

**CITY OF HILLSBORO WWTP
EXPANSION PROJECT
FROM AN OPERATORS POINT OF
VIEW**

PRESENTED BY:

BRANDON LEETH

HENRY P. THOMPSON CO.

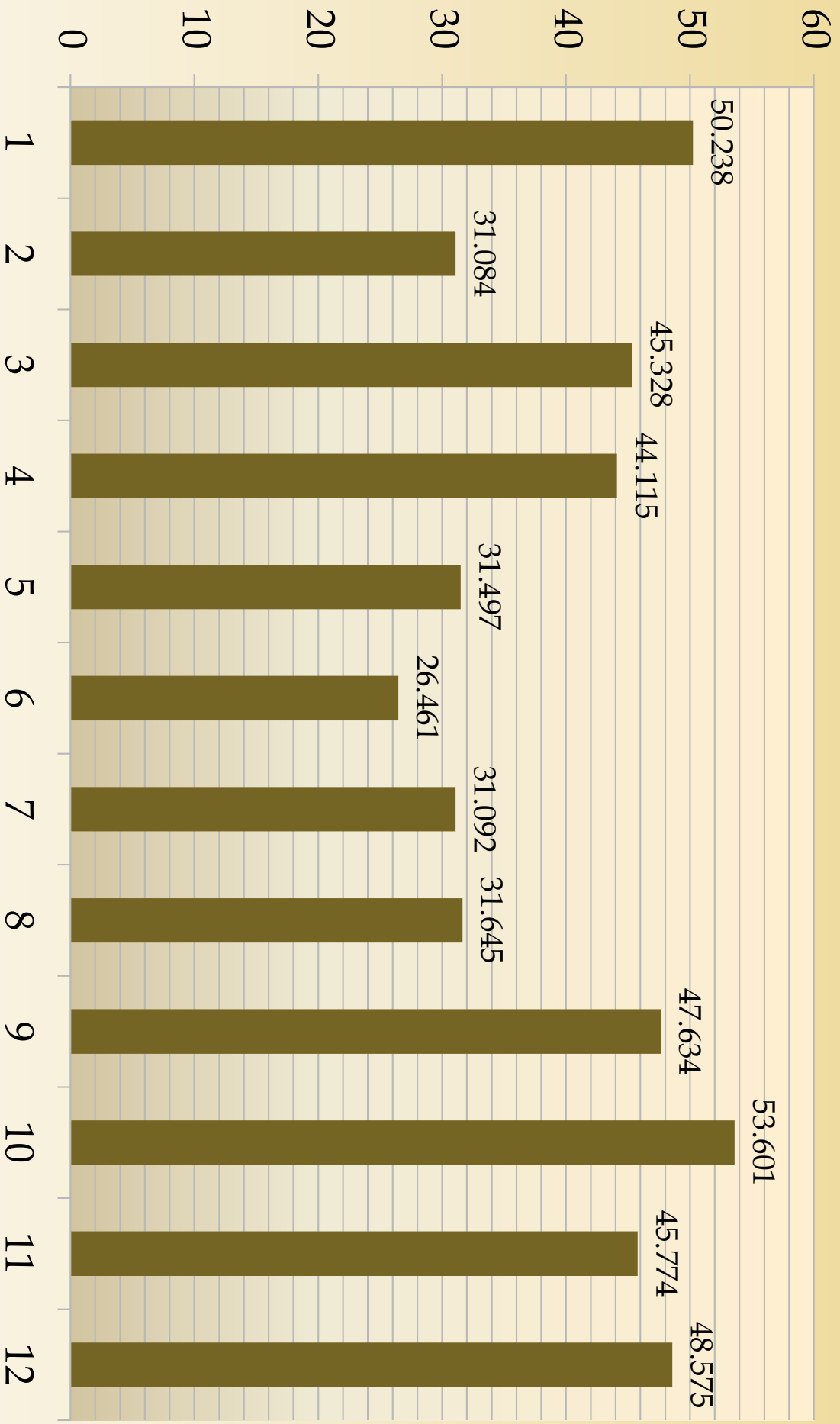
BACKGROUND INFO

- Population: 6300
- Customers: 2975: (2552 Residential) (423 Ind. / Comm.)
- I/I problems along with SSO's
- WTP pumps on average: .700 MGD
- WWTP ADH over the last 7 years: 1.322 MGD

-Next few slides are graphs of flows used to determine the sizing of the upgrade.

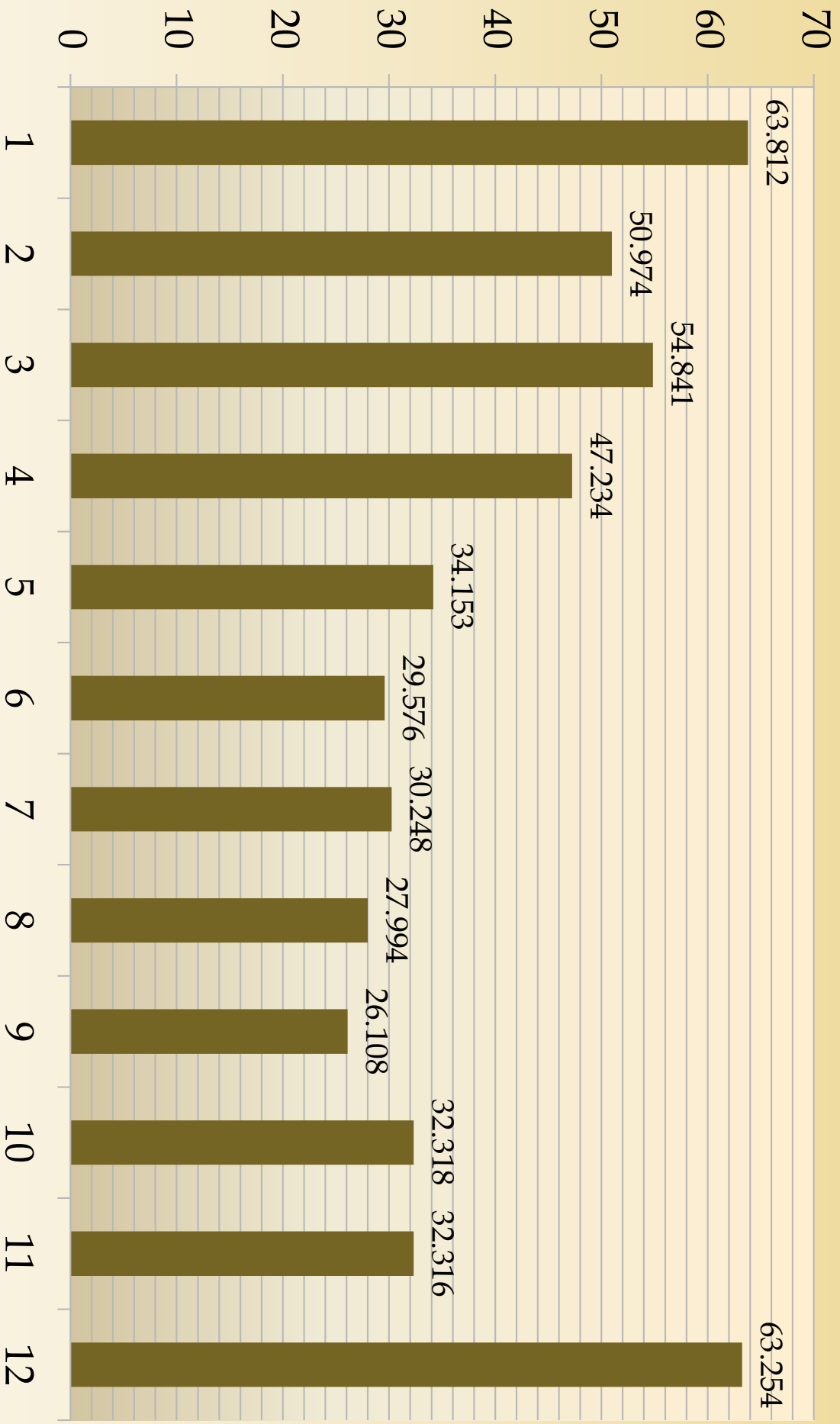
2006 MONTHLY FLOW

AVERAGE DAILY FLOW: 1.3334 MGD



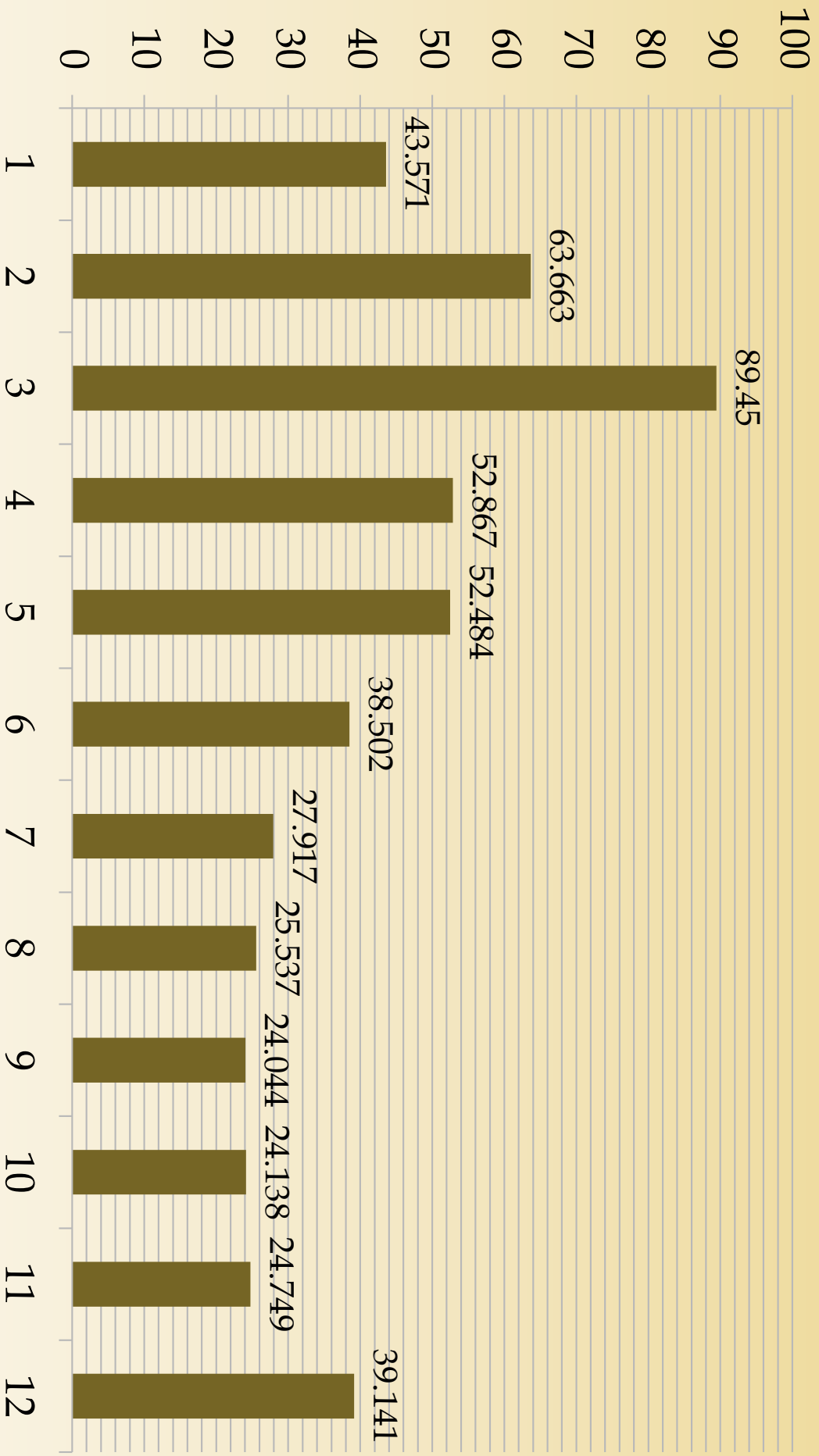
2007 MONTHLY FLOW

AVERAGE DAILY FLOW: 1.350 MGD



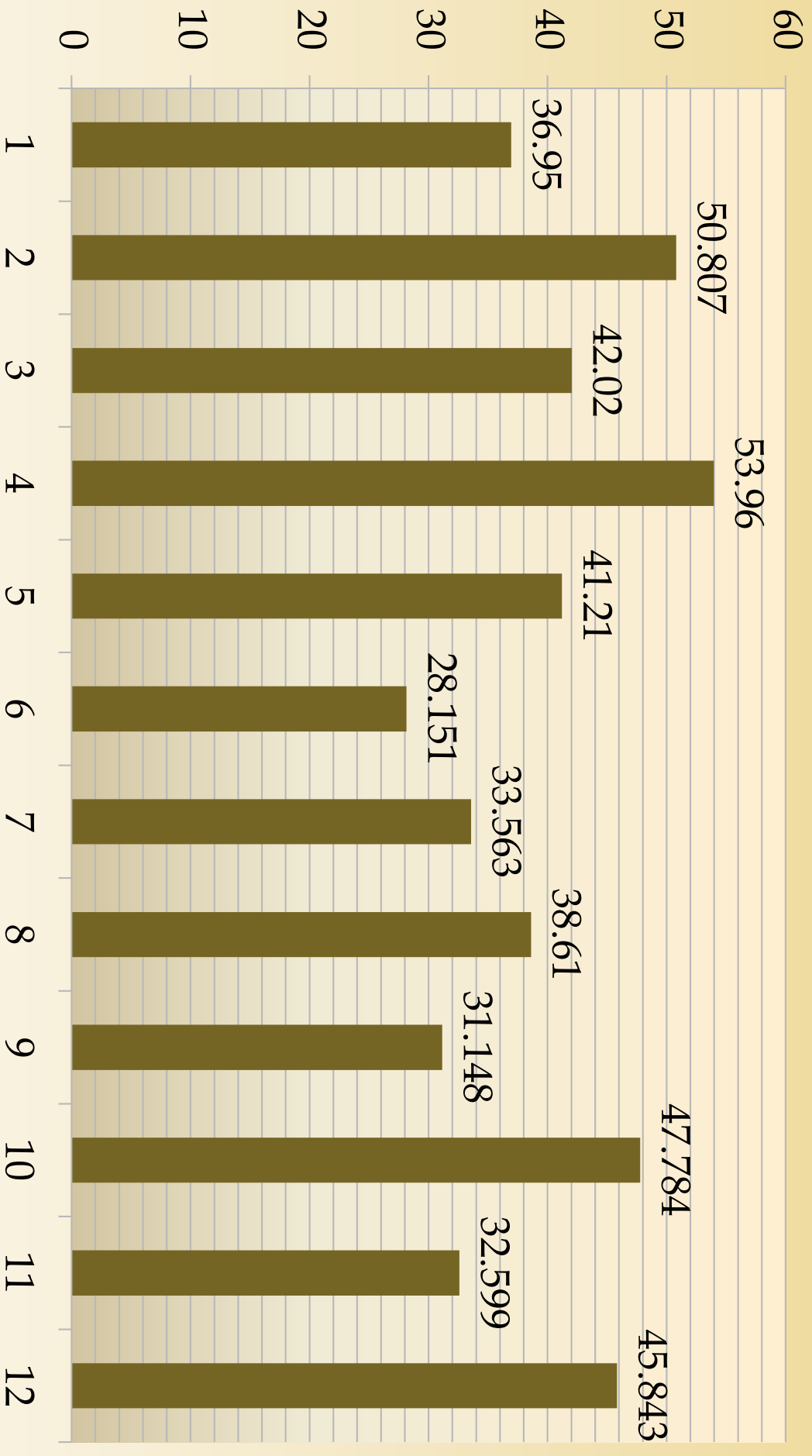
2008 MONTHLY FLOW

AVERAGE DAILY FLOW: 1.3886 MGD

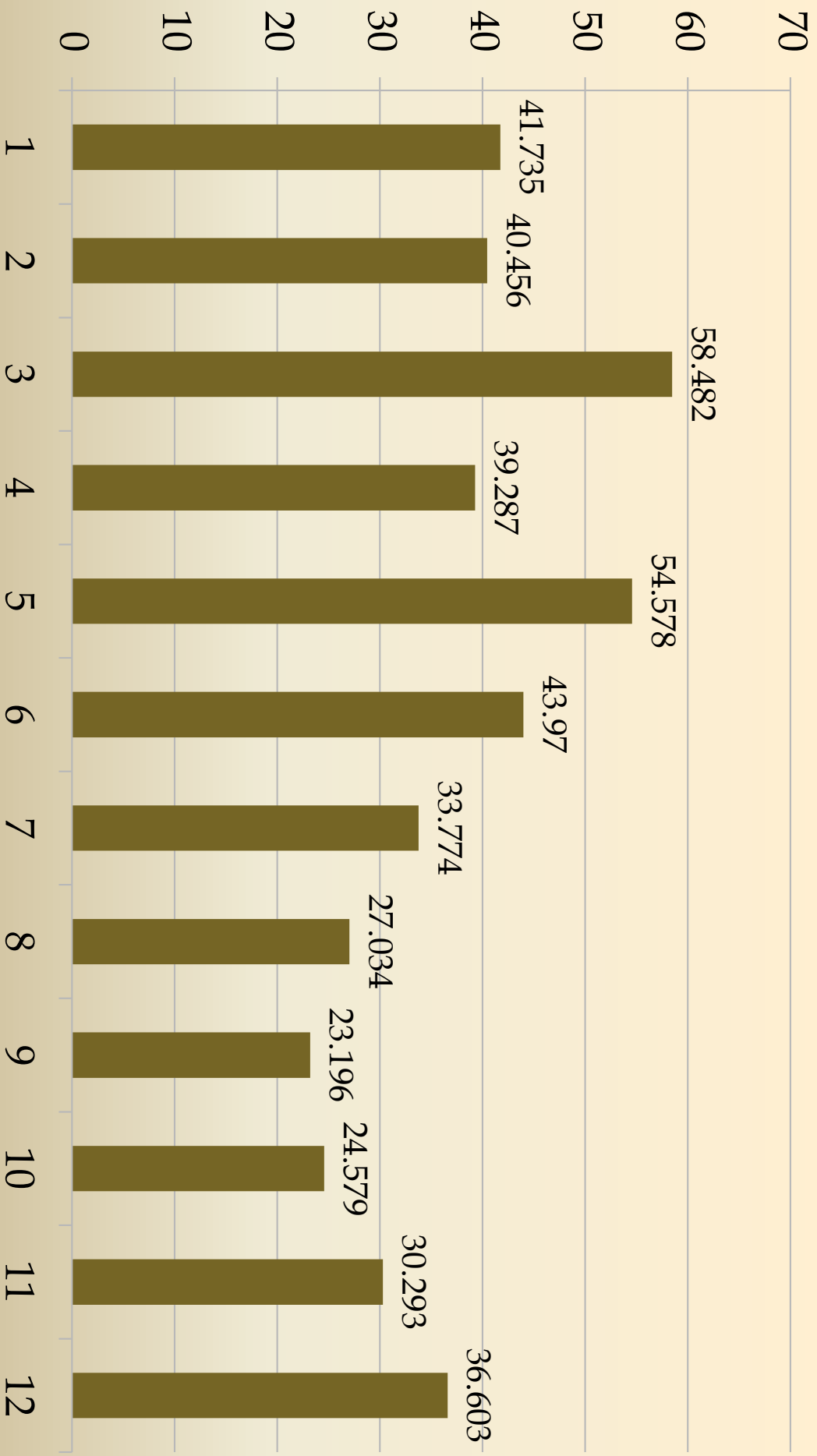


2009 MONTHLY FLOW

AVERAGE DAILY FLOW: 1.322 MGD

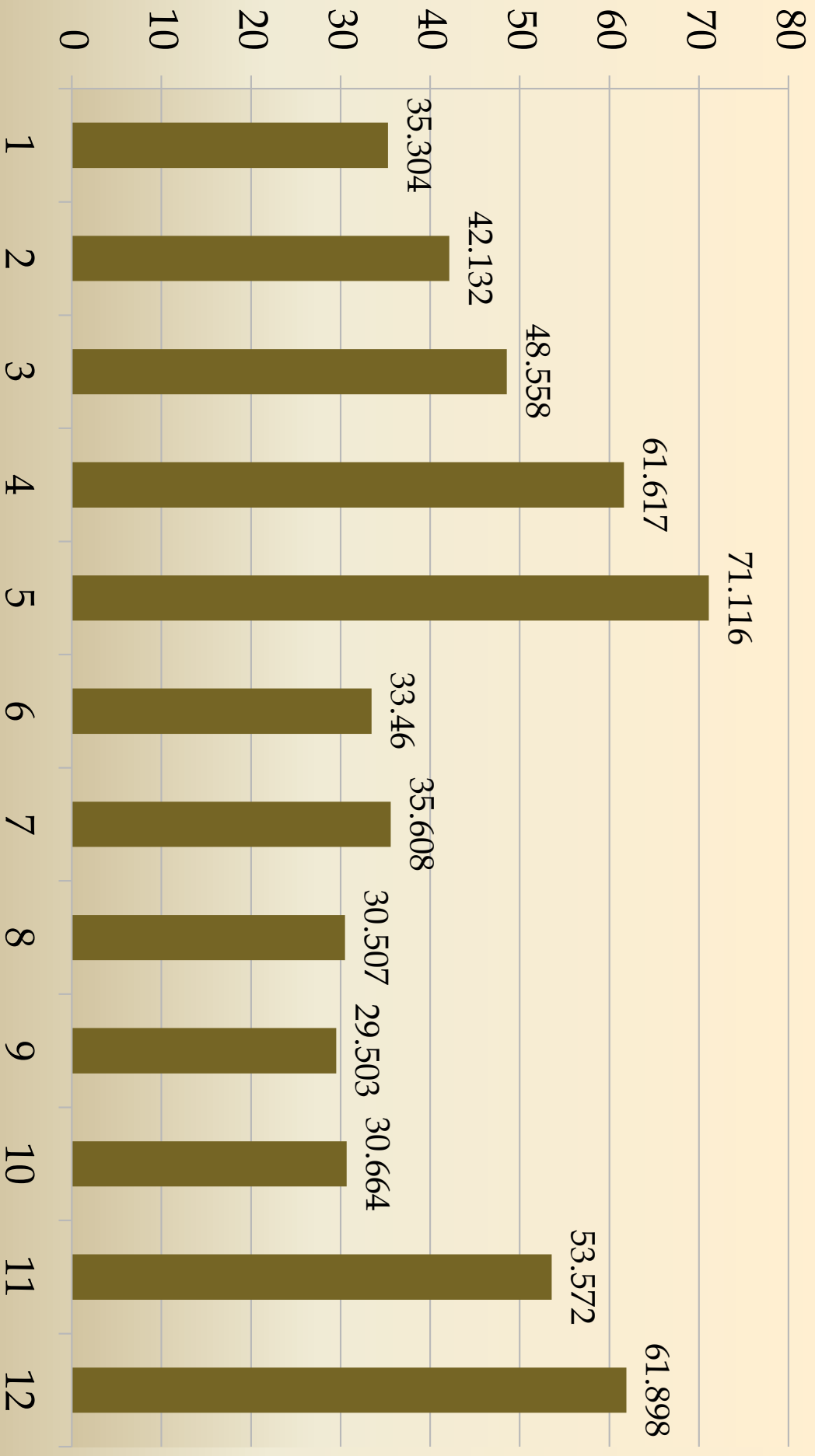


2010 MONTHLY FLOW AVERAGE DAILY FLOW: 1.244 MGD



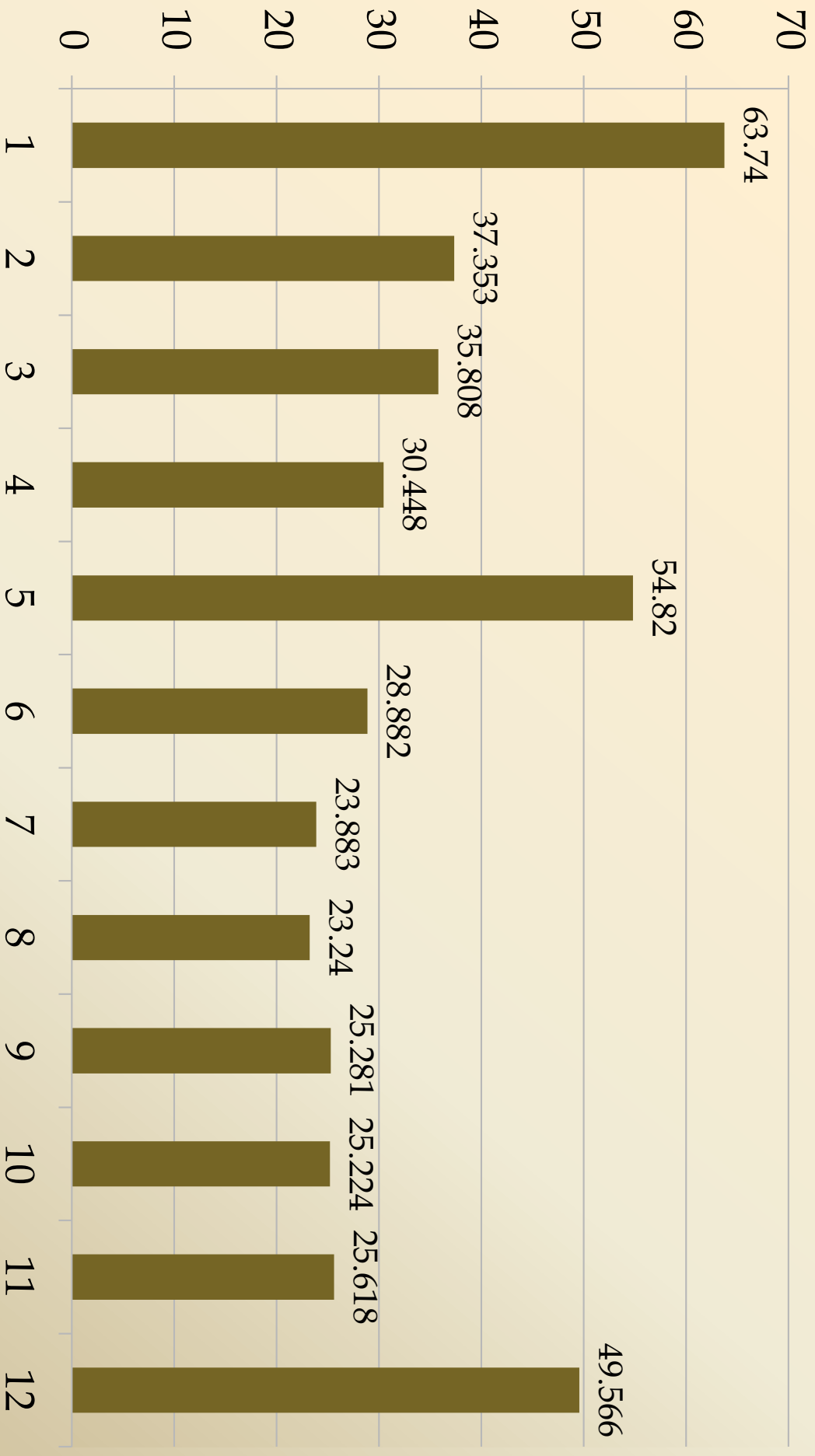
2011 MONTHLY FLOW

AVERAGE DAILY FLOW: 1.463 MGD



2012 MONTHLY FLOW

AVERAGE DAILY FLOW: 1.158 MGD



PLANT HISTORY



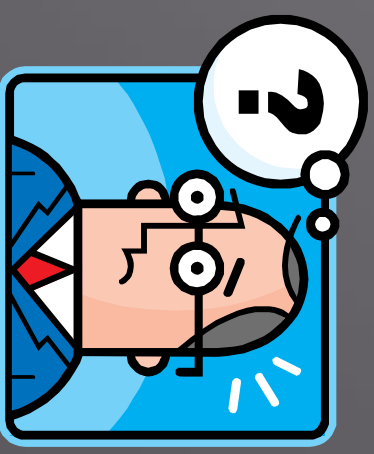
- Present plant location was constructed in 1971
- In 1989, the plant was upgraded to a 1.2 MGD design with a max of 3.6 MGD.



- The latest upgrade, which was started in 2010, has just been completed: January 2013
- : Design flow: 1.5 MGD with a max of 7.0 MGD



WHY DID WE DO IT



BECAUSE THE EPA SAID SO.....

Main problems we had with previous system:

- : We couldn't treat the flows we were getting with rain events. UV flow restrictions.
- : Bypassing frequently with wet weather flows
- : Loading violations
- : Aging equipment was also a concern

THE MISSION

TO CONSTRUCT A PLANT HAVING THE
ABILITY TO HANDLE FLOWS PRODUCED
BY A 10 YEAR 24 HOUR STORM EVENT

KEEP IN COMPLIANCE WHILE DOING SO.

Note: According to EPA information at the
time, a 10 year 24 hour storm event equaled out
to receiving 4 inches of rain throughout a 24
hour period.

STEPS TAKEN

FINANCING:

Where is the money at? Where's it coming from?

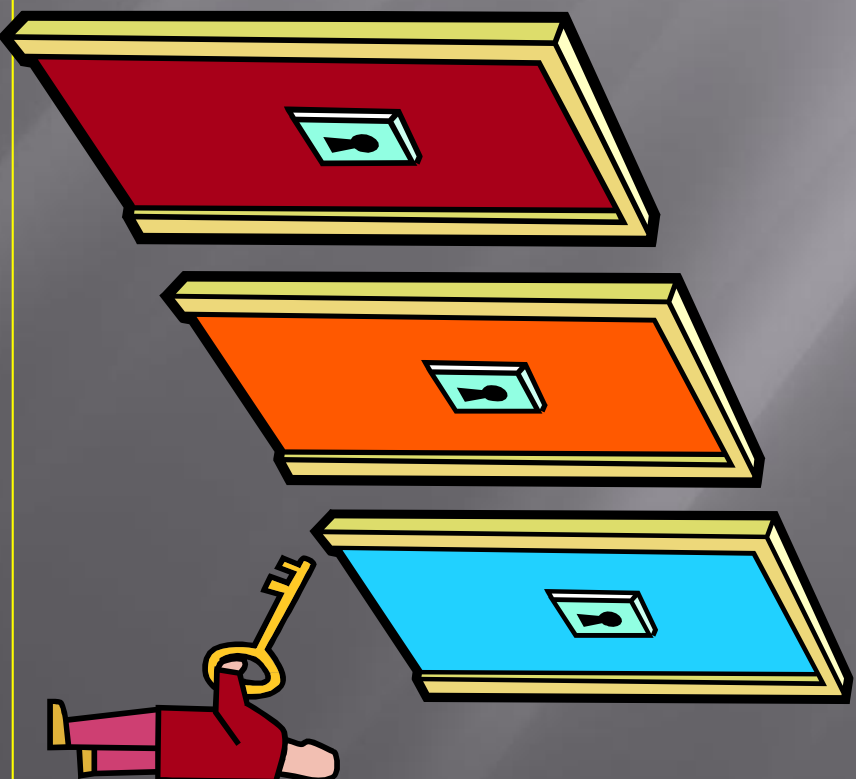


FINANCES:

- :How are you going to afford this
- :What does your rate structure look like
- : Call funding sources and check rates
- : Don't forget to allocate for O and M costs along with your payment every year!!
- : Call others to get information: This is the “been there done that” knowledge that can be useful to you.
- : Be prepared at bid opening: expect anything. Try not to get caught with the pants down...

SELECTING AN ENGINEER

Who you are going to select as your engineer is
critical. This is where it starts



SELECTING AN ENGINEER

There is an official way on how to select an engineer. Read up on the how to so you can know what steps you need to take

Questions:

RFQ's: get them and do your homework!

RFP's: Know what they are going to provide you with and the cost of their service

Have they done a job like yours before?

Know the contract you have with them and what they are to provide: Start to Finish.

SELECTING AN ENGINEER

Ask questions:

- Who will execute change orders?
- How many days are going to be allocated for responses to RFI's?
- The need of a qualified RPR.
- If construction time runs over engineer contract, what monies should be allocated for the run over?
- Progress meetings?

KNOW YOUR PLANT AND WHAT
YOU NEED



KNOWING YOUR PLANT AND WHAT YOU NEED

- What kind of equipment do you like?
- What do you have now: Are you happy with it.
- Be able to justify to the “Bean Counters”
uptown.
- Call around and check other installs. Find out
what the operators say about the equipment.
- Can you preselect? Find out.
- PTI to the EPA. Making sure it’s done and
approved. Report changes also.

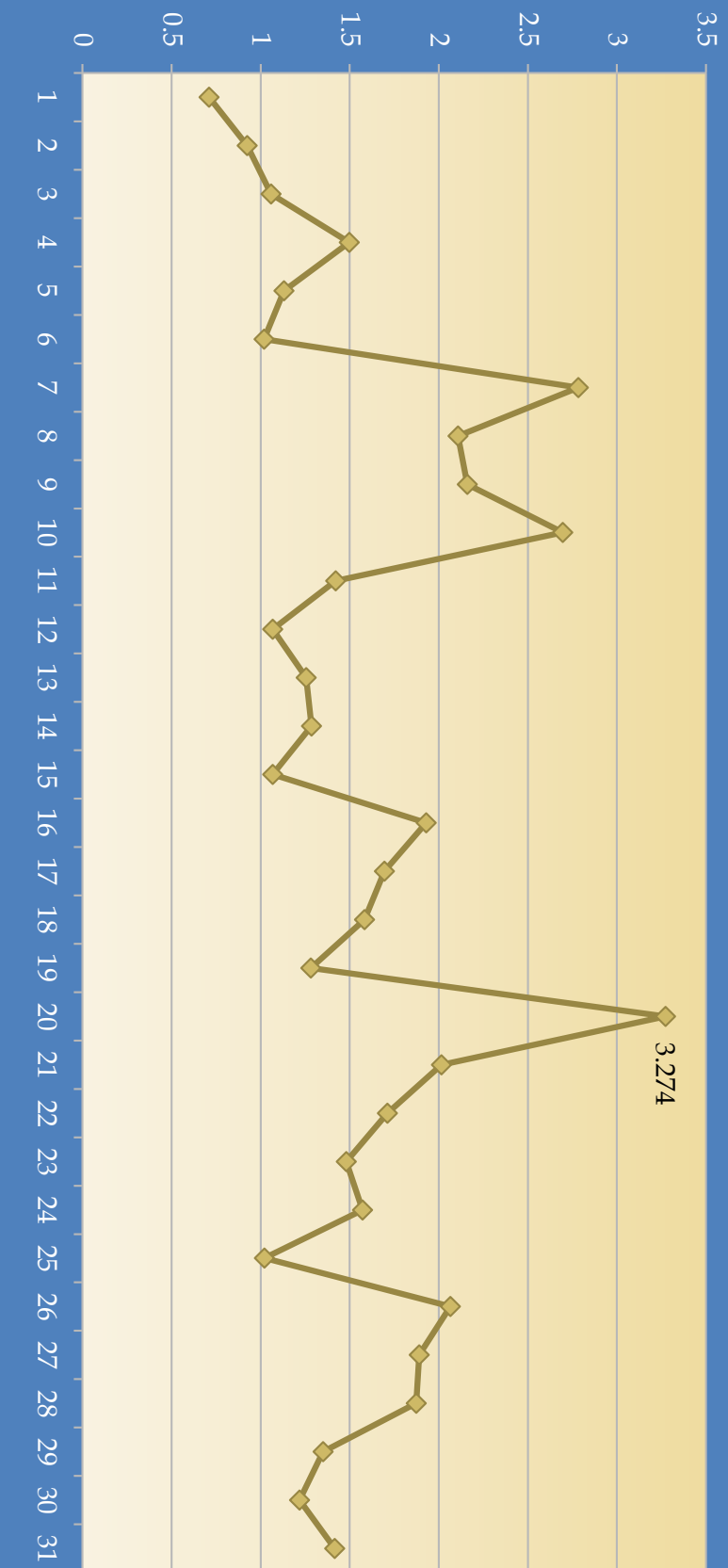
KNOW YOUR FLOW



KNOW YOUR FLOW

- When and where to do flow studies.

DEC 12' Flow in MGD



BE PREPARED FOR EMERGENCIES

- What's your plan when the poo hits the fan???
- Have your present as built drawings handy.
- Know where you can go to in case you have to divert flow.
- Are you prepared for an emergency bypass of a station?
- Do you have an EQ basin, flow retention basin?



**KNOW WHAT YOU'RE BUILDING
ON**

KNOWING YOUR BASE

- Probe the entire area.
- Know what you may have to take out and where you can get it from.
- Contract with a soil testing lab: Before, during, and after the project.
- Make sure all parties are aware of what they are going to be dealing with.

ELEVATIONS

- Are you in a floodway? Floodplain?
- Emergency access plan. Have one ready!
- Chances are you're in one of the two.
- Build up. Do you need a levee? If so, think drainage!!
- Have your flood certificate handy. Verify the elevations on structures.

KEEP IT CLEAN



KEEPING CLEAN

- Report to the EPA in case of a spill.
- Let them know the : when, why, where, and what you're going to do to fix.
- Try your best to stay in compliance.
- Chances are you're going to have to report every so often anyways.
- Another clean issue..... the construction site.
Try and keep it half way presentable.

KEEPING YOUR ADMINISTRATION INFORMED

- Be sure to work hand in hand with your uppers.
- When you have your progress meetings, have them there and involved.
- Help them understand what you're going thru.
- Don't let them get "Surprised" with anything.
- Know your area: Let all know what you're doing and what to expect: traffic diversions, public safety issues?

DURING THE PROJECT: FROM START TO FINISH

- Work closely with contractors:
- Know what they're doing, what they need from you.
- You may be able to make some minor changes that will make it easier on yourself.
- Try your best not to cause a delay. Time is money.



DURING THE PROJECT: FROM START TO FINISH

- Don't be afraid to ask questions: You may have a better idea. It's yours for the next 20 years...
- Have an RPPR!! Can you do it all yourself? Probably not.
- **KEEP ALL YOUR DOCUMENTATIONS!!**
- What:
 - You asked, was done, and when.
 - Keep track of your inventory. Things that can't walk can grow legs...

CHA CHA CHA CHANGES

- Have you allocated some contingency?
- Is it enough?
- Change orders... you'll have that with expansions.
- RFP's and RFI's: how much time is involved?
- Keep an eye on the pay estimates.



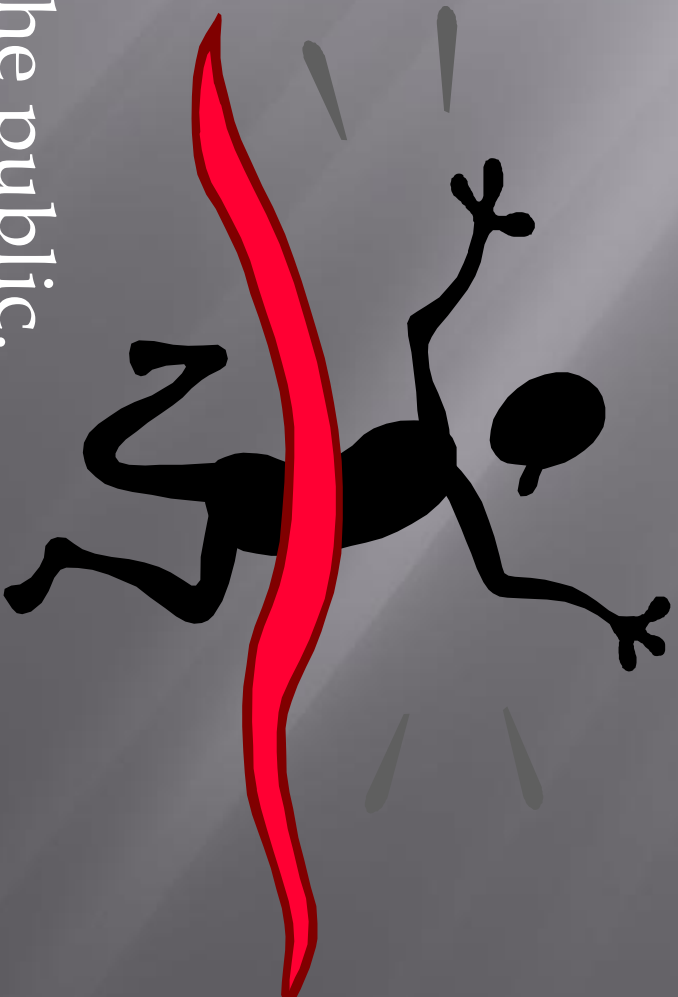
THE FINAL PUNCH LIST

- The most crucial part of all: the punch list.
- Be fair but firm:
- Know your warranties and when they run out.
- Start up reports on everything.
- Get proper training also.



WE'RE DONE

Not really. You're actually just getting started.



- Inform the public.
- Be sure to thank all involved. Appreciate the help along the way.

PICTURE SHOW

Take plenty of pictures:

Before

During

After



THE EARTH'S MOVING



TEARING IT UP



WHAT THE..... IS THAT



IF YOU BUILD IT... IT WILL COME



NOT A GREAT PLACE



NOT A GREAT PLACE EITHER



THIS IS NOT A VACUUM





DON'T LET THIS HAPPEN TO YOU



PUMP IT UP

WHAT WE DID ABOUT IT





TAKING OUT THE TRASH

EQ IS IMPORTANT





SOME THINGS COME IN HANDY

READY FOR STORM FLOW





I KNOW IT'S ON...

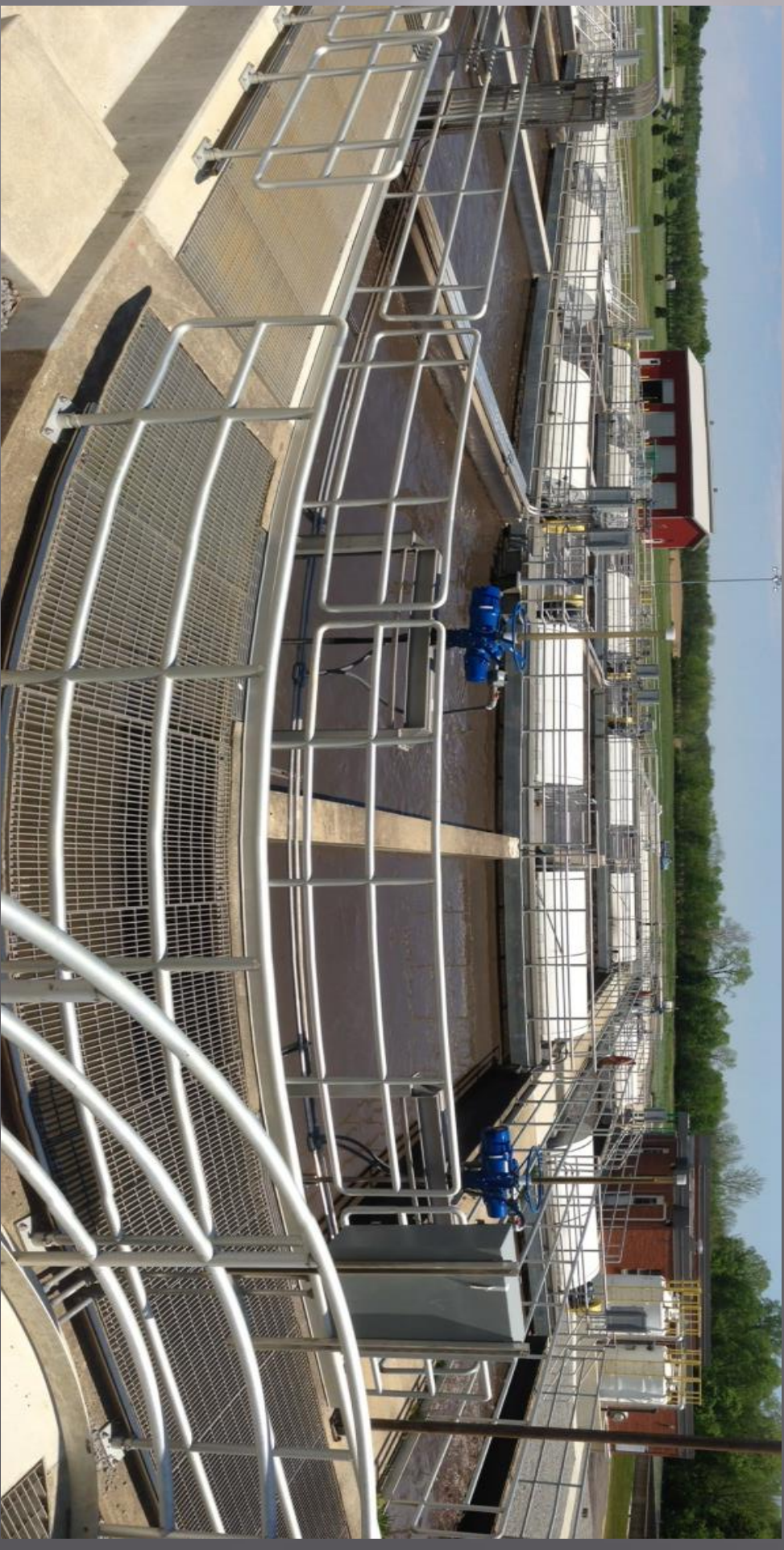
I CAN WORK SAFELY



LESS TIME ON THE MOWER



THE TREATMENT PROCESS





WILL IT HOLD UP???

CLARIFICATION



READY FOR THE SUMMER



GEOTEXTILE SLUDGE TUBES



ALL THAT FOR THIS



THAT'S ALL FOLKS

