06-23-14

GENERAL NOTES

1. Deleted 04-10-14

2. Deleted 09-15-10

3. The removal of Bituminous Surfacing less than 6 inch thickness not on a rigid type base removed in conjunction with the base shall be removed as EARTH EXCAVATION. The removal of Bituminous Surfacing on a rigid type base or a thickness of 6 inches or more on a flexible base removed in conjunction with the base shall be included in the contract unit price for PAVEMENT REMOVAL of the type specified.

4. The final top four inches of soil in any right-of-way area disturbed by the Contractor must be capable of supporting vegetation. The soil must be from the A horizon (zero to 2’ deep) of soil profiles of local soils. The cost of this work shall be included in the unit prices bid and no additional compensation will be allowed.

5. It is estimated that \_\_\_\_\_ cubic yards of earth will be hauled to the job from outside the project limits. A shrinkage factor of       % has been used.

6. The topsoil excavation quantities have been adjusted to allow for      shrinkage of topsoil between removal and replacement.

6A. **(Include this on every job)**
All Borrow/Waste/Use sites must be approved by the Department prior to removing any material from the project or initiating any earthmoving activities, including temporary stockpiling outside the limits of construction.

7. The Contractor shall seed all disturbed areas within the project limits. Seeding Class 4 or 2A shall be used, except in front of properties where the grass will be mowed, then use Seeding, Class 1. Class 2A shall be used on front slopes and ditch bottoms. Class 4 shall be used behind Type A gutter, on all backslopes and areas behind the backslope, and beyond the toe of front slope on fill sections without ditches. **(Include the following sentence ONLY if seeding is less than 0.5 Acre.)** This work will be included in the contract unit price per Cubic Yard for EARTH EXCAVATION.

8. **(If combined Seeding and Sodding is less than 0.5 Acre)**

Fertilizer shall be applied to all disturbed areas and incorporated into the seedbed prior to seeding or placement of sod at the rate specified in Sections 250 and 252 of the Standard Specifications. This work shall be included in the cost of EARTH EXCAVATION.

9. **(Seeding less than 0.5 Acre)**

Mulch Method II shall be applied over all seeded areas. This shall be included in the cost of the EARTH EXCAVATION.

10. **(Combined Seeding and Sodding is at least 0.5 Acre, but less than 3 Acres)**
Fertilizer Nutrients shall be applied at the rate specified in Sections 250 and 252 of the Standard Specifications. This shall be included in the cost of the SEEDING or SODDING.

11. Deleted 02-02-05

12. Deleted 08-01-11

12a. Deleted

12b. **(Include when using Aggregate Base Course Type A, Aggregate Shoulders Type A, or Granular Subbase Material, Type A)**
Previously pugmilled stockpiles of “Type A” older than 1 month will not be approved for use until a moisture check is run to verify moisture content. Material shipped to projects without being tested will not be accepted.

12c. Placement and compaction of the backfill for proposed across road culverts and existing across road culverts that are removed shall conform to Section 502.10 of the Standard Specifications, except that the material shall conform to Article 208.02 of the Standard Specifications, and shall be compacted to a minimum of 95% of the standard laboratory density. Any material conforming to the requirements of Article 1003.04 or 1004.05 which has been excavated from the trenches shall be used for backfilling the trenches. The entire excavation, within 2 feet outside of each shoulder, shall be backfilled with trench backfill material to the bottom of the proposed subgrade. Impervious material shall be used on the outer 3 feet at each end of the culvert. This trench backfill material will not be measured for payment, but shall be included in the contract unit price for the class of concrete involved or other unit price item of the work for which it is required.

13. **(Include in projects using Mechanistic Pavement Design.)**

The subgrade on this project, exclusive of rock cut areas is scheduled to be improved to a 12" depth according to Mechanistic Pavement Design. The areas scheduled to be improved to a depth greater than 12" are estimated based on the original geotechnical investigation. The subgrade shall be processed in accordance with Article 301.04 of the Standard Specifications before the engineer shall determine the limits and the additional thickness of improvement required, if any. Any additional undercutting required after this evaluation shall be paid for as EARTH EXCAVATION.

14. **(Use on reconstruction projects.)**

The thickness of the lime modified soil layer shown on the typical sections is the required thickness upon completion of final trimming. The contractor should anticipate any loss in thickness due to the construction methods used and adjust the operation accordingly to assure that the thickness requirements are being met. Deficiencies in the thickness of the lime modified soil layer will be corrected by the contractor at no additional cost.

15. **(Use on all jobs with Aggregate Subgrade Improvement.)**

All “Aggregate Subgrade Improvement” (Section 303), shall be completed in accordance with Articles 311.04, 311.05, 311.05(a), 311.06 and 311.07. All aggregate subgrade thicknesses equal to or less than 12 inches shall be constructed of aggregate of CA02 gradation. All aggregate subgrade thicknesses greater than 12 inches shall be constructed of CS02.

1. **(Use when embankment is constructed for new pavement. The embankment must be a minimum of 2 feet thick. Embankment means *dirt*, not the 12” subbase granular material.)**
All embankment constructed of cohesive soil shall be constructed with not more than 110% of optimum moisture content, determined by the standard proctor test. Cohesive soil shall be defined as any soil which contains greater than 10% particles by weight passing the 75 μm (#200 sieve). The 110% of optimum moisture limit may be waived in free-draining granular material when approved by the Engineer.

17. Closed expansion joints on jointed pavements shall be re-established during the patching operations. Class B Patches - when the pavement requires patching at the location of the expansion joint, a new joint should be established using a dowelled expansion patch as shown on Highway Standard 442101. When the joint is closed, but does not require patching, an expansion joint may be formed by sawing the pavement and filling the saw cut with a preformed expansion joint filler meeting the requirements of Section 1051 of the Standard Specifications as shown on Standard 420001.

18. When laying out for patching, the minimum distance between new patches (saw cut to saw cut) shall be 15 feet. When patch spacing is less than 15 feet, the pavement between patches shall also be removed and replaced.

19. All mandatory joint sealing for Class A, Class B, and Class B (Hinge Jointed) patches as shown on the plans will not be measured for payment. Optional sawing of the joint for the sealant reservoir will not be measured for payment.

 For all concrete patching that will not be resurfaced, the concrete shall be struck off flush with the existing pavement surface at each end of the patch.

 The Engineer reserves the right to check all patches for smoothness by the use of a 10' rolling straight edge set to a 3/16" tolerance in the wheel paths. Any patch areas higher than 3/16" must be ground smooth with an approved grinding device consisting of multiple saws. The use of bushhammer or other impact devices will not be permitted. Any patch with depressions greater than 3/16" shall be repaired in a manner approved by the Engineer.

 The mandatory saw cuts for pavement patching are:

 Class A Patch: Cut two transverse saw cuts at each end of the patch; one full depth and one partial depth. The longitudinal edges of the patch shall be cut full depth. When the patch is adjacent to a pcc shoulder, two saw cuts along the shoulder will be required.

 Class B Patch: Cut two transverse saw cuts outlining the patch and one transverse pressure relief saw cut. The longitudinal edges of the patch shall be cut full depth. When the patch is adjacent to a pcc shoulder, two saw cuts along the shoulder will be required.

 The mandatory saw cuts will be paid for at the contract unit price per Foot for SAW CUTS.

19A. Class C Patches shall be tied to the adjacent lane when the patches are more than 20 ft. The cost of the tie bars shall be included in the cost of the patch.

20. **(Include one of the following with pay item PAVEMENT PATCHING. Don’t use this for Class A or B patches or peek-a-boo patches)**

 - (MU is **more** than 200 ADT)

The minimum patch dimension for full-depth patches will be four feet and half-lane width. Half-lane patches shall be confined to the outside edges of the pavement.

 - (MU is **less** than 200 ADT)

The minimum patch dimension for full-depth patches will be as shown on State Standard 442201.

21. Cost of removal and disposal of material from the temporary patch shall be included in AGGREGATE BASE COURSE, TYPE B.

22. The existing hot-mix asphalt on private and commercial entrances shall be bladed off or milled and disposed of outside the project limits. This could be the entire entrance or tapered at the end depending on if the mainline is resurfaced or milled and resurfaced. The cost of the blading, milling, rolling, and disposal is included in the contract unit price for INCIDENTAL HOT-MIX ASPHALT SURFACING.

07-28-14

22A. The drop off that occurs at entrance edges as a result of resurfacing of the entrance shall be corrected using aggregate shoulder material. This work shall be paid for by the TON for Aggregate Shoulders of the type specified in the plans.

23. Place LEVELING BINDER (MACHINE METHOD) on curves to attain additional superelevation as indicated on the typical section. The curves requiring such treatment are included in the schedules. Estimated Total: \_\_\_\_\_ tons.

24. **Designer Note: (Use on rural or urban projects [1 mile or longer] that are milled partial depth full lane widths. If only grinding butt joints, milling of small intersection, or when milling all the bituminous to the existing concrete do not use this general note.)**Milling machines on this project shall be capable of removing a layer of bituminous a minimum 6’ wide and 1-1/2 inches in depth in a single pass.

24A. Areas of slag mixture are expected to be milled on this project. RAP containing slag mixture must be stockpiled separately.

25. **Designer Note: Add to contracts using Hot-Mix Asphalt. Quality Management Program To Be Used row will have QC/QA (Quality Control/Quality Assurance), QCP (HMA Quality Control for Performance), or PFP (HMA Pay for Performance using percent within limits jobsite sampling). Which one to use will be determined by Materials. They will need quantities for each type of mix used (i.e. surface, binder, etc.)**

The following Mixture Requirements are applicable for this project:

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| Mixture Uses(s): |  |  |  |
| PG: |  |  |  |
| Design Air Voids |  |  |  |
| Mixture Composition(Gradation Mixture) |  |  |  |
| Friction Aggregate |  |  |  |
| 20 Year ESAL |  |  |  |
| Quality Management Program to be Used |  |  |  |

\* On projects with less than 2000 tons Level Binder, Growth Curve will be used for Density and IL 9.5 may be used

Use the following guidelines to fill out the above table:

Mixture Uses(s): This corresponds to the generic description of the mixtures(s); i.e., surface course, level binder, base course, shoulders, etc. On full-depth projects, specify the lift, e.g., “full‑depth, lower binder”, “full-depth, top binder”, or “full-depth, surface”.

AC/PG: This space specifies the AC grade or PG binder for the mixture, including polymer modified asphalt cement; e.g., AC-20, PG64-22, SBS PG76-22, etc.

Design Air Voids: This space specifies the air void content in which the mixture shall be designed; e.g., 4.0%, 4.5%, etc., or "4% @ Ndesign = 50", "4% @ Ndesign = 70", etc.

**Note**: District 2 uses 4.2% as a target.

 Design ESALs Ndesign

Hot-Mix Asphalt Shoulder use 2% <0.3 30

Hot-Mix Asphalt Base Course use 3% 0.3 to 3 50

Surface and Binder Course use 4.2% 3 to 10 70

Surface Course Mix C, Type 3 use 3% 10 to 30 90

For the % for N design use the % noted above >30 105

Contact the District Mixture Control Engineer for information on Air Voids for mixtures not mentioned above.

06-23-14

The following additional parameters should be complete:

1. Mixture Composition

2. Friction Aggregate

3. 20 Year ESAL

26. **(Designer Note: Consider this note in urban areas that will be milled that have many manholes in the intersections, high ADT, and all lanes will be open.)**

The Contractor shall place temporary hot-mix asphalt tapers along all sides of the utility structures protruding above the milled surface. The temporary tapers shall extend 2’ outside of the castings, except for the approach side to traffic shall have a 4’ taper length. Hot-mix asphalt meeting the approval of the Engineer shall be used, no cold millings will be allowed. The cost of the material, placement, maintenance, removal and disposal of said work will be included in the Pay Item for Hot-Mix Asphalt Surface Removal.

27. The Contractor will be required to furnish 5 ½" high brass stencils as approved by the Engineer and install stationing at 250' intervals. Stationing shall be placed on both lanes of 2‑lane highways and on the outside lanes in both directions on 4-lane highways. The stations shall be placed 6" inside the pavement marking edge so they can be read from the shoulder. This work will be included in the cost of the final pavement surface.

28. **(Designer Note: Include in all resurfacing projects.)**

The area to be primed shall be limited to that which can be covered with HMA on the next day’s production, but no more than five days in advance of the placement of the HMA, unless approved by the Engineer.

29. **(Designer Note: Do not use crack control on SMART jobs that are milled.)**

Reflective Crack Control shall be placed on the existing surface prior to any resurfacing, unless pavement is milled then it will be placed on the binder course.

30. **(Designer Note: Use this note on jobs where a safety edge will not be placed at the pavement/shoulder edge (on paved shoulder greater than 3 feet, the safety edge is not required) or if existing aggregate shoulder is 3” or more low.)**

To help avoid excess drop offs at the edge of pavement, the existing aggregate wedge or shoulder is to be pulled up and rolled to match the edge of pavement before placing any bituminous material. All costs associated with pulling up the shoulders shall be considered included in the contract unit price per TON for HOT‑MIX ASPHALT SURFACE COURSE of the type specified.

31. On full depth pavement, shoulder widths of 6 ft. or less may be placed, at the Contractor's option, simultaneously with the adjacent traffic lane for both the binder and surface courses, provided the cross slope of both the pavement and shoulder can be satisfactorily obtained. The shoulder will be paid for at the contract unit price per Square Yard for HOT-MIX ASPHALT SHOULDERS of the thickness specified on the plans.

32. **(Designer Note: For locations see BDE Section 53-4.06(d))**
Install rumble strips in all shoulders in accordance with State Standard \_\_\_\_\_\_\_\_\_\_. Rumble Strips shall be placed on shoulders on both sides of the pavement.

33. Deleted 12-29-06

34. **(Designer Note: Use this note for Bituminous Materials Prime Coat up to 4 tons and Aggregate Prime Coat to 20 tons.)**
Bituminous and Aggregate prime coat shall be placed in accordance with Section 406 of the Standard Specifications. The cost of the prime coats shall be included in the contract unit price per ton for LEVELING BINDER (MACHINE METHOD) of the type specified.

35. Temporary tapers shall be constructed on all bridges when the adjacent resurfacing cannot be placed before winter. Quantities have been included in the plans for a 50’ to 1” V/H taper on Interstate and 30’ to 1” V/H taper on all other highways. The taper shall be removed before resurfacing and will be paid for as HOT-MIX ASPHALT SURFACE REMOVAL (VARIABLE DEPTH).

36. A Nationwide 404 Permit has been issued for this project and the conditions of that permit must be adhered to.

37. The new number for this structure will be               .

38. This structure will retain the same number               .

39. Deleted 08-24-09

40. **Designer Note: Use this general note on all 3R projects (i.e., complete reconstruction, intersection improvement, realignment, etc.). Not needed on culvert or bridge projects, as boring logs are included in the plans.**
The soils report and profiles are available at the District Office for Contractor’s review.

41. **(Use for new construction.)**

The additional thickness of proposed pavement required to match the bridge approach pavement, shown in Standard 420401, shall be included in the cost of the proposed pavement and not paid for separately.

42. **(Use on reconstruction projects.)**

The thickness for the Bridge Approach Pavement Connector (Flexible) adjacent to existing pavement shall be a minimum of 12". The material shall be 2" Hot-Mix Asphalt Surface Course, and the remaining thickness shall be Hot-Mix Asphalt Binder Course.

43. Deleted 08-25-10

1. The Contractor shall sandblast the top of the beams upon removal of the bridge deck. This work will be included in the cost of removing the bridge deck.

45. **Designer Note: Include Type B markers on existing & proposed concrete bridge parapet walls. These are according to check sheet #20 Guardrail and Barrier Wall Delineation of the recurring special provisions. Use 78200520 Barrier Wall Markers, Type B.**

Reflector Markers Type B shall be installed on the top of bridge parapet walls. The markers shall be according to Standard 635011 and the color and spacing according to Standard 635006, except the minimum is 2 per side.

46. The boring logs for this structure indicate that groundwater levels may encroach on the construction limits of this culvert. It shall be the responsibility of the contractor to control the ground water and divert the stream flow during construction in order to keep the construction area free of water. The method of controlling the water shall be subject to approval of the Engineer and the cost shall be included in the contract unit price for Precast Concrete Box Culverts.

46a. Culvert & bridge flows must be maintained throughout the project. Normal flow shall be allowed to pass at the rate it enters the jobsite. High flows shall be allowed to pass without causing damage to upstream properties.

47. Box culverts that are stage constructed and undercut by more than 2 feet shall have lean concrete placed on the rock fill at the stage line. The concrete shall retain the rock fill until the second stage rock fill is placed. This work will be included in the pay item for the type of rock fill used.

48. Precast grated inlet specials may be substituted in lieu of cast-in-place units with floors upon receipt of manufacturer's shop drawings which have been approved by the Department. The Contractor shall be responsible for verifying necessary dimensions on the existing drainage structure required for the attachment. No additional cost for this substitution shall be allowed.

49. The material necessary to backfill the culvert extensions shall be obtained from Grading and Shaping Ditches and shall be included in the contract unit price for GRADING AND SHAPING DITCHES.

50. A Precast Box Culvert is not an option on the project due to soil conditions.

51. The Contractor shall clean out all AR culverts and stream flows to the right‑of‑way lines on the entire section. The cost shall be included in the contract unit price for                           .

52. The Contractor shall remove all entrance culverts in condition for reuse which are not to be left in place. They shall be cleaned and stored along the right of way as directed. In no case shall they be roughly handled or shoved by heavy machinery. Unusable material shall be disposed of by the Contractor at his expense. Cost of the work to be included in the contract unit price for                                   .

53. The proposed pipes for entrances and side roads shall be placed in line with the existing or proposed ditch line.

54. The Contractor shall straighten or cut off the ends of existing entrance culverts that will have new metal end sections installed. The cost of this will be included in the contract unit price Each for END SECTIONS of the size specified.

54A. Connecting bands for corrugated metal pipes shall be metal and shall be coated with the same material as the pipe sections. The connecting bands shall be a minimum of 18” wide.

55. It is anticipated that several mailboxes will require relocation to the approach side of the entrances. When this is done, the contractor shall be required to mount the mailbox on a 4” x 4" wood post 40 inches above the shoulder surface and extending to a minimum of 24 inches into the embankment. This work shall be included in the contract unit price for the EARTH EXCAVATION. There are an estimated       mailboxes to be relocated.

56. If, during the grinding or resurfacing operations, the existing mailboxes become a hindrance, the Contractor shall be required to carefully remove and reinstall the mailboxes as directed by the Engineer. This work shall be included in the contract unit price for the INCIDENTAL HOT‑MIX ASPHALT SURFACING.

57. Noses of curbed corner islands noted as 1 & 2 on Highway Standard 606301 shall be ramped unless the curb function is for the protection of pedestrians, signals, light standards or sign truss supports.

58. Use M‑6.06 or M‑4.06 curb and gutter on all sides of islands when island is offset shoulder width, but offset should not be greater than 8 feet edge to face.

59. **(Use when speed limit is 50 mph or greater.)**

Use M‑4 curb on islands when located adjacent to high‑speed traffic (50 mph or greater), except use M‑6 on islands where traffic signals supports, sign truss supports, or any other post with a foundation generally larger than a standard highway sign is proposed. A stop sign is a standard highway sign.

60. **(Use when speed limit is 45 mph or less.)**

Use M‑6 curb on islands when located adjacent to a highway with speeds of 45 mph or less.

61. On large and intermediate islands, the variable curb and gutter flag will be paid for as Combination Concrete Curb and Gutter Type M6.24.

62. **(Use on Small Islands)**

 Rural minimum island area = 100 feet2

 Urban island area = usually 75 feet2 but not less than 50 feet2

 (Island area includes the concrete median surface and the curb)

04-10-14

63. The Contractor shall install a 18" diameter formed opening in the Concrete Median Surface of the Island as directed by the Engineer. Also, a 4" diameter formed opening shall be installed in each corner of the Island 1’ behind the back of curb. All existing pavement surfaces of other existing obstructions beneath these openings shall be removed by the Contractor. After the median is in place the 18” opening shall be cored down 4’ and filled with dirt. All costs incurred shall be included in the contract unit price per Square Foot for CONCRETE MEDIAN SURFACE, 4 INCH.

64. The islands on this project are (small / intermediate / large) islands as shown on the Detail of Island sheet in the plans.

65. The Contractor shall install 18" diameter formed openings in the Concrete Median Surface, spaced at intervals no greater than 250’, and/or as directed by the Engineer. All existing pavement surfaces or other existing obstructions beneath these openings shall be removed by the Contractor. After the median is in place, core each opening down 4’ and fill with dirt. All costs incurred shall be included in the contract unit price per Square Foot for CONCRETE MEDIAN SURFACE, 4 INCH.

66. **(Designer Note: Ask the Operations Field Engineer and/or the local agency to see if they want the salvaged items.)**
All frames and grates of drainage structures to be removed or filled shall be carefully salvaged and shall remain the property of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

67. The cost of making sewer connections to existing drainage structures shall be included in the various contract unit prices for STORM SEWER.

68. Deleted 01-05-11

69. The cost of removing existing Storm Sewer during the installation of new storm sewers shall be included in the contract unit price for the STORM SEWER being installed.

70. Lateral distances from the centerline on all inlets are to the face of the inlet.

71. The new manhole lids on this project shall have the word "STORM", "SANITARY", or "WATER" on the lid. The word to be used is noted on the plans. It will be the Contractor's responsibility to determine the word to be used on other lids not noted on the plans. No additional compensation will be allowed for this work.

72. All proposed manholes on this project shall be cast-in-place or precast. This work will be paid for at the contract unit price Each for MANHOLE of the type and size specified.

73. The Contractor shall determine flowlines of existing sewer lines which are shown on the plans as estimated or unknown. This information is necessary before ordering inlets and manholes.

1. Where field tile is encountered, storm sewer or pipe drain will be used in accordance with Section 611. The minimum size for replacement will be 6" for Pipe Drains and 8" for Storm Sewer, but the size must be at least 2" larger than the adjoining tile. A Field Tile Junction Vault will be constructed at the right of way to connect the tile and storm sewer. See the Summary of Quantities for the estimated quantities.

75. **(Designer Note: Use when you have pipe underdrains. DO NOT check the Recurring Provision)**

The underdrain system scheduled on this project is to be constructed in accordance with Section 601 of the Standard Specifications for Road and Bridge Construction, except CA 16 shall be used in lieu of FA 1 or FA 2 for trench backfill. The CA 16 shall be according to Article 1004.05 and Article 1004.01 of the Standard Specifications, except in the table, Course Aggregate Gradation, the percent passing the No. 16 sieve shall be 4 ± 4%. The trench shall be wrapped using a fabric envelope meeting the requirements of Article 1080.05 of the Standard Specifications. Fabric encasing the pipe shall be eliminated.

76. The excavated materials from earth excavation widening, grading and shaping ditches, and excavating and grading shoulders shall be used to build up the shoulder throughout the job to conform with the typical sections and shoulder widening for terminals as shown on the plans.

77. A quantity of       Cubic Yards of Furnish Excavation has been included to further build up the shoulders, if the Engineer determines that the excavated materials from the job are insufficient to bring the shoulders to the proper slope.

78. Deleted 10-14-10

79. Embankment quantities for the construction of the Traffic Barrier Terminals as shown in the plans are included in quantities for (pick one) Furnished Excavation, Earth Excavation, or Borrow Excavation).

1. The Contractor shall supply the Resident Engineer with the manufacturer's installation requirements for the type of Steel Plate Beam Guardrail Terminal Type 1 Special (Tangent) or Steel Plate Beam Guardrail Terminal Type I Special (Flared).

80a. One 16d galvanized nail shall be used to toe nail the wood block out to the wood post on all Traffic Barrier Terminal Type I Specials.

81. The additional embankment required to build up the shoulder for the Traffic Barrier Terminal, as shown on the plans, shall be hauled from excess earth excavation from within the project and shall be placed prior to the installation of the terminal. The cost of this work shall be included in the contract unit price per           . An estimated       Cubic Yard(s) of embankment is/are required at each terminal location.

82. Deleted 08-01-11

83. Delineators shall be installed as shown in Standard 635001, except that the post shall be rotated 180 and only metal-backed delineators shall be permitted. Delineators shall be placed at the ends of approach guardrail terminal sections, and at each headwall or end section of AR Culverts. This work will be paid for at the contract unit price each for DELINEATORS.

84. **(Designer Note: Use on any job with Construction Layout.)**The Contractor shall be responsible for collecting and maintaining an electronic log of all stakeout survey that is performed on the job, either by him/her or any sub-contractor performing the stakeout. Upon request, all logs shall be submitted to the Department. No additional compensation will be allowed for this work, but shall be considered included in the cost for CONSTRUCTION LAYOUT.

85. Deleted 08-25-10

86. Deleted 11-13-06

87. Deleted 11-13-06

88. Pavement Marking shall be done according to Standard 780001, except as follows:

 1. All words, such as ONLY, shall be 8 feet high.

 2. All non-freeway arrows shall be the large size.

 3. The distance between yellow no-passing lines shall be 8 inches, not 7 inches, as shown in the detail of Typical Lane and Edge Lines.

 4. Centerline Skip Dash Pavement Marking on multi-lane divided, multi-lane undivided, and one-way roadway shall be according to District Standard 41.1.

**Survey Markers**

89. **Note: Type II’s should be used on bridge or culvert plans, HES projects and 3R projects. On SMART or 3P projects, check with the survey crew to see if markers should be added. On 3R projects, contact the Chief of Surveys for the location and number of bench marks to be used. On Urban 3R projects, use 2 or 3 bench marks and include the following General Note.**
PERMANENT SURVEY MARKERS, TYPE II, shall be set at intervals of 1 mile or as directed by the Engineer. Bridge or culvert projects shall have one survey marker placed near the structure. Estimated:       Each.

90. Permanent Survey Markers, Type II placed in urban areas should be placed in sidewalk areas. The marker shall be placed as shown on District Standard 66.2. The sidewalk shall be placed around the marker and flush with the top.

91. Permanent Survey Markers, Type II shall be cast-in-place as shown on District Standard 66.2. Option 2 would be to install a vaulted style monument as described by NGS as a 3D monument (Top Security Sleeve Rod Monument), with installation instructions provided by the District Chief of Surveys. If poured in place, the bottom of the marker shall be 5’-0” below the ground surface.

92. The Permanent Survey Markers, if possible, shall be installed at the beginning of the job and protected throughout.

1. The Contractor shall submit to the Engineer a description of location, elevation, and coordinates for each permanent survey marker. The horizontal coordinates must be derived by GPS and the elevation derived using an electronic level. The meta data, such as the Geoid used, (NGS adjustment ie: 97 HARN, 03, 07), and the base point(s) name or number shall be submitted along with a complete collection log. If collected using RTK method, it will require either 3 collections (averaged) from 2 different bases, or a minimum of 3 collections (averaged), at least 2 hours apart, from the same base. If using a CORS type network, the collection procedure shall include localizing with check shots on at least 2 different HARN monuments both before and after collection. The level circuit shall be run from furnished mark to furnished mark and then adjusted. The error of closure shall be submitted with the electronic level notes in a recognized format approved by the Engineer and/or the Chief of Surveys. The Engineer shall submit this information to the District Chief of Surveys.

06-23-14

93A. **Note: Temporary concrete barrier shall be anchored to the pavement where a hazard exists within 3.5 feet. The designer should add the locations that must be pinned. There could be multiple locations on a project. The desirable minimum offset from the travel lane to the temporary concrete barrier is 2 feet.**
The temporary concrete barrier shall be anchored to the pavement with 3 anchors per section on the traffic side of the barrier wall at the following locations:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The barrier unit at each end shall be anchored as specified in Article 704.04. All anchoring holes shall be core drilled.

1. The Contractor shall begin fence erection as soon as clearing operations permit. Before removing existing fence from an area that contains livestock, the Contractor shall erect, along the proposed right of way lines, a temporary fence or wire meeting the approval of the Engineer. The Contractor shall concentrate his permanent fencing operations at these locations and at other specific locations as directed by the Engineer. The cost of arranging work as herein specified will not be paid for as a separate item but shall be included in the contract unit price per Foot for WOVEN WIRE FENCE, CHAIN LINK FENCE. Temporary fence shall be paid for by the Foot for TEMPORARY FENCE.

94A. Tree planting layout shall be performed by the District Roadside Management Specialist. Mulch shall be placed 4” thick and to the diameter around the tree as shown on District Standard 92.1. The mulch shall be hardwood wood chips placed on weed barrier fabric. This work shall be included in the cost of the tree.

95. Septic tanks within the right of way which have not been removed and will not interfere with construction shall be filled with free-flowing sand at the direction of the Engineer. Cost of this work shall be included in the contract unit price per             .

95A. Deleted 08-01-11

96. Aggregate Base Course, Type B, is provided in the plan quantities and shall be used only as needed when directed by the Engineer.

96A. All Type A Disabled Ramps must have barrier curbs on the sides of the ramps as shown on Highway Standard 424001 and District Standard 60.2. The barrier curbs shall be constructed according to the detail of side curb on Highway Standard 424001.

97. All gutter outlets shall be extended to ditch flow as directed by the Engineer.

98. Right-of-way markers will be erected per Highway Standard 666001 with the back face of the marker on the right-of-way line, unless the new right-of-way line has been surveyed and pinned, in which instance the right‑of‑way markers will be erected 12 inches inside the new right-of-way line. The method of installation shall be approved by the Engineer.

99. **(Use only when curb & gutter is adjacent to PCC base course)**

The Contractor shall place contraction joint in prolongation with joints in the existing pavement. The joint shall be a sawed contraction joint with dowel bar assembly as shown on Highway Standard 420001. The cost for this work shall be included in the contract unit price for the P.C.C. BASE COURSE.

100. Work on this project will be in progress at the same time as work on the                                                                 . Work on these projects shall be scheduled to keep interference between all the projects to a minimum. The contractors shall inform each other of progress of the projects and give fair warning to the other contractors when a problem might be encountered.

101. Any subcontractor chosen to do underground storage tank removal and/or special or hazardous waste management must be on the State Fire Marshall's currently approved list of qualified contractors to do such work. Prior to any involvement with special or hazardous waste, the prime contractor shall notify the District Environment Unit Hazardous Waste Coordinator who this designated sub-contractor is and furnish five projects this sub-contractor has successfully concluded, including the IEPA incident number. The District will then confirm the successful conclusion of these projects by reviewing the IEPA data base. Only after approval from the District Environment Unit will the sub-contractor be authorized to proceed with any involvement with special/hazardous waste.

101A. Cohesive soil used to backfill Underground Storage Tanks, outside the limits of the roadway, shall be placed at a moisture content of no more than 110% of optimum, and compacted to 95% of the standard dry density.

101B. Backfill plugs required under Article 669.09 Groundwater Management shall be constructed of concrete when within the following limits: All trenches made in the subgrade of the proposed improvement, and all trenches outside of the subgrade where the inner edge of the trench is closer than 2 feet to the edge of the proposed pavement, stabilized shoulder, curb or sidewalk.

 **Utilities**

102. The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123. The following listed utilities located within the project limits or immediately adjacent to the project construction limits are members of JULIE:

 **(Type name & phone number of JULIE companies from attached utility form.)**

IDOT is not a member of JULIE. If you are near any overhead lighting, intersection lighting or traffic signals, contact the IDOT Traffic Office at 815/284-5469 at least 48 hours prior to work.

102A**. (Include in reconstruction projects like 3R & HES, do not include in 3P & SMART projects.)**

The applicable portions of Article 105.07 of the Standard Specification shall apply except for the following: The Contractor shall be responsible to locate the vertical depths of the underground utilities which may interfere with construction operations. This work will not be measured or paid for separately, but shall be considered as included in the unit bid price for the item of construction involved.

Per SB 699 (90 day utility relocation law), once right-of-way is clear to award the project, a notice will be sent to the utility companies instructing them to have their facilities relocated within 90 days. Estimated date relocation complete = Award Date + 100 days.

103. **(Use when curb and gutter, PCC Base Course, or PCC Pavement is constructed adjacent to existing concrete pavement.)**

Tie bars shall be installed to tie PCC appurtenance to adjacent existing concrete pavement.

Tie the following

to the existing Length, size, and

concrete pavement spacing of Tie Bars

Gutter or Curb & Gutter Std. 606001 24" long No. 6 @ 24" centers

PCC Base Course Std. 353001 24" long No. 6 @ 30" centers

PCC Pavement Std. 420101 24" long No. 6 @ 30" centers

Tie bars to be installed in accordance with the applicable portions of Article 420.05(b) of the Standard Specifications. See Highway Standard 420001 for detail on longitudinal construction joint grouted‑in‑place tie bar. The cost of the tie bars to be included in the cost of the PCC appurtenance adjacent to the existing pavement.

1. **(Add to all projects done on CADD)**
CADD data will be available to Contractors and Consultants working on this project. This information will be provided upon request as MicroStation CADD files and Geopak coordinate geometry files ONLY. If data is required in other formats it will be your responsibility to make these conversions. If any discrepancy or inconsistency arises between the electronic data and the information on the hard copy, the information on the hard copy should be used. Contact the District’s Project Engineer to request these files.
2. It shall be the Contractor’s responsibility to contact the municipality to determine approved methods of utility structure adjustment. Utility structures may include, but are not limited to, manholes, water valves, handholes, etc. All materials and work necessary to complete adjustments per municipality requirements shall be considered included in the cost of the associated adjustment pay item.

106. Temporary Impact Attenuators will be measured as each for each attenuator supplied on the job as specified in the plans, and shall include the cost of renting/owning the attenuator for the time required on the job plus hauling to and from the project site, as well as one placement and removal from the roadway. This shall be paid for at the contract unit price per Each for IMPACT ATTENUATORS, TEMPORARY of the type specified.

Relocate Temporary Impact Attenuators will be paid for as Each and will be paid for each time the attenuator is required by staging to be picked up and moved to a different location on the project, whether it is to another location on the roadway or to a storage/staging location for the project. This shall be paid for at the contract unit price per Each for IMPACT ATTENUATORS, RELOCATE of the type specified.

107. This work shall be done in accordance with Section 704 of the Standard Specifications. Temporary Concrete Barrier will be measured in feet along the centerline of the barrier and shall include the cost of renting/owning the barrier for the time required on the job plus hauling to and from the project site, as well as one placement and removal from the roadway in accordance with Section 704 of the Standard Specification. This shall be paid for at the contract unit price per Foot for TEMPORARY CONCRETE BARRIER.

Relocate Temporary Concrete Barrier will be paid for in Feet along the centerline of the barrier, and will be paid for each time the barrier is required by staging to be picked up and moved to a different location on the project, whether it is to another location on the roadway or to a storage/staging location for the project. This shall be paid for at the contract unit price per Foot for RELOCATE TEMPORARY CONCRETE BARRIER.