State of New York Executive Department
Office Of General Services
New York State Procurement
Corning Tower Building - 38th Floor
Empire State Plaza
Albany, New York 12242
http://www.ogs.ny.gov

REVISED CONTRACT AWARD NOTIFICATION

Title	:	**Group 31555 - LIQUID BITUMINOUS MATERIALS ☐ Microsurfacing; ☐ Cold Recycling; and ☐ Conventional and Rubber Modified Paver Placed Surface Treatment (2012 DOT Specific Projects) (Federal & State Funds)** **Classification Code(s): 30**
Award Number	:	**22498**
Contract Period	:	**May 18, 2012 Through August 31, 2013**
Bid Opening Date	:	**April 19, 2012**
Date of Issue	:	**June 18, 2012 (Updated April 24, 2013)**
Specification Reference	:	**SPEC-919 dated September 27, 2010 (Supersedes SPEC-913 dated September 16, 2008); SPEC 925 dated August 8, 2011 (Supersedes SPEC-920 dated December 15, 2010) and as amended in the Invitation for Bids**
Contractor Information	:	**Appears beginning on Page 2 of this Award**

Address Inquiries To:

State Agencies & Vendors	Political Subdivisions & Others
Name : Elise Relyea Title : Contract Management Specialist Phone : 518-408-2383 Fax : 518-474-1160 E-mail : Elise.Relyea@ogs.ny.gov	New York State Procurement Customer Services Phone : 518-474-6717 Fax : 518-474-2437 E-mail : customer.services@ogs.ny.gov

NYSPro values your input.
Complete and return "Contract Performance Report" at end of document.

Description

(See page 2)

PR # 22498

Description

Microsurfacing is a pavement preventive maintenance treatment which offers minor improvements to rideability and has excellent friction characteristics. Quick Set Slurry Seal is a pavement preventive maintenance treatment that offers minor improvements to rideability and has excellent friction characteristics for low volume roads.

Cold Recycling of bituminous concrete pavements is a corrective maintenance technique. The existing pavement is milled off for a depth of 3 to 4 inches (75mm to 100mm), a liquid bituminous material is added to the millings, and the resulting mixture is placed and compacted on the milled surface. A new bituminous concrete sealing layer is added later. Existing cracks are eliminated and the resulting pavement should last for many years.

Conventional and Rubber Modified Paver Placed Surface Treatment is a preventive maintenance treatment used to preserve highway pavements. The treatment is a surface paving system, placed by a self-priming paver, where a modified emulsion tack coat is placed directly before the application of a conventional or rubber modified hot mix asphalt wearing course.

NOTE: See individual contract items to determine actual awardees.

CONTRACT #	CONTRACTOR & ADDRESS	TELEPHONE #	FED TAX ID # NYS VENDOR ID #
PC65813	MIDLAND ASPHALT MATERIALS INC. 640 Young Street Tonawanda, NY 14150	716/692-0730 Ext. 4418 716/479-7193 (cell) Tim McNally Fax: 716/692-0613 E-mail: tmcnally@midlandasphalt.com Web Site: www.midlandasphalt.com	260038619 1000017447
PC65815	SUIT-KOTE CORPORATION 1911 Lorings Crossing Road Cortland, NY 13045	800/622-5636 607/753-1100 Ext. 361 Mike Murphy Fax: 607/758-9760 E-mail: mmurphy@suit-kote.com Web Site: www.suit-kote.com	161177189 1000007846

Cash Discount, If Shown, Should be Given Special Attention.
INVOICES MUST BE SENT DIRECTLY TO THE ORDERING AGENCY FOR PAYMENT.
(See "Contract Payments" and "Electronic Payments" in this document.)

AGENCIES SHOULD NOTIFY THE NEW YORK STATE PROCUREMENT PROMPTLY IF THE CONTRACTOR FAILS TO MEET DELIVERY OR OTHER TERMS OF THIS CONTRACT. PRODUCTS OR SERVICES WHICH DO NOT COMPLY WITH THE SPECIFICATIONS OR ARE OTHERWISE UNSATISFACTORY TO THE AGENCY SHOULD ALSO BE REPORTED TO THE NEW YORK STATE PROCUREMENT.

SMALL, MINORITY AND WOMEN-OWNED BUSINESSES:

The letters SB listed under the Contract Number indicate the contractor is a NYS small business. Additionally, the letters MBE and WBE indicate the contractor is a Minority-owned Business Enterprise and/or Woman-owned Business Enterprise.

NOTE TO AUTHORIZED USERS:

When placing purchase orders under the contract(s), the authorized user should be familiar with and follow the terms and conditions governing its use which usually appears at the end of this document. The authorized user is accountable and responsible for compliance with the requirements of public procurement processes. The authorized user must periodically sample the results of its procurements to determine its compliance. In sampling its procurements, an authorized user should test for reasonableness of results to ensure that such results can withstand public scrutiny.

The authorized user, when purchasing from OGS contracts, should hold the contractor accountable for contract compliance and meeting the contract terms, conditions, specifications, and other requirements. Also, in recognition of market fluctuations over time, authorized users are encouraged to seek improved pricing whenever possible.

Authorized users have the responsibility to document purchases, particularly when using OGS multiple award contracts for the same or similar product(s)/service(s), which should include:

- a statement of need and associated requirements,
- a summary of the contract alternatives considered for the purchase,
- the reason(s) supporting the resulting purchase (e.g., show the basis for the selection among multiple contracts at the time of purchase was the most practical and economical alternative and was in the best interests of the State).

REQUEST FOR CHANGE:

Any request by the agency or contractor regarding changes in any part of the contract must be made in writing to the Office of General Services, NYS Procurement (NYSPro), prior to effectuation.

CONTRACT PAYMENTS:

Payments cannot be processed by State facilities until the contract products have been delivered in satisfactory condition or services have been satisfactorily performed. Payment will be based on any invoice used in the supplier's normal course of business. However, such invoice must contain sufficient data including but not limited to contract number, description of product or service, quantity, unit and price per unit as well as federal identification number.

State facilities are required to forward properly completed vouchers to the Office of the State Comptroller for audit and payment. All facilities are urged to process every completed voucher expeditiously giving particular attention to those involving cash discounts for prompt payment.

If the contract terms indicate political subdivisions and others authorized by law are allowed to participate, those entities are required to make payments directly to the contractor. Prior to processing such payment, the contractor may be required to complete the ordering non-State agency's own voucher form.

See "Contract Billings" in Appendix B, OGS General Specifications.

NOTE TO CONTRACTOR:

This Contract Award Notification is not an order. Do not take any action under this contract except on the basis of purchase order(s) from the agency or agencies.

If a purchase order is not received from New York State Department of Transportation within two weeks after receipt of this award, the contractor should contact the agency directly requesting the submission of a purchase order. The Agency contact person is Hasib Khan, who can be reached 518/457-1572.

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NEW YORK STATE VENDOR RESPONSIBILITY QUESTIONNAIRE FOR-PROFIT BUSINESS ENTITY:

Contractor is encouraged to maintain up-to-date Questionnaire during the life of the contract and is also required to ensure this Questionnaire reflects any substantive issues that may have occurred from the time the Contract was initially awarded.

DEBRIEFING:

Contractors and bidders are accorded fair and equal treatment with respect to the opportunity for debriefing. OGS shall, upon request, provide a debriefing to any bidder or awarded contractor that responded to the IFB or RFP regarding the reason that the proposal or bid submitted by the unsuccessful bidder was not selected for a contract award. The post award debriefing should be requested by the bidder or awarded contractor within thirty days of posting of the contract award on the OGS website.

NYSPRO's DISPUTE RESOLUTION POLICY:

It is the policy of the Office of General Services' New York State Procurement (NYSPRO) to provide vendors with an opportunity to administratively resolve disputes, complaints or inquiries related to NYSPRO bid solicitations or contract awards. NYSPRO encourages vendors to seek resolution of disputes through consultation with NYSPRO staff. All such matters will be accorded impartial and timely consideration. Interested parties may also file formal written disputes. A copy of NYSPRO's Dispute Resolution Procedures for Vendors may be obtained by contacting the person shown on the front of this document or through the OGS website (www.ogs.ny.gov).

CONTRACT BILLINGS AND PAYMENTS:

a. Billings. Contractor and the dealers/distributors/resellers designated by the Contractor, if any, shall provide complete and accurate billing invoices to each Authorized User in order to receive payment. Billing invoices submitted to an Authorized User must contain all information required by the Contract and the State Comptroller or other appropriate fiscal officer. Submission of an invoice and payment thereof shall not preclude the Commissioner from requesting reimbursement or demanding a price adjustment in any case where the Product delivered is found to deviate from the terms and conditions of the Contract or where the billing was inaccurate.

Contractor shall provide, upon request of the Commissioner, any and all information necessary to verify the accuracy of the billings. Such information shall be provided in the format requested by the Commissioner and in a media commercially available from the Contractor. The Commissioner may direct the Contractor to provide the information to the State Comptroller or to any Authorized User of the Contract.

b. Payment of Contract purchases made by an Authorized User when the State Comptroller is responsible for issuing such payment. The Authorized User and Contractor agree that payments for invoices submitted by the Contractor shall only be rendered electronically unless payment by paper check is expressly authorized by the Commissioner, in the Commissioner's sole discretion, due to extenuating circumstances. Such electronic payments shall be made in accordance with ordinary State procedures and practices. The Contractor shall comply with the State Comptroller's procedures to authorize electronic payments. Authorization forms are available at the State Comptroller website at www.osc.state.ny.us, by e-mail at epunit@osc.state.ny.us, or by telephone at 518-486-1255. Contractor acknowledges that it will not receive payment on any invoices submitted under this Contract that are payable by the State Comptroller if it does not comply with the State Comptroller's electronic payment procedures, except where the Commissioner has expressly authorized payment by paper check as set forth above.

c. Payment of Contract purchases made by an Authorized User when the State Comptroller is not responsible for issuing such payment. The Authorized User and Contractor agree that payments for such Contract purchases shall be billed directly by Contractor on invoices/vouchers, together with complete and accurate supporting documentation as required by the Authorized User. Such payments shall be as mandated by the appropriate governing law from the receipt of a proper invoice. Such Authorized User and Contractor are strongly encouraged to establish electronic payments.

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DIESEL EMISSION REDUCTION ACT OF 2006:

Pursuant to the Diesel Emissions Reduction Act, §19-0323 of the N.Y. Environmental Conservation Law ("NYECL"), it is now a requirement that heavy duty diesel vehicles in excess of 8,500 pounds use the best available retrofit technology ("BART") and ultra low sulfur diesel fuel ("ULSD"). The requirement of the Law applies to all vehicles owned, operated by or on behalf of, or leased by State agencies and State or regional public authorities. These vehicles are to be operated exclusively on ULSD. It also requires that such vehicles owned, operated by or on behalf of, or leased by State agencies and State or regional public authorities with more than half of its governing body appointed by the Governor utilize BART.

The Law may be applicable to vehicles used by contract vendors "on behalf of" State agencies and public authorities. The Law provides a list of exempted vehicles. Regulations provide further guidance as to the effects of the Law on contract vendors using heavy duty diesel vehicles on behalf of the State. The Law also permits waivers of ULSD and BART under limited circumstances at the discretion of the Commissioner of Environmental Conservation. The Law will also require reporting from State agencies and from contract vendors in affected contracts.

Therefore, the contractor hereby certifies and warrants that all heavy duty vehicles, as defined in NYECL §19-0323, to be used under this contract, will comply with the specifications and provisions of NYECL §19-0323, and any regulations promulgated pursuant thereto, which requires the use of BART and ULSD, unless specifically waived by NYSDEC. Qualification and application for a waiver under this Law will be the responsibility of the contractor.

MERCURY-ADDED CONSUMER PRODUCTS:

Offerers are advised that effective January 1, 2005, Article 27, Title 21 of the Environmental Conservation Law bans the sale or distribution free of charge of fever thermometers containing mercury except by prescription written by a physician and bans the sale or distribution free of charge of elemental mercury other than for medical pre-encapsulated dental amalgam, research, or manufacturing purposes due to the hazardous waste concerns of mercury. The law further states that effective July 12, 2005, manufacturers are required to label mercury-added consumer products that are sold or offered for sale in New York State by a distributor or retailer. The label is intended to inform consumers of the presence of mercury in such products and of the proper disposal or recycling of mercury-added consumer products. Offerers are encouraged to contact the Department of Environmental Conservation, Bureau of Solid Waste, Reduction & Recycling at (518) 402-8705 or the Bureau of Hazardous Waste Regulation at 1-800-462-6553 for questions relating to the law. Offerers may also visit the Department's web site for additional information: http://www.dec.ny.gov/chemical/8512.html.

IRAN DIVESTMENT ACT

As a result of the Iran Divestment Act of 2012 (Act), Chapter 1 of the 2012 Laws of New York, a new provision has been added to the State Finance Law (SFL), § 165-a, effective April 12, 2012. Under the Act, the Commissioner of the Office of General Services (OGS) will be developing a list (prohibited entities list) of "persons" who are engaged in "investment activities in Iran" (both are defined terms in the law). Pursuant to SFL § 165-a(3)(b), the initial list is expected to be issued no later than 120 days after the Act's effective date, at which time it will be posted on the OGS website.

By submitting a bid in response to this solicitation or by assuming the responsibility of a Contract awarded hereunder, Bidder/Contractor (or any assignee) certifies that once the prohibited entities list is posted on the OGS website, it will not utilize on such Contract any subcontractor that is identified on the prohibited entities list.

Additionally, Bidder/Contractor is advised that once the list is posted on the OGS website, any Contractor seeking to renew a Contract or assume the responsibility of a Contract awarded in response to the solicitation, certifies at the time the Contract is renewed or assigned that it or its assignee is not included on the prohibited entities list.

During the term of the Contract, should OGS receive information that a person is in violation of the above-referenced certification, OGS will offer the person an opportunity to respond. If the person fails to demonstrate that it has ceased its engagement in the investment which is in violation of the Act within 90 days after the determination of such violation, then OGS shall take such action as may be appropriate including, but not limited to, imposing sanctions, seeking compliance, recovering damages, or declaring the Contractor in default.

OGS reserves the right to reject any bid or request for assignment for an entity that appears on the prohibited entities list prior to the award of a contract, and to pursue a responsibility review with respect to any entity that is awarded a contract and appears on the prohibited entities list after contract award.

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CONTRACTOR REQUIREMENTS AND PROCEDURES FOR EQUAL EMPLOYMENT AND BUSINESS PARTICIPATION OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND NEW YORK STATE CERTIFIED MINORITY- AND WOMEN-OWNED BUSINESS ENTERPRISES

POLICY STATEMENT

The New York State Office of General Services (OGS), as part of its responsibility, recognizes the need to promote the employment of minority group members and women and to ensure that certified minority and women-owned business enterprises have opportunities for maximum feasible participation in the performance of OGS contracts.

In 2006, the State of New York commissioned a disparity study to evaluate whether minority and women-owned business enterprises had a full and fair opportunity to participate in state contracting. The findings of the study were published on April 29, 2010, under the title "The State of Minority and Women-Owned Business Enterprises: Evidence from New York" ("the Disparity Study"). The report found evidence of statistically significant disparities between the level of participation of minority and women-owned business enterprises in state procurement contracting verses the number of minority and women-owned business enterprises that were ready, willing and able to participate in state procurements. As a result of these findings, the Disparity Study made recommendations concerning the implementation and operation of the statewide certified minority and women-owned business enterprises program.

EQUAL EMPLOYMENT OPPORTUNITY REQUIREMENTS

Contractor agrees with all of the terms and conditions of Appendix A including Clause 12 - Equal Employment Opportunities for Minorities and Women. The contractor is required to ensure that it and any subcontractors awarded a subcontract over $25,000 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor, shall undertake or continue programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, equal opportunity shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, and rates of pay or other forms of compensation. This requirement does not apply to: (i) work, goods, or services unrelated to this contract; or (ii) employment outside New York State.

Contractor will, upon request, submit to OGS a workforce utilization report (Form EEO 101) identifying the workforce actually utilized on the Contract if known.

Further, pursuant to Article 15 of the Executive Law (also known as the Human Rights Law) and all other State and Federal statutory and constitutional non-discrimination provisions, the Contractor and sub-contractors will not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex (including gender expression), national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

Business Participation Opportunities for New York State Certified Minority- and Women-Owned Business Enterprises (MWBE).

For purposes of this procurement, OGS has conducted a comprehensive search and has determined that the contract does not offer any opportunities for participation by MWBEs.

ALL FORMS ARE AVAILABLE AT http://www.ogs.ny.gov/MWBE/Forms.asp .

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CONTRACTOR INSURANCE:

The Contractor shall provide to The New York State Office of General Services ("OGS") written proof of insurance coverage and additional insured documentation as specified herein. "Written proof" consists of certificates of insurance and/or endorsements to policies issued by an officer of an insurance company licensed or authorized to do business in New York, government self-retention funds or other self-insurance companies evidencing that the Contractor has the requisite insurance coverages. All non-standard exclusions or limitations applicable to the contract must be disclosed on the Certificate of Insurance and must be approved by The New York State Office of General Services ("OGS"). Policies providing commercial general liability, excess or umbrella liability and pollution legal liability insurance shall be specifically endorsed to name the People of the State of New York, its officers, agents, and employees as additional insureds thereunder. Such written proof shall be in the form and substance acceptable to The New York State Office of General Services ("OGS"). Acceptance and/or approval by The New York State Office of General Services ("OGS") of the written proof of insurance does not and shall not be construed to relieve Contractor of any obligations, responsibilities or liabilities under the Contract to obtain the required coverage.

Contractor shall secure and continue to keep in force during the term of the contract, and Contractor shall require all Subcontractors prior to commencement of an agreement between Contractor and the Subcontractor, to secure and keep in force during the term of this contract the following insurance coverage in parenthesis:

a) **Commercial General Liability Insurance** with minimum liability limits of not less than $2,000,000.00 each occurrence (and minimum liability limits of not less than $5,000,000 after notice of award). Such liability shall be written on the ISO occurrence form CG 00 01© (current edition) or a substitute form providing equivalent coverages and shall cover liability arising from premises or operations, independent Contractors, broad form property damage, personal & advertising injury, cross liability coverage, contractual damages, and products or completed operations, if applicable (including the tort liability of another assumed in a contract), and explosion, collapse & underground coverage. If such insurance contains an aggregate limit, it shall apply separately on a per job basis. General Liability Additional Insured Endorsement shall be on Insurance Service Office's (ISO) form number **CG 2010 1185.**

b) **Comprehensive Business Automobile Liability Insurance** with minimum liability limits of not less than $2,000,000.00 each accident both at the time of bid and after notice of award. Such insurance shall cover liability arising out of any automobile including Owned (if any), Hired and Non-Owned automobiles.

c) **Workers' Compensation, Employer's Liability, and Disability Benefits** meeting all New York State statutory requirements. The policy shall provide coverage for all states of operation that apply to the performance of the contract. In addition, if employees will be working on, near or over navigable waters, coverage provided under the US Longshore and Harbor Workers Compensation Act must be included. Also, if the contract is for temporary staffing services or involves renting equipment with operators, the Alternate Employer Endorsement WC 00 03 01A must be included on the policy naming the People of the State of New York as the alternate employer.

d) **OCP Insurance*** - Owners and Contractors Protective Insurance Coverage (OCP) is required by the New York Department of Transportation (NYSDOT) on any NYSDOT project on or near active highway right of way.

The OCP insurance required shall be $1,000,000 per occurrence and $2,000,000 in the aggregate.

* Contractor shall provide written proof of such coverage to the Authorized User prior to commencement of work at the Pre-paving/Pre-production conference

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CONTRACTOR INSURANCE: (Cont'd)

All insurance coverage must meet the following additional requirements:

1) All insurance required shall be obtained at the sole cost and expense of the Contractor, and shall be primary and non-contributing to any insurance, self-retention or self-insurance maintained by the Authorized User.
2) Any deductible or self-insured retention amount or other similar obligation under the policies shall be the sole responsibility of the Contractor. The amount of any deductible or self-insured retention is subject to approval by The New York State Office of General Services ("OGS").
3) The requisite insurance may be provided through a policy or policies of insurance which may be primary and/or excess including umbrella policies, but must be placed with an Insurer rated "A-" Class "VII" or better by the A.M. Best Company, Inc. If, during the term of the policy, an Insurer's rating falls below "A-" Class "VII", the insurance must be replaced no later than the renewal date of the policy with an Insurer rated at least "A-" Class "VII" by the A.M. Best Company, Inc. Any excess policy must follow the requirements set forth in the New York State Insurance Law for such coverage.
4) Contractors shall provide The New York State Office of General Services ("OGS") with updated Certificates of Insurance and as applicable amendatory endorsements at least thirty (30) days prior to the expiration or renewal date of a policy.
5) The insurance provided shall include an endorsement indicating that the policy and any endorsements may not be cancelled without thirty (30) days prior written notice to The New York State Office of General Services ("OGS"). In the event that the cancellation is due to non-payment of premium, ten (10) days prior written notice shall be provided.
6) The insurance provided shall include a blanket or specific "Waiver of Subrogation" endorsement waiving any right to recovery the insurance company may have against the State.
7) In the block provided in the Certificate of Insurance for insertion of "Description of Operations/Locations/ Vehicles/Exclusions Added by Endorsement/Special Provisions" the additional insured information and job-specific information such as the nature of the contract and either the solicitation number or the contract award number should be referenced.
8) Additional insured endorsements should specify the following:
    - The full legal name of the additional insured; i.e., the State of New York, its agencies, officers and employees;
    - The specific location or operations for which the coverage applies;
    - Coverage will run until the completion of the last project on this contract;
    - That notice of modification or cancellation will be provided to the additional insured at a specified name and address;
    - That the insurance company waives any right of recovery it may have against the State;
    - That the coverage required shall be primary for the State and shall not be affected by any self-insurance or other insurance or coverage obtained by the State on its own behalf;
    - That cross-liability/severability of interest coverage is provided; and
    - That the legal defense provided to the State under the policy must be free of any conflicts of interest even if retention of separate legal counsel for the State is necessary.
9) The insolvency or bankruptcy of the insured Contractor or Subcontractor shall not release the Insurer from payment under the policy even when such insolvency or bankruptcy prevents the insured Contractor or Subcontractor from meeting the retention limits under the policy.

Failure to provide insurance coverage as required herein and to keep the same in force during the term of the contract is a material breach of contract entitling the State to terminate the contract in accordance with the termination provisions in the contract.

In addition, as stated above, Workers' Compensation, Employer's Liability, and Disability Benefits coverage meeting all New York State statutory requirements are required.

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EMERGENCY PURCHASING:

In the event that a disaster emergency is declared by Executive Order under Section 28 of Article 2-B of the Executive Law, or that the Commissioner determines pursuant to his/her authority under Section 163(10)(b) of the State Finance Law that an emergency exists requiring the prompt and immediate delivery of products or services, the Commissioner reserves the right to obtain such products or services from any source, including but not limited to this contract, as the Commissioner in his/her sole discretion determines will meet the needs of such emergency. Contractor shall not be entitled to any claim or lost profits for products or services procured from other sources pursuant to this paragraph.

CONTRACT PERIOD AND RENEWALS:

It is the intention of the State to enter into a contract for the term as stated herein except that the commencement and termination dates may be adjusted forward unilaterally by the State for any resulting contract for up to two calendar months, by indicating such change on the Contract Award Notification.

The contract dates may be adjusted forward beyond two months only with the approval of the Contractor. If, however, the Contractor is not willing to accept an adjustment of the contract dates beyond the two month period, the State reserves the right to proceed with an award to another bidder.

If mutually agreed between the New York State Procurement and the Contractor, the contract may be renewed under the same terms and conditions for additional period(s) not to exceed a total contract term of five (5) years.

SHORT TERM EXTENSION:

Any contract let and awarded hereunder by the State, may be extended unilaterally by the State for an additional period of up to one month upon notice to the Contractor with the same terms and conditions as the original contract including, but not limited to, quantities (prorated for such one month extension), prices, and delivery requirements. With the concurrence of the Contractor, the extension may be for a period of up to three months in lieu of one month. However, this extension terminates should the replacement contract be issued in the interim.

CANCELLATION FOR CONVENIENCE

The State of New York retains the right to cancel this contract, in whole or in part without reason provided that the Contractor is given at least sixty (60) days notice of its intent to cancel. This provision should not be understood as waiving the State's right to terminate the contract for cause or stop work immediately for unsatisfactory work, but is supplementary to that provision. Any such cancellation shall have no effect on existing Agency agreements, which are subject to the same 60 day discretionary cancellation or cancellation for cause by the respective user Agencies.

USE OF RECYCLED OR REMANUFACTURED MATERIALS:

New York State, as a member of the Council of Great Lakes Governors, supports and encourages Vendors to use recycled, remanufactured or recovered materials in the manufacture of products and packaging to the maximum extent practicable without jeopardizing the performance or intended end use of the product or packaging unless such use is precluded due to health or safety requirements or product specifications contained herein. Refurbished or remanufactured components or products are required to be restored to original performance and regulatory standards and functions and are required to meet all other requirements of this bid solicitation. Warranties on refurbished or remanufactured components or products must be identical to the manufacturer's new equipment warranty or industry's normal warranty when remanufacturer does not offer new equipment. See "Remanufactured, Recycled, Recyclable or Recovered Materials" in Appendix B, OGS General Specifications.

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PRICE:

Specific Projects – Micro-surfacing:

Price for micro-surfacing is net per ton, furnished, hauled, delivered, and applied with Contractor's equipment totally by the Contractor at locations indicated herein. The price for micro-surfacing per ton also includes abrading the existing pavement markings and the provision of Work Zone Traffic Control as indicated elsewhere herein. Price calculations, if any, will be calculated on the basis of the material actually furnished.

Specific Projects – Cold Recycling:

Price for cold recycling is net per square yard completed with contractor's equipment totally by the contractor at the locations indicated herein. The price for cold recycling per square yard also includes mobilization to the project site and the provision of Work Zone Traffic Control as indicated herein. The price per gallon for **either** the asphalt emulsion or PG 64-22 binder (liquid bituminous material) includes heating, hauling, and applying the liquid bituminous material at the project locations indicated herein. The price per ton for aggregate includes hauling and applying the necessary aggregate as per the mix design at the project locations indicated herein.

Specific Projects – Paver Placed Surface Treatment:

Price for Paver Placed Surface Treatment is net per ton, furnished, heated, delivered, and applied with contractor's equipment totally by the contractor at locations indicated herein. The price per ton for the Paver Placed Surface Treatment also includes abrading the existing pavement markings and the provision of Work Zone Traffic Control as indicated elsewhere in this document.

The Contractor is to furnish all necessary labor and equipment to complete the indicated projects except that the State will supervise and control the operations. Permanent pavement marking will be the responsibility of the State upon completion of the project as indicated herein. The equipment supplied to place the material(s) shall appear on the Department's approved list. All necessary operators shall be supplied along with the appropriate equipment.

Site Visit - Contractors shall have examined the sites of the projects and become fully knowledgeable of the quantities, character, location and other conditions affecting the work to be performed; including the type, condition, and location of the existing pavement markings (to ascertain the necessity of their abrading), the existence of poles, wires, ducts, conduits, and other facilities and structures of municipal and other public service corporations on, over, or under the site. No claim will be made against the State due to reliance upon any estimates, test or other representations made by an officer or agent of the State with respect to the work to be performed.

Insurance - Price includes ALL required insurance coverage costs. In particular, price includes:

- Commercial General Liability Insurance with a limit of not less than $5,000,000 each occurrence ;
- Comprehensive Business Automobile Liability Insurance with a limit of not less than $2,000,000 each accident;
- Owners and Contractors Protective Insurance Coverage (OCP) with a limit of not less than $1,000,000 per occurrence and $2,000,000 in the aggregate.

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PRICE: (Cont'd.)

ASPHALT PRICE ADJUSTMENTS:

Asphalt price adjustments will not be allowed for materials which do not have an asphalt cement base.

1. Asphalt price adjustments allowed will be based on the March 1, 2012 average of the F.O.B. terminal price per ton of unmodified PG 64-22 binder without anti-stripping agent (base average F.O.B. terminal price). The new monthly average terminal price will be determined by the New York State Department of Transportation based on prices of preapproved primary sources of performance graded binder in accordance with the New York State Department of Transportation Standard Specifications.

   The March 1, 2012 average is $613.00 **per ton**.

   NOTE: The same grade of asphalt cement used in establishing the base average F.O.B. terminal price shall be used in establishing the new average F.O.B. terminal price.

   In the event that one or more of the New York State Department of Transportation preapproved sources discontinue posting a price for asphalt cement, the base average F.O.B. terminal **price shall not be recalculated.**

2. The new average F.O.B. terminal price will be determined based on the above F.O.B. terminal prices posted on the 20th of each month, hereafter known as the "Adjustment Date", during the contract period. However, asphalt price adjustments, in accordance with the formula below, will be effective for deliveries made on and after the first of the month following the adjustment date.

3. The unit prices of liquid bituminous materials purchased from any award based on this specification will be subject to adjustment based on the following formulas:

   Micro-surfacing:

   $$\text{Price Adjustment (Per Ton)} = (\text{New Monthly Average FOB Terminal Price} - \text{Base Average FOB Terminal Price}) \times \text{Total Allowable Petroleum \%}$$

   Cold Recycling:

   $$\text{Price Adjustment (per gallon)} = \frac{\text{New Monthly Average FOB Terminal Price} - \text{Base Average FOB Terminal Price}}{235} \times \text{Total Allowable Petroleum \%}$$

   Paver Placed Surface Treatment:

   $$\text{Price Adjustment (Per Ton)} = (\text{New Monthly Average FOB Terminal Price} - \text{Base Average FOB Terminal Price}) \times \text{Total Allowable Petroleum \%}$$

NEW MONTHLY AVERAGE F.O.B. TERMINAL PRICE:

The average F.O.B. terminal price for unmodified PG 64-22 binder without anti-stripping agent as determined by the New York State Department of Transportation per New York State Department of Transportation Standard Specifications.

BASE AVERAGE F.O.B. TERMINAL PRICE:

The average F.O.B. terminal price of unmodified PG 64-22 binder without anti-stripping agent as determined by the New York State Department of Transportation as of March 1, 2012.

(continued)

PRICE: (Cont'd.)

ASPHALT PRICE ADJUSTMENTS: (Cont'd.)

TOTAL ALLOWABLE PETROLEUM:

The percentage of total allowable petroleum for each item is as follows:

Micro-surfacing:

Material Designation	Asphalt %	Petroleum Allowance %	Total Allowable Petroleum %
18410.1011	9.0	0.2	9.2
18410.1021	9.0	0.2	9.2
18410.1031	9.0	0.2	9.2
18410.1012	7.5	0.2	7.7
18410.1022	7.5	0.2	7.7
18410.1032	7.5	0.2	7.7
18410.1013	7.5	0.2	7.7

Cold Recycling:

Material Designation	Grade	Asphalt %	Petroleum Allowance %	Total Allowable Petroleum %
702-3201	MS-2	65	8.2	73.2
702-3301	HFMS-2	65	8.2	73.2
702-3401	HFMS-2h	65	2.7	67.7
702-3402	HFMS-2s	65	8.2	73.2
702-3501	SS-1	57	0.2	57.2
702-3601	SS-1h	57	0.2	57.2
702-4201	CMS-2	65	10.2	75.2
702-4301	CMS-2h	65	10.2	75.2
702-4401	CSS-1	57	0.2	57.2
702-4501	CSS-1h	57	0.2	57.2
	PG 64-22	100	0.2	100.2

Paver Placed Surface Treatment:

Item # / Material Designations	Grade	Asphalt %	Petroleum Allowance %	Total Allowable Petroleum %
18403.221xxx / 702-PG6422 & 702-4701	PG 64-22 & CRS-1p	6.5	1.0	7.5
18403.222xxx / 702-PG6422 & 702-4701	PG 64-22 & CRS-1p	6.5	1.0	7.5
18403.223xxx / 702-PG6422 & 702-4701	PG 64-22 & CRS-1p	6.5	1.0	7.5

(continued)

PRICE: (Cont'd.)

ASPHALT PRICE ADJUSTMENTS: (Cont'd.)

TOTAL ALLOWABLE PETROLEUM: (Cont'd.)

EXAMPLES:

Micro-surfacing:

Item 18410.1021
Base Avg. Price Per Ton = $613.000
New Avg. Price Per Ton = $650.000
Total Allowable Petroleum = 9.2%

($650.000 - $613.000) x 0.092 = +$3.404 Per Ton

Cold Recycling:

Item 702-3301, HFMS-2
Base Avg. Price Per Ton = $613.000
New Avg. Price Per Ton = $650.000
Total % Asphalt Plus Petroleum Allowance = 73.2%

$$\frac{\$650.000 - \$613.000}{235} \times 0.732 = +\$0.115 \text{ Per Gallon}$$

Paver Placed Surface Treatment:

Item 18403.221101
Base Avg. Price Per Ton = $613.00
New Avg. Price Per Ton = $650.00
Total Allowable Petroleum = 7.5%

($650.00 - $613.00) x 0.075 = +$2.775 Per Ton

Positive Price Adjustment number shall be added to original per ton/per gallon Bid Price.
Negative Price Adjustment number shall be subtracted from original per ton/ per gallon Bid Price.

4. Work performed after the expiration of the contract, where no extension has been granted, resultant from purchase orders placed prior to expiration of the contract will receive the asphalt price adjustments applicable in effect during the last month of the contract.

   Asphalt price adjustments for any contracts that are extended will be based on the new average for the month in which the work is done applying the same base established for that contract.

5. Asphalt price adjustments allowed by this contract shall be calculated and applied to the original prices. There will not be asphalt price adjustments unless the change amounts to more than $0.100 per ton/$0.010 per gallon as applicable from the original price. In these instances, prices will revert back to the original prices.

6. All asphalt price adjustments will be computed to three decimal places.

7. Should these provisions result in a price structure which becomes unworkable, detrimental or injurious to the State or in prices which are not truly reflective of market conditions or which are deemed by the Commissioner to be unreasonable or excessive, and no adjustment in price is mutually agreeable, the Commissioner reserves the sole right upon ten days written notice mailed to the Contractor to terminate any contract resulting from this bid opening.

8. All asphalt price adjustments shall be published by the State and issued to all contract holders whose responsibility will be to attach the appropriate State notification (based on when the work was performed) to the payment invoice submitted to agency.

U.S. CUSTOMARY UNITS:

All construction and materials quantities specified are in U.S. Customary units, and should be billed accordingly.

(continued)

MICRO-SURFACING

OGS/ Project No.	County/Location	Item	Estimated Quantity (Tons)	Unit Price	NYS DOT Facility	Contractor
5						
5V1215	Cattaraugus County Rte 98 Route 219 to Rte 16 RM 98 5101 1000 to RM 98 5101 1124 Towns of Great Valley, Humphrey, and Franklinville 12.4 CL Miles	18410.1021	4,660	$146.550	L0501	Suit-Kote Corp.
13						
5V1242	Erie County Rte. 5 Delameter Rd to Pleasant Ave RM 5-5302/ 1105 – 1159 Towns of Evans and Hamburg 5.3 CL Miles	18410.1021	4,369	$160.930	L0503	Suit-Kote Corp.
19						
6V1231B	Schuyler County Route 226 Steuben County to CR 23 RM 226 6302/ 1000-1047 Towns of Orange and Tyrone 4.7 CL Miles	18410.1021 18410.1013	1,400 525	$158.960 $158.960	L0603 L0603	Suit-Kote Corp.

(continued)

COLD RECYCLING

OGS/ Project No.	County/Location	Item	Estimated Quantities SY/Tons/ Gallons	Unit Price	NYS DOT Facility	Contractor
35						
6V1212	Allegany County Rte 243	51405.0294	84,500 SY	$1.360		Suit-Kote Corp.
	Cattaraugus County Ln to Rushford	623.0x	3,850 Tons	$15.250	5-64G	
	RM 243 6102/ 1000-1040 Town of Rushford 1.0 CL Miles	702-xxxx	135,800 Gal	$1.990	L0501	
37						
6V1213	Allegany County Rte 19	51405.0294	79,850 SY	$1.240		Suit-Kote Corp.
	South and North of Village of Belmont	623.0x	3,650 Tons	$16.000	5-39G	
	RM 19 6101/ 1173-1190 and 1197-1216 Town of Amity and Village of Belmont 3.5 CL Miles	702-xxxx	128,300 Gal	$1.970	L0602	
38						
6V1231A	Schuyler County Rte 226	51405.0294	76,600 SY	$1.060		Midland Asphalt Materials Inc.
	Steuben County to CR 23	623.0x	3,475 Tons	$11.980		
	RM 226 6302/ 1000-1047 Towns of Orange and Tyrone 4.7 CL Miles	702-xxxx	123,100 Gal	$2.170	L0403	

(continued)

PAVER PLACE SURFACE TREATMENT

OGS/ Project No.	County/Location	Item	Estimated Quantity (Tons)	Unit Price	NYS DOT Facility	Contractor
54						
7M1224	Franklin County Rte 3/30 Tupper Lake to the Rte. 3/30 split at Wawbeek RM 3 7205/ 1059-1100 Towns of Tupper Lake and Harrietstown 4.1 CL Miles	18403.223302R	2,800	$209.950	H0261	Midland Asphalt Materials Inc.

NYSDOT STANDARD SPECIFICATIONS:

References are made herein to New York State Department of Transportation, Standard Specifications, Construction and Materials, dated May 1, 2008 and all current addenda. A copy may be obtained through the Department's publication unit. Call 518-457-4401 for information.

APPROVED FACILITY AND INSPECTION:

For information regarding how to become an approved facility, or, to make arrangements for inspection of materials or equipment when required, contact the Materials Bureau of the Department of Transportation at 518/457-3240.

MATERIALS:

Materials used must be from a NYS Dept. of Transportation approved location.

ESTIMATED QUANTITIES:

The quantities or dollar values listed are estimated only. See "Estimated/Specific Quantity Contracts" in Appendix B, OGS General Specifications.

PAYMENT:

Micro-surfacing:

Payment for micro-surfacing shall be made at contract prices per net ton for the actual quantity of material placed by the Contractor.

Payment for work zone traffic control and abrading the existing pavement markings shall be included in the payment for the number of tons of completed micro-surfacing

A delivery slip stating quantities of micro-surfacing shall accompany each shipment. An invoice listing the quantities of micro-surfacing in place shall be sent promptly by the contractor to the address indicated on the purchase order.

Cold Recycling:

Payment for cold recycling shall be made at the contract price for the actual number of completed square yards of cold recycling, the actual number of tons of aggregate, and the actual number of gallons of either asphalt emulsion (unmodified or modified) or PG 64-22 binder at 60 degrees F verified by the receiving agency used in the accepted portions of the work. The determination as to quantities involved in any contract shall be accepted as final and binding upon the contractor.

A delivery slip stating quantities of liquid bituminous material (unmodified or modified emulsion or PG 64-22 binder) shall accompany each shipment. An invoice listing the quantities of cold recycling shall be sent promptly by the contractor to the engineer. No additional payment shall be made if the contractor decides that it is necessary to apply a fog seal for the performance of the cold recycling during the cure period.

(continued)

No separate payment will be made for the use of water in the mixing process. Any work required for the maintenance and repair of the cold recycling by the contractor during the ten day curing period and for an additional twenty days thereafter shall be done at the contractor's expense.

Payment for work zone traffic control shall be included in the payment for the number of square yards of completed recycling.

Satisfactory work performed after October 7 will be paid at 90% of the price for the recycling and bituminous material items.

Paver Placed Surface Treatment:

Payment for Paver Placed Surface Treatment shall be made at contract prices per ton for the actual quantity of tons placed by the Contractor. Payment for work zone traffic control and abrading the existing pavement markings shall be included in the payment per ton for the Paver Placed Surface Treatment.

A delivery slip stating quantities of hot mix asphalt concrete for paver placed surface treatment shall accompany each shipment. An invoice listing the quantities of paver placed surface treatment in place shall be sent promptly by the contractor to the address indicated on the purchase order.

RESTORATION OF DISTURBED AREAS:

During the course of the work the vendor shall take reasonable care not to disturb areas outside the existing pavement. Any areas disturbed by the vendor shall be returned to their original condition at no expense to the State. Any and all debris generated as part of the work shall be removed by the Vendor upon completion of the project.

SUPERVISION:

The Department of Transportation shall provide supervision for the micro-surfacing/recycling/paving operation, and pavement marking abrading if applicable. The Resident Engineer shall designate a Project Supervisor who shall be in responsible charge of the operation. All orders pertaining to Work Zone Traffic Control plan from the Project Supervisor to the contractor shall be binding on the contractor. The following portions of Section 105 - CONTROL OF WORK of the Standard Specifications shall apply to these projects: 105-01 STOPPING WORK, 105-08 COOPERATION BY THE CONTRACTOR, 105-15 CONTRACTOR'S RESPONSIBILITY FOR WORK.

PRE-MICRO-SURFACING CONFERENCE:

The Vendor shall schedule a Pre-Micro-surfacing Conference with the affected Resident Engineer within one month after award of the Contract and at least two weeks prior to the start of the micro-surfacing. Project level supervisors for both the owner agency and the Vendor should be present at this conference. At this conference the Contractor shall present their proposed micro-surfacing schedule, equipment, pavement marking abrading plan, micro-surfacing procedure, and Traffic Control plan to the State for approval. At least one week prior to the start of micro-surfacing, the Vendor shall coordinate the details of the project with the Resident Engineer.

PRE-COLD RECYCLING CONFERENCE:

The contractor shall schedule a Pre-Recycling Conference with the affected resident engineer after the acceptance of the mix design by the State and at least one week prior to the start of the recycling. Project-level supervisors for both the owner agency and the contractor shall be present at this conference. At this conference the contractor shall present Certificates of Insurance evidencing compliance with the additional insurance requirements, their proposed recycling schedule, procedure and Work Zone Traffic Control Plan to the State for approval. Prior to the start of recycling, the contractor shall coordinate the details of the recycling with the resident engineer.

PRE-PAVER PLACED SURFACE TREATMENT CONFERENCE:

The Contractor shall schedule a Pre-Paver Placed Surface Treatment Conference with the affected Resident Engineer within one month after award of the Contract and at least two weeks prior to the start of the Paver Placed Surface Treatment. Project level supervisors for both the state and the contractor shall be present at this conference. At this conference the contractor shall present their proposed Paver Placed Surface Treatment schedule, equipment, pavement marking abrading plan, Paver Placed Surface Treatment procedure, and Work Zone Traffic Control plan to the State for approval. At least one week prior to the start of the Paver Placed Surface Treatment, the contractor shall coordinate the details of the project with the Resident Engineer.

BONDING REQUIREMENTS:

(continued)

A Maintenance Bond is required for micro-surfacing projects in this document. Please see sample in DETAILED SPECIFICATIONS – MICRO-SURFACING.

PREVAILING WAGE RATES – STATE AND FEDERALLY FUNDED PUBLIC WORKS CONTRACTS:

Work is subject to the prevailing wage rate provisions of New York State Labor Law. See "Prevailing Wage Rates - Public Works and Building Services Contracts" in Appendix B, OGS General Specifications. Any federal or State determination of a violation of any public works law or regulation, or labor law or regulation, or any OSHA violation deemed "serious or willful" may be grounds for a determination of Vendor non-responsibility and cancellation of contract.

Any provisions of NYS Labor Law that are in conflict with mandatory Federal-Aid construction contract compliance requirements are superseded. Any provisions of NYS Labor Law that are not in conflict with mandatory Federal-Aid construction contract compliance requirements or the Davis-Bacon Act but are more restrictive shall apply.

For access to the Department of Labor (DOL) Prevailing Wage Schedule, use the following link:

http://wpp.labor.state.ny.us/wpp/showFindProject.do?method=showIt&id=723460

Enter **2012001995,** the applicable Prevailing Wage Rate Schedule for this project, in the PRC# field and press the "Enter" key or click on "Submit". Next, click on "Wage Schedule" beneath the header. This schedule may require several minutes to open.

For Prevailing Wage Updates, use the following DOL link:

http://wpp.labor.state.ny.us/wpp/publicViewPWChanges.do?method=showIt

Links to schedule updates appear in the table at the bottom of the web page.

IMPORTANT NOTE: The above PRC number MUST be noted on all purchase orders issued for purchases from this contract.

The Federal Wage Rate Charts are located on the web at http://www.wdol.gov/dba.aspx .

Referring to the following tables, enter the applicable WD# in the "**Select DBA by number**" field on the web page and click "Search".

COUNTY	WD #
Allegany	NY47
Cattaraugus	NY8
Chautauqua	NY8
Chemung	NY5
Erie	NY8

COUNTY	WD #
Essex	NY6
Franklin	NY35
Lewis	NY9
Niagara	NY11
Oneida	NY14

COUNTY	WD #
Onondaga	NY16
Otsego	NY37
Rensselaer	NY2
Schenectady	NY2
Schuyler	NY5

COUNTY	WD #
Steuben	NY18
Tompkins	NY24
Washington	NY2
Yates	NY33

WORKER NOTIFICATION – A9052; S6240

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, paragraph a of subdivision 3-a. It requires contractors and subcontractors to provide written notice to all laborers, workers or mechanics of the prevailing wage rate for their particular job classification on each pay stub*. It also requires contractors and subcontractors to post a notice at the beginning of the performance of every public work contract on each job site that includes the telephone number and address for the Department of Labor and a statement informing laborers, workers or mechanics of their right to contact the Department of Labor if he/she is not receiving the proper prevailing rate of wages and/or supplements for his/her particular job classification. The required notification will be provided with each wage schedule, may be downloaded from www.labor.state.ny.us or made available upon request by contacting the Bureau of Public Work at 518-457-5589.

* In the event that the required information will not fit on the pay stub, an accompanying sheet or attachment of the information will suffice.

(continued)

PREVAILING WAGE RATES - FEDERALLY FUNDED PUBLIC WORKS CONTRACTS: (Cont'd.)

OSHA 10-Hour Construction Safety and Health Course - S1537-A

This provision is an addition to the existing prevailing wage rate law, Labor Law §220, section 220-h. It requires that on all public work contracts of at least $250,000, all laborers, workers, and mechanics working on site be certified as having successfully completed the OSHA 10-hour construction safety and health course. It further requires that the advertised bids and contracts for every public work contract of at least $250,000 contain a provision of the requirement AND only applies to workers on a public work project that are required under Article 8 to receive the prevailing wage.

Further information may be found at: www.labor.state.ny.us/workerprotection/publicwork/PWContents.shtm.

WORK HOURS:

☐ Micro-surfacing:

Work shall not be permitted on Holidays and the days immediately preceding and after Holidays. If the Contractor desires to work overtime on other days, they must obtain dispensation from NYS Labor Department (on NYS Labor Department form PW-30 (5/93)). Work on Sundays will be permitted only with the approval of the engineer.

☐ Cold Recycling and ☐ Paver Placed Surface Treatment:

Work will not be permitted on Sundays and Holidays. If the contractor desires to work overtime on other days, dispensation from the NYS Labor Department must be obtained using Department of Labor Form PW-30 (5/93).

CONSTRUCTION DETAILS:

The construction details shall comply with the requirements specified herein, including those appearing in the enclosed DETAILED SPECIFICATIONS. The paving supervisor shall have sole responsibility for determining compliance with the specifications. All orders given to the contractor regarding construction details shall be considered final.

DAMAGED OR DEFICIENT AREAS:

Prior to acceptance and payment for work under this contract by the State, any placed pavement that ravels, delaminates, fails to properly cure, or is in any way defective shall be redone to the satisfaction of the State at the contractor's expense.

ATTENTION - Special Note for ☐ Micro-surfacing and ☐ Paver Placed Surface Treatment Projects**:**

The Contractor will not be responsible for the initial conditioning of the existing pavement and shoulder surfaces as described in Section 402-3.05 of the NYSDOT Standard Specifications. Patching, joint repair, crack filling and the initial surface cleaning will be done by NYSDOT forces prior to the micro-surfacing or paver placed surface treatment project. However, once work on the project begins, the Contractor is responsible for keeping the pavement and shoulders clean until the paving operations are completed, as per Section 633-3.01 of the NYSDOT Standard Specifications.

☐ POSSIBLE MIX DESIGN – COLD RECYCLING

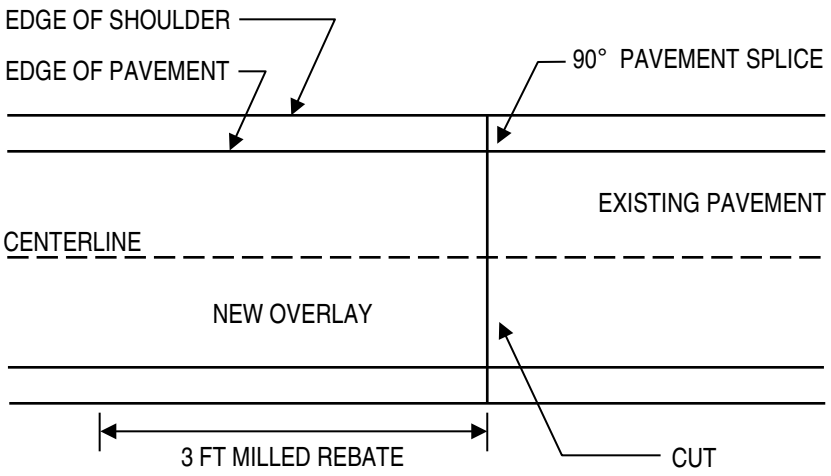
The possible mix design is shown on bid pages and indicates the amount and type of added aggregate (at 20%) and the type and amount of asphalt emulsion (at 3%) and the amount of PG 64-22 binder (at 2%) to properly recycle the pavement. The contractor shall develop their bids for square yards of cold recycling, aggregate and **either emulsion (unmodified or modified) or PG binder for each project** using the indicated possible mix design. After award, the contractor shall take pavement cores and develop their own mix design and submit it to the agency's representative for approval. This mix design must be submitted a minimum of ten working days prior to the start of work.

☐ PAVER PLACED SURFACE TREATMENT OVERLAY SPLICES

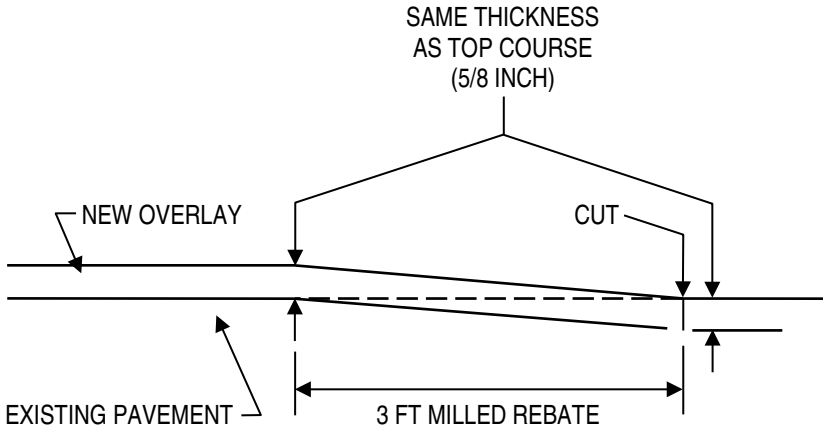
The contractor shall construct Paver Placed Surface Treatment Overlay Splices (commonly known as rebates) as per the enclosed detail Paver Placed Surface Treatment Overlay Splices. The locations of the Overlay Splices shall be as specified in the Table of Paver Placed Surface Treatment Overlay Splices. All costs to construct the Paver Placed Surface Treatment Overlay Splices, including the costs for cutting the existing pavement, milling the Overlay Splices, cleaning the pavement in the Overlay Splice area, and Controlling Traffic, shall be included in the price bid per ton for the Paver Placed Surface Treatment. No separate payment shall be made.

(continued)

Paver Placed Surface Treatment Overlay Splice:



PLAN



SECTION

(continued)

WORK ZONE TRAFFIC CONTROL:

All costs for Work Zone Traffic Control as prescribed by this specification, including flagging, temporary pavement markings, and construction signs, are included in the unit price. No separate payment shall be made.

Traffic shall be controlled in accordance with Sections 619-1 through 619-3 of the Standard Specifications and the Manual of Uniform Traffic Control Devices (MUTCD). The contractor shall submit a Work Zone Traffic Control Plan for approval to the resident engineer at the Pre-Paving/Recycling Conference.

Micro-surfacing:

The Contractor shall be responsible for Work Zone Traffic Control and pavement marking abrading operations. Traffic shall be controlled in accordance with Sections 619-l through 619-3 of the Standard Specifications, the Manual of Uniform Traffic Control Devices (MUTCD), and as described herein. The Contractor shall submit a Work Zone Traffic Control Plan for approval to the Resident Engineer at the Pre-Micro-surfacing Conference. For two-way roadways, Figures TAST-C1R, TAST-C2R, TAST-C3R, TAST-C4R, TAST-C5R, TAST-C7R, TAST-C1UL, TAST-C2UL, TAST-C3UL, TAST-C4U, TAST-C7UL, TAST-C1UH, TAST-C2UH, TAST-C3UH, and TAST-C7UH included in this IFB may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way roadways, Figures TAST-C5UL, TAST-C6UL, TAST-C8UL, TAST-C5UH, TAST-C6UH, and TAST-C8UH may be used as a basis for development of a Work Zone Traffic Control Plan. For one-way Freeways or Expressways, Figures TAST-E1, TAST-E2, TAST-E3, TAST-E4, TAST-E5, TAST-E6, and TAST-E7 may be used as a basis for development of a Work Zone Traffic Control Plan.

All necessary flaggers for Work Zone Traffic Control shall be provided by the Contractor. For two-way roadways, a minimum of three flaggers shall be provided while the micro-surfacing and pavement marking abrading operations are underway. One shall be stationed at each end of the applicable operation and one shall be stationed with the operation. For one-way roadways, a minimum of two flaggers shall be provided while the micro-surfacing and pavement marking abrading are underway. One shall be stationed at the beginning of the applicable operation and one shall be stationed with the operation. The Contractor shall station flaggers such that communication is maintained between the flaggers. Hand signals, radios, or some other means of communication may be used subject to the approval of the Resident Engineer.

Cold Recycling:

Figures TAST-C1R, TAST-C2R, TAST-C3R, TAST-C4R, TAST-C1UL, TAST-C2UL, TAST-C3UL, TAST-C4U, TAST-C1UH, TAST-C2UH, and TAST-C3UH (included in this Invitation for Bids) may be used as a basis for development of a Work Zone Traffic Control Plan.

All necessary flaggers for Work Zone Traffic Control Plan shall be provided by the contractor. A minimum of three flaggers shall be provided while the recycling operation is underway. One shall be stationed at each end of the operation and one shall be stationed with the milling machine/paver. The contractor shall station flaggers such that communication is maintained between the flaggers. Hand signals, radios, or some other means of communication may be used subject to the approval of the resident engineer.

Paver Placed Surface Treatment:

Figures TAST-C1R, TAST-C2R, TAST-C3R, TAST-C4R, TAST-C1UL, TAST-C2UL, TAST-C3UL, TAST-C4U, TAST-C7UL, TAST-C1UH, TAST-C2UH, TAST-C3UH, and TAST-C7UH (included in this Invitation for Bids) may be used as a basis for development of a Work Zone Traffic Control Plan. Significant deviations from the Traffic Control Plan without prior approval of the Resident Engineer shall be cause to stop the work until the deviations are corrected to the satisfaction of the Resident Engineer.

All necessary flaggers for Work Zone Traffic Control shall be provided by the contractor. A minimum of three flaggers shall be provided while the Paver Placed Surface Treatment operation is underway. One shall be stationed at each end of the operation and one shall be stationed with the Paver Placed Surface Treatment machine. The contractor shall station flaggers such that communication is maintained between the flaggers. Hand signals, radios, or some other means of communication may be used subject to the approval of the Resident Engineer.

(continued)

The following table indicates the NYSDOT Work Zone Traffic Control figures and the paving process(es) to which they apply:

	Micro-Surfacing	Cold Recycling	Paver Placed Surface Treatment
TAST- C1R	X	X	X
TAST- C2R	X	X	X
TAST- C3R	X	X	X
TAST- C4R	X	X	X
TAST- C5R	X		
TAST- C7R	X		
TAST- C1UL	X	X	X
TAST- C2UL	X	X	X
TAST- C3UL	X	X	X
TAST- C4U	X	X	X
TAST- C5UL	X		
TAST- C6UL	X		
TAST- C7UL	X		X
TAST- C8UL	X		
TAST- C1UH	X	X	X
TAST- C2UH	X	X	X
TAST- C3UH	X	X	X
TAST- C5UH	X		
TAST- C6UH	X		
TAST- C7UH	X		X
TAST- C8UH	X		
TAST- E1	X		
TAST- E2	X		
TAST- E3	X		
TAST- E4	X		
TAST- E5	X		
TAST- E6	X		
TAST- E7	X		

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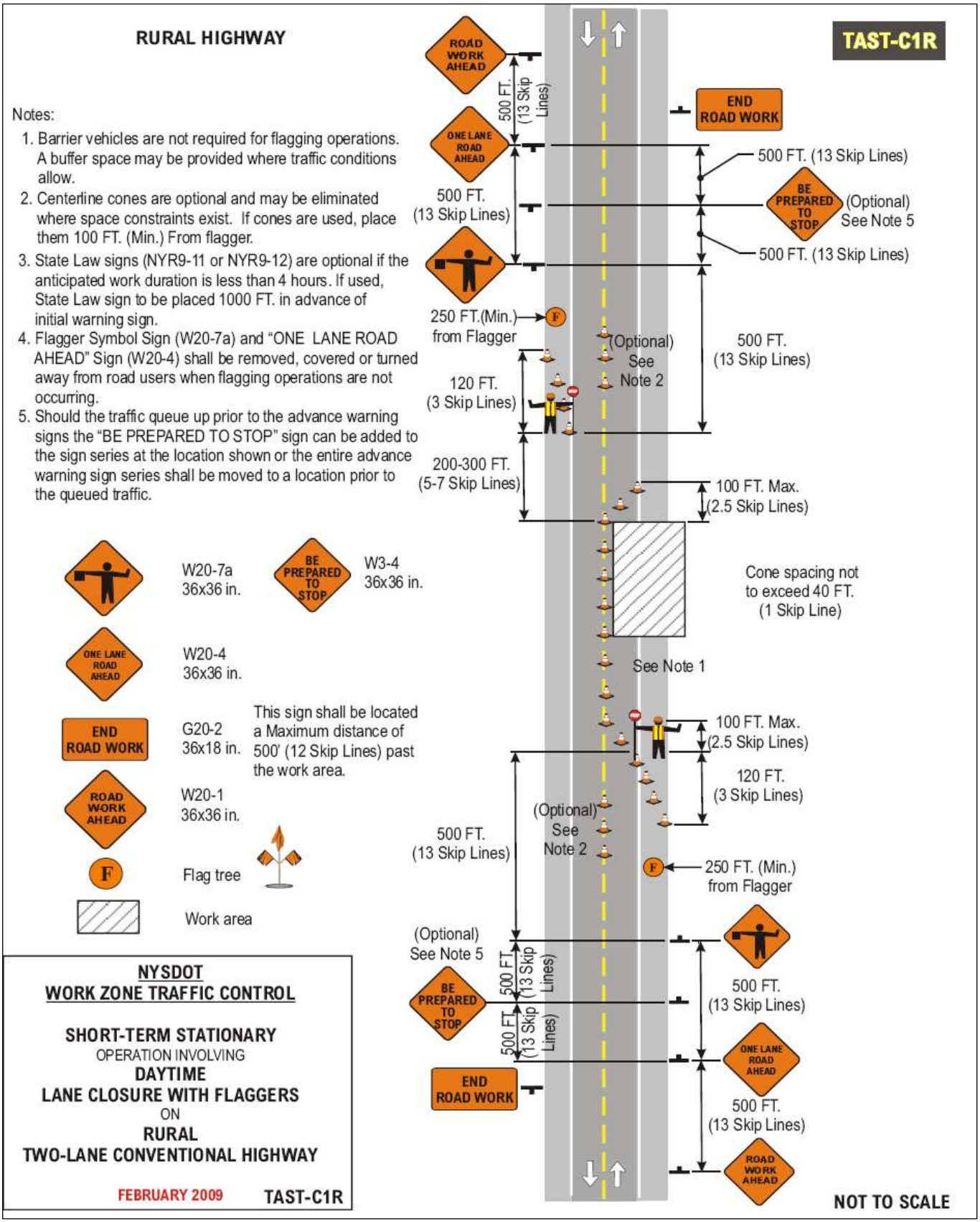
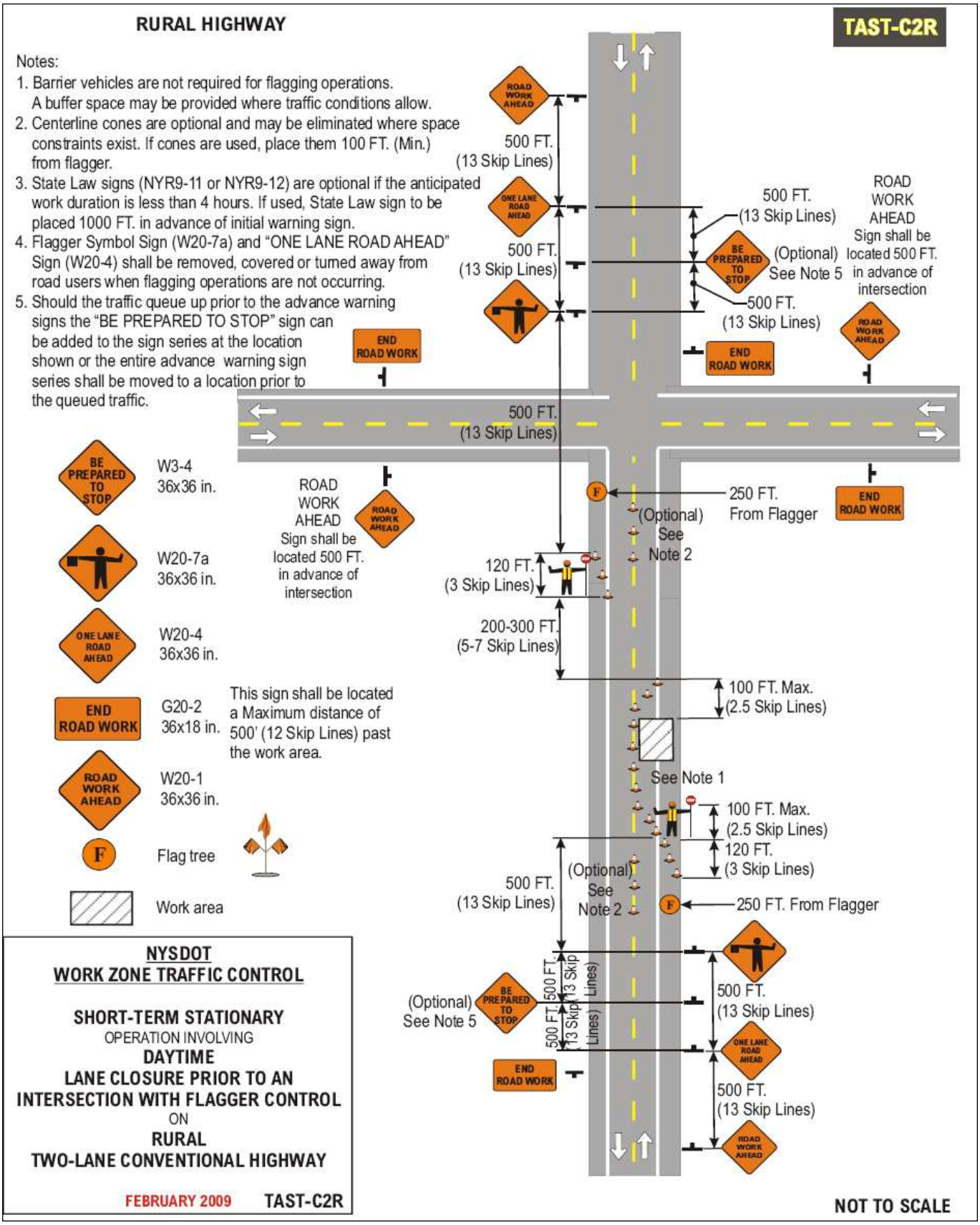

RURAL HIGHWAY
TAST-C1R
Notes:
1. Barrier vehicles are not required for flagging operations. A buffer space may be provided where traffic conditions allow.
2. Centerline cones are optional and may be eliminated where space constraints exist. If cones are used, place them 100 FT. (Min.) From flagger.
3. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
4. Flagger Symbol Sign (W20-7a) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
5. Should the traffic queue up prior to the advance warning signs the "BE PREPARED TO STOP" sign can be added to the sign series at the location shown or the entire advance warning sign series shall be moved to a location prior to the queued traffic.
ROAD WORK AHEAD
500 FT. (13 Skip Lines)
ONE LANE ROAD AHEAD
500 FT. (13 Skip Lines)
250 FT.(Min.) from Flagger
120 FT. (3 Skip Lines)
200-300 FT. (5-7 Skip Lines)
END ROAD WORK
500 FT. (13 Skip Lines)
BE PREPARED TO STOP
(Optional) See Note 5
500 FT. (13 Skip Lines)
(Optional) See Note 2
500 FT. (13 Skip Lines)
100 FT. Max. (2.5 Skip Lines)
Cone spacing not to exceed 40 FT. (1 Skip Line)
See Note 1
100 FT. Max. (2.5 Skip Lines)
120 FT. (3 Skip Lines)
(Optional) See Note 2
500 FT. (13 Skip Lines)
250 FT. (Min.) from Flagger
(Optional) See Note 5
500 FT. (13 Skip Lines)
BE PREPARED TO STOP
500 FT. (13 Skip Lines)
500 FT. (13 Skip Lines)
ONE LANE ROAD AHEAD
500 FT. (13 Skip Lines)
END ROAD WORK
ROAD WORK AHEAD
W20-7a 36x36 in.
BE PREPARED TO STOP
W3-4 36x36 in.
ONE LANE ROAD AHEAD
W20-4 36x36 in.
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
F
Flag tree
Work area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
DAYTIME
LANE CLOSURE WITH FLAGGERS
ON
RURAL
TWO-LANE CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C1R
NOT TO SCALE

(continued)


RURAL HIGHWAY
TAST-C2R
Notes:
1. Barrier vehicles are not required for flagging operations. A buffer space may be provided where traffic conditions allow.
2. Centerline cones are optional and may be eliminated where space constraints exist. If cones are used, place them 100 FT. (Min.) from flagger.
3. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
4. Flagger Symbol Sign (W20-7a) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
5. Should the traffic queue up prior to the advance warning signs the "BE PREPARED TO STOP" sign can be added to the sign series at the location shown or the entire advance warning sign series shall be moved to a location prior to the queued traffic.
ROAD WORK AHEAD
500 FT. (13 Skip Lines)
ONE LANE ROAD AHEAD
500 FT. (13 Skip Lines)
BE PREPARED TO STOP
(Optional) See Note 5
500 FT. (13 Skip Lines)
ROAD WORK AHEAD Sign shall be located 500 FT. in advance of intersection
END ROAD WORK
500 FT. (13 Skip Lines)
BE PREPARED TO STOP
W3-4 36x36 in.
W20-7a 36x36 in.
ONE LANE ROAD AHEAD
W20-4 36x36 in.
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
F
Flag tree
Work area
ROAD WORK AHEAD Sign shall be located 500 FT. in advance of intersection
F
250 FT. From Flagger
(Optional) See Note 2
END ROAD WORK
120 FT. (3 Skip Lines)
200-300 FT. (5-7 Skip Lines)
100 FT. Max. (2.5 Skip Lines)
See Note 1
100 FT. Max. (2.5 Skip Lines)
120 FT. (3 Skip Lines)
500 FT. (13 Skip Lines)
(Optional) See Note 2
F
250 FT. From Flagger
(Optional) See Note 5
BE PREPARED TO STOP
500 FT. (13 Skip Lines)
500 FT. (13 Skip Lines)
ONE LANE ROAD AHEAD
500 FT. (13 Skip Lines)
END ROAD WORK
ROAD WORK AHEAD
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
DAYTIME
LANE CLOSURE PRIOR TO AN
INTERSECTION WITH FLAGGER CONTROL
ON
RURAL
TWO-LANE CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C2R
NOT TO SCALE

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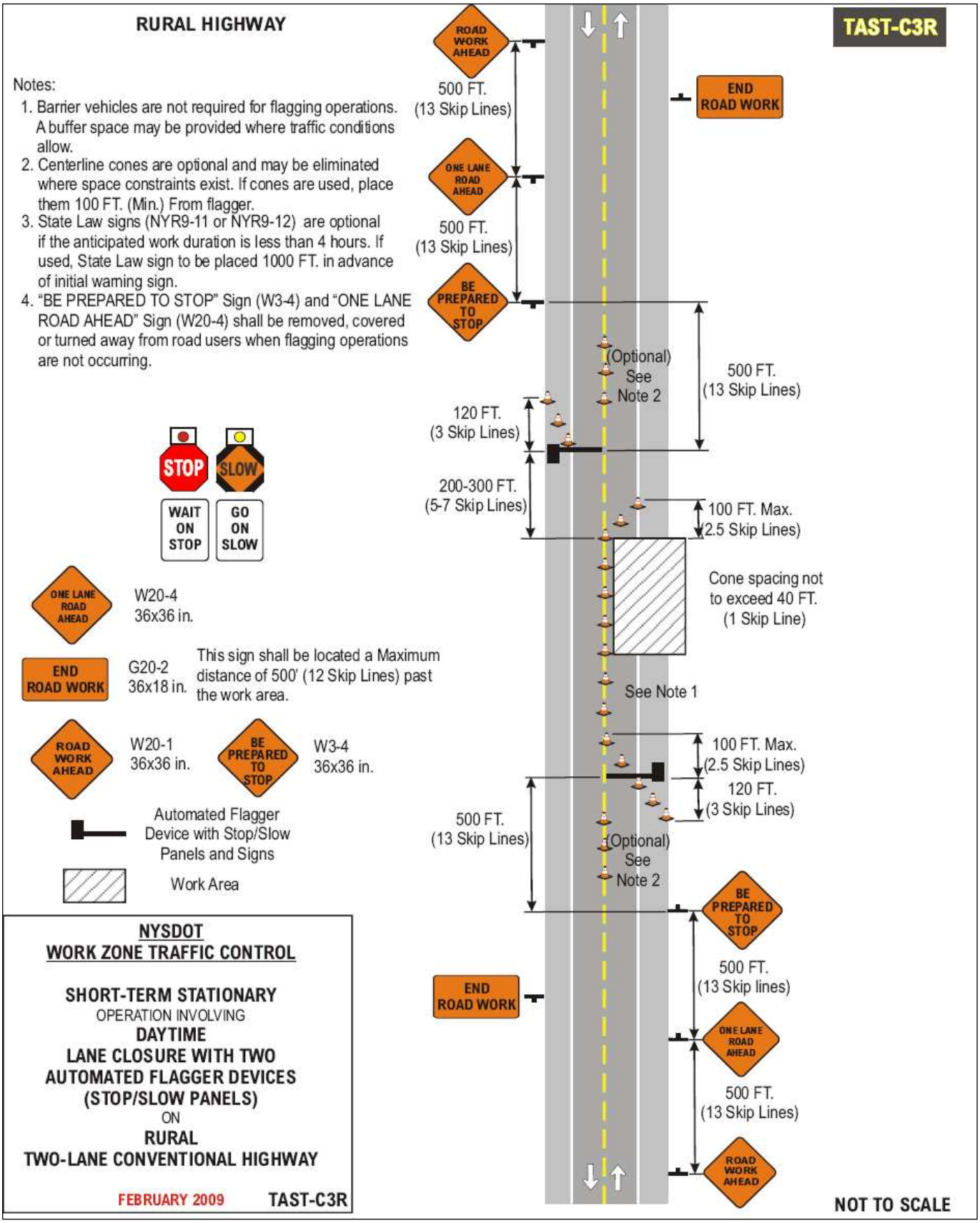
RURAL HIGHWAY
TAST-C3R
Notes:
1. Barrier vehicles are not required for flagging operations. A buffer space may be provided where traffic conditions allow.
2. Centerline cones are optional and may be eliminated where space constraints exist. If cones are used, place them 100 FT. (Min.) From flagger.
3. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
4. "BE PREPARED TO STOP" Sign (W3-4) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
ROAD WORK AHEAD
500 FT. (13 Skip Lines)
ONE LANE ROAD AHEAD
500 FT. (13 Skip Lines)
BE PREPARED TO STOP
END ROAD WORK
(Optional) See Note 2
500 FT. (13 Skip Lines)
120 FT. (3 Skip Lines)
200-300 FT. (5-7 Skip Lines)
100 FT. Max. (2.5 Skip Lines)
Cone spacing not to exceed 40 FT. (1 Skip Line)
See Note 1
100 FT. Max. (2.5 Skip Lines)
120 FT. (3 Skip Lines)
500 FT. (13 Skip Lines)
(Optional) See Note 2
BE PREPARED TO STOP
500 FT. (13 Skip lines)
END ROAD WORK
ONE LANE ROAD AHEAD
500 FT. (13 Skip Lines)
ROAD WORK AHEAD
NOT TO SCALE
STOP
SLOW
WAIT ON STOP
GO ON SLOW
ONE LANE ROAD AHEAD
W20-4 36x36 in.
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
BE PREPARED TO STOP
W3-4 36x36 in.
Automated Flagger Device with Stop/Slow Panels and Signs
Work Area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
DAYTIME
LANE CLOSURE WITH TWO
AUTOMATED FLAGGER DEVICES
(STOP/SLOW PANELS)
ON
RURAL
TWO-LANE CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C3R

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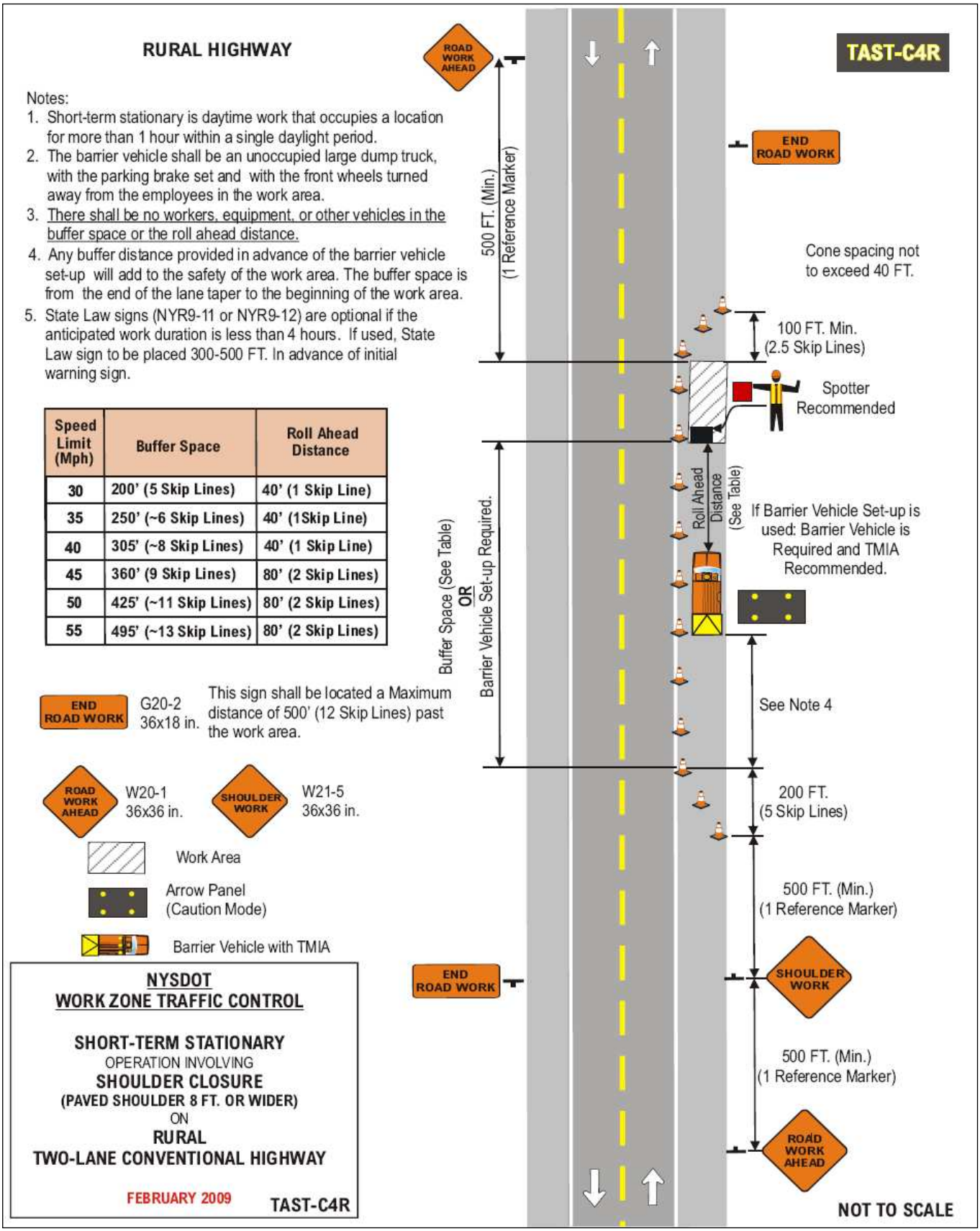

Speed Limit (Mph)	Buffer Space	Roll Ahead Distance
30	200' (5 Skip Lines)	40' (1 Skip Line)
35	250' (~6 Skip Lines)	40' (1Skip Line)
40	305' (~8 Skip Lines)	40' (1 Skip Line)
45	360' (9 Skip Lines)	80' (2 Skip Lines)
50	425' (~11 Skip Lines)	80' (2 Skip Lines)
55	495' (~13 Skip Lines)	80' (2 Skip Lines)

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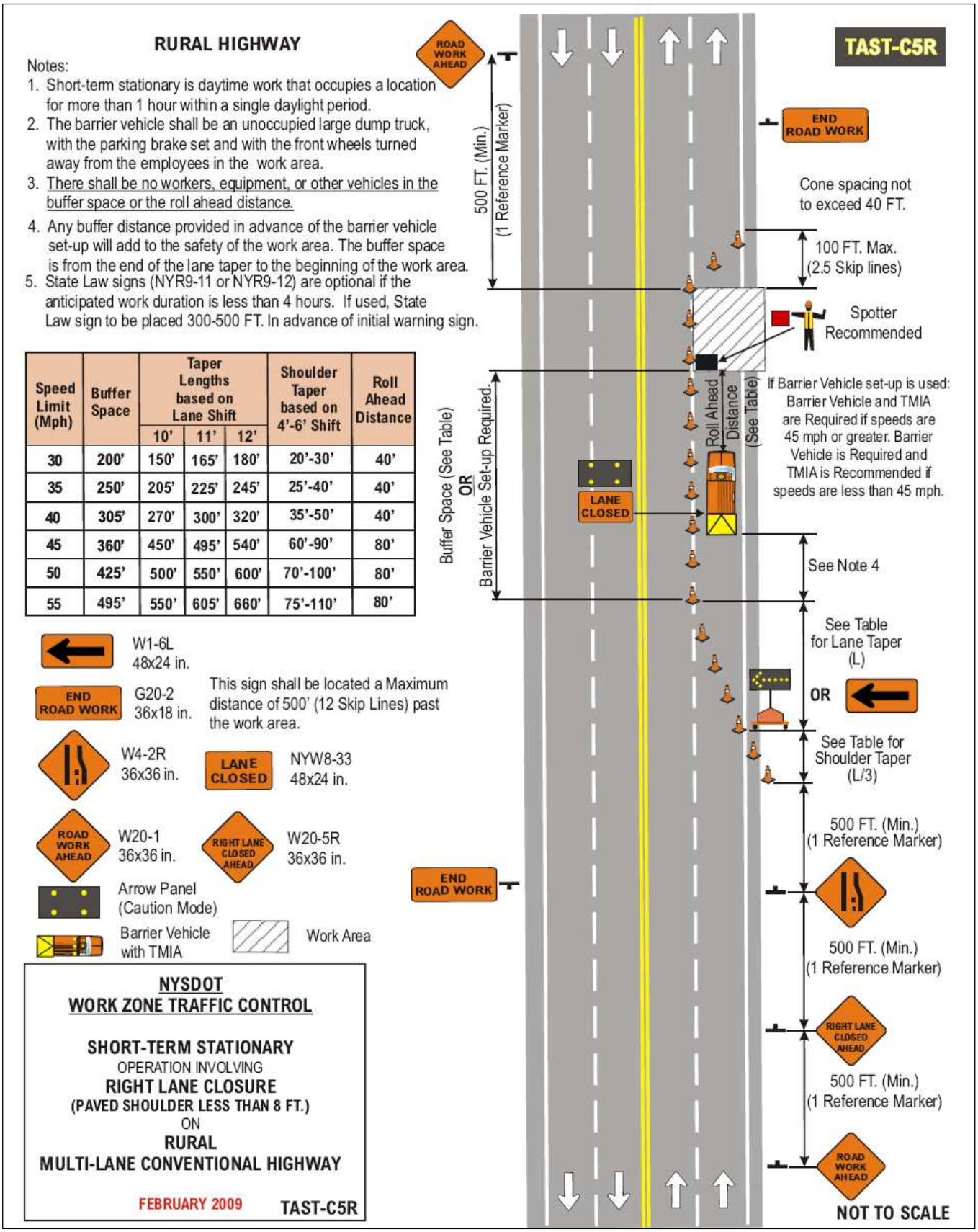

Speed Limit (Mph)	Buffer Space	Taper Lengths based on Lane Shift			Shoulder Taper based on 4'-6' Shift	Roll Ahead Distance
		10'	11'	12'		
30	200'	150'	165'	180'	20'-30'	40'
35	250'	205'	225'	245'	25'-40'	40'
40	305'	270'	300'	320'	35'-50'	40'
45	360'	450'	495'	540'	60'-90'	80'
50	425'	500'	550'	600'	70'-100'	80'
55	495'	550'	605'	660'	75'-110'	80'

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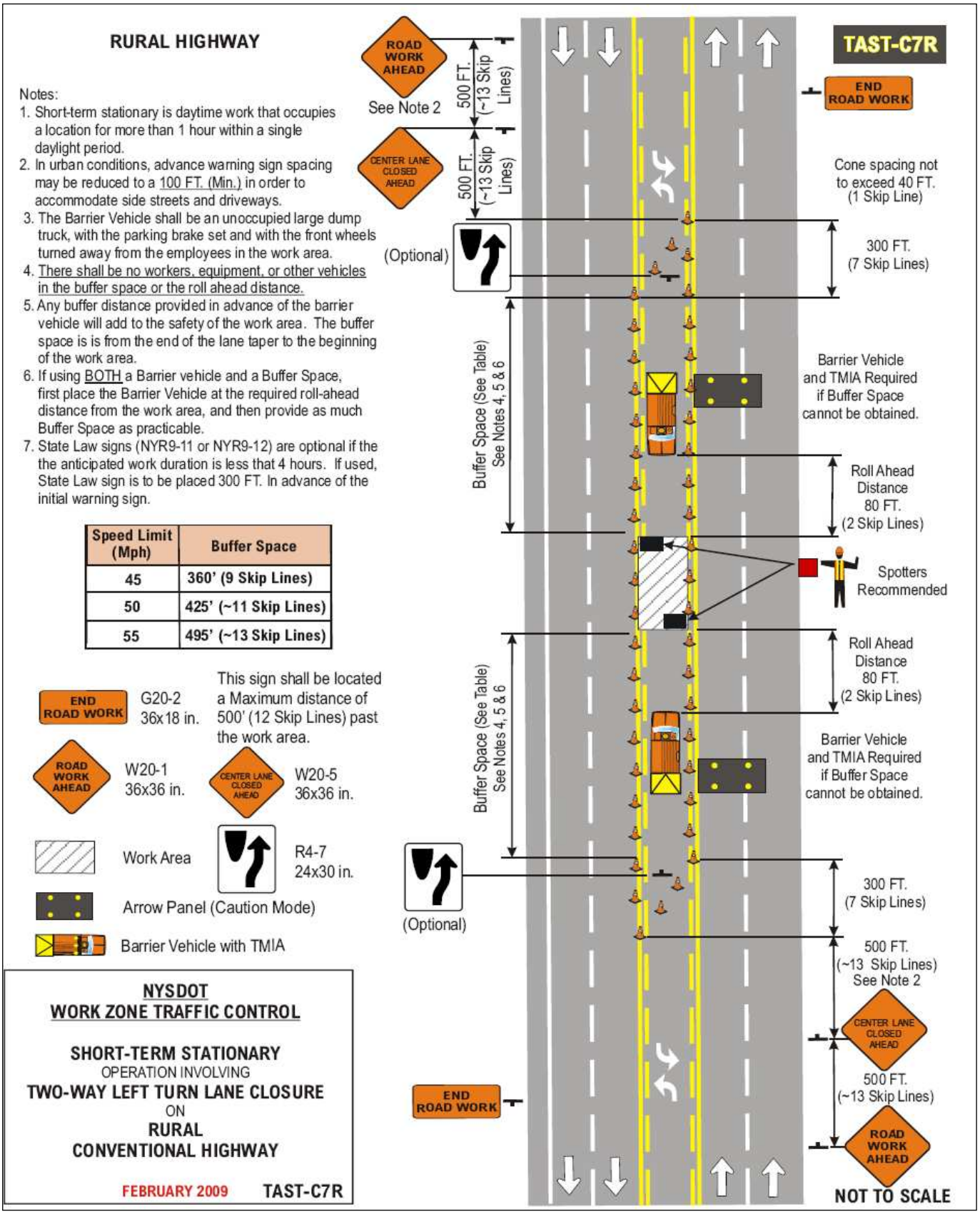
RURAL HIGHWAY
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. In urban conditions, advance warning sign spacing may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
3. The Barrier Vehicle shall be an unoccupied large dump truck, with the parking brake set and with the front wheels turned away from the employees in the work area.
4. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
5. Any buffer distance provided in advance of the barrier vehicle will add to the safety of the work area. The buffer space is is from the end of the lane taper to the beginning of the work area.
6. If using BOTH a Barrier vehicle and a Buffer Space, first place the Barrier Vehicle at the required roll-ahead distance from the work area, and then provide as much Buffer Space as practicable.
7. State Law signs (NYR9-11 or NYR9-12) are optional if the the anticipated work duration is less that 4 hours. If used, State Law sign is to be placed 300 FT. In advance of the initial warning sign.
Speed Limit (Mph) | Buffer Space
45 | 360' (9 Skip Lines)
50 | 425' (~11 Skip Lines)
55 | 495' (~13 Skip Lines)
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
CENTER LANE CLOSED AHEAD
W20-5 36x36 in.
Work Area
R4-7 24x30 in.
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
TWO-WAY LEFT TURN LANE CLOSURE
ON
RURAL
CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C7R
TAST-C7R
ROAD WORK AHEAD
See Note 2
500 FT. (~13 Skip Lines)
CENTER LANE CLOSED AHEAD
500 FT. (~13 Skip Lines)
END ROAD WORK
Cone spacing not to exceed 40 FT. (1 Skip Line)
(Optional)
300 FT. (7 Skip Lines)
Buffer Space (See Table) See Notes 4, 5 & 6
Barrier Vehicle and TMIA Required if Buffer Space cannot be obtained.
Roll Ahead Distance 80 FT. (2 Skip Lines)
Spotters Recommended
Roll Ahead Distance 80 FT. (2 Skip Lines)
Buffer Space (See Table) See Notes 4, 5 & 6
Barrier Vehicle and TMIA Required if Buffer Space cannot be obtained.
(Optional)
300 FT. (7 Skip Lines)
500 FT. (~13 Skip Lines) See Note 2
CENTER LANE CLOSED AHEAD
500 FT. (~13 Skip Lines)
END ROAD WORK
ROAD WORK AHEAD
NOT TO SCALE

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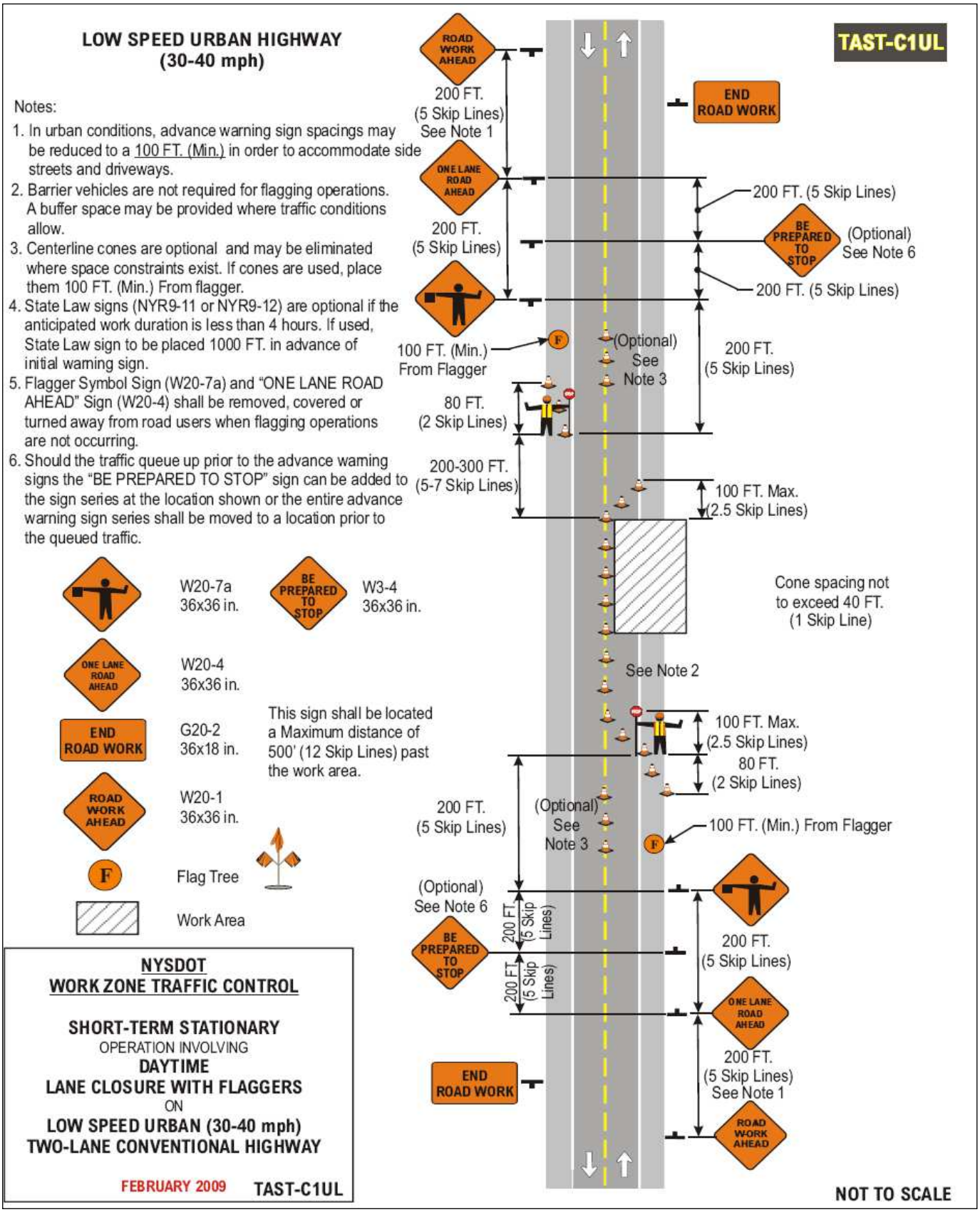
LOW SPEED URBAN HIGHWAY
(30-40 mph)
TAST-C1UL
Notes:
1. In urban conditions, advance warning sign spacings may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
2. Barrier vehicles are not required for flagging operations. A buffer space may be provided where traffic conditions allow.
3. Centerline cones are optional and may be eliminated where space constraints exist. If cones are used, place them 100 FT. (Min.) From flagger.
4. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
5. Flagger Symbol Sign (W20-7a) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
6. Should the traffic queue up prior to the advance warning signs the "BE PREPARED TO STOP" sign can be added to the sign series at the location shown or the entire advance warning sign series shall be moved to a location prior to the queued traffic.
ROAD WORK AHEAD
200 FT. (5 Skip Lines) See Note 1
END ROAD WORK
ONE LANE ROAD AHEAD
200 FT. (5 Skip Lines)
200 FT. (5 Skip Lines)
BE PREPARED TO STOP
(Optional) See Note 6
200 FT. (5 Skip Lines)
100 FT. (Min.) From Flagger
F
(Optional) See Note 3
200 FT. (5 Skip Lines)
80 FT. (2 Skip Lines)
200-300 FT. (5-7 Skip Lines)
100 FT. Max. (2.5 Skip Lines)
Cone spacing not to exceed 40 FT. (1 Skip Line)
See Note 2
100 FT. Max. (2.5 Skip Lines)
80 FT. (2 Skip Lines)
200 FT. (5 Skip Lines)
(Optional) See Note 3
100 FT. (Min.) From Flagger
(Optional) See Note 6
200 FT (5 Skip Lines)
200 FT (5 Skip Lines)
200 FT. (5 Skip Lines)
ONE LANE ROAD AHEAD
200 FT. (5 Skip Lines) See Note 1
END ROAD WORK
ROAD WORK AHEAD
W20-7a 36x36 in.
W3-4 36x36 in.
W20-4 36x36 in.
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
W20-1 36x36 in.
Flag Tree
Work Area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
DAYTIME
LANE CLOSURE WITH FLAGGERS
ON
LOW SPEED URBAN (30-40 mph)
TWO-LANE CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C1UL
NOT TO SCALE

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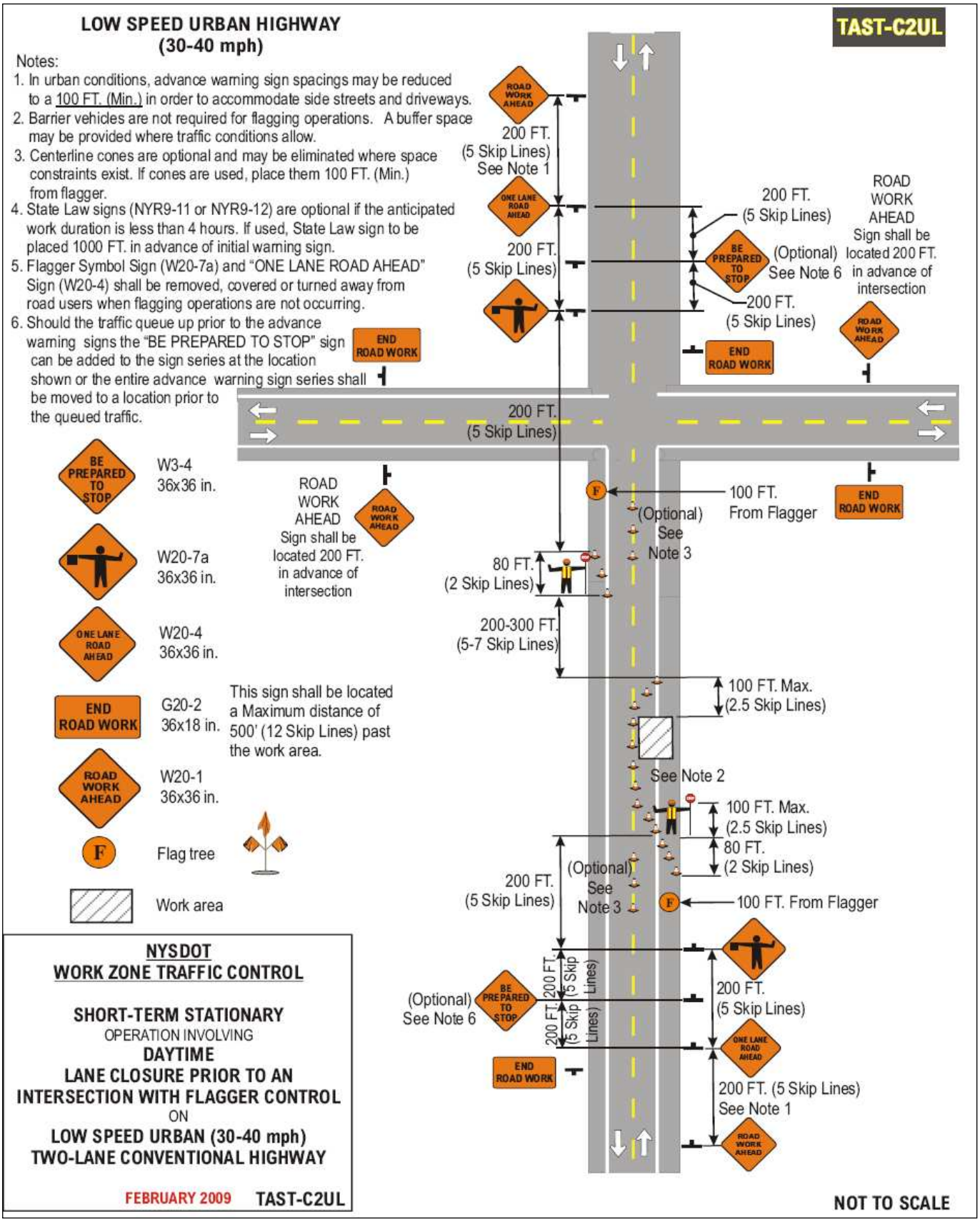
LOW SPEED URBAN HIGHWAY
(30-40 mph)
TAST-C2UL
Notes:
1. In urban conditions, advance warning sign spacings may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
2. Barrier vehicles are not required for flagging operations. A buffer space may be provided where traffic conditions allow.
3. Centerline cones are optional and may be eliminated where space constraints exist. If cones are used, place them 100 FT. (Min.) from flagger.
4. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
5. Flagger Symbol Sign (W20-7a) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
6. Should the traffic queue up prior to the advance warning signs the "BE PREPARED TO STOP" sign can be added to the sign series at the location shown or the entire advance warning sign series shall be moved to a location prior to the queued traffic.
ROAD WORK AHEAD
200 FT. (5 Skip Lines) See Note 1
ONE LANE ROAD AHEAD
200 FT. (5 Skip Lines)
200 FT. (5 Skip Lines)
BE PREPARED TO STOP
(Optional) See Note 6
200 FT. (5 Skip Lines)
ROAD WORK AHEAD Sign shall be located 200 FT. in advance of intersection
END ROAD WORK
END ROAD WORK
200 FT. (5 Skip Lines)
ROAD WORK AHEAD
ROAD WORK AHEAD Sign shall be located 200 FT. in advance of intersection
F
100 FT. From Flagger
(Optional) See Note 3
END ROAD WORK
80 FT. (2 Skip Lines)
200-300 FT. (5-7 Skip Lines)
100 FT. Max. (2.5 Skip Lines)
See Note 2
100 FT. Max. (2.5 Skip Lines)
80 FT. (2 Skip Lines)
200 FT. (5 Skip Lines)
(Optional) See Note 3
F
100 FT. From Flagger
200 FT. (5 Skip Lines)
(Optional) See Note 6
BE PREPARED TO STOP
200 FT. (5 Skip Lines)
200 FT. (5 Skip Lines)
ONE LANE ROAD AHEAD
END ROAD WORK
200 FT. (5 Skip Lines) See Note 1
ROAD WORK AHEAD
BE PREPARED TO STOP
W3-4 36x36 in.
W20-7a 36x36 in.
ONE LANE ROAD AHEAD
W20-4 36x36 in.
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
F
Flag tree
Work area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
DAYTIME
LANE CLOSURE PRIOR TO AN
INTERSECTION WITH FLAGGER CONTROL
ON
LOW SPEED URBAN (30-40 mph)
TWO-LANE CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C2UL
NOT TO SCALE

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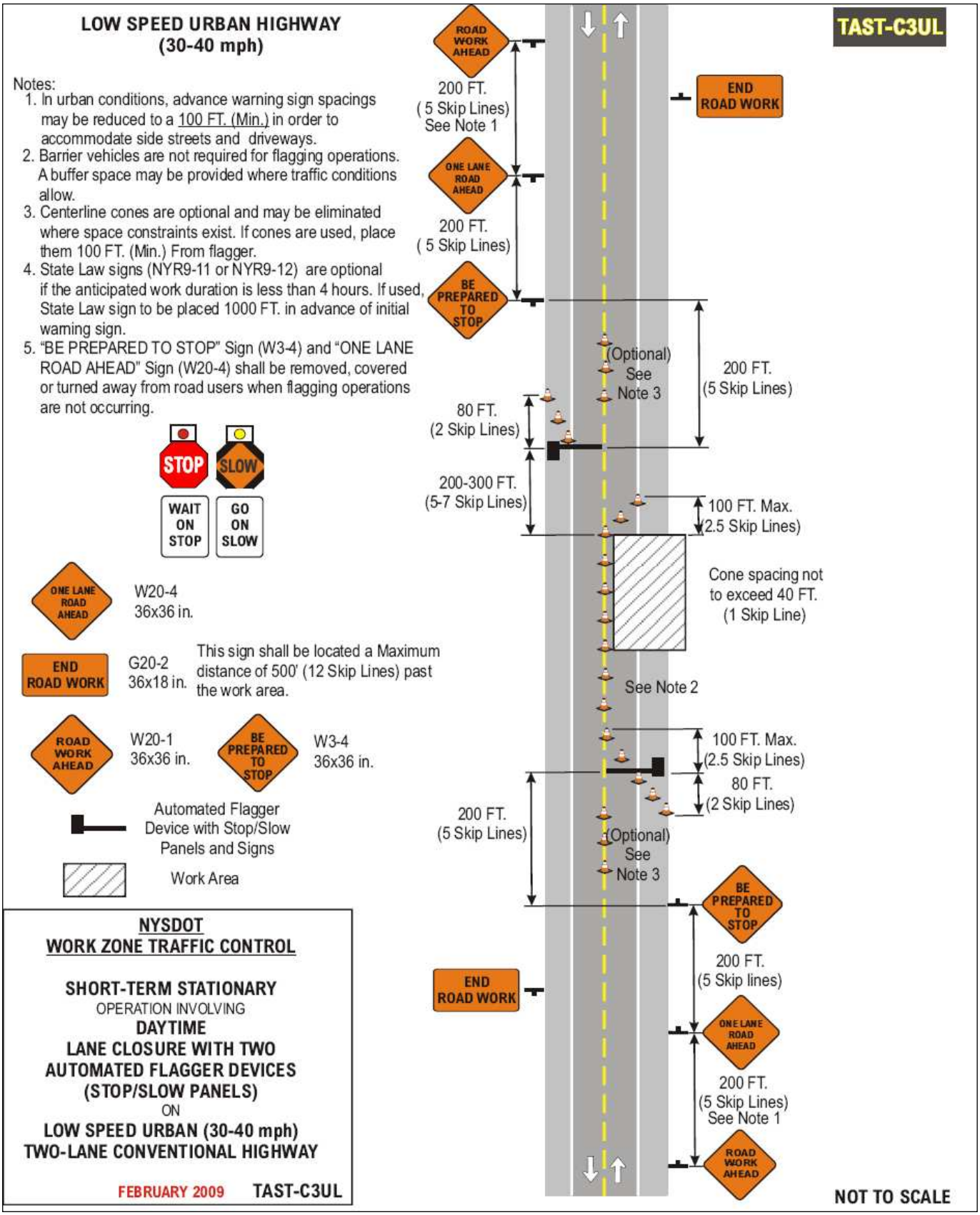
LOW SPEED URBAN HIGHWAY
(30-40 mph)
TAST-C3UL
Notes:
1. In urban conditions, advance warning sign spacings may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
2. Barrier vehicles are not required for flagging operations. A buffer space may be provided where traffic conditions allow.
3. Centerline cones are optional and may be eliminated where space constraints exist. If cones are used, place them 100 FT. (Min.) From flagger.
4. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
5. "BE PREPARED TO STOP" Sign (W3-4) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
ROAD WORK AHEAD
200 FT.
(5 Skip Lines)
See Note 1
ONE LANE ROAD AHEAD
200 FT.
(5 Skip Lines)
BE PREPARED TO STOP
END ROAD WORK
(Optional) See Note 3
200 FT.
(5 Skip Lines)
80 FT.
(2 Skip Lines)
200-300 FT.
(5-7 Skip Lines)
100 FT. Max.
(2.5 Skip Lines)
Cone spacing not to exceed 40 FT.
(1 Skip Line)
See Note 2
100 FT. Max.
(2.5 Skip Lines)
80 FT.
(2 Skip Lines)
200 FT.
(5 Skip Lines)
(Optional) See Note 3
BE PREPARED TO STOP
200 FT.
(5 Skip lines)
END ROAD WORK
ONE LANE ROAD AHEAD
200 FT.
(5 Skip Lines)
See Note 1
ROAD WORK AHEAD
STOP
SLOW
WAIT ON STOP
GO ON SLOW
ONE LANE ROAD AHEAD
W20-4
36x36 in.
END ROAD WORK
G20-2
36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1
36x36 in.
BE PREPARED TO STOP
W3-4
36x36 in.
Automated Flagger Device with Stop/Slow Panels and Signs
Work Area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
DAYTIME
LANE CLOSURE WITH TWO
AUTOMATED FLAGGER DEVICES
(STOP/SLOW PANELS)
ON
LOW SPEED URBAN (30-40 mph)
TWO-LANE CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C3UL
NOT TO SCALE

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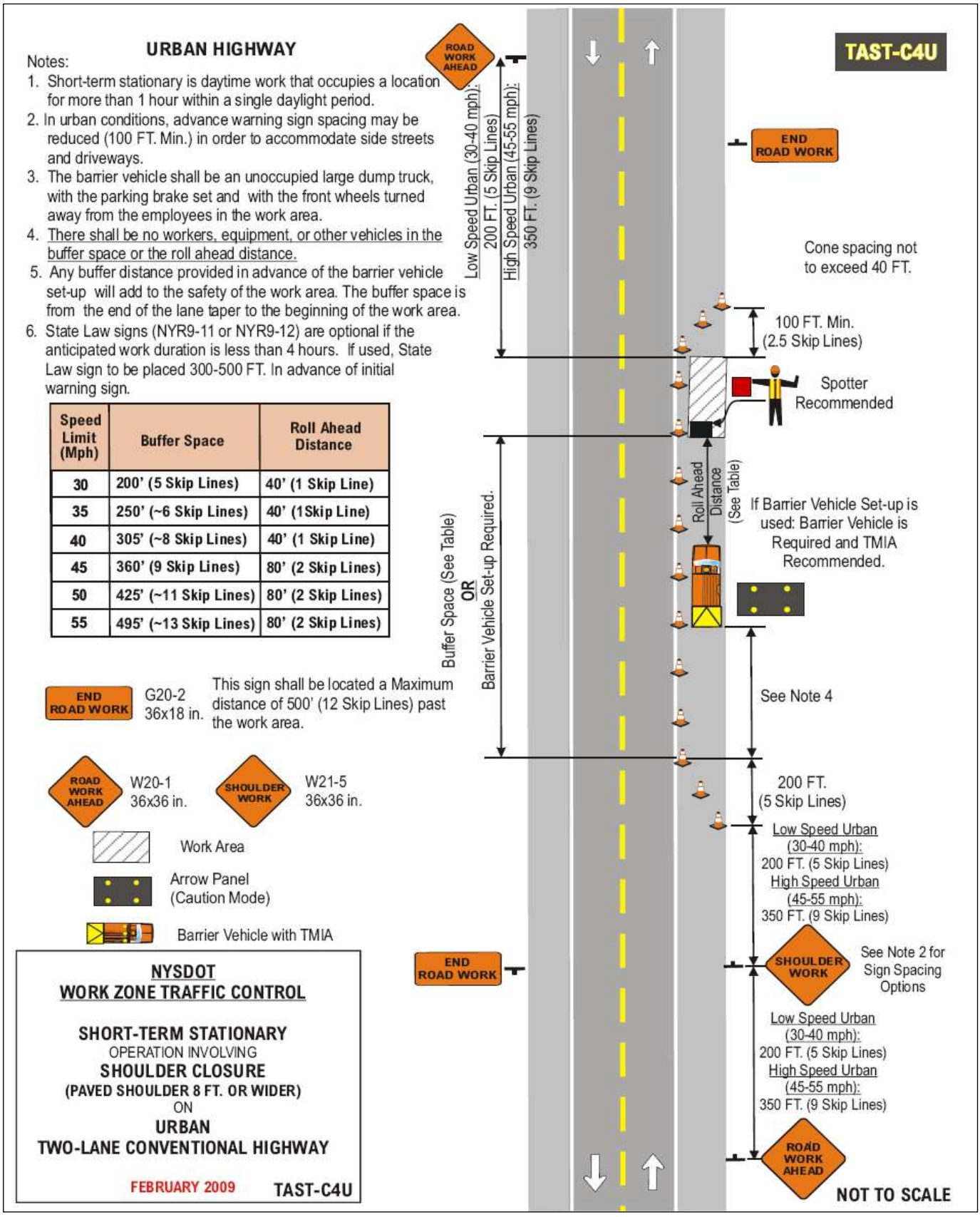
URBAN HIGHWAY
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. In urban conditions, advance warning sign spacing may be reduced (100 FT. Min.) in order to accommodate side streets and driveways.
3. The barrier vehicle shall be an unoccupied large dump truck, with the parking brake set and with the front wheels turned away from the employees in the work area.
4. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
5. Any buffer distance provided in advance of the barrier vehicle set-up will add to the safety of the work area. The buffer space is from the end of the lane taper to the beginning of the work area.
6. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 300-500 FT. In advance of initial warning sign.
Speed Limit (Mph) | Buffer Space | Roll Ahead Distance
30 | 200' (5 Skip Lines) | 40' (1 Skip Line)
35 | 250' (~6 Skip Lines) | 40' (1Skip Line)
40 | 305' (~8 Skip Lines) | 40' (1 Skip Line)
45 | 360' (9 Skip Lines) | 80' (2 Skip Lines)
50 | 425' (~11 Skip Lines) | 80' (2 Skip Lines)
55 | 495' (~13 Skip Lines) | 80' (2 Skip Lines)
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
SHOULDER WORK
W21-5 36x36 in.
Work Area
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
SHOULDER CLOSURE
(PAVED SHOULDER 8 FT. OR WIDER)
ON
URBAN
TWO-LANE CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C4U
TAST-C4U
ROAD WORK AHEAD
Low Speed Urban (30-40 mph): 200 FT. (5 Skip Lines)
High Speed Urban (45-55 mph): 350 FT. (9 Skip Lines)
END ROAD WORK
Cone spacing not to exceed 40 FT.
100 FT. Min. (2.5 Skip Lines)
Spotter Recommended
Roll Ahead Distance (See Table)
If Barrier Vehicle Set-up is used: Barrier Vehicle is Required and TMIA Recommended.
Buffer Space (See Table) OR Barrier Vehicle Set-up Required.
See Note 4
200 FT. (5 Skip Lines)
Low Speed Urban (30-40 mph): 200 FT. (5 Skip Lines)
High Speed Urban (45-55 mph): 350 FT. (9 Skip Lines)
END ROAD WORK
SHOULDER WORK
See Note 2 for Sign Spacing Options
Low Speed Urban (30-40 mph): 200 FT. (5 Skip Lines)
High Speed Urban (45-55 mph): 350 FT. (9 Skip Lines)
ROAD WORK AHEAD
NOT TO SCALE

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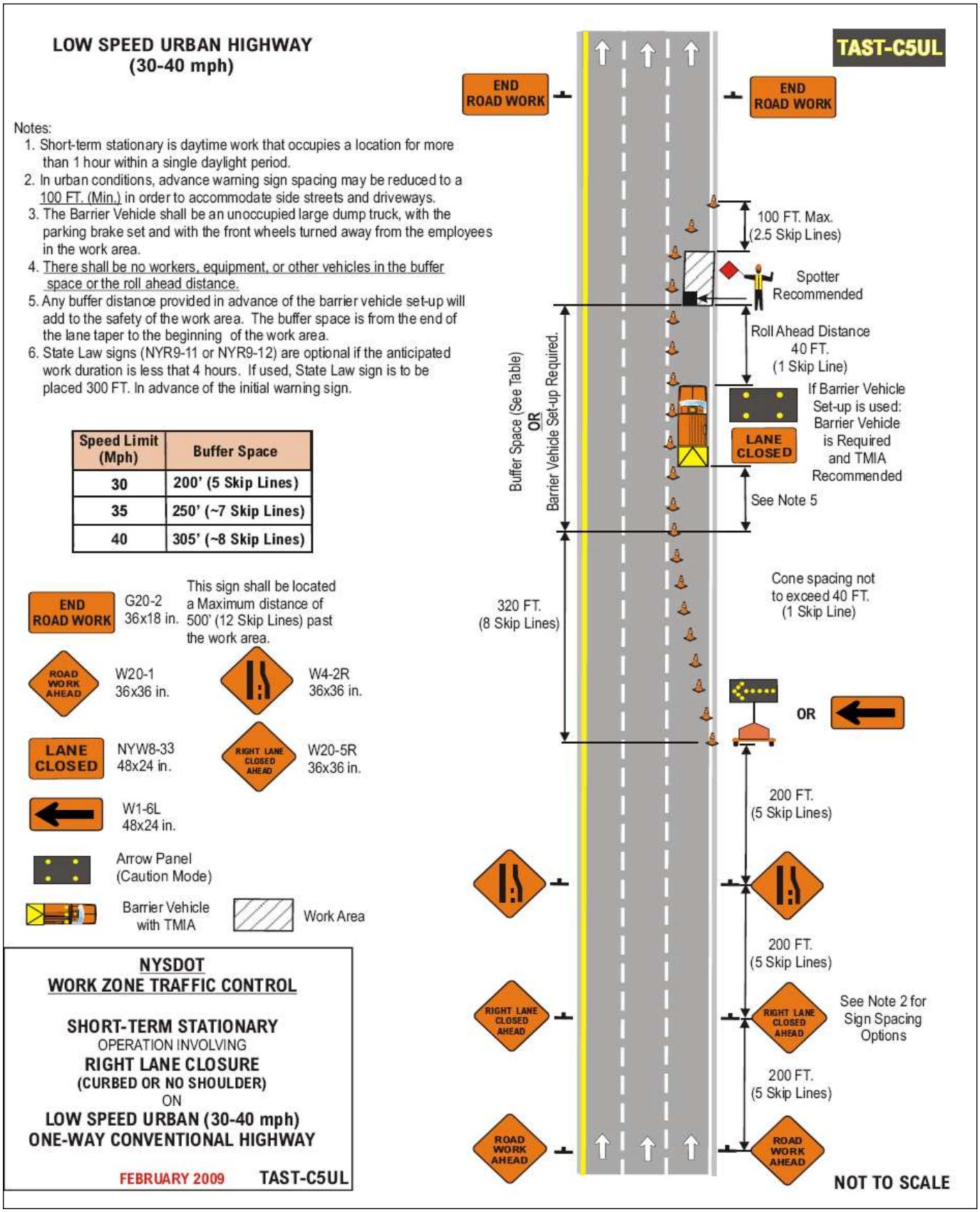
LOW SPEED URBAN HIGHWAY
(30-40 mph)
TAST-C5UL
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. In urban conditions, advance warning sign spacing may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
3. The Barrier Vehicle shall be an unoccupied large dump truck, with the parking brake set and with the front wheels turned away from the employees in the work area.
4. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
5. Any buffer distance provided in advance of the barrier vehicle set-up will add to the safety of the work area. The buffer space is from the end of the lane taper to the beginning of the work area.
6. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less that 4 hours. If used, State Law sign is to be placed 300 FT. In advance of the initial warning sign.
Speed Limit (Mph) | Buffer Space
30 | 200' (5 Skip Lines)
35 | 250' (~7 Skip Lines)
40 | 305' (~8 Skip Lines)
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
W4-2R 36x36 in.
LANE CLOSED
NYW8-33 48x24 in.
RIGHT LANE CLOSED AHEAD
W20-5R 36x36 in.
W1-6L 48x24 in.
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
Work Area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
RIGHT LANE CLOSURE
(CURBED OR NO SHOULDER)
ON
LOW SPEED URBAN (30-40 mph)
ONE-WAY CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C5UL
END ROAD WORK
END ROAD WORK
100 FT. Max. (2.5 Skip Lines)
Spotter Recommended
Roll Ahead Distance 40 FT. (1 Skip Line)
Buffer Space (See Table) OR Barrier Vehicle Set-up Required.
If Barrier Vehicle Set-up is used: Barrier Vehicle is Required and TMIA Recommended
LANE CLOSED
See Note 5
320 FT. (8 Skip Lines)
Cone spacing not to exceed 40 FT. (1 Skip Line)
OR
200 FT. (5 Skip Lines)
200 FT. (5 Skip Lines)
RIGHT LANE CLOSED AHEAD
RIGHT LANE CLOSED AHEAD
See Note 2 for Sign Spacing Options
200 FT. (5 Skip Lines)
ROAD WORK AHEAD
ROAD WORK AHEAD
NOT TO SCALE

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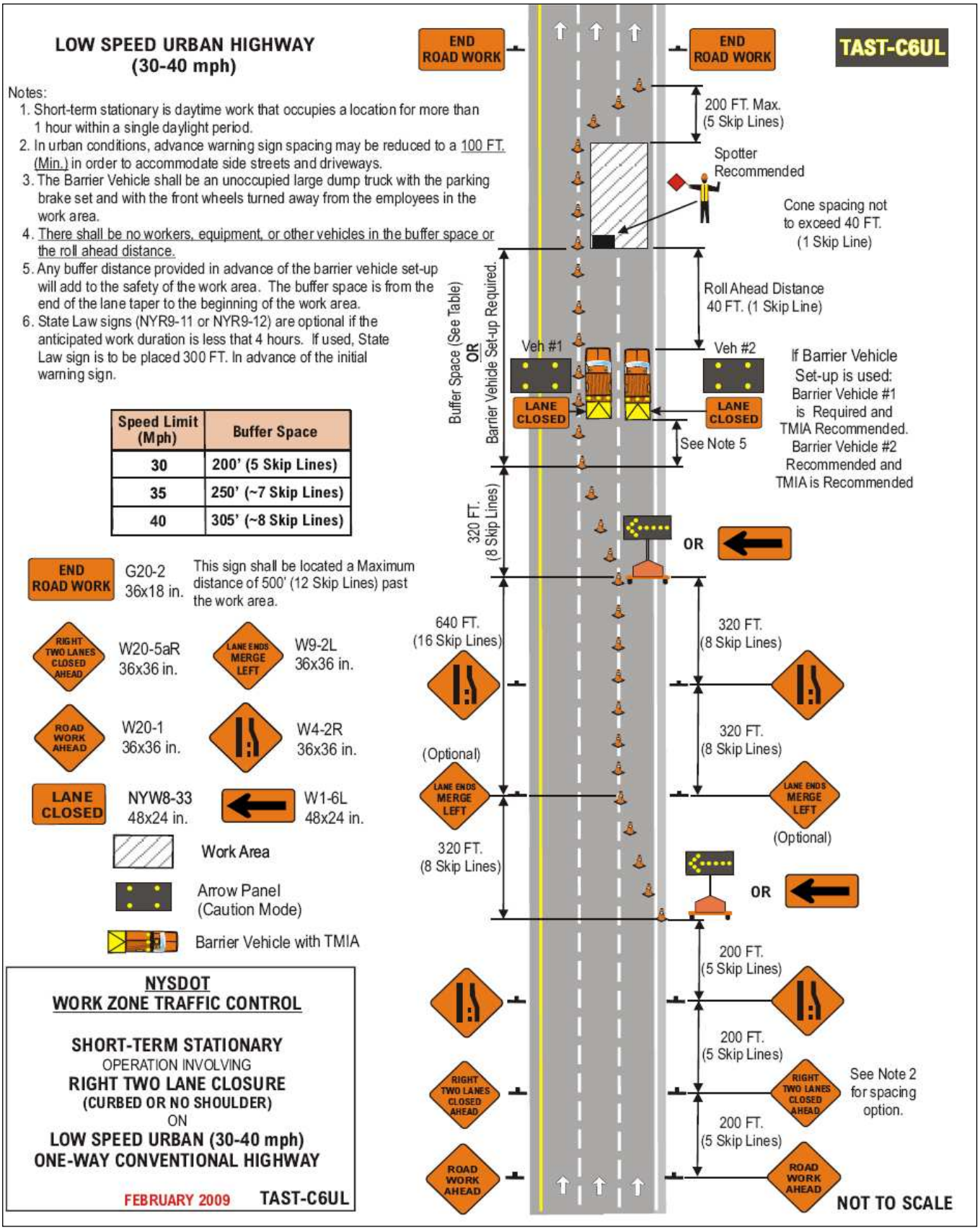
LOW SPEED URBAN HIGHWAY
(30-40 mph)
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. In urban conditions, advance warning sign spacing may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
3. The Barrier Vehicle shall be an unoccupied large dump truck with the parking brake set and with the front wheels turned away from the employees in the work area.
4. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
5. Any buffer distance provided in advance of the barrier vehicle set-up will add to the safety of the work area. The buffer space is from the end of the lane taper to the beginning of the work area.
6. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less that 4 hours. If used, State Law sign is to be placed 300 FT. In advance of the initial warning sign.
Speed Limit (Mph) | Buffer Space
30 | 200' (5 Skip Lines)
35 | 250' (~7 Skip Lines)
40 | 305' (~8 Skip Lines)
END ROAD WORK G20-2 36x18 in. This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
RIGHT TWO LANES CLOSED AHEAD W20-5aR 36x36 in.
LANE ENDS MERGE LEFT W9-2L 36x36 in.
ROAD WORK AHEAD W20-1 36x36 in.
W4-2R 36x36 in.
LANE CLOSED NYW8-33 48x24 in.
W1-6L 48x24 in.
Work Area
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
RIGHT TWO LANE CLOSURE
(CURBED OR NO SHOULDER)
ON
LOW SPEED URBAN (30-40 mph)
ONE-WAY CONVENTIONAL HIGHWAY
FEBRUARY 2009 TAST-C6UL
END ROAD WORK
END ROAD WORK
TAST-C6UL
200 FT. Max. (5 Skip Lines)
Spotter Recommended
Cone spacing not to exceed 40 FT. (1 Skip Line)
Roll Ahead Distance 40 FT. (1 Skip Line)
Buffer Space (See Table) OR Barrier Vehicle Set-up Required.
Veh #1
Veh #2
LANE CLOSED
LANE CLOSED
See Note 5
If Barrier Vehicle Set-up is used: Barrier Vehicle #1 is Required and TMIA Recommended. Barrier Vehicle #2 Recommended and TMIA is Recommended
320 FT. (8 Skip Lines)
OR
640 FT. (16 Skip Lines)
320 FT. (8 Skip Lines)
320 FT. (8 Skip Lines)
(Optional)
LANE ENDS MERGE LEFT
LANE ENDS MERGE LEFT
(Optional)
320 FT. (8 Skip Lines)
OR
200 FT. (5 Skip Lines)
200 FT. (5 Skip Lines)
RIGHT TWO LANES CLOSED AHEAD
RIGHT TWO LANES CLOSED AHEAD
See Note 2 for spacing option.
200 FT. (5 Skip Lines)
ROAD WORK AHEAD
ROAD WORK AHEAD
NOT TO SCALE

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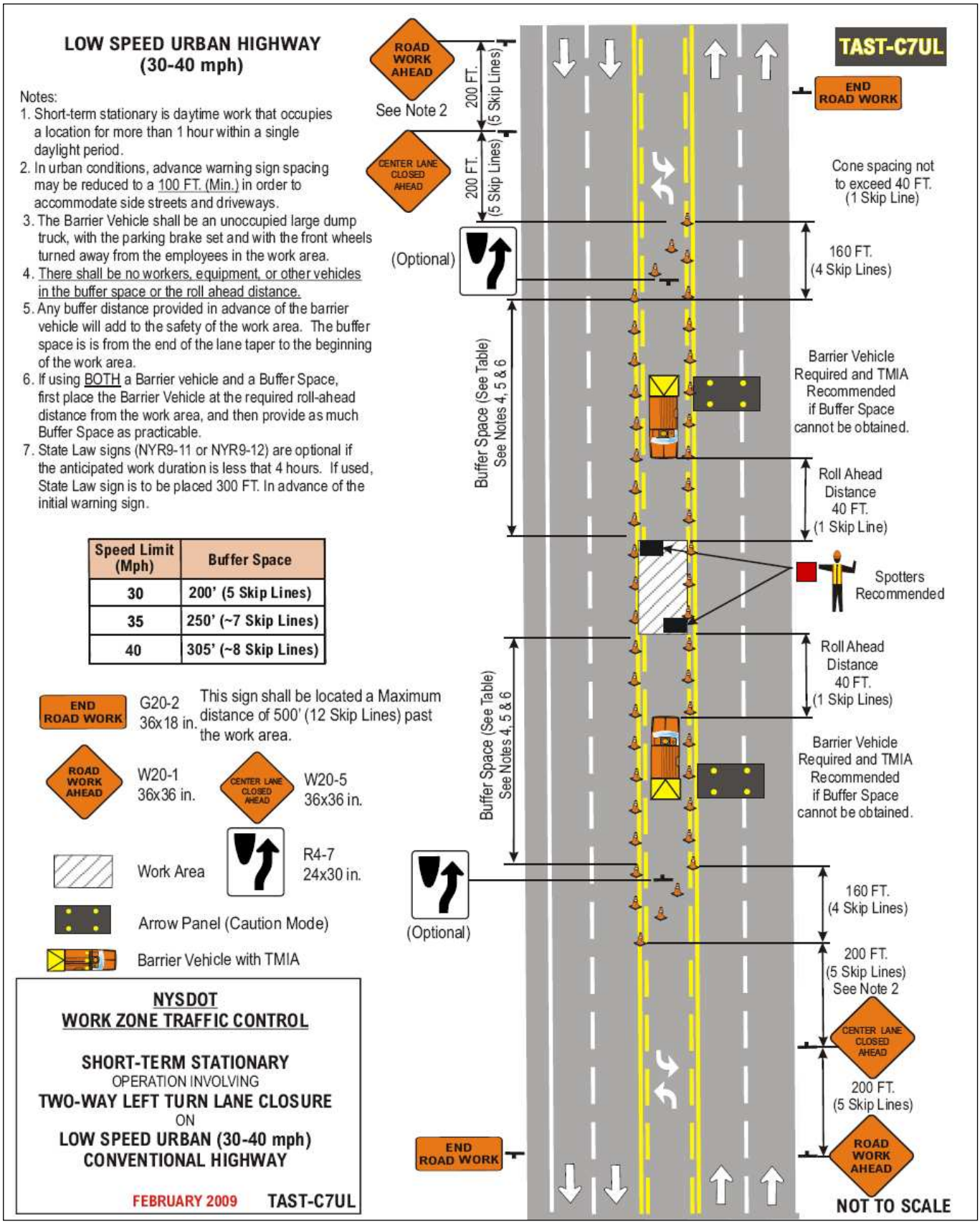
LOW SPEED URBAN HIGHWAY
(30-40 mph)
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. In urban conditions, advance warning sign spacing may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
3. The Barrier Vehicle shall be an unoccupied large dump truck, with the parking brake set and with the front wheels turned away from the employees in the work area.
4. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
5. Any buffer distance provided in advance of the barrier vehicle will add to the safety of the work area. The buffer space is is from the end of the lane taper to the beginning of the work area.
6. If using BOTH a Barrier vehicle and a Buffer Space, first place the Barrier Vehicle at the required roll-ahead distance from the work area, and then provide as much Buffer Space as practicable.
7. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less that 4 hours. If used, State Law sign is to be placed 300 FT. In advance of the initial warning sign.
Speed Limit (Mph) | Buffer Space
30 | 200' (5 Skip Lines)
35 | 250' (~7 Skip Lines)
40 | 305' (~8 Skip Lines)
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
CENTER LANE CLOSED AHEAD
W20-5 36x36 in.
Work Area
R4-7 24x30 in.
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
TWO-WAY LEFT TURN LANE CLOSURE
ON
LOW SPEED URBAN (30-40 mph)
CONVENTIONAL HIGHWAY
FEBRUARY 2009 TAST-C7UL
ROAD WORK AHEAD
See Note 2
200 FT. (5 Skip Lines)
CENTER LANE CLOSED AHEAD
200 FT. (5 Skip Lines)
(Optional)
TAST-C7UL
END ROAD WORK
Cone spacing not to exceed 40 FT. (1 Skip Line)
160 FT. (4 Skip Lines)
Buffer Space (See Table) See Notes 4, 5 & 6
Barrier Vehicle Required and TMIA Recommended if Buffer Space cannot be obtained.
Roll Ahead Distance 40 FT. (1 Skip Line)
Spotters Recommended
Roll Ahead Distance 40 FT. (1 Skip Lines)
Buffer Space (See Table) See Notes 4, 5 & 6
Barrier Vehicle Required and TMIA Recommended if Buffer Space cannot be obtained.
(Optional)
160 FT. (4 Skip Lines)
200 FT. (5 Skip Lines) See Note 2
CENTER LANE CLOSED AHEAD
200 FT. (5 Skip Lines)
ROAD WORK AHEAD
END ROAD WORK
NOT TO SCALE

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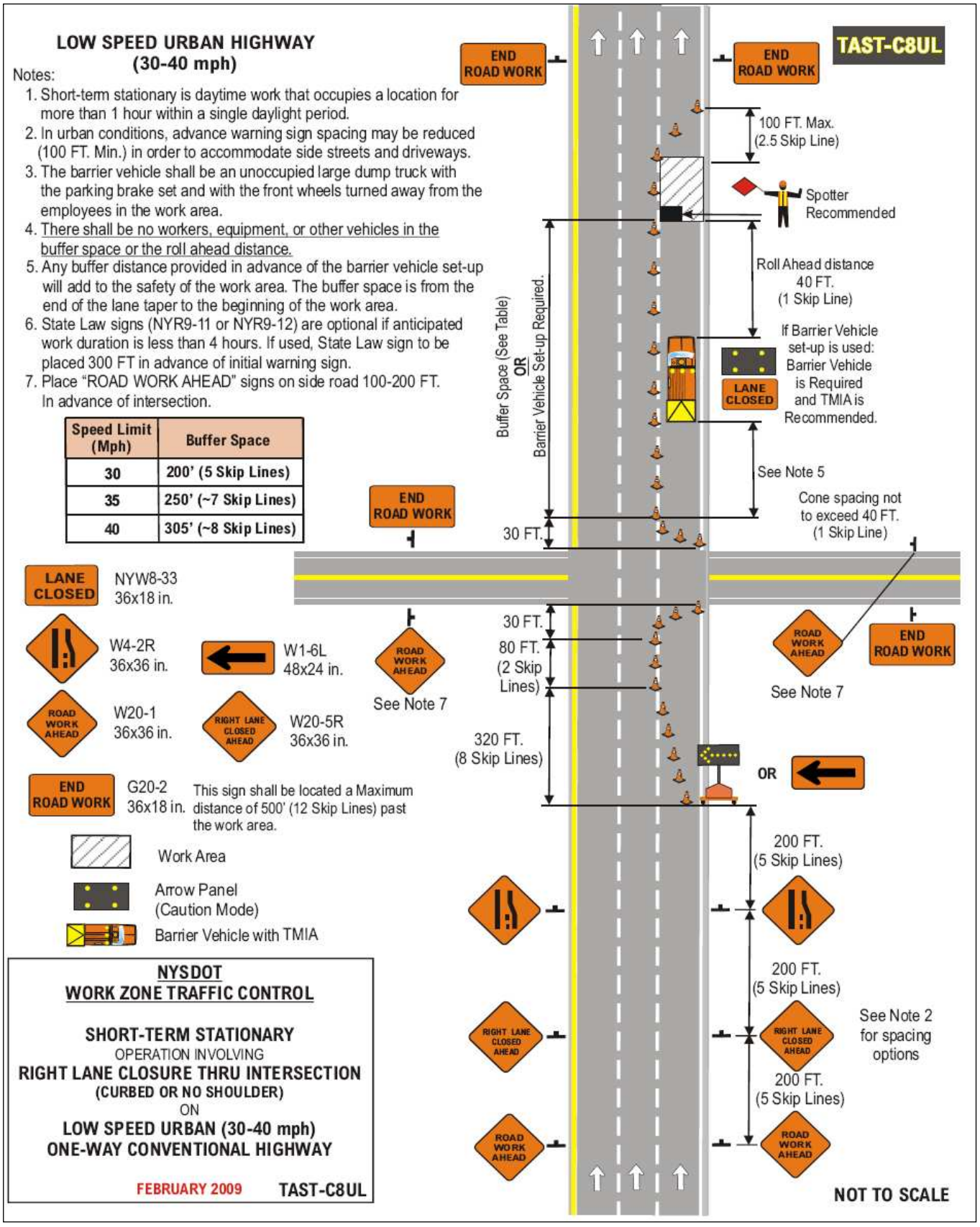
LOW SPEED URBAN HIGHWAY
(30-40 mph)
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. In urban conditions, advance warning sign spacing may be reduced (100 FT. Min.) in order to accommodate side streets and driveways.
3. The barrier vehicle shall be an unoccupied large dump truck with the parking brake set and with the front wheels turned away from the employees in the work area.
4. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
5. Any buffer distance provided in advance of the barrier vehicle set-up will add to the safety of the work area. The buffer space is from the end of the lane taper to the beginning of the work area.
6. State Law signs (NYR9-11 or NYR9-12) are optional if anticipated work duration is less than 4 hours. If used, State Law sign to be placed 300 FT in advance of initial warning sign.
7. Place "ROAD WORK AHEAD" signs on side road 100-200 FT. In advance of intersection.
Speed Limit (Mph) | Buffer Space
30 | 200' (5 Skip Lines)
35 | 250' (~7 Skip Lines)
40 | 305' (~8 Skip Lines)
LANE CLOSED
NYW8-33 36x18 in.
W4-2R 36x36 in.
W1-6L 48x24 in.
ROAD WORK AHEAD
W20-1 36x36 in.
RIGHT LANE CLOSED AHEAD
W20-5R 36x36 in.
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
Work Area
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
RIGHT LANE CLOSURE THRU INTERSECTION
(CURBED OR NO SHOULDER)
ON
LOW SPEED URBAN (30-40 mph)
ONE-WAY CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C8UL
TAST-C8UL
END ROAD WORK
100 FT. Max. (2.5 Skip Line)
Spotter Recommended
Roll Ahead distance 40 FT. (1 Skip Line)
Buffer Space (See Table) OR Barrier Vehicle Set-up Required.
If Barrier Vehicle set-up is used: Barrier Vehicle is Required and TMIA is Recommended.
See Note 5
Cone spacing not to exceed 40 FT. (1 Skip Line)
30 FT.
80 FT. (2 Skip Lines)
320 FT. (8 Skip Lines)
See Note 7
OR
200 FT. (5 Skip Lines)
See Note 2 for spacing options
NOT TO SCALE

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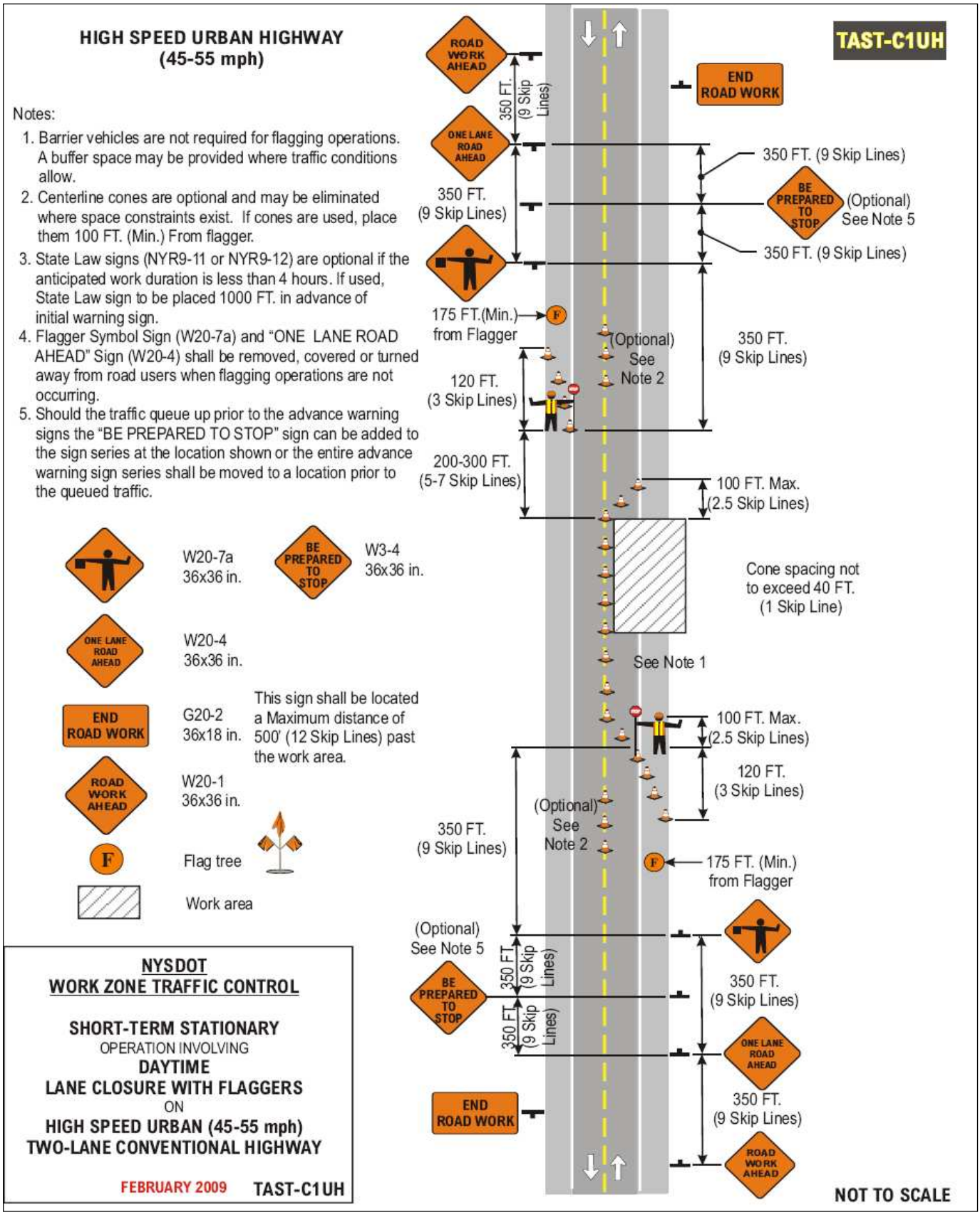
HIGH SPEED URBAN HIGHWAY
(45-55 mph)
TAST-C1UH
Notes:
1. Barrier vehicles are not required for flagging operations. A buffer space may be provided where traffic conditions allow.
2. Centerline cones are optional and may be eliminated where space constraints exist. If cones are used, place them 100 FT. (Min.) From flagger.
3. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
4. Flagger Symbol Sign (W20-7a) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
5. Should the traffic queue up prior to the advance warning signs the "BE PREPARED TO STOP" sign can be added to the sign series at the location shown or the entire advance warning sign series shall be moved to a location prior to the queued traffic.
ROAD WORK AHEAD
350 FT. (9 Skip Lines)
END ROAD WORK
ONE LANE ROAD AHEAD
350 FT. (9 Skip Lines)
350 FT. (9 Skip Lines)
BE PREPARED TO STOP
(Optional) See Note 5
350 FT. (9 Skip Lines)
175 FT.(Min.) from Flagger
F
(Optional) See Note 2
350 FT. (9 Skip Lines)
120 FT. (3 Skip Lines)
200-300 FT. (5-7 Skip Lines)
100 FT. Max. (2.5 Skip Lines)
Cone spacing not to exceed 40 FT. (1 Skip Line)
See Note 1
100 FT. Max. (2.5 Skip Lines)
120 FT. (3 Skip Lines)
(Optional) See Note 2
350 FT. (9 Skip Lines)
175 FT. (Min.) from Flagger
(Optional) See Note 5
350 FT. (9 Skip Lines)
350 FT. (9 Skip Lines)
350 FT. (9 Skip Lines)
ONE LANE ROAD AHEAD
END ROAD WORK
ROAD WORK AHEAD
W20-7a 36x36 in.
BE PREPARED TO STOP
W3-4 36x36 in.
ONE LANE ROAD AHEAD
W20-4 36x36 in.
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
F
Flag tree
Work area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
DAYTIME
LANE CLOSURE WITH FLAGGERS
ON
HIGH SPEED URBAN (45-55 mph)
TWO-LANE CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C1UH
NOT TO SCALE

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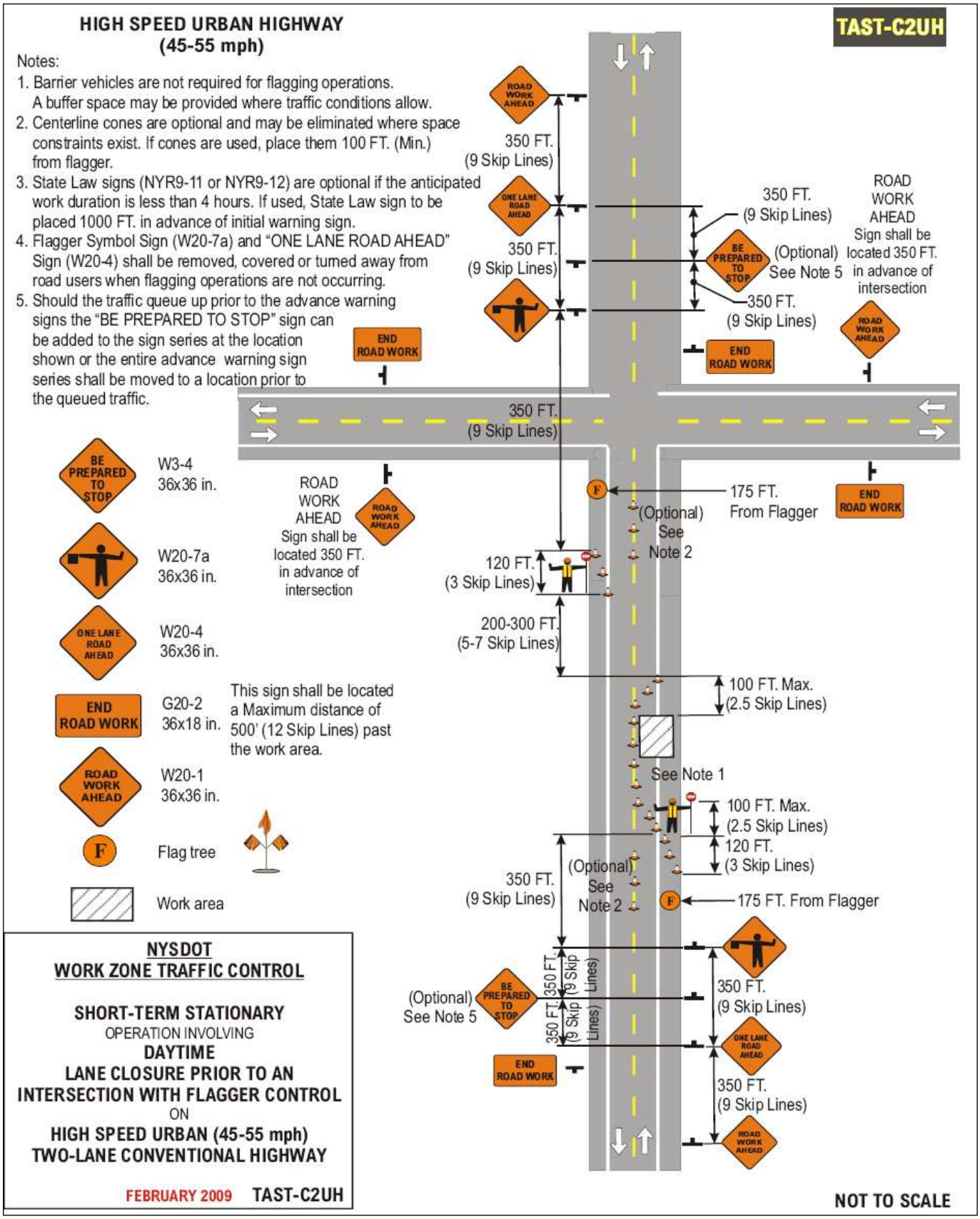
HIGH SPEED URBAN HIGHWAY
(45-55 mph)
TAST-C2UH
Notes:
1. Barrier vehicles are not required for flagging operations. A buffer space may be provided where traffic conditions allow.
2. Centerline cones are optional and may be eliminated where space constraints exist. If cones are used, place them 100 FT. (Min.) from flagger.
3. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
4. Flagger Symbol Sign (W20-7a) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
5. Should the traffic queue up prior to the advance warning signs the "BE PREPARED TO STOP" sign can be added to the sign series at the location shown or the entire advance warning sign series shall be moved to a location prior to the queued traffic.
ROAD WORK AHEAD
350 FT. (9 Skip Lines)
ONE LANE ROAD AHEAD
350 FT. (9 Skip Lines)
BE PREPARED TO STOP
(Optional) See Note 5
350 FT. (9 Skip Lines)
ROAD WORK AHEAD Sign shall be located 350 FT. in advance of intersection
END ROAD WORK
350 FT. (9 Skip Lines)
BE PREPARED TO STOP
W3-4 36x36 in.
W20-7a 36x36 in.
ONE LANE ROAD AHEAD
W20-4 36x36 in.
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
F
Flag tree
Work area
ROAD WORK AHEAD Sign shall be located 350 FT. in advance of intersection
175 FT. From Flagger
(Optional) See Note 2
120 FT. (3 Skip Lines)
200-300 FT. (5-7 Skip Lines)
100 FT. Max. (2.5 Skip Lines)
See Note 1
100 FT. Max. (2.5 Skip Lines)
120 FT. (3 Skip Lines)
350 FT. (9 Skip Lines)
(Optional) See Note 2
175 FT. From Flagger
(Optional) See Note 5
350 FT. (9 Skip Lines)
350 FT. (9 Skip Lines)
350 FT. (9 Skip Lines)
END ROAD WORK
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
DAYTIME
LANE CLOSURE PRIOR TO AN INTERSECTION WITH FLAGGER CONTROL
ON
HIGH SPEED URBAN (45-55 mph)
TWO-LANE CONVENTIONAL HIGHWAY
FEBRUARY 2009 TAST-C2UH
NOT TO SCALE

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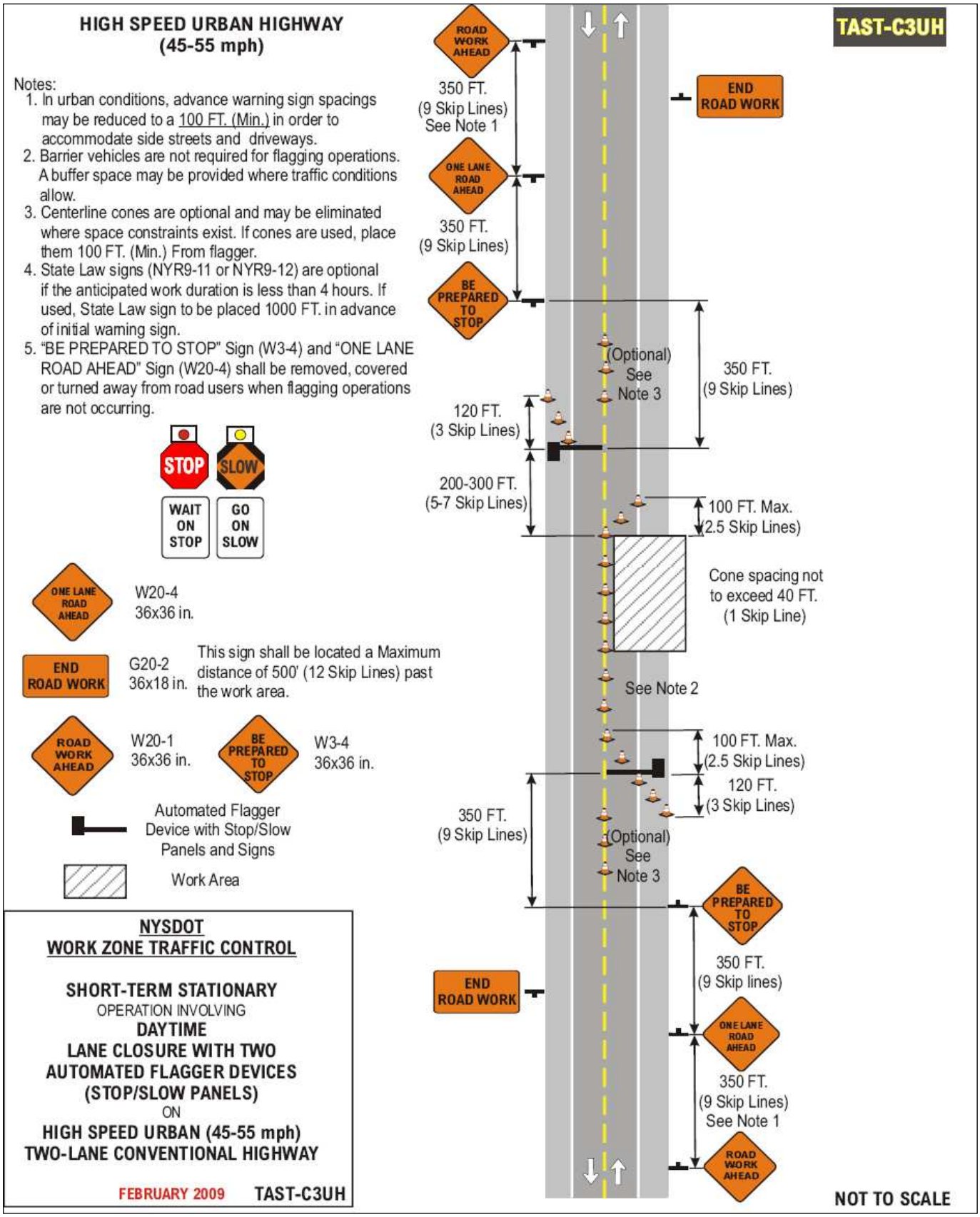
HIGH SPEED URBAN HIGHWAY
(45-55 mph)
TAST-C3UH
Notes:
1. In urban conditions, advance warning sign spacings may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
2. Barrier vehicles are not required for flagging operations. A buffer space may be provided where traffic conditions allow.
3. Centerline cones are optional and may be eliminated where space constraints exist. If cones are used, place them 100 FT. (Min.) From flagger.
4. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
5. "BE PREPARED TO STOP" Sign (W3-4) and "ONE LANE ROAD AHEAD" Sign (W20-4) shall be removed, covered or turned away from road users when flagging operations are not occurring.
STOP
SLOW
WAIT ON STOP
GO ON SLOW
ONE LANE ROAD AHEAD
W20-4
36x36 in.
END ROAD WORK
G20-2
36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1
36x36 in.
BE PREPARED TO STOP
W3-4
36x36 in.
Automated Flagger Device with Stop/Slow Panels and Signs
Work Area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
DAYTIME
LANE CLOSURE WITH TWO
AUTOMATED FLAGGER DEVICES
(STOP/SLOW PANELS)
ON
HIGH SPEED URBAN (45-55 mph)
TWO-LANE CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C3UH
ROAD WORK AHEAD
350 FT.
(9 Skip Lines)
See Note 1
ONE LANE ROAD AHEAD
350 FT.
(9 Skip Lines)
BE PREPARED TO STOP
END ROAD WORK
(Optional) See Note 3
350 FT.
(9 Skip Lines)
120 FT.
(3 Skip Lines)
200-300 FT.
(5-7 Skip Lines)
100 FT. Max.
(2.5 Skip Lines)
Cone spacing not to exceed 40 FT.
(1 Skip Line)
See Note 2
100 FT. Max.
(2.5 Skip Lines)
120 FT.
(3 Skip Lines)
350 FT.
(9 Skip Lines)
(Optional) See Note 3
BE PREPARED TO STOP
350 FT.
(9 Skip lines)
END ROAD WORK
ONE LANE ROAD AHEAD
350 FT.
(9 Skip Lines)
See Note 1
ROAD WORK AHEAD
NOT TO SCALE

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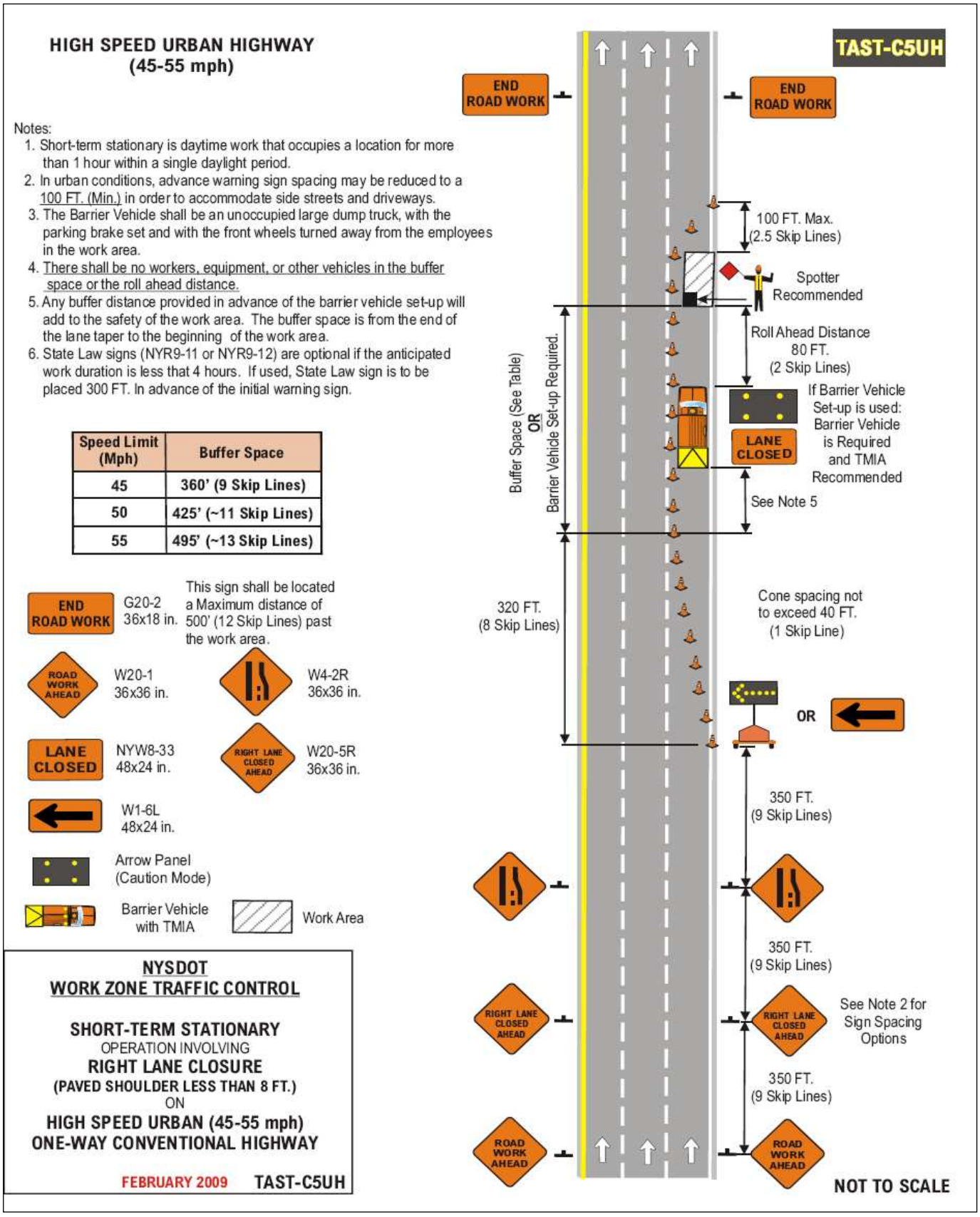
HIGH SPEED URBAN HIGHWAY
(45-55 mph)
TAST-C5UH
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. In urban conditions, advance warning sign spacing may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
3. The Barrier Vehicle shall be an unoccupied large dump truck, with the parking brake set and with the front wheels turned away from the employees in the work area.
4. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
5. Any buffer distance provided in advance of the barrier vehicle set-up will add to the safety of the work area. The buffer space is from the end of the lane taper to the beginning of the work area.
6. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less that 4 hours. If used, State Law sign is to be placed 300 FT. In advance of the initial warning sign.
Speed Limit (Mph)
Buffer Space
45
360' (9 Skip Lines)
50
425' (~11 Skip Lines)
55
495' (~13 Skip Lines)
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
W4-2R 36x36 in.
LANE CLOSED
NYW8-33 48x24 in.
RIGHT LANE CLOSED AHEAD
W20-5R 36x36 in.
W1-6L 48x24 in.
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
Work Area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
RIGHT LANE CLOSURE
(PAVED SHOULDER LESS THAN 8 FT.)
ON
HIGH SPEED URBAN (45-55 mph)
ONE-WAY CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C5UH
END ROAD WORK
END ROAD WORK
100 FT. Max. (2.5 Skip Lines)
Spotter Recommended
Roll Ahead Distance 80 FT. (2 Skip Lines)
Buffer Space (See Table) OR Barrier Vehicle Set-up Required.
If Barrier Vehicle Set-up is used: Barrier Vehicle is Required and TMIA Recommended
LANE CLOSED
See Note 5
320 FT. (8 Skip Lines)
Cone spacing not to exceed 40 FT. (1 Skip Line)
OR
350 FT. (9 Skip Lines)
350 FT. (9 Skip Lines)
RIGHT LANE CLOSED AHEAD
RIGHT LANE CLOSED AHEAD
See Note 2 for Sign Spacing Options
350 FT. (9 Skip Lines)
ROAD WORK AHEAD
ROAD WORK AHEAD
NOT TO SCALE

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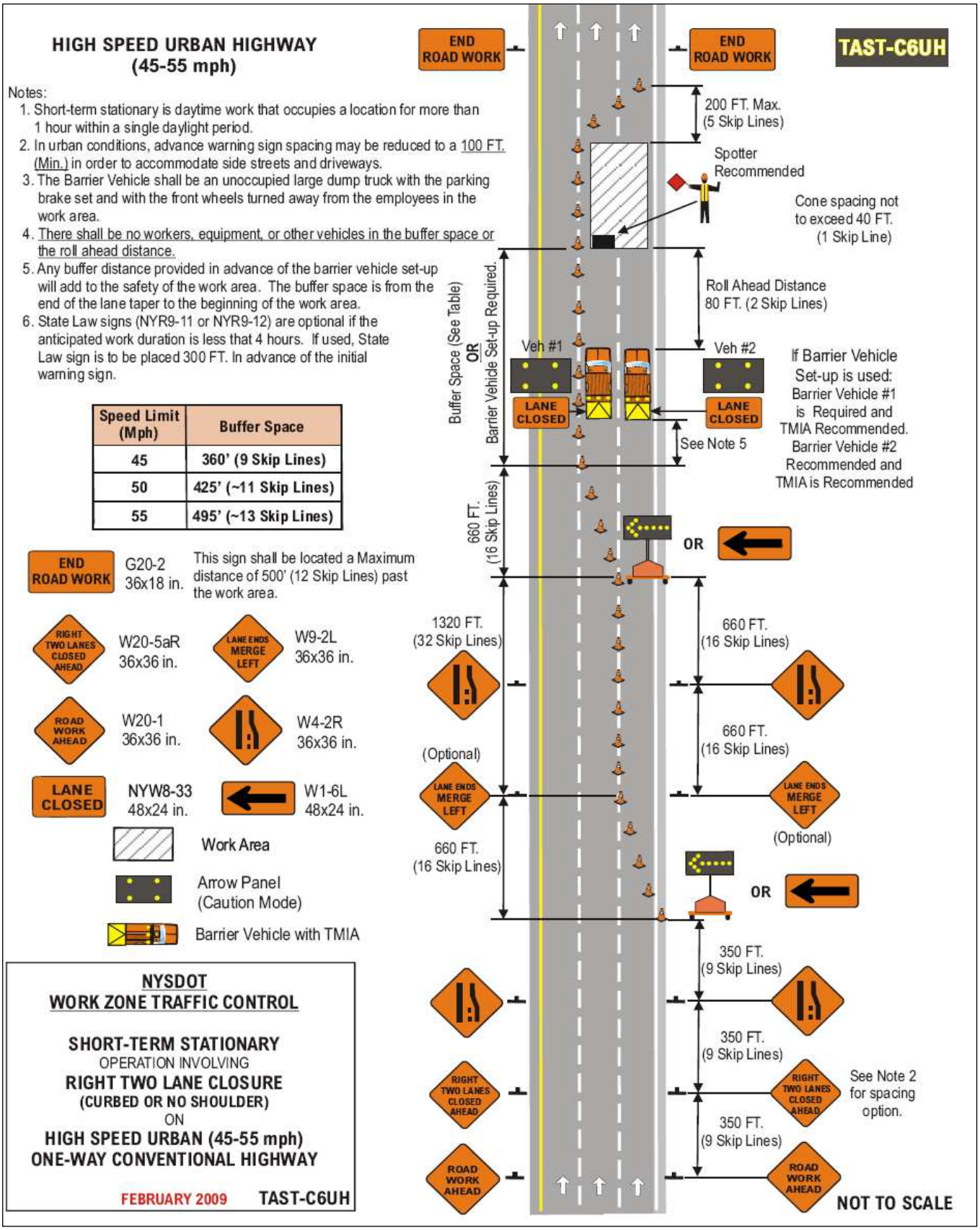
HIGH SPEED URBAN HIGHWAY
(45-55 mph)
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. In urban conditions, advance warning sign spacing may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
3. The Barrier Vehicle shall be an unoccupied large dump truck with the parking brake set and with the front wheels turned away from the employees in the work area.
4. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
5. Any buffer distance provided in advance of the barrier vehicle set-up will add to the safety of the work area. The buffer space is from the end of the lane taper to the beginning of the work area.
6. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less that 4 hours. If used, State Law sign is to be placed 300 FT. In advance of the initial warning sign.
Speed Limit (Mph) | Buffer Space
45 | 360' (9 Skip Lines)
50 | 425' (~11 Skip Lines)
55 | 495' (~13 Skip Lines)
END ROAD WORK G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
RIGHT TWO LANES CLOSED AHEAD W20-5aR 36x36 in.
LANE ENDS MERGE LEFT W9-2L 36x36 in.
ROAD WORK AHEAD W20-1 36x36 in.
W4-2R 36x36 in.
LANE CLOSED NYW8-33 48x24 in.
W1-6L 48x24 in.
Work Area
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
RIGHT TWO LANE CLOSURE
(CURBED OR NO SHOULDER)
ON
HIGH SPEED URBAN (45-55 mph)
ONE-WAY CONVENTIONAL HIGHWAY
FEBRUARY 2009 TAST-C6UH
END ROAD WORK
END ROAD WORK
TAST-C6UH
200 FT. Max. (5 Skip Lines)
Spotter Recommended
Cone spacing not to exceed 40 FT. (1 Skip Line)
Roll Ahead Distance 80 FT. (2 Skip Lines)
Buffer Space (See Table) OR Barrier Vehicle Set-up Required.
Veh #1
Veh #2
LANE CLOSED
LANE CLOSED
See Note 5
If Barrier Vehicle Set-up is used: Barrier Vehicle #1 is Required and TMIA Recommended. Barrier Vehicle #2 Recommended and TMIA is Recommended
660 FT. (16 Skip Lines)
OR
1320 FT. (32 Skip Lines)
660 FT. (16 Skip Lines)
660 FT. (16 Skip Lines)
(Optional)
LANE ENDS MERGE LEFT
LANE ENDS MERGE LEFT
(Optional)
660 FT. (16 Skip Lines)
OR
350 FT. (9 Skip Lines)
350 FT. (9 Skip Lines)
RIGHT TWO LANES CLOSED AHEAD
RIGHT TWO LANES CLOSED AHEAD
See Note 2 for spacing option.
350 FT. (9 Skip Lines)
ROAD WORK AHEAD
ROAD WORK AHEAD
NOT TO SCALE

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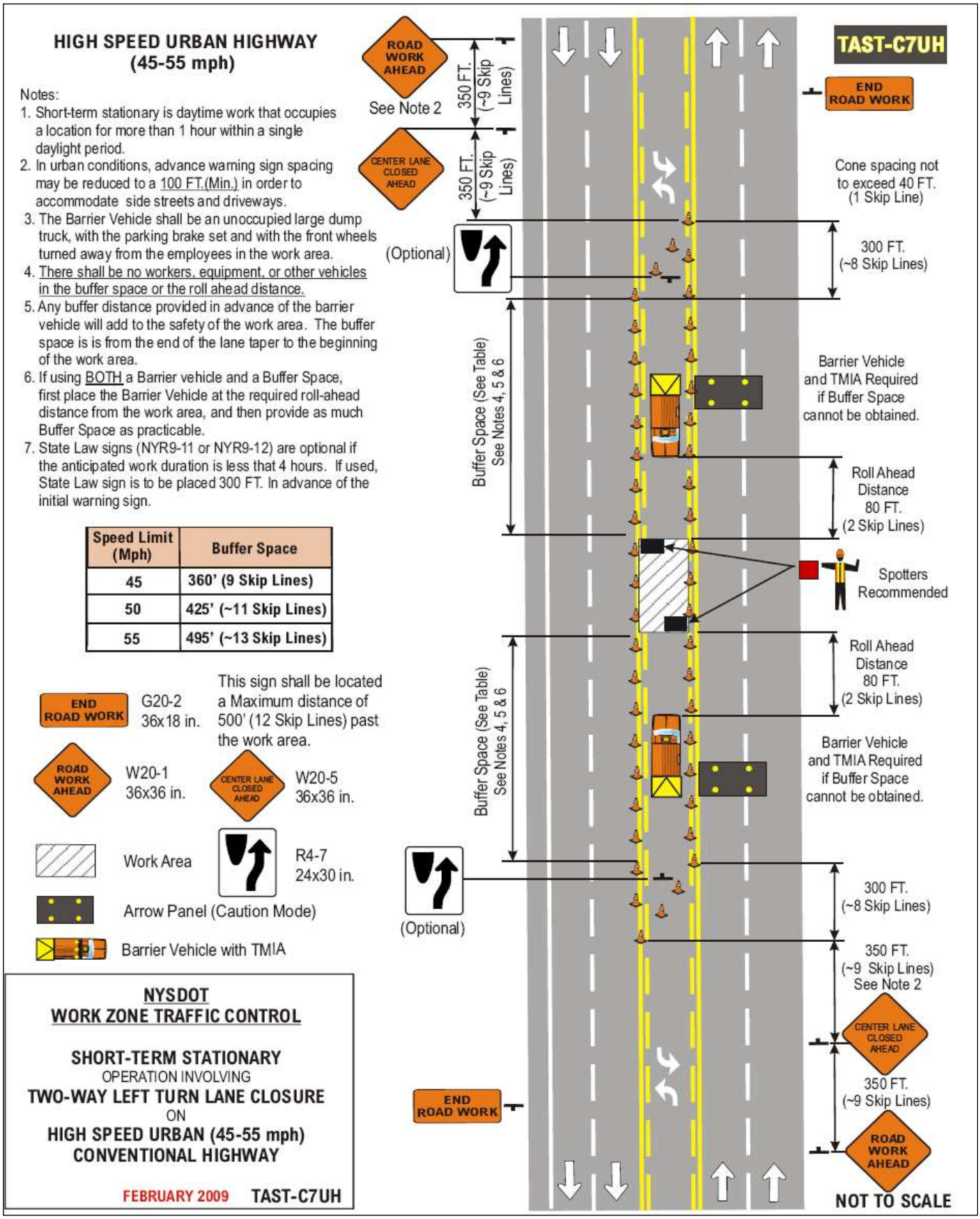
HIGH SPEED URBAN HIGHWAY
(45-55 mph)
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. In urban conditions, advance warning sign spacing may be reduced to a 100 FT.(Min.) in order to accommodate side streets and driveways.
3. The Barrier Vehicle shall be an unoccupied large dump truck, with the parking brake set and with the front wheels turned away from the employees in the work area.
4. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
5. Any buffer distance provided in advance of the barrier vehicle will add to the safety of the work area. The buffer space is is from the end of the lane taper to the beginning of the work area.
6. If using BOTH a Barrier vehicle and a Buffer Space, first place the Barrier Vehicle at the required roll-ahead distance from the work area, and then provide as much Buffer Space as practicable.
7. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less that 4 hours. If used, State Law sign is to be placed 300 FT. In advance of the initial warning sign.
Speed Limit (Mph) | Buffer Space
45 | 360' (9 Skip Lines)
50 | 425' (~11 Skip Lines)
55 | 495' (~13 Skip Lines)
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
ROAD WORK AHEAD
W20-1 36x36 in.
CENTER LANE CLOSED AHEAD
W20-5 36x36 in.
Work Area
R4-7 24x30 in.
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
TWO-WAY LEFT TURN LANE CLOSURE
ON
HIGH SPEED URBAN (45-55 mph)
CONVENTIONAL HIGHWAY
FEBRUARY 2009 TAST-C7UH
ROAD WORK AHEAD
See Note 2
350 FT. (~9 Skip Lines)
CENTER LANE CLOSED AHEAD
350 FT. (~9 Skip Lines)
(Optional)
TAST-C7UH
END ROAD WORK
Cone spacing not to exceed 40 FT. (1 Skip Line)
300 FT. (~8 Skip Lines)
Buffer Space (See Table) See Notes 4, 5 & 6
Barrier Vehicle and TMIA Required if Buffer Space cannot be obtained.
Roll Ahead Distance 80 FT. (2 Skip Lines)
Spotters Recommended
Roll Ahead Distance 80 FT. (2 Skip Lines)
Buffer Space (See Table) See Notes 4, 5 & 6
Barrier Vehicle and TMIA Required if Buffer Space cannot be obtained.
(Optional)
300 FT. (~8 Skip Lines)
350 FT. (~9 Skip Lines) See Note 2
CENTER LANE CLOSED AHEAD
350 FT. (~9 Skip Lines)
END ROAD WORK
ROAD WORK AHEAD
NOT TO SCALE

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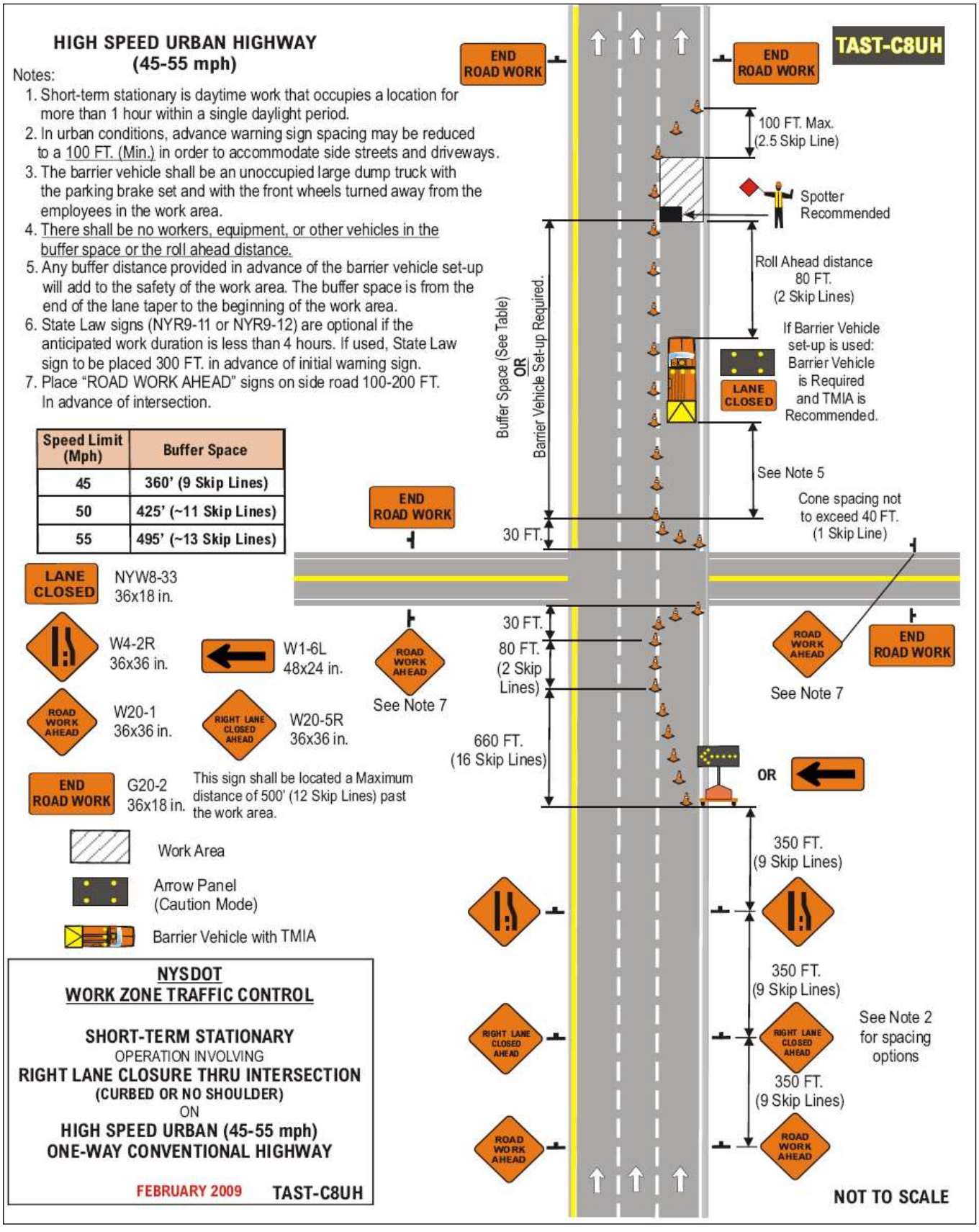
HIGH SPEED URBAN HIGHWAY
(45-55 mph)
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. In urban conditions, advance warning sign spacing may be reduced to a 100 FT. (Min.) in order to accommodate side streets and driveways.
3. The barrier vehicle shall be an unoccupied large dump truck with the parking brake set and with the front wheels turned away from the employees in the work area.
4. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
5. Any buffer distance provided in advance of the barrier vehicle set-up will add to the safety of the work area. The buffer space is from the end of the lane taper to the beginning of the work area.
6. State Law signs (NYR9-11 or NYR9-12) are optional if the anticipated work duration is less than 4 hours. If used, State Law sign to be placed 300 FT. in advance of initial warning sign.
7. Place "ROAD WORK AHEAD" signs on side road 100-200 FT. In advance of intersection.
Speed Limit (Mph) | Buffer Space
45 | 360' (9 Skip Lines)
50 | 425' (~11 Skip Lines)
55 | 495' (~13 Skip Lines)
LANE CLOSED
NYW8-33 36x18 in.
W4-2R 36x36 in.
W1-6L 48x24 in.
ROAD WORK AHEAD
W20-1 36x36 in.
RIGHT LANE CLOSED AHEAD
W20-5R 36x36 in.
END ROAD WORK
G20-2 36x18 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
Work Area
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
RIGHT LANE CLOSURE THRU INTERSECTION
(CURBED OR NO SHOULDER)
ON
HIGH SPEED URBAN (45-55 mph)
ONE-WAY CONVENTIONAL HIGHWAY
FEBRUARY 2009
TAST-C8UH
END ROAD WORK
END ROAD WORK
TAST-C8UH
100 FT. Max. (2.5 Skip Line)
Spotter Recommended
Roll Ahead distance 80 FT. (2 Skip Lines)
Buffer Space (See Table) OR Barrier Vehicle Set-up Required.
If Barrier Vehicle set-up is used: Barrier Vehicle is Required and TMIA is Recommended.
LANE CLOSED
See Note 5
Cone spacing not to exceed 40 FT. (1 Skip Line)
END ROAD WORK
30 FT.
30 FT.
80 FT. (2 Skip Lines)
660 FT. (16 Skip Lines)
ROAD WORK AHEAD
See Note 7
ROAD WORK AHEAD
END ROAD WORK
See Note 7
OR
350 FT. (9 Skip Lines)
350 FT. (9 Skip Lines)
RIGHT LANE CLOSED AHEAD
RIGHT LANE CLOSED AHEAD
See Note 2 for spacing options
350 FT. (9 Skip Lines)
ROAD WORK AHEAD
ROAD WORK AHEAD
NOT TO SCALE

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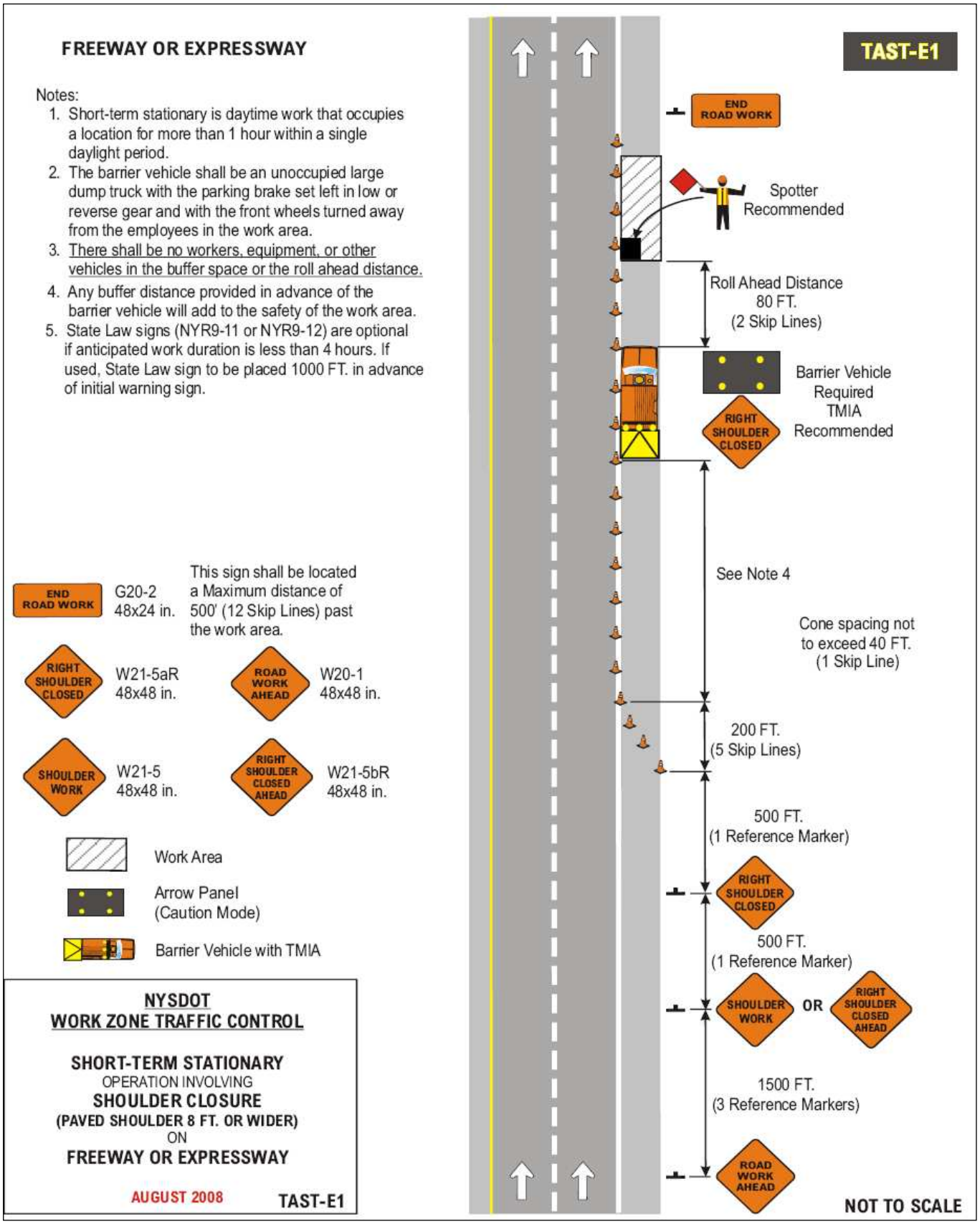
FREEWAY OR EXPRESSWAY
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. The barrier vehicle shall be an unoccupied large dump truck with the parking brake set left in low or reverse gear and with the front wheels turned away from the employees in the work area.
3. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
4. Any buffer distance provided in advance of the barrier vehicle will add to the safety of the work area.
5. State Law signs (NYR9-11 or NYR9-12) are optional if anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
TAST-E1
END ROAD WORK
Spotter Recommended
Roll Ahead Distance 80 FT. (2 Skip Lines)
Barrier Vehicle Required TMIA Recommended
RIGHT SHOULDER CLOSED
See Note 4
Cone spacing not to exceed 40 FT. (1 Skip Line)
200 FT. (5 Skip Lines)
500 FT. (1 Reference Marker)
RIGHT SHOULDER CLOSED
500 FT. (1 Reference Marker)
SHOULDER WORK
OR
RIGHT SHOULDER CLOSED AHEAD
1500 FT. (3 Reference Markers)
ROAD WORK AHEAD
NOT TO SCALE
END ROAD WORK
G20-2 48x24 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
RIGHT SHOULDER CLOSED
W21-5aR 48x48 in.
ROAD WORK AHEAD
W20-1 48x48 in.
SHOULDER WORK
W21-5 48x48 in.
RIGHT SHOULDER CLOSED AHEAD
W21-5bR 48x48 in.
Work Area
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
SHOULDER CLOSURE
(PAVED SHOULDER 8 FT. OR WIDER)
ON
FREEWAY OR EXPRESSWAY
AUGUST 2008
TAST-E1

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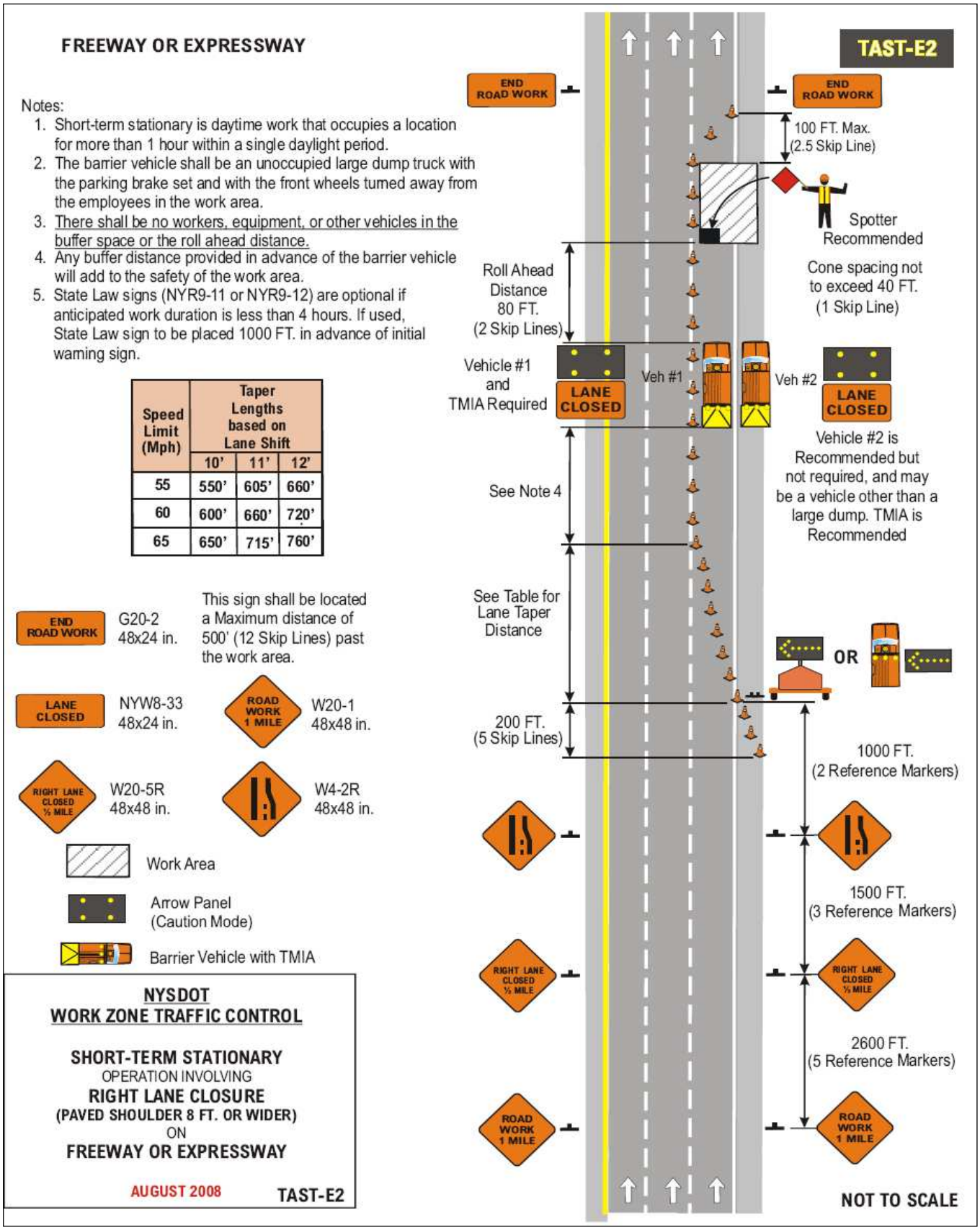
FREEWAY OR EXPRESSWAY
TAST-E2
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. The barrier vehicle shall be an unoccupied large dump truck with the parking brake set and with the front wheels turned away from the employees in the work area.
3. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
4. Any buffer distance provided in advance of the barrier vehicle will add to the safety of the work area.
5. State Law signs (NYR9-11 or NYR9-12) are optional if anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
Speed Limit (Mph) | Taper Lengths based on Lane Shift
10' | 11' | 12'
55 | 550' | 605' | 660'
60 | 600' | 660' | 720'
65 | 650' | 715' | 760'
END ROAD WORK
G20-2 48x24 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
LANE CLOSED
NYW8-33 48x24 in.
ROAD WORK 1 MILE
W20-1 48x48 in.
RIGHT LANE CLOSED ½ MILE
W20-5R 48x48 in.
W4-2R 48x48 in.
Work Area
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
RIGHT LANE CLOSURE
(PAVED SHOULDER 8 FT. OR WIDER)
ON
FREEWAY OR EXPRESSWAY
AUGUST 2008
TAST-E2
END ROAD WORK
END ROAD WORK
100 FT. Max. (2.5 Skip Line)
Spotter Recommended
Roll Ahead Distance 80 FT. (2 Skip Lines)
Cone spacing not to exceed 40 FT. (1 Skip Line)
Vehicle #1 and TMIA Required
LANE CLOSED
Veh #1
Veh #2
LANE CLOSED
Vehicle #2 is Recommended but not required, and may be a vehicle other than a large dump. TMIA is Recommended
See Note 4
See Table for Lane Taper Distance
OR
200 FT. (5 Skip Lines)
1000 FT. (2 Reference Markers)
1500 FT. (3 Reference Markers)
RIGHT LANE CLOSED ½ MILE
RIGHT LANE CLOSED ½ MILE
2600 FT. (5 Reference Markers)
ROAD WORK 1 MILE
ROAD WORK 1 MILE
NOT TO SCALE

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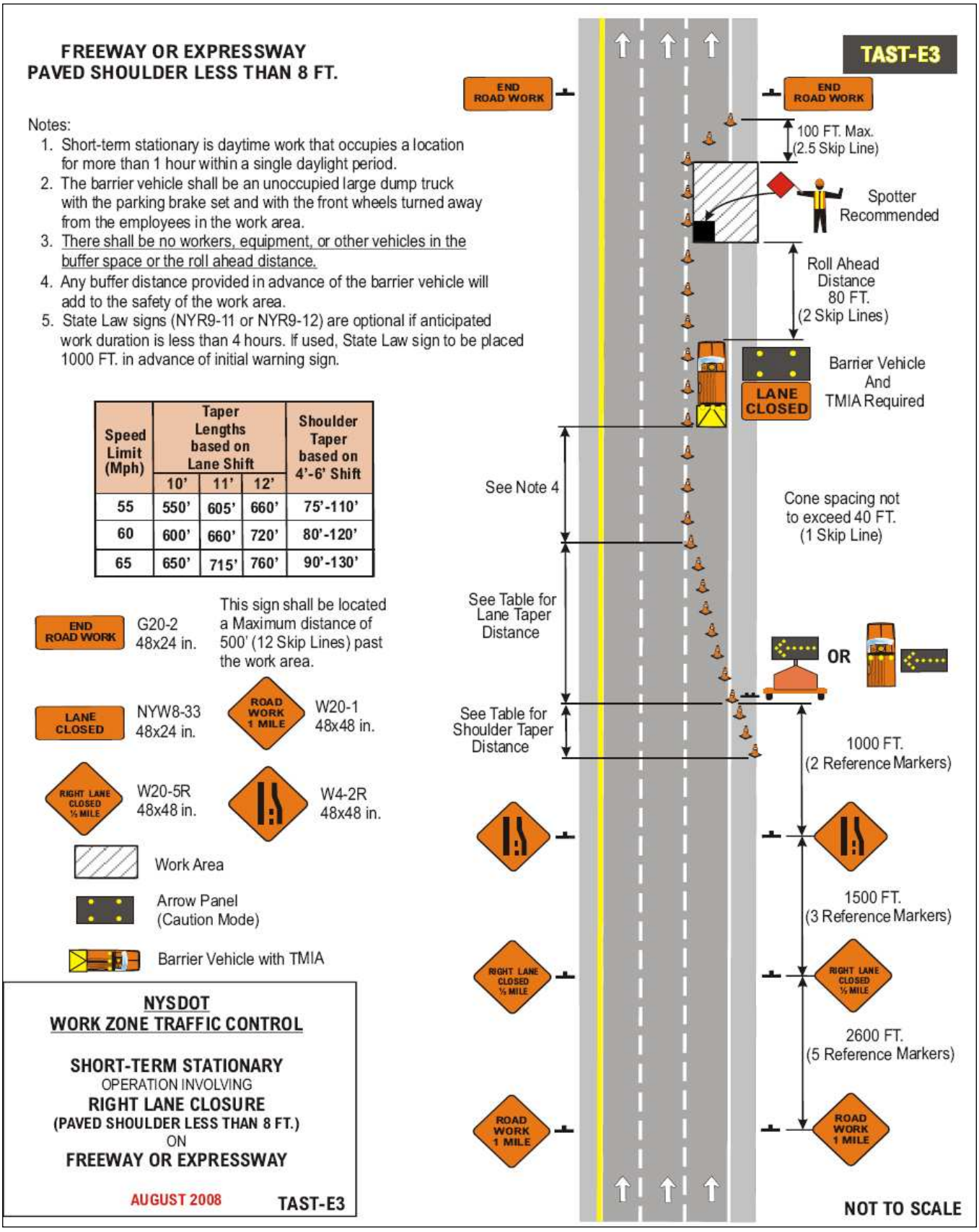
FREEWAY OR EXPRESSWAY
PAVED SHOULDER LESS THAN 8 FT.
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. The barrier vehicle shall be an unoccupied large dump truck with the parking brake set and with the front wheels turned away from the employees in the work area.
3. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
4. Any buffer distance provided in advance of the barrier vehicle will add to the safety of the work area.
5. State Law signs (NYR9-11 or NYR9-12) are optional if anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
Speed Limit (Mph)
Taper Lengths based on Lane Shift
10' 11' 12'
Shoulder Taper based on 4'-6' Shift
55 550' 605' 660' 75'-110'
60 600' 660' 720' 80'-120'
65 650' 715' 760' 90'-130'
END ROAD WORK
G20-2 48x24 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
LANE CLOSED
NYW8-33 48x24 in.
ROAD WORK 1 MILE
W20-1 48x48 in.
RIGHT LANE CLOSED ½ MILE
W20-5R 48x48 in.
W4-2R 48x48 in.
Work Area
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
RIGHT LANE CLOSURE
(PAVED SHOULDER LESS THAN 8 FT.)
ON
FREEWAY OR EXPRESSWAY
AUGUST 2008
TAST-E3
TAST-E3
END ROAD WORK
END ROAD WORK
100 FT. Max. (2.5 Skip Line)
Spotter Recommended
Roll Ahead Distance 80 FT. (2 Skip Lines)
LANE CLOSED
Barrier Vehicle And TMIA Required
See Note 4
Cone spacing not to exceed 40 FT. (1 Skip Line)
See Table for Lane Taper Distance
OR
See Table for Shoulder Taper Distance
1000 FT. (2 Reference Markers)
1500 FT. (3 Reference Markers)
RIGHT LANE CLOSED ½ MILE
RIGHT LANE CLOSED ½ MILE
2600 FT. (5 Reference Markers)
ROAD WORK 1 MILE
ROAD WORK 1 MILE
NOT TO SCALE

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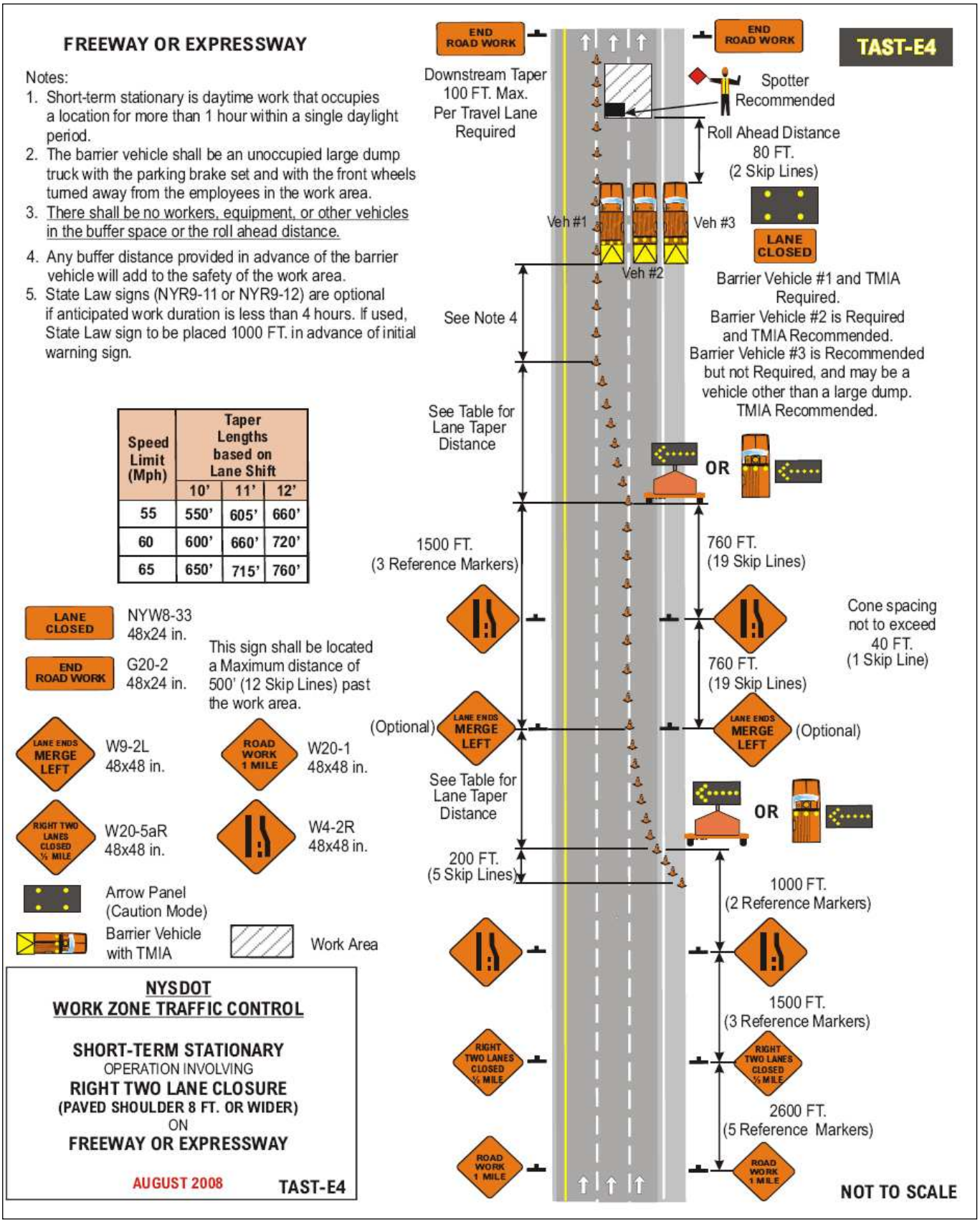
FREEWAY OR EXPRESSWAY
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. The barrier vehicle shall be an unoccupied large dump truck with the parking brake set and with the front wheels turned away from the employees in the work area.
3. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
4. Any buffer distance provided in advance of the barrier vehicle will add to the safety of the work area.
5. State Law signs (NYR9-11 or NYR9-12) are optional if anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
Speed Limit (Mph) | Taper Lengths based on Lane Shift
10' | 11' | 12'
55 | 550' | 605' | 660'
60 | 600' | 660' | 720'
65 | 650' | 715' | 760'
LANE CLOSED NYW8-33 48x24 in.
END ROAD WORK G20-2 48x24 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
LANE ENDS MERGE LEFT W9-2L 48x48 in.
ROAD WORK 1 MILE W20-1 48x48 in.
RIGHT TWO LANES CLOSED ½ MILE W20-5aR 48x48 in.
W4-2R 48x48 in.
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
Work Area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
RIGHT TWO LANE CLOSURE
(PAVED SHOULDER 8 FT. OR WIDER)
ON
FREEWAY OR EXPRESSWAY
AUGUST 2008
TAST-E4
END ROAD WORK
END ROAD WORK
TAST-E4
Downstream Taper 100 FT. Max. Per Travel Lane Required
Spotter Recommended
Roll Ahead Distance 80 FT. (2 Skip Lines)
Veh #1
Veh #2
Veh #3
LANE CLOSED
Barrier Vehicle #1 and TMIA Required.
Barrier Vehicle #2 is Required and TMIA Recommended.
Barrier Vehicle #3 is Recommended but not Required, and may be a vehicle other than a large dump.
TMIA Recommended.
See Note 4
See Table for Lane Taper Distance
OR
1500 FT. (3 Reference Markers)
760 FT. (19 Skip Lines)
Cone spacing not to exceed 40 FT. (1 Skip Line)
760 FT. (19 Skip Lines)
(Optional)
LANE ENDS MERGE LEFT
(Optional)
See Table for Lane Taper Distance
OR
200 FT. (5 Skip Lines)
1000 FT. (2 Reference Markers)
1500 FT. (3 Reference Markers)
RIGHT TWO LANES CLOSED ½ MILE
2600 FT. (5 Reference Markers)
ROAD WORK 1 MILE
NOT TO SCALE

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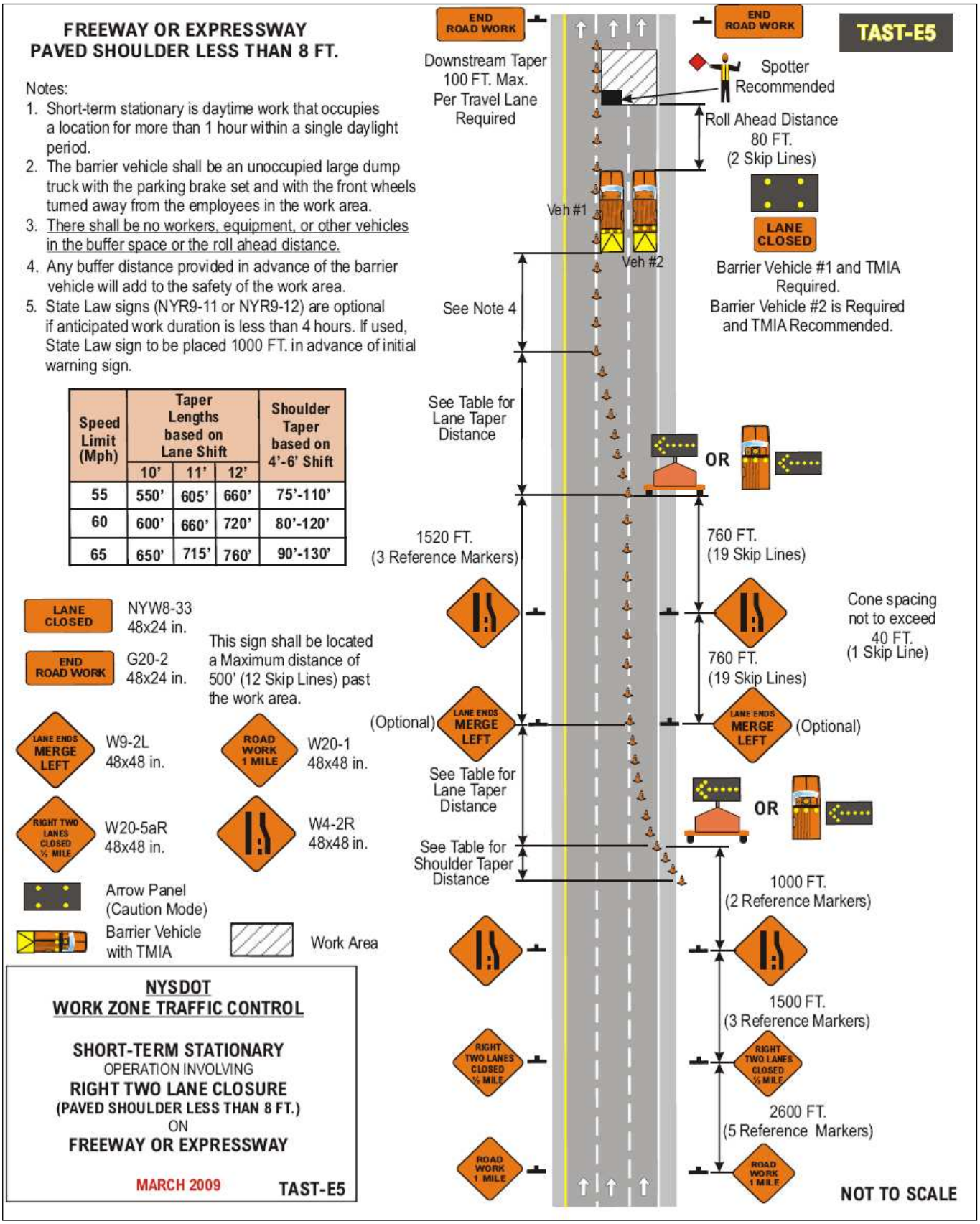
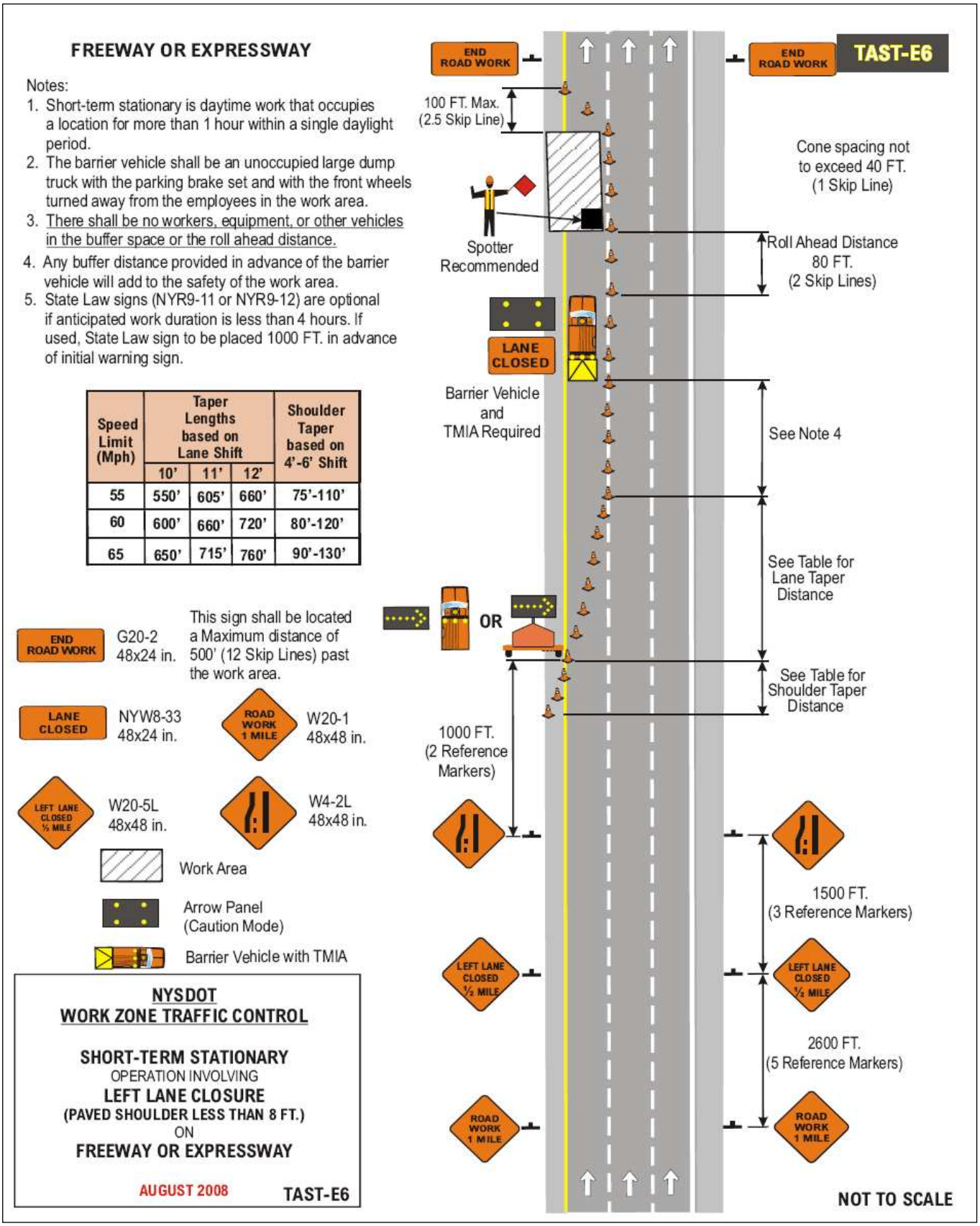

FREEWAY OR EXPRESSWAY
PAVED SHOULDER LESS THAN 8 FT.
TAST-E5
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. The barrier vehicle shall be an unoccupied large dump truck with the parking brake set and with the front wheels turned away from the employees in the work area.
3. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
4. Any buffer distance provided in advance of the barrier vehicle will add to the safety of the work area.
5. State Law signs (NYR9-11 or NYR9-12) are optional if anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
Speed Limit (Mph)
Taper Lengths based on Lane Shift
10'
11'
12'
Shoulder Taper based on 4'-6' Shift
55 550' 605' 660' 75'-110'
60 600' 660' 720' 80'-120'
65 650' 715' 760' 90'-130'
LANE CLOSED
NYW8-33 48x24 in.
END ROAD WORK
G20-2 48x24 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
LANE ENDS MERGE LEFT
W9-2L 48x48 in.
ROAD WORK 1 MILE
W20-1 48x48 in.
RIGHT TWO LANES CLOSED ½ MILE
W20-5aR 48x48 in.
W4-2R 48x48 in.
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
Work Area
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
RIGHT TWO LANE CLOSURE
(PAVED SHOULDER LESS THAN 8 FT.)
ON
FREEWAY OR EXPRESSWAY
MARCH 2009
TAST-E5
END ROAD WORK
END ROAD WORK
Downstream Taper 100 FT. Max. Per Travel Lane Required
Spotter Recommended
Roll Ahead Distance 80 FT. (2 Skip Lines)
Veh #1
Veh #2
LANE CLOSED
Barrier Vehicle #1 and TMIA Required.
Barrier Vehicle #2 is Required and TMIA Recommended.
See Note 4
See Table for Lane Taper Distance
OR
1520 FT. (3 Reference Markers)
760 FT. (19 Skip Lines)
Cone spacing not to exceed 40 FT. (1 Skip Line)
760 FT. (19 Skip Lines)
(Optional)
LANE ENDS MERGE LEFT
(Optional)
See Table for Lane Taper Distance
OR
See Table for Shoulder Taper Distance
1000 FT. (2 Reference Markers)
1500 FT. (3 Reference Markers)
RIGHT TWO LANES CLOSED ½ MILE
2600 FT. (5 Reference Markers)
ROAD WORK 1 MILE
NOT TO SCALE

(continued)


FREEWAY OR EXPRESSWAY
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. The barrier vehicle shall be an unoccupied large dump truck with the parking brake set and with the front wheels turned away from the employees in the work area.
3. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
4. Any buffer distance provided in advance of the barrier vehicle will add to the safety of the work area.
5. State Law signs (NYR9-11 or NYR9-12) are optional if anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
Speed Limit (Mph)
Taper Lengths based on Lane Shift
10' 11' 12'
Shoulder Taper based on 4'-6' Shift
55 550' 605' 660' 75'-110'
60 600' 660' 720' 80'-120'
65 650' 715' 760' 90'-130'
END ROAD WORK
G20-2 48x24 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
LANE CLOSED
NYW8-33 48x24 in.
ROAD WORK 1 MILE
W20-1 48x48 in.
LEFT LANE CLOSED ½ MILE
W20-5L 48x48 in.
W4-2L 48x48 in.
Work Area
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
LEFT LANE CLOSURE
(PAVED SHOULDER LESS THAN 8 FT.)
ON
FREEWAY OR EXPRESSWAY
AUGUST 2008
TAST-E6
END ROAD WORK
END ROAD WORK
TAST-E6
100 FT. Max. (2.5 Skip Line)
Cone spacing not to exceed 40 FT. (1 Skip Line)
Spotter Recommended
Roll Ahead Distance 80 FT. (2 Skip Lines)
LANE CLOSED
Barrier Vehicle and TMIA Required
See Note 4
See Table for Lane Taper Distance
OR
See Table for Shoulder Taper Distance
1000 FT. (2 Reference Markers)
1500 FT. (3 Reference Markers)
LEFT LANE CLOSED ½ MILE
LEFT LANE CLOSED ½ MILE
2600 FT. (5 Reference Markers)
ROAD WORK 1 MILE
ROAD WORK 1 MILE
NOT TO SCALE

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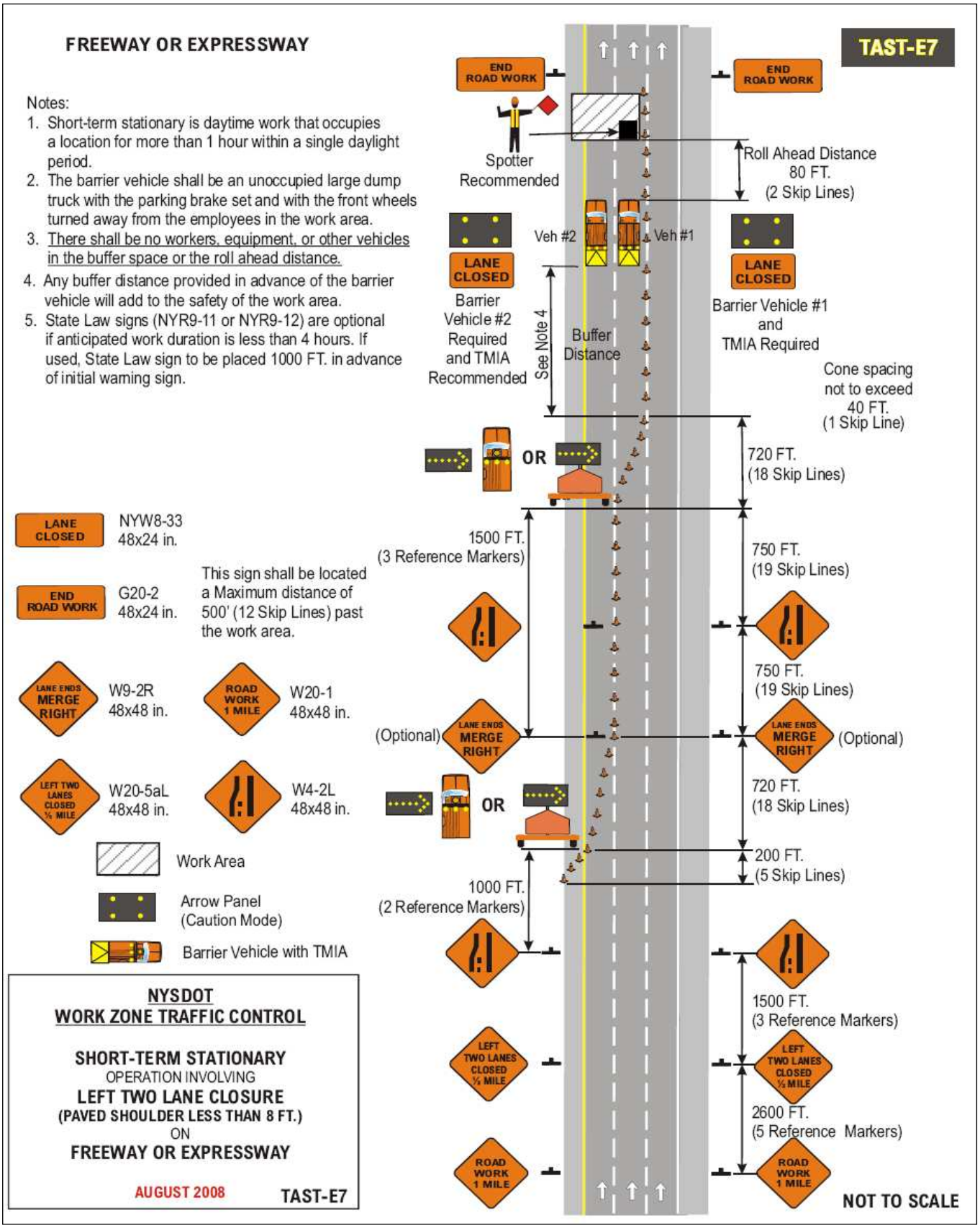
FREEWAY OR EXPRESSWAY
TAST-E7
Notes:
1. Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period.
2. The barrier vehicle shall be an unoccupied large dump truck with the parking brake set and with the front wheels turned away from the employees in the work area.
3. There shall be no workers, equipment, or other vehicles in the buffer space or the roll ahead distance.
4. Any buffer distance provided in advance of the barrier vehicle will add to the safety of the work area.
5. State Law signs (NYR9-11 or NYR9-12) are optional if anticipated work duration is less than 4 hours. If used, State Law sign to be placed 1000 FT. in advance of initial warning sign.
END ROAD WORK
END ROAD WORK
Spotter Recommended
Roll Ahead Distance 80 FT. (2 Skip Lines)
Veh #2
Veh #1
LANE CLOSED
LANE CLOSED
Barrier Vehicle #2 Required and TMIA Recommended
Barrier Vehicle #1 and TMIA Required
See Note 4
Buffer Distance
Cone spacing not to exceed 40 FT. (1 Skip Line)
OR
720 FT. (18 Skip Lines)
1500 FT. (3 Reference Markers)
750 FT. (19 Skip Lines)
750 FT. (19 Skip Lines)
(Optional)
LANE ENDS MERGE RIGHT
LANE ENDS MERGE RIGHT
(Optional)
OR
720 FT. (18 Skip Lines)
200 FT. (5 Skip Lines)
1000 FT. (2 Reference Markers)
1500 FT. (3 Reference Markers)
LEFT TWO LANES CLOSED ½ MILE
LEFT TWO LANES CLOSED ½ MILE
2600 FT. (5 Reference Markers)
ROAD WORK 1 MILE
ROAD WORK 1 MILE
NOT TO SCALE
LANE CLOSED NYW8-33 48x24 in.
END ROAD WORK G20-2 48x24 in.
This sign shall be located a Maximum distance of 500' (12 Skip Lines) past the work area.
LANE ENDS MERGE RIGHT W9-2R 48x48 in.
ROAD WORK 1 MILE W20-1 48x48 in.
LEFT TWO LANES CLOSED ½ MILE W20-5aL 48x48 in.
W4-2L 48x48 in.
Work Area
Arrow Panel (Caution Mode)
Barrier Vehicle with TMIA
NYSDOT
WORK ZONE TRAFFIC CONTROL
SHORT-TERM STATIONARY
OPERATION INVOLVING
LEFT TWO LANE CLOSURE
(PAVED SHOULDER LESS THAN 8 FT.)
ON
FREEWAY OR EXPRESSWAY
AUGUST 2008
TAST-E7

(continued)

(continued)

WORK ZONE TRAFFIC CONTROL: (Cont'd)
PERMANENT CONSTRUCTION SIGNS:

The Contractor shall provide Construction Signs as specified in Section 619-1 through 619-3 of the Standard Specifications and in the MUTCD. At minimum the Contractor shall install the following permanent Construction Signs:

SIGN	MINIMUM SIZE	LOCATION
ROAD WORK NEXT _____ MILES	G20-1 Conventional 36" X 18" Freeway 48" X 24"	On main line upstream of project in each direction
END ROAD WORK	G20 -2 Conventional 36" X 36" Freeway 48" X 48"	On main line after end of project in each direction
ROAD WORK 500 FT.	W20-1 Conventional 36" X 36" Freeway 48" X 48"	On main line 500 feet in advance of the affected highway segment in each direction and on major intersecting roads 300-500 feet in advance of main line. Sign(s) should be covered if in conflict with temporary signing in the vicinity.
DO NOT PASS	R4-1 Conventional 24" X 30"	Spaced every 1,000 feet along project in each direction (if centerline tracks are used instead of temporary pavement markings).
NO CENTER STRIPE	W8-12 Conventional 36" X 36"	On main line spaced every 2 miles along project in each direction and after every major intersecting road (if centerline tracks are used instead of temporary pavement markings)

Major intersecting roads are defined as through State, County, Town, Village, or City roads. The Contractor may provide Portable signs as shown in Figure 6F-2 of the MUTCD and meeting the requirements of Section 619 of the Standard Specifications for lane closures during work hours. Signs left active at night shall be rigid and reflectorized in accordance with the Standard Specifications.

With prior permission of the State's Resident Engineer, the Vendor may provide portable signs as shown in Figure 6F-2 of the MUTCD for the above referenced DO NOT PASS and NO CENTER STRIPE signs. Signs left active at night shall be rigid and reflectorized in accordance with the Standard Specifications. The Vendor shall be responsible for assuring that these signs will be in their upright, visible positions twenty-four hours a day, seven days a week while centerline tracks are used instead of pavement markings.

Whenever traffic is permitted to use a travel lane and the adjacent shoulder is not brought up to grade, construction warning signs meeting the requirements of 6F.42 of the MUTCD sign shall be placed.

SIGN	MINIMUM SIZE	LOCATION
LOW SHOULDER	W8-9 30" X 30"	On mainline spaced every 2 miles along project in each direction and after every major intersecting road.
or		
SHOULDER DROP OFF	W8-9a 30" X 30"	Same as above

(continued)

WORK ZONE TRAFFIC CONTROL: (Cont'd)

Special Note - Temporary Pavement Markings:

The Contractor shall install and maintain temporary pavement markings on any paved surface without permanent pavement markings before opening it to traffic, before nightfall or before the end of the work day, whichever comes soonest except for areas that are open during the work shift with channelizing devices or flaggers. Temporary pavement markings shall meet the requirements of Section 619 of the Standard Specifications. As indicated in Section 619-3.06 C., two-lane, two way highways may be left unmarked for a maximum of 3 calendar days provided that NO CENTER STRIPE (W8-12) and DO NOT PASS (R4-1) signs are used in conjunction with centerline tracks installed on a 40-foot cycle to delineate the centerline location at no additional cost to the State and paving project.

All costs for Work Zone Traffic Control including flagging, temporary pavement markings, and construction signs are to be included in the prices bid per unit of paving material.

Abrading Existing Pavement Markings (Micro-surfacing and Paver Placed Surface Treatment only)

The Contractor shall remove any epoxy or thermoplastic pavement markings. Other markings shall be removed as ordered by the Resident Engineer. Care shall be taken to avoid damage to passing traffic. All damage to passing traffic caused by the Contractor's operations shall be the Contractor's responsibility. Waste material generated by the abrading operation shall be cleaned up and disposed of by the Vendor.

When the Contractor abrades the existing pavement markings, the Contractor shall place temporary pavement markings as specified elsewhere in this Invitation for Bids under Work Zone Traffic Control, unless the paving material will be placed the same day as pavement markings are abraded. The Contractor shall make every effort to expeditiously place the paving material in areas where pavement markings have been abraded and temporary pavement markings are in place. Under no circumstances will temporary pavement markings be allowed for more than five calendar days in areas where pavement markings have been abraded. In this event, the Contractor shall be required to place full pavement markings at no cost to the state. During the pavement markings abrading operation, traffic will be controlled by the Contractor in accordance with the Work Zone Traffic Control requirements included herein. The Contractor shall submit a proposed Traffic Control Plan to the Resident Engineer for approval. The plan may be based on the Work Zone Traffic Control drawings included in this Invitation for Bids.

Payment for pavement marking abrading shall be included in the price bid per ton of micro-surfacing or paver placed surface treatment. No separate payment shall be made.

ATTENTION - Special Note: WORK ZONE INTRUSION INITIATIVE:

As part of the Department of Transportation's Work Zone Intrusion Initiative, the following countermeasures shall be applied to all Projects in this Invitation for Bids:

Channelizing Device Spacing Reduction:

A maximum channelizing device spacing of 40 feet shall be provided at stationary work sites where workers are exposed to traffic. This spacing shall be maintained a reasonable distance upstream of workers, and shall be used throughout the work zone.

Where tapers are located less than 500 feet from the work site (1,000 feet for high speeds) the 40-foot spacing shall be used in the taper as well.

Drums or vertical panels are preferred for long-duration work zones, and at any locations where the risk of intrusion is high. Traffic cones are normally adequate for work zones set up and removed on a daily basis.

In long lane or shoulder closures, at least two channelizing devices shall be placed transversely at maximum 800 foot intervals to discourage traffic from driving through the closed lane.

Frequent checks shall be made to reset channelizing devices dislodged by traffic.

Flagger Station Enhanced Setups:

Additional cones and a flag tree meeting Section 6F.57 of the MUTCD shall be used upstream of flagger stations to provide added warning to drivers. These devices shall be used for flagger stations except those that are constantly moving or are in use at one location for no more than a few minutes. If the W20-7a Flagger sign is used, the additional cones and flag tree shall also be used.

For additional details on Flagger Station Enhanced Setups, see Work Zone Traffic Control drawings in this Invitation for Bids.

(continued)

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WORK ZONE TRAFFIC CONTROL: (Cont'd)

Temporary Rumble Strips:

The Contractor shall apply temporary rumble strips at the beginning of the work zone in each direction of travel according to the specification below. The Contractor may use either Raised Asphalt Rumble Strips or Raised Removable Tape Rumble Strips.

Raised Asphalt Rumble Strips:

The roadway surface on which the rumble strips are to be attached shall be dry, free of surface contaminants such as dust or oil, and shall be 45 degrees F or greater unless otherwise authorized by the Engineer. The pavement surface shall be cleaned with compressed air just prior to tack coating and subsequent installation of rumble strips.

Temporary rumble strips shall be placed in a succession of three 6 Strip Patterns according to the attached "Suggested Layout Details - Temporary Rumble Strips". Each strip shall be placed on 10 foot centers and traversing the full width of each travel lane. On curbed roadways, rumble strips shall end a minimum of 3 feet from the curb so as to not interfere with drainage. Rumble strips shall be between 6 and 9 inches in width and have a final compacted thickness of 0.4 inch ± 0.1 inch.

Temporary rumble strips shall be formed using a specially constructed rumble strip paver (drag box) pulled transversely across the pavement, or by hand placement between forms fixed to the pavement. If forms are used, they shall be removed prior to compaction of the asphalt mixture. Compaction shall be accomplished using a plate tamper or a static roller.

Any raised rumble strips that fail to adhere to the pavement, or become damaged or flattened such that, in the opinion of the Engineer, they are no longer performing their intended function, shall be replaced or repaired by the Contractor to the satisfaction of the Engineer. Any associated damage to the pavement shall also be repaired by the Contractor to the satisfaction of the Engineer. These replacements or repairs shall be made at no additional expense to the Purchasing Agency.

When directed by the Engineer, (e.g., prior to the start of the winter plowing season), or prior to the placement of successive pavement courses, the Contractor shall completely remove the rumble strips from the pavement. Rumble strips shall be removed upon completion of work and concurrently with the removal of other temporary traffic control signs and devices. Any pavement that is damaged in the process of removing the rumble strips shall be repaired by the Contractor to the satisfaction of the Engineer at no additional expense to the Purchasing Agency.

Raised Removable Tape Rumble Strips:

The rumble strips shall be formed by applying four layers of removable black preformed pavement marking tape. The tape shall be applied to a clean, dry pavement surface in accordance with the manufacturer's recommendations. The pavement surface shall be cleaned with compressed air just prior to application of the tape.

Temporary rumble strips shall be placed in a succession of three 6 Strip Patterns according to the attached "Suggested Layout Details - Temporary Rumble Strips". Each strip shall be placed on 10 foot centers and traversing the full width of each travel lane. On curbed roadways, rumble strips shall end a minimum of 3 feet from the curb so as to not interfere with drainage. Sufficient layers of tape shall be applied such that each finished rumble strip has a thickness of 0.4 inch ± 0.1 inch and is between 6 and 9 inches in width.

Any raised rumble strips that fail to adhere to the pavement, or become damaged or flattened such that, in the opinion of the Engineer, they are no longer performing their intended function, shall be replaced or repaired by the Contractor to the satisfaction of the Engineer. Any associated damage to the pavement shall also be repaired by the Contractor to the satisfaction of the Engineer. These replacements or repairs shall be made at no additional expense to the Purchasing Agency.

WORK ZONE TRAFFIC CONTROL: (Cont'd)

When directed by the Engineer, (e.g. prior to the start of the winter plowing season), or prior to the placement of successive pavement courses, the Contractor shall completely remove the rumble strips from the pavement. Rumble strips shall be removed upon completion of work and concurrently with the removal of other temporary traffic control signs and devices. Any pavement that is damaged in the process of removing the rumble strips shall be repaired by the Contractor to the satisfaction of the Engineer at no additional expense to the Purchasing Agency.

BASIS OF PAYMENT:

All costs for the installation, maintenance and removal of temporary rumble strips are included in the price per ton or square yard as applicable. No separate payment shall be made.

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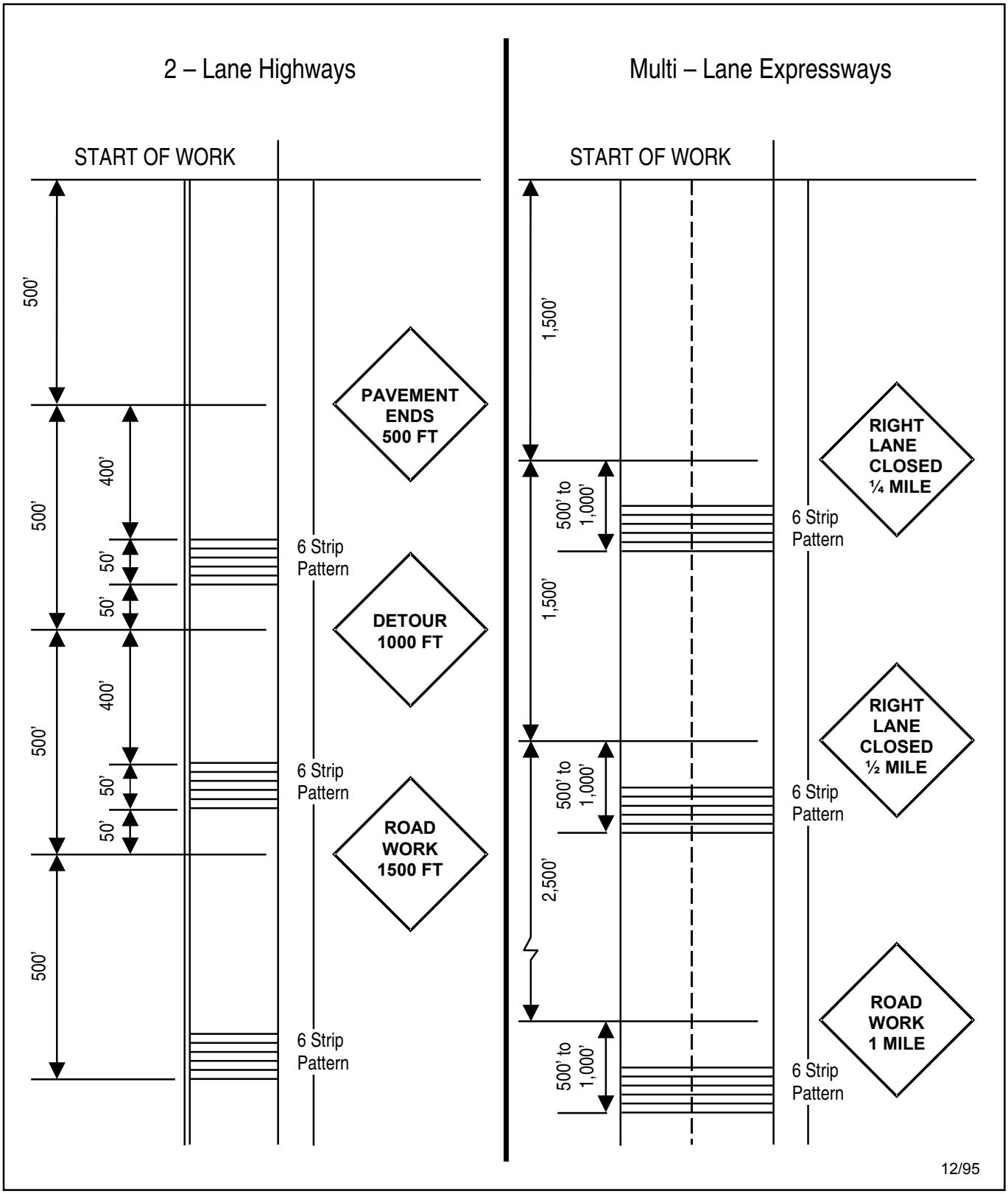
Suggested Layout Details -- Temporary Rumble Strips



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SPECIAL NOTES

MICRO-SURFACING

FUNDING SOURCE

Project 6V1231B is funded by federal aid.

Projects 5V1215 and 5V1242 are 100% State funded.

COORDINATION WITH OTHER PROJECTS

Project 6V1231B - Prior to micro-surfacing project, project 6V1231B involves cold recycling (Project 6V1231A) through a separate contractor. Project 6V1231B require that the micro-surfacing contractor coordinates their work with cold recycling contactor to allow required curing period before placing the micro-surfacing as well as to minimize disruption to the traveling public and the time traffic is running over a recycled surface.

COLD RECYCLING

FUNDING SOURCE

Projects 6V1212, 6V1213, and 6V1231A will be funded by federal aid.

COORDINATION WITH OTHER PROJECTS

Projects in this Contract Award Notification involve HMA overlay or other paving course on the top of cold recycling through separate contractor(s). These projects shall require that the cold recycling contactor coordinates their work with paving contractor(s) to provide required curing period before placing the next paving course as well as to minimize disruption to the traveling public and the time traffic is running over a recycled surface.

(continued)

SPECIAL NOTES (Cont'd.)

☐ COLD RECYCLING (Cont'd.)

SPECIAL NOTE FOR RAILROAD INVOLVEMENT

Contractors are advised that there may be active at-grade railroad crossings within the limits of projects in this Contract Award Notification. The following at-grade railroad crossings have been identified, but there may be others within the limits of these projects that have not been identified:

Project Number	County	Route	Railroad Name	Location

At the identified at-grade crossings, and any other active at-grade railroad crossings encountered on the projects in this document, the contractor shall coordinate with the corresponding railroad as per follows:

COORDINATION WITH RAILROAD(S)

The Contractor shall note that this project may require close coordination with a railroad and railroad protective flagging services

DESCRIPTION

The Contractor shall conduct its work and handle its equipment such that no part of any material or equipment shall foul a track, catenary, electrical facility or signal facility without written permission from the chief engineer of the railroad company(s) affected. A track is fouled when any object is brought within 7.62 M (25') of the centerline of the track or the nearest point of a railroad's catenary, electrical facility or signal facility.

CONSTRUCTION DETAILS

In the event the Contractor's work does foul a railroad facility the Contractor shall obtain a permit in order to enter railroad property and to cover the costs of the railroad's force account services. The Contractor will not be allowed to enter onto the railroad's property to perform contract work, nor will the railroad provide services occasioned by the Contractor's operations unless the Contractor notifies the railroad(s) and receives the railroad's prior approval. A railroad will not provide any services necessitated by the Contractor's operations until the permit is obtained. These railroad's costs will include, but may not be limited to costs incurred by the railroad to provide flaggers, spotters, engineering services, administrative services, construction inspection, or other labor, material or equipment necessary to provide a safe environment for both the Contractor's and railroad's forces.

The Contractor is advised that a railroad may not be able to provide flag persons on a daily basis due to the railroad's operational necessities. The Contractor shall coordinate and schedule his construction activities with the railroad's engineer no later than two weeks prior to the start of the work, in consultation with the State's Engineer-in-Charge, so that a workable schedule can be formulated and agreed upon. In addition to the above, the Contractor shall also comply with the current Standard Specifications §105-09 WORK AFFECTING RAILROADS.

BASIS OF PAYMENT

All costs incurred by the contractor to comply with the requirements in this Special Note are included in the price per square yard for cold recycling. No extra payment shall be made.

(continued)

SPECIAL NOTES (Cont'd.)

☐ COLD RECYCLING (Cont'd.)

REGION 7 SPECIAL NOTES

Special Work Zone Traffic Control – Pilot Vehicle – Region 7:
Unless otherwise specified, the highway shall be kept open to traffic at all times. Traffic shall be discontinued on the lanes where work is being performed on these projects; and as soon as recycling is done and rolled, controlled traffic may be permitted thereon. For Region 7 projects in this Contract Award Notification, the Contractors shall provide sufficient two-way radio equipped pilot vehicles to guide traffic around recycling work at a speed not to exceed 15 mph. The pilot vehicles shall be equipped with construction signs meeting the requirements of Section 6F.54 of the Manual of Uniform Traffic Control Devices.

SIGN	MINIMUM SIZE	LOCATION
PILOT VEHICLE FOLLOW ME	G20-4 CONVENTIONAL 36" x 18"	ON BACK OF PILOT VEHICLES

The pilot vehicle shall have the name of the Contractor prominently displayed.

All cost for Work Zone Traffic Control including flagging, temporary pavement markings, channelizing devices, construction signs, and pilot vehicles shall be included in the prices per square yard for cold recycling. No separate payment shall be made.

☐ PAVER PLACED SURFACE TREATMENT

FUNDING SOURCE
Project 7M1224 is 100% State funded.

SPECIAL NOTE FOR RAILROAD INVOLVEMENT
Contractors are advised that there may be active at-grade railroad crossings within the limits of projects in this document. The following at-grade railroad crossings have been identified, but there may be others within the limits of these projects that have not been identified:

Project Number	County	Route	Railroad Name	Location

At the identified at-grade crossings, and any other active at-grade railroad crossings encountered on the projects in this document, the contractor shall coordinate with the corresponding railroad as per follows:

COORDINATION WITH RAILROAD(S)
The Contractor shall note that this project may require close coordination with a railroad and railroad protective flagging services.

DESCRIPTION
The Contractor shall conduct its work and handle its equipment such that no part of any material or equipment shall foul a track, catenary, electrical facility or signal facility without written permission from the chief engineer of the railroad company(s) affected. A track is fouled when any object is brought within 7.62 M (25') of the centerline of the track or the nearest point of a railroad's catenary, electrical facility or signal facility.

(continued)

SPECIAL NOTES (Cont'd.)

☐ PAVER PLACED SURFACE TREATMENT (Cont'd.)

CONSTRUCTION DETAILS

In the event the Contractor's work does foul a railroad facility the Contractor shall obtain a permit in order to enter railroad property and to cover the costs of the railroad's force account services. The Contractor will not be allowed to enter onto the railroad's property to perform contract work, nor will the railroad provide services occasioned by the Contractor's operations unless the Contractor notifies the railroad and receives the railroad's prior approval. A railroad will not provide any services necessitated by the Contractor's operations until the permit is obtained. These railroad costs will include, but may not be limited to costs incurred by the railroad to provide flaggers, spotters, engineering services, administrative services, construction inspection, or other labor, material or equipment necessary to provide a safe environment for both the Contractor's and railroad's forces.

The Contractor is advised that a railroad may not be able to provide flag persons on a daily basis due to the railroad's operational necessities. The Contractor shall coordinate and schedule his construction activities with the railroad's engineer no later than two weeks prior to the start of the work, in consultation with the State's Engineer-in-Charge, so that a workable schedule can be formulated and agreed upon. In addition to the above, the Contractor shall also comply with the current Standard Specifications §105-09 WORK AFFECTING RAILROADS.

BASIS OF PAYMENT

All costs incurred by the contractor to comply with the requirements in this Special Note are included in the price per ton for paver placed surface treatment. No extra payment shall be made.

(continued)

SPECIAL NOTES (Cont'd.)

PAVER PLACED SURFACE TREATMENT (Cont'd.)

REGION 7 SPECIAL NOTES

Special Work Zone Traffic Control – Pilot Vehicle – Region 7:
Unless otherwise specified, the highway shall be kept open to traffic at all times. Traffic shall be discontinued on the lanes where work is being performed on these projects; and as soon as recycling is done and rolled, controlled traffic may be permitted thereon. For Region 7 projects in this Contract Award Notification, the Contractors shall provide sufficient two-way radio equipped pilot vehicles to guide traffic around recycling work at a speed not to exceed 15 mph. The pilot vehicles shall be equipped with construction signs meeting the requirements of Section 6F.54 of the Manual of Uniform Traffic Control Devices.

SIGN	MINIMUM SIZE	LOCATION
PILOT VEHICLE FOLLOW ME	G20-4 CONVENTIONAL 36" x 18"	ON BACK OF PILOT VEHICLES

The pilot vehicle shall have the name of the Contractor prominently displayed.

All cost for Work Zone Traffic Control including flagging, temporary pavement markings, channelizing devices, construction signs, and pilot vehicles are included in the price per ton for paver placed surface treatment. No separate payment shall be made.

Exposed Longitudinal Joints:
Exposed Longitudinal Joints on any asphalt material placed by the Contractor under this award will not be permitted overnight. All centerline joints and/or abutting travel lane joints shall be required to be closed by the end of each work day.

MICRO-SURFACING

COLD RECYCLING

PAVER PLACED SURFACE TREATMENT

(continued)

☐ DETAILED SPECIFICATIONS – MICRO-SURFACING

18410.1011 Micro-Surfacing, Type II, F1
18410.1021 Micro-Surfacing, Type II, F2
18410.1031 Micro-Surfacing, Type II, F3
18410.1012 Micro-Surfacing, Type III, F1
18410.1022 Micro-Surfacing, Type III, F2
18410.1032 Micro-Surfacing, Type III, F3
18410.1013 Micro-Surfacing, Type III, Rut Filling

DESCRIPTION: This work consists of applying a proportioned mixture of polymer modified asphalt emulsion, aggregate, mineral filler, water and other additives to a paved surface.

MATERIALS:

Asphalt Emulsion: §702 - Bituminous Materials, polymer modified CQS-1h.

Aggregates: Use material meeting the requirements of §703-02, Coarse Aggregate, with the following modifications.

A. Sand Equivalency. Minimum sand equivalency is 65%, as determined by AASHTO T 176, "Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test." Material not meeting the minimum sand equivalent requirement may be used if it is classified as non-plastic according to AASHTO T 89, "Determining the Liquid Limit of Soils" and AASHTO T 90, "Determining the Plastic Limit and Plasticity Index of Soils."

B. Type F1 Conditions. Use aggregate containing at least 95.0% acid insoluble residue in the plus and minus No. 30 size fractions.

C. Type F2 Conditions. Use aggregate meeting one of the following requirements:

1. Limestone, dolomite, or blend of the two containing at least 20.0% acid insoluble residue in the plus and minus No. 30 size fractions.
2. Gravel or blend of a natural or manufactured, limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag, or other similar materials, having at least 25.0% acid insoluble residue in the plus and minus No. 30 size fractions.

D. Type F3 Conditions. Use aggregate meeting one of the following requirements:

1. Limestone or a blend of limestone and dolomite containing at least 20.0% acid insoluble residue in the plus and minus No. 30 size fractions.
2. Dolomite.
3. Gravel or blend of a natural or manufactured, limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag, or other similar materials, having at least 25.0% acid insoluble residue in the plus and minus No. 30 size fractions.

E. Stockpile. Build an aggregate stockpile at a location approved by the Engineer. When blending multiple aggregates, use automated proportioning and blending equipment to produce a uniformly graded stockpile. Screen the aggregate at the stockpile, prior to delivering it to the micro-surfacing equipment.

Use aggregate meeting the gradation requirements listed in §703-02, Table 703-5, Sizes of Crushed Gravel, Stone, and Slag for Slurry with the following exception: the range for the No. 100 sieve on the 2MS designation will be 10-22% passing.

The aggregate stockpile gradation shall not deviate from the mix design gradation by more than the tolerances given in Table 1 - Maximum Stockpile Tolerance. The mix design gradation value plus the stockpile tolerance cannot exceed the mix type general gradation limits.

TABLE 1 - MAXIMUM STOCKPILE TOLERANCE

Sieve (in)	3/8	No. 4	No. 8	No. 16	No. 30	No. 50	No. 100	No. 200
Stockpile Tolerance	-	± 5.0%	± 5.0%	± 5.0%	± 5.0%	± 4.0%	± 3.0%	± 2.0%

(continued)

DETAILED SPECIFICATIONS – MICRO-SURFACING (Cont'd.)

Water: §712-01, Water.

Mineral Filler: §703-08, Mineral Filler.

Mix Design: Formulate a mix design which meets the requirements of Materials Procedure 09-01, "Micro-surfacing and Slurry Guidelines." The mix design shall be submitted at least 14 days before the beginning of work to the Engineer in Charge, the Regional Materials Engineer and the Director of the Materials Bureau.

All materials used to develop the mixture design must be representative of the material to be used on the project. Mixture designs are valid until October 31 of the year in which they are submitted.

Material Sampling and Testing:

A. Aggregate Stockpile

1. Contractor Testing. The contractor shall perform and submit the following tests to the Regional Materials Engineer.
   a. Take three samples, according to Materials Method 5, Plant Inspector's Manual for Bituminous Concrete Mix Production. Each sample must contain material from each face of the stockpile.
   b. Test samples in accordance with AASHTO T 11, Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing, and AASHTO T 27, Sieve Analysis of Fine and Coarse Aggregates. Test results shall be based on the average of three tests.
   c. Sample and test the aggregate in accordance with Materials Method 28, "Friction Aggregate Control and Test Procedures," Appendix B, Table B1 – Minimum Testing Frequencies for Slurry Surfacing Aggregates.
2. Department Testing and Approval. The Regional Materials Engineer will review the Contractor's submission. If the submission meets the requirements of the specification, the Regional Materials Engineer will sample and test the stockpile. The final approval of the stockpile will be based on the results of the Department's sampling and testing. Stockpile approval is valid until new material is added to the stockpile.
   a. Gradation - Test results shall be the average of three tests. If the percent passing is outside the gradation limits for any sieve, the stockpile will be rejected.
   b. Friction Requirements - Samples shall meet appropriate friction values. All micro-surfacing previously placed with material from a stockpile rejected for non-carbonate or acid insoluble residue content will be rejected.
   c. Additional Testing – If the Engineer believes an approved stockpile has been altered, additional samples may be tested.

B. Emulsion. Asphalt emulsion shall be sampled according to Materials Method 702-2, "Asphalt Emulsion – Quality Assurance."

CONSTRUCTION DETAILS:

Weather and Seasonal Limitations: The requirements of §402-3.01 Weather and Seasonal Limitations apply, except as modified herein. Do not place micro-surfacing in the rain, fog, or if the air temperature is expected to fall below freezing within 24 hours after application. Application shall not occur unless pavement and ambient temperatures are above 50ºF. When applying with temperatures below 60ºF, the Contractor shall use a mix design specifically designed for cold weather application. Stop micro-surfacing if the surface or air temperature drops below 50ºF.

Equipment: Equipment must be designed and manufactured specifically for mixing and placing micro-surfacing. The equipment must be capable of accurately proportioning the constituent materials, thoroughly mixing those materials, and placing the micro-surfacing in conformance with this specification.

Calibrate each mixing unit according to Materials Procedure 09-01. Calibrations must be performed using the aggregate sources listed in the mix design. Calibrations are valid for 90 days. Submit a copy of the equipment calibration to the Engineer prior to the start of work.

The emulsion, aggregate and mineral filler counters must be accessible to the Engineer and inspectors. Adjust the material delivery settings on the micro-surfacing equipment to produce the mix design.

(continued)

A pneumatic tire roller meeting the requirements of §402, shall be used.

(continued)

DETAILED SPECIFICATIONS – MICRO-SURFACING (Cont'd.)

Surface Preparation:

1. Ensure that pavement markings have been abraded in accordance with contract documents.
2. Remove all debris and standing water.
3. Cover all manhole covers, water boxes, catch basins, and other such utility structures within the area being paved with plastic, building felt, or other material approved by the Engineer. Remove the covers each day.
4. If necessary, dampen the pavement surface with water or apply a tack coat emulsion to the pavement surface before applying micro-surfacing. If prior to or during the preconstruction meeting, it is determined that the road surface requires a tack coat application, it shall be paid for in accordance with the appropriate pay item.

Mixture Consistency: Produce a homogeneous mixture, without lumps, balls, unmixed aggregate, segregation, excess water, or excess emulsion. The maximum allowable adjustment of the mineral filler is 1.0%. Report all mixture adjustments to the Engineer before they are made.

Application: Micro-surfacing is placed in multiple lifts; use at least 2 applications consisting of a scratch course and finish course for the finished product. When necessary, a rut filling course is also specified and paid for separately.

1. Scratch Course. Use a rigid strike off on the spreader box in order to level the pavement surface. The scratch course surface shall be constructed to a ¼ inch tolerance. Measure the tolerance using a 10 foot straight edge or string line placed transversely to the center line of the pavement. Variations exceeding ¼ inch shall be satisfactorily corrected or resurfaced at no additional cost to the Department as ordered by the Engineer.
2. Finish Course. Apply the micro-surfacing to the pavement evenly across the entire width of the spreader box to produce a smooth riding surface with no streaks, excess buildup, thin or uncovered areas. The finish course surface shall be constructed to a ¼ inch tolerance. Measure the tolerance using a 10-foot straight-edge or string line placed transversely to the center line of the pavement. Variations exceeding ¼ inch shall be satisfactorily corrected or resurfaced at no additional cost to the Department as ordered by the Engineer.
3. Rut Filling. Use a rut box to fill wheel rutting. Allow rut filled sections to cure for a minimum of 2 hours after rolling.

   Application rate limits are given in Table 2 - Application Limits. Application rates for rut filling operations are found in Table 3 - Rut Filling Application Rate.

TABLE 2 - APPLICATION LIMITS

Gradation	Course	Application Rate (lb/yd^2)
Type II	Scratch Finish	15 maximum 15-20
Type III	Scratch Finish	20 maximum 20-30

TABLE 3 - RUT FILLING APPLICATION RATE

Rut Depth	Application Rate (lbs/yd^2)
½" to ¾"	20 - 30
¾" to 1"	25 – 35
1" to 1-¼"	28 - 38

Coverage: Do not use hand tools to expand the width of application wider than the spreader box, except as described under *Hand Finishing* on the following page.

(continued)

DETAILED SPECIFICATIONS – MICRO-SURFACING (Cont'd.)

Joints: Minimize the number of joints. Construct joints such that no gap is present between adjacent applications. Place longitudinal joints at the edges of traffic lanes, adjacent to where pavement markings will be located. Other longitudinal joint arrangements require the Engineer's approval. Measure the difference in grade across joints by laying a 10-foot straight edge centered on the joint perpendicular to the direction of the joint. Joint overlap and grade difference requirements are given in Table 4 - Joint Requirements.

TABLE 4 - JOINT REQUIREMENTS

Requirement	Minimum (in.)	Maximum (in.)
Difference in Grade	-	¼
Longitudinal Joint Overlap	2	6
Transverse Joint Overlap	2	12

Variable-Width Passes: Apply no more than one variable-width pass. Variable-width passes will not be permitted as the last pass unless approved by the Engineer.

Hand Finishing: Use hand held squeegees to finish areas which cannot be reached with the spreader box, and, when necessary, to produce straight lines along curbs, shoulders, and through intersections. Apply the same type of finish to the surface as is applied by the spreader box.

Excess Material: Remove all excess material in areas such as driveways, gutters, intersections, etc. each day.

Rolling: The mat shall be rolled with a pneumatic tire roller. A minimum of 3 passes of the pneumatic tire roller shall be required. One pass is defined as one movement of the roller over any point of the pavement in either direction. The rolling of the surface shall not cause the stone to stick to the wheels of the roller.

Curing: Allow each coat to cure sufficiently to resist damage from the micro-surfacing equipment, before applying the next coat. Protect the micro-surfacing from traffic until the mixture has cured sufficiently to resist damage. The time required will vary based on the mix design and environmental conditions. Repair damage from micro-surfacing equipment or traffic to the Engineer's satisfaction.

Milling for Pavement Markings: Mill recesses for pavement markings according to contract documents.

METHOD OF MEASUREMENT: Micro-surfacing shall be measured by the total tons of aggregate, mineral filler and asphalt emulsion used according to Materials Procedure 09-01, "Micro-surfacing and Slurry Guidelines."

BASIS OF PAYMENT: The unit price per ton of Micro-surfacing includes the cost of all labor, materials and equipment necessary to perform the work.

Payment will be made under:

Item		Pay Unit
18410.1011	Micro-Surfacing, Type II, F1	Ton
18410.1021	Micro-Surfacing, Type II, F2	Ton
18410.1031	Micro-Surfacing, Type II, F3	Ton
18410.1012	Micro-Surfacing, Type III, F1	Ton
18410.1022	Micro-Surfacing, Type III, F2	Ton
18410.1032	Micro-Surfacing, Type III, F3	Ton
18410.1013	Micro-Surfacing, Type III, Rut Filling	Ton

(continued)

DETAILED SPECIFICATIONS – MICRO-SURFACING (Cont'd.)

BONDING REQUIREMENTS:

A. Within 10 calendar days of receipt of a purchase order from the State, the Contractor shall provide the State agency the following:
   1. Maintenance Material Bond. A bond in the form similar to the sample included in this Invitation for Bids with sufficient sureties approved by the State's resident engineer guaranteeing replacement of deficient material in the form included in this Invitation for Bids. This bond shall remain in place for one year after final acceptance of the project by the State or until September 15 of the year following completion of the project, whichever is later.
   2. Amount of Bond. The amount of the Maintenance Material Bond shall be 100% of the amount of the project's cost.
   3. Requirements of Bonds. All Bonds shall be issued by a surety company approved by NYSDOT and authorized to do business in the State of New York as a surety.

B. The procedure of the Maintenance Material Bond shall be as follows:
   1. No later than August 1 of the year following the State's acceptance of work completed under this contract, the State will evaluate the project for plow damage, flushing, delamination or raveling.
   2. The Contractor agrees to repair all areas that demonstrate plow damage, flushing, delamination or raveling greater than 2.0 square yards for any single location, or greater than 5.0 square yards for any 0.1 lane mile. Such repairs, however, shall not include any damage resulting from any forces or circumstances beyond the control of the Contractor. The evaluation of the micro-surfacing shall be made by the State's resident engineer. If the Contractor does not agree with the evaluation it may appeal to the State's Regional Transportation Maintenance Engineer whose decision shall be final.
      Any resultant property damage deemed by the State's Regional Transportation Maintenance Engineer caused by improper workmanship and/or defective materials shall be the responsibility of the Contractor.
   3. On or before August 15 in the year immediately following the State's acceptance of the micro-surfacing project, the State shall notify the Contractor of any areas deemed deficient by the State. The Contractor will initiate and complete the remediation within 30 days of notification.

(continued)

DETAILED SPECIFICATIONS – MICRO-SURFACING (Cont'd.)

S A M P L E

MAINTENANCE BOND

KNOW ALL PEOPLE BY THESE PRESENTS, That we, (hereinafter called the "PRINCIPAL") _____ of _____, and _____ of _____ (hereinafter called the "SURETY") are held and firmly bound unto the people of the State of New York in the full and just sum of _____ Dollars ($_____) good and lawful money of the United States of America, to the payment of which said sum of money, well and truly to be made and done the said PRINCIPAL binds itself, its heirs, executors, administrators or assignees and the SURETY binds itself, its successors or assigns, jointly and severally, firmly by these presents.

Signed and dated this _____ day of _____, 20__.

WHEREAS, the PRINCIPAL has entered into a certain written contract bearing date on the _____ day of _____, 20__, with the People of the State of New York for the improvement of _____, in the County of _____, New York.

NOW THEREFORE, the PRINCIPAL warrants the workmanship and all materials used in the work and agrees that during the guarantee period of one year beginning after final acceptance by the State or political subdivision or until September 15 of the year following acceptance of work completed under the contract, whichever is later, it will, at its own expense make repairs which may become necessary by reason of improper workmanship or defective materials as per the following procedure:

1. No later than August 1 of the year following the State's or the political subdivision's acceptance of work completed under the contract, the State or political subdivision will evaluate the project for plow damage, flushing, delamination or raveling.

2. The PRINCIPAL agrees to repair all areas that demonstrate plow damage, flushing, delamination or raveling greater than 2.0 square yards for any single location, or greater than 5.0 square yards for any 0.1 lane mile, as determined by the State. Such repairs however, shall not include any damage resulting from any forces or circumstances beyond the control of the PRINCIPAL. The evaluation of the micro-surfacing shall be made by the Resident Engineer. If the PRINCIPAL does not agree with the evaluation it may appeal to the Regional Director of Operations whose decision shall be final.

3. On or before August 15 in the year immediately following the State's acceptance of the micro-surfacing project, the State shall notify the PRINCIPAL of any areas deemed deficient by the State. The PRINCIPAL will initiate and complete the remediation, within 30 days of notification.

4. Prior to the performance of repairs the PRINCIPAL shall supply the Resident Engineer with copies of all acceptable insurance certificates. During the performance of any necessary repairs, the PRINCIPAL shall comply with the all provisions of the original contract including among other things the Work Zone Traffic Control provisions.

In the event of the failure of performance by the PRINCIPAL who has failed to make repairs which may become necessary, said SURETY, for value received, hereby stipulates and agrees, if requested to do so by the State, to commence such repairs within five (5) days of notification by the State of such failure by the PRINCIPAL. Such repairs shall be performed in accordance with the provisions of the current contract which require among other provisions that the SURETY shall provide necessary Work Zone Traffic Control as well as provide the required insurance before any work is conducted.

(continued)

DETAILED SPECIFICATIONS – MICRO-SURFACING (Cont'd.)

S A M P L E (Cont'd)

In the event both the SURETY and the PRINCIPAL fail to perform such repairs, the State shall cause the repair to be completed by others and the SURETY and PRINCIPAL shall be jointly and severally liable for such costs.

And the said SURETY thereby stipulates and agrees that no change, extension, alteration, deduction or addition in or to the terms of the said contract or the plans or specifications accompanying same, shall in any way affect the obligations of said SURETY of its bond.

PRINCIPAL _____

BY _____

SURETY _____

BY _____

(continued)

☐ DETAILED SPECIFICATIONS – COLD RECYCLING ASPHALT CONCRETE

DESCRIPTION: Cold recycling asphalt concrete consists of a continuous process of milling the existing pavement, remixing with bituminous material and aggregate, reshaping, and compacting the asphalt mixture as indicated in the contract documents and as shown on the plans. Pavement locations that are milled shall have material replaced on the same day.

MATERIALS:

Bituminous Material:

Liquid bituminous material shall be obtained from a Department approved facility.

Asphalt Emulsion: Use a medium setting grade of asphalt emulsion. Slow setting grades of asphalt emulsion may be used with the approval of the Director, Materials Bureau. Asphalt emulsion shall be sampled according to Materials Method 702-2, "Asphalt Emulsion – Quality Assurance."

Performance Graded Binder: Use the appropriate performance graded binder for the project location. Obtain one sample per lot of performance graded binder delivered to the project.

Fog Seal: Use diluted SS-1h, CSS-1h or HFMS-2h asphalt emulsion. Fog seal shall be sampled according to Materials Method 702-2, "Asphalt Emulsion – Quality Assurance."

Additives:

Additives may be combined with the bituminous material prior to construction or may be added to the mix during construction. The proportion and amounts of additive shall be determined by the Contractor and approved by the Director, Materials Bureau.

Aggregates:

Additional aggregates for cold recycling of pavements shall conform to the requirements of §703-02, Coarse Aggregate. The gradation and source of the aggregates shall be specified by the Contractor and included in the proposed mix design.

Reclaimed Material:

Milled asphalt pavement material that has been removed and/or processed from the pavement will be referred to as reclaimed material. The reclaimed material shall pass the 2 inch sieve size.

Mix Design Guidelines:

The recycled mixture consists of reclaimed material, additional aggregate, liquid bituminous material, additives and water.

The minimum design liquid bituminous material content is 3% for asphalt emulsions, and 2% for performance-graded binders. The liquid bituminous material is calculated as a percentage of the dry mass of millings:

[mass of liquid bituminous material/mass of millings] X 100 = % liquid bituminous material

Recycled mixtures may be designed with or without additional aggregate, depending on the existing pavement's gradation. When additional aggregate is used, the minimum content is 5.0% and the maximum content is 20.0%, regardless of the recycled mixture's design gradation. The percentage of additional aggregate is calculated as a percentage of the dry mass of millings:

[mass of additional aggregate / mass of millings] x 100 = % additional aggregate)

Design the recycled mixture to conform to the following gradation:

	Percent Passing	
Sieve	Minimum	Maximum
1½	100	-
1	95	100
½	70	85
¼	48	68
⅛	32	54
20	15	30
40	8	22
80	4	14
200	2	8

(continued)

DETAILED SPECIFICATIONS – COLD RECYCLING ASPHALT CONCRETE (Cont'd.)

EQUIPMENT:
Use equipment capable of:

- Milling the existing pavement to the appropriate depth
- Processing the reclaimed material to pass a 2 inch sieve
- Mixing the reclaimed material with bituminous material
- Paving and compacting the reclaimed material to the correct grade

Calibration:
Calibrate the mixing equipment prior to the start of work, in accordance with established NYSDOT calibration procedures. Submit the calibration results for approval to the Director, Materials Bureau at least 7 days prior to the start of work. The first calibration of each calendar year must be witnessed by Department personnel. Submit subsequent calibrations with written certification that proper procedures were followed and that all measurements and calculations are accurate. If the results submitted in subsequent calibrations are more than 5.0% different from the first calibration of the season, the equipment must be calibrated in the presence of Department personnel. Calibration approval is valid for 90 days from the date of calibration. Provide a copy of the calibration approval letter to the Engineer before the start of work. No cold recycling will be allowed under this contract until the calibration has been completed and approved. No payment will be made for material recycled by equipment without a valid calibration.

CONSTRUCTION:
Weather & Seasonal Limitations:

Work will not be permitted when the existing pavement contains frost, or when the air surface temperature is below 45 °F or expected to drop below 45 °F within 24 hours. Material shall be placed between May 1 and October 7.

Satisfactory work performed after October 7 will be paid at 90% of the bid price for the recycling and bituminous material items.

Testing:
Prior to starting recycling operations, test two aggregate samples to verify the gradation. Supply the test results to the Engineer before the start of work.

Once continuous production has been achieved, test four samples of the recycled mixture for gradation and total asphalt content. Submit the test results to the Engineer and Regional Materials Engineer before the end of the next workday. For each subsequent day of production, take a minimum of one sample of the recycled mixture from each ½ mile, or fraction thereof, of pavement recycled. Test each sample for gradation and total asphalt content. Submit the test results from the mix samples taken from each ½ mile of pavement within two workdays. Make adjustments to the mix proportions or additional aggregate gradation based on the test results to comply with the approved mix design and construct a stable pavement layer.

If a second recycling train is brought to the project, take samples following the frequencies detailed above, including taking four samples on the first day of use.

Milling:
The milling depth called out in the contract documents will determine the depth of cut. The depth of cut will be measured at the centerline and carry the existing slope.

The Contractor may vary the depth of cut at the center line and edge of travelled lane to correct for nonstandard features. Changes to milling depth must be approved by the Engineer.

Recycling:
The Contractor shall follow the submitted mix design. The contractor shall add the bituminous material at a rate within 10% of the design rate, based on field conditions. Changes to the bituminous material rate resulting in a greater than 10% difference from the design rate require the Engineer's approval. The contractor shall record and report the amount and location of all changes from design values to the Engineer.

Spreading:
The mixture shall be placed using a bituminous paver equipped with a profile reference and mechanically spread in a uniform layer so as to produce the specified thickness and surface tolerance after compaction. Excessive amounts of non-coated reclaimed material which spill onto the milled surface shall be removed, as ordered by the Engineer, prior to placing the mixture.

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(continued)

DETAILED SPECIFICATIONS – COLD RECYCLING ASPHALT CONCRETE (Cont'd.)

Compaction:
After the bituminous mixture has been spread, it shall be thoroughly and uniformly compacted when the mixture is in the proper condition and when the rolling does not cause undue displacement, cracking or shoving. All courses shall be initially rolled with the roller traveling parallel to the centerline of the pavement beginning at each edge and working toward the center. Banked curves shall be rolled starting at the low side edge and working toward the super-elevated edge. The roller drive roll or wheel shall be nearest the paver.

Establish rolling operations consistent with §402, 70 Series Compaction. Proposed changes to the roller pattern shall be approved by the Engineer. Material that cannot be properly and adequately compacted to a stable condition shall be removed and replaced, as ordered by the Engineer, at the Contractor's expense.

Rollers shall operate at a uniform speed. All turning of the compaction equipment shall be completed on material which has had a minimum of one roller pass. The Contractor may choose to use vibratory compaction equipment for initial or intermediate rolling.

A pneumatic tire roller with a minimum ground contact pressure of 80 psi will be supplied by the Contractor for compacting the cold recycled mix.

The pavement course shall be finish rolled with a steel wheel tandem roller having a minimum weight of 8 tons. The finish roller shall add a minimum of two passes. Dual vibrating drum rollers meeting the requirements of a tandem roller and operating in the static mode may be used for the finish roller.

Along forms, curbs, headers, walls and other areas not accessible to the rollers, the mixture shall be thoroughly compacted with mechanical tampers as directed by the Engineer. On depressed areas, a trench roller or a small vibratory roller approved by the Engineer may be used.

Any displacement occurring as a result of reversing the direction of the roller, or from other causes shall be corrected immediately by the use of rakes and addition of fresh mixture as required. Care shall be exercised in rolling not to displace the line and grade of the edges of the bituminous mixture. To prevent adhesion of the mixture to the rollers, the wheels shall be kept properly moistened with water or water mixed with small quantities of detergent or other approved material, but in no case shall a solvent having an adverse affect upon the bituminous pavement be used.

Longitudinal Joints:
A longitudinal joint shall be located at the centerline. All other longitudinal joints should coincide with pavement lane lines whenever possible. If the Contractor proposes longitudinal joint locations that do not coincide with pavement lane lines, the following procedure shall be used:

- Pave recycled mat.
- Compact using established roller pattern.
- Upon next milling pass, reclaim a minimum of 6 inches of the adjoining, compacted recycled mat.

If any length of longitudinal joint is exposed at the end of the working day, construct the joint using a pneumatic tire roller to form the joint into a wedge shape and provide a smooth transition for traffic. Construct the wedge of recycled material at a slope of 1 on 8 or flatter to meet the existing pavement elevation. Do not overlap recycled material onto the existing pavement.

Tolerance:
The recycled surface shall be constructed to a 3/8 inch tolerance. The elevation difference at the longitudinal joint shall be constructed to a 3/16 inch tolerance. The surface may be tested with a 15 foot straight edge or string line placed parallel to the center line of the pavement. The surface may also be tested with a 10 foot straight edge or string line placed transversely to the center line of the pavement on any portion of the pavement.

Existing Pavement Cross Slopes:
If the existing pavement's cross slopes meet appropriate standards, then the cross slopes of the finished cold recycling shall match the existing. If the existing pavement's cross slopes are not in accordance with the appropriate standards, then the Contractor shall present a plan to the Engineer that attempts to bring the cross slopes of the finished cold recycling into conformance with the appropriate standards. The Contractor will not be responsible for corrections to the cross slopes where sufficient material does not exist in the pavement to make such corrections.

(continued)

DETAILED SPECIFICATIONS – COLD RECYCLING ASPHALT CONCRETE (Cont'd.)

Brooming:
The pavement and shoulders shall be broomed by the Contractor, as ordered by the Engineer, to remove loose stone or reclaimed material resulting from the recycling process.

Temporary Pavement Markings: Apply temporary pavement markings at the centerline and shoulder of the recycled material before the end of each workday. Maintain the temporary markings until the recycled material is overlaid.

Curing Asphalt Emulsion:
Allow the recycled material to cure for a minimum of 10 days before placing the next paving course. The provisions of the paragraphs above, Brooming and Tolerance, apply from the time of recycling until the recycled material is overlaid, not to exceed 30 days.

Curing Foamed Asphalt:
Allow the recycled material to cure for a minimum of 3 days before placing the next paving course. The provisions of the paragraphs above, Brooming and Tolerance, apply from the time of recycling until the recycled material is overlaid, not to exceed 30 days.

Fog Seal:
A fog seal may be used to correct an overly dry surface, or to reduce the quantity of dry stone or reclaimed material pulled out by traffic. Application of fog seal requires the Engineer's approval.

The liquid bituminous material and rate of application for the fog seal shall be chosen by the Contractor. The rate of application shall not exceed 0.15 gallons/yard. The Contractor shall be responsible for work zone traffic control for the fog seal operation. A work zone traffic control plan for the fog seal operation shall be developed by the Contractor and submitted to the Engineer for approval.

Damaged or Deficient Areas:
Any mixture that ravels, becomes loose or broken, mixed with dirt, or is in anyway defective shall be reworked or removed and replaced with fresh recycled mix or fresh hot mixture and shall be compacted to conform with the surrounding area.

Any area showing an excess or deficiency of bituminous material shall be corrected to the satisfaction of the Engineer.

Variations in tolerance, including ruts, exceeding 3/8 inch shall be satisfactorily corrected at no additional cost to the Department. The repair method will be approved by the Engineer.

All repairs or remedial actions necessary to correct damaged or deficient areas of recycled pavement shall be carried out at the Contractor's expense. The Contractor shall not be responsible for damage to the recycled mix as a result of other work performed on the pavement or shoulders.

Repairs:
Immediately after becoming aware of damage or deficiencies in the recycled mix, the Engineer will notify the Contractor or the Contractor's designated representative. The Contractor shall make arrangements to repair the damaged or deficient areas to the satisfaction of the Engineer.

For repairs after October 7, the contractor shall remove the recycled mix and replace with hot mix asphalt, or overlay the recycled mix with hot mix asphalt, as directed by the Engineer.

(continued)

DETAILED SPECIFICATIONS – COLD RECYCLING ASPHALT CONCRETE (Cont'd.)

METHOD OF MEASUREMENT: Cold recycling asphalt concrete shall be measured by the number of square yards of pavement surface recycled.

The liquid bituminous material for cold recycling asphalt concrete shall be measured by the number of 60°F gallons actually incorporated in the work. The following formulas will be used to calculate 60°F gallons:

Asphalt Emulsion:

$Volume_{60°F} = Volume_D \times [1 - (\Delta T \times 0.00025)]$

Where:

ΔT = Delivered Temperature (°F) – 60

$Volume_D$ = Quantity Delivered (gallons)

PG Binder:

$Volume_{60°F} = Volume_D \times [1 - (\Delta T \times 0.00035)]$

Where:

ΔT = Delivered Temperature (°F) – 60

$Volume_D$ = Quantity Delivered (gallons)

Aggregate shall be measured by the number of tons incorporated in the work.

BASIS OF PAYMENT: The unit price per square yard for cold recycling asphalt concrete includes the cost of all labor, materials and equipment necessary to perform the work including work zone traffic control and construction signs. Bituminous material and aggregate will be paid for under their appropriate pay items. No separate payment will be made for the use of water in the mixing process. Any work required for the maintenance, replacement or repair of the cold recycled pavement prior to acceptance of the contract shall be done at no additional cost to the State.

Satisfactory work performed after October 7 will be paid at 90% of the bid price for the recycling and bituminous material items.

(continued)

DETAILED SPECIFICATIONS – PAVER PLACED SURFACE TREATMENT

18403.221102 Paver Placed Surface Treatment Type A, F1
18403.221202 Paver Placed Surface Treatment Type A, F2
18403.221302 Paver Placed Surface Treatment Type A, F3
18403.222102 Paver Placed Surface Treatment Type B, F1
18403.222202 Paver Placed Surface Treatment Type B, F2
18403.222302 Paver Placed Surface Treatment Type B, F3
18403.223102 Paver Placed Surface Treatment Type C, F1
18403.223202 Paver Placed Surface Treatment Type C, F2
18403.223302 Paver Placed Surface Treatment Type C, F3

DESCRIPTION: Paver Placed Surface Treatment consists of a polymer modified asphalt emulsion coat followed immediately with a thin hot mix asphalt wearing course.

MATERIALS:
Mix Designs: Formulate a job mix formula that satisfies the design limits listed in Table 1- Mixture Requirements and submit it to the Regional Materials Engineer for approval.

TABLE 1 - MIXTURE REQUIREMENTS[1]

Sieve Sizes (in)	Type A		Type B		Type C	
	Design Limits % Passing	Production Tolerance %	Design Limits % Passing	Production Tolerance %	Design Limits % Passing	Production Tolerance %
3/4					100	
1/2			100		85 - 100	± 4
3/8	100		85 - 100	± 4	60 - 90	± 4
1/4	85 - 100	± 4	30 - 55	± 4	30 - 55	± 4
No. 4	40 - 80	± 3	24 - 45	± 3	24 - 45	± 3
No. 8	21 - 45	± 3	21 - 37	± 3	21 - 37	± 3
No. 16	16 - 32	± 3	16 - 26	± 3	16 - 26	± 3
No. 30	12 - 25	± 2	12 - 20	± 2	12 - 20	± 2
No. 50	8 - 16	± 2	8 - 16	± 2	8 - 16	± 2
No. 100	5 - 10	± 2	5 - 10	± 2	5 - 10	± 2
No. 200	5 - 7	± 2	5 - 7	± 2	5 - 7	± 2
% PG Binder	4.9 - 5.4		4.8 - 5.2		4.8 - 5.2	

[1] All aggregate percentages are based on total mass of aggregate.

(continued)

DETAILED SPECIFICATIONS – PAVER PLACED SURFACE TREATMENT (Cont'd.)

MATERIALS: (Cont'd.)

Aggregate: §703-02 except as modified herein. Use coarse aggregate with a minimum coarse-aggregate angularity (CAA) of 90% one fractured face and 85% two fractured faces. The aggregate's flakiness index shall meet the requirements of Materials Method 410.

1. **Coarse Aggregate Type F1 Conditions.**
   a. Limestone, dolomite or a blend of the two, having an acid-insoluble residue content of not less than 20.0%.
   b. Sandstone, granite, chert, traprock, ore tailings, slag or other similar non-carbonate materials.
   c. Gravel, or a natural or manufactured blend of the following types of materials: limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag, or other similar materials meeting the following requirements:

      Type A Mixes – Noncarbonate plus No. 8 particles must comprise a minimum of 30.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 95.0% of plus No. 4 particles must be noncarbonate.

      Type B Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 30.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 95.0% of plus No. 4 particles must be noncarbonate.

      Type C Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 30.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 95.0% of plus 3/8 inch particles must be noncarbonate.

2. **Coarse Aggregate Type F2 Conditions.**
   a. Limestone, dolomite or a blend of the two having an acid insoluble residue content of not less than 20.0%.
   b. Sandstone, granite, chert, traprock, ore tailings, slag or other similar non-carbonate materials.
   c. Gravel, or a natural or manufactured blend of the following types of materials: limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag, or other similar materials, meeting the following requirements:

      Type A Mixes – Noncarbonate plus No. 8 particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus No. 4 particles must be noncarbonate.

      Type B Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus No. 4 particles must be noncarbonate.

      Type C Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus 3/8 inch particles must be noncarbonate.

3. **Coarse Aggregate Type F3 Conditions.**
   a. Limestone, or a blend of limestone and dolomite having an acid insoluble residue content of not less than 20.0%.
   b. Dolomite.
   c. Sandstone, granite, chert, traprock, ore tailings, slag or other similar non-carbonate materials.
   d. Gravel, or a natural or manufactured blend of the following types of materials: limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag, or other similar materials, meeting the following requirements:

      Type A Mixes – Noncarbonate plus No. 8 particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus No. 4 particles must be noncarbonate.

      Type B Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus No. 4 inch particles must be noncarbonate.

(continued)

Type C Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus 3/8 inch particles must be noncarbonate.

(continued)

DETAILED SPECIFICATIONS – PAVER PLACED SURFACE TREATMENT (Cont'd.)

MATERIALS: (Cont'd.)

4. **Fine Aggregate.** Use 100% screenings, free from deleterious materials and manufactured from sources of stone or slag meeting the requirements of §703-02, Coarse Aggregate, having a minimum sand equivalent of 60%, as determined by AASHTO T 176, "Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test."

Mineral Filler: § 703-08, Mineral Filler.

Asphalt Binder: §401-2.04 Performance-Graded Binder. Use the appropriate performance graded binder for the project's location.

Polymer Modified Asphalt Emulsion: § 702 - Bituminous Materials, polymer modified CRS-1.

Equipment:

1. **Paving.** Use a self-priming paver capable of spraying the polymer modified asphalt emulsion, applying the hot mix asphalt overlay and smoothing the surface of the mat in one pass. The self-priming paver must be equipped with a receiving hopper, feed conveyor, emulsion storage tank, metered high-pressure emulsion spray bar, and a variable width, heated screed. The screed must have the ability to be crowned at the center both positively and negatively and have vertically adjustable extensions to accommodate the desired pavement profile.
2. **Compaction.** Use steel wheeled double drum rollers weighing at least 10 tons, equipped with functioning water systems and scrapers to prevent material from adhering to the roller drums.
3. **Hauling.** Use vehicles that meet § 402-3.03, Hauling Equipment, to transport the hot mix asphalt wearing course.

CONSTRUCTION DETAILS:

Hot Mix Production: The requirements of §401-3, Construction Details apply with the following modifications. If a test value for any sieve varies from the target value by more than the production tolerance given in Table 1 - Mixture Requirements, the Regional Materials Engineer will evaluate the material represented by that test to determine acceptability.

A delivery ticket meeting the requirements of §401-4, Method of Measurement shall accompany each vehicle supplying hot mix asphalt.

Surface Preparation: Perform all surface preparation prior to applying the wearing course.

1. Thoroughly clean the entire area to be overlaid. The surface of the area to be overlaid must be free of dirt, oil, and other foreign materials. Remove all debris and standing water. A damp surface is acceptable if favorable weather conditions are expected during paving operations.
2. Cover all manhole covers, water boxes, catch basins, and other such utility structures within the area to be paved with plastic, building felt, or other material approved by the Engineer. Reference each for location and adjustment after paving. Remove the covers each day.
3. Ensure that pavement markings have been abraded in accordance with contract documents.

Application: The requirements of § 402-3.01, Weather and Seasonal Limitations apply.

1. Apply the polymer modified asphalt emulsion at a temperature of 140 - 175ºF. Provide a uniform application across the entire width to be overlaid, at a rate of 0.15 - 0.25 gallons/square yard. Continuously monitor the spray rate.
2. No equipment shall come in contact with the polymer modified asphalt emulsion before the hot mix asphalt wearing course is applied.
3. Immediately after applying the polymer modified asphalt emulsion, apply the hot mix asphalt overlay across the full width of the emulsion at a temperature of 290 - 325ºF.
4. Apply the hot mix asphalt at a rate within the appropriate application range, listed in Table 2 – Wearing Course Application Ranges. The finished treatment has a minimum thickness of 1/2 inch for Type A, and 5/8 inch for Type B and Type C.
5. Paver Placed Surface Treatment shall not be applied to freshly placed concrete surfaces. Concrete surfaces must cure for a minimum of 90 days before being overlaid.

TABLE 2 - WEARING COURSE APPLICATION RANGES

Type	Minimum (lb/yd^2)	Maximum (lb/yd^2)
A	60	70
B	65	75
C	70	80

(continued)

DETAILED SPECIFICATIONS – PAVER PLACED SURFACE TREATMENT (Cont'd.)

CONSTRUCTION DETAILS: (Cont'd.)

Compaction: Begin compaction immediately after application of the wearing course. Use a minimum of two static passes. Avoid using vibratory compaction. The roller(s) will not be allowed to stop on the freshly placed wearing course. Use an adequate number of rollers to complete compaction before the pavement temperature falls below 185°F. Protect the wearing course from traffic until the rolling operation is complete and the material has cooled sufficiently to resist damage.

Paver and Equipment Cleaning: The requirement of § 402-3.12, Paver and Equipment Cleaning apply.

Coring: The Engineer will require four cores from each section of compacted paver placed surface treatment applied below the appropriate minimum application rate listed in Table 2. The Engineer will randomly locate the four core locations. The Engineer will determine the thickness of the paver placed surface treatment and reject sections not meeting the required minimum thickness.

The Engineer may require four cores from each section of compacted paver placed surface treatment exceeding the appropriate maximum application rate, listed in Table 2, to determine the thickness of the paver placed surface treatment. The Engineer may stop paving operations immediately if the over application of the paver placed surface treatment will create problems, such as, but not limited to, reducing overhead clearance, curb reveal or guiderail height. The Engineer and Contractor will agree upon and document a maximum application rate and maximum thickness to prevent problems created by over applying the paver placed surface treatment. The Engineer will reject any additional paver placed surface treatment sections determined to exceed the maximum agreed upon application rate and thickness.

Coring is not required for sections paved within the appropriate application range, listed in Table 2 - Wearing Course Application Ranges.

All labor, materials and equipment associated with required pavement coring, including maintenance and protection of traffic and filling core holes, will be done at the Contractor's expense.

METHOD OF MEASUREMENT: Paver Placed Surface Treatment shall be measured by the number of tons of hot mix asphalt placed.

BASIS OF PAYMENT: The unit price per ton of Paver Placed Surface Treatment includes the cost of all labor, materials and equipment necessary to perform the work.

Payment will be made under:

Item		Pay Unit
18403.221102	Paver Placed Surface Treatment Type A, F1	Tons
18403.221202	Paver Placed Surface Treatment Type A, F2	Tons
18403.221302	Paver Placed Surface Treatment Type A, F3	Tons
18403.222102	Paver Placed Surface Treatment Type B, F1	Tons
18403.222202	Paver Placed Surface Treatment Type B, F2	Tons
18403.222302	Paver Placed Surface Treatment Type B, F3	Tons
18403.223102	Paver Placed Surface Treatment Type C, F1	Tons
18403.223202	Paver Placed Surface Treatment Type C, F2	Tons
18403.223302	Paver Placed Surface Treatment Type C, F3	Tons

(continued)

DETAILED SPECIFICATIONS – RUBBER MODIFIED PAVER PLACED SURFACE TREATMENT

18403.221102R Rubber Modified Paver Placed Surface Treatment Type A, F1
18403.221202R Rubber Modified Paver Placed Surface Treatment Type A, F2
18403.221302R Rubber Modified Paver Placed Surface Treatment Type A, F3
18403.222102R Rubber Modified Paver Placed Surface Treatment Type B, F1
18403.222202R Rubber Modified Paver Placed Surface Treatment Type B, F2
18403.222302R Rubber Modified Paver Placed Surface Treatment Type B, F3
18403.223102R Rubber Modified Paver Placed Surface Treatment Type C, F1
18403.223202R Rubber Modified Paver Placed Surface Treatment Type C, F2
18403.223302R Rubber Modified Paver Placed Surface Treatment Type C, F3

DESCRIPTION: Rubber Modified Paver Placed Surface Treatment consists of a polymer modified asphalt emulsion coat followed immediately with a rubber modified thin hot mix asphalt wearing course.

MATERIALS:
Mix Designs: Formulate a job mix formula that satisfies the design limits listed in Table 1- Mixture Requirements and submit it to the Regional Materials Engineer for approval.

TABLE 1 - MIXTURE REQUIREMENTS[(1)]

Sieve Sizes (in)	Type A		Type B		Type C	
	Design Limits % Passing	Production Tolerance %	Design Limits % Passing	Production Tolerance %	Design Limits % Passing	Production Tolerance %
3/4					100	
1/2			100		85 - 100	± 4
3/8	100		85 - 100	± 4	60 - 90	± 4
1/4	85 - 100	± 4	30 - 55	± 4	30 – 55	± 4
No. 4	40 - 80	± 3	24 - 45	± 3	24 – 45	± 3
No. 8	21 - 45	± 3	21 - 37	± 3	21 - 37	± 3
No. 16	16 - 32	± 3	16 - 26	± 3	16 - 26	± 3
No. 30	12 - 25	± 2	12 - 20	± 2	12 - 20	± 2
No. 50	8 - 16	± 2	8 - 16	± 2	8 - 16	± 2
No. 100	5 - 10	± 2	5 - 10	± 2	5 - 10	± 2
No. 200	5 - 7	± 2	5 - 7	± 2	5 - 7	± 2
% PG Binder	5.8 – 6.4		5.8 – 6.4		5.8 – 6.4	

(1) All aggregate percentages are based on total mass of aggregate.

(continued)

DETAILED SPECIFICATIONS – RUBBER MODIFIED PAVER PLACED SURFACE TREATMENT (Cont'd.)

MATERIALS: (Cont'd.)

Aggregate: §703-02 except as modified herein. Use coarse aggregate with a minimum coarse-aggregate angularity (CAA) of 90% one fractured face and 85% two fractured faces. The aggregate's flakiness index shall meet the requirements of Materials Method 410.

1. **Coarse Aggregate Type F1 Conditions.**
   a. Limestone, dolomite or a blend of the two, having an acid-insoluble residue content of not less than 20.0%.
   b. Sandstone, granite, chert, traprock, ore tailings, slag or other similar non-carbonate materials.
   c. Gravel, or a natural or manufactured blend of the following types of materials: limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag, or other similar materials meeting the following requirements:

      Type A Mixes – Noncarbonate plus No. 8 particles must comprise a minimum of 30.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 95.0% of plus No. 4 particles must be noncarbonate.

      Type B Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 30.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 95.0% of plus No. 4 particles must be noncarbonate.

      Type C Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 30.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 95.0% of plus 3/8 inch particles must be noncarbonate.

2. **Coarse Aggregate Type F2 Conditions.**
   a. Limestone, dolomite or a blend of the two having an acid insoluble residue content of not less than 20.0%.
   b. Sandstone, granite, chert, traprock, ore tailings, slag or other similar non-carbonate materials.
   c. Gravel, or a natural or manufactured blend of the following types of materials: limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag, or other similar materials, meeting the following requirements:

      Type A Mixes – Noncarbonate plus No. 8 particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus No. 4 particles must be noncarbonate.

      Type B Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus No. 4 particles must be noncarbonate.

      Type C Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus 3/8 inch particles must be noncarbonate.

3. **Coarse Aggregate Type F3 Conditions.**
   a. Limestone, or a blend of limestone and dolomite having an acid insoluble residue content of not less than 20.0%.
   b. Dolomite.
   c. Sandstone, granite, chert, traprock, ore tailings, slag or other similar non-carbonate materials.
   d. Gravel, or a natural or manufactured blend of the following types of materials: limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag, or other similar materials, meeting the following requirements:

      Type A Mixes – Noncarbonate plus No. 8 particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus No. 4 particles must be noncarbonate.

      Type B Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus No. 4 inch particles must be noncarbonate.

(continued)

Type C Mixes – Noncarbonate plus 1/8 inch particles must comprise a minimum of 10.0% of the total aggregate (by weight with adjustments to equivalent volumes for materials of different specific gravities). Additionally, a minimum of 20.0% of plus 3/8 inch particles must be noncarbonate.

(continued)

DETAILED SPECIFICATIONS – RUBBER MODIFIED PAVER PLACED SURFACE TREATMENT (Cont'd.)

MATERIALS: (Cont'd.)

5. **Fine Aggregate.** Use 100% screenings, free from deleterious materials and manufactured from sources of stone or slag meeting the requirements of §703-02, Coarse Aggregate, having a minimum sand equivalent of 60%, as determined by AASHTO T 176, "Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test."

Mineral Filler: § 703-08, Mineral Filler.

Asphalt-Rubber Binder (ARB): The ARB shall consist of performance-graded binder and crumb rubber blended to conform to ASTM D6114, Standard Specification for Asphalt-Rubber Binder, Table 1, Type II with the following addition:

Minimum elastic recovery of 65% at 50°F using ASTM D6084, Elastic Recovery of Bituminous Material by Ductilometer, Procedure A.

1. **Performance-Graded Binder (PGB).** Use PGB meeting the requirements of §702 -Bituminous Materials, Item 702-5828, 702-6422 or 702-6428.
2. **Crumb Rubber.** Use crumb rubber conforming to ASTM D6114, section 3.2, Ground Recycled Tire Rubber, and meeting the gradation requirements given in Table 2 – Crumb Rubber Gradation. The crumb rubber shall be accepted by certification from the rubber supplier.

TABLE 2 – CRUMB RUBBER GRADATION

Sieve Size	% Passing
No. 30	100
No. 40	45-100

3. **Anti-stripping Agent.** If required, an anti-stripping agent that is heat stable shall be incorporated into the ARB at the dosage required by the job-mix formula (up to 1.0% by weight of PGB). Add the anti-stripping agent to the PGB prior to blending with the crumb rubber.

Polymer Modified Asphalt Emulsion: § 702 - Bituminous Materials, polymer modified CRS-1.

Equipment:

1. **Paving.** Use a self-priming paver capable of spraying the polymer modified asphalt emulsion, applying the hot mix asphalt overlay and smoothing the surface of the mat in one pass. The self-priming paver must be equipped with a receiving hopper, feed conveyor, emulsion storage tank, metered high-pressure emulsion spray bar, and a variable width, heated screed. The screed must have the ability to be crowned at the center both positively and negatively and have vertically adjustable extensions to accommodate the desired pavement profile.
2. **Compaction.** Use steel wheeled double drum rollers weighing at least 10 tons, equipped with functioning water systems and scrapers to prevent material from adhering to the roller drums.
3. **Hauling.** Use vehicles that meet § 402-3.03, Hauling Equipment, to transport the hot mix asphalt wearing course.

CONSTRUCTION DETAILS:

Hot Mix Production: The requirements of §401-3, Construction Details apply with the following modifications. If a test value for any sieve varies from the target value by more than the production tolerance given in Table 1 - Mixture Requirements, the Regional Materials Engineer will evaluate the material represented by that test to determine acceptability.

A delivery ticket meeting the requirements of §401-4, Method of Measurement shall accompany each vehicle supplying HMA.

Surface Preparation: Perform all surface preparation prior to applying the wearing course.

1. Thoroughly clean the entire area to be overlaid. The surface of the area to be overlaid must be free of dirt, oil, and other foreign materials. Remove all debris and standing water. A damp surface is acceptable if favorable weather conditions are expected during paving operations.
2. Cover all manhole covers, water boxes, catch basins, and other such utility structures within the area to be paved with plastic, building felt, or other material approved by the Engineer. Reference each for location and adjustment after paving. Remove the covers each day.

(continued)

3. Ensure that pavement markings have been abraded in accordance with contract documents.

(continued)

DETAILED SPECIFICATIONS – RUBBER MODIFIED PAVER PLACED SURFACE TREATMENT (Cont'd.)

CONSTRUCTION DETAILS: (Cont'd.)

Application: The requirements of § 402-3.01, Weather and Seasonal Limitations apply.

1. Apply the polymer modified asphalt emulsion at a temperature of 140 - 175ºF. Provide a uniform application across the entire width to be overlaid, at a rate of 0.15 - 0.25 gallons/square yard. Continuously monitor the spray rate.
2. No equipment shall come in contact with the polymer modified asphalt emulsion before the hot mix asphalt wearing course is applied.
3. Immediately after applying the polymer modified asphalt emulsion, apply the hot mix asphalt overlay across the full width of the emulsion at a temperature of 290 - 325ºF.
4. Apply the hot mix asphalt at a rate within the appropriate application range, listed in Table 3 – Wearing Course Application Ranges. The finished treatment has a minimum thickness of 1/2 inch for Type A, and 5/8 inch for Type B and Type C.
5. Rubber Modified Paver Placed Surface Treatment shall not be applied to freshly placed concrete surfaces. Concrete surfaces must cure for a minimum of 90 days before being overlaid.

TABLE 3 - WEARING COURSE APPLICATION RANGES

Type	Minimum (lb/yd^2)	Maximum (lb/yd^2)
A	60	70
B	65	75
C	70	80

Compaction: Begin compaction immediately after application of the wearing course. Use a minimum of two static passes. Avoid using vibratory compaction. The roller(s) will not be allowed to stop on the freshly placed wearing course. Use an adequate number of rollers to complete compaction before the pavement temperature falls below 185°F. Protect the wearing course from traffic until the rolling operation is complete and the material has cooled sufficiently to resist damage.

Paver and Equipment Cleaning: The requirement of § 402-3.12, Paver and Equipment Cleaning apply.

Coring: The Engineer will require four cores from each section of compacted paver placed surface treatment applied below the appropriate minimum application rate listed in Table 3. The Engineer will randomly locate the four core locations. The Engineer will determine the thickness of the paver placed surface treatment and reject sections not meeting the required minimum thickness.

The Engineer may require four cores from each section of compacted paver placed surface treatment exceeding the appropriate maximum application rate, listed in Table 3, to determine the thickness of the paver placed surface treatment. The Engineer may stop paving operations immediately if the over application of the paver placed surface treatment will create problems, such as, but not limited to, reducing overhead clearance, curb reveal or guiderail height. The Engineer and Contractor will agree upon and document a maximum application rate and maximum thickness to prevent problems created by over applying the paver placed surface treatment. The Engineer will reject any additional paver placed surface treatment sections determined to exceed the maximum agreed upon application rate and thickness.

Coring is not required for sections paved within the appropriate application range, listed in Table 3 - Wearing Course Application Ranges.

All labor, materials and equipment associated with required pavement coring, including maintenance and protection of traffic and filling core holes, will be done at the Contractor's expense.

METHOD OF MEASUREMENT: Rubber Modified Paver Placed Surface Treatment shall be measured by the number of tons of rubber modified hot mix asphalt placed.

BASIS OF PAYMENT: The unit price per ton of Rubber Modified Paver Placed Surface Treatment includes the cost of all labor, materials and equipment necessary to perform the work. All necessary pavement repairs, joint sealing, crack filling, pavement markings removal, milling of rebates and utility grade adjustments will be paid for under their appropriate items.

(continued)

DETAILED SPECIFICATIONS – RUBBER MODIFIED PAVER PLACED SURFACE TREATMENT (Cont'd.)

BASIS OF PAYMENT: (Cont'd.)

Payment will be made under:

Item		Pay Unit
18403.221102R	Rubber Modified Paver Placed Surface Treatment Type A, F1	Tons
18403.221202R	Rubber Modified Paver Placed Surface Treatment Type A, F2	Tons
18403.221302R	Rubber Modified Paver Placed Surface Treatment Type A, F3	Tons
18403.222102R	Rubber Modified Paver Placed Surface Treatment Type B, F1	Tons
18403.222202R	Rubber Modified Paver Placed Surface Treatment Type B, F2	Tons
18403.222302R	Rubber Modified Paver Placed Surface Treatment Type B, F3	Tons
18403.223102R	Rubber Modified Paver Placed Surface Treatment Type C, F1	Tons
18403.223202R	Rubber Modified Paver Placed Surface Treatment Type C, F2	Tons
18403.223302R	Rubber Modified Paver Placed Surface Treatment Type C, F3	Tons

(continued)

DETAILED SPECIFICATIONS

SPECIAL MICRO-SURFACING PROJECTS DIMENSIONS:

Information on pavement widths for Department of Transportation Micro-surfacing Contract is listed for informational purposes only. The dimensions listed are the best information available, but 100% accuracy is not guaranteed. Contractors should have visited the project site to confirm the dimensions given and familiarize themselves with the project particulars before submitting a bid. The Department assumes no responsibility for erroneous information listed herein.

The pavement width listed is the total width of all travel lanes.

Project Number	**Items**	**Travel Lanes Width (ft) (total)**	**Lane Width (ft) (one lane)**	**Shoulder Width (ft) (one shldr)**	**Number Lanes**
5V1215	18410.1021	24	12	4	2
5V1242	18410.1021	44 to 60	11 to 12	2 to 12	4 or 5
6V1231B	18410.1021 18410.1013	22 22	11 11	3 3	2 2

(continued)

DETAILED SPECIFICATIONS

SPECIAL COLD RECYCLING PROJECTS DIMENSIONS:

Project Number	Resurfacing Depth (in)	Travel Lanes Width (ft) (total)	Lane Width (ft) (one lane)	Shoulder Width (ft) (one shldr)	Number Lanes
6V1212	4	24	12	6	2
6V1213	4	24	12	7	2
6V1231A	4	22	11	3	2

DETAILED SPECIFICATIONS

SPECIAL PAVER PLACED SURFACE TREATMENT PROJECTS DIMENSIONS:

The Paver Placed Surface Treatment installed under this contract shall be placed on the pavement (travel lanes) and the entire shoulders, unless indicated otherwise below.

Information on pavement widths for the Paver Placed Surface Treatment project is listed for information purposes only. The dimensions listed are the best information available, but 100% accuracy is not guaranteed. Contractors should have visited the project sites to confirm the dimensions given and familiarize themselves with the project particulars before submitting a bid. The State assumes no responsibility for erroneous information listed herein.

The pavement width listed is the total pavement width (travel lanes).

Project Number	Items	Travel Lanes Width (ft) (total)	Lane Width (ft) (one lane)	Shoulder Width (ft) (one shldr)	Number Lanes
7M1224	18403.223302R	22	11	6	2

(continued)

State of New York
Office of General Services
NEW YORK STATE PROCUREMENT
Contract Performance Report

Please take a moment to let us know how this contract award has measured up to your expectations. If reporting on more than one contractor or product, please make copies as needed. This office will use the information to improve our contract award, where appropriate. **Comments should include those of the product's end user.**

Contract No.:_____ **Contractor**._____

Describe Product* Provided (Include Item No., if available):_____

***Note**: "**Product**" is defined as a deliverable under any Bid or Contract, which may include commodities (including printing), services and/or technology. The term "Product" includes Licensed Software.

	Excellent	Good	Acceptable	Unacceptable
• Product meets your needs				
• Product meets contract specifications				
• Pricing				

CONTRACTOR

	Excellent	Good	Acceptable	Unacceptable
• Timeliness of delivery				
• Completeness of order (fill rate)				
• Responsiveness to inquiries				
• Employee courtesy				
• Problem resolution				

Comments:_____

_____

_____(over)

Agency:_____ Prepared by:_____

Address:_____ Title:_____

_____ Date:_____

_____ Phone:_____

_____ E-mail:_____

Please detach or photocopy this form & return by FAX to 518/474-2437 or mail to:

OGS NEW YORK STATE PROCUREMENT
Customer Services, 38th Floor
Corning 2nd Tower - Empire State Plaza
Albany, New York 12242
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