

SSTS Advisory Committee Notes

September 14th, 2017

Attendee's: Jim Larson, Cindy Tiemann, Sara Heger, Lisa McCormick, Brandon Montgomery, Tom Girtz, Pete Otterness, Aaron Jensen, Nick Haig, Wayne Johnson, Jeff Iverson, Theresa Haugen, Chris LeClair, Cathy Tran, Craig Gilbertson, Ryan Hamilton, Matt Summers, Mark Latterell, Troy Johnson, and Eric VanDyken

10:00 -- 10:10 AM *Introductions, agenda review and vacancies on Committees. Sara Heger & Aaron Jensen*

Additional agenda items from the group – Matt Summers has some questions on MSTS and Campground flow measurement. Aaron Jensen would like to talk briefly about Septic Smart week. Sara Heger and Nick Haig both had additional topics

Aaron Jensen went over the vacancies on the AC committee. Aaron Wills resigned and Ben Oleson and Dick Vukonich terms both expired. The MPCA will put a vacancies list in the bulletin.

10:10 – 10:25 AM *Licensing and certification topics*
Goal -- AC informed of ongoing activity and provides suggestions and feedback

1. 2017 Certification Exam update, Nick Haig

Nick Haig provided an overview of the report he provided to everyone (see 2016 SSTS Certification Exam Annual Report – 21 Years of Exam Data). He went over a few exams and statistics associated with those exams. Pete Otterness talked about some of the things he has heard in his area about people failing some of the exams. MACPZA does have some issue with this situation and is upset people are failing. Sara Heger talked about the potential for U of M to hold extra homework and work sessions to help those people that are having trouble in classes. Troy Johnson asked if we have piloted the design exam already. Nick Haig said yes we have done the design pilot and the new exam is being utilized. Troy Johnson asked Pete Otterness what areas these folks are having trouble with. Pete Otterness did not know for sure. He did explain that one has some SSTS experience and the others are new to the industry. Sara Heger talked about the order of classes and testing.

2. 2017 Workshop Scheduling, Sara Heger

The goal is to have the 2018 U of M training schedule brochure out in October. There will be an intermediate and advanced design class in the spring. In 2018 they were be doing a one day field design day class. They are also doing a forms training in Carver County. Otherwise, the rest of the classes are similar. They have seven soil CE classes scheduled and they are always open to scheduling one local if there is someone that want one in their area. The class fees will stay the same. The U of M is currently set up to break even on the classes with the current fee schedule.

Sara emailed Melissa Maurer who takes care of the brochure and she is still hoping to get it out by the end of this month. Definitely no later than early October.

Committee Website: <http://septic.umn.edu/ssts-professionals/ssts-advisory-committee/>

SSTS Advisory Committee Notes

September 14th, 2017

10:25 – 11:00 AM MPCA short update items
Goal -- AC informed of ongoing activity

1. Annual Report Overview and SNAP Survey, Cody Robinson

Aaron Jensen talked about the 2016 annual report that is near completion. 222 reports were sent and 219 reports were returned for 2016. Some of the highlights of the report include 75% of LGU's require Point of Sale inspections, which includes 60 counties. SSTS's reported by system type are all up from 2015, except for type II systems. Total construction permits issued was up .6% from 2015 with 10,556 construction permits issued in 2016. Repair permits were also up 14% for a total of 411. The total number of SSTS systems in the state of Minnesota was down from 2015 for a total of 541,865 systems. Compliance rates were slightly up with 80.5% of systems being compliant. The total number of existing system inspections was also up from 2015 with 14,847 inspections completed in 2016. Systems reported in 2016 that were connected to central sewer was 207, abandoned or removed was 477, and 11 systems were removed by government buyout.

The 2017 reporting season is getting closer and the SNAP Survey format beta testing was successful. The delayed publishing time on the 2016 annual report can be attributed to the length of time it took to consolidate the individual spreadsheets using the new SNAP software. SNAPs survey's main benefits will include:

- *Data validation – enabling us to require that data comes in a certain format that can be used for better analysis and organization of data. We will also be able to provide more instruction and clarity for what each question is asking to ensure correct data is going in. This ultimately leads to more accurate SSTS data for future Annual Reports.*
- *More representative data – SNAP surveys will allow us to require certain entry fields to be filled before an annual report can be submitted to the Agency. We currently receive a high volume of incomplete reports that do not meet all the reporting requirements in rule. We will only be applying mandatory entry fields to those items called out in rule. This will lead to more representative data statewide.*
- *Faster Annual Report turnaround and better quality – when each LGU fills out a SNAP survey, their data is automatically entered into a database in such a way that allows for faster analysis and consistent organization of historical data. This will allow us to get the Annual Report out much sooner and have extra time to improve the content of the report.*

2. TAP Update, Cody Robinson

Aaron Jensen provided an overview of the TAP recent activities:

Registered Products (Since March 6, 2017 AC meeting):

- Aquapoint 16/12LS, suspended growth with filtration, TL A2 & TN

Committee Website: <http://septic.umn.edu/ssts-professionals/ssts-advisory-committee/>

SSTS Advisory Committee Notes

September 14th, 2017

- *Fuji Clean CE Series, attached and suspended growth, TL B2*
- *Fuji Clean CEN Series, attached and suspended growth, TL B & TN*

Modifications made to existing registrations:

- *Orenco AX20, AX20RT, and AX25RT registered for HSW*
- *EZ Treat Models 3L, 4L, 5L, and 6L registered as a scale up from Models 600 & 1200*
- *Infiltrator Water Technologies modification made to perforation shapes on the EZ Flow product, changes from circular perforations to oblong perforations to conform to new ASTM F667 standard*

Products currently under consideration:

- *Eljen GSF Models A42 & B43 for registration as a proprietary distribution media*
- *Currently tabled as of August 17, 2017 TAP Meeting*
- *Orenco AXMAX for HSW registration*
- *Need to undergo formal registration process*

Products up for renewal in December 2017:

- *Bio-Microbics (MicroFAST 0.5 to 1.5)*
- *Bio-Microbics (RetroFAST)*
- *Anua – Puraflo*
- *Delta Environmental Products (Ecopod E50-E60)*
- *Hoot Systems (Hoot H-Series)*
- *Orenco Systems (Advantex HSW)*
- *Orenco Systems (Advantex)*

Cody Robinson is currently in the process of looking into operating permits that need updating and the U of M is working on management plans for various products. The Residential and HSW Long List/At A Glance listings will be updated in the next couple months.

Jeff Iverson spoke about the EZ Flow product change related to the perforation design and the new ASTM Standards. This information had already been approved through TAP.

3. Magnet Distribution – Cody Robinson

Aaron Jensen provided an overview of the magnet distribution. Last spring, the Agency received a shipment of 33,000 SSTS magnets to support a long term program goal of having more educated and empowered homeowners statewide. While getting these magnets in the hands of SSTS homeowners was the main objective, a secondary function was to inspire LGUs to consider creating more personalized versions to be used in their jurisdictions. These magnets were sent proportionally to LGUs across the state weighted on construction permit data submitted in the 2015 Annual Report. A letter accompanied

SSTS Advisory Committee Notes

September 14th, 2017

each shipment with recommendations for distribution and information on how to have personalized magnets made. See below for distribution:

Out of 33,000 magnets:

- *24,528 distributed to LGUs, either by hand or via mail*
 - *Two more LGUs need magnets (Washington and Stearns)*
- *254 distributed to Agency staff and program partners*
- *418 distributed at MN State Fair Eco Experience*
- *7,800 remaining*

4. SSTS Grants, Aaron Jensen

Aaron Jensen talked about the fiscal year 2018 grant application process. The county grant application process just recently ended on August 30th. Each county with a program will received the normal \$18,600 base grant. Ramsey County does not have a program. The other grant categories are Compliance inspection for property transfer, which a county can receive up to \$3,000, plan to address unsewered areas which a county can receive up to \$6,000, and low-income fix-up grants to replace failing systems. There is 1,000,000 available for low-income fix-up grants. There were 69 total grant applications this year and all the applications have all been reviewed. The final allocation to each county will be announced soon.

5. Rule Timeline and Highlight of Changes, Brandon Montgomery

Brandon Montgomery went over the timeline of the proposed rule changes. The approval from the Governor for rule writing has not been received. As part of the process, we must request Governor approval before we can begin. The original goal for adoption was March 2018, that is now closer to July 2018 and will continue to be delayed until we get the Governors form. Sara Heger asked to clarify the campground rule and the new rule. Brandon Montgomery stated that the campground rule will not change and he went over the new rule changes (see previous meeting notes). Wayne Johnson asked why measurement can't be used for all systems. The existing language in the rule doesn't talk about 90 days and other measuring requirements. Brandon Montgomery explained that the current rule allows measured flows to be used in design decision provided it is less than estimated flow and the requirements in design guidance are followed. Brandon also informed Wayne that rule currently requires the larger of estimated or design flow to be used in reads in regards to permit determination. Wayne Johnson said that as long as the LGU agrees when the busiest time period of the year is then this is ok. Sara Heger explained that there is some other things to consider on measuring flows like occupancy and safety factors. Nick Haig encouraged folks to have the LGU's give us a call if they have questions pertaining to some of these tough questions and rare examples.

SSTS Advisory Committee Notes

September 14th, 2017

11:00 – 12:00 PM Member topics

Goal – Members bring up topics for discussion and consideration

1. Other Establishment/MSTS Issues, Wayne Johnson

Matt Summers asked where the campground rule is located in the 7080. Brandon Montgomery said 7081.0040 Subp 4D.

Matt Summers asked if the LGU could vary on MSTS and allow a type III since they do not have 12 inches of soil. This is for a new system. Brandon Montgomery will work on it and get back to Matt.

Agency Response:

Question: Can an MSTS system be installed on a site with less than 12" of original, unsaturated soil in the absorption area? (Type III MSTS)

MPCA Response: Short answer- No

Justification for decision- Minn. R 7081.0270 subp. 1 reads "Final treatment and dispersal must be according to applicable design requirements in chapter 7080, except as modified in this part."

This rule part is interpreted to mean that system types for ISTS (7080) are allowed to be utilized for MSTS unless specifically modified in 7081.0270

Minn. R. 7081.0270 subp. 3 A reads "Minimal soil and site conditions. The site proposed to support the soil treatment and dispersal system must:

A. have the upper 12 inches of the absorption area:

(1) be original soil;

(2) have a soil loading rate of greater than zero as listed in Table IX or IXa, in part [7080.2150](#), subpart 3, item E; and

(3) be above the periodically saturated soil or bedrock;"

Because of the language in Minn. R. 7081.0270 subp. 1 a type III MSTS is technically feasible; however, due to the specificity in Minn. R. 7081.0270 subp 3 A which requires the upper 12 inches of the absorption area be original, unsaturated, soil it is not possible to create a Type III MSTS on sites that do not meet the original, or unsaturated soil requirements.

Wayne Johnson wanted to talk about what a condominium is. There was much discussion about what is considered a condominium. Brandon Montgomery explained that condominium isn't explicit in rule and that we can't cover every different scenario. It would be up to the designer and the LGU to agree on an acceptable design flow. This principal would also apply to calculation of required head, if not explicit.

Ryan Hamilton gave the Real estate law 515b. Nick Haig said that these types of decisions are up to the LGU and we do our best to provide the answers to their questions, but ultimately it's how the LGU conveys those discussions.

SSTS Advisory Committee Notes

September 14th, 2017

Wayne Johnson asked about the system sizing and reasons for having advanced and intermediate designers. Can homeowners on a beach association buy one piece of property and put in all individual systems without hiring an advanced designer. Matt Summers talked about some of the issues he has in LeSueur county relating to system ownership and system size. The system size dictates who can do the work. There are no current setback requirements for systems, it is strictly based on size. The group didn't really have an answer on how to deal with this issue. Wayne Johnson wanted us to think about this issue and didn't have a solution either. Sara Heger suggested putting some information into the design guidance to help regulate this issue. Eric VanDyken asked Wayne Johnson how often this is a problem. Wayne Johnson said that there are about 3 or 4 projects over the last year and about 50 percent of the projects were affected.

Pete Otterness asked about a cluster system compliance inspection. Individual homes and tanks that go to a stilling tank and then go to an advanced treatment system, who can inspect the individual tanks and who can inspect the cluster system. Brandon Montgomery will pull the policy decision and pass that along to the group (see below). Eric VanDyken suggested that a simple ordinance change that could address the point of sale requirements.

Please see the following MPCA policy decision, related to Pete's question at today's meeting, on Basic inspectors inspecting components of cluster systems.

Question: Can a Basic Inspector inspect a septic tank at home served by a cluster soil treatment system with the tank on their property?

MPCA Response: The strange issue is that we would allow a Maintainer to verify the water tightness of a tank serving a LISTS or MSTs, so why can't a BI do the same?

The consensus decision is that a Basic Inspector can inspect any component that is a "Type I" component. That compliance information must be given to the Advanced Inspector for their review, acceptance and ultimate issuance of the COC or NON.

Related Question: Can a basic inspector inspect the septic tank at a home served by a cluster system with an existing COC for the collection system and STA?

MPCA Response: The MPCA does not object to a LGU confirming the compliance status of a home on a cluster (presumably for point of sale or permit issuance purposes) by evidence of multiple COCs for different system components. The way cluster system compliance is determined depends on what the county requires & that all components must have been inspected within 3 years. If a Maintainer were to sign a tank maintenance form asserting that a tank is watertight, then at least a basic inspector would need to sign a COC for the tank, which could then support an existing current (<3 years old) COC for the collection system and soil treatment area. All of which could be used by a LGU to issue a permit or satisfy point of sale requirements.

Committee Website: <http://septic.umn.edu/ssts-professionals/ssts-advisory-committee/>

SSTS Advisory Committee Notes

September 14th, 2017

2. Future MOWA/NOWRA conference dates and locations, Sara Heger

The MOWA conference is set for January 30th and 31st of 2018 in Alexandria at Arrowwood. They are in the planning stages and they are meeting tomorrow. The NOWRA conference for 2018 is October 21- 24 and will be locally held in Bloomington. This will be a combined MOWA and NOWRA conference in 2018 and therefore there will not be a MOWA conference in January 2019. If you have suggestions for the conference please contact Sara Heger.

3. UMN MDH CEC Education for Homeowners and Professionals, Sara Heger

The U of M received a grant for CEC's and septic performance. The other grant received was for homeowner education in regards to drinking water and drinking water protection. The U is looking to partner with local people to help bring homeowners to the presentations and education opportunities. Please contact Sara Heger if you would like to partner up on these efforts.

4. Local Enforcement Authority, Chris LeClair

Chris LeClair would like to know the counties ability to suspend a contractor from working in their county. He explained the situation. This contractor does not always get permits, call for inspections, covers up installations before inspection, and is sometimes violent. What is Washington counties ability to remove them from working in the county? Pete Otterness explained some of the issues he is having with a contractor. Nick Haig explained that this issue is above licensure, it is more of a local law enforcement and ordinance issue. The LGU will need to use their ordinance to enforce violations and restrict their ability to work in the county if they are not following the ordinance.

5. MOWA Ombudsman, Nick Haig

MOWA is working to grow their communication and discussion with the MPCA. Currently they are working to hire a lobbyist to work as an Ombudsman with the MPCA.

6. Other

Theresa Haugen added that the MPCA is going to do a mini pumper class. She explained what the classes were and that they will happen over the winter.

Nick Haig talked about the new factsheet for the SSTS and plumbing regulations in Minnesota. https://www.pca.state.mn.us/sites/default/files/wq-wwists4-43_0_0.pdf

SSTS Advisory Committee Notes

September 14th, 2017

Sara Heger mentioned that maybe we could start adding a write up to the bulletin, in the staff changes section, about the people that retire or leave LGU's. This write up would be a nice way to recognize them for the contributions they have made to the SSTS program.

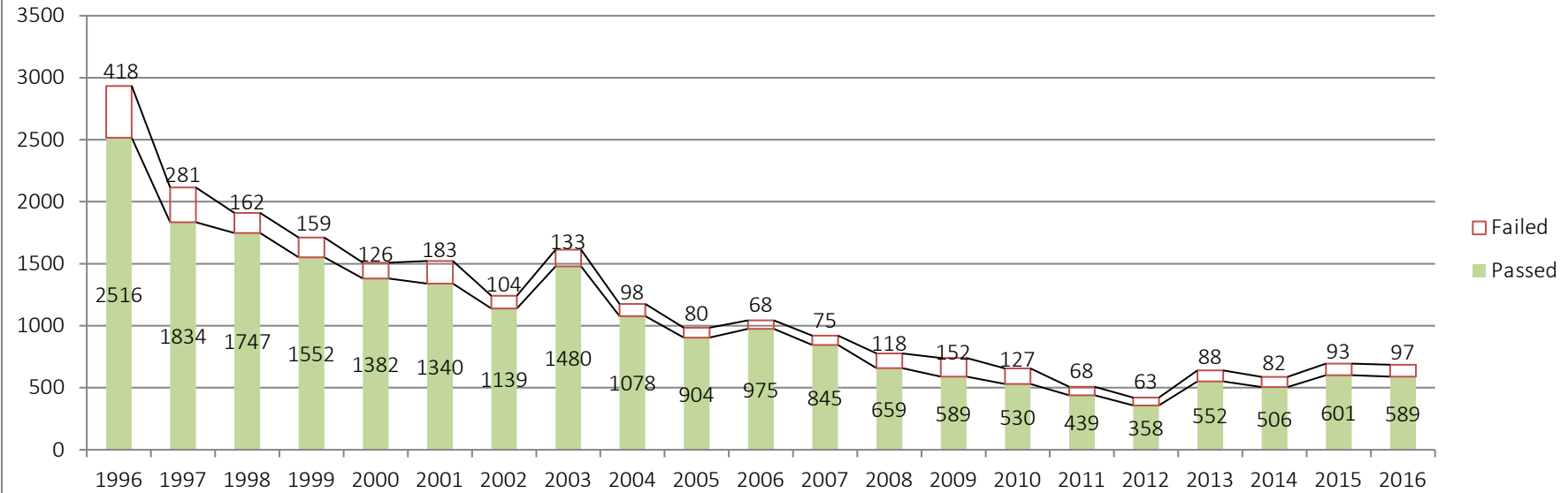
Aaron Jensen mentioned that it was EPA's Septic Smart week on September 18th to the 22nd. We have applied for governor proclamation to declare Septic Smart week in Minnesota, but have not received word back from the Governor.

Eric VanDyken asked about the bulletin article regarding checking professional's licenses. Is there a way to communicate that information to LGU's better. In addition, has the MPCA typically took away licenses for not paying their tank fee? Nick Haig talked about the responsibility that we all have to make sure folks are licensed. Theresa Haugen explained the enforcement process and that licenses have been revoked for failure to pay the tank fee. She asked if it would be beneficial for the MPCA to send out a list of people that have had their licensed revoked for tank fees. Eric VanDyken felt that it would be helpful to have that information. Most counties don't have the time to check licenses every time they take a permit or go out on an inspection. Theresa Haugen explained that they are open to new ideas to make the process better for everyone. Pete Otterness suggested that the counties could help and make phone calls to the contractors to move this issue along and get these installers to pay the fee and keep their license.

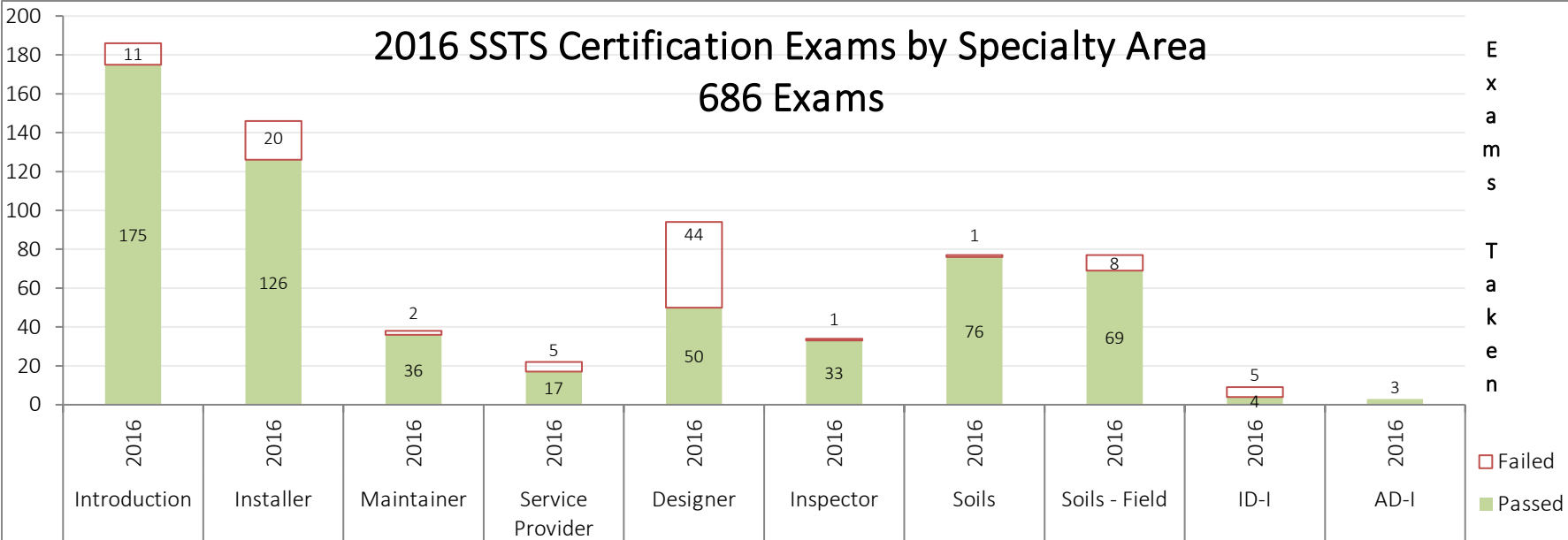
- 7. Future Meetings: December 14, 2017 – St. Cloud - MnDOT, 2018. Sara will reach out to MNDOT in St. Cloud.*

21 Years of SSTS Certification Exams – Annual Report, 2016

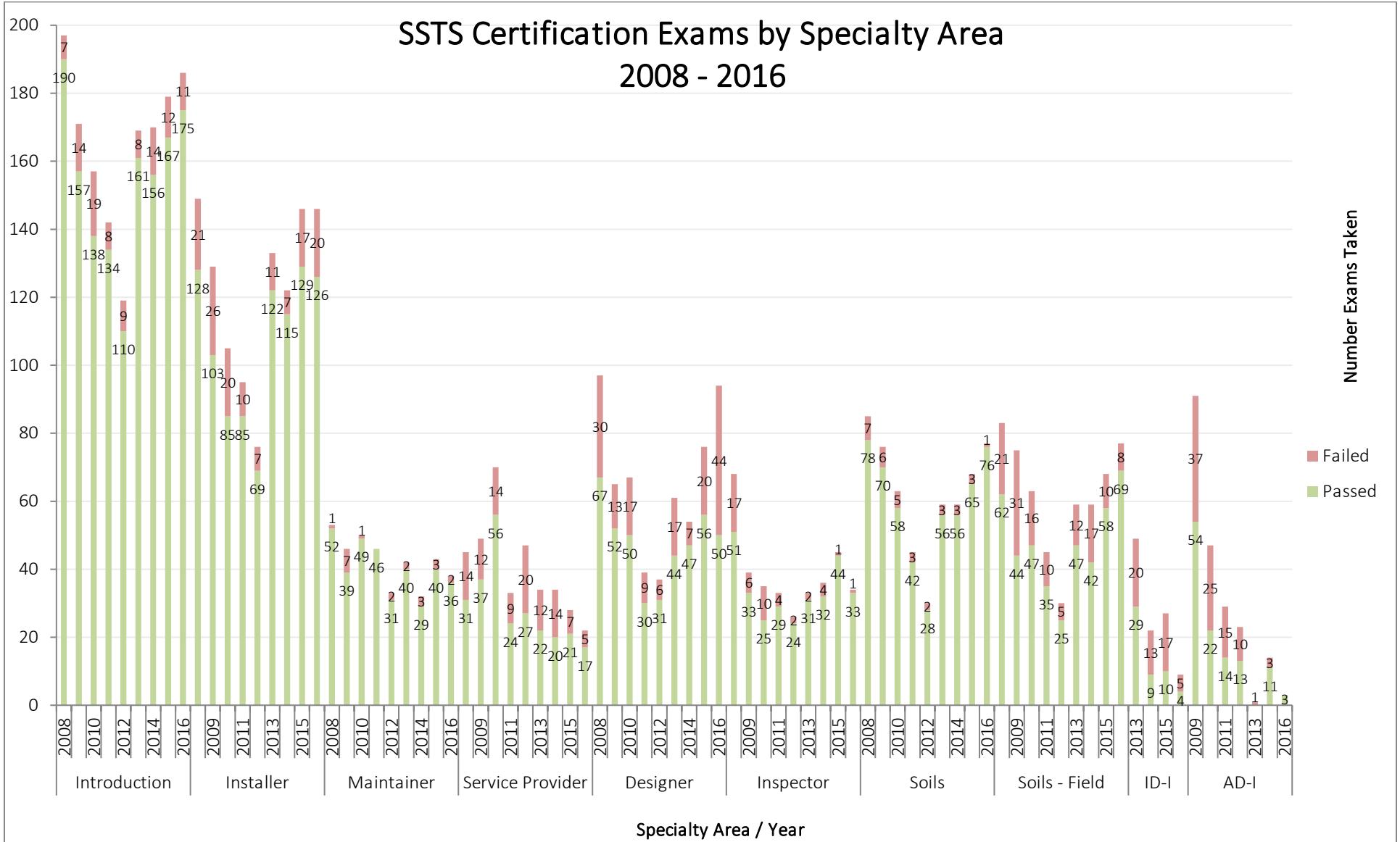
SSTS Certification Exams 1996 - 2016



2016 SSTS Certification Exams by Specialty Area 686 Exams



SSTS Certification Exams by Specialty Area 2008 - 2016



Exam Score Statistics by Specialty Area

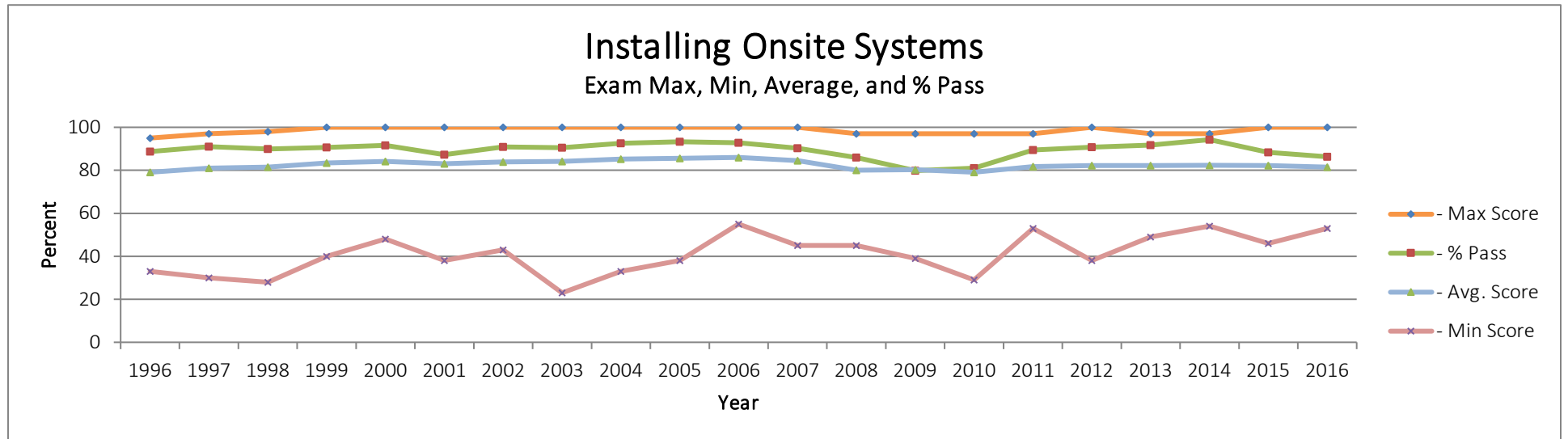
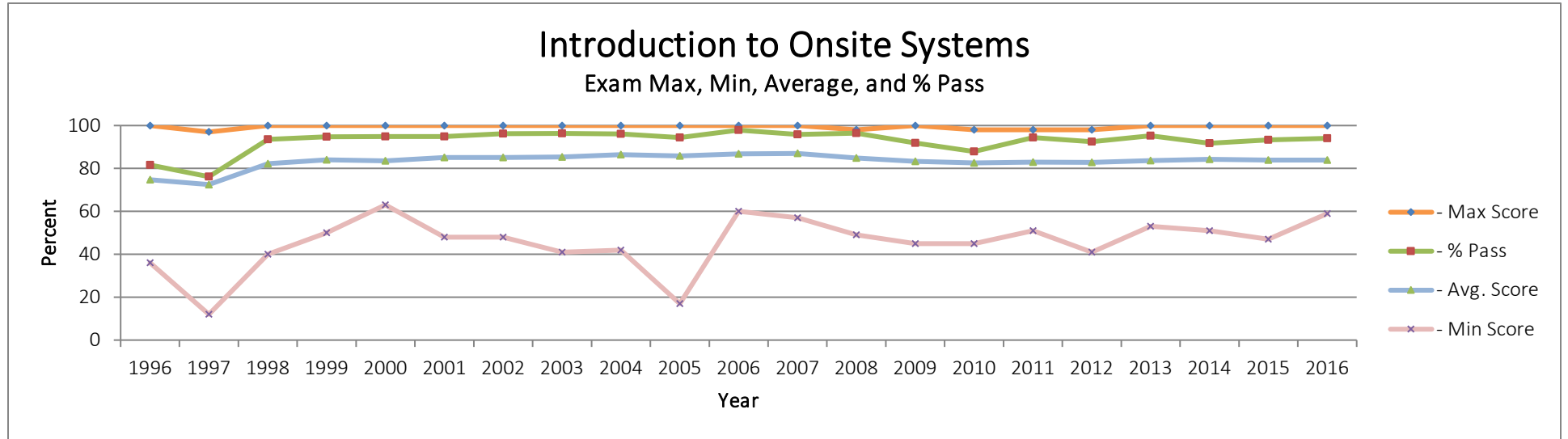
| Specialty Area | # | # | # | Max. | Min | Avg. |
|---------------------|-------------|------------|-------------|------------|-----------|--------------|
| Year | Passed | Failed | Taken | Score | Score | Score |
| Introduction | 6614 | 610 | 7224 | 100 | 12 | 82.31 |
| 1996 | 612 | 138 | 750 | 100 | 36 | 74.72 |
| 1997 | 546 | 171 | 717 | 97 | 12 | 72.49 |
| 1998 | 613 | 42 | 655 | 100 | 40 | 82.24 |
| 1999 | 475 | 26 | 501 | 100 | 50 | 84.07 |
| 2000 | 447 | 24 | 471 | 100 | 63 | 83.53 |
| 2001 | 444 | 24 | 468 | 100 | 48 | 85.16 |
| 2002 | 350 | 14 | 364 | 100 | 48 | 85.05 |
| 2003 | 505 | 19 | 524 | 100 | 41 | 85.37 |
| 2004 | 369 | 15 | 384 | 100 | 42 | 86.48 |
| 2005 | 270 | 16 | 286 | 100 | 17 | 85.85 |
| 2006 | 320 | 7 | 327 | 100 | 60 | 86.78 |
| 2007 | 275 | 12 | 287 | 100 | 57 | 86.99 |
| 2008 | 190 | 7 | 197 | 98 | 49 | 84.85 |
| 2009 | 157 | 14 | 171 | 100 | 45 | 83.29 |
| 2010 | 138 | 19 | 157 | 98 | 45 | 82.63 |
| 2011 | 134 | 8 | 142 | 98 | 51 | 82.89 |
| 2012 | 110 | 9 | 119 | 98 | 41 | 82.79 |
| 2013 | 161 | 8 | 169 | 100 | 53 | 83.69 |
| 2014 | 156 | 14 | 170 | 100 | 51 | 84.23 |
| 2015 | 167 | 12 | 179 | 100 | 47 | 83.88 |
| 2016 | 175 | 11 | 186 | 100 | 59 | 83.88 |
| Installer | 5385 | 601 | 5986 | 100 | 23 | 82.69 |
| 1996 | 528 | 67 | 595 | 95 | 33 | 79.13 |
| 1997 | 468 | 46 | 514 | 97 | 30 | 81.05 |
| 1998 | 453 | 51 | 504 | 98 | 28 | 81.47 |
| 1999 | 426 | 44 | 470 | 100 | 40 | 83.36 |
| 2000 | 384 | 35 | 419 | 100 | 48 | 84.17 |
| 2001 | 392 | 57 | 449 | 100 | 38 | 83.08 |
| 2002 | 328 | 33 | 361 | 100 | 43 | 83.85 |
| 2003 | 441 | 46 | 487 | 100 | 23 | 84.09 |
| 2004 | 313 | 25 | 338 | 100 | 33 | 85.27 |
| 2005 | 223 | 16 | 239 | 100 | 38 | 85.64 |
| 2006 | 273 | 21 | 294 | 100 | 55 | 86.00 |
| 2007 | 194 | 21 | 215 | 100 | 45 | 84.52 |
| 2008 | 128 | 21 | 149 | 97 | 45 | 80.05 |
| 2009 | 103 | 26 | 129 | 97 | 39 | 80.23 |
| 2010 | 85 | 20 | 105 | 97 | 29 | 79.10 |
| 2011 | 85 | 10 | 95 | 97 | 53 | 81.76 |
| 2012 | 69 | 7 | 76 | 100 | 38 | 82.24 |
| 2013 | 122 | 11 | 133 | 97 | 49 | 82.17 |
| 2014 | 115 | 7 | 122 | 97 | 54 | 82.31 |

| Specialty Area | # | # | # | Max. | Min | Avg. |
|-------------------------|-------------|------------|-------------|------------|-----------|--------------|
| Year | Passed | Failed | Taken | Score | Score | Score |
| 2015 | 129 | 17 | 146 | 100 | 46 | 82.26 |
| 2016 | 126 | 20 | 146 | 100 | 53 | 81.48 |
| Maintainer | 1166 | 81 | 1247 | 100 | 24 | 85.04 |
| 1996 | 92 | 15 | 107 | 97 | 24 | 80.36 |
| 1997 | 94 | 10 | 104 | 97 | 48 | 82.63 |
| 1998 | 67 | 4 | 71 | 100 | 58 | 86.49 |
| 1999 | 88 | 9 | 97 | 98 | 42 | 84.10 |
| 2000 | 54 | 4 | 58 | 100 | 53 | 86.34 |
| 2001 | 51 | 3 | 54 | 98 | 49 | 84.46 |
| 2002 | 57 | 1 | 58 | 100 | 67 | 87.31 |
| 2003 | 63 | 4 | 67 | 100 | 62 | 88.48 |
| 2004 | 42 | 3 | 45 | 98 | 38 | 86.62 |
| 2005 | 67 | 1 | 68 | 98 | 62 | 87.15 |
| 2006 | 53 | 3 | 56 | 100 | 55 | 88.57 |
| 2007 | 76 | 3 | 79 | 98 | 69 | 87.80 |
| 2008 | 52 | 1 | 53 | 96 | 69 | 84.26 |
| 2009 | 39 | 7 | 46 | 91 | 49 | 80.89 |
| 2010 | 49 | 1 | 50 | 93 | 56 | 84.90 |
| 2011 | 46 | | 46 | 100 | 71 | 87.09 |
| 2012 | 31 | 2 | 33 | 94 | 43 | 81.82 |
| 2013 | 40 | 2 | 42 | 93 | 56 | 82.17 |
| 2014 | 29 | 3 | 32 | 94 | 60 | 83.47 |
| 2015 | 40 | 3 | 43 | 96 | 49 | 85.88 |
| 2016 | 36 | 2 | 38 | 100 | 60 | 87.45 |
| Service Provider | 255 | 107 | 362 | 99 | 38 | 74.28 |
| 2008 | 31 | 14 | 45 | 88 | 55 | 73.27 |
| 2009 | 37 | 12 | 49 | 95 | 54 | 74.94 |
| 2010 | 56 | 14 | 70 | 92 | 52 | 76.01 |
| 2011 | 24 | 9 | 33 | 88 | 44 | 73.15 |
| 2012 | 27 | 20 | 47 | 89 | 50 | 71.23 |
| 2013 | 22 | 12 | 34 | 88 | 38 | 71.56 |
| 2014 | 20 | 14 | 34 | 94 | 53 | 74.29 |
| 2015 | 21 | 7 | 28 | 99 | 48 | 78.57 |
| 2016 | 17 | 5 | 22 | 94 | 55 | 76.36 |
| Designer | 2731 | 712 | 3443 | 100 | 12 | 77.84 |
| 1996 | 435 | 99 | 534 | 97 | 49 | 76.65 |
| 1997 | 292 | 35 | 327 | 95 | 12 | 79.85 |
| 1998 | 200 | 45 | 245 | 97 | 47 | 78.44 |
| 1999 | 222 | 57 | 279 | 97 | 40 | 77.13 |
| 2000 | 195 | 48 | 243 | 97 | 31 | 78.44 |
| 2001 | 165 | 77 | 242 | 100 | 40 | 74.68 |

| Specialty Area Year | # Passed | # Failed | # Taken | Max. Score | Min Score | Avg. Score |
|---------------------|-------------|------------|-------------|------------|-----------|--------------|
| 2002 | 145 | 37 | 182 | 97 | 44 | 78.80 |
| 2003 | 189 | 47 | 236 | 97 | 48 | 79.66 |
| 2004 | 97 | 20 | 117 | 100 | 29 | 80.21 |
| 2005 | 130 | 32 | 162 | 100 | 37 | 79.78 |
| 2006 | 121 | 27 | 148 | 97 | 33 | 79.37 |
| 2007 | 113 | 25 | 138 | 99 | 33 | 80.32 |
| 2008 | 67 | 30 | 97 | 94 | 44 | 74.30 |
| 2009 | 52 | 13 | 65 | 98 | 52 | 78.60 |
| 2010 | 50 | 17 | 67 | 93 | 33 | 76.63 |
| 2011 | 30 | 9 | 39 | 97 | 43 | 78.31 |
| 2012 | 31 | 6 | 37 | 95 | 43 | 79.24 |
| 2013 | 44 | 17 | 61 | 97 | 39 | 76.75 |
| 2014 | 47 | 7 | 54 | 95 | 51 | 80.39 |
| 2015 | 56 | 20 | 76 | 99 | 40 | 76.58 |
| 2016 | 50 | 44 | 94 | 94 | 37 | 69.45 |
| Inspector | 1919 | 205 | 2124 | 100 | 6 | 80.92 |
| 1996 | 300 | 69 | 369 | 97 | 6 | 75.38 |
| 1997 | 138 | 15 | 153 | 100 | 50 | 79.54 |
| 1998 | 208 | 10 | 218 | 99 | 58 | 82.37 |
| 1999 | 150 | 14 | 164 | 98 | 55 | 82.63 |
| 2000 | 114 | 8 | 122 | 96 | 63 | 82.82 |
| 2001 | 127 | 10 | 137 | 96 | 54 | 82.85 |
| 2002 | 105 | 7 | 112 | 98 | 54 | 82.01 |
| 2003 | 106 | 5 | 111 | 98 | 63 | 83.50 |
| 2004 | 114 | 7 | 121 | 100 | 46 | 83.07 |
| 2005 | 87 | 4 | 91 | 98 | 52 | 84.24 |
| 2006 | 87 | 2 | 89 | 96 | 60 | 84.22 |
| 2007 | 81 | 7 | 88 | 100 | 54 | 83.38 |
| 2008 | 51 | 17 | 68 | 92 | 57 | 75.47 |
| 2009 | 33 | 6 | 39 | 92 | 63 | 78.46 |
| 2010 | 25 | 10 | 35 | 90 | 49 | 76.71 |
| 2011 | 29 | 4 | 33 | 90 | 57 | 78.48 |
| 2012 | 24 | 2 | 26 | 90 | 67 | 79.38 |
| 2013 | 31 | 2 | 33 | 90 | 59 | 79.82 |
| 2014 | 32 | 4 | 36 | 94 | 51 | 78.72 |
| 2015 | 44 | 1 | 45 | 100 | 65 | 88.53 |
| 2016 | 33 | 1 | 34 | 96 | 59 | 86.44 |
| Soils | 2947 | 183 | 3130 | 100 | 14 | 83.35 |
| 1996 | 549 | 30 | 579 | 100 | 44 | 82.83 |
| 1997 | 296 | 4 | 300 | 98 | 54 | 84.30 |
| 1998 | 206 | 10 | 216 | 100 | 55 | 83.92 |
| 1999 | 191 | 9 | 200 | 99 | 44 | 84.61 |
| 2000 | 188 | 7 | 195 | 100 | 58 | 86.96 |

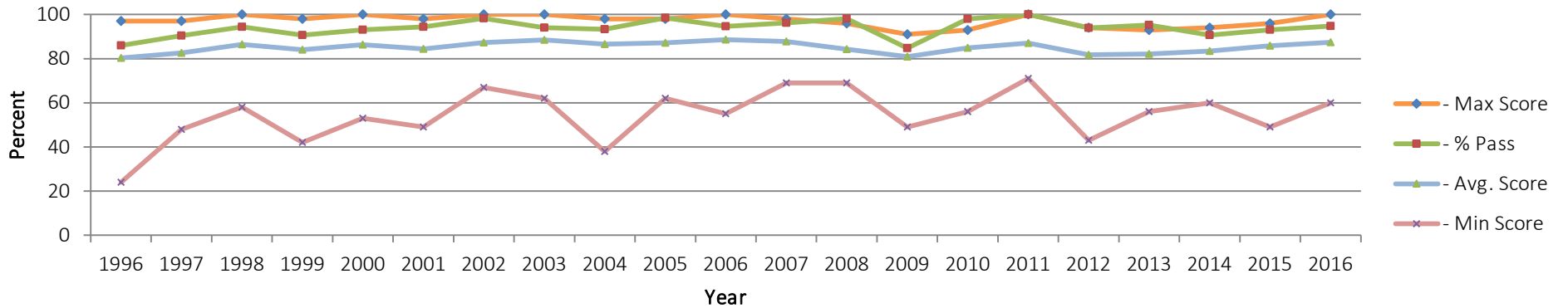
| Specialty Area Year | # Passed | # Failed | # Taken | Max. Score | Min Score | Avg. Score |
|---|--------------|-------------|--------------|------------|-----------|--------------|
| 2001 | 161 | 12 | 173 | 100 | 50 | 84.23 |
| 2002 | 154 | 12 | 166 | 100 | 52 | 84.70 |
| 2003 | 176 | 12 | 188 | 95 | 59 | 82.16 |
| 2004 | 143 | 28 | 171 | 98 | 25 | 79.60 |
| 2005 | 127 | 11 | 138 | 97 | 52 | 82.55 |
| 2006 | 121 | 8 | 129 | 97 | 61 | 82.46 |
| 2007 | 106 | 7 | 113 | 95 | 14 | 81.84 |
| 2008 | 78 | 7 | 85 | 94 | 55 | 81.01 |
| 2009 | 70 | 6 | 76 | 94 | 62 | 80.82 |
| 2010 | 58 | 5 | 63 | 93 | 29 | 80.78 |
| 2011 | 42 | 3 | 45 | 94 | 61 | 82.02 |
| 2012 | 28 | 2 | 30 | 94 | 61 | 80.50 |
| 2013 | 56 | 3 | 59 | 94 | 61 | 82.66 |
| 2014 | 56 | 3 | 59 | 94 | 52 | 81.64 |
| 2015 | 65 | 3 | 68 | 100 | 47 | 87.06 |
| 2016 | 76 | 1 | 77 | 100 | 68 | 88.68 |
| Soils - Field | 429 | 130 | 559 | 100 | 30 | 76.97 |
| 2008 | 62 | 21 | 83 | 100 | 38 | 75.22 |
| 2009 | 44 | 31 | 75 | 100 | 38 | 71.77 |
| 2010 | 47 | 16 | 63 | 100 | 30 | 73.02 |
| 2011 | 35 | 10 | 45 | 100 | 40 | 78.67 |
| 2012 | 25 | 5 | 30 | 100 | 60 | 79.00 |
| 2013 | 47 | 12 | 59 | 100 | 40 | 78.47 |
| 2014 | 42 | 17 | 59 | 100 | 30 | 75.93 |
| 2015 | 58 | 10 | 68 | 100 | 40 | 82.35 |
| 2016 | 69 | 8 | 77 | 100 | 50 | 80.23 |
| Intermediate Design and Inspection | 52 | 55 | 107 | 100 | 42 | 69.20 |
| 2013 | 29 | 20 | 49 | 100 | 42 | 70.29 |
| 2014 | 9 | 13 | 22 | 92 | 46 | 68.09 |
| 2015 | 10 | 17 | 27 | 85 | 49 | 67.33 |
| 2016 | 4 | 5 | 9 | 97 | 51 | 71.56 |
| Advanced Design and Inspection | 117 | 91 | 208 | 96 | 29 | 68.88 |
| 2009 | 54 | 37 | 91 | 87 | 37 | 70.04 |
| 2010 | 22 | 25 | 47 | 90 | 41 | 67.00 |
| 2011 | 14 | 15 | 29 | 84 | 36 | 65.10 |
| 2012 | 13 | 10 | 23 | 96 | 50 | 69.91 |
| 2013 | 0 | 1 | 1 | 42 | 42 | 42.00 |
| 2015 | 11 | 3 | 14 | 91 | 29 | 73.64 |
| 2016 | 3 | 0 | 3 | 93 | 71 | 78.33 |
| Grand Total | 21615 | 2775 | 24390 | 100 | 6 | 81.51 |

Exam Score Maximum, Minimum, Average, and Passing Rates



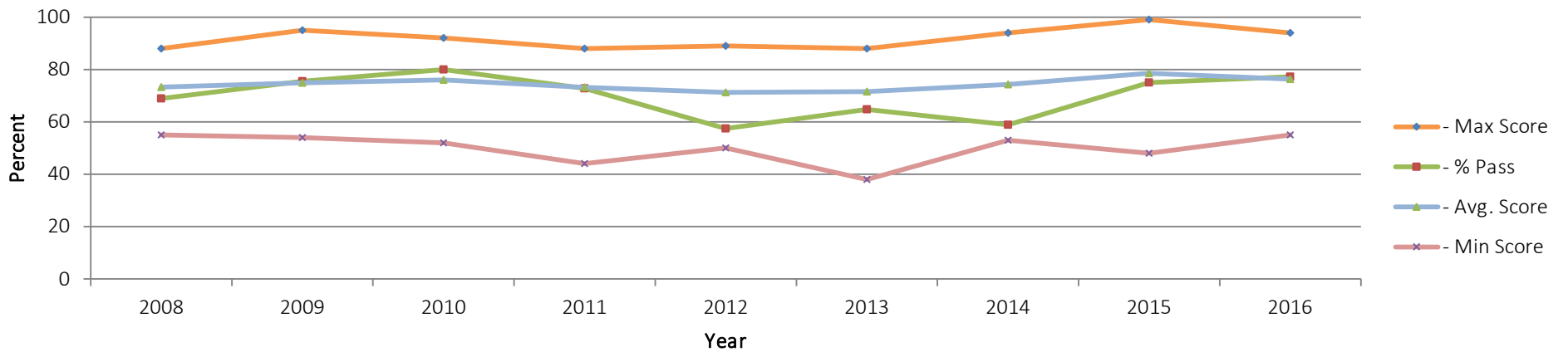
Maintaining Onsite Systems

Exam Max, Min, Average, and % Pass



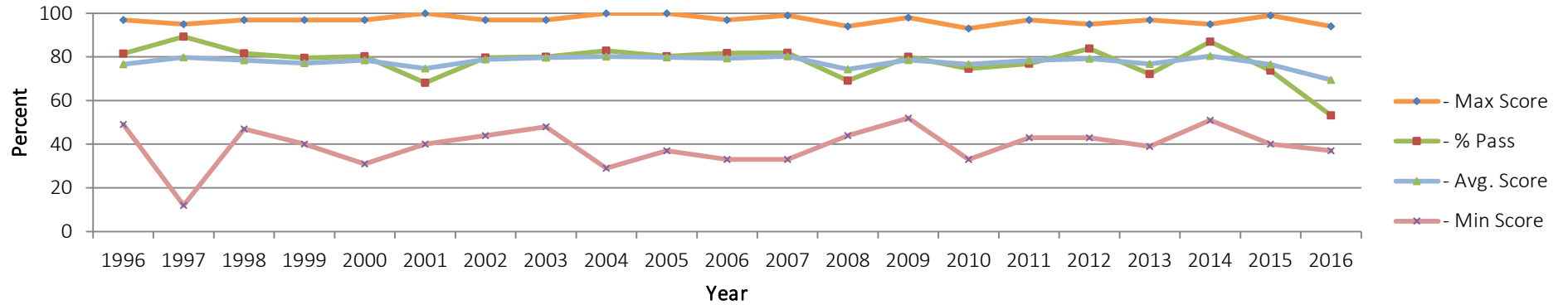
Onsite System Service Provider

Exam Max, Min, Average, and % Pass



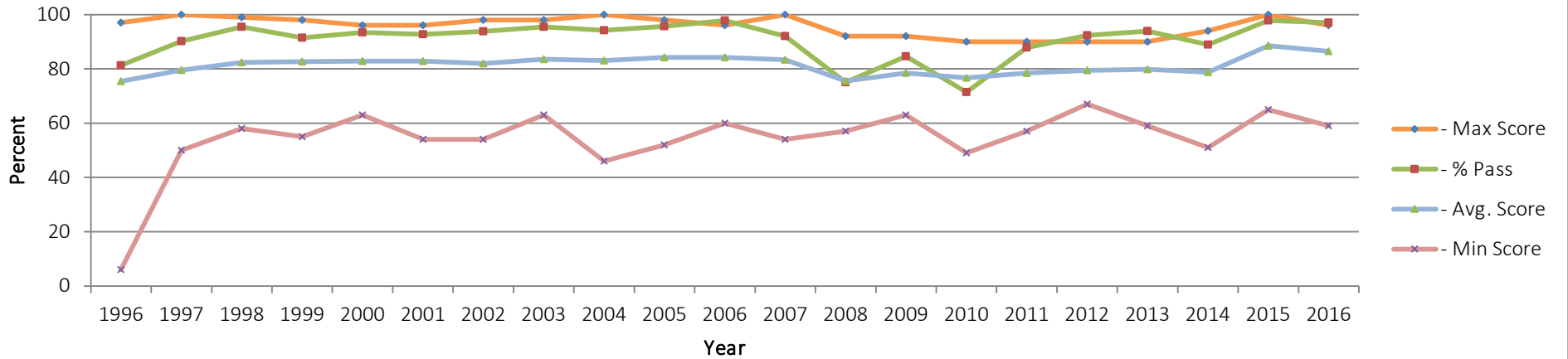
Designing Onsite Systems

Exam Max, Min, Average, and % Pass



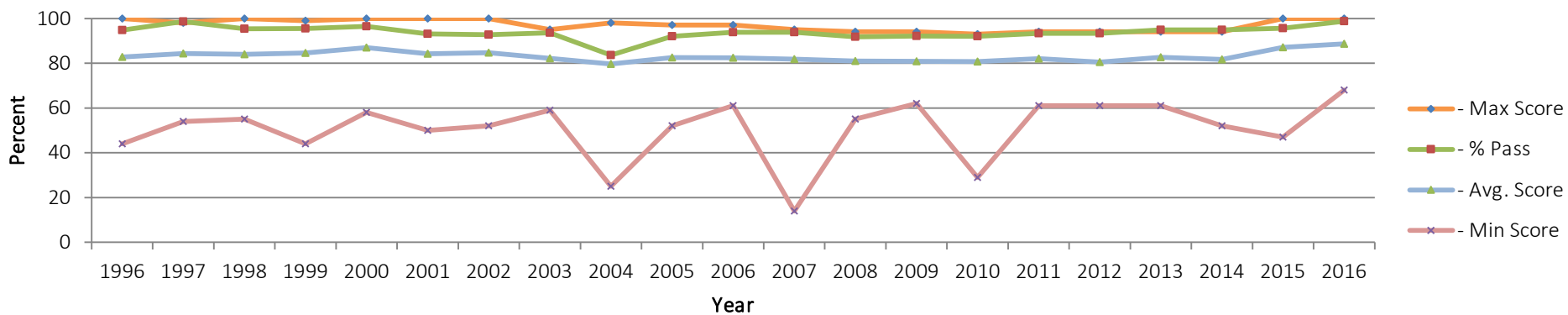
Inspecting Onsite Systems

Exam Max, Min, Average, and % Pass



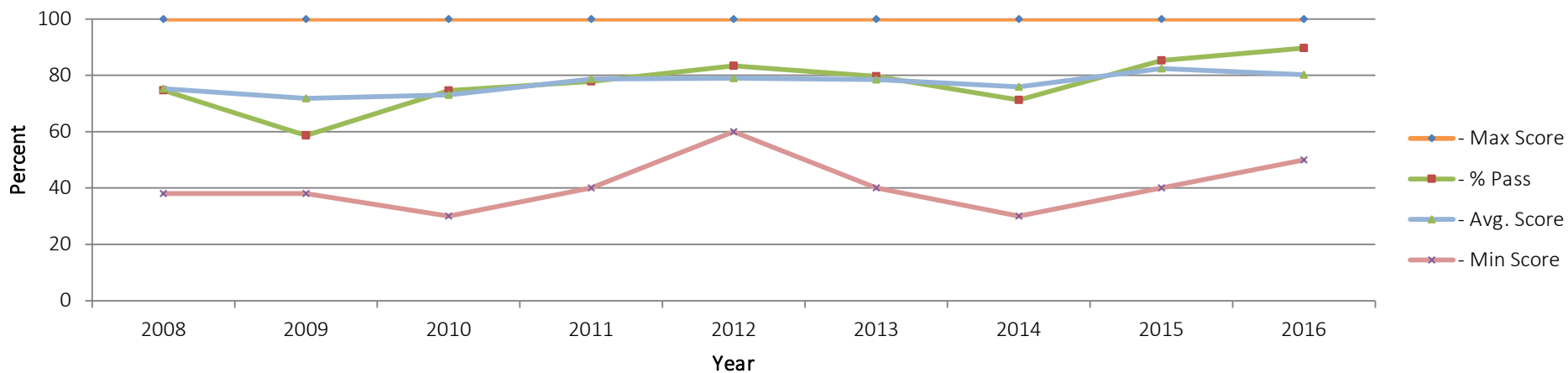
Soils and Onsite Systems

Exam Max, Min, Average, and % Pass



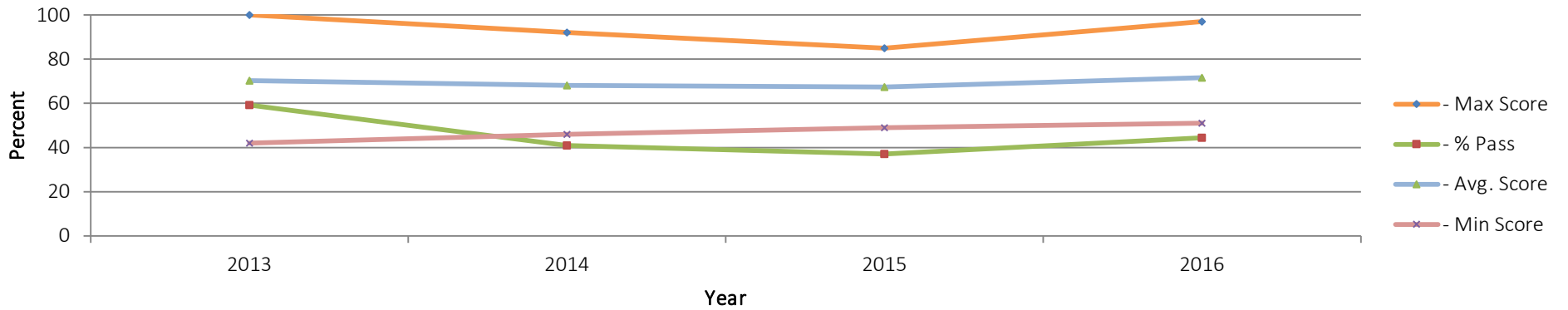
Soils and Onsite Systems - Field Portion

Exam Max, Min, Average, and % Pass



Intermediate Design and Inspection of Onsite Systems

Exam Max, Min, Average, and % Pass



Advanced Design and Inspection of Onsite Systems

Exam Max, Min, Average, and % Pass

