NINEMILE CREEK REACHES AB AND BC STORMWATER POLLUTION PREVENTION PLAN

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LIST OF ACRONYMS

cfs	cubic feet per second
CPESC	Certified Professional in Erosion and Sediment Control
CWTP	Construction Water Treatment Plant
ft.	feet
FHWA	Federal Highway Administration
IRM	Interim Remedial Measure
LCP	Linden Chemical and Plastics
NOI	Notice of Intent
NYSDEC	New York State Department of Environmental Conservation
NYSDOT	New York State Department of Transportation
SCS	Soil Conservation Service
SPDES	State Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WQMP	Water Quality Management Plan

SECTION 1

INTRODUCTION

1.1 BACKGROUND

The remediation of Ninemile Creek is part of Honeywell's continuing efforts to restore and clean up Onondaga Lake, adjacent plant properties, and tributaries. Ninemile Creek is one of the main tributaries to Onondaga Lake and is part of a complex system that provides habitat corridors to upstream wetlands and green areas. This system flows through the restored Linden Chemical and Plastics (LCP) wetlands, connects with the West Flume, flows into Geddes Brook and Ninemile Creek, and empties into Onondaga Lake.

This Stormwater Pollution Prevention Plan (SWPPP) covers on-land work to be performed to develop temporary facilities and structures for the Reach AB and Reach BC portions of Ninemile Creek, pursuant to the Record of Decisions for Operable Units 1 and 2 of the Geddes Brook / Ninemile Creek Site (NYSDEC and USEPA, 2009a & 2009b). The location of Reaches AB and BC relative to other portions of the Site is shown on Figure 1. Work for the actual remedial construction and restoration of Reaches AB and BC of Ninemile Creek will be addressed under an amendment to this SWPPP, as the construction progresses and design and planning for the remaining reaches is completed. Remedial construction and restoration work was substantially completed in Reach CD of Ninemile Creek in the Fall of 2012 and is not addressed by this SWPPP.

1.2 OBJECTIVES

This SWPPP was developed pursuant to the New York State Department of Environmental Conservation (NYSDEC) State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activities, Permit No. GP-0-10-001 (NYSDEC, 2010) and the NYSDEC New York State Standards and Specifications for Erosion and Sediment Control (NYSDEC, 2005), and includes the following objectives:

- The reduction or elimination of erosion and/or sediment loading to Ninemile Creek due to on-land remediation activities.
- The identification and control of potential sources of sediment from stormwater runoff that may affect water quantity and quality.
- The identification of stormwater/erosion control features and procedures for implementing these features.

This SWPPP will be amended if and when:

- The provisions of this SWPPP are proven inadequate in reducing sediments in stormwater discharges during the construction phase.
- There is a change in the design, construction or operation that could potentially affect stormwater discharge quality and quantity.
- Deficiencies are identified by a qualified inspector or regulatory agency.

If deficiencies are identified by NYSDEC, the SWPPP will be updated and written notification of such updates will be submitted to the Department within 14 calendar days.

1.3 GENERAL PROJECT DESCRIPTION

The design for the planned remedial action for Ninemile Creek Reaches AB and BC is currently under development and will be presented in a Draft Report in the coming months. This SWPPP has been developed to address the construction of temporary haul roads and support facilities to execute the final design which will include:

- The removal of approximately 70,000 cubic yards of soil/sediment from Reaches AB and BC of the Ninemile Creek channel and adjoining floodplains.
- The construction of a habitat restoration approach that includes:
  - Improved channel substrate for fish spawning and benthic macroinvertebrates;
  - Riparian, wetland and upland habitats with a diversity of native species;
  - Maintain adequate water depth under low flows to provide fish and canoe passage.

The area of work for Reaches AB and BC is illustrated on the drawings in Appendix C. The area of disturbance is approximately 6.0 acres for site access and support facilities. Further information regarding the planned construction is described in Section 3.

As this is a NYSDEC Division of Environmental Remediation Project governed by a consent decree, Honeywell is responsible for completing a Notice of Intent (NOI) Form for Information Only. Filing of the NOI is not required. A copy of the completed NOI is provided in Appendix A.

1.4 COORDINATION WITH OTHER PLANS

This SWPPP addresses on-land activities in areas that will be disturbed and will receive precipitation with the potential for generating stormwater runoff. A surface water quality protection and monitoring program for in-stream activities is described in the *Ninemile Creek Water Quality Management Plan* (WQMP) (Parsons, 2012a). Measures to provide for worker health and safety, as well as a Community Air Monitoring Plan, Site Security Plan, and Traffic Control Plan, are described in the *Project Safety Plan* (PSP) (Parsons, 2012b).

The work in Ninemile Creek has been preceded by similar work in Geddes Brook which was conducted as an Interim Remedial Measure (IRM). Infrastructure from that project will be used to support the Ninemile Creek remedial construction but is not expected to be required for the construction of the temporary roads and facilities with the exception of haul roads adjacent to the Geddes Brook floodplain and Reach CD. To aid in understanding the need for the proposed temporary roads and support facilities, the related plans are as follows:

- Excavated soil and sediment will be transported to and placed at the LCP OU-1 Containment Area; activities at the LCP OU-1 Containment Area will be conducted pursuant to the Geddes Brook SWPPP, which is an appendix to the *Geddes Brook Interim Remedial Measure Work Plan* (Parsons, 2011).

- Construction water will be treated at a Construction Water Treatment Plant (CWTP) located near the LCP OU-1 Containment Area; activities at the CWTP will be conducted pursuant to the *Stormwater Pollution Prevention Plan – CWTP at LCP Portion of the Geddes Brook IRM* (Parsons, 2010a, 2010b).

1.5 SITE CONTACT INFORMATION

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SECTION 2

EXISTING SITE CONDITIONS

2.1 TOPOGRAPHY

Ninemile Creek has a generally shallow slope in Reaches CD, BC, and AB. The channel bottom elevation is approximately 363 feet (ft.) at the confluence of Ninemile Creek and Geddes Brook. This elevation gradually falls to approximately 356 ft. where Ninemile Creek enters Onondaga Lake. Ninemile Creek is entrenched in a well defined channel with a generally trapezoidal shape in Reaches AB and BC. The channel is typically about 44 to 50 ft. wide with a wider section in the middle of Reach BC where it is up to 75 ft. in width.

The upstream end of Reach BC is the downstream end of Reach CD and begins within an area of existing structural armor stone installed for erosion protection by New York State Department of Transportation (NYSDOT). This erosion protection system is in place on both banks until downstream of the exit ramp bridge from I-695 to Pump House Road. Downstream of this bridge, the channel was excavated by NYSDOT to State Fair Boulevard as part of the interchange construction in the late 1960s. It is unarmored until the next series of bridges, beginning with the utility bridge. Beginning at the utility bridge, the rest of the Reach BC has structural armor stone installed by NYSDOT on both banks until close to the boundary between Reaches AB and BC.

The entire length of Reach AB appears to be unarmored with Wastebeds 1 through 8 forming the right bank and the I-690 embankment on the left bank until the final turn towards Onondaga Lake where the wetland SYW-10 forms the left bank. This wetland is the only area where Ninemile Creek is able to leave its generally trapezoidal channel and flow across a floodplain in Reaches AB and BC.

2.2 SOILS

The United States Department of Agriculture (USDA) Soil Conservation Service (SCS) Web Site Soil Survey Map for Onondaga County identifies the east bank of the upper half of Reach BC as Odessa silty clay loam (0%-2% slopes) and the SYW-10 floodplain as Edwards muck. A small area on the west bank between the State Fair Boulevard and CSX bridges is classified as Fluvaquent soils (frequently flooded). These soil types are rated as somewhat poorly drained to poorly drained with a Hydrologic Soil Group D classification. The remaining banks are generally classified as Made Land, Cut and Fill Land, and Urban Land. In our opinion, these soil types should be rated as somewhat poorly drained to poorly drained with a Hydrologic Soil Group C classification. A soil survey map describing the soil types is provided in Appendix B.

2.3 RECEIVING WATERS AND WATERSHED BOUNDARIES

Stormwater at the site currently infiltrates the substrate or flows into Ninemile Creek. Ninemile Creek flows into Onondaga Lake, which is part of the Seneca Watershed, United States Geological Survey (USGS) Hydrologic Unit 04140201. Along Reach BC, storm flow on both

banks is managed using a complex swale and culvert system installed and maintained by NYSDOT with only local flows sheet flowing down the creek bank. The water shed for sheet flowing water is generally limited to the slopes immediately adjacent to Ninemile Creek. NYSDOT created a complex watershed with swales in the highway medians and culverts discharging stormwater periodically to Ninemile Creek. The watershed in Reach AB is defined by the NYSDOT drainage system on the left bank and the slopes of Wastebeds 1-8 on the right bank.

2.4 DRAINAGE STRUCTURES

As shown in Appendix B-3, a stormwater structure exists at the boundary of Reaches CD and BC: this structure has two 18-inch force main pipes discharging to Ninemile Creek. A 36-inch RCP line exists adjacent to the stormwater structure; a 42-inch RCP line and a 30-inch RCP line are also present just downstream. No information about the design flows for the pumped stormwater force main structure is available to us. However, the downstream United States Geological Survey Ninemile Creek at Lakeland, New York gauging site 04240300 shows that flows in the creek typically have short-term fluctuations of 10 cubic feet per second (cfs) or less and are rarely greater than 30 cfs, even during storm events. For design purposes, we have assumed that the flows from this structure are less than 30 cfs.

Additional culverts installed by NYSDOT are present periodically down through Reach BC and on the I-690 side of the Reach AB as shown in Appendix B-3. The culverts discharge onto the structural armor stone along the banks or into designed discharge outlets and swales.

SECTION 3

PROPOSED SITE WORK

3.1 SITE WORK

The following summarizes the major construction activities planned and the anticipated sequence of operation. Mobilization and construction of the temporary haul roads and support facilities may be occurring concurrently in different areas. Maintenance and inspection of erosion and sediment control elements will be ongoing during these phases; refer to Section 4 and Appendix C for anticipated erosion and sediment control measures for on-land activities. The surface water quality protection and monitoring program for in-stream activities is described in the *Ninemile Creek Water Quality Management Plan* (WQMP) (Parsons, 2012a).

Mobilization and Site Preparation

- Installation of temporary stormwater runoff and erosion and sediment control measures
- Site security
- Survey
- Site clearing
- Construction of temporary dewatering pads
- Installation of temporary drainage lines to carry construction water to the construction water treatment plant at the LCP site
- Road upgrades and maintenance along the travel path along the banks of Reaches AB and BC, including stabilized construction entrances prior to entry onto public roads
- Cut trees prior to April 1 in portions of SYW-10 that are to be remediated

3.2 MANAGEMENT OF MATERIALS

For this phase of the work, management of materials is expected to be limited to managing imported materials to the site for road construction and trimming and chipping cleared wood.

The roads are expected to be 12 to 18 inches of imported granular material placed over a woven geotextile. Culverts will be installed as needed where existing swales and culvert discharges cross the road alignments. The expected locations and sizes of these culverts are provided on the drawings.

Temporary staging areas or dewatering pads for contaminated materials are required outside the remediation areas, they will incorporate a reinforced 10-mm bottom poly liner with a separation geotextile to protect the poly liner from punctures, and will be bermed around the perimeter. The liner will extend over the berm to contain water draining from the soil. Asphalt pads with perimeter berms may also be used in place of the 10-mil polyliner and geotextile.

Temporary staging areas for imported borrow materials will be bermed around the perimeter. If the stabilization material is procured as loose material, temporary staging similar to that for contaminated materials described above will be incorporated, to minimize contact with stormwater.

3.3 ADDITIONAL STORMWATER CONTROLS

Erosion and sediment control measures are described in Section 4 and Appendix C. Additional controls and measures that will be implemented at the site include the following:

- Precautions will be taken to prevent spills onto public thoroughfares (e.g., leaking hydraulic lines, fuel leaks) so that they do not enter surface and subsurface drainage systems.
- Dust control measures will be provided to reduce the potential for dust migration. Measures may include water application or mulching, but will not include the use of chemical additives.
- Solid waste disposal dumpsters and containers will be covered and emptied regularly. Solid waste will be disposed of properly in accordance with local, state, and/or federal regulations.
- Portable toilets will be installed, secured in place and cleaned regularly, with proper disposal of waste.
- Building materials will be properly stored and contained on-site with fuels in appropriate secondary containment.

3.4 GENERAL CONSTRUCTION SCHEDULE

The anticipated schedule for the Reach BC and AB temporary road and support facility construction activities is noted below.

February 2013	Mobilization
February-May 2013	Construction of Temporary Roads and Support
May 2013	Commencement of Remediation of Reaches AB and BC (addressed in a future SWPPP addendum)

SECTION 4

EROSION AND SEDIMENT CONTROL MEASURES

4.1 GENERAL

The erosion and sediment control measures described in this plan conform to the latest version of the New York State Standards and Specifications for Erosion and Sediment Control (the Blue Book).

A qualified inspector will inspect the erosion and sediment control measures and disturbed areas of the site for compliance with this SWPPP. A typical Construction Log and Inspection Report Form are included in Appendix E.

4.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

Temporary erosion and sedimentation controls will be installed prior to disturbance of areas to mitigate the potential for off-site erosion and sedimentation. These controls are a dynamic project element, requiring modification as the construction needs alter over time.

Locations for initial erosion and sedimentation control features are indicated on Drawings D001 through D006 in Appendix C. The initial locations will be adapted as necessary, depending on actual field conditions. Design details for each erosion and sediment control features are included in Drawing D007 in Appendix C.

4.2.1 Stabilization Practices

Temporary soil stabilization using seed, mulch, straw, erosion control blankets, and/or other approved methods will be implemented for bare soil areas left in rough grade condition if exposure over extended periods of time is anticipated. For portions of the site where soil disturbance activities have temporarily or permanently ceased, stabilization measures will be implemented within 14 days of the conclusion of activities. This requirement does not apply if the installation of stabilization measures is precluded by snow cover or frozen ground conditions; however, measures will be implemented as soon as practicable.

Since firm low plasticity to high plasticity clay soils and granular soils with a D_{50} greater than 2 mm (USDA Fine Gravel) are generally resistant to erosion, these soils may be left in a temporarily unstabilized state for an extended period of time where slope lengths are less than 50 ft. or the work area is contained by berms or silt fences.

4.2.2 Control of Surface Runoff from Disturbed Areas

Silt fence will be installed to intercept sediment-laden runoff at locations where sediment will stockpiled as depicted in Drawings D001 through D006 in Appendix C.. Silt fencing will not be required along temporary roads or similar features when the turbidity curtains are in place in Ninemile Creek implemented per the *Water Quality Management Plan* (Parsons, 2012a)

The geotextile filter fabric fence requires periodic maintenance and will be checked for tears or clogging with silt or debris as part of weekly site inspections. Silt will be removed from the woven filter cloth with a stiff brush if clogging occurs. Strawbale sediment barriers will only be used when the lengths of the protected slope do not exceed the limits described in Specification 02370 (Erosion Control) from the remedial design, included in Appendix B. Strawbales will be repaired and/or replaced as necessary.

Silt fence and/or strawbale sediment barriers will remain in place until permanent vegetation is established over disturbed areas. Following establishment of vegetation, silt fence and strawbales will be removed.

4.2.3 Diversion of Runoff to Disturbed Areas

Perimeter dike and swale elements will be installed as required to prevent run-on into disturbed areas. Grades will promote positive drainage and runoff will discharge to a stabilized outlet. If necessary, check dams will be incorporated within the swales. Weekly inspection and maintenance of the dike/swale will occur, and after each rain event at a minimum.

4.2.4 Stabilized Construction Entrances

Stabilized construction entrances areas will be maintained to help prevent mud, dirt, and rocks from being tracked onto roadways. Mud or sediment deposited on paved roadways will be removed as necessary. Stabilized construction entrances will be present where prior to locations where site traffic enters public roads. Preliminary locations are indicated on Drawings D001 through D006, but are dependent on field conditions. Stabilized construction entrances will be constructed as shown on Drawing D-007 in Appendix C, and will include stabilization geotextile below a minimum of 6 in. matrix of 1-in. to 4-in. stone. Periodic top dressing with additional aggregate may be required. Staging/laydown areas for vehicles and construction equipment will also be located on stabilized portions of the site.

The stabilized construction entrances shall be monitored as part of the periodic inspection.

4.2.5 Temporary Haul Roads

Temporary haul roads and stabilization of existing access roads will be constructed pursuant to applicable requirements in the NYSDEC State Standards and Specifications for Erosion and Sediment Control.

Locations of existing and proposed haul roads, and related SWPPP features, are shown on Drawings D001 through D006 in Appendix C**.** Final locations may be modified based on site conditions.

4.2.6 Tree Cutting

In order to minimize ground disturbance and the potential for creating erosion, tree cutting will be executed without associated grubbing of the surface. Tree clearing activities will be limited to cutting of trees and brush above the ground surface line and chipping of felled materials needed. Stumps will not be pulled or excavated during the site preparation phase. This would be left to the later remediation excavation phase to be addressed in a future SWPPP addendum. The trees need to be cut prior to the April 1, 2013 commencement of the Indiana

Brown Bat roosting protection period. Site access will be facilitated by frozen ground conditions, which would also minimize ground disturbance and erosion potential. Therefore; weather permitting, freezing weather when the ground surface will be frozen will be targeted for the tree cutting and chipping operations.

4.3 PERMANENT EROSION CONTROL

Temporary erosion and sediment controls will remain in place until the remediation activities are completed and vegetation is established over the restored areas.

4.4 INSPECTION AND MAINTENANCE REQUIREMENTS

4.4.1 Owner Requirements

Erosion and sediment control and stormwater management practices identified in the SWPPP will be inspected and maintained in effective operating condition. Inspections will be carried out by a qualified inspector.

If soil disturbance activities are temporarily suspended and temporary stabilization measures have been applied to disturbed areas, the inspections may be stopped and begin once soil disturbance activities resume.

If soil disturbance activities have been shut down with partial project completion, maintenance inspections may be stopped if areas disturbed as of the project shutdown date have achieved final stabilization and post-construction stormwater management practices required for the completed portion of the project have been constructed in conformance with the SWPPP and are operational.

4.4.2 Qualified Inspector Requirements

A qualified inspector is a person who is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, a Certified Professional in Erosion and Sediment Control (CPESC), a Registered Landscape Architect or other NYSDEC endorsed individual.

The qualified inspector will conduct site inspections at least once every seven calendar days. At a minimum, the qualified inspector will inspect:

- Erosion and sediment control practices to ascertain integrity and effectiveness
- Stormwater management practices to ensure that they are constructed in conformance with the design
- Areas of disturbance that have not achieved final stabilization
- Points of discharge to natural surface water bodies located within, or immediately adjacent to, the property boundaries of the construction site, and points of discharge from the construction site

The qualified inspector will also:

- Prepare an inspection report subsequent to each and every inspection. At a minimum, the inspection report shall include and/or address the following:

a. Date and time of inspection
b. Name and title of person(s) performing inspection
c. A description of the weather and soil conditions (e.g., dry, wet, saturated) at the time of the inspection
d. A description of the condition of the runoff at points of discharge from the construction site. This shall include identification of any discharges of sediment from the construction site. Include discharges from conveyance systems (i.e., pipes, culverts, ditches) and overland flow.
e. A description of the condition of natural surface water bodies located within, or immediately adjacent to, the property boundaries of the construction site which receive runoff from disturbed areas. This shall include identification of any discharges of sediment to the surface water body.
f. Identification of erosion and sediment control practices in need of repair or maintenance
g. Identification of erosion and sediment control practices that were not installed properly or are not functioning as designed and need to be reinstalled or replaced
h. Description and sketch of areas that are disturbed at the time of the inspection and areas that have been stabilized (temporary and/or final) since the last inspection
i. Current phase of construction of post-construction stormwater management practices and identification of construction that is not in conformance with the SWPPP and technical standards
j. Corrective action(s) that must be taken to install, repair, replace or maintain erosion and sediment control practices and to correct deficiencies identified with the construction of the post-construction stormwater management practice(s).
k. Digital photographs, with date stamp, that clearly show the condition of practices that have been identified as needing corrective actions. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report being maintained onsite within seven calendar days of the date of the inspection. The qualified inspector shall also take digital photographs, with date stamp, that clearly show the condition of the practice(s) after the corrective action has been completed. The qualified inspector shall attach paper color copies of the digital photographs to the inspection report that documents the completion of the corrective action work within seven calendar days of that inspection.

- Notify Honeywell or an appropriate subcontractor of any corrective actions that need to be taken within one business day. The corrective actions will be initiated within one business day of this notification and be completed in a reasonable time frame.
- Sign all inspection reports.

The inspection reports will be maintained on-site with the SWPPP. The site log book will be maintained on-site and will be made available to the permitting authority upon request. A summary of the site inspection activities will be posted at the site on a monthly basis. A typical Construction Log and Inspection Report Form are included in Appendix D.

A site sketch map will be maintained on the project site indicating the extent of disturbed on-site areas and drainage ways throughout the duration of construction. The site sketch map will identify areas expected to undergo initial disturbance or significant site work within every 14-day period. The sketch will indicate areas of the site that have undergone temporary or permanent stabilization. Disturbed areas that have not undergone active site work during the previous 14-day inspection period will be noted.

Sediment control measures will be inspected and the degree of accumulation as a percentage of the sediment storage volume will be recorded. Maintenance required for installed erosion and sediment control structures will be noted, and documentation of areas where adjustments are needed to those measures will be provided. Deficiencies identified with the implementation of the SWPPP will be recorded.

SECTION 5

HYDROLOGIC ANALYSIS

5.1 WATER QUALITY VOLUME

NYSDEC has developed stormwater management regulations for the purposes of pollutant removal. The water quality volume criteria is designed to capture and treat 90% of the average annual stormwater runoff volume from impervious paved surfaces. The water quality volume is a function of the amount of permanent impervious cover created at a site. Since the subject project is not a development project and the improvement of water quality is inherent in the Ninemile Creek remediation, the water quality volume criteria is not required.

5.2 HYDROLOGIC ANALYSIS OF FLOWS

The pre- and post-construction area of the remediation site is identical. The pre-and post-construction areas of open water and riparian upland are approximately equal and the pre-and post-conditions of the vegetated banks and floodplains is equivalent, so the total runoff is expected to be unchanged when construction is complete. The post-construction runoff has been designed to be sheet flow to the creek equivalent to the pre-construction condition. Since the proposed activities are limited to the creek banks and the floodplain immediately adjacent to the creek, the times of concentration for both pre- and post-construction will be shorter than the 6 min (0.1 hr) used as a minimum value in USDA Technical Release 55 (TR-55). Therefore, pre- and post-construction quantitative hydrologic analyses has not been performed because the qualitative inspection of the pre- and post-construction conditions shows that the differences would be negligible.

The run-on from off-site into the limits of remediation is unchanged from the pre-construction to the post-construction condition. The locations and type of run-on flows are also unchanged.

Peak storm flow was calculated for the catchment area associated with the currently un-culverted drainage swale on the west bank of Reach BC by the I-695 entrance ramp bridge where a temporary culvert will be installed below the temporary access road. These calculations were performed using the TR-55 method (USDA-NRCS, 1986). The curve number of 71 was used for all catchment areas based on the “Meadow” cover description for a Type C soil in Table 2-2c of the TR-55 manual. The peak discharge was calculated based on a type II, 10-year, 24-hour storm with a time of concentration of 15 minutes and was found to be 4.0 cfs. A 100-year storm peak discharge was also calculated and found to be 7.5 cfs. These storm flows can be successfully conveyed by a 24-inch corrugated HDPE culvert below the proposed access road without the flow depth exceeding the height of the culvert based on Design Chart 2A from HDS-5 (FHWA, 2005).

Peak storm flow was calculated for the catchment area associated with the currently un-controlled drainage along the wastebed bank of Reach AB downstream of the area that O’Brien

& Gere has constructed roadways and stormwater swales. Temporary culverts will be installed below the temporary access road where there are existing stormwater discharges to Ninemile Creek. These calculations were performed using the TR-55 method (USDA-NRCS, 1986). The curve number of 77 was used for all catchment areas based on the "Brush" cover description for a Type C soil with "Poor" hydrologic condition in Table 2-2c of the TR-55 manual. The peak discharge was calculated based on a type II, 10-year, 24-hour storm with a time of concentration of 50 minutes and was found to be a total of 3.6 cfs for all three catchment areas combined. A 100-year storm peak discharge was also calculated and found to be 6.2 cfs. These storm flows can be successfully conveyed by a 24-in. corrugated HDPE culvert below the proposed access road without the flow depth exceeding the height of the culvert based on Design Chart 2A from HDS-5 (FHWA, 2005). Since the existing balance of the flows between the existing discharge points, a 24-in. diameter culvert will be installed at each crossing encountered.

Where existing culverts are present that discharge into a swale, which is then crossed by the temporary access road, the drawings show that the temporary culverts will be double the number of existing culverts to ensure that flow is efficiently conveyed without over-topping the access road. Similarly, two temporary 36-in. diameter HDPE culverts will be placed below the temporary access road in the discharge chute for the pumped stormwater force main at the top of Reach BC. Each 36-in. culvert should convey 30 cfs without the flow depth exceeding the height of the culvert, so there should be a factor of safety of 2 for stormwater conveyance based on the flow rate estimated in Section 2.4.

Calculations are provided in Appendix E.

5.3 OUTLET PROTECTION SIZING

The stormwater flow discharges are not proposed to be altered from their current existing condition, so additional armoring is not expected. Where conditions are observed in the field that could warrant armoring, a "Light Stone Filling" material with a D_{50} of 6 to 9 inches in a 1-ft. thick layer will be used.

SECTION 6

CONTRACTOR CERTIFICATION

All Contractors and Sub-Contractors agree to the following certification statement referenced from SPDES General Permit GP-0-10-001:

Certification Statement

"I hereby certify that I understand and agree to comply with the terms and conditions of the SWPPP and agree to implement any corrective actions identified by the qualified inspector during a site inspection. I also understand that the owner or operator must comply with the terms and conditions of the most current version of the New York State Pollutant Discharge Elimination System ("SPDES") general permit for stormwater discharges from construction activities and that it is unlawful for any person to cause or contribute to a violation of water quality standards. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of the referenced permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings."

Contractor:_____

Contact Person (Print):_____

Contact Person (Signature):_____ Date:_____

Address: _____

_____

_____

Phone: _____

Fax: _____

Sub Contractor:_____

Contact Person (Print):_____

Contact Person (Signature):_____ Date:_____

Address: _____

_____

_____

Phone: _____

Fax: _____

Sub Contractor:_____

Contact Person (Print):_____

Contact Person (Signature):_____ Date:_____

Address: _____

_____

_____

Phone: _____

Fax: _____

Sub Contractor:_____

Contact Person (Print):_____

Contact Person (Signature):_____ Date:_____

Address: _____

_____

_____

Phone: _____

Fax: _____

SECTION 7

REFERENCES

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FIGURES

SETTLEMENT CONFIDENTIAL - PRELIMINARY DRAFT FOR DISCUSSION PURPOSES ONLY

APPENDIX A

NOTICE OF INTENT (NOI)

(FOR INFORMATION ONLY)

1358331598

NOTICE OF INTENT

New York State Department of Environmental Conservation
Division of Water
625 Broadway, 4th Floor
Albany, New York 12233-3505

NYR [ ] (for DEC use only)

Stormwater Discharges Associated with Construction Activity Under State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-10-001

All sections must be completed unless otherwise noted. Failure to complete all items may result in this form being returned to you, thereby delaying your coverage under this General Permit. Applicants must read and understand the conditions of the permit and prepare a Stormwater Pollution Prevention Plan prior to submitting this NOI. Applicants are responsible for identifying and obtaining other DEC permits that may be required.

-IMPORTANT-

RETURN THIS FORM TO THE ADDRESS ABOVE

OWNER/OPERATOR **MUST SIGN FORM**

Owner/Operator Information

Owner/Operator (Company Name/Private Owner Name/Municipality Name)
Honeywell International Inc.

Owner/Operator Contact Person Last Name (NOT CONSULTANT)
McAuliffe

Owner/Operator Contact Person First Name
John

Owner/Operator Mailing Address
301 Plainfield Rd Suite 330

City
Syracuse

State
NY

Zip
13212-

Phone (Owner/Operator)
315-552-9782

Fax (Owner/Operator)
315-552-7780

Email (Owner/Operator)
John.McAuliffe@honeywell.com

FED TAX ID
22-2640650 (not required for individuals)

Project Site Information

Project/Site Name

Reaches AB and BC Ninemile Creek

Street Address (NOT P.O. BOX)

1700 Market St

Side of Street

○ **North** ○ **South** ○ **East** ○ **West**

City/Town/Village (THAT ISSUES BUILDING PERMIT)

Geddes

State: NY

Zip: 13209 -

County: Onondaga

DEC Region: 7

Name of Nearest Cross Street

State Fair Boulevard

Distance to Nearest Cross Street (Feet): 0

Project In Relation to Cross Street

● **North** ○ **South** ○ **East** ○ **West**

Tax Map Numbers
Section-Block-Parcel: 026-01-4.1

Tax Map Numbers: 029-01

1. Provide the Geographic Coordinates for the project site in NYTM Units. To do this you **must** go to the NYSDEC Stormwater Interactive Map on the DEC website at:

www.dec.ny.gov/imsmaps/stormwater/viewer.htm

Zoom into your Project Location such that you can accurately click on the centroid of your site. Once you have located your project site, go to the tool boxes on the top and choose "i"(identify). Then click on the center of your site and a new window containing the X, Y coordinates in UTM will pop up. Transcribe these coordinates into the boxes below. For problems with the interactive map use the help function.

X Coordinates (Easting): 400222

Y Coordinates (Northing): 4770669

2. What is the nature of this construction project?

○ **New Construction**

○ **Redevelopment with increase in imperviousness**

● **Redevelopment with no increase in imperviousness**

3. Select the predominant land use for both pre and post development conditions.
SELECT ONLY ONE CHOICE FOR EACH

Pre-Development Existing Land Use

- ○ FOREST
- ● PASTURE/OPEN LAND
- ○ CULTIVATED LAND
- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY
- ○ PARKING LOT
- ○ OTHER

Post-Development Future Land Use

- ○ SINGLE FAMILY HOME
- ○ SINGLE FAMILY SUBDIVISION — Number of Lots
- ○ TOWN HOME RESIDENTIAL
- ○ MULTIFAMILY RESIDENTIAL
- ○ INSTITUTIONAL/SCHOOL
- ○ INDUSTRIAL
- ○ COMMERCIAL
- ○ MUNICIPAL
- ○ ROAD/HIGHWAY
- ○ RECREATIONAL/SPORTS FIELD
- ○ BIKE PATH/TRAIL
- ○ LINEAR UTILITY (water, sewer, gas, etc.)
- ○ PARKING LOT
- ● CLEARING/GRADING ONLY
- ○ DEMOLITION, NO REDEVELOPMENT
- ○ WELL DRILLING ACTIVITY *(Oil, Gas, etc.)
- ○ OTHER

*note: for gas well drilling, non-high volume hydraulic fractured wells only

4. Will future use of this site be an agricultural property as defined by the NYS Agriculture and Markets Law ? ○ **Yes** ● **No**

5. Is this a project which does not require coverage under the General Permit (e.g. Project done under an Individual SPDES Permit, or department approved remediation)? ● **Yes** ○ **No**

6. Is this property owned by a state authority, state agency, federal government or local government? ● **Yes** ○ **No**

7. In accordance with the larger common plan of development or sale, enter the total project site acreage, the acreage to be disturbed and the future impervious area (acreage)within the disturbed area. Round to the nearest tenth of an acre.

Total Site Acreage	Acreage To Be Disturbed	Existing Impervious Area Within Disturbed	Future Impervious Area Within Disturbed
25.	7.8	0.	0.

8. Do you plan to disturb more than 5 acres of soil at any one time? ○ **Yes** ● **No**

9. Indicate the percentage of each Hydrologic Soil Group(HSG) at the site.

A	B	C	D
%	%	80 %	20 %

10. Is this a phased project? ● Yes ○ No

11. Enter the planned start and end dates of the disturbance

Start Date		End Date
02 / 01 / 2013	-	12 / 01 / 2013

12. Identify the nearest, natural, surface waterbody(ies) to which construction site runoff will discharge.

Name

Ninemile Creek

12a. Type of waterbody identified in Question 12?

- ○ Wetland / State Jurisdiction On Site (Answer 12b)
- ○ Wetland / State Jurisdiction Off Site
- ○ Wetland / Federal Jurisdiction On Site (Answer 12b)
- ○ Wetland / Federal Jurisdiction Off Site
- ● Stream / Creek On Site
- ○ Stream / Creek Off Site
- ○ River On Site
- ○ River Off Site
- ○ Lake On Site
- ○ Lake Off Site
- ○ Other Type On Site
- ○ Other Type Off Site

12b. How was the wetland identified?

- ○ Regulatory Map
- ○ Delineated by Consultant
- ○ Delineated by Army Corps of Engineers
- ○ Other (identify)

13. Has the surface waterbody(ies) in question 12 been identified as a 303(d) segment in Appendix E of GP-0-10-001? ● Yes ○ No

14. Is this project located in one of the Watersheds identified in Appendix C of GP-0-10-001? ● Yes ○ No

15. Is the project located in one of the watershed areas associated with AA and AA-S classified waters? **If no, skip question 16.** ○ Yes ● No

16. Does this construction activity disturb land with no existing impervious cover and where the Soil Slope Phase is identified as an E or F on the USDA Soil Survey? **If Yes, what is the acreage to be disturbed?** ○ Yes ○ No

17. Will the project disturb soils within a State regulated wetland or the protected 100 foot adjacent area? ● Yes ○ No

18. Does the site runoff enter a separate storm sewer system (including roadside drains, swales, ditches, culverts, etc)? ● Yes ○ No ○ Unknown

19. What is the name of the municipality/entity that owns the separate storm sewer system?

New york State Department of Transportation

20. Does any runoff from the site enter a sewer classified as a Combined Sewer? ○ Yes ● No ○ Unknown

21. Has the required Erosion and Sediment Control component of the SWPPP been developed in conformance with the current NYS Standards and Specifications for Erosion and Sediment Control (aka Blue Book) ? ● Yes ○ No

22. Does this construction activity require the development of a SWPPP that includes Water Quality and Quantity Control components (Post-Construction Stormwater Management Practices) **(If No, skip questions 23 and 27-35)** ○ Yes ● No

23. Have the Water Quality and Quantity Control components of the SWPPP been developed in comformance with the current NYS Stormwater Management Design Manual ? ● Yes ○ No

24. The Stormwater Pollution Prevention Plan (SWPPP) was prepared by:

- ● **Professional Engineer (P.E.)**
- ○ **Soil and Water Conservation District (SWCD)**
- ○ **Registered Landscape Architect (R.L.A)**
- ○ **Certified Professional in Erosion and Sediment Control (CPESC)**
- ○ **Owner/Operator**
- ○ **Other**

SWPPP Preparer
Parsons

Contact Name (Last, Space, First)
D'Hollander Raymond

Mailing Address
301 Plainfield Road, Suite 350

City
Syracuse

State
NY

Zip
13212-

Phone
315-451-9560

Fax
315-451-9570

Email
ray.dhollander@parsons.com

SWPPP Preparer Certification

I hereby certify that the Stormwater Pollution Prevention Plan (SWPPP) for this project has been prepared in accordance with the terms and conditions of the GP-0-10-001. Furthermore, I understand that certifying false, incorrect or inaccurate information is a violation of this permit and the laws of the State of New York and could subject me to criminal, civil and/or administrative proceedings.

First Name
Raymond

MI
D

Last Name
D'Hollander

Signature
Ray D'Hollander

Date
12/19/2012

25. Has a construction sequence schedule for the planned management practices been prepared? ○ Yes ○ No

26. Select **all** of the erosion and sediment control practices that will be employed on the project site:

Temporary Structural

- ● Check Dams
- ● Construction Road Stabilization
- ● Dust Control
- ● Earth Dike
- ○ Level Spreader
- ○ Perimeter Dike/Swale
- ○ Pipe Slope Drain
- ○ Portable Sediment Tank
- ○ Rock Dam
- ○ Sediment Basin
- ○ Sediment Traps
- ● Silt Fence
- ● Stabilized Construction Entrance
- ○ Storm Drain Inlet Protection
- ○ Straw/Hay Bale Dike
- ○ Temporary Access Waterway Crossing
- ○ Temporary Stormdrain Diversion
- ○ Temporary Swale
- ○ Turbidity Curtain
- ○ Water bars

Biotechnical

- ○ Brush Matting
- ○ Wattling

Vegetative Measures

- ○ Brush Matting
- ○ Dune Stabilization
- ○ Grassed Waterway
- ○ Mulching
- ● Protecting Vegetation
- ○ Recreation Area Improvement
- ● Seeding
- ○ Sodding
- ○ Straw/Hay Bale Dike
- ● Streambank Protection
- ○ Temporary Swale
- ○ Topsoiling
- ○ Vegetating Waterways

Permanent Structural

- ○ Debris Basin
- ○ Diversion
- ○ Grade Stabilization Structure
- ○ Land Grading
- ○ Lined Waterway (Rock)
- ○ Paved Channel (Concrete)
- ○ Paved Flume
- ○ Retaining Wall
- ○ Riprap Slope Protection
- ○ Rock Outlet Protection
- ○ Streambank Protection

Other

Temporary culverts below temporary roads

Water Quality and Quantity Control

Important: Completion of Questions 27-35 is not required if response to Question 22 is No.

Post-Construction Stormwater Management Practices

27. Indicate **all** Stormwater Management Practice(s) that will be installed/constructed on this site:

Ponds
- ○ **Micropool Extended Detention (P-1)**
- ○ **Wet Pond (P-2)**
- ○ **Wet Extended Detention (P-3)**
- ○ **Multiple Pond System (P-4)**
- ○ **Pocket Pond (P-5)**

Filtering
- ○ **Surface Sand Filter (F-1)**
- ○ **Underground Sand Filter (F-2)**
- ○ **Perimeter Sand Filter (F-3)**
- ○ **Organic Filter (F-4)**
- ○ **Bioretention (F-5)**
- ○ **Other** _____

Alternative Practice
- ○ **Rain Garden**
- ○ **Cistern**
- ○ **Green Roof**
- ○ **Stormwater Planters**
- ○ **Permeable Paving (Modular Block)**

Wetlands
- ○ **Shallow Wetland (W-1)**
- ○ **Extended Detention Wetland (W-2)**
- ○ **Pond/Wetland System (W-3)**
- ○ **Pocket Wetland (W-4)**

Infiltration
- ○ **Infiltration Trench (I-1)**
- ○ **Infiltration Basin (I-2)**
- ○ **Dry Well (I-3)**
- ○ **Underground Infiltration System**

Open Channels
- ○ **Dry Swale (O-1)**
- ○ **Wet Swale (O-2)**

Verified Proprietary Practice
- ○ **Hydrodynamic**
- ○ **Wet Vault**
- ○ **Media Filter**

28. Describe other stormwater management practices not listed above or explain any deviations from the technical standards.

29. Has a long term Operation and Maintenance Plan for the post-construction stormwater management practice(s) been developed? ○ **Yes** ○ **No**

If Yes, Identify the entity responsible for the long term Operation and Maintenance

30. Provide the total water quality volume required and the total provided for the site.

WQv Required ___.___ **acre-feet**

WQv Provided ___.___ **acre-feet**

31. Provide the following Unified Stormwater Sizing Criteria for the site.

Total Channel Protection Storage Volume (CPv) - Extended detention of post-developed 1 year, 24 hour storm event

CPv Required ___.___ **acre-feet**

CPv Provided ___.___ **acre-feet**

31a. The need to provide for channel protection has been waived because:

○ **Site discharges directly to fourth order stream or larger**

Total Overbank Flood Control Criteria (Qp) - Peak discharge rate for the 10 year storm

Pre-Development ___.___ **CFS**

Post-development ___.___ **CFS**

Total Extreme Flood Control Criteria (Qf) - Peak discharge rate for the 100 year storm

Pre-Development ___.___ **CFS**

Post-development ___.___ **CFS**

31b. The need to provide for flood control has been waived because:

○ **Site discharges directly to fourth order stream or larger**

○ **Downstream analysis reveals that flood control is not required**

IMPORTANT: For questions 31 and 32, impervious area should be calculated considering the project site and all offsite areas that drain to the post-construction stormwater management practice(s). (Total Drainage Area = Project Site + Offsite areas)

32. Pre-Construction Impervious Area - As a percent of the Total Drainage Area enter the percentage of the existing impervious areas before construction begins. ___ %

33. Post-Construction Impervious Area - As a percent of the Total Drainage Area, enter the percentage of the future impervious areas that will be created/remain on the site after completion of construction. ___ %

34. Indicate the total number of post-construction stormwater management practices to be installed/constructed. ___

35. Provide the total number of stormwater discharge points from the site. (include discharges to either surface waters or to separate storm sewer systems) ___

36. Identify other DEC permits that are required for this project.

DEC Permits

- ○ Air Pollution Control
- ○ Coastal Erosion
- ○ Hazardous Waste
- ○ Long Island Wells
- ○ Mined Land Reclamation
- ○ Other SPDES
- ○ Solid Waste
- ○ None
- ○ Other
- ○ Navigable Waters Protection / Article 15
- ○ Water Quality Certificate
- ○ Dam Safety
- ○ Water Supply
- ○ Freshwater Wetlands/Article 24
- ○ Tidal Wetlands
- ○ Wild, Scenic and Recreational Rivers
- ○ Stream Bed or Bank Protection / Article 15

37. Does this project require a US Army Corps of Engineers Wetland Permit? ○ **Yes** ○ **No**
If Yes, Indicate Size of Impact. _____.

38. Is this project subject to the requirements of a regulated, traditional land use control MS4? ○ **Yes** ○ **No**
(If No, skip question 39)

39. Has the "MS4 SWPPP Acceptance" form been signed by the principal executive officer or ranking elected official and submitted along with this NOI? ○ **Yes** ○ **No**

40. If this NOI is being submitted for the purpose of continuing coverage under a general permit for stormwater runoff from construction activities, please indicate the former SPDES number assigned. NYR

Owner/Operator Certification

I have read or been advised of the permit conditions and believe that I understand them. I also understand that, under the terms of the permit, there may be reporting requirements. I hereby certify that this document and the corresponding documents were prepared under my direction or supervision. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. I further understand that coverage under the general permit will be identified in the acknowledgment that I will receive as a result of submitting this NOI and can be as long as sixty (60) business days as provided for in the general permit. I also understand that, by submitting this NOI, I am acknowledging that the SWPPP has been developed and will be implemented as the first element of construction, and agreeing to comply with all the terms and conditions of the general permit for which this NOI is being submitted.

Print First Name John **MI**

Print Last Name McAuliffe

Owner/Operator Signature John P. McAuliffe

Date 12/21/2012

APPENDIX B

REFERENCES

Attachment B-1	Hydrologic Soil Maps
Attachment B-2	Erosion Control Specifications
Attachment B-3	NYSDOT Grading and Drainage Drawings

ATTACHMENT B-1

HYDROLOGIC SOIL MAPS

United States Department of Agriculture

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for

Onondaga County, New York

June 7, 2011

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://soils.usda.gov/sqi/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://soils.usda.gov/contact/state_offices/).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Soil Data Mart Web site or the NRCS Web Soil Survey. The Soil Data Mart is the data storage site for the official soil survey information.

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FL—Fluvaquents, frequently flooded.....13
Ma—Made land, chemical waste.....14
OdA—Odessa silty clay loam, 0 to 2 percent slopes.....14
OdB—Odessa silty clay loam, 2 to 6 percent slopes.....15
Ub—Urban land.....16
W—Water.....16
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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

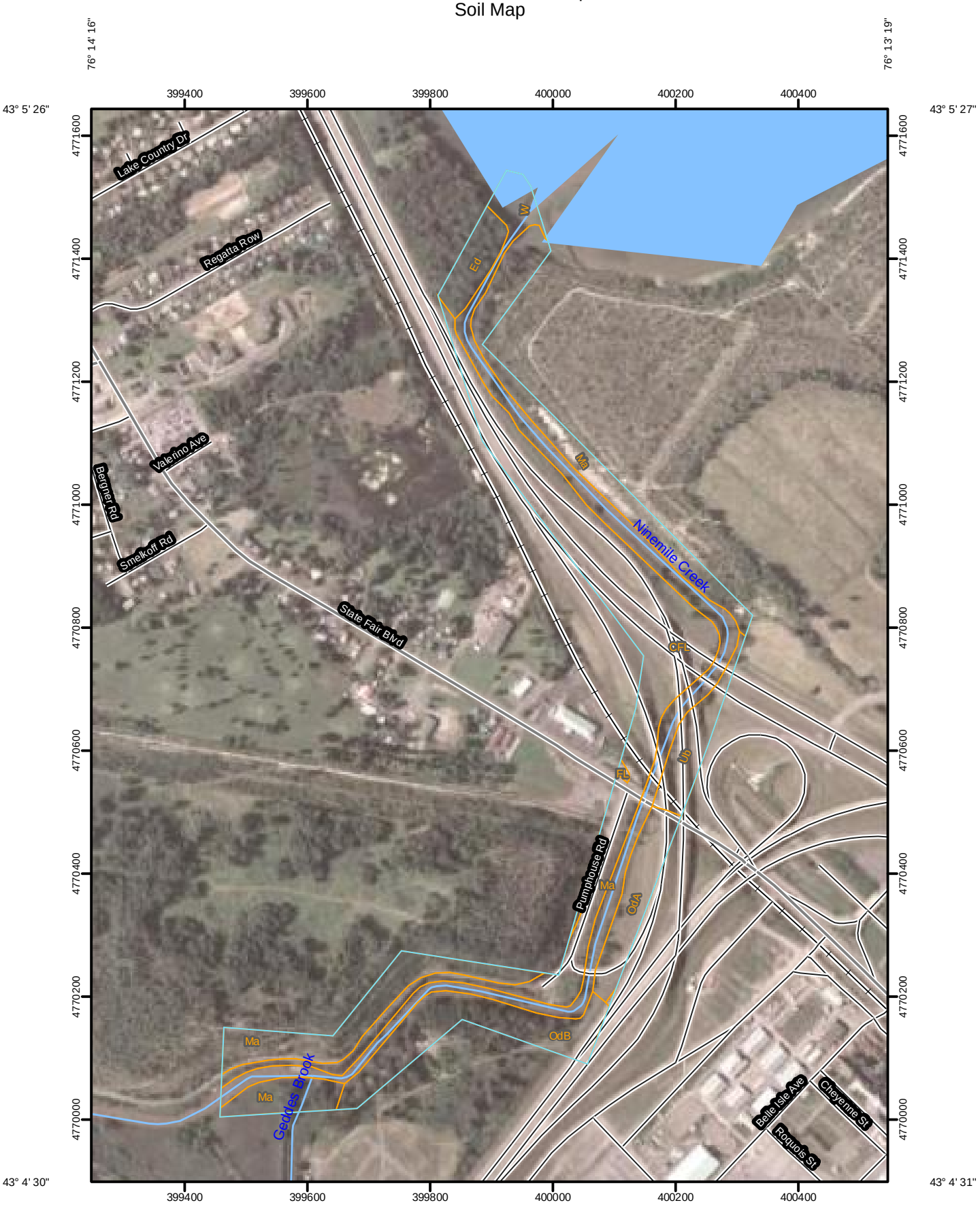
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:8,330 if printed on A size (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 300 600 1,200 1,800

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Units

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features

- Gully
- Short Steep Slope
- Other

Political Features

- Cities

Water Features

- Oceans
- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:8,330 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:20,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Onondaga County, New York
Survey Area Data: Version 5, Feb 18, 2010

Date(s) aerial images were photographed: 7/16/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Onondaga County, New York (NY067)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
CFL	Cut and fill land	20.7	31.9%
Ed	Edwards muck	2.2	3.4%
FL	Fluvaquents, frequently flooded	0.1	0.2%
Ma	Made land, chemical waste	15.5	24.0%
OdA	Odessa silty clay loam, 0 to 2 percent slopes	3.7	5.8%
OdB	Odessa silty clay loam, 2 to 6 percent slopes	6.7	10.4%
Ub	Urban land	3.0	4.6%
W	Water	12.8	19.8%
Totals for Area of Interest		**64.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Onondaga County, New York

CFL—Cut and fill land

Map Unit Setting

Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days

Map Unit Composition

Udorthents and similar soils: 70 percent

Description of Udorthents

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Low (about 5.4 inches)

Interpretive groups

Land capability (nonirrigated): 6s

Typical profile

0 to 4 inches: Gravelly sandy loam
4 to 70 inches: Very gravelly sandy loam

Ed—Edwards muck

Map Unit Setting

Elevation: 600 to 1,000 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days

Map Unit Composition

Edwards and similar soils: 75 percent

Description of Edwards

Setting

Landform: Swamps, marshes
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Concave

Across-slope shape: Concave
Parent material: Organic material over marl

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 90 percent
Available water capacity: High (about 9.6 inches)

Interpretive groups

Land capability (nonirrigated): 5w

Typical profile

0 to 24 inches: Muck
24 to 60 inches: Marl

FL—Fluvaquents, frequently flooded

Map Unit Setting

Elevation: 300 to 1,800 feet
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days

Map Unit Composition

Fluvaquents and similar soils: 75 percent

Description of Fluvaquents

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Alluvium with highly variable texture

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 5.95 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 15 percent

Available water capacity: Moderate (about 6.5 inches)

Interpretive groups

Land capability (nonirrigated): 5w

Typical profile

0 to 5 inches: Mucky silt loam
5 to 70 inches: Very gravelly silt loam

Ma—Made land, chemical waste

Map Unit Setting

Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days

Map Unit Composition

Made land, chemical waste: 70 percent

Description of Made Land, Chemical Waste

Interpretive groups

Land capability (nonirrigated): 7s

OdA—Odessa silty clay loam, 0 to 2 percent slopes

Map Unit Setting

Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days

Map Unit Composition

Odessa and similar soils: 80 percent

Description of Odessa

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Reddish clayey and silty glaciolacustrine deposits

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Moderate (about 8.6 inches)

Interpretive groups
Land capability (nonirrigated): 3w

Typical profile
0 to 7 inches: Silty clay loam
7 to 28 inches: Silty clay
28 to 60 inches: Silty clay

OdB—Odessa silty clay loam, 2 to 6 percent slopes

Map Unit Setting
Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days

Map Unit Composition
Odessa and similar soils: 80 percent

Description of Odessa

Setting
Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Reddish clayey and silty glaciolacustrine deposits

Properties and qualities
Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Available water capacity: Moderate (about 8.6 inches)

Interpretive groups
Land capability (nonirrigated): 3w

Typical profile
0 to 7 inches: Silty clay loam

7 to 28 inches: Silty clay
28 to 60 inches: Silty clay

Ub—Urban land

Map Unit Setting

Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days

Map Unit Composition

Urban land: 70 percent

W—Water

Map Unit Setting

Mean annual precipitation: 38 to 42 inches
Mean annual air temperature: 45 to 48 degrees F
Frost-free period: 110 to 190 days

Map Unit Composition

Water: 100 percent

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ATTACHMENT B-2

EROSION CONTROL DESIGN SPECIFICATIONS

02370 - EROSION CONTROL

02421 - GEOTEXTILES

PARSONS

SPECIFICATION NO: **02370**

SPECIFICATION TITLE: **EROSION CONTROL**

PROJECT NO: **446794**

PROJECT TITLE: **NINEMILE CREEK**

CLIENT: **HONEYWELL**

				APPROVALS		
Issue	**Date**	**Pages**	**Issue Description**	**Prepared**	**Checked**	**Approved**
0	5/23/2012	9	Issued for Construction	ERK	SRB/JMO	RDD/TD

☒ Entire Specification Issued this Revision

☐ Revised Pages Only Issued this Revision

SPECIFICATION ISSUED FOR:

☐ In-house Review
☐ Client Review/Approval
☐ Information Only
☐ Bid
☒ Construction
☐ *Other*

PART 1 GENERAL

1.1 DESCRIPTION

A. The Work specified in this Section consists of the labor, equipment, tools, materials and services needed to manage stormwater and provide and maintain erosion control measures prior to and throughout construction as described herein, shown on the Contract Drawings or as directed by the Engineer. Work in this Section includes, but is not limited to:

1. Preparation of a Contractor's Storm Water Pollution Prevention Plan (SWPPP).
2. Coordination with the Engineer regarding USEPA and NYSDEC requests pertaining to erosion and sedimentation control.
3. Installation and maintenance of temporary and permanent sedimentation and erosion control measures.
4. Control of erosion from stockpiles.
5. Inspection of erosion control measures during and after rainfall.
6. Repair of failed sedimentation and erosion control measures.
7. Removal and disposal of sediment deposits in a manner that does not result in additional erosion or pollution.
8. Removal of temporary erosion control measures once construction and permanent stabilization is complete.

B. Related Work specified in other Sections includes, but is not limited to:

1. Section 02140 – Construction Water Management
2. Section 02200 – General Earthwork
3. Section 02219 – Waste Excavation, Transportation and Disposal
4. Section 02222 – Excavation
5. Section 02421 – Geotextiles and Rolled Erosion Control Products
6. Section 02910 – Wetland and Streambed Restoration
7. Section 02990 – Finish Grading, Topsoil and Seeding

1.2 PERFORMANCE REQUIREMENTS

A. The Contractor shall comply with all applicable Federal, State, and Local codes, ordinances, regulations, statutes and standards.

B. Observe government policy established by United States Environmental Protection Agency (USEPA).

C. Conform to all erosion and sedimentation control policies and procedures established by the State of New York.

D. Install temporary erosion and sediment control measures as one of the first steps of site preparation, before any clearing and grubbing or earthwork occurs. Temporary

erosion and sediment control measures shall be maintained throughout the construction, and shall not be removed until permanent cover is completely established and stabilized, with no visible unstable rills or erosion, subject to the approval of the Engineer.

E. Temporary erosion and sediment control measures are a dynamic project element. The Contractor shall install, maintain, and modify control measures as required by changing remedial construction needs over time.

F. The Contractor shall plan and execute the Work to minimize routing of storm or flood water over disturbed areas in order to minimize erosion and sedimentation to the extent practicable. Similarly, the control measures shall minimize, to the extent practicable, the flow of stormwater over ground such that rills or unplanned ditches are not formed.

1.3 REFERENCES

A. New York Department of Transportation. Standard Specifications (US Customary), 2009.

B. New York State Standards and Specifications for Erosion and Sediment Control, (Latest Version).

1.4 SUBMITTALS

A. The Contractor shall submit the following in accordance with Section 01300 – Submittal Procedures and as elsewhere specified in this Section:

1. Product Data - Provide product data for each component to be used in erosion and sediment control prior to their delivery and implementation at the Site.
2. Methods - Provide a Contractor's SWPPP with a description of and illustration showing anticipated stormwater control and erosion control measures to be implemented during construction. This shall be submitted prior to mobilization to the Site.

B. Taking into account specific constraints or other criteria outlined herein, the Contractor shall prepare and incorporate a schedule into the overall construction schedule, which sets forth the program of operations to effectively control erosion and sediment runoff. The schedule shall be arranged to include:

1. Chronological completion dates for temporary and permanent measures for controlling erosion and sediment.
2. Location, type, and purpose for each temporary measure to be undertaken.
3. Dates when those temporary measures will be removed.

1.5 PROJECT AND SITE CONDITIONS

A. The Contractor shall carefully examine the site to determine the full extent, nature, and location of work required to conform to the Contract Drawings and Specifications. The Contractor shall bring any inaccuracies or discrepancies between

the Contract Drawings and Specifications to the Engineer's attention in order to clarify the exact nature of the Work to be performed.

PART 2 PRODUCTS

2.1 MATERIALS

A. Strawbales:
   1. Straw for strawbales shall meet the requirements of NYSDOT 713-19 – Straw. The use of hay is not permitted.
   2. Stakes for strawbale use shall be re-bar, steel pickets or 2 inch by 2 inch hardwood.

B. Silt Fences shall meet the requirements of NYSDOT 209-2.08 Silt Fence and Table 737-01G, and the following:
   1. Fence posts shall be 5 ft minimum length and be of wood or steel. Softwood posts shall be at least 1-1/2 inch by 3-1/2 inch; hardwood posts shall be at least 1-1/4 inch by 1-1/4 inch; steel posts shall be of T or U cross-section, with a minimum weight of 1.3lb/ft.
   2. Fasteners shall be heavy duty staples, hog rings, tie wires or other fasteners compatible with the fence post material.
   3. Silt Fence geotextile shall have a minimum permittivity of 0.05 sec-1 and a maximum Apparent Opening Size of 0.0236 inch or sieve designation of #30.
   4. Type I Silt Fence:
      a. Reinforced support shall be minimum 14 gauge welded wire mesh with 6 inch openings or polymeric mesh.
      b. Silt Fence geotextile shall have a minimum Grab Strength of 90 lbf in both the Machine and Cross-Machine directions.
   5. Type II Silt Fence:
      a. Silt Fence geotextile shall have a minimum Grab Strength of 124 lbf in the Machine and 101 lbf in the Cross-Machine direction.

C. Temporary Check Dams:
   1. The primary purpose of a check dam is to reduce flow velocity in a channel, thereby reducing erosion in the channel. A check dam will capture sediment that falls out of suspension behind it due to decreased velocity. A check dam is not intended to and generally does not filter sediment from turbid water.
   2. The maximum drainage area for any temporary check dam shall be 2 acres.

D. Sand bags shall meet the requirements of NYSDOT 209-2.10 - Sand Bag.

E. Rolled Erosion Control Products (RECPs) shall meet the requirements of Section 02421 – Geotextiles and Rolled Erosion Control Products and shall meet the Type as shown on the Contract Drawings or required in the Specifications for that location.

F. Oil Sorbents.
   1. Booms – New Pig Spaghetti Boom or equal shall be used.
   2. Socks – New Pig Skimmer Socks or equal shall be used.

PART 3 EXECUTION

3.1 GENERAL REQUIREMENTS

A. The Contractor shall provide all means, methods, services, facilities, power, equipment, tools, material, consumables, incidentals, labor and supervision necessary to manage stormwater and implement and maintain erosion and sedimentation control measures to effectively minimize erosion and sedimentation.

B. Construction, including but not limited to clearing, grubbing, earthwork and excavations shall be conducted in such a manner as to minimize erosion and sedimentation.

C. Install erosion and sedimentation control products in accordance with manufacturers' recommendations.

D. Erosion and sedimentation control measures shall be inspected by the Contractor daily. Repairs shall be made as soon as practical.

E. Cover staged soil piles with temporary liners when precipitation is expected in order to minimize soil erosion.

F. Employ, construct and maintain all temporary erosion and sediment control measures in accordance with the New York State Standards and Specifications for Erosion and Sediment Control, (Latest Version).

3.2 COMPONENTS

A. Sediment Barriers – Sediment barriers shall be strawbales, stone, silt fences, ecoberms or other approved materials that will prevent migration of silts and sediment to receiving waters.
   1. Strawbales:
      a. Strawbale sediment barriers are only to be used when:
         i. No other practice is feasible.
         ii. Erosion would occur in the form of sheet erosion.
         iii. The length of slope above the bales does not exceed the following limits for a one-inch rainfall event:

2:1 slope	25 ft slope length
3:1 slope	50 ft slope length
4:1 slope	75 ft slope length

      b. Bales shall be placed at the toe of a slope or along a contour with each vertical end tightly abutting the adjacent bale. Loose straw shall be wedged between bales as required.

c. Each bale shall be embedded a minimum of 4 inches and placed so bindings are horizontal.

d. Two stakes shall securely anchor each bale in place. Stakes must be driven a minimum of 18 inches into the ground and driven flush with the top of the bale. The first stake in each bale shall be driven at an angle toward the previously laid bale, in order to force the bales together.

2. Silt Fences:

a. Silt fences shall be placed within 2 ft of the area under consideration, but at least 10 ft from the toe of a slope to allow for maintenance and roll down of larger materials from the slope.

b. The geotextile shall be embedded to a minimum of 6 inches with native material tamped in place so that no flow can pass under the fence.

c. The geotextile shall be placed on the upslope side of the fence posts.

d. Where ends of the geotextile join each other, they shall be overlapped by a minimum of 6 inches, folded and stapled or sewn.

e. Type I Silt Fence:

i. Fence posts shall be driven a minimum of 2 ft into the ground.

ii. Maximum center to center fence post spacing shall be 4 ft.

iii. Reinforced support shall be a minimum 30 inches high and tied to fence posts.

iv. Geotextile shall be securely fastened to reinforced support with ties spaced every 24 inches at the top and mid-section.

f. Type II Silt Fence:

i. Maximum center to center post spacing shall be 4 ft in filter fabric which has an elongation greater or equal to 50%. If the filter fabric has an elongation of less than 50%, maximum fence post spacing shall be increased to 6 ft. Elongation is measured in accordance with ASTM D4362.

ii. Fence posts shall be driven a minimum of 1 ft into the ground.

iii. Geotextile shall be securely fastened to fence posts at the top and mid-section.

B. Run-off control shall be implemented by the Contractor to control surface water and minimize construction water.

1. Perimeter Dike/Swale:

a. The drainage area for a temporary dike/swale shall be less than 2 acres.

b. The evenly divided minimum height from the bottom of the swale to the top of dike shall be 18 inches.

c. The bottom width of the dike shall be a minimum of 2 feet.

d. The top width of the swale shall be a minimum of 2 feet.

e. The perimeter dike/swale shall have positive drainage to an adequate stabilized outlet with a maximum allowable grade of 8 percent.

f. Erosion control products shall be installed within the ditches to minimize soil erosion.

g. Diverted runoff from a disturbed area shall convey to a sediment trapping device or an area protected by a sediment trapping device.

h. Periodic inspection and maintenance must be carried out following any rain event at a minimum.

3. Temporary Check Dams:

a. Stone fill core material shall meet the graduation requirements for Light Stone Fill of Section 02275 – Rip-Rap.

b. Aggregate facing material shall meet the graduation requirements for Size Designation #1 or #2 from NYSDOT Table 703-4.

c. Check dams shall be keyed into the channel by a cutoff trench 1.5ft wide and 0.5ft deep.

d. Sand/gravel bags may be substituted for stone. Bags must be filled with clean sand/gravel to prevent receiving waters from becoming turbid.

e. If sand/gravel bags are used, they must be individually tied, double bagged and inversely inserted. Bags shall lap the joints between the bags in the layer below.

f. If stone check dams are constructed, the stone shall be placed on a geotextile to prevent soil migration. The geotextile shall meet the requirements for Permanent Erosion Control Geotextile in Section 02421 – Geotextiles and Rolled Erosion Control Products.

g. Maintenance Requirements:

i. Inspect channel every 7 days, after each rainfall event of minimum 0.5 inches over a 24 hour period, or daily during prolonged rainfall. Clean and repair as required.

ii. If significant erosion occurs between check dam structures, a stone liner or RECP should be installed in that portion of the channel.

iii. Remove sediment when accumulation reached 0.5 of the channel height. Removed sediment shall be managed such that it does not create erosion and sediment issues. If it is considered to be a contaminated material, then it shall be disposed of as per Section 02219 – Waste Excavation, Consolidation and Disposal.

iv. Replace stones, sand/gravel bags as required to maintain the design cross-section of the check dams.

C. Stabilization including slope protection to reduce erosion and rock protection to reduce depth, velocity and energy of discharge at a receiving reach.

1. RECP shall be installed as per the Contract Drawings and Section 02421 – Geotextiles and Rolled Erosion Control Products.
2. Other RECP should be installed per the procedures in NYSDOT 209-3.12.
3. Temporary Rock Outlet Protection shall be implemented at treated water discharge outlets and at creek diversion outlets.
   a. Separation geotextile as per Section 02421 – Geotextiles and Rolled Erosion Control Products shall be placed over the entire area before rock placement.
   b. Outlets shall be designed as per the latest version of the New York State Standards and Specifications for Erosion and Sediment Control.
4. Construction Road Stabilization:
   a. Surface drainage will be provided and excess runoff shall be diverted to stabilized areas. Roadside ditch capacity shall be the 10 yr. peak runoff.
   b. A 6 inch layer of Structural Fill as per Section 02200 – General Earthwork shall be placed evenly over the full width of the roads.
   c. Construction Roads shall be top-dressed with new gravel as required.
5. Stabilized Construction Entrance:
   a. The length of the stabilized construction entrance shall be a minimum of 50 feet.
   b. The width shall be 12 foot minimum, but not less than the full width where ingress or egress occurs. For a single site entrance, this shall be a minimum of 24 feet.
   c. A stabilization geotextile, as per Section 02421 – Geotextiles and Rolled Erosion Control Products, shall be placed over the entire area before gravel placement. This will also serve as a suitable separation fabric.
   d. A minimum of 6 inches of ¼ inch washed gravel shall be placed over the geotextile.
   e. The entrance shall be maintained in a condition which will prevent tracking of sediment onto public streets, including top-dressing as required.

D. Oil Sorbent Booms/Socks – Oil sorbent booms/socks shall be installed to contain oil sheens emanating from waste materials. The Contractor shall maintain a supply of clean oil sorbent booms/socks on-site at all times and install within one hour after discovery of a sheen.

3.3 SPECIAL CONDITIONS

A. Prohibited construction practices include, but are not limited to the following:

1. Dumping of spoil material into any stream corridor, wetland, surface water, unspecified locations or any location not expressly approved by the Engineer.
2. Indiscriminate, arbitrary or capricious operation of equipment in any stream corridor, wetland, surface water or other location. All equipment operation in water bodies or wetlands shall be in accordance with the Contract Documents.
3. Pumping of silt-laden water from trenches or other excavations into any stream corridor, wetland or surface waters, or location not expressly approved by the Engineer.
4. Disposal of trees, brush and other debris in any stream corridor, wetland, surface water, or location not expressly approved by the Engineer.
5. Permanent or unspecified alteration of the flowpath of any stream not shown on the Contract Drawings or expressly approved by the Engineer.
6. On or off-site burning of construction project debris.

3.4 ADJUSTMENT OF PRACTICES

A. If the planned measures do not result in effective control of erosion and sediment runoff, the Contractor shall immediately adjust the program and/or institute additional measures in order to eliminate excessive erosion and sediment runoff.

B. If the Contractor fails or refuses to comply promptly, the Engineer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to any such stop orders shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor.

END OF SECTION

PARSONS

SPECIFICATION NO: **02421**

SPECIFICATION TITLE: **GEOTEXTILES AND ROLLED EROSION CONTROL PRODUCTS**

PROJECT NO: **446794**

PROJECT TITLE: **NINEMILE CREEK**

CLIENT: **HONEYWELL**

				APPROVALS		
Issue	**Date**	**Pages**	**Issue Description**	**Prepared**	**Checked**	**Approved**
0	5/23/2012	8	Issued for Construction	ERK	SRB/JMO	RDD/TD

☒ Entire Specification Issued this Revision

☐ Revised Pages Only Issued this Revision

SPECIFICATION ISSUED FOR:

☐ In-house Review
☐ Client Review/Approval
☐ Information Only
☐ Bid
☒ Construction
☐ *Other*

PART 1 GENERAL

1.1 DESCRIPTION

A. The Work specified in this Section consists of all labor, equipment, tools, materials, services, supervision and incidentals necessary to install geotextile fabrics and rolled erosion control products (RECPs) necessary for completion of the Work as described herein, shown on the Contract Drawings, or as directed by the Engineer.

B. Related Work specified in other Sections includes, but is not limited to:

1. Section 02275 – Rip-Rap
2. Section 02370 – Erosion Control

1.2 PERFORMANCE REQUIREMENTS

A. The Contractor shall comply with all applicable Federal, State, and Local codes, ordinances, regulations, statutes and standards.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM)

1. ASTM D4355 – Standard Test Method For Deterioration of Geotextiles by Exposure to Light, Moisture and Heat in a Xenon arc Type Apparatus
2. ASTM D4491 – Standard Test Methods for Water Permeability of Geotextiles by Permittivity
3. ASTM D4533 – Standard Test Method for Trapezoidal Tearing Strength of Geotextiles
4. ASTM D4632 – Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
5. ASTM D4751 – Standard Test Method for Determining Apparent Opening Size of a Geotextile
6. ASTM D4873 – Standard Guide for Identification, Storage, and Handling of Geosynthetic Rolls and Samples
7. ASTM D6241 – Standard Test Method for Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe
8. ASTM D6475 – Standard Test Method for Measuring Mass Per Unit Area of Erosion Control Blankets
9. ASTM D6525 – Standard Test Method for Measuring Nominal Thickness of Permanent Rolled Erosion Control Products
10. ASTM D6818 – Standard Test Method for Ultimate Tensile Properties of Turf Reinforcement Mats
11. ASTM D7101 - Standard Index Test Method For Determination Of Unvegetated Rolled Erosion Control Product (RECP) Ability To Protect Soil From Rain Splash And Associated Runoff Under Bench-Scale Conditions

12. ASTM D7207 - Standard Test Method For Determination Of Unvegetated Rolled Erosion Control Product (RECP) Ability To Protect Sand From Hydraulically-Induced Shear Stresses Under Bench-Scale Conditions

B. American Association of State Highway and Transportation Officials (AASHTO)
   1. National Transportation Product Evaluation Program Report (NTPEPR)
   2. M288 - Geotextile Specification for Highway Applications, (2009)

1.4 SUBMITTALS

A. The Contractor shall submit the following in accordance with Section 01300 – Submittal Procedures and as elsewhere specified in this Section:
   1. Manufacturers' technical data, samples, installation instructions and proof of current AASHTO NTPEP or NYSDOT approval (or project specific testing of the specified properties).
   2. Samples of sewn seams as per Subpart 3.2.

1.5 PROJECT AND SITE CONDITIONS

A. The Contractor shall carefully examine the site to determine the full extent, nature and location of work required to conform to the Contract Drawings and Specifications. The Contractor shall bring any inaccuracies or discrepancies between the Contract Drawings and Specifications to the Engineer's attention in order to clarify the exact nature of the Work to be performed.

1.6 QUALITY CONTROL

A. Inspect all geotextiles and RECPs upon delivery and verify that the proper materials and quantities have been supplied.

B. Inspect the subgrade prior to installation of geotextiles and RECPs. The subgrade shall be free of organic matter, irregularities, protrusions, abrupt changes in grade, or other unacceptable conditions that could damage the geotextile/RECP. Maintain the subgrade in a smooth and uniform condition during installation of the geotextile/RECP. The subgrade shall be inspected and accepted by the Engineer prior to placement of the geotextile/RECP.

C. Continuously inspect needle-punched geotextiles during deployment for broken needles remaining from needlepunching operations.

D. Continuously inspect geotextiles/RECP for damage. Reject the geotextile if it has defects, rips, holes, flaws, deterioration or damage incurred during manufacture, transportation, or storage. Repair or replace geotextiles/RECP damaged during installation.

PART 2 PRODUCTS

2.1 MATERIALS

A. Permanent Erosion Control Geotextile:
   1. Needle-punched, nonwoven geotextile
   2. Meets or exceeds the values listed in Table 02421-1.

B. Stabilization Geotextile
   1. Woven, slit-film or monofilament geotextile
   2. Meets or exceeds the values listed in Table 02421-1.

C. Type A Bio-degradable Rolled Erosion Control Product
   1. Bio-degradable RECP shall be a machine-produced 100 percent biodegradable mat with a 70 percent herbaceous straw and 30 percent coconut fiber blend matrix. The blanket shall be of consistent thickness with the straw and coconut fiber evenly distributed over the entire area of the mat. Cover the blanket on the top and bottom sides with 100 percent biodegradable woven natural organic fiber netting. The netting shall consist of machine directional strands formed from two intertwined yarns with cross directional strands interwoven through the twisted machine strands (commonly referred to as a Leno weave) to form an approximate 1/2 inch by 1/2 inch mesh. Sew the blanket together with biodegradable thread on 1.5 inch centers.
   2. The matrix shall consist of 70 percent straw fiber with approximately 0.35 lb/yd weight with 30 percent coconut fiber cured in fresh water with approximately 0.15 lb/yd weight.
   3. The netting shall cover both sides and consist of woven 100% biodegradable natural organic fiber with approximately 9.3 lbs/1,000 ft^2 weight.
   4. Thread shall be biodegradable.
   5. Meets or exceeds the values listed in Table 02421-1.

D. Type B Bio-degradable Rolled Erosion Control Product
   1. Bio-degradable RECP shall be a machine-produced 100 percent biodegradable mat with a 100 percent biodegradable netting and thread. No synthetic components are acceptable.
   2. Meets or exceeds the values listed in Table 02421-1.

E. Staking (for Bio-degradable Rolled Erosion Control Product)
   1. Stakes shall be non-treated wood and shall be designed to safely and effectively secure erosion control product for temporary or permanent applications.
   2. The stake shall meet the erosion control blanket manufacturer recommendations for the intended application. Stake length shall be 6 inches or longer as recommended by the manufacturer.
   3. Serrate the stake on the leg to increase resistance to pull-out from the soil.

F. All geotextiles and RECP must be on the approved list of geotextiles and RECP in the current AASHTO NTPEPR or on the current NYSDOT approved list of geotextiles and RECP. Alternatively, project specific testing of the specified properties may be submitted in lieu of AASHTO or NYSDOT approval.

PART 3 EXECUTION

3.1 LABELING, DELIVERY, STORAGE AND HANDLING

A. Labeling

1. Each roll of geotextile/RECP delivered to the site shall be wrapped in protective covers and labeled by the manufacturer with the manufacturer's name, product identification, length, width and roll number.

B. Delivery

1. The geotextile/RECP rolls shall be shipped by appropriate means to prevent damage to the material and to facilitate off-loading. Materials shall not be delivered to the site until the appropriate submittals of Subpart 1.4 have been approved by the Engineer. At such time, the geotextile/RECP may be delivered to the site, unloaded and stored at an area approved by the Engineer.

C. Storage and Handling

1. Store and handle materials as per ASTM D4873 and the manufacturers' recommendations in such a manner as to prevent damage or deterioration to any part of the geotextile/RECP.
2. Maintain the protective wrapping on geotextile/RECP rolls at all times until the geotextile/RECP is deployed for immediate placement.
3. Protect the geotextile/RECP from punctures, abrasions, dirt, dust, grease, mud, moisture, excessive heat, sunlight, cutting, or other damage or deleterious conditions. Protect the geotextile/RECP rolls from theft and vandalism and store away from high traffic areas. Repair any damage to protective wrapping immediately. The Contractor is responsible for the on-site storage and handling of all geotextile/RECP. Damaged geotextile/RECP shall be replaced at the Contractor's expense.

3.2 INSTALLATION

A. Ensure the geotextile/RECP is not damaged in any way during handling.

B. Position geotextile/RECP rolls as required and unroll.

C. Overlap geotextile/RECP rolls in the direction of backfill placement so that the geotextile/RECP at the beginning of backfill placement is overlapped on top of the geotextile/RECP at the end of backfill placement.

D. Geotextile/RECP may be held in place with sand bags or anchor pins prior to backfill placement. When geotextile/RECP is on slopes steeper than 1V:5H and will have rip-rap placed on it, anchor pins shall be used on to restrain the geotextile/RECP on 5 foot centers or less.

E. When placed on stable subgrades flatter than 1V:5H, sew seams or overlap geotextile/RECPs a minimum of 18 inches on all edges.

F. When placed on stable subgrades steeper than 1V:5H, sew seams or overlap geotextile/RECPs a minimum of 2 feet.

G. When geotextile/RECP is placed on unstable subgrades (soil California Bearing Ratio <1), seams must be sewn.

H. Sewing requirements:

1. Nylon thread shall not be used. For Permanent Erosion Control applications, the thread shall be resistant to ultraviolet radiation. The thread shall be of contrasting color to the geotextile.
2. Employ a thread tension that secures the geotextile without cutting the material.
3. Use a "J" seam secured with a minimum of one row of four-stitch per inch two thread main stitch.
4. Contractor shall provide a sewn seam sample at least 6 feet in length to the Engineer for visual inspection and potential testing prior to installation of the geotextile if sewn seams are used. The sample shall be sewn using the same equipment and materials as that for the production seams.

I. When nonwoven geotextile is placed in deep trenches where the geotextile width is insufficient to line the trench without a seam, the geotextile shall be placed with the long dimension perpendicular to the centerline of trench, unless otherwise approved by the Engineer. Overlap longitudinal seams between adjacent rolls of material a minimum of 2 feet. Overlap the material a minimum of 1 foot over the top of the trench.

J. When woven geotextile is placed above the trench, place the geotextile with the long dimension parallel to the line of the trench. Overlap the geotextile a minimum of 2 feet.

K. Lay geotextile/RECP smooth and free of tension, stress, folds, wrinkles and creases. Unless specifically permitted by the Engineer, geotextile/RECPs shall be placed in continuous intimate contact with the underlying subgrade so that water cannot flow unimpeded between the soil and geotextile/RECP.

L. If geotextile/RECPs are damaged during any phase of construction or installation, place a new piece of the same type over the damaged area with a 3-foot minimum overlap and sew.

M. Cover the geotextiles within 10 days after installation. Inspect the geotextile immediately before and during placement of soil or aggregate on the geotextile.

N. During spreading operations of backfill, maintain a minimum depth of 12 inches of soil or aggregate over the geotextiles. Do not operate construction equipment directly on the geotextile.

O. Protect the geotextile/RECP from damage due to the placement of materials by limiting the height of drop of the material to less than 1 foot unless otherwise

approved by the Engineer. Rip-rap weighing more than 200 pounds shall not be permitted to roll on the geotextile/RECP.

TABLE 02421-1
MINIMUM ACCEPTANCE CRITERIA FOR GEOTEXTILES

Minimum Strength Class Requirements							
Geotextile Application	Geotextile Structure	Class	Elongation	Grab Strength	Tear Strength	Puncture Strength	UV Stability[3]
		AASHTO M288 Class		ASTM	ASTM	ASTM	ASTM
				D4632	D4533	D6241	D4355
		#	(%)	(lbf)	(lbf)	(lbf)	(%)
Permanent Erosion Control	NP-NW[1]	1	<50	315	112	618	50
		1	>50	202	79	433	50
Stabilization	W, MF[2]	1	<50	315	112	618	50
Separation	NP-NW	2	<50	247	90	90	50
		2	>50	157	56	56	50

Separation and Drainage Requirements					
Geotextile Application	Geotextile Structure	In-situ Soil Passing #200 Sieve	Maximum Apparent Opening Size		Minimum Permittivity
		ASTM	ASTM		ASTM
		D422	D4751		D4491
		(%)	Sieve Size	Sieve	(sec^{-1})
Permanent Erosion Control	NP-NW[1]	<15	0.0167	No. 40	0.7
		15 - 50	0.00984	No. 60	0.2
		>50	0.0083	No. 70	0.1
Stabilization	W, MF[2]	n/a	0.0167	No. 40	0.05
Separation	NP-NW	n/a	0.0236	No. 30	0.02

1 NP-NW = Needle Punched, Non-Woven
2 W, MF = Woven , Slit-film or Monofilament type
3 Strength Retained after 500 hours

Rolled Erosion Control Product (RECP) Requirements		
RECP	RECP Structure	Bench Scale Channel Erosion Test
		ASTM
		D7207
		(psf at 1/2-inch soil loss)
Type A	100% Bio-degradable[1]	>2
Type B	100% Bio-degradable[1]	>1

1 All components, including matrix, netting, and thread must be 100% bio-degradable, natural materials.

END OF SECTION

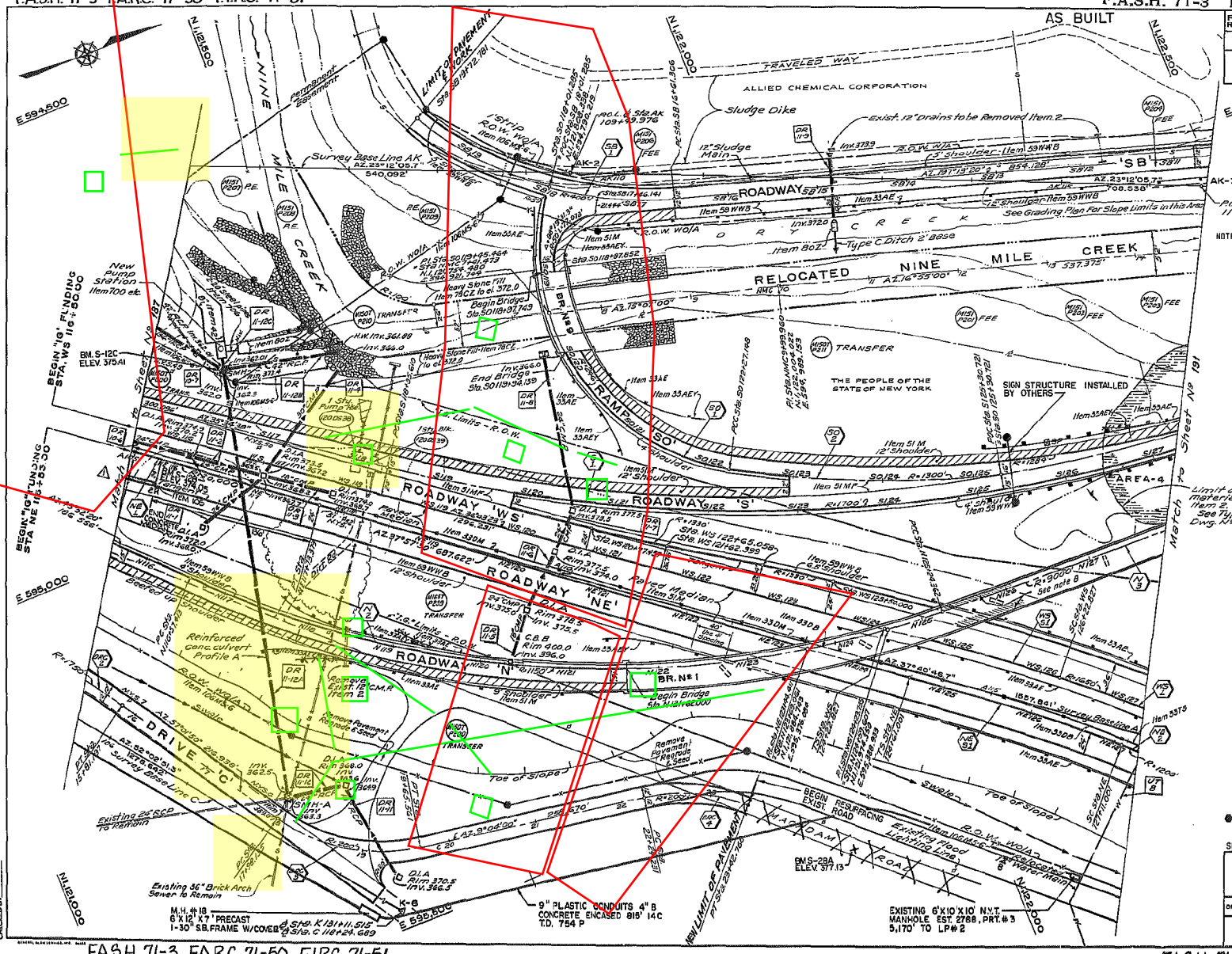
ATTACHMENT B-3

NYSDOT GRADING AND DRAINAGE DRAWINGS

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-690-3 (31) F-446 (17)	188FIRI	639

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR, INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION. S.H. 54-5; ONONDAGA COUNTY



FIELD CHANGE

SHEET 188FI VOIDS ALL OF ORIGINAL SHEET 188.
⚠ CHANGE IN GORE ON 'NE' LINE 'N' LINE
SEE SHEET 187 FI FOR APPROVAL SIGNATURES.

NOTES:

1. CUT, PLUG, AND ABANDON EXISTING 36" BRICK ARCH SEWER.
2. FOR LAYOUT AND DETAILS OF RELOCATED 42" STATE FAIR SEWER AND PUMPING STATION (DR. NOS. 11-12A, 11-12B & 11-12C) SEE DWG. NOS. PS 1-7.
3. FOR LAYOUT AND DETAILS OF RELOCATED 12" WATER MAIN (LAKELAND WATER DISTRICT) SEE DWG. NO. UTD-12, 13, 14 & 15
4. FOR RELOCATED ELECTRIC FACILITIES IN STATE FAIR AREA SEE DWG. NOS. PS 4, 5 & 6.
5. FOR DETAILS OF ITEM 33TS SEE DWG. NO. S-315.
6. FOR UTILITY RELOCATIONS BY OTHERS ALONG UT-8 AS SHOWN BELOW, WHICH INCLUDES 12" GAS MAIN, 8" PETROLEUM LINE AND TELEPHONE CONDUITS SEE DWG. NOS. UTD 12, 13, 14, & 15.
7. EXISTING 12" SLUDGE MAIN ALONG ROADWAY SB TO BE RELOCATED BY OTHERS
8. FOR DETAILS OF LINE DELINEATION ON STRUCTURE WITH WITH ITEM 384 - EPOXY SURFACING ON BRIDGE DECKS SEE:
   DWG. NO. S 88 - S 88 - BRIDGE NO. 1 - SECTION E
   DWG. NO. S144 - S145 - BRIDGE NO. 2 - SECTION E
   DWG. NO. S172 - S173 - BRIDGE NO. 4 - SECTION E
   DWG. NO. S223 - S224 - BRIDGE NO. 5 - SECTION E

Key:
▪ ▪ ▪ Guide Rail by D.W.W.

TELE. CONDUIT INSTALLED ALONG 'C' DRIVE
DRIVE C CHANGE
ADDITION ITEM 106MX6
EXTENSION C.R.N. LINE
SEE SHEET NO. 187FI
FOR APPROVAL SIGNATURE

RIP RAP CHANGE.
● R.O.W. MARKERS INSTALLED
FIELD CHANGE
SIGN STRUCTURE & GUIDERAIL ADDED

PLAN
ROADWAY WS STA 115+00 TO STA 127+20
ROADWAY NE STA 115+00 TO STA 127+30

DRAWING NO.	SCALE	DATE	SHEET NO.
AR-11	1" = 50'	DEC. 70	188

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

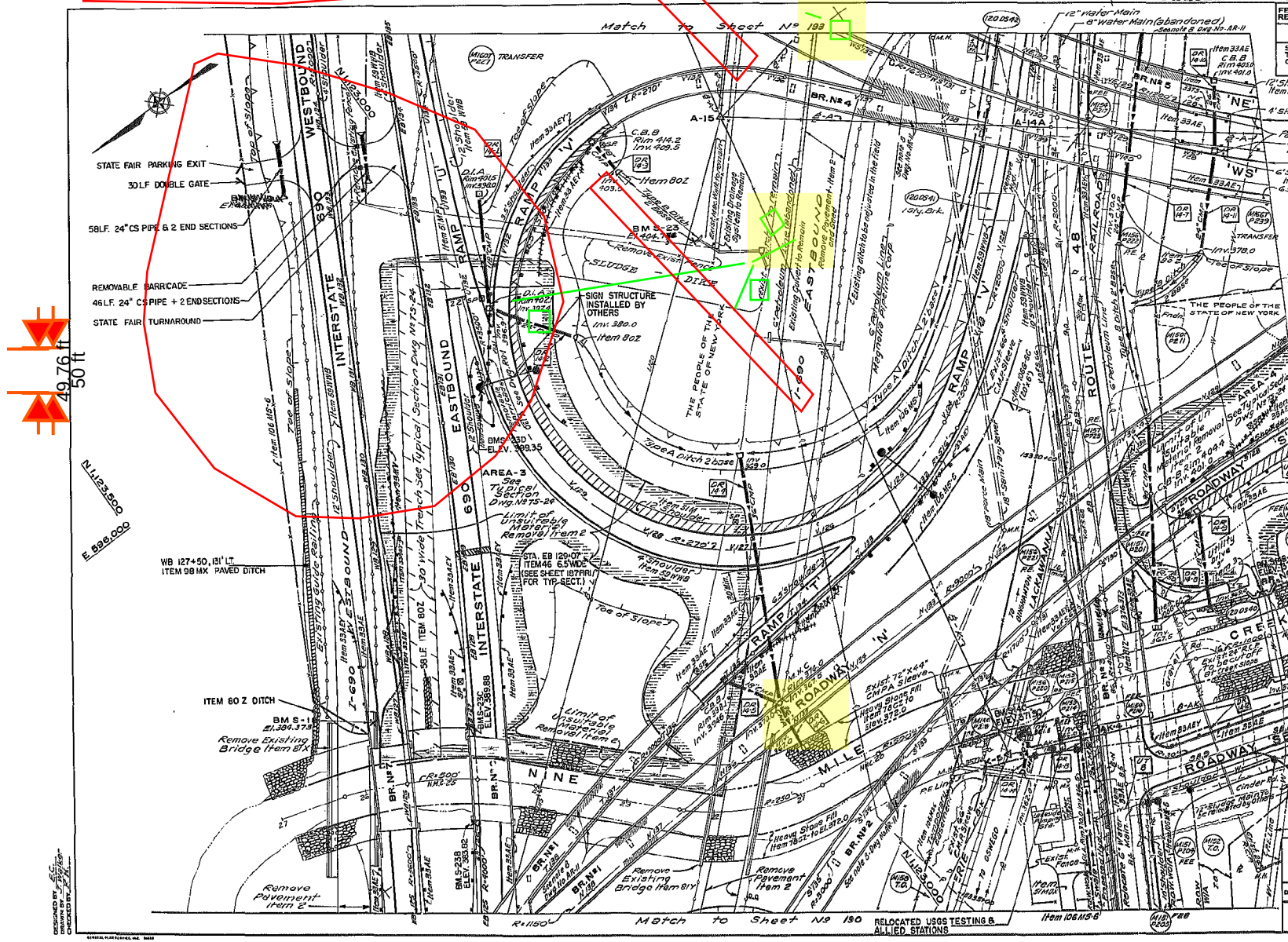
F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

AS BUILT F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-690-3 (31) F-446 (17)	191FR	639

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2: S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION. S.H. 54-5; ONONDAGA COUNTY

FIELD CHANGE



NOTES:

1. FOR ALIGNMENT AND BASE LINE INFORMATION SEE DWG. NO. AR-14A.
2. ALL EXISTING GUIDE RAILING INSIDE THE HIGHWAY RIGHT-OF-WAY SHALL BE REMOVED.
3. △ FOR LAYOUT AND DETAILS OF RELOCATED 6" & 8" WATER MAIN (LAKELAND WATER DISTRICT) SEE DWG. NOS. UTD-12, 13, 14 & 15.
4. FOR WATER EASEMENT SEE DWG. NO. UTD-12.
5. ALL WORK, INCLUDING SIGNALIZATION, BETWEEN THE OUTSIDE EDGES OF THE RAILROAD TIES AT THE ERIE LACKAWANNA RAILROAD AND ROUTE 48 CROSSING WILL BE DONE BY OTHERS.
6. FOR LAYOUT AND DETAILS OF RELOCATED ROUTE 48 STREET LIGHTING SEE DWG. NOS. 18 & 19.
7. FOR UTILITY RELOCATIONS BY OTHERS ALONG UT-5 AS SHOWN ON THIS SHEET, WHICH INCLUDES 12" GAS MAIN, 6" PETROLEUM LINE AND TELEPHONE CONDUITS SEE DWG. NOS. UTD 12, 13, 14 & 15.

△ REVISED WATER LINE FROM 12" TO 8" DIAM. INSTALL 8" VALVE.

ITEM 33 MV DELETED
ITEM 46, PAVT. PATCH
GUIDERAIL CHANGES
STATE FAIR TURNAROUND ADDED
USGS TESTING & ALLIED STATIONS RELOC.
ITEM 80Z & 98MX DITCHES ADDED

8" PETROLEUM LINE (MAGNOLIA PIPE LINE CO.) TO BE RELOCATED BY OTHERS AT NINE MILE CREEK CROSSING, UNDER BRIDGE NO. 1 AND UNDER THE EMBANKMENT OF RAMP T & V.

INSTALL 8" VALVE ITEM 501-8.

△ Item 4 added on 14-8

SIGN STRUCTURES & GUIDE RAIL ADDED SHEET 191F VOIDS ALL OF ORIGINAL SHEET 191.

●R.O.W. MARKERS INSTALLED FOR APPROVAL, SIGNATURES SEE SHEET 190F FOR R. TIES, SEE SHEET 143R.

(SEE ABOVE)

PLAN

EASTBOUND STA 125+00 TO STA 135+00
WESTBOUND STA 125+00 TO STA 135+00

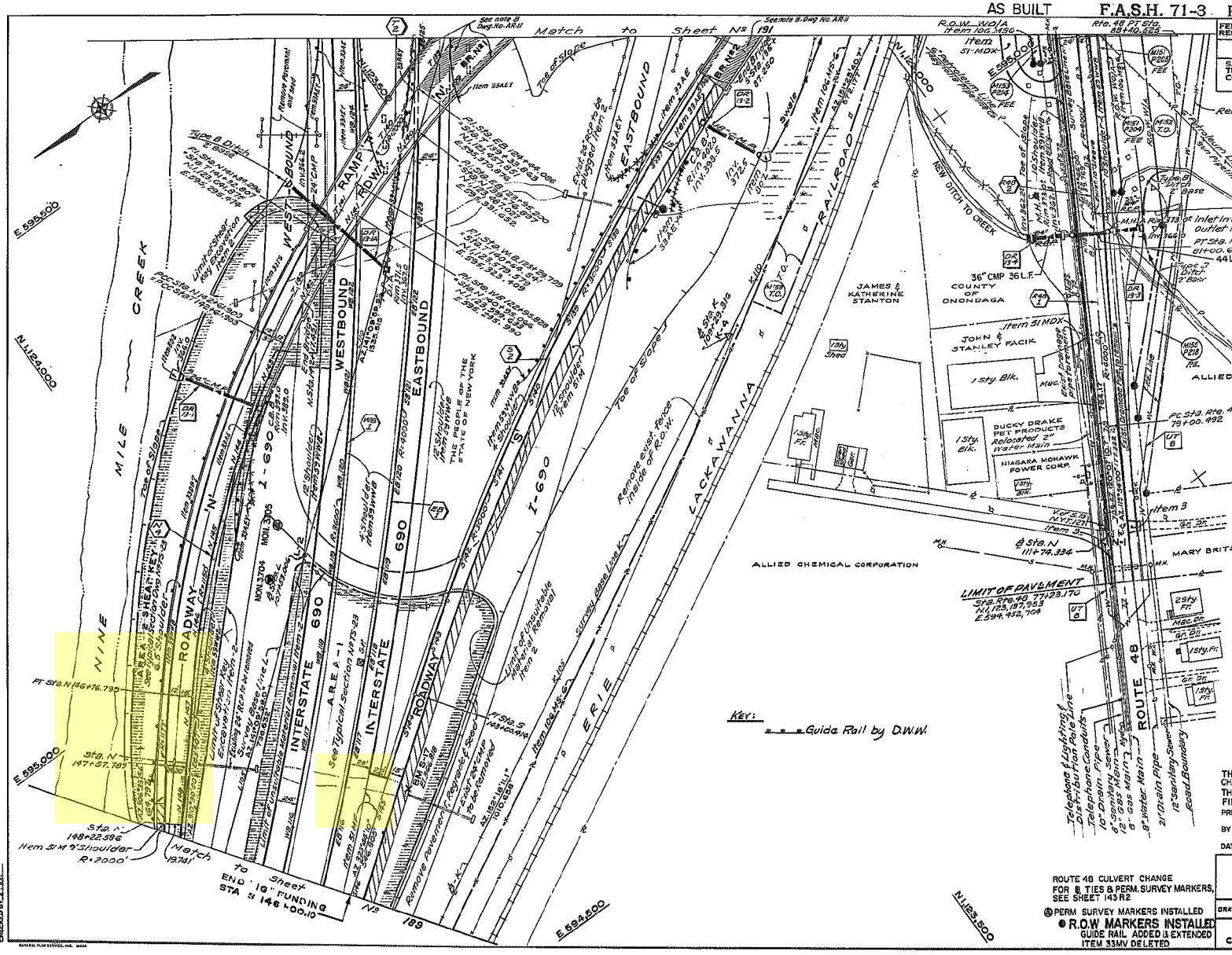
DRAWING NO.	SCALE	DATE	SHEET NO.
AR-14R	1" = 50'	DEC. 70	191F

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

AS BUILT F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-690-3 (31) F-446 (17)	190FIR1	639

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION. S.H. 54-5; ONONDAGA COUNTY



FIELD CHANGE

SHEET 190FI VOIDS ALL OF ORIGINAL SHEET 190.

△ REVISED WATER MAIN FROM 12" TO 8" DIAM.

NOTES:

1. ALL EXISTING GUIDE RAILING INSIDE THE HIGHWAY RIGHT-OF-WAY SHALL BE REMOVED A.O.S.
2. △ FOR LAYOUT AND DETAILS OF RELOCATED 8" WATER MAIN (LAKELAND WATER DISTRICT) SEE DWG. NOS. UTD-12, 13, 14 & 15.
3. FOR WATER EASEMENT SEE DWG. NO. UTD-12.
4. FOR LAYOUT AND DETAILS OF RELOCATED ROUTE 48 STREET LIGHTING SEE DWG. NO UTD-18 & 19.
5. FOR DETAILS OF ITEM 33TS SEE DWG. NO. S-315.
6. FOR UTILITY RELOCATIONS ALONG UT-8 AS SHOWN ON THIS SHEET, WHICH INCLUDES 12" GAS MAIN, 6" PETROLEUM LINE AND TELEPHONE CONDUITS SEE DWG. NOS. UTD 12, 13, 14, & 15.
7. 6" PETROLEUM LINE (MAGNOLIA PIPE LINE CO.) TO BE ADJUSTED BY OTHERS AT ROUTE 48 CROSSING-ROUTE 48 - STATION 81+50±.

APPROVED
Date Oct. 26, 1971
Jack Stanbach
JACK STANBACH
Deputy Chief Engineer (Construction)

THIS FIELD CHANGE INVOLVES THE FOLLOWING FIELD CHANGE SHEETS: 190FI, 191FI, 192FI, 274FI, 275FI, 276FI, & 277FI. THE APPROVAL SIGNATURE ABOVE APPROVES ALL OF THESE FIELD CHANGE SHEETS.

PREPARED PURSUANT TO THE HIGHWAY LAW, AND RECOMMENDED

BY R. E. Tonkin REGIONAL DIRECTOR, REG. NO. 3

DATE: 13 Oct, 1971

ROUTE 48 CULVERT CHANGE FOR ⊕ TIES & PERM. SURVEY MARKERS, SEE SHEET 143 R2

Ⓐ PERM SURVEY MARKERS INSTALLED

● R.O.W MARKERS INSTALLED

GUIDE RAIL ADDED & EXTENDED

ITEM 33MV DELETED

PLAN

EASTBOUND STA 115+40 TO STA 125+00

WESTBOUND STA 115+50 TO STA 125+00

DRAWING NO.	SCALE	DATE	SHEET NO.
AR-13	1" = 50'	DEC. 70	190FI

CHAS. H. SELLS, INC.

CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

AS BUILT

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-690-3(31) F-449(17)	189FIRI-	639

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE 690 NORTHWEST ARTERIAL CONNECTION. CONNECTION 570 S.H. 54.5; ONONDAGA COUNTY

FIELD CHANGE SHEET

FIELD CHANGE SHEET NO. 189FI VOIDS ALL OF ORIGINAL SHEET NO. 189

⚠ INSTALL ITEM 11H6, CORR. PERFOR. MET. PIPE UNDERDRAIN IN MEDIAN, STA. 95+43 WB TO 111+11 WB A.O.B.E. OUTLET TO D.I. AT STA. 95+43 WB.

INSTALL CORR. BEAM MEDIAN BARRIER IN MEDIAN, (ITEM 33 DM) STA. 96+00 EB TO STA. 111+00 EB. INSTALL 2 ANCHORAGE UNITS (ITEM 33 DMA) A.O.B.E.

BUILD ADDITIONAL LANES MALL SIDE AS SHOWN ON PLANS & TYPICAL SECTIONS:

EB STA. 96+00 TO EB STA. 112+25.451

WB STA. 96+20 TO WB STA. 110+00

PAVE MALL AS SHOWN ON TYPICAL SECTIONS:

EB STA. 96+00 TO EB STA. 111+00

CHANGES IN CONTRACT QUANTITIES.

CHANGE OF NOTE NO. 2

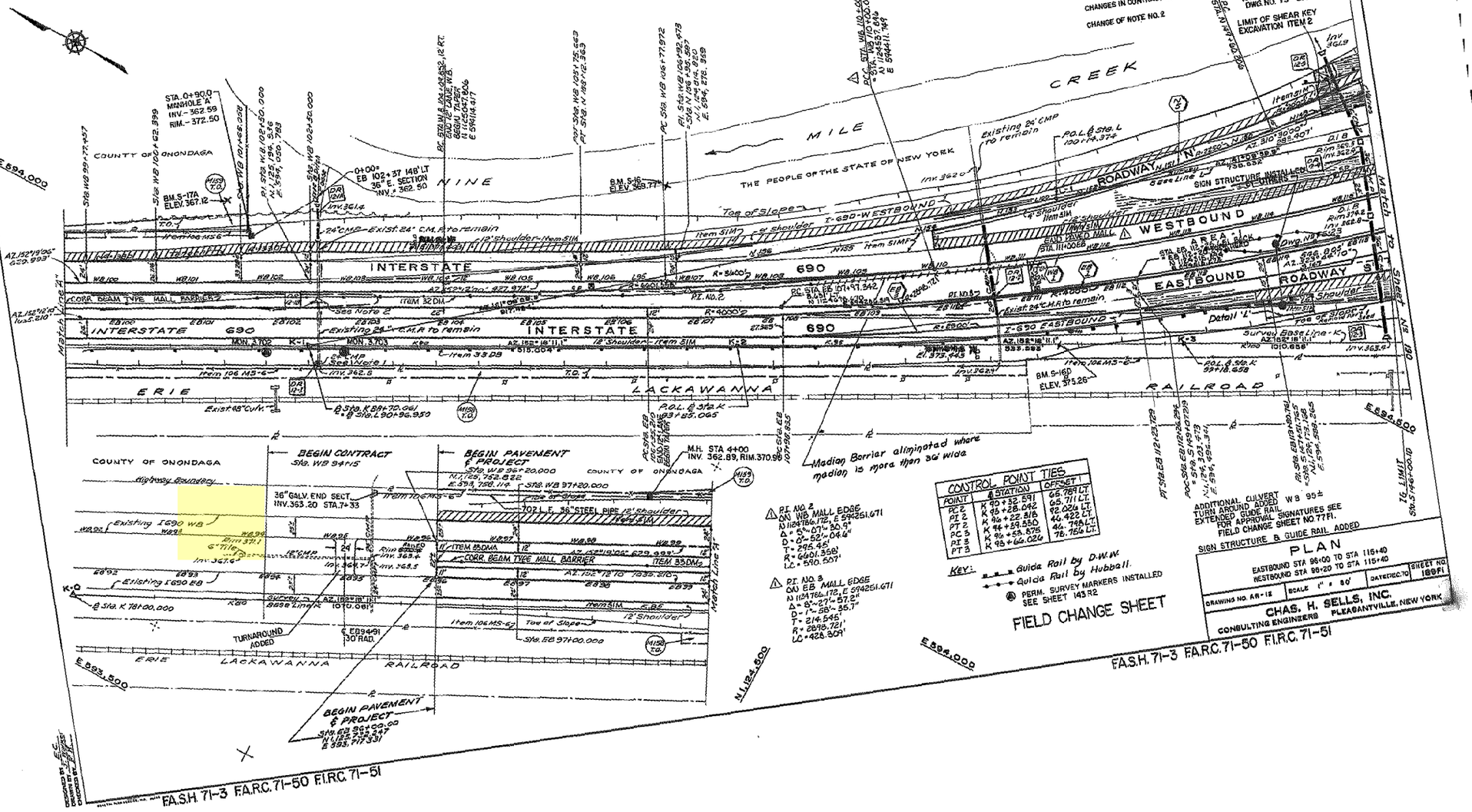
⚠ CHANGES IN CONTRACT QUANTITIES:

INCREASE		DECREASE	
ITEM 2UF	= 19 CY.	ITEM 599WB	= 148 CY.
3	= 714 CY.	60S	= 1335 S.Y.
4	= 618 CY.	68	= 2694 GAL.
11H6	= 1568 L.F.	70B	= 533 GAL.
33DMA	= 1500 L.F.	121A	= 622 CY.
33DMA	= 2 EA.	123	= 12 ACRE
455P	= 1427 TON		
51M	= 605 TON		
51MF	= 446 TON		

NOTES:

1. 24" C.M.P. END SECTION AT CR. 12-1 SHALL BE PLACED INSIDE THE HIGHWAY RIGHT-OF-WAY. EMBANKMENT SLOPE SHALL BE WARPED AROUND THE END SECTION A.O.B.E.

⚠ 2. RAISE EXISTING D.I. TO ELEVATION A.O.B.E.



CONTROL POINT TIES		
POINT	℄ STATION	OFFSET
PC 2	K 90+32.591	66.789 LT.
PT 2	K 95+28.042	65.711 LT.
PT 2	K 96+22.816	92.026 LT.
PC 3	K 96+39.550	46.422 LT.
PT 3	K 96+53.875	46.798 LT.
PT 3	K 98+66.026	78.756 LT.

FIELD CHANGE SHEET

PLAN

EASTBOUND STA 96+00 TO STA 115+40
WESTBOUND STA 96+20 TO STA 115+40

DRAWING NO. AR-12 | SCALE 1" = 80' | DATE DEC. 70 | SHEET NO. 189FI

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS
PLEASANTVILLE, NEW YORK

FA.S.H. 71-3 FA.R.C. 71-50 FI.R.C. 71-51

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

AS BUILT

FIELD CHANGE SHEET NO. 189F2 SUPPLEMENTS BUT DOES NOT CHANGE ANY PART OF FIELD CHANGE SHEET NO. 189 F1.

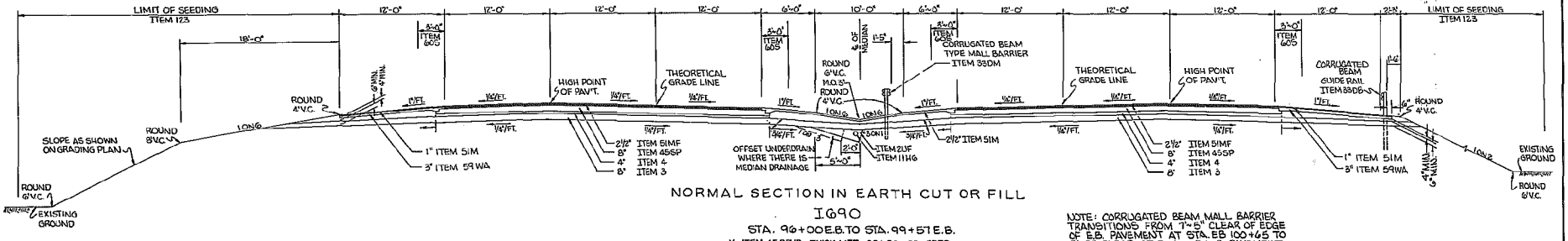
FED. ROAD REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-690-3 (31) F-446 (17)	189F2R1	639

S.H. 5016 CAMILLUS—FAIRMOUNT PT. 2, S.H. 132 GENESEE TURNPIKE; FAIRMOUNT—STATE FAIR; INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION, S.H. 54-5, ONONDAGA COUNTY

FIELD CHANGE SHEET

WESTBOUND LANES
(READ OPPOSITE FROM DIRECTION OF TRAVEL)

EASTBOUND LANES
(READ IN DIRECTION OF TRAVEL)



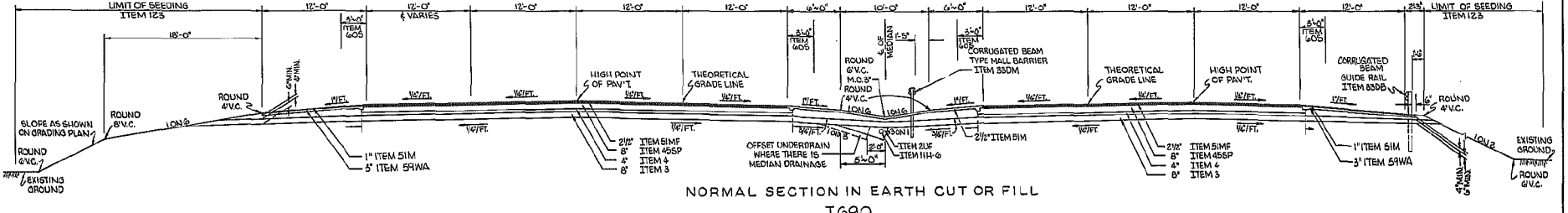
NORMAL SECTION IN EARTH CUT OR FILL

I690

STA. 96+00 E.B. TO STA. 99+57 E.B.

* ITEM 45SPVD THICK LIFT 96+00- 99+57EB

NOTE: CORRUGATED BEAM MALL BARRIER TRANSITIONS FROM 7'-5" CLEAR OF EDGE OF E.B. PAVEMENT AT STA. EB 100+65 TO 7'-5" CLEAR OF EDGE OF W.B. PAVEMENT AT STA. WB 102+05. (SEE DRG #AR-12)

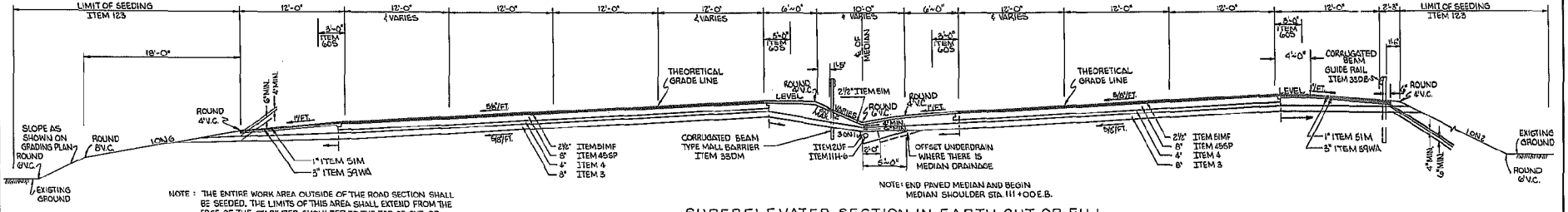


NORMAL SECTION IN EARTH CUT OR FILL

I690

STA. 99+57 E.B. TO STA. 103+90 E.B.

* ITEM 45SPVD THICK LIFT 99+57-103+90 E.B.



NOTE: THE ENTIRE WORK AREA OUTSIDE OF THE ROAD SECTION SHALL BE SEEDED. THE LIMITS OF THIS AREA SHALL EXTEND FROM THE EDGE OF THE STABILIZED SHOULDER TO THE TOP OF CUT OR BOTTOM OF FILL. WHERE GUIDE RAILING IS USED, THE LIMIT OF SEEDING SHALL BEGIN 6" BEYOND THE GUIDE RAIL POST.

NOTE: END PAVED MEDIAN AND BEGIN MEDIAN SHOULDER STA. 111+00 E.B.

SUPERELEVATED SECTION IN EARTH CUT OR FILL

I690

STA. 103+90 E.B. TO STA. 110+00 W.B.

* ITEM 45SPVD THICK LIFT 103+90— 116+75 E.B

SCALE: 3/16" = 1'-0"

⚠ NEW SHEET ADDED FOR APPROVAL SIGNATURES SEE FIELD CHANGE SHEET NO. 77F1. ADDITION THICK LIFT BLACKTOP

MADE BY [illegible] TRACED BY ED LEVANDOWSKI CHECKED BY [illegible]

FIELD CHANGE SHEET

SHEET NO. 189F2

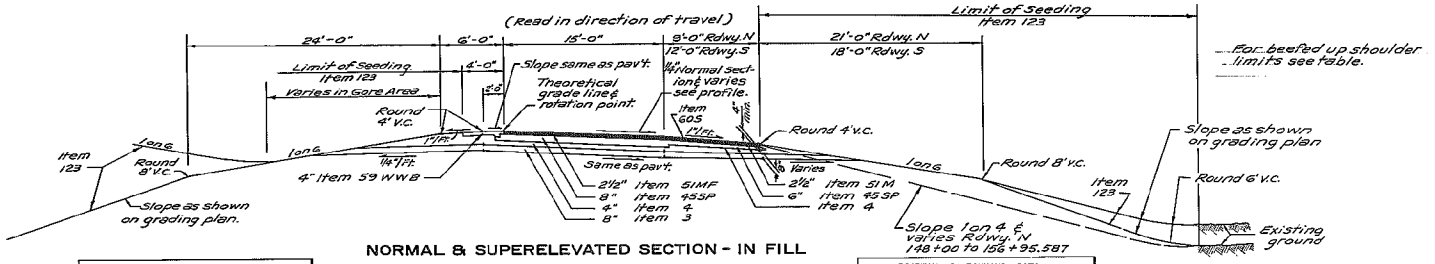
F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

AS BUILT

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-690-3(31) F-446(17)	76RI	639

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION, S.H. 54-5; ONONDAGA COUNTY



NORMAL & SUPERELEVATED SECTION - IN FILL

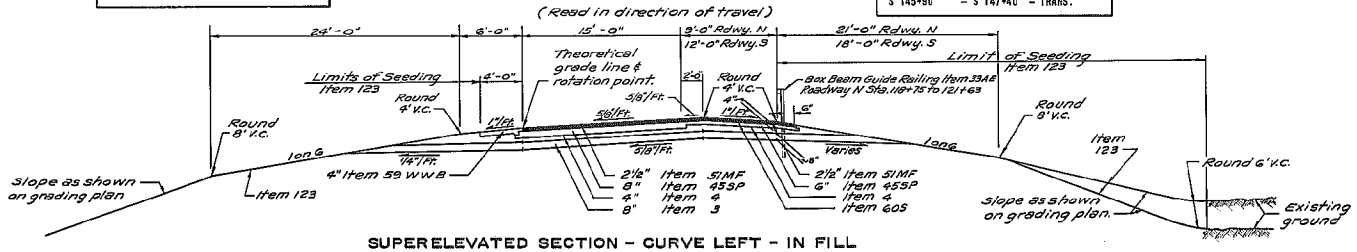
ROADWAY - N & S

Sta. N 109+68.719 to Sta. 116+55
Sta. N 148+00 to Sta. 156+95.587
Sta. S 115+35.514 to Sta. 129+14
Sta. S 135+88 to Sta. 147+40

* ITEM 45SPVD THICK LIFT N 148+00-151+70
" " " " N 148+80-154+00 RT. (BEEFED UP SHLD.)
" " " " S 146+00-EB I-690 111+25
" " " " S 135+90-146+00

ROADWAY N BANKING DATA		
N 109+68.719	- N 110+70	- TRANS.
N 110+70	- N 114+70	- 1/2"/FT.
N 114+70	- N 116+55	- TRANS.
N 148+80	- N 149+55	- TRANS.
N 149+55	- N 156+71	- 5/8"/FT.
N 156+71	- N 156+95.587	- TRANS.

ROADWAY S BANKING DATA		
S 115+35.514	- S 117+70	- NORM. SECT.
S 117+70	- S 118+70	- TRANS.
S 118+70	- S 129+14±	- 5/8"/FT.
S 135+88	- S 143+25	- 1/2"/FT.
S 143+25	- S 144+25	- TRANS.
S 144+25	- S 145+90	- NORM. SECT.
S 145+90	- S 147+40	- TRANS.

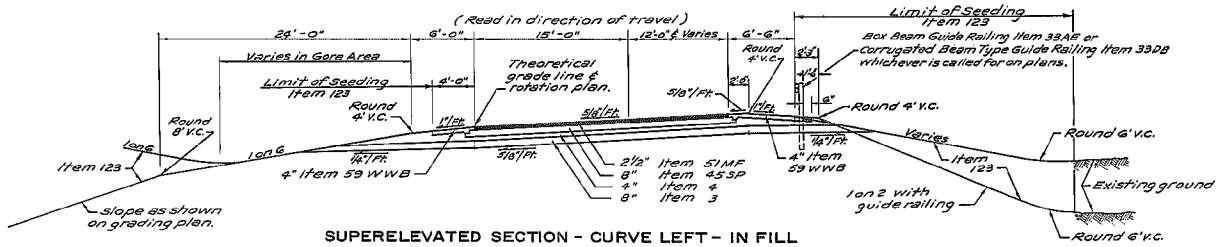


SUPERELEVATED SECTION - CURVE LEFT - IN FILL

ROADWAY - N & S

Sta. N 116+55 to Sta. 121+63±
Sta. S 147+40 to Sta. 147+51.765

NOTE: THE ENTIRE WORK AREA OUTSIDE OF THE ROAD SECTION SHALL BE SEEDED. THE LIMITS OF THIS AREA SHALL EXTEND FROM THE EDGE OF THE STABILIZED SHOULDER TO THE TOP OF CUT OR BOTTOM OF FILL. WHERE GUIDE RAILING IS USED, THE LIMIT OF SEEDING SHALL BEGIN 6" BEYOND THE GUIDE RAIL POST.



SUPERELEVATED SECTION - CURVE LEFT - IN FILL

ROADWAY - N

Sta. N 142+10± to Sta. 148+00
(Adjacent to Nine Mile Creek)

* ITEM 45SPVD THICK LIFT 'N' 142+00-148+00

BANKING DATA		
N 142+10	- N 146+75	- 5/8"/FT.
N 146+75	- N 148+00	- TRANS.

ADDITIONAL THICK LIFT PAVING ITEM 45SPVD

TYPICAL SECTIONS

ROADWAY N & S

DRAWING NO. T8-12	SCALE: 3/16" = 1'-0"	DATE Dec 70	SHEET NO. 76

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

DESIGNED BY E.C.
DRAWN BY A.J. FISCHER
CHECKED BY E.C.

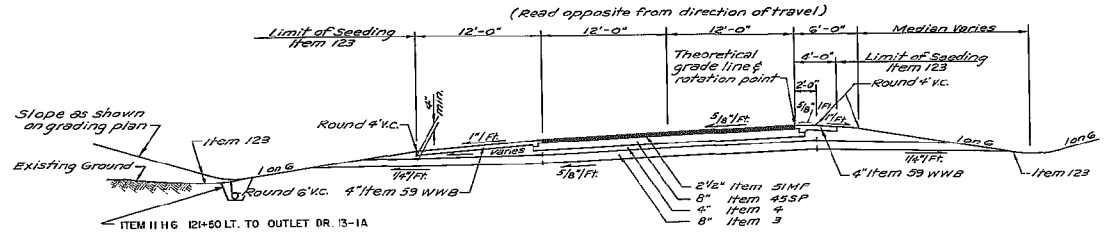
AS BUILT

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-690-3 (31) F-448 (17)	78FR	639

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION, S.H. 54-5; ONONDAGA COUNTY

FIELD CHANGE SHEET

FIELD CHANGE SHEET 78FI VOIDS ALL OF ORIGINAL SHEET 78

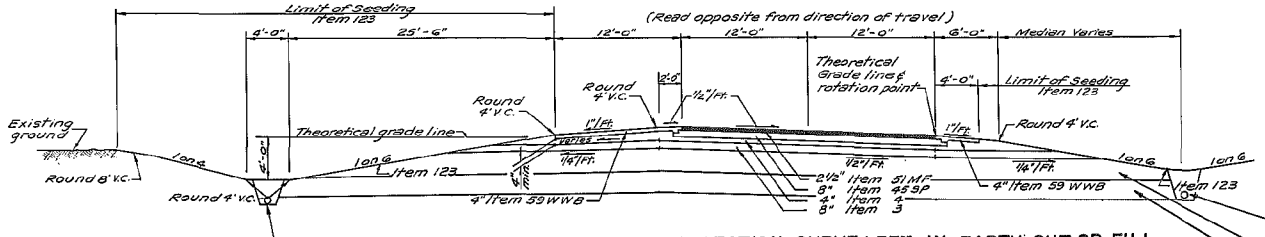


SUPERELEVATED SECTION-CURVE RIGHT-IN EARTH CUT OR FILL

I-690 WESTBOUND

⚠ I-690 WB Sta. 110+00 to Sta. 129+30

BANKING DATA
I-690 WB 105+30 – WB 107+55 – TRANS.
I-690 WB 107+55 – WB 127+30 – 5/8"/FT.
I-690 WB 127+30 – WB 129+30 – TRANS.



SUPERELEVATED SECTION-CURVE LEFT-IN EARTH CUT OR FILL

I-690 WESTBOUND

I-690 WB Sta. 132+90 to Sta. 148+20

* ITEM 51MFVX THICK LIFT WEARING SURFACE STA. 137+40 — 172+50

BANKING DATA
I-690 WB 132+90 – WB 134+90 – TRANS.
I-690 WB 134+90 – WB 146+20 – 1/2"/FT.
I-690 WB 146+20 – WB 148+20 – TRANS.

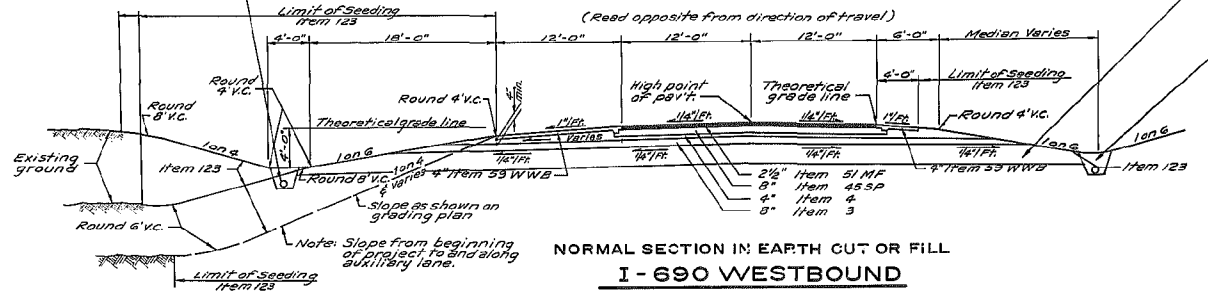
ITEM 11H6 STA. 146+00–160+30

4' UNDERCUT I-690 WB 132+80–136+00 BACKFILL WITH ITEM 3

2' UNDERCUT I-690 WB 136+00 — 148+77

11H6 STA. 132+70 — 148+70

⚠ STATION LIMIT CHANGE



NORMAL SECTION IN EARTH CUT OR FILL

I-690 WESTBOUND

I-690 WB Sta. 129+30 to Sta. 132+90
I-690 WB Sta. 148+20 to Sta. 148+76.47G
* ITEM 51MFVX THICK LIFT WEARING SURFACE STA. 137+40 – 172+50

FOR APPROVAL SIGNATURES SEE FIELD CHANGE SHEET NO. 77FI.

UNDER CUT STA. LIMIT CHANGES
TYP. SECT. REVISED

FIELD CHANGE SHEET

TYPICAL SECTIONS I-690 WESTBOUND			
DRAWING NO. 71-14	SCALE: 3/16" = 1'-0"	DATE Dec. 70	SHEET NO. 78FI

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

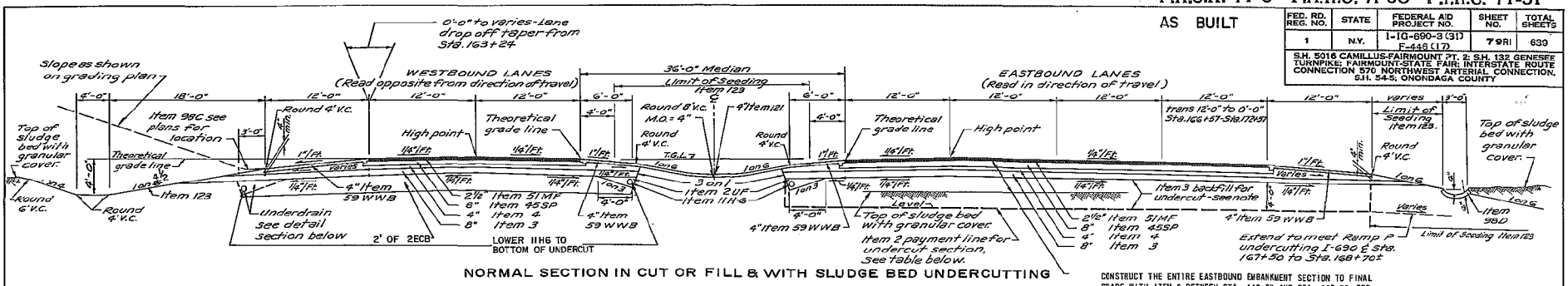
DESIGNED BY E.C.
DRAWN BY J. Kaufmann
CHECKED BY J.C.B.

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

AS BUILT

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-690-3 (31) F-445 (17)	79RI	639

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION, S.H. 54-5; ONONDAGA COUNTY



NORMAL SECTION IN CUT OR FILL & WITH SLUDGE BED UNDERCUTTING

TABLE OF UNDERCUT	
I-690 148+77 TO 167+50	2'
I-690 170+50 TO 171+00	2'

* ITEM 51MFVX THICK LIFT WEARING SURFACE WB I-690 137+40-172+50

I-690 - CENTER LINE

℄ Sta. 148+76.476 to Sta. ~~169+50~~ 153+94

℄ STA. 156+07-164+13

℄ STA. 166+27-169+50

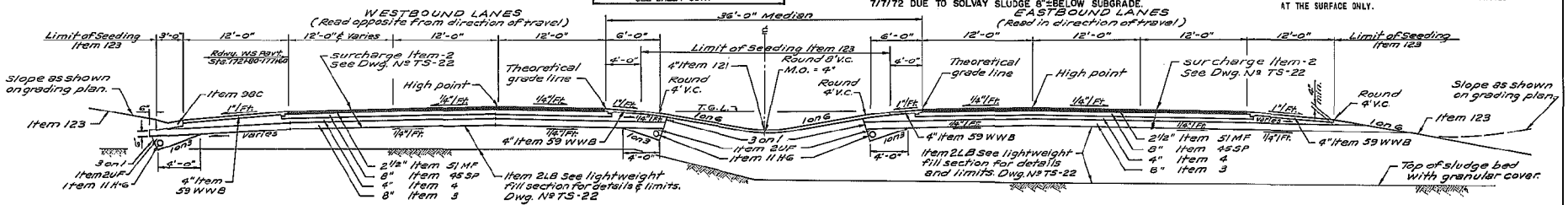
* PAVED MEDIAN STA. 153+94-156+07
" " 164+13-166+27
SEE SHEET 80RI

TABLE OF UNDERCUTTING LIMITS
I-690 ℄ 167+00 - ℄ 168+70 Eastbound Lanes (only)

NOTE: CONTINUE UNDER CUT TO E.B. 169+70 (2LB BEGINS) 7/7/72 DUE TO SOLVAY SLUDGE 6"±BELOW SUBGRADE.

CONSTRUCT THE ENTIRE EASTBOUND EMBANKMENT SECTION TO FINAL GRADE WITH ITEM 2 BETWEEN STA. 148+77 AND STA. 167+00. SEE PROFILE DWG. NO. P-30. EMBANKMENT SHALL BE ALLOWED TO STAND FOR A PERIOD OF SIX MONTHS PRIOR TO EXCAVATING TO SUBGRADE ELEVATION AND PAVING. THE SIX MONTH WAITING PERIOD MAY BE REDUCED A.O.B.E.

NOTE: IN UNDERCUTTING SECTION THE BACKFILL MATERIAL ITEM 3, SHALL BE PLACED IN ONE LIFT AND COMPACTED AT THE SURFACE ONLY.



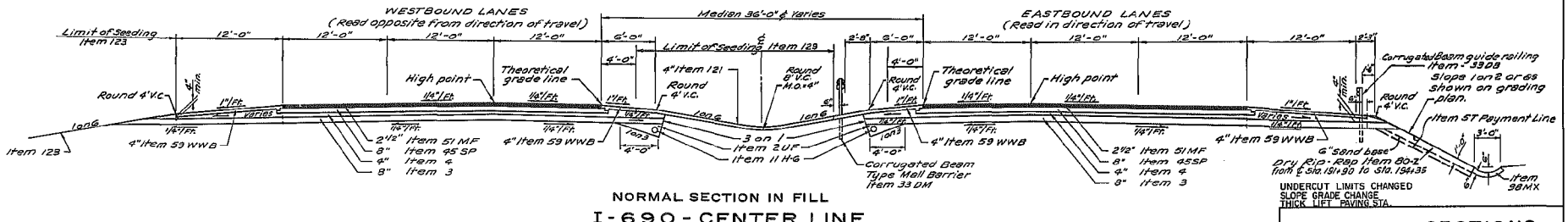
NORMAL SECTION IN SLUDGE BED FILL

I-690 - CENTER LINE

℄ Sta. 169+50 to Sta. 177+60

* ITEM 51MFVX THICK LIFT WEARING SURFACE W.B. I-690 137+40-172+50

NOTE: THE ENTIRE WORK AREA OUTSIDE OF THE ROAD SECTION SHALL BE SEEDED. THE LIMITS OF THIS AREA SHALL EXTEND FROM THE EDGE OF THE STABILIZED SHOULDER TO THE TOP OF CUT OR BOTTOM OF FILL. WHERE GUIDE RAILING IS USED, THE LIMIT OF SEEDING SHALL BEGIN 6" BEYOND THE GUIDE RAIL POST.



NORMAL SECTION IN FILL

I-690 - CENTER LINE

℄ Sta. 191+35 to Sta. 193+75 EB
℄ Sta. 190+64.412 to Sta. 191+75 WB

UNDERCUT LIMITS CHANGED
SLOPE GRADE CHANGE
THICK LIFT PAVING STA.

TYPICAL SECTIONS
I-690 CENTER LINE

DRAWING NO. TS-19	SCALE: 4/16" = 1'-0"	DATE Dec 70	SHEET NO. 79

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

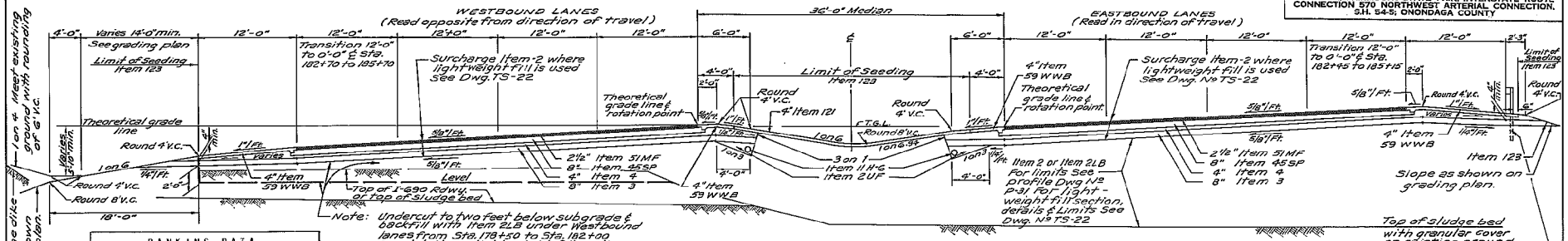
DESIGNED BY F.C.
DRAWN BY
CHECKED BY

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

AS BUILT

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-690-3 (31) F-445 (17)	6 ORI	639

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION. S.H. 54-5; ONONDAGA COUNTY

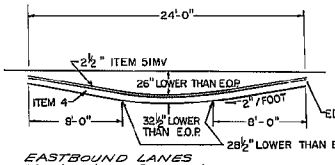


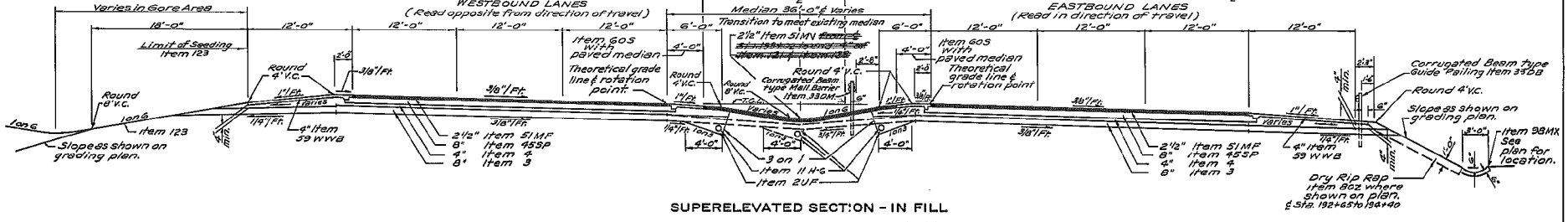
BANKING DATA		
I-690 ℄ 175+55 – ℄ 179+30 EB	– TRANS.	
I-690 ℄ 177+60 – ℄ 180+10 WB	– TRANS.	
I-690 ℄ 179+30 EB – ℄ 188+35	– 5/8"/FT.	
I-690 ℄ 180+10 WB		
I 690 ℄ 188+35 – ℄ 191+35 EB	– TRANS.	
– ℄ 190+64.412 WB	– TRANS	

SUPERELEVATED SECTION - IN FILL

I-690 - CENTER LINE

℄ Sta. 177+60 to Sta. 190+64.412 (WB)
℄ Sta. 175+55 to Sta. 191+35 (EB)
PAVED MEDIAN FROM BR. E-8-200+91

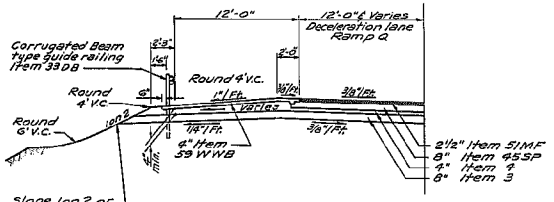




SUPERELEVATED SECTION - IN FILL

I-690 - CENTER LINE

℄ Sta. 191+75 to Sta. 200+90.858 (WB)
℄ Sta. 193+75 to Sta. 200+90.858 (EB)

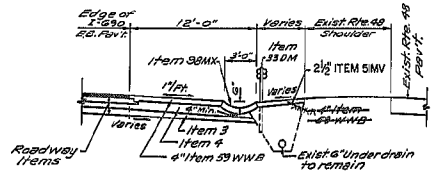


SECTION ALONG LAKE SHORE

℄ Sta. 195+92.443 to Sta. 200+90.858
Note: See Lake Shore Protection section for details of stone filling, and Seeding Limits. Dwg. No TS-26

NOTE:
THE ENTIRE WORK AREA OUTSIDE OF THE ROAD SECTION SHALL BE SEEDED. THE LIMITS OF THIS AREA SHALL EXTEND FROM THE EDGE OF THE STABILIZED SHOULDER TO THE TOP OF CUT OR BOTTOM OF FILL. WHERE GUIDE RAILING IS USED, THE LIMIT OF SEEDING SHALL BEGIN 6" BEYOND THE GUIDE RAIL POST.

BANKING DATA	
I-690 ℄ 191+75 – ℄ 193+75 WB	– TRANS.
I-690 ℄ 193+75 – ℄ 200+90.858 WB	– 3/8"/FT.
I-690 ℄ 193+75 – ℄ 195+15 EB	– TRANS.
I-690 ℄ 195+15 – ℄ 200+90.858 EB	– 3/8"/FT.



SECTION BETWEEN I-690 EASTBOUND LANE & ROUTE 48

℄ Sta. 194+35 to Sta. 199+15

ADDITIONAL PAVED MEDIAN I-690
PAVED MEDIAN SECTION BETWEEN I-690 EB & RT 48 CHANGED

TYPICAL SECTIONS
I-690 CENTER LINE

DRAWING NO. TS-16	SCALE: 3/16" = 1'-0"	DATE Dec. 70	SHEET NO. 80

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

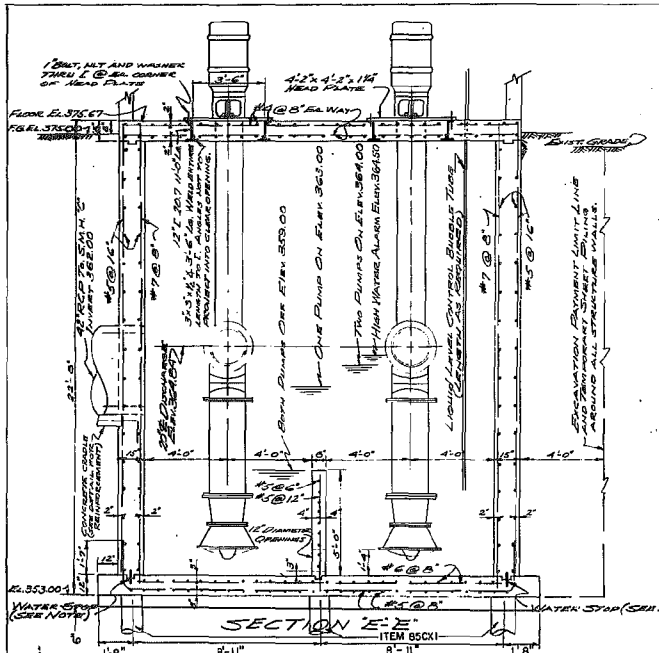
DESIGNED BY F.G.
DRAWN BY J. WALKER
CHECKED BY J.K.

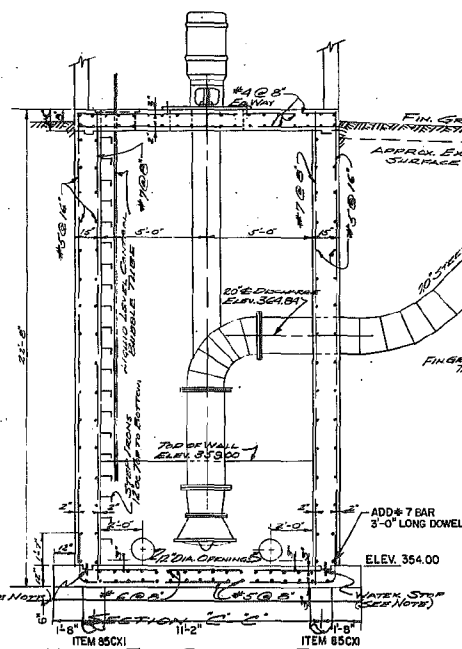
F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

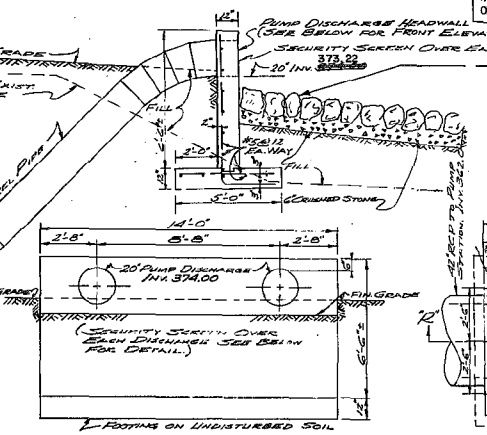
AS BUILT

FED. RD. REG., NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IC-590-3(31) F-045 (17)	281RI	639

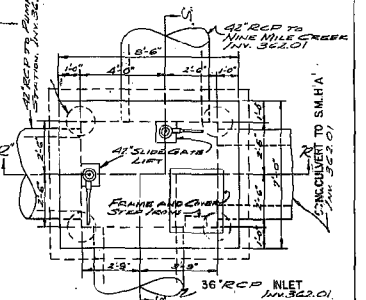
STATE FAIR INTERCHANGE
IRC 570 NORTH-WEST ARTERIAL CONNECTION
ONONDAGA COUNTY



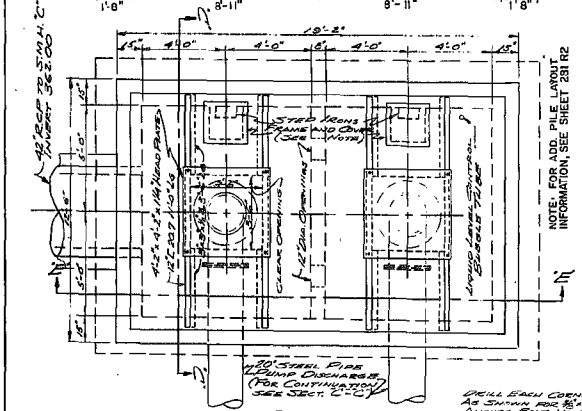




PUMP DISCHARGE HEADWALL
FRONT ELEVATION
(SEE DETAIL ABOVE FOR TYPICAL SECTION)



PLAN
SPECIAL MANHOLE "C"
SCALE: 1/4"=1'-0"

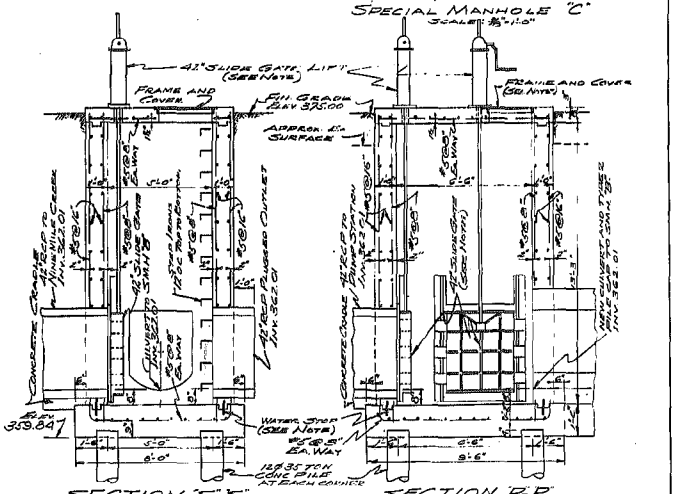


PLAN
PUMPING STATION
SCALE: 1/4"=1'-0"

NOTE: FOR ADD. PILE LAYOUT INFORMATION, SEE SHEET 231 R2

NOTES FOR PUMPING STATION AND APPURTENANT FACILITIES

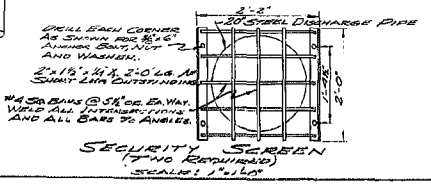
1. CONCRETE - ALL CONCRETE FOR PUMPING STATION, S.M.H. "A", S.C., PIPE CRADLE AND HEADWALLS SHALL BE CLASS "B".
2. REINFORCEMENT - ALL BAR REINFORCEMENT SHALL BE SPLICED 50 BAR DIAMETERS EXCEPT AS OTHERWISE SHOWN.
3. STEP IRONS - ALL STEP IRONS SHALL BE CAST IRON WEIGHING NOT LESS THAN 10 POUNDS EACH AND SHALL BE AS APPROVED.
4. ACCESS OPENINGS:
   S.M.H. "A" - HEAVY DUTY MANHOLE FRAME AND COVER; 24" DIA. CLEAR OPENING; AS APPROVED.
   S.M.H. "C" - CAST IRON FRAME AND COVER; 24"x30" CLEAR OPENING; COMPLETE WITH HOLDING RATCHET, LOCK, HASP AND STAPLE, BRASS HINGES AND LIFTING HANDLE; ALL AS APPROVED.
   PUMPING STATION - CAST IRON FRAME AND COVER; 22"x22" CLEAR OPENING; COMPLETE WITH HOLDING RATCHET, BRASS HINGES AND LIFTING HANDLE; ALL AS APPROVED.
5. SLIDE GATES - SLIDE GATES SHALL BE CAST IRON; 42" DIA. OPENING; 15 FOOT SEATING HEAD AND 15 FOOT UNSEATING HEAD; BRONZE SEATING FACES AND FASTENERS; STAINLESS STEEL ANCHOR BOLTS, NUTS AND STUDS; ALL AS APPROVED.
6. SLIDE GATE LIFTS - SLIDE GATE LIFTS SHALL BE CAST IRON PEDESTAL LIFTS WITH CUT GEARS IN WHOLLOUTO WEATHER-PROOF HOUSING AND REMOVABLE HANDLE; 6 TURNS TO TAKE INCH MINIMUM; BRONZE LIFT NUT; 1 1/4" MINIMUM STAINLESS STEEL STEM SIZE; ALL AS APPROVED.
7. WATER STOP - WATER STOP SHALL BE 9" WIDE 20 OZ. COPPER OR 9" WIDE GR-5 COMPOUND INSTALLED ALL AROUND JOINT; ALL AS APPROVED.



SECTION "S-S"

SECTION "R-R"

REV. 10-68 W.B.D.



SECURITY SCREEN
(7 NO REQUIRED)
SCALE: 1"=1'-0"

TYPICAL CONSTRUCTION JOINT
(REIN. CONT. THRU JOINT)
NO SCALE

PILES ADDED
FOOTER SIZE INCREASED

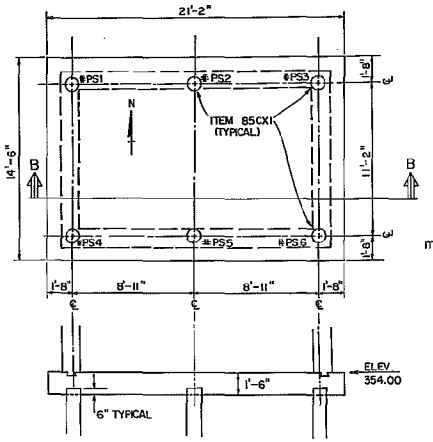
PUMP STATION AND SMH "C"

RELOCATION OF STATE FAIR PUMPING STATION AND SEWER

DWG NO.	SHEET NO.
PS-1	281

FASH 71-3

FED. ROAD REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-690-3(31) F-446-(17)	281R2	



PUMP STATION

SCALE 1/4" = 1'-0"

PILE DIAGRAM

ESTIMATED LENGTH 60' VERTICAL

6 EACH ITEM 85 CXI

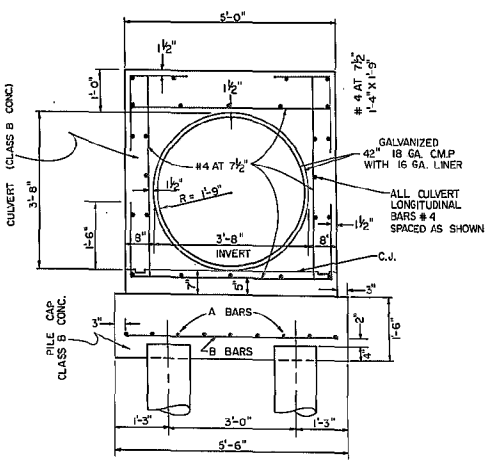
ITEM 28

6 AT 6FSVI / PILE BEND A.O.B.E.

FLOOR REINF. AS PER SHT. 281

CONC. CULVERT - STATE FAIR SEWER RELOCATION

SCALE 3/4" = 1'



DRAWN BY R.YOUNG 3-1-76

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION

DRAWING No.	SCALE	DATE	REGION

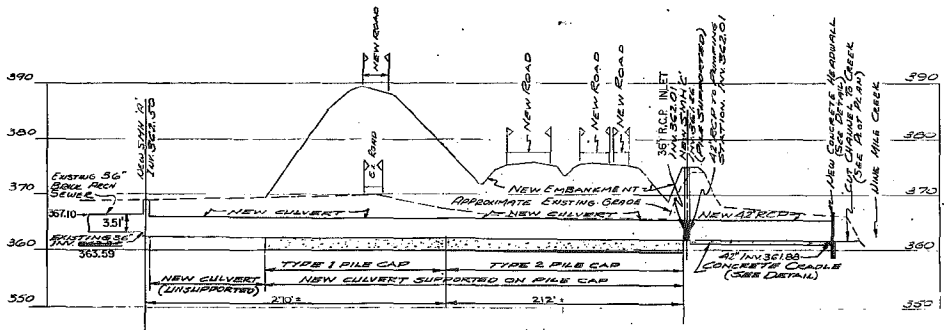
DESIGNED BY ____ DATED ____ CHECKED BY ____ DATED ____ REVIEWED BY ____ DATED ____ IN CHARGE OF ____

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

AS BUILT

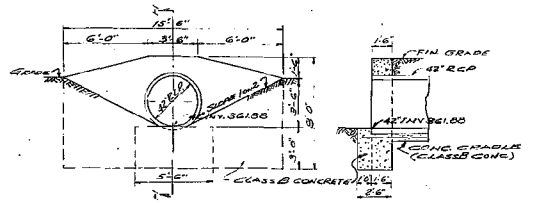
FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
I	N.Y.	~~I-10-880-3(31)~~ F-446(17)	282RI	639

STATE FAIR INTERCHANGE
IRC 570 NORTHWEST ARTERIAL CONNECTION
ONONDAGA COUNTY



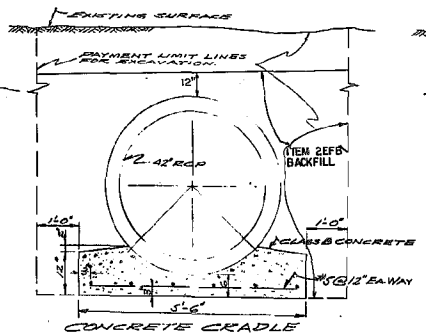
PROFILE "A"
SCALE: HORIZ. 1" = 50'
VERT. 1" = 10'

NOTE:
FOR PLANS SEE DWG. NOS. AR-11 & G-11

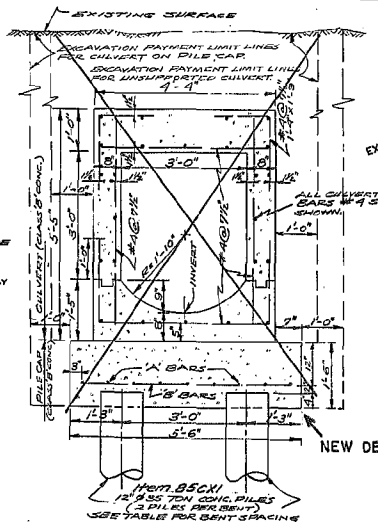


HEADWALL
(FRONT ELEVATION)
SCALE: 1/4" = 1'-0"

SECTION H-H



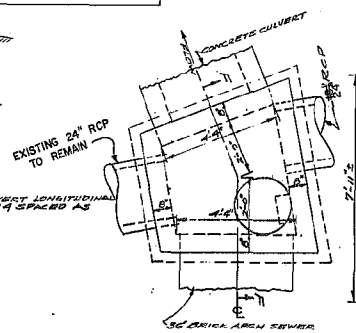
CONCRETE CRADLE
SCALE: 3/4" = 1'-0"



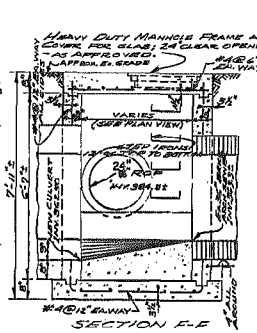
CONCRETE CULVERT
AND
TYPE 1 AND 2 PILE CAPS
SCALE: 3/4" = 1'-0"

ESTIMATED PILE LENGTH - 65'

PILE CAP	TYPE 1	TYPE 2
"A" BARS	#6 @ 7½"	#6 @ 7½"
"B" BARS BETWEEN PILE BENTS	#5 @ 8½"	#5 @ 8½"
"B" BARS OVER PILE BENTS	2-#8 @ 8"	2-#8 @ 8"
BENT SPACING CENTER TO CENTER	5'-6"	7'-0"



PLAN
SPECIAL MANHOLE "A"
SCALE: 1/4" = 1'-0"



SECTION E-E

NOTE: SPECIAL MANHOLES SHALL BE BUILT OF CLASS B CONCRETE.

ESTIMATE OF QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	PROPOSAL	FINAL
5S	STRUCTURE EXCAVATION	C.Y.	460	415.87
5T	TRENCH AND CULVERT EXCAVATION	C.Y.	1,870	1627.99
14-42	REINFORCED CONCRETE PIPE CLASS IV - 42" DIA.	L.F.	150	138.80
20	CLASS B CONCRETE FOR STRUCTURES	C.Y.	460	466.54
28	BAR REINFORCEMENT FOR STRUCTURES	LB.	50,000	45,995
30	MISCELLANEOUS METAL	LB.	1,200	1785
30C	FRAMES AND GRATES CASTINGS	S.F.	8	8.2
42	BASE COURSE GRANULAR MATERIAL	C.Y.	30	35.74
80Z	DRY RIP-RAP	C.Y.	15	144.83
83TXS	TEMPORARY SHEET PILING	S.F.	7,100	1908
85CXI	CAST IN PLACE CONCRETE PILES	L.F.	10,000	9916
87	FURNISHING EQUIPMENT FOR DRIVING PILES	L.S.	NEC.	6.7%
93	BROKEN STONE - LOOSE MEASURE	C.Y.	370	235.7
700	CONSTRUCTION WORK	L.S.	NEC.	100%
701A	10,000 G.P.M. AXIAL FLOW PUMP, MOTOR, & CONTROLLERS	L.S.	NEC.	100%
701B	10,000 G.P.M. AXIAL FLOW PUMP & MOTOR	L.S.	NEC.	100%
702	LIQUID LEVEL CONTROL SYSTEM	L.S.	NEC.	100%
703	ABANDON EXISTING PUMPING STATION	L.S.	NEC.	100%
704	ELECTRIC WORK	L.S.	NEC.	20%
705A	SPECIAL MANHOLE A	L.S.	NEC.	100%
705C	SPECIAL MANHOLE C	L.S.	NEC.	100%
708	20" STEEL PIPE	L.F.	50	48.56
2EF-B	SELECT GRANULAR FILL	C.Y.		601.18
THIS TABLE INCLUDES QUANTITIES OF ALL WORK SHOWN ON SHEET NOS. 281-287 AND DRAINAGE NOS. 11-12A, 11-12B, & 11-12C.				
701C	60 H.P. RATED MOTOR CONTROLLER			1 EA.

SPECIAL NOTE:

IF REQUIRED BY THE ENGINEER, THE CONTRACTOR SHALL EXCAVATE TWO FEET BELOW THE NEW PUMPING STATION AND ALL NEW STRUCTURES SHOWN ON PROFILE "A" AND BACKFILL TO THE BOTTOM OF THOSE STRUCTURES WITH NO. 1 CRUSHED STONE. SUCH EXCAVATION AND STONE SHALL BE MEASURED WITHIN THE PAYMENT LINES SHOWN ON THE DRAWINGS. PAYMENT FOR THIS EXCAVATION SHALL BE MADE UNDER ITEM 5T AND FOR THE CRUSHED STONE UNDER ITEM 93.

ITEM 2EF-B BACKFILL ADDED
FINAL QUANTITIES ADDED

REV. 10-68 W.B.D.

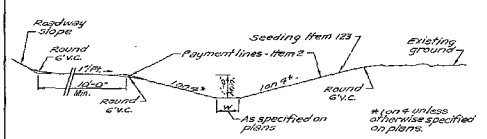
PROFILE AND DETAILS

RELOCATION OF STATE FAIR PUMPING STATION AND SEWER

DWG NO	SHEET NO
P5-2	282

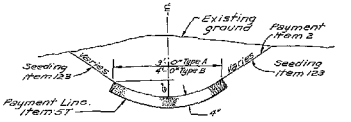
FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-10-590-3(313) F-468(17)	165	529

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2, S.H. 132 DENEDEE TURNPIKE FAIRMOUNT-STATE FAIR INTERSTATE ROUTE CONNECTION, STO NORTHWEST ARTERIAL CONNECTION, S.H. 54-5; ONONDAGA COUNTY



TYPE "A" DITCH-TOE OF SLOPE

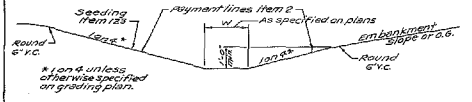
Scale: 1/4" = 1'-0"



TYPE A & B ASPHALT GUTTER (ITEM 96 MX)

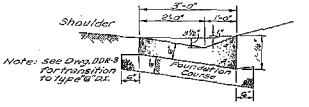
Not to Scale

Note: Transition from ditch width B E.S. to normal ditch section to be 10'-0" in length unless otherwise specified on plans.
W = Width of E.S. or width of ditch, whichever is greater.
Detail for H.W. = similar.



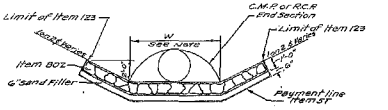
TYPE "B" DITCH

Scale: 1/4" = 1'-0"



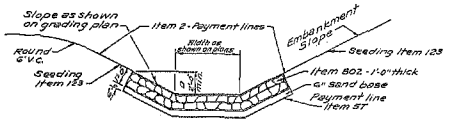
TYPE "C" CONCRETE GUTTER

Scale: 3/4" = 1'-0"

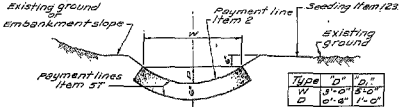


CULVERT OUTLET W/RIP-RAP APRON

Scale: 1/4" = 1'-0"



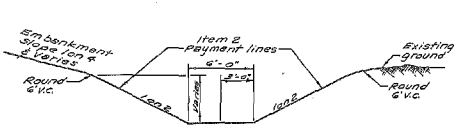
TYPE "C" DITCH



Note: For transition to Type "F" D.I., see Dwg. No. DDR-3

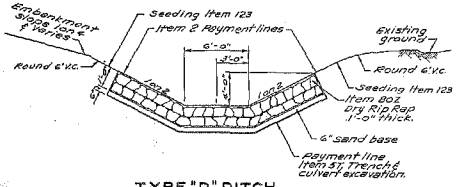
TYPES "D" & "D1" CONCRETE GUTTERS

Scale: 3/4" = 1'-0"

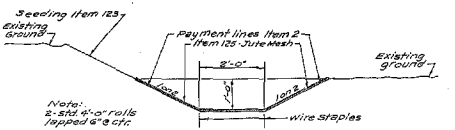


TYPE "E" DITCH

Scale: 1/4" = 1'-0"



TYPE "D" DITCH



TYPE "J" DITCH

Scale: 1/4" = 1'-0"

NOTE: FOR PAVED DITCH (ITEM 96 MX) TYPE F, G & H SEE DWG. No. 51 RP (RELOCATION ROUTE 5)

NOTE: ALL DITCH BOTTOMS SHALL BE ROUNDED BY PLACING A VERTICAL CURVE WITH A LENGTH EQUAL TO THE BOTTOM OF THE DITCH AT THE ANGLE POINTS.

DRAINAGE DETAILS

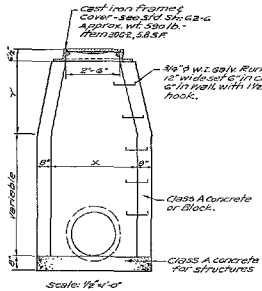
DRAWING NO. DDR 1	SCALE: AS SHOWN	DATE DEC. 70	SHEET NO. 165

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-390-3(31) F-448(17)	166	639

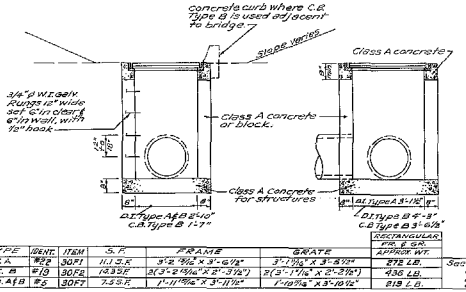
S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE, FAIRMOUNT-STATE FAIR, INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION, S.H. 54-5; ONONDAGA COUNTY



MANHOLE TYPES A&C

Item 102CRA, 102CRB

Note: For details of frames & covers See standard structure sheet 62-6



TYPE	GENT.	ITEM	S.F.	FRAME	GRATE	RECTANGULAR FRAME & GR. APPROX. WT.	
D.I. A	#22	30F1	11.1 S.F.	3'-2 15/32" x 3'-6 1/2"	3'-1 1/16" x 3'-8 1/2"	272 LB.	See Std. Sheets
D.I. B	#19	30F2	14.33 S.F.	3'(3'-2 15/16" x 2'-3 1/2")	3'(3'-1 1/16" x 2'-2 1/2")	436 LB.	64-45A
C.B. A&B	#6	30F7	7.25 S.F.	1'-11 15/16" x 3'-11 1/2"	1'-10 1/16" x 3'-10 1/2"	219 L.B.	64-46B
							64-46C

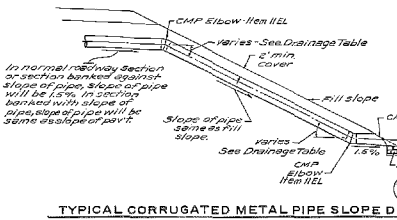
DROP INLET TYPES A&B - CATCH BASIN TYPE B

Items 102DRA, 102DRB & 102ARB

Scale: ½" = 1'-0"

Note: DR #3-1A to have 24" diam. Outlet in base, provision for 24" vert. C.M.P. (See Dwg. # DDR-5)

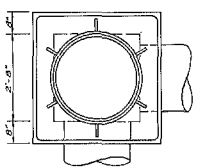
For Type "A" C.B., See Bridge Plans Dwg. No. S-20

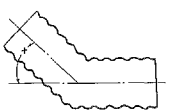


TYPICAL CORRUGATED METAL PIPE SLOPE DRAIN

Not to scale

Manhole Type	Dimensions	
	X	Y
A	4'-0"	2'-0"
C	6'-0"	4'-0"

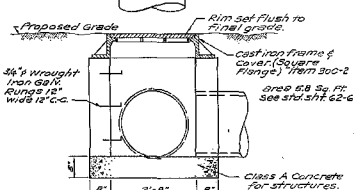




ELBOW DETAIL - ITEM 11EL

Not to scale

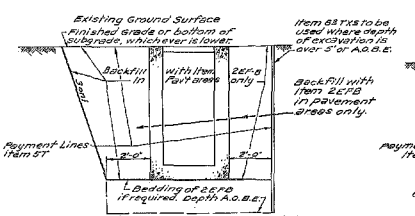
Note: Furnished in 5° increments x = 5° to 90° (See Drainage table)



MANHOLE TYPE X

Not to scale

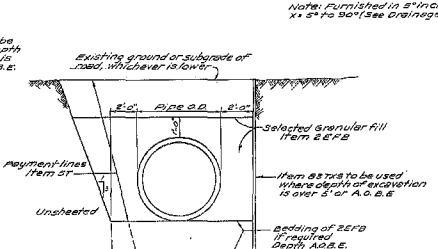
Item 102CRX



PAYMENT LINES

(Drainage Structures)

Scale ½" = 1'-0"



PAYMENT LINES - PIPES ITEM - 5T

Not to Scale

Note: For details of installation & backfill for pipes See State Std. Sheets 67-19 & 68-19A

DRAINAGE DETAILS

DRAWING NO. DDR 2	SCALE: AS SHOWN	DATE: DEC. 70	SHEET NO. 166

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

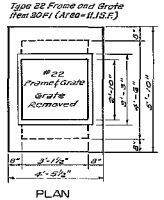
DESIGNED BY
DRAWN BY
CHECKED BY

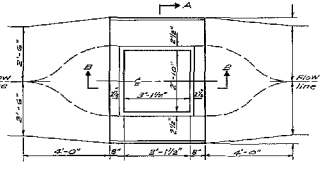
F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

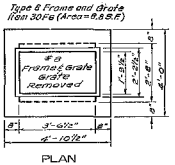
AS BUILT

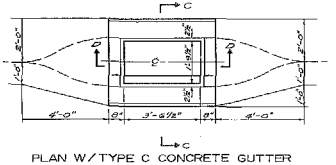
FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-8(3)(317) F-668(17)	167	689

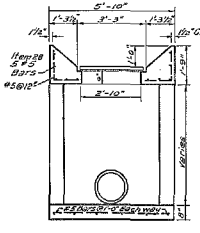
S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION. S.H. 54-9; ONONDAGA COUNTY

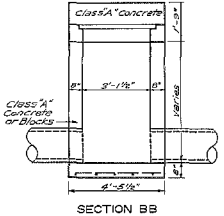


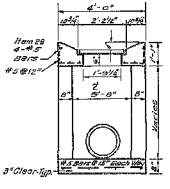


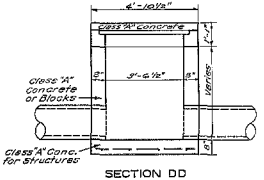












DROP INLET TYPE "F"

Scale: 1/2" = 1'-0"

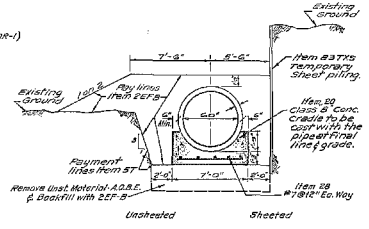
DROP INLET TYPE "G"

Scale: 1/2" = 1'-0"

TYPE	IDENT.	S.F.	FRAME	GRATE	APPROX. WEIGHT	ITEM NO.
D.I.-F	#22	11.1 S.F.	3'-2-5/16" x 3'-6-1/2"	3'-1-11/16" x 3'-5-1/2"	272 LB.	30F1
D.I.-G	#8	8.8 S.F.	2'-2-3/16 x 3'-11-1/2"	2'-1-3/16" x 3'-10-1/2"	245 LB.	30F6

SEE STD. SHEET 64-45A

ITEM 28 - ESTIMATED WT.	
D.I.-"F"	120 LB.
D.I.-"G"	85 LB.



DETAIL 60" R.C.P. W/CRADLE

DR No 13-17
Scale: 1/4" = 1'-0"

DIMENSION CHANGE SECTION C-C

DRAINAGE DETAILS

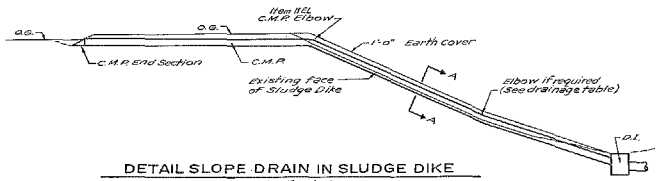
DRAWING NO.	SCALE	DATE	SHEET NO.
DDR 3	AS SHOWN	DEC.70	167

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

DESIGNED BY E.C.
DRAWN BY E.C.
CHECKED BY

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IG-990-3(31). F-468(17).	168	639

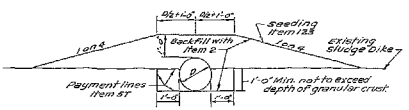
S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION. S.H. 54-5; ONONDAGA COUNTY



DETAIL SLOPE DRAIN IN SLUDGE DIKE

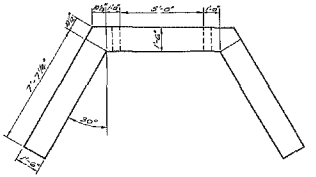
Scale: 1"=10'-0"

See Drainage Table for Dir Nos.

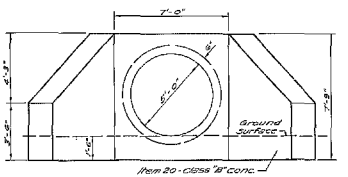


SECTION - AA

Scale: 1/2"=1'-0"



PLAN

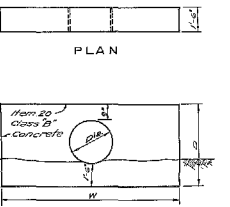


ELEVATION

DETAIL-WING TYPE HEADWALL (60" R.C.P.)

Scale: 3/8"=1'-0"

DR Nº 18-7
DR Nº 19-17
DR Nº 19-19



PLAN

ELEVATION

DETAIL STRAIGHT HEADWALL

Scale: 3/8"=1'-0"

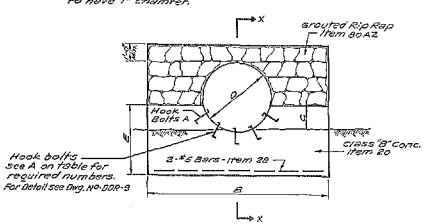
Diameter	D	W
30"	5'-7½"	6'-6"
30" X 19"	4'-11½"	6'-6"
38" X 29"	4'-6"	7'-2"
24"	4'-3"	6'-0"

TABLE FOR DETAIL BELOW

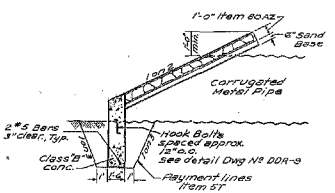
D	B	A	C	E
24"	5'-0"	2	8"	4'-8"
30"	6'-0"	3	8"	4'-3"
36"	7'-0"	3	1'-0"	5'-0"
42"	7'-6"	4	1'-0"	5'-0"
48"	8'-0"	4	1'-0"	5'-0"
54"	9'-0"	4	1'-2"	5'-2"
60"	10'-0"	6	1'-5"	5'-5"

A = No. of Hook Bolts

Note: All exposed concrete edges to have 1" chamfer.



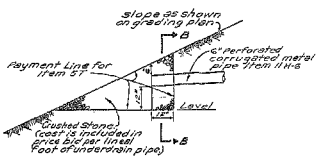
ROUND OR ELONGATED PIPE



SECTION X-X

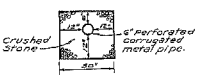
DETAIL-CULVERT W/BEVELLED END

Not to scale



UNDERDRAIN SLOPE OUTLET

Scale: 1/2"=1'-0"



SECTION-BB

DRAINAGE DETAILS

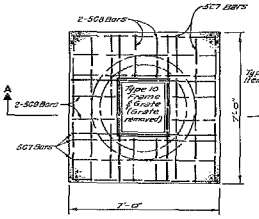
DRAWING NO.	SCALE	DATE	SHEET NO.
DDR 4	AS SHOWN	DEC'70	168

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

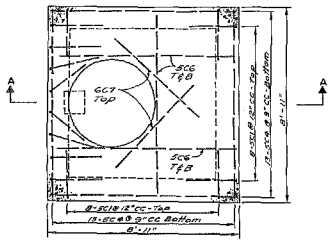
FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IC-880-3(31) E-440(17)	169	839

S.H. 5016 CAMILLUS-FAIRMOUNT FT. 2; S.H. 133 GENESEE TURNPIKE FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE CONNECTION STH; NORTHWEST ARTERIAL CONNECTION. S.H. 54-6; ONONDAGA COUNTY



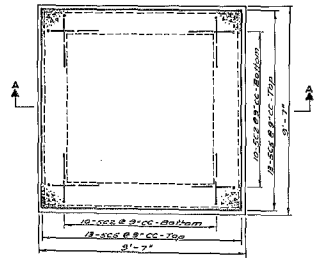
PLAN TOP SLAB - D.I. TYPE "T"

Scale: 1/2"=1'-0"



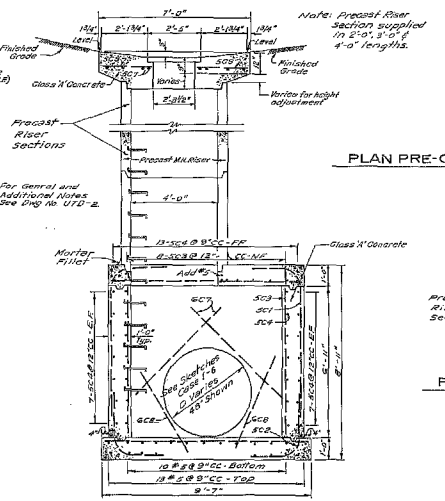
PLAN TOP SLAB OF CHAMBER D.I. TYPE "T" — M.H. TYPE "R"

Item 102 D.R.T Scale: 1/2"=1'-0" Item 102 C.R.R



PLAN BOTTOM SLAB OF CHAMBER D.I. TYPE "T" — M.H. TYPE "R"

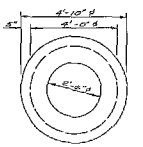
Scale: 1/2"=1'-0"



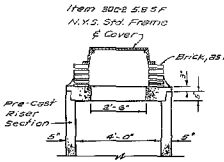
SECTION-AA

Scale: 1/2"=1'-0"

TYPE	IDENT.	S.F.	FRAME	GRATE	APPROX. WT.	ITEM NO.
D.I.-T	#10	6.25	2'-4-15/16" X 2'-8-1/2"	2'-3-11/16" X 2'-7-1/2"	174 LB.	30FS

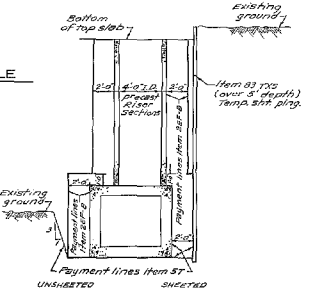


PLAN PRE-CAST M.H. COVER-TYPE "R" MANHOLE



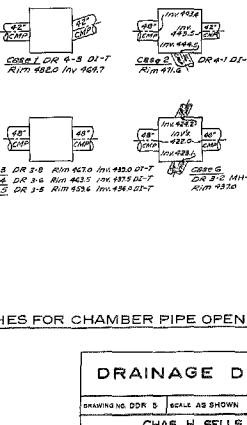
SECTION-AA
PRE-CAST COVER M.H. TYPE "R"

Scale: 1/2"=1'-0"



PAYMENT LINES

Scale: 1/2"=1'-0"



SKETCHES FOR CHAMBER PIPE OPENINGS

BAR LIST - CHAMBER (D.I. TYPE "T" - M.H. TYPE "R")								
MARK	NO.	SIZE	TYPE	LENGTH	A	B	C	LOCATION
SC1	32	5	1	9' - 1"	6' - 0"	1' - 7"	1' - 6"	WALLS & TOP SLAB
SC2	48	5	1	5' - 1"	2' - 0"	1' - 7"	1' - 6"	WALL & BOTTOM SLAB
SC3	32	5	STR.	7' - 6"	—	—	—	WALLS VERTICAL
SC4	82	5	STR.	8' - 6"	—	—	—	WALLS & TOP SLAB HORIZ.
SC5	26	5	STR.	8' - 2"	—	—	—	BOTTOM SLAB
SC6	8	5	STR.	8' - 0"	—	—	—	TOP SLAB @ OPENING
SC7	4	5	STR.	8' - 0"	—	—	—	SLAB @ OPENING WALL @ OPENING
SC8	4	5	STR.	4' - 0"	—	—	—	SLAB @ OPENING WALL @ OPENING
TOTAL APPROX. EST. WT. 1058 lbs.								
BAR LIST - TOP SLAB (D.I. "T" ONLY)								
SC7	16	5	STR.	6' - 8"	—	—	—	TOP SLAB
SC8	4	5	STR.	1' - 10½"	—	—	—	TOP SLAB
SC9	4	5	STR.	2' - 1½"	—	—	—	TOP SLAB
" " " " 125 lbs.								
GRAND TOTAL 1178 lbs.								

DRAINAGE DETAILS

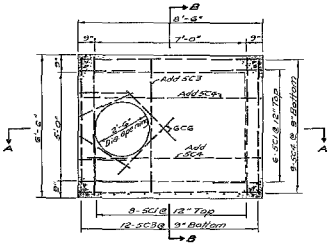
DRAWING NO. DDR 5	SCALE AS SHOWN	DATE DEC 70	SHEET NO. 169

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

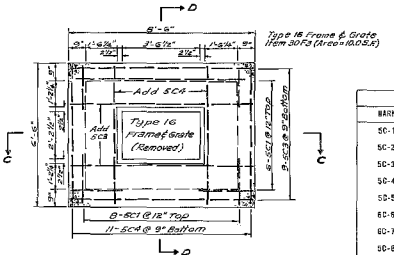
FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IC(-690)-3 (3) F-468(1) 11	170	639

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TUNNICE-FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION. S.H. 56-B, ONONDAGA COUNTY.



PLAN MANHOLE TYPE "Z"

Scale: 1/2" = 1'-0"



PLAN D.I. TYPE "Y"

Scale: 1/2" = 1'-0"

BAR LIST – M.H. TYPE "Z"								
MARK	NO.	SIZE	TYPE	LENGTH	A	B	C	LOCATION
SC-1	38	5	1	8'-11"	1'-6"	1'-7"	8'-10"	WALLS & TOP SLAB
SC-2	42	5	1	4'-7"	1'-6"	1'-7"	1'-6"	WALLS & BOTTOM SLAB
SC-3	75	5	STR.	8'-2"				TOP & BOTTOM SLAB-HORIZ. WALL BARS
SC-4	78	5	STR.	8'-2"				TOP & BOTTOM SLAB-HORIZ. WALL BARS
SC-5	28	5	STR.	8'-6"				WALLS VERTICAL BARS
SC-6	2	8	STR.	4'-0"				TOP SLAB @ OPENING
SC-7	8	6	STR.	5'-0"				WALLS @ PIPE OPENINGS
SC-8	22	5	STR.	2'-0"				BOTTOM SLAB DOWELS

TOTAL APPROX. EST. WT. 2038 lbs.

TYPE-1 BAR

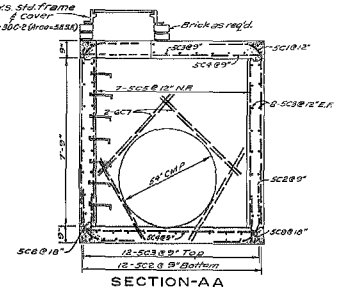
BAR LIST – B.I. TYPE "Y"								
MARK	NO.	SIZE	TYPE	LENGTH	A	B	C	LOCATION
SC-1	28	5	2	8'-2"	6'-8"*	1'-8"	3"	WALLS & TOP SLAB
SC-2	40	5	1	4'-7"	1'-6"	1'-7"	1'-6"	WALLS & BOTTOM SLAB
SC-3	44	5	STR.	8'-2"				TOP & BOTTOM SLAB-HORIZ. WALL BARS
SC-4	48	5	STR.	8'-2"				TOP & BOTTOM SLAB-HORIZ. WALL BARS
SC-5	28	5	STR.	6'-9"*				WALLS VERTICAL BARS
SC-6	12	6	STR.	4'-6"				WALLS @ PIPE OPENINGS
SC-7	20	5	STR.	2'-0"				BOTTOM SLAB DOWELS

TOTAL APPROX. EST. WT. 1439 lbs.

TYPE-1 BAR

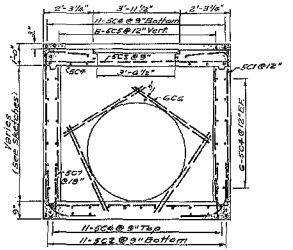
TYPE-2 BAR

* Length of Bar to be adjusted in field to fit each case or frame opening.



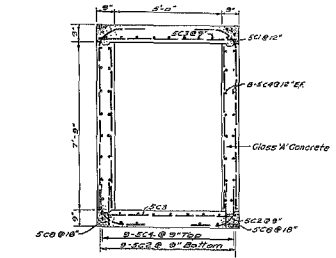
SECTION-AA

Scale: 1/2" = 1'-0"



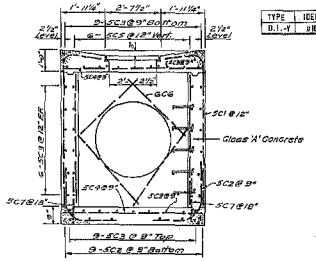
SECTION-CC

Scale: 1/2" = 1'-0"



SECTION-BB

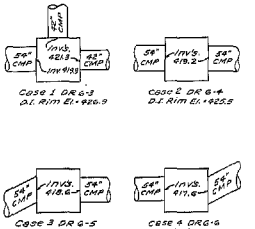
Scale: 1/2" = 1'-0"



SECTION-DD

Scale: 1/2" = 1'-0"

TYPE	IDENT.	S.F.	FRAME	GRATE	APPROX. WT.	ITEM NO.
D.I. Y	9B	10.6	2'-7-1/8" X 3'-11-1/2"	2'-8-3/8" X 3'-10-1/2"	296 LB.	30F3



SKETCHES

DRAINAGE DETAILS

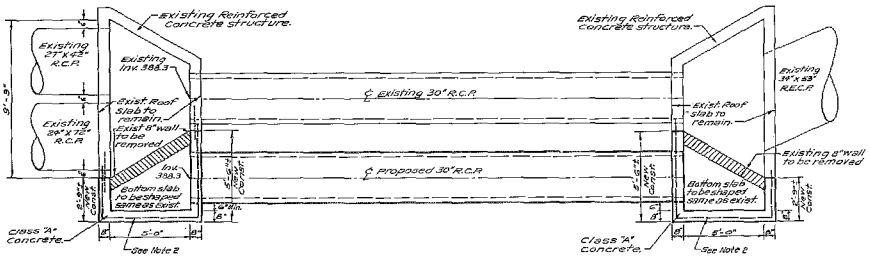
DRAWING NO. DDR 6	SCALE AS SHOWN	DATE DEC 70	SHEET NO. 170

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IC-880-3(31) F-449(12)	171	939

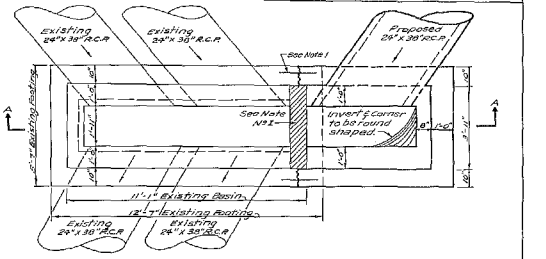
S.H. 5018 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR INTERSTATE ROUTE CONNECTION; 370 NORTHWEST ARTERIAL CONNECTION. S.R. 84-5; ONONDAGA COUNTY



PLAN

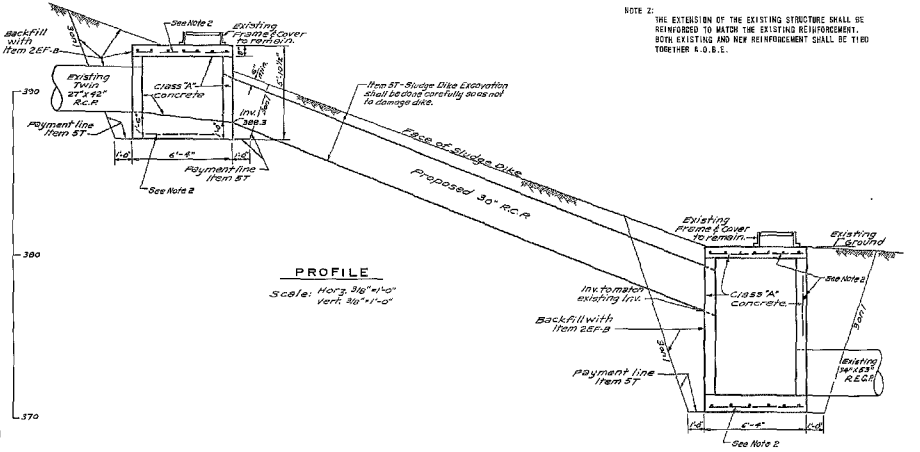
Scale: 3/8" = 1'-0"

NOTE 2:
THE EXTENSION OF THE EXISTING STRUCTURE SHALL BE REINFORCED TO MATCH THE EXISTING REINFORCEMENT. BOTH EXISTING AND NEW REINFORCEMENT SHALL BE TIED TOGETHER A.O.B.E.



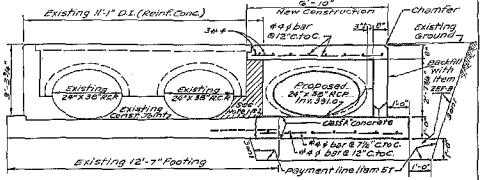
PLAN

Scale: 1/2" = 1'-0"



PROFILE

Scale: Horz. 3/16" = 1'-0"
Vert. 3/8" = 1'-0"



SECTION - AA

Scale: 1/2" = 1'-0"

ITEM 103S2

ALTERATION & ADDITION TO DR. 17 - 11

See Drainage Table for Station & Offset

NOTE 1:
REMOVE THE ENTIRE SIDE WALL OF EXISTING D.I. AND PORTION OF SHAPED INVERT AS SHOWN.
TIE EXISTING WALL, ROOF, AND FLOOR SLABS TO NEW CONSTRUCTION A.O.B.E.
ALL ITEMS NECESSARY TO COMPLETE THE WORK WILL BE PAID FOR UNDER ITEM 103S2, EXCEPT FOR 5T AND 2EFB.

ITEM 103S1

ALTERATION & ADDITION TO DR. 17 - 14

See Drainage Table for Station & Offset

NOTE:
ALL ITEMS NECESSARY TO COMPLETE THE WORK SHALL BE PAID FOR UNDER ITEM 103S1, EXCEPT FOR 5T & 2EFB.

DRAINAGE DETAILS

DRAWING NO.	SCALE	DATE	SHEET NO.
DDR 7	AS SHOWN	DEC 70	171

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51
AS BUILT

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IC-690-2(31) F-455(17)	155R	899

S.H. 5016 CANILLUS-FAIRMOUNT PT. 2, S.H. 192 GENESEE TURNPIKE, FAIRMOUNT-STATE FAIR INTERSTATE ROUTE CONNECTION, RTE. 5 NORTHWEST ARTERIAL CONNECTION, S.H. 54-S, ONONDAGA COUNTY

NOTE - SEE FINAL DRAINAGE SUMMARY BK # 27

DRAINAGE TABLE

DR. NO.	DESCRIPTION — INSTALL AND BUILD			LOCATION				REMARKS	DR. NO.
				INLET		OUTLET			
		INLET	OUTLET	STATION	OFFSET	STATION	OFFSET		
9-2	149 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	E.S. TO TYPE "A" DITCH	"U" 92+76	ON ℄	"U" 92+76	138' RT.	INSTALL TWO 30° ELBOWS, 4' LONG - RIP RAP APRON @ OUTLET	9-2
9-3	56 L.F. OF 12" C.M.P., 16 GA.	BRIDGE SLEEVE	TYPE "A" D.I.	"U" 93+33	ON ℄	"U" 92+76	ON ℄		9-3
9-4	84 L.F. OF 12" C.M.P., 16 GA.	BRIDGE SLEEVE	TYPE "A" D.I.	"U" 101+46	ON ℄	"U" 102+12	ON ℄		9-4
9-5	66 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	TYPE "A" D.I.	"U" 101+74	59' LT.	"U" 102+12	ON ℄		9-5
9-6*	120 L.F. OF (MIN) 88" C.M.P., PAVED INVERT, 16 GA. (3" X 1" CORR.)	BEVELLED END	BEVELLED & SKEWED END TO EXISTING PROCESS STREAM	REL. G.B. 3+00	ON ℄	REL. G.B. 3+57	ON ℄	SEE DETAILS, DWG. # DDR-9	9-6*
9-7	36 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	E.S.	E.S. TO SOLVAY PROCESS STREAM	"U" 93+45	152' LT.	"U" 94+00	165' LT.		9-7
10-1	58 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	TYPE "A" D.I.	"U" 102+12	59' RT.	"U" 102+12	ON ℄		10-1
10-2	205 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"U" 102+12	ON ℄	"U" 105+13	ON ℄		10-2
10-3	254 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"U" 105+13	ON ℄	"U" 108+12	ON ℄		10-3
10-4	264 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"U" 108+12	ON ℄	"U" 111+08	ON ℄		10-4
10-5	264 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"U" 111+08	ON ℄	"NS" 114+36	14' RT.		10-5
10-6	204 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"NS" 114+96	14' RT.	"RS" 116+15	14' RT.		10-6
10-7	185 L.F. OF 36" R.C.P.	E.S.	NEW S.W.H. "C"	"NS" 115+26	120' LT.	"S" 116+92	62' LT.		10-7
10-8	90 L.F. OF 30" X 19" R.E.C.P.	TYPE "A" D.I.	TYPE "B" D.I.	"DR.C" 7+28	18' LT.	"DR.C" 7+28	18' RT.		10-8
10-9	212 L.F. OF 30" X 19" R.E.C.P.	TYPE "B" D.I.	TYPE "B" D.I.	"DR.C" 7+28	18' RT.	"DR.C" 9+45	18' RT.		10-9
10-10	52 L.F. OF 30" R.C.P.	TYPE "B" D.I.	TYPE "B" D.I.	"DR.C" 9+45	18' RT.	"DR.C" 9+82	18' LT.		10-10
10-11	269 L.F. OF 36" C.M.P., PAVED INVERT, OPT. GA. (14 GA.- 2-2/3" X 1/2" CORR., 16 GA.- 3" X 1" CORR.)	TYPE "B" D.I.	E.S. TO TYPE "B" DITCH	"DR.C" 9+82	18' LT.	"U" 111+23	130' LT.	UNSUIT. MAT'L. AREA - UNDERCUT CULVERT 2'	10-11
11-1	92 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"NE" 116+48	58' RT.	"NE" 117+02	14' LT.		11-1
11-2	82 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"NS" 116+15	14' RT.	"NE" 117+02	14' LT.		11-2
11-3	74 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"NS" 117+82	18' LT.	"NE" 117+02	14' LT.		11-3
11-4	150 L.F. OF 36" C.M.P., PAVED INVERT, 14 GA.	TYPE "A" D.I.	BEVELLED END TO REL. NINE MILE CREEK	"NE" 117+02	14' LT.	"NS" 117+58	138' LT.		11-4
11-5	52 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	TYPE "A" D.I.	"N" 120+34	5' LT.	"NE" 120+30	45' RT.	INSTALL TWO 25° ELBOWS, 4' LONG	11-5
11-6	70 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"NS" 120+38	45' RT.	"NS" 120+44	11' RT.		11-6
11-7	44 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"RS" 120+44	11' RT.	"S" 120+60	11' RT.		11-7
11-8	184 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	BEVELLED END TO REL. NINE MILE CREEK	"S" 120+50	11' RT.	REL. N.W.C. 7+22	42' RT.		11-8
11-9	70 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	E.S.	E.S. TO REL. NINE MILE CREEK	"SB" 14+84	34' RT.	"SB" 14+84	30' LT.	RIP RAP APRON @ OUTLET - PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.	11-9
11-10	70 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	E.S.	E.S. TO REL. NINE MILE CREEK	"SB" 18+34	21' RT.	"SB" 18+34	55' LT.	- PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.	11-10
11-11	132 L.F. OF 18" R.C.P.	TYPE "A" D.I.	TYPE "A" D.I.	"DR.C" 19+49	29' RT.	"DR.C" 18+50	88' LT.		11-11
11-12	64 L.F. OF 24" R.C.P.	TYPE "A" D.I.	NEW S.W.H.-A TO PROPOSED 42" R.C.P. PUMP HOUSE	"DR.C" 18+50	88' LT.	"DR.C" 17+85	25' LT.		11-12
11-12A	482 L.F. OF REINFORCED CONCRETE BOX CULVERT	S.W.H.-A	S.W.H.-C	"DR.C" 17+95	26' LT.	"S" 116+32	62' LT.	SEE DETAILS - DWG. NOS. PS-1 TO PS-7	11-12A
11-12B	130 L.F. OF 42" R.C.P.	S.W.H.-C	STRAIGHT H.W. TO REL. NINE MILE CREEK	"S" 116+32	62' LT.	"S" 117+54	112' LT.		11-12B
11-12C	81 L.F. OF 42" R.C.P.	S.W.H.-C	PUMP HOUSE	"S" 116+26	75' LT.	"S" 116+32	62' LT.		11-12C
12-1	EXTEND EXISTING 24" C.M.P., 4 L.F., ADD E.S.	E.S.	EXISTING 24" C.M.P.	I-690 EB 102+40	56' RT.	I-690 EB 102+40	54' RT.	CLEAN EXISTING CULVERT ENTRANCE	12-1
12-1A	EXTEND EXISTING 24" C.M.P., 42 L.F., ADD E.S.	EXISTING 24" C.M.P.	NINE MILE CREEK	I-690 WB 102+60	58' LT.	I-690 WB 102+60	52' LT.	CLEAN EXISTING CULVERT EXIT	12-1A
12-1B	RAISE EXISTING D.I. TO ELEV. 372.8	EXISTING D.I.	EXISTING 24" C.M.P.	I-690 WB 102+60	22' RT.	I-690 WB 102+60	22' RT.		12-1B
12-2	EXTEND EXISTING 24" C.M.P., 108 L.F., CONNECT TO EXISTING 24" C.M.P.	EXISTING 24" C.M.P.	EXISTING 24" C.M.P. TO NINE MILE CREEK	I-690 EB 110+64	20' RT.	I-690 WB 110+83	48' LT.	UNSUIT. MAT'L. AREA - UNDERCUT CULVERT 2'	12-2
12-3	148 L.F. OF 36" C.M.P., PAVED INVERT, OPT. GA. (14GA.- 2-2/3" X 1/2" CORR., 16 GA.- 3" X 1" CORR.) *	E.S.	TYPE "B" D.I.	"S" 115+18	95' LT.	I-690 EB 115+20	22' LT.	UNSUIT. MAT'L. AREA - UNDERCUT CULVERT 2'	12-3
12-4	92 L.F. OF 36" C.M.P., PAVED INVERT, OPT. GA. (14GA.- 2-2/3" X 1/2" CORR., 16 GA.- 3" X 1" CORR.)	TYPE "B" D.I.	TYPE "B" D.I.	I-690 EB 115+20	22' LT.	I-690 WB 115+36	88' LT.	UNSUIT. MAT'L. AREA - UNDERCUT CULVERT 2'	12-4
12-5	112 L.F. OF 36" C.M.P., PAVED INVERT, OPT. GA. (14GA.- 2-2/3" X 1/2" CORR., 16 GA.- 3" X 1" CORR.)	TYPE "B" D.I.	E.S. TO EXISTING NINE MILE CREEK	I-690 WB 115+36	88' LT.	"N" 116+84	62' RT.	UNSUIT. MAT'L. AREA - UNDERCUT CULVERT 2'	12-5
13-1	84 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	E.S. TO EXISTING NINE MILE CREEK	"N" 143+40	5' LT.	"N" 143+40	95' RT.	INSTALL TWO 25° ELBOWS, 4' LONG - RIP RAP APRON @ OUTLET	13-1
13-1A	142 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	E.S. TO TYPE "B" DITCH	I-690 WB 122+33	35' RT.	I-690 WB 123+25	74' LT.		13-1A
13-2	96 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	E.S. TO SWALE	"S" 138+30	29' LT.	"S" 138+30	103' LT.	INSTALL TWO 25° ELBOWS, 4' LONG - RIP RAP APRON @ OUTLET	13-2
13-3	20 L.F. OF 24" R.C.P.	E.S.	TYPE "A" M.H. TO EXISTING 24" R.C.P.	"RTE. 48" 81+20	48' RT.	"RTE. 48" 81+20	16' RT.	EXIST. 21" VIT. TO BE CUT OFF @ TYPE "A" M.H.	13-3
13-4	34 L.F. OF 24" R.C.P.	EXISTING 24" R.C.P. TO TYPE "A" M.H.	E.S. TO SWAMP	"RTE. 48" 81+17	18' LT.	"RTE. 48" 81+17	75' LT.	EXIST. 18" VIT. TO BE CUT OFF @ TYPE "A" M.H.	13-4
14-1	124 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	TYPE "A" D.I.	"U" 133+02	44' RT.	"U" 131+72	32' RT.		14-1

* SEE NOTE SHEET NO 154.

NOTE ADDED TOP CENTER

DRAINAGE TABLE

DRAWING NO. 10-6	SCALE	DATE DEC. '70	SHEET NO. 156

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

DESIGNED BY
DRAWN BY
CHECKED BY

F.A.S.H. 71-3 F.A.R.C. 71-50 F.I.R.C. 71-51

AS BUILT

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
1	N.Y.	I-IQ-690-3(31) F-448(17)	156R	639

S.H. 5016 CAMILLUS-FAIRMOUNT PT. 2; S.H. 132 GENESEE TURNPIKE; FAIRMOUNT-STATE FAIR; INTERSTATE ROUTE CONNECTION 570 NORTHWEST ARTERIAL CONNECTION. S.H. 54-5; ONONDAGA COUNTY

NOTE – SEE FINAL DRAINAGE SUMMARY BK# 27

DRAINAGE TABLE

DR. NO.	DESCRIPTION — INSTALL AND BUILD			LOCATION				REMARKS	DR. NO.
		INLET	OUTLET	INLET STATION	INLET OFFSET	OUTLET STATION	OUTLET OFFSET		
14-2	192 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	E.S. TO TYPE "A" DITCH	"B" 131+72	22'RT.	"V" 130+78	90'RT.	RIP RAP APRON @ OUTLET	14-2
14-3	38 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	E.S. TO TYPE "B" DITCH	"V" 133+54	215'RT.	"V" 133+54	68'RT.	INSTALL ONE 18" ELBOW, 4' LONG - RIP RAP APRON @ OUTLET	14-3
14-4	278 L.F. OF 36" C.M.P., PAVED INVERT, OPT. GA. (14 GA. - 2-2/3" X 1/2" CORR., 16 GA. - 3" X 1" CORR.)	E.S.	TYPE "D" M.H.	"V" 126+94	168'RT.	"N" 134+92	24'RT.		14-4
14-5	88 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	TYPE "D" M.H.	"T" 135+68	2'LT.	"N" 134+92	24'RT.		14-5
14-6*	58 L.F. OF 36" C.M.P., PAVED INVERT, OPT. GA. (14 GA. - 2-2/3" X 1/2" CORR., 16 GA. - 3" X 1" CORR.)	TYPE "D" M.H.	BEVELLED END TO REL. NINE MILE CREEK	"N" 134+92	24'RT.	"N" 135+08	36'LT.		14-6*
14-7	242 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	E.S.	E.S. TO TYPE "B" DITCH	"RTE.48" 82+48	94'RT.	"RTE.48" 80+83	68'RT.		14-7
14-8	224 L.F. OF 30" C.M.P., PAVED INVERT, 14 GA.	E.S.	BEVELLED END TO REL. NINE MILE CREEK	"RTE.48" 88+86	78'RT.	"RTE.48" 86+95	54'RT.	UNSUIT. MAT'L. AREA - UNDERCUT CULVERT 2'	14-8
14-9	108 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	E.S. TO REL. NINE MILE CREEK	"S" 128+97	26'LT.	"S" 129+43	126'LT.	INSTALL TWO 25° ELBOWS, 4' LONG	14-9
14-10	74 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	TYPE "B" C.B.	"NE" 127+92	35'RT.	"WS" 127+83	5'RT.		14-10
14-11	110 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	E.S. TO TYPE "B" DITCH	"WS" 127+96	5'RT.	"WS" 127+65	110'LT.	INSTALL TWO 25° ELBOWS, 4' LONG - RIP RAP APRON @ OUTLET	14-11
14-12	CUT OFF EXISTING 24" R.C.P. @ REL. NINE MILE CREEK	EXIST. D.I.	NEW CONCRETE H.W. (STRAIGHT)	"SB" 5+20	149'RT.	"SB" 8+28	68'LT.		14-12
14-13*	84 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	E.S. TO REL. NINE MILE CREEK	"RTE.48" 84+94	46'LT.	"RTE.48" 85+60	46'LT.		14-13
14-14*	38 L.F. OF 30" C.M.P., PAVED INVERT, 14 GA.	E.S.	BEVELLED END TO REL. NINE MILE CREEK	"B" AK" 120+27	28 LT	"B" AK" 120+10	18'RT.		14-14
15-1	94 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	E.S.	E.S. TO TYPE "A" DITCH	"Y" 5+92	28'LT.	"Y" 6+58	50'RT.		15-1
15-2	38 L.F. OF 22" X 13" C.M.P.A., PAVED INVERT, 16 GA.	TYPE "B" C.B.	E.S. TO TYPE "A" DITCH	"Y" 1+56	23'RT.	"Y" 7+58	54'RT.		15-2
15-3	22 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	TYPE "B" C.B.	E.S. TO TYPE "B" CONCRETE GUTTER	"NE" 134+46	35'RT.	"NE" 134+55	58'RT.		15-3
16-1	122 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	E.S.	TYPE "A" D.I.	I-690 WB 148+66	178'LT.	I-690 WB 148+66	55'LT.	INSTALL TWO 25° ELBOWS, 4' LONG - SEE SPEC. DETAIL DWG. #DDR-4	16-1
16-2	72 L.F. OF 24" R.C.P.	TYPE "A" D.I.	TYPE "A" D.I.	I-690 WB 148+66	56'LT.	I-690 WB 148+66	20'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	16-2
16-3	100 L.F. OF 24" R.C.P.	TYPE "A" D.I.	TYPE "F" D.I.	I-690 WB 148+66	20'RT.	"NE" 147+02	64'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	16-3
16-4	294 L.F. OF 38" X 24" R.E.C.P	TYPE "F" D.I.	TYPE "F" D.I.	"NE" 147+92	64'RT.	I-690 ¢ 151+70	102'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	16-4
16-5	294 L.F. OF 38" X 24" R.E.C.P.	TYPE "F" D.I.	TYPE "F" D.I.	I-690 ¢ 151+70	102'RT.	I-690 ¢ 154+66	102'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	16-5
16-6	118 L.F. OF 18" C.M.P., PAVED INVERT, 16 GA.	E.S.	TYPE "A" D.I.	I-690 ¢ 154+66	192'LT.	I-690 ¢ 154+66	76'LT.	INSTALL ONE 25° ELBOW, 4' LONG - SEE SPEC. DETAIL DWG. #DDR-4	16-6
16-7	72 L.F. OF 24" R.C.P.	TYPE "A" D.I.	TYPE "A" D.I.	I-690 ¢ 154+66	76'LT.	I-690 ¢ 154+86	ON ¢	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	16-7
16-8	100 L.F. OF 24" R.C.P.	TYPE "A" D.I.	TYPE "F" D.I.	I-690 ¢ 154+66	ON ¢	I-690 ¢ 154+65	100'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	16-8
16-9	294 L.F. OF 42" X 27" R.E.C.P	TYPE "F" D.I.	TYPE "F" D.I.	I-690 ¢ 154+66	100'RT.	I-690 ¢ 157+62	100'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	16-9
16-10	76 L.F. OF 24" R.C.P.	TYPE "A" D.I.	E.S. TO TYPE "B" DITCH	"WS" 152+00	54'LT.	"WS" 152+30	39'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	16-10
17-1	254 L.F. OF 42" X 27" R.E.C.P.	TYPE "F" D.I.	TYPE "F" D.I.	I-690 ¢ 157+52	103'RT.	I-690 ¢ 160+22	107'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	17-1
17-2	35 L.F. OF 24" R.C.P.	TYPE "A" D.I.	TYPE "A" D.I.	I-690 ¢ 160+57	67'LT.	I-690 ¢ 160+15	70'LT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	17-2
17-3	175 L.F. OF 24" R.C.P.	TYPE "A" D.I.	TYPE "F" D.I.	I-690 ¢ 160+15	70'LT.	I-690 ¢ 160+22	107'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	17-3
17-4	74 L.F. OF 42" X 27" R.E.C.P.	TYPE "F" D.I.	EXISTING D.I.	I-690 ¢ 160+22	107'RT.	I-690 ¢ 160+98	90'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	17-4
17-5	ALTER EXISTING D.I. TO RECEIVE 42" X 27" R.E.C.P. FROM DR. 17-4. EXISTING TWIN 36" X 24" R.E.C.P.'S TO REMAIN.			I-690 ¢ 160+98	90'RT.	I-690 ¢ 162+80	130'RT.		17-5
17-6	86 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	E.S.	TYPE "D" M.H.	"WS" 163+55	60'LT.	"WS" 164+18	8'RT.		17-6
17-7	114 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "D" D.I.	TYPE "D" D.I.	"WS" 164+18	8'RT.	I-690 ¢ 162+40	55'LT.		17-7
17-8	54 L.F. OF 36" R.C.P.	TYPE "E" D.I.	TYPE "B" D.I.	I-690 ¢ 162+40	55'LT.	I-690 ¢ 162+40	ON ¢	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	17-8
17-9	58 L.F. OF 24" R.C.P.	TYPE "A" D.I.	TYPE "D" D.I.	I-690 ¢ 161+69	ON ¢	I-690 ¢ 162+46	ON ¢	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	17-9
17-10	128 L.F. OF 36" X 24" R.E.C.P.	TYPE "B" D.I.	ADDITION TO EXISTING D.I.	I-690 ¢ 162+46	ON ¢	I-690 ¢ 162+90	130'RT.	PIPE TO BE COATED WITH BIT. MAT'L. (SEE SPECIAL SPEC.)	17-10
17-11	ALTERATION & ADDITION TO EXISTING D.I. TO RECEIVE 38" X 24" R.E.C.P. FROM DR. 17-10. EXIST. TWIN 38" X 24" R.E.C.P.'S TO REMAIN.			I-690 ¢ 162+90	130'RT.	I-690 ¢ 163+50	342'RT.	EXTEND EXISTING D.I. AS SHOWN ON DWG. #DDR-7	17-11
17-12	EXISTING TWIN 42" X 27" R.E.C.P'S TO REMAIN.			I-690 ¢ 163+50	342'RT.	I-690 ¢ 164+28	347'RT.	EXISTING FEATURES TO REMAIN	17-12
17-13	EXISTING TWIN 42" X 27" R.E.C.P'S TO REMAIN			I-690 ¢ 164+28	347'RT.	I-690 ¢ 164+57	807'RT.	EXISTING FEATURES TO REMAIN	17-13
17-14	38 L.F. OF 30" R.C.P.	MODIFIED EXISTING M.H.	MODIFIED EXISTING M.H.	I-690 ¢ 164+57	807'RT.	I-690 ¢ 164+75	837'RT.	SEE DWG. #DDR-7 FOR DETAILS OF MODIFIED M.H.'S	17-14
18-1	84 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	TYPE "A" D.I.	E.S. TO TYPE "B" DITCH	"PN" 11+59	42'RT.	"PN" 11+72	46'LT.		18-1
18-2	84 L.F. OF 24" C.M.P., PAVED INVERT, 16 GA.	E.S.	TYPE "G" D.I.	"WS" 173+85	124'LT.	"WS" 173+85	40'LT.	INSTALL TWO 25° ELBOWS, 4' LONG - FOR SLOPE DRAIN IN SLUDGE	18-2
18-3	44 L.F. OF 30" C.M.P., PAVED INVERT, 14 GA.	TYPE "G" D.I.	TYPE "G" D.I.	"WS" 173+85	40'LT.	"WS" 173+87	12'RT.	DIKE SEE SPEC. DETAIL DWG. #DDR-4	18-3
18-4	62 L.F. OF 30" C.M.P., PAVED INVERT, 14 GA.	TYPE "G" D.I.	TYPE "A" D.I.	"WS" 173+87	12'RT.	I-690 ¢ 171+87	ON ¢		18-4
18-5	198 L.F. OF 30" C.M.P., PAVED INVERT, 14 GA.	TYPE "A" D.I.	TYPE "B" D.I.	I-690 ¢ 171+87	ON ¢	I-690 ¢ 172+95	210'RT.	INSTALL TWO 18" ELBOWS, 4' LONG	18-5

*SEE NOTE SHEET NO. 154.

NOTE ADDED TOP CENTER

DRAINAGE TABLE

DRAWING NO. T-D-12	SCALE	DATE DEC 70	SHEET NO. 156

CHAS. H. SELLS, INC.
CONSULTING ENGINEERS PLEASANTVILLE, NEW YORK

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APPENDIX C

EROSION AND SEDIMENT CONTROL DRAWINGS