

# CITY of NOVI CITY COUNCIL

## Agenda Item 5 August 12, 2019

**SUBJECT:** Consideration of Approval of Change Order No. 3 to Anglin Civil, LLC, for the ITC Trail – Phase 2 project in the amount of \$430,877.

**SUBMITTING DEPARTMENT:** Department of Public Works, Engineering Division  
Parks, Recreation and Cultural Services Department

**CITY MANAGER APPROVAL:**

<b>EXPENDITURE REQUIRED</b>	<b>\$ 430,877.00</b>
<b>AMOUNT BUDGETED</b>	<b>\$ 1,784,587 FY 2018-19 Budget Rollover</b>
<b>APPROPRIATION REQUIRED</b>	<b>\$ 0</b>
<b>LINE ITEM NUMBER</b>	<b>400-691.00-977.020</b>

**BACKGROUND INFORMATION:**

A north-south regional pathway in the western portion of the city, known as the ITC Corridor Regional Trail, was included in the adopted City of Novi Non-Motorized Master Plan 2011. The regional pathway will provide a connection between the ITC Community Sports Park and Maybury State Park to the south and the City of Wixom to the north.

Phase 2 will complete the ITC Corridor Regional Trail by continuing the path north from the intersection of 9 Mile Road and Garfield Road to 11 Mile Road (just east of Wixom Road) which. The majority of this trail will be located within the ITC transmission corridor.

Several sections of this trail are being constructed through Michigan Department of Environment, Great Lakes, and Energy (MDEGLE, fka MDEQ) regulated wetlands, which required minimal permitted impacts. The MDEGLE permit was approved with the use of boardwalks in lieu of stone base and hard paved pathway surfaces. The City enlisted the expertise of City geotechnical engineer TEC to provide soil borings throughout the wetland portions to determine adequate depths of bearing soils capable of handling the conservative loading for a boardwalk.

Upon receiving the geotechnical investigation report, the City's consulting engineer, AECOM-Great Lakes designed a suitable boardwalk with a foundation of helical piers. A helical pier is a foundation pin made of steel that contains helices just like screws. The piers are driven into the soil to depths below the frost line by use of a hydraulic system. Helical piers are used to support structures especially where soil conditions are challenging, making it hard to set up a traditional foundation system. Instead of expensive large excavations, they thread deep into the ground. They are also used to repair existing foundations that have problems such as cracks or are weak. Helical piers minimize time spent installing a foundation, causes little disturbance to the soil and transfers the weight of the structure, to soils deep into the earth that would bear the load.

The geotechnical report recommended helical pier depth averaging at about 15-feet to reach suitable bearing strength soils. During the construction installation, it became apparent several small wetland areas of the northern 500-foot of the large boardwalk (1,975-feet in overall length) between 9 and 10 Mile Roads were not hitting sufficient bearing capacity until almost 70-feet. The contract pay item for helical piers was set up to pay "each" pier as a 20-foot length. As additional depth was needed, another pay item was created for each additional 5-foot section. Therefore, at \$575 per additional 5-foot pier section, the extra costs increased significantly.

The discrepancy between the soil boring report and the actual helical pier installation was found to be isolated to the far northern 500-feet of the long boardwalk (see attached color coded map indicating locations of deep helicals). When looking at the surface of the wetland, it all looked very similar in type and elevation. The majority of the boardwalk had depths very close to what was originally planned; however, this one area went significantly deeper which resulted in this cost overrun.

These additional costs will ensure that this boardwalk will hold up over time and not settle through Michigan's harsh freeze/thaw cycles. A number of existing boardwalks throughout the city have failed due to not driving the foundations to a suitable depth. Over the last several years, the City has completed helical pier fixes on six different boardwalks and this has been the first time we have encountered subsurface conditions that required the helices to be driven this deep.

Also, included with this change order is a modification of the connection method of the top cap board to the handrail. In the past, this handrail cap was affixed using simple screws, which were breaking or backing out with the expansion/contraction of the boards; therefore, the City directed the contractor to assemble the handrail cap using carriage bolts at every 2 to 2 ½ feet.

This change order is in addition to the two previous approved change orders as outlined below:

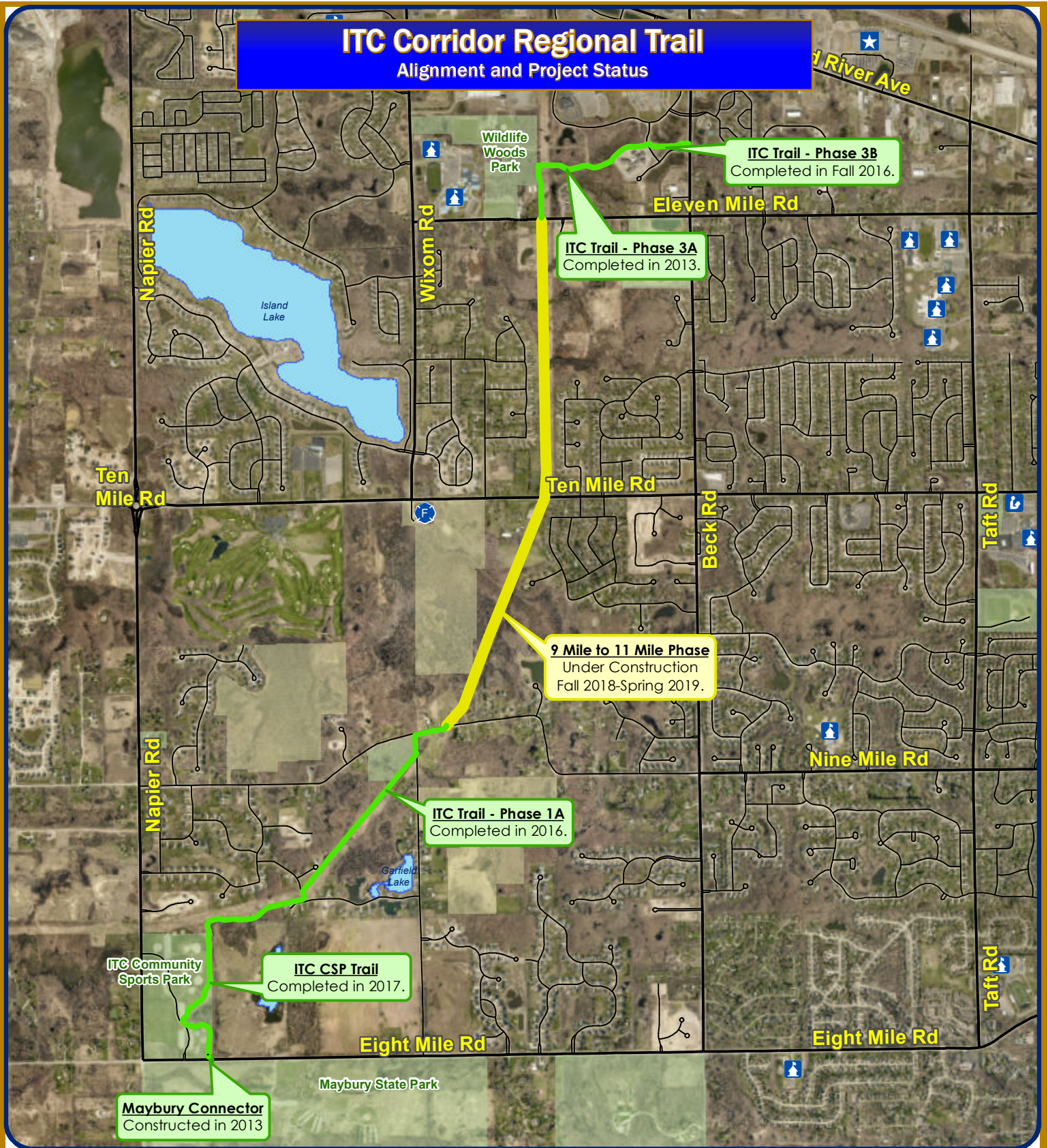
Change Order No. 1 - \$8,357.40 – To remove an existing garden and shed located within the ITC Corridor easement and to make minor modifications or add several culverts to alleviate drainage concerns.

Change Order No. 2 - \$68,828.50 – To account for a new drainage network and pathway alignment on the north-side of 9 Mile Road, along the Cambridge Homes development, Terra. Of which, most of this change order is offset by funds collected from Cambridge Homes.

**RECOMMENDED ACTION:** Approval of Change Order No. 3 to Anglin Civil, LLC, for the ITC Trail – Phase 2 project in the amount of \$430,877.00.

# ITC Corridor Regional Trail

Alignment and Project Status



Map Author: Keri Blough  
Date: September 10, 2018  
Project: ITC Corridor Regional Trail  
Version #: 5.1

Map Revisions:  
Date:  
Department:

**MAP INTERPRETATION NOTICE**

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

**Map Legend**

- Trailhead
- Trail Complete
- Trail Under Construction
- Existing Parkland
- Conservation Easement



**City of Novi**

Integrated Solutions Team  
Geospatial Resources Division  
45175 Ten Mile Rd  
Novi, MI 48375  
cityofnovi.org



# ITC Corridor Regional Trail - Phase 2

## Location Map



Map Author: Joseph Akers  
Date: July 23, 2018  
Project: ITC Corridor Regional Trail - Phase 2  
Version: 1

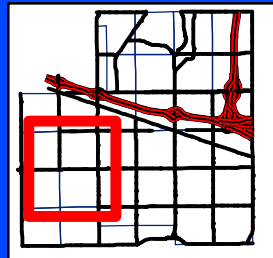
Amended By:  
Date:  
Department:

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Proposed Trail Construction



**City of Novi**

Engineering Division  
Department of Public Services  
26300 Lee BeGole Drive  
Novi, MI 48375  
cityofnovi.org



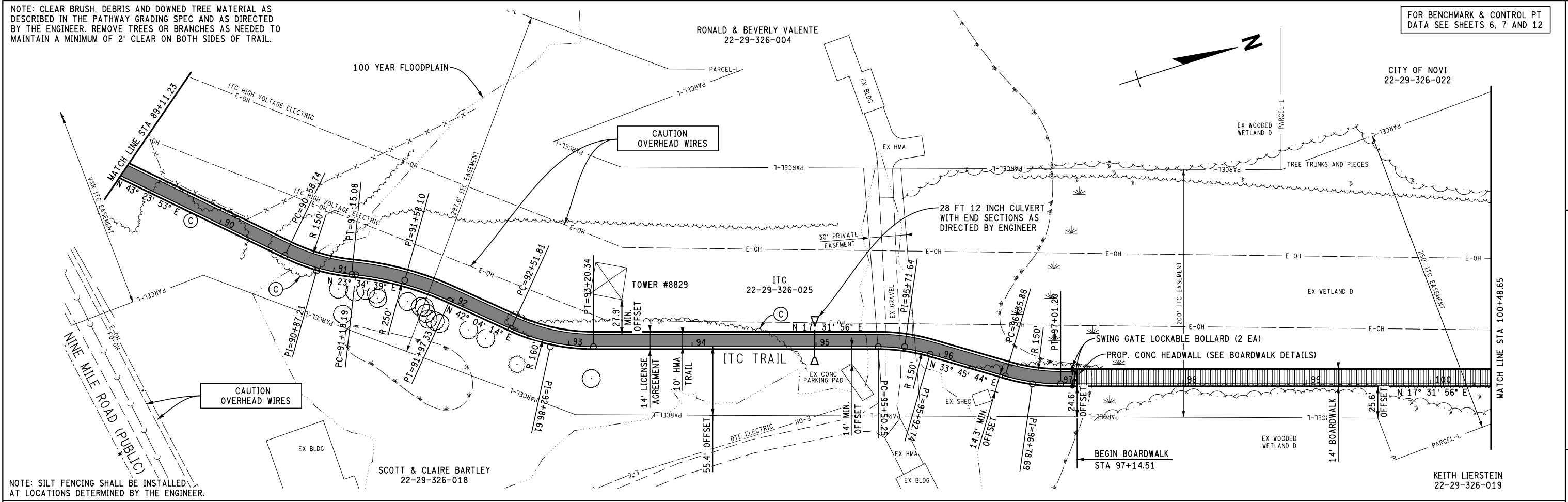
1 inch = 1,521 feet



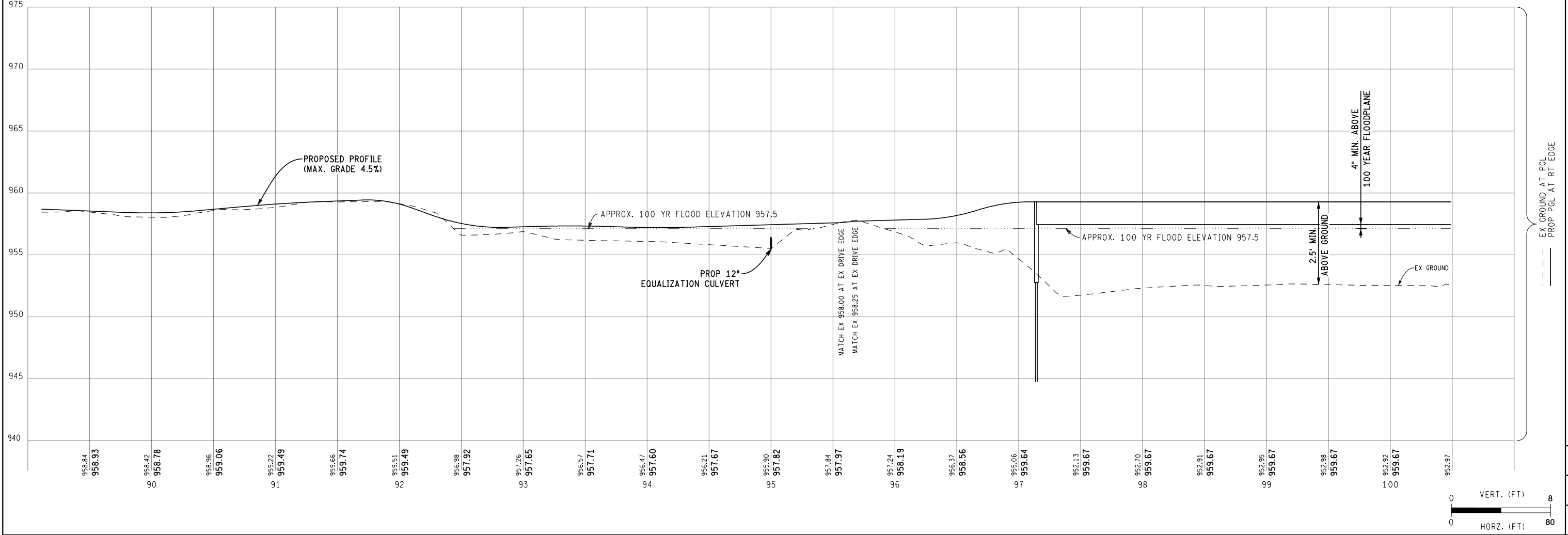


NOTE: CLEAR BRUSH, DEBRIS AND DOWNED TREE MATERIAL AS DESCRIBED IN THE PATHWAY GRADING SPEC AND AS DIRECTED BY THE ENGINEER. REMOVE TREES OR BRANCHES AS NEEDED TO MAINTAIN A MINIMUM OF 2' CLEAR ON BOTH SIDES OF TRAIL.

FOR BENCHMARK & CONTROL PT DATA SEE SHEETS 6, 7 AND 12



NOTE: SILT FENCING SHALL BE INSTALLED AT LOCATIONS DETERMINED BY THE ENGINEER.

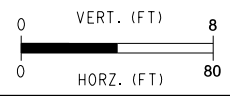


FILE: 51567-ITC-plan-002.dgn
AUTH DATE REVISION



CITY OF NOVI - ITC TRAIL PHASE 2  
 STA 89+11.23 TO STA 100+48.65

JOB	60551567
DATE	06/06/18
SHEET	8



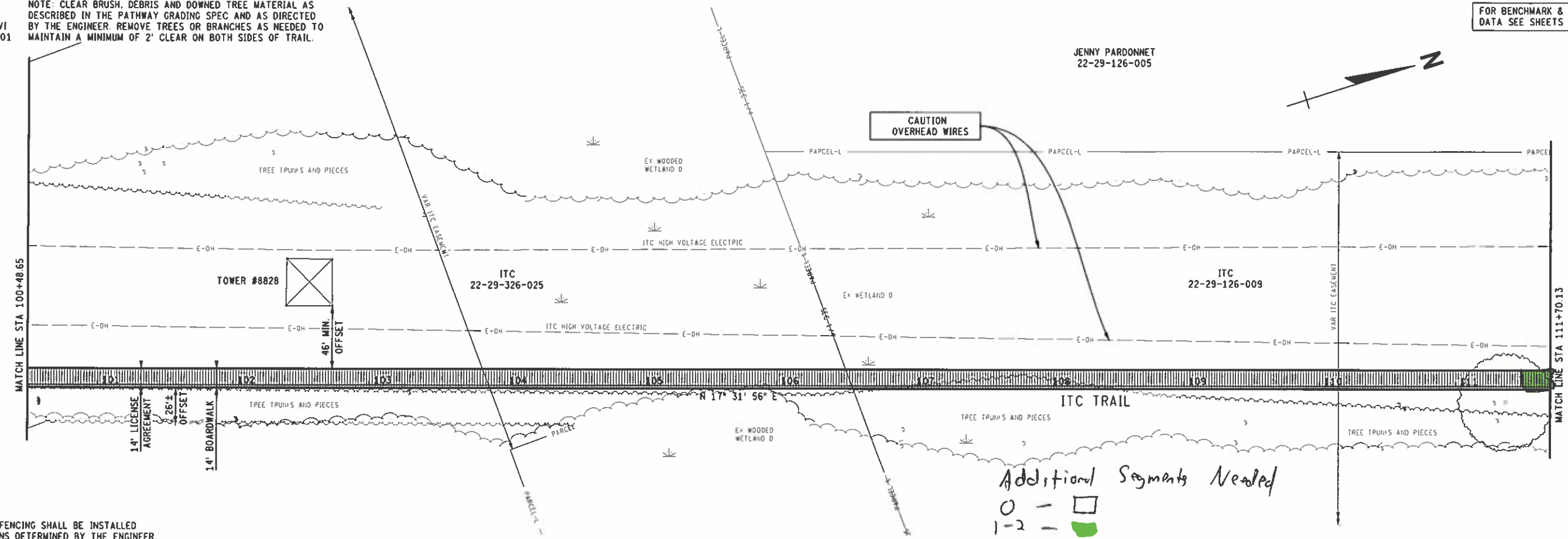
NOTE: CLEAR BRUSH, DEBRIS AND DOWNED TREE MATERIAL AS DESCRIBED IN THE PATHWAY GRADING SPEC AND AS DIRECTED BY THE ENGINEER. REMOVE TREES OR BRANCHES AS NEEDED TO MAINTAIN A MINIMUM OF 2' CLEAR ON BOTH SIDES OF TRAIL.

FOR BENCHMARK & CONTROL PT  
DATA SEE SHEETS 6, 7 AND 12

JENNY PARDONNET  
22-29-126-005



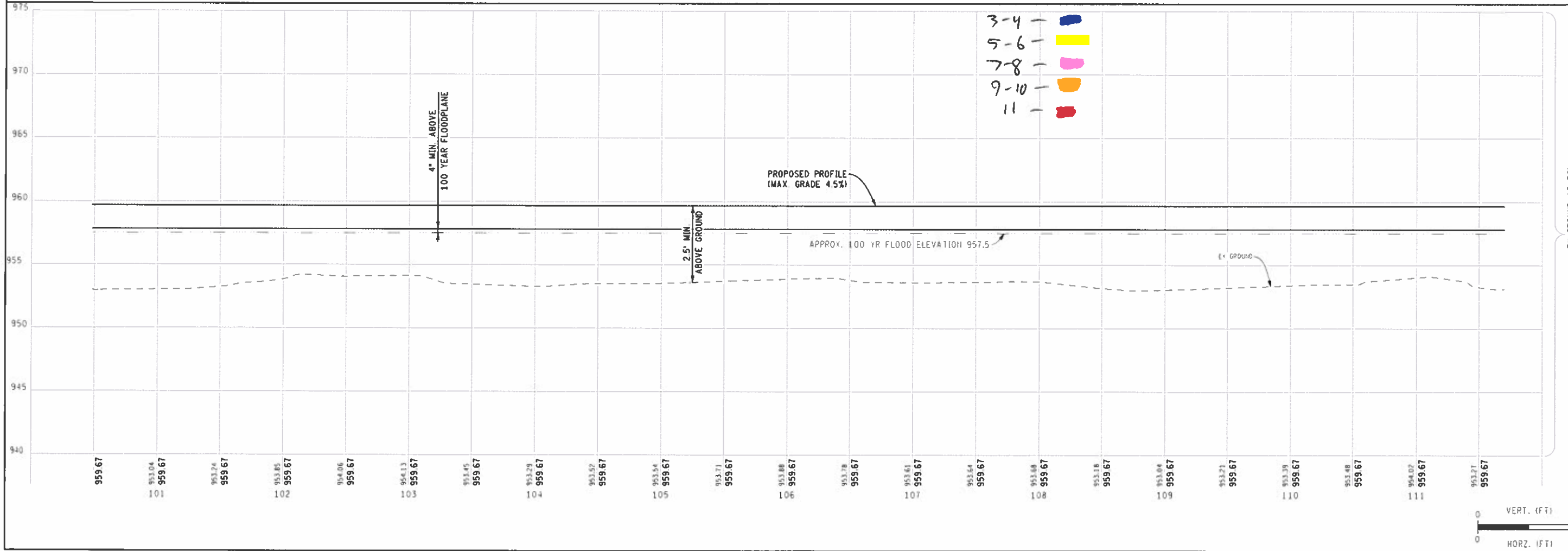
CAUTION  
OVERHEAD WIRES



Additional Segments Needed

- 0 - □
- 1-2 - ■
- 3-4 - ■
- 5-6 - ■
- 7-8 - ■
- 9-10 - ■
- 11 - ■

NOTE SILT FENCING SHALL BE INSTALLED  
AT LOCATIONS DETERMINED BY THE ENGINEER.



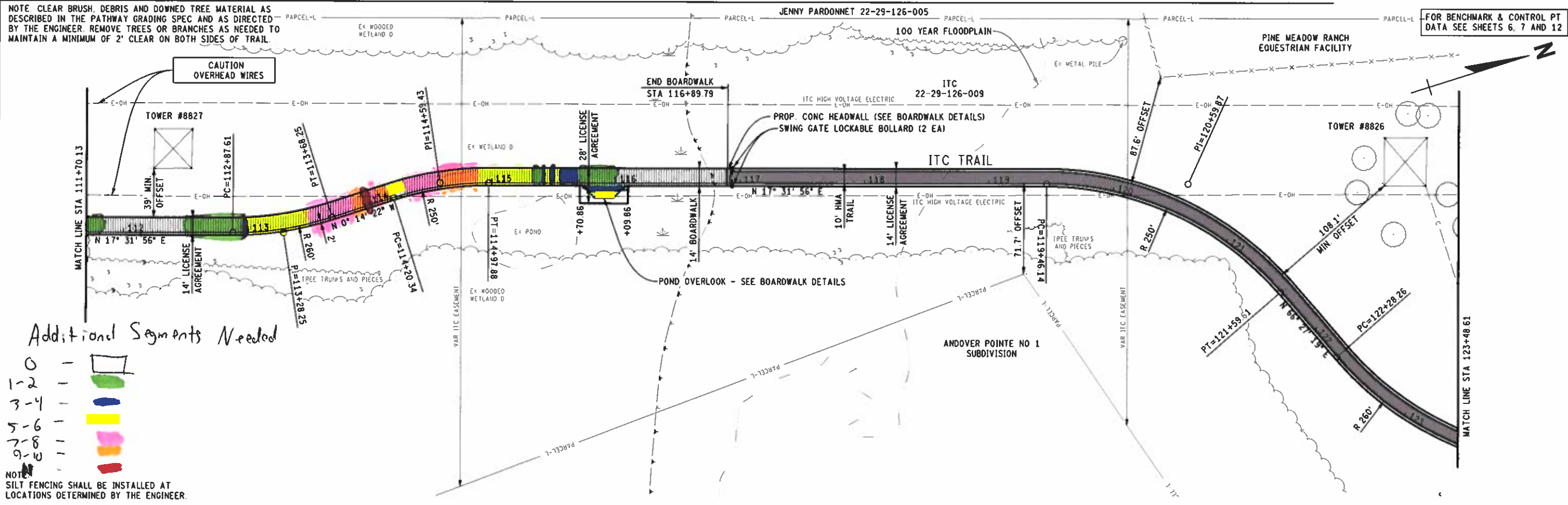
FILE: 51567-ITC\_plan\_003.dgn  
AUTH DATE REVISION



CITY OF NOVI - ITC TRAIL PHASE 2  
STA 100+48.65 TO STA 111+70.13

NOTE CLEAR BRUSH, DEBRIS AND DOWNED TREE MATERIAL AS DESCRIBED IN THE PATHWAY GRADING SPEC AND AS DIRECTED BY THE ENGINEER. REMOVE TREES OR BRANCHES AS NEEDED TO MAINTAIN A MINIMUM OF 2' CLEAR ON BOTH SIDES OF TRAIL.

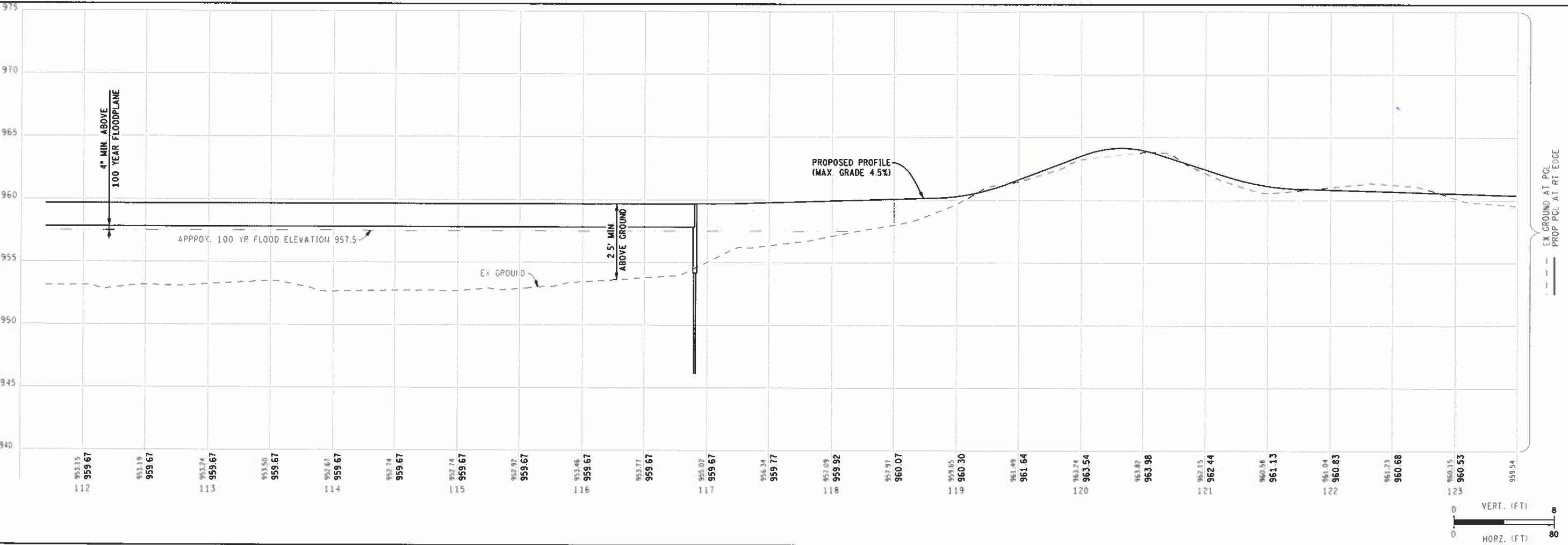
FOR BENCHMARK & CONTROL PT DATA SEE SHEETS 6, 7 AND 12



Additional Segments Needed

- 0 - [Green box]
- 1-2 - [Yellow box]
- 3-4 - [Pink box]
- 5-6 - [Blue box]
- 7-8 - [Red box]
- 9-10 - [Red box]

NOTE: SILT FENCING SHALL BE INSTALLED AT LOCATIONS DETERMINED BY THE ENGINEER.



FILE: 51567-ITC-plan-004.dgn  
AUTH DATE REVISION



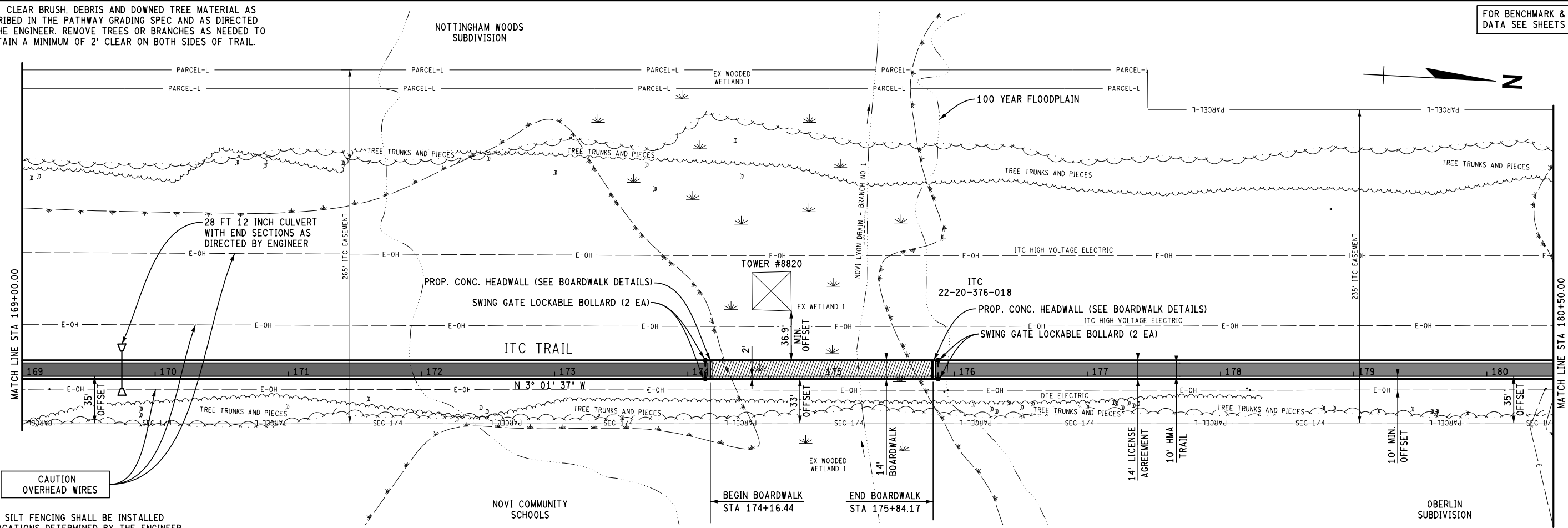
CITY OF NOVI - ITC TRAIL PHASE 2  
STA 111+70.13 TO STA 123+48.61

JOB  
60551567  
DATE  
06/06/18  
SHEET  
10

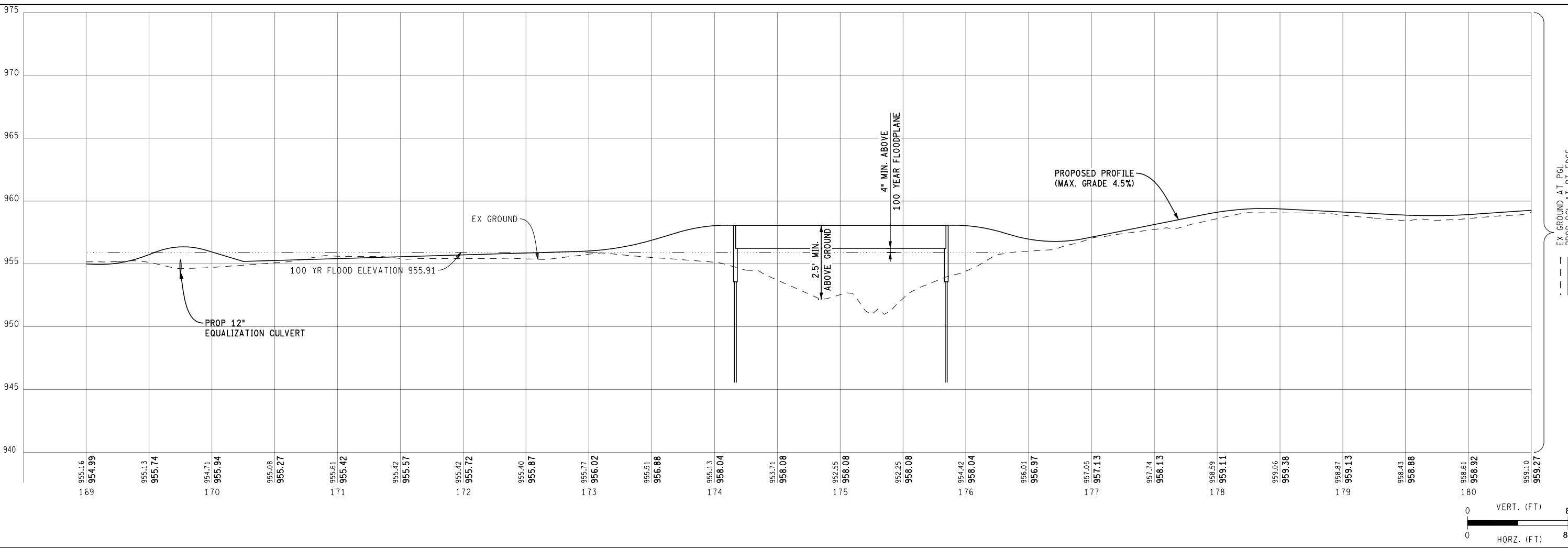


NOTE: CLEAR BRUSH, DEBRIS AND DOWNED TREE MATERIAL AS DESCRIBED IN THE PATHWAY GRADING SPEC AND AS DIRECTED BY THE ENGINEER. REMOVE TREES OR BRANCHES AS NEEDED TO MAINTAIN A MINIMUM OF 2' CLEAR ON BOTH SIDES OF TRAIL.

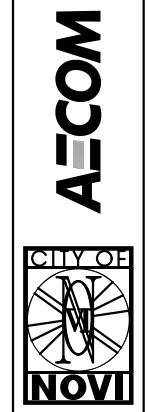
FOR BENCHMARK & CONTROL PT DATA SEE SHEETS 6, 7 AND 12



NOTE: SILT FENCING SHALL BE INSTALLED AT LOCATIONS DETERMINED BY THE ENGINEER.



FILE: 51567-ITC-plan-009.dgn
AUTH DATE REVISION



CITY OF NOVI - ITC TRAIL PHASE 2  
 STA 169+00.00 TO STA 180+50.00

JOB	60551567
DATE	06/06/18
SHEET	15

