STAUFFER MANAGEMENT COMPANY
SKANEATELES FALLS SITE
SKANEATELES FALLS, NEW YORK

FINAL REMEDIAL DESIGN FOR SITE WIDE SOILS / DEBRIS REMEDIATION

VOLUME 1 OF 5
(Text through Appendix L)

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SPEC Consulting Project #99-004

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SECTION 1 INTRODUCTION

SPEC Consulting LLC., (SPEC) has prepared the following Remedial Design Report for Soils Remediation at the former Stauffer Chemical Company facility on Jordan Road in Skaneateles Falls, NY. The facility ceased operations in the early 1980's and is currently inactive. The site is owned by Stauffer Management Company LLC., (SMC). Throughout this report the SMC Skaneateles Falls Site is referred to as the site.

Fundamental changes have occurred with regards to off-site disposal costs, intended future property use, and cost subsequent to issuance of the 1996 ROD. These changes warrant a change in the remedial technology for this project and were discussed in detail in the May 18, 2001 Final Focused Feasibility Study for Off-site Disposal prepared by SPEC Consulting. As outlined in this report, off-site disposal would meet the remedial objectives of:

- Mitigating the observed impacts
- Limiting the degree of post-closure care
- Promoting beneficial re-use of the property
- Equally or more protective of human health and the environment than the original 1996 ROD remedy

The remedial work described in this report is being performed under the requirements of the executed Amended Order on Consent dated June 2002 and as stipulated in the Amended Record of Decision (AROD) dated December 2001 issued for this site.

In an attempt to move forward with site remedial activities, SMC approached the New York State Department of Environmental Conservation (NYSDEC) to request permission to proceed with site work in a Phased approach. Under this approach, SMC has revised the existing Remedial Design - to incorporate comments on the original document while preparing Work Plans for the various Phases of the work as specified below. - The activities were discussed in letters of - June 11, 2002 and July 8,2002 from Dolores A. Tuohy of the NYSDEC to Michael P. Kelly, Esq., – copies -- of which are - included in Appendix L. Work plans will be submitted to the Department for approval - in accordance with - the overall project remediation schedule - included as Appendix D in this document. Stauffer will implement each approved work plan in accordance with that schedule. Additionally, the overall project schedule is included as Appendix D.

With the Department's approval of the approach, the work was broken down into six phases as follows:

- ***Phase I*** Infrastructure AEC-1 & AEC-3 Wells
- ***Phase II*** AEC-7, AEC-8 & AEC-3 Wells
- ***Phase III*** AEC-6 & AEC-3 Wells
- ***Phase IV*** AEC-2 & AEC-3 Wells
- ***Phase V*** AEC-5
- ***Phase VI*** AEC-3 Groundwater Extraction, Treatment & Monitoring & AEC-4 Monitoring per the AROD

1.1 PURPOSE AND SCOPE

The purpose of this report is to establish the design requirements for the selected treatment of off-site disposal to mitigate impacted soil at the SMC site.

Site investigations were conducted by EA Engineering in 1994 (EA), FDGTI/IT Group 1996, O'Brien & Gere Engineers (OBG) in 1997 and by IT Corporation in January 1999. Based on these investigations the principal areas of concern are:

- AEC-1 Existing Landfill
- AEC-2 Former Organics Plant Area (North Plant Area)
- AEC-3 Shallow Groundwater (overburden and upper bedrock)
- AEC-4 Deep Groundwater
- AEC-5 Skaneateles Creek Sediments
- AEC-6 Main Plant Building
- AEC-7 Area in Front of Main Plant Building
- AEC-8 South Plant Area

Groundwater impacts (AEC-3 & 4) are being addressed by the groundwater treatment system that is currently in operation at the site, in accordance with the original 1996 ROD requirements.

SECTION 2 BACKGROUND INFORMATION

The SMC Skaneateles Falls Site is located in central New York State in the Town of Skaneateles Falls, Onondoga County, see Sketch 1. The property is located at 4512 Jordan Road, approximately 3 miles north of Skaneateles Lake and approximately 20 miles west of the city of Syracuse. The SMC Skaneateles Falls Site encompasses an area of approximately 70 acres. The property is divided into two unequal portions by the Skaneateles Creek. The focus of this report is the approximately 20 acres of property that is located along the creek and includes the former manufacturing operation areas and the previously closed landfill. The previous manufacturing area is located to the west of the Skaneateles Creek and includes the abandoned main manufacturing building, which is still present, and the previously removed chemical operations plant which is referred to as the north plant area. The chemical operations area was previously demolished although numerous foundations, supports and floor slabs remain in the area. The old site landfill is located along the east side of Skaneateles Creek. The landfill was closed in the early 1980's. There are several settling ponds and evaporation ponds located on the eastern portion of the property. The ponds were closed in the early 1980's.

The SMC Skaneateles Falls Site is bounded to the west and north by a mix of residential and commercial property. The east and south areas of the site are bounded by undeveloped property.

The SMC Skaneateles Falls facility formerly manufactured organic chemicals and detergents. The principal organic compound manufactured at the site was toluic acid, which used xylene, (one of the major site contaminants), as a raw product. During the Remedial Investigation (RI) phase of the project, five areas of concern were originally identified:

- AEC-1 Landfill
- AEC-2 Former Organics Plant area (North Plant Area)
- AEC-3 Shallow Groundwater (overburden and upper bedrock)
- AEC-4 Deep Groundwater
- AEC-5 Skaneateles Creek

The original ROD and current AROD considers the landfill and former north plant area to be the predominant contaminant source areas. These source areas are reportedly causing impacts in both the shallow, intermediate and deep groundwater aquifers as well as Skaneateles Creek.

The original remedy selected by the ROD included a combination of no-action with monitoring, containment, removal, treatment and on-site disposal. The specific tasks to be completed under the ROD included:

- Removal of the landfill and north plant source areas with treatment and disposal of the wastes in an on-site engineered landfill cell;
- Containment of residual metal contaminated soils in the north plant area;
- Dredging of sediments from Skaneateles Creek for treatment and disposal in an on-site landfill cell;
- Extraction and treatment of shallow groundwater affected by the source area(s); and
- Groundwater monitoring of both on and off -site wells to evaluate the effectiveness of remedial operations, with contingency for future remedial action.

These remedies were selected based upon the information contained in the Feasibility Study prepared by EA, and SMC's intention to indefinitely retain the property and complete long-term treatment and management of the facility. On-site treatment and long-term management of the waste was considered to be an acceptable remedial alternative because off-site disposal costs were exorbitant at the time that the FS and ROD were issued. Fundamental changes have occurred with regards to off-site disposal costs, intended future property use, and remedial requirements subsequent to issuance of the 1996-ROD. These facts warranted a change in remedial technology for this project and were discussed in detail in the May 18, 2001 Final Focused Feasibility Study for Off-site Disposal prepared by SPEC Consulting. As outlined in this report, off-site disposal would meet all the remedial objectives originally outlined in the ROD.

The primary contaminants of concern (COC) as highlighted in the RI report (EA 1994) and the Hydrogeologic Investigation (OBG 1997) were the organic chemicals, specifically xylene for VOC's and toluic acid isomers for SVOC's. These organic chemicals were found in the highest concentration on the site. Metals were found to be

slightly elevated above the anticipated background levels and site established SCG/SSRGs at several locations across the site.

The primary areas of environmental concern were previously delineated during completion of a Remedial Investigation / Feasibility Study (RIFS) (EA 1994), Work Plan (EA 1996) and subsequent site investigation activities completed by FDGTI/IT Group. Further site investigation was completed by O'Brien & Gere Engineers (OBG) in 1997 during original ROD soil remediation design activities, again by IT Group during the construction phase of the groundwater treatment system in January 1999 and "Test Pit Summary Report" prepared by SPEC Consulting and dated January 5, 2001. The proposed soil excavation areas are shown on drawing D-12 in Appendix C.

Additional areas of the site addressed in the FFS report included the area in front of the Main Plant Building, the Main Plant Building and the South Plant Area (located directly south of the Main Plant Building), and an area on the west side of Skaneateles Creek along the main plant building. Although not included as part of the original ROD remedy, these areas have shown contamination in more recent sampling completed at the SMC site. The area in front of the Main Plant Building consists of the former location of underground fuel oil tanks used for boiler fuel storage during plant operations. The south plant area consists of the area just south of the Main Plant Building and includes the former aboveground storage tank farm. Demolition of the Main Plant Building is proposed as part of the overall remedial activities at the site.

As activities involving the groundwater remediation phase of the project progressed, investigation into the extent and level of contamination in the soils at the site was conducted. Based upon SMC's submittal of supplemental information, additional review and evaluation by the Department was conducted, including a regulatory review of 40 CFR Part 261 & 268 and 6 NYCRR Part 373. This review concluded that the waste material at the site could be disposed of at a 6 NYCRR Part 360 landfill, if the waste passed characteristic testing for ignitability, corrosivity, reactivity and toxicity and PCBs. The correspondences leading to this conclusion between SMC and the Department includes the Department's initial regulatory review letter to SMC dated October 13, 2000, and subsequent responses including the SMC letter to the Department dated November 6, 2000 and from the Department to SMC dated November 21, 2000. To date, based on the limited testing of the soil at the site, the majority of the material is anticipated to be eligible for disposal at a 6 NYCRR Part 360 landfill. It is believed that the majority of

site wastes could meet the testing requirements and then be disposed of off-site at a 6 NYCRR Part 360 landfill. As a result of this regulatory review, off-site disposal became a more feasible and viable solution since disposal options turned to the possibility of disposal at a 6 NYCRR Part 360 (Solid Waste) facility, rather than off-site disposal solely at a 6 NYCRR Part 373 (Hazardous Waste) facility.

The culmination of the additional site investigations undertaken by SMC, regulatory review by the NYSDEC and Final Focused Feasibility Study prepared by SPEC Consulting was the acceptance by the NYSDEC of the Focused Feasibility Study in May 2001 and issuance by the NYSDEC of an Amended Record of Decision (AROD) in December 2001. The AROD outlined the same goals for site remediation as the original ROD with the preferred remedy being off-site disposal of the soil and debris not meeting the SCG/SSRG's outlined in the Amended ROD. The AROD further added PCB's to the site COC's and defined two different parameters for SCG/SSRG's primarily for metals. The AROD is included in Appendix L of this report.

SECTION 3 PRE-REMEDIAL DESIGN PLAN ACTIVITIES

O'Brien & Gere Engineers (OBG) completed further site field investigation in 1997 during soil remediation design activities with additional investigation performed by IT Group in 1999 during the construction phase of the groundwater treatment system. Supplemental field information was also acquired by SPEC Consulting in 2000 and summarized in the "Test Pit Summary Report" prepared by SPEC Consulting dated January 5, 2001. In May 2000 a work plan was developed for the demolition of the Main Plant Building, see Section 5 of this report.

The following activities were scheduled to be performed prior to initiation of site wide soil & debris removal activities. The majority of these activities have been completed and the remaining items will be completed during site wide soil/debris removal activities. Several of the items were requested to be performed by the NYSDEC Division of Water (DOW). The DOW items are noted below.

- Characterize existing stockpiled soil and debris piles located above grade at various portions of the site including demolition debris, LTTD pilot test soil/debris, landfill clay cap soil and waste materials.

- Install Sheet Pile Wall along 150 LF of the landfill per FCR 22 to mitigate landfill seeps from entering into the Skaneateles Creek. (DOW).
- Construct haul roads along the top of the landfill to allow removal of stock piled soiled and debris from atop the landfill FCR19.
- Install barrier protection layer over portions of AEC-8 to prevent low levels of PCB's in the soils from leaching into storm water outfall. (DOW).
- Remove roofing ballast material from older portions of the roof and reseal the roof to prevent low levels of PCBs from entering in the storm water outfall. FCR 18 (DOW).

3.1 LIMITS OF EXCAVATION

The IT Group investigation in 1999 found the limits of contamination to be larger than originally delineated in the RI (EA 1994). The proposed limits of contamination as determined by subsequent investigations are shown on Drawing D-12 in Appendix C. A summary of the investigation activities and the laboratory results are outlined in IT Group's Report titled "Results of Additional Site Assessment Activities", dated January 1999 (IT 1999). The actual limits of excavation will be determined in the field in accordance with the sampling and analysis protocol described in the SAP, see Appendix B. Excavation activities will cease within AEC-1, 2, 6, 7, & 8 when confirmatory sampling on the side walls and bottom of the excavation indicate that AROD defined SCGs/SSRGs are achieved at the excavation boundary or when bedrock is encountered. Sampling locations will be specified in each submitted work plan. Excavation of AEC-5 will includes removal of sediments from the Skaneateles Creek (AEC-5). Field sampling will be performed in accordance with the SAP for AEC-5 (see Appendix B) to verify the current limits of excavation for the Skaneateles Creek sediments. A work plan for remediation of creek sediments will be prepared and submitted to the NYSDEC for review and approval as Phase 5 of the project work. Once completed, Phase 5 will be appended to this document as part of Appendix A.

3.2 WASTE CHARACTERIZATION

To date, based on limited testing of the impacted soil at the site the majority of the material may be eligible for disposal at a 6 NYCRR Part 360 landfill (SPEC 2001). Supplemental field information was acquired by SPEC Consulting in 2000 to determine hazardous characteristics of the soil at the site for off-site disposal. Activities completed

and sampling results for waste characterization are outlined in the "Test Pit Summary Report" dated January 5, 2001. As stated in the Test Pit Summary Report, the sampling program showed that the soil samples collected could be disposed of in a 6 NYCRR Part 360 landfill based on the regulatory status as defined by 40 CFR Part 261. In December 2001, SMC under took a program to characterize for off-site disposal the above grade stock piles located at various locations through out the site, refer to SPEC Consulting report titled "Above Ground Stockpile Sampling, Analysis and Relocation Plan" dated December 10, 2001. The results of this investigation were compiled and submitted to the NYSDEC on February 7, 2002. The results of the aboveground soil and debris testing showed that no samples tested positive for RCRA characteristics and only one sample out of 25 had PCBs above the regulatory threshold of 50 ppm (reported at 53 ppm). Soil and debris, which is removed from the various AECs, will be characterized in accordance with the protocols outlined in the SAP included in Appendix B.

3.3 MAIN PLANT BUILDING DEMOLITION

Demolition of the Main Plant Building, although not part of the original ROD remedy, was proposed by SMC in early 2000 and was included in the Final FFS (SPEC Consulting May 2001) and subsequently made part of the Amended ROD (Appendix L) as part of the remedial activities at the site. The Building Demolition Package was submitted previously to the NYSDEC, comments were received from the NYSDEC and in discussions between the NYSDEC and SMC it was determined that removal of the building should not occur prior to initiation of site soils remediation. The revised Phase 3 Building Demolition Work Plan is included in Appendix P (Volume V) and addresses plugging and abandonment of the raceway beneath the building. The timing for removal of the building during remediation will occur in Phase 3 of the project work. A work plan for removal of hazardous material from the building and demolition of the building is included in Appendix P. Investigation, characterization and removal of soils beneath the main plant building is also addressed in the work plan. The Phase 3 Building Demolition Work Plan was approved by the NYSDEC and is included as Appendix P (Volume V).

3.4 SKANEATELES CREEK (AEC-5)

The original, 1996, ROD called for the removal of approximately 2,740 cy of sediments from the Skaneateles Creek in the reach from the existing landfill to the mill pond above Madison Filter. Madison Filter currently owns this pond. To be consistent with other previously submitted reports, this pond will be referred to in this report as the P&S Filtration mill pond, as P&S Filtration were the previous owner. As discussed in the 1996 ROD, sediments adjacent to and downstream from the Site were found to contain PAHs and some metals above levels of concern for aquatic sediments.

Based on limited information provided in the RI (EA, 1994) on the extent of impacted sediments in Skaneateles Creek and the P&S Filtration mill pond, The Sampling and Analysis Plan (SAP) documenting a proposed approach for sampling areas of Skaneateles Creek and the P&S Filtration mill pond is included as Appendix B-2. The objective of the activities described in this SAP is to provide sufficient data to delineate and characterize sediment in Skaneateles Creek to facilitate the design of the sediment removal component of the Site remediation.

Since it is possible that excavation of the existing landfill and portions of the area north of the Main Plant Building may impact sediments from the Skaneateles Creek and the P&S Filtration mill pond, it is proposed to implement the SAP for creek sediments following the removal of materials from these areas. As described in the SAP, if possible, the sampling and analysis activities will be conducted during the same construction season, as the sediment removal will be performed. Sampling will be conducted during the months of July, August or September due to the Department of Fisheries and Wildlife regulatory restrictions. However, the sampling activities will not be conducted during high flow conditions due to safety.

A work plan for remediation of creek sediments (AEC-5) will be prepared and submitted to the NYSDEC for review and approval as Phase 5 of the project work. Once completed Phase 5 will be appended to this document as part of Appendix A. The design will also incorporate a current Skaneateles Creek Habitat Survey. The NYSDEC Skaneateles Creek SMC Habitat Survey dated October 24, 2001 has been included in Appendix L of informational purposes.

Sediment removal from the creek will follow the DOW requirements presented below:

DOW Requirements for Sediment Removal from Skaneateles Creek

a. Work only during 1 July to 30 September. Avoid doing work between 1 October and 15 May to protect natural trout reproduction.

b. Work shall be done from upstream to downstream direction.

c. Isolate work area to be dredged with an impermeable coffer dam. Divert the water around the work site by dredging one side of the stream at a time, damming with an impermeable structure, and allowing water to flow through the opposite side.

d. Remove fish by electro fishing and netting and amphibians and crayfish by inspection of suitable habitat (rocks, logs, stream bank) and habitat. These organisms should be placed immediately upstream of the section being dredged.

e. Remove sediment and transport to a treatment and deposition site. Sediment removal sites may be identified through the NYSDEC Skaneateles Creek Habitat Map, see Appendix L.

f. Replace stream habitat to be similar to pre-dredging conditions. Stream habitat replacement will be guided by a revised NYSDEC habitat map. Similar pools, riffles, and runs will be put back into the stream as present before dredging. Similar substrates types shall also be put back in place. These substrate types will include an assortment of clean pebbles, cobbles, and boulders.

g. Present percent canopy cover and tree, shrub, and under story species composition per stream section shall be reproduced after a section is dredged. Certain tree stumps or large woody aggregates may be desirable for fish habitat.

h. Once dredging is finalized for a stream section, it shall be re-watered and the sequence (steps a through g) shall be repeated immediately downstream.

i. Plant appropriate vegetation mimicking the pre-dredging species composition to stabilize banks and provide adequate cover for aquatic biota.

3.5 WETLAND DELINEATION

Federal wetland boundaries were delineated at the Site by O'Brien & Gere Engineers in July and August 1997 to evaluate potential impacts of remedial activities. The wetland/upland boundaries were identified in accordance with the *Corps of Engineers Wetlands Delineation Manual* (ACOE, 1987), the currently accepted federal methodology. The federal methodology requires three criteria to be met for an area to be identified as a wetland: a dominance of hydrophytic vegetation, the presence of hydric soils, and the presence of wetland hydrology. The identified wetland boundaries were identified in the field with surveyors tape at the time of the delineation and were subsequently located by planimetric survey by C.T. Male Associates, P.C., a New York

State licensed surveyor. Surveyed locations of delineated wetlands are shown on the Project Plans in Appendix C. The wetlands report, including a description of the wetlands as prepared by O'Brien & Gere is included in Appendix N. The Appendix C drawings show the planimetric location of mapped wetlands on the site. Cross sectional views have been generated in proposed excavation work areas which include existing site grade, proposed depth of excavation and proposed finished grade. Current project work areas do not disturb existing site wetlands.

3.6 FLOOD PLAIN EVALUATION

The flood plain evaluation and proposed activities within the flood plain were completed by O'Brien & Gere Engineers (OBG) and documented in the approved "Final Remedial Design Report", dated December 1998. The findings from the OBG "Final Remedial Design Report" are outlined below and are included as part of this design report.

Town of Skaneateles, New York, Onondaga County, Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM), Community-Panel Number *360592-0001A,* dated June 1, 1982, was reviewed for areas of the 100-year flood and floodway boundary for Skaneateles Creek with respect to the proposed remedial activities. As discussed in the Flood Insurance Study for the Town of Skaneateles prepared by FEMA (1981), the floodplain consists of the channel of the creek plus adjacent areas, which are submerged by the 100-year flood. The floodway consists of the channel of the creek plus any adjacent floodplain area, which must be kept free of encroachment so that the 100-year flood can be carried without an increase of more than one foot in the flood height. The approximate location of the 100-year flood boundary transposed from the FIRM is shown on the attached Appendix C site plan drawings.

The limits of areas to be excavated (AECs) as presented in the AROD include areas within the floodplain and floodway. A portion of remedial activities to be implemented within the area north of the Main Plant Building (AEC-2) and within the South Plan Area (AEC-8) will take place within the 100-year flood boundary (AEC-2 approximately 0.5 acres and AEC-8 area of approximately 0.4 acres), based on the remedy presented in the AROD (NYSDEC, 2001). In addition, the 100-year flood boundary approaches the limits of the existing landfill (AEC-1).

The proposed project final site grading plans do not call for placement of additional fill above and beyond the current grades established at the site. To the contrary, proposed project plans will most likely lower the overall ground elevation in the vicinity of the creek increasing the flood plain area slightly. Current plans do not call for filling of the area around the flood plains above established grades. However, if small amounts of filling are required it is not expected that filling a small portion of the floodway will have a significant impact on the 100-year flood surface elevation or velocity of Skaneateles Creek. If necessary, a compensatory storage location can be provided in the vicinity of the southwest corner of the landfill AEC-1, once the landfill is removed. The work within the 100 year flood plain will be in conformance with the Town of Skaneateles' Flood Damage Prevention Law. Areas to be excavated and filled within the flood plain will conform to this law.

SECTION 4 EXCAVATION ACTIVITES

As described in Section 1, SMC is implementing a phased approach to remedial excavation activities at the site. The following section details the remedial action and phases of work for excavation of the landfill (AEC-1), North Plant (AEC-2), area in front of the Main Plant Building (AEC-7), and the South Plant (AEC-8) as shown on drawing D-12 in Appendix C. Demolition and remediation of the Main Plant Building (AEC-6) is addressed in Section 3.3 and Appendix P. Demolition and remediation of the Skaneateles Creek (AEC-5) is addressed in Section 3.4 and Appendices A & B. Excavation activities include: implementation, temporary groundwater collection and conveyance and emissions evaluation. Excavation sequencing is proposed to be performed in the following order:

1. AEC-1 Landfill
2. AEC- 8 South Plant
3. AEC-7 Area in front of the Main Plant Building
4. AEC-6 Main Plant Building
5. AEC-2 North Plant
6. AEC-5 Skaneateles Creek

The excavation staging, sequencing, section, limits and operation are shown on the construction plans (Appendix C) and further described in the technical specifications (Appendix M).

4.1 IMPLEMENTATION

Conventional construction equipment will be used to excavate the areas shown on drawing D-12 in Appendix C. Over 100,000 cy is expected to be excavated in total from the four AECs addressed in this report (AEC-1, 2, 7 & 8).

Excavation of the existing landfill will require removal of the temporary ground water collection trench and existing ground water monitoring wells (LFP-1, LFP-2, RP-1, RP-2, and RP-3) and relocation of electrical transmission lines. A portion of the existing drainage swales located along the southern portion of the existing landfill will be relocated during the excavation of the landfill. The relocated drainage swales will convey non-contact surface water to the Skaneateles Creek. The swales are designed to convey surface water from the existing landfill southerly with an associated 25-year, 24-hour rainfall event.

Excavation of the north plant area (AEC-2) will require removal of the temporary ground water collection trench, removal of some of the existing ground water monitoring wells and removal of some of the existing north plant foundation ruins and slabs.

Excavation of the area in front of the main plant (AEC-7) will require removal of the temporary storm water PCB abatement measure and removal of some of the existing foundation ruins.

Excavation of the south plant area (AEC-8) will require removal of the temporary storm water PCB abatement measure and removal of some of the existing foundation ruins and groundwater monitoring wells.

Material relocation activities will be performed, in accordance with the Storm Water Pollution Prevention and Erosion and Sediment Control Plan as defined in Section 4.8, to minimize the potential for airborne or waterborne transport from the site of Contaminants of Concern. Health and Safety procedures will be in accordance with the site specific Health and Safety Plan, see Section 8.

Water spray, or another approved method, will be used to prevent dust generation. Monitoring will be provided to confirm that unacceptable levels of dust generated from the movement and handling of soil do not migrate from the site. Further dust control

measures will be outlined in a site specific Dust Control Plan which will be prepared and submitted by the remediation contractor prior to initiation of work activities.

4.2 LIMITS OF EXCAVATION

Excavation will be performed as outlined in Section 4.1 above. Confirmatory sampling (Section 7.9 and SAP Appendix B) will be performed to verify the limits of excavation. Initial determination of the areas from which materials are removed will be performed by visual inspection. Areas observed to be highly stained or have a noticeable odor will be removed. Headspace samples will be taken in accordance with the Sampling and Analysis Plan. When impacted soil has been removed, as determined by visual inspection and headspace readings, confirmatory sampling will be conducted in accordance with the Sampling and Analysis Plan. The limits of excavation (sidewalls and bottom) will be determined by encountering 1) bedrock or 2) soils meeting SCG/SSRG's. Additional field sampling will be performed to verify EA Engineering Technologies 1994 RI limits of excavation for the sediment in the Skaneateles Creek (AEC-5).

4.3 DEWATERING/WATER DISCHARGE REQUIREMENTS

Since 1999, the Landfill (AEC-1) and North Plant (AEC-2) have been undergoing dewatering operations through the previously constructed dewatering system. Existing site dewatering indicates good communication between the dewatering system and the available site piezometers. The current recovery system is providing on average, 2,500gal/day from AEC-1 and AEC-2. A temporary construction dewatering system has been proposed as part of the Phase 1 Remedial Activities and includes the use of well points and/or open trench "trash" pumps. This system will be used as a supplement to the previously approved groundwater collection system for AEC-1 and AEC-2 as outlined in the Groundwater Treatment System Basis of Design Report (SPEC 1998) included as Appendix K. This system may be used to expedite the schedule and may improve the dewatering of AEC-1 and AEC-2. If this method is ineffective in dewatering the area, alternative means can be provided as per Technical Specification 02140 of Appendix M.

If the dewatering process becomes excessive or ineffective, with NYSDEC approval, a solidification/stabilization step may be introduced prior to removal of the material from the AEC.

Existing groundwater piping will be utilized as much as possible for the conveyance of the water to the construction water treatment system. A network of aboveground piping and hoses will be run to supplement the existing treatment system piping. SMC is proposing to utilize their own forces to perform construction and storm water management at the site. The contractor will be responsible for getting the water into the network of pipes provided by SMC and movement of the groundwater excavation extraction point(s) as excavation work progresses. SMC personnel will operate the temporary and permanent wastewater treatment facility including all environmental compliance testing.

Water generated from the excavation area will be routed through the existing water treatment facility and discharged to the stream through the existing SPDES permit point 02A. The use of the temporary construction water system (Outfall 02B) is currently under review due to the DOW's intention to add new monitoring parameters and discharge limits, primarily phosphate. Since the construction water system is currently not able to treat for phosphate, the future use of the system is unknown.

4.4 OFF-SITE GROUNDWATER MONITORING

To determine the effect of landfill remediation on off-site groundwater quality, SMC will review the existing EA Engineering Quarterly off-site monitoring well and private well sampling data. A copy of the January 2002 report is presented in Appendix I. As indicated in the EA report, three bedrock monitoring wells and three private wells are currently being sampled for 40 low detection limit volatile organic analytes (VOAs) and Target Compound List acid extractables, plus toluic acid and benzoic acid. These wells have been sampled on a quarterly basis for five plus years. This existing data will serve as the pre-remedial baseline. Data from subsequent sampling events will be evaluated to assess potential impacts of remedial activities on off-site groundwater quality.

As remedial activities progress, AEC-3 recovery wells will be installed and remediation of the shallow groundwater will commence. Sampling and analysis of groundwater data from these AEC-3 recovery wells and AEC-4 monitoring wells will establish a baseline for contaminant loading post AEC soil remediation for the AEC-3 shallow groundwater and AEC-4 deep groundwater (deep bedrock) zones. The AEC-3 recovery well data will establish contaminant levels, water levels, production rates and groundwater trends which will be used for evaluating attainment of cleanup objectives per the AROD.

4.5 SSRG METALS SOIL CAP

Depending on the location and volume of soils above SSRG levels that remain following excavation, the Department will direct that the soils will either be: removed for off-site disposal; capped in place; placed below finished grade and covered with clean fill; or subject to stabilization treatment prior to capping or isolation on-site. Any metals contaminated soils that fail the required tests for hazardous waste characteristics will be removed for off-site disposal at a permitted facility (AROD 2001).

A soil cap from the bottom up, the following components:

- A geotextile fabric for delineation of cap material from native soils.
- A barrier protection layer composed of site soil or imported material with a minimum thickness of 24 inches meeting site SCGs for above ground soil.
- A vegetated grass, paved or stone layer.

Since the generation of gases at the Site is not a concern, a gas venting layer is not included in the cover design. The placement of geotextile will easily identify separation between underlying soils and the cap material. As discussed in the OBG 1998 RD, a cutoff wall is not required to be part of the capped area.

The purpose of the original ROD stipulated cutoff wall in AEC-2 was to prevent migration of contaminated soils from AEC-2 to the creek which required only selective excavation of identified "hot spots" and not removal of soils with in this area to meet site SCG/SSRGs. Since the Focused Feasibility Study and Amended ROD call for the removal of soils and debris with in the AEC's to meet site established SCG/SSRG's the need to install the cutoff wall would be on a contingency basis, only. SMC would consult with the Department prior to installation of a cut off wall in AEC-2 for control of groundwater to/from the creek.

4.5.1 Slope Stability

The maximum proposed final grades of the cover system are one vertical on five horizontal (20%). The minimum proposed grade of the cover system is 1.3%. This slope would be located in the relatively flat portion of the existing asphalt drive in the vicinity

of the proposed ground water collection trench. Due to the presence of the existing asphalt drive, settlement in this area will not be a concern and a grade of 1.3% will be adequate to promote drainage while minimizing the quantity of fill which would have to be imported to achieve a steeper grade. Grades may vary based on the actual amount of material requiring containment. The area has been graded to provide positive drainage to Skaneateles Creek. Should slopes significantly increase as a result of an increase in material quantities, slope stability analyses will be performed to assess the ability of the slopes to remain stable when the load from the cover system is applied.

4.5.2 Settlement

It is estimated that the thickness of soil to be placed in the area north of the Main Plant Building will be a maximum of 3 ft. Based on this relatively small additional load to be placed in this area, settlement is not a concern within the area north of the Main Plant Building.

4.5.3 100-Year Flood Controls

To minimize erosion of the cover system to be constructed in the area north of the Main Plant Building during the 100-year flood, permanent erosion control measures will be constructed within the 100-year flood plain. Based on a mean velocity of 9.3 ft/sec given by the Town of Skaneateles, New York, Onondaga County, FEMA, FIRM, Community Number 360592, dated December 1, 1981, a turf reinforcement mat, capable of withstanding long- term velocities of up to 14 ft/sec, will be installed. Areas of the cover system to receive turf reinforcement mat is shown on drawing D-7 of Appendix C.

4.6 EXCAVATED MATERIALS AND DEBRIS, STAGING AND HANDLING

The impacted material will be excavated, staged for sampling, and placed into trucks or roll offs for off-site disposal at an appropriate facility, with the exception of drums. It is anticipated that there will be no segregation of construction and demolition materials and excavated soils for the purpose of disposal. The disposal facility acceptance and criteria for acceptance will be submitted to the NYSDEC prior to off-site disposal. Excavated drums will be removed, staged, sampled and disposed as described in the site Drum Removal and Management Plan, see Appendix G.

4.7 INSTITUTIONAL CONTROLS

To protect the integrity of the Site and the safety of those who come in contact with the area around the Site, institutional controls consist of a 6-ft high chain link fencing and warning signs. Long-term monitoring of site conditions and routine maintenance operations will be conducted as described in section 15. In addition, the Owner will obtain required deed restrictions, as outlined in the AROD. Deed restrictions will need to be filed with Onondoga County by SMC following completion of site remedial activities. Deed restrictions are anticipated to include restriction of land usage and prevention of ground water usage.

4.8 SITE CONTROLS

SMC has prepared a Storm Water Pollution Prevention and Erosion and Sediment Control Plan for implementation by the contractor during construction. The Plan is consistent with the application requirements set forth in the NYSDEC General Permit for Storm Water Discharges that are classified as " Associated with Construction Activities." The Plan is included as Appendix F.

4.9 ACCESS ROAD

The current plan is to have the construction traffic use the existing North and South driveways along Jordan Road. No additional access points on to Jordan Rd or Vinegar Hill Road are proposed at this time. Improvement and maintenance of existing site access roads will be required to be performed prior to initiation of construction activities with on going maintenance of these roadways through out the soil/debris removal phase of the project. On-site access roads, parking areas and staging areas are shown on the construction drawings in Appendix C.

4.10 EMISSIONS

The excavation and transport of contaminated soil may result in fugitive emissions of several organic compounds. Air monitors are located around the perimeter of the site for continuous monitoring. O'Brien & Gere Engineers (OBG) previously evaluated organic emissions from excavation activities during the original remedial design. The results of the evaluation are presented in the OBG "Final Remedial Design Report" dated December 1998. The emissions study by OBG was based on excavation of the landfill,

which was determined by OBG to have the highest VOC concentrations. The study showed that the maximum off-site 1-hour impact concentration of xylene would not exceed the SCG of 100,000 $\mu g/m^3$. The study further concluded that mitigative measures such as foam blankets, temporary wind partitions and/or other active control measure for reducing VOC emissions would not be necessary to lower emissions below the SCG if less than one-half of the landfill is open (OBG 1998).

It is anticipated that the landfill will have the greatest VOC concentrations, regardless of the additional areas of concern addressed by the proposed off-site disposal remedy. Air monitoring stations and the site meteorological station are shown on the Drawing D-3 in Appendix C and are further explained in detail in the Site Health and Safety Plan (HASP) in Appendix O. As stipulated in the Amended ROD, institutional and engineering control measures will be required to address vapor and dust emissions from the site. Appendix "O" of the HASP, addresses vapor monitoring, control and suppression. SMC will construct a vapor suppression skid which will be located on-site through out the project intrusive work. The skid will be capable of applying foam to the excavation or stockpile areas to mitigate odor or vapors emanating from these sources. Other action noted in the HASP will be instituted by SMC, as necessary. These actions may range from implementation of engineering controls (covers, foam suppressants, enclosures) to cessation of on-site activities.

4.11 BACKFILL AND GRADING

After excavation of the designated areas, the excavation will be backfilled with on-site and off-site material to the proposed grades shown on the construction plans in Appendix C. Additional grading, excavation and backfill will depend on the extent of the excavation required and the extent of a soil cap (if any).

Imported backfill will consist of soils meeting the fill material specification outlined in the project technical specifications. Imported backfill borrow sources will be required to demonstrate analytical testing result which meet NYSDEC TAGM 4046 requirements with the exception of metals which shall at a minimum meet site SSRGs. These results for several sources have been provided to the Department and approved obtained for their use. Refer to Appendix A of this document (Phase II AEC-7 and AEC-8 Work Plan Appendix B) for a list of borrowed sources and NYSDEC approval letter.

On-site fill materials, such as the AEC-1 clay cap and demolition concrete, which meet SCG's/SSRG's which are excavated but not removed from the AEC may be proposed for use as backfill within the AEC where the material was excavated. Other on-site materials outside of the AECs which are proposed as fill material on the site will be required to demonstrate compliance with NYSDEC TAGM 4046 requirements with the exception of metals which are to meet site SSRG's.

SMC will stipulate in the appropriate Appendix A work plans what on-site fill materials are proposed for reuse, the source of the materials, approximate quantity, the proposed testing requirements for acceptance of this material.

Soil fill will be compacted in loose lifts not to exceed 18-inches. Slope protection and erosion control measures will be implemented as described in Section 4.8.

SECTION 5 MAIN PLANT BUILDING DEMOLITION ACTIVITIES

The Main Plant building will be demolished as outlined in the approved Building Demolition Work Plan included as Appendix P.

The work necessary to complete the building demolition activities is divided into three Phases with the following corresponding activities:

AEC-6 Phase I – Demolition Preparation

- Collection and Analysis of Main Plant Building Materials of Construction
- Cleaning and Removal of Tanks and Process Piping.
- Abatement of Friable Asbestos-Containing Materials.
- Abatement of Non-Friable Asbestos-Containing Materials.

AEC- 6 Phase II – Demolition To Grade

- Lead Paint Abatement.
- Building Demolition to the Foundation.
- Demolition Debris Handling, Removal and Disposal.

AEC- 6 Phase III – Characterization of Slabs, Foundations, and Subsurface Conditions

- Core Basement and Sub-Basement Floor Slabs
- Collect and Analyze Subsurface Soil Samples
- Establish Appropriate Course of Action for Handling and Removal of Slabs and Soils

SECTION 6 OFF-SITE DISPOSAL

Generated soil, debris, drums, drum carcasses and other material, will be tested in accordance with the approved SAP, refer to Appendix B. The test results will be evaluated in accordance with the figures attached to the SAP. Material characterization and disposal will be performed in accordance with the process flows described in Figure 2 "Process Flow Diagram for Waste Characterization", Figure 3 "Soil and Debris Decision Tree Process Flow Diagram" and Figure 4 "Drum Handling Flow Diagram", refer to figures in Appendix B. Soil and debris which meets the requirements stipulated above as solid waste will be disposed of off-site at an appropriately approved 6 NYCRR Part 360 disposal facility. Materials , which meet the requirements stipulated above as a hazardous waste, will be disposed of at an appropriately permitted 6 NYCRR Part 373 Hazardous Waste Landfill, TSCA or RCRA Title C facility. The disposal facility, transportation, site modifications, traffic are addressed in the following sections.

6.1 DISPOSAL FACILITY

SMC has contracted with Waste Management Inc (WMI) to transfer off-site and dispose of generated soil and debris at appropriately permitted disposal facilities. SMC and the selected remedial contractor will perform the required testing and meet other requirements of the WMI accepting facility with regards to sampling and record keeping.

Excavated hazardous waste will be sent to an approved 6 NYCRR Part 373 landfill and non characteristic waste will be disposed of at an approved 6 NYCRR Part 360 landfill. The proposed solid waste disposal facility is the WMI landfill at High Acres. The majority of the hazardous waste generated from the site is anticipated to be manifested through and/or disposed of at WMI's facility in Model City. The actual WMI hazardous waste disposal facility will be based upon the type and characteristics of the hazardous waste. The selected facilities (solid waste and hazardous waste) permits and typical

profiles are included in the Appendix C of the Phase 1 work plan attachments. RCRA, TSCA and LDR disposal requirements and outcomes are further defined and described in the SAP, see Appendix B.

6.2 TRANSPORTATION AND INFRASTRUCTURE

Covered dump trucks or roll off trailers will be used to transport the material from the site to the disposal facility. To the extent possible material will be excavated, staged, tested and placed into trucks for transport to the disposal facility. Infrastructure modifications will be needed for off-site disposal activities. These infrastructure modifications are presented in the Appendix D Phase 1 Work Plan and include construction of staging areas for staging of materials prior to removal from the site. The existing network of on-site roadways will be used for transportation of material on site. Limited on-site road improvements and routine road maintenance will be performed as needed. SMC's selected waste hauler/disposal company (Waste Management Inc) will be responsible for providing properly permitted vehicles for transportation of hazardous and non-hazardous wastes.

6.3 TRUCK TRAFFIC

A traffic study for off-site disposal was performed for the SMC Skaneateles Falls Site area. The final report issued by Transportation Concepts, Inc. of Schenectady, NY was submitted with SPEC Consulting's Final Focused Feasibility Study for Off-site Disposal, May 18, 2001. The intersections in the vicinity of the site were evaluated in addition to the intersection of Jordan Road and Route 5, west of Skaneateles Falls. Refer to Figure 3 in Appendix I. The resulting analysis suggests that due to roadway deficiencies, added cost, enforcement and significant added travel time along various other routes that the preferred haul route will include the Jordan Road driveways which are more adequately suited for entering and exiting truck traffic for this associated study area (TC 2001).

The traffic study determined that the off-site disposal project at the SMC site would not have a significant impact on the adjacent transportation system based on the following access/egress and route configuration. According to the study, the SMC haulers would use the Jordan Road North/South SMC site driveways. Loaded trucks would exit north along Jordan Rd. to Hamilton Road, then left at NYS 5 continuing west making a right

onto County Route CR31b, continuing northwest to a right onto NYS 31 to I-90, exit 40. However, the actual route will be north along Jordan Rd. to Hamilton Road, then left at NYS 5 continuing west making a right onto Turnpike Road, continuing northwest to a right onto NYS 34 to I-90, exit 40. Unloading haulers would be expected to use the reverse path to return to the SMC site. The Traffic Study is included in Appendix I.

To mitigate site generated truck traffic it is anticipated to allocate an on-site area for truck circulation and queuing. Ground mounted construction signs would be installed at each approach to all the selected driveways.

SECTION 7 SAMPLING AND ANALYSIS PLAN (SAP)

Environmental sampling and analysis will be performed to characterize the soil and debris removed from the various AEC's after the material is excavated. Initial sampling and analysis for waste characterization is to be performed. The purpose of this sampling and analysis is to determine if the soil and debris is ignitable and therefore a listed hazardous waste for F003 and U239. Further waste characterization will than determine if the waste is characteristically hazardous and lastly if the waste is hazardous for PCBs. The waste characterization analysis will be used to determine the appropriate off-site disposal facility for the waste.

At the completion of excavation activities within an AEC, confirmatory end point sampling and analysis will be used to verify that site SCG/SSRG's have been achieved at the excavation limits.

The specific sampling methods, sample frequency and QA/QC procedures are outlined below. The requirements stipulated in the SAP will be to satisfy the NYSDEC requirements outlined in D. Touhy's letter to SMC dated October 13, 2000 (see Appendix L) and the sampling requirements of the selected disposal facility. The SAP is included in Appendix B. The SAP addresses the following items:

- Sampling Procedures for Soil/Debris/Liquids and Drums
- Characteristic Sampling and Analysis
- Ignitability – SW 846 Method 1030
- Toxicity – TCLP – EPA Method 1311
- Corrosivity – EPA Method 9040 (for material failing the paint filter test)

- Reactivity – Reactive CN and Sulfide Tests
- Sampling Frequency and Protocol
- Re-Sampling of Material
- Confirmatory Sampling
- Skaneateles Creek Sediments AEC-5

SECTION 8 HEALTH AND SAFETY

The Health and Safety Plan (HASP) was previously submitted and approved by the NYS DEC and DOH. The HASP is included as Appendix O (Volume IV). The plan outlines the necessary health and safety issues including, but not limited to:

- Health and Safety Risks
- System Maintenance
- Site Control
- Decontamination
- Emergency Response
- System Operation Safety
- Community Monitoring

The SMC HASP will be used for all contractors, subcontractors, vendors and visitors working at the site.

8.1 SAFETY CONSIDERATIONS

The selected contractor(s) and their subcontractor(s) will be responsible for following the existing site HASP as site safety minimum requirements. Site contractors or their subcontractors may elect to create their own Specific Health and Safety Plan which must have as the minimum requirements those outlined in the SMC HASP. For example, subcontractors performing building demolition work may have work specific health and safety plans for the tasks they are performing.

8.2 OFF-SITE HEALTH AND SAFETY MONITORING

Noise control, dust and air monitoring, and community impact topics are addressed below. These items are also addressed in the Construction Quality Assurance Plan (CQAP) attached in Appendix E.

8.2.1 Noise Control

Noise studies will be conducted during start up activities to gage the effect on the surrounding community in addition to the effect on the workers. Noise will be associated with the excavation, backfilling and demolition activities as well as noise from the transportation vehicles. Appropriate barriers and noise control measures will be instituted if the noise study determines they are necessary.

8.2.2 Dust Control and Air Monitoring

Dust and air monitors are located around the perimeter of the site for continuous monitoring. Organic emissions from excavation activities were previously evaluated by O'Brien & Gere Engineers (OBG) during the original remedial design. The results of the evaluation are presented in the OBG "Final Remedial Design Report" dated December 1998. Excerpts from this report are included in Appendix N. The emissions study by OBG was based on excavation of the landfill, which was determined by OBG to have the highest VOC concentrations. The study showed that the maximum off-site 1-hour impact concentration of xylene would not exceed the SCG of 100,000 $\mu g/m^3$. The study further concluded that mitigative measures such as foam blankets, temporary wind partitions and/or other active control measure for reducing VOC emissions would not be necessary to lower emissions below the SCG if less than one-half of the landfill is open (OBG 1998). It is still expected that the landfill will have the greatest VOC concentrations, regardless of the additional areas of concern addressed by the proposed off-site disposal remedy. Therefore, the current dust and air monitors should be sufficient for air monitoring at the site during off-site disposal activities. The Amended ROD calls for implementation of administrative and engineering controls, if necessary, to abate emissions. Additional control measures will be provided during construction, if required.

8.2.3 Community Impacts

The excavation and transportation activities are not expected to have a significant impact on the community. Excavation activities have previously been completed successfully at the site with minimal impact. In addition, noise impacts will be studied and noise will be controlled, if necessary. The traffic study completed by Transportation Concepts evaluated traffic impacts on the surrounding area and concluded that there would be no significant impact to the adjacent transportation system. The results of the study are attached in Appendix I. The impacts on the surrounding community will continue to be monitored, by SMC, during site activities to ensure minimal disturbance within the community.

SECTION 9 PERMIT APPROVALS PLAN (PAP)

The Permit Approvals Plan (PAP) identifies the required permits, approvals, specific application requirements and schedules for obtaining the required approvals. The following PAP will be as outlined in the approved O'Brien & Gere Engineers (OBG) "Final Remedial Design Report", dated December 1998. Since the CAMU treatment cell is not part of the off-site remedial alternative proposed in the Amended ROD all permit requirements associated with the construction of the landfill are not included in this Permit Approvals Plan.

The work scope as currently defined will require no additional permits for the performance of the soil/debris and drum removal activities detailed in this project report.

9.1 CLEAN WATER ACT SECTION 404 AND RIVERS AND HARBORS ACT NATIONWIDE PERMIT PROGRAM

9.1.1. Requirements

The United States Army Corps of Engineers (ACOE) evaluates applications for permits for activities regulated under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. Section 10 of the Rivers and Harbors Act prohibits the unauthorized obstruction or alteration of any navigable water of the United States. Section 404 of the Clean Water Act regulates the discharge of dredged or fill material to waters of the United States, including wetlands. Excavation of sediment from Skaneateles

Creek would be regulated under Section 10 of the Rivers and Harbors Act. The proposed limits of the north plant, south plant area and in front of the Main Plant Building, and excavation of the existing landfill are outside the limits of Site wetlands. However, should construction activities be required within wetland areas on the Site, activities would be regulated under Section 404 of the Clean Water Act.

If required, permitting for excavation in the creek and construction in a wetland would likely be regulated under 33 CFR Part 330, Nationwide Permit Program. Nationwide Permits (NWPs) are general permits established for specific types of activities. General permits may be issued by the ACOE to authorize these types of activities with little delay and paperwork, provided all the terms and conditions of the NWP listed in 33 CFR Part 330 are met. A NWP exists for cleanup of hazardous and toxic waste, and may be issued by the Corps to satisfy the permit requirements of Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act. The NWP for cleanup of hazardous and toxic waste is applicable for "specific activities required to effect the containment, stabilization, or removal of hazardous and toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority," provided the permittee notifies the district engineer of the ACOE.

9.1.2. Schedule for obtaining the required approvals

Prior to the excavation of sediments from Skaneateles Creek, Final Remedial Design documents will be submitted to the ACOE as part of a pre-construction notification required for Nationwide Permit No. 38, Clean up of Hazardous and Toxic Waste. The Nationwide Permit regulations provide for a required 30-day review period for the ACOE. It is not anticipated that construction activities will be required within wetland areas on the Site.

9.2. NEW YORK STATE USE AND PROTECTION OF WATERS

9.2.1. Requirements

New York State regulations in 6 NYCRR Part 608 require a permit for disturbance of a protected streambed or banks, or excavation in or fill of a navigable water. Since this project will be performed pursuant to an Amended Order on Consent with the State of

New York, no state permits will be needed for remedial activities. However, the substantive requirements of the regulation will be satisfied.

9.2.2. Schedule for obtaining the required approvals

Notice will be given by the NYSDEC Bureau of Western Remedial Action and to the NYSDEC Divisions of Water and Fish and Wildlife of commencement of work. Since this project will be performed pursuant to an Amended Order on Consent with the State of New York, no state permits will be needed for remedial activities. However, the substantive requirements of the regulation will be satisfied.

9.3. NEW YORK STATE FRESHWATER WETLANDS

9.3.1. Requirements

In July of 1997 O'Brien & Gere performed a wetlands delineation report for the Skaneateles Falls Site to evaluate potential impacts of remedial activities. The wetland/upland boundaries were identified in accordance with the *Corps of Engineers Wetlands Delineation Manual* (ACOE, 1987). The federal methodology requires three criteria to be met for an area to be identified as a wetland: a dominance of hydrophytic vegetation, the presence of hydric soils, and the presence of wetland hydrology. The identified wetland boundaries were identified in the field with surveyors tape at the time of the delineation and were subsequently located by planimetric survey by C.T. Male Associates, P.C., a New York State licensed surveyor. Surveyed locations of delineated wetlands are shown on drawing D-2 in Appendix C.

The O'Brien & Gere wetlands delineation identified two wetland areas on the Site, with one located southwestern corner of AEC-1, and the second north of the main plant building. The work proposed herein may necessitate work within 100 feet of the delineated area adjacent to AEC-1. New York State regulation 6 NYCRR Part 663 requires a permit for actions occurring in or within 100 ft of a freshwater wetland greater than 12 acres in size. Given the small area of the on-site wetlands, there is no requirement for permitting since the remedial efforts will be performed pursuant to an Amended Order on Consent with the State of New York, no state permits will be needed for remedial activities. However, in the event that remedial activities will impact the wetlands, the NYSDEC Division of Fish and Wildlife will be notified as a courtesy measure.

As shown on the contract drawings, the preferred limits of excavation for the existing landfill are within 100 ft of a fresh water wetland. For construction activities within 100 ft of freshwater wetland areas on the Site, SMC will also make an effort to maintain compliance with the substantive requirements of the sited regulation, will be considered. These regulations which states that actions occurring in or within 100 ft of a designated freshwater wetland:

- Be compatible with preservation, protection, and conservation of wetland and benefits
- Result in no more than insubstantial degradation to, or loss of, any part of the wetland.
- Be compatible with public health/welfare.

Should the wetlands be impacted, a reasonable and prudent effort will make to reestablish the area to original condition.

9.3.2. Schedule for obtaining the required approvals

Since this project will be performed pursuant to an Amended Order on Consent with the State of New York, no state permits will be needed for remedial activities. However, the substantive requirements of the regulation will be satisfied.

9.4. NEW YORK STATE FLOODPLAIN MANAGEMENT

9.4.1. Requirements

New York State regulations in 6 NYCRR Part 500 require a permit for development within an area of special flood hazard *(the,* 100-year floodplain). Since this work will be performed pursuant to an executed Amended Order on Consent with the State of New York, no state permits will be needed for remedial activities. However, the substantive requirements of the regulation will be satisfied.

For low permeability cover construction within the 100-year floodplain in the area north of the Main Plant Building, compliance with the substantive requirements of these regulations will be necessary:

- Construction will be adequately anchored to prevent flotation, collapse, or lateral movement resulting from hydrodynamic and hydrostatic loads.

- Materials of construction will be resistant to flood damage.
- Construction methods and practices will minimize flood damage.
- Encroachments within the floodway, if any, will not result in increased flood levels within the community during a 100-year flood, as demonstrated through hydrologic and hydraulic analyses. The floodway is defined as the channel and adjacent land areas which must be kept free of encroachment in order that the 100-year flood can be carried without a cumulative increase in flood height of more than 1 ft at any point.

9.4.2. Schedule for obtaining the required approvals

Since this project will be performed pursuant to an Amended Order on Consent with the State of New York, no state permits will be needed for remedial activities. However, the substantive requirements of the regulation will be satisfied.

9.5. TOWN OF SKANEATELES

9.5.1. Requirements

Per 6 NYCRR 375-1.7, work performed under an Amended Order on Consent with NYSDEC under the Inactive Hazardous Waste Disposal Site Remedial Program (6 NYCRR Part 375) does not require local permits or approvals. However, work within the 100 year flood zone will be in conformance with the Town of Skaneateles' Flood Damage Prevention Law. SMC's work within this area will be excavated and filled to conform to this requirement. The substantive requirements of the regulation will be satisfied.

9.5.2. Schedule for obtaining the required approvals

Although local permits and approvals are not required, a copy of the Final Remedial Design documents will be provided to the Town of Skaneateles for informational purposes.

SECTION 10 CONSTRUCTION DRAWINGS

A list of project construction drawings has been included in Appendix C to reflect the required components currently included in the design. The drawings have been separately bound.

SECTION 11 TECHNICAL SPECIFICATIONS LIST

Project technical specifications have been included in Appendix M to reflect the required components currently included in the design. This list has been developed in accordance with the Construction Standards Institute (CSI) format.

SECTION 12 ANTICIPATED CONSTRUCTION SCHEDULE

An anticipated construction schedule has been developed for the overall project soil remediation phase including soil / debris excavation from AEC-1, 2, 5, 6, 7 & 8, site backfilling, building demolition, site restoration and AEC-3 recovery well installation. The attached schedule (see Appendix D) will be adjusted as design activities progress, comments are received and approvals are granted. Remedial activities associated within individual AECs are included in Appendix A. The estimated time for construction of these components is based upon experience with similar projects, estimates of production rates and the time required for various project components of construction, sampling and analysis.

The contract documents require that the contractor maintain and periodically update a construction schedule for completion of the components of construction. The selected contractor may submit to SMC a schedule which differs slightly from the anticipated estimated schedule in construction sequence or duration. The estimated schedule does not include time associated with delays due to outside forces such as inclement weather, labor actions, or delays in regulatory approvals. The project schedule will be updated monthly during construction activities and quarterly thereafter.

SECTION 13 CONSTRUCTION QUALITY ASSURANCE PLAN

The Construction Quality Assurance Project Plan (CQAPP) is attached as Appendix E.

SECTION 14 CONTINGENCY PLAN

The Contingency Plan will be in accordance with Appendix O of the HASP, refer to Appendix O (Volume IV) of this document and Section 12.0 of the NYSDEC approved OBG "Final Remedial Design Report" dated December 1998.

SECTION 15 REMEDY MONITORING PLAN

To evaluate the effectiveness of the remedial design in meeting the Amended ROD stipulated remedial objectives, a monitoring program will be implemented within 60 days of completion of the remedial construction. As stipulated in the Amended ROD, the monitoring objectives are focused on shallow and deep groundwater impacts once impacted surficial soils and debris have been removed from the site. The 1996 ROD remedy for AEC-3 (shallow groundwater) and AEC-4 (deep groundwater) should not change significantly and will be implemented in accordance with the NYSDEC approved groundwater remedial design.

The objectives of the remedy monitoring include:

- Extraction and treatment of groundwater from AEC-3 (shallow groundwater)
- Contaminant reduction for site COCs in AEC-3 (shallow groundwater) as a result of source removal and groundwater extraction.
- Monitoring of AEC-4 (deep groundwater) for contaminant reduction for site COCs as a result of source removal and natural attenuation.

15.1 EXTRACTION & TREATMENT

A Remedial Design Plan for extraction and treatment of AEC-3 (shallow groundwater) was approved by the NYSDEC (SPEC Consulting 1998) which calls for the installation of shallow/intermediate groundwater recovery wells for surficial soils and shallow bedrock. To date, several of the recovery wells (RW #6, 8, 9, & 12) have been installed

as part of previous site construction remedial activities. The remaining wells (RW 1-5, 7, & 11) will be installed as excavation activities at the various AEC's are completed. The location and effectiveness of these wells will be evaluated and if necessary modified (i.e. location and number) as site soils remediation work progresses.

15.2 GROUND WATER MONITORING

The ground water monitoring program, detailed in the Ground Water Recovery Wells 100% Basis of Design Report (SPEC, 1998), specifies field sampling activities, analytical program, assessment, and reporting tasks for ground water monitoring. Ground water monitoring activities will be performed in accordance with NYSDEC requirements, protocols, and guidance. The Ground Water Recovery Wells 100% Basis of Design Report (SPEC, 1998) is included as Appendix K.

It is anticipated that the ground water monitoring program will consist of the following activities:

Ground water elevation monitoring to evaluate the ground water flow characteristics for the zone of capture for the intermediate zone ground water recovery system.
Ground water quality sampling to assess the aerial extent of VOCs and SVOCs in the site intermediate zone to evaluate the effectiveness of the remedy.

The frequency of the ground water monitoring activities are specified in the approved Ground Water Recovery Wells 100% Basis of Design Report (SPEC, 1998).

Results of the ground water monitoring program will be documented in an annual report. The report will include a summary of the data and discussion of the trends and seasonal variations, if any, and an assessment of effectiveness of the recovery system including, if appropriate, modifications, alterations or additions to the recovery system.

SECTION 16 REFERENCES

EA 1994. EA Engineering, Science, and Technology, Final Remedial Investigation Report, Volumes 1 and 2, Stauffer Management Company Site Skaneateles Falls, NY. EA Engineering, Science, and Technology, Newburgh, NY, August 1994.

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SKETCH #1

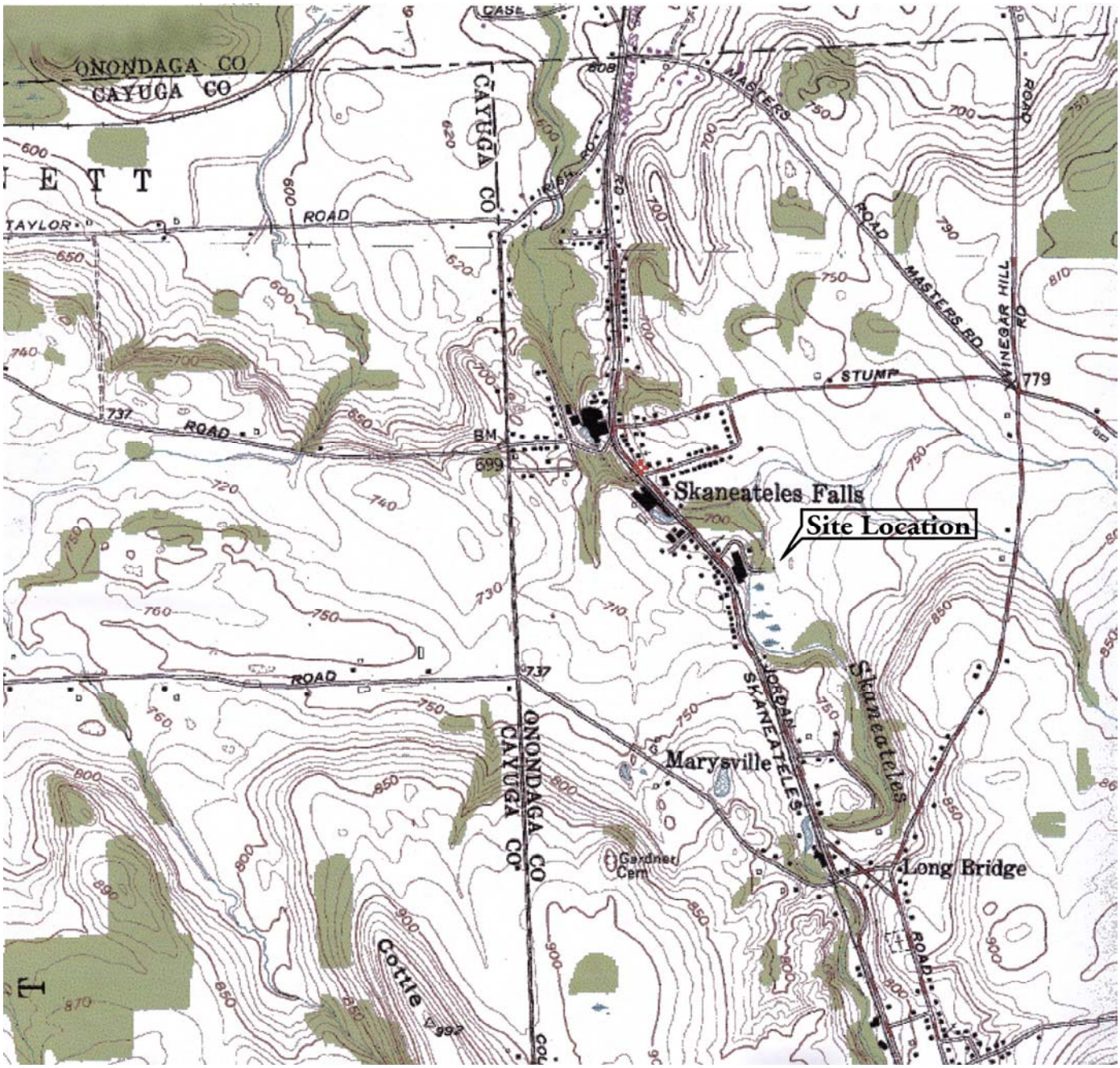
SMC-SKANEATELES FALLS SITE

SITE: SKANEATELES FALLS, NY
CLIENT: STAUFFER MANAGEMENT COMPANY, LLC
CLIENT JOB#: 99-004
DESCRIPTION: SITE LOCATION MAP
SHEET#: SKETCH 1

SPEC CONSULTING, LLC
SPEC Consulting, LLC
18 Computer Drive West
Albany, NY 12205

Phone: 518.438.6809
Fax: 518.438.8527

PREPARED BY: S. THOMAS
DATE: 6/17/02
REVIEWED BY: J. BURKE
DATE: 6/17/02
SOURCE: USGS QUADS (7.5 MIN SERIES)



TABLES