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TOWN OF CARMEL
ENVIRONMENTAL CONSERVATION BOARD



60 McAlpin Avenue
Mahopac, New York 10541
Tel. (845) 628-1500 - Ext. 190
www.ci.carmel.ny.us

BOARD MEMBERS

Edward Barnett
Vincent Turano
John Starace

ENVIRONMENTAL CONSERVATION BOARD AGENDA

OCTOBER 5, 2017 – 7:30 P.M.

EXTENSION OF WETLAND PERMIT

<u>APPLICANT</u>	<u>ADDRESS</u>	<u>TAX MAP #</u>	<u>COMMENTS</u>
1. Smajlaj, Zef	803 South Lake Blvd	75.42-1-39	Planning Board Referral (Construct Bathhouse)

SUBMISSION OF AN APPLICATION OR LETTER OF PERMISSION

2. Central Hudson Gas & Electric Corp.	340 Bullet Hole Rd	53.17-1-38	Site Plan (Planning Board Referral)
3. Pulte Homes – Lot 5	Terrace Drive	55.14-1-11.3	Discussion

MISCELLANEOUS

4. Minutes – 09/07/17



Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

18 Computer Drive East
Suite 203
Albany, NY 12205
T: 518.459.3252
F: 518.459.3284
www.maserconsulting.com

September 9th, 2017

Town of Carmel
Planning Department
Town of Carmel Town Hall
60 McAlpin Ave
Mahopac, NY 10541

In response to the initial comments offered by various Town offices after their review of the S-M Line Gas Distribution Reinforcement Project, Maser Consulting responds with the following information.

Town Code Enforcement Office:

The comments noted below correspond to comments received from the Code Enforcement Officer through memos, in-person meeting and phone conversations:

Memo dated June 14, 2017

No Comments.

Town Engineer's Office:

The comments noted below correspond to comments received from the Town Engineer through memos, in-person meeting and phone conversations:

Memo dated June 21, 2017:

General Comments:

1. Permits from the following would appear necessary:
 - a) New York State Department of Transportation
 - b) Putnam County Highway (Highway work permit)
 - c) New York State Department of Environmental Conservation (wetlands and, stormwater)
 - d) Town of Carmel Highway (Driveway and work within right of way)
 - e) Town of Carmel Environmental Conservation Board (wetlands)

Response: *We agree with this list. Central Hudson will be applying to various agencies in October to obtain necessary permits. Copies of those permits, along with a comprehensive list of permit expiration dates will be supplied to the Town prior to construction. It is anticipated all permits will be in place by the end of 2017.*

2. Should any public improvements be deemed necessary as part of the development of the tract, a Performance Bond and associated Engineering Fee must eventually be established for the work. This includes erosion and sediment control and permanent stormwater management practices.



Response: *Central Hudson will prepare a Letter of Undertaking in lieu of a Construction Performance Bond. Various inspection fees will be paid to the Town. Central Hudson will require notification of Inspection Fee amounts so they may be paid.*

Pressure Regulator System – 340 Bullet Hole Road:

1. Additional silt fence should be provided along the west and south sides of the property.

Response: *Additional Site Fence has been added to revised plans.*

2. The applicant does not address stormwater runoff from the site. There is concern about additional runoff entering onto Bullet Hole Road.

Response: *Under NYSDEC's GP-0-15-002 permit, Appendix B Table 1, this project is not required to address post construction stormwater management. However, we propose the use of open graded stone at the pressure regulator station to help infiltrate stormwater runoff that may be generated from the site.*

3. The applicant now proposes work in the Town of Carmel Right of Way (R.O.W.) and therefore, approval is required from the Town of Carmel Highway Department.

Response: *Central Hudson and Maser Consulting has met separately with the Town Highway Department to address their concerns. The project will be applying for Town road opening permits.*

4. Available sight distances at each driveway location should be specified on plan. Any clearing along the edge of the roadway R.O.W. that may be necessary to assure appropriate sight distances are provided, should be identified.

Response: *Site Distance information will be provided.*

5. Driveway cross-sections should be added to the plan.

Response: *Typical driveway cross section details have been provided on revised plans.*

6. It is recommended that a gate be provided at the entrance to deter unwanted vehicle access to the site.

Response: *During in-person meetings with various Town offices, this comment was retracted by the Town. Please note, there will be a gate further into the site to allow vehicles to clear the roadway and park before they encounter the gate.*

7. All re-grading required to accomplish the intended development must be shown.

Response: *Grading has been provided on revised plans.*

8. Additional screening plants should be provided along the west side of the property.



Response: *During in-person meetings with various Town offices the Town Planner stated the proposed plantings were sufficient. No further plantings have been provided.*

9. All plantings shall be installed per § 142 of the Town of Carmel Town Code.

Response: *Notes have been added to the revised plans to reflect this comment.*

Gas Line Installation:

1. A detailed traffic safety plan should be provided for the project. Copies should be provided to the Putnam County and Town of Carmel Highway Departments for review/approval.

Response: *A Traffic and Detour Plan have been provided in revised plans. This plan will be submitted to NYSDOT and Putnam County as part of their permitting process.*

Town Planning Office:

The comments noted below correspond to comments received from the Town Planner through memos, in-person meeting and phone conversations:

Memo dated June 28, 2017

Site Plan Review Comments:

1. Highway work permits will be required for the gas line installation from the NYSDOT, Putnam County Highway Dept. and Town Highway Dept.

Response: *Central Hudson will be applying to various agencies in October to obtain necessary permits. Copies of those permits, along with a comprehensive list of permits expiration dates will be supplied to the Town prior to construction. It is anticipated all permits will be in place by the end of 2017.*

2. Details of the proposed evergreen landscaping at the regulator station is required.

Response: *Tree Planting details, and a revised planting plan have been provided on revised plans.*

3. It is recommended that vinyl slating be installed in the chain link fence to screen the equipment. What type of gate is proposed?

Response: *During in-person meetings with various Town offices, this comment was retracted by the Town. Vinyl Slating would create an issue for Central Hudson's security inspections. A black coated chain link fence will be provided instead of slats. Regulator Station equipment will be painted a dark green color to help mitigate visual impacts of the site. A double-leaf, chain-link swing gate is proposed.*



4. It appears that razor ribbon or barbed wire is proposed along the top of the fence. As the site is located within a residential area, are other less menacing security measures available?

Response: *Barbed Wire is no longer proposed. Fencing will be increased from 6-ft to 8-ft tall to mitigate security concerns.*

5. Is any site lighting proposed?

Response: *No, site lighting is not proposed.*

6. Clarify if the operation of the regulator station will routinely produce odor, noise or emissions of any type.

Response: *No routine emissions will be produced by the new regulator station. Similar to the regulator station located at Stillwater Road in the Town of Carmel, the new regulator station may produce an intermittent, low-level “whooshing” hum sound during cold winter periods when natural gas throughput is high. A high-efficiency, low-sound natural gas heater at the new regulator station may operate intermittently during similar cold winter periods, expelling its exhaust from an exhaust stack within the regulator station.*

Environmental Review Board:

The comments noted below correspond to comments received from the Environmental Review Board on July 20th, 2017. The 5-member ECB lacked a quorum due to two members being unable to attend. Therefore, the ECB held a semi-informal meeting for our team to discuss the project and receive comments. However, the ECB was unable to take any official actions without a quorum in place.

ECB Meeting on July 20, 2017:

1. The project’s SWPPP and notes on the Plans need to include provisions for Spill Kits (multiple) to be kept on the construction site at all times.

Response: *Notes concerning Spill Kits have been provided on revised plans and within the revised SWPPP.*

2. The project’s SWPPP and notes on the Plans need to include provisions for Equipment Fueling Plans.

Response: *Notes concerning Fueling Plans have been provided on revised plans and within the revised SWPPP.*

3. In the event equipment is stored overnight, in any area not on asphalt or protected from spills, it will need to be placed on top of a “poly” mat to protect from leaks.

Response: *Notes concerning this requirement have been provided on revised plans. Please note it is the intent of this project to typically mobilize and demobilize the work zone at the end of each day. Construction Equipment should*

typically be stored in the Staging Area on existing pavement although any equipment that is stored along the project route will be stored on poly sheeting.

4. The Construction Sequence Plan provided in the SWPPP needs to be revised to provide more detail, including approximate dates for construction and how the gas line will be constructed (linear or varying sections). The construction sequence also needs to be provided to the ECB as its own standalone document.

Response: *Construction Sequence Plan has been revised in the SWPPP. A stand-alone copy is also provided in this submittal. Please note, at the Pre-Construction meeting the Contractor (yet to be retained) will provide a construction schedule; at such time, the Construction Sequence Plan will be updated.*

5. The applicant will need to provide a finalized SWPPP to the ECB with Town Engineer signed approval.

Response: *During in-person meetings with various Town offices this comment was discussed. It is our understanding this is not required for the ECB to accept our wetland permit application. It is however required before the ECB signs the permit. We will coordinate with the Town Engineer and other involved boards so a finalized SWPPP is prepared before the ECB issues their wetlands permit.*

6. The ECB will need Certifications of Clean Fill to be used on site.

Response: *A note will be added to the plans instructing the contractor of this requirement. Certifications will be provided during construction.*

7. All other environmental permits need to be completed and evidence of permits provided to the ECB.

Response: *During in-person meetings with various Town offices, this comment was discussed. It is our understanding that other environmental permits are not required for the ECB to accept our wetland permit application. However, it is required before the ECB issues their permit. We will coordinate with other permitting agencies to provide proof the project has begun a permitting process so ECB can accept our application. Once other environmental permits have been received, a copy of each will be forwarded to the ECB.*

8. All conditions the ECB places on the project must be reflected in the form of notes on the Final Plans.

Response: *To date, ECB comments have been added to revised plans. Any further conditions from the ECB will also be added to plans.*

9. The ECB requires silt fencing to be placed in front of construction path and then inspected for proper installation. The contractor will not be allowed to move forward with excavation and construction until silt fence is installed properly and inspected.

Response: *Notes concerning silt fence inspections have been added to the SWPPP.*



Town Highway Department:

The comments noted below correspond to comments received from the Superintendent of Highways through e-mails and in-person meetings:

Meeting Held on Aug 22, 2017

1. Culverts and how you plan work around them – additional details will be required;

Response: *Work around most culverts will be by open-cut. Details have been provided on revised plans for culvert crossings. Also, various tables have been provided on revised plans to show locations of known culvert crossings, including the municipal ownership (Town, County, State) of each.*

2. Road crossing permits (note there are 17 which you have identified on the drawings, however we count ~ 14 more once you start adding the various stubs).

Response: *Central Hudson will be applying to various agencies in October to obtain necessary permits. A table has been provided in revised plans to inventory and show locations of road crossings.*

3. Road bonds;

Response: *Central Hudson will prepare a Letter of Undertaking in lieu of a Construction Performance Bond. The Letter of Undertaking will stay in effect 1 calendar year after the project is completed, as requested by the Superintendent of Highways.*

4. How road work is being performed and the associated restoration;

Response: *The project will generally be constructed in a linear fashion, starting at Bullet Hole Road and ending at NYS Route 6. Full restorations (pavement or turf) are proposed. This includes a full asphalt section (Top, Binder, Base & Subbase) at all road openings. As discussed in the meeting, Wixon Pond Road will be restored with Binder Asphalt only. The Road will be paved (or overlaid) by Town forces at a later date. Central Hudson and the Town Highway Department will determine a mutually acceptable fee that Central Hudson will submit to the Town Highway Department in lieu of Central Hudson completing this task.*

5. Staging area(s) location(s)

Response: *The Staging area for this project is located at 870 NYS Route 6. No Staging areas are proposed along the project limits.*



6. Protection and management of traffic (no plan has been provided). The Town needs to receive a traffic plan that includes any detours (minor/major) or road closures with all the appropriate signage that would be provided.

Response: *A Work Zone Traffic Control Plan ("Details") was provided in previous project plan submittals. However, during the meeting it was noted the Superintendent of Highways did not receive a set of project plans to review. This submittal includes an extra set of plans specifically for the Superintendent of Highway, and now includes a Detour Plan, Road Closure Plan and Sign Text Detail Plan along with the pre-existing Work Zone Traffic Control Plan ("Details").*

7. A Noise mitigation plan will be required.

Response: *Noise mitigation notes have been added to revised plans.*

END



Engineers
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18 Computer Drive East
Suite 203
Albany, NY 12205
T: 518.459.3252
F: 518.459.3284
www.maserconsulting.com

Intersection Sight Distance Analysis

Project: S-M Gas Line

Location: Regulator Station Driveway onto Bullet Hole Road

Town: Town of Carmel

Code: Requires 200-ft of Sight Distance per Town's Driveway Permit

1.0 Sight Distance Methodology

A typical intersection is divided into areas between each leg known as quadrants. There may be three quadrants, such as for a "T" intersection, or four, such as for a four-legged intersection. Sight triangles are the specified areas along an intersection's approach legs and across the included corners (see Figures 1.1 per AASHTO, Green Book, 2001). These areas should be clear of obstructions that might block a driver's view of conflicting vehicles or pedestrians. The two types of sight triangles are approach sight triangles and departure sight triangles (per AASHTO, Green Book, 2001)

Approach sight triangles provide the driver of a vehicle approaching an intersection an unobstructed view of any conflicting vehicles or pedestrians. These triangular areas should be large enough that drivers can see approaching vehicles and pedestrians in sufficient time to slow or stop and avoid a crash. Approach sight triangles are illustrated in Figure 1.1.

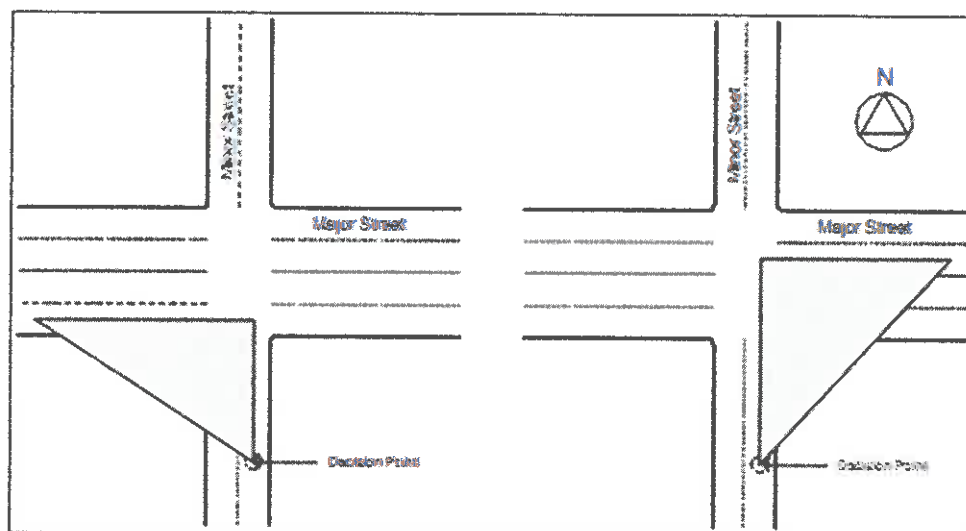


Figure 1.1 – Typical Sight Triangles

2.0 Intersection Location:

As part of the S-M Gas Line Distribution Reinforcement project, a gas regulator station will be built at 340 Bullet Hole Road. The intersection to be analyzed is a proposed driveway that will provide an egress for the regulator station from Bullet Hole Road. An attached sketch shows the location and sight distance measurements.



Figure 2.1 – New Intersection Location

To measure the existing Intersection Sight distance at the location of the proposed driveway, Maser Consulting took 2 pictures looking in either direction on Bullet Hole Road. Objects that were visible in the pictures were compared to the project survey, and distance measurements were derived. The clearest viewable objects were determined to be existing utility poles within the Right of Way of Bullet Hole Road.

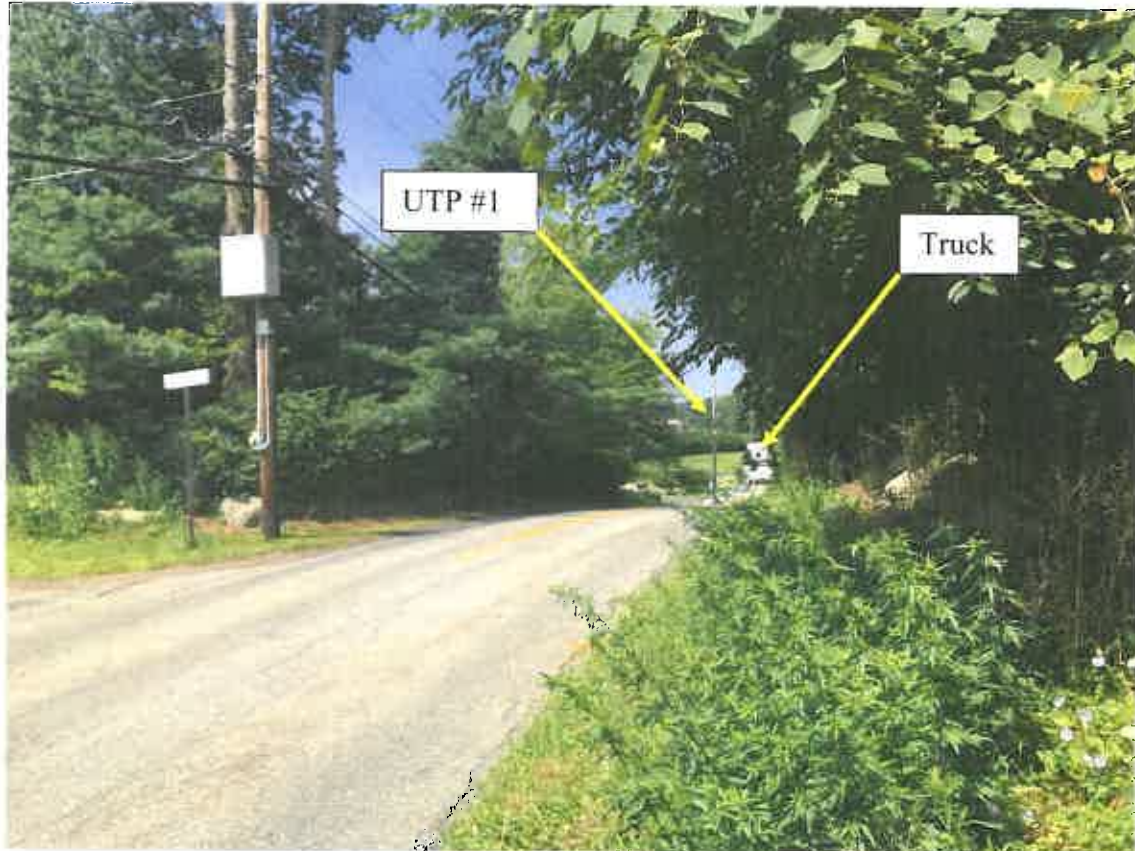


Figure 2.2 – View from Proposed Driveway looking west on Bullet Hole Road

Sight distance to the west was measured at 246.39 ft. to existing utility pole #1 shown in Figure 2.2. At the time, the picture in Figure 2.2 was taken a Ryder rental truck was approaching the site. It can be seen from the proposed driveway location at a farther distance than utility pole #1. However, its location cannot be compared to the project's survey. It is estimated to be approximately 275 ft. in the background from the proposed driveway.



Figure 2.3 – View from Proposed Driveway looking east on Bullet Hole Road

Sight distance to the east was measured at 359.25 ft. to existing utility pole #4 shown in Figure 2.3. On the opposite side of Bullet Hole Road, a mailbox and existing driveway can be seen in the middle-ground of Figure 2.3. This existing driveway is approximately 200 ft. from the proposed driveway location.

In the attached Sight Distance Sketch, the Town's required 200 ft sight distance triangles are shown. This sketch, and Figures 2.2 & 2.3 also included on the sketch demonstrate existing sight distance exceeds the Town's requirements.



3.0 Conclusion

Sight distance measurements show the proposed driveway for 340 Bullet Hole Road will meet and exceed the requirements of 200 ft. per Town of Carmel's code. In proposed conditions, the sight distance may improve when existing brush/vegetation in the ROW in front of 340 Bullet Hole Road is removed. Proposed landscaping trees will be set approximately 12 ft. into the property from the edge of pavement and therefore, should not hinder intersection sight distances.

Should you have any questions, please feel free to contact me at 518-459-3252, or via e-mail: dfarnan@maserconstulting.com.

Sincerely,
MASER CONSULTING P.A.



Daniel Farnan, PE, CPESC, CPSWQ
Senior Engineer

Enclosures – Sight Distance Sketch

R:\Projects\2015\15000624A\Calculations\Intersection Sight Distance\Intersection Sight Distance Letter.docx



7.0 - Construction Sequence

What is the function of the construction activity?

- ☐ Residential ☐ Commercial ☐ Industrial ☐ Road Construction ☒ Linear
Utility
☐ Other (please specify):

Estimated Project Start Date: 03/01/2018

Estimated Project Completion Date: 10/01/2018

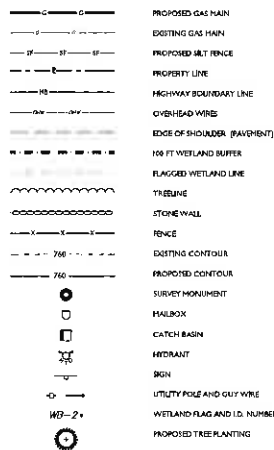
Estimated timeline of activity	Permitting, Construction Activity and BMP Descriptions
10/01/2017 - 01/31/2018	Permitting 1. Obtain all Town, State & Federal Permits and Approvals 2. Bid and Award Project 3. Obtain all signatures from Town for MS4 and NOI signoff. 4. Submit NOI
01/31/2018 - 03/31/2018	Pre-Construction Phase 1. If requested by the town, hold a Pre-Construction Meeting with Contractor, CHGE, Town and any other agency necessary to attend. 1.A) All parties required to sign the SWPPP document do so. Signed copy of the SWPPP document shall remain on site until the project has ended. 2. Finalize Construction Schedule and Share with involved Agencies 3. If requested by the town, Hold Public Open House to review the project. 4. Staging Area – Install: temporary fencing, silt fencing (in turf), fueling area, spill kits. 5. Post all Permits at Staging Area. Post NOI and store copy of SWPPP in conspicuous location for weekly inspection. 6. Import & Stock Pipe materials. Mobilize Equipment. 7. Perform necessary Tree Clearing prior to Endangered Species window. 8. Install silt fencing at regulator station site. Begin clearing and grubbing, grading, and installation of access road for Pressure Regulator Station. 9. Designate a Qualified Inspector for mandatory SWPPP inspections, and begin weekly inspections.



04/01/2018 - 07/01/2018	Infrastructure Construction <ol style="list-style-type: none">1. Install Work Zone Traffic Controls in locations where trenching will commence.2. Install perimeter silt fencing ahead of trenching. Silt Fence to be inspected by Town before trenching may commence.3. Excavate and install new gas main and regulator stations.4. Install Surface Restoration (Turf or Pavement)5. Sweep road in work zone at end of each day.6. Conduct weekly Inspections by a Qualified Inspector. Address any issues from inspections
07/01/2018 - 09/01/2018	Infrastructure Construction with Road Closures <ol style="list-style-type: none">1. Install Traffic Controls for Detours2. Install Work Zone Traffic Controls in locations where trenching will commence.3. Install perimeter silt fencing ahead of trenching. Silt Fence to be inspected by Town before trenching may commence.4. Excavate and install new gas main and regulator stations.5. Install Surface Restoration (Turf or Pavement)6. Conduct weekly Inspections by a Qualified Inspector. Address any issues from inspections
09/01/2018 - 10/01/2018 -	Finalize Construction, Final Stabilization <ol style="list-style-type: none">1. Construct any remaining Gas Infrastructure sections.2. Inspect all previously restored Turf areas and if necessary, re-seed & mulch to achieve final stabilization.3. Remove Silt Fence and other Sediment Controls.4. Demobilize the staging area, safely remove portable fueling equipment, remove temporary fencing, remove silt fencing.5. Conduct final site inspection by a Qualified Inspector or Professional.6. File the Notice of Termination.
10/01/2018 - 10/01/2019 -	Long-Term monitoring <ol style="list-style-type: none">1. Monitor Work zones throughout all project area for issues with grass/landscaping until the end of Letter of Undertaking Terms.2. Fix/reseed any areas where grass/landscaping did not fully establish from prior disturbances.3. Maintain site landscaping at pressure regulator station in accordance with Town Codes.

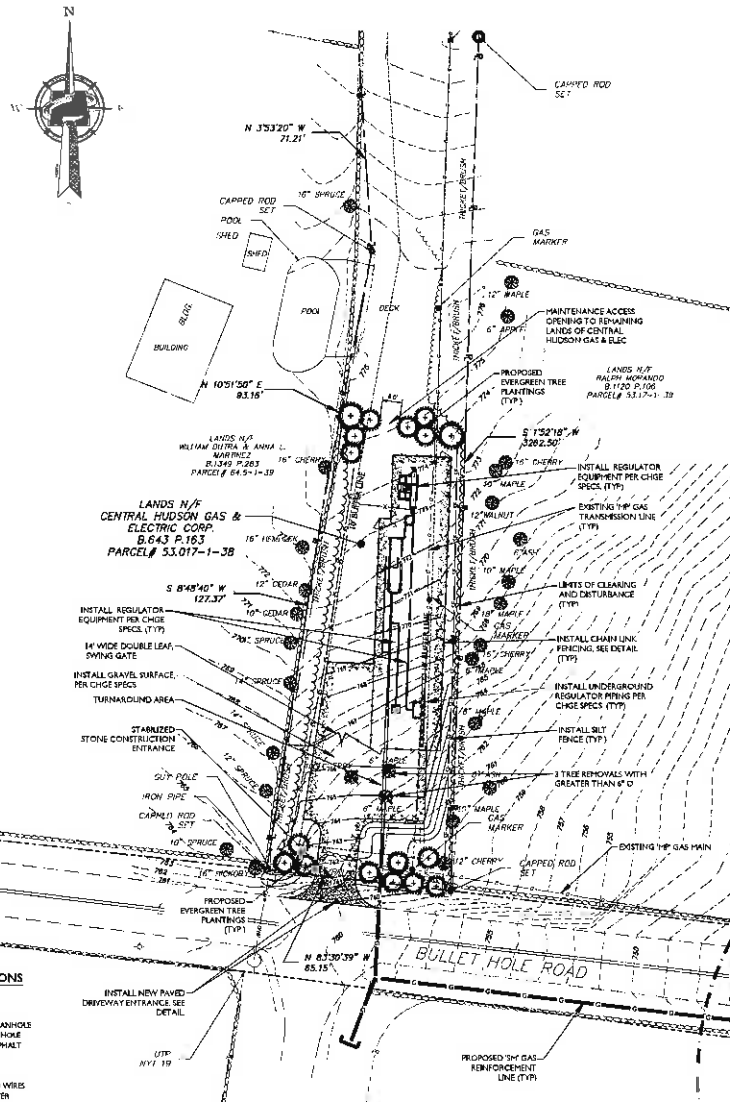


LEGEND:



ABBREVIATIONS

CB = CATCH BASIN
 DI = DRAIN INLET
 SH = SANITARY MANHOLE
 DMH = DRAIN MANHOLE
 EA = EDGE OF ASPHALT
 LP = LIGHT POLE
 CO = CLEAN OUT
 GM = GAS METER
 OHW = OVERHEAD WIRES
 EH = ELECTRIC METER
 TE = FINISHED FLOOR ELEVATION
 LS = LANDSCAPING
 UTP = UTILITY POLE
 MBX = MAILBOX
 CBP = CAST IRON PIPE
 CIP = CORRUGATED METAL PIPE
 HDPE = HIGH DENSITY POLYETHYLENE
 CRG = CAPPED REBAR SET
 STBS = REBAR TO BE SET



SITE PLAN

PROPOSED PRESSURE REGULATOR STATION

$$I'' = 20'$$

OWNER/ APPLICANT

CENTRAL HUDSON GAS & ELECTRIC
204 SOUTH AVE
POUGHKEEPSIE, NY 12601

TAX LOT AND ADDRESS:

PARCEL # 53-017-1-J6
339.349 BULLET HOLE ROAD
MAHOPAC, NY 10541

SITE AREA:

TOTAL PARCEL: 497± ACRES

ZONING INFO & PROPOSED USE:

EXISTING ZONE R-1 RESIDENTIAL
ZONING DISTRICTS WITHIN 500 FT R-1 RESIDENTIAL

PROPOSED CONDITIONAL USE PUBLIC UTILITY - GAS MAIN

OFF-STREET PARKING/LOADING:

REQUIRED: ONE OFF-STREET PARKING SPACE SHALL BE PROVIDED FOR EACH FULL-TIME EMPLOYEE, PLUS ONE ADDITIONAL SPACE FOR EACH SERVICE VEHICLE, BUT NOT LESS THAN TWO.

NOTE, THIS FACILITY DOES NOT REQUIRE FULL PART TIME EMPLOYEES, ONLY SERVICE AND MAINTENANCE ACCESS.

LIMITS OF SITE DISTURBANCE

1 WORK LIMITS DELINEATED ON THIS PLAN RESULT IN A
MAXIMUM OF 4500 SQ FT (0.103 AC) OF DISTURBANCE

BULK TABLE:

ZONE: R-1 RESIDENTIAL
PROPOSED USE: PUBLIC UTILITY
CONDITIONAL USE PERMITTED BY RIGHT, SECTION 156-37 OF TOWN CODE SUBJECT TO SITE
PLAN REVIEW BY THE PLANNING BOARD

ZONING BULK TABLE			
REQUIREMENT	REQUIRED	EXISTING	PROVIDED
LOT AREA	170,000 SF	25,000 SF	35,000 SF
LOT COVERAGE	87% MIN	0%	1%
LOT WIDTH	200 FT	VALUES AS PER FRONTAGE	VALUES AS PER FRONTAGE
LOT DEPTH	200 FT	3.33M FE	3.36M FT
FRONT YARD SETBACK	40 FT	-	NO PROPOSED BUILDING OR STRUCTURE
SIDE YARD SETBACK	20 FT	-	NO PROPOSED BUILDING OR STRUCTURE
REAR YARD SETBACK	40 FT	-	NO PROPOSED BUILDING OR STRUCTURE
LANDSCAPING BUFFER	10 FT	-	50 FT TO HIGHWAY, 10 FT TO EAST
HEIGHT	35 FT	-	7 FT
ONE-LEVEL BUILDING	-	-	-

* NO FULL-TIME OR PART-TIME EMPLOYEES REQUIRED FOR SITE. SITE WILL ONLY BE ACCESSED FOR PERIODIC INSPECTION AND MAINTENANCE. DURING SUCH INSPECTIONS THE SIDE DRIVE CAN ACT AS OFF-STREET PARKING

SOIL EROSION CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN SEVEN (7) DAYS AND NOT SUBJECT TO CONSTRUCTION TRAFFIC WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PERMITS THE ESTABLISHMENT OF TEMPORARY COVER, THE DISTURBED AREAS SHALL BE RESEED WITH A MIXTURE OF SEEDS OR GRASS SEEDS, AT A RATE OF SEED PER TON PER ACRE, ACCORDING TO STATE STANDARDS.
3. PERMANENT VEGETATION TO BE SEEDS OR SOODED ON SOILED ON ALL EXPOSED AREAS WITHIN FIVE (5) DAYS AFTER FINAL GRADING. MULCHING IS REQUIRED ON ALL SEEDING.
4. ALL WORK IS TO BE DONE IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR EROSION AND SEDIMENT CONTROL.
5. THE STANDARD FOR STABILIZED CONSTRUCTION AREAS REQUIRES THE INSTALLATION OF A STORM POND. AT ALL CONSTRUCTION DRIVEWAYS IMMEDIATELY AFTER INITIAL SITE DISTURBANCE.
6. UNLIMITED DOWNSPOUT IS NOT PERMITTED TAKE ALL NECESSARY PRECAUTIONS DURING ALL DOWNSPOUT OPERATIONS TO MINIMIZE SEDIMENT TRANSFER. ANY DOWNSPOUT METHOD/USE MUST BE IN ACCORDANCE WITH STATE STANDARDS.
7. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET. TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED IN ACCORDANCE WITH STATE STANDARDS FOR DROUGHT CONTROL.
8. PAVEMENT AREAS ARE TO BE KEPT CLEAN AT ALL TIMES. ALL SOIL, WASHED DROPPED, OR TRACED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC AREAS SHALL BE REMOVED IMMEDIATELY.
9. ALL SOIL DISTURBED ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
10. DURING CONSTRUCTION ANY ADDITIONAL CONTROL MEASURES AS DEEMED NECESSARY TO PREVENT EROSION OR CONTROL SEDIMENT BEING CARRIED THEREAS SHOWN ON THE APPROVED PLAN SHALL BE INSTALLED OR EMPLOYED AT THE DISCRETION OF THE MUNICIPAL ENGINEER.
11. ALL TEMPORARY STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES CAN BE REMOVED WHEN ALL CONSTRUCTION ACTIVITY COMPLETES THE WORK PLAN HAS COMPLETED ALL AREAS OF DISTURBANCE HAVE ACHIEVED FINAL STABILIZATION.

****FINAL STABILIZATION**** - MEANS THAT ALL SOIL DISTURBANCE ACTIVITIES HAVE CEASED AND A UNIFORM PERENNIAL VEGETATIVE COVER WITH A DENSITY OF EIGHTY (80) PERCENT OVER THE ENTIRE PAVED SURFACE HAS BEEN ESTABLISHED; OR OTHER EQUIVALENT STABILIZATION MEASURES SUCH AS PERMANENT LANDSCAPE MULCHES, ROCK, RIP-RAP OR WASHED/CRUSHED STONE HAVE BEEN APPLIED ON ALL DISTURBED AREAS THAT ARE NOT COVERED BY PERMANENT STRUCTURES, CONCRETE OR PAVEMENT.

MAP REFERENCE:

1. EXISTING CONDITIONS FROM A SURVEY BY MASER CONSULTING ENTITLED "SM GAS LINE", DATED JANUARY 3RD, 2012.

GENERAL NOTES:

1. WHENEVER THE CONTRACT REQUIRES MATERIALS TO BE REMOVED AND DISPOSED OF THE COST OF SURVEILLANCE DISPOSAL AREA AND TRANSPORTATION TO THAT AREA SHALL BE INCLUDED IN THE BID.
2. THERE SHALL BE NO CLAIM AGAINST THE OWNER MADE BY THE CONTRACTOR FOR THE REMOVAL OF MATERIALS FROM THE PROJECT AREA MAY BE REQUIRED DUE TO ANY DIFFERENCE BETWEEN ACTUAL FIELD CONDITIONS AND THOSE SHOWN BY THE DETAILS AND DRAWINGS ON THE CONTRACT PLANS.
3. CARE SHALL BE TAKEN TO RETAIN NATURAL GROWTH AND PREVENT DAMAGE TO TREES WITHIN AND OUTSIDE THE LIMITS OF THE PROJECT AND TO MINIMIZE THE DAMAGE TO THE NATURAL GROWTH CAUSED BY THE EXPOSURE OF THE CONTRACT AREA AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
4. THE CONTRACTOR IS TO VISIT THE SITE BEFORE BIDDING TO GET FAMILIARIZED WITH THE FIELD CONDITIONS AND TO JUDGE FOR HIMSELF THE EXTENT AND NATURE OF THE CONTRACT WORKS TO BE DONE UNDER THE CONTRACT. HIS BIDDING CONSTRUCTION WILL BE REQUIRED TO INCLUDE THE REMOVAL OF ALL MATERIALS, EQUIPMENT, TOOLS AND MATERIALS REQUIRED TO FURNISH AN ACCESS TO AND THROUGH THE CONTRACT DOCUMENTS.
5. ALL CONCRETE USED ON THE PROJECT, INCLUDING OTHERWISE SPECIFIED, SHALL BE PLACED AND FINISHED WITHIN A PERIOD OF 90 DAYS IN DAYS OF 3000 POUNDS PER SQUARE INCH.
6. PAYMENT SHALL BE KEPT CLEAN AND FREE OF MUD AND DIRT AT ALL TIMES.
7. NEARBY EXISTING DRAINAGE SHALL BE MAINTAINED AND OPEN

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Landscapes Architects in Environmental Scientists

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[illegible]

DANIEL A. FARNAN
NEW YORK LICENSED PROFESSIONAL
ENGINEER - LICENSE NUMBER: 025516-1

SITE PLAN OF
PRESSURE REGULATOR
STATION
FOR
CENTRAL HUDSON

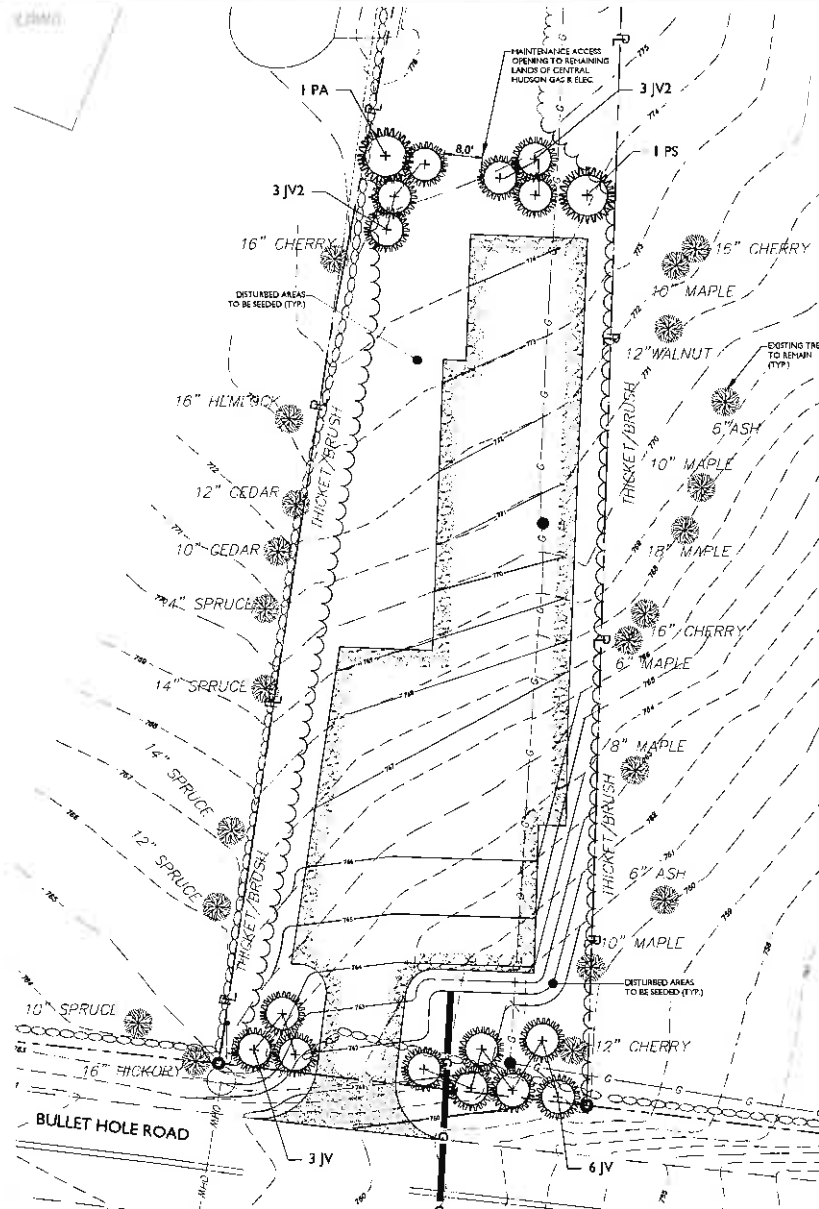
BLOCK 53.017
LOT 1
SECTION 38

TOWN OF CARMEL
PUTNAM COUNTY
STATE OF NEW YORK



NAME	LAST	FIRST	DATE
AL BROWN	MURPHY	PAN	CAF
PICKUP DATE		DROPOFF DATE	
10/10/10		10/10/10	

DIMENSION PLAN



SITE LANDSCAPE PLAN

1" = 10'

GENERAL PLANTING NOTES:

1. THIS PLAN SHALL BE USED FOR LANDSCAPE PLANTING PURPOSES ONLY. EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR THE LOCATION OF UTILITIES AND STRUCTURES AND NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCY OR LOCATION. CONFIRM PRIOR TO PLANTING INSTALLATION.
2. THE CONTRACTOR IS RESPONSIBLE TO LOCATE AND VERIFY LOCATION OF ALL UTILITIES ON SITE PRIOR TO CONSTRUCTION.
3. ALL PLANT MATERIAL SHALL CONFORM TO GUIDELINES AS SET FORTH IN THE LATEST EDITION OF THE AMERICAN ASSOCIATION OF NURSERIES STANDARDS FOR NURSERY STOCK OR THE PLANT MATERIAL. ALL PLANT MATERIAL SHALL BE RETAINED TO SPECIES, VARIETY, AGE AND BE CONTAINERS AND MUST BE THE OWNERS APPROVED. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO APPROVE ALL PLANT MATERIAL ON SITE PRIOR TO INSTALLATION.
4. NO PLANT SUBSTITUTIONS SHALL BE PERMITTED WITH REGARD TO TREE SPECIES OR VARIETY WITHOUT WRITTEN PERMISSION OF THE DESIGNATED TOWN OF CARMEL REPRESENTATIVE. WRITTEN PROOF OF PLANT MATERIAL UNAVAILABILITY MUST BE SUBMITTED.
5. THE LOCATION OF ALL PLANT MATERIAL INDICATED ON THE LANDSCAPE PLANS ARE APPROXIMATE. THE FINAL LOCATION OF ALL PLANT MATERIAL AND PLANTING BED LINES SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE LANDSCAPE ARCHITECT.
6. THE PLANTING PLAN SHALL TAKE PRECEDENCE OVER THE PLANT SCHEDULE UNLESS ANY PLANT QUANTITY DISCREPANCY OCCURS.
7. ALL PLANT MATERIAL SHALL BE PROTECTED PRIOR TO INSTALLATION IN CONFORMANCE WITH THE TYPICAL PLANNING DETAILS AND IN ACCORDANCE WITH SECTION 142 OF THE TOWN OF CARMEL CODE. CUT AND REMOVE ALL SURFACE PAVEMENT TO THE EDGE OF THE ROOT BALL. WIRE BARRIERS AND SIGN SURFACE SHALL BE COMPLETELY REMOVED PRIOR TO EACH PLANTING THE PLANT.
8. PROVIDE PLANTING HITS AS INDICATED ON PLANTING DETAILS. BACKFILL PLANTING BEDS WITH ONE PART EACH OF TOPSOIL, PEAT MOSS AND SAND. MATERIAL, IF THE SOIL CONDITIONS EXIST THEN PLANTING BEDS SHALL BE DIGGATED AN ADDITIONAL 12\"/>

PLAN NOTE

1. THESE PLANS ARE TO BE USED FOR LANDSCAPE PURPOSES ONLY. REFER TO SHEET 84-104 GENERAL SIGNING NOTES AND REQUIREMENTS.

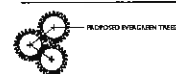
LANDSCAPE NOTES

1. LOCATIONS OF ALL PLANT MATERIAL AND PLANTING BED OUTLINES IS APPROXIMATE AND MAY VARY DUE TO THE FINAL LOCATION OF SITE IMPROVEMENTS.
2. FINAL LOCATION OF ALL PLANT MATERIAL AND PLANTING BED OUTLINES SHALL BE DETERMINED IN THE FIELD UNDER THE DIRECTION OF THE PROJECT LANDSCAPE ARCHITECT AND/OR DESIGNATED TOWN OF CARMEL REPRESENTATIVE.
3. ALL AREAS WITHIN THE PLANTING BED LINES SHALL BE MULCHED WITH 3\"/>

SITE PLANTING SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	HEIGHT	GAL.	LEADS	ROOT	REMARKS
EVERGREEN TREES								
EV	1	BURSERIA VIRGINIANA	EASTERN RED CEDAR	6'-8'	5	5	5	STRAIGHT LEAD/UTILITY SPECIES HARB
EV	2	BURSERIA VIRGINIANA	STRETCH AND CEDAR	8'-10'	5	5	5	STRAIGHT LEAD/UTILITY SPECIES HARB
EV	1	PICTA ABIES	PICTA SPRUCE	8'-10'	5	5	5	STRAIGHT LEAD/UTILITY SPECIES HARB
EV	1	PRINUS STROBUS	EASTERN WHITE PINE	8'-10'	5	5	5	STRAIGHT LEAD/UTILITY SPECIES HARB

LANDSCAPE LEGEND



EXISTING TREES TO BE REMOVED

EXISTING TREES TO BE RETAINED

SCALE: 1" = 10'

TOWN OF CARMEL PLANNING BOARD APPROVAL



MASER
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ALBANY, NY 12206
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WWW.MASER-PA.COM

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REV	DATE	BY	CHKD	DESCRIPTION
1	08/11/10	DAF	DAF	ISSUED FOR PERMITS

DANIEL A. FARNAN
1000 ROUTE 9W
SUITE 100
ALBANY, NY 12206
TEL: 518.462.1000
WWW.MASER-PA.COM

**SITE PLAN OF
PRESSURE REGULATOR
STATION
FOR
CENTRAL HUDSON**
BLOCK 53.017
LOT 1
SECTION 38
TOWN OF CARMEL
PUTNAM COUNTY
STATE OF NEW YORK

ALBANY OFFICE
1000 ROUTE 9W
SUITE 100
ALBANY, NY 12206
TEL: 518.462.1000
FAX: 518.462.1001

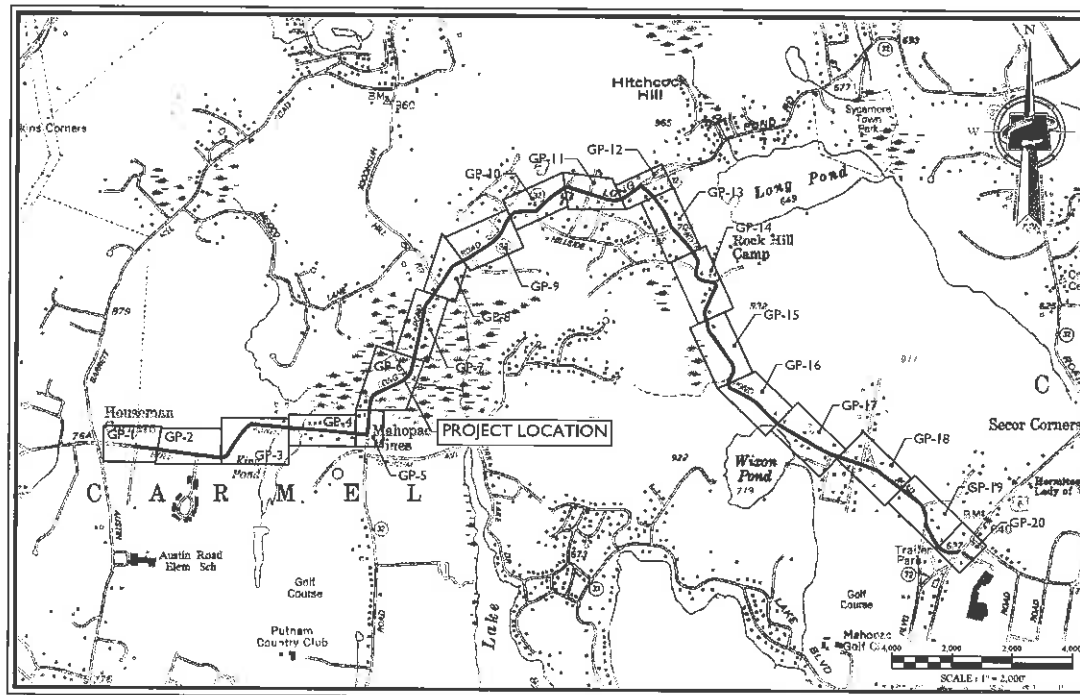
DATE: 08/11/10
BY: DAF
CHKD: DAF
TOWN: CARMEL
COUNTY: PUTNAM
STATE: NY

LANDSCAPE PLAN


2 of 3

PROJECT ROUTE DESIGN PLANS
FOR
CENTRAL HUDSON GAS AND ELECTRIC CORP.
S-M LINE: GAS DISTRIBUTION REINFORCEMENT PROJECT
PROPOSED 10" STEEL GAS MAN & GAS REGULATOR STATION
TOWN OF CARMEL
PUTNAM COUNTY, NEW YORK
SEPTEMBER 2017

INDEX OF SHEETS	
NO.	TITLE
1	COVER SHEET
2	GENERAL NOTES
3	MISC. TABLES
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25	WORK ZONE TRAFFIC DETAILS
26	DETOUR PLAN
27	ROAD CLOSURE PLAN
28	SIGN TEXT DETAIL PLAN
29 - 30	EROSION CONTROL NOTES & DETAILS
31	CONSTRUCTION STAGING AREA
32 - 33	GENERAL DETAILS
34	HDD DETAILS & NOTES



PROJECT LOCATION MAP



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NO.	DESCRIPTION	DATE	BY	REVISION
1	PROJECT ROUTE DESIGN PLANS FOR S-M LINE GAS REINFORCEMENT PROJECT	09/01/17	DAF	1

BRETT D. REYNOLDS
NEW YORK LICENSED PROFESSIONAL
ENGINEER LICENSE NUMBER 8196

PROJECT ROUTE DESIGN PLANS FOR

S-M LINE GAS REINFORCEMENT PROJECT
TOWN OF CARMEL
PUTNAM COUNTY, NY

 **MASER**
CONSULTING P.A.
10 Corporate Park
Albany, NY 12205
Phone: 518-479-1232
Fax: 518-479-2281

DATE	BY	QUANTITY	CHECKED BY
09/01/17	DAF	1	DAF
PROJECT NUMBER	00000000	DATE	09/01/17
PROJECT TITLE	COVER SHEET		

1 of 34

PROJECT CHAIR

- SPUR LINE NOTE:**

- SCOPE OF PROJECT:**

- ELECTRICAL SAFETY NOTE:**

- UTILITY QUALITY LEVEL NOTES:**

- SUBSURFACE UTILITY FACILITY INFORMATION SHOWN HEREIN IS CONSIDERED: **QLC**

NON-PAVED SURFACES NOTES:

- RESTORATION NOTES:

- GENERAL WETLAND NOTES:

- REPORTING OF SPILLS, DISCHARGES OR CONTAMINATED SOILS:**

3. THE CONTRACTOR IS REQUIRED TO KEEP SPILL KITS AT THE FOLLOWING LOCATIONS DURING THE ENTIRE DURATION OF CONSTRUCTION:

- 3.3. ONE (1) KIT KEPT AT THE LOCATION OF EACH HORIZONTAL DIRECTIONAL DRILLING OPERATION.

- NOISE MITIGATION NOTES:**

- ## TREE PROTECTION

TIME OF YEAR CUTTING RESTRICTIONS FOR INDIANA BAT & NORTHERN LONG-EARED BAT

ENDANGERED SPECIES - BOG TURTLE

MIGRATORY BIRD PROTECTION NOTE

PROTECTED MIGRATORY BIRDS INCLUDE ALL WATERFOWL, HERONS, HAWKS, OWLS, EAGLES AND SONGBIRDS INCLUDING SWALLOWS, ROBINS, AND EASTERN PHOEBES. THEIR FEATHERS, NESTS, AND EGGS ARE ALSO PROTECTED UNDER THE MBTA.

EXEMPT FROM THE MBTA ARE ROCK DOVES (DOMESTIC PIGEONS), HOUSE SPARROWS (ENGLISH SPARROWS), EUROPEAN STARLINGS, AND MONK PARAKEETS. NON-NATIVE HUMAN-INTRODUCED BIRD SPECIES ARE NOT PROTECTED BY THE MBTA. ALTHOUGH THESE SPECIES ARE NOT PROTECTED UNDER THE MBTA, THEY SHOULD STILL BE TREATED AS HUMANELY AS POSSIBLE IF ANY BIRD NESTS ARE ENCOUNTERED PRIOR TO OR DURING WORK CONTACT THE ENGINEER-IN-CHARGE (EIC) IMMEDIATELY.

AREAS SCHEDULED FOR WORK FROM APRIL 15 TO AUGUST 15 (THE PERIOD IN WHICH NESTS ARE TYPICALLY FOUND WITH EGGS OR UNFLEDGED CHICKS) SHALL BE INSPECTED FOR BIRD NESTING ACTIVITY PRIOR TO COMMENCING ANY WORK ACTIVITY. IF THE NEST(S) IS DETERMINED TO BE OCCUPIED, AVOID DISTURBING OR DAMAGING OR REMOVING THE NEST UNTIL THE YOUNG ARE FLEDGED (LEAVE THE NEST), AT NO TIME SHOULD THE NESTS OF HAWKS, FALCONS, OR EAGLES BE DESTROYED. AS THESE SPECIES RETURN TO THE SAME NEST SITE YEAR AFTER YEAR AND REUSE THE SAME NEST.

AFTER FLEDGING OCCURS (OF SPECIES OTHER THAN HAWKS, FALCONS OR EAGLES), AND ALTHOUGH ACTIVITY IS BELIEVED TO HAVE CEASED (TYPICALLY INDICATED BY ADULT BIRDS MOVING TO AND FROM THE NEST, SOUNDS OF YOUNG IN THE NEST, OR BIRDS PERSISTING IN THE VICINITY OF THE NEST), THEN THE NEST(S) CAN BE PRESUMED TO BE UNOCCUPIED AND CAN BE REMOVED SO THAT WORK MAY PROCEED. UNOCCUPIED NEST(S) SHOULD BE REMOVED AS QUICKLY AS POSSIBLE TO PREVENT BIRDS FROM BEGINNING A SECOND NEST BROOD AT THE SAME LOCATION.

FROM AUGUST 16 TO APRIL 14 NESTS CAN BE PRESUMED TO BE UNOCCUPIED AND CAN BE REMOVED AFTER CONFIRMING THAT THE NEST IS INDEED INACTIVE.

IF THERE ARE ANY QUESTIONS REGARDING HOW TO PROCEED WITH NESTING MIGRATORY BIRDS, IMMEDIATELY CONTACT THE EIC. NO NESTS OF PROTECTED MIGRATORY BIRDS SHALL BE REMOVED OR DISTURBED IN ANY WAY WITHOUT PERMISSION FROM THE EIC.

PERMIT NOTES


- THIS PROJECT REQUIRES THE FOLLOWING PERMITS:
- TOWN PLANNING BOARD APPROVAL & SEQRA DETERMINATION
 - TOWN DRIVEWAY PERMIT
 - TOWN WETLAND DISTURBANCE PERMIT
 - TOWN ROAD OPENING PERMIT (50)
 - PUTNAM COUNTY ROAD OPENING PERMIT
 - NYSDDOT UTILITY WORK PERMIT
 - NYSDDOT DETOUR PERMIT
 - PUTNAM COUNTY DETOUR PERMIT
 - NYSDEC 401 WATER QUALITY CERTIFICATION
 - NYSDEC WETLAND BUFFER DISTURBANCE PERMIT

2 of 34

Table of Construction Lengths and Land Disturbance			
Length of Piping	Length of Open Trench	Length of Directional Boring	Trenching Width (MAX)
(ft.)	(ft.)	(ft.)	(ft.)
20,436.00	20,034.00	400.00	3.00
Land Disturbances:			
Trenching	Reg. Station	Spills Area*	Staging Area*
(Acres)	(Acres)	(Acres)	(Acres)
1.380	0.103	0.000	0.000
Total Area of Land Disturbance:		1.483	Acres

*Note: Staging Area and Spills Area are greater than 0.25 miles from site.

NO.	DRAWING SHEET #	PIPE STATION	PIPE/CULVERT		OWNED BY (ASSUMED)	METHOD OF CROSSING	MIN. SEPARATION DISTANCE (FT)
			SIZE (INCHES)	MATERIAL			
1	5	4+10	12	HDPE	TOWN	OPEN TRENCH	1.00
2	5	5+75	12	HDPE	TOWN	OPEN TRENCH	1.00
3	6	16+60	UNIK.	UNIK.	TOWN	OPEN TRENCH	1.00
4	7	28+90	UNIK.	UNIK.	TOWN	HDD	5.00
5	7	34+60	UNIK.	UNIK.	TOWN	OPEN TRENCH	1.00
6	9	54+00	36 (2)	CMP	PUTNAM CO.	HDD	5.00
7	11	77+00	15	CPW/HDPE	PUTNAM CO.	OPEN TRENCH	5.00
8	13	89+75	18	UNIK.	TOWN	OPEN TRENCH	1.00
9	16	117+00	UNIK.	UNIK.	TOWN	OPEN TRENCH	1.00
10	16	126+60	12	HDPE	TOWN	OPEN TRENCH	1.00
11	18	143+75	12	CMP	TOWN	OPEN TRENCH	1.00
12	18	144+75	12	HDPE	TOWN	OPEN TRENCH	1.00
13	19	158+25	12	HDPE	TOWN	OPEN TRENCH	1.00
14	19	162+40	10	CMP	TOWN	OPEN TRENCH	1.00
15	20	167+50	12	HDPE	TOWN	OPEN TRENCH	1.00
16	20	172+50	12	HDPE	TOWN	OPEN TRENCH	1.00
17	20	174+90	15	CMP	TOWN	OPEN TRENCH	1.00
18	22	194+00	24	UNIK.	TOWN	OPEN TRENCH	1.00
NOTE: ONLY PARTIAL UNDERGROUND STORM SEWER MAPPING IS AVAILABLE. ADDITIONAL CROSSINGS MAY BE ENCOUNTERED DURING CONSTRUCTION.							




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Scale of 1" = 1' - 0" of Aboveground or 1" = 20' of Belowground
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KEY	DATE	DESCRIPTION
1	08/04/17	EDITS PER CHASE PLANNING BOARD AND ICE COMMENTS
2	09/06/17	EDITS PER CHASE COMMENTS
3	09/19/17	EDITS PER CHASE COMMENTS
4	09/20/17	EDITS PER CHASE COMMENTS

BRETT D. REYNOLDS

NEW YORK LICENSED PROFESSIONAL
 SURVEYOR - LICENSE #00169, 00169


PROJECT ROUTE DESIGN PLANS FOR

Water, Power, Fossil Fuels

Central Hudson

S - M LINE GAS
 REINFORCEMENT PROJECT

TOWN OF CARMEL
 PUTNAM COUNTY, NY



SEAL OF THE STATE OF NEW YORK

JEREMY ORFEL
 15 CATTARAUGUS STREET
 NORTH BAY, NY 11756
 Phone: 616-674-3222
 Fax: 616-674-3285

AS SHOWN	DATE	CHANGED BY	CHANGED BY
AS SHOWN	06/29/17	DAY	BOB
PROJECT NUMBER 160004NA		DRAWING NAME GASITE	

REVISION:

NO.	DATE	DESCRIPTION
1	06/29/17	DAY

MISC. TABLES

SHEET NO. 3 of 34



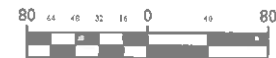
 TOWN REGULATED
 STATE REGULATED

ABBREVIATIONS

CB = CATCH BASIN
 DI = DRAIN INLET
 SMH = SANITARY MANHOLE
 DMH = DRAIN MANHOLE
 EOA = EDGE OF ASPHALT
 LP = LIGHT POLE
 CO = CLEAN OUT
 GM = GAS METER
 OHW = OVERHEAD WIRES
 EM = ELECTRIC METER
 FE = FINISHED FLOOR ELEVATION
 LS = LANDSCAPING
 UTP = UTILITY POLE
 MBX = MAILBOX
 CIP = CAST IRON PIPE
 CMP = CORRUGATED METAL PIPE
 HDPE = HIGH DENSITY POLYETHYLENE
 CS = CAPPED REBAR SET
 RTBS = REBAR TO BE SET



- I. ACTUAL INSTALLED LOCATION OF GAS MAIN
MAY VARY SLIGHTLY DEPENDENT ON INSTALLED
LOCATIONS OF STEEL ELBOWS AND VALVES.



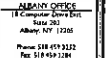
SCALE : 1" = 80'



REV	DATE	APPROVED BY	DESCRIPTION
1	06/30/17	DAF	EDT'S PRE-CHARGE BANDING BOARD AND BCL COMMENTS
2	09/06/17	DAF	EDT'S PRE-CHARGE COMMENTS

BRETT D. REYNOLDS
NEW YORK LICENSED PROFESSIONAL
ENGINEER • LICENSE NUMBER: 04904

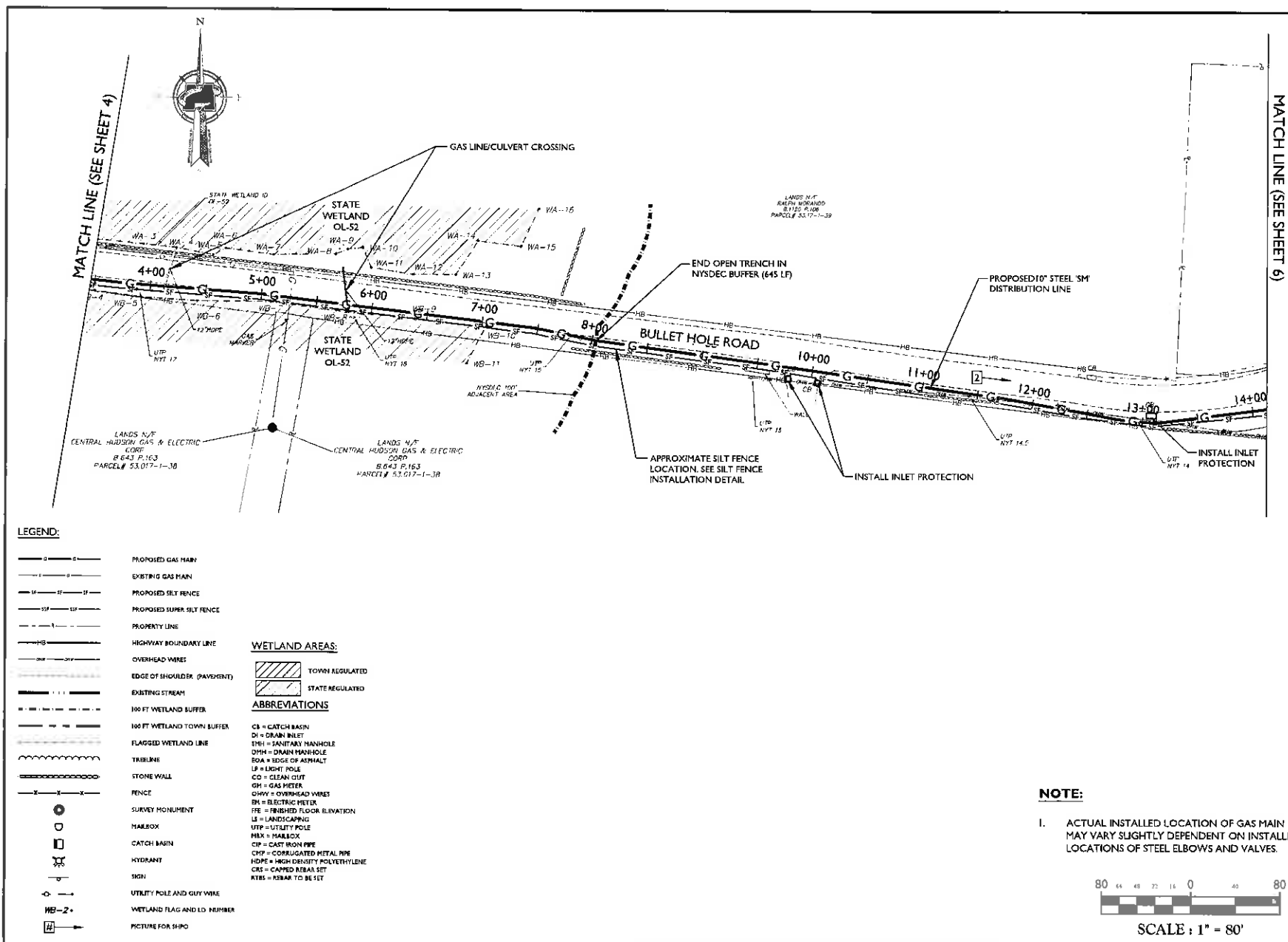
PROJECT ROUTE DESIGN
PLANS
FOR
Private, Power, Post-Office
Central Hudson
A public utility company
S - M LINE GAS
REINFORCEMENT PROJECT
TOWN OF CARMEL
PUTNAM COUNTY, NY



SCALE	DATE	DRAWN BY	CHECKED BY
AS SHOWN	04/26/17	DAF	BDR
PROJECT NUMBER		DRAWING NAME	
18000424A		CLAYT	

GENERAL PLAN
(1 OF 20)

4 of 34



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REVISION	DATE	DESCRIPTION
1	06/01/17	DATE: 06/01/17
2	06/01/17	DATE: 06/01/17

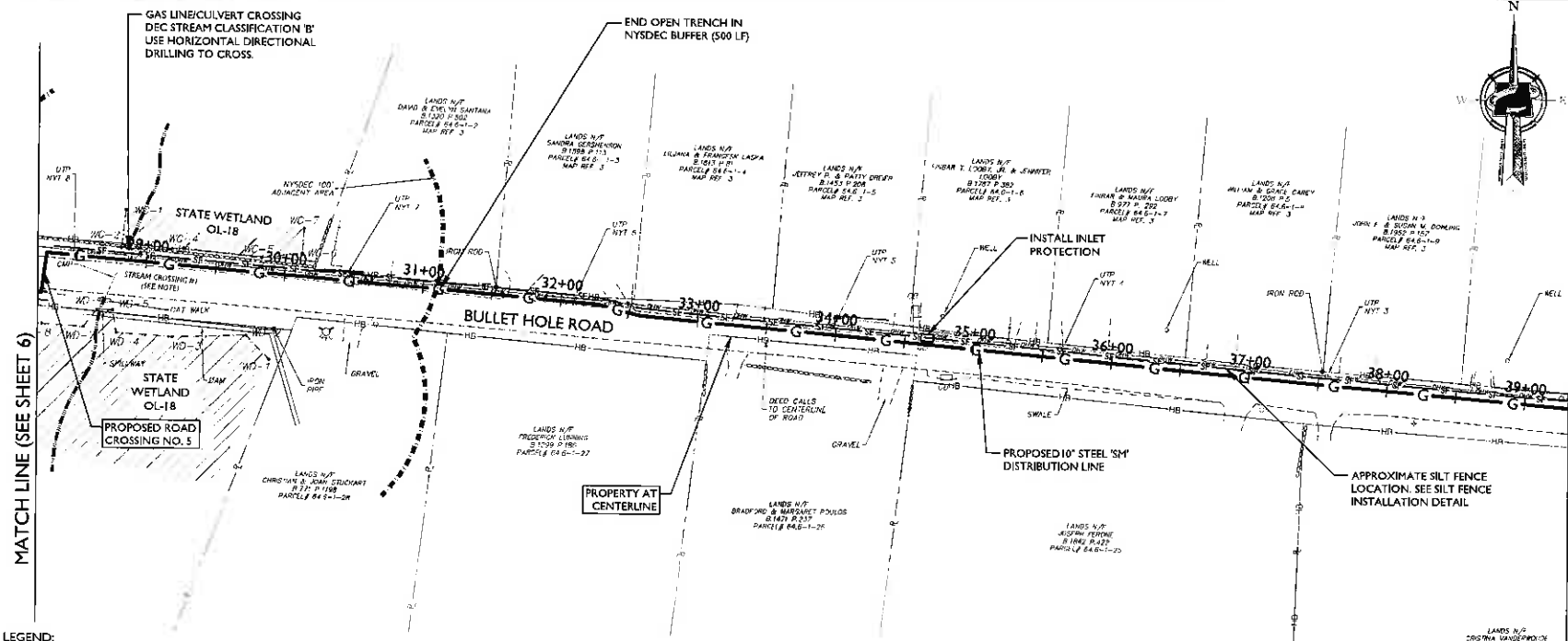
BRETT D. REYNOLDS
NEW YORK LICENSED PROFESSIONAL
REGISTERED - LICENSE NUMBER: 01004

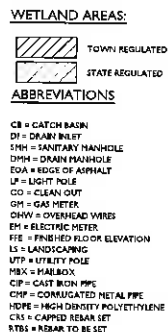
PROJECT ROUTE DESIGN PLANS FOR
Central Hudson
S - M LINE GAS REINFORCEMENT PROJECT
TOWN OF CARMEL
PUTNAM COUNTY, NY

AMANTY OFFICE
16 Corporate Drive
Suite 301
Albany, NY 12205
Phone: 518 439 3132
Fax: 518 439 3284

SCALE	DATE	DESIGNED BY	CHECKED BY
AS SHOWN	06/01/17	DAF	DAF

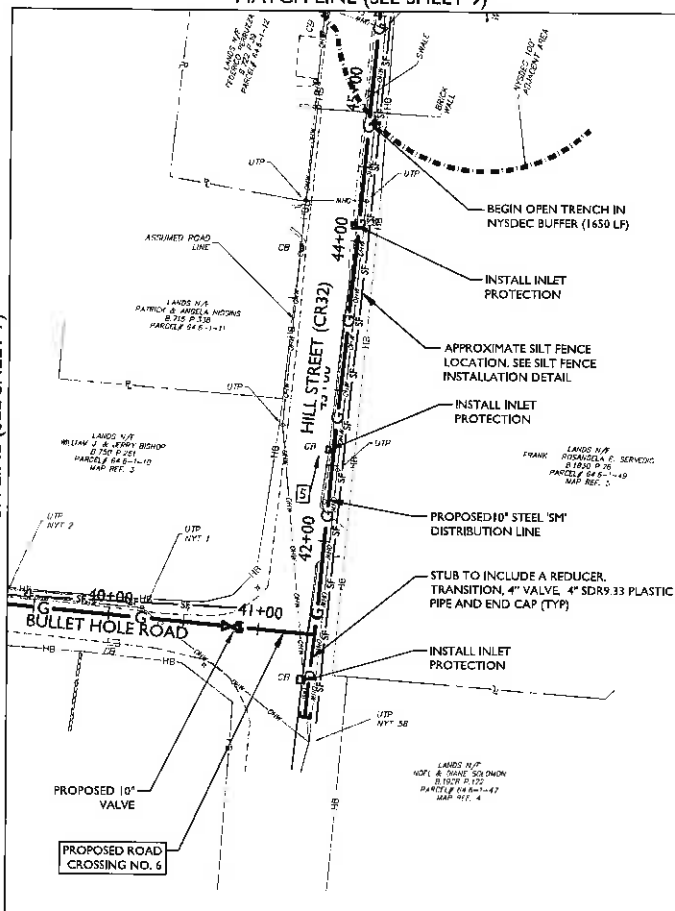
PROJECT NUMBER: 1500000000
CLIENT: CENTRAL HUDSON
PROJECT TITLE: GENERAL PLAN (2 OF 20)
DATE PLOTTED: 06/01/17
PLotted BY: 5 of 34

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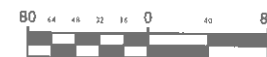
MATCH LINE (SEE SHEET 7)

MATCH LINE (SEE SHEET 9)

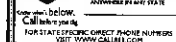


NOTE:

- I. ACTUAL INSTALLED LOCATION OF GAS MAIN
MAY VARY SLIGHTLY DEPENDENT ON INSTALLED
LOCATIONS OF STEEL ELBOWS AND VALVES.

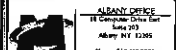


SCALE: 1" = 80'

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ENGINEER - LICENSE NUMBER 14196

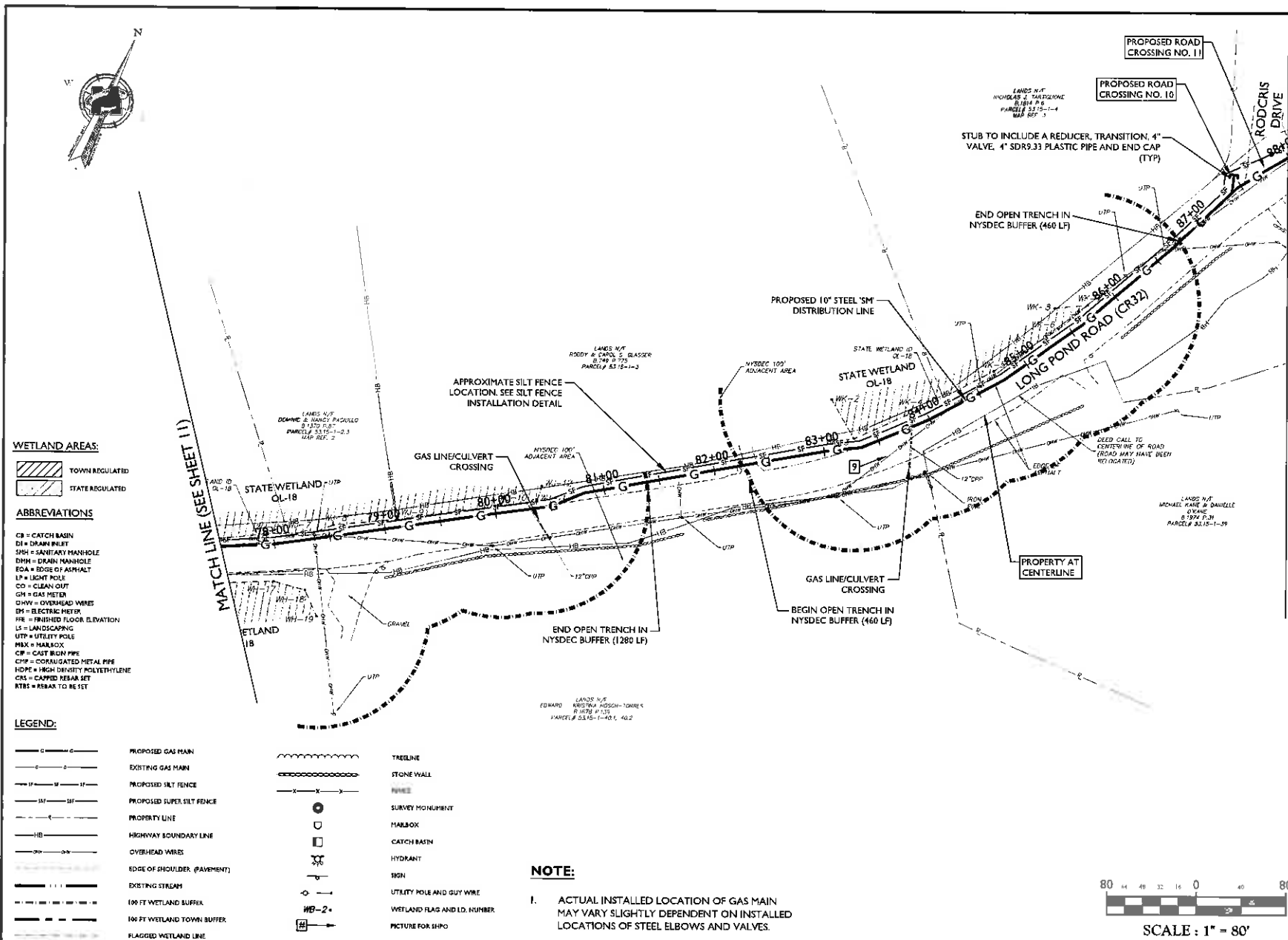
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PROJECT NUMBER		DRAWING NAME	
E5000624A		CLAYT	

GENERAL PLAN
(5 OF 20)

SHEET NUMBER
8 of 34



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as of 12/01/07. New York's Engineering Law requires that all work be performed by a duly Licensed Professional Engineer or Professional Architect. Maser Consulting, Inc. is a duly Licensed Professional Engineering Firm, License No. 000047700000.

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DATE	DESCRIPTION	DATE	DESCRIPTION
08/20/17	DATE FOR CHASE PLANNING BOARD AND EIR COMMENTS	08/20/17	DATE FOR CHASE COMMENTS
08/20/17	DATE FOR CHASE COMMENTS	08/20/17	DATE FOR CHASE COMMENTS
08/20/17	DATE FOR CHASE COMMENTS	08/20/17	DATE FOR CHASE COMMENTS
08/20/17	DATE FOR CHASE COMMENTS	08/20/17	DATE FOR CHASE COMMENTS
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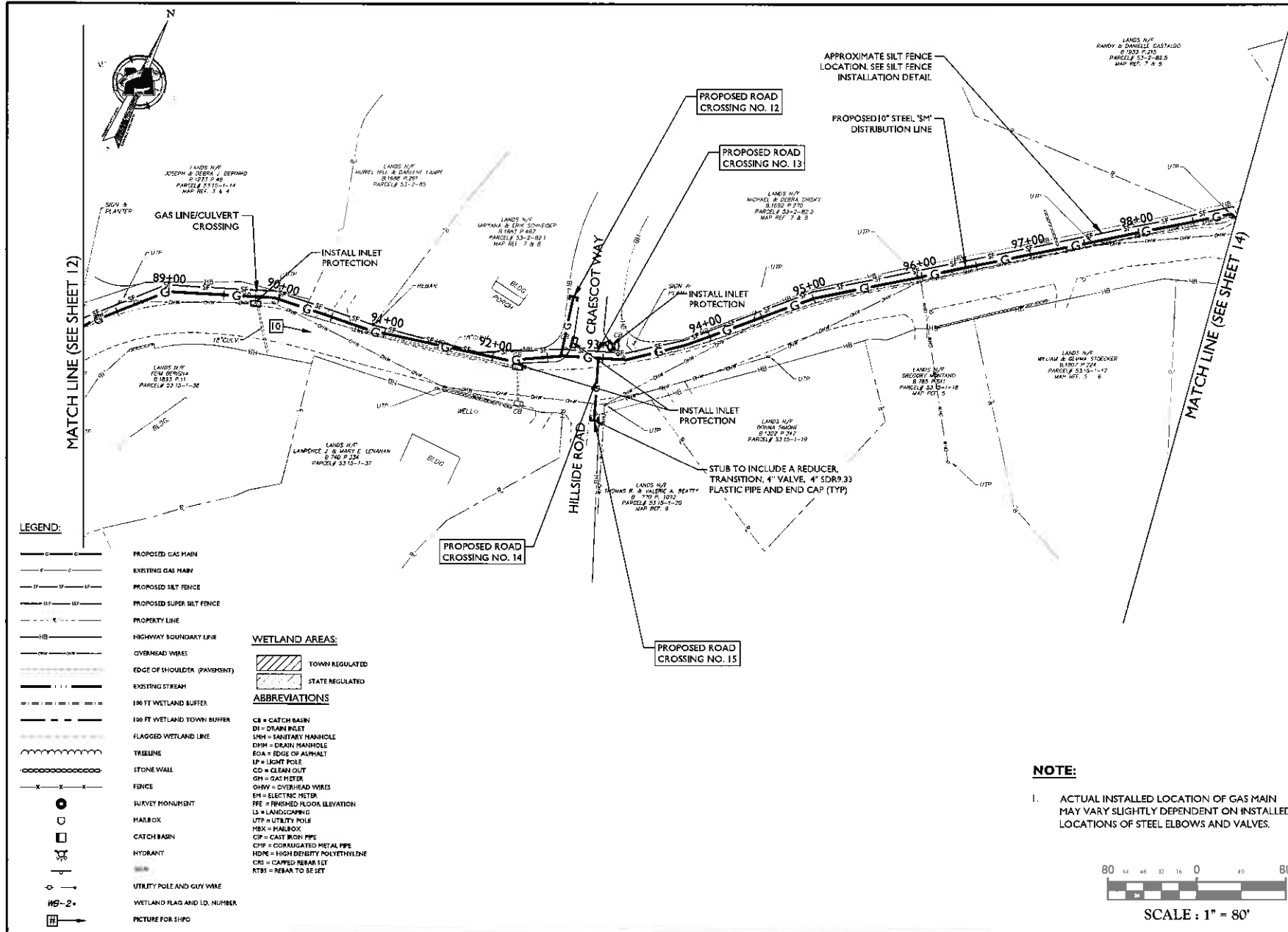
BRETT D. REYNOLDS
NEW YORK LICENSED PROFESSIONAL
ENGINEER - LICENSE NUMBER: 000047700000

**PROJECT ROUTE DESIGN
PLANS
FOR
Central Hudson
S-M LINE GAS
REINFORCEMENT PROJECT
TOWN OF CARMEL
PUTNAM COUNTY, NY**

ALBANY OFFICE
18 Commercial Street, Suite 200
Albany, NY 12202
Phone: 518.439.1352
Fax: 518.439.1304

SCALE	DATE	QUANTITY	APPROVED BY
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PROJECT NUMBER	0000000000	DRAWING NUMBER	0000000000

**GENERAL PLAN
(9 OF 20)**



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Date of 2nd Year Renewal: 12/31/2014. The renewal of this certificate shall be contingent upon the renewal of the license of the professional engineer or professional architect who is the principal of the firm.

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DATE	DESCRIPTION	BY	DATE	DESCRIPTION	BY
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08/07/17	FOR PRELIMINARY COMMENTS				

BRETT D. REYNOLDS
NEW YORK LICENSED PROFESSIONAL
ENGINEER - LICENSE NUMBER: 94966

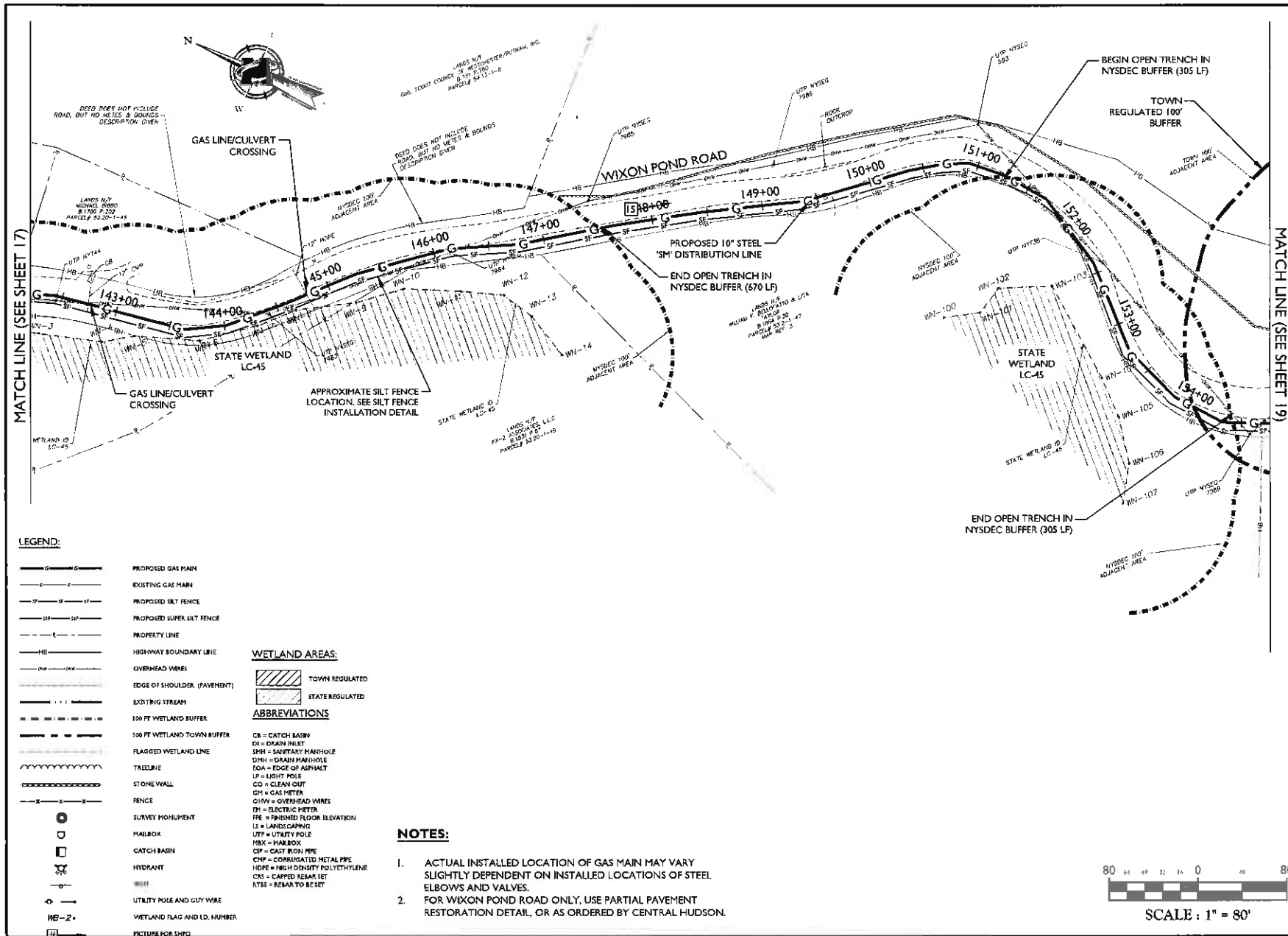
PROJECT ROUTE DESIGN PLANS FOR
 Central Hudson
A FORTIS COMPANY
8-M LINE GAS REINFORCEMENT PROJECT
TOWN OF CARMEL PUTNAM COUNTY, NY

ALBANY OFFICE
10 Commerce Center Dr.
Albany, NY 12205
Phone: 518-439-1251
Fax: 518-439-1284

SCALE	DATE	DESCRIPTION	BY	DATE	DESCRIPTION	BY
AS SHOWN	08/07/17	DAP	BOB			
PROPOSED	08/07/17	DAP	BOB			
REVISION	08/07/17	DAP	BOB			

GENERAL PLAN (10 OF 20)

SHEET NUMBER
13 of 34



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Albany, NY	Albany, NY	Albany, NY	Albany, NY

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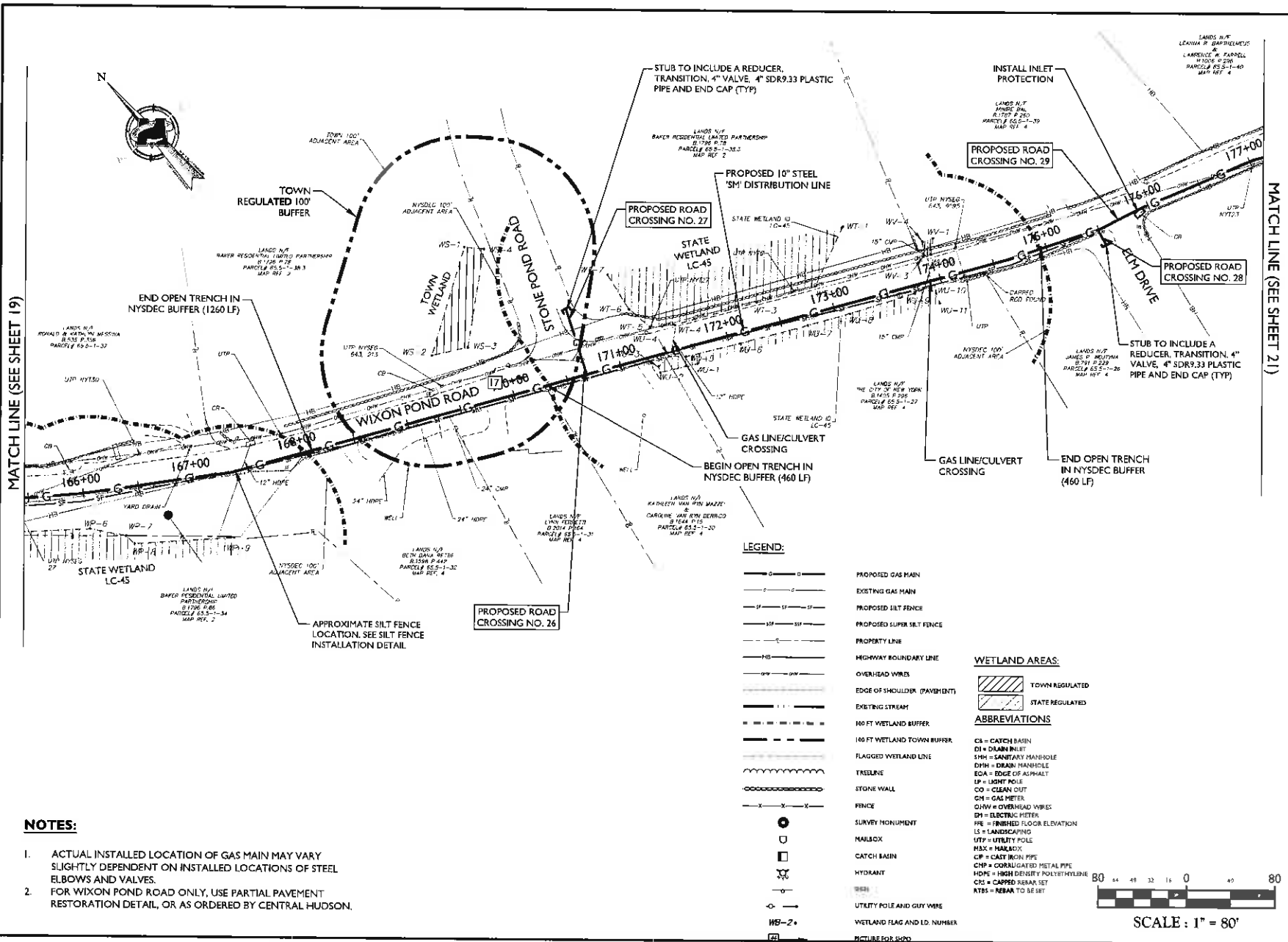
**PROJECT ROUTE DESIGN
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FOR
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REVISION NUMBER	REVISION DATE		
5500624A			

**GENERAL PLAN
(15 OF 20)**

18 of 34



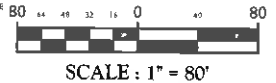
MATCH LINE (SEE SHEET 19)

MATCH LINE (SEE SHEET 21)

- NOTES:**
1. ACTUAL INSTALLED LOCATION OF GAS MAIN MAY VARY SLIGHTLY DEPENDENT ON INSTALLED LOCATIONS OF STEEL ELBOWS AND VALVES.
 2. FOR WIXON POND ROAD ONLY, USE PARTIAL PAVEMENT RESTORATION DETAIL, OR AS ORDERED BY CENTRAL HUDSON.

- LEGEND:**
- PROPOSED GAS MAIN
 - EXISTING GAS MAIN
 - PROPOSED SILT FENCE
 - PROPOSED SUPER SILT FENCE
 - PROPERTY LINE
 - HIGHWAY BOUNDARY LINE
 - OVERHEAD WIRES
 - EDGE OF SHOULDER (PAVEMENT)
 - EXISTING STREAM
 - 100 FT WETLAND BUFFER
 - 165 FT WETLAND TOWN BUFFER
 - FLAGGED WETLAND LINE
 - TREELINE
 - STONE WALL
 - FENCE
 - SURVEY MONUMENT
 - MAILBOX
 - CATCH BASIN
 - HYDRANT
 - UTILITY POLE AND GUY WIRE
 - WETLAND FLAG AND ID NUMBER
 - PICTURE FOR SHOP

- WETLAND AREAS:**
- TOWN REGULATED
 - STATE REGULATED
- ABBREVIATIONS:**
- CB = CATCH BASIN
 - DI = DRAIN INLET
 - SMH = SANITARY MANHOLE
 - DPH = DRAIN MANHOLE
 - EGA = EDGE OF ALPHALPH
 - LP = LIGHT POLE
 - CO = CLEAN OUT
 - GM = GAS METER
 - QAW = OVERHEAD WIRES
 - DP = ELECTRIC PIETER
 - FE = FINISHED FLOOR ELEVATION
 - LS = LANDSCAPING
 - UTP = UTILITY POLE
 - MAX = MAXIMUM
 - CBP = CAST IRON PIPE
 - CMP = CORRUGATED METAL PIPE
 - HDP = HIGH DENSITY POLYETHYLENE
 - CRS = CAPPED XIRAN SET
 - RTS = REBAR TO BE SET



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TOWN OF CARMEL PUTNAM COUNTY, NY

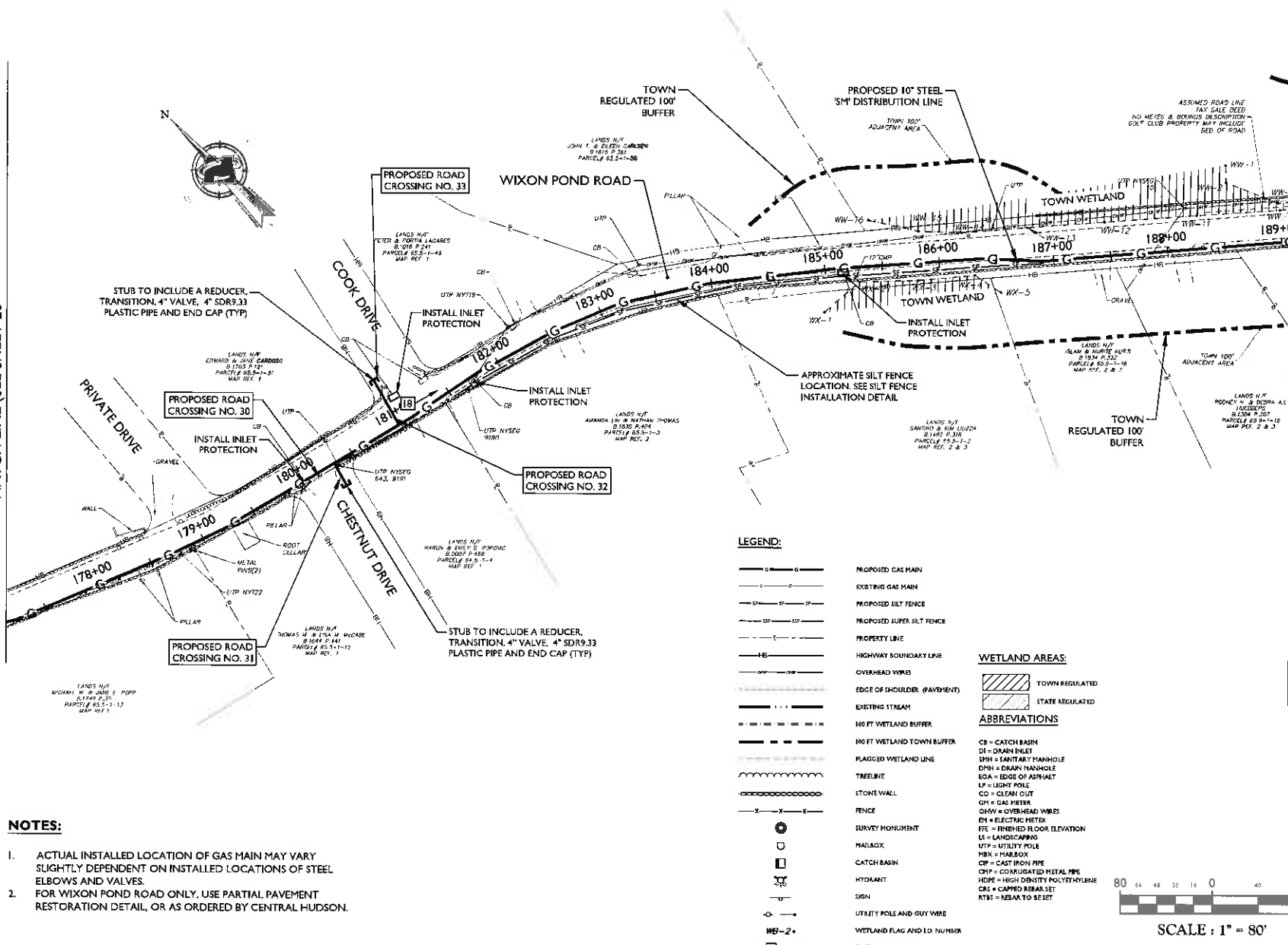
BRETT D. REYNOLDS
PROJ. MGR. LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: 0004

DATE: 04/20/17
BY: [Signature]
CHECKED: [Signature]
DATE: 04/20/17

GENERAL PLAN (17 OF 20)

20 of 34

MATCH LINE (SEE SHEET 20)



- NOTES:**
1. ACTUAL INSTALLED LOCATION OF GAS MAIN MAY VARY SLIGHTLY DEPENDENT ON INSTALLED LOCATIONS OF STEEL ELBOWS AND VALVES.
 2. FOR WIXON POND ROAD ONLY, USE PARTIAL PAVEMENT RESTORATION DETAIL, OR AS ORDERED BY CENTRAL HUDSON.

LEGEND:

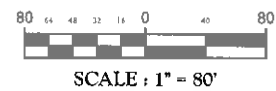
- G — PROPOSED GAS MAIN
- G — EXISTING GAS MAIN
- SF — PROPOSED SILT FENCE
- SSF — PROPOSED SUPER SILT FENCE
- — — PROPERTY LINE
- — — HIGHWAY BOUNDARY LINE
- — — OVERHEAD WIRES
- — — EDGE OF SHOULDER (PAVEMENT)
- — — EXISTING STREAM
- — — 100 FT WETLAND BUFFER
- — — 100 FT WETLAND TOWN BUFFER
- — — FLAGGED WETLAND LINE
- — — TREELINE
- — — STONE WALL
- — — FENCE
- — — SURVEY MONUMENT
- — — MAILBOX
- — — CATCH BASIN
- — — HYDRANT
- — — SIGN
- — — UTILITY POLE AND GUY WIRE
- — — WETLAND FLAG AND I.D. NUMBER
- — — FUTURE EGR. ROAD

WETLAND AREAS:

- TOWN REGULATED
- STATE REGULATED

ABBREVIATIONS:

- CB = CATCH BASIN
- DI = DRAIN INLET
- SMH = SANITARY MANHOLE
- DMH = DRAIN MANHOLE
- EOA = EDGE OF ASPHALT
- LP = LIGHT POLE
- CO = CLEAN OUT
- OP = GAS PIERCE
- OHV = OVERHEAD WIRES
- EM = ELECTRIC METER
- FTE = FINISHED FLOOR ELEVATION
- LE = LANDSCAPING
- UTP = UTILITY POLE
- MBX = MAILBOX
- CIP = CAST IRON PIPE
- CHP = CORRUGATED METAL PIPE
- HDPE = HIGH DENSITY POLYETHYLENE
- CAL = CAPPED REBAR SET
- RTG = REBAR TO BE SET



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St. Albans, VT	Orlando, FL
St. Albans, VT	State, FL
St. Albans, VT	St. Albans, VT
St. Albans, VT	St. Albans, VT
St. Albans, VT	St. Albans, VT
St. Albans, VT	St. Albans, VT

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 State of N.Y. Cert. of Authorization: 0008750000023
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2. 811	08/01/17	DAF		08/01/17	DAF	

BRETT D. REYNOLDS
 NEW YORK LICENSED PROFESSIONAL
 ENGINEER - LICENSE NUMBER 34964

**PROJECT ROUTE DESIGN
 PLANS
 FOR
 Central Hudson
 S - M LINE GAS
 REINFORCEMENT PROJECT
 TOWN OF CARMEL
 PUTNAM COUNTY, NY**

ALBANY OFFICE
 14 Central Hudson Drive
 Albany, NY 12205
 Phone: 518.639.1232
 Fax: 518.459.2284

SCALE	DATE	BY	CHKD	DATE	BY	CHKD
AS SHOWN	08/01/17	DAF		08/01/17	DAF	
PROJECT FOLDER						
10/000000						

**GENERAL PLAN
 (18 OF 20)**

21 of 34

WORK ZONE TRAFFIC CONTROL GENERAL NOTES:

1. THE CONTRACTOR SHALL MAINTAIN TRAFFIC THROUGHOUT THE LENGTH OF THE CONTRACT IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 619 OF THE CURRENT STANDARD SPECIFICATIONS (FOR WORK WITHIN THE NYS DOT RIGHT-OF-WAY), THE NYS DOT WORK ZONE TRAFFIC CONTROL MANUAL FOR ALL PROJECTS, THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) WITH THE NEW YORK SUPPLEMENT, THE TEMPORARY TRAFFIC CONTROL DETAILS IN THE PLANS AND PROPOSAL OF THIS CONTRACT, AND AS ORDERED BY THE ENGINEER (A06B).
2. WORK ZONE TRAFFIC CONTROL SHALL CONFORM TO ANY AND ALL REQUIREMENTS OF NYS DOT WORK PERMITS.
3. FOR TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES IN CONSTRUCTION AREAS NOT SPECIFIED IN THE PLANS, THE PROVISIONS OF PART 5 AND 6 OF THE MUTCD WITH THE NYS SUPPLEMENT SHALL APPLY. THE STANDARDS OF APPLICATION NOTED THEREIN AND ON THE PLANS ARE TO BE CONSIDERED MINIMUM STANDARDS.
4. ROADWAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.
5. ALL PAVEMENT AND NON-PAVEMENT AREAS TEMPORARILY CLOSED FOR TRENCH, OR CONDUIT EXCAVATION OR EXCAVATION REQUIRED FOR ALTERING EXISTING UNDERGROUND UTILITIES AND/OR DRAINAGE STRUCTURES SHALL BE REOPENED AT THE END OF THE WORK DAY.
6. THE TYPICAL DETAILS DEPICTED ON THE STANDARD SHEETS AND IN THE MUTCD, REFLECT THE MINIMUM REQUIREMENTS.
7. THE CONTRACTOR MUST SUBMIT TO THE ENGINEER, IN WRITING, PROPOSED REVISIONS TO THE TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE, FOR WORK WITHIN THE NYS DOT RIGHT-OF-WAY, FIVE (5) WORK DAYS PRIOR TO THE PLANNED IMPLEMENTATION OF SUCH PROPOSED REVISIONS, EXCEPT FOR CHANGES THAT ALTER THE SCOPE OF THE TRAFFIC CONTROL PLAN. SUCH CHANGES IN SCOPE MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE THIRTY (30) WORKING DAYS PRIOR TO IMPLEMENTATION FOR SUCH REVISIONS.
8. THE CONTRACTOR SHALL PROVIDE THE ENGINEER, IN WRITING, WITH THE NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF STAFF WHO ARE AUTHORIZED TO SECURE LABOR, MATERIALS, AND EQUIPMENT FOR EMERGENCY REPAIRS OUTSIDE NORMAL WORKING HOURS. THE ENGINEER WILL PROVIDE THE SUBMITTED INFORMATION TO REGIONAL MANAGEMENT, THE NEW YORK STATE POLICE, THE RESIDENT ENGINEER, AND THE LOCAL POLICE.
9. THE WORK ZONE TRAFFIC CONTROL TYPICALS SHOWN (FAST-CUL, CUL, C3UL, C4, AND TAG-CEI), ARE CONTAINED IN THE NYS DOT WORK ZONE TRAFFIC CONTROL MANUAL, FEBRUARY 2015, AND APPLY TO ALL PROJECTS.

LANE WIDTHS

1. UNLESS AUTHORIZED BY THE ENGINEER, THE MINIMUM LANE WIDTHS FOR WORK ZONE TRAVEL LANES SHALL BE AS FOLLOWS: FREEWAYS AND/OR EXPRESSWAYS IS 11'. THE MINIMUM LANE WIDTH FOR ALL OTHER TYPES OF ROADWAYS IS 10'.
2. THE CONTRACTOR SHALL PROVIDE A WRITTEN NOTICE TO THE ENGINEER, A MINIMUM OF 21 CALENDAR DAYS IN ADVANCE OF PERFORMING ANY WORK THAT RESULTS IN THE REDUCED WIDTH OF AN EXISTING ROADWAY, SO THAT THE ENGINEER MAY NOTIFY THE REGIONAL PERMIT ENGINEER IN A TIMELY MANNER.

LANE CLOSURES

1. THE CONTRACTOR SHALL LOCATE LANE CLOSURES TO PROVIDE OPTIMUM VISIBILITY, I.E. BEFORE CURVES AND CRESTS, TO THE EXTENT CONDITIONS PERMIT.
2. THE ENGINEER MAY REQUIRE THAT ALL LANES BE RE-OPENED AT ANY TIME IF THE ROUTE IS NEEDED FOR EMERGENCY PURPOSES. THIS COULD INCLUDE INCIDENTS AT LOCATIONS OUTSIDE THE CONTRACT LIMITS.

PAVEMENT EDGE DROPOFF NOTES:

1. NO DROPOFFS SHALL EXIST BETWEEN ANY OF THE FOLLOWING PAVEMENTS OUTSIDE OF WORKING HOURS OR AS DIRECTED BY THE ENGINEER:
TRAVEL LANES, SHOULDERS, DRIVEWAY ENTRANCES, SIDEWALKS AND PATHS
2. THE COST OF PROVIDING AND MAINTAINING SAFE AND ADEQUATE VEHICULAR, BICYCLE AND PEDESTRIAN TRAFFIC AT INTERSECTING PAVEMENTS SHALL BE INCLUDED IN THE PRICE BID FOR TRAFFIC CONTROL.

ACTIVITY AREA

1. THE CONTRACTOR SHALL MAINTAIN A MINIMUM 500' LONGITUDINAL DISTANCE BETWEEN CONSTRUCTION OPERATIONS ON ALTERNATE SIDES OF THE ROADWAY, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
2. WHEN TWO OR MORE AREAS ARE ADJACENT, OVERLAP, OR ARE IN CLOSE PROXIMITY, THE CONTRACTOR SHALL ENSURE THERE ARE NO CONFLICTING SIGNS AND THAT LANE CONTINUITY IS MAINTAINED THROUGHOUT ALL WORK AREAS.

DRIVEWAY ACCESS NOTES:

1. DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES WITH THE FOLLOWING ALLOWANCES:
ACCESS TO DRIVEWAYS WILL BE MAINTAINED WHEREVER PRACTICAL, OR AS ORDERED BY THE ENGINEER. OWNERS WHOSE DRIVEWAYS WILL BE INACCESSIBLE SHALL BE NOTIFIED NO LESS THAN 24 HOURS IN ADVANCE. ACCESS SHALL BE RESTORED AT THE END OF EACH WORK DAY AND FOR THE WEEKEND UNLESS OTHER SUITABLE ARRANGEMENTS HAVE BEEN MADE WITH THE OWNER.
2. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE DRIVEWAY ENTRANCE AT ALL TIMES WHEN AN OWNERS FACILITY HAS TWO OR MORE DRIVEWAY ENTRANCES.
3. THE COST OF PROVIDING AND MAINTAINING SAFE AND ADEQUATE INGRESS AND EGRESS FOR INTERSECTING HIGHWAYS, HOMES AND COMMERCIAL ESTABLISHMENTS, AT ALL TIMES TO THE SATISFACTION OF THE ENGINEER, SHALL BE INCLUDED IN THE PRICE BID FOR TRAFFIC CONTROL.

FLAGGERS

1. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE NUMBER OF COMPETENT FLAGGERS TO CONTROL TRAFFIC WHEN NECESSARY TO MAINTAIN ALTERNATING ONE-WAY TRAFFIC IN ONE LANE OF A TWO-WAY LANE, TWO-WAY ROADWAY, AND AT ALL OTHER LOCATIONS WHERE NECESSARY FOR SAFE, EFFICIENT TRAFFIC OPERATIONS, OR AT LOCATIONS AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL NOT UNDERTAKE WORK AT MORE LOCATIONS THAN COMPETENT, TRAINED FLAGGERS ARE AVAILABLE TO SAFELY CONTROL TRAFFIC. ALL FLAGGERS SHALL BE ADEQUATELY TRAINED IN FLAGGING OPERATIONS BY RECOGNIZED TRAINING PROGRAMS, TO INCLUDE THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA), THE NATIONAL SAFETY COUNCIL, UNIONS, OR CONSTRUCTION INDUSTRY ASSOCIATIONS, OR BY AN INDIVIDUAL WHO HOLDS A CURRENT CERTIFICATION AS A FLAGGER TRAINING INSTRUCTOR FROM SUCH PROGRAM. PRIOR TO THE START OF FLAGGING OPERATIONS, THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER A LIST OF CERTIFIED FLAGGERS TO BE USED ON THE PROJECT, IDENTIFYING THE SOURCE OF FLAGGER TRAINING FOR EACH INDIVIDUAL OR WHEN AN INDIVIDUAL PROPOSED TO BE A FLAGGER ARRIVES ON THE PROJECT THE INDIVIDUAL WILL PROVIDE THE ENGINEER WITH PROOF OF TRAINING. IF THE INDIVIDUAL IS NOT ON A LIST PROVIDED BY THE CONTRACTOR OR DOES NOT PROVIDE PROOF OF TRAINING THE INDIVIDUAL WILL NOT BE ALLOWED TO ACT AS A FLAGGER ON THE PROJECT. WHEN THE ENGINEER DEEMS A FLAGGER IS NOT COMPETENT IN FLAGGING PROCEDURES THE INDIVIDUAL SHALL BE REPLACED.

NIGHTTIME OPERATIONS

1. WORK OCCURRING AFTER SUNSET AND BEFORE SUNRISE WILL BE CONSIDERED NIGHTTIME OPERATIONS. ALL WORKERS INVOLVED IN NIGHTTIME OPERATIONS SHALL WEAR PROTECTIVE HELMETS AND NIGHTTIME APPAREL IN ACCORDANCE WITH ANSI 107, CLASS 3.
2. THE CONTRACTOR SHALL NOT WORK AFTER SUNSET OR BEFORE SUNRISE WITHOUT THE PRIOR APPROVAL OF THE ENGINEER.
3. VEHICLES OPERATING ON THE PAVEMENT OF A CLOSED ROADWAY OR TRAVEL LANE SHALL DISPLAY FOUR-WAY FLASHERS OR ROTATING AMBER BEACONS AT ALL TIMES. VEHICLES USING HEADLIGHTS, EXCEPT FOR ROLLERS AND VEHICLES RETRIEVING CHANNELIZING DEVICES SHALL TRAVEL IN THE SAME DIRECTION AS ADJACENT TRAFFIC IN ORDER TO AVOID GLARE AND CONFUSION TO DRIVERS.
4. THE ENGINEERS APPROVAL FOR NIGHTTIME OPERATIONS SHALL BE CONTINGENT UPON THE CONTRACTOR HAVING SUBMITTED AND BEEN APPROVED A NIGHTTIME OPERATIONS AND LIGHTING PLAN. THE PLAN IS TO BE SUBMITTED TO THE ENGINEER A MINIMUM OF 30 DAYS PRIOR TO THE START OF NIGHTTIME OPERATIONS. FOR DETAILS OF THE PLAN REQUIREMENTS THE CONTRACTOR IS TO CONSULT WITH THE ENGINEER.

WORK ZONE SIGNS

1. THE LOCATIONS OF THE SIGNS SHOWN ON THE WORK ZONE TRAFFIC CONTROL PLANS AND DETAILS MAY BE ADJUSTED BASED ON SIGHT DISTANCE AND OTHER CONSIDERATIONS. THE FINAL LOCATIONS OF SIGNS ARE SUBJECT TO APPROVAL OF THE ENGINEER IN CHARGE.
2. ANY EXISTING SIGNS, INCLUDING OVERHEAD SIGNS, WHICH CONFLICT WITH THE TEMPORARY TRAFFIC CONTROL SIGN LAYOUT SHALL BE COVERED, REMOVED, STORED OR RESET, AS APPROVED BY THE ENGINEER. ALL APPROPRIATE EXISTING SIGNS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AND/OR LOCATION UNLESS OTHERWISE REPLACED IN THIS CONTRACT.
3. SIGNS AT OR NEAR INTERSECTIONS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT A MOTORIST'S LINE OF SIGHT.
4. ALL WARNING AND REGULATORY SIGNS SHALL BE POSTED ON BOTH SIDES OF MULTILANE DIVIDED HIGHWAYS, MULTILANE RAMP, AND ONE-WAY STREETS. IN CASES WHERE LANE RESTRICTIONS REDUCE THE TRAVEL LANE TO ONE LANE, SIGNS SHALL BE POSTED ON THE RIGHT SIDE OF THE ACTIVE TRAVEL LANE, UNLESS OTHERWISE AUTHORIZED BY THE ENGINEER.
5. SIGNS MOUNTED IN THE MEDIUM OR DIVIDED HIGHWAYS WHERE MEDIAN BARRIER IS IN PLACE MAY BE MOUNTED ON THE BARRIER WITH A SADDLE TYPE BRACKET, LAYING THE SIGN DOWN IN A HORIZONTAL POSITION IS NOT PERMITTED.
6. THE DIMENSIONS OF WORK ZONE TRAFFIC CONTROL SIGNS ARE DESCRIBED IN THE MUTCD. ANY CHANGES TO THE DIMENSIONS SHALL BE APPROVED BY THE REGIONAL DIRECTOR OR BY HIS/HER DESIGNEE FOR WORK WITHIN THE NYS DOT RIGHT-OF-WAY.
7. NYR9-12 MAY BE USED IN PLACE OF NYR9-11.

BARRIER/SHADOW VEHICLES

1. BARRIER AND SHADOW VEHICLES SHALL BE REQUIRED AS PER STANDARD SHEET TITLED "WORK ZONE TRAFFIC CONTROL LEGENDS AND NOTES".
2. NO WORK ACTIVITY, EQUIPMENT, VEHICLES AND/OR MATERIALS SHALL BE LOCATED BETWEEN THE BARRIER OR SHADOW VEHICLE AND THE ACTIVE WORK AREA (ROLL AHEAD DISTANCE).

WORK TIME RESTRICTIONS:

1. EXCEPT IN THE CASE OF EMERGENCIES, OR WITH PRIOR WRITTEN APPROVAL FROM TOWN OF CARMEL, THE FOLLOWING WORK HOURS SHALL BE OBSERVED:
MONDAY - FRIDAY: 8AM TO 8PM
SATURDAY: 8AM TO 4PM
SUNDAY: NO WORK ALLOWED
2. THERE SHALL BE NO WORK WITHIN THE TOWN OF CARMEL ON THE FOLLOWING DATES:
2018
• COLUMBUS DAY - MONDAY, OCTOBER 8, BEGINNING 6:00 AM FRIDAY OCTOBER 5 AND ENDING 10:00 AM TUESDAY OCTOBER 9.
• ST PATRICK'S DAY - SATURDAY, MARCH 17, BEGINNING 6:00 AM FRIDAY MARCH 16 AND ENDING 8:00 AM MONDAY MARCH 19.
3. CENTRAL HUDSON, TOWN OF CARMEL, PUTNAM COUNTY AND/OR NYS DOT MAY IMPOSE FURTHER TIME RESTRICTIONS ON WORK CORRIDORS AS TRAFFIC CONDITIONS WARRANT.

WORK WITHIN NYS ROUTE 6 ROW:

1. THERE SHALL BE NO TEMPORARY LANE CLOSURES ON ROADWAY FACILITIES OWNED AND/OR MAINTAINED BY NYS DOT ON THE MAJOR HOLIDAYS LISTED BELOW.
2018
• NEW YEAR'S DAY - MONDAY JANUARY 1, BEGINNING 6:00 AM FRIDAY, DECEMBER 29 AND ENDING 6:00 AM TUESDAY, JANUARY 2.
• MOTHERS DAY - SUNDAY, MAY 13, BEGINNING 6:00 AM FRIDAY MAY 11 AND ENDING 10:00 AM MONDAY MAY 14.
• MEMORIAL DAY - MONDAY MAY 28, BEGINNING 6:00 AM FRIDAY, MAY 25 AND ENDING 6:00 AM TUESDAY, MAY 29.
• INDEPENDENCE DAY - WEDNESDAY JULY 4, BEGINNING 6:00 AM TUESDAY, JULY 3 AND ENDING 6:00 AM THURSDAY, JULY 5.
• LABOR DAY - MONDAY, SEPTEMBER 3, BEGINNING 6:00 AM FRIDAY, AUGUST 31 AND ENDING 6:00 AM TUESDAY, SEPTEMBER 4.
• COLUMBUS DAY - MONDAY, OCTOBER 8, BEGINNING 6:00 AM FRIDAY OCTOBER 5 AND ENDING 10:00 AM TUESDAY OCTOBER 9.
• THANKSGIVING DAY - THURSDAY, NOV. 22, BEGINNING 6:00 AM WEDNESDAY, NOVEMBER 21 AND ENDING 6:00 AM MONDAY, NOVEMBER 26.
• CHRISTMAS DAY - TUESDAY, DECEMBER 25, BEGINNING 6:00 AM FRIDAY, DECEMBER 21 AND ENDING 6:00 AM WEDNESDAY, DECEMBER 26.

REQUIREMENTS FOR PORTABLE VARIABLE MESSAGE SIGNS:

1. PORTABLE VARIABLE MESSAGE SIGNS SHALL BE PLACED AT ALL MAJOR APPROACHES TO THE PROJECT OR, FOR CONTRACTS WITH MULTIPLE LOCATIONS, AT ALL MAJOR APPROACHES TO EACH LOCATION, AS DIRECTED BY THE CENTRAL HUDSON.
2. PORTABLE VARIABLE MESSAGE SIGNS WILL BE USED TO NOTIFY MOTORISTS AT LEAST TWO WEEKS IN ADVANCE OF THE ANTICIPATED START OF WORK DATE AT EACH LOCATION AND, WHEN APPLICABLE, THE ANTICIPATED START OF EACH SUBSEQUENT STAGE THAT REQUIRES A NEW WORK ZONE TRAFFIC CONTROL PATTERN. THE SIGNS SHALL REMAIN IN PLACE UNTIL ALL WORK IS COMPLETED AT A LOCATION OR IN A STAGE, OR AS DIRECTED BY CENTRAL HUDSON.
3. THE FOLLOWING IS A SUMMARY OF THE ANTICIPATED NEED FOR PORTABLE VARIABLE MESSAGE SIGNS:
LOCATION (SEE DETOUR PLAN):
PVMS 1
LOCATION: LONG POND ROAD (CR 32)
DURATION: LENGTH OF PROJECT
PVMS 2
LOCATION: NYS ROUTE 6 NORTHBOUND
DURATION: LENGTH OF PROJECT
PVMS 3
LOCATION: NYS ROUTE 6 SOUTHBOUND
DURATION: LENGTH OF PROJECT
4. STANDARD (TYPICAL) MESSAGES FOR PORTABLE VARIABLE MESSAGE SIGNS SHALL BE SUPPLIED TO THE CONTRACTOR BY THE ENGINEER. THE CONTRACTOR SHALL SUBMIT ANY UNIQUE MESSAGES TO THE CENTRAL HUDSON FOR APPROVAL BY THE SURFACE TRANSPORTATION CONTROLLER. REQUESTS FOR MESSAGE APPROVAL SHOULD ACCOMPANY THE ROAD WORK FORM DESCRIBED IN THE TEMPORARY LANE AND SHOULDER CLOSURES NOTE BELOW.

CHANGES TO THE WORK ZONE TRAFFIC CONTROL PLAN:

THE CONTRACTOR MUST SUBMIT TO THE ENGINEER, IN WRITING, PROPOSED REVISIONS TO THE WORK ZONE TRAFFIC CONTROL PLAN FOR REVIEW AND APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE A MINIMUM OF SEVEN (7) CALENDAR DAYS PRIOR TO THE PLANNED IMPLEMENTATION OF SUCH PROPOSED REVISIONS, EXCEPT FOR CHANGES THAT ALTER THE BASIC CONCEPT OR SCOPE OF THE WORK ZONE TRAFFIC CONTROL PLAN, SUCH CHANGES TO THE BASIC CONCEPT OR SCOPE MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL BY THE REGIONAL DIRECTOR OR HIS/HER DESIGNEE A MINIMUM OF FORTY-FIVE (45) CALENDAR DAYS PRIOR TO IMPLEMENTATION OF SUCH REVISIONS.

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REV	DATE	BY	DESCRIPTION	ENTER PERMITS PLANNING BOARD AND CEA COMMENTS		ENTER PERMITS COMMENTS	
				DATE	INITIALS	DATE	INITIALS
1	8/20/2017	1	01000000				
2	08/20/17	2	01000000				

BRETT D. REYNOLDS
NEW YORK LICENSED PROFESSIONAL
ENGINEER - LICENSE NUMBER 00064

**PROJECT ROUTE DESIGN
PLANS
FOR
Central Hudson
8-M LINE GAS
REINFORCEMENT PROJECT
TOWN OF CARMEL
PUTNAM COUNTY, NY**

DESIGN OFFICE
11 Corporate Drive
Suite 200
Albany, NY 12205
Phone 518.439.2352
Fax 518.439.2384

DATE: 8/20/17
AS SHOWN: 8/20/17
PROJECT NUMBER: 11000000
SHEET: 24 OF 34


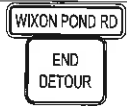




WORK ZONE TRAFFIC CONTROL NOTES
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NYR9-11

NYR9-12

[illegible]

TEXT #	LOCATION	TEXT	DESIGNATION AND COLOR	SIZE
				AREA
9	1-7 <div>7</div>		D3-1 R11-3A (BLACK ON WHITE)	66" X 12" (5.5 S.F.) 60" X 30" (12.5 S.F.)
10	1 <div>1</div>		D3-1 M4-8A	50" X 12" (5.5 S.F.) 24" X 12" (2.0 S.F.)
11	SEE BARRICADE DETAIL <div>4</div>		R11-2 (BLACK ON WHITE)	24" X 18" (3.0 S.F.)
12	1-3 <div>3</div>		W20-3	36" X 36" (9.0 S.F.)
13	1-3 <div>3</div>		W20-3	36" X 36" (9.0 S.F.)
13A	1-3 <div>3</div>		W20-3	36" X 36" (9.0 S.F.)



TYPE 3 BARRICADES, SEE
DETAIL THIS SHEET (TYP)

PLACE ROAD
CLOSED SIGN IN
FRONT OF
BARRICADE

BARRICADE PLAN VIEW

BARRICADE ELEVATION VIEW

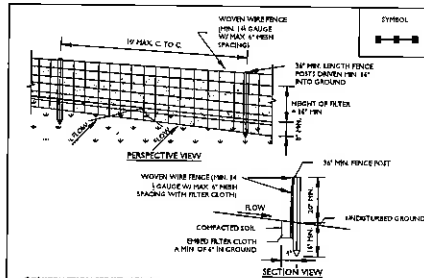
ROAD
CLOSED

NTS

ROAD CLOSURE BARRICADE DETAIL

1. ALL SIGNS, INSTALLATION, REMOVAL AND MAINTENANCE SHALL BE PERFORMED IN ACCORDANCE WITH NYSDOT STANDARD SPECIFICATION FOR ITEM NO. 619.01.
2. ALL SIGNS SHALL BE BLACK ON ORANGE, UNLESS OTHERWISE NOTED (SEE SIGNS R11-3A AND R11-2).
3. THE DISTANCES FOR SIGNS 1-17, 1-24, AND 1-53 SHALL BE 1/2 MILE, 0.1 MILE, AND 1.6 MILES (RESPECTIVELY).

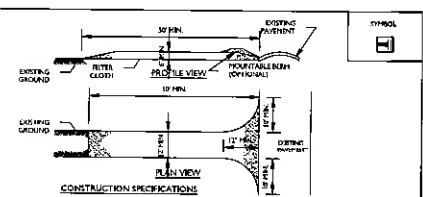
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CONSTRUCTION SPECIFICATIONS

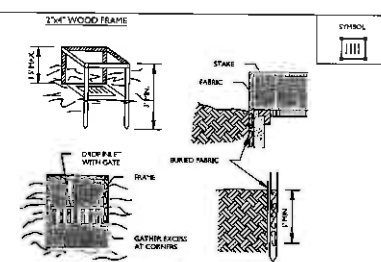
1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE SET AT 10' ON CENTER. EITHER 1" OR 1 1/2" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 12 GAUGE, 6" MAXIMUM HOLE OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER WASHED, STABILIZED, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOTEXTILE, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

1 SILT FENCE
SCALE: N.T.S.



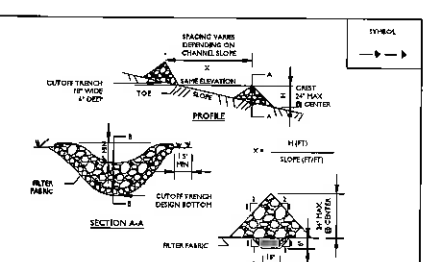
1. STONE SIZE - USE 1" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 10 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 10 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE TRUCKS OR VEHICLES OCCUR. TWENTY-FOUR (24) FOOT W SINGLE ENTRANCE TO SITE.
5. FILTER CLOTH - SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PEED ACROSS THE ENTRANCE. IF PAVING IS PRACTICAL, A MOUNTAINABLE BERM WITH 5:1 SLOPES SHALL BE MAINTAINED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. ALL SEDIMENT SHALL BE CLEANED, DUMPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

2 STABILIZED CONSTRUCTION ENTRANCE
SCALE: N.T.S.



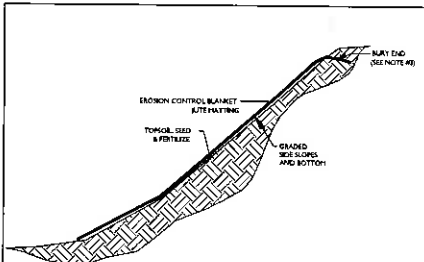
1. FILTER FABRIC SHALL HAVE AN EDS OF 40-45. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" X 4" WOOD OR EQUIVALENT. INSTALL WITH A MINIMUM LENGTH OF 3 FEET.
4. STAKE STAKES EVERY 10 FEET AND DRIVE A MINIMUM 18 INCHES DEEP. STAKES GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE NETS BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" X 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY. MAXIMUM DRAINAGE AREA 1 ACRE.

3 DROP INLET FILTER FABRIC PROTECTION
SCALE: N.T.S.



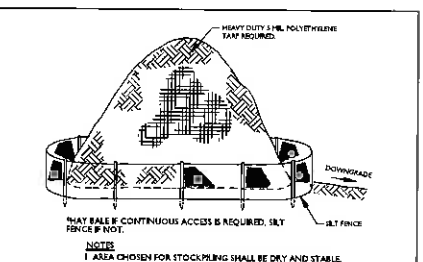
1. STONE WILL BE PLACED ON A FILTER FABRIC FOUNDATION TO THE LINES, GRADES AND LOCATIONS SHOWN IN THE PLAN.
2. SET BRACING OF CHECK DAMS TO ASSURE THAT THE ELEVATION OF THE CREST OF THE DOWNSTREAM DAM IS AT THE SAME ELEVATION AS THE TOE OF THE UPSTREAM DAM.
3. EXTEND THE STONE A MINIMUM OF 15 FEET BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM.
4. PROTECT THE CHANNEL DOWNSTREAM OF THE LOWEST CHECK DAM FROM SCOUR AND EROSION WITH STONE OR LINER AS APPROPRIATE.
5. INSURE THAT CHANNEL APPLICABLE SUCH AS CULVERT ENTRANCES BELOW CHECK DAMS ARE NOT SUBJECT TO DAMAGE OR BLOCKAGE FROM DISPLACED STONE.
6. MAXIMUM DRAINAGE AREA 2 ACRES.

4 CHECK DAM
SCALE: N.T.S.



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF TOPSOIL, FERTILIZER, AND SEED.
2. ROLL BLANKETS IN DIRECTION OF WATER FLOW.
3. REFER TO MANUFACTURERS SPECIFICATIONS FOR BLANKET INSTALLATION, ANCHORING AND STAPLING REQUIREMENTS.
4. EROSION CONTROL BLANKET SHALL BE RITE MATTING, RUTEMIA DRAINAGE, OR APPROVED EQUIVALENT.

5 SLOPE STABILIZATION DETAIL
SCALE: N.T.S.



1. AREA CHOSEN FOR STOCKPILING SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING AND STABILIZED. SEED AND MULCH OR LIME SHALL NOT BE USED IN PLACE OF SILT FENCE.
4. SEE MIDDOT SPECIFICATIONS FOR INSTALLATION OF SILT FENCE.
5. SIZE OF STOCKPILE SHALL NOT EXCEED THE LIMITATIONS OF DRAINAGE AREA PER SILT FENCE.
6. INSTALL SILT FENCE AND/OR MATERIALS A MINIMUM OF 2' FROM THE TOE OF THE STOCKPILE.

6 SOIL STOCKPILE DETAIL
SCALE: N.T.S.

STORM WATER POLLUTION PREVENTION AND TEMPORARY SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL PROVISIONS OF ANY APPLICABLE FEDERAL OR STATE CERTIFICATIONS/PERMITS THAT PERTAINS TO THIS PROJECT.
2. EROSION CONTROL DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH NY DEC REQUIREMENTS, NY DEC REQUIREMENTS AND DETAILS PROVIDED ON THE PLANS AND AS PER THE MANUFACTURERS REQUIREMENTS.
3. ALL EROSION AND SEDIMENT CONTROLS NECESSARY SHALL BE INSTALLED PRIOR TO WORK IN THAT AREA. EROSION AND SEDIMENT CONTROLS MUST BE CHECKED A MINIMUM OF EVERY 7 CALENDAR DAYS. ANY MAINTENANCE NECESSARY SHOULD BE PERFORMED WITHIN 48 HOURS.
4. CHECK DAMS SHOULD BE CHECKED AFTER EVERY STORM FOR DAMAGE, OVERTOPPING OR CLOSING WITH SEDIMENT. REPAIRS OR MAINTENANCE SHOULD TAKE PLACE AS SOON AS DETECTION IS NOTICED.
5. CONSTRUCTION ENTRANCE TRACKING PADS SHOULD BE CHECKED DAILY FOR CLOGGING OR BUILDUP AND MAINTAINED TO KEEP FROM TRACKING SEDIMENT ONTO THE TRAVEL LANES.
6. ALL DEWATERING OR PUMPING OPERATIONS (IF NEEDED) REQUIRE DIRT BAGS, SILT SACKS, AND/OR TEMPORARY SEDIMENT CONTROL BARRIERS. ALL WATERS DISCHARGED SHALL BE CLEAN OF ALL SEDIMENT.
7. ALL EROSION CONTROL MEASURES SHOULD BE CHECKED BY THE ENGINEER (OR INSPECTOR) TO INSURE PROPER PLACEMENT OF ALL FEATURES.
8. ALL STABILIZING AREAS SHALL PROVIDE THE FOLLOWING:
 - A. STABILIZED CONSTRUCTION ENTRANCE
 - B. SILT FENCE
 - C. CATCH BASIN PROTECTION
 - D. OFFSETS FOR WATER DISCHARGE
9. SEDIMENT REMOVED FROM EROSION AND SEDIMENT CONTROL MEASURES WILL BE EXPORTED FROM THE SITE OR STOCKPILED AT CONSTRUCTION STAGING AREA FOR LATER USE.

MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES:

1. PERMANENT AND TEMPORARY VEGETATION
 - INSPECT ALL AREAS THAT HAVE RECEIVED VEGETATION EVERY SEVEN DAYS. ALL AREAS DAMAGED BY EROSION OR WHERE SEED HAS NOT ESTABLISHED SHALL BE REPAIRED AND REESTABLISHED IMMEDIATELY.
2. STABILIZED CONSTRUCTION ENTRANCE
 - INSPECT THE ENTRANCE PAD EVERY SEVEN DAYS. CHECK FOR MUD, SEDIMENT BUILDUP AND PAD INTEGRITY. MAKE DAILY INSPECTIONS DURING WET WEATHER. REPAIR PAD AS NEEDED FOR DRAINAGE AND RUNOFF CONTROL. WASH AND REPLACE STONE AS NEEDED. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE MUD BEING CARRIED OFFSITE BY VEHICLES. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO PUBLIC ROAD BY BRUSHING OR OVERBOWING. REMOVE TEMPORARY CONSTRUCTION ENTRANCE AS SOON AS THEY ARE NO LONGER NEEDED TO PROVIDE ACCESS TO THE SITE.
3. SILT FENCE
 - INSPECT FOR DAMAGE EVERY SEVEN DAYS. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UPLOUSE FACE OF THE FENCE BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO 1/3 THE HEIGHT OF THE FENCE. IF FENCE FABRIC TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF FENCE IMMEDIATELY.
4. SOIL STOCKPILE
 - INSPECT SEDIMENT CONTROL BARRIERS (SILT FENCE OR HAY BALE) AND VEGETATION FOR DAMAGE EVERY SEVEN DAYS. MAKE ALL REPAIRS IMMEDIATELY. REMOVE SEDIMENT FROM THE UPLOUSE FACE OF THE SEDIMENT CONTROL BARRIER BEFORE IT ACCUMULATES TO A HEIGHT EQUAL TO 1/3 THE HEIGHT OF THE SEDIMENT CONTROL BARRIER. IF SEDIMENT CONTROL BARRIER TEARS, BEGINS TO DECOMPOSE, OR IN ANY WAY BECOMES INEFFECTIVE, REPLACE THE AFFECTED SECTION OF SEDIMENT CONTROL BARRIER IMMEDIATELY. REPAIR OR REPLACE DISTURBED AREA TO STABILIZED SOIL STOCKPILE. REMOVE THE SEDIMENT CONTROL BARRIER WHEN THE SOIL STOCKPILE HAS BEEN REMOVED.
5. DUST CONTROL
 - SCHEDULE CONSTRUCTION OPERATIONS TO MINIMIZE THE AMOUNT OF DISTURBED AREAS AT ANY ONE TIME DURING THE COURSE OF WORK. APPLY TEMPORARY SOIL STABILIZATION PRACTICES SUCH AS MULCHING, SEEDING, AND SPRAYING WATER. STRUCTURAL MEASURES (MULCHING) SHALL BE INSTALLED IN DISTURBED AREAS BEFORE SIGNIFICANT BLOWING PROBLEMS DEVELOP. WATER SHALL BE SPRAYED AS NEEDED. REPAIRED AS NEEDED. BUT AVOID EXCESSIVE SPRAYING, WHICH COULD CREATE RUNOFF AND EROSION PROBLEMS.
6. CHECK DAM
 - INSPECT CHECK DAMS EVERY SEVEN DAYS. IF SIGNIFICANT EROSION HAS OCCURRED BETWEEN STRUCTURES A LINE OF STONE OR OTHER SUITABLE MATERIAL SHOULD BE INSTALLED IN THAT PORTION OF THE CHANNEL. REMOVE SEDIMENT ACCUMULATED BEHIND THE DAM AS NEEDED TO ALLOW CHANNEL TO DRAINAGE THROUGH THE STONE CHECK DAM AND PREVENT LARGE FLOWS FROM CARRYING SEDIMENT OVER THE DAM. REPLACE STONE AS NEEDED TO MAINTAIN THE DESIGN CROSS SECTION OF THE STRUCTURE. REMOVE CHECK DAMS AS PER APPROVAL OF THE ENGINEER.

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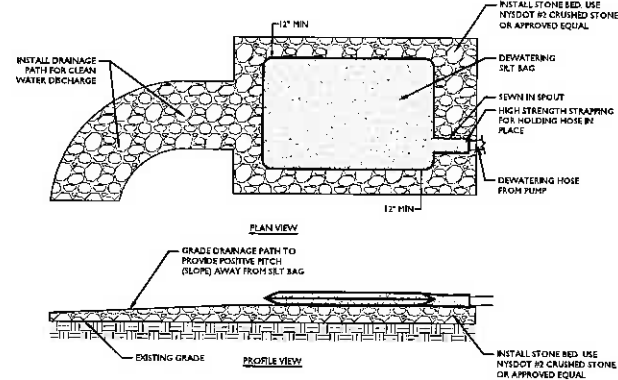
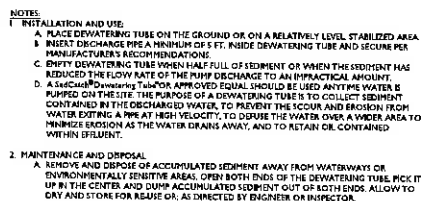
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08/07/17	DAF	DATE PER CHECK PLAN	08/07/17	DAF	DATE PER CHECK PLAN
08/07/17	DAF	DATE PER CHECK PLAN	08/07/17	DAF	DATE PER CHECK PLAN

BRETT D. REYNOLDS
NEW YORK LICENSED PROFESSIONAL
ENGINEER - LICENSE NUMBER: 1906

**PROJECT ROUTE DESIGN
PLANS
FOR
Central Hudson
5-M LINE GAS
REINFORCEMENT PROJECT
TOWN OF CARMEL
PUTNAM COUNTY, NY**

ALBANY OFFICE
1000 N. 10th St., Suite 100
Albany, NY 12206
Phone: 518-461-1234
Fax: 518-451-1234

DATE	DATE	DATE	DATE
08/07/17	08/07/17	08/07/17	08/07/17
08/07/17	08/07/17	08/07/17	08/07/17



NOTE:
SILT FENCE IS NOT REQUIRED IF THE SHOULDER IS HIGHER IN ELEVATION THAN THE EXISTING ROAD, THE SHOULDER IS A ROCK OUTCROPPING, OR IF A STONE WALL EXISTS WITHIN 3' OF THE EDGE OF PAVEMENT.

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STABILIZED STAGING AREA INSTALLATION NOTES:

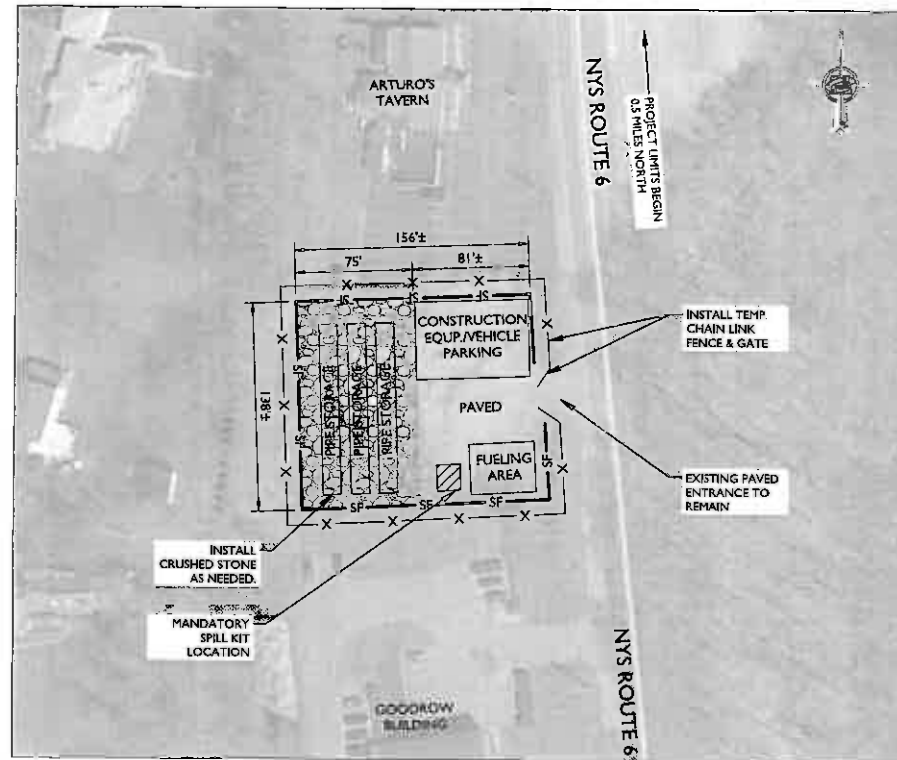
- CONTRACTOR TO COORDINATE ARRANGEMENT OF EQUIPMENT, CONSTRUCTION MATERIALS, AND FUELING AREAS WITHIN STAGING AREA WITH CENTRAL HUDSON BEFORE START OF CONSTRUCTION.
- STAGING AREA SHALL BE INSTALLED PRIOR TO OTHER OPERATIONS ON THE SITE.
- ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING, BUT NOT LIMITED TO SILT FENCE, STABILIZATION, DUST CONTROL AND CONSTRUCTION FENCING.
- ALL CONSTRUCTION VEHICLES AND EQUIPMENT SHALL BE PLACED ON PAVED SURFACES TO PREVENT ANY POTENTIALLY LEAKING FLUIDS/OILS/GAS FROM SEEPING INTO SOILS. IF EQUIPMENT IS PLACED ON SOIL OR GRAVEL A LAYER OF POLY-LYNER SHALL BE PLACED ON GROUND FOR PROTECTION FROM FLUIDS/OILS/GAS LEAKS.
- THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION AND LOT OWNER.
- STAGING AREA SHALL BE KEPT NEAT AND CLEAN AT ALL TIMES.

ON-SITE FUEL/OIL STORAGE NOTES:

- FUEL HANDLING AND STORAGE FACILITIES WILL COMPLY WITH APPLICABLE FEDERAL AND STATE REGULATIONS.
- ABOVE-GROUND BULK STORAGE: WITH THE EXCEPTION OF MOBILE TANK TRUCKS, THESE UNITS WILL HAVE SECONDARY CONTAINMENT OR BE ADEQUATELY BERMED WITH IMPERVIOUS MATERIAL TO CONTAIN A POTENTIAL LOSS FROM COMPLETE TANK FAILURE.
- FUELS USED IN THE CONSTRUCTION PROCESS WILL BE STORED AT SPECIFIED EQUIPMENT STAGING AREAS. WHERE PRACTICAL, REFUELING WILL BE CONDUCTED AT THE STAGING AREAS.
- IF REFUELING ALONG THE ROW IS REQUIRED, FUEL WILL BE TRUCKED IN USING APPROPRIATE EQUIPMENT AND APPROPRIATE ENVIRONMENTAL PRECAUTIONS TAKEN AS OUTLINED BELOW:
 - FUEL TANKS OF SUCH EQUIPMENT WILL BE INITIALLY FILLED IN AN UPLAND LOCATION GREATER THAN 100 FEET FROM WETLANDS OR STREAMS TO MINIMIZE THE AMOUNT OF REFUELING WITHIN THESE SENSITIVE AREAS.
 - ABSORBENT PADS OR PORTABLE BASINS WILL BE DEPLOYED UNDER THE REFUELING OPERATION. IN ADDITION, THE FUEL NOZZLE WILL BE WRAPPED AN ABSORBENT PAD AND THE NOZZLE WILL BE PLACED IN A SECONDARY CONTAINMENT VESSEL (E.G., BUCKET) WHEN MOVING THE NOZZLE FROM THE FUEL TRUCK TO THE EQUIPMENT TO BE REFUELED.
 - CREWS WILL HAVE SUFFICIENT SPILL CONTAINMENT EQUIPMENT ON HAND AT THE SECONDARY CONTAINMENT LOCATION TO PROVIDE PROMPT CONTROL AND CLEANUP IN THE EVENT OF A RELEASE.
- THE HANDLING, TRANSPORTATION, STORAGE AND DISPOSAL OF OIL, FUELS, USED OILS, AND (IF ANY) HAZARDOUS WASTES WILL BE CONDUCTED IN AN ENVIRONMENTALLY SAFE MANNER. ANY HAZARDOUS SUBSTANCES WILL BE TRANSPORTED, STORED, AND HANDLED AS RECOMMENDED BY THE SUPPLIERS AND/OR MANUFACTURERS AND IN COMPLIANCE WITH ALL APPLICABLE FEDERAL OR STATE REGULATIONS.
- CONSTRUCTION STAGING AND LAY DOWN AREAS WILL HAVE AN ADEQUATE SUPPLY OF SUITABLE ABSORBENT MATERIAL AND ANY OTHER SUPPLIES AND EQUIPMENT NECESSARY TO IMMEDIATELY CLEAN-UP INADVERTENT WASTE OR FUEL SPILLS. SPILL KITS SHALL BE KEPT IN CONSTRUCTION VEHICLES AND AT STAGING AREAS WHERE EQUIPMENT IS STORED.

EQUIPMENT STORAGE:

- UNLESS OTHERWISE AUTHORIZED BY BOTH CENTRAL HUDSON AND TOWN OF CARMEL, ALL EQUIPMENT SHALL BE STORED AT STAGING AREA. CONTRACTOR SHALL MOBILIZE AND DEMOBILIZE EQUIPMENT DAILY. NO EQUIPMENT OR MATERIAL, OTHER THAN TRAFFIC WORK ZONE SIGNAGE, SHALL BE LEFT ON ROAD SIDES OR IN WORK ZONES AT THE END OF EACH WORKDAY.



**PROJECT STAGING AREA
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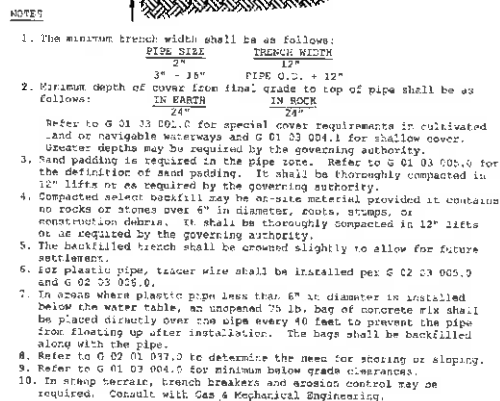
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ENGINEER - LICENSE NUMBER: 48966

**PROJECT ROUTE DESIGN
PLANS
FOR
Central Hudson
S - M LINE GAS
REINFORCEMENT PROJECT
TOWN OF CARMEL
PUTNAM COUNTY, NY**

ALBANY OFFICE
18 Commercial Drive, 1st Floor
Albany, NY 12204
Phone: 518-433-1111
Fax: 518-433-1111

DATE	DATE	DATE	DATE
08/20/17	08/20/17	08/20/17	08/20/17

PROJECT NUMBER: 15000024A
DRAWING NAME: C-0001
SHEET TITLE: CONSTRUCTION STAGING AREA
SHEET NUMBER: 31 of 34



5 TYPICAL PROJECT TRENCH DETAIL - CHGE
GD-1 SCALE: N.T.S.

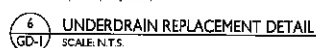
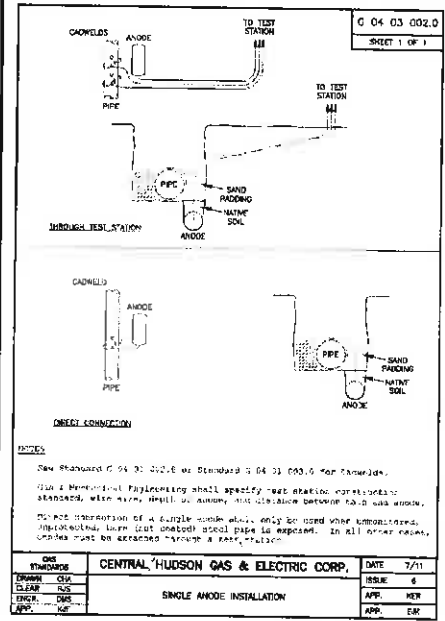


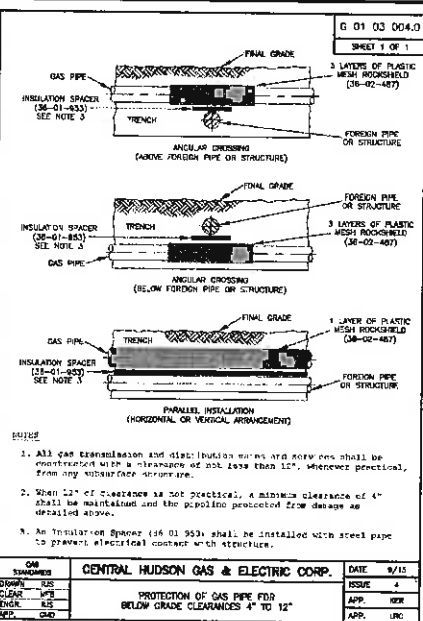
Diagram illustrating the cross-section of a road construction, showing the following layers and components:

- 1" TOP COURSE HMA TYPE 7
- 1" BINDER COURSE HMA TYPE 3
- 1" BASE COURSE TYPE 1
- EXISTING GRADE SAWCUT
- SUBBASE COURSE, TYPE 3 (DEPTH TO MATCH EXISTING PAVEMENT ITEM NO. 10412)
- 4" PERFORATED PVC UNDER DRAIN PIPE
- FILTER CLOTH, GEOTEXTILE FABRIC, MINAR 1404 (OR EQUAL)
- 16" MIN. (Vertical dimension of the filter cloth/geotextile layer)
- SHOULDER, VARIOUS (MATCH EXISTING)

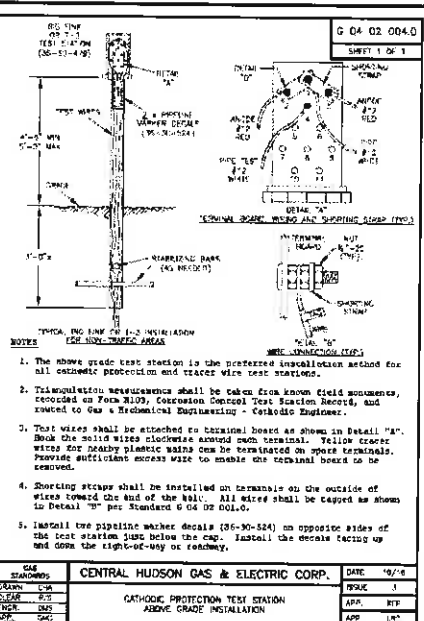
SHEET NUMBER
32 of 34



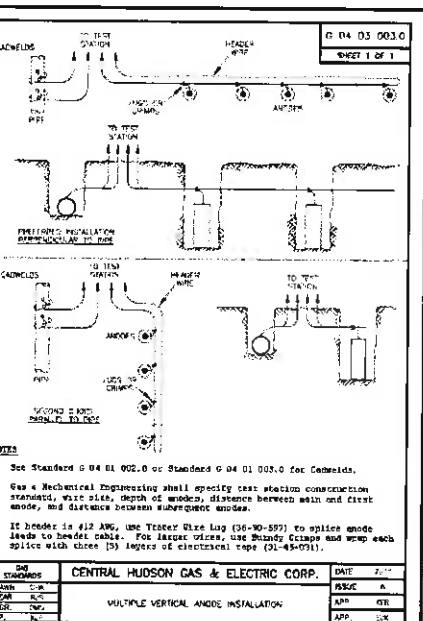
6 ANODE DETAIL (AS REQUIRED PER CHGE)
SCALE: N.T.S.



7 PIPE CROSSING DETAIL
SCALE: N.T.S.



8 TEST STATION DETAIL
SCALE: N.T.S.



9 MULTIPLE ANODE INSTALLATION DETAIL
SCALE: N.T.S.

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GENERAL DETAILS (SHEET 2 OF 3)

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FRAC-OUT CONTINGENCY PLAN (FCP):

1.0 INTRODUCTION AND PURPOSE

DIRECTIONAL BORE OPERATIONS HAVE A POTENTIAL TO RELEASE DRILLING FLUIDS INTO THE SURFACE ENVIRONMENT THROUGH FRAC-OUTS. (A FRAC-OUT IS THE CONDITION WHERE DRILLING MUD IS RELEASED THROUGH FRACTURED SUBSURFACE SOIL AND TRAVELS TOWARD THE SURFACE.) BECAUSE DRILLING MUDS CONSIST LARGELY OF A BENTONITE CLAY-WATER MIXTURE, THEY ARE NOT CLASSIFIED AS TOXIC OR HAZARDOUS SUBSTANCES.

WHILE DRILLING FLUID SEEPAGE ASSOCIATED WITH A FRAC-OUT IS MOST LIKELY TO OCCUR NEAR THE BORE ENTRY AND EXIT POINTS WHERE THE DRILL HEAD IS SHALLOW, FRAC-OUTS CAN OCCUR IN ANY LOCATION ALONG A DIRECTIONAL DRILLING. THIS FRAC-OUT CONTINGENCY PLAN (FCP) ESTABLISHES OPERATIONAL PROCEDURES, PREVENTION, CONTAINMENT, AND CLEAN-UP OF FRAC-OUTS ASSOCIATED WITH THE PROPOSED DIRECTIONAL DRILLING PROJECT. CONTRACTOR FOR THE HORIZONTAL DIRECTIONAL DRILLING PORTION WILL ADHERE TO THIS PLAN DURING THE DIRECTIONAL DRILLING PROCESS.

THE SPECIFIC OBJECTIVES OF THIS PLAN ARE TO:

1. MINIMIZE THE POTENTIAL FOR A FRAC-OUT ASSOCIATED WITH DIRECTIONAL DRILLING ACTIVITIES;
2. PROVIDE FOR THE TIMELY DETECTION OF FRAC-OUTS;
3. PROTECT THE ENVIRONMENTALLY SENSITIVE RIVERBED AND ASSOCIATED RIPARIAN VEGETATION;
4. ENSURE THE ORGANIZED, TIMELY, AND "MINIMUM-IMPACT" RESPONSE IN THE EVENT OF A FRAC-OUT AND RELEASE OF DRILLING BENTONITE; AND
5. ENSURE THAT ALL APPROPRIATE NOTIFICATIONS ARE MADE IMMEDIATELY TO THE SUPERVISORY SITE ENGINEER.

2.0 DESCRIPTION OF WORK

IN THE EVENT OF A DROP IN THE DRILLING PRESSURE AND DRILLING FLUID VOLUME VARIATIONS OR OTHER EVIDENCE OF A FRAC-OUT DURING DRILLING, OPERATIONS WILL BE HALTED BY THE DRILL RIG OPERATORS IMMEDIATELY. THE CLEAN-UP OF ALL SPILLS SHALL BEGIN IMMEDIATELY. MANAGEMENT AND SAFETY DEPARTMENT SHALL BE NOTIFIED IMMEDIATELY OF ANY SPILLS AND SHALL BE CONSULTED REGARDING CLEANUP PROCEDURES. A VACUUM TRUCK AND CONTAINMENT MATERIALS, SUCH AS STRAW BALES, SHALL ALSO BE ON-SITE PRIOR TO AND DURING ALL OPERATIONS. THE SITE SUPERVISOR WILL BE IMMEDIATELY NOTIFIED. IN THE EVENT OF A FRAC-OUT, THE ON-SITE FOREMAN/SUPERVISOR WILL CONDUCT AN EVALUATION OF THE SITUATION AND DIRECT RECOMMENDED MITIGATION ACTIONS BASED ON THE FOLLOWING GUIDELINES:

- a. IF THE FRAC-OUT IS MINOR, EASILY CONTAINED, HAS NOT REACHED THE SURFACE AND IS NOT THREATENING SENSITIVE RESOURCES, DRILLING OPERATION MAY RESUME AFTER USE OF A LEAK STOPPING COMPOUND (DIAMOND SEALER OR EQUAL) OR REDIRECTION OF THE BORE.
- b. IF THE FRAC-OUT HAS REACHED THE SURFACE, ANY MATERIAL CONTAMINATED WITH BENTONITE SHALL BE REMOVED BY A VACUUM TRUCK AND PROPERLY DISPOSED OF, AS REQUIRED BY LAW. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE BENTONITE IS EITHER PROPERLY DISPOSED OF AT AN APPROVED DISPOSAL FACILITY OR PROPERLY RECYCLED IN AN APPROVED MANNER.

3.0 SITE SUPERVISOR / FOREMAN RESPONSIBILITIES

THE SITE SUPERVISOR/FOREMAN IS FAMILIAR WITH ALL ASPECTS OF THE DRILLING ACTIVITY, THE CONTENTS OF THIS FRAC-OUT CONTINGENCY PLAN AND THE CONDITIONS OF APPROVAL UNDER WHICH THE ACTIVITY IS PERMITTED TO TAKE PLACE. THE SITE SUPERVISOR/FOREMAN HAS THE AUTHORITY TO STOP WORK AND COMMIT THE RESOURCES (PERSONNEL AND EQUIPMENT) NECESSARY TO IMPLEMENT THIS PLAN.

4.0 EQUIPMENT

THE SITE SUPERVISOR/FOREMAN WILL ENSURE THAT:

- a. ALL EQUIPMENT AND VEHICLES WILL BE MAINTAINED DAILY TO PREVENT LEAKS OF HAZARDOUS MATERIALS;
- b. SPILL KITS AND SPILL CONTAINMENT MATERIALS WILL BE AVAILABLE ON-SITE AT ALL TIMES AND THAT THE EQUIPMENT IS IN GOOD WORKING ORDER; AND
- c. EQUIPMENT REQUIRED TO CONTAIN AND CLEAN-UP A FRAC-OUT RELEASE WILL EITHER BE AVAILABLE AT THE WORK SITE OR READILY AVAILABLE AT AN OFF-SITE LOCATION WITHIN 15-MINUTES OF THE BORE SITE.

5.0 DRILLING PROCEDURES

THE FOLLOWING PROCEDURES SHALL BE FOLLOWED EACH DAY PRIOR TO THE START OF WORK. THE FRAC-OUT CONTINGENCY PLAN SHALL BE AVAILABLE ON-SITE DURING ALL CONSTRUCTION. THE SITE SUPERVISOR/FOREMAN SHALL BE ON-SITE AT ANY TIME THAT DRILLING IS OCCURRING OR IS PLANNED TO OCCUR. THE SITE SUPERVISOR/FOREMAN SHALL ENSURE THAT A JOB BRIEFING MEETING IS HELD AT THE START OF EACH DAY OF DRILLING TO REVIEW THE APPROPRIATE PROCEDURES TO BE FOLLOWED IN CASE OF A FRAC-OUT. QUESTIONS SHALL BE ANSWERED AND CLARIFICATION GIVEN ON ANY POINT OVER WHICH THE DRILLING CREW OR OTHER PROJECT STAFF HAS CONCERNS.

EXIT AND ENTRY PITS SHALL BE ENCLOSED BY SILT FENCES AND STRAW. A VACUUM TRUCK SHALL BE READILY AVAILABLE ON-SITE PRIOR TO AND DURING ALL DRILLING OPERATIONS. CONTAINMENT MATERIALS (STRAW, SILT FENCING, SAND BAGS, FRAC-OUT SPILL KITS, ETC.) SHALL BE STAGED ON-SITE AT LOCATION WHERE THEY ARE READILY AVAILABLE AND EASILY MOBILIZED FOR IMMEDIATE USE IN THE EVENT OF AN ACCIDENTAL RELEASE OF DRILLING MUD (FRAC-OUT). IF NECESSARY, BARRIERS (STRAW BALES OR SEDIMENTATION FENCES) BETWEEN THE BORE SITE AND THE EDGE OF THE WATER

SOURCE SHALL BE CONSTRUCTED PRIOR TO THE DRILLING TO PREVENT RELEASED BENTONITE MATERIAL FROM REACHING THE WATER.

ONCE THE DRILL RIG IS IN PLACE AND DRILLING BEGINS, THE DRILL OPERATOR SHALL STOP WORK WHENEVER THE PRESSURE IN THE DRILL RIG DROPS OR THERE IS A LACK OF RETURNS IN THE ENTRANCE PIT. AT THIS TIME, THE SITE SUPERVISOR/FOREMAN SHALL BE INFORMED OF THE POTENTIAL FRAC-OUT. THE SITE SUPERVISOR/FOREMAN AND THE DRILL RIG OPERATOR(S) SHALL WORK TO COORDINATE THE LIKELY LOCATION OF THE FRAC-OUT. THE LOCATION OF THE FRAC-OUT SHALL BE RECORDED AND NOTES MADE ON THE LOCATION AND MEASURES TAKEN TO ADDRESS THE CONCERN. THE FOLLOWING SUBSECTIONS SHALL BE ADHERED TO WHEN ADDRESSING A FRAC-OUT SITUATION.

WATER CONTAINING MUD, SILT, BENTONITE, OR OTHER POLLUTANTS FROM EQUIPMENT WASHING OR OTHER ACTIVITIES SHALL NOT BE ALLOWED TO ENTER A LAKE, FLOWING STREAM OR OTHER WATER SOURCE. THE BENTONITE USED IN THE DRILLING PROCESS SHALL BE EITHER DISPOSED OF AT AN APPROVED DISPOSAL FACILITY OR RECYCLED IN AN APPROVED MANNER. OTHER CONSTRUCTION MATERIALS AND WASTES SHALL BE RECYCLED OR DISPOSED OF AS APPROPRIATE.

5.1 VAC-TRUCK

A VACUUM TRUCK SHALL BE STAGED AT A LOCATION FROM WHICH IT CAN BE MOBILIZED AND RELOCATED SO THAT ANY PLACE ALONG THE DRILL SHOT CAN BE REACHED BY THE APPARATUS WITHIN 10 MINUTES OF A FRAC-OUT.

5.2 FIELD RESPONSE TO FRAC-OUT OCCURRENCE

THE RESPONSE OF THE FIELD CREW TO A FRAC-OUT RELEASE SHALL BE IMMEDIATE AND IN ACCORDANCE WITH PROCEDURES IDENTIFIED IN THIS PLAN. ALL APPROPRIATE EMERGENCY ACTIONS THAT DO NOT POSE ADDITIONAL THREATS TO SENSITIVE RESOURCES WILL BE TAKEN AS FOLLOWS:

- a. DIRECTIONAL BORING WILL STOP IMMEDIATELY.
- b. THE BORE STEM WILL BE PULLED BACK TO RELIEVE PRESSURE ON THE FRAC-OUT.
- c. THE SITE SUPERVISOR/FOREMAN WILL BE NOTIFIED TO ENSURE THAT MANAGEMENT AND THE SAFETY DEPARTMENT IS NOTIFIED, ADEQUATE RESPONSE ACTIONS ARE TAKEN AND NOTIFICATIONS MADE.
- d. THE SITE SUPERVISOR/FOREMAN SHALL EVALUATE THE SITUATION AND RECOMMEND THE TYPE AND LEVEL OF RESPONSE WARRANTED INCLUDING THE LEVEL OF NOTIFICATION REQUIRED.
- e. IF THE FRAC-OUT IS MINOR, EASILY CONTAINED, HAS NOT REACHED THE SURFACE AND IS NOT THREATENING SENSITIVE RESOURCES, A LEAK STOPPING COMPOUND SHALL BE USED TO BLOCK THE FRAC-OUT. IF THE USE OF LEAK STOPPING COMPOUND IS NOT FULLY SUCCESSFUL, THE BORE STEM SHALL BE REDIRECTED TO A NEW LOCATION ALONG THE DESIRED DRILL PATH WHERE THE FRAC-OUT HAS NOT OCCURRED.
- f. IF THE FRAC-OUT HAS REACHED THE SURFACE, ANY MATERIAL CONTAMINATED WITH BENTONITE SHALL BE CONTAINED. A DIKE OR BERM MAY BE CONSTRUCTED AROUND THE FRAC-OUT TO ENTRAP RELEASED DRILLING FLUID IF NECESSARY. CLEAN SAND SHALL BE PLACED AND THE AREA RETURNED TO PRE-PROJECT CONTOURS.
- g. IF A FRAC-OUT OCCURS, REACHES THE SURFACE AND BECOMES WIDESPREAD, THE SITE SUPERVISOR/FOREMAN SHALL AUTHORIZE A READILY ACCESSIBLE VACUUM TRUCK AND BULLDOZER STORED OFF-SITE TO BE MOBILIZED. THE VACUUM TRUCK MAY BE POSITIONED AT EITHER END OF THE LINE OF THE DRILL SO THAT THE FRAC-OUT CAN BE REACHED BY CREWS ON FOOT OR MAY BE PULLED BY A BULLDOZER SO THAT CONTAMINATED SOILS CAN BE VACUUMED UP.

5.3 RESPONSE CLOSE-OUT PROCEDURES

WHEN THE RELEASE HAS BEEN CONTAINED AND CLEANED UP, RESPONSE CLOSE-OUT ACTIVITIES WILL BE CONDUCTED AT THE DIRECTION OF THE SITE SUPERVISOR/FOREMAN AND SHALL INCLUDE THE FOLLOWING:

- a. THE RECOVERED DRILLING FLUID WILL EITHER BE RECYCLED OR HAULED TO AN APPROVED FACILITY FOR DISPOSAL. NO RECOVERED DRILLING FLUIDS WILL BE DISCHARGED INTO STREAMS, STORM DRAINS OR ANY OTHER WATER SOURCE.
- b. ALL FRAC-OUT EXCAVATION AND CLEAN-UP SITES WILL BE RETURNED TO PRE-PROJECT CONTOURS USING CLEAN FILL AS NECESSARY; AND
- c. ALL CONTAINMENT MEASURES (FIBER ROLLS, STRAW BALES, ETC.) WILL BE REMOVED UNLESS OTHERWISE SPECIFIED BY THE SITE SUPERVISOR/FOREMAN.

5.4 CONSTRUCTION RESTART

FOR SMALL RELEASES NOT REQUIRING EXTERNAL NOTIFICATION, DRILLING MAY CONTINUE IF 100 PERCENT CONTAINMENT IS ACHIEVED THROUGH THE USE OF A LEAK STOPPING COMPOUND OR REDIRECTION OF THE BORE AND THE CLEAN-UP CREW REMAINS AT THE FRAC-OUT LOCATION THROUGHOUT THE CONSTRUCTION PERIOD.

5.5 BORE ABANDONMENT

ABANDONMENT OF THE BORE WILL ONLY BE REQUIRED WHEN ALL EFFORTS TO CONTROL THE FRAC-OUT WITHIN THE EXISTING DIRECTIONAL BORE HAVE FAILED.

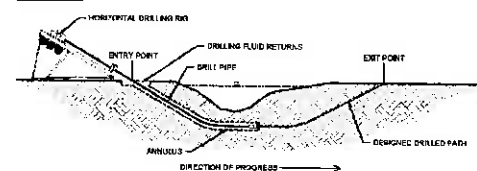
5.6 NOTIFICATION

IN THE EVENT OF A FRAC-OUT, THE SITE SUPERVISOR MUST NOTIFY THE SITE INSPECTION ENGINEER AND THE GENERAL CONTRACTOR SUPERVISOR FOREMAN.

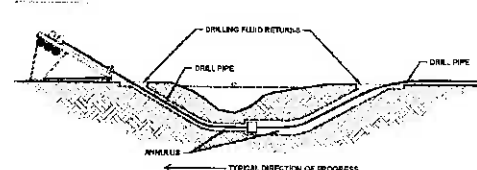
6.0 PROJECT COMPLETION AND CLEAN-UP

- a. ALL MATERIALS AND ANY RUBBISH-CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE CONSTRUCTION ZONE AT THE END OF EACH WORK DAY.
- b. SUMP PITS AT BORE ENTRY AND EXITS WILL BE FILLED AND RETURNED TO NATURAL GRADE.

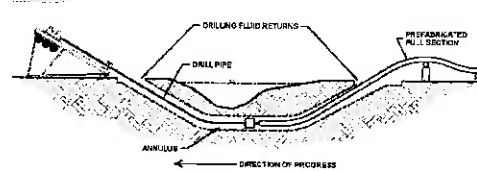
PILOT HOLE



PREREAMING



PULLBACK



8 DIRECTIONAL BORE DETAIL SCALE: N.T.S.

HORIZONTAL DIRECTIONAL DRILLING NOTES

1. CONTRACTOR SHALL BE FAMILIAR WITH THE WORK AREA AND THE REQUIREMENTS OF THE DRILLING PATH.
2. CONTRACTOR SHALL MONITOR AND RECORD THE PIPE ALIGNMENT AND DEPTH READINGS ALONG THE DRILL PATH.
3. CONTRACTOR SHALL MAINTAIN DRILLING FLUID CIRCULATION THROUGHOUT THE DIRECTIONAL DRILLING PROCESS. ALSO SHALL MONITOR FLUID PRESSURE AND LENGTH OF BORE FOR ANY "FRAC-OUTS" OF DRILLING FLUID. CONTRACTOR SHALL SUBMIT "FRAC-OUT" PLAN FOR REVIEW PRIOR TO PROCEEDING.
4. CONTRACTOR SHALL PLAN THEIR REAMING AND PULLBACK OPERATIONS TO ENSURE THAT, ONCE STARTED THEY CAN BE COMPLETED WITHOUT STOPPING AND WITHIN THE WORK HOURS.
5. CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT OIL AND DRILLING FLUID SPILLS USING ENVIRONMENTALLY FRIENDLY MATS AND OTHER ACCEPTABLE METHODS. EXCESS DRILLING FLUID SHALL BE CONTAINED IN A CONTAINMENT PIT UNTIL RECYCLED OR REMOVED FROM THE SITE.
6. CONTRACTOR TO ENSURE THAT ACCEPTABLE NOISE LEVELS ARE NOT EXCEEDED DURING THE DRILLING AND PULLBACK OPERATIONS.
7. CONTRACTOR TO USE BMP'S TO INSURE SAFETY AND PROTECTION ON THE JOB SITE. REFER TO HORIZONTAL DIRECTIONAL DRILLING PROCEDURES DEVELOPED BY THE NASTT HDD CONSORTIUM, 2004, 2001 FOR FURTHER DETAILS.
8. CONTRACTOR TO ENSURE THAT TENSILE LOADS EXERTED ON PIPING DO NOT EXCEED SAFE LEVELS SPECIFIED BY THE DESIGN ENGINEER.
9. SENDING AND RECEIVING PITS SHALL BE LOCATED IN UNPAVED AREAS, UNLESS BOUNDARY RESTRAINTS DEMAND OTHERWISE.
10. ALL OTHER UTILITIES, RUNNING PARALLEL (OR PERPENDICULAR) TO THE DIRECTIONAL DRILLING MUST BE LOCATED VISIBLY PRIOR TO THE START OF THE DRILLING.
11. CONSTRUCTION DRAWINGS, SHOWING THE PROPOSED METHOD AND PROCEDURE OF TRENCHLESS INSTALLATION, CONSTRUCTION OF ENTRANCE AND EXIT PITS, AND SCHEDULE OF ACTIVITIES REQUIRE TO PERFORM ALL TRENCHLESS INSTALLATIONS INDICATED IN THE CONTRACT DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE WORK ON THE TRENCHLESS INSTALLATION OPERATIONS IS STARTED. THE CONTRACT SHALL REFERENCE NYSDOT STANDARD SPECIFICATIONS SECTION 450: TRENCHLESS INSTALLATION OF CASING (IF REQUIRED).
12. PER THE "REQUIREMENTS FOR THE DESIGN AND CONSTRUCTION OF UNDERGROUND UTILITY INSTALLATIONS WITHIN THE STATE HIGHWAY RIGHT-OF-WAY" CASING PIPE (IF REQUIRED) SHALL MEET THE FOLLOWING SPECIFICATIONS: STEEL PIPE: ASTM 133, GRADE B (OR EQUAL), 35,000 PSI MIN. YIELD STRENGTH.
13. APPROVAL OF CONSTRUCTION DRAWINGS SHALL NOT RELIEVE THE CONTRACTORS RESPONSIBILITY TO PERFORM THE WORK WITHOUT DAMAGE TO EXISTING FACILITIES.

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Albany, NY 12210
Phone: 518.486.1234
Fax: 518.486.1235

HDD DETAILS & NOTES

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