing and grubbing shall be as described in Section 202 of the 2007 State Specifications.

2. **Construction Methods** used for clearing and grubbing shall be in conformance with Section 202.02.

3. **Method of Measurement and Payment.**

   (a) Clearing and grubbing of trees shall be measured and paid for as described in Section 202.01.

   (b) General clearing and grubbing shall not be measured and paid for directly but shall be paid as a lump sum in accordance with Section 202.01.

SECTION B—EARTHWORK

1. **Description.** The work of performing Roadway Excavation and Embankment shall consist of that described in Section 205 of the 2007 State Specifications.

2. **Construction Methods** used shall conform to applicable portions of Sections 205.02 and 204.03. The compaction of embankments and fill shall be Class III Type C.

3. **Method of Measurement and Payment.** Unless specified in the plans or bidding documents, roadway excavation, embankment, watering, borrow or haul will not be paid for directly but shall be considered subsidiary to the bid items of the contract.

SECTION C—FOUNDATION COURSE

1. **Description.** This work shall consist of the construction of a compacted foundation course in accordance with Section 307 of the 2007 State Specifications.

2. **Subgrade** shall be prepared in accordance with Section 301, Subgrade Compaction, of the 2007 State Specifications.

3. **Materials.** All materials shall consist of that required to produce Aggregate Foundation Course (regular) as indicated in Section 307.02.

4. **Construction Methods.** Foundation Course shall be mixed, laid and compacted in accordance with Section 307.03 at locations designated on the plans or as directed by the Engineer.

5. **Measurement and Payment.**

(a) All materials and work required to produce, mix, lay, water and compact Foundation Course (regular) will be measured and paid for on a square yard basis and shall be considered full compensation for producing, furnishing, laying, watering and compacting and all work necessary to complete the item of work.

(b) Subgrade preparation shall not be paid for directly but shall be considered subsidiary to the bid items of the contract.

SECTION D—ASPHALTIC CONCRETE

RANGE FOR TARGET VALUES
(1/2" Gradation Band)

SIEVE SIZE	PERCENT PASSING Min.	Max.
1 inch	100	
3/4 inch	98	100
1/2 inch	94	100
3/8 inch	80	98
No. 4	52	88
No. 10	32	70
No. 30	17	38
No. 50	10	24
No. 200	3	7

SECTION E—PERFORMANCE GRADED BINDER

As per current NDOR Specifications.

Section 1028 in the Standard Specifications is amended to provide that Asphaltic Concrete, Type SPR shall use the ½" gradation band.

SECTION 1028 - SUPERPAVE ASPHALTIC CONCRETE (J-7-0213)

Section 1028 in the Standard Specifications is void and superseded by the following:

1028.01 -- Description

1. a. Superpave Asphaltic Concrete is a Contractor-designed mix.

   b. The Contractor shall be required to define properties using a gyratory compactor that has met the Superpave evaluation test procedures, during mix design and production.

2. Job Mix Formula

   a. Before production of asphaltic concrete, the Contractor shall submit, in writing, a tentative Job Mix Formula (JMF) on the NDOR Mix Design Submittal Form for verification to the Department.

   b. The JMF shall be determined from a mix design for each mixture. A volumetric mixture design in accordance with AASHTO R 35 as modified within this specification will be required. However, the mixture for the Superpave specimens and maximum specific gravity mixture shall be aged for two hours at compaction temperature. The mixture shall be prepared using the following:

      (1) Mixture Conditioning of Hot Mix Asphalt (HMA), AASHTO R 30.

      (2) Method for Preparing and Determining the Density of Hot Mix Asphalt Specimens by Means of the SHRP Gyratory Compactor, AASHTO T312.

   c. The JMF shall identify:

      (1) The virgin mineral aggregates and pit locations

      (2) Recycled Asphalt Pavement (RAP) and source locations

      (3) Hydrated lime

      (4) Mineral filler

      (5) The percent passing value for each specified sieve for the individual and blended materials

   d. (1) The Contractor shall submit one uncoated, proportioned 22 lb. (10,000 gram) sample of the blended mineral aggregates for consensus properties and specific gravity testing, for all mix types except SPS. Once verified, the Contractor may begin plant production and QC testing with the QA/QC program.

(2) The Contractor has the option of submitting the following; 2 proportioned 22 lb. (10,000 gram) samples of the blended mineral aggregates (which are precoated with hydrated lime) and two one-quart (liter) samples of the proposed PG Binder to be used in the mixture to the Department Materials and Research Central Laboratory at least 15 NDR working days before production of asphaltic concrete. If submitted these samples will be used to verify the Contractor's Superpave mix design test results and mix properties.

(3) Submitted with these samples shall be a copy of the Contractor's results for all Superpave mix design tests.

(4) Mix design shall include at a minimum:

(i) The bulk specific gravity (Gsb), which shall be 2.585, for data purposes and as information only, for all mixes.

(ii) The target binder content. The binder content will be determined by ignition oven results. A correction factor of 0.3% will be added to the ignition oven results for mixes containing hydrated lime.

(iii) The supplier and grade of PG Binder.

(iv) The maximum specific gravity of the combined mixture (Rice).

(v) The bulk specific gravity (Gmb) and air voids at N initial (Nini), N design (Ndes) and N maximum (Nmax) of the gyratory compacted specimens.

(vi) Voids in the Mineral Aggregate (VMA) and Voids Filled with Asphalt (VFA) at Ndes.

(vii) Fine Aggregate Angularity (FAA) and specific gravity, Coarse Aggregate Angularity (CAA), Flat and Elongated Particles and Sand Equivalent of the aggregate blend.

(viii) Location description and/or legal descriptions and producers of materials used in the mix.

(ix) Dust to Binder Ratio.

(x) JMF compaction temperatures from NDOR Gyratory Temperature Table (See Table 1028.11).

(xi) The hydrated lime content.

3. Quality Control Program:

a. The Contractor shall establish, provide, and maintain an effective Quality Control (QC) Program. The QC Program shall detail the methods and procedures that will be taken to assure that all materials and completed construction conforms to all contract requirements.

b. Although guidelines are established and certain minimum requirements are specified herein and elsewhere in the contract, the Contractor shall assume full responsibility for placing a pavement course that meets the target field values.

c. The Contractor shall establish a necessary level of control that will:

(1) Adequately provide for the production of acceptable quality materials.

(2) Provide sufficient information to assure both the Contractor and the Engineer that the specification requirements can be met.

d. (1) The Contractor shall develop and submit a copy of their QC Program to the Department. A copy of the QC Program shall be kept on file in the QC lab trailer. This Program shall be updated as needed and submitted annually for review.

(2) The Contractor shall not begin any construction or production of materials without an approved QC Program.

e. The QC Program shall address, as a minimum, the following items:

(1) QC organization chart.

(2) Inspection requirements.

(i) Equipment.

(ii) Asphalt concrete production.

(iii) Asphalt concrete placement.

(3) QC testing plan.

(4) Documentation of QC activities.

(5) Requirements for corrective action when QC or acceptance criteria are not met.

(6) Any additional elements deemed necessary.

(7) A list, with the name and manufacturers model number, for all test equipment used during laboratory testing.

(8) A description of maintenance and calibration procedures, including the frequency that the procedures are performed.

f. The QC organization chart shall consist of the following personnel:

(1) A Program Administrator:

(i) The Program Administrator shall be a full-time employee of the Contractor or a Subcontractor (Consultant) hired by the Contractor.

(ii) The Program Administrator shall have a minimum of 5 years' experience in highway construction.

(iii) The Program Administrator need not be on the job site at all times but shall have full authority to institute any and all actions necessary for the successful implementation of the QC Program.

(iv) The Program Administrator's qualifications and training shall be described in the QC Program.

(2) Quality Control Technicians:

(i) The quality control technicians shall report directly to the Program Administrator and shall perform all sampling and quality control tests as required by the contract.

(ii) The QC technicians shall be certified every 5 years by the Department Materials and Research Division.

(iii) Certification at an equivalent level by a state or nationally recognized organization may be acceptable.

(iv) The QC technician's credentials and training records shall be submitted to the Department.

(v) The Contractor may have a non-certified technician working under the direct supervision of a certified technician for no more than one construction season.

g. (1) Inspections shall be performed daily to ensure continuing compliance with contract requirements until completion of the work.

(2) QC test results and periodic inspections shall be used to ensure the mix quality and to adjust and control mix proportioning.

4. Contractor's Lab Equipment:

a. The Contractor shall calibrate and correlate the testing equipment according to the procedures prescribed for the individual tests and conduct tests in conformance with specified testing procedures.

b. The Contractor shall have the following equipment (or approved equal) at or near the project location:

(1) A gyratory compactor and molds meeting AASHTO criteria.

(2) An Asphalt Content Ignition Oven meeting AASHTO criteria.

(3) Rice equipment specified in AASHTO T 209, procedure 9.5.1, Weighing in Water. The thermometer being used to measure water temperature will be as specified in T 209.

(4) FAA equipment specified in AASHTO T304.

(5) To test density of compacted asphaltic concrete, a minimum 6000 gm balance, 0.1 gm resolution, with under body connect and water container large enough to conveniently place specimen in the basket and completely submerge the basket and specimen without touching the sides or bottom is required.

(6) QC Laboratory which contain the following:

Air conditioner.

Dedicated phone.

FAX machine or email.

Photocopy machine.

Sample storage.

Work table.

Bulletin board.

Running water.

Desk and chair.

Separate power supply.

Incidental spoons, trowels, pans, pails.

(7) Diamond saw for cutting cores.

(8) Diamond core drill minimum 3 inch (75 mm).

(9) Oven, 347°F (175°C) minimum, sensitive plus 5°F (plus 2°C).

(10) USA Standard Series Sieves for coarse and fine aggregate with appropriate shakers (12 inch (300 mm) recommended).

(11) Personal Computer capable of running the latest version of Department Superpave software, creating an electronic copy of the data, and printing to a Color Printer.

5. QC Testing Plan:

a. The testing plan shall provide that the samples be collected in accordance with the Department statistically based procedure of random sampling.

b. The Contractor may add any tests necessary to adequately control production.

c. All QC test results shall be reported on the latest version of the Department's provided Superpave software by the Contractor with a copy provided to the Engineer within 1 week after the tests are complete. Daily review by the Engineer shall be allowed. At the completion of the asphalt production, the Contractor shall submit to the Department a final copy of the Superpave test results on electronic recording media (CD, e-mail, flash drive, etc.).

d. Corrective Action Requirements:

(1) The Contractor shall establish and utilize QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

(2) The Contractor's QC Program shall detail how the results of QC inspections and tests will be used to determine the need for corrective action.

(3) (i) A clear set of rules to determine when a process is out of control and the type of correction to be taken to regain process control will be provided.

(ii) As a minimum, the plan shall address the corrective actions that will be taken when measurements of the following items or conditions relating to the mixture approach the specification limits:

(I) Plant produced mix gradations at laydown (See gradation tolerances).

(II) Binder content.

(III) Air voids.

(IV) VMA (mix design only).

(V) VFA (mix design only).

(VI) FAAAASHTO T 304.

CAA ASTM D 5821.

(VII) Dust to Binder Ratio.

(VIII) Density.

(IX) Contaminates.

(iii) Corrective actions that will be taken when the following conditions occur:

(I) Rutting.

(II) Segregation.

(III) Surface voids.

(IV) Tearing.

(V) Irregular surface.

(VI) Low Density.

1028.02 -- Material Characteristics

1. The type of PG Binder will be shown in the contract.
2. Recycled Asphalt Pavement:
   a. The Contractor may submit to the State a proposal to supplement the virgin aggregates of the asphaltic concrete mix with a Contractor's specified percentage of Recycled Asphalt Pavement (RAP). The Contractor is responsible for investigating and maintaining the quality and verifying the quantity of the RAP material.
   b. In recycled asphaltic concrete mixtures, the allowable percent of RAP will be as shown in Table 1028.01.

Table 1028.01

Asphaltic Concrete Type	Percent, RAP	
	Minimum	Maximum
SPS	0	50
SPR	0	50
SPH	0	35

3. Aggregates:
   a. Aggregates for use in superpave asphaltic concrete shall be tested on an individual basis.

b. With the exception of Asphaltic Concrete Type SPS the blended mineral aggregate shall not contain more than 80% limestone on the final surface lift of asphaltic concrete.

c. Asphaltic Concrete Type SPR may contain a total maximum of 10% of the virgin material that is composed of natural, uncrushed aggregate by manmade methods commonly known as but not limited to: 47B gravel, 2A gravel, gravel surfacing, sluice sand, blow sand, waste sand, fill sand, road gravel, roofing gravel, hot mix sand or gravel, coarse sand, fine sand, plaster sand, masonary sand, pit run sand or gravel. For clarification on any proposed gravel, contact the Department Flexible Pavements Engineer.

d. Chat or coal sand will not be allowed in any mix.

e. Crushed rock material for use in asphaltic concrete, 1/4 inch (6.35 mm) and smaller, screenings and manufactured sand shall have a Sodium Sulfate loss of not more than 12% by mass at the end of 5 cycles. Sampling size and frequency shall adhere to the current Department Materials Sampling Guide.

f. Quartzite and granite shall conform to the requirements of Subsection 1033.02, Paragraph 4, a. (8). Sampling size and frequency shall adhere to the current Department Materials Sampling Guide.

g. Crushed rock (Limestone) and Dolomite shall conform to the requirements of Paragraph 4.a. (4), (5) and (6). of Subsection 1033.02 of the Standard Specifications. Sampling size and frequency shall adhere to the current Department Materials Sampling Guide.

h. Soundness tests shall not be required for fine sand.

i. Once the satisfactory quality of aggregates from a source has been established, sufficient additional soundness tests will be performed to insure the continued satisfactory quality of the material, as determined by the Materials Sampling Guide

j. Aggregate consensus properties may be performed on material prior to the application of hydrated lime.

k. The coarse aggregate angularity value of the blended aggregate material shall meet or exceed the minimum values for the appropriate asphaltic concrete type as shown in Table 1028.02. If the coarse portion of the blend is all ledge rock the CAA tests may be waived.

Table 1028.02
Coarse Aggregate Angularity
(ASTM D 5821)

* Asphaltic Concrete Type	CAA (minimum)
SPS	--
SPR	83
SPH	95/90*

Denotes two faced crushed requirements

l. The fine aggregate angularity value of the blended aggregate material shall meet or exceed the minimum values for the appropriate asphaltic concrete type as shown in Table 1028.03.

m. The specific gravity for calculation of the Fine Aggregate Angularity (FAA) shall be determined on a washed combined aggregate sample of the material passing the No. 8 (2.36 mm) sieve and retained on the No. 100 (150 µm) sieve. The Contractor will determine the specific gravity to be used in the calculation of FAA mixture design value(s) and, if verified by the Department Aggregate Laboratory, this same value can be used throughout production. The verification value determined by the Department Aggregate Laboratory will be on a combined aggregate sample supplied by the Contractor that is representative of the material proposed or being used during production. The specific gravity to be used throughout production to calculate FAA values will be the Contractor's verified value or the Department determined value (whenever verification is not made) and will be noted on the Mix Design. Changes in aggregate percentages during production may require determination of a revised specific gravity for FAA.

Table 1028.03
Fine Aggregate Angularity
(AASHTO T304 Method A)

Asphaltic Concrete Type	FAA (minimum)
SPS	--
SPR	43.0
SPH	45.0

n. The coarse aggregate shall not contain flat and elongated particles exceeding the maximum value for the appropriate asphaltic concrete type category shown in these provisions according to Table 1028.04.

Table 1028.04
Flat and Elongated Particles*
(ASTM D 4791)

Asphaltic Concrete Type	Percent, Maximum
SPS	25
SPR	10
SPH	10

*Criterion based on a 5:1 maximum to minimum ratio.

o. The sand equivalent of the blended aggregate material from the fine and coarse aggregates shall meet or exceed the minimum values for the appropriate asphaltic concrete type shown in these provisions according to Table 1028.05.

Table 1028.05
Sand Equivalent Criteria
(AASHTO T 176)

Asphaltic Concrete Type	Sand Equivalent, Minimum
SPS	30
SPR	45
SPH	45

p. Dust to binder ratio is the ratio of the percentage by weight of aggregate finer than the No. 200 (75 µm) sieve to the asphalt content expressed as a percent by weight of total mix. The dust to binder ratio shall be within 0.70 and 1.70.

q. The blended aggregate shall conform to the gradation requirements specified in Table 1028.06 and Table 1028.07 for the appropriate nominal size.

Table 1028.06
Gradation Control Points for 0.75 Inch (19 mm) and 0.5 Inch (12.5 mm) Nominal Size

	0.75 Inch (19 mm) Control Points (percent passing)		0.5 Inch (12.5 mm) Control Points (percent passing)	
English Sieve (Metric)	**Minimum**	**Maximum**	**Minimum**	**Maximum**
1 inch (25 mm)	100.0			
3/4 inch (19 mm)	90.0	100.0	100.0	
1/2 inch (12.5 mm)		90.0	90.0	100.0
3/8 inch (9.5 mm)				90.0
No. 8 (2.36 mm)	23.0	49.0	28.0	58.0
No. 16 (1.18 mm)				
No. 30 (600 µm)				
No. 50 (300 µm)				
No. 200 (75 µm)	2.0	8.0	2.0	10.0

Table 1028.07
Gradation Control Points for 0.375 Inch (9.5 mm) Nominal Size and SPR

	0.375 Inch (9.5 mm) Control Points (percent passing)		SPR Control Points (percent passing)		SPR (Fine) Control Points (percent passing)	
English Sieve (Metric)	**Minimum**	**Maximum**	**Minimum**	**Maximum**	**Minimum**	**Maximum**
3/4 inch (19 mm)			98.0	100.0		
1/2 inch (12.5 mm)	100.0					
3/8 inch (9.5 mm)	90.0	100.0	81.0	89.0	81.0	96.0
No. 4 (4.75 mm)		90.0				
No. 8 (2.36 mm)	32.0	67.0	46.0	56.0	46.0	56.0
No. 16 (1.18 mm)						
No. 30 (600 μm)						
No. 50 (300 μm)			12.0	21.0	12.0	21.0
No. 200 (75 μm)	2.0	10.0	4.0	9.0	4.0	9.0

r. The combined mineral aggregate for Asphaltic Concrete, Type SPS, shall be an aggregate or a combination of aggregates, and mineral filler if needed, that conforms to the gradation requirements specified in Table 1028.08.

Table 1028.08
Gradation Control Points for Type SPS

	Control Points (percent passing)	
English Sieve (Metric)	**Minimum**	**Maximum**
1 inch (25 mm)	100.0	
¾ inch (19 mm)	94.0	100.0
½ inch (12.5 mm)	81.0	100.0
No. 4 (4.75 mm)	70.0	90.0
No. 8 (2.36 mm)	42.0	70.0
No. 16 (1.18 mm)	29.0	43.0
No. 30 (600 μm)	19.0	34.0
No. 50 (300 μm)	11.0	20.0
No. 200 (75 μm)	2.0	10.0

s. Mineral filler shall consist of pulverized soil, pulverized crushed rock, broken stone, gravel, sand-gravel, sand or a mixture of these materials that conforms to the requirements in Table 1028.09.

Table 1028.09
Mineral Filler for Type SPS

	Min.	Max.
Total Percent Passing the No. 50 (300 μm) Sieve	95	100
Total Percent Passing the No. 200 (75 μm) Sieve	80	100
Plasticity Index (material passing the No. 200 (75 μm) Sieve, except soil	0	3
Plasticity Index for Soil	0	6

1028.03 -- Acceptance Requirements

1. Mix Criteria:

   a. The target value for the air voids of the SPH Asphaltic Concrete shall be 4% (±1%) at the Ndes number of gyrations. For Type SPS Asphaltic Concrete the air voids at Ndes shall be a minimum of 1.5% with a maximum of 5.0%. For Type SPR Asphaltic Concrete the air voids shall be 3% (±1%) at the Ndes number of gyrations.

   b. The design criteria for each mixture shall be determined from Tables 1028.10, 1028.11, and 1028.12.

Table 1028.10
Gyratory Compaction Effort
(Average Design High Air Temperature <39 degrees C)

Asphaltic Concrete Type	Nini	Ndes	Nmax
SPS	6	40	62
SPR	7	65	100
SPH	8	95	150

Table 1028.11
Gyratory Compaction Temperatures

Mix Type	% RAP	Compaction Temp °F
SPS	0-25	270 ± 5
	26-50	280 ± 5
SPR	0-35	280 ± 5
	36-50	290 ± 5
SPH	0-35	300 ± 5

Table 1028.12
Minimum Binder Content

Mix Type (Metric)	Minimum Binder Content, Percent
SPS	4.8
SPR	5.0
3/8 inch (9.5 mm)	5.5
1/2 inch (12.5 mm)	5.1
3/4 inch (19 mm)	5.0

   c. During production of Lot #1, the Contractor shall provide to the Department 6 properly prepared gyratory samples for AASHTO T 283 testing for all mixtures. Superpave mixtures shall contain 1.25% hydrated lime as specified in the Special Provision "Hydrated Lime for Asphaltic Mixtures". Each Superpave mixture shall be tested for moisture sensitivity in accordance with AASHTO T 283. The 6 inch (150 mm)

specimens shall be compacted in accordance with AASHTO T 312 to 7% (± 0.5%) air voids at 95 mm in height and evaluated to determine the Tensile Strength Ratio (TSR).

d. During production of Lot #1, the Contractor shall provide to the Department two 75mm gyratory puck samples at 4.0% voids (± 0.5%) for APA testing for all mixtures except Asphaltic Concrete Type SPS.

2. The Contractor shall make Mix adjustments when:

   a. The mix does not meet the current approved JMF or any other requirements of the contract.

   b. Surface voids create a surface or texture that does not meet the criteria of Sections 502 and 503 in these Standard Specifications.

   c. Rutting occurs.

3. The Contractor shall inform the Engineer when changes in mixture properties or materials used occur for any reason. Changes such as, but not limited to, types or sources of aggregates or changes in grades, sources, properties or modification procedures (if modified) of PG Binders. The Department may require a new job mix formula, mix design and moisture sensitivity test. The new proposed job mix formula shall be in accordance with the requirements as stated above.

4. Mix adjustments at the plant are authorized within the limits shown in Table 1028.13 as follows:

   a. The adjustment must produce a mix with the percent air voids and all other properties as stated in these specifications.

   b. All adjustments must be reported to the Engineer.

   c. The adjustment values in Table 1028.13 will be the tolerances allowed for adjustments from the Department verified mix design "Combined Gradation" target values which resulted from production or mix design adjustments, but cannot deviate from Superpave gradation criteria. Mix adjustments for individual aggregates, including RAP, greater than 25% of the original verified mix design proportion or greater than 5% change in the original verified mix design percentage, whichever is greater, may require the Contractor to submit a new mix design, as determined by the Engineer. The Contractor is responsible for requesting new mix design targets as they approach these tolerances, failure to do so may result in a suspension of operations until a new mix design is approved.

Table 1028.13

Aggregate Adjustments	
Sieve Size	**Adjustments**
1 inch (25 mm), 3/4 inch (19 mm), 1/2 inch (12.5 mm), 3/8 inch (9.5 mm), No. 4 (4.75 mm)	± 6%
No. 8 (2.36 mm), No. 16 (1.18 mm), No. 30 (600 µm), No. 50 (300 µm)	± 5%
No. 200 (75 µm)	± 2%

5. Sampling and Testing:

a. The Contractor shall take samples at frequencies identified by the Engineer, according to the Department statistically based procedure. The samples shall be approximately 75 lbs (34 kg) and split according to AASHTO T-248 to create a companion sample. This sample splitting can be either at: 1) the sampling location, with the Department taking custody of their sample at that time or 2) after being transported to the test facility in an insulated container, with the Department taking custody of their sample at that time as determined by the Engineer. The details of sampling, location, splitting etc. shall be determined at the pre-construction conference.

b. All samples transported to the test facility and companion samples within the Lot shall be identified by attaching or faxing the lab calculation sheet from the latest version of the superpave software, stored, and retained by the Contractor until the Department has completed the verification testing process. Transporting of all samples will be under the observation of Department.

c. (1) The sample shall be taken from the roadway, behind the paver before compaction or from the windrow. For SPS mixes, the Contractor has the option to obtain the samples directly at the plant.

(2) At least one QC sample shall be tested for every 750 tons (680 Mg) of plant produced mix.

(i) If, at the completion of the project, the final lot consists of less than 3,750 tons (3,400 Mg) of asphaltic concrete, 1 sample for each 750 tons (680 Mg) or fraction thereof, shall be taken and tested.

(3) Additional sampling and testing for the Contractor's information and quality control may be performed at the Contractor's discretion. Any additional testing will not be used in pay factor determination.

(4) (i) When cold feed samples are being taken, the acquisition shall be timed such that the material in the sample represents, as close as possible, the same material in the sample taken behind the paver. If cold feeds are sampled and tested by Contractor, a split of that sample must be submitted with the hot mix sublot sample. The Contractor will be notified what sublot (a minimum of 1 sublot per lot) sample must be tested for FAA and CAA from the blended cold feed material according to the Department random sampling schedule. All other FAA and CAA sublot samples may be taken from the randomly selected portion of the blended cold feed material or obtained from the random samples taken behind the paver. Samples shall be taken under the observation of Department and split according to AASHTO T-248, with the Department taking custody of their sample at that time.

(ii) For projects using RAP material the FAA shall be established as follows: a RAP sample will be processed through an ignition oven and then combined with the proportioned amount of virgin aggregate defined by the mix design and then proceeding with FAA and CAA testing.

d. The sample shall be compacted immediately while still hot (additional heating may be required to raise the temperature of the sample to compaction temperature).

e. Each production sample shall be tested as follows:

(1) Bulk Specific Gravity (Gmb) shall be determined for each specimen in accordance with AASHTO T 166 Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface Dry Specimens. One specimen shall be compacted for each production sample.

(2) One Theoretical Maximum Specific Gravity (Gmm) test for each production sample of uncompacted mixture shall be determined in accordance with AASTHO T 209 procedure 9.5.1. Weight in water - Maximum Specific Gravity of Bituminous Paving Mixtures.

(3) (i) The Blended Aggregate Bulk Specific Gravity (Gsb) shall be 2.585 for information only for all mixes.

(ii) FAA - AASHTO T 304 Method A. The pour time of the test sample into the funnel shall be completed in 5±1 seconds.

(iii) CAA - ASTM 5821. For SPR mixes, CAA testing and results are only required on the cold feed verification test for the lot.

(4) The laboratory air voids shall be determined in accordance with the following:

Table 1028.14

Gmb(corr)@Nany = Gmb(meas)@Nmax x (height@Nmax ÷ height@Nany)
%Gmm(corr)@Nany = 100 x (Gmb(corr)@Nany ÷ Gmm(meas))
% Air Voids@Nany = 100 - %Gmm(corr)@Nany
VMA@Ndes = 100 – (Gmb(corr)@Ndes x Ps ÷ Gsb)
VFA@Ndes = 100 x ((VMA@Ndes - % Air Voids@Ndes) ÷ VMA@Ndes)
Measured = (meas)
Corrected = (corr)

(5) (i) The percent of PG Binder shall be determined for each QC test. The percent of PG Binder will be computed by ignition oven results. A correction factor of 0.3% will be added to the ignition oven results for mixes containing hydrated lime.

(ii) The gradations shall be determined for each QC test using AASHTO T 30.

(6) Except as noted in this Subsection, all sampling and testing shall be done as prescribed in the Department Materials Sampling Guide and Standard Method of Tests.

f. Testing Documentation:

(1) All test results and calculations shall be recorded and documented on data sheets using the latest version of Department provided "Superpave" software. A copy containing complete project documentation will be provided to the Department at the completion of asphalt production.

g. Superpave Software:

(1) QC charts from the software shall be made available for review by the Engineer at any time.

(2) As a minimum, the following values shall be reported on Department provided software:

(i) Laboratory Gyratory density.

(ii) Ignition oven or cold feed aggregate gradations for all Superpave sieves will be reported.

(iii) PG Binder content shall be plotted to the nearest 0.01% by ignition oven results in accordance with AASHTO T 308.

(iv) The theoretical maximum specific gravity (Rice) to the nearest 0.001% will be reported.

(v) Laboratory Gyratory air voids at Ndes shall be plotted to nearest 0.1%. Laboratory Gyratory air voids, at Nini, Ndes and Nmax shall be reported to nearest 0.1%.

(vi) FAA and CAA of the asphaltic concrete for both cold feed and ignition oven samples will be reported to the nearest 0.1% for FAA and 1% for CAA. A minimum of one sublot FAA and CAA cold feed sample per lot will be tested and recorded on Department provided software.

(vii) VMA content shall be plotted to nearest 0.1% and VFA shall be reported to the nearest 0.1%.

(viii) Dust to Binder ratio to the nearest 0.01 will be reported.

6. Verification Sampling and Testing:

a. The Department will select and test at random one of the sublot samples (750 tons, 680 Mg) within a Lot (3750 tons, 3400 Mg) for verification and report results.

b. The results of Contractor QC testing will be verified by the Department's verification tests. Any samples outside of the tolerances in Table 1028.15 and 1028.16 will result in an Independent Assurance (IA) review of testing and may result in the Department test results being applied.

(1) On any given Lot, if the results of Air Void verification testing and its companion QC testing are within 1.0% air voids, the Air Void verification for the entire Lot is complete and the Contractor test results will be used to determine the pay factors. If the Air Void verification test results and the companion QC test results are outside the above tolerance, the results from the verification test will be used to determine the pay factor for that sublot. Any or all of the remaining four Department sublot samples may be tested and the Department sublot test results may be applied to the respective sublots and the resulting pay factors will apply.

(2) On any given Lot, if the results of the FAA verification testing and its companion QC testing are within 0.5 percent, the FAA verification for the entire Lot is complete and the Contractor test results will be used to determine the pay factor. If the FAA verification test results and the companion QC test results are outside the above tolerance, the results from the verification test will be used to determine the pay factor for that sublot. Any or all of the remaining four Department sublot samples may be tested and the Department sublot test results may be applied to the respective sublots and the resulting pay factors will apply.

c. When verification tests are within testing tolerance but results show a consistent pattern of deviation from the QC results, the Engineer may cease production and/or request additional verification testing or initiate a complete IA review.

Table 1028.15
Asphaltic Concrete Testing Tolerances

Test	Tolerance
Asphalt Content by Ignition Oven	0.5%
Gyratory Density	0.020
Maximum Specific Gravity	0.015
Bulk Dry Specific Gravity (Gsb)	0.020
FAA	0.5%
CAA	10%
Field Core Density	0.020
Air Voids	1.0%

Table 1028.16
Blended Aggregate Gradation
Testing Tolerances

Sieve Size	Tolerance
3/4 inch (19 mm), 1/2 inch (12.5 mm), 3/8 inch (9.5 mm), No. 4 (12.5 mm), No. 8 (2.36 mm)	5%
No. 16 (1.18 mm), No. 30 (600 µm), No. 50 (300 µm)	4%
No. 200 (75 µm)	2%

d. Independent Assurance (IA) Review of Testing:

(1) The Contractor shall allow the Department personnel access to their laboratory to conduct IA review of technician testing procedures and apparatus. Any deficiencies discovered in testing procedures will be reported by the department and corrected by the Contractor.

(2) During IA review, the Department personnel and the Contractor will split a sample for the purpose of IA testing. The samples selected will be tested in the Department Branch Laboratory. Any IA test results found to be outside of defined testing tolerances above will be reported. The Contractor shall verify the testing apparatus and make corrections if the apparatus is out of tolerance.

(3) See Section 28 of the Materials Sample Guide for more information on IA testing.

e. If the project personnel and the Contractor cannot reach agreement on the accuracy of the test results, the Department will be asked to resolve the dispute, which will be final. It is the Contractor's responsibility to obtain a large enough sample size for any referee testing (a total sample size of 6000 grams, to be retained by the Department after splitting, is recommended for FAA testing). All dispute resolutions will be in accordance with the Quality Assurance Program requirements in the NDOR Materials Sampling Guide.

7. Production Tolerances, Acceptance, and Pay Factors

Table 1028.17
Production Tolerances*

Test	***Allowable*** **Deviation from Specification**
Dust to Asphalt Ratio	None
Coarse Aggregate Angularity	- 5% below Min.
Fine Aggregate Angularity for SPR Only	- 0.2% below Min. for cold feed - 0.5% below Min. for ignition oven
Fine Aggregate Angularity for all other mixes	- 0.5% below Min. for cold feed - 1.0% below Min. for ignition oven
Minimum Binder Content	None

* These tolerances are applied to the mix design specification values, not the submitted mix design targets.

a. The Contractor shall notify the Engineer whenever a test result approaches the Specification limits.

b. When any single test result for FAA testing falls outside the allowable production tolerances in Table 1028.17, the material represented by this test will be accepted with a penalty as shown in Table 1028.18 or rejected, as determined by the Engineer. For all other tests, when any single test result, on the same mix property, from two consecutive QC

samples fall outside the allowable production tolerances in Table 1028.17, the material represented by these tests will be accepted with a 20% penalty or rejected, as determined by the Engineer.

Table 1028.18
FAA Penalty Scale

Percentage outside of allowable deviation given in Table 1028.17	Penalty for SPR	Penalty for SPH
0.1%	20% or reject	5% or reject
0.2%	20% or reject	10% or reject
0.3%	20% or reject	15% or reject
0.4% or greater	20% or reject	20% or reject

c. The Contractor shall assume the responsibility to cease operations when specifications are not being met.

d. Acceptance and pay factors for Asphaltic Concrete Type SPS will be based on compacted in place average density.

e. For each sublot of Asphaltic Concrete Type SPR and SPH, the asphaltic concrete unit price is a product of all applicable pay factors for the item "Asphaltic Concrete, Type _____". Included in a sublot, following approval of the control strips, may be any roadway Asphaltic Concrete Type SPR or SPH which is produced and approved by the Engineer for use as Patching, State Maintenance Patching, and Asphalt for Intersections and Driveways on project shall be eligible for inclusion in sublot(s) tonnage pay factor determination using the roadway Asphaltic Concrete Type _____ unit price. When a control strip is not constructed, the pay factor for the running average of four air voids shall be fixed at 1.0 for the first three asphaltic concrete sublots.

(1) When there is a production tolerance pay factor penalty as stated in Paragraph 7.b. subsection 1028.03 this penalty percentage will be entered in the Superpave Asphalt Pay Factor Summary under production specifications for each sublot affected. These individual pay factors will then be multiplied by each other to determine a total pay factor for each sublot [(750 tons) (680 Mg)].

f. The pay factors for the single test air voids and moving average of four air voids pay factors will be determined in accordance with Table 1028.19.

Table 1028.19
Acceptance Schedule
Air Voids - N_{des}

Air voids test results for Asphaltic Concrete Type SPR	Air voids test results for SPH Asphaltic Concrete	Pay Factor	
		Moving average of four	Single test
Less than 0.5%	Less than 1.5%	50% or Reject	50% or Reject
0.5% to 0.9%	1.5% to 1.9%	50% or Reject	50%
1.0% to 1.4%	2.0% to 2.4%	50% or Reject	95%
1.5% to 1.9%	2.5% to 2.9%	90%	95%
2.0% to 2.4%	3.0% to 3.4%	100%	100%
2.5% to 3.5%	3.5% to 4.5%	102%	104%
3.6% to 4.0%	4.6% to 5.0%	100%	100%
4.1% to 4.5%	5.1% to 5.5%	95%	95%
4.6% to 5.0%	5.6% to 6.0%	90%	95%
5.1% to 5.5%	6.1% to 6.5%	50% or Reject	90%
5.6% to 6.0%	6.6% to 7.0%	50% or Reject	50%
6.1% and over	7.1% and over	50% or Reject	50% or Reject

8. Asphalt Concrete Density Samples:

   a. The Contractor shall perform density tests under direct observation of Department personnel. The Contractor shall establish the method of testing in the preconstruction conference and shall test in accordance with the AASHTO T 166, NDR T 587, or as otherwise described in these Special Provisions. The Contractor shall insure that the proper adjustment bias and/or correction factors are used and accessible to Department personnel along with all other inputs when NDR T 587 is selected. All correlation factors and test results shall be generated and reported on the Department Density spreadsheet. When AASHTO T 166 is being used, the Department will observe the Contractor taking, transporting, and testing the cores. The Department will take immediate custody of the cores at the completion of the testing. All disputed values determined using NDR T 587 will be resolved using AASHTO T 166.

   b. The Contractor shall determine the density of samples by comparing the specific gravity of the core sample to the Maximum Specific Gravity (Rice) as follows:

$$\% \text{ Density} = \frac{\text{Specific Gravity of Core}}{\text{Maximum Mix Specific Gravity Rice)}} \times 100$$

where:

$$\text{Sp. Gr. of Core} = \frac{\text{Wt. of Core in Air}}{\text{Wt. of SSD Core} - \text{Wt. of Core in Water}}$$

$$\text{Maximum Mix Specific Gravity = (Rice)} \quad \frac{\text{Wt. of Mix in Air}}{\text{Wt. of Mix in Air - Wt. of Mix in Water}}$$

Note: The individual QC test value of the Maximum Mix Specific Gravity (Rice), determined by AASHTO T 209, will be used to calculate the density of each corresponding core.

c. The Contractor shall cut cores the first day of work following placement of the mixture. The core samples shall be a minimum of a 3 inch (75mm) diameter.

d. Normally, 1 sample for determination of density will be taken from each sublot (750 tons) (680 Mg) at locations determined by the Engineer.

e. The average density of the lot shall be used to compute the pay factor for density. Exceptions to the sampling and testing of core samples for the determination of density are as follows:

(1) When the nominal layer thickness is 1 inch (25 mm) or less, the sampling and testing of density for this layer will be waived.

(2) When the average thickness of the 5 cores for a lot is 1 inch (25 mm) or less, the testing of density samples for this lot will be waived.

(3) When the nominal layer thickness and the average of the original 5 cores for a lot are both more than 1 inch (25 mm), but some of the cores are less than 1 inch (25 mm) thick, additional cores shall be cut at randomly selected locations to provide 5 samples of more than 1 inch (25 mm) thickness for the determination of the pay factor for density.

f. (1) If, at the completion of the project, the final lot consists of less than 3,750 tons (3400 Mg) of asphaltic concrete, a minimum of 3 samples, or 1 sample for each 750 tons (680 Mg) or fraction thereof, whichever is greater, shall be taken and tested for density.

(2) The test results shall be averaged and the density pay factor based on the values shown in Table 1028.20.

(3) Should the average of less than 5 density tests indicate a pay factor less than 1.00, additional density samples to complete the set of five shall be taken at randomly selected locations and the density pay factor based on the average of the 5 tests.

Table 1028.20

Acceptance Schedule Density of Compacted Asphaltic Concrete	
Average Density (5 Samples, Percent of Voidless Density)	**Pay Factor**
Greater than 92.4	1.00
Greater than 91.9 to 92.4	0.95
Greater than 91.4 to 91.9	0.90
Greater than 90.9 to 91.4	0.85
Greater than 90.4 to 90.9	0.80
Greater than 89.9 to 90.4	0.70
89.9 or Less	0.40 or Reject

g. If requested by the Contractor, check tests for all density tests in the original set, taken no later than the working day following the receipt of all test results for the lot, will be allowed in lots with a density pay factor of less than 1.00. No re-rolling will be allowed in these lots. Locations for checks tests will be provided by the Engineer from the Random Sampling Schedule. The average density obtained by the check tests shall be used to establish the density pay factor for the lot.

h. The location of density samples are identified by the Random Sampling Schedule. When the random location is noted as zero or the lane width (i.e., zero or 12 ft. on a 12-foot lane), the core shall be cut with the outer edge of the core barrel no greater than 4 inches away (laterally) from the edge of the top of the mat for an unconfined edge or from the edge of the top of the hot mat (joint) for a confined edge. If using a nuclear gauge, the 4 inches would be measured to the edge of the gauge base. The percent density value at these edge-of-lane locations shall be adjusted upward by 2.5%, but to a value of no greater than 92.5%, and the resultant value used in determining the density pay factor. No initial value of 92.5 or greater shall be adjusted.

WARM MIX ASPHALT
(J-7-0213)

The Contractor has the option to use Warm Mix Asphalt (WMA) meeting the following requirements.

1. Warm Mix Asphalt (WMA)

Warm Mix Asphalt mixtures shall follow the requirements of Superpave Asphaltic Concrete and all other applicable sections with the following exceptions:

a. The Contractor shall request the use of a WMA additive in writing when submitting the Job Mix Formula. The requested additive shall be an approved Level I or II production product or combination thereof. The manufacturer's recommended additive rates, specifications, and all other pertinent information shall be included in the requests. All requests must be approved by the Flexible Pavements Engineer prior to their use.

b. Level I Production

(1) Level I WMA additives are as follows: water injection devices.

(2) Hydrated Lime at 1.25% by weight of virgin aggregate is required for all mixtures.

(3) The allowable drop in temperature shall be a maximum of 40°F below the producer's recommended production temperature for Hot Mix Asphalt (HMA), or less as required during production to achieve proper laydown and compaction properties. Plant production temperatures shall not drop below 230°F.

c. Level II Production

(1) Level II WMA additives are as follows: Advera, Evotherm (DAT, ET, 3G), and Sasobit.

(2) For amine based WMA additives, 25% of the additive must be considered an amine based anti-striping agent. Amine based WMA additives with anti-striping agents shall be terminal blended by the binder supplier or a system approved by the Flexible Pavements Engineer for application at the plant. For all other warm mix technologies hydrated lime shall be added at a minimum rate of 1.25% by weight of virgin aggregate, including the weight of limestone. Hydrated Lime shall not be used on Level II WMA mixtures when the WMA additive is an Amine based additive or when the Amine WMA additives are used in combination with Level I water injection. The minimum rate for amine based WMA additives shall be 0.7%. The dosage rate of anti-strip shall not exceed manufacturer's recommendations.

(3) The drop in temperature shall be a maximum of 90°F from the producer's recommended production temperature for HMA. Plant production temperatures shall not drop below 215°F.

d. Other WMA additives shall not be used unless otherwise approved by the Flexible Pavements Engineer.

e. WMA additives may be used in combination by approval of the Flexible Pavements Engineer.

f. Asphalt mixes shall be tested for TSR on the first lot of production and then on randomly selected lots thereafter.

g. Field samples shall be heated and compacted using the following table unless otherwise approved by the Flexible Pavements Engineer.

Gyratory Compaction Temperatures

Mix Type	% Rap	Compaction Temp °F
SPS	0-25	270 ± 5
	26-50	280 ± 5
SPR	0-35	280 ± 5
	36-50	290 ± 5
SPH	0-35	300 ± 5

h. NDOR may suspend or eliminate the use of WMA on a project if any of the following conditions occur: rutting, segregation, surface voids, tearing, irregular surface, low density, raveling, stripping, or if pavement does not meet any other design criteria.

2. Warm Mix Asphalt (WMA) additives will be measured and paid for directly by the unit of each for the item "Hydrated Lime/Warm Mix Asphalt" for each ton of hot mix asphalt produced.

ASPHALT DENSITY GAUGE
(J-7-0213)

Description

An Asphalt Density Gauge may be used for Quality Control when determining the in-place density of asphaltic concrete.

Material Requirements

The device must be approved by the Flexible Pavements Engineer.

Testing Method

1. The Contractor shall establish the method of testing in the preconstruction conference. All testing shall be in accordance with AASHTO TP 68 and as directed in this provision.

2. The first 3 density locations of the project shall be cored in accordance with AASHTO T166 to calibrate the asphalt density gauge. Prior to coring, the Contractor shall calibrate the device at each core location.

3. Calibration: A correction factor shall be established for the first 3 cores by calculating the difference between the average density measurement of the asphalt density gauge and the roadway core density. This correction factor shall be entered into the device and used for measuring subsequent densities. The correction factor shall be verified with another core for every 15 density readings that are to be recorded.

4. Density Reading Procedure: Place the asphalt density gauge on the asphalt mat over the area to be tested. Record the density reading, and repeat this process for a total of 5 readings, as detailed in Figure 1. An average of the 5 readings will be used as the density reading for each location.

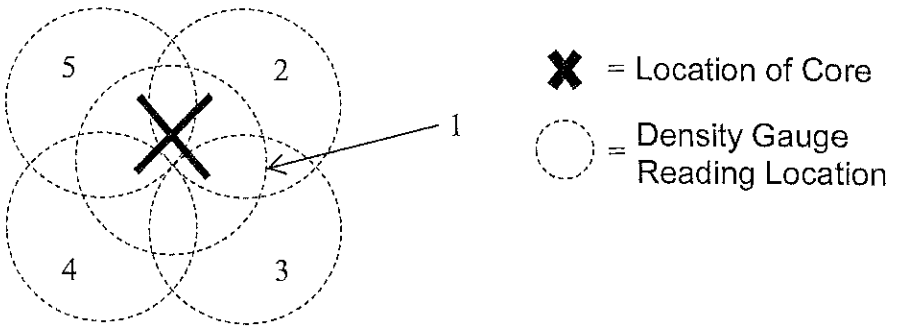


Figure 1: Asphalt density gauge

5. If any density measured by the asphalt density gauge is below 90%, a density core shall be cut at that location and used for density measurement for that sublot. Density

readings below 90% shall not be used to calculate a correction factor. All disputed values determined using the asphalt density gauge will be resolved using AASHTO T 166.

ASPHALTIC CONCRETE TYPE SLX
(J-29-0414)

Asphaltic Concrete, Type SLX shall meet all of the requirements of Asphaltic Concrete, Type SPR, listed in Section 1028 and these Special Provisions, with the following exceptions:

1. Material Characteristics:

a. The type of PG Binder used shall be PG Binder 64-34 with 0.7% of an approved amine-based WMA additive.

b. Reclaimed Asphalt Pavement (RAP) will be added to the mix at a minimum of 20% and a maximum of 35%. The RAP must be fractionated/processed prior to use, to a sizing such that the combined hot mix meets the required gradation. The mat cannot exhibit any visual defects or cold spots from RAP conglomeration.

c. The mix shall contain a minimum of 20% Crushed Rock Chips (with a minimum of 45% retained on the #4 sieve and a maximum of 5% passing the #200 sieve).

d. The Asphaltic Concrete shall have a minimum Fine Aggregate Angularity (FAA) of 43.0 on the combined aggregate blend. There is no requirement for Coarse Aggregate Angularity (CAA).

e. Asphaltic Concrete Type SLX shall use the gradation band listed below.

Gradation Control Points for Type SLX

	Control Points (percent passing)	
English Sieve (Metric)	**Minimum**	**Maximum**
1/2 inch (12.5 mm)	98.0	100.0
3/8 inch (9.5 mm)	93.0	100.0
No. 4 (4.75 mm)	70.0	87.0
No. 8 (2.36 mm)	45.0	65.0
No. 16 (1.18 mm)	25.0	41.0
No. 30 (600 µm)	15.0	31.0
No. 50 (300 µm)	10.0	21.0
No. 100 (150 µm)	---	---
*No. 200 (75 µm)	4.0	10.0

* Dust to binder ratio is the ratio of the percentage by weight of aggregate finer than the No. 200 (75 µm) sieve to the asphalt content expressed as a percent by weight of total mix. The dust to binder ratio shall be between 0.70 and 1.70.

2. **Design Criteria:**

a. The optimum binder content shall be the binder content that produces 2.0 to 4.0 percent air voids at 50 gyrations, with a minimum content of 5.3%.

b. The Voids in the Mineral Aggregate (VMA) shall be a minimum of 16% ± 1% (mix design only).

3. **Placing and Finishing:**

a. Asphaltic Concrete shall be placed only when the ambient temperature is at least 40°F (4°C) and rising.

b. The asphaltic concrete temperature shall be 285° F (154°C) or above measured in the truck just prior to placement. Exceptions to this requirement are that the PG Binder Supplier recommended maximum temperature requirement shall not be exceeded.

c. The Contractor will use steel wheel compactors only. Rubber tire rollers will not be allowed.

4. **Asphaltic Concrete Density:**

Regardless of layer thickness, Asphaltic Concrete Type SLX will be monitored for density.

An initial rolling pattern test strip shall be completed to determine the rolling pattern that will target a minimum of 92.5% density. The Contractor shall monitor the density through a combination of rolling pattern and field testing as deemed necessary by the Engineer.

5. **Method of Measurement:**

For each lot of Asphaltic Concrete Type SLX, the asphaltic concrete shall be paid by the contract unit price for the item "Asphaltic Concrete, Type SLX". The asphaltic concrete unit price is a product of all applicable pay factors excluding density and CAA.

Basis of Payment:

Paragraphs 2.a., 2.b.(1), 2.b.(2) and 2.b.(3) of Subsection 503.06 are void and superseded by the following:

Asphaltic Concrete Type SLX shall be paid per ton (Mg) for the item "Asphaltic Concrete Type SLX".

SECTION F—PORTLAND CEMENT CONCRETE PAVEMENT, CURB WALL, INTEGRAL CURB, CURB AND GUTTER AND SIDEWALK, STRUCTURAL CONCRETE, REINFORCING STEEL

1. **Description.** This work shall consist of that described in Division 600 Concrete Paving; Section 704 Concrete Retaining Walls and Steps; Section 606 Concrete Curb and Gutter; Section 607 Concrete Sidewalks; and Division 700 Bridges, Culverts, Related Construction of the 2007 State Specifications.

2. **Materials.** All materials used in the performance of the items of work shall comply with Division 600 and Division 1000 for Concrete Paving (47B).

3. **Construction Methods.**

   (a) Concrete Paving shall be mixed, placed and finished as provided in Sections 603.03.

   (b) Concrete Retaining Walls and Steps shall be mixed, formed, placed and finished in accordance with Section 704.

   (c) Concrete Curb and Gutter shall be mixed, placed and finished in accordance with Sections 606.01 through 606.03.

   (d) Concrete Sidewalks and Drives shall be mixed and finished in accordance with Sections 607.01 through 607.03 and Sections 609.01 through 609.03.

   (e) Structural Concrete for box culverts, bridges and dams shall be mixed and furnished in accordance with Section 704.

   (f) Reinforcing Steel. Steel bars for concrete reinforcement shall conform to Section 707 of the 2007 State Standard Specifications for Highway Construction and shall be deformed, of Grade 40 or Grade 60 billet or Grade 40 or Grade 60 axle steel as shown in the plans, specifications or Special Provisions.

4. **Method of Measurement and Payment.**

   (a) Portland Cement Pavement shall be measured in place and paid for by the square yard at the contract bid price for "P.C.C. Pavement" at the thickness shown in the proposal and on the plans. Such payment shall be considered full compensation for furnishing all materials including, but not limited to, reinforcing steel, dowel bars, joint sealer, special joints, hauling, placing, sawing, finishing and curing said concrete paving and performing all incidental work necessary to complete the item of work.

   (b) Integral Curb shall be subsidiary to the unit contract bid price for P.C.C. concrete pavement.

(c) Concrete Curb Wall shall be measured and paid for by the cubic yard in place at the contract bid price for "Concrete Curb Wall" through and including transitions from Concrete Curb Wall to Standard Integral Curb. Said payment will be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(d) Concrete Curb and Gutter shall be measured and paid for by the linear foot for "Concrete Curb and Gutter". Said payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(e) Portland Cement Concrete Sidewalks shall be measured and paid for by the square foot at the contract bid price for "5 Inch P.C.C. Sidewalks". Said payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(f) Portland Cement Concrete Drives shall be measured and paid for by the square yard at the contract bid price for "6 Inch P.C.C. Drives". Said payment will be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(g) Structural Concrete shall be measured and paid for per cubic yard at the contract bid price. Said payment will be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(h) Payment of steel reinforcement shall be made at the contract bid price per "pound". Such payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

SECTION G—PAVEMENT, CURB AND GUTTER, SIDEWALK AND DRIVE REMOVAL

1. **Description.** This work shall consist of removing and disposing of Asphaltic Concrete Paving, Concrete Paving, Concrete Curb and Gutter and Concrete Sidewalks and Drives.

2. **Construction Methods.** Limits of paving removals for Asphaltic and Portland Cement Concrete Paving including Curb and Gutter, Sidewalks and Drives, when indicated in the plans or directed by the Engineer, shall be sawed to a depth sufficient to result in a straight and undamaged edge on the remaining pavement.

   Where pipelines are to be installed by open cut in streets on which asphalt or concrete pavement exists, the pavement shall be neatly cut out in a straight line along both edges of the trench. Cutting will be done with a concrete saw or other suitable means acceptable to the Engineer. The paving so cut will be removed, loaded and hauled to a dump approved by the Engineer. Limits of paving removed will be designated by the Engineer.

3. **Method of Measurement and Payment.**

(a) Removal of all types of roadway paving shall be unclassified and shall be measured and paid for on a square yard basis at the contract bid price for "Pavement Removal". Such payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(b) Removal of pavement for drives will be measured and paid for on a square yard basis at the contract bid price for "Driveway Pavement Removal". Such payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(c) Removal of concrete curb and gutter shall be measured and paid for on a linear foot basis at the contract bid price for "Curb and Gutter Removal". Such payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(d) Removal of concrete sidewalk shall be measured and paid for on a square foot basis at the contract bid price for "Sidewalk Removal". Such payment shall be considered full compensation for furnishing all materials and labor necessary to complete the item of work.

(e) Saw cutting pavement will not be paid for directly but shall be considered subsidiary to the bid items of the contract, unless otherwise so specified in the bidding documents.

SECTION H—REMOVAL OF EXISTING STRUCTURES

1. **Description.** This work shall consist of that described in Section 203 of the 2007 State Specifications.

2. **Construction Methods** used shall be in conformance with Section 203.02.

3. **Method of Measurement and Payment.**

   (a) Removing existing concrete box culverts, dams, retaining walls, storm sewer inlets and catch basins, etc. shall be measured and paid for on a per each basis for each item removed at the contract bid price as specified in the Proposal, which payment shall be considered full compensation for providing all labor and materials necessary to complete the work.

   (b) Removal of existing storm sewer shall be measured and paid for on a linear foot basis for the type and size indicated in the proposal and on the plans.

SECTION I—REINFORCED CONCRETE PIPE

1. **Description.** This work shall consist of that described in Section 1037 of the 2007 State Specifications.

2. **Materials** used in the construction shall conform to minimum material requirements shown as follows:

   (a) Reinforced Concrete Pipe shall conform to the requirements of AASHTO M170, M206 C 76 76 ASTM Designation or the latest revision thereof, for Class III Reinforced Concrete storm sewer and culvert pipe.

   The various classes of pipe designated shall meet the following requirements:

   (1) Class III Reinforced Concrete Pipe – D Load 0.01 in crack 1,350 lbs.
   Class III Reinforced Concrete Pipe – D Load Ultimate 2,000 lbs.

   (2) Concrete Proportions – as designated in Section 5.2.1 concrete (ASTM 76 76) with not less than six U.S. standard bags of cement per cubic yard.

   (3) Concrete Strength – 4,000 psi

   (4) Pipe Acceptance – as specified in Section 3.1.1 (ASTM 76 76) three edge bearing test. In addition, the reinforced concrete pipe manufactured under this specification will be required to meet absorption requirements of concrete as indicated in ASTM Specification C 76.

3. **Construction Methods.** All transporting, delivering, placing, excavating and backfilling of storm sewer shall conform to the requirements of Section 720 except that backfill material for the lowest 90 degrees shall be sand, placed and compacted to the required density under the direction of the Engineer. Bedding will be required for all reinforced concrete pipe and corrugated metal pipe installed on this project.

4. **Method of Measurement and Payment.**

   (a) Excavation backfilling and compaction of trenches for storm sewers shall not be measured and paid for directly but shall be considered subsidiary to the bid items of the contract.

   (b) Pipe for storm sewer shall be measured and paid for on the linear foot basis of the contract bid price for "C.M.P. Storm Sewer" and "R.C.P. Storm Sewer" for the pipe sizes indicated in the plans and specifications as provided in Section 720.05.

   (c) Pipe for sanitary sewer shall be measured and paid for on the linear foot basis at the contract bid price for "V.C.P. Sanitary Sewer" for the pipe size indicated in the plans and specifications. Said payment shall be considered full compensation for excavation, disconnecting house services from the existing sewer main, installing the sanitary sewer, wyes and house sewer service lines, plugging service lines at the point of disconnection, backfilling and compacting the trench, performing all incidental work and providing all equipment, labor and materials necessary to complete the item of work.

SECTION J—CATCH BASINS, MANHOLES, INLETS AND JUNCTION BOXES

1. **Description.** This work shall consist of that described in Sections 916 Catch Basins, Manholes, Inlets and Junction Boxes and 917 Reconstruction of Manholes and Adjusting Manholes to Grade.

2. **Materials.** All materials furnished shall conform to Section 916.02 except steel and gray iron castings shall be the types specified on the plans.

3. **Construction Methods.** Construction will be in accordance with Sections 916.03.

4. **Method of Measurement and Payment.**

   (a) Excavation backfill and compaction will not be measured and paid for directly but shall be considered subsidiary to the bid items of the contract.

   (b) Manholes and Inlets shall be measured and paid for at the contract bid price per each for the types specified and said payment shall be considered full compensation for furnishing all labor, equipment and materials, including steps and covers, cast iron sanitary sewer, adapter and incidental work necessary to complete the item of work.

   (c) Manholes requiring an adjustment of 24 inches or greater to bring said structure to grade shall be measured and paid for at the contract bid price per each for 24 Inch Risers, which payment shall be considered full compensation for furnishing all labor, equipment and materials (including fabrication, steps and covers) necessary to complete the item of work.

   (d) The work of Adjusting Manholes and Reconstruction of Manholes from 0 to 24 inches shall be measured and paid for at the contract bid price per each for "Adjusting Sewer Manholes to Grade", which payment will constitute cost of all materials, equipment and labor necessary to complete the item of work.

SECTION K—SANITARY SEWER

Section deleted – not applicable to this contract.

SECTION L—WATER MAINS

Section deleted – not applicable to this contract.

SECTION M—TOPSOIL, SEEDING, MULCHING, FERTILIZING & EROSION CONTROL

1. **General.** Ditches, cells, berms and dikes disturbed by construction shall be shaped, seeded, mulched and watered.

(a) Work Included.

(1) Preparation of subgrade to receive topsoil

(2) Spreading topsoil

(3) Seeding and fertilizing

(4) Erosion control

(5) Watering

(6) Maintaining seeded areas until acceptance

(b) Delivery, Storage and Handling.

(1) Deliver grass seed in original containers showing analysis of seed mixture, percentage of pure seed, year of production, net weight, date of packaging and location of packaging. Damaged packages are not acceptable.

(2) Deliver fertilizer in waterproof bags showing weight, chemical analysis, and name of manufacturer.

(3) All seed shall be a certified blue seed unless stated as a common seed.

(c) Existing Conditions. Beginning work of this Section means acceptance of existing conditions.

(d) Submittals. Submit shop drawing and product data for erosion control fabrics and seed mixture to Engineer for approval prior to installation.

2. Products.

(a) Growing Media.

(1) Topsoil: Excavated material taken from the upper 18 inches of the soil profile, graded free of roots, rocks larger than one inch, subsoil, debris, and large weeds.

(2) Starter Fertilizer: 18-46-0, commercial type with 50 percent of the elements derived from organic sources.

(b) Seed.

(1) Seed Mixture – Type A

Species	*Pure Live Seed/Acre

Big Bluestem	4.0 lbs.
Indian Grass	3.8 lbs.
Switch Grass	1.8 lbs.
Sideoats Gramma	3.4 lbs.
Oats	.5 lbs.

*Rates shown are for drilling. Rates shall be doubled for broadcast seeding.

(2) Seed Mixture – Type B

Species	*Pure Live Seed/Acre
Broam Grass	10.0 lbs.
Switch Grass	3.5 lbs.
Oats	.5 lbs.

*Rates shown are for drilling. Rates shall be doubled for broadcast seeding.

(3) Seed Mixture – Type C
(Bluegrass (60) - Rye (40)

Bluegrass Species	Pure Live Seed/Sq. Ft.	Pure Live Seed/Acre
Caliper	0.6 lbs.	26.0 lbs.
Newblue	0.6 lbs.	26.0 lbs.
Classic	0.6 lbs.	26.0 lbs.

Rye Species	Pure Live Seed/Sq. Ft.	Pure Live Seed/Acre
Dimension	0.6 lbs.	26.0 lbs.
Palmer III	0.6 lbs.	26.0 lbs.

(c) Accessories. Mulching Material: Prairie hay, oat or wheat straw, reasonably free from weeds, foreign matter detrimental to plant life, and in dry condition. Alfalfa, hay or chopped cornstalks is not acceptable.

(d) Erosion Control Fabric – Type I.

(1) Coconut fiber erosion control fabric shall meet the following requirements:

a) Materials: Coconut at 0.5 lbs./square yard

b) Net – Heavyweight: UL stabilized both sides

c) Roll Width – 6.5 feet minimum

d) Staples shall be 6 inches, 11 gauge

(2) Acceptable Manufacturers: North American Green or equal as approved by the Engineer.

(e) Erosion Control Fabric – Type II

(1) Straw fiber erosion control fabric shall meet the following requirements:

a) Materials: Straw at 0.5 lbs./square yard

b) Net – Lightweight degradable, both sides

c) Roll Width: 6.5 feet minimum

e) Staples shall be 6 inches, 11 gauge

(2) Acceptable Manufacturers: North American Green or equal as approved by the Engineer.

3. Execution.

(a) Preparation.

(1) Protect existing underground improvements from damage.
(2) Remove foreign materials, plants, roots, stones and debris from site. Do not bury foreign material.

(3) Remove contaminated subsoil.

(4) Cultivate area to receipt topsoil to depth of 3 inches. Repeat cultivation to areas where equipment has compacted subgrade.

(b) Spreading Topsoil.

(1) Spread topsoil to depth of 6 inches over area to be seeded. Place during dry weather and on dry, unfrozen subgrade.

(2) Cultivate topsoil to depth of 6 inches with mechanical tiller. Cultivate inaccessible areas by hand. Rake until surface is smooth.

(3) Remove foreign materials collected during cultivation from site.

(4) Grade to eliminate rough spots and low areas where ponding may occur. Maintain smooth, uniform grade.

(5) Assure positive drainage away from buildings.

(6) Finish ground level firm and sufficient to prevent sinkage pockets when irrigation is applied.

(c) Fertilizing.

(1) Apply fertilizer at a rate of 200 lbs. per acre.

(2) Do not apply grass seed and fertilizer at same time or in same machine.

(3) Lightly water to aid breakdown of fertilizer and to provide moist soil for seed.

(d) Seeding.

(1) Apply seed at rates indicated earlier in this section.

(2) The Contractor shall notify the Engineer at least 48 hours in advance of the time he intends to begin work and shall not proceed with such work until permission to do so has been granted by the Engineer.

(3) Seeding operations shall be performed only during the periods between March 1 and June 1 and between August 1 and September 15 except by express permission of the Engineer. No work shall be performed during excessively windy weather or when the ground is frozen, wet or otherwise untillable.

(4) For seeding, approved mechanical power drawn drills, broadcast type seeder or hydraulic seeders may be used.

(e) Mulching.

(1) Mulch shall be either dry cured native hay or threshed grain straw. Hay or straw shall be free from seeds of noxious weeds and relatively free from seeds of all other weeds.

(2) The Contractor shall apply a protective mulch within 48 hours after sowing the seed, unless otherwise directed by the Engineer. The mulch shall be applied with a mulch blowing machine or other approved methods at the rate of two tons per acre.

(3) Immediately following the spreading of the mulch, the material shall be anchored to the soil by a V-type wheel land packer, a soil erosion mulch tiller, or other suitable equipment which will secure the mulch firmly to form a soil-bind mulch.

(4) Straw mulch is required on all areas to be seeded that do not receive erosion control fabric.

(f) Erosion Control Fabric.

(1) A straw fiber drainage blanket (Type II) shall be used along the bottom of the drainage ditches as indicated at locations on the plan.

(2) A coconut fiber drainage blanket (Type I) shall be used in the storm water collection sump(s) as indicated at locations on the plan.

(3) The total width of the area to receive Type II drainage blankets shall be no less than 11 feet.

(4) All blankets shall be stapled using no less than two staples per square yard.

(5) All blankets shall be installed keyed into shallow trenches along the perimeter. Follow manufacturer's recommendations.

(g) Watering. Watering shall not begin until completion of the mulching operation. All areas shall be wetted as required to start the moist soil conditions necessary to assure seed germination and growth. At least one additional watering will be required after the initial period as directed by the Engineer.

(h) Measurement and Payment.

Seeding will be measured and paid for at the contract unit price per acre for "seeding", which payment shall be full compensation for topsoiling, shaping, seedbed preparation, seed, planting, mulching, watering and all incidentals required to complete the item of work.

Erosion control fabric will be paid for at the contract unit price per square yard for the specified type, which payment shall be full compensation for all material, grading, labor and incidentals required to complete the item of work.

(i) Acceptance. Seeded areas will be accepted when seeded areas are properly established and otherwise acceptable. This shall include any reseeding that may be required beyond the standard one year warranty, but in no case longer than three years from the date of initial Final Completion.

SECTION N - POLYUREA PAVEMENT MARKING, GROOVED (D-11-0308)

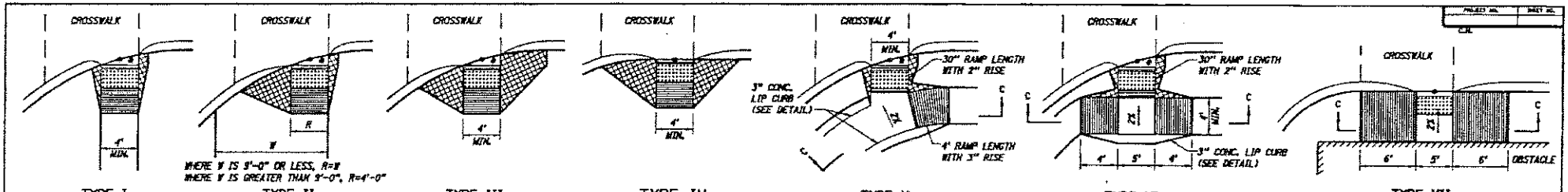
Section deleted – not applicable to this contract.

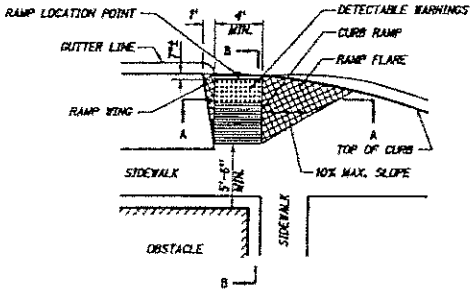
SECTION O — METHOD OF PAYMENT

The Engineer will compile a detailed estimate of cost of work completed at the end of each week. Said estimates, being approved by the Engineer, will be submitted to the Hastings City Council each month for payment. A 10 percent retainage on each estimate or total accumulative estimate will be held by the City until at which time the job has had final approval and acceptance by the Engineer.

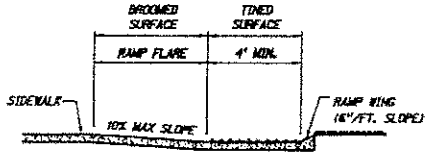
SECTION P — GUARANTEE OF WORKMANSHIP AND MATERIALS

The Contractor shall guarantee all materials, workmanship and successful operation of all work furnished and installed by him for a period of one year from the date of final acceptance of the whole work and shall guarantee to repair or replace at his expense any part of the work which shows defect during the guarantee period, provided such defect is, in the opinion of the Engineer, due to imperfect material or workmanship.



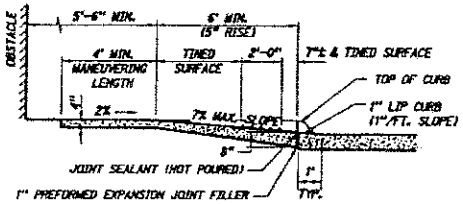


TYPICAL CURB RAMP DETAIL



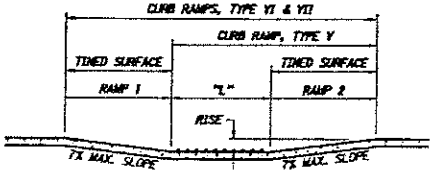
SECTION A-A

TYPICAL RAMP CROSS SECTION



SECTION B-B

TYPICAL RAMP PROFILE



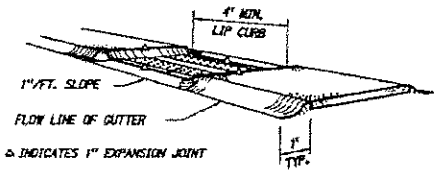
CURB RAMP	RISE	"L"	RAMP 1	RAMP 2
TYPE V	3"	VAR.	N/A	4'
TYPE VI	3"	5'	4'	4'
TYPE VII	5"	5'	6'	6'

SECTION C-C

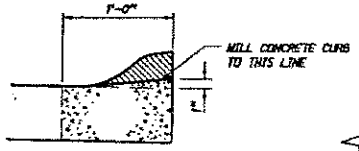
TYPICAL RAMP CROSS SECTION

LEGEND

- DETECTABLE WARNINGS
- TINED CURB RAMPS
- BROOMED RAMP WINGS & FLARES
- MILLED CONCRETE

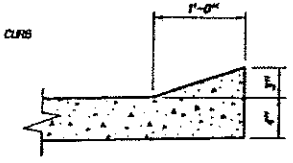


MEDIAN CROSSING

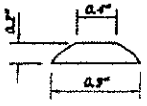


NOTE:
COMBINATION CONCRETE CURB AND GUTTER MAY BE REMOVED AND REPLACED IN LIEU OF MILLING.

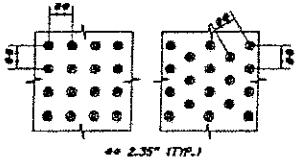
CURB REMOVAL DETAIL



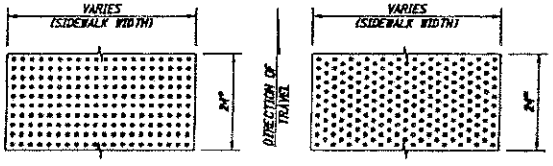
3" CONCRETE LIP CURB DETAIL



DOME SECTION



DOME SPACING



DOME ALINGMENT

DETECTABLE WARNING DETAILS

NOTES:

THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE CURB RAMP.

THE SURFACE OF ALL CURB RAMPS SHALL BE TINED TRANSVERSELY TO THE SLOPE OF THE CURB RAMP. THE TINES SHALL PRODUCE GROOVES APPROXIMATELY ⅛" WIDE AND ⅛" DEEP ON ½" CENTERS. ALL FLARES AND WINGS SHALL BE BROOMED.

CARE SHALL BE TAKEN TO ASSURE A UNIFORM GRADE ON THE CURB RAMP, FREE OF SAGS AND SHORT GRADE CHANGES.

THE RAMP FLARES SHALL BE CONSTRUCTED WITH A 10% SLOPE AT RIGHT ANGLES TO THE SLOPE OF THE CURB RAMP, TYPES II, III & IV.

THE SLOPE OF SIDEWALKS APPROACHING CURB RAMPS (OR THEIR FLARES) SHALL BE FLAT ENOUGH TO PROVIDE RECOVERY AREAS FOR WHEELCHAIRS ENTERING OR EXITING THE RAMPS.

THE WORK OF CONSTRUCTING THESE RAMPS SHALL BE MEASURED AND PAID FOR AS A PART OF THE WORK FOR "CONCRETE SIDEWALKS", "CONCRETE MEDIAN SURFACING" OR "CONCRETE BIKEWAY". THE WORK OF MODIFICATION OF NEW OR EXISTING CURB WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS OF WORK FOR WHICH DIRECT PAYMENT IS MADE.

MAXIMUM PERCENT OF SLOPES ARE RELATIVE TO THE SLOPE OF THE ADJACENT SIDEWALK.

DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP. THEY SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS 6" TO 8" FROM THE CURB LINE.

# INDICATES 0.02"/FT. SLOPE TOWARDS STREET.

PROFESSIONAL CIVIL ENGINEER — Philip C. Tarbuck — STATE OF NEW YORK

CURB RAMPS

SPECIAL PLAN C