CHAPTER TWO

PREPARATION OF PLANS

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Chapter Two

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PREPARATION OF PLANS

The preparation of construction plans involves preparing a set of drawings with sufficient details on location, geometric configuration, quantities and specifications of work on a project. To ensure a consistent interpretation of the plans, each sheet should have a standard format and content, and the sheets should be assembled in the same sequence. This chapter presents guidelines for plan preparation to ensure that construction plans will be clearly and uniformly prepared by technicians, and will be correctly interpreted by contractors.

2-1 GENERAL

2-1.01 Record Plans

Record construction plans should be referenced for all projects on existing alignment. These plans may be retrieved from electronic storage media. The designer should retrieve prints of the record plans for the following project types:

1. Restoration/Resurfacing Projects. Record plans should be referenced for centerline information on all restoration/resurfacing and safety improvement projects on the existing alignment. Project numbers from the record plans should be referenced in the general notes of the proposed plans. Construction notes for these projects are typically placed on a separate sheet corresponding to stations on the record plans. Straight-line plans or additional field survey may be required where some new construction is involved or more detailed information is necessary. For example, additional cross sections may be included where guardrail elimination and/or slope flattening is warranted.

2. Rehabilitation and Reconstruction Projects. Record plans should be used as a reference only on rehabilitation and reconstruction projects. New field survey providing all existing details within the project limits should be obtained for design.

2-1.02 Plan Sheet Sizes and Layout

The standard full size sheet for all final construction plans should be plotted on 36 inch wide paper Cut plan sheets should have 100' overlaps for scales of 1" = 50' and 50' overlaps for scales of 1" = 25'

For Plan/Profile sheets, the corresponding profile is placed on the same sheet below the plan view. If there is too much detail or physical constraints such as steep hills or sharp curves, the profile could be placed on a separate sheet. Profile information is plotted from a combination of reports and graphical output from design software. When combining plan and profile sheets, the designer/detailer should align the centerline stations of the plan and the profile starting at the center of the sheet and proceeding toward the edges to account for curvilinear horizontal alignments.

2-1.03 Plan Sequence and Numbering

The number and type of sheets in the final construction plans are dependent on the project scope of work. Sheets in the plan set should be numbered in sequence. A restoration/resurfacing project will usually require fewer sheets than a new construction project. The typical assembled sequence for a complete set of construction plans will be (as required):

Title Sheet
Typical Sections
Estimated Quantities and Earthwork Summary
Drainage Sheet
General Notes
Construction Notes (if separate sheet used)
Special Details (e.g., slab walls, retaining walls, culvert connections, ledge undercuts)
Geotechnical Information Sheets (boring logs, existing pavement depths etc.)
Permanent Traffic Control
Bridge Plans
Bridge Details
Plan/Profile Sheets
Special Profiles – Drainage, Side Roads etc.(if used)
Geometrics and Curb Layout (if used)
Cross Sections
Special Cross Sections – Drainage, Side Roads etc (if used)
Stand-alone Plans (e.g., right-of-way plans, utility plans, landscaping plans)

Where the plan and profile are on separate sheets, plan sheets should be placed before the profile sheets in the assembled sequence.

2-1.04 Standard Abbreviations and Symbols

Standard abbreviations and symbols are presented in Appendices 2A and 2B at the end of the chapter. The designer should adhere to the established abbreviations and symbols in the preparation of plans to achieve uniformity from project to project.

2-1.05 Instructions for All Sheets

The following information will apply to all construction plan sheets:

1. Complete title bar information to the right of each page

2. Town and highway system number, program, project manager, designer, consultant (if applicable), and completion date also noted in right-hand title bar.

3. See the font table in Appendix 2G for the proper font type and size for each sheet in the plan package. Typically all proposed text shall be italicized uppercase with the exception of columnar data which should be mono-spaced uppercase format. However if text is in a table, italicized uppercase may be used.

2-2 TITLE SHEET

The title sheet is always Sheet No. 1, and it serves as the cover sheet for the remainder of the plans. See Figure 2-1 in Appendix 2H. It provides a considerable amount of information and serves as a general index and reference sheet for the project.

The following information should be included on all title sheets for construction plans:

1. Edit electronically (via MaineDOT customization) or manually the town(s) name, county name, route number and or street name, project number and project length to the nearest hundredth (0.00) mile in the center of the sheet.

2. Complete the lower right corner box with Project Location, Program Area, and Scope of Work.
   Project Location: Fill in with the location description from Projex. Verify the completeness and accuracy of the location description and adjust if necessary.

   Program Area: This would be either the Highway Program, the Bridge Program, or the Multi-Modal Program.

   Scope of Work: This consists of a brief description of the type of work as determined by the project's design and the project team.

3. Edit the Index of Sheets (indicate side road plans and cross sections, layout sheets, special details, grading plans, etc.) located in upper right portion of the sheet. Include all applicable sheet types and their corresponding sheet numbers ordered as indicated in Section 2-1.03

4. Any additional text that is added for notation purposes shall have an italicized upper case font. See the font table in Appendix 2G.

5. Edit Traffic Data: *(Enter multiple columns for projects with data for different segments)*
   a. Current AADT (indicate construction year).
   b. Future AADT (indicate design year).
   c. DHV - % of AADT
   d. DHV: Design Hour Volume
   e. % Heavy Trucks (AADT)
   f. % Heavy Trucks (DHV)

g. Directional Distribution (DHV): Percent of directional traffic volume during the DHV.
h. 18-kip Equivalent P 2.0 or P 2.5 (whichever applies): Equivalent number of 18-kip, single-axle loads (for pavement design).
i. Design Speed(mph): Design speed or, on overlays, "as posted."
j. Functional Class

6. Check the following signatures and dates in the title block:

a. Commissioner and Chief Engineer
b. Consultant Engineer (if applicable)

7. Check for seal of:

a. Engineer of Record (engineer responsible for stamping plans)
b. Consultant Engineer (if applicable)

8. Edit the text in the right-hand title bar with name of city/town and route number, project number and construction WIN. Edit the border information to show the sheet number. Edit the Project information section in title block with the pertinent information.

9. Check Layout Plan (not required on Federal-aid light resurfacing and railroad/highway grade crossing projects) to make sure it includes the following:

a. Roadway blacked in for project length

b. The beginning and ending stations of the project should be labeled along with the project number.

c. Stations listed at increments of even multiples of 100’ along project, as determined by the length of the project and space constraints

d. Show plan sheet boundaries along with sheet numbers that correspond to the same sheet numbering in the Index of Sheets.

e. North arrow shown

f. Graphic scale should be in even stations.

g. Station equations shown (if applicable).

h. Prominent features such as side roads, waterways, railroads, etc., shown and labeled.

i. Side roads shown with leader line noting road name.

j. Direction to major towns or cities shown at each end of the project.

k. Town lines with towns labeled as well as the station where the town line crosses the design centerline

2-3 TYPICAL SECTION SHEET(S)

The typical section sheet(s) will follow the title sheet in a complete set of construction plans. Typical sections are prepared based on the cross section elements discussed in Chapter Six. Numerical criteria for the various cross section elements are provided in Chapters Seven and Eleven. Depending on the complexity of the project, one or more typical section sheets may be required. See Figure 2-2 in Appendix 2H.

The following information should be provided on all typical section sheets:

1. Edit text in right-hand title bar.

2. Standard proposed text shall be italicized upper case. See Appendix 2G for proper font types and sizes.

3. Typical sections checked for:

    a. Dimensions should be shown in decimal feet to the nearest hundredth of a foot and rounded to the nearest 0.05 feet horizontal and vertical. Layer thicknesses should be designated in decimal inches with the total section thickness rounded to the nearest half inch, except for overlays.

    c. Aggregate subbase volumes for travelway and shoulder areas should be recorded separately below each typical section. Subbase volumes should be calculated in cubic yards per 100 linear feet to the nearest hundredth (0.00) of a cubic yard.

    d. Types and depths of base and subbase courses noted. Total pavement depth should also be shown.

    e. Side slopes expressed as a ratio of horizontal distance to vertical distance.

    f. Cross slopes expressed in percent (%).

    g. On typical sections, subgrade cross slopes under the travel lanes should be parallel to travel lane cross slopes in both normal and superelevated conditions. The subgrade cross slope under the shoulder should be minus 2 percent in both normal and and superelevated conditions and labeled “-2%.”

4. Location of profile grade shown on each major typical section.

5. Superelevations and shoulder slopes should be shown to the nearest tenth of a percent in table form on the Typical Section sheet. If adequate room is not available on the Typical Section sheet, a separate Typical Section sheet may be used.

6. The following standard notes should be shown on Typical Section sheets:

   The pavement, base and subbase depths as shown on the plans are intended to be nominal.

   When superelevation exceeds the slope of the low side shoulder, the low side shoulders pavement shall have the same cross slope as the travel way.

   Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight.

   The gravel quantity calculation is based on a 2" loam or dirty borrow depth. The actual depth may vary. See the General Notes.

   The algebraic difference between shoulder and travel lane cross slopes "rollover" shall not exceeed 8%.

   The stationing shown under each typical is approximate.

7. Ultimate design shown if project is to be staged.

8. Show limit of stage construction.

9. Show designated loam or dirty borrow areas and depths.

10. Station-to-station limits of each major typical pavement, aggregate, and shoulder section noted where feasible.

11. Curbs, sidewalks, guardrail, loam, etc., should be shown.

12. The following dimensions should be labeled on each typical as applicable:

a. Offset and vertical drop from centerline profile grade to the subgrade sideslope intercept in normal sections or from the edge of travelway in superelevated sections to the subgrade side slope intercept

b. Offset and vertical drop from centerline profile grade to the finished ditchline in normal sections or from the edge of travelway in superelevated sections to the finshed ditchline

c. Widths of travel lanes and shoulders

d. Width of subbase gravel extending beyond the edge of shoulder surface in box sections

13. Where slopes and dimensions are variable, label as such.

2-4 ESTIMATED QUANTITIES SHEET

All construction plans require an estimate of quantities summarized by pay item. The quantities should be recorded on a quantity sheet. See Figure 2-3 in Appendix 2H. The following information should be included on the quantity sheet:

1. Complete right-hand title box.

2. Estimated quantities listed in order by item number.

3. Asterisk before all items that are undetermined location and note at bottom.

4. Typically, the Earthwork Summary is here. The worksheet for the Earthwork Summary computations can be found on the MaineDOT website at the following URL:

   http://www.maine.gov/mdot/hdg/docs/ecw.xls

   Sometimes the sheet is too full and the Earthwork Summary needs to be put on a second quantity sheet or the construction notes.

5. When more than one project is included in a contract, the following items may be noted to be a percentage of the total contract cost:

   a. Field office
   b. Test facility items
   c. Mobilization, and all lump sum items that are included in more than one project

6. Follow rounding rules in Chapter Fourteen.

7. Use italicized uppercase font for the Estimated Quantity text and mono-spaced uppercase font for all Earthwork Summary text. See Appendix 2G for proper font types and sizes.

8. If a lump sum item is quantifiable, the quantity should be shown next to the lump sum item quantity on the quantity sheet.

2-5 DRAINAGE SUMMARY SHEET

All projects requiring drainage work should include a drainage summary sheet in the construction plans. See Figure 2-4. The location and quantity of each drainage item should be recorded on a drainage sheet. General notes are often included on the drainage summary sheet when space is available. The following information should be included on the drainage summary sheet:

1. Complete right-hand title box.

2. All drainage system components separated into major subdivisions (i.e., roadway drainage culverts, driveway culverts, catch basins, underdrains, etc.) and listed in station order.

3. Under culvert pipe Option III item and Type C underdrain items, all pipes shall be sized using smoothlined pipe. Comparable corrugated sizes shall be shown on the Drainage Summary Sheet unless smoothlined pipe is required.

4. Drainage summary text shall be italicized uppercase at all times. See Appendix 2G for proper font types and sizes.

2-6 GENERAL NOTES SHEET

The designer shall include a list of general notes in the construction plans providing overall information applicable to the project. The notes provided are not intended to be a complete set covering all problems that may arise on a project, but they do cover many recurring situations. General notes may vary from project to project and, if special conditions or requirements exist, notes should be modified or added accordingly. The following information should be included on the sheet:

1. Complete right-hand title box.

2. Text for general notes in this section shall be italicized uppercase font. See Appendix 2G for proper font types and sizes.

3. Geotechnical notes may be added if applicable. These notes are typically provided by the geotechnical team member.

See Figure 2-5 in Appendix 2H for a sample sheet.

A list of updated general notes can be found on the MaineDOT website at the following URL:

http://www.maine.gov/mdot/hdg/docs/generalnotes.doc

2-7 CONSTRUCTION NOTES SHEET

Construction notes are required to identify specific details of construction for a given project design. A minimum number of notes should be used, although a clear indication of the intent of the plans is necessary.

Generally, all construction notes (excluding drainage notes) are provided on the plan/profile sheet(s). See Figure 2-7 in Appendix 2H for example notes on the plan/profile sheets. Construction notes may be placed on a separate sheet for full construction urban projects and for overlay projects when referring to the record plans. See Figure 2-6 in Appendix 2H for a sample Construction Notes Sheet. On urban projects involving detailed designs, this will help alleviate congested plans that are difficult to read.

Construction notes should be identified by the item number and item description, if applicable, followed by the station locations. Ascertain that all work shown is covered by a direct payment item or that payment is included indirectly in another item. If work is not so covered, the supplemental specifications or general notes should be explicit on the compensation intended.

Construction notes should always be put in numerical order in case of computerized changes. Text for notes on this sheet shall be mono-spaced uppercase font. See Appendix 2G for proper font types and sizes.

See Appendix 2E for typical construction notes and where they should be shown on the plans.

2-8 SPECIAL DETAILS SHEET(S)

Some design details that are not covered in the Standard Details or Typical Sections may require a Special Detail Sheet as determined on a project specific basis.

Special Detail Sheets may be needed for design components such as:

- Retaining walls
- Non-standard culvert connections
- Box culvert extensions
- Special guardrail details not covered in the Standard Details
- Ledge undercut transitions (See Appendix 2F for sample sheet)

Each Special Detail sheet should be listed separately in the Index of Sheets on the Title Sheet. Example: *Special Detail – Ledge Undercut*

Sample Special Detail sheets may be found in Appendix 2F.

2-9 PLAN/PROFILE SHEET(S)

The plan/profile sheet(s) presents the vertical and horizontal alignments, topography, right-of-way and other details necessary for the construction of the project. Figure 2-6 illustrates a plan/profile sheet typically used by the Department. Complex projects involving interchange ramps and large urban intersections may require a separate plan sheet and profile sheet to clearly indicate construction details.

To ensure consistent preparation of the plan/profile sheets, the designer should follow these guidelines below. When the plan sheet and profile sheet are separate, use the applicable notes for each sheet.

PLAN

1. Minimum of 25 feet of existing center line shown on each end of project regardless of scale if possible.

2. Refer to the Standard Abbreviations (Appendix 2B) and the Standard Symbols (Appendix 2C) for proper labeling. Proper font styles and sizes can be found in Fonts (Appendix 2G).

3. Complete right-hand title bar.

4. Stationing of the highway mainline should be shown increasing from left to right on the plan.

5. North arrow.

6. Show the location of temporary and proposed utility structures (i.e. poles, manholes, mains etc.)

7. Station of town, county, compact, compact-urban or urban lines shown.

8. Information should be shown for the construction of approaches and tapers from the match point limit of work to the project beginning and ending points. Pavement taper widths and gravel transition taper widths shall be noted.

9. Radii, center of curve points and width of pavement should be shown on all approach roads and paved intersections. Curve radii at non-standard driveways should be indicated on the plans.

10. Locations of channel diversions, inlet and outlet ditches shown.

11. Show and label proposed drainage structures.

12. Locations of bridges shown and reference note made to bridge plans.

13. All construction slope lines shown.

13. Clearing limit lines shown for all clearing, selective clearing and thinning areas.

14. Proposed guardrail shown

15. Right-of-way easement lines, reserve areas noted if applicable, property owner's names, property lines, existing R/W lines, access control, and proposed R/W lines shown. Also show grading limit lines and construction limit lines

16. Equations and angles shown on all side road alignments on plans.

17. Construction notes outlining work and bid items to accomplish the work shall be shown on plans, construction notes sheet, or cross-sections. See Appendix 2E,

18. Show edge of travel way and edge of shoulder on plans

19. Show bridge and railroad clearance diagrams in the profiles.

20. Ditch drainage lines and arrows shown, indicating direction of flow.

21. Limit of work shown on all side roads and on mainline if different from beginning and end of project limits.

22. Standard text shall be italicized uppercase at all times except for text in columnar format, which shall be mono-spaced uppercase text. See Appendix 2G for proper font types and sizes.

23. Label project number; begin/end stations and limits of work.

24. Label all highways with applicable route numbers and roadway names.

25. Town and highway numbers noted on all sheets in the right-hand title bar

26. Note existing drainage structures to be removed.

27. All single trees and stumps, regardless of size outside clearing or selective clearing and thinning areas, should be noted to be removed. Do not note trees to be saved. Do not note removal of single trees within a clearing area.

28. Note existing buildings to be removed. See Chapter Fourteen for how to note.

29. Topsoil salvage areas noted as needed

30. Note the removal of existing pavement areas outside of construction limits. Pavement that is to be removed in areas outside of the construction limits shown on the plans should be cross-hatched and labeled "Excavate, loam and seed."

31. Plans and cross sections cross-checked to ensure correctness.

32. Roadway and shoulder widths should be indicated on the plans at the beginning and end of each plan sheet and at any change in the width.

33. Horizontal curve data should be recorded on the plan for the construction centerline. Horizontal curve data should always be recorded on the inside of the curve, if possible. When a curve runs on successive plan sheets, the curve data should appear on both sheets. The curve data and degree of accuracy required for each horizontal curve within the project limits is provided below:

    a. PI -- two decimals
    b. Δ -- nearest tenth second
    c. D -- nearest tenth second
    d. T -- two decimals
    e. L -- two decimals

f. R -- two decimals
g. E -- two decimals

Controlling stations (including the PC, PT, station equations and angle points) should be recorded on a line drawn perpendicular to the construction centerline toward the inside of the curve. Stations should be recorded to the nearest hundredths (0+00.00) station. A triangle should be provided on the plans to indicate angle points, and a circle should be provided to indicate all other controlling stations.

34. Alignment bearings on tangents should be noted to the nearest tenth of a second.

35. Center of curve points for radii and should be shown and the station/offsets and coordinates provided unless that point falls with a physically unattainable area such as a building.

36. On complex projects, separate layout sheets may be required in the construction plans to define special details not provided on the plan sheets. The need for special details will be determined on a project-by-project basis.

PROFILE

1. Limit of work shown on all side roads and on mainline if different from beginning and end of project limits.

2. High-water elevation and year of occurrence shown for projects near flood areas when relevant.

3. Dashed lines and symbols should be used to indicate existing profile elements, and solid lines and symbols shall be used to indicate proposed profile elements.

4. Complete right-hand title bar.

5. Label project number; begin/end stations and limits of work.

6. Refer to the Standard Abbreviations (Appendix 2B) and the Standard Symbols (Appendix 2C) for proper labeling.

7. Closed drainage systems may be plotted on the profile when necessary.

8. Plot ledge and ledge transitions if practical

9. Standard text shall be italicized uppercase at all times. Refer to Appendix 2G

10. Vertical curve data should be provided on the profile for each vertical curve on the construction centerline. Curve data should be recorded beneath crest vertical curves and above sag vertical curves on a horizontal line drawn from the PVC to the PVT. When a vertical curve runs on successive profile sheets, the curve data should appear on both sheets. The curve data and degree of accuracy required for each vertical curve within the project limits is provided below: PVI Station / elevation below a sag curve, above a crest curve.

L	--	no decimal
SSD/HLSD	--	no decimal
E	--	three decimals (.001)

11. Station and elevation at PVC, PVI and PVT location. All data shall be shown to the nearest hundredth decimal

12. High and low points in the proposed profile should be marked with a leader arrow, station and elevation.

13. Grade line checked for the following:

- Percent grades recorded to the nearest hundredth (0.00) percent denoted with a plus or minus for direction of grade.
- PI elevation recorded to the nearest hundredth (0.00) foot, denoted by a triangle pointing to the inside of the cuve.
- Rural finish grades every 50', recorded to the hundredth (0.00) of a foot.
- Urban finish grades every 25', recorded to the nearest hundredth (0.00) of a foot.

14. Additional profiles may be required for side roads, driveways and curb lines that are affected by the mainline construction. The additional profiles should be indicated off the mainline on the profile sheet or a separate profile sheet may be used if necessary.

2-10 GEOMETRIC LAYOUT SHEET(S)

Detail sheets may be necessary to define the geometric layout of an intersection, islands and/or curbing. The need for geometric layout sheets with be determined on a project by project basis and will depend on the amount of varying geometry and space needs to document it.

If only a few geometric point locations are necessary for layout, a separate geometric sheet may not be necessary. Instead the key geometric points could be labeled on the plan sheet keyed to a chart with stations and offsets to those points.

To ensure consistent preparation of the geometric layout sheets, the designer should show the following:

1. North arrow

2. Street name/route number

3. CB/MH symbols

4. Roadway centerlines and gutter line alignments should be labeled and referenced with station and offset listings to key geometric points

5. Center of curve points for radii and should be shown and the station/offsets and coordinates provided unless that point falls with a physically unattainable area such as a building.

6. Curb symbols

7. Key Geometric points labeled with tick mark and point number

    - Terminal curb points
    - Catch basin header points
    - Wheel chair ramp opening
    - Drive/Entrance openings
    - Curbed islands
    - Angle points in gutter line – if any
    - PC/PT points in gutter line

8. Geometric reports for gutter line alignments shown with coordinates (Roadway centerline geometric reports not necessary because they are already shown on plan sheets)

9. Station and offset reports with coordinates keyed to point numbers shown on gutter line/Geometric features

2-11 CROSS SECTION SHEETS

The cross section sheets represent the tranverse sections of the existing ground line and the proposed design at various points along the design centerline. Cross sections should be cut when possible for features such as entrances, culverts, catch basins and widenings for guardrail. Cross sections should be generally be drawn at 25’ intervals for urban projects and at 50’ intervals for rural projects and should be drawn on a sheet provided by the CADD package with a grid pattern at a scale of 1” = 5’ horizontally and vertically. See Figures 2-8 and 2-9 in Appendix 2H.

Cross sections may be plotted in a landscape orientation in order to minimize “foldbacks” and provide a better fit. If it proves necessary to utilize a smaller scale to allow for a better fit of topography, care should be taken to ensure readability when plans are printed half size.

The designer/detailer should follow these guidelines in the preparation of cross section sheets:

1. Dashed lines and symbols shall be used to indicate existing cross section elements, and solid lines and symbols shall be used to indicate proposed cross section elements.

2. Individual cross sections are typically oriented from bottom to top of each cross section sheet in order of increasing station.

3. Edit text in the right hand title bar including the following: appropriate "record" boxes on left of sheet completed to denote who checked it and when, who revised it and when, the designer/detailer, and any field changes that were made. Town and highway system number noted in the lower right hand corner. Station range should also be noted for each sheet.

4. Label station and project number of beginning and ending of proposed project

5. Volumes for earthwork items such as earth excavation (cut), fill, rock excavation, muck excavation, waste storage, grubbing in fill, loam salvage and variable depth gravel should be calculated between individual cross sections and noted at even intervals on the sections. Volumes shown should be rounded to the nearest whole cubic yard.

6. Volumes calculated in cubic yards, totaled and tabulated on the Earthwork Summary Computation Worksheet in Appendix 2C and also should be noted in the Earthwork Summary on the Estimated Quantities Sheet.

7. Station-to-station depths of aggregate base and subbase courses noted if not constant throughout project.

8. Show design cross slopes on each cross section

9. On cross sections adjacent to side roads that have separate alignments and cross sections, a match line should be shown and the side road labeled.

10. Show intended driveway slopes and transitions including widths and slopes. See sample cross section sheet Figure 2-10 in Appendix 2H

11. When available the locations of rock and muck should be plotted

12. Elevations and offsets of all non-standard ditches shown.

13. Elevations of all underdrain shown.

14. Ditch elevations and gutter grades checked for proper slope through superelevation transitions and long vertical curves.

15. Grubbing in fill noted and shown in applicable areas.

16. All existing drainage information should be plotted.

17. Proposed drainage information should be plotted. The type of structure should be provided, and the length, size, direction of flow, inlet and outlet flowline elevations, type of material, thickness (if necessary), skew angle (if any) and end treatment should be indicated for all pipe culverts and underdrain.

18. Existing ground slopes steeper than 2:1 noted and plotted to be benched.

19. Existing and proposed utilities shown with proper symbols.

20. Plot trees on sections.

21. Ditch grades checked for required erosion protection.

22. Place ditch arrows showing direction of flow.

22. Pavement and subbase depths noted for side roads and approaches if typical sections not drawn.

23. Individual cross sections should provide the proposed profile grade elevation directly above the centerline. Elevations should be recorded to the nearest hundredth (0.00) of a foot. Offsets from the alternate centerline to the construction centerline should be provided if not coincident with the alternate centerline. Offsets should be recorded to the nearest hundredth (0.00) of a foot.

24. Station-to-station of box sections noted if not constant throughout project.

25. See Appendix 2H for examples of construction notes that would typically be placed on the cross sections

Appendix 2A

STANDARD ABBREVIATIONS

STANDARD ABBREVIATIONS

I. BASES

GRAV	Gravel
CR GRAV	Crushed Gravel
BIT MAC	Bituminous Macadam
BIT CONC	Bituminous Concrete
CRSE	Course

II. CEMENT and CONCRETE

CEM	Cement
CONC	Concrete
PORT	Portland
REINF	Reinforcing

III. CENTERLINE DATA

CL	Centerline
CONST	Construction
Δ	Delta or Central Angle of Curve
PI	Point of Intersection of two Tangents
R	Radius Curve
T	Tangent Distance
L	Length of Curve
E	External Distance
PC	Beginning of Curve (Point of Curvature)
PT	Point of Tangent
POC	Point on Curve
POST	Point of Subtangent
POT	Point on Tangent
PCC	Point of Compound Curvature
PRC	Point of Reverse Curvature
SB	Southbound
NB	Northbound
CE	Control Edge
EQ	Equation

IV. PROFILE DATA

PVI	Point of Vertical Intersection
PVC	Point of Vertical Curve
PVT	Point of Vertical Tangent
HLSD	Headlight Sight Distance
SSD	Stopping Sight Distance
PSD	Passing Sight Distance

V. EARTHWORK

EXC	Excavation
EA EXC	Earth Excavation
RK EXC	Rock Excavation
STR EXC	Structural Excavation

VI. FOR QUANTITIES ON CROSS SECTIONS

C	Cut or Earth Excavation
F	Fill
G	Grubbing in Fill
R	Rock or Ledge Excavation
M	Muck Excavation
GRAN B	Granular Borrow
GRAV B	Gravel Borrow
SAND B	Sand Borrow
VG	Variable Gravel

VII. GENERAL

ASPH	Asphalt
BLDG	Building
BM	Bench Mark
CLL	Construction Limit Line
DR	Drive
EP	Edge of Pavement
ENT	Entrance
FE	Field Entrance
FP	Flag Pole
GRAV DR	Gravel Drive
GAR	Garage
GR	Guardrail
HI	Height of Instrument
HORIZ	Horizontal
HO	House
LT	Left
PO	Porch
RD	Road
RDWY	Roadway
RT	Right
RET WALL	Retaining Wall
RR	Railroad
SHLD	Shoulder
ST	Street
STA	Station
SW	Sidewalk
SKWD AHD	Skewed Ahead
SKWD BK	Skewed Back
SURF	Surface

TP	Turning Point
TW	Edge Travel Way
VERT	Vertical
WL	Woods Line

VIII. PIPES and DRAINAGE

ACMP	Aluminum Corrugated Metal Pipe
ACCMP	Asphalt Coated Corrugated Metal Pipe
CB	Catch Basin
CCL	Culvert Ceiling Level
CIP	Cast Iron Pipe
CMP	Corrugated Metal Pipe
CULV	Culvert
CULV CONN	Culvert Connectors
DB	Double Bell
DI	Drop Inlet
EW	Endwall
FL	Flowline of Pipe
INV	Invert (Bottom of Pipe)
MH	Manhole
PVC	Polyvinylchloride Pipe
RCP	Reinforced Concrete Pipe
TP	Top of Pipe
UD	Underdrain
VCP	Vitrified Clay Pipe

IX. RIGHT-OF-WAY & PROPERTY LINES

R/W	Right-of-Way
R/W MON	Right-of-Way Monument
SM	Stone Monument
PL	Property Line
APP PL	Approximate Property Line
IP	Iron Pin

X. UTILITIES

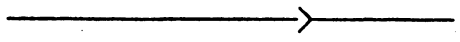
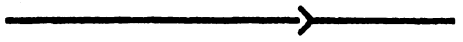
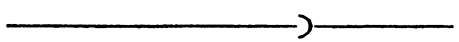
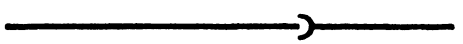
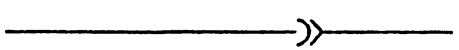
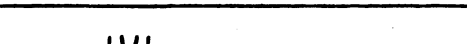
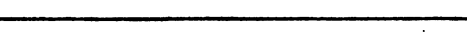
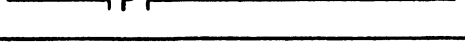
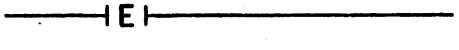
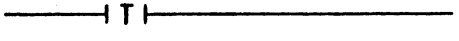
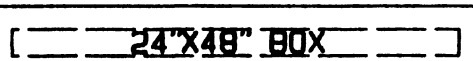
HYD	Hydrant
WM	Water Main
WG	Water Gate
GM	Gas Main
GG	Gas Gate
SM	Sewer Main
SMH	Sewer Manhole

Appendix 2B

STANDARD SYMBOLS

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
EDGE OF TRAVELLED WAY		
EDGE OF PVMNT		
EDGE OF GRAVEL		
CURB: VERTICAL GRANITE		
CURB: MOUNTABLE GRANITE		
CURB: BITUMINOUS		
CURB: CONCRETE		
SURVEY CENTERLINE		
CONSTRUCTION CENTERLINE		
TRAVERSE LINE		
CUT LINE		C C C
FILL LINE		F F F

STANDARD SYMBOLS

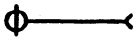
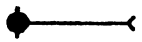
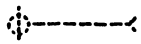
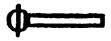
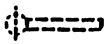
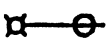
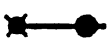
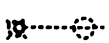
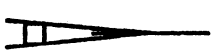
DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
STORM SEWER / UNDERDRAIN		
SANITARY SEWER		
COMBINED SEWER		
WATER MAIN		
GAS MAIN		
PETROLIUM LINE		
UNDERGROUND ELECTRIC CABLE		
UNDERGROUND TELEPHONE CABLE		
UNDERGROUND TELEVISION CABLE		
CROSS CULVERT		
BOX CULVERT		
MULTIPLATE		

If known, the size of a pipe shall be included as part of the symbol. Example:

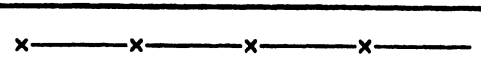
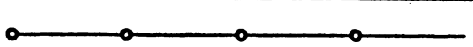
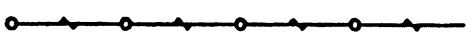
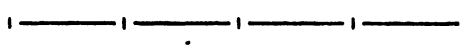
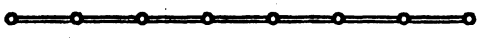
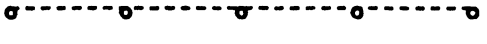
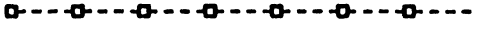
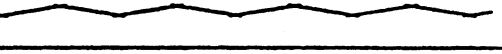
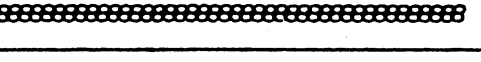
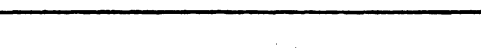
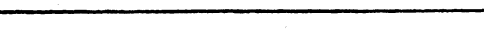
STANDARD SYMBOLS

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
MANHOLE	⊙	●
CATCH BASIN	▥	■
DROP INLET	▭	
VALVE VAULT, WATER	Ⓥ	
VALVE BOX, WATER OR GAS	⊗	
SERVICE BOX, WATER OR GAS	⊘	
ELECTRICAL VAULT	Ⓔ	
HAND HOLE	⧄	
TELEPHONE VAULT	Ⓣ	
DRILLED WELL	DRILLED WELL ○	
DUG WELL	DUG WELL □	

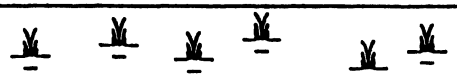
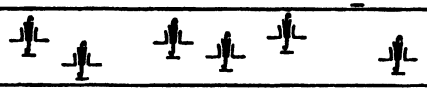
STANDARD SYMBOLS

DESCRIPTION	SYMBOL		
	EXISTING	PROPOSED	TEMPORARY
UTILITY POLE (ELEC,TELE,JNT)			
WITH GUY WIRE & ANCHOR			
WITH BRACE (PUSH) POLE			
WITH LIGHT			
STUB POLE			
LIGHT POLE			
WITH MAST ARM			
TRAFFIC SIGNAL			
WITH MAST ARM			
TRAFFIC CONTROL BOX			
FIRE HYDRANT			
MAIL BOX			
SIGN			
RAILROAD SIGNAL			
RAILROAD CROSSING GATE			

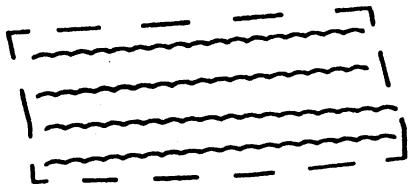
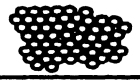
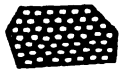
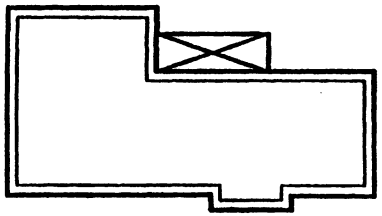
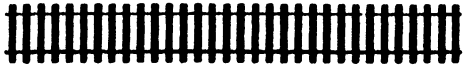
STANDARD SYMBOLS

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
FENCE, BARBED WIRE		
FENCE, CHAIN LINK (CYCLONE)		
FENCE, ELECTRIC		
FENCE, WOVEN WIRE (PAGE)		
FENCE, POST & RAIL		
FENCE, STOCKADE		
FENCE, PICKET		
FENCE, RAIL		
WALL, STONE		
WALL, MORTARED STONE		
WALL, BRICK		
WALL, RETAINING OR FOUNDATION		
GUARD RAIL		

STANDARD SYMBOLS

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
TREE, DECIDUOUS		
TREE, CONIFEROUS		
TREE, DEAD		
TREE, STUMP		
BUSH OR SHRUB		
HEDGE ROW		
TREE LINE		
BUSH LINE		
WETLAND, FRESHWATER MARSH		
WETLAND, SALT MARSH		
DITCH		
RUN / BROOK		
CREEK / SMALL STEAM		
SHORELINE OR BANK		

STANDARD SYMBOLS

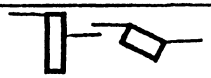
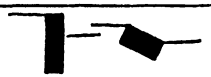
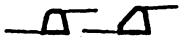
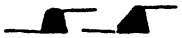
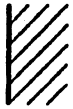
DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
GARDEN		
RIPRAP		
BUILDING (WITH PORCH)		
FLAG POLE		
MATCH LINE		
PIT		
RAILROAD TRACKS		

NOTE: ALL ANNOTATIONS FOR EXISTING FEATURES SHALL BE DONE WITH "STANDARD" (UPRIGHT) CHARACTERS WHILE NOTES FOR PROPOSED WORK AND ITEMS SHALL BE ITALICIZED.

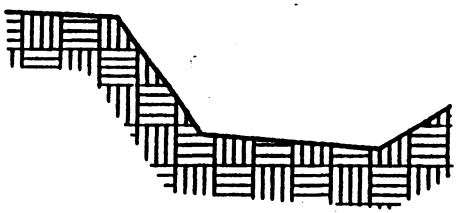
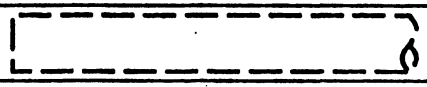
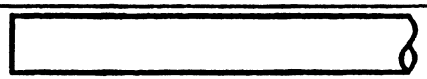
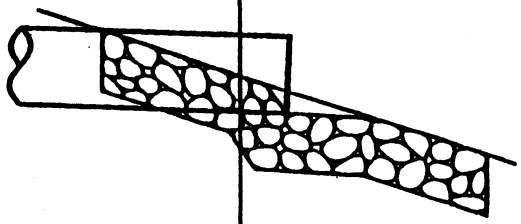
STANDARD SYMBOLS

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
NATIONAL BOUNDARY		
STATE BOUNDARY		
COUNTY BOUNDARY		
URBAN BOUNDARY		
TOWN BOUNDARY		
RIGHT OF WAY LINE		
PROPERTY LINE		
CONSTRUCTION LIMIT LINE		
GRADING LIMIT LINE		
PROJECT MARKER	PM	
SURVEY MARKER	SM	
RIGHT OF WAY MARKER		
IRON PIPE (PIN)	IP	

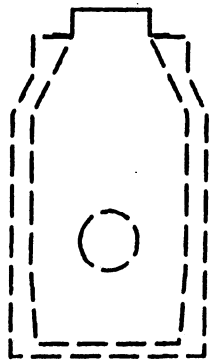
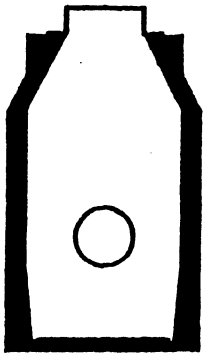
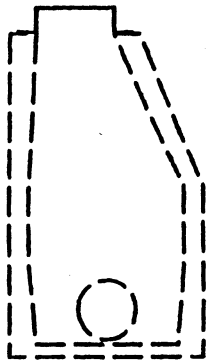
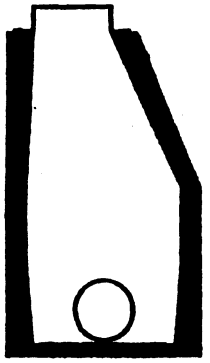
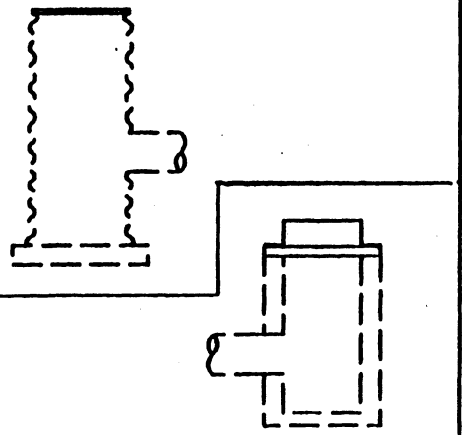
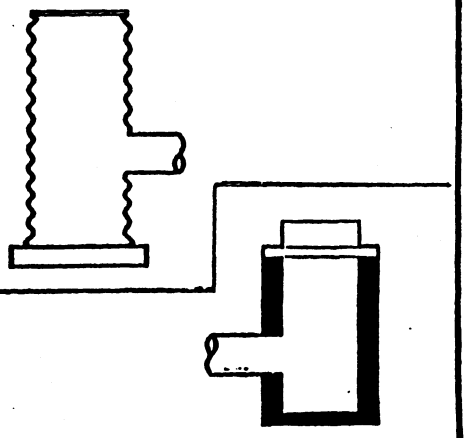
STANDARD SYMBOLS

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
UTILITY POLE (ALL TYPES: INCLUDE POLE NUMBER AND OWNER IF KNOWN)		
GUARD RAIL (TYPE 3)		
TREE (NOTE SIZE AND TYPE)		
GRANITE CURB		
BITUMINOUS CURB		
EDGE OF TRAVELLED WAY	X	
BUILDING		

STANDARD SYMBOLS

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
GROUND LINE		
LEDGE LINE		
SOIL BORING - REFUSAL		
CULVERT (WITH BREAK)		
CULVERT (IN CROSS SECTION)		
CONCRETE PAVEMENT		
EX. CONC. PVT. TO BE REMOVED		
RIPRAP (STONE DITCH, ETC.)		

STANDARD SYMBOLS

DESCRIPTION	SYMBOL	
	EXISTING	PROPOSED
CATCH BASIN		
MANHOLE OR CATCH BASIN WITH ECCENTRIC CONE		
CATCH BASIN TYPE E		
CATCH BASIN TYPE F		

Appendix 2E

CONSTRUCTION NOTES

CONSTRUCTION NOTES

The chart on the following page lists some of the more common design features that would typically require construction notes and labeling on a project and where they would be found in the plan set. Every possible construction note that might be needed on a project is not listed here. Judgment is needed. All work should be noted either in construction notes or general notes as to how it will be paid for – either with specific pay items or work to be incidental to certain pay items or the contract.

Generally the type of information required would be:

- Location (stations and offsets as needed)
- Description of work
- Pay item (if applicable)
- Quantity (in some cases)

Examples showing formats and information needed in some commonly used construction notes may be found on the sample plan and cross section sheets in Appendix 2H.

Additional information on construction notes is scattered throughout Chapter Fourteen of the MaineDOT Highway Design Guide.

Proposed construction action and feature	Plan / Profile Sheet	Cross Sections	Construction Note Sheet (if needed)
Begin / End Project	*Show, label*	*Note*	
Approaches	*Show, label*	*Note*	
Clearing	*Show, label and note*		*Note*
Remove Single tree	*Label, note*	*Label remove*	*Note*
Removing stump	*Label, note*	*Label remove*	*Note*
Building removal	*Label, note*		*Note*
Drives and Entrances Paved Gravel Field / Woods Entrances Grass Ent Curb Openings Crushed Stone Entrances	*Show and Note*	*Show and Note*	*Note*
Paved / Concrete Walk	*Show and Note*	*Show and Note*	*Note*
Proposed Drainage Items Roadway Culverts Driveway culverts Underdrain Pipes Catch Basins and Manholes	*Show and label*	*Show and Note*	*Note*
Removing Manhole or catch basin	*Label "remove" and note*	*Label "remove"*	*Note*
Grubbing in Fill	*Note*	*Show and note*	*Note*
Topsoil Salvage	*Note*	*Show and note*	*Note*
Benching	*Note*	*Show and note*	*Note*
Muck Excavation		*Show and note*	
Guard Rail items	*Show and note*	*Show and note*	*Note*
Fencing – Proposed and Reset Remove	*Note* *Label "Remove"*	*Note*	*Note*
Pedestrian Ramps	*Note and show*	*Note*	*Note*
Truncated Domes	*Note*		*Note*
Curbing [2,3]	*Show and Note*	*Show*	*Note*
RipRap Culvert end protection Riprap Aprons	*Show* and note*	*Show[1] and note*	*Note*
Stone Ditch Protection	*Note*	*Note*	*Note*
Erosion Control Blanket	*Note*	*Note*	*Note*
Downspouts	*Show[1] and note*	*Show[1] and note*	*Note*
Retaining walls	*Show and note*	*Show and note*	*Note*
Seeding method [5]	*Note*		*Note*
Landscaping items	*Show and note[4]*		*Note[4]*
Concrete steps	*Note*	*Show and note*	*Note*
Ditching	*Show*	*Show and Note*	

1 if practical

2 On projects requiring geometric and curb layout sheets with extensive curb notes the curb notes may be placed on either the geometric sheets or separate curb note sheet

3. If more than one type of curb mold is used on a project the construction notes should specify the stationing for each mold

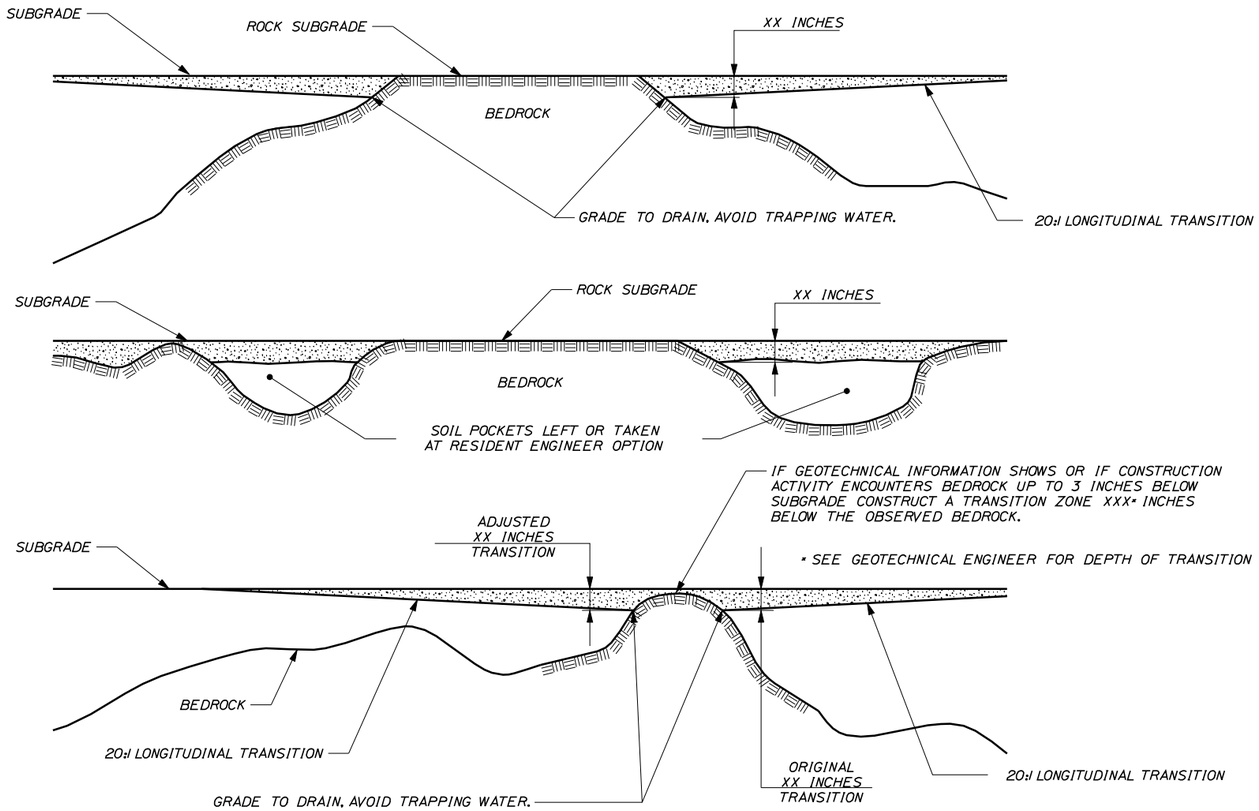
4 Landscaping may be included in the project as a separate plan set instead of showing on the highway construction plan sheets

5 General Note may be used instead of construction note

Appendix 2F

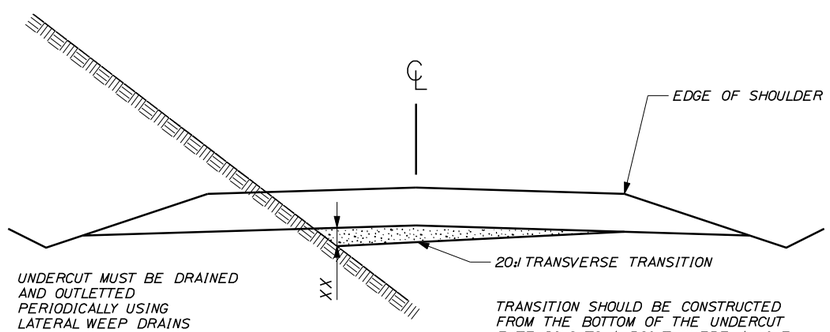
SPECIAL DETAILS

PROFILE OF UNDERCUT OF FROST SUSCEPTIBLE SOILS OVER LEDGE



IF A SOIL SECTION BETWEEN LEDGE SUBGRADE IS OF SUCH LENGTH THAT THE TRANSITION FROM EACH EDGE WOULD MEET, IT SHOULD BE TREATED AS AN EARTH POCKET

TRANSVERSE UNDERCUT OF FROST SUSCEPTIBLE SOILS OVER LEDGE



UNDERCUT MUST BE DRAINED AND OUTLETTED PERIODICALLY USING LATERAL WEEP DRAINS

TRANSITION SHOULD BE CONSTRUCTED FROM THE BOTTOM OF THE UNDERCUT EXTENDING TO A POINT WHERE A LINE PROJECTED DOWNWARD FROM THE EDGE OF SHOULDER INTERCEPTS SUBGRADE

NOTES:

1. EXCAVATION OF THE TRANSITION ZONES SHALL BE PAID FOR AS COMMON EXCAVATION. THE CONTRACTOR SHALL REPLACE THE FROST SUSCEPTIBLE SOILS WITH GRAVEL BORROW AND SHALL BE PAID FOR UNDER THE GRAVEL BORROW PAY ITEM.
2. FOR POTENTIAL BEDROCK LOCATIONS, REFER TO THE BORING LOG SHEETS AND CROSS SECTIONS. ACTUAL BEDROCK LOCATIONS WILL VARY.
3. REFER TO MAINEDOT SOILS REPORT _____ FOR ADDITIONAL TRANSITION ZONE DETAILS.
4. APPROXIMATE ANTICIPATED AREAS OF LEDGE TRANSITIONS ARE LISTED BELOW:

   XX+XX TO XX+XX
   XX+XX TO XX+XX
   XX+XX TO XX+XX
   XX+XX TO XX+XX

   ADDITIONAL AREAS OF LEDGE MAY BE ENCOUNTERED AND THE NEED FOR UNDERCUT SHOULD BE VERIFIED BY THE RESIDENT

SOLID BEDROCK

FROST SUSCEPTIBLE SOIL TO BE UNDERCUT AND REPLACED WITH NON FROST SUSCEPTIBLE MATERIAL

FROST SUSCEPTIBLE SOIL

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-0000(000)X

PIN
00000.00

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	E.M.		
DESIGN-DETAILED	M.M.	M.R.P.	3-5-2007
CHECKED-REVIEWED		M.B.	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

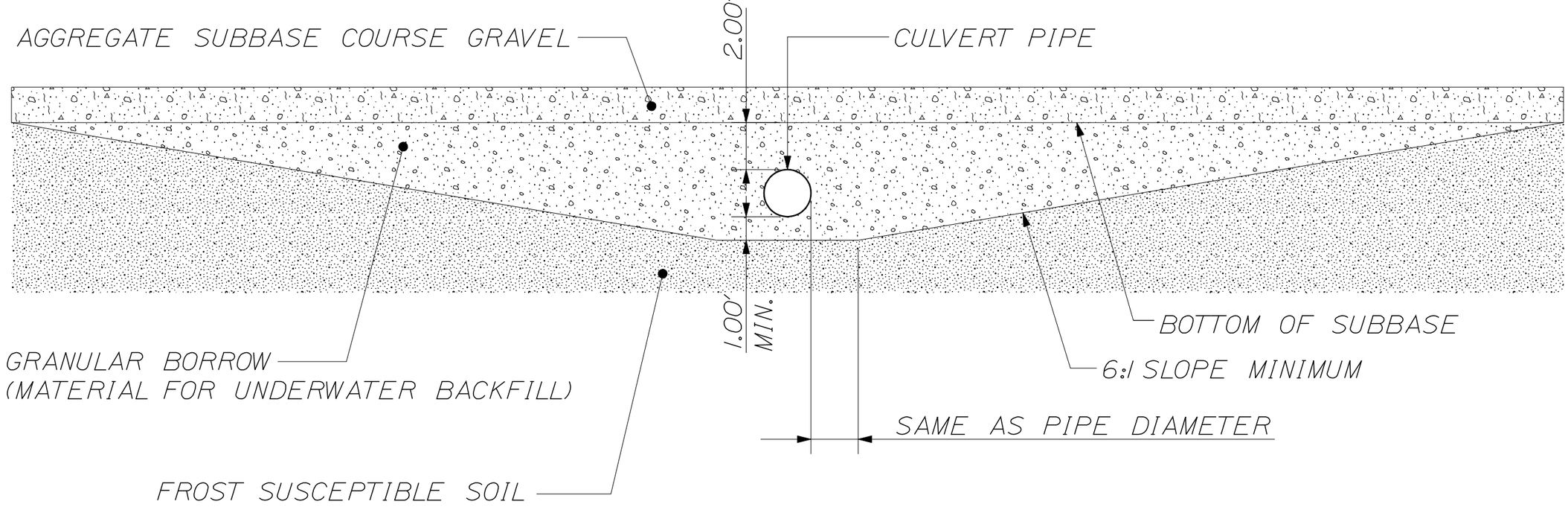
TOWN
ROUTE

SPECIAL DETAILS

SHEET NUMBER

OF

CROSS CULVERT IN FROST SUSCEPTIBLE SOILS



Username: jonathon.french Date:12/19/2007
Division: HIGHWAY
Filename: ...\chapter 2\SD_FrostCulvert1.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-0000(000)X

PIN
00000.00

HIGHWAY PLANS

PROJ. MANAGER			
DESIGN-DETAILED	M.M.	E.M.	3-5-2007
CHECKED-REVIEWED		M.R.P.	
DESIGN2-DETAILED2		M.B.	
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

TOWN
ROUTE

SPECIAL DETAILS

SHEET NUMBER

OF

Appendix 2G

FONTS

U.S. Customary Font Table

Drawing Type	Type	Font	Height	Width	Line Spacing	Slant*	Sample
US 22x34 Pages (12"=1')							
Title Sheet:	Text Note**	123 dotitalics	0.01	0.0113	0.0067	16.88º	*SAMPLE*
	Title Text	123 dotitalics	0.0146	0.0165	0.0097	16.88º	*SAMPLE*
	Title Text (Underlined)	123 dotitalics	0.0146	0.0165	0.0097	16.88º	*SAMPLE*
	Existing Text	32 dot_eng	0.01	0.01	0.0067	0º	SAMPLE
Estimated Quantities	Monospaced Text	3 engineering	0.01	0.01	0.0067	0º	SAMPLE
	Text Note**	123 dotitalics	0.01	0.0113	0.0067	16.88º	*SAMPLE*
Drainage Sheet	Text Note**	123 dotitalics	0.01	0.0113	0.0067	16.88º	*SAMPLE*
General Notes	Text Note**	123 dotitalics	0.01	0.0113	0.0067	16.88º	*SAMPLE*
	Title Text (Underlined)	123 dotitalics	0.0146	0.0165	0.0097	16.88º	*SAMPLE*
Construction Notes	Monospaced Text	3 engineering	0.01	0.01	0.0067	0º	SAMPLE
	Text Note**	123 dotitalics	0.01	0.0113	0.0067	16.88º	*SAMPLE*
	Title Text	123 dotitalics	0.0146	0.0165	0.0097	16.88º	*SAMPLE*
	Title Text (Underlined)	123 dotitalics	0.0146	0.0165	0.0097	16.88º	*SAMPLE*
US Typicals 1"=4' (1:48)							
Typicals, Special Details	Monospaced Text	3 engineering	0.48	0.48	0.32	0º	SAMPLE
	Text Note**	123 dotitalics	0.48	0.544	0.32	16.88º	*SAMPLE*
	Title Text	123 dotitalics	0.7	0.7932	0.4668	16.88º	*SAMPLE*
	Title Text (Underlined)	123 dotitalics	0.7	0.7932	0.4668	16.88º	*SAMPLE*
	Sub-Title Text	123 dotitalics	0.56	0.6348	0.3732	16.88º	*SAMPLE*
US Plan 1"=25' (1:300)							
Plan/Profile	Monospaced Text	3 engineering	3	3	2	0º	SAMPLE
	Text Note**	123 dotitalics	3	3.4	2	16.88º	*SAMPLE*
	Text Note (Underlined)**	123 dotitalics	3	3.4	2	16.88º	*SAMPLE*
	Existing Text	32 dot_eng	3	3.4	2	0º	SAMPLE
Geometrics	Monospaced Text	3 engineering	3	3	2	0º	SAMPLE
	Text Note	123 dotitalics	3	3.4	2	16.88º	*SAMPLE*
US Plan 1"=50' (1:600)							
Plan/Profile	Monospaced Text	3 engineering	6	6	4	0º	SAMPLE
	Text Note**	123 dotitalics	6	6.8	4	16.88º	*SAMPLE*
	Text Note (Underlined)**	123 dotitalics	6	6.8	4	16.88º	*SAMPLE*
	Existing Text	32 dot_eng	6	6	4	0º	SAMPLE
Geometrics	Monospaced Text	3 engineering	6	6	4	0º	SAMPLE
	Text Note	123 dotitalics	6	6.8	4	16.88º	*SAMPLE*
US Sections 1"=5' (1:60)							
Cross Section Sheets	Monospaced Text	3 engineering	0.6	0.6	0.4	0º	SAMPLE
	Text Note**	123 dotitalics	0.6	0.68	0.4	16.88º	*SAMPLE*
	Title Text	123 dotitalics	0.875	0.9915	0.5835	16.88º	*SAMPLE*
	Title Text (Underlined)	123 dotitalics	0.875	0.9915	0.5835	16.88º	*SAMPLE*
	Sub-Title Text	123 dotitalics	0.7	0.7935	0.4665	16.88º	*SAMPLE*
	Existing Text	32 dot_eng	0.6	0.6	0.4	0º	SAMPLE
US Sections 1"=10' (1:120)							
Cross Section Sheets	Monospaced Text	3 engineering	1.2	1.2	0.8	0º	SAMPLE
	Text Note**	123 dotitalics	1.2	1.36	0.8	16.88º	*SAMPLE*
	Title Text	123 dotitalics	1.75	1.983	1.167	16.88º	*SAMPLE*
	Title Text (Underlined)	123 dotitalics	1.75	1.983	1.167	16.88º	*SAMPLE*
	Sub-Title Text	123 dotitalics	1.4	1.587	0.933	16.88º	*SAMPLE*
	Existing Text	32 dot_eng	1.2	1.2	0.8	0º	SAMPLE

*** The custom font "123 dotitalics" has a slant built into the font, therefore a "0" slant is applied. The slant is only displayed here for those trying to reproduce the custom font.**

**** "Text Note" and "Text Note (Underlined)" is the same style as "Standard Text" and "Standard Text (Underlined)" for the MaineDOT MicroStation platform**

Appendix 2H

SAMPLE SHEETS

Figure 2-1

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PLAN LEGEND

Town, County, State		Centerline-Existing	
Property Lines		Centerline-Proposed	10+00
R/W Lines-Existing		Travelway-Existing	
R/W Lines-Proposed		Travelway-Proposed	
Culvert-Existing		Railroad	
Culvert Proposed		Catch Basins	Existing ■ Proposed
Curbing	Existing Proposed	Manholes	Existing ● Proposed
Type 1		Proposed Underdrain	
Type 3		Proposed Ditch	
Type 5		Existing Ditch	
Outline of Bodies of Water		Utlity Poles	Existing ♦ Proposed
Ledge		Fire Hydrants	Existing ◆ Proposed
Buildings		Existing Water Line	
Trees	Conifer Deciduous	Existing San. Sewer	
Tree Line		Existing San. Sewer Manhole	
Clearing Limit Line	CLL	Guardrail-Existing	
		Guardrail-Proposed	
		Guardrail-Cable, Other	

CHESTERVILLE - FARMINGTON

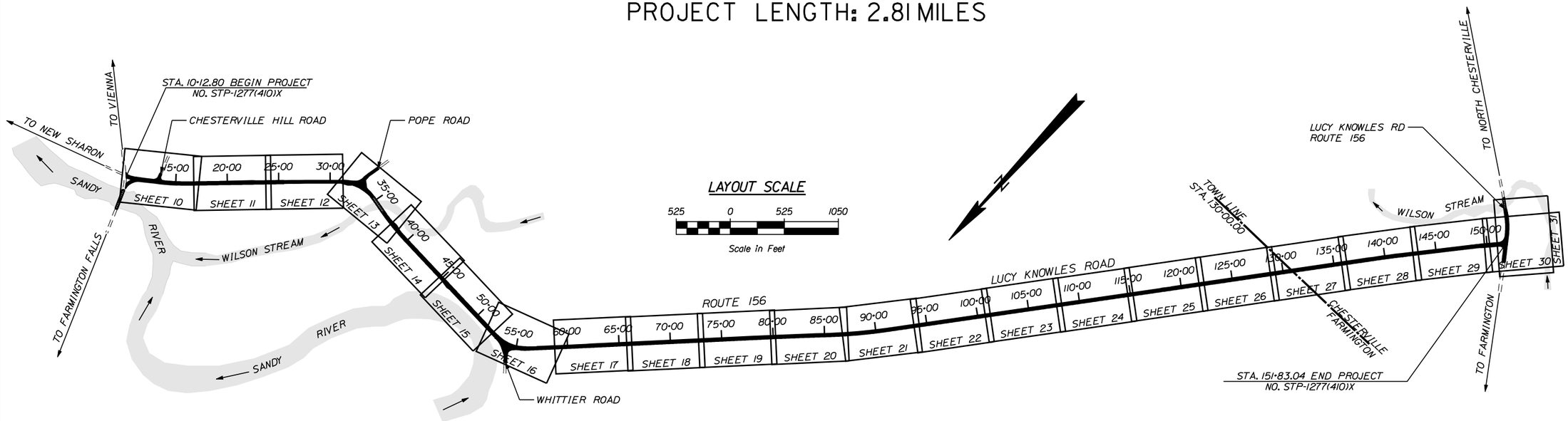
FRANKLIN COUNTY

ROUTE 156

STP-1277(410)X

PROJECT LENGTH: 2.81 MILES

INDEX OF SHEETS



TRAFFIC DATA

	SR 156 AT WILTON-CHESTERVILLE TOWNLINE	SR 156 NW/O IR 430 @ BRIDGE #2273 @ TL
Current (2010) AADT	1970	4070
Future (2030) AADT	2760	5700
DHV - % of AADT	11%	11%
Design Hour Volume	304	627
% Heavy Trucks (AADT)	11%	11%
% Heavy Trucks (DHV)	8%	8%
Directional Distribution (DHV)	60%	60%
18 kip Equivalent P 2.0	239	393
18 kip Equivalent P 2.5	228	374
Design Speed (mph)	30,35,50 MPH	30 MPH
Functional Class	Major Collector	Major Collector

PROJECT LOCATION:	Rte. 156 from the intersection of Rte. 41 extending 2.81 miles westerly to Wilson Stream Bridge at the Chesterville/Farmington town line.
PROGRAM AREA:	Highway Program
SCOPE OF WORK:	Highway Rehabilitation with Safety and Drainage Improvements

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED — DATE

COMMISSIONER:

CHIEF ENGINEER:

SIGNATURE — P.E. NUMBER — DATE

PROJECT INFORMATION

PROGRAM	HIGHWAY
PROJECT MANAGER	
DESIGNER	
DESIGNER	
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

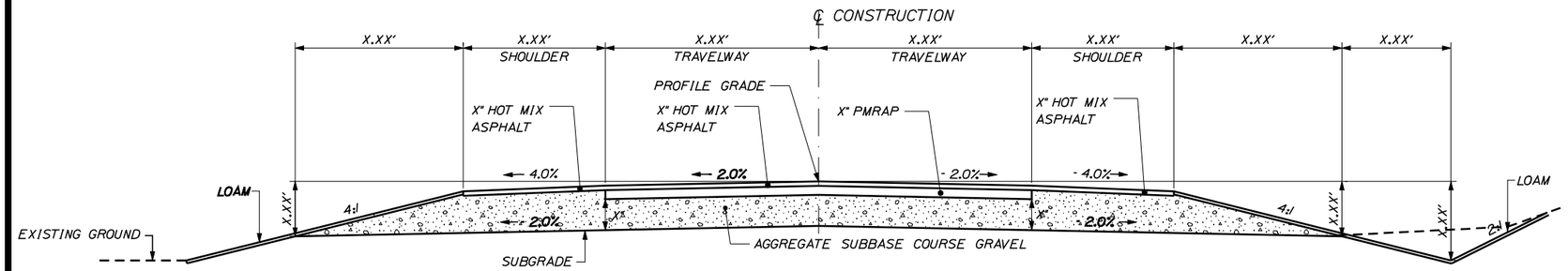
CHESTERVILLE - FARMINGTON
RTE. 156

TITLE SHEET

SHEET NUMBER
1
OF 188

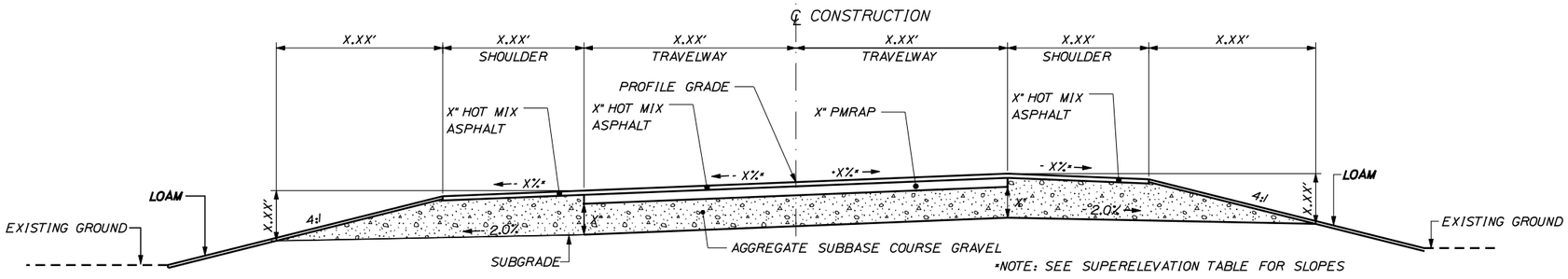
WIN 12774.10 STP-1277(410)X

Filename: ...\2011 New Title Sheet Format.dgn Division: HIGHWAY Username: jonathon.french Date:8/3/2011



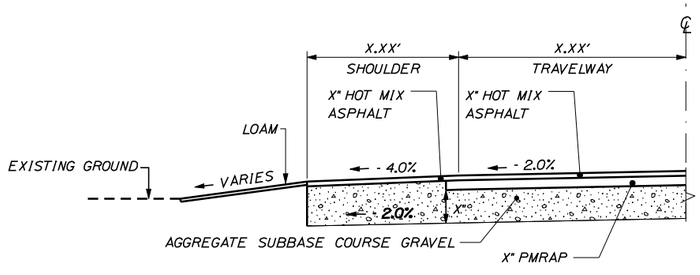
AGGREGATE SUBBASE COURSE GRAVEL		
LEFT SHOULDER X CY/100 LF	X FT. TRAVEL LANES X CY/100 LF	RIGHT SHOULDER X CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION
0+00 to 0+00 LT.	0+00 to 0+00	0+00 to 0+00 LT.
0+00 to 0+00 RT.		0+00 to 0+00 RT.
0+00 to 0+00 RT.		0+00 to 0+00 RT.

FULL CONSTRUCTION
NORMAL



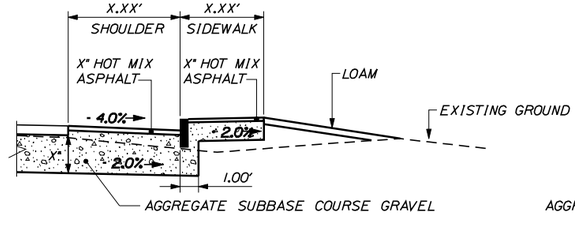
AGGREGATE SUBBASE COURSE GRAVEL		
LOW SIDE SUPERELEVATED SHOULDER X CY/100 LF	X FT. TRAVEL LANES X CY/100 LF	HIGH SIDE SUPERELEVATED SHOULDER X CY/100 LF
STATION TO STATION	STATION TO STATION	STATION TO STATION
0+00 to 0+00 LT.	0+00 to 0+00	0+00 to 0+00 LT.
0+00 to 0+00 RT.		0+00 to 0+00 RT.
0+00 to 0+00 RT.		0+00 to 0+00 RT.

FULL CONSTRUCTION
SUPERELEVATED



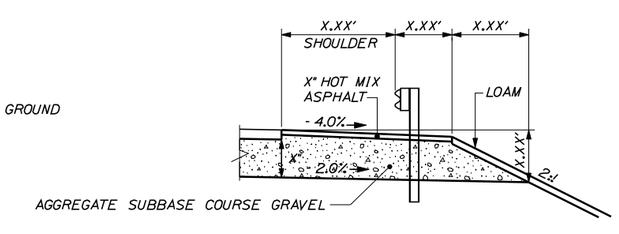
AGGREGATE SUBBASE COURSE GRAVEL
SHOULDER X CY/100 LF
STATION TO STATION
0+00 to 0+00 LT.
0+00 to 0+00 RT.
0+00 to 0+00 LT.

BOX SHOULDER



AGGREGATE SUBBASE COURSE GRAVEL
SHOULDER X CY/100 LF
STATION TO STATION
0+00 to 0+00 LT.
0+00 to 0+00 RT.
0+00 to 0+00 LT.

CURB TYPE 1 W/SIDEWALK



AGGREGATE SUBBASE COURSE GRAVEL
SHOULDER X CY/100 LF
STATION TO STATION
0+00 to 0+00 LT.
0+00 to 0+00 RT.
0+00 to 0+00 LT.

GUARDRAIL TYPE 3C

NOTE:

1. THE PAVEMENT, BASE AND SUBBASE DEPTHS AS SHOWN ON THE PLANS ARE INTENDED TO BE NOMINAL.
2. WHEN SUPERELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE SHOULDER, THE LOW SIDE SHOULDER SHALL HAVE THE SAME SLOPE AS THE TRAVELWAY.
3. CROWNS FOR BOTH NORMAL AND SUPERELEVATION SECTIONS FOR ALL COURSES OF SUBBASE AND PAVEMENT SHALL BE STRAIGHT
4. THE GRAVEL QUANTITY CALCULATION IS BASED ON A 2" LOAM OR DIRTY BORROW DEPTH. THE ACTUAL DEPTH MAY VARY. SEE THE GENERAL NOTES.
5. THE ALGEBRAIC DIFFERENCE BETWEEN THE SHOULDER AND TRAVEWAY CROSS SLOPES "ROLLOVER" SHALL NOT EXCEED 8%.
6. THE STATIONING SHOWN UNDER EACH TYPICAL IS APPROXIMATE.

SUPERELEVATION TABLE

LT. SHOULDER	LT. TRAVELWAY	STATION	RT. TRAVELWAY	RT. SHOULDER
		START		
-6.0	**-3.0**	**1+00**	**-3.0**	**-6.0**
-4.0	-2.9	1+25	-2.1	-6.0
-4.0	-2.8	1+50	-1.2	-6.0
-4.0	-2.8	1+75	-0.3	-6.0
-4.0	-2.7	2+00	0.7	-6.0
-4.0	-2.6	2+25	1.6	-6.0
-6.0	-2.5	2+50	2.5	-5.5
		TO		
-6.0	-2.5	4+50	2.5	-5.5
-6.0	-2.6	4+75	1.9	-6.0
-6.0	-2.6	5+00	1.3	-6.0
-6.0	-2.7	5+25	0.7	-6.0
-6.0	-2.7	5+50	0.1	-6.0
-6.0	-2.8	5+75	-0.6	-6.0
-6.0	-2.8	6+00	-1.2	-6.0
-6.0	-2.9	6+25	-1.8	-6.0
-6.0	-2.9	6+50	-2.4	-6.0
-6.0	**-3.0**	**6+75**	**-3.0**	**-6.0**
		END		

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-0000(000)X

PIN 00000.00

HIGHWAY PLANS

SIGNATURE

P.E. NUMBER

DATE

	DATE	BY
PROJ. MANAGER		
#PROJMANAGER#		
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

TOWN
ROUTE

TYPICAL SECTIONS

SHEET NUMBER

2

OF 10

Figure 2-3

ESTIMATED QUANTITIES

	ITEM NO.	DESCRIPTION	QUANTITY	UNIT
	201.11	CLEARING	2.03	AC
	201.23	REMOVING SINGLE TREE TOP ONLY	8	EA
	201.24	REMOVING STUMP	9	EA
	203.20	COMMON EXCAVATION	35733	CY
	203.21	ROCK EXCAVATION	463	CY
	203.24	COMMON BORROW	27513	CY
	203.25	GRANULAR BORROW	3141	CY
*	206.061	STR EARTH BELOW GRADE STR	65	CY
	206.07	STR ROCK EXC - DR & MINOR STR	46	CY
	304.10	AGGR SUBB COURSE - GRAVEL	22775	CY
	309.36	FULL DEPTH RECYCLED PVMT W/ FOAM ASPHALT 6 INCH DEPTH	42435	SY
	403.208	HOT MIX ASPHALT 0.5 IN. SURFACE	3660	TON
	403.209	HOT MIX ASPHALT 0.4 IN (INCID)	20	TON
	403.213	HOT MIX ASPHALT 0.5 IN. BASE	5281	TON
	409.15	BITUMINOUS TACK COAT APPLIED	1519	GAL
	603.16	15 IN CULVERT PIPE OPTION I	477	FT
	603.17	18 IN CULVERT PIPE OPTION I	329	FT
	603.175	18 IN RCP CLASS III	86	FT
	603.179	18 IN CULVERT PIPE OPTION III	69	FT
	603.19	24 IN CULVERT PIPE OPTION I	105	FT
	603.199	24 IN CULVERT PIPE OPTION III	326	FT
	603.209	30 IN CULVERT PIPE OPTION III	151	FT
	603.41	24 IN RCP CLASS IV	99	FT
	603.45	48 IN RCP CLASS IV	171	FT
	605.09	6 IN UNDERDRAIN TYPE B	1845	FT
	605.10	6 IN UNDERDRAIN OUTLET	214	FT
	606.23	GR TY 3C - SINGLE RAIL	780	FT
	606.35	GR DELINEATOR POST	10	EA
	606.79	GUARDRAIL 350 FLARED TERMINAL	4	EA
	607.24	REMOVE AND RESET FENCE	33	FT
	609.31	CURB TYPE 3	283	FT
	610.08	PLAIN RIPRAP	131	CY
	610.18	STONE DITCH PROTECTION	484	CY
	612.06	BITUMINOUS SEALING - BLACK	36	SY
	613.319	EROSION CONTROL BLANKET	6818	SY
	615.07	LOAM	3678	CY
	618.1301	SEEDING METHOD NUMBER 1 - PLAN QUANTITY	110	UN
	618.1401	SEEDING METHOD NUMBER 2 - PLAN QUANTITY	310	UN
	618.1411	SEEDING METHOD NUMBER 3 - PLAN QUANTITY	110	UN
	619.1201	MULCH - PLAN QUANTITY	540	UN
*	619.1401	EROSION CONTROL MIX	131	CY
	620.58	EROSION CONTROL GEOTEXTILE	1794	SY
*	621.031	EVERGREEN TR (4 FT - 5 FT) GP A	6	EA
*	621.037	EVERGREEN TR (5 FT - 6 FT) GP A	42	EA
*	621.195	MD DECID TR (1 3/4 IN - 2 IN) GP A	3	EA
*	621.267	LG DECID TR (1 3/4 IN - 2 IN CAL) GP A	3	EA
*	621.546	DECID SHRUBS (2 FT - 3 FT) GP A	4	EA
*	621.80	ESTABLISHMENT PERIOD	1	LS
	627.711	WHITE OR YELLOW PAINT PVMT MRK LINE (PLAN QUANTITY)	33602	FT
	627.76	TEMPORARY PVMT MARK LINE, WHITE OR YELLOW	1	LS
	629.05	HAND LABOR, STRAIGHT TIME	5	HR
*	631.10	AIR COMPRESSOR (INC OPERATOR)	10	HR
*	631.11	AIR TOOL (INC OPERATOR)	10	HR
*	631.12	ALL-PURPOSE EXC (INC OPERATOR)	20	HR
*	631.132	SMALL BULLDOZER (INC OPERATOR)	20	HR
*	631.14	GRADER (INC OPERATOR)	10	HR
*	631.172	TRUCK-LARGE (INC OPERATOR)	20	HR
*	631.20	STUMP CHIPPER (INC OPERATOR)	5	HR
	637.071	DUST CONTROL	1	LS
	639.18	FIELD OFFICE TYPE A	1	EA
	639.21	TESTING FACILITIES SOILS	1	LS
	652.31	TYPE I BARRICADE	60	EA
	652.311	TYPE II BARRICADE	40	EA
	652.33	DRUM	80	EA
	652.34	CONE	120	EA
	652.35	CONSTRUCTION SIGNS	652	SF
	652.361	MAINT OF TRAFF CONTROL DEV	180	CD
	652.38	FLAGGER	3000	HR
	656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION	1	LS
	657.24	SEEDING PITS	230	UN
	658.20	ACRYLIC LATEX FINISH, GREEN	8	SY
	659.10	MOBILIZATION	1	LS
	660.21	ON-THE-JOB TRAINING (BID)	2000	HR
*	UNDETERMINED LOCATIONS			

EARTHWORK SUMMARY

COMMON EXCAVATION FOR ESTIMATE

	COMMON EXCAVATION (FROM CROSS SECTIONS)	29.589		
	EARTH FROM DRIVES, OLD ROAD, ETC.	740		
	GRUBBING IN FILL	2.817		
	UNDERCUT	271		
	PEAT EXCAVATION	2.275		
**	PAVEMENT SALVAGE IN FILL (INCLUDES 75 mm UNDERLYING LAYER FOR FOAMED ASPHALT PROCESS)	3.264	**	
	TOTAL COMMON EXCAVATION			38.956

FILL FOR BORROW CALCULATIONS

COMMON FILL (FROM CROSS SECTIONS)	43.331		
FILL FOR DRIVES	774		
GRUBBING IN FILL	2.817		
UNDERCUT	271		
PEAT EXCAVATION	2.275		
PAVEMENT SALVAGE IN FILL (INCLUDES 75 mm UNDERLYING LAYER FOR FOAMED ASPHALT PROCESS)	3.264		
TOTAL FILL			52.732

ROCK EXCAVATION FOR ESTIMATE

ROCK EXCAVATION (FROM CROSS SECTIONS)	463	
TOTAL ROCK EXCAVATION		463

UNCLASSIFIED EXCAVATION FOR ESTIMATE

TOTAL UNCLASSIFIED EXCAVATION	0

AVAILABLE COMMON EXCAVATION FOR BORROW CALCULATIONS

(1) TOTAL COMMON EXCAVATION		38.956
DEDUCTIONS:		
GRUBBING IN CUT		5.991
GRUBBING IN FILL	2.817	
UNDERCUT	271	
PEAT EXCAVATION	2.275	
PAVEMENT SALVAGE (CUT & FILL)	6.696	
(2) TOTAL DEDUCTIONS		18.050
TOTAL AVAILABLE COMMON EXCAVATION (1) MINUS (2)		20.906
TOTAL AVAILABLE STRUCT. EXCAVATIONS (USUALLY UNDERDRAIN ONLY)		518
TOTAL AVAILABLE NON-ROCK EXCAVATION		21.424

COMPUTATION OF WASTE STORAGE & WASTE MATERIAL

TOTAL AVAIL. WASTE STORAGE AREA (FROM CROSS SECTIONS)		9.331
GRUBBING IN CUT	5.991	
GRUBBING IN FILL	2.817	
UNDERCUT	271	
PEAT EXCAVATION	2.275	
TOTAL WASTE MATERIAL TO BE UTILIZED (LOWER OF TOTAL AVAILABLE WASTE STORAGE AREA OR TOTAL WASTE MATERIAL)		11.354
TOTAL WASTE MATERIAL TO BE WASTED (TOTAL WASTE MATERIAL MINUS TOTAL WASTE MATERIAL TO BE UTILIZED)		2.022

COMPUTATION OF GRANULAR BORROW FOR ESTIMATE

GRANULAR BORROW TO REPLACE PEAT	2.277		
GRANULAR BORROW IN LOW WET AREAS	262		
GRANULAR BORROW TO UPGRADE EXCAVATION			
GRANULAR BORROW TO MAINTAIN TRAFFIC	327		
GRANULAR BORROW FOR UNDERCUTTING	275		
GRANULAR BORROW =	3.141	x 1.15 =	3.613

COMPUTATION FOR COMMON BORROW FOR ESTIMATE

(3)TOTAL FILL				52.732
TOTAL AVAIL. NON-ROCK EXCAV.	21.424	x 0.85 =	18.210	
TOTAL AVAIL. ROCK EXCAV.	463	x 1.33 =	616	
TOTAL AVAIL. STR. ROCK EXCAV.	46	x 1.33 =	62	
TOTAL WASTE MATERIAL TO BE UTILIZED	9.331	x 1 =	9.331	
(4)TOTAL AVAILABLE EXCAVATION		=		28.219
BORROW NEEDED = TOTAL FILL MINUS TOTAL AVAILABLE EXCAVATION				24.512
GRANULAR BORROW IN LOW WET AREAS				262
GRANULAR BORROW TO UPGRADE EXCAVATION				0
GRANULAR BORROW TO MAINTAIN TRAFFIC				327
TOTAL FILL MINUS REQUIRED GRAN. BORR. WITHIN FILL				23.923
COMMON BORROW =	18.277	x 1.15 =		27.512

** PAVEMENT SALVAGE IN FILL IS NOT INCLUDED IN THE COMMON EXCAVATION QUANTITY FOR PAYMENT. PAYMENT FOR PAVEMENT SALVAGE IN FILL IS INCIDENTAL TO ITEM 309.36 FULL DEPTH RECYCLED PAVEMENT WITH FOAMED ASPHALT.

NOTE:

ALL CALCULATIONS ARE IN CUBIC YARDS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-0000(000)X

PIN
PIN 00000.00

HIGHWAY PLANS

PROJ. MANAGER	TODD PELLETIER	
DESIGN-DETAILED	M. MORIN	
CHECKED-REVIEWED		
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		
BY	S. HASKELL	
DATE	MAR 2004	

SIGNATURE

P.E. NUMBER

DATE

TOWN
ROUTE

ESTIMATED QUANTITIES AND EARTHWORK SUMMARY

SHEET NUMBER

3

OF 10

Filename: k:\chapter 2\003_Estimate.dgn Username: jonathon.french Division: HIGHWAY Date:12/19/2007

Figure 2-4

STATION	CULVERT PIPE												CATCH BASIN					PIPE ARCH				UNDERDRAIN						ELBOWS, TEES, WYES AND INLET GRATE UNITS	REMARKS
	RCP			CMP		OPTION I		OPTION III														TYPE B		TYPE C					
								SMOOTHLINED		CORRUGATED											GAGE OR WALL THICKNESS	TYPE B	OUTLET	SMOOTHLINED		CORRUGATED		DESCRIPTIONS	
	SIZE	LENGTH	CLASS	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	A1-C	B1-C	MH	E	F	SPAN	RISE	LENGTH		LENGTH	LENGTH	SIZE	LENGTH	SIZE	LENGTH		
ROADWAY CULVERTS																													
STA. 25+90 TO 26+15± LT.								12"	28'	15"	28'																		
STA. 26+20								18"	60'	21"	60'																		
STA. 27+50 TO 28+00 LT.								12"	52'	15"	52'																22° ELBOW		
STA. 30+72 RT.								24"	80'	30"	80'																		
STA. 31+40 TO STA. 31+85± LT.								12"	50'	15"	50'																22° ELBOW	UD OUTLET	
STA. 31+85								24"	64'																			SMOOTHLINED ONLY	
STA. 35+75								18"	66'																			SMOOTHLINED ONLY	
STA. 41+25± TO 41+75 LT.								12"	48'																			SMOOTHLINED ONLY	
STA. 41+70 TO 41+75 LT.								12"	22'																			SMOOTHLINED ONLY	
STA. 46+10 TO STA. 47+25± LT.								15"	116'	18"	116'																	OUTLET PIPE	
STA. 46+60 TO STA. 47+73± RT.								12"	114'	15"	114'																	OUTLET PIPE	
STA. 48+50± TO STA. 48+70 RT.								12"	24'	15"	24'																30° ELBOW	UD OUTLET	
STA. 58+48								18"	58'	21"	58'																		
STA. 63+50								36"	82'	42"	82'																		
STA. 69+23								21"	60'	24"	60'																		
STA. 73+48 LT. & RT.				30"	8'																							EXTEND EXIST. CULV., 2' LT.	
STA. 83+25								18"	68'	21"	68'																	SKEWED AHEAD LT., 24±.	
STA. 86+75±								30"	70'	36"	70'																		
STA. 86+80± TO STA. 87+20 RT.								15"	44'	18"	44'																30° ELBOW	UD OUTLET	
STA. 89+80, 16' RT. - 34' RT.								15"	18'	18"	18'																15 IN. INLET GRATE	INLET PIPE	
STA. 105+66								30"	62'	36"	62'																		
STA. 113+30±																												REPLACE EXIST. 18 CULV.	
STA. 115+10								21"	62'	24"	62'																		
STA. 123+85 TO STA. 124+00 LT.								12"	22'	15"	22'																45° ELBOW	UD OUTLET	
STA. 127+25±	45"	28'	III																									SKEWED AHEAD LT., 45°±	
STA. 128+88								30"	56'	36"	56'																		
CATCH BASINS AND MANHOLES																													
STA. 17+06± LT.													1																
STA. 19+80 LT.													1/1/4														9 FT. DEPTH		
STA. 23+80 LT.													1																
STA. 27+50, 28' LT.														1															
STA. 30+58 LT.													1																
STA. 39+30 LT.													1																
STA. 40+50 RT.													1																
STA. 41+25±, 37'± LT.														1															
STA. 41+70 LT.													1																
STA. 41+75±, 38'± LT.																1												TYPE F4-C	
DRIVEWAY CULVERTS																													
STA. 10+10 RT.						15"	36'																						
STA. 12+70 RT.						15"	34'																						
STA. 18+25 RT.						15"	40'																						
STA. 24+55 RT.						15"	38'																						
STA. 26+50 RT.						18"	48'																						
STA. 32+50 LT.						24"	50'																						
STA. 35+40 RT.						15"	38'																						
STA. 76+35 LT.						15"	70'																						
STA. 80+95 RT.						15"	34'																						
STA. 85+12 RT.						15"	32'																						
STA. 94+62 RT.						18"	50'																						
STA. 118+00 RT.						15"	46'																						
STA. 122+15 RT.						15"	42'																						
STA. 127+12 LT.						15"	28'																						
STA. 144+85 RT.						18"	50'																						
STA. 146+65 RT.						15"	44'																						
STA. 151+20 LT.						15"	36'																						
UNDERDRAIN																													
STA. 2+80 TO STA. 7+25 LT.																						445'							
STA. 2+80 TO STA. 7+25 RT.																						445'							
STA. 7+25 TO STA. 7+50 LT.																							28'					22° ELBOW	
STA. 7+25 TO STA. 7+50 RT.																							28'					22° ELBOW	
STA. 12+25± TO STA. 14+60± LT.																						235'							
STA. 14+60± TO STA. 14+90± LT.																							36'					30° ELBOW	
STA. 17+08± TO STA. 19+78 LT.																								12"	270'	15"	270'		
STA. 23+82 TO STA. 25+90 LT.																								12"	208'	15"	208'		
STA. 28+00 TO STA. 30+56 LT.																								12"	256'	15"	256'		
STA. 30+60 TO STA. 31+40 LT.																								12"	80'	15"	80'		
STA. 33+70 TO STA. 35+50 LT.																						180'							
STA. 35+50 TO STA. 35+75± LT.																							34'					45° ELBOW	
STA. 36+40± TO STA. 39+28 LT.																						288'							
STA. 37+55± TO STA. 40+48 RT.																						293'							
STA. 39+32 TO STA. 41+68 LT.																								12"	236'				

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-0000(000)X

PIN
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HIGHWAY PLANS

	DATE	BY
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

TOWN
ROUTE

DRAINAGE SHEET

SHEET NUMBER

4

OF 10

Figure 2-5

GENERAL NOTES

1. THE UTILITIES INVOLVED IN THIS CONTRACT ARE AS FOLLOWS:

2. ALL UTILITY FACILITIES SHALL BE ADJUSTED BY THE RESPECTIVE UTILITIES UNLESS OTHERWISE NOTED.

3. NO UTILITY INVOLVEMENT IS ANTICIPATED.

4. ALL JOINTS BETWEEN EXISTING AND PROPOSED HOT BITUMINOUS PAVEMENT SHALL BE BUTTED. PAYMENT SHALL BE MADE UNDER ITEM 202.203 PAVEMENT BUTT JOINT.

5. CONSTRUCT BUTT JOINTS AT ALL PAVED DRIVES AND ENTRANCES.

6. GRIND TRANSITION TAPERS AT CATCH BASINS UNDER ITEM NO. 202.203, PAVEMENT BUTT JOINTS, AS DIRECTED BY THE RESIDENT.

7. TRIM ALL TREE BRANCHES TO 20 FEET ABOVE THE PAVEMENT AND 21 FEET FROM CENTERLINE, AS WELL AS ANY BRANCHES DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION. PAYMENT SHALL BE MADE UNDER THE APPROPRIATE RENTAL ITEMS. IF A TREE SPECIALIST IS SUBCONTRACTED FOR THIS WORK, PAYMENT WILL BE MADE BY INVOICE PLUS 5%.

8. CLEARING LIMITS SHALL BE 10' BEYOND AND PARALLEL TO THE CONSTRUCTION SLOPE LINES OR AS SHOWN ON THE PLANS UNLESS OTHERWISE AUTHORIZED BY THE RESIDENT.

9. ALL CLEARING SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO SEPARATE PAYMENT WILL BE MADE. THE ACTUAL LINES FOR CLEARING SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE RESIDENT

10. CLEARING LIMITS SHALL BE 15' BEYOND AND PARALLEL TO THE CONSTRUCTION SLOPE LINE IN NON-GUARDRAIL FILL AREAS AND 10' ELSEWHERE. SELECTIVE CLEARING AND THINNING LIMITS SHALL BE BETWEEN THE CLEARING LIMITS AND THE RIGHT OF WAY LINES. OR AS SHOWN ON THE PLANS. (NOTE: INTERSTATE STANDARD)

11. THE CLEARING AND SELECTIVE CLEARING AND THINNING LINES SHOWN ON THE PLANS ARE FOR ESTIMATING PURPOSES ONLY. THE ACTUAL LINES FOR CLEARING AND THINNING SHALL BE ESTABLISHED IN THE FIELD BY THE CONTRACTOR AND APPROVED BY THE RESIDENT.

12. STUMPS HAVE BEEN ESTIMATED TO BE REMOVED UNDER ITEM 201.24, REMOVE STUMP. HOWEVER, WHERE DIRECTED BY THE RESIDENT, ITEM 631.20, STUMP CHIPPER RENTAL, MAY BE USED TO REMOVE STUMPS.

13. GRUBBING IN FILL AREAS HAS BEEN SHOWN ON THE CROSS SECTIONS AND THE QUANTITIES NOTED. THESE LIMITS ARE APPROXIMATE AND HAVE BEEN USED FOR ESTIMATING PURPOSES ONLY. ACTUAL GRUBBING LIMITS MAY VARY BASED ON FIELD CONDITIONS AS DIRECTED BY THE RESIDENT. ESTIMATED GRUBBING DEPTHS ARE _____ INCHES IN FIELD AREAS AND _____ INCHES IN WOODED AREAS.

14. WHERE DEEMED NECESSARY BY THE RESIDENT, UNSUITABLE EXCESS MATERIAL SHALL BE REMOVED FROM THE EDGES OF SHOULDERS AND PLACED IN DESIGNATED AREAS OR DISPOSED OF. PAYMENT WILL BE MADE UNDER THE APPROPRIATE CONTRACT ITEMS.

15. ALL INSLOPE AND DITCHES IN CUT AREAS SHALL BE GRADED AS SHOWN ON THE TYPICALS OR FLATTER, OR AS DIRECTED BY THE RESIDENT.

16. THE CONTRACTOR SHALL PLAN AND CONDUCT THEIR WORK ACCORDINGLY SO THAT UPON FINAL COMPLETION OF THE PROJECT THERE IS NO DROP-OFF FROM THE EDGE OF SHOULDER PAVEMENT. ALL REMAINING OR DISTURBED MATERIAL ON SLOPES OR IN DITCHES ON THE PROJECT SHALL BE CAPABLE OF ATTAINING A GROWTH OF GRASS THAT IS ACCEPTABLE ACCORDING TO STANDARD SPECIFICATION 618.10. NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.

17. DRIVEWAY FILL SIDE SLOPES SHALL BE THE SAME AS THE NON-GUARDRAIL FILL SLOPES UNLESS OTHERWISE NOTED ON THE PLANS.

18. ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OF OFF THE PROJECT IN WASTE AREAS APPROVED BY THE RESIDENT.

19. REQUIRED DITCH PROTECTION SHOWN ON THE PLANS OR IN THE CONSTRUCTION NOTES IS FOR ESTIMATING PURPOSES ONLY. THE ACTUAL TYPE AND LOCATION OF DITCH PROTECTION MAY BE ALTERED BY THE RESIDENT.

20. IF FOUNDATION MATERIAL IS REQUIRED UNDER CULVERTS, IT SHALL MEET THE REQUIREMENTS FOR GRANULAR BORROW - UNDERWATER BACKFILL AND WILL PAID FOR AS GRANULAR BORROW.

21. GRANULAR BORROW USED TO BACKFILL MUCK EXCAVATION OR IN LOW WET AREAS TO 1' ABOVE WATER LEVEL OR OLD GROUND SHALL MEET REQUIREMENTS FOR GRANULAR BORROW UNDERWATER BACKFILL.

22. EXISTING INSLOPES STEEPER THAN 2:1 IN PROPOSED FILL AREAS SHALL BE BENCHED AS DIRECTED BY THE RESIDENT.

25. RESIDENTIAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH: 2" HOT MIX ASPHALT AND 12" AGGREGATE SUBBASE COURSE GRAVEL.

26. COMMERICAL PAVED ENTRANCES SHALL BE CONSTRUCTED WITH: 3" HOT MIX ASPHALT AND 11" AGGREGATE SUBBASE COURSE GRAVEL.

27. UNPAVED ENTRANCES SHALL BE CONSTRUCTED WITH 14" AGGREGATE SUBBASE COURSE GRAVEL OR 11" AGGREGATE SUBBASE COURSE GRAVEL AND 3" UNTREATED AGGREGATE SURFACE COURSE UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT

28. CRUSHED STONE ENTRANCES SHALL BE CONSTRUCTED WITH 12" AGGREGATE SUBBASE COURSE GRAVEL AND 2" CRUSHED STONE SURFACE UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT

29. GRASSED ENTRANCES SHALL BE CONSTRUCTED WITH 12" AGGREGATE SUBBASE COURSE GRAVEL AND 2" LOAM, SEED & MULCH UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT

30. A 3' PAVED LIP SHALL BE PLACED AT ALL GRAVEL ENTRANCES UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT.

31. ALL PAVED WALKS TO BE CONSTRUCTED WITH 12" AGGREGATE SUBBASE COURSE-GRAVEL AND 2" HOT MIX ASPHALT UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE RESIDENT

32. PLACE 12 INCHES GRAVEL AND 2 INCHES HOT MIX ASPHALT AROUND CATCH BASINS IN GRASSED AREAS (3' OUTSIDE OF FRAME) AND PAINT WITH ACRYLIC LATEX COLOR FINISH - GREEN. PAYMENT SHALL BE UNDER THE APPLICABLE CONTRACT ITEMS.

33. ITEM * 411.10, UNTREATED AGGREGATE SURFACE COURSE, MAY ALSO MEET THE GRADATION REQUIREMENTS OF ITEM * 204.20, ADD SHOULDER AGGREGATE.

34. ANY NECESSARY CLEANING OF EXISTING PAVEMENT PRIOR TO PAVING SHALL BE INCIDENTAL TO THE RELATED PAVING ITEMS.

35. ALL EXISTING PAVED SHOULDERS AND WIDENINGS TO BE RESURFACED AS DIRECTED BY THE RESIDENT.

36. SHOULDER SHIM SHALL TAPER TO 0 MM [0 IN] PRIOR TO FACE OF EXISTING CURB AND GUARDRAIL.*

37. WHEN SUPER ELEVATION EXCEEDS THE SLOPE OF THE LOW SIDE SHOULDER, THE SHOULDER PAVEMENT WILL HAVE SAME SLOPE AS TRAVELED WAY.

38. THE FOLLOWING SHALL BE INCIDENTAL TO THE 603 ITEM(S):

- ANY CUTTING OF EXISTING CULVERTS AND OR CONNECTORS NECESSARY TO INSTALL NEW CULVERT REPLACEMENTS OR EXTENSIONS
- ALL PIPE EXCAVATION INCLUDING ANY CUTTING AND REMOVAL OF PAVEMENT
- ALL DITCHING AT PIPE ENDS
- FURNISHING, PLACING, GRADING, AND COMPACTING OF ANY NEW GRAVEL AND/OR FILL MATERIAL INCLUDING GRANULAR BORROW USED UNDER PIPES AND FOR TEMPORARY DETOURS TO MAINTAIN TRAFFIC DURING PIPE INSTALLATION (EXCAVATION IS ALSO INCIDENTAL).
- GRANULAR BORROW UNDER THE PIPE SHALL MEET THE REQUIREMENTS FOR UNDERWATER BACKFILL
- ALL WORK NECESSARY TO CONNECT TO EXISTING PIPES AND DRAINAGE STRUCTURES
- FLOW LINES MAY BE CHANGED BY 1.5 FT
- ANY NECESSARY CLEARING OF BRUSH AND NON-PAY TREES AT CULVERT ENDS

39. EXISTING CULVERTS TO REMAIN SHALL BE CLEANED AS DIRECTED BY THE RESIDENT. PAYMENT WILL BE MADE UNDER ITEM 631.32 CULVERT CLEANER (INCLUDING OPERATOR).

40. EXISTING CULVERTS AND CATCH BASINS WILL BE CLEANED AS DIRECTED BY THE RESIDENT UNDER THE APPROPRIATE PAY ITEMS.

41. NO EXISTING DRAINAGE SHALL BE ABANDONED, REMOVED OR PLUGGED WITHOUT PRIOR APPROVAL OF THE RESIDENT.

42. INLETS AND OUTLETS OF ALL CULVERTS SHALL BE RIPRAPPED UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE RESIDENT.

43. THE CULVERT SIZES SHOWN ON THE PLANS AND CROSS SECTIONS ARE FOR SMOOTHLINED PIPES. FOR COMPARABLE CORRUGATED SIZES SEE THE DRAINAGE TABULATION.

44. ANY NECESSARY CUTTING OF EXISTING PIPES TO FIT IN AREAS OF PROPOSED CATCH BASINS WILL NOT BE PAID FOR SEPARATELY AND WILL BE CONSIDERED INCIDENTAL TO ITEM 604.

45. ANY NECESSARY CUTTING OF EXISTING CATCH BASINS TO ALLOW FOR PROPOSED PIPE CONNECTIONS WILL NOT BE PAID FOR SEPARATELY AND WILL BE CONSIDERED INCIDENTAL TO ITEM 603 OR 605.

46. AS DIRECTED BY THE RESIDENT, ALL EXISTING UNDERDRAIN OUTLETS SHALL BE LOCATED, CLEANED OUT AND DITCHED AS REQUIRED OR REPLACED AS NECESSARY. PAYMENT WILL BE MADE UNDER APPROPRIATE CONTRACT ITEMS.

47. ALL CONNECTIONS FOR UNDERDRAIN (U.D.) TO ROADWAY CULVERTS WILL BE INCIDENTAL TO U.D. PIPE ITEMS.

48. A 3 FT. X 3 FT. SQUARE RIPRAP PAD SHALL BE CONSTRUCTED AT U.D. OUTLETS.

49. EXISTING ABANDONED WATER MAINS BROKEN BY THE CONTRACTOR DURING CONSTRUCTION SHALL HAVE THE ENDS PLUGGED WITH BRICK AND MORTAR. COST FOR ALL LABOR AND MATERIAL WILL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO DIRECT PAYMENT WILL BE MADE.

50. GUARDRAIL END TREATMENTS SHALL BE INSTALLED CONCURRENTLY WITH THE PLACEMENT OF EACH SECTION OF BEAM GUARDRAIL.

51. GUARDRAIL WHICH IS REMOVED AND NOT REUSED ON THE PROJECT BECOMES PROPERTY OF THE STATE AND SHALL BE DELIVERED TO _____ REMOVAL, DELIVERY, DISMANTLING, AND STACKING SHALL BE INCIDENTAL TO THE GUARDRAIL ITEMS.

52. HOLES CREATED BY GUARDRAIL REMOVAL WILL BE FILLED AND COMPACTED WITH APPROVED MATERIALS AS DIRECTED BY THE RESIDENT. PAYMENT TO BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.

53. ALL EXISTING GUARDRAIL SHALL BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR. REMOVAL AND DISPOSAL SHALL BE CONSIDERED INCIDENTAL TO THE GUARDRAIL ITEMS.

54. TWO REFLECTORIZED FLEXIBLE G.R. MARKERS (ITEM 606.353) WILL BE INSTALLED AT EACH GUARDRAIL END. A DELINEATOR POST (ITEM 606.35) WILL BE INSTALLED AT EACH UNDERDRAIN OUTLET.

55. CONNECTIONS FOR PROPOSED GUARDRAIL TO EXISTING GUARDRAIL WILL BE CONSIDERED INCIDENTAL TO ITEM 606.

56. ALL CATCH BASINS TYPE A PLACED ON CIRCULAR CURB TYPE I SHALL HAVE THE CURB INLET CUT THE SAME RADIUS AS ADJACENT CIRCULAR CURB. PAYMENT SHALL BE INCIDENTAL TO ITEM 604

57. IN AREAS WHERE CURB TYPE I WILL BE RESET, THE EXISTING CURB SUITABLE FOR USE AS TERMINAL ENDS SHALL BE CUT IF NECESSARY AND UTILIZED AS SUCH AND PAID FOR UNDER ITEM 609.38 (RESET CURB TYPE I).

58. BACKING UP BITUMINOUS CURB IS INCIDENTAL TO THE CURB ITEMS. IN AREAS WHERE NEW BITUMINOUS CURB IS DESIGNATED TO REPLACE EXISTING, THE REMOVAL OF THE OLD BITUMINOUS CURB SHALL BE INCIDENTAL TO THE NEW CURB.

59. LOAM HAS BEEN ESTIMATED FOR DISTURBED LAWN AREAS. . ACTUAL PLACEMENT OF THE LOAM SHALL BE AS NOTED ON THE PLANS OR DESIGNATED BY THE RESIDENT.

62. LOAM SHALL BE PLACED TO A NOMINAL DEPTH OF 4 INCHES IN LAWN AREAS AND 2 INCHES IN ALL OTHER AREAS UNLESS OTHERWISE NOTED OR DIRECTED.

63. DIRTY BORROW SHALL BE PLACED TO A NOMINAL DEPTH OF 2 INCHES UNLESS OTHERWISE NOTED OR DIRECTED.

64. ACRYLIC LATEX COLOR FINISH GREEN (ITEM 658.20) SHALL BE PLACED ON ALL PAVED ISLANDS.

65. WHITE PAVEMENT/CURB MARKING (ITEM 627.65) SHALL BE APPLIED TO ALL ISLAND TAPERED ENDS.

68. ANY DAMAGE TO THE SLOPES CAUSED BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL, OR OPERATION SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT. ALL WORK, EQUIPMENT, AND MATERIALS REQUIRED TO MAKE REPAIRS SHALL BE AT THE CONTRACTOR'S EXPENSE.

70. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.

GEOTECHNICAL NOTES

1. BIDDERS AND CONTRACTORS MAY OBTAIN A COPY OF THE PROJECT GEOTECHNICAL REPORT MAINEDOT SOILS REPORT NUMBER 2007-XX, DATED DECEMBER 2007, BY CONTACTING THE PROJECT MANAGER.

2. GEOTECHNICAL INFORMATION FURNISHED OR REFERRED TO IN THIS PLAN SET IS FOR THE BIDDER'S AND CONTRACTOR'S USE. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR INTERPRETATIONS WILL BE REPRESENTATIVE OF ACTUAL SUBSURFACE CONDITIONS AT THE TIME OF CONSTRUCTION. THE DEPARTMENT SHALL NOT BE RESPONSIBLE FOR THE BIDDER'S AND CONTRACTOR'S INTERPRETATIONS OF, OR CONCLUSIONS DRAWN FROM, THE GEOTECHNICAL INFORMATION. THE BORING LOGS CONTAINED IN THE PLAN SET PRESENT FACTUAL AND INTERPRETIVE SUBSURFACE INFORMATION COLLECTED AT DISCRETE LOCATIONS. DATA PROVIDED MAY NOT BE REPRESENTATIVE OF THE SUBSURFACE CONDITIONS BETWEEN BORING LOCATIONS.

3. EXISTING PAVEMENT SHALL NOT BE USED AS COLD-IN-PLACE RECLAIM SUBBASE AGGREGATE. THE CONTRACTOR MAY USE SALVAGED PAVEMENT MATERIALS FOR TRAFFIC MAINTENANCE AND THEN STABILIZE IT IN ACCORDANCE WITH SPECIAL PROVISION 308.

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HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

TOWN
ROUTE

GENERAL NOTES

SHEET NUMBER

5

OF 10

Filename: ...\005_GENERAL_Notes.dgn Division: HIGHWAY Username: jonathon.french Date:12/19/2007

Figure 2-6

DRIVEWAYS & ENTRANCES & ISLANDS & YARDS

LOCATION			DESCRIPTION	OPENING
48+41		LT	PAVED ENTRANCE	
48+60	TO 49+96	LT	PAVED ISLAND AND YARD	
50+05		RT	PAVED DRIVE	44 FT.
50+11		LT	PAVED ENTRANCE	30 FT.
50+26	TO 50+92	LT	PAVED ISLAND AND YARD	
51+25		LT	PAVED ENTRANCE	
51+55	TO 53+00	LT	PAVED ISLAND AND YARD	
52+37		RT	PAVED DRIVE	32 FT.
53+13		LT	PAVED ENTRANCE	
53+45		LT	PAVED ENTRANCE	
53+97		RT	PAVED ENTRANCE	42 FT.
54+18	TO 54+31	RT	PAVED ISLAND AND YARD	
54+50		LT	PAVED ENTRANCE	
54+51.5		RT	PAVED ENTRANCE	41 FT.
54+72	TO 55+08	RT	PAVED ISLAND AND YARD	
55+15		LT	PAVED ENTRANCE	42 FT.
55+23		RT	PAVED ENTRANCE	30 FT.
55+38	TO 55+80	RT	PAVED ISLAND AND YARD	
56+01		RT	PAVED ENTRANCE	42 FT.
56+22	TO 56+48	RT	PAVED ISLAND AND YARD	
56+56		LT	PAVED ENTRANCE	42 FT.
57+08		RT	PAVED ENTRANCE	32 FT.
58+21		RT	PAVED ENTRANCE	32 FT.
58+40		LT	PAVED DRIVE	20 FT.
61+92		LT	PAVED ENTRANCE	
62+38		LT	PAVED ENTRANCE	
62+58	TO 63+69	LT	PAVED ISLAND AND YARD	
63+90		LT	PAVED ENTRANCE	42 FT.
63+92		RT	PAVED ENTRANCE	
64+11	TO 64+37	LT	PAVED ISLAND AND YARD	
65+36		LT	PAVED ENTRANCE	
67+12		LT	PAVED DRIVE	
67+45	SKEWED AHEAD	RT	PAVED DRIVE	28 FT.
69+71		LT	PAVED DRIVE	26 FT.
70+41		RT	PAVED DRIVE	30 FT.
70+69	SKEWED BACK	LT	PAVED DRIVE	32 FT.
71+07		RT	PAVED DRIVE	26 FT.
71+73		LT	PAVED ENTRANCE	42 FT.
72+97		RT	PAVED ENTRANCE	26 FT.
75+47		RT	PAVED ENTRANCE	24 FT.
76+30	TO 77+21	LT	PAVED ENTRANCE	
76+87		RT	PAVED DRIVE	22 FT.
77+72		RT	PAVED DRIVE	24 FT.
78+41		RT	PAVED DRIVE	
78+73		RT	PAVED DRIVE	
78+87		LT	PAVED DRIVE	24 FT.
80+04		RT	PAVED DRIVE	42 FT.
80+68		RT	PAVED ENTRANCE	20 FT.
80+87		LT	PAVED DRIVE	32 FT.
82+75		RT	PAVED DRIVE	32 FT.
82+78		LT	PAVED ENTRANCE	42 FT.
83+18		RT	PAVED CURB OPENING	20 FT.
83+90		RT	PAVED DRIVE	20 FT.
84+08		LT	PAVED DRIVE	24 FT.
84+57		LT	PAVED ENTRANCE	42 FT.
84+72	TO 84+89	LT	PAVED ISLAND AND YARD	
85+02		RT	PAVED DRIVE	24 FT.
85+11		LT	PAVED ENTRANCE	
85+59		RT	PAVED DRIVE	24 FT.
87+40		RT	PAVED ENTRANCE	60 FT.
87+51		LT	PAVED DRIVE	34 FT.
88+10		LT	PAVED ENTRANCE	28 FT.
89+45		LT	PAVED ENTRANCE	42 FT.
90+13	SKEWED AHEAD	RT	PAVED ENTRANCE	32 FT.
91+18		LT	PAVED ENTRANCE	
51+19.82	TO 51+29.82	LT	PAVED ISLAND	
53+21	TO 53+33	LT	PAVED ISLAND	
62+09.60	TO 62+17.10	LT	PAVED ISLAND	

WALK WAYS

LOCATION		DESCRIPTION
58+01	LT	PAVED WALK
69+36	LT	PAVED WALK
72+65	RT	PAVED WALK
77+21	RT	PAVED WALK
80+43	LT	PAVED WALK
82+98	RT	PAVED WALK
83+66	RT	PAVED WALK

CLEARING - ITEM * 201.11

STATION	TO	STATION	
50+30	TO	52+09	RT.
58+67	TO	62+15	RT.
58+93	TO	61+74	LT.
64+49	TO	67+49	RT.
66+20	TO	66+95	LT.
67+87	TO	69+35	RT.
68+97	TO	69+23	LT.
71+13	TO	71+50	LT.
71+32	TO	72+24	RT.
74+18	TO	74+99	LT.
74+71	TO	74+93	RT.

REMOVING SINGLE TREE TOP ONLY - ITEM * 201.23

STATION	OFFSET		DESCRIPTION	QUANTITY	
53+43.20	35.7'	RT.	18" OAK	1	EACH
67+27.50	25.3'	LT.	34" OAK	1	EACH
71+28.70	25.3'	LT.	32" WHITE OAK	1	EACH
86+20	28.3'	LT.	26" MAPLE	1	EACH
86+58.60	31.6'	LT.	12" MAPLE	1	EACH
86+61	28.8'	LT.	12" MAPLE	1	EACH

REMOVING STUMPS - ITEM * 201.24

STATION	OFFSET		DESCRIPTION	QUANTITY	
53+43.20	35.7'	RT.	18" OAK	1	EACH
67+27.50	25.3'	LT.	34" OAK	1	EACH
71+28.70	25.3'	LT.	32" WHITE OAK	1	EACH
86+20	28.3'	LT.	26" MAPLE	1	EACH
86+58.60	31.6'	LT.	12" MAPLE	1	EACH
86+61	28.8'	LT.	12" MAPLE	1	EACH

ALTER CATCH BASIN TO MANHOLE - ITEM * 604.16

STATION	OFFSET		QUANTITY	
72+89.20	33.90'	LT.	1	EACH

ADJUST MANHOLE OR CATCH BASIN TO GRADE - ITEM * 604.18

STATION	OFFSET		QUANTITY	
54+93.70	27.50'	RT.	1	EACH
72+88.10	30.90'	RT.	1	EACH

GUARD RAIL TYPE 3c - SINGLE RAIL - ITEM * 606.23

STATION TO STATION	LENGTH
59+50 - 63+00 RT.	350 LF*
58+96 - 61+45 LT.	250 LF**
65+07 - 67+07 RT.	200 LF
65+60 - 65+85 LT.	25 LF

* CONNECT GUARDRAIL END AT 59+50 TO THE LEDGE OR BURY IN THE BACKSLOPE AS PER SPECIAL GUARD RAIL DETAIL SHEET OR AS DIRECTED BY THE RESIDENT.

** CONNECT GUARD END AT 58+96 TO THE LEDGE OR BURY IN THE BACKSLOPE AS PER SPECIAL GUARD RAIL DETAIL SHEET OR AS DIRECTED BY THE RESIDENT.

GUARD RAIL 350 FLARED TERMINAL - ITEM * 606.79

STATION TO STATION	QUANTITY
63+00 - 63+37.5 RT.	1 EA
67+07 - 67+44.5 RT.	1 EA

CURB TYPE 3 MOLD 2 - ITEM * 609.31

STATION TO STATION	LENGTH
80+79 - 82+64 RT.	185 LF
82+86 - 83+07 RT.	21 LF
83+29 - 83+88 RT.	59 LF

CURB TYPE 3 MOLD 3 - ITEM * 609.31

STATION TO STATION	LENGTH
85+13 - 85+48 RT.	35 LF

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HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	ERNIE MARTIN		
DESIGN-DETAILED	B.C.	M.P.	APR 2005
CHECKED-REVIEWED	-----	-----	-----
DESIGN2-DETAILED2	-----	-----	-----
DESIGN3-DETAILED3	-----	-----	-----
REVISIONS 1	-----	-----	-----
REVISIONS 2	-----	-----	-----
REVISIONS 3	-----	-----	-----
REVISIONS 4	-----	-----	-----
FIELD CHANGES	-----	-----	-----

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DATE

TOWN
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CONSTRUCTION NOTES

SHEET NUMBER

6

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Filename: ...\006_CONSTRUCTION_Notes.dgn Division: HIGHWAY Username: jonathon.french Date:12/19/2007

Figure 2-7

ITEM 610.18 - STONE DITCH PROTECTION

STA. 109+75 TO STA. 119+18 LT.

ITEM 606.79 - GUARDRAIL 350 FLARED TERMINAL

STATION TO STATION	QUANTITY
119+50.0 - 119+87.5 LT.	1 EA.
119+00.0 - 119+37.5 RT.	1 EA.
121+25.0 - 121+62.5 RT.	1 EA.

ITEM 606.232 - GUARDRAIL TYPE 3c - OVER 15' RADIUS

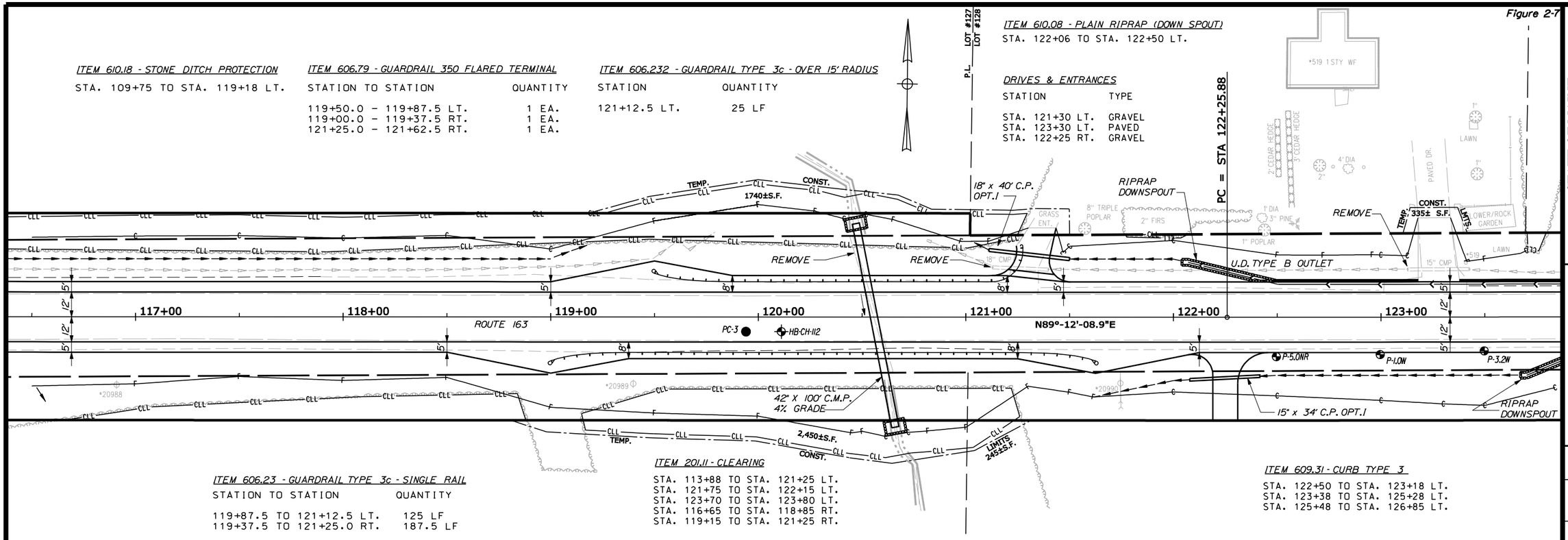
STATION	QUANTITY
121+12.5 LT.	25 LF

ITEM 610.08 - PLAIN RIPRAP (DOWN SPOUT)

STA. 122+06 TO STA. 122+50 LT.

DRIVES & ENTRANCES

STATION	TYPE
STA. 121+30 LT.	GRAVEL
STA. 123+30 LT.	PAVED
STA. 122+25 RT.	GRAVEL



ITEM 606.23 - GUARDRAIL TYPE 3c - SINGLE RAIL

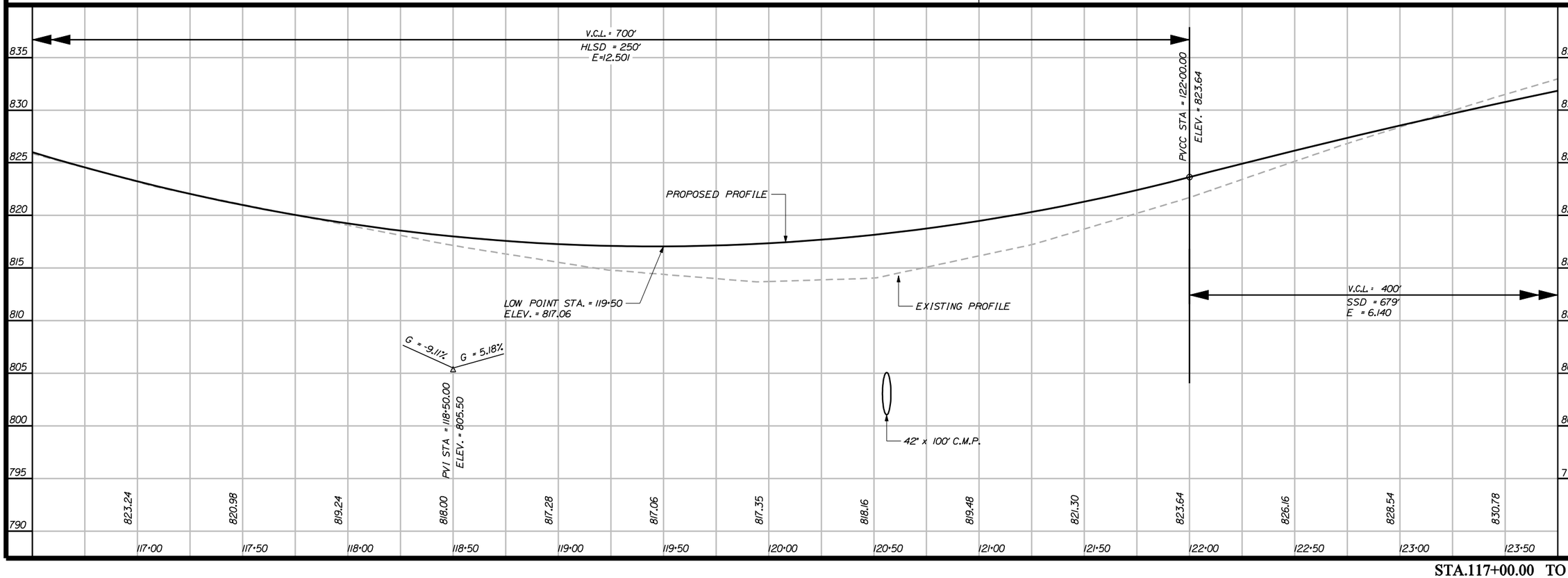
STATION TO STATION	QUANTITY
119+87.5 TO 121+12.5 LT.	125 LF
119+37.5 TO 121+25.0 RT.	187.5 LF

ITEM 201.11 - CLEARING

STA. 113+88 TO STA. 121+25 LT.
STA. 121+75 TO STA. 122+15 LT.
STA. 123+70 TO STA. 123+80 LT.
STA. 116+65 TO STA. 118+85 RT.
STA. 119+15 TO STA. 121+25 RT.

ITEM 609.31 - CURB TYPE 3

STA. 122+50 TO STA. 123+18 LT.
STA. 123+38 TO STA. 125+28 LT.
STA. 125+48 TO STA. 126+85 LT.



STA.117+00.00 TO STA. 123+50.00

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BRIDGE NO.____

HIGHWAY PLANS

BY	DATE
	MAY 2008

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DATE

PROJ. MANAGER	
DESIGN-DETAILED	
CHECKED-REVIEWED	
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

TOWN
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PLAN AND PROFILE

SHEET NUMBER

7

OF 10

Filename: k:\chapter 2\007_PLAN_PROF.DGN Username: jonathon.french Division: HIGHWAY Date:12/19/2007

CURVE DATA
DAB REPORT FOR STRING MRO2 = NEW & EXIST. CURB LT. ON RAMP NO. 3
EXIST. INSTALLED BY OTHERS UNDER PROJECT NO. IM-295-1098(810)E

PBC 1	0+00.00	1000831.67	291150.39	
PI =	0+47.24			
D =	71° - 37′ - 11.1″			
I =	61° - 07′ - 29.0″	LT		
R =	80.00			
L =	85.35			
T =	47.24			
E =	12.91			
LC =	S 70 ° - 45′ - 14.8″ E			81.36′
PI COORD.=		1000862.16	291114.30	
CP COORD.=		1000892.78	291202.02	
PT 93	0+85.35	1000908.48	291123.57	
	N 78° - 41′ - 00.7″ E			260.12′
ANG. PT. 357	3+45.47	1001163.54	291174.61	
AND PCC				
PI =	4+29.28			
D =	02° - 00′ - 55.7″			
I =	03° - 22′ - 37.1″	LT		
R =	2842.79			
L =	167.55			
T =	83.80			
E =	1.23			
LC =	N 73° - 38′ - 51.2″ E			167.53′
PI COORD.=		1001244.62	291195.83	
CP COORD.=		1000443.90	293924.81	
PAC 528	5+13.03	1001324.30	291221.78	

CURVE DATA
DAB REPORT FOR STRING MRO3 = PROP. ISLAND ON RAMP NO. 3

PBT 1	0+00.00	1000862.585	291070.879	
	S 73° - 38′ - 33.7″ E			1.70′
PC 5	0+01.70	1000860.954	291070.401	
RAD = 4.00′ RT.				
L = 5.71′				
PT 17	0+17.41	1000856.189	291072.576	
	N 24° - 34′ - 03.3″ W			14.81′
PC 48	0+22.22	1000850.030	291086.049	
RAD = 2.00′ RT.				
L = 4.59′				
PRC 58	0+26.81	1000852.431	291088.794	
RAD = 141.00′ LT.				
L = 5.23′				
PT 71	0+32.04	1000857.499	291087.330	
	S 17° - 13′ - 06.2″ E			17.27′
PAT 106	0+49.31	1000862.585	291070.879	

CURVE DATA
DAB REPORT FOR STRING MRO4 = PROP. ISLAND ON RAMP NO. 3

PBT 1	0+00.00	1000870.908	291073.323	
	N 73° - 36′ - 46.7″ E			19.47′
PC 40	0+19.47	1000889.583	291078.815	
RAD = 2.00′ LT.				
L = 5.65′				
PRC 53	0+25.12	1000889.080	291082.733	
RAD = 141.00′ RT.				
L = 21.89′				
PT 99	0+47.01	1000867.285	291085.030	
	S 17° - 11′ - 52.6″ E			12.33′
PAT 124	0+59.34	1000870.908	291073.323	

GEOMETRICS
STATION & OFFSETS FOR MRO2 TO MC10

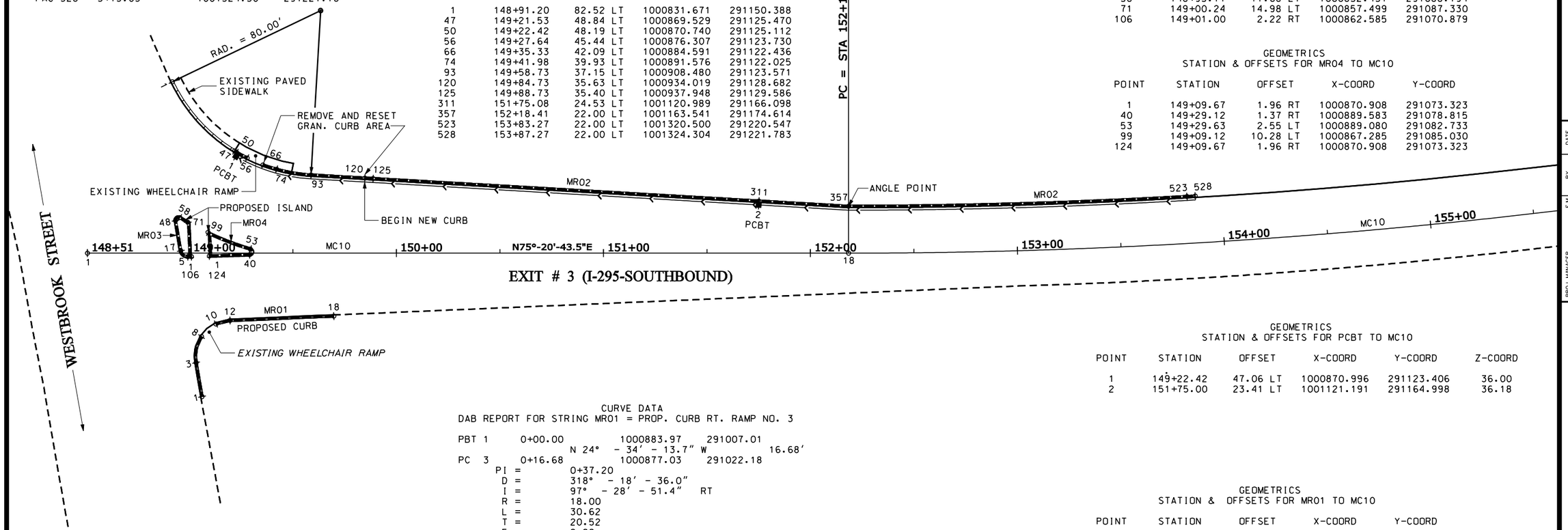
POINT	STATION	OFFSET	X-COORD	Y-COORD
1	148+91.20	82.52 LT	1000831.671	291150.388
47	149+21.53	48.84 LT	1000869.529	291125.470
50	149+22.42	48.19 LT	1000870.740	291125.112
56	149+27.64	45.44 LT	1000876.307	291123.730
66	149+35.33	42.09 LT	1000884.591	291122.436
74	149+41.98	39.93 LT	1000891.576	291122.025
93	149+58.73	37.15 LT	1000908.480	291123.571
120	149+84.73	35.63 LT	1000934.019	291128.682
125	149+88.73	35.40 LT	1000937.948	291129.586
311	151+75.08	24.53 LT	1001120.989	291166.098
357	152+18.41	22.00 LT	1001163.541	291174.614
523	153+83.27	22.00 LT	1001320.500	291220.547
528	153+87.27	22.00 LT	1001324.304	291221.783

GEOMETRICS
STATION & OFFSETS FOR MRO3 TO MC10

POINT	STATION	OFFSET	X-COORD	Y-COORD
1	149+01.00	2.22 RT	1000862.585	291070.879
5	148+99.30	2.27 RT	1000860.954	291070.401
17	148+95.24	1.04 LT	1000856.189	291072.576
48	148+92.69	15.63 LT	1000850.030	291086.049
58	148+95.71	17.68 LT	1000852.431	291088.794
71	149+00.24	14.98 LT	1000857.499	291087.330
106	149+01.00	2.22 RT	1000862.585	291070.879

GEOMETRICS
STATION & OFFSETS FOR MRO4 TO MC10

POINT	STATION	OFFSET	X-COORD	Y-COORD
1	149+09.67	1.96 RT	1000870.908	291073.323
40	149+29.12	1.37 RT	1000889.583	291078.815
53	149+29.63	2.55 LT	1000889.080	291082.733
99	149+09.12	10.28 LT	1000867.285	291085.030
124	149+09.67	1.96 RT	1000870.908	291073.323



CURVE DATA
DAB REPORT FOR STRING MRO1 = PROP. CURB RT. RAMP NO. 3

PBT 1	0+00.00	1000883.97	291007.01	
	N 24° - 34′ - 13.7″ W			16.68′
PC 3	0+16.68	1000877.03	291022.18	
PI =	0+37.20			
D =	318° - 18′ - 36.0″			
I =	97° - 28′ - 51.4″	RT		
R =	18.00			
L =	30.62			
T =	20.52			
E =	9.29			
LC =	N 24° - 10′ - 12.0″ E			27.06′
PI COORD.=		1000868.50	291040.84	
CP COORD.=		1000893.40	291029.66	
PT 12	0+47.30	1000888.11	291046.86	
	N 72° - 54′ - 37.7″ E			50.20′
PAT 18	0+97.51	1000936.10	291061.62	

GEOMETRICS
STATION & OFFSETS FOR PCBT TO MC10

POINT	STATION	OFFSET	X-COORD	Y-COORD	Z-COORD
1	149+22.42	47.06 LT	1000870.996	291123.406	36.00
2	151+75.00	23.41 LT	1001121.191	291164.998	36.18

GEOMETRICS
STATION & OFFSETS FOR MRO1 TO MC10

POINT	STATION	OFFSET	X-COORD	Y-COORD
1	149+05.53	69.43 RT	1000883.969	291007.006
3	149+02.65	53.00 RT	1000877.033	291022.175
8	149+05.36	39.98 RT	1000876.362	291035.456
10	149+12.58	33.67 RT	1000881.752	291043.380
12	149+19.62	31.91 RT	1000888.114	291046.865
18	149+69.78	29.78 RT	1000936.101	291061.618

STATE OF MAINE
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HIGHWAY PLANS

PROJ. MANAGER	E.M.	DATE	
DESIGN-DETAILED	M. MOREAU	T. WHITE	JUNE 2007
CHECKED-REVIEWED	-----	-----	-----
DESIGN2-DETAILED2	-----	-----	-----
DESIGN3-DETAILED3	-----	-----	-----
REVISIONS 1	-----	-----	-----
REVISIONS 2	-----	-----	-----
REVISIONS 3	-----	-----	-----
REVISIONS 4	-----	-----	-----
FIELD CHANGES	-----	-----	-----

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P.E. NUMBER

DATE

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PROJECT

GEOMETRICS AND CURB LAYOUT

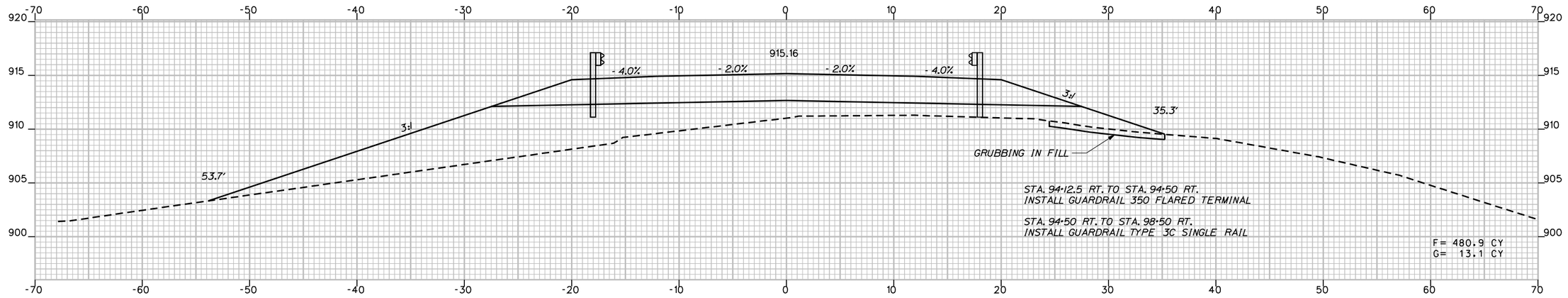
SHEET NUMBER

8

OF 10

Filename: k:\chapter 2\008_GEOMETRY.dgn Division: HIGHWAY Username: jonathon.french Date:12/19/2007

Figure 2-9



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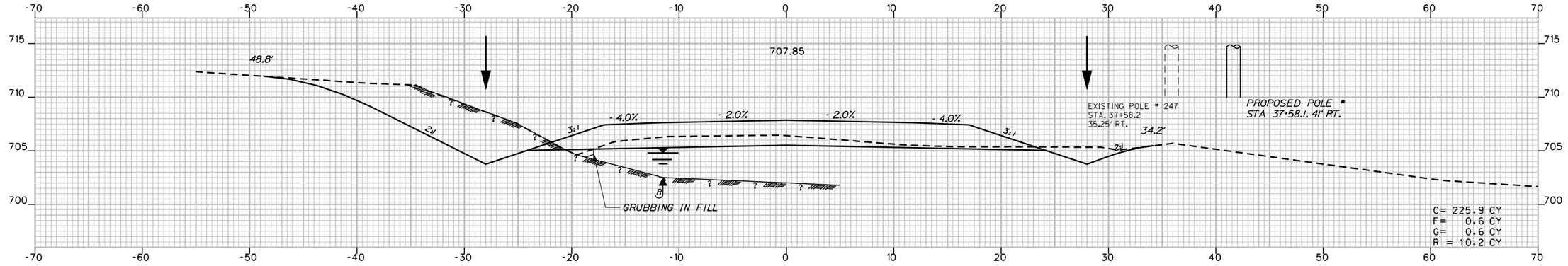

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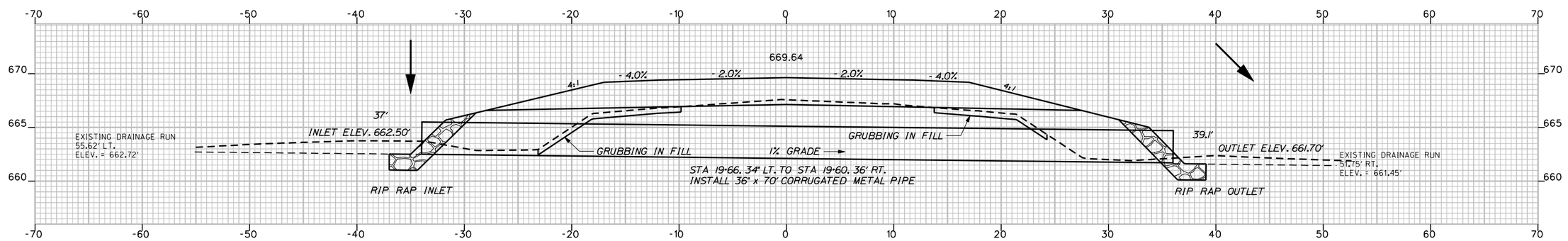

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HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	J.K.	
DESIGN-DETAILED	M.R.P.	
CHECKED-REVIEWED	M.M.	
DESIGN2-DETAILED2	M.B.	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

TOWN
ROUTE

00+00.00 CROSS SECTIONS 00+00.00

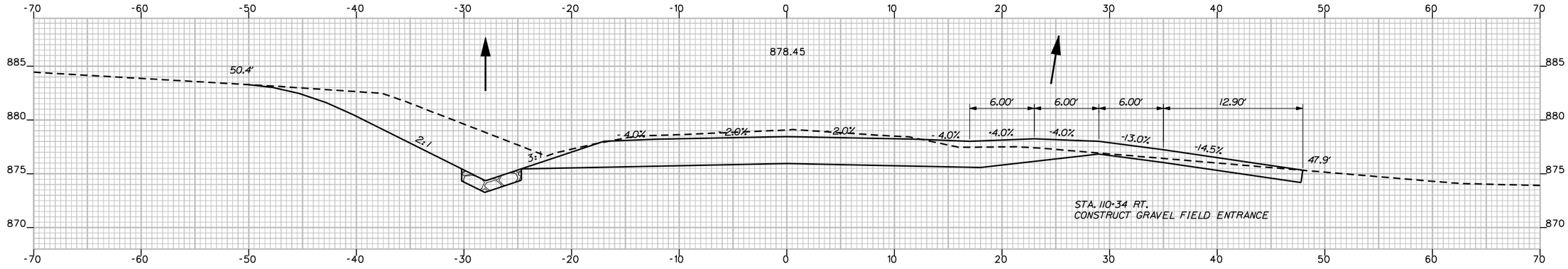
SHEET NUMBER

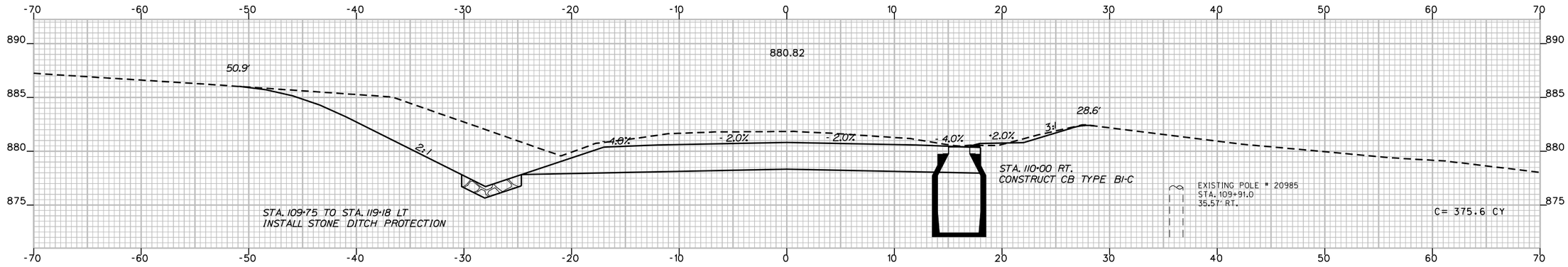
9

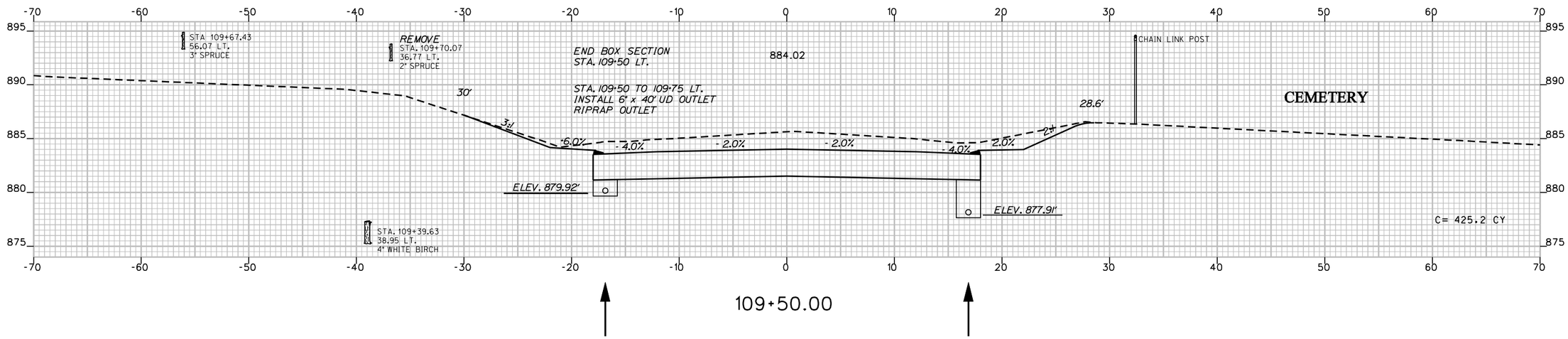
OF 10

Filename: ...\009_cross section_001.dgn Division: HIGHWAY Username: jonathon.french Date:12/19/2007

Figure 2-10







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

STP-0000(000)X

PIN
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HIGHWAY PLANS

	BY	DATE
PROJ. MANAGER	J.K.	
DESIGN-DETAILED	M.R.P.	
CHECKED-REVIEWED	M.B.	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

TOWN
ROUTE

000+00.00 CROSS SECTIONS 000+00.00

SHEET NUMBER

10

OF 10

Filename: ...\010_cross section_002.dgn Division: HIGHWAY Username: jonathon.french Date:12/19/2007